

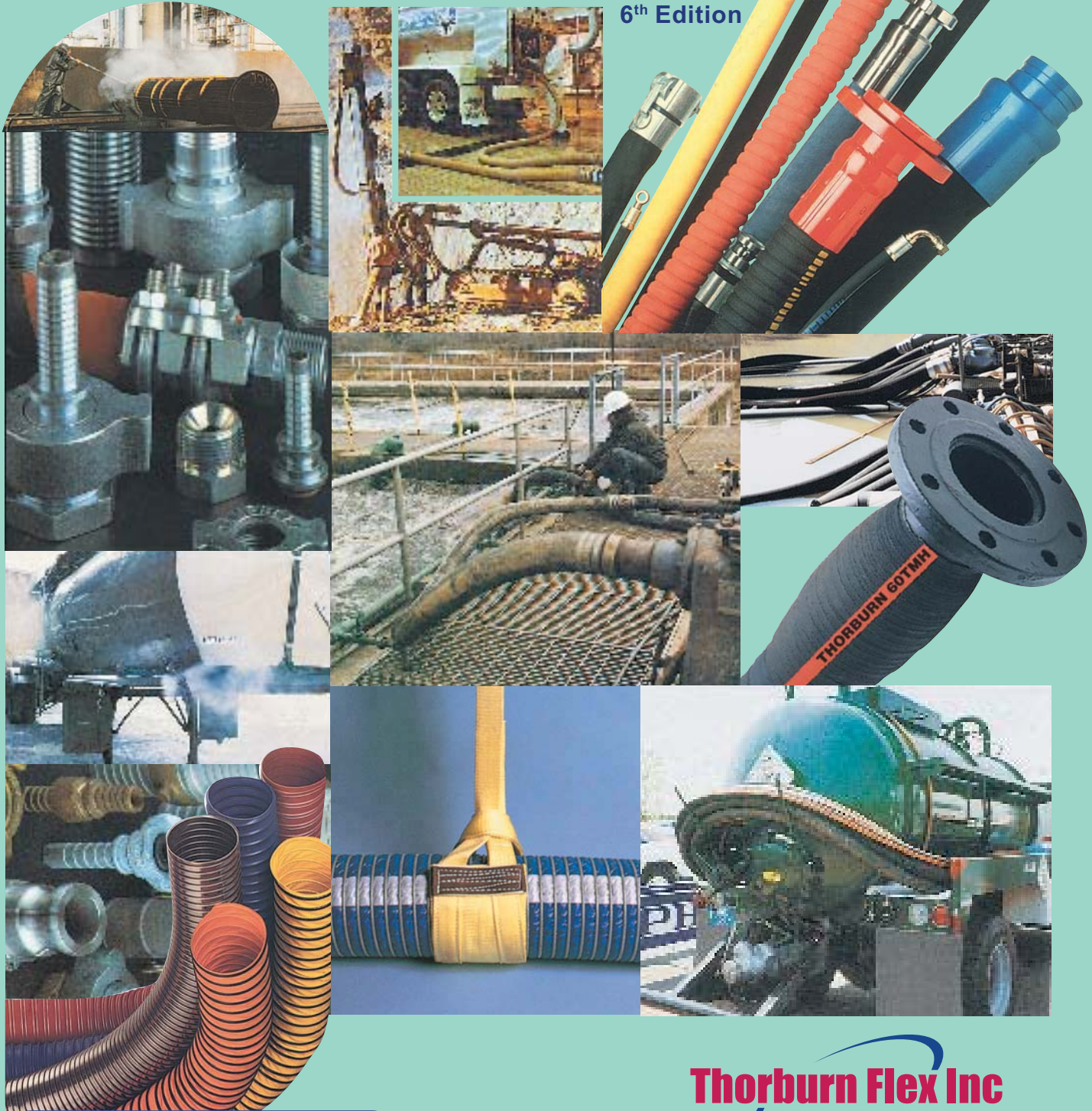
# Thorburn Flex Inc

Flexible Piping Specialist

**Non-Metallic Hoses, Couplings & Assemblies for  
Fluid Transfer, Material Handling & Ducting Systems**

**Entirely  
Revised**

6<sup>th</sup> Edition



**All you'll ever need!**

## Thorburn Flex Inc

Flexible Piping Specialist

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# Thorburn Flex Inc

Flexible Piping Specialist

Petroleum • Chemical • Air, water, steam • Material handling • Ducting



• **THORBURN** is an innovative manufacturer of specialized engineered flexible piping systems (i.e. custom hose assemblies and expansion joints). Since 1960, Thorburn's corporate mission evolution and business philosophy have been customer driven and targeted to select niche applications where Thorburn can achieve clear positions of sustainable technological and market-share leadership.



**SIZES:** 1/8" to 36" I.D.

**PRESSURES:** Full vacuum to 46,000 psi

**LENGTHS:** up to 1,000 ft



**Quality you can count on again and again!**

Thorburn's wide range of standard flexible piping products will allow you to choose the perfect hose, coupling or assembly to meet your requirements safely and on time.

Thorburn's CAD/CAM technology has dramatically increased productivity and simplified the introduction of conceptual ideas into finished products.



Thorburn's CNC lathes have fused machine and control technology into unparalleled hose coupling manufacturing performance



Thorburn's well-trained sales staff of dedicated professionals is eager to provide application or engineering assistance to assure safe, trouble-free performance.



# GENERAL HOSE INFORMATION

## Hose Selection

Selecting the proper hose for an application is critical to ensure safety of people and property, as well as long hose life. Therefore, it is important to understand the factors involved. These factors are: application, pressure and suction, environment, compatibility with material conveyed, temperature, size, flexibility and bend radius, and weight.

## Application

The first step in properly selecting a hose is to identify the application and material to be transferred. Then consider the hoses available for that type of service. Thorburn hoses are intended for specific applications and materials.

**WARNING** Never use a hose to transfer material it is not specifically meant to transfer. Doing so could deteriorate the hose and result in leaking, hose bursting, or end blow-offs. This could lead to serious personal injury or death. Always transfer material in a hose that is designed specifically to transfer that material.

A special application consideration— especially in gases, petroleum-based liquids, volatile solvents, and dry material transfer applications— is whether the velocity of the material being transferred will cause static buildup. This in turn can cause an explosion.

According to Rubber Manufacturers Association (RMA) Hose Handbook IP-2 1987:

Electrical engineers differ in opinion on the effects of static electricity and the means of dissipating it. In handling gasoline and other petroleum-based liquids, recognized national associations and companies have conflicting opinions on the need for conductive hoses.

Until a consensus is reached among all associations, laboratories and users and a standard practice is established, it is essential that the user determine the need for static bonded hose based on (a) the intended use for the hose, (b) instructions from the company's safety division, (c) the insurer, and (d) the laws of the states in which the hose will be used.

In some instances where insulating components in the hose construction negate the function of the static wire, the rubber in the hose is specifically compounded to be conductive to dissipate the static electricity. An example of this would be sand blast hose.

Regardless of whether a wire of conductive

component is used to dissipate any static charge, there must be a continuous conductive path through the entire length of the hose that is in contact with an electrical ground. This conductor in the hose must be able to withstand the stresses imposed by flexing and the normal service conditions of the hose.

Finally, be aware that many industries have governing agencies that issue mandatory or suggested guidelines for the use of hose in certain applications.

## Pressure & Suction

The selected hose and coupling must be able to continually withstand the maximum pressure that will be generated in the application.

**WARNING** Consider both working pressure and pressure surges when determining "maximum" pressure. Failure to select a hose that meets both these requirements could lead to end blow-offs, hose leakage and hose bursting. The result could be serious injury or death. The Thorburn hose you choose must meet or exceed the required working pressure and must have a safety factor to allow for surge pressure.

It may be reassuring to know that every length of Thorburn chemical transfer hose is pressure tested to 1-1/2 times the working pressure before it is packaged and shipped. Equally reassuring is the fact that Thorburn chemical hoses have a 4:1 safety factor. This means the burst pressure is a minimum of four times greater than the working pressure.

Working pressure for all Thorburn hoses is listed in this catalogue.

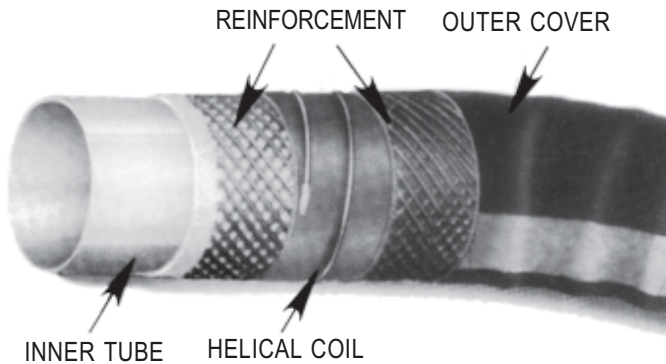
**CAUTION** in suction applications, suction (or vacuum) considerations are as critical to hose life as pressure considerations. Hoses in these applications are vulnerable to crushing forces because the atmospheric pressure outside the hose is greater than the pressure inside the hose. Hose not having the proper suction rating for your application may collapse and result in equipment failure.

Thorburn suction hoses have helical wire reinforcement and are rated for full vacuum. "Inches of mercury" is the standard measurement for vacuum. Full vacuum is equal to 29.92 inches of mercury.

## Environment & Compatibility

Environment refers to both the external environment and the internal environment in which the hose will be working. Different components of the hose will be affected by these two types of environments.

Most hoses consist of three components: an inner tube, a reinforcement, and an outer cover.



Elastomers are the basic ingredients of all rubber compounds. However, be aware that when specifying tube and cover compounds, significant application differences may exist between two compounds listed as having the same basic elastomer.

These differences occur because compounds contain many materials in addition to elastomers. Some of these materials include processing aids, carbon black, vulcanization agents, accelerators, age resistors and other ingredients. Before making assumptions about the suitability of a particular hose for a given application, always read the “Applications” information for each specific hose listed in this catalogue and consult Thorburn technical sales department on media compatibility.

The first hose component—the inner tube—conveys the material being transferred. The tube must be compatible with these materials. This is the hose’s internal environment. Whenever you specify a Thorburn hose, make sure elastomer compounds are compatible with application.

**DANGER** Never transfer material in an inner tube that is not compatible with that material. Likewise, never use hose at temperatures, pressures or chemical concentrations above those recommended by Thorburn. Doing so will weaken or deteriorate the hose, leading to leakage, hose bursting, or end blow-offs. Personal injury or death will result.

The next hose component, the reinforcement, is the strength member of the hose. Reinforcement usually consists of textile, thermoplastic, carbon steel or stainless steel spirals, braids and coils. The helical coil is used in all hard-wall hoses and is required in vacuum and suction applications. The coil is necessary to help the hose withstand atmospheric pressure that is greater than the internal pressure of the hose to prevent the hose from collapsing. It is usually made of steel or thermoplastic monofilament.

The final hose component is the cover. The outer cover protects the reinforcement from the external environment. It is usually rubber, thermoplastic, textile or metal. The hose outer cover must protect against extreme temperature ranges, ozone, and other adverse conditions.

## Temperature

Heat can be a catalyst for chemical reaction. So when selecting Thorburn hose, consider both the ambient temperature and the temperature of the material being conveyed.

**Warning: Do not use hose at temperatures that exceed the hose temperature rating. Doing so could deteriorate the hose, leading to leaks, hose bursting, and end blow-offs. This could result in serious injury or death.**

Cold temperatures are another consideration. Hose must be flexible and able to withstand temperatures below 0°F in some applications.

Be aware that hose temperatures do not imply that a hose can handle all materials within the listed temperature range and concentration. For example, many acids and chemicals become more aggressive as the temperature increases and can cause such things as elastomer softening or dissolving. This is why, for example, Thorburn cautions against exceeding 70° when transferring sulfuric acid at a concentration of 95 per cent and higher.

For specific application information and hose temperature ratings, always follow the guidelines in this Catalogue or contact your Thorburn representative.

### Size

Size can refer to the length of the hose, the inner diameter (I.D.) and the outer diameter (O.D.).

To determine the correct length of hose for application, always remember to subtract the cut-off factor for each end fitting or coupling from the overall length of the assembly. For example, if the total length of the assembly needs to be 20 feet, and each end extends past the hose three inches, the cut-off factor is three inches at each end, or six inches total. Twenty feet minus six inches yields a hose length of 19 1/2 feet.

Inner diameter is important in relation to volume transfer requirements. The larger the hose inner diameter, the greater the volume of material that can be transferred in a given time.



Cut-off factor



Remember to subtract the cut-off factor for each end fitting when preparing hose.

**WARNING!** Be aware that if you replace a hose with one having a different I.D. than the original hose, material velocity could increase or decrease, possibly creating static electricity. This could lead to an explosion causing serious injury or death.

## SAFETY & TECHNICAL DATA: HOSE SELECTION INFORMATION

(Reprinted from *RMA Hose Handbook IP-2 Fifth Edition*)

Hose Dimensions	
(a)	I.D.
(b)	O.D.
(c)	Length (state whether overall length or length excluding couplings)
(d)	Tolerance limitations (if RMA tolerance cannot be used)
Types of Service	
(a)	Material to be conveyed through hose <ol style="list-style-type: none"> <li>1. Chemical name</li> <li>2. Concentration</li> <li>3. Temperature extremes (low and high)</li> <li>4. Solids, description and size</li> </ol>
(b)	Working pressure (including surge)
(c)	Suction or vacuum requirements
(d)	Velocity
(e)	Flow rate
Operating Conditions	
(a)	Intermittent or continuous service
(b)	Indoor and outdoor use
(c)	Movement and geometry
(d)	Flexibility-minimum bend radius
(e)	External conditions <ol style="list-style-type: none"> <li>1. Abrasion</li> <li>2. Oil (Specify type)</li> <li>3. Solvents (Specify type)</li> <li>4. Acid (Specify type and concentration)</li> <li>5. Temperature Range                             <ul style="list-style-type: none"> <li>- Normal</li> <li>- Highest</li> <li>- Lowest</li> </ul> </li> <li>6. Ozone</li> </ol>
Uncoupled Hose	
(a)	Bulk or cut to length
(b)	Ends <ol style="list-style-type: none"> <li>1. Straight or enlarged</li> <li>2. Capped or raw (uncapped)</li> <li>3. Soft ends or wire to end</li> </ol>

Coupled Hose, Fittings	
(a)	Factory applied
(b)	Field applied
(c)	Type of fitting <ol style="list-style-type: none"> <li>1. Type of thread</li> <li>2. Male or female</li> <li>3. Reusable/field attachable</li> <li>4. Non-reusable</li> </ol>
(d)	Material for fittings <ol style="list-style-type: none"> <li>1. ANSI (or SAE or ASTM) metal composition specifications</li> <li>2. See page 159</li> </ol>
Hose with Built-in Fittings	
(a)	Ends <ol style="list-style-type: none"> <li>1. Threaded (type of thread)</li> <li>2. Grooved</li> <li>3. Beveled for welding</li> <li>4. Integral flange</li> </ol>
(b)	Flanges <ol style="list-style-type: none"> <li>1. Type (threaded, slip-on, welding neck, lap joint)</li> <li>2. Pressure rating</li> <li>3. Drilling</li> </ol>
(c)	Materials and Dimensions <ol style="list-style-type: none"> <li>1. ANSI (or SAE or ASTM) composition and specifications</li> <li>2. Treatment for specific services</li> </ol>
Hose now in Use	
(a)	Type of hose
(b)	Service life being obtained and description of failure
(c)	Service life desired
Special Requirements of Properties	
(a)	Electrical and static conductive
(b)	Flame resistant
(c)	Sub-zero Exposure
(d)	Non-contaminating to material

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15	25TWH	HEAVY-DUTY PVC SUCTION	1-1/4 - 8	40-100
16	26TW	WHITE SANITARY WASH DOWN HOSE	3/4 - 1	175
16	26TWS	SUPREME WHITE SANITARY WASH-DOWN HOSE	1/2 - 1-1/2	150
17	27TW	PAPER MILL & PACKERS WASH-DOWN HOSE	1/2 - 1-1/2	160-250
17	27TWN	PAPER MILL WASH-DOWN HOSE C/W "BUILT-IN" NOZZLE	1/2 - 1-1/2	300
18	262TW	COMMERCIAL GARDEN HOSE	1/2 - 1	150
18	126TW	HIGH PRESSURE JETTING HOSE	1-1/2 - 2-1/2	500
19	23TW	ULTRA HIGH PRESSURE WATER BLAST ASSEMBLIES	1/4 - 1	10000
20	N23TWX	ULTRA HIGH PRESSURE ELASTOMERIC WATER BLAST HOSE ASSEMBLIES	1/4 - 1/2	15000

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27	60TMH	150/225/300 "NLS" SWAGED TYPE SHIP TO SHORE LOADING/UNLOADING SYSTEM		
28	60TMH	150/225/300 "NLS" SWAGED TYPE SHIP TO SHORE LOADING/UNLOADING HOSE		

\* Determined by the hose

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\* Determined by the hose

# THORBURN

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\* Determined by the hose

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76	42TPSRM	SINGLE LINE WELDING HOSE GRADE RM (OXYGEN GREEN)	3/16 - 1/2	150-250
76	42TPSRM	SINGLE LINE WELDING HOSE GRADE RM (ACELYLENE RED)	3/16 - 1/2	150-250
76	41TSP	SINGLE LINE WELDING HOSE GRADE R (OXYGEN GREEN)	3/16 - 1/2	150-250
76	42TSP	SINGLE LINE WELDING HOSE GRADE R (ACELYLENE RED)	3/16 - 1/2	150-250
77	42TDH	DIVER'S HOSE	3/8 - 1/2	1000-1125
77	42TOC	OXYGEN CHARGING HOSE	1/2 - 2	500
78	46TSP	BUTANE-PROPANE HOSE	3/16 - 3	350
78	446TSP	ANHYDROUS AMMONIA HOSE	1/2 - 2	350

## PAINT HOSES pp. 79

79	43TSP	PAINT SPRAY FLUID HOSE	1/4 - 3/4	500
79	444TSP	PAINT SPRAY AIR HOSE	1/4 - 1/2	150-200
79	445TSP	HIGH PRESSURE PAINT SPRAY	3/16 - 3/8	2500-3000

## SPECIAL PURPOSE ASSEMBLIES pp. 80

80		INTRODUCTION		
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## SPECIAL PURPOSE HOSES pp. 81 to 82

81	47TSP	SEWER CLEANING HOSE	3/4 - 1	2000
82	48TSP	FURNACE DOOR HOSE	1/4 - 4	150-400
82	548TSP	CABLE COVERING	1/2 - 3	-

\* Determined by the hose

# THORBURN

Page No.	Part No.	Description	Size Range (")	Pressure Range psi
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## PRESSURE WASHER HOSE ASSEMBLIES pp. 83 to 84

83	TPWBLU	AQUA BLUE MODEL	1/4 - 1/2	3000
83	TPWBLK	AQUA BLACK MODEL	1/4 - 1/2	2500-3000
84	TPWHT	AQUA THERM MODEL	3/8	3000

## SPECIAL PURPOSE HOSE ASSEMBLIES pp. 85 to 88

85		ULTRA HIGH PRESSURE FLEXIBLE PIPING TECHNOLOGY		
85	11TWB	ULTRA HIGH PRESSURE HOSE	.16 - .93	15,000-43,000
86	44TWB	ULTRA HIGH PRESSURE HOSE	.16 - .78	36,000-78,000
86	66TWB	ULTRA HIGH PRESSURE HOSE	.16 - .50	24,000-40,000
86	88TWB	ULTRA HIGH PRESSURE HOSE	.16	46,000
87		HOSE PRESSURE COUPLINGS (FITTINGS) CODES		
88		WATER BLAST HOSE ADAPTERS ORDER CODES		

## HIGH PRESSURE HOSE ASSEMBLIES pp. 89

89 ACCESSORIES

## HOSE COUPLINGS pp. 90 to 105

90		HEAVY DUTY HOSE SHANK TO NPT	1/4 - 6	
91		PUSH-ON LOCK-IN LOL HOSE COUPLINGS	1/4 - 3/4	
92-93		HB HOSE BARB BRASS FITTINGS	1/4 - 1	
93		GARDEN HOSE FITTINGS	3/8 - 3/4	
94		BUTANE-PROPANE COUPLINGS	1/4 - 1	
95		WELDING HOSE COUPLINGS	3/16 - 1/2	
96		AIR QUICK ACTING COUPLINGS	1/4 - 1	
97		SAND-BLAST HOSE COUPLINGS	3/4 - 1-1/2	
98		SHANK COUPLINGS FOR WATER SUCTION	1 - 8	
99		HOSE MENDER - STEEL SAFETY CABLES - FLANGES	1/4 - 12	
100		HEAVY-DUTY HIGH PRESSURE GROUND JOINT TYPE COUPLINGS	1/4 - 6	
101		COMBINATION HOSE NIPPLES	1/2 - 12	
102		316SS FOOD GRADE HOSE COUPLING SYSTEM	1 - 3	
103		EXTERNAL SWAGE HOSE COUPLING SYSTEM	1 1/4 - 10	
104		INTERNALLY EXPANDED COUPLING SYSTEM	1 1/4 - 10	
105		SWAGED-ON CAM & GROOVE	1 1/4 - 10	

## QUICK CONNECTING HOSE COUPLINGS pp. 105 to 116

106		THOR-QUICK CONNECTIONS	3/8 - 1 1/4	
107		INDUSTRIAL INTERCHANGE SERIES	1/8 - 3/4	
107		SINGLE SHUT-OFF VALVE COUPLERS	1/8 - 3/4	
108		3/4" INDUSTRIAL QUICK-CONNECT FITTINGS	1/2 - 1	
108		IN-LINE SWIVELS	1/4 - 1/2	
109		HIGH PRESSURE QUICK COUPLINGS		30,000
109		HIGH PRESSURE QUICK COUPLINGS		10,000

### CAM TYPE QUICK COUPLINGS

110		CAM TYPE QUICK ACTING OPERATING DETAILS		
111	633	CAM TYPE COUPLERS, QUICK ACTING		
111		SECURITY CHAINS & "S" HOOKS		
112	633	CAM TYPE COUPLERS, QUICK ACTING	1/2 - 10	
113	633	CAM TYPE FLANGE ADAPTERS		
114	633-90	CAM & GROOVE STYLE ELBOWS 90°		
115	TC	TANK CAR CONNECTIONS TO RAILROAD TANK CARS	2 - 4	
116	BCXY	THORBURN "BIG CAM" FLANGED #150 & 300 QUICK COUPLING SYSTEM	3 - 28	

\* Determined by the hose

Page No.	Description	Size Range (")	Pressure Range psi
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## HOSE CLAMPS pp. 117 to 121

117	"FAST-LOK" CLAMPS AND TOOLS	1 - 8	*
118	WORM GEAR CLAMPS AND PINCERS	1/4 - 20	*
119	MALLEABLE IRON CLAMPS SINGLE AND DOUBLE BOLT	7/8 - 17-1/2	*
120	THORBURN H.D. "KING LOCK" CLAMPS	2 - 12	*
120	SPECIAL BOLTED CLAMPS	2 - 24	*
121	HIGH PRESSURE INTERLOCKING CLAMPS	1/4 - 6	*

## HOSE ACCESSORIES pp. 122 to 123

122	FOOT VALVE AND SUCTION HOSE STRAINERS	1-1/2 - 12	*
121	THORBURN SOLID BRASS NOZZLE WATER NOZZLE	3/4 - 2-1/2	*
123	PRESSURE WASHER GUNS		

## DRY-BREAK COUPLINGS pp. 124 to 129

124	DRY DISCONNECT HOSE COUPLING ASSEMBLY		
125	THE DRY-ONE DISCONNECT ADVANTAGES		
126	THORVOLOK MODEL TVS20 AND TVD17 DRY-BREAK POPPET TYPE QUICK DISCONNECT COUPLING SYSTEM		
127	DRY DISCONNECT HOSE COUPLING OPERATION		
128	DRY-DISCONNECT COUPLER SYSTEM STYLES		
129	MODEL TBBMC DRY-BREAK BREAKAWAY COUPLING SYSTEM		

## PETROLEUM ELBOW COUPLING SYSTEMS pp. 130 to 132

130	THOR TITE COAXIAL ELBOW MODEL "TEC" SINGLE POINT VAPOUR DROP ELBOWS		
131	THOR TITE ELBOWS MODEL "TES" 4" TIGHT FILL ELBOWS SHOVEL HANDLE TYPE	4	
131	THOR TITE "TEVS"	4	
132	THOR TITE ELBOWS MODEL "TEL" 4" TIGHT FILL ELBOWS LEVER TYPE	3 - 4	
132	API CONNECTORS	3 - 4	

## SWIVEL JOINTS pp. 133 to 135

133	SWIVEL JOINTS - INTRODUCTION		
134	SPECIFYING SWIVEL JOINTS		
135	BOTTOM LOADING ACCESSORIES		

## SIGHT FLOW INDICATORS pp. 136 to 137

136	THOR-SIGHT TS24 & TS25		
137	SPECIFYING THOR-SIGHT		

## LOADING ARMS & ACCESSORIES pp. 138 to 142

138	MODEL BLS - BOTTOM LOADING SYSTEMS		
138	MODEL TLS - TOP LOADING SYSTEMS	2 - 6	
139-140	BOTTOM LOADING ARMS & ACCESSORIES		
141	TOP LOADING ARMS & ACCESSORIES		
142	MODELS BLS & TLS: TECHNICAL DATA		

## TECHNICAL DATA pp. 143 to 157

143-144	GENERAL MAINTENANCE, TESTING & INSPECTION OF HOSE		
145-146	CARE, MAINTENANCE & STORAGE		
147	MAINTENANCE, TESTING & INSPECTION OF CHEMICAL HOSE		
148	HOSE FAILURE ANALYSIS		
149	COUPLING THREAD COMPATIBILITY		
149	OIL RESISTANCE — DEFINITION AND DEGREES		
150	FLEXIBILITY AND BEND RADIUS		
151-156	CHEMICAL RESISTANCE CHART		
157	DIMENSIONS OF: SEAMLESS & WELDED STEEL PIPE, 150-LB. FLANGE, 300-LB. FLANGE		

## ORDERING INFORMATION pp. 158 to 159

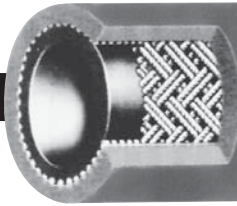
158	GUIDE FOR ORDERING THORBURN HOSES		
159	GUIDE FOR ORDERING THORBURN COUPLINGS		

\* Determined by the hose



### 10TA 3B MULTI-PURPOSE HOSE

**WHEN  
ECONOMY  
COUNTS**



#### APPLICATION

For use in shop air and water. Excellent abrasion resistance, flexibility and moderate resistance to oil. Can be used as a hot water heater hose on propane fueled internal combustion engines or with air operated tools, etc.

#### CONSTRUCTION

**Tube:** Type P EPDM. Black colour.

**Reinforcement:** Synthetic yarns applied by special process.

**Cover:** Type P EPDM. Orange.

**Couplings:** Barbed brass (pp. 92-93). Interlocking ground joint over 1" (p. 100).

**Lengths:** Long lengths on reels.

**To order,  
see page 158**

Thorburn Numbers	Hose I.D.		Hose O.D.		Rated W.P.		Weight	
	mm	in.	mm	in.	MPa	PSI	kg/100 m	Lbs/100 f
10TA04	6.4	1/4	12.7	.50	1.4	200	13	9
10TA04A	6.4	1/4	15.8	.62	1.7	250	22	15
10TA05	7.9	5/16	15.8	.62	1.4	200	19	13
10TA05A	7.9	5/16	17.5	.69	1.7	250	25	17
10TA06	9.5	3/8	17.5	.69	1.4	200	22	15
10TA06A	9.5	3/8	19.1	.75	1.7	250	28	19
10TA08	12.7	1/2	21.3	.84	1.4	200	31	21
10TA08A	12.7	1/2	21.3	.84	1.7	250	31	21
10TA12	19.1	3/4	30.5	1.20	1.7	250	60	40
10TA16	25.4	1	36.1	1.42	1.7	250	70	47
10TA20	31.8	1-1/4	44.5	1.75	1.4	200	104	70
10TA24	38.1	1-1/2	50.8	2.00	1.4	200	121	81

### 11TA 19B - PREMIUM MULTI-PURPOSE HOSE

#### APPLICATION

Air tools used in factories, quarries, construction projects, shipbuilding and railroads and as an agricultural spay hose for insecticides, herbicides, fungicides and animal sprays. Also used for conveying water, gasoline, kerosene, fuel oil and lubricating oils, suitable for air up to 93°C (200°F).

**Special note:** 11TANC has a non-pin pricked cover and an electrical resistance rating of 1 mega ohm per inch at 1000 volts D.C. This makes it suitable for air lines in electrolysis plants such as aluminum pot-rooms. Non-conductive per Alcoa std. 30.4.2.

#### CONSTRUCTION

**Tube:** Type C (Buna-N). Black colour, non-flaking. Specially compounded for broad range of highly diversified uses. Can be used to convey mild acids and chemicals, etc.

**Reinforcement:** One or two braids of high tensile synthetic yarn applied.

**Cover:** Type A (Neoprene). Red colour. Compounded for excellent resistance to sunlight, weathering, ozone and abrasion. Excellent resistance to oils and greases.

**Couplings:** Barbed brass (pp. 92-93) plus clamp (pp. 117-121). Interlocking ground joint over 1" (p. 100).

**Lengths:** Long lengths on reels.



**PREMIUM OIL  
RESISTANCY**

**AVAILABLE  
NON-CONDUCTIVE**

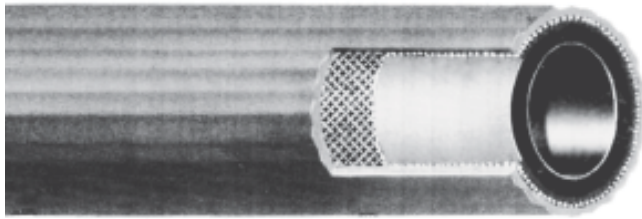
Thorburn Numbers*	Hose I.D.		Hose O.D.		Rated W.P.		Weight	
	mm	in.	mm	in.	MPa	PSI	kg/100 m	Lbs/100 ft
11TA04*	6.4	1/4	12.7	.50	1.7	250	13	9
11TA04A*	6.4	1/4	10.0	.63	2.1	300	25	17
11TA05*	7.9	5/16	10.0	.63	1.7	250	22	15
11TA05A*	7.9	5/16	17.5	.69	2.1	300	27	18
11TA06*	9.5	3/8	17.5	.69	1.7	250	24	16
11TA06A	9.5	3/8	19.1	.75	2.1	300	31	20
11TA08	12.7	1/2	21.3	.84	1.7	250	33	22
11TA08A	12.7	1/2	22.4	.88	2.1	300	34	26
11TA10	15.9	5/8	24.1	.95	1.4	200	39	26
11TA10A	15.9	5/8	25.4	1.00	2.1	300	45	30
11TA12	19.1	3/4	27.9	1.10	1.4	200	52	35
11TA12A	19.1	3/4	31.8	1.25	2.1	300	74	50
11TA16	25.4	1	35.1	1.38	1.4	200	64	43
11TA16A	25.4	1	38.1	1.50	1.7	250	94	63
11TA20A	31.8	1-1/4	44.5	1.75	1.7	250	105	72
11TA24A	38.1	1-1/2	50.8	2.00	1.7	250	124	84

**To order, see page 158**

\* To order non-conductive 11TANC, insert suffix "NC", ie 11TA08ANC

**LEAD PRESS  
DESIGN**

**DURABILITY &  
LIGHTWEIGHT**



## 12TA (Ribbed cover) MINE AIR AND WATER HOSE

### APPLICATION

High pressure air and water discharge hose, especially used where long, continuous lengths are required. A rugged hose for severe applications such as deep rock mines and quarries using air and water lines for air drilling. Highly visible yellow cover of premium grade rubber gives excellent resistance to abrasion, tearing, etc.

### CONSTRUCTION

**Tube:** Type P (EPDM). Black colour.

**Reinforcement:** One or two braids of synthetic yarn. Provides 2.8 MPa (400 psi) rated working pressure, to withstand surges so common in mining operations.

**Cover:** Type P (EPDM). Yellow colour for added visibility. Thick, high-grade stock withstands the severe abrasion, crushing and tearing of sharp rock. Specially compounded for excellent resistance to sunlight and ozone.

**Couplings:** Interlocking coupling, ground joint type, mining hex nipples (pp. 100, 101).

Thorburn Numbers	Hose I.D.		Hose O.D.		Rated W.P.		Weight	
	mm	in.	mm	in.	MPa	PSI	kg/100 m	Lbs/100
12TA08	12.7	1/2	22.4	.88	2.8	400	36	24
12TA12	19.1	3/4	31.8	1.25	2.8	400	67	45
12TA16	25.4	1	37.1	1.46	2.8	400	77	52

To order,  
see page 158



## 14TA AIR DRILL STANDARD

### APPLICATION

First quality robust mandrel built air line hose. Designed to take high pressures and stand up to the rigorous conditions prevalent in mining and construction work.

### CONSTRUCTION

**Tube:** Oil mist resistant. Black.

**Reinforcement:** Heavy duty rayon cords.

**Cover:** Thick, yellow, abrasion resistant rubber.

**Couplings:** Interlocking coupling, ground joint type or quick acting ground joint, mining hex nipples (pp. 100, 101).

Thorburn Numbers	Hose I.D.		Hose O.D.		Rated W.P.		Weight	
	mm	in.	mm	in.	MPa	PSI	kg/100 m	Lbs/100 ft
14TA08	12.7	1/2	23	906	2.1	300	37	25
14TA12	19.1	3/4	31	1.219	2.1	300	60	40
14TA16	25.4	1	37	1.469	2.1	300	75	50
14TA20	31.8	1-1/4	45	1.781	2.1	300	105	70
14TA24	38.1	1-1/2	52	2.062	2.1	300	134	90
14TA32	50.8	2	66	2.594	2.1	300	173	116
14TA40	63.5	2-1/2	79	3.125	2.1	300	231	155
14TA48	76.2	3	93	3.656	1.7	250	297	199
14TA64	101.6	4	117	4.656	1.7	250	402	270

To order,  
see page 158

### 15TA

#### AIR DRILL (EXTRA PRESSURE)

##### APPLICATION

For use in mines, quarries and general industry where extra high pressure air is required.

##### CONSTRUCTION

**Tube:** Oil resistant black.

**Reinforcement:** Heavy duty rayon cords.

**Cover:** Yellow

**Couplings:** Interlocking coupling, ground joint type (p. 100).

**Lengths:** Maximum stocked lengths 100 ft. Available up to 200 ft. upon request.

**To order,  
see page 158**



Thorburn Numbers	Hose I.D.		Hose O.D.		Rated W.P.		Weight	
	mm	in.	mm	in.	MPa	PSI	kg/100 m	Lbs/100 ft
15TA08	12.7	1/2	23.8	.87	2.8	400	45	30
15TA12	19.1	3/4	31.8	1.30	2.8	400	75	50
15TA16	25.4	1	38.9	1.58	2.8	400	104	70
15TA20	31.8	1-1/4	46.0	1.85	2.8	400	134	90
15TA24	38.1	1-1/2	52.3	2.10	2.8	400	152	102
15TA32	50.8	2	65.8	2.63	2.8	400	216	145
15TA48	76.2	3	95.3	3.75	2.8	400	372	250
15TA64	101.6	4	120.7	4.75	2.8	400	492	330

### 16TA

#### AIR WIRE BRAID

**EXTRA HIGH  
PRESSURE  
SERVICE**

##### APPLICATION

Heavy duty, high pressure pneumatic service in mines quarries, construction and industry. The ideal "bull hose" to withstand severe external abuse and internal surge pressures.

##### CONSTRUCTION

**Tube:** Black, oil resistant, heat resistant Neoprene (CR)

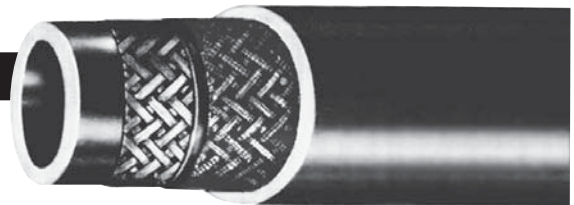
**Reinforcement:** Steel wire braid.

**Cover:** Bright yellow, heavy gauge, oil resistant, abrasion resistant Neoprene (CR) wrap finish.

**Couplings:** Interlocking coupling, ground joint type (p. 100).

**Lengths:** Standard 50 ft. Available up to 200 ft. upon request.

**To order,  
see page 158**



Thorburn Numbers	Hose I.D.		Hose O.D.		Rated W.P.		Weight	
	mm	in.	mm	in.	MPa	PSI	kg/100 m	Lbs/100 ft
16TA08	12.7	1/2	26.2	1.031	8.6	1250	74	50
16TA12	19.1	3/4	32.5	1.281	7.6	1125	107	72
16TA16	25.4	1	38.9	1.531	5.5	800	123	83
16TA20	31.8	1-1/4	46.2	1.812	5.2	750	172	116
16TA24	38.1	1-1/2	52.4	2.062	4.3	625	202	136
16TA32	50.8	2	65.9	2.593	3.5	500	303	202
16TA32A	50.8	2	69.9	2.750	6.0	875	362	241
16TA40A	63.5	2-1/2	82.0	3.230	5.5	800	437	293
16TA48A	76.2	3	92.9	3.656	4.3	625	490	329
16TA64A	101.6	4	120.7	4.750	3.4	500	679	456

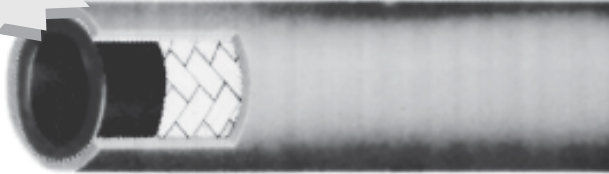
## 19TA

### Multi-Purpose High Pressure

#### APPLICATION

High pressure air or water discharge applications requiring a hose with good crush resistance and extreme flexibility. The ideal "all purpose" hose, 19TA handles air and water at pressures up to 1000 psi.

**FLEXIBLE  
WON'T KINK**

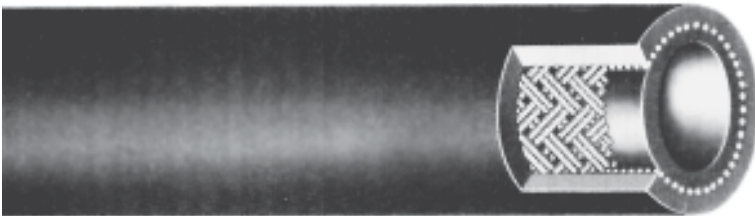


Thorburn Numbers	Hose I.D.		Hose O.D.		Rated W.P.		Weight	
	mm	in.	mm	in.	MPa	PSI	kg/100 m	Lbs/100 ft
19TA04	5.4	1/4	16.0	.63	6.9	1000	31	21
19TA06	9.5	3/8	19.6	.77	6.9	1000	46	31
19TA08	12.7	1/2	23.4	.92	6.9	1000	60	40
19TA12	19.1	3/4	30.7	1.21	6.9	1000	88	59
19TA16	25.4	1	37.1	1.46	6.9	1000	112	75

To order, see page 158

**AVAILABLE  
NON-CONDUCTIVE**

**NO CLAMPS  
REQUIRED**



Thorburn Numbers	Hose I.D.		Hose O.D.		Rated W.P.		Weight	
	mm	in.	mm	in.	MPa	PSI	kg/100 m	lbs/100 ft
4LOL	6.3	1/4	11.9	.47	2.4	350	12	8
6LOL	10.0	3/8	15.5	.61	2.4	350	16.5	11
8LOL	12.5	1/2	19.1	.75	2.4	350	22	15
10LOL	16	5/8	23	.91	2.4	350	30	20
12LOL	19	3/4	26.2	1.04	2.4	350	36	24

To order, see page 158

Color order: Insert suffix "C"=Grey, "B"=Blue, "G"=Green, "R"=Red, "Y"=Yellow (Ex.: 4LOLC)

Also saturated steam. 100 psi and 338° F (170°C). Bends to extremely tight radius but will not kink due to special angle used in its wire-braid reinforcement.

#### CONSTRUCTION

**Tube:** Type A (Neoprene). Black colour. Specially compounded to provide good heat resistance.

**Reinforcement:** One metal braid and textile anchor braid for high pressure performance. Special braid angle makes this hose incredibly flexible and crush resistant; it bends tightly, yet won't kink.

**Cover:** Type M (Hypalon). Gold colour. Specifically compounded to resist ozone, chemicals and heat.

**Couplings:** Interlocking coupling, ground joint type (p. 100). Universal Quick Acting coupling and hydraulic crimp couplings.

**Lengths:** Long lengths on reels.

## SERIES LOL

### Push-on/Lock-in Hose

#### APPLICATIONS

A lightweight, flexible hose used for general purpose applications such as conveying petroleum based hydraulic products, anti-freeze, agricultural sprays and diluted chemical solutions. Ideally suited for flexible fuel lines conveying leaded and unleaded gasolines.

**Temperature Range:** -40°C to 95°C  
(-40°F to 200°F.)

**Air and Water:** 70°C / +160°F only.

**Couplings:** Lock-on reusable couplings (p. 91). *Clamps recommended when hose is used for gasoline lines.*

#### CONSTRUCTION

**Tube:** Black synthetic rubber with excellent oil resistance. Tube stock meets or exceeds the SAE J30b fuel requirements.

**Reinforcement:** One fibre braid. Special braiding process for lock-on characteristics. Permits the use of lock-on couplings. No ferrules required.

**Cover:** Resistant to oil, heat and abrasion. Available in 6 colors.

### 110TA

#### HOT AIR BLOWER HOSE

##### APPLICATIONS

For conveying hot air from blower to tank on dry bulk trucks.

**Temperature Range:** -40°F to 350°F  
(-40°C to 177°C)

##### CONSTRUCTION

**Tube:** Black specially compounded heat resistant EPDM rubber.

**Reinforcement:** High tensile wire helix embedded between layers of heat resistant synthetic fabric.

**Cover:** Black heat and weather resistant EPDM rubber with brown longitudinal stripe.

**Standard lengths:** 20', 30', 40', 50', 60', 100'.

**To order,  
see page 158**



Thorburn Numbers	Hose I.D.		Hose O.D.		Rated W.P.		Weight	
	mm	in.	mm	in.	MPa	PSI	kg/100 m	Lbs/100 ft
110TA32	52	2	64	2.53	.86	125	176	118
110TA48	76	3	95	3.75	.69	100	320	215
110TA64	101	4	121	4.75	.69	100	447	300

### 17TA

#### PVC RED MULTI-PURPOSE



*Available in a non-conductive low temperature formula*

*Call Thorburn for details now!*

##### APPLICATION

Multi-purpose, economical rubber substitute in plant air and water hose, ideal for mild chemicals and lubricated air tool lines.

##### CONSTRUCTION

**Tube:** Smooth bore, oil resistant black PVC blend.

**Reinforcement:** High tensile braided synthetic cords.

**Cover:** Red, abrasion and weather resistant, pin pricked.

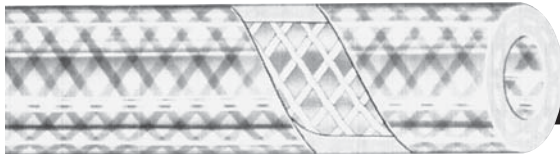
**Couplings:** Barbed brass insert with clamps (pp. 92-93 and 117-121).

**Additional colors:** 17TAY (Yellow Cover), 17TAB (Blue Cover), 17TAG (Grey Cover).

**To order,  
see page 158**

Thorburn Numbers	Hose I.D.		Hose O.D.		Rated W.P.		Weight	
	mm	in.	mm	in.	MPa	PSI	kg/100 m	lbs/100 ft
17TA04	6.4	1/4	12.7	.50	1.4	250	13	9
17TA05	7.9	5/16	14.2	.56	1.4	250	16	14
17TA06	9.5	3/8	16.0	.63	1.4	200	17	12
17TA08	12.7	1/2	19.1	.75	1.4	250	21	45
17TA12	19.1	3/4	26.2	1.03	1.0	200	30	24
17TA16	25.4	1	33.3	1.31	1.00	150	44	35

F.D.A. Approved



## 18TA PVC CLEAR MULTI-PURPOSE REINFORCED

Thorburn Numbers	Hose I.D.		Hose O.D.		Rated W.P.		Weight	
	mm	in.	mm	in.	MPa	PSI	kg/100 m	lbs/100 ft
18TA03	4.8	3/16	87	.38	1.7	250	6	4.5
18TA04	6.4	1/4	11.9	.47	1.7	250	9	6.5
18TA05	7.9	5/16	13.5	.53	1.7	250	11	7.5
18TA06	9.5	3/8	15.0	.59	1.5	225	13	9.0
18TA08	12.7	1/2	19.1	.75	1.4	200	21	14.5
18TA10	15.9	5/8	22.2	.87	1.4	200	22	15.0
18TA12	19.1	3/4	26.2	1.03	1.0	150	33	23
18TA16	25.1	1	33.3	1.31	.83	125	45	32
18TA20	31.8	1-1/4	42.9	1.69	.69	100	82	58
18TA24	38.1	1-1/2	49.3	1.94	.69	100	98	69
18TA32	50.8	2	63.5	2.50	.52	75	142	100

### APPLICATION

Extremely light and flexible, crystal clear, for transfer of air, fluids and mild chemicals. Food and beverage grade.

### CONSTRUCTION

**Tube:** Clear PVC hose.

**Reinforcement:** Open mesh nylon, braids embedded between the smooth tube and cover.

**Couplings:** Barbed brass inserts, shank couplings and clamps (pp. 92-93, 98 and 117-121).

**Lengths:** 3/16 to 3/4 Max. 300 ft.  
 1 200 ft.  
 1-1/4 to 2 100 ft.

To order, see page 158

## POLYTHANE

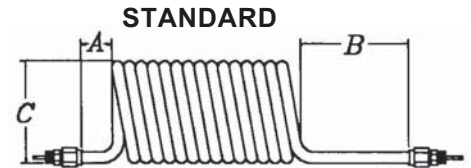
### Polyurethane Self-Storing Assemblies

**Temperature:** -65°F to 200°F  
 (-54°C to 93°C)

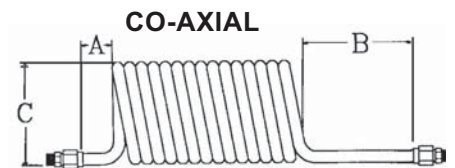
**Working Pressure:** 120 psi

- No swivel fittings required
- No spring guards required
- Standard tail lengths eliminate need for additional whip hoses

**Note:** Heavier walled hose will better retain memory for vertical overhead installations. Working length: approximately 75% of total length. Standard NPT fitting sizes apply to each hose size listed and are installed on each end.



**Special note:** A co-axial quick connect plug is available for connection to a co-axial style socket on the lubrication or stub hose assembly.

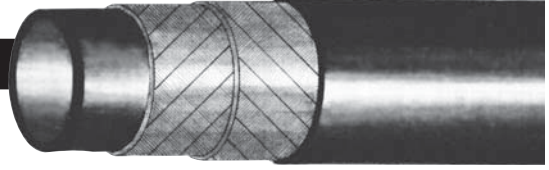


To order, see page 158

Thorburn # Standard	Thorburn # Co-axial	Hose I.D.	Wall Thks	Total Length	Working Length	A	B	C	Fitting Male NPT
PT4-4L10N		1/4	Norm	10	7.5	15	18	2	1/4
PT4-4L14N		1/4	Norm	14	10.5	15	18	2	1/4
PT4-4L18N		1/4	Norm	18	13.5	15	18	2	1/4
PT5-4L10N	PTC5-4L10N	5/16	Norm	10	7.5	15	18	2.5	1/4
PT5-4L14N	PTC5-4L14N	5/16	Norm	14	10.5	15	18	2.5	1/4
PT5-4L18N	PTC5-4L18N	5/16	Norm	18	13.5	15	18	2.5	1/4
PT6-6L10N	PTC6-6L10N	3/8	Norm	10	7.5	15	18	3	3/8
PT6-6L14N	PTC6-6L14N	3/8	Norm	14	10.5	15	18	3	3/8
PT6-6L18N	PTC6-6L18N	3/8	Norm	18	13.5	15	18	3	3/8
PT6-6L10H	PTC6-6L10H	3/8	HVY	10	7.5	15	18	3	3/8
PT6-6L14H	PTC6-6L14H	3/8	HVY	14	10.5	15	18	3	3/8
PT6-6L18H	PTC6-6L18H	3/8	HVY	18	13.5	15	18	3	3/8
PT8-8L10H	PTC8-8L10H	1/2	HVY	10	7.5	15	18	4	1/2
PT8-8L14H	PTC8-8L14H	1/2	HVY	14	10.5	15	18	4	1/2
PT8-8L18H	PTC8-8L18H	1/2	HVY	18	13.5	15	18	4	1/2

### 20TW

### CONTRACTORS STANDARD DISCHARGE



To order,  
see page 158

#### APPLICATION

All normal pump discharge and water pressure hose service.

#### CONSTRUCTION

**Tube:** Black rubber.

**Reinforcement:** Rayon cords

**Cover:** Smooth black to 1" I.D. wrapped finish black and yellow. Barber pole design 1 1/4" to 12" I.D.

**Couplings:** Combination nipple or shank coupling with clamps (p. 101).

#### Stock lengths max.:

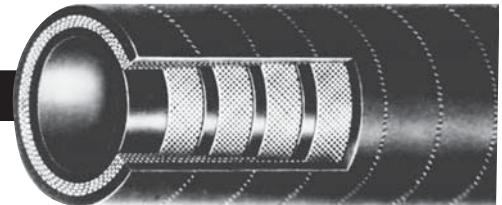
1" and under 600 ft. 1 1/4"

1 1/4" and over 100 ft.

Thorburn Numbers	Hose I.D.		Hose O.D.		Plies	Rated W.P.		Weight	
	mm	in	mm	in		MPa	PSI	kg / 100 m	lbs/ 100 ft
20TW08	12.7	1/2	20.6	.81	1	1.0	150	30	21
20TW08A	12.7	1/2	22.4	.88	2	1.7	250	35	25
20TW12	19.1	3/4	28.7	1.13	1	1.0	150	51	36
20TW12A	19.1	3/4	30.2	1.19	2	1.7	200	54	38
20TW16	25.4	1	35.1	1.38	1	1.0	150	60	42
20TW16A	25.4	1	36.6	1.44	2	1.4	200	71	50
20TW20	31.8	1 1/4	39.6	1.56	2	1.7	250	54	38
20TW24	38.1	1 1/2	46.0	1.81	2	1.7	250	62	44
20TW32	50.8	2	58.7	2.31	2	1.0	150	82	58
20TW40	63.5	2 1/2	72.1	2.84	2	1.0	150	119	84
20TW48	76.2	3	84.8	3.34	2	1.0	150	141	99
20TW64	101.6	4	110.2	4.34	2	.69	100	185	140
20TW80	127.0	5	137.4	5.41	2	.62	90	259	197
20TW96	152.4	6	162.8	6.41	2	.62	90	310	234
20TW128	203.2	8	214.4	8.44	2	.62	90	454	319
20TW160	254.0	10	266.7	10.50	4	.62	90	651	492
20TW192	304.8	12	317.5	12.50	4	.62	90	779	589

### 21TW

### HIGH PRESSURE DISCHARGE



To order,  
see page 158

**HEAVY DUTY  
RUBBER  
DISCHARGE**

#### APPLICATION

Premium quality construction for use where extra abrasion resistance or higher working pressures are required.

#### CONSTRUCTION

**Tube:** Black.

**Reinforcement:** Rayon cords.

**Cover:** Green.

**Couplings:** Combination nipple or shank coupling with clamps (p. 101).

**Stock lengths max.:** 100 ft.

Thorburn Numbers	Hose I.D.		Hose O.D.		Plies	Rated W.P.		Weight	
	mm	in	mm	in		MPa	PSI	kg / 100 m	lbs/ 100 ft
21TW20	31.8	1 1/4	42.2	1.66	2	2.1	300	74	52
21TW24	38.1	1 1/2	48.5	1.66	2	1.9	215	87	61
21TW32	50.8	2	62.7	2.47	2	1.4	200	112	79
21TW40	63.5	2 1/2	76.2	3.00	2	1.4	200	175	123
21TW48	76.2	3	88.9	3.50	2	1.4	200	206	145
21TW64	101.6	4	114.3	4.50	2	1.0	150	270	190
21TW80	127.0	5	139.7	5.50	2	1.0	150	341	240
21TW96	152.4	6	165.1	6.50	4	.86	125	405	285
21TW128	203.2	8	217.4	8.56	4	.86	125	587	442
21TW160	254.0	10	270.8	10.66	4	.86	125	910	597
21TW192	304.8	12	321.6	12.66	4	.69	100	1088	714

## 22TW

### FLAT-FLEX PVC WATER DISCHARGE HOSE



Thorburn Numbers	Hose I.D.		Rated W.P.		Weight	
	mm	in	MPa	PSI	kg	lbs
22TW24	38.1	1 1/2	.55	85	26	18
22TW32	50.8	2	.55	85	26	25
22TW40	63.5	2 1/2	.55	85	26	32
22TW48	76.2	3	.55	85	26	40
22TW64	101.6	4	.48	70	75	53
22TW96	152.4	6	.31	45	119	85
22TW128	203.2	8	.31	45	185	130
22TW160	254.0	10	.31	45	249	175
22TW192	192.0	12	.21	30	303	214
22TW224	356	14	.17	25	348	245
22TW256	406	16	.14	20	409	275

#### APPLICATION

Mines, construction, irrigation, etc.

**WHEN ECONOMY COUNTS**

#### CONSTRUCTION

3-ply polyester yarns. Both tube and cover are extruded simultaneously to obtain maximum bonding.

**Temp. range:** 5° F. to 130° F.

**Reinforcement:** Rayon cords.

**Cover:** Green.

**Couplings:** Aluminum shank couplings, quick disconnect, or combination nipples (p. 101).

**Standard Length:** 300 ft.

To order,  
see page 158

## 22TWB

### PVC BROWN HEAVY DUTY

Thorburn Numbers	Hose I.D.		Rated W.P.		Weight	
	mm	in	MPa	PSI	kg	lbs
22TWB32	50.8	2	1.0	150	40	27
22TWB40	63.5	2 1/2	.86	125	51	34
22TWB48	76.2	3	.86	125	65	44
22TWB64	101.6	4	.68	100	86	58
22TWB96	152.4	6	.55	80	140	95
22TWB128	203.2	8	.41	60	224	150
22TWB160	254.0	10	.41	60	—	—

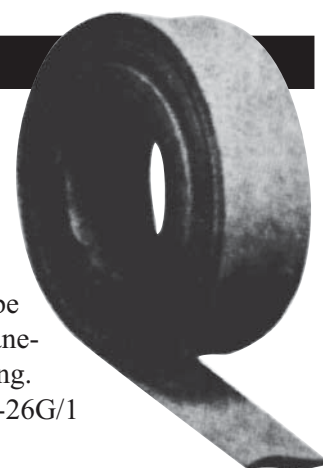
#### APPLICATION

Mines, construction, etc.

#### CONSTRUCTION

3-ply polyester yarns. Both tube and cover are extruded simultaneously to obtain maximum bonding.

**Flame resistant:** USMSHA 2G-26G/1



To order,  
see page 158

## 22TWG

### PVC GREEN HEAVY DUTY

**THICK AND TOUGH**

To order,  
see page 158

*Ideal Rental and Construction Hose*

Thorburn Numbers	Hose I.D.		Rated W.P.		Weight	
	mm	in	MPa	PSI	kg	lbs
22TWG24	38.1	1 1/2	.59	85	26.8	18
22TWG32	50.8	2	.55	80	52.2	35
22TWG40	63.5	2 1/2	.52	75	59.6	40
22TWG48	76.2	3	.35	50	74.5	50
22TWG64	101.6	4	.28	40	138.6	93

#### APPLICATION

Thick and tough wall for rentals, mines, construction, etc.

#### CONSTRUCTION

2 polyester spirals plus 1 ply vertical yarns.

**Flame resistant:** USMSHA 7C-150/1



### 24TW HEAVY DUTY SUCTION



#### APPLICATION

A heavy duty wire reinforced rubber suction hose for mining, construction, quarrying and general water suction service.

#### CONSTRUCTION

**Tube:** Smooth rubber tube.

**Reinforcement:** strong high tensile wire helix ensures maximum crush resistance.

**Cover:** Black and yellow barber pole design, smooth tough abrasion resistant rubber.

**Couplings:** Shank couplings with clamps (p. 101).

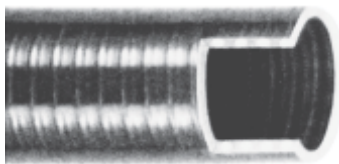
**1" to 6" stock lengths:** 100 ft.

**8" to 12" max. stock lengths:** 40 ft.

Thorburn Numbers	Hose I.D.		Hose O.D.		Rated W.P.		Min. Bend Radius		Weight	
	mm	in	mm	in	MPa	PSI	mm	in	kg/100 m	lbs/100 ft
24TW16	25.4	1	36.6	1.44	1.7	300	75	3	71	50
24TW20	31.8	1 1/4	42.9	1.69	1.7	300	100	4	91	61
24TW24	38.1	1 1/2	49.3	1.94	1.7	250	100	4	105	71
24TW32	50.8	2	36.6	1.44	1.0	200	125	5	147	99
24TW40	63.5	1 1/2	75.4	2.97	1.0	200	200	8	241	162
24TW48	76.2	3	90.4	3.56	1.0	200	250	10	268	180
24TW64	101.6	4	115.8	4.56	.69	125	350	14	421	283
24TW80	127.0	5	142.0	5.59	.52	100	500	20	640	430
24TW96	152.4	6	173.0	6.81	.52	100	750	30	946	635
24TW128	203.2	8	227.1	8.94	.52	100	1625	65	1478	992
24TW160	254.0	10	277.9	10.94	.52	100	2000	90	2359	1583
24TW192	304.8	12	330.0	13.00	.52	100	2500	100	2806	1882

To order,  
see page 158

### 25TW PVC SUCTION



#### APPLICATION

Water suction: construction and mining installations.

#### CONSTRUCTION

Heavy duty green translucent hose made from high quality Polyvinyl Chloride. Smooth bore suitable for full vacuum at 21° C. (70° F.)

**Couplings:** Shank coupling with clamps (p. 101).

**Max. stock lengths:**

1 1/4" to 4": 100 ft.

6" to 8": 20 ft.



#### 25TWMD Medium Duty Suction Vacuum rating 20" mg

Thorburn Numbers	Hose I.D.		Hose O.D.		Rated W.P.		Min. Bend Radius		Weight	
	mm	in	mm	in	MPa	PSI	mm	in	kg/100 m	lbs/100 ft
25TWMD20	31.8	1 1/4	42.2	1.66	.62	90	150	6	43	30
25TWMD24	38.1	1 1/2	48.5	1.91	.62	90	150	6	57	40
25TWMD32	50.8	2	61.2	2.41	.55	80	200	8	75	52
25TWMD40	63.5	2 1/2	73.9	2.91	.52	75	350	14	101	70
25TWMD48	76.2	3	86.6	3.41	.45	65	450	18	130	90
25TWMD64	101.6	4	114.3	4.50	.41	60	600	24	218	150
25TWMD96	152.4	6	168.4	6.63	.41	60	900	36	523	360

#### 25TWH Heavy Duty Suction Full vacuum

Thorburn Numbers	Hose I.D.		Hose O.D.		Rated W.P.		Min. Bend Radius		Weight	
	mm	in	mm	in	MPa	PSI	mm	in	kg/100 m	lbs/100 ft
25TWH20	38.1	1 1/4	38.1	1.50	.69	100	20	8	57	30
25TWH24	38.1	1 1/2	47.7	1.88	.69	100	24	8	71	50
25TWH32	50.8	2	63.5	2.50	.62	85	32	12	107	75
25TWH40	63.5	1 1/2	76.2	3.00	.55	80	40	15	149	105
25TWH48	76.2	3	88.9	3.50	.52	75	48	20	192	135
25TWH64	101.6	4	117.6	4.63	.45	65	64	28	306	215
25TWH96	152.4	6	174.8	6.88	.34	50	96	42	704	495
25TWH128	203.0	8	228.6	9.00	.28	40	128	75	1138	800

To order, see page 158

## 26TW

### WHITE SANITARY WASH-DOWN HOSE

#### APPLICATION

Hot water— up to 93° C. (200° F.) where steam is injected into the water for food handling or processing plant wash-up service, requiring hose with a sanitary-white cover. Not recommended for pure steam use.



#### CONSTRUCTION

**Tube:** Type D (SBR). Black colour. Specially compounded to withstand sustained use with hot water.

**Reinforcement:** Two braids of synthetic yarn.

**Cover:** Type A (Neoprene). White colour. Specially compounded to withstand damaging effects of lactic acid, animal and butter fats.

**Couplings:** Shank coupling or interlocking coupling , ground joint type (p. 100). Solid brass tapered nozzle available. (p. 122).

**Lengths:** Pre-packaged on reels.

Thorburn Numbers	Hose I.D.		Hose O.D.		Plies	Rated W.P.		Min. Bend Radius		Weight	
	mm	in	mm	in		MPa	PSI	mm	in	kg/100 m	lbs/100 ft
26TW12	19.1	3/4	34.9	1.22	2	1.2	175	152	6	62	42
26TW16	25.4	1	37.3	1.47	2	1.2	175	203	8	77	52

To order, see page 158

## 26TWS

### SUPREME WHITE SANITARY WASH-DOWN HOSE

*When Sanitary White Tube and Cover is required*

#### APPLICATION

Clean-up and hot water wash-down service in dairies, creameries, meat packaging houses, food processing and bottling plants. Premium materials gives longer service life at high temperatures.

#### CONSTRUCTION

**Tube:** White or black colour. Heat resistant. EPDM type “R” rubber.

**Reinforcement:** Two layers of high tensile calandered fabric, fungus and mould resistant.

**Cover:** Sanitary white. Heat and abrasion resistant. EPDM type “N” rubber.

**Couplings:** Couplings (p. 100). Clamps (p. 122).

Thorburn Numbers	Hose I.D.		Hose O.D.		Plies	Rated W.P.		Weight	
	mm	in	mm	in		MPa	PSI	kg/100 m	lbs/100 ft
26TWS08	12.7	1/2	25.4	1	2	1.03	150	381	256
26TWS12	19.0	3/4	32	1.25	2	1.03	150	489	328
26TWS16	25.4	1	38	1.5	2	1.03	150	596	400
26TWS20	32	1 1/4	44.5	1.75	2	1.03	150	742	498
26TWS24	38	1 1/2	50.8	2	2	1.03	150	922	619

To order, see page 158



### 27TW

#### PAPER MILL AND PACKERS WASH-DOWN HOSE

##### APPLICATION

Wash-down service in paper mills, breweries, dairies, packing houses, fishing boats, fish processing, abattoirs, canneries and numerous other applications where hot water up to 93° C. (200° F.) is handled. Not recommended for pure steam use.

##### CONSTRUCTION

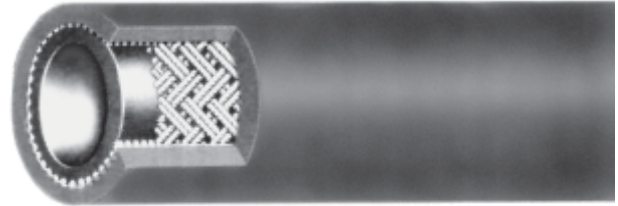
**Tube:** Black heat resistant synthetic rubber

**Reinforcement:** Two layers of synthetic yarns.

**Cover:** Green heat and oil resistant synthetic rubber cover.

**Couplings:** Shank coupling or interlocking coupling , ground joint type. Solid brass tapered nozzle available (p.100).

**Lengths:** Pre-packaged on reels.

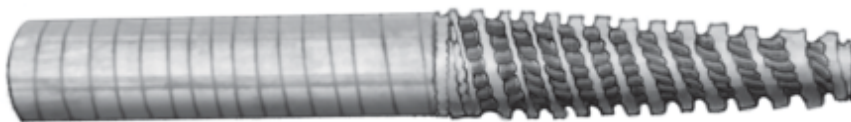


Thorburn Numbers	Hose I.D.		Hose O.D.		Rated W.P.		Weight	
	mm	in	mm	in	MPa	PSI	kg/100 m	lbs/100 ft
27TW08	12.7	1/2	24	.96	1.10	160	37	25
27TW12	19.1	3/4	31	1.22	1.10	160	63	42
27TW16	25.4	1	37	1.47	1.10	160	77	52
27TW20	31.8	1 1/4	44	1.75	1.72	250	118	80
27TW24	38.1	1 1/2	53	2.10	1.72	250	128	86

To order,  
see page 158

### 27TWN

#### PAPER MILL WASH-DOWN HOSE



To order,  
see page 158

##### APPLICATION

Thorburn's premium quality wash-down hose is especially compounded for hot or cold water wash-down service in paper mills. Also available with oil resistant compounds for use on oil rigs. Order Thorburn model number 27 TON.

##### CONSTRUCTION

**Tube:** Special compound blends for black synthetic rubber

**Reinforcement:** Multiple layers of tightly angled moisture resistant calandered polyester fabric.

**Cover:** Green colour abrasion resistant synthetic rubber.

**Standard lengths:** Available in 100' maximum lengths or 50' length with nozzle on one end.

**Couplings:** Couplings (p.100). Clamps (p.122).

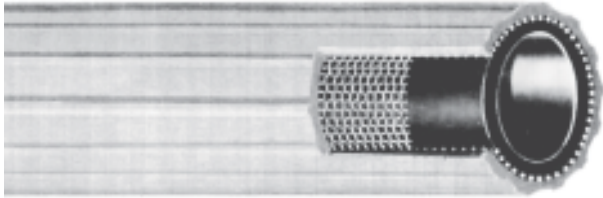
##### FEATURES

- **User friendly**  
Extremely flexible, lightweight and easy to handle
- **Durable**  
Rugged scuff and abrasion resistant cover
- **Built-in tapered rubber nozzle**  
Using Thorburn exclusive spiral corrugated "Can't slip" process

Thorburn Numbers	Hose I.D.		Hose O.D.		Plies	Rated W.P.		Weight	
	mm	in	mm	in		MPa	PSI	kg/100 m	lbs/100 ft
27TWN08	12.7	1/2	23	.91	2	2.07	300	37	25
27TWN12	19.0	3/4	30	1.19	2	2.07	300	51	34
27TWN16	25.4	1	37	1.44	2	2.07	300	64	43
27TWN20	32	1 1/4	43	1.69	2	2.07	300	99	67
27TWN24	34	1 1/2	52	2.03	2	2.07	300	130	87

## 262TW

### COMMERCIAL GARDEN HOSE



#### APPLICATION

Extra-long service as a general watering hose around industrial plants, nurseries, greenhouses, truck farms, golf courses, cemeteries and municipal parks and for watering lawns and gardens. Will give excellent performance under all normal service conditions.

#### CONSTRUCTION

**Tube:** Type P (EPDM). Black colour.

**Reinforcement:** One ply of synthetic yarn.

**Cover:** Type P (EPDM). Black colour. Corrugated.

**Ends:** Plain

**Couplings:** Long shank couplings, light weight water hose couplings or cast brass shank couplings (p. 101).

Thorburn Numbers	Hose I.D.		Hose O.D.		Rated W.P.		Min. Bend Radius		Weight	
	mm	in	mm	in	MPa	PSI	mm	in	kg/100 m	lbs/100 ft
262TW08	12.7	1/2	21.3	.84	1.0	150	76	3	31	21
262TW12	19.1	3/4	29.5	1.16	1.0	150	127	5	54	36
262TW16	25.4	1	36.6	1.44	1.0	150	203	8	73	49

To order,  
see page 158

## 126TW

### HIGH PRESSURE JETTING HOSE

Thorburn's 126TW is extremely lightweight and flexible making it exceptionally easy to handle. Our 126TW is also built tough to last a long time.

#### APPLICATION

Thorburn's 126TW is used for removing clay and sand with high pressure water blasting. Also used on large construction sites for water jet blasting prior to pouring concrete.

#### CONSTRUCTION

**Tube:** Black synthetic. Seamless, resistant to water and mild chemicals.

**Reinforcement:** XHT textile yarn. Horizontally braided for high strength.

**Cover:** Extra tough black neoprene, oil weather and abrasion resistant.

**Couplings:** Ground joint and shank couplings with clamps (p. 101).

To order,  
see page 158



Thorburn Numbers	Hose I.D.		Hose O.D.		Plies	Rated W.P.		Weight	
	mm	in	mm	in		MPa	PSI	kg/100 m	lbs/100 ft
126TW24	38	1 1/2	49.0	1.94	1	3.45	500	100	67
126TW32	50	2	63.5	2.50	1	3.45	500	125	84
126TW40	64	2 1/2	76.0	3.00	1	2.07	300	152	102

### Assemblies

#### 23TW

#### ULTRA HIGH PRESSURE WATER BLAST

10,000 psi

#### APPLICATION

Heavy duty high pressure waterblast applications. This hose is to be used for waterblast purposes only.

**Temperature range:** -40°F to +212°F (-40°C to +100°C).

#### CONSTRUCTION

**Tube:** Seamless black synthetic rubber, oil resistant.

**Reinforcement:** Five layers of alternated, spiraled, high tensile steel wire.

**Cover:** Black synthetic rubber resistant to abrasion, oil, fuel and weathering.



**Couplings:** Specially designed interlock couplings for ultra high pressures (factory-assembled on request). High pressure. Standard fittings are plated steel. Quick-disconnect waterblast coupling available on request.

#### 23TW Waterblast Hose Specifications

Thorburn Numbers	I.D.		O.D. (in.)	Pressures P.S.I.		Min. Bend Radius	Weight (100 ft) lbs.
	in.	mm		Work.	M. burst		
23TW04	1/4	6.5	.81	10,000	40,000	5.0	55
23TW06	3/8	9.5	.97	10,000	34,000	6.0	60
23TW08	1/2	13	1.09	10,000	32,000	8.0	115
23TW12	3/4	19	1.26	10,000	25,200	11.0	129
23TW16	1	25	1.52	10,000	23,000	14.0	160



100 ft Standard

#### Waterblast Hose Assembly Specifications

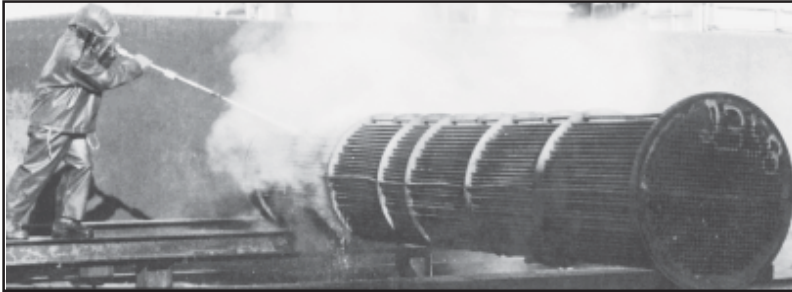
Thorburn Numbers	I.D.	O.D.	(P.S.I.) Max. Working Pressure	Overall Length (Ft.) XX	Coupling Thread (Size & Type)
23TWB04MPMPXX	1/4	.81	10,000	50,100	1/4 - 18 NPTF
23TWB06MPMPXX	3/8	.97	10,000	50,100	3/8 - 18 NPTF
23TWB08MPMPXX	1/2	1.09	10,000	50,100	1/2 - 18 NPTF
23TWB12MPMPXX	3/4	1.26	10,000	50,100	3/4 - 14 NPTF
23TWB16MPMPXX	1	1.52	10,000	50,100	1 - 11 1/2 NPTF

Special note: Custom lengths available upon request.

To order,  
see page 158

15,000 psi

## N23TWX Ultra High Pressure ELASTOMERIC WATERBLAST HOSE ASSEMBLIES



Thorburn's Model N23TWX elastomeric hose assemblies are designed for extremely high pressure water cleaning equipment. Thorburn tests each N23TWX assembly to 15000 psi, tags and serializes for complete traceability. At Thorburn, we say "Quality goes in before the name goes on". Thorburn Model N23TWX hose assemblies are registered for 10,000 psi service as per ASME B31.1. Their elastomeric materials have a radiation resistance of 6 x 10<sup>7</sup> Roentgens. This hose is to be used for waterblast purposes only.

**Temperature range:** -40°F to 212°F  
-40°C to 100°C

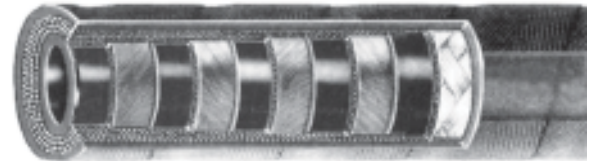
### CONSTRUCTION

**Tube:** Special blend of smooth black Butadiene Acrylo-Nitrile synthetic rubber.

**Reinforcement:** Four layers of high tensile spiraled steel wire with one high tensile braided wire over a layer of calendared polyester.

**Cover:** Black Polychlorprene blend providing excellent abrasion and ozone resistance.

**Couplings:** Factory assembled crimp type quick coupling in carbon steel or stainless steel.



**WARNING: IT IS NOT RECOMMENDED TO USE NPT THREADS GREATER THAN 10,000 PSI SERVICE.**

Thorburn Part #	I.D.		O.D.		Design Pressure		Min. Burst Pressure		Min. Bend Radius		Weight	
	mm	in.	mm	in.	MPa	psi	MPa	psi	mm	in.	kg/100m	lbs/100ft.
N23TWX04	6.4	1/4	20.0	0.79	69	15000	310	45000	127	5	82.0	55
N23TWX06	9.5	3/8	21.0	0.81	69	15000	310	45000	152	6	89.5	60
N23TWX08	12.7	1/2	29.5	1.16	69	15000	310	45000	203	8	172.0	115



### HOW TO ORDER THORBURN 23TWX HOSE ASSEMBLIES

Size Hose	1st End Size/Coupling	1st End Material	2nd End Size/Coupling	2nd End Material	Length Inches
N23TWX08	8MP	S6	8MP	S6	600

For carbon steel material code C

Above 10,000 psi Thorburn recommends male cone and threaded or reverse high pressure connections.

### Description:

1/2" N23TWX hose c/w 1/2" male pipe NPT in 316SS, other end 1/2" male pipe NPT in 316SS, 600" overall length. Also available with quick couplings.

### 32TS FIBERGLASS STEAM HOSE

**AVAILABLE AS  
NON-CONDUCTIVE  
HOSE ASSEMBLIES**



#### APPLICATION

An exceptionally flexible heavy duty hose designed for use in industries where steel wire braids are not suitable because of electrical conductivity. High tensile fiberglass tire cords spirally wound make this hose exceptionally flexible. Can be used in electro-plating operations, around electric arc steel furnace, electrical maintenance shops. Other applications include thawing, wash-down at paper mills and food plants, or any other areas where electrical conductivity is a concern. Larger diameters available on request. **Special note:** Please specify non-conductive application with order.

**Pressure temperature:** 1.38MPa (200 PSI) and 198°C (388°F).

Thorburn Numbers	Hose I.D.		Hose O.D.		Rated W.P.		Weight	
	mm	in.	mm	in.	MPa	PSI	kg/100 m	lbs/100 ft
32TS08	12.7	1/2	25.4	1.0	1.38	200	59.6	40
32TS12	19.0	3/4	32	1.25	1.38	200	79.0	53
32TS16	25.4	1	39.1	1.5	1.38	200	98.0	66
32TS20	31.8	1-1/4	46	1.8	1.38	200	129.6	87
32TS24	38.0	1-1/2	52	2.1	1.38	200	138.6	93
32TS32	50.8	2	65	2.6	1.38	200	175.9	118

#### CONSTRUCTION

**Tube:** Black colour. Heat resistant EPDM.

**Reinforcement:** High tensile fiberglass cords, spirally wound.

**Cover:** Red. Heat resistant EPDM. Other colors available upon request.

**Couplings:** Interlocking ground joint type.

**Lengths:** 50' stock available up to 100'.

To order, see page 158

### 30TS REFINERY STEAM QUEEN

**NEW AND  
IMPROVED**

**OUTSTANDING  
FLEXIBILITY**



#### APPLICATION

All types of steam –saturated and super-heated– up to 1.7MPa (250PSI) and 208°C (406°F). This exceptionally strong and versatile hose is built to withstand constant usage and give long, dependable service under the toughest conditions of super-heated steam. Yet, it is the industry's most flexible and easiest hose to handle.

**Pressure temperature:** 1.7MPa (250 PSI) and 208°C (406°F).

#### CONSTRUCTION

**Tube:** Black heat resistant EPDM. Specifically compounded to withstand high quality and superheated steam. Will not crack or harden during normal life of the hose.

**Reinforcement:** Two spiral braids with a textile anchor braid to provide excellent cover adhesion. Special spiral construction yields outstanding flexibility and great strength. Built-in static wire. Grounds any static build-up in the hose.

**Cover:** Type "M" EPDM. Red cover. For color coding in refineries. Specifically compounded to provide excellent resistance to weathering, aging and eliminates premature cracking caused by the high temperatures encountered in steam service.

**Couplings:** Interlocking ground joint type (p. 100).

**Lengths:** 25', 50', 100', 200' and 400'.

Thorburn Numbers	Hose I.D.		Hose O.D.		Rated W.P.		Weight	
	mm	in.	mm	in.	MPa	PSI	kg/100 m	lbs/100 ft
30TS08	12.7	1/2	25.4	1.00	1.7	250	53.6	36
30TS12	19.1	3/4	31.7	1.25	1.7	250	74.5	50
30TS16	25.4	1	38.1	1.50	1.7	250	104.3	70
30TS20	31.8	1-1/4	47.0	1.85	1.7	250	150.5	101
30TS24	38.1	1-1/2	54.9	2.16	1.7	250	186.2	125
30TS32	50.8	2	67.8	2.67	1.7	250	245.8	165
30TS40	63.5	2-1/2	81.8	3.22	1.7	250	290.0	200
30TS48	76.2	3	96.0	3.78	1.7	250	506.6	340

To order, see page 158

## 31TS "Oil Resistant Cover" REFINERY STEAM KING

**NEW OIL  
RESISTANT  
COVER**

**OUTSTANDING  
FLEXIBILITY**

### APPLICATION

Same as 30TS, but for use where the cover may come into contact with petroleum products. Specially designed to give outstanding service in refineries as a steam cleaning hose or as a fire fighting hose. Red, oil resistant cover does not support combustion.

**Pressure temperature:** 1.7MPa (250 PSI) and 208°C (406°F)

**To order,  
see page 158**



### CONSTRUCTION

**Tube:** Black heat resistant EPDM rubber. Specifically compounded to withstand steam. Will not crack or harden during the normal life of the hose.

**Reinforcement:** Two spiral braids with a textile anchor braid to provide excellent cover adhesion. Special spiral construction yields outstanding flexibility and great strength. Built-in static wire grounds any static build-up in the hose.

**Cover:** Red, heat and oil resistant Neoprene blend. Specifically compounded to provide excellent resistance to weathering, aging, abrasion and eliminates premature cracking caused by the high temperatures encountered in steam service..

**Couplings:** Interlocking coupling, ground joint type (p.100).

**Lengths:** 25', 50', 100', 200' and 400'.

Thorburn Numbers	Hose I.D.		Hose O.D.		Rated W.P.		Weight	
	mm	in.	mm	in.	MPa	PSI	kg/100 m	lbs/100 ft
31TS08	12.7	1/2	25.4	1.00	1.7	250	53.6	36
31TS12	19.1	3/4	31.7	1.25	1.7	250	74.5	50
31TS16	25.4	1	38.1	1.50	1.7	250	104.3	70
31TS20	31.8	1-1/4	47.0	1.85	1.7	250	150.5	101
31TS24	38.1	1-1/2	54.9	2.16	1.7	250	186.2	125
31TS32	50.8	2	67.8	2.67	1.7	250	245.8	165
31TS40	63.5	2-1/2	81.8	3.22	1.7	250	290.0	200
31TS48	76.2	3	96.0	3.78	1.7	250	506.6	340

Non stock price and delivery available upon request

## SATURATED STEAM DATA

Pressure-lb.f./sq.in		Approx. Temperature		Pressure-lb.f./sq.in.		Approx. Temperature	
Gauge	Absolute	Degrees Fahrenheit	Degrees Centigrade	Gauge	Absolute	Degrees Fahrenheit	Degrees Centigrade
0.3	15.0	213.0	100.5	85	99.7	327	164
1.3	16.0	216.3	102.5	90	104.7	330	166
2.3	17.0	219.4	104.0	95	109.7	334	168
3.3	18.0	222.4	106.0	100	114.7	338	170
4.3	19.0	225.2	107.0	105	119.7	341	172
5.3	20.0	228.0	109.0				
10	24.7	239.0	115.0	115	129.7	347	175
15	29.7	250.0	121.0	125	139.7	353	178
20	34.7	258.0	125.0	135	149.7	358	181
25	39.7	267.0	130.0	145	159.7	363	184
30	44.7	274.0	134.0	155	169.7	368	186
35	49.7	281.0	138.0	165	179.7	373	189
40	54.7	287.0	141.0	175	189.7	377	192
45	59.7	292.0	144.0	185	199.7	381	194
50	64.7	298.0	148.0	195	209.7	386	197
55	69.7	302.0	150.0	200	214.7	388	198
60	74.7	307.0	153.0	225	239.7	397	203
65	79.7	312.0	155.0	250	264.7	406	208
70	84.7	316.0	158.0	275	289.7	414	212
75	89.7	320.0	160.0	300	314.7	422	216
80	94.7	324.0	162.0	325	339.7	429	221



## 52TP

### PETROLEUM DISCHARGE



Specifically designed for discharge service of petroleum products.

#### CONSTRUCTION

**Tube:** Smooth seamless Nitrile to transfer pas and petroleum products

**Reinforcement:** High tensile synthetic fibres, with one anti-static wire

**Cover:** Typically orange, compounded to resist deterioration from oil, gasoline, abrasion and weather.

**Temperature:** -40° F to 212° F.  
(-40° C. to 100 C.)

**Couplings:** Quick acting Camlock type, combination nipples, clamps “Fast-Lok” (p.110)

To order, see page 158

Thorburn Part Number	Hose I.D.		Hose O.D.		Plies	Working Pressure		Weight	
	mm	in.	mm	in.		MPa	PSI	kg/100m	lbs/100ft
	52TP24	38	1-1/2	48		1.94	2	1.05	150
52TP32	52	2	63	2.47	2	1.05	150	155	104
52TP40	63	2-1/2	76	3.00	2	1.05	150	187	126
52TP48	75	3	88	3.47	2	1.05	150	244	164
52TP64	100	4	113	4.47	4	1.05	150	318	214
52TP96	150	6	152	6.00	4	1.05	150	569	383

## 53TPX

### LOW TEMPERATURE DROP ARCTIC HOSE

-65° F. / -54° F.



Thorburn 53TPX was specifically made to transfer petroleum products at extreme Canadian winter conditions. The construction provides for outstanding flexibility in extreme low temperature conditions as -65° F. (-54 C.). It is designed for suction and discharge service for tank truck, tank car, and bulk station to convey gasoline, distilled kerosene, diesel and other fuels.

#### CONSTRUCTION

**Tube:** Smooth seamless blended Nitrile (type BC.)

**Reinforcement:** Helical high tensile spring steel wire between multi plies of calendared fabric.

**Cover:** Corrugated low temperature oil resistant rubber.

**Couplings:** Quick acting Camlock type, combination nipples, Clamps “Fast-Lok”

To order, see page 158

Thorburn Part Number	Hose I.D.		Hose O.D.		Minimum Bend Radius		Vacuum	Working Pressure		Weight	
	mm	in.	mm	in.	mm	in.		MPa	PSI	kg/100m	lbs/100ft
	53TPX32	52	2	65	2.56	200		8	Full	.69	100
53TPX40	76	3	92	3.63	356	14	Full	.69	100	247	166
53TPX64	100	4	118	4.63	457	18	Full	.69	100	424	285

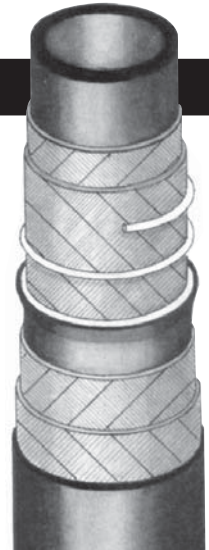
## 55TP

### TANK-TRUCK

Thorburn Tank-Truck 55TP is designed for use as tank truck delivery hose, for the transfer of petroleum products from rail cars and for inplant transfert. A very flexible hose allowing small bend radius when necessary.

**Temperature:** -40°F. to 200° F. (-40° C. to 93° C.).

To order,  
see page 158



#### CONSTRUCTION

**Tube:** Buna N Nitrile, smooth black, suitable for 55% aromatic content.

**Reinforcement:** High tensile nylon cords spirally wound with double helix steel wire embedded.

**Cover:** Corrugated orange oil and gasoline resistant synthetic rubber.

**Couplings:** Quick acting Camlock type, combination nipples, clamps. "Fast-Lok" (p.110)

Thorburn Part Number	Hose I.D.		Hose O.D.		Plies	Design Pressure		Weight	
	mm	in.	mm	in.		MPa	PSI	kg/100m	lbs/100ft
55TP16	25	1	36	1.44	2	1.38	200	87.7	59
55TP20	31.25	1-1/4	42.25	1.69	2	1.38	200	105.56	71
55TP24	37.5	1-1/2	48.5	1.94	2	1.03	150	121.96	82
55TP32	50	2	61	2.44	2	1.03	150	169.5	114
55TP40	62.5	2-1/2	75	3	2	1.03	150	226	152
55TP48	75	3	89	3.56	2	1.03	150	300.34	202
55TP56	87.5	3-1/2	100	4	2	1.03	150	386.58	260
55TP64	100	4	114	4.56	2	1.03	150	447.54	301
55TP80	125	5	143.75	5.75	4	0.69	100	798.43	537
55TP96	150	6	168.75	6.75	4	0.69	100	944.14	635

## 556TP

### FUEL-AIR

Specifically designed to handle aviation fuels. Excellent for top deck, reel or platform type refuelers.

**Temperature:** -40° F. to 180° F. (-40° C. to 82° C.).

#### CONSTRUCTION

**Tube:** Extruded seamless black.

**Reinforcement:** Four spirals of polyester yarn.

**Cover:** One piece black, carboxylated nitrile, non-marking. Oil, fuel, ozone and abrasion resistant. Type C conductive.



To order,  
see page 158

**Couplings:** Special couplings; please contact Thorburn for details.

Thorburn Part Number	Hose I.D.		Hose O.D.		Plies	Design Pressure		Weight	
	mm	in.	mm	in.		MPa	PSI	kg/100m	lbs/100ft
556TP-20	31.25	1-1/4	50.00	2	4	2.07	300	120	81
556TP24	37.50	1-1/2	56.25	2-1/4	4	2.07	300	156	105
556TP-32	50.00	2	68.75	2-3/4	4	2.07	300	208	140
556TP-40	62.50	2-1/2	81.25	3-1/4	4	2.07	300	252	170
556TP48	75.00	3	82.80	3-15/16	4	2.07	300	341	230
556TP64	100.00	4	128.10	5-1/8	4	2.07	300	539	363

## 558TPX

### PETROLEUM FLOATER HOSE ASSEMBLY

Thorburn's 558TPX is the answer to serious problems of moving fuel supplies to and from areas without developed port facilities. Thorburn's 558TPX floater hose is available in long lengths to avoid numerous metal connections. Thorburn's 558TPX is not affected by marine environments, can be reeled in quickly in case of sudden storms and can be stored in less space than metal drums.

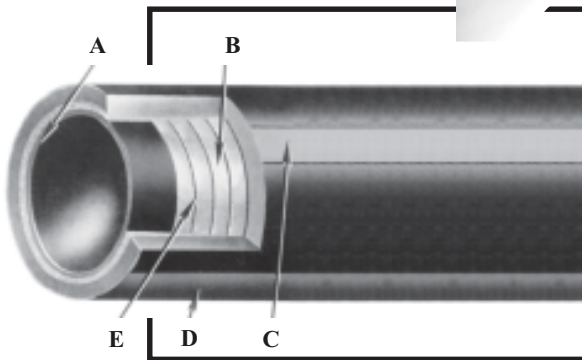
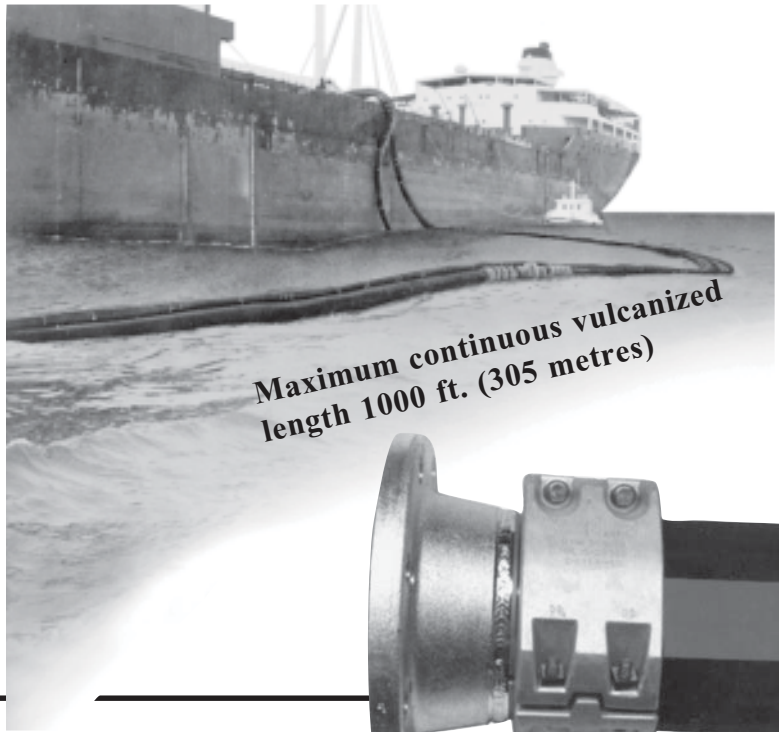
#### CONSTRUCTION

**Tube:** Specially compounded seamless Nitrile tube suitable for 50% aromatics.

**Reinforcement:** 4 plies of specially angled calendared fabric.

**Cover:** Tough synthetic, very high abrasion resistant rubber with longitudinal stripe

**Couplings:** Reattachable segmented fitting for excellent carcass to supple retention which minimizes leakage, allows retightening to prevent creeping.



- (A) 50% aromatic-resistant tube liner
- (B) Carcass. Four full body plies of high strength synthetic fabric
- (C) Longitudinal stripe
- (D) Abrasion-resistant outer cover
- (E) Skim coating of synthetic rubber

#### How to Order 558TPX Hose Assembly

Base part #	Size	1st End/ Material	2nd End/ Material	Length
558TPX	64	64CS6	64ES6	400'

**Material Codes**    **Size Codes**  
 316SS = S6            3"= 48  
 Plated carbon        4"= 64  
 steel = C              6"= 96  
                                  8"= 128

**End Codes**  
 Flange #150 = F  
 Male Camlok = E  
 Female Camlok= C

Thorburn Part Number	Hose I.D.		Hose O.D.		Per cent Reserved	Working Pressure		Max. End Pull		Buoyancy Positive		Weight	
	mm	in.	mm	in.		MPa	PSI	lbs	kg	lb/ft	kg/m	lb/ft	kg/m
558TPX48	75	3	90	3.7	10	1.4	200	9000	4090	.24	.38	1.6	2.4
558TPX64	100	4	118	4.7	10	1.4	200	12000	5455	.6	.90	2.5	3.7
558TPX96	150	6	171	6.75	12	1.4	200	18000	8181	1.70	2.50	3.7	5.5
558TPX128	200	8	220	8.8	13	1.4	200	25000	11350	3.00	4.40	5.5	8.2

Note: (1) Hose can be designed for higher pressure (2) This is based on fuel having specific gravity of 0.85.

## 557TP

### HOT TAR AND ASPHALT HOSE

Designed for the transfer of tar, asphalt, hot oils and other high temperature petroleum based materials. Synthetic fibre glass tire cord construction permits hose to withstand temperatures of 350°F. (177° C.) Thorburn's 558TP can also be used for conveying hot waxes and hot vegetable oils.

**Temperature:** -40°F to 350°F. (-40° C. to 177° C.).

#### CONSTRUCTION

**Tube:** Seamless black heat resistant synthetic rubber. Dupont Varnac.

**Reinforcement:** High tensile fibre glass calendared fabric, spirally wound with embedded steel helix wire.

**Cover:** Black, weather and heat, asphalt, abrasion resistant synthetic rubber. Dupont Varnac.

**Couplings:** Interlocking, combination nipples, "Fast-Lok" or high pressure interlocking.



Thorburn Part Number	Hose I.D.		Hose O.D.		Minimum Bend Radius	Working Pressure		Weight	
	mm	in.	mm	in.		MPa	PSI	kg/100m	lbs/100ft
557TP16	25	1	48	1 3/4	4	1.4	200	201	134
557TP20	32	1 1/4	55	2	5	1.4	200	245	163
557TP24	38	1-1/2	61	2 1/2	6	1.4	200	270	180
557TP32	52	2	75	3	8	1.4	200	374	249
557TP40	63	2-1/2	88	3 1/2	10	1.4	200	449	299
557TP48	75	3	100	4	12	1.4	200	524	349
557TP64	100	4	127	5	16	1.03	150	888	492

## 60 TMH CUSTOM O.S.&D. HOSE ASSEMBLY

Sizes 3" to 24"

To order assemblies, please see page 28

#### APPLICATION

Heavy duty, multi-purpose suction and discharge hose. Designed specifically for transferring petroleum products to and from tankers, barges and storage tanks. Available in smooth or corrugated constructions with built-in design pressures of 150, 225, 300 psi ratings, meets all USA, British and Canadian coast guard requirements.

**Temperature Rating:** -40°F to 300°F. (-40°C. to 149°C.) depending on construction

#### CONSTRUCTION

**Tube:** Seamless Nitrile (option Viton).

**Reinforcement:** Multiple plies of calendared polyester fabric with helically wound heavy duty spring steel wire.

**Cover:** Neoprene (option Viton).

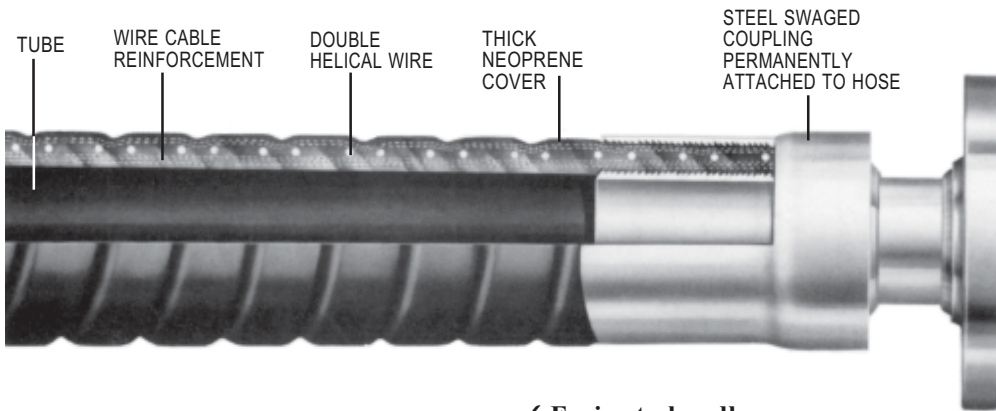
**End Fittings:** Built-in or swaged nipples and flanges (150# or 300# drillings) Other drillings available.



## 60TMH150/225/300 "NLS" SWAGED TYPE SHIP TO SHORE LOADING/UNLOADING SYSTEM

Thorburn 60TMH "NLS" is manufactured to exacting specifications conforms to U.S., British and Canadian Coast Guard standards. Our exclusive manufacturing procedures result in :

- ☑ Precise wire and/or reinforcement ranges that control hose movement under pressure.
- ☑ Reinforcement members "work" together for more balanced construction and longer hose life
- ☑ Thorburn's special process for building a secure fitting to end joint seal a "NEVER LEAK" sealing system.

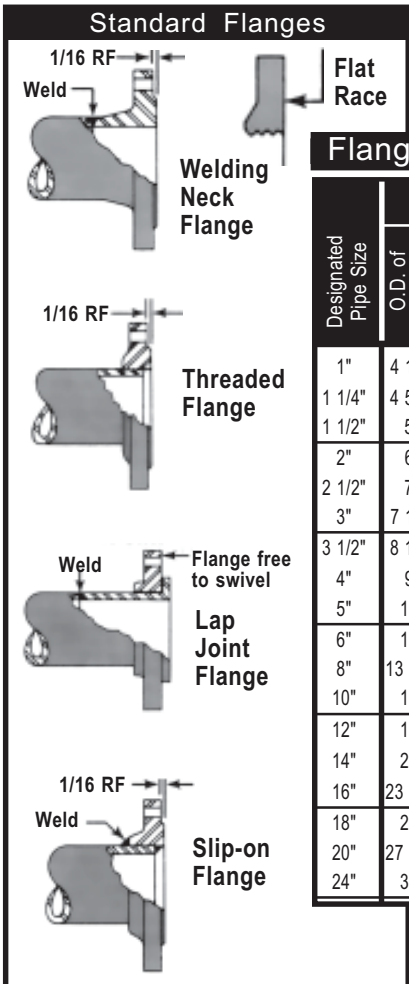


### Swaged Coupling

**Application:** Factory applied. A high-pressure coupling providing exceptional strength and holding power. Ideal for dock hose and other applications requiring a high pressure coupling.

**Description:** Plated steel stem and ferrule. Externally swaged as an integrated unit.

- ✓ Easier to handle
- ✓ Permits tight bends
- ✓ Reduces kinking
- ✓ Seamless tube



### Flange Size Standard Pipe Flanges

Designated Pipe Size	Forged Steel, ASA B16.5 150 lbs.							300 lbs. American Standard						
	O.D. of Flange	Thickness of Flange	Bolt Circle	No. of Bolts	Size of Bolts	Diameter of Holes	Approx. Wt.-lbs. Forged Steel (Slip-on or Threaded)	O.D. of Flange	Thickness of Flange	Bolt Circle	No. of Bolts	Size of Bolts	Diameter of Holes	Approx. Wt.-lbs. Forged Steel (Slip-on or Threaded)
1"	4 1/4"	9/16"	3 1/8"	4	1/2"	5/8"	2	4 7/8"	11/16"	3 1/2"	4	5/8"	3/4"	3
1 1/4"	4 5/8"	5/8"	3 1/2"	4	1/2"	5/8"	3	5 1/4"	3/4"	3 7/8"	4	5/8"	3/4"	4
1 1/2"	5"	11/16"	3 7/8"	4	1/2"	5/8"	3	6 1/8"	13/16"	4 1/2"	4	3/4"	7/8"	6
2"	6"	3/4"	4 3/4"	4	3/4"	3/4"	5	6 1/2"	7/8"	5"	8	5/8"	3/4"	7
2 1/2"	7"	7/8"	5 1/2"	4	3/4"	3/4"	7	7 1/2"	1"	5 7/8"	8	3/4"	7/8"	10
3"	7 1/2"	15/16"	6"	4	3/4"	3/4"	8	8 1/4"	1 1/8"	6 5/8"	8	3/4"	7/8"	13
3 1/2"	8 1/2"	15/16"	7"	8	3/4"	3/4"	11	9"	1 3/16"	7 1/4"	8	3/4"	7/8"	17
4"	9"	15/16"	7 1/2"	8	3/4"	3/4"	13	10"	1 1/4"	7 7/8"	8	3/4"	7/8"	22
5"	10"	15/16"	8 1/2"	8	7/8"	7/8"	15	11"	1 3/8"	9 1/4"	8	3/4"	7/8"	28
6"	11"	1"	9 1/2"	8	7/8"	7/8"	19	12 1/2"	1 7/16"	10 5/8"	12	3/4"	7/8"	39
8"	13 1/2"	1 1/8"	11 3/4"	8	7/8"	7/8"	30	15"	1 5/8"	13"	12	7/8"	1"	58
10"	16"	1 3/16"	14 1/4"	12	1"	1"	43	17 1/2"	1 7/8"	15 1/4"	16	1"	1 1/8"	81
12"	19"	1 1/4"	17"	12	1"	1"	64	20 1/2"	2"	17 3/4"	16	1 1/8"	1 1/4"	115
14"	21"	1 3/8"	18 3/4"	12	1 1/8"	1 1/8"	85	23"	2 1/8"	20 1/4"	20	1 1/8"	1 1/4"	164
16"	23 1/2"	1 7/16"	21 1/4"	16	1 1/8"	1 1/8"	93	25 1/2"	2 1/4"	22 1/2"	20	1 1/4"	1 3/8"	220
18"	25"	1 9/16"	22 3/4"	16	1 1/4"	1 1/4"	120	28"	2 3/8"	24 3/4"	24	1 1/4"	1 3/8"	280
20"	27 1/2"	1 11/16"	25"	20	1 1/4"	1 1/4"	155	30 1/2"	2 1/2"	27"	24	1 1/4"	1 3/8"	325
24"	32"	1 7/8"	29 1/2"	20	1 3/8"	1 3/8"	120	36"	2 3/4"	32"	24	1 1/2"	1 5/8"	490

Figures above apply to Forged Steel

Figures above apply to Forged Steel

## 60TMH 150/225/300 "NLS" SWAGED TYPE

### SHIP TO SHORE LOADING/UNLOADING HOSE



Typical ship to shore loading/unloading flexible piping system

#### TUBE COMPOUND SECTION

Due to the variety of products transferred, selection of the proper tube compound is very important. Following is a list of the tube compounds used in Thorburn's NLS dock hose system and the products they resist. Refer to Chemical Resistance Charts for other listings.

##### Nitrile (Buna-N)

Gasolines (30-50% aromatic)  
Fuel Oils  
Crude Oil  
Bunker Oil  
Kerosene  
Jet Fuel (JP-5, 6)  
Lube Oil  
Ethylene Glycol  
Methanol  
Naphtha

##### Cross-Link Polyethylene

**Max 150°F**  
Acetone  
Creosote  
Butyl Acetate  
Vinyl Acetate  
Methyl Ethyl Ketone  
Hydraulic Oil, Synthetic (Phosphate Ester)

##### Fluoroelastomer (Viton)

Gasoline (over 50% aromatic)  
Benzene  
Toluene  
Stryrene  
Xylene  
Trichlorethylene  
Methyl Chloride

##### Neoprene

Gasolines (up to 30% aromatic)  
Fuel Oil  
Crude Oil  
Bunker Oil  
Kerosene  
Jet Fuel (JP-1, 2, 3, 4)  
Lube Oil  
Ethylene Glycol  
Methanol

#### Thorburn 60TMH-150NLS

I.D.	O.D.	W.P./psi	Minimum Bend Radius	Wt/ft
4"	5 1/4"	150	16"	5.7
6"	7 1/2"	150	24"	9.3
8"	9 3/4"	150	32"	14.6
10"	11 1/2"	150	40"	22.2
12"	13 1/2"	150	48"	26

#### Thorburn 60TMH-300NLS

I.D.	O.D.	W.P./psi	Minimum Bend Radius	Wt/ft
4"	5 1/2"	300	16"	15
6"	7 3/4"	300	24"	24
8"	10 1/4"	300	32"	30
10"	12.2"	300	40"	36
12"	14.2"	300	48"	39

#### How to Order Thorburn 60TMH-150/300NLS Ship to Shore Loading/Unloading Hose Assembly

Hose type	Hose size	Material		Pressure	End Material		End Fitting Type	Length
		Tube	Cover		1st	2nd		
NLS-60TMH	128	D	C	225	01C	05C	SW	40 ft.

60TMH  
990TMH  
991TMH

**Size codes**  
4" = 64  
6" = 96  
8" = 128  
10" = 160  
12" = 192

**Compound Rubber codes**  
Neoprene = C  
Nitrile = D  
X-Link = G  
Teflon = J  
Viton = I

**Pressure**  
150 psi  
225 psi  
300 psi  
500 psi

**End Fitting codes**  
Flange 150 slip on = 01  
Flange 300 slip on = 02  
Flange 150 weld neck = 03  
Flange 300 weld neck = 04  
Floating Flange 150 = 05  
Floating Flange 300 = 06  
Threaded Male = 07  
Threaded Female = 07

**End Fitting Type codes**  
BI = Built-In  
SW = Swaged

#### Dock Hose Testing Procedure

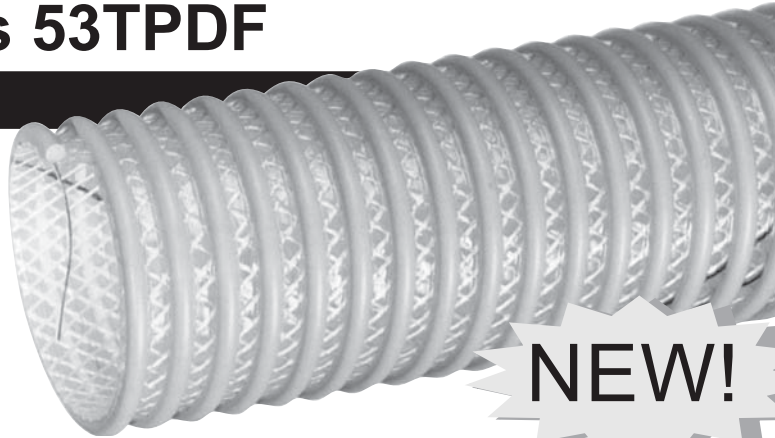
- All Thorburn smooth bore dock hoses are tested as follows:
- Rated working pressure for one minute release to zero pressure.
  - Raise pressure to 10 psi hold for 5 minutes and measure the length this should be recorded as original length (Lo)
  - Raise the pressure in the hose to 150% of rated working pressure, hold for 10 minutes. Record length in Ltp
  - No leaks to be recorded and the hose shall not elongate more than 7.5% at 150% of working pressure as per  $\frac{Ltp - Lo}{Lo} \times 100$

Test medium may be kerosene on special request.



**End Material**  
Carbon steel = C  
304SS = S4  
316SS = S6

## DROP-FLEX Series 53TPDF GASOLINE DROP HOSE

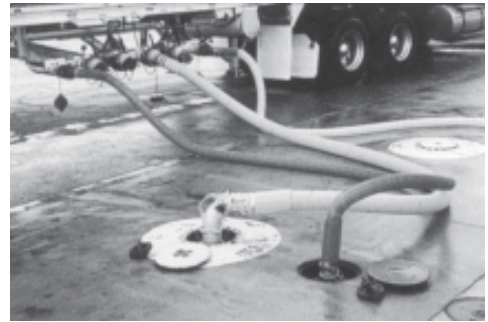
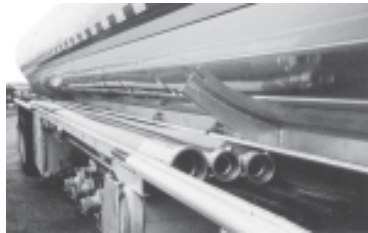


**NEW!**

- ❑ Clear non-permeable polyurethane line
  - See-through construction allows visual confirmation that gasoline is flowing.
- ❑ Crack and leak resistant -40° F. to 150° F. (-40° C. to 66° C.) under the harshest Canadian conditions
- ❑ Transfers gasoline/fuel blends up to aromatic content of 50%.
  - i.e. MTBE's, methanol, ethanol, toluene, naphthas, kerosene, benzene and methol without degradation.
- ❑ Highly abrasion resistant and lightweight
  - Exposed bright yellow helix makes the hose highly abrasion resistant and lightweight and far easier to handle than conventional rubber drop hose because they slide more easily.
- ❑ Embedded copper static wire provides positive grounding to prevent static build-up.

*An innovation in Gasoline Drop Hoses—  
the driver-friendly drop hose that is easier  
to use, lasts longer and costs less!*

**To order, see page 158**



Service temperature -40°F to 150°F (-40°C to 66°C). Actual service temperature range is service dependent.

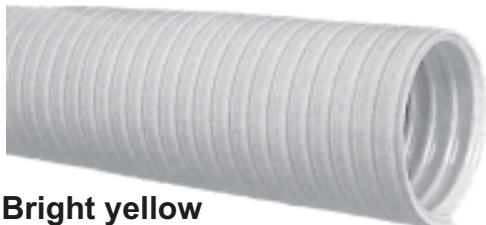
### Drop Flex Specifications

Thorburn Part Number	Nominal I.D.		Nominal O.D.*		Working Pressure† psi at 68°F	Min. Bending Radius in. at 68°F	Standard Lengths ft.	Approx. Wt. lbs./ft.
	in.	mm	in.	mm				
53TPDF48	3.0	76.9	3.70	93.9	65	6	20/57/100	1.10
53TPDF64	4.0	102.6	4.82	122.4	65	8	20/57/100	1.50

\*Measured over helix †Maximum constant pressure at 68° F. (20° C.) Safety factor 4:1  
**Note:** Service life may vary depending on operating conditions and type of fuels being conveyed.

**Couplings:**  
see page 110

### Banding Sleeves for Series 53TPDF Gasoline Drop Hoses



**Bright yellow**

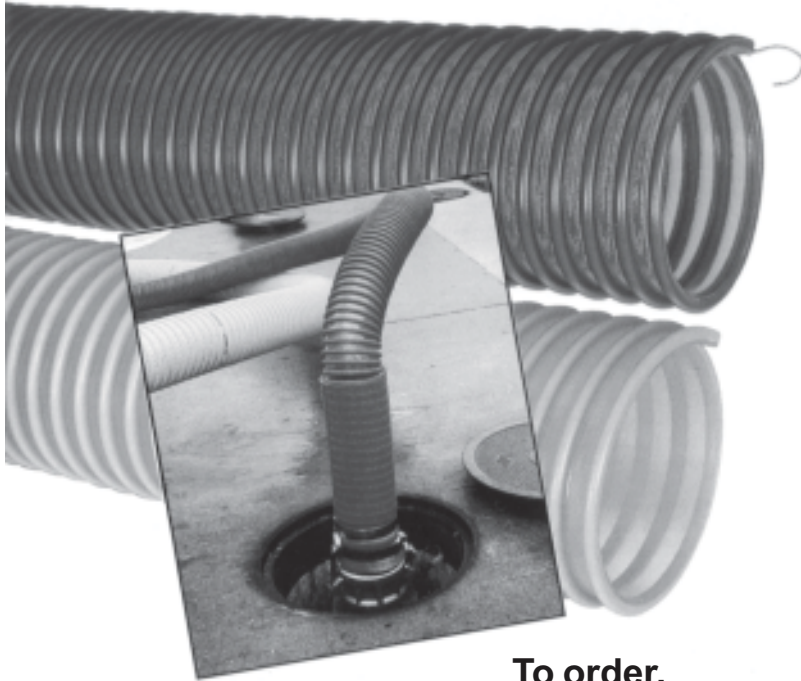
Thorburn Part Number	Fits Hose	Standard Length	Weight lbs./ft.
TSLV-48x36	53TPDF48	3 ft.	3.7
TSLV-64x36	53TPDF64	3 ft.	5.3

**Note:** Banding sleeves (minimum 12" length) are *required* on each end to relieve stress behind each fitting.

**Special notice:** Because we continually examine ways to improve our products, we reserve the right to alter specifications without notice.

## VAPOR-FLEX Series 54TPVF / 54TPVFW

### VAPOUR RECOVERY HOSES



To order,  
see page 158

#### Features & Benefits

- ❑ Non-permeable polyurethane construction
  - Series 54TPVFW and 54TPVF hoses are manufactured with polyurethane to provide superior resistance to hydrocarbon vapours, remain leak-resistant under the harshest of conditions and are much lighter than conventional TPR/rubber hoses.
- ❑ Exposed PVC helix provides high abrasion and scuff resistance, slides more easily, for easier handling.
  - Series 54TPVFW — bright orange helix
  - Series 54TPVF — yellow helix
- ❑ Embedded copper static wire (series 54TPVFW) provides positive grounding to prevent static build-up.
- ❑ Service temperature range: -40°F to 150°F (-40° C. to 66° C.) under the harshest Canadian conditions (Actual service temperature range is application-dependent).

#### Vapour Flex Specifications

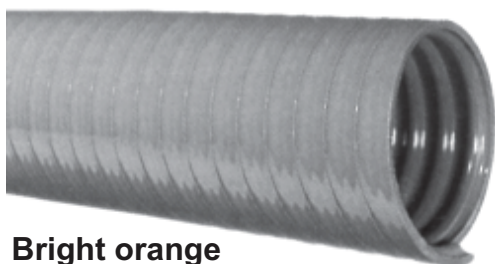
Thorburn Part Number	Nominal I.D.		Nominal O.D.*		Min. Bending Radius in. at 68°F	Standard Lengths ft.	Approx. Wt. lbs./ft.
	in.	mm	in.	mm			
54TPVFW32	2.0	51.3	2.43	61.7	3.0	50/60	0.40
54TPVFW48	3.0	76.9	3.53	89.6	3.5	50/60	0.65
54TPVFW64	4.0	102.6	4.56	115.8	4.5	50/60	0.95
54TPVF32	2.0	51.3	2.43	61.7	3.0	50/60	0.38
54TPVF48	3.0	76.9	3.53	89.6	3.5	50/60	0.62
54TPVF64	4.0	102.6	4.56	115.8	4.5	50/60	0.91

\*Measured over helix †Maximum constant pressure at 68° F. (20° C.) Safety factor 4:1

Note: Service life may vary depending on operating conditions and type of vapours being conveyed.

**Couplings:**  
see page 110

#### Banding Sleeves for Series 54TPVF / 54TPVFW Vapour Recovery Hoses



Bright orange

Thorburn Part Number	Fits Hose	Standard Length	Weight lbs./ft.
TSLV-32x36	2"	3 ft.	2.8
TSLV-48x36	3"	3 ft.	4.0
TSLV-64x36	4"	3 ft.	5.8

Note: Banding sleeves (minimum 12" length) are *required* on each end to relieve stress behind each fitting.

**Special notice:** Because we continually examine ways to improve our products, we reserve the right to alter specifications without notice.



**New and Improved  
Series 53TPW/53TPS**

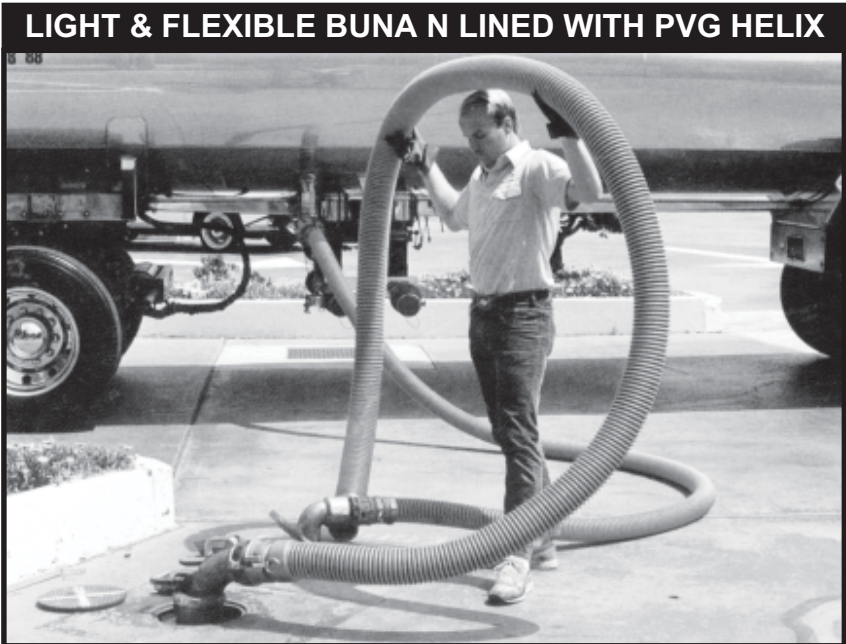
## PETROFLEX

### TANK TRUCK DROP HOSE AND VAPOR RECOVERY HOSE

- More durable and 50% lighter than traditional rubber hoses
- New and improved materials permit cold weather flexing to 40° F/40°C
- Specially compounded PVC Helix System guards against abrasion while making the hose easy to handle and drag on the ground
- 60% aromatic resistant extruded grade "A" Nitrile Tube exceeding ASTM D 412 specifications

"Slinky" fills the voids between the PVC rod spirals, enabling the clamps to apply even pressure for superior coupling holding power. In addition, the Slinky helps prevent kinking behind the fitting.

**To order,  
see page 158**



**PETROFLEX hose**, being half the weight of other hoses, is the answer to the industry's need for a lightweight, tough, durable and flexible hose that makes drop deliveries easier for drivers

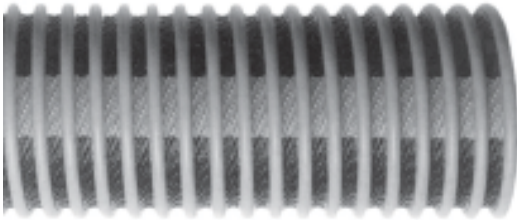
		<b>Thorburn Petroflex 53TPW/53TPS</b>	<b>Kanaflex Kanapower 120XT</b>	<b>Epton Epflex H4400</b>	<b>Petroflex advantages*</b>
Working pressure	2"	100psi	65psi	N/A	35% stronger
	3"	100psi	65psi	150psi	
	4"	100psi	65psi	100psi	35%stronger
Burst pressure	2"	400psi	260psi		34% stronger
	3"	400psi	260psi	600psi	
	4"	400psi	260psi	400psi	34% stronger
Bend radius	2"	3"	5"		40% better
	3"	4"	6"	5"	20-33% better
	4"	6"	8"	7"	14-25% better
Vacuum rating	30"hg	N/D	24"hg	20% better	
Flexing temperature rating	-40/+150	-30/+158	N/A	25% colder	
Aromatic resistance	60%	40%	55%	8-33% better	
Weight per foot	2"	0.90	1.03	N/A	22% lighter
	3"	1.25	1.27	1.60	22% lighter
	4"	1.74	2.00	2.00	13% lighter

\* Published information as of June 1990

## PETROFLEX Series 53TPS/53TPW

### PETROLEUM DROP HOSE

**NEW AND  
IMPROVED**



To order,  
see page 158

53TPS - Conductive tube

53TPS/W - Static wire with a conductive tube

THORBURN PETROFLEX 53TPS/53TPW are light weight, flexible, easy to use, drop hoses. They were specifically designed for cold temperature flexing and are capable of handling unlead gasoline (60% aromatic) and up to 15% gasohol.

**Applications:** Unloading, gasoline (60% aromatic), naphtha, kerosene, light oil, heavy oil, gasohol, caustic soda up to 50% concentration.

**Temperature:** -40° to +150°F. (-40° C. to 66° C.)

**Tube:** Extruded seamless black static conductive nitrile. Resistant to 60% aromatic.

**Reinforcement:** Multiple plies of synthetic fabric are applied, supported by a PVC rod helix.

**Cover:** Black synthetic cover. Oil and ozone resistant.

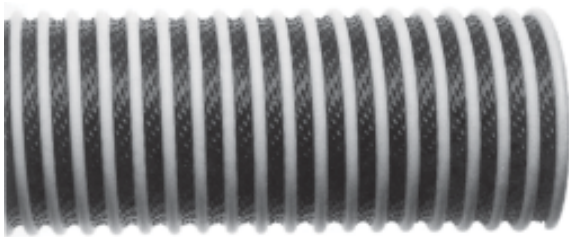
**Special note:** On the 53TPW, additional static dissipation is provided by an integral serial wound 42 strands, pure copper grounding wire.

**Couplings:** Camlok type (p.110).

Thorburn Petroflex #	53TPS/W 32	53TPS/W 48	53TPS/W 64	53TPS/W 96
I.D. Inches	2	3	4	6
O.D. Inches	2.84	3.84	4.90	6.97
Minimum bending radius 72°F. inches	3.0	4.0	6.0	8.0
Working pressure 72°F. psi	100	100	100	100
Bursting pressure 72°F. psi	400	400	400	400
Vacuum Rating 72°F. in./Hg	30	30	30	30
Weight Lbs/ft.	.90	1.25	1.74	3.00

## PETROFLEX Series 54TP

### VAPOR RECOVERY HOSE



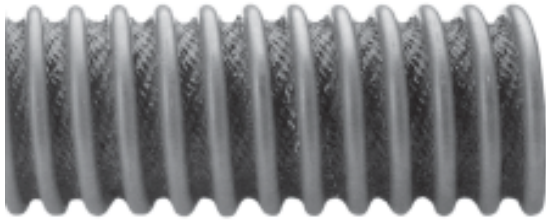
To order, see page 158

THORBURN's 54TP is designed exclusively for vapor recovery service. Lightweight construction permits handling ease in all weather conditions. External PVC rod provides low coefficient of friction for vehicle loading and unloading. Superior abrasion resistant cover provides added service life.

Thorburn Petroflex #	54TP32	54TP48	54TP64	54TP96
I.D. Inches	2	3	4	6
O.D. Inches	2.60	3.60	4.75	6.75
Minimum bending radius 72°F. inches	3.0	4.0	5.0	6.0
Working pressure 72°F. psi	40	40	40	40
Bursting pressure 72°F. psi	160	160	160	160
Vacuum Rating 72°F. in./Hg	30	30	30	30
Weight Lbs/ft.	.80	.93	1.15	2.2

## PETROFLEX Series 554TP DOCK, BARGE, VAPOR RECOVERY HOSE

**RUGGED, LIGHTWEIGHT,  
ULTRA-FLEXIBLE**



- Complies with US and Canadian Coast Guard Regulations
- Handles 60% aromatics
- 200 psi / Full vacuum service

**To order,  
see page 158**

THORBURN's 554TP series is specifically designed to provide a superior alternative to a dock unloading/loading composite hose, or as a large diameter dock side vapor recovery hose.

**Temperature:** -40° to +150°F. (-40° C. to 66° C.)

**Tube:** Extruded stainless black static conductive Nitrile. Resistant to 60% aromatic.

**Reinforcement:** Multiple plies of synthetic fabric are applied, supported by a PVC rod helix.

**Cover:** Black synthetic cover. Oil and ozone resistant.

**Couplings:** Camlok type, swaged ends (p.110).

Thorburn Petroflex #	554TP64	554TP96	554TP128
I.D. Inches	4	6	8
O.D. Inches	5.06	7.375	9.06
Minimum bending radius 72°F. inches	16	24	36
Working pressure 72°F. psi	200	200	200
Vacuum Rating 72°F. in./Hg	30	30	30
Weight Lbs/ft.	2.857	5.568	7.754

## PETROFLEX Series 555TP X-LINK CHEMICAL SUCTION AND DISCHARGE HOSE



Unique and versatile suction and discharge hose that will handle 90% of all known chemicals. Our special multi-chem cross-linked polyethylene tube and special manufacturing method allows superior chemical resistance and user flexibility. Special construction provides excellent working pressure. A minimum 4 to 1 safety factor adds protection against impulse surges which help reduce work injuries and environmental accidents. External PVC rod provides full vacuum service.

**Temperature:** -40° to +150°F. (-40° C. to 66° C.)

**Tube:** Extruded seamless X-linked Polyethylene

**Reinforcement:** Multiple plies of synthetic fabric are applied, supported by a PVC rod helix.

**Cover:** Blue synthetic cover. Chemical, oil and ozone resistant.

**Couplings:** Camlok type (p.110).

**To order,  
see page 158**

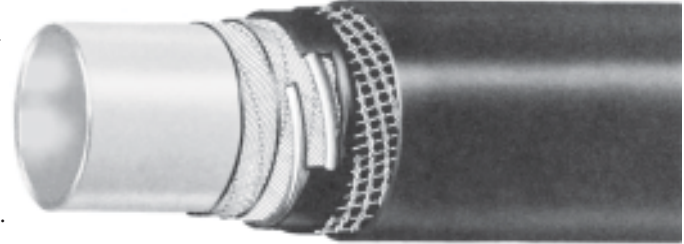
Thorburn Petroflex #	555TP32	555TP48	555TP64
I.D. Inches	2	3	4
O.D. Inches	3	4	5
Minimum bending radius 72°F. inches	10	15	20
Working pressure 72°F. psi	150	150	150
Vacuum Rating 72°F. in./Hg	30	30	30
Weight Lbs/ft.	1.007	1.412	1.776

## Series 59TC

### CROSS LINK POLYETHYLENE SUCTION AND DISCHARGE

Thorburn's Model 59TC is an extremely versatile petrochemical hose with outstanding chemical resistancy, which allows it to handle nearly every type of chemical and solvent in both suction and discharge applications. This versatility largely eliminates the need for specialized hoses in processing, loading, unloading and storage applications (not to be used with strong oxidizing agents such as nitric and chromic acids).

**Temperature:** -40°F to 180°F (-40°C to 82°C).



To order, see page 149

#### CONSTRUCTION

**Tube:** Smooth Cross Linked Polyethylene firmly bonded to synthetic rubber that won't leach or contaminate product.

**Reinforcement:** High tensile calendered fabric with a spring wire helix.

**Cover:** Smooth specially compounded EPDM to provide outstanding resistance to abrasion, chemicals and weathering.

**Couplings:** Camlok type, combination nipples, swaged type (pp.100-110)

Thorburn Part Number	Hose I.D.		Hose O.D.		Minimum Bend Radius		Working Pressure		Vacuum Rating	Weight	
	in.	mm	in.	mm	in.	mm	PSI	MPa		lbs/100ft	kg/100m
59TC16	1	25	1.57	40	8	200	150	1.05	full	60	90
59TC20	1-1/4	32	1.80	46	9	225	150	1.05	full	80	119
59TC24	1-1/2	38	2.09	53	10	250	150	1.05	full	108	161
59TC32	2	51	2.60	66	12	300	150	1.05	full	139	207
59TC40	2-1/2	64	3.07	78	18	450	150	1.05	full	189	282
59TC48	3	75	3.70	94	24	600	150	1.05	full	237	353
59TC64	4	100	4.65	118	32	800	150	1.05	full	350	522
59TC96	6	150	6.97	177	48	1200	125	0.88	full	550	820

## Series 59TCXL

### EXTRA LIGHT CROSS LINK POLYETHYLENE SUCTION AND DISCHARGE

A revolutionaly development in hose design and chemical resistance. Thorburn's 59TCXL is the perfect handling hose offering superb flexibility through its flat corrugating and excellent kink resistant construction.

**Temperature:** -40°F to 180°F (-40°C to 82°C).

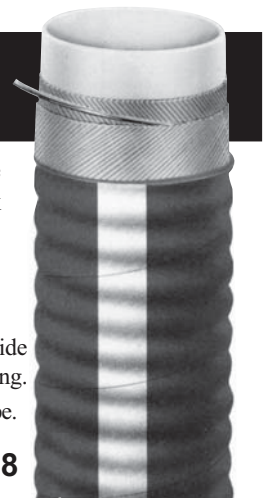
#### CONSTRUCTION

**Tube:** Smooth Cross Linked Polyethylene firmly bonded to synthetic rubber that won't leach or contaminate product.

**Reinforcement:** High tensile calendered fabric with a spring wire helix.

**Cover:** Corrugated specially compounded EPDM to provide outstanding resistance to abrasion, chemicals and weathering.

**Couplings:** Camlok type, combination nipples, swaged type.



To order, see page 158

Thorburn Part Number	Hose I.D.		Hose O.D.		Minimum Bend Radius		Working Pressure		Vacuum Rating	Weight	
	in.	mm	in.	mm	in.	mm	PSI	MPa		lbs/100ft	kg/100m
59TCXL24	1-1/2	38	2	51	4	100	150	1.05	full	60	90
59TCXL32	2	51	2-1/2	64	5	125	150	1.05	full	90	134
59TCXL48	3	75	3-9/16	91	8	200	150	1.05	full	195	291
59TCXL64	4	100	4-5/8	117	10	250	150	1.05	full	248	370

### Series 59TCE

### EPDM LINED CHEMICAL SUCTION AND DISCHARGE

Thorburn's Model 59TCE is a quality grade EPDM hose that can be used for both suction and discharge service. Excellent for transferring mild chemicals to and from tank trucks, ships and industrial storage tanks. It also has a dual purpose that being a high temperature ultra durable hot blower hose. All purpose cover is abrasion, heat, ozone and chemical resistant.

#### CONSTRUCTION

**Tube:** Black acid resistant EPDM.

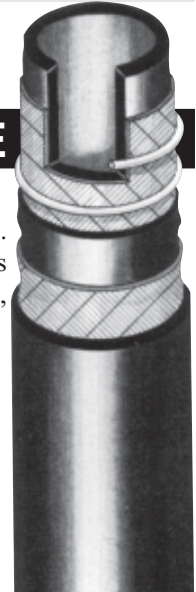
**Reinforcement:** High tensile calendered fabric with embedded helix wire.

**Cover:** Grey weather and chemical resistant EPDM.

**Couplings:** Camlok type, combination nipples, swaged type, internal expanding type (pp.100, 104, 110).

**Temperature:** -40°F to 225°F (-40°C to 107°C). For higher temperature ratings, contact Thorburn.

To order,  
see page 158



Thorburn Part Number	Hose I.D.		Hose O.D.		Minimum Bend Radius		Working Press. at 225°F/107°C		Vacuum Rating 200°F/ 93°C	Weight	
	in.	mm	in.	mm	in.	mm	PSI	MPa		lbs/ 100ft	kg/ 100m
59TCE16	1	25	1.4	36	3.5	100	200	1.40	full	59	87
59TCE20	1-1/4	32	1.7	43	4	125	200	1.40	full	78	115
59TCE24	1-1/2	38	1.9	48	5	150	200	1.40	full	103	153
59TCE32	2	51	2.4	61	6	200	200	1.40	full	141	209
59TCE40	2-1/2	64	2.9	74	10	250	150	1.05	full	215	320
59TCE48	3	75	3.5	89	12	300	150	1.05	full	253	376
59TCE64	4	100	4.6	117	18	450	150	1.05	full	410	610
59TCE96	6	150	6.8	173	32	800	125	.95	full	539	801

### Series 59TCH

### HYPALON LINED CHEMICAL SUCTION AND DISCHARGE

Thorburn's Model 59TCH is a multi purpose, high temperature chemical suction and discharge hose designed to transport a wide range of chemicals. Acids and strong oxidizing solutions. Rugged, all weather cover is chemical, ozone and abrasion resistant.

#### CONSTRUCTION

**Tube:** Seamless Hypalon.

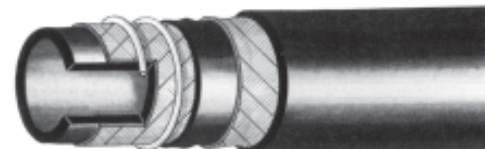
**Reinforcement:** Multiple plies of polyester with spring helix.

**Cover:** Yellow weather and chemical resistant Hypalon.

**Couplings:** Camlok type, combination nipples, swaged type, internal expanding type (pp.100, 104, 110).

**Temperature:** -40°F to 200°F (-40°C to 93°C). For higher temperature ratings, contact Thorburn.

To order,  
see page 158



Thorburn Part Number	Hose I.D.		Hose O.D.		Minimum Bend Radius		Working Press. at 225°F/107°C		Vacuum Rating 200°F/ 93°C	Weight	
	in.	mm	in.	mm	in.	mm	PSI	MPa		lbs/ 100ft	kg/ 100m
59TCH16	1	25	1.54	39	4	100	200	1.40	full	76	113
59TCH20	1-1/4	32	1.79	45	5	125	200	1.40	full	91	136
59TCH24	1-1/2	38	2.08	53	6	150	200	1.40	full	116	172
59TCH32	2	51	2.68	68	8	200	200	1.40	full	185	276
59TCH40	2-1/2	64	3.22	82	10	250	200	1.40	full	244	364
59TCH48	3	75	3.76	96	12	300	150	1.05	full	303	451
59TCH64	4	100	4.80	122	18	450	150	1.05	full	438	653
59TCH96	6	150	6.80	173	32	800	125	0.85	full	539	803

## Series 59TCV

### VITON ACID SUCTION AND DISCHARGE

Thorburn's Model 59TCV is a premium quality acid and chemical hose designed to convey solvents, hydrocarbons and highly aromatic liquids. An ideal hose when high temperature transfer is required.

#### CONSTRUCTION

**Tube:** Viton chemical and heat resistant.

**Reinforcement:** Multiple plies of calendered fabric with helix wire.

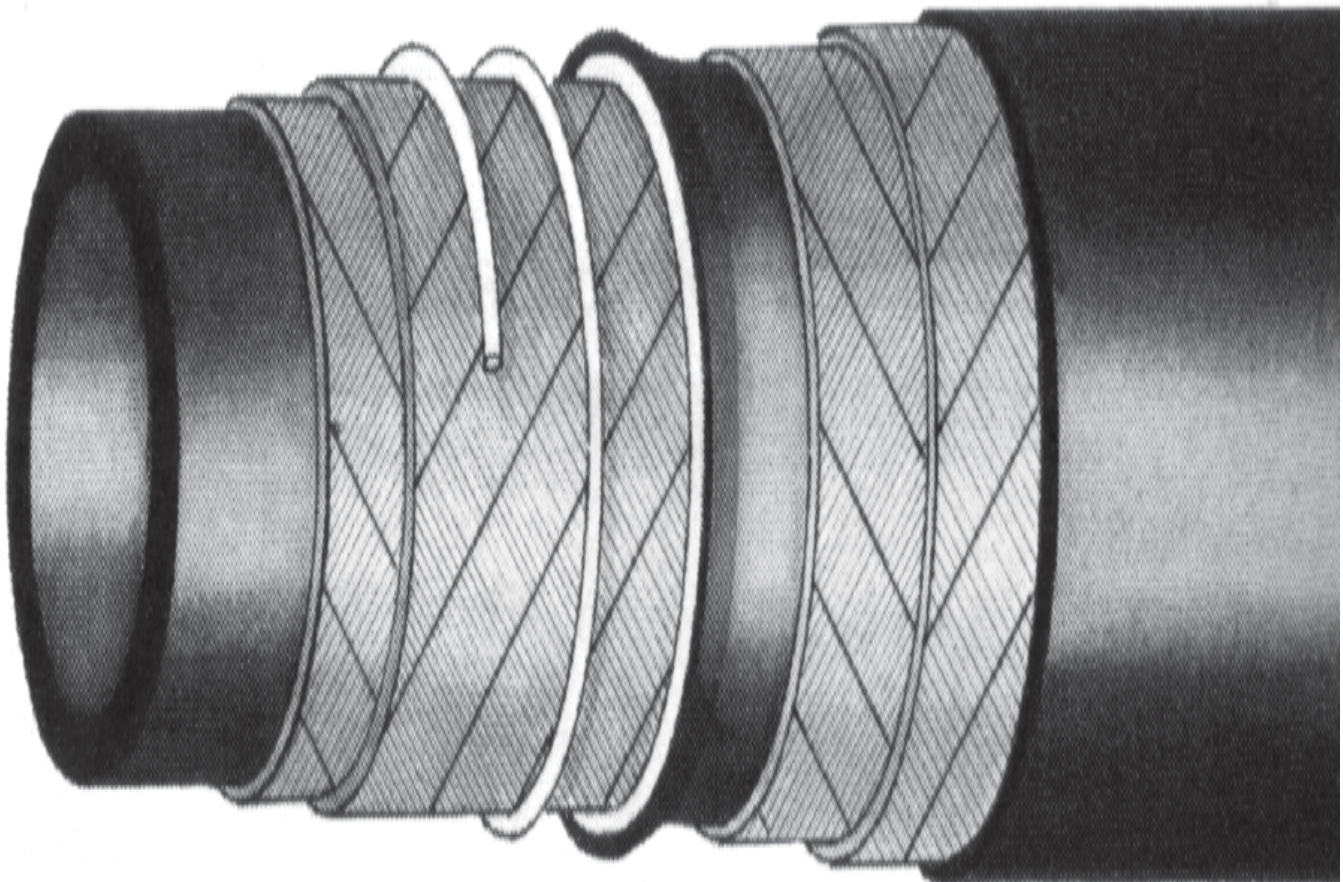
**Cover:** Chemical and weather resistant black Neoprene Grade A.

**Couplings:** Camlok type, combination nipples, swaged type, internal expanding type (pp. 100, 104, 110).

To order,  
see page 158

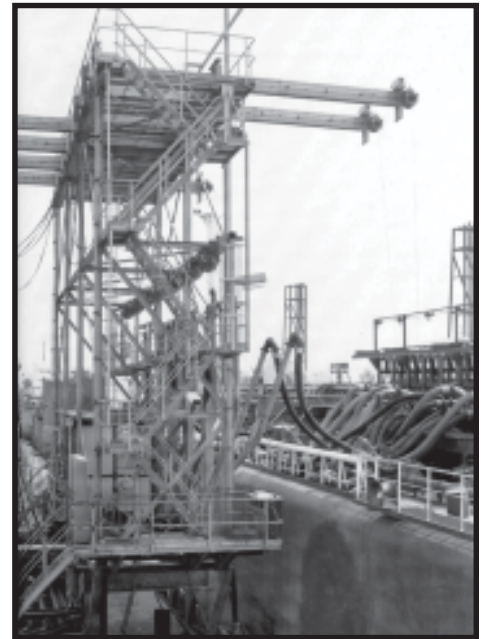
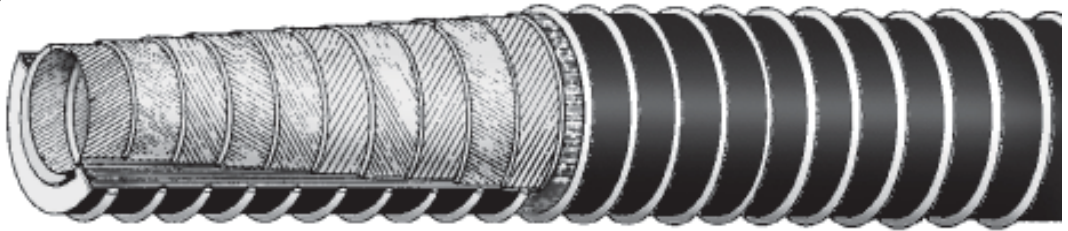


Thorburn Part Number	Hose I.D.		Hose O.D.		Minimum Bend Radius		Working Press. at 225°F/107°C		Vacuum Rating 200°F/ 93°C	Weight	
	in.	mm	in.	mm	in.	mm	PSI	MPa		lbs/ 100ft	kg/ 100m
59TCV16	1	25	1.56	40	4	100	200	1.40	full	83	124
59TCV20	1-1/4	32	2.80	71	5	125	200	1.40	full	99	148
59TCV24	1-1/2	38	2.06	52	6	150	200	1.40	full	125	186
59TCV32	2	51	2.63	67	8	200	200	1.40	full	173	258
59TCV40	2-1/2	64	3.25	83	10	250	150	1.05	full	245	365
59TCV48	3	75	3.75	95	12	300	150	1.05	full	296	441
59TCV64	4	100	4.80	122	18	450	150	1.05	full	420	700
59TCV96	6	150	6.94	176	32	800	125	0.85	full	779	1161



## THORFLEX COMPOSITE HOSE

**Thorflex** hose is constructed of multiple layers of seamless polypropylene films and fabrics reinforced with inner and outer spiral wire helices. Also available is an inner liner of PTFE (Teflon). The inner wire helix is either galvanized steel, polypropylene-covered steel or stainless steel, depending on service requirements. The outer wire is usually high tensile galvanized carbon steel. Stainless steel outer wire is also available. The outer cover is constructed from weather and abrasion resistant PVC-impregnated polyester fabric. This construction results in a light and exceptionally flexible hose capable of a wide range of services.



**Thorflex makes sense  
All purpose petrochemical hose  
Transfer hose**

**Features:**

- 200 psi working pressure
- Durable yet easy to handle
- Suitable for 100% aromatics and many non-aggressive chemicals
- Very flexible at sub-zero temperatures
- Double end-to-end electrical continuity

## THORFLEX COMPOSITE HOSE

### Polypropylene Series

To order,  
see page 158

### GGP/AAP for Hydrocarbons

#### Thorflex Type GGP (black cover)

G - Galvanized Internal Wire  
G - Galvanized External Wire  
P - Polypropylene Tubes

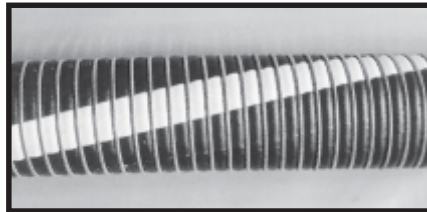
#### Thorflex Type AAP (orange cover)

A - Aluminium Internal Wire  
A - Aluminium External Wire  
P - Polypropylene Tubes

*AAP available only in 4"*

*GAP and PAP available in 2", 3" or 4"*

Thorflex type GGP and Type AAP are two composite hoses specifically constructed for the transfer of hydrocarbon products. Based on the proven safety of seamless polypropylene tubes used in the body of the hose in conjunction with economical galvanized steel or light weight aluminium internal and internal wires. Thorflex hoses equal or surpass the strict requirements necessary for the transfer of hydrocarbon products.



- Features:**
- Light and easy to handle
  - Extremely low temperature flexing
  - Double end-to-end electrical continuity
  - Suitable for 100% aromatics

**Temperature:** 60°F to 212°F (-51° C. to 100° C.) depending on conveyant

**Couplings:** Swaged type nipples, flanges, Camlok quick couplers (pp. 103, 110)

#### Typical Applications:

- Rail car/ Tank car delivery and loading
- Manifolding
- Storage tank transfer
- Drumming
- Batching
- Tank to process piping or loading arms to rail cars or tank trucks
- Bottom loading

#### Perfect Hose for Handling:

- Gasoline
- Diesel
- Fuel oil
- Aromatics
- Jet Fuel
- Lubricants
- Gashol
- Light or heavy oils
- Vapor

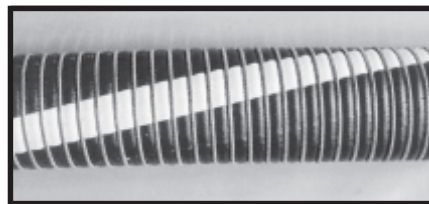
Thorburn Part #	Size I.D.		Maximum Design Press.		Weight		Bend Radius	
	in.	mm.	PSI	MPa	ft/100lbs	kg/100m	in.	mm
58TCPGGP-16	1	25	200	1.4	65	96	2	50
58TCPGGP-24	1-1/2	37.5	200	1.4	100	149	3	75
58TCPGGP-32	2	50	200	1.4	120	178	3.5	87.5
58TCPGGP-40	2-1/2	62.5	200	1.4	200	297	4	100
58TCPGGP-48	3	75	200	1.4	240	357	5.5	137.5
58TCPGGP-64	4	100	200	1.4	350	520	6.5	162.5
58TCAAP/GAP-48	3	75	200	1.4	200	297	3.5	87.5
58TCAAP/GAP-64	4	100	200	1.4	250	520	6.5	162.5

### APP for Tank Truck Drop Hose

Thorburn introduces an innovative, extremely cold temperature flexing composite style drop hose

#### Thorflex Type APP

A - Aluminium Internal Wire  
P - Polypropylene red helix spark proof and slides easily on rough surfaces  
P - Polypropylene Tubes



- Features:**
- Light weight / flexible
  - Extremely cold temperature flexing
  - Not too slinky
  - Suitable for 100% aromatics
  - Electrically continuous

**Temperature:** -60°F to 158°F (-51° C. to 70° C.)

**Couplings:** Swaged type nipples, flanges, Camlok quick couplers

**Cover:** Red, yellow, green

Thorburn Part #	Size I.D.		Size O.D.		Bend Radius		Design Pressure		Burst Pressure		Vacuum Rating	Weight	
	in.	mm	in.	mm	in.	mm	PSI	MPa	PSI	MPa		Ft/100lbs	kg/100mm
58TCAPP-64	4	100	4-3/4	119	7	175	100	0.69	400	2.76	full	200	297

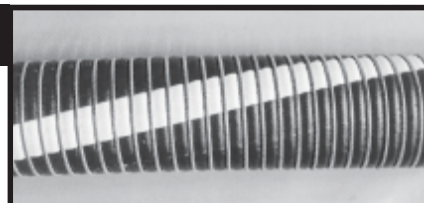


## THORFLEX COMPOSITE HOSE Polypropylene & Teflon Series

To order,  
see page 158

### PGP/SSP for Standard Chemicals

Thorflex type PGP and Type SSP are two composite hoses specifically designed for service with a large variety of industrial chemicals in use today. Chemical resistance is achieved in Thorflex Type PGP and Type SSP by the use of 6 seamless polypropylene tubes incorporated in the body of each hose. The use of seamless tubes eliminates any potential leak paths but does not sacrifice liability, flexibility, durability or safety in any way.



#### Thorflex Type PGP (blue cover)

- P - Polypropylene Coated galvanized Internal Wire
- G - Galvanized External Wire
- P - Polypropylene Tubes

#### Thorflex Type SSP (red cover)

- A - Stainless Steel (316) Internal Wire
- A - Stainless Steel (316) External Wire
- P - Polypropylene Tubes

#### Features:

- Light and easy to handle
- Extremely low temperature flexing
- Double end-to-end electrical continuity
- Resists dragging wear and abrasion

**Temperature:** -60°F to 212°F (-51° C. to 100° C.) depending on conveyant

**Couplings:** Swaged type nipples, flanges, Camlok quick couplers (pp. 103, 110)

#### Typical Applications:

- Chemical plants
- Paint producers
- Marine Terminals
- Refineries
- Paper mills

#### Ideal Hose for Handling:

- Most corrosive acids and alkalis
- Aldehydes
- Alephatic
- Chlorinated hydrocarbons
- Alcohols
- Keytones
- Amines
- Aromatic fuels
- Esters
- Lacquers

#### Suitable for:

- Plant applications and rail car loading
- Tank truck loading and unloading
- Tank to process handling
- Storage tank transfer
- Drumming
- Manifolding
- Batching
- Blending

Thorburn Part #	Size I.D.		Maximum Design Press.		Weight		Bend Radius	
	in.	mm.	PSI	MPa	Ft/100lbs	kg/100m	in.	mm
58TCPGP/SSP-16	1	25	200	1.4	65	96	2	50
58TCPGP/SSP-24	1-1/2	37.5	200	1.4	100	149	3	75
58TCPGP/SSP-32	2	50	200	1.4	120	178	3.5	87.5
58TCPGP/SSP-40	1-1/2	62.5	200	1.4	200	297	4	100
58TCPGP/SSP-48	3	75	200	1.4	240	357	5.5	137.5
58TCPGP/SSP-64	4	100	200	1.4	300	446	6.5	162.5

### SST/SGT Teflon lined for Aggressive Chemicals

#### Typical Applications:

- Chemical production facilities
- Chemical haulers and users

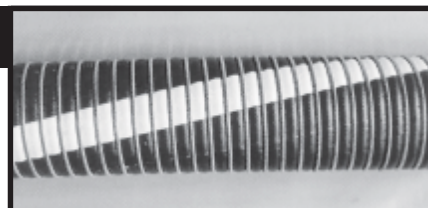
#### Ideal Hose for Handling:

- Butylchloride
- Chlorosulphonic acid
- Oleum
- Pentachloroethane

Thorflex Teflon hose is constructed around a Teflon (PTFE) inner liner, backed up by solid polypropylene tubes and reinforced with high-strength, high-density polyethylene fabric. The unique chemically inert qualities of Teflon make this an ideal hose for transfer of particularly aggressive chemicals and solvents.

#### Thorflex Type SST (red cover)

- S - Stainless Steel (316) Internal Wire
- S - Stainless Steel (316) External Wire
- T - Teflon (PTFE) Liner



#### Thorflex Type SGT (red cover)

- S - Stainless Steel (316) Internal Wire
- G - Galvanized External Wire
- T - Teflon (PTFE) Liner

Thorburn Part #	Size I.D.		Maximum Design Press.		Weight		Bend Radius	
	in.	mm.	PSI	MPa	Ft/100lbs	kg/100m	in.	mm
58TCSST/SGT-16	1	25	200	1.4	65	96	2	50
58TCSST/SGT-24	1-1/2	37.5	200	1.4	100	149	3.5	87.5
58TCSST/SGT-32	2	50	200	1.4	130	193	4	100
58TCSST/SGT-40	2-1/2	62.5	200	1.4	210	312	4.5	112.5
58TCSST/SGT-48	3	75	200	1.4	250	372	6	150
58TCSST/SGT-64	4	100	200	1.4	310	461	7	175

#### Features:

- PTFE lined for super aggressive chemicals
- Extremely low temperature flexing
- Double end-to-end electrical continuity
- Resists dragging wear and abrasion

**Temperature:** -60°F to 212°F (-51° C. to 100° C.) depending on conveyant

**Couplings:** Swaged type nipples, flanges, Camlok quick couplers (pp. 103, 110)

## TR40

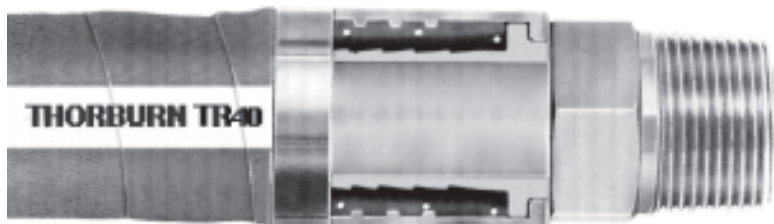
### TEFLON LINED RUBBER COVER

The drawback found in using large diameter smooth tube Teflon lined stainless steel braided hose assemblies was its inability to stand up to rugged handling. These traditional assemblies would tend to kink when bent into tight radii and the braid would tend to separate during handling, exposing the operator to potential dangerous failure.

To address this problem, **Thorburn** developed its **TR40** which combines the traditional technology of a rubber chemical pressure hose with the superior properties of teflon. The smooth teflon lined tube is reinforced with a combination of high tensile calendared synthetic fabric braid and helical wires which are then shielded with a tough abrasive chemical resistant cover. The hose is then vulcanized and bonded into an integral unit. The end result provides for greater handling, flexibility and abrasion resistancy.

#### TYPICAL HANDLING TRANSFER APPLICATIONS

- Pharmaceutical- parentals, lotions, creams, aluminum chloride
- Photo-chemical- ferricyanide bleach, ferric chloride
- Inks, dyes, glues- Hot melt adhesives
- Solvents- from acetone to xylene
- Plating chemicals- Sodium cyanide, pickling liquors
- Cleaners- Alkali solvents, perchlorohydrate, trichloroethylene
- Black liquor, spill clean-up, spent caustic acid



**Thorburn TR40 assemblies** fitting to end joints are provided through a mighty crimp process which features a smooth low profile compression crimp fitting.

- ✓ **Full vacuum/500psi smooth bore**
- ✓ **Non-stick/non-contaminating teflon tube**
- ✓ **Pinpricked cover for effusion dissipation**

#### Service temperature

**Continuous: -40°F. to 225°F.**  
**Intermittent: -60°F. to 300°F.**



**TR40... the ultimate refinement in smooth bore technology**

#### **"Mighty Crimp" 316SS** **High pressure coupling technology**

- ✓ **Greater safety**
- ✓ **more reliability**
- ✓ **Higher pressure containment**

The teflon innercore, braid reinforcements and outer cover are locked into the insert serrations and ferrule grooves, assuring 360° blow-off proof assemblies.

Thorburn's Number	Size I.D. (in.)	Size nominal O.D. (in.)	Recom. working pressure (psi)	Min. burst pressure (psi) 70°	Min. recom. bend radius (in.)	Approx. weight (lb./ft.)	Vacuum rating (in. (Hg))
TR40-08	1/2	15/16	500	2000	3	0.35	30
TR40-12	3/4	1-1/4	500	2000	6	0.62	30
TR40-16	1	1-1/2	500	2000	9	0.75	30
TR40-20	1-1/4	1-3/4	500	2000	11	0.98	30
TR40-24	1-1/2	2-1/9	400	1600	12	1.20	30
TR40-32	2	2-1/2	375	1500	16	1.50	30
TR40-40	2-1/2	3-1/8	200	800	28	2.35	30
TR40-48	3	3-5/8	175	700	30	2.50	30

**Special note:** Some fitting ends might have a lower design pressure. Please contact Thorburn for details.

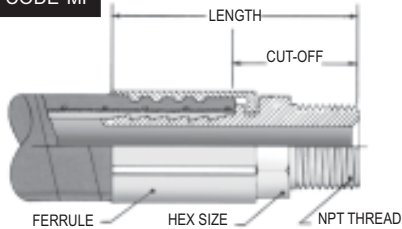
**Teflon Lined  
Hose Assemblies**

ALSO AVAILABLE IN  
37° FEMALE SWIVEL  
CODE FJX

## THORBURN TR40 COUPLING SELECTION STANDARD MATERIAL TYPE 316SS

### MALE PIPE (N.P.T.) FITTING

CODE MP

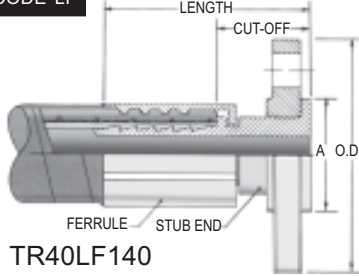


TR40MP

Thorburn part number	Hose size	NPT thread	Length	Cut off
TR40MP 08-08 S6	1/2	1/2"x14	2.89	1.45
TR40MP 12-12 S6	3/4	3/4"x14	3.22	1.63
TR40MP 16-16 S6	1	1"x11 1/2	3.69	1.98
TR40MP 20-20 S6	1 1/4	1 1/4"x11 1/2	4.39	2.09
TR40MP 24-24 S6	1 1/2	1 1/2"x11 1/2	4.82	2.18
TR40MP 32-32 S6	2 1/2	2"x11 1/2	5.86	2.33
TR40MP 48-48 S6	3	3"x8	6.25	2.60

### LAP-JOINT 150 FLANGE

CODE LF

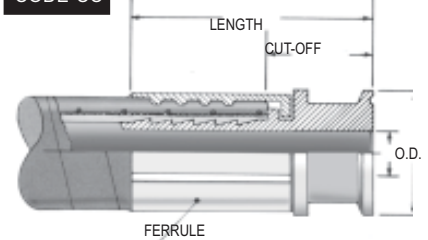


TR40LF140

Thorburn part number	Hose size	Length	Cut off
TR40LF08 S6	1/2	2.90	1.40
TR40LF12 S6	3/4	3.10	1.50
TR40LF16 S6	1	3.40	1.65
TR40LF20 S6	1 1/4	3.90	1.68
TR40LF24 S6	1 1/2	4.00	1.85
TR40LF32 S6	2	5.70	2.70
TR40LF48 S6	3	6.00	2.90

### CAM-LOCK FEMALE COUPLER

CODE CC

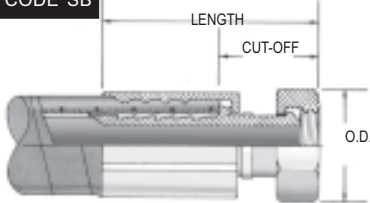


TR40FC

Thorburn part number	Hose size in.	Length in.	Cut off
TR40FC12 S6	3/4	4.00	2.50
TR40FC16 S6	1	4.50	3.00
TR40FC20 S6	1 1/4	5.25	3.25
TR40FC24 S6	1 1/2	5.75	3.50
TR40FC32 S6	2	6.75	4.00
TR40FC48 S6	3	7.25	4.00

### SANITARY, BEVEL SEAT FITTING

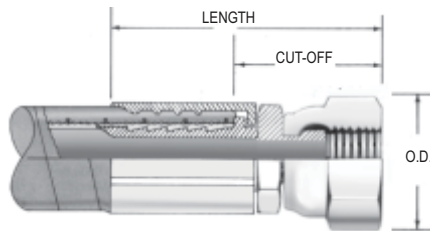
CODE SB



TR40SB

Thorburn part number	Hose size	Cut off
TR40SB16 S6	1	1.75
TR40SB24 S6	1 1/2	2.50
TR40SB32 S6	2	2.75
TR40SB48 S6	3	3.00

### FEMALE 37° SWIVEL

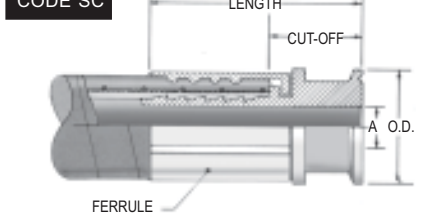


TR92FJX

Thorburn part number	Hose size	NPT thread	Length	Cut off
TR92FJX 08-08 S6	1/2	1/2"x14	2.89	1.68
TR92FJX 12-12 S6	3/4	3/4"x14	3.22	1.99
TR92FJX 16-16 S6	1	1"x11 1/2	3.69	2.43
TR92FJX 20-20 S6	1 1/4	1 1/4"x11 1/2	4.39	2.78
TR92FJX 24-24 S6	1 1/2	1 1/2"x11 1/2	4.82	2.93
TR92FJX 32-32 S6	2	2"x11 1/2	5.86	3.47

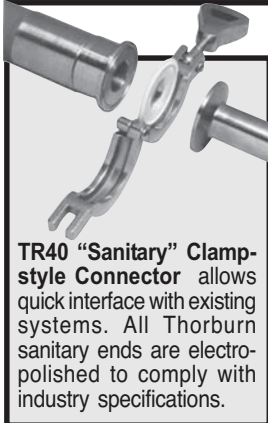
### SANITARY, CLAMP STYLE

CODE SC



TR40SC

Thorburn part number	Hose size in.	Flange O.D. in.	Cut off
TR40SC08 S6	1/2	1.98	1.25
TR40SC12 S6	3/4	1.98	1.30
TR40SC16 S6	1	1.98	1.40
TR40SC24 S6	1 1/2	1.98	1.40
TR40SC32 S6	2	2.52	1.50
TR40SC48 S6	3	3.58	1.50



## HOW TO ORDER

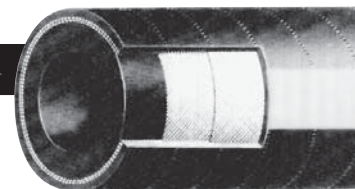
Hose Code	First End Code	1st End/Size Code	2nd End/Size Code	O.A.L. Inches
TR40-16	MP16	CC16	S6	240

S6=316S

## 62TMH

### SAND BLAST HOSE

**HEAVY-DUTY**



#### APPLICATION

Thorburn's 62TMH is a long lasting heavy-duty hose that is exceptionally tough and highly resistant to abrasion. It is used for sand and steel blasting service. Comes with high quality anti-static cover.

To order, see page 158

#### CONSTRUCTION

**Tube:** 1/4" black highly abrasive resistant anti-static natural rubber.

**Reinforcement:** Two layers of synthetic specially angled plies to provide maximum flexibility.

**Cover:** Black, smooth (wrapped finish) highly abrasion resistant synthetic rubber; anti-static.

**Couplings:** See page 97.

**Max. Stock Lengths:** 100 feet. Longer lengths up to 400 feet available upon request.

Thorburn Numbers	Hose I.D.		Hose O.D.		Rated W.P.		Weight	
	mm	in.	mm	in.	MPa	PSI	kg/100 m	lbs/100 ft
62TMH08	12.7	1/2	30	1.185	1	150	60	40
62TMH12	19.0	3/4	38	1.500	1	150	97	65
62TMH16	25.4	1	48	1.875	1	150	146	98
62TMH20	31.8	1-1/4	55	2.156	1	150	179	120
62TMH24	38.1	1-1/2	60	2.375	1	150	198	133
62TMH32	50.8	2	73	2.875	1	150	244	164
62TMH48	63.5	2-1/2	87	3.440	1	150	334	224

## 662TMH

### VACUUM RETURN SAND SUCTION HOSE

#### APPLICATION

Used in shipyards and large manufacturing plants for recovery of sand from sandblasting operations. A very flexible hose with 1/4" thick black abrasive resistant tube.



To order, see page 158

#### CONSTRUCTION

**Tube:** 1/4" black, extremely abrasive resistant, static conducting, natural rubber.

**Reinforcement:** Plies of nylon tire cord, with two steel helix wires embedded.

**Cover:** Corrugated, black, weather and abrasive resistant.

**Couplings:** See page 110.

**Length:** 100 feet.

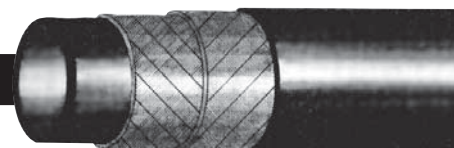
Thorburn Numbers	Hose I.D.		Hose O.D.		Rated W.P.		Weight	
	mm	in.	mm	in.	MPa	PSI	kg/100 m	lbs/100 ft
662TMH32	50.8	2	70.0	2-11/16	.69	100	278	187
662TMH40	63.5	2-1/2	82.7	3-1/4	.69	100	336	226
662TMH48	76.2	3	95.8	3-3/4	.52	75	419	281
662TMH64	101.6	4	122.0	4-3/4	.42	60	602	404
662TMH80	127.0	5	149.0	5-3/4	.34	50	910	611
662TMH96	152.4	6	174.4	6-3/4	.28	40	1074	721

## 772TMH

### ELEPHANT TRUNK HOSE

#### APPLICATION

Softwall discharge hose, very light, can be rolled flat. Thorburn's 772TMH hose can be used for transfer of dry materials such as cement, concrete, gravel, sulphur and other abrasive pulverized materials.



To order, see page 158

#### CONSTRUCTION

**Tube:** 1/8" tan, pure gum, abrasion resistant.

**Reinforcement:** High tensile nylon tire cords, spirally wound.

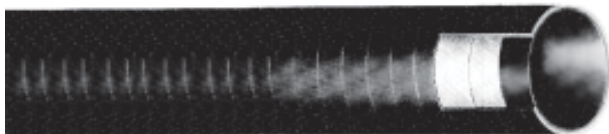
**Cover:** Black abrasion and weather resistant synthetic rubber.

**Couplings:** See page 110.

Thorburn Numbers	Hose I.D.		Hose O.D.		Rated W.P.		Weight	
	mm	in.	mm	in.	MPa	PSI	kg/100 m	lbs/100 ft
772TMH48	76	3	85	3-11/32	.31	45	131	88
772TMH64	102	4	112	4-13/32	.31	45	172	116
772TMH80	127	5	138	5-7/16	.31	45	275	185
772TMH96	152	6	164	6-15/32	.31	45	350	237
772TMH128	203	8	215	8-15/32	.31	45	459	308
772TMH160	254	10	266	10-15/32	.31	45	555	373
772TMH192	305	12	319	12-9/16	.31	45	790	531
772TMH224	355	14	373	14-11/16	.31	45	1200	806

### 64TMH

#### BULKMASTER SOFTWALL (DISCHARGE)



#### APPLICATION

For discharge of dry bulk products including limestone, ground silica, chalk, china clay, dry cement, sodium sulphate, lime and fertilizer.

#### CONSTRUCTION

**Tube:** Black abrasion resistant natural rubber.

**Reinforcement:** Spiralled layers of high tensile synthetic cords.

**Cover:** Black abrasion resistant rubber.

**Couplings:** Combination nipple and appropriate clamps. (p.101)

**Standard Lengths:** 10', 15', 20', 30', 40', 50', 60' and 100'.

Thorburn Numbers	Hose I.D.		Hose O.D.		Tube Gauge	Rated W.P.		Weight	
	mm	in.	mm	in.		MPa	PSI	kg/100 m	lbs/100 ft
64TMH32	50	2	68	2.70	3/16"	.6	80	208	140
64TMH48	76	3	94	3.70	3/16"	.6	80	279	187
64TMH64	101	4	119	4.70	3/16"	.5	75	328	220
64TMH64A	101	4	114	4.50	1/8"	.5	75	240	161
64TMH80	127	5	140	5.50	1/8"	.5	75	340	228
64TMH80A	127	5	145	5.70	3/16"	.5	75	488	327
64TMH96	152	6	170	6.70	3/16"	.5	75	573	384

### 65TMH

#### TAN BULK MASTER HARDWALL



#### APPLICATION

For discharge of dry bulk products including rock salt, limestone, ground silica, chalk, china clay, borax, sugar, flour, dry cement, sodium sulphate, lime, PVC pellets and fertilizer under pressure or full vacuum.

#### CONSTRUCTION

**Tube:** Tan smooth abrasive resistant 3/16" thick approved.

**Reinforcement:** High tensile steel helix embedded between textile cords.

**Cover:** Tan corrugated for flexibility, non marking.

**Couplings:** Combination nipple, universal and quick disconnect coupling with appropriate clamps (p.101-110).

**Standard Lengths:** Up to 100 feet cut to multiples of 5 feet.

Thorburn Numbers	Hose I.D.		Hose O.D.		Rated W.P.		Min. Bend Radius		Weight	
	mm	in.	mm	in.	MPa	PSI	mm	in.	kg/100 m	Lbs/100 ft
65TMH48	76	3	94	3.72	1.03	50	686	27	306	205
65TMH64	101	4	121	4.75	1.03	50	914	36	490	329
65TMH80	127	5	147	5.78	1.03	50	1006	40	596	400

## 68TMH

### INDUSTRIAL VACUUM HOSE

#### APPLICATION

For handling abrasive dust from metal, rock, marble, concrete and wood grinding machines under vacuum.

Thorburn Numbers	Hose I.D.		Hose O.D.		Min. Bend Radius		Weight	
	mm	in.	mm	in.	mm	in.	kg/100 m	lbs/100 ft
68TMH16	25	1	33	1.31	101	4	45	30
68TMH20	32	1-1/4	41	1.63	127	5	56	38
68TMH24	38	1-1/4	48	1.88	152	6	67	45
68TMH32	51	2	59	2.31	178	7	92	62
68TMH40	63	2-1/2	71	2.81	254	10	116	78
68TMH48	76	3	84	3.31	304	12	134	90
68TMH64	101	4	111	4.38	380	15	170	114

Also available in an extra-flexible Type "K" construction

#### CONSTRUCTION

**Tube:** Black abrasive resistant synthetic rubber. Other tube compounds available.

**Reinforcement:** A high tensile steel helix between plies of synthetic fabric.

**Cover:** Black corrugated flexibility.

**Special Ends:** Can be manufactured with integral cuffed, flange or beaded ends.

**Standard Lengths:** 100' cut to multiples of 10 ft.

**Couplings:** Combination nipple, shank coupling with appropriate clamps (p.103)

**Pressure Rating:** All sizes full vacuum to .3 MPa (40 psi).



## 663TMH

### LEAF COLLECTOR HOSE

#### APPLICATION

Thorburn's 663TMH is an extremely flexible hose, specially designed as flexible connection on street cleaning trucks, as leaf collection hose.

#### CONSTRUCTION

**Tube:** Convuluted, tan natural rubber.

**Reinforcement:** High strength synthetic cord plus helix wire.

**Cover:** Corrugated (wrapped finish), black, SBR rubber.

**Lengths:** up to 50 ft. continuous length.

**Temperature Range:** -40°C to +60°C (-40°F to 140°F).

**LIGHT WEIGHT  
EXTRA FLEXIBLE**



Thorburn Numbers	Hose I.D.		Min. Bend Radius		Weight	
	mm	in.	mm	in.	kg/100 m	lbs/100 ft
663TMH64	102	4	100	4	240	161
663TMH80	127	5	125	5	320	215
663TMH96	152	6	150	6	350	235
663TMH128	203	8	200	8	480	323
663TMH160	254	10	250	10	600	403
663TMH192	305	12	300	12	820	551
663TMH224	354	14	360	14	940	632
663TMH256	406	16	400	16	1060	712

## 63TMH

### SEWER SUCKER HOSE

#### APPLICATION

Designed to handle the most rugged sewer cleaning application. Vacuuming materials such as sewage, sand, gravel, metal, road salt, etc. It has accordion construction to give maximum flexibility.

#### CONSTRUCTION

**Tube:** Tan gum.

**Reinforcement:** Synthetic fabric with wire helix.

**Cover:** Black.

**Couplings:** Combination nipples (p.101).

**HEAVY DUTY**



Thorburn Numbers	Hose I.D.		Hose O.D.		Min. Bend Radius		Weight	
	mm	in.	mm	in.	mm	in.	kg/100 m	lbs/100 ft
63TMH96	152	6	171	6.75	178	7	1.8	4.0
63TMH128	203	8	222	8.75	203	8	27	6.0
53TMH160	254	10	273	10.75	254	10	34	7.5
63TMH192	305	12	324	12.75	381	15	4.1	9.0

## 990TMH

### MUD PUMP SUCTION AND DISCHARGE HOSE

**FULL  
SUCTION  
SERVICE**

#### APPLICATION

Recommended for use as a flexible connector between slush pump and mud pit to absorb vibration in rotary well drilling.

#### CONSTRUCTION

**Tube:** Neoprene tube compounded to resist oil and cutting action of sand and gravel. Black color.

**Reinforcement:** Heavy, round spring wire reinforcement embedded in rubber compound prevents collapse, affords maximum flexibility, absorbs pumping vibrations and provides unobstructed flow.

Reinforced with strong, heavy plies of fabric.

**Cover:** Neoprene cover withstands severe abrasion and weathering. Black colour.

**Ends:** Enlarged ends supplied when specified.

**Couplings:** Thorburn's specially designed built-in grooved nipples. All sizes.



Thorburn Numbers	Hose I.D.		Hose O.D.		Rated W.P.		Weight	
	mm	in.	mm	in.	MPa	PSI	kg/100 m	Lbs/100 ft
990TMH64	100	4	119	4.75	1	150	88	59
990TMH80	125	5	152	6.00	1	150	152	102
990TMH96	150	6	178	7.00	1	150	206	138
990TMH128	200	8	230	9.06	1	150	222	149
990TMH160	250	10	281	11.06	1	150	311	209
990YMH192	300	12	308	12.12	1	150	384	258

To order,  
see page 28



## 991TMH

### DREDGE SLEEVES AND SAND DISCHARGE HOSE

To order,  
see page 28

#### APPLICATION

Thorburn's 991TMH is a top quality hose used as flexible connection between sections of discharge pipe in dredging service and barges. It's special construction is designed to withstand vibrations and continuous bending.

#### CONSTRUCTION

**Tube:** Black, smooth, compounded for long wear resistance in handling hard, sharp abrasive materials such as sand, gravel, shells, stones, etc. 3/8", 1/2", 3/4" thickness.

**Reinforcement:** Multiple plies of high strength synthetic cord embedded in layers of natural rubber. This method of construction allows a superior bonding between tube, reinforcement and cover.

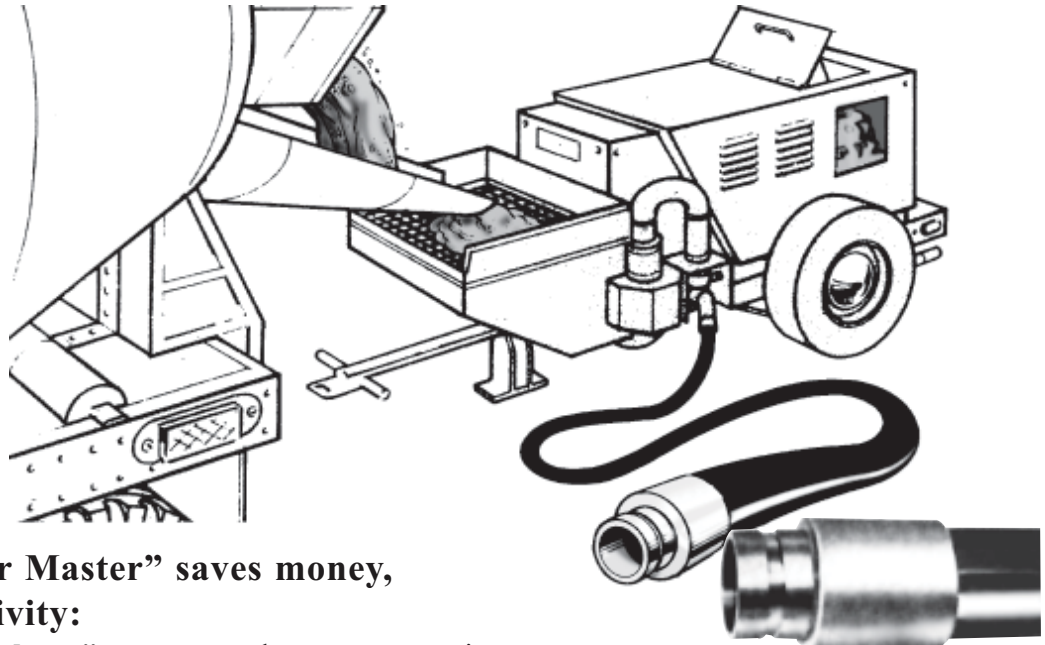
**Cover:** Black, smooth (wrapped finish) synthetic rubber, highly resistant to sea water, weather and abrasion.

Thorburn Numbers	Hose I.D.		Hose O.D.		Rated W.P.		Weight	
	mm	in.	mm	in.	MPa	PSI	kg/100 m	Lbs/100 ft
991TMH96	152	6	180	7.09	1	150	885	595
991TMH9610	168	6-5/8	207	8.15	1	150	1400	941
991TMH128	203	8	242	9.5	1	150	1670	1122
991TMH12810	219	8-5/8	260	10.25	1	150	1900	1277
991TMH160	254	10	293	11.5	1	150	2100	1411
991TMH16075	273	10-3/4	314	12.38	1	150	2300	1546
991TMH192	305	12	350	13.78	1	150	2900	1949
991TMH19275	324	12-3/4	371	14.62	1	150	3000	2016
991TMH224	355	14	401	15.81	.69	100	3300	2218
991TMH256	406	16	461	18.16	.69	100	4400	2957
991TMH288	457	18	511	20.13	.69	100	5000	3360
991TMH320	508	20	569	22.5	.69	100	6300	4234

## PLASTER MASTER

High pressure plaster, grout & concrete placement hose assemblies

Durability with ease of handling. "Plaster Master" is a premium quality hose recommended for handling the placement of wet concrete, plaster, grout, at high working pressures on the discharge of delivery end of a concrete pumping line at construction sites.



**Thorburn "Plaster Master" saves money, increases productivity:**

The Thorburn "Plaster Master" saves on replacement costs, increases productivity and decreases downtime because its incredible durability yields a longer service life than traditional concrete hoses.

**"TSX" COUPLING**

See page 104 for details



### Construction:

**Tube/Cover:** Black, rugged gouge and abrasion resistant (SBR blend).

**Reinforcement:** Multispiral high tensile polyester yarns and highly tensile wire braid.

**Couplings:** Thorburn TSX Full Flow internally expanded Coupling Victaulic, flanged, male pipe. See page 104 for details.

**Service Temperature:** -40° F. to 180°F  
(-40° C. to 82°C)



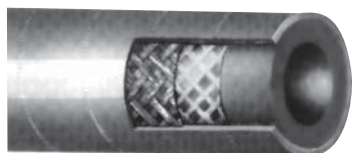
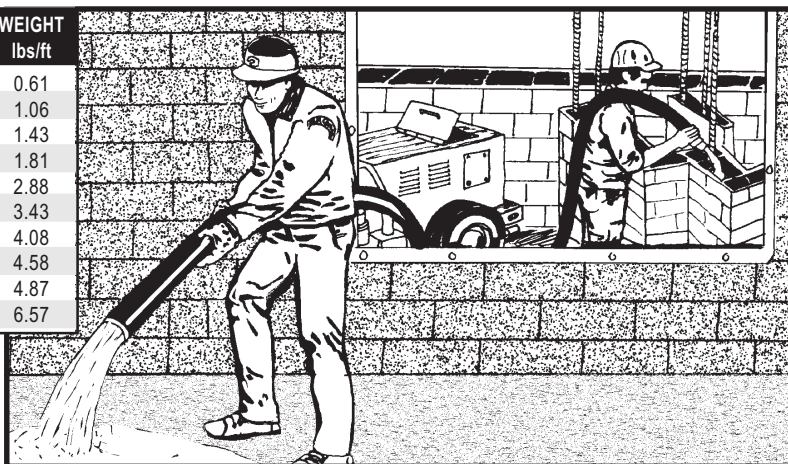


## MODELS 170PM, 171PM, 172PM

# PLASTER MASTER

### PLASTER MASTER HIGH PRESSURE 170PM

Plaster Master NUMBER	I.D.	O.D.	REINFORCEMENT SPIRALS	WORK PRESS.	WEIGHT lbs/ft
170 PM 20	1 1/4	1 3/4	2	800	0.61
170 PM 24	1 1/2	2 3/16	2	800	1.06
170 PM 32	2	2 13/16	4	800	1.43
170 PM 40	2 1/2	3 5/16	4	500	1.81
170 PM 48	3	4 5/32	4	500	2.88
170 PM 56	3 1/2	4 11/16	4	500	3.43
170 PM 64	4	5 5/16	4	500	4.08
170 PM 72	4 1/2	5 11/16	4	500	4.58
170 PM 80	5	6 1/4	4	500	4.87
170 PM 96	6	7 7/16	6	500	6.57



### PLASTER MASTER EXTRA HIGH PRESSURE 171PM

Plaster Master NUMBER	I.D.	O.D.	REINFORCEMENT SPIRALS	WORK PRESS.	WEIGHT lbs/ft
171 PM 24	1 1/2	2 3/8	4	1200	1.37
171 PM 32	2	3	6	1200	2.05
171 PM 40	2 1/2	3 1/2	6	1000	2.39
171 PM 48	3	4 1/8	6	1000	3.32
171 PM 64	4	5 5/16	6	1000	4.45



### PLASTER MASTER WIRE BRAID 172PM

Plaster Master NUMBER	I.D.	O.D.	REINFORCEMENT SPIRALS	WORK PRESS.	WEIGHT lbs/ft
172 PM 24	1 1/2	2 1/16	1	800	1.36
172 PM 32	2	2 5/8	2	800	1.69
172 PM 64	4	5 1/16	2	1000	5.23
172 PM 80	5 1/2	6 1/8	2	1000	7.16

To order,  
see page 158

Application	Hose Media	Working pressure & popular size
Gunning (wet)	Sand, cement & water	150/300 P.S.I. 2"
Shotcrete (wet)	Sand, aggregate, cement & water	150/300 P.S.I. 2", 2 1/2"
Plaster & grout	Lime, Sand & water	to 800 P.S.I. 1 1/4" 1 1/2", 2"
Stucco	Sand, cement, lime & water	400 P.S.I. or more. 1 1/2", 2"
Cement placement	Cement, filler & water	to 800 P.S.I. 1 1/2", 2", 2 1/2"
Pea gravel	Sand, aggregate (3/8"), cement & water	to 500 P.S.I. 2"
Concrete Pump	Sand, aggregate (to 2"), cement & water	to 1000 P.S.I. 1 1/2", 2", 2 1/2", 3", 4", 5", 6"

All dimensions in inches. All pressure measures given in lbs./in.2 at 72°F (22.2°C). All vacuum rating given in In./Hg at 72°F (22.2°C).

Maximum length 100 ft.

110 AR, 111HR, 112 RS

## THORBURN "HERCULES"

Thorburn introduces "Hercules" a revolutionary concept in hose construction that combines the best features of rubber and plastic, resulting in a product that can outperform any conventional plastic and rubber hose.

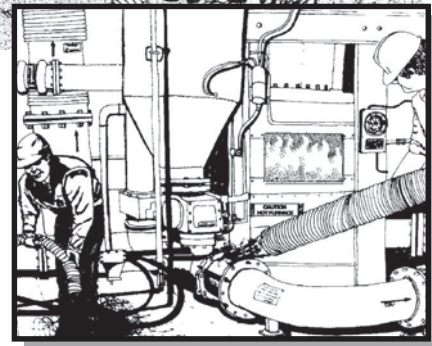
### Thorburn "Hercules" Advantages:

- **Lightweight...** up to 50% lighter than conventional rubber hose, so it's easier to handle and less expensive to transport.
- **Outstanding abrasion resistance...** longer lasting than convention rubber hose inside and out.
- **Flexible...** lends itself ot working in tight spaces. Easy handling.
- **Weatherproof...** Hercules is highly resistant to temperature changes and deterioration by sun, ozone or mildew.
- **Smooth bore...** for fastest, most efficient transfer of materials.

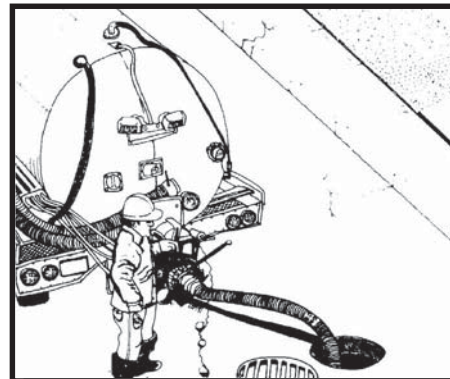


To order, see page 158

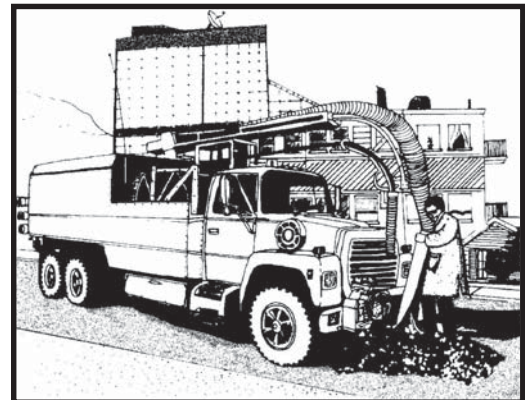
Hercules  
Hotflex



Hercules  
Coldflex



Hercules  
Bullflex



"King-Lok"770CX  
Special End  
Joint Clamps:  
please see page  
120 for details.



### Serving these industries:

- Plant waste management
- Grain handling
- Dockside unloading
- Sewage cleaning
- Commercial cleaning
- Aluminum pot room cleaning
- Insulation
- Sand recovery
- Power rodding
- Shipyard
- Roofing

## 110 AR, 111HR, 112 RS

# HERCULES BULLFLEX/HOTFLEX/ COLDFLEX

### Hercules Bullflex 110 AR



Thorburn “Hercules Bullflex” 110 AR is a rugged abrasion resistant suction hose, 50% lighter and stronger, more flexible than conventional rubber hoses.

#### Perfect hose for handling:

- Crushed Rock
- Cement Powder
- Dry fertilizers
- Grains
- Fish transfer
- Aluminum dust
- Silica Sand
- Chemicals
- Slurry
- Wood chips
- Plastics
- Ice Slinging
- Pea Gravel
- Iron ore
- Powders
- Coal dust

### Hercules Hotflex 111 HR



Thorburn “Hercules Hotflex” 111 HR series has the same design as 110 AR with an added springloaded

wire helix providing special suitability where higher service temperatures are required, Ex. Fly ash removal.

**Service Temperature:** -40° F. to 220° F.  
(-40° C. to 104 °C.).

### Hercules Coldflex 112 RS



Thorburn “Coldflex” 112 RS is tough as nails, lightweight and flexible to -40°F (-40°C). Has

the same abrasive, resistant designs as 110 AR with two added features: 1) special suitability to cold temperature flexing; 2) smooth cover to facilitate cleaning and pulling along tight uneven surface bends.

#### Perfect hose for handling:

- Rough construction uses
- Industrial Fluid Handling
- Sewer cleaning
- Agricultural applications
- Waste Removal
- Cesspool cleaning
- Marine use
- Septic handling

To order, see page 158

#### Construction:

**Tube/Cover:** Special compound blend of T-Polymer Styrene-Butadene yields outstanding abrasion resistant weathering, dissipates static electricity and material build-up.

**Reinforcement:** High tensile fatigue resistant calandered polyester fabric with a springloaded PVC helix.

**Service Temperature:** -40° F. to 160° F.  
(-40° C. to 71°C.).

### Specifications 110 AR / 111HR

Hotflex Number	Bullflex Number	I.D.	O.D.	MIN. Bend Radius	Work Press.	Burst Press.	Vacuum Rating	Weight lbs/ft	Weight lbs/ft
	110AR20	1 1/4	1.57	2.0	45	150	29.8	.31	
	110AR24	1 1/2	1.82	2.0	45	150	29.8	.37	
	110AR32	2	2.35	2.5	40	130	29.8	.56	
	110AR40	2 1/2	2.87	2.5	35	115	29.8	.71	
	110AR48	3	3.50	3.0	35	115	29.8	.98	
	110AR56	3 1/2	4.11	4.0	30	100	29.8	1.40	
111HR64	110AR64	4	4.63	4.5	30	100	29.8	1.66	1.77
	110AR80	5	5.63	5.0	30	100	28.0	2.47	
111HR96	110AR96	6	6.73	9.2	30	100	28.0	3.08	3.50
	110AR112	7	7.83	14	30	100	27.0	4.10	
111HR128	110AR128	8	9.04	15	30	100	27.0	4.10	6.10
	110AR160	10	11.26	30	28	80	25.0	9.25	
	110AR196	12	13.39	40	25	80	25.0	11.40	

**Service Temperature:** -40° F. to 160° F.  
(-40° C. to 71°C.).

### Specifications 112 RS

COLDFLEX NUMBER	I.D.	O.D.	MIN. BEND RADIUS	WORK PRESS.	BURST PRESS.	VACUUM RATING	WEIGHT lbs/ft
112RS20	1 1/4	1.26	3	50	200	29.8	.44
112RS24	1 1/2	1.78	3	50	200	29.8	.50
112RS32	2	2.38	4	50	200	29.8	.74
112RS40	2 1/2	2.92	5	50	200	29.8	1.01
112RS48	3	3.41	6	43	170	29.8	1.21
112RS64	4	4.50	9	38	150	29.8	2.01
112RS96	6	6.67	15	23	90	28.0	3.37

All dimensions in inches. All pressure measures given in lbs./in.2 at 72°F (22.2°C). All vacuum rating given in In./Hg at 72°F (22.2°C).

## 120 ER & 121 SD

### THORBURN RENT-O-FLEX



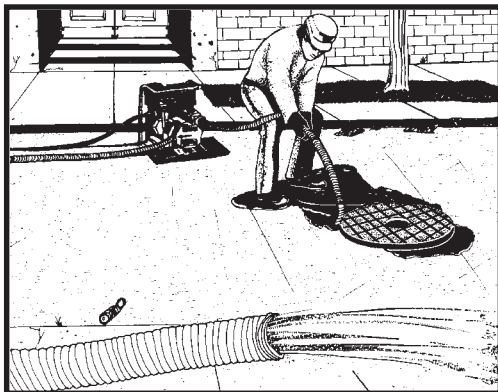
#### Thorburn Rent-O-Flex

##### Advantages:

- **Long Life...** abrasion resistant cover lasts longer than PVC and conventional rubber hose
- **Lightweight...** up to 50% lighter than conventional rubber hose, so it's easier to handle.
- **Flexible...** lends itself to working in tight spaces.
- **Smooth Bore...** for the fastest, most efficient transfer of materials.

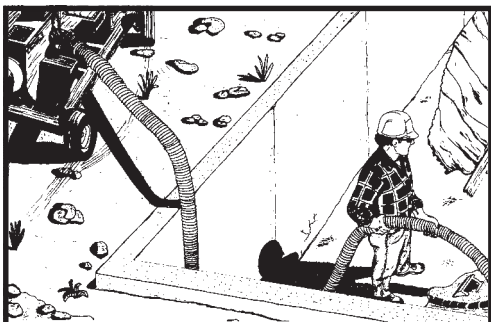
#### Serving the needs of:

- Agriculture
- Construction
- Rental Equipment
- Plant Maintenance
- Cesspool/Sewer Cleaning



#### Perfect hose for handling:

- Water
- Slurry
- Seed
- Light abrasive
- Agricultural chemicals
- Dry and liquid fertilizers



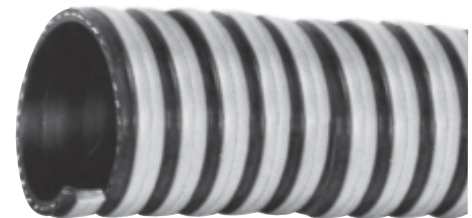
To order, see page 158

#### Construction:

**Tube/Cover:** Special blend of EPDM yielding excellent chemical resistance and room temperature flexing to -40° F. (-40°C.).

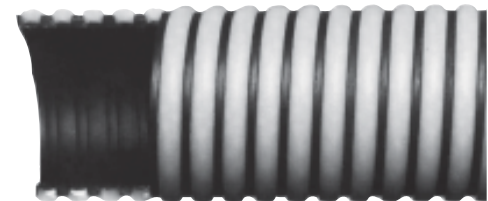
**Reinforcement:** Exterior PVC helix decreased friction resistance and makes the hose easy to drag. The braid on the 121 SD is applied for added discharge service.

**Service Temperature:** -40° F. to 160° F  
(-40° C. to 71°C)



Rent-O-Flex  
121 SD  
Suction/  
Discharge

HORBURN RENT-O-FLEX NUMBER	I.D.	O.D.	MIN. BEND RADIUS	WORK PRESS.	BURST PRESS.	VACUUM RATING	WEIGHT lbs/ft
121SD20	1 1/4	1.60	3.0	100	400	29.8	.34
121SD24	1 1/2	1.87	3.0	100	400	29.8	.47
121SD32	2	2.42	5.0	100	400	29.8	.61
121SD48	3	3.54	7.0	90	360	29.8	1.10



Rent-O-Flex  
120 ER  
EPDM Suction

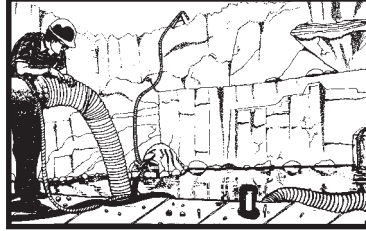
THORBURN RENT-O-FLEX NUMBER	I.D.	O.D.	MIN. BEND RADIUS	WORK PRESS.	BURST PRESS.	VACUUM RATING	WEIGHT lbs/ft
120ER16	1	1.34	1.9	50	220	29.8	.44
120ER20	1 1/4	1.65	3.2	50	220	29.8	.34
120ER24	1 1/2	1.84	3.2	50	220	29.8	.40
120ER32	2	2.43	5.2	50	220	29.8	.67
120ER40	2 1/2	2.94	5.6	50	190	29.8	.92
120ER48	3	3.52	7.1	43	150	29.8	1.10
120ER64	4	4.61	11.0	38	140	29.8	1.84
120ER96	6	6.69	20.0	23	100	28.0	3.07

All dimensions in inches. All pressure measures given in lbs./in.2 at 72°F (22.2°C). All vacuum rating given in In./Hg at 72°F (22.2°C).

## 160/162 PFC, 161/163 PFG

### PLAST-O-FLEX

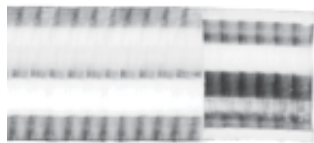
**All Plastic Heavy Duty Suction Hose**  
PVC hose that set the industrial standards. Thorburn's "Plast-O-Flex" is your assurance of high quality PVC hose. Waterproof, flexible, extremely long lasting, resists salt air and salt water. Smooth bore and easy to clean.  
**Min./Max. operating temperature:**  
-20° F. to 150° F.  
(-29° F. to 66° F)



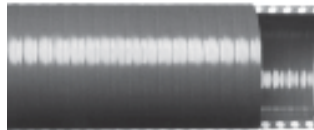
**Ideal hose for:**

- Latex paint transfer
- Liquid manure pumping
- Construction handling
- Fish and ice handling
- Industrial fluid handling
- Agricultural water transfer work
- Heavy duty gold dredging
- Trash pump hose
- Cesspools
- Septic tanks
- Marine use
- Irrigation line

To order, see page 158



**160 PFC  
Heavy Duty -  
Clear**



**160 PFG  
Heavy Duty -  
Green**

PLAST-O-FLEX NUMBER	I.D.	O.D.	MIN. BEND RADIUS	WORK PRESS.	BURST PRESS.	VACUUM RATING	WEIGHT lbs/ft
160 PFC/161PFG 12	3/4	.95	1.9	86	284	29.8	.16
160PFC/161PFG 16	1	1.23	1.4	86	284	29.8	.26
160PFC/161PFG 20	1 1/4	1.52	2.7	79	256	29.8	.37
160PFC/161PFG 24	1 1/2	1.78	2.8	72	242	28.0	.44
160PFC/161PFG 32	2	2.38	3.9	72	242	28.0	.74
160 PFC/161PFG 40	2 1/2	2.92	4.7	72	242	29.8	1.01
160PFC/161PFG 48	3	3.41	6.1	62	199	29.8	1.21
160PFC/161PFG 64	4	4.50	9.1	55	178	29.8	2.01
160PFC/161PFG 80	5	5.55	14.0	33	120	28.0	2.45
160PFC/161PFG 96	6	6.67	15.0	33	120	28.0	3.37
160PFC/161PFG 128	8	8.83	20.0	28	105	28.0	5.80

**All Plastic Heavy Duty Suction Hose**

**Features:**

Designed with a convoluted cover for high flexibility and a smooth bore for unrestricted flow.



**162PFC  
Clear**



**163 PFG  
Green**

**Applications:**

- Rock dusting
- Sanitary vacuuming
- Construction and mining

PLAST-O-FLEX NUMBER	I.D.	O.D.	MIN. BEND RADIUS	WORK PRESS.	BURST PRESS.	VACUUM RATING	WEIGHT lbs/ft
162 PFC/163 PFG 16	1	1.22	1.2	50	155	29.8	.17
162 PFC/163 PFG 20	1 1/4	1.48	1.6	45	149	29.8	.21
162 PFC/163 PFG 24	1 1/2	1.84	2.0	45	149	28.0	.34
162 PFC/163 PFG 32	2	2.36	2.6	40	132	28.0	.50
162 PFC/163 PFG 40	2 1/2	2.87	2.6	35	115	29.8	.68
162 PFC/163 PFG 48	3	3.50	2.8	35	155	29.8	1.00
162 PFC/163 PFG 64	4	4.63	4.3	30	100	29.8	1.52
162 PFC/163 PFG 80	5	5.63	9.0	30	100	28.0	2.45
162 PFC/163 PFG 96	6	6.73	9.2	30	100	28.0	3.06
162 PFC/163 PFG 128	8	9.04	14.3	30	100	28.0	5.38
162 PFC/163 PFG 160	10	11.26	30.0	30	80	28.0	8.88
162 PFC/163 PFG 198	12	13.34	30.0	23	80	25.0	10.43

All dimensions in inches. All pressure measures given in lbs./in.2 at 72°F (22.2°C). All vacuum rating given in In./Hg at 72°F (22.2°C).

## 164 UL

### UROLINE

### POLYURETHANE



Polyurethane lined PVC material vacuum hose.  
• Low temperature flexing  
• High abrasion resistance

To order, see  
page 158

**Service Temperature:**

Static condition: -40° F. to 150° F. (-40° C. to 66° C.)  
Dynamic condition: -22° F. to 104° F. (-30° C. to 40° C.)

UROLINE NUMBER	I.D.	O.D.	MIN. BEND RADIUS	WORK PRESS.	BURST PRESS.	VACUUM RATING	WEIGHT lbs/ft
164UL 24	1 1/2	1.88	2	50	150	Full	.46
164UL 32	2	2.44	3	40	120	Full	.65
164UL 40	2 1/2	3.12	5	40	120	Full	.65
164UL 48	3	3.70	6	40	120	Full	2.14
164UL 64	4	4.82	8	35	105	Full	2.14

All dimensions in inches. All pressure measures given in lbs./in.2 at 72°F (22.2°C). All vacuum rating given in In./Hg at 72°F (22.2°C).

## 190 PS

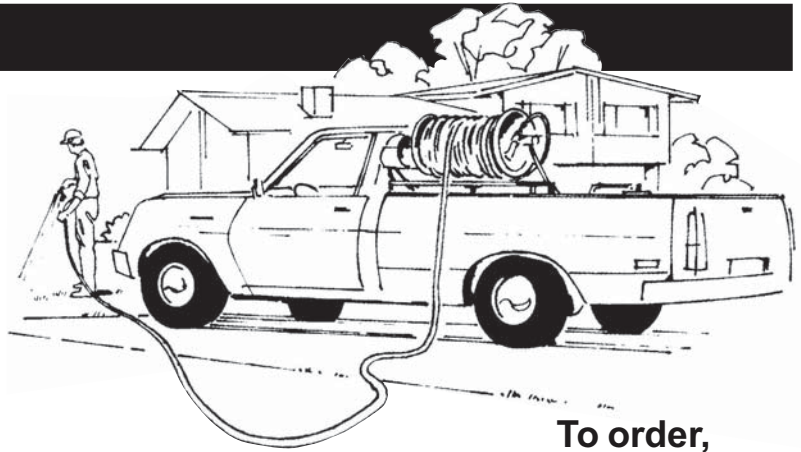
### WATER-CHEM

**Water based chemical spray hose.** Thorburn "Water-Chem" 190 PS has a high quality PVC core with a narrow ribbed yellow PVC corner. Engineered for transfer of "Wettable Powder" or water based chemicals at 600 psi working pressure. **Not recommended for use with aromatic based hydrocarbons (e.g. Xylene).**

**Features:**

- Economically priced, great value for wettable powder based spray hose.
- Lightweight and flexible for ease of handling.
- Highly abrasion resistant cover provides excellent scuff resistance.
- Pin pricked cover vents vapour pressure to avoid ballooning.

**Service Temperature:** -20°F. to 150°F.  
(-28° C. to 66 °C.).



To order,  
see page 158

WATER-CHEM NUMBER	I.D.	O.D.	WORK PRESS.	BURST PRESS.	STANDARD LENGTH
190 PS 06	3/8	0.650	600	2400	300
190 PS 08	1/2	0.790	600	2400	300
190 PS 10	5/8	0.925	600	2400	300
190 PS 12	3/4	1.070	600	2400	300

All dimensions in inches. All pressure measures given in lbs./in.2 at 72°F (22.2°C). All vacuum rating given in In./Hg at 72°F (22.2°C). Consult Thorburn with application details to determine hose compatibility.

## 196 EVS

### WEED-FLEX

### EVA WEED SPRAY HOSE. THORBURN 196EVS

**Construction:**

Ethylene Vinyl Acetate, reinforced with a polyester cord, is a rubber-like compound of non-toxic thermoplastics.

It is highly flexible, extremely tough, with very good resistance at low temperatures. Excellent resistance to gases and water vapour. It lends itself to a broad spectrum of chemical compounds including herbicides, pesticides and anhydrous ammonia in the agriculture field (i.e. it can be used with Monsanto Pesticide "Lasso").

**Service Temperature:** -10°F. to 150°F.  
(-23° C. to 66 °C.).

**Applications:**

- Agriculture spray applications
- Drinking water lines
- Beverage dispensing lines

WEED-FLEX NUMBER	I.D.	O.D.	WORK PRESS.	BURST PRESS.	STANDARD LENGTH
196 EVS 06	3/8	0.593	250	1000	500
196 EVS 08	1/2	0.720	250	1000	500
196 EVS 12	3/4	1.000	250	1000	300
196 EVS 16	1	1.310	250	1000	200

All dimensions in inches. All pressure measures given in lbs./in.2 at 72°F (22.2°C). All vacuum rating given in In./Hg at 72°F (22.2°C).

To order, see page 158

## 191/192/193 AC

### AGRO-CHEM

#### Agriculture, chemical spray hose

Thorburn "Agro-Chem" 191 AC, 192 AC and 193 AC is a urethane/PVC blend spray hose. Engineered for transfer of liquid aromatic hydrocarbon based chemicals (e.g. Xylene), in a highly flexible hose.

#### Applications:

- Light chemical solutions
- Orchard Spraying of insecticides
- Carpet cleaning
- Agriculture spraying of fertilizers and herbicides
- Water jetting
- Roof cleaning
- Lawn spray service

#### 191 AC Green 250 psi



AGRO-CHEM NUMBER	I.D.	O.D.	WORK PRESS.	BURST PRESS.	STANDARD LENGTH
191AC 06	3/8	0.625	250	1000	300
191AC 08	1/2	0.770	250	1000	300

Service Temperature: -20°F. to 150°F.  
(-28° C. to 66 °C.).

#### 192 AC Yellow 600 psi



AGRO-CHEM NUMBER	I.D.	O.D.	WORK PRESS.	BURST PRESS.	STANDARD LENGTH
192AC 06	3/8	0.650	600	2400	300
192AC 08	1/2	0.840	600	2400	300
192AC 12	3/4	1.140	600	2400	300

#### 193 AC Blue 800 psi



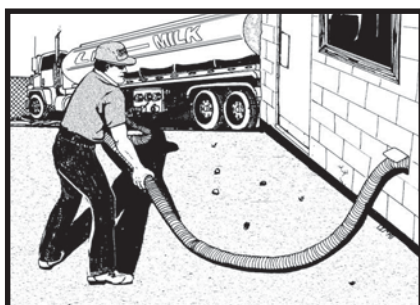
AGRO-CHEM NUMBER	I.D.	O.D.	WORK PRESS.	BURST PRESS.	STANDARD LENGTH
193AC 06	3/8	0.700	800	3200	300
193AC 08	1/2	0.900	800	3200	300
193AC 12	3/4	1.240	800	3200	300

To order,  
see page 158

All dimensions in inches. All pressure measures given in lbs./in.2 at 72°F (22.2°C). All vacuum rating given in In./Hg at 72°F (22.2°C). **Maximum length 100ft.**

## 153 MF

### MILK-FLEX



Room temperature flexibility at -13°F (-25°). Thorburn "Milk-flex" is a milk handling hose whose construction complies with F.D.A., U.S.D.A. and 3-A non-toxic sanitary

standard specifications for milk hauling and pick-up.

#### Thorburn Milk-Flex Advantages:

- **Lightweight...** up to 50% lighter than rubber hose, so it's easier to handle and less expensive to transport.
- **F.D.A. Compliance...** manufactured from compounds compliant with F.D.A. and 3-A non-toxic specifications.
- **Flexible...** lends itself to working in tight spaces. Thorburn Milk-Flex offers highest flexibility possible.
- **Weatherproof...** resistant to temperature changes and deterioration by sun, ozone, mildew.
- **Static Wire Available...** (please check with factory for applications)
- **Smooth Bore...** combined with smooth bending characteristics, makes for the fastest, most efficient transfer of fluids.



#### Construction:

**Tube/Cover:** A heavy duty smooth PVC tube cover. Eliminates material build up.

**Service Temperature:** -13°F to 160°F  
(-25°C to 71°C)

#### "MILK-FLEX" 153 MF

THORBURN MILK-FLEX NUMBER	I.D.	O.D.	MIN. BEND RADIUS	WORK PRESS.	BURST PRESS.	VACUUM RATING	WEIGHT lbs/ft
153 MF 24	1 1/2	1.82	2.0	66	218	29.8	0.44
153 MF 32	2	2.39	2.5	66	218	29.8	0.74

All dimensions in inches. All pressure measures given in lbs./in.2 at 72°F (22.2°C). All vacuum rating given in In./Hg at 72°F (22.2°C). **Maximum length 100 ft.**

To order,  
see page 158

## 154/156 FF, 155/157 FFS

### PVC FOOD-FLEX

PVC, heavy duty, food grade, crystal clear suction and transfer hose with a smooth cover and bore to eliminate buildup. Complies with F.D.A. and U.S.D.A. requirements and 3-A sanitary standards. The embedded static wire eliminates electrostatic charge in high flow rate applications. Clear wall allows visual inspection of the product.

**Service Temperature:** -13° F. to 160° F. (-25° C. to 70°C.)

**Couplings:** Sani-Cup, combination nipples and appropriate clamps— see page 102.

#### General Applications:

##### Dry:

Pneumatic conveying system for powder, pellets, or granular materials. Bulk transfer or plastic resins or pellets. Bulk flour transfer. Bulk grain & salt transfer. Static wire for grounding.

##### Fluid:

Variety of fluid handling needs in bottling, canning and the dairy industry, i.e. fruit & vegetable juice, alcoholic beverage such as wine and beer, pharmaceutical, cosmetics, etc.

##### General:

Can be used with any liquid or dry material for human consumption.



**"FOOD-FLEX" 157 FFS**  
PVC Heavy Duty Food Grade Hose with Static Wire

**"FOOD-FLEX" 154 FFS**  
PVC Heavy Duty Food Grade Hose



**"FOOD-FLEX" 156 FFS**  
PVC Heavy Duty Food Grade Hose

**"FOOD-FLEX" 155 FFS**  
PVC Heavy Duty Food Grade Hose with Static Wire



To order,  
see page 158

#### Technical Specifications

FOOD-FLEX NUMBER	I.D.	O.D.	MIN. BEND RADIUS	WORK PRESS.	VACUUM RATING		WEIGHT lbs/ft
					68°F.	104°F.	
					156FF/157FFS 16	1	
156FF/157FFS 20	1 1/4	1.60	2	50	28	28	28
156FF/157FFS 24	1 1/2	1.92	3	50	28	28	35
156FF/157FFS 32	2	2.40	4	40	28	24	56
156FF/157FFS 40	2 1/2	2.99	5	40	28	24	77
156FF/157FFS 56	3	3.64	6	40	28	24	110
156FF/157FFS 48	3 1/2	4.21	8	35	28	24	147
156FF/157FFS 64	4	4.72	10	35	24	22	181
156FF/157FFS 80	5	5.74	16	35	24	22	238
156FF/157FFS 96	6	6.81	18	30	24	22	308
156FF/157FFS 128	8	8.85	36	20	20	18	422

#### Technical Specifications

FOOD-FLEX NUMBER	I.D.	O.D.	WORK PRESSURE		VACUUM RATING		MIN. BEND RADIUS	MAX. LENGTH	WEIGHT lbs/ft
			68°F.	104°F.	68°F.	104°F.			
			154FF/155FFS 12	3/4	0.90	115			
154FF/155FFS 16	1	1.28	100	70	Full	28	3	100	24
154FF/155FFS 20	1 1/4	1.56	90	65	Full	28	4	100	44
154FF/155FFS 24	1 1/2	1.80	85	60	Full	28	6	100	50
154FF/155FFS 32	2	2.36	85	60	Full	26	8	100	71
154FF/155FFS 40	2 1/2	2.88	65	45	Full	26	10	100	94
154FF/155FFS 48	3	3.42	55	40	Full	24	11	100	114
154FF/155FFS 64	4	4.51	50	35	Full	24	18	100	191
154FF/155FFS 80	5	5.51	40	25	Full	23	28	100	241
154FF/155FFS 96	6	6.59	30	20	Full	22	48	100	328
154FF/155FFS 128	8	8.79	25	15	Full	20	60	50	567

All dimensions in inches. All pressure measures given in lbs./in.2 at 72°F (22.2°C). All vacuum rating given in In./Hg at 72°F (22.2°C). "Food-Flex" 155 is not stocked; available on special order only. Special metric sizes available on request.



### 180, 181 & 182 PF

#### PURE-FLEX

##### "PUREFLEX" 180 PF



Ultra pure rubber food handling hose. Suction or discharge service. Conveying of liquid or semi-solid food products.

**Construction:**

**Tube:** 1/8" white seamless nitrile, oil resistant, meets FDA requirements. Manufactured on stainless steel mandrels for added purity.

**Reinforcement:** 2 braids of textile yarn with spring dual wire helix.

**Cover:** Special blend of synthetic rubber compound to resist weather and abrasion. Light grey.

**Service Temperature:** -40° F. to 250° F. (-40° C. to 122° C.) continuous.

**Couplings:** Sani-Cup, ThorSwage style TSI internal expansion couplings (p. 102, 104)

**Applications:**

- Milk • Tomato products • Wine and liquid sugar
  - Vegetable oil and other edible oil products.
- Meets 3-A Standard 1800, FDA, USDA, and Grade A Pasteurized Milk Ordinance construction.

To order, see page 158

PURE-FLEX NUMBER	I.D.	O.D.	MIN. BEND RADIUS	WORK PRESS.	BURST PRESS.	VACUUM RATING	WEIGHT lbs/ft
180 PF 24	1 1/2	2 6/32	6	150	600	28	0.98
180 PF 32	2	2 21/32	7	150	600	28	1.32
180 PF 40	2 1/2	3 7/32	8	150	600	28	1.84
180 PF 48	3	3 24/32	9	150	600	28	2.45
180 PF 64	4	4 25/32	12	150	600	28	3.50
180 PF 96	6	6 26/32	24	150	600	28	5.90

##### "PUREFLEX" 181 PF



Ultra pure rubber food handling hose. Suction or discharge service. Conveying of abrasive food products.

**Construction:**

**Tube:** 1/4" thick tan pure gum rubber manufactured on stainless steel mandrels for added purity. Meets FDA requirements.

**Reinforcement:** Multiple plies of lightweight high strength polyester cord fabric, spring wire helix and static Dissipation wire.

**Cover:** Light gray or black rubber ozone and extremely abrasion resistant.

**Service Temperature:** -20° F. to 150° F. (-29° C. to 65° C.)

**Couplings:** Sani-Cup, ThorSwage style TSI internal expansion couplings (p. 102, 104)

**Applications:**

Extremely abrasive dry, non-oily materials such as :

- Rock salt • Crushed limestone • Borax
- Sugar • Flour • PVC pellets
- Other products where taste and aroma must not be affected.

PURE-FLEX NUMBER	I.D.	O.D.	MIN. BEND RADIUS	WORK PRESS.	BURST PRESS.	VACUUM RATING	WEIGHT lbs/ft
181 PF 32	2	2 22/32	7	100	400	28	1.56
181 PF 40	3	3 24/32	11	100	400	28	2.36
181 PF 48	4	4 24/32	14	100	400	28	3.19
181 PF 64	5	5 28/32	20	100	400	28	4.12
181 PF 96	6	6 28/32	24	90	360	28	5.11

##### "PUREFLEX" 182 PF



Ultra pure rubber food handling hose. Suction or discharge service.

**Construction:**

**Tube:** White smooth non-toxic approved pure natural rubber manufactured on polished stainless steel mandrels.

**Reinforcement:** Multiple layers of mildew resistant synthetic fabric.

**Cover:** Red, abrasion resistant natural rubber.

**Service Temperature:** -20° F. to 150° F. (-29° C. to 65° C.)

**Couplings:** Sani-Cup, ThorSwage style TSI internal expansion couplings (p. 102, 104)

**Applications:**

Transfer of:

- Wine • Beer
- Milk • Sugar
- Flour • Grains
- etc.

**Not recommended for oily food products.**

PURE-FLEX NUMBER	I.D.	O.D.	WORK PRESS.	BURST PRESS.	WEIGHT lbs/ft
182 PF 12	3/4	1 3/16	140	560	45
182 PF 16	1	1 1/2	140	560	60
182 PF 20	1 1/4	1 7/8	140	560	90
182 PF 24	1 1/2	2 3/16	140	560	120
182 PF 32	2	2 11/16	140	560	170
182 PF 40	2 1/2	3 7/16	140	560	270
182 PF 48	3	4	140	560	340
182 PF 64	4	5 3/16	140	560	510

All dimensions in inches. All pressure measures given in lbs./in.2 at 72°F (22.2°C). All vacuum rating given in In./Hg at 72°F (22.2°C).

### 158 PV

#### POLY-VAC



Crystal clear PVC spring wire reinforced food and beverage grade. Thorburn "Poly-Vac" is an extremely flexible food grade transparent hose for use where full vacuum performance is required while monitoring the contents of the hose.

**Applications:**

- Food and beverage dispensing
- Milk and Cosmetic transfer
- Lubricating oils and coolants lines

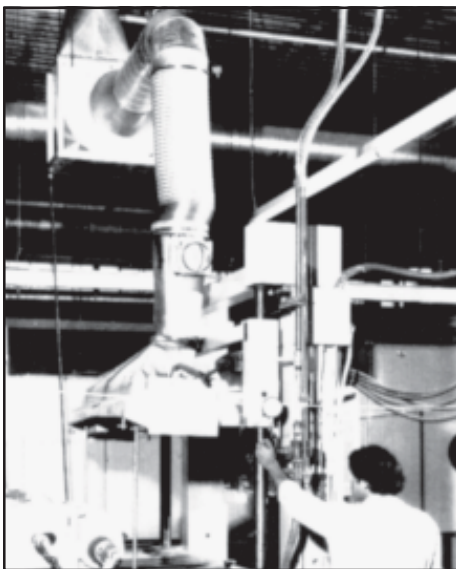
To order, see page 158

POLY-VAC NUMBER	I.D.	O.D.	MIN. BEND RADIUS	WORK PRESS.	VACUUM RATING	WEIGHT lbs/ft
158 PV 04	1/4	0.50	.1	110	29	0.09
158 PV 06	3/8	0.63	1	110	29	0.11
158PV 08	1/2	0.72	1.5	90	29	0.12
158 PV 10	5/8	0.91	2	75	29	0.17
158 PV 12	3/4	1.06	2	75	29	0.24
158 PV 16	1	1.30	3	75	29	0.35
158PV 20	1 1/4	1.65	3.5	60	29	0.50
158 PV 24	1 1/2	1.93	4	60	29	0.75
158 PV 32	2	2.56	5	60	29	1.09

All dimensions in inches. All pressure measures given in lbs./in.2 at 72°F (22.2°C). All vacuum rating given in In./Hg at 72°F (22.2°C). Maximum length 100 ft.

**THORBURN FLEXIDUCT  
QUALITY FLEXIBLE DUCTING HOSES**

Thorburn's Flexiduct unique construction enables us to produce ducting for virtually any requirement, quickly and economically. Our commitment to service means that a Thorburn Flexiduct representative is always available to assist you in choosing the best product for your specific applications.



**Yes, we're  
flexible!**

**SPECIALS  
CALL US  
WE HAVE THE ANSWER**

**Three Construction Processes****The RF Series**

Thorburn's coated fabrics are reinforced with high-carbon, spring steel wire manufactured to exacting specifications. Thorburn's RF is bi-directional and ideal for stationary, flexible ducting applications.

**The J-Lok Series**

Thorburn's unique mechanical locking system allows us to produce ducting from an endless variety of fabrics without the problems of bonding. Thorburn's J-Lok features a corrosion-resistant lock and is bi-directional and economical to ship: 25 feet of ducting compresses into only 4 feet.

**The M-Lok Series**

Thorburn's metal ducting is virtually air and water-tight. Made from aluminum or four types of stainless steel to suit your requirements.

## THORBURN'S RF SERIES STATIONARY DUCTING HOSES

### General service

#### RF1

- Air handling
- Dust collection
- Fume control
- Cool air supply



*A lightweight, economical hose for use in the following areas:*

<b>Material</b>	Polyester/Neoprene, black (grey)
<b>Construction</b>	Single ply fabric over fully encapsulated spring steel helix
<b>Size</b>	1-1/2" to 36" I.D. Larger sizes available
<b>Standard length</b>	25 ft.
<b>Weight</b>	6" I.D. = .84 lbs/ft.
<b>Temperature range</b>	-40°F to 250°F (-40°C to 122°C)

### Heavy Duty Service

#### RF2

- Particle control
- Pellet and chip handling
- Areas of high vibration
- Large volume fume control



*The finest hose of its type in the market place. The bi-directional construction allows two-way flow and high volume. RF2 is also flame retardant.*

<b>Material</b>	Polyester/Neoprene, black (white, orange)
<b>Construction</b>	Two ply fabric over fully encapsulated spring steel helix
<b>Size</b>	1-1/2" to 36" I.D. Larger sizes available
<b>Standard length</b>	25 ft.
<b>Weight</b>	6" I.D. = 1.02 lbs/ft.
<b>Temperature range</b>	-40°F to 250°F (-40°C to 122°C)

#### RFN2

- Severe flexing
- Severe gravity feed
- Material handling
- High volume fume



*A product manufactured with the highest grade materials and the strictest quality control.*

<b>Material</b>	Nylon/Neoprene, black
<b>Construction</b>	Two ply fabric over fully encapsulated spring steel helix
<b>Size</b>	1-1/2" to 36" I.D. Larger sizes available
<b>Standard length</b>	25 ft.
<b>Weight</b>	6" I.D. = 1.01 lbs/ft.
<b>Temperature range</b>	-40°F to 250°F (-40°C to 122°C)

**Heavy Duty Service****RFFG2**

- Welding fume control
- Self cut-off
- Elevated temperature
- Grinder exhaust



*The finest hose of its type in the market place. The bi-directional construction allows two-way flow and high volume. High positive and negative pressure*

<b>Material</b>	Fiberglass/Neoprene, black
<b>Construction</b>	Two ply fabric over fully encapsulated spring steel helix
<b>Size</b>	1-1/2" to 36"
<b>Standard length</b>	25 ft.
<b>Weight</b>	6" I.D. = 1.02 lbs/ft.
<b>Temperature range</b>	-40°F to 300°F (-40°C to 150°C)

**Extra-Heavy Duty Service****RF3**

- Suction or discharge
- Gravity feed
- Abrasive material



*The "heavyweight" in terms of vacuum capability and material handling. Thorburn's RF3 is the toughest hose in the market place!*

<b>Material</b>	Polyester/Neoprene, black
<b>Construction</b>	Three ply fabric over fully encapsulated spring steel helix
<b>Size</b>	2" to 36" I.D. Larger sizes available
<b>Standard length</b>	25 ft.
<b>Weight</b>	6" I.D. = 1.10 lbs/ft.
<b>Temperature range</b>	-40°F to 250°F (-40°C to 122°C)

## THORBURN'S J-LOK SERIES COMPRESSIBLE DUCTING HOSES

**General service****J-LOK100**

- Dust control
- Light material handling
- Air handling
- Fume control



*An extremely lightweight and flexible hose.*

<b>Material</b>	Polyester/Neoprene
<b>Construction</b>	Mechanical bond, corrosion resistant helix
<b>Size</b>	2" to 24" I.D. Larger sizes available
<b>Bend radius</b>	1-1/2 x I.D.
<b>Standard length</b>	25 ft.
<b>Weight</b>	6" I.D. = .9 lbs/ft.
<b>Temperature range</b>	-40°F to 250°F (-40°C to 122°C)
	6:1

### General Service

#### J-LOK101

- Dust control
- Fume control
- General service
- Air movement



*A combination of high-quality material and economical price provide an excellent hose.*

<b>Material</b>	Fiberglass/PVC
<b>Construction</b>	Mechanical bond, corrosion resistant helix
<b>Size</b>	2" to 24" I.D. Larger sizes available
<b>Bend radius</b>	1-1/2 x I.D.
<b>Standard length</b>	25 ft.
<b>Weight</b>	6" I.D. = .9 lbs/ft.
<b>Temperature range</b>	-20°F to 250°F (-28C to 122°C)
<b>Compression ratio</b>	6:1

### Heavy Duty Service

#### J-LOK200

- Heavy-duty dust control
- Sawdust, wood chips
- Outdoor plant clean-up
- Gravity-feed material handling



*A tough nylon fabric combined with our standard built-in scuff guard .*

<b>Material</b>	Polyester/Neoprene
<b>Construction</b>	Mechanical bond, corrosion resistant helix
<b>Size</b>	3" to 24" I.D. Larger sizes available
<b>Bend radius</b>	1-1/2 x I.D.
<b>Standard length</b>	25 ft.
<b>Weight</b>	6" I.D. = 1.1 lbs/ft.
<b>Temperature range</b>	-65°F to 250°F (-53C to 122°C)
<b>Compression ratio</b>	6:1

#### J-LOK201

- Medium-duty material handling
- Chemical fume control
- Outdoor service
- Gravity-feed



*A very rugged nylon fabric combined with Hypalon results in a hose that's tough and offers excellent chemical resistance.*

<b>Material</b>	Polyester/Neoprene
<b>Construction</b>	Mechanical bond, corrosion resistant helix
<b>Size</b>	3" to 24" I.D. Larger sizes available
<b>Bend radius</b>	1-1/2 x I.D.
<b>Standard length</b>	25 ft.
<b>Weight</b>	6" I.D. = 1.1 lbs/ft.
<b>Temperature range</b>	-65°F to 250°F (-53C to 122°C)
<b>Compression ratio</b>	6:1

**Extra-Heavy Duty Service****J-LOK300**

- Indoor/outdoor debris pick-up
- Severe gravity feed
- Abrasive dust control
- Heavy-duty material handling



*When the going gets tough, a combination of easy handling and rugged durability.*

<b>Material</b>	Polyester/Neoprene
<b>Construction</b>	Mechanical bond, corrosion resistant helix
<b>Size</b>	4" to 24" I.D. Larger sizes available
<b>Bend radius</b>	1-1/2 x I.D.
<b>Standard length</b>	25 ft.
<b>Weight</b>	6" I.D. = 1.5 lbs/ft.
<b>Temperature range</b>	-65°F to 250°F (-53C to 129°C)
<b>Compression ratio</b>	4.5:1

**J-LOK301**

- Chemical pellets or powder
- Outdoor fume and material handling
- Severe gravity feed



*This hose is designed to handle the more rugged service conditions in plant and factory.*

<b>Material</b>	Nylon/Hypalon
<b>Construction</b>	Mechanical bond, corrosion resistant helix
<b>Size</b>	4" to 24" I.D. Larger sizes available
<b>Bend radius</b>	1-1/2 x I.D.
<b>Standard length</b>	25 ft.
<b>Weight</b>	6" I.D. = 1.5 lbs/ft.
<b>Temperature range</b>	-65°F to 250°F (-53C to 122°C)
<b>Compression ratio</b>	4.5:1

**THORBURN'S "J" LOK SERIES****URETHANE****Extra-Heavy Duty Service****J-LOK1010**

- Material handling
- Abrasive dust and particles
- Replaces trap doors in solid pipe as visual flow indicator
- Sawdust and small chips



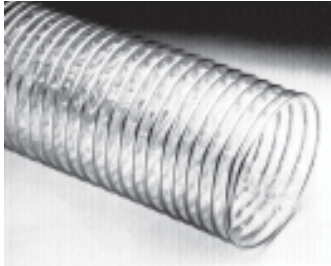
*A clear hose designed to handle rugged installations.*

<b>Material</b>	Urethane, 12 mil, clear
<b>Construction</b>	Mechanical bond, corrosion resistant helix
<b>Size</b>	4" to 24" I.D. Larger sizes available
<b>Bend radius</b>	1-1/2 x I.D.
<b>Standard length</b>	25 ft.
<b>Weight</b>	6" I.D. = .7 lbs/ft.
<b>Temperature range</b>	-20°F to 250°F (-28C to 122°C)
<b>Compression ratio</b>	6:1

### Extra-Heavy Duty Service

#### J-LOK1020

- Wood industries
- Wood chips
- Severe gravity feed
- Flow monitor



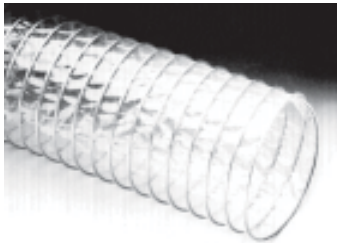
*A clear material handling hose is a window to the manufacturing process.*

<b>Material</b>	Urethane, 20 mil, clear
<b>Construction</b>	Mechanical bond, corrosion resistant helix
<b>Size</b>	4" to 24" I.D. Larger sizes available
<b>Bend radius</b>	1-1/2 x I.D.
<b>Standard length</b>	25 ft.
<b>Weight</b>	6" I.D. = 1.25 lbs/ft.
<b>Temperature range</b>	Minus 20°F to 250°F (-28C to 122°C)
<b>Compression ratio</b>	5:1

### Fume Control Service

#### J-LOK500

- Chemical fume control
- Visual monitor, sight gauge
- Clean room



*When you need to see what's going on inside a fume-control hose, the choice is clear!*

<b>Material</b>	Nylon/Polyamid, clear
<b>Construction</b>	Mechanical bond, corrosion resistant helix
<b>Size</b>	3" to 24" I.D. Larger sizes available
<b>Bend radius</b>	1-1/2 x I.D.
<b>Standard length</b>	25 ft.
<b>Weight</b>	6" I.D. = .8 lbs/ft.
<b>Temperature range</b>	40°F to 250°F (-40C to 122°C)
<b>Compression ratio</b>	6:1

#### J-LOK600

- Clean room
- Fume control
- Chemical dust control



*An ideal all 'round control hose. Lightweight and economical.*

<b>Material</b>	Polyvinyl Chloride, 12 mil
<b>Construction</b>	Mechanical bond, corrosion resistant helix
<b>Size</b>	3" to 24" I.D. Larger sizes available
<b>Bend radius</b>	1-1/2 x I.D.
<b>Standard length</b>	25 ft.
<b>Weight</b>	6" I.D. = .75 lbs/ft.
<b>Temperature range</b>	20°F to 160°F (-28C to 71°C)
<b>Compression ratio</b>	6:1

**Fume Control Service****J-LOK601**

- Acid fumes
- Exhaust hoods
- Light material handling



*An all 'round fume control hose.*

<b>Material</b>	Polyester/PVC, black
<b>Construction</b>	Mechanical bond, corrosion resistant helix
<b>Size</b>	3" to 24" I.D. Larger sizes available
<b>Bend radius</b>	1-1/2 x I.D.
<b>Standard length</b>	25 ft.
<b>Weight</b>	6" I.D. = .85 lbs/ft.
<b>Temperature range</b>	-20°F to 160°F (-28°C to 71°C)
<b>Compression ratio</b>	6:1

**J-LOK620**

- Vapour recovery
- Chemical pellets
- Fume control
- Light chemical dust handling



*The heavyweight version in our PVC line.*

<b>Material</b>	Polyvinyl Chloride, 20 mil (clear)
<b>Construction</b>	Mechanical bond, corrosion resistant helix
<b>Size</b>	3" to 24" I.D. Larger sizes available
<b>Bend radius</b>	1-1/2 x I.D.
<b>Standard length</b>	25 ft.
<b>Weight</b>	6" I.D. = .85 lbs/ft.
<b>Temperature range</b>	-20°F to 160°F (-28°C to 71°C)
<b>Compression ratio</b>	6:1

**J-LOK700**

- Welding fume control
- Steel cut-off
- Elevated temperature
- Grinder exhaust



*A non-glue construction and a flame-retardant fabric.*

<b>Material</b>	Tri-laminate-Fiberglass, Aluminized Polyester/ Polyamid
<b>Construction</b>	Mechanical bond, corrosion resistant helix
<b>Size</b>	3" to 24" I.D. Larger sizes available
<b>Bend radius</b>	1-1/2 x I.D.
<b>Standard length</b>	25 ft.
<b>Weight</b>	6" I.D. = .8 lbs/ft.
<b>Temperature range</b>	-20°F to 300°F (-28°C to 150°C)
<b>Compression ratio</b>	6:1



### Temperature Loss Protection

#### J-LOK900

- Plastics industry, drying
- Outdoor heaters
- Glass drying
- Cold air supply



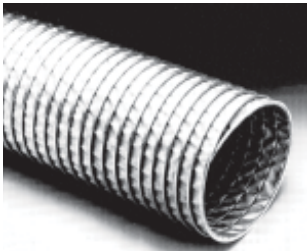
*A hose designed to move hot air from source to site of use, with minimal heat loss.*

<b>Material</b>	Outer: Polyester/Neoprene Inner: Silicone/Fiberglass
<b>Construction</b>	Mechanical bond, corrosion resistant helix
<b>Size</b>	2" to 20" I.D. Larger sizes available
<b>Bend radius</b>	2 x I.D.
<b>Standard length</b>	25 ft.
<b>Weight</b>	6" I.D. = 2.1 lbs/ft.
<b>Temperature range</b>	-65°F to 600°F (-53°C to 315°C)
<b>Compression ratio</b>	6:1

### High Temperature Corrosive Service

#### J-LOK401

- Automobile exhaust hose reel
- Hot fume control
- Diesel and gas exhaust control
- Hot air supply and removal



*The combination of our standard external helix as a scuff guard and our non-glue construction results in this industry standard high-temperature hose.*

<b>Material</b>	Fiberglass/Silicone
<b>Construction</b>	Mechanical bond, corrosion resistant helix
<b>Size</b>	2" to 24" I.D. Larger sizes available
<b>Bend radius</b>	1-1/2 x I.D.
<b>Standard length</b>	25 ft.
<b>Weight</b>	6" I.D. = 1.1 lbs/ft.
<b>Temperature range</b>	-65°F to 600°F (-53°C to 315°C) intermittent
<b>Compression ratio</b>	6:1

#### J-LOK1100

- Highly corrosive fumes
- High temperature where silicone is not permitted
- Hot exhaust

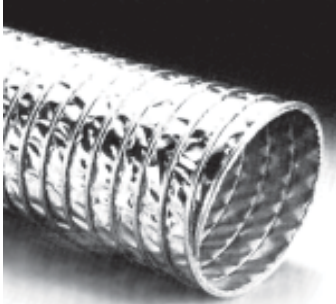


*The extremely versatile combination of fiberglass and teflon.*

<b>Material</b>	Fiberglass/Teflon
<b>Construction</b>	Mechanical bond, Stainless steel helix
<b>Size</b>	4" to 24" I.D. Larger sizes available
<b>Bend radius</b>	1-1/2 x I.D.
<b>Standard length</b>	25 ft.
<b>Weight</b>	6" I.D. = .9 lbs/ft.
<b>Temperature range</b>	-65°F to 600°F (-53°C to 315°C) intermittent
<b>Compression ratio</b>	6:1

**High Temperature Corrosive Service****J-LOK4700**

- High temperature
- Ash or spark
- Hot fume control
- Flame retardant interior or exterior



*A doublewall duct combining two of our finest ducts.*

<b>Material</b>	Innerwall: Silicone/Fiberglass Outerwall: Aluminum Aluminized Polyester/ Fiberglass
<b>Construction</b>	Mechanical bond, corrosion resistant helix
<b>Size</b>	4" to 24" I.D. Larger sizes available
<b>Bend radius</b>	1-1/2 x I.D.
<b>Standard length</b>	25 ft.
<b>Weight</b>	6" I.D. = 2.1 lbs/ft.
<b>Temperature range</b>	-20°F to 600°F (-28°C to 315°C) intermittent
<b>Compression ratio</b>	3.5:1

**J-LOK7400**

- High temperature
- Ash or spark
- Hot fume control
- Flame retardant interior or exterior



*A doublewall duct combining two of our finest ducts.*

<b>Material</b>	Innerwall: Aluminum Aluminized Polyester/ Fiberglass Outerwall: Silicone/Fiberglass
<b>Construction</b>	Mechanical bond, corrosion resistant helix
<b>Size</b>	4" to 24" I.D. Larger sizes available
<b>Bend radius</b>	1-1/2 x I.D.
<b>Standard length</b>	25 ft.
<b>Weight</b>	6" I.D. = 2.1 lbs/ft.
<b>Temperature range</b>	-20°F to 600°F (-28°C to 315°C) intermittent
<b>Compression ratio</b>	3.5:1

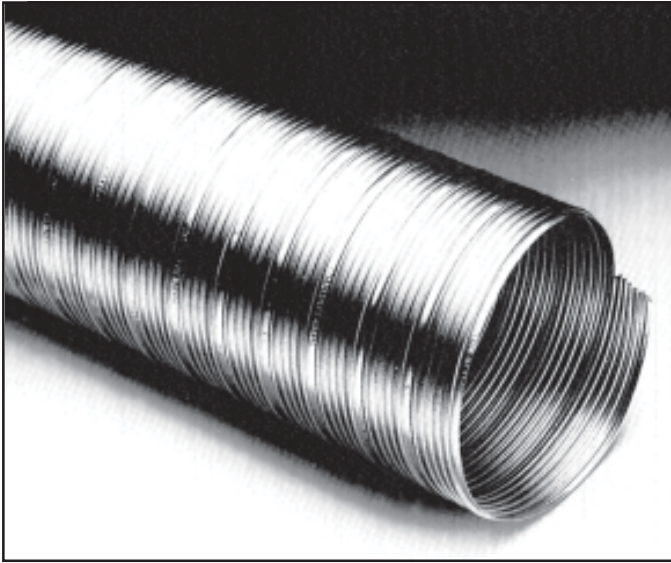
**THORBURN'S M-LOK SERIES****HIGH TEMPERATURE METALLIC DUCTING****M-LOK3003**

- Air movement
- Fume control



*The triple lock construction method results in a strong, flexible duct unmatched in the industry.*

<b>Material</b>	Aluminum
<b>Construction</b>	Triple mechanical lock
<b>Size</b>	4" to 20" I.D. Larger sizes available
<b>Bend radius</b>	1-1/2 x I.D.
<b>Standard length</b>	10 ft. Longer length consult factory
<b>Temperature range</b>	-60°F to 600°F (-51°C to 315°C)
<b>Compression ratio</b>	3:1



## FLEXIDUCT

### Stainless Steel Ducting Hose

- Fume control
- Corrosive atmosphere
- Extremely high temperatures

### M-LOK294C

*A specialty stainless steel alloy tubing.*

Stainless steel 29-4CAL alloy	<b>Material</b>	Stainless steel 304 alloy
Triple mechanical lock	<b>Construction</b>	Triple mechanical lock
2" to 24" I.D. Larger sizes available	<b>Size</b>	2" to 24" I.D. Larger sizes available
1-1/2 x I.D.	<b>Bend radius</b>	1-1/2 x I.D.
10 ft. Longer length consult factory	<b>Standard length</b>	10 ft. Longer length consult factory
- 60°F to 1650°F (-51°C to 900°C)	<b>Temperature range</b>	-60°F to 1250°F (-51°C to 675°C)

### M-LOK304

*An economical stainless steel tubing designed to handle a broad range of industrial applications.*

### M-LOK316

*The strictest quality control in the industry results in a superior steel tubing.*

Stainless steel 316 alloy	<b>Material</b>	Stainless steel 321 alloy
Triple mechanical lock	<b>Construction</b>	Triple mechanical lock
2" to 24" I.D. Larger sizes available	<b>Size</b>	2" to 24" I.D. Larger sizes available
1-1/2 x I.D.	<b>Bend radius</b>	1-1/2 x I.D.
10 ft. Longer length consult factory	<b>Standard length</b>	10 ft.
- 60°F to 1650°F (-51°C to 900°C)	<b>Temperature range</b>	-60°F to 2100°F (-51°C to 1150°C)

### M-LOK321

*Our highest temperature rated stainless steel.*

## UTILITY BLOWER HOSE SERIES

### "SLINKY-FLEX"

STORES IN LESS SPACE  
THAN CONVENTIONAL  
HOSES

- **16:1 Compressibility**  
15 foot working length  
compacts to only 11  
inches. Saves storage  
space on repair or emer-  
gency vans or trucks.



- **Meets UL-94-VO flame retardant**  
Thorburn's blower hose is made from the latest flame resistant coatings and fabrics. Excellent hose for marine use.
- **External abrasion resistance with wear strip**  
A special extruded thermal sealed wear strip was specifically designed for tough on the job abuse.
- **Special ends and belted cuffs**  
Designed and manufactured for use with portable blowers and evacuators. Ventilating utility manholes, excavations, or enclosed areas. Extends smoothly. Moves large volumes of air with low friction loss.

#### Ventilation Blower Hose

Dual direction flow with low friction loss. Steel wire helix. Available with or without vulcanized wearstrip.

##### APPLICATION

Blowers and fans for fume removal or to bring in fresh air in enclosed areas. Used with portable evacuators for smoke removal in manholes, tanks or other enclosures.

#### Insulated Ventilation Blower Hose

Compactible, rugged, two plies of neoprene polyester sandwiched over delsolite insulation reinforced with a carbon steel wire helix. Dual directional flow available with or without wearstrip.

##### APPLICATION

For moving heated or refrigerated air.

#### Ventilation Blower Hose TPV

One ply  
Vinyl/Polyester  
**I.D. sizes:** 4" to 36"  
**Temp. range:**  
-20°F to 180°F  
(-28°C to 82°C)

#### Ventilation Blower Hose TPC

One ply  
Neoprene/Polyester  
**I.D. sizes:** 4" to 36"  
**Temp. range:**  
-65°F to 300°F  
(-54°C to 165°C)  
Flame retardant UL94V0

#### Ventilation Blower Hose TPG

One ply  
Neoprene/Glass  
**I.D. sizes:** 4" to 36"  
**Temp. range:**  
-65°F to 300°F  
(-54°C to 165°C)  
Flame retardant UL94V0

#### TPI Insulated Blower Hose

Three ply armor  
Neoprene/Polyester  
**Insulation:** delsolite  
**Temp. range:** -65°F to 300°F  
(-54°C to 150°C)  
Flame retardant UL94-V0  
Available with vinyl/polyester material Thorburn style TPVI  
**Temp. range:** -60° to 180°F.  
(-51°C to 82°C)  
**Option:** Fiberglass or Urethane liner

Available in 15', 20' and 25' length

## Thorburn's "Slinky-Flex" Blower Hose Technical Data

Thorburn Hose Type		TPC		TPCW*		TPG		TPGW*		TPI		TPIW*		TPV		TPVW*	
Thorburn Number Size code	Diameter (I.D.)	Bend Radius (Inches)	Operating Pressure (P.S.I.)	Neg. Operating Pressure (in. of HG)	Hose Weight (Lbs per foot)	Bend Radius (Inches)	Operating Pressure (P.S.I.)	Neg. Operating Pressure (in. of HG)	Hose Weight (Lbs per foot)	Bend Radius (Inches)	Operating Pressure (P.S.I.)	Neg. Operating Pressure (in. of HG)	Hose Weight (Lbs per foot)	Bend Radius (Inches)	Operating Pressure (P.S.I.)	Neg. Operating Pressure (in. of HG)	Hose Weight (Lbs per foot)
**64	4	2.0	30.0	28.0	0.25	2.0	23.0	25.0	0.28	2.4	30.0	25.0	0.52	2.0	26.0	28.0	0.25
**80	5	2.5	24.0	23.0	0.31	2.5	20.0	21.0	0.35	3.0	24.0	21.0	0.65	2.5	22.0	23.0	0.31
**96	6	3.0	20.0	19.0	0.38	3.0	17.0	16.0	0.42	3.6	20.0	16.0	0.78	3.0	18.0	19.0	0.38
**112	7	3.5	17.0	10.3	0.44	3.5	16.0	9.5	0.45	4.4	17.0	9.5	0.87	3.5	9.5	10.3	0.44
**128	8	4.0	15.0	8.2	0.50	4.0	14.0	7.6	0.56	4.8	15.0	7.6	1.04	4.0	7.5	8.2	0.50
**160	10	5.0	14.0	6.1	0.63	5.0	13.0	5.7	0.70	6.0	14.0	5.7	1.30	5.0	5.7	6.1	0.63
**192	12	6.0	13.0	4.5	0.75	6.0	12.0	4.2	0.80	7.2	13.0	4.2	1.60	6.0	4.2	4.5	0.75
**224	14	7.0	11.0	4.3	0.88	7.0	10.0	4.0	1.00	8.4	11.0	4.0	1.80	7.0	4.1	4.3	0.88
**256	16	8.0	9.7	4.1	1.00	8.0	9.3	3.8	1.10	9.6	9.7	3.8	2.00	8.0	3.9	4.1	1.00
**288	18	9.0	8.6	3.9	1.3	9.0	8.1	3.6	1.30	10.8	8.6	3.6	2.30	9.0	3.7	3.9	1.13
**320	20	10.1	7.8	3.7	1.25	10.1	7.3	3.5	1.40	12.0	7.8	3.5	2.60	10.1	3.5	3.7	1.25
**352	22	11.3	7.0	3.2	1.38	11.3	6.5	3.0	1.50	13.2	7.0	3.0	2.90	11.3	2.9	3.2	1.38
**384	24	12.5	6.5	2.8	1.50	12.5	6.0	2.7	1.70	14.4	6.5	2.7	3.10	12.5	2.7	2.8	1.50
**480	30	15.7	5.2	2.4	1.90	15.7	4.8	2.3	2.10	18.0	5.2	2.3	3.90	15.7	2.1	2.4	1.90
**576	36	18.9	4.3	2.0	2.25	18.9	4.0	2.0	2.50	21.6	4.3	2.0	4.70	18.9	1.9	2.0	2.25

\*\*Typical Thorburn Part Number TPC160

\* Suffix "W" includes vulcanized wear strip

HOSE CHARACTERISTICS					
Hose Type	Std Color	Optional Colors	No. of Plies	Oper. Temp. F° / C°	Material
TPC	Yellow	Black Blue	1	-60°F to 300°F -51°C to 165°C	Neoprene Polyester
TPG	Orange	Black	1	-60°F to 300°F -51°C to 165°C	Neoprene Fiberglass
TPI	Yellow	Black Blue	3	-60°F to 300°F -51°C to 165°C	Fiberglass Insulation sandwiched between layers of Neoprene Polyester
TPG	Yellow	Black, red Blue, Grey	1	-20°F to 180°F -28°C to 82°C	Vinyl Polyester



High volume blower



Portable heater

Add suffix W for external wear strip (TPCW, TPGW, TPIW, TPVW)

**FLEXIDUCT ACCESSORIES***Hoods and scoops**Couplings**Gear clamps**Blast gates**Nylon tensioning clamps***Optional Hose Ends**To order,  
see page 148

	Cuff	Code	Comments		Cuff	Code	Comments
Standard		SC	Double thick black material sewn on cuff	Standard		TC	Cuff added to end for a better clamping surface
Strap & Buckle		SB	Plain cuff has been sewn on belt and buckle	Reduced		RC	Diameter stepped down to size specified
Plastic Rod Hoop		PH	Plastic rod is sewn into end (or ends)	Enlarged		EC	Diameter built-up to size specified
Steel Band Hoop		SH	Spring steel band affixed to end	Square or Rectangle		RE	Transition joint
Belt Loop		BL	Belt loop sewn into end	Plain End		PE	End unfinished. Wire tucked back at ends.
				Flanged End		FE	Flange fitted with clamp to hose

**Competitive Interchange Data****DURA-VENT**

1 CN - One ply neoprene cotton  
 2 CN - Two ply neoprene cotton  
 2 FN - Two ply neoprene fiberglass  
 1 FS - One ply silicone fiberglass  
 2 FS - Two ply silicone fiberglass

**H.K. PORTER**

SC - One ply neoprene cotton  
 DE - Two ply neoprene cotton  
 DFG - Two ply neoprene fiberglass  
 SSF - One ply silicone fiberglass

**FLEXHAUST**

CWS - One ply neoprene polyester  
 CWC - Two ply neoprene polyester  
 Glas Hose - Two ply neoprene fiberglass  
 BDS - One ply silicone fiberglass  
 CWGS - Two ply silicone fiberglass  
 R3 - Polyvinyl choride  
 TA - Aluminum bendway  
 TS - Stainless steel 304 bendway

**FEDERAL**

LDC - One ply neoprene polyester  
 C - Two ply neoprene polyester  
 G - Two ply neoprene fiberglass  
 SGC - Two ply silicone fiberglass

**FLEXIBLE TECHNOLOGIES**

NC1 - One ply neoprene polyester  
 NC2 - Two ply neoprene polyester  
 L1 - Two ply neoprene fiberglass  
 U9 - One ply silicone fiberglass  
 SLP10 - One ply vinyl fiberglass

## Series 130 SD, 132 WS, 133 HD, 134 OD, 135 PD

### DUCTFLEX HEAVY DUTY DUCTING HOSE

For installed applications. Thorburn “Duct-Flex” 130 SD was specially developed for industries having abrasive applications that require flexibility of a ducting hose such as collecting grass, street refuse, sawdust, woodchip, etc.

Thorburn 130 SD “Duct-Flex” is constructed with high temperature resistant EPDM that makes the hose perfect for handling fumes and exhaust emissions.

- Lightweight
- Abrasive resistant
- Long length

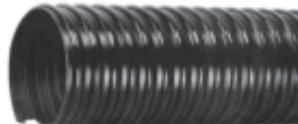
**Service Temperature:** -40° F. to 220° F  
(-40° C. to 104°C.).

To order, see page 158

130 SD



132 WS



Ductflex Number	ID	OD	Min Bend Radius	Weight lbs/ft	Standard Package
130 SD/131 FR/132 WS 40	2 1/2	3.00	3.0	.44	50'
130 SD/131 FR/132 WS 48	3	3.07	3.0	.44	50'
130 SD/131 FR/132 WS 64	4	4.35	4.0	.73	50'
130 SD/131 FR/132 WS 80	5	5.33	5.0	.84	50'
130 SD/131 FR/132 WS 96	6	6.33	6.0	1.01	50'
130 SD/131 FR/132 WS 112	7	7.30	7.0	1.17	50'
130 SD/131 FR/132 WS 128	8	8.33	8.0	1.38	50'
130 SD/131 FR/132 WS 160	10	10.47	10.0	2.40	50'
130 SD/131 FR/132 WS 192	12	12.26	12.0	2.50	25'

134 OM



Ductflex Number	ID	OD	Min bend Radius	Weight lbs/ft	Standard Package
134 OD 64	4	4.50	4.0	.76	50'
134 OD 96	6	6.50	6.0	1.00	50'
134 OD 128	8	8.60	8.0	1.45	50'

### Hoses for specific design requirements:

**132 WS** Same construction as 130 SD with an added external abrasion resistant wear strip. Ideal hose for external abrasion resistant requirements in a straight stationary position.

**133 HD** Designed for heavier duty service than the 130 "SD and is better suited in applications that require the hose to be dragged on the ground in a bent position.

**134 OM** Has an oil resistant tube ideal for ducting requirements found in automobile, machine tool and automation assembly plants.

**135 PD** Was specifically designed for applications requiring an abrasive resistant ducting hose that is continually moving. Available in long lengths and won't dry out like traditional fabric ducting hoses.

**136 FR** Designed and constructed with flame retardant materials. This feature makes it ideally suited for shipyard welding exhaust applications. **NEW**

To order, see page 158

133 HD



Ductflex Number	ID	OD	Min bend Radius	Weight lbs/ft	Standard Package
133 HD 64	4	4.32	4.0	.76	50'
133 HD 96	6	6.50	6.0	1.00	50'
133 HD 128	8	8.46	8.0	1.38	50'

135 PD



Ductflex Number	ID	OD	Min bend Radius	Weight lbs/ft	Standard Package
135 PD 40	2 1/2	2.86	2.5	.44	100'
135 PD 48	3	3.43	3.0	.50	100'
135 PD 64	4	4.44	4.0	.69	100'
135 PD 80	5	5.48	5.0	.93	100'
135 PD 96	6	6.53	5.0	1.16	100'
135 PD 112	7	7.56	6.0	1.49	50'
135 PD 128	8	8.55	8.0	1.68	50'
135 PD 160	10	10.47	10.0	2.40	50'

All dimensions in inches.

## SERIES 140 BL

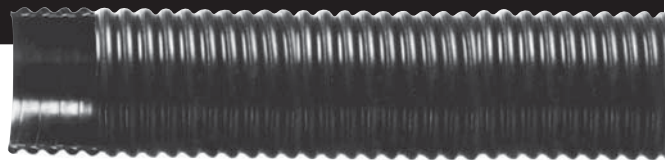
### BLO-FLEX



Light duty, abrasion resistant blower and ducting hose.

Thorburn "Blo-Flex" 140 BL is specially geared for dust control involved with woodworking, grain and cement handling, or any other situation where dust can be a job hazard. Ideally suited for air-conditioning and ventilation ducting.

To order, see page 158



#### Perfect hose for handling:

- Fiberglass
- Cement powder
- Saw dust
- Insulation
- Grain

**Service Temperature:** -40° F. to 160° F.  
(-40° C. to 70° C.).

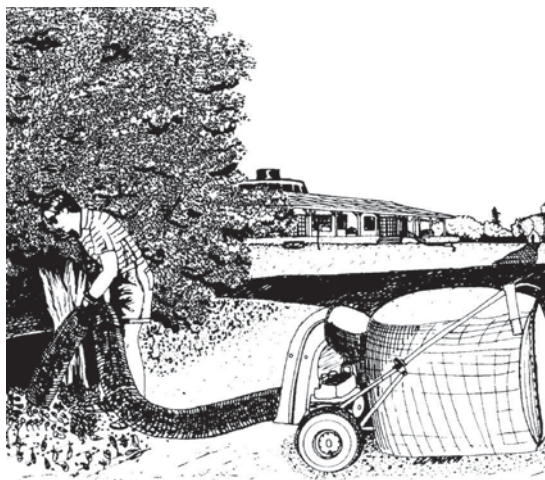
**Clamping system:** Use 770CX Thorburn Heavy Duty "King-Lok" Clamps (p. 120)

BLO-FLEX NUMBER	I.D.	O.D.	MIN. BEND RADIUS	WORK PRESS.	BURST PRESS.	VACUUM RATING	WEIGHT lbs/ft
140BL 40	2 1/2	2.87	2.5	35	115	29.8	.62
140BL 48	3	3.40	3.0	35	115	29.8	.80
140BL 64	4	4.44	4.0	30	100	29.8	1.40
140BL 80	5	5.57	5.0	30	100	28.0	1.68
140BL 96	6	6.67	9.0	30	100	28.0	2.40
140BL 128	8	8.82	12.0	30	100	27.0	3.96

All dimensions in inches. All pressure measures given in lbs./in.2 at 72°F (22.2°C). All vacuum rating given in In./Hg at 72°F (22.2°C).

## SERIES 141 SD

### SEE-DUCT

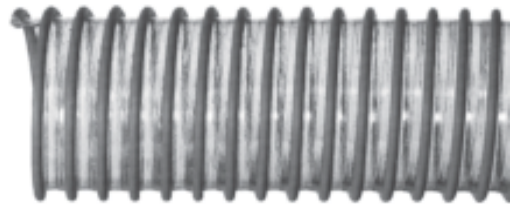


t collection 41 SP was ducted for iring flow ach as dust control, air-conditioning, ventilation ducting, grass clippings, etc.

**Not recommended for highly abrasive materials such as rock, wool and fibreglass.**

To order, see page 158

**Service Temperature:** -15° F. to 160° F.  
(-26° C. to 70° C.).



SEE-DUCT NUMBER	I.D.	O.D.	MIN. BEND RADIUS	WORK PRESS.	VACUUM RATING	WEIGHT lbs/ft
141SD 40	2 1/2	2.74	2.5	10	19	1.37
141SD 48	3	3.37	3.0	10	18	.49
141SD 64	4	4.43	4.0	8	13	.71
141SD 80	5	5.59	5.0	7	10	1.05
141SD 96	6	6.53	6.0	6	7	1.29
141SD 112	7	7.39	7.0	5	6	1.38
141SD 128	8	8.55	8.0	4	5	1.71

All dimensions in inches. All pressure measures given in lbs./in.2 at 72°F (22.2°C). All vacuum rating given in In./Hg at 72°F (22.2°C).



## 57TPS

### MARINE WET EXHAUST SOFTWALL

#### APPLICATION

This hose was designed for wet exhaust systems in pleasure craft marine engines. A versatile hose for many applications on board. Suitable for straight connections. Where long bends are necessary use our hardwall (57TPH). Meets or exceeds USCG requirements.

#### CONSTRUCTION

**Tube:** Black synthetic rubber.

**Reinforcement:** High tensile nylon tire cord spirally wound.

**Cover:** Black and blue synthetic weather and abrasion resistant rubber.



## 57TPH

### MARINE WET EXHAUST HARDWALL

#### APPLICATION

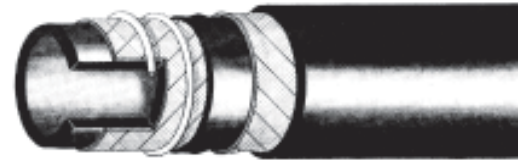
This is an extremely flexible hardwall wet exhaust hose designed for use where long bends are necessary in installation. Can also be used for many other applications on board. Other sizes available on request. Meets or exceeds USCG requirements.

#### CONSTRUCTION

**Tube:** Black synthetic rubber.

**Reinforcement:** High tensile nylon tire cord spirally wound, helix steel wire embedded.

**Cover:** Black and blue synthetic rubber.



To order,  
see page 158

#### Soft - No Wire

Thorburn Numbers	Hose I.D.		Hose O.D.		Weight	
	mm	in.	mm	in.	kg/ 100 m	Lbs/ 100 ft
57TPS14	22	7/8	32	1.25	59	40
57TPS16	25	1	35	1.38	67	45
57TPS18	29	1-1/8	38	1.50	73	49
57TPS20	32	1-1/4	41	1.63	80	54
57TPS21	33	1-5/16	43	1.69	83	56
57TPS22	35	1-3/8	45	1.75	88	59
57TPS24	38	1-1/2	48	1.88	89	60
57TPS26	41	1-5/8	51	2.00	101	68
57TPS28	45	1-3/4	55	2.16	103	69
57TPS30	48	1-7/8	59	2.31	125	84
57TPS32	51	2	64	2.50	146	98
57TPS34	54	2-1/8	67	2.63	155	104
57TPS36	57	2-1/4	70	2.75	161	108
57TPS38	60	2-3/8	74	2.91	199	127
57TPS40	64	2-1/2	77	3.03	198	133
57TPS42	67	2-5/8	80	3.13	207	139
57TPS46	73	2-7/8	86	3.38	225	151
57TPS48	76	3	90	3.56	234	157
57TPS50	79	3-1/8	94	3.69	244	164
57TPS54	89	3-1/2	103	4.06	297	199
57TPS64	102	4	116	4.56	335	225
57TPS66	105	4-1/8	121	4.75	346	232
57TPS73	114	4-1/2	129	5.09	374	251
57TPS80	127	5	142	5.59	400	322
57TPS88	140	5-1/2	156	6.13	525	352
57TPS96	152	6	170	6.69	614	412

#### Hard - With Wire

Thorburn Numbers	Hose I.D.		Hose O.D.		Weight	
	mm	in.	mm	in.	kg/ 100 m	Lbs/ 100 ft
57TPH16	25	1	35.1	1.38	79	53
57TPH20	32	1-1/4	42.9	1.69	95	64
57TPH24	38	1-1/2	47.8	1.88	109	73
57TPH26	41	1-5/8	51.0	2.00	118	79
57TPH28	45	1-3/4	54.9	2.16	125	84
57TPH30	48	1-7/8	57.2	2.25	134	90
57TPH32	51	2	60.5	2.38	141	95
57TPH34	54	2-1/8	63.5	2.50	151	101
57TPH36	57	2-1/4	68.3	2.69	158	106
57TPH38	60	2-3/8	71.4	2.81	185	124
57TPH40	64	2-1/2	75.9	2.97	222	149
57TPH42	67	2-5/8	77.7	3.06	231	155
57TPH46	73	2-7/8	84.8	3.34	252	169
57TPH48	76	3	88.9	3.50	262	176
57TPH50	79	3-1/8	92.2	3.63	271	182
57TPH54	89	3-1/2	104.9	4.13	323	217
57TPH64	102	4	115.1	4.53	412	277
57TPH66	105	4-1/8	119.1	4.69	425	285
57TPH72	114	4-1/2	123.8	5.03	460	309
57TPH80	127	5	141.2	5.56	545	366
57TPH88	140	5-1/2	153.9	6.06	651	437
57TPH96	152	6	163.6	6.44	706	474

## 49TSP

### SILICONE COOLANT AND HEATER HOSE

#### APPLICATION

Thorburn's 49TSP silicone hose delivers superior resistance to high (350°F / 177°C) and low (-65°F / -53°C) temperatures, ethylene glycol based coolants, chemical exposure and the harsh weather conditions of our Canadian climate.



#### 49T2SP

#### 2 Ply Silicone Wire Reinforced Coolant Hose

I.D. sizes: 1/2" to 6".

Stock length: 3'. Available up to 12'.



#### 49T3SP

#### 3 Ply Silicone Coolant Hose

I.D. sizes: 1/2" to 6".

Stock length: 3'. Available up to 12'.



#### 49T4SP

#### 4 Ply Silicone Coolant Hose

I.D. sizes: 1/2" to 6".

Stock length: 3'. Available up to 12'.



#### 49T1SP

#### 1 Ply Silicone Heater Hose

Nylon reinforced. Nomex. Reinforcement by special order.

I.D. sizes: 1/4" to 1-1/4". Stocked in 20' and 50'.

Length: Bulk quantities special order.

To order,  
see page 158

## 449TSP

### AUTO HEATER HOSE

#### APPLICATION

Constructed for maximum service in most cars and light truck applications.

To order,  
see page 158

#### CONSTRUCTION

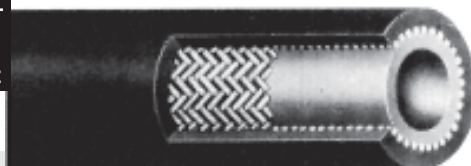
**Tube:** Black. Heat resistant EPDM rubber. Resistant to anti-freeze solutions.

**Reinforcement:** Two layers of synthetic textile yarns.

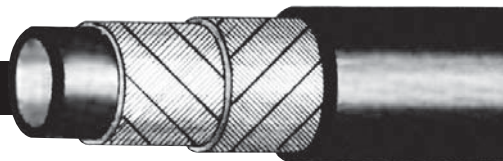
**Cover:** Black heat and weather resistant EPDM rubber.

**Lengths:** 500' reels or 50' lengths.

Thorburn Numbers	Hose I.D.		Hose O.D.		Rated W.P.		Weight	
	mm	in.	mm	in.	MPa	PSI	kg/ 100 m	Lbs/ 100 ft
449TSP08	12.7	1/2	20.0	0.80	.41	60	31	21
449TSP10	17.0	5/8	23.4	0.92	.41	60	39	26
449TSP12	19	3/4	26.7	1.05	.34	50	45	30



### 559TSP RADIATOR HOSE



#### APPLICATION

Mandrel made hose with heat resistant tube and cover. Fiberglass fabric ensures longer life under the hood. A flexible hose designed for extra heavy duty. Supplied in cut lengths or 100 ft. coils.

#### CONSTRUCTION

**Tube:** Black EPDM heat resistant.

**Reinforcement:** Plies of high tensile fiberglass tire cords, spirally wound.

**Cover:** Black EPDM, heat resistant synthetic rubber.

**To order,  
see page 158**

Thorburn Numbers	Hose I.D.		Hose O.D.		Plies	Rated W.P.		Weight	
	mm	in.	mm	in.		MPa	PSI	kg/100 m	Lbs/100 ft
559TSP20	31.8	1-1/4	42.0	1.65	2	.69	100	73	49
559TSP22	35.0	1-3/8	45.0	1.77	2	.69	100	90	54
559TSP24	38.0	1-1/2	48.0	1.89	2	.64	100	96	58
559TSP26	41.3	1-5/8	51.3	2.02	2	.69	100	92	62
559TSP28	44.5	1-3/4	54.5	2.15	2	.69	100	100	67
559TSP30	47.6	1-7/8	57.6	2.27	2	.69	100	107	72
559TSP32	50.8	2	60.8	2.39	2	.69	100	112	75
559TSP34	54.0	2-1/8	64.0	2.52	2	.69	100	118	79
559TSP36	57.2	2-1/4	67.2	2.65	2	.69	100	125	84
559TSP38	60.3	2-3/8	70.3	2.77	2	.69	100	131	88
559TSP40	63.5	2-1/2	73.5	2.89	2	.69	100	137	92
559TSP44	69.8	2-3/4	80.0	3.15	2	.69	100	149	100
559TSP46	73.0	2-7/8	83.0	3.27	2	.69	100	156	105
559TSP48	76.2	3	86.2	3.39	2	.69	100	162	109
559TSP52	82.5	3-1/4	92.5	3.64	2	.52	75	175	119
559TSP54	88.9	3-1/2	94.0	3.90	2	.52	75	187	126
559TSP60	95.3	3-3/4	111.0	4.37	2	.52	75	204	137
559TSP64	101.6	4	117.5	4.63	2	.41	60	213	143
559TSP72	114.0	4-1/2	132.0	5.20	2	.41	60	395	265
559TSP80	127.0	5	146.0	5.75	2	.41	60	414	274

### 669TFA DEFROSTER AND AIR INTAKE HOSE



#### APPLICATION

A lightweight flexible hose for use in truck and bus defroster, heater and air intake systems. Also for light duty industrial service.

**Temperature range**  
-40°C to 121°C  
(-40°F to 250°F)

#### CONSTRUCTION

Black thermoplastic rubber, bonded to a fully encapsulated spring steel helix.

Thorburn Numbers	Hose I.D.		Hose O.D.		Suction		Rated W.P.		Radius		Weight	
	mm	in.	mm	in.	mm Hg	in. Hg	MPa	PSI	mm	in.	kg/100 m	Lbs/100 ft
699TFA24	38.0	1-1/2	41.4	1.63	711	28	.07	10	38	1.5	25	17
699TFA28	44.0	1-3/4	47.7	1.88	711	28	.07	10	46	1.8	28	19
699TFA32	50.4	2	54.0	2.13	711	28	.07	10	51	2.0	33	22
699TFA40	63.5	2-1/2	66.8	2.63	711	28	.06	9	64	2.5	39	26
699TFA48	76.2	3	79.5	3.13	711	28	.05	7	76	3.0	67	45
699TFA64	101.6	4	104.9	4.13	711	28	.04	6	102	4.0	76	54
699TFA80	127.0	5	131.6	5.18	610	24	.03	5	127	5.0	86	58
699TFA96	152.0	6	157.0	6.18	457	18	.03	4	152	6.0	104	70

**To order,  
see page 158**

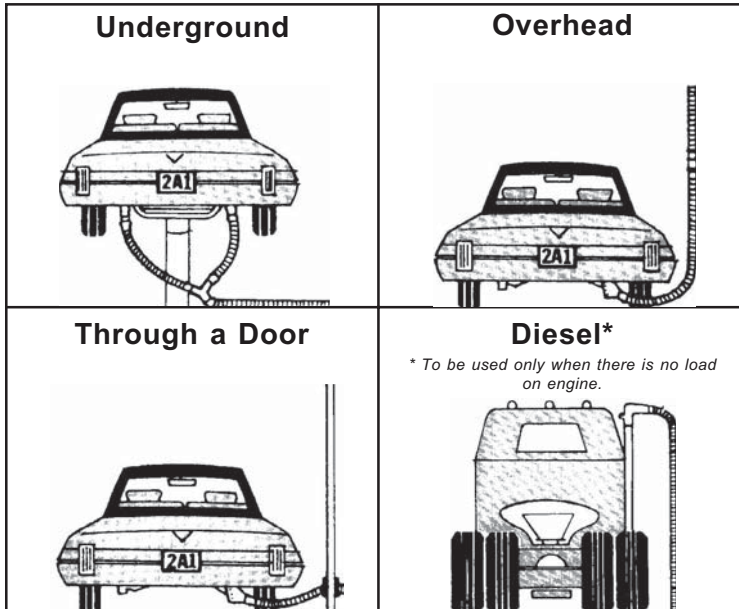
**Standard lengths: 25'.**

**Note:** Pressure measures @ 72°F with hose in straight position

## GARAUST Type GE

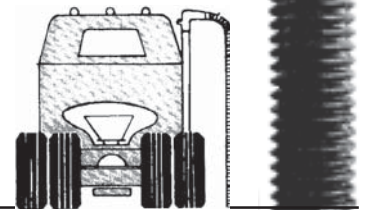
### GARAGE EXHAUST HOSE

**LASTS  
LONGER**



Thorburn Garaust is an all elastomer hose for garage carbon monoxide exhaust systems. Resistant to deterioration caused by gasoline, diesel, oil, fumes, heat and aging. Withstands damage from pulling, dragging and crushing. Regains full diameter after being crushed flat once heavy loads are removed.

To order,  
see page 158



Check these important features of this specially compounded all elastomer hose:

- ✓ Suitable for any kind of garage exhaust system
- ✓ Highly resistant to deterioration from contact with gasoline, oil, fumes, heat, and from aging, damage from pulling, dragging and crushing
- ✓ Instant and full diameter recovery as crushing loads are removed
- ✓ Fast and positive connection of standard 10 ft. lengths with integral hose and couplings
- ✓ Five hose sizes, tailpipe and installation accessories available

**A SUPERIOR AND RELIABLE ALL  
ELASTOMER HOSE FOR CARBON  
MONOXIDE EXHAUST SYSTEMS**

Thorburn Number	I.D. Inch	Length ft.	Heat Resistance
GE32	2	10	250°F-275°F (122°C-135°C)
GE40	2-1/2	10	275°F-325°F (135°C-163°C)
GE48	3	10	325°F-375°F (163°C-190°C)
GE64	4	10	*
GE80	5	10	*

\* For use with adapters on diesel stacks with motor at idling speed

### Garaust Adaptors

#### DP261-48 - Door Port Adapter

Easy to install, rugged aluminum door port has gravity door that automatically shuts when unit is not in use. Two models available. For doors up to 1" thick.



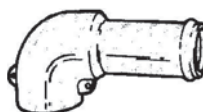
#### YA263 - "Y" Adapter

For 2" or 2-1/2" hose from two exhausts and 2-1/2" or 3" hose exhaust system outlet. Made of heavy-duty cast aluminum. Adapter openings complete with female coupler.



#### DL262-64 - Diesel Elbow Adapter

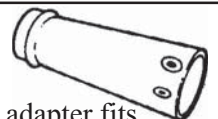
Heavy aluminum elbow fits overhead or underground exhaust systems. Has air-draft space to reduce heat. 4" I.D. hose only.



#### UR264-40

#### Universal Rubber Adapter

Designed with Press-Loc coupling, this adapter fits domestic automobiles from 1954 and later. Adjusts with special fasteners to fit tailpipes. For 2-1/2" hose only.



## WELDING HOSES

**NEW  
GRADE-T**

### 40TSP Grade T Dual Line Welding Hose

#### APPLICATION

For portable or production line welding in factories, ships, construction work, etc. For use with oxygen and most current fuel gases, including acetylene, propane and MAPP gas. The tube is non-blooming and wax free. Meets or exceeds RMA/CGA IP-7-90 standards for Grade T, Type VD welding hose. 4:1 safety factor.

**Lengths:** Reels.

**Couplings:** Shank type with ferrule. Right hand thread for oxygen line, left hand thread for fuel gases ( p. 95).

Thorburn Number Grade T	Hose I.D.		Hose O.D.		Plies	Rated W.P.		*Weight		Min. bend radius (in.)
	mm	in.	mm	in.		MPa	PSI	kg/100 m	lbs/100 ft	
40TSPT03	4.8	3/16	11.2	0.44	1	1.4	200	22	15	1.5
40TSPT04	6.4	1/4	13.5	0.53	1	1.4	200	30	20	2.0
40TSPT05	7.9	5/16	15.0	0.59	1	1.4	200	37	25	2.5
40TSPT06	9.5	3/8	17.0	0.65	1	1.4	200	46	31	3.5

To order,  
see page 158

### 40TSP Grade R 40TSP Grade RM Dual Line Welding Hose

#### APPLICATION

Recommended for portable or production line welding in factories, ships and construction sites. Meets or exceeds RMA and CGA (Compressed Gas Association) specifications for type VD, Grade RM and Grade R welding hoses. The Grade RM cover is oil and flame resistant and the tube is non-blooming and wax free.

**Lengths:** Reels.

**Couplings:** Shank type with ferrule. Right hand thread for oxygen line, left hand thread for acetylene line ( p. 95).

Thorburn number		Hose I.D.		Hose O.D.		Plies	Rated W.P.*		Weight	
Grade RM	Grade R	mm	in.	mm	in.		MPa	PSI	kg/100 m	Lbs/100 ft
40TSPRM03	40TSPR03	4.8	3/16	11.2	0.44	1	1.7	250	25	17
40TSPRM04	40TSPR04	6.4	1/4	13.5	0.53	1	1.4	200	33	22
40TSPRM05	40TSPR05	7.9	5/16	15.0	0.59	1	1.4	200	40	27
40TSPRM06	40TSPR06	9.5	3/8	17.0	0.65	1	1.4	200	46	31

\* These rated working pressures apply only when handling air, oxygen or inert gases (such as nitrogen). Exception: Acetylene is limited to .1 MPa (15 psi).

#### 40TSP GRADE T

Oil and flame resistant tube and cover

#### CONSTRUCTION (Grade T)

**Tube:** Black Neoprene.

**Cover:** Green (oxygen), Red (fuel gas) Neoprene

**Reinforcement:** One textile braid.

#### Temperature range:

-40°F to 93°F  
(-40°C to 93°C)

Meets or exceeds RMA/CGA IP-7-90 standards for Grade T, Type VD welding hose



**Couplings:**  
see page 95

#### 40TSP GRADE RM

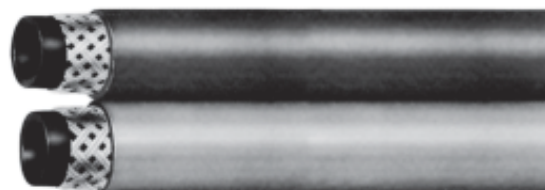
Oil and flame resistant cover

#### CONSTRUCTION (Grade RM)

**Tube:** SBR Black.

**Reinforcement:** One textile braid.

**Cover:** Oil and flame resistant. Neoprene green oxygen, red acetylene.



#### 40TSP GRADE R

Not oil and flame resistant

#### CONSTRUCTION (Grade R)

**Tube:** EPDM Black.

**Reinforcement:** One textile braid.

**Cover:** EPDM green oxygen, red acetylene.

## Single Line Welding Hoses

**42TPSRM - GRADE RM (Oxygen green)**

**42TPSRM - GRADE RM (Acetylene red)**

Oil and flame resistant tube and cover

**41TSP - GRADE R (Oxygen green)**

**41TSP - GRADE R (Acetylene red)**

Not oil and flame resistant

### CONSTRUCTION (Grade R)

**Tube:** Type P (EPDM) Black colour.

**Reinforcement:** One or two braids of synthetic yarn.

**Cover:** Type P (EPDM) green color for oxygen, red color for acetylene.

**Lengths:** Reel or specified cut lengths.

**Couplings:** Shank type with ferrule. Right hand thread for oxygen line, left hand thread for acetylene ( p. 95).



### APPLICATION

For all welding and cutting operations with oxygen, acetylene, argon or propane gas where separate lines are preferable. Grade RM has an oil and flame resistant tube and cover. The tube is also non-blooming and wax free. Meets or exceeds RMA and CGA (Compressed Gas Association) standards for type S, grade R and grade RM welding hoses.

### CONSTRUCTION (Grade RM)

**Tube:** Black colour.

**Reinforcement:** One or two braids of synthetic yarn.

**Cover:** Neoprene green color for oxygen, red color for acetylene.

**Lengths:** Reel or specified cut lengths.

**Couplings:** Shank type with ferrule. Right hand thread for oxygen line, left hand thread for acetylene ( p. 95).

Thorburn Numbers				Hose I.D.		Hose O.D.		Rated W.P.*		Weight		
(Grade R) Oxygen	(Grade R) Acetylene	(Grade RM) Oxygen	(Grade RM) Acetylene	mm	in.	mm	in.	MPa	PSI	kg/100 m	lbs/100 ft	
41TSP03	42TSP03	Non stock	Non stock	4.8	3/16	11.2	.44	1	1.7	250	12	8
41TSP04	42TSP04	Non stock	Non stock	6.4	1/4	13.5	.53	1	1.4	200	15	10
41TSP04A	42TSP04A	41TSPRM04A	42TSPRM04A	6.4	1/4	15.0	.59	2	2.1	300	19	13
41TSP05A	42TSP05A	Non stock	Non Stock	7.9	5/16	16.8	.66	2	1.7	250	22	15
41TSP06A	42TSP06A	41TSPRM06A	42TSPRM06A	9.5	3/8	18.3	.72	2	1.7	250	27	18
41TSP08A	42TSP08A	41TSPRM08A	42TSPRM08A	12.7	1/2	22.4	.88	2	1.0	150	39	26

To order, see page 158

**NEW GRADE-T**

## Single Line Welding Hoses

**41TSP - GRADE T (Green Oxygen Line)**

**42TSP - GRADE T (Red Fuel Gas Line)**

Oil and flame resistant tube and cover

### APPLICATION

For all welding and cutting operations with oxygen and most current fuel gases, including acetylene, propane and MAPP gas, where separate lines are preferable. The tube is non-blooming and wax free. Meets or exceeds RMA/CGA IP-7-90 standards for Grade T, Type S welding hose. 4:1 safety factor.

Thorburn Numbers		Hose I.D.		Hose O.D.		Rated W.P.*		Weight		Min. bend radius (in.)	
(Grade T) Oxygen	(Grade T) Fuel gases	mm	in.	mm	in.	MPa	PSI	kg/100 m	lbs/100 ft		
41TSP03	42TSP03	4.8	3/16	11.2	.44	1	1.4	200	14	9	1.5
41TSP04	42TSP04	6.4	1/4	13.5	.53	1	1.4	200	15	10	2.0
41TSP05	42TSP05	7.9	5/16	15.0	.59	1	1.4	200	21	14	2.5
41TSP06	42TSP06	9.5	3/8	16.5	.65	1	1.4	200	24	16	3.5
41TSP08	42TSP08	12.7	1/2	22.4	.88	2	1.4	200	37	25	5.0

### CONSTRUCTION (Grade T)

**Tube:** Black Neoprene.

**Cover:** Ribbed red or green Neoprene

**Reinforcement:** One or multiple textile braids.

**Lengths:** Reel or specified cut lengths.

**Couplings:** Shank type with ferrule. Right hand thread for oxygen line, left hand thread for fuel gases ( p. 95).

**Meets or exceeds RMA/CGA IP-7-90 standards for Grade T, Type S welding hose**



\* These rated working pressures apply only when handling air, oxygen or inert gases (such as nitrogen). Exception: Acetylene is limited to .1 MPa (15 psi).

**42TDH  
DIVER'S HOSE**

**KINK  
RESISTANT**

To order,  
see page 158

**APPLICATION**

Diver's air supply, nemo or whip hose to transmit mixtures of oxygen, helium and nitrogen gases customarily used in diving applications. Ideal kink resistant hose for users requiring long lengths to eliminate splices and heavy couplings.

**CONSTRUCTION**

**Tube:** Type C (Nitrile).

**Reinforcement:** Two braids of kink-resistant fibres.

**Cover:** Type A (Neoprene) abrasion and oil resistant synthetic rubber treated to prevent blisters caused by gas permeation.

**Temperature range:** -40°F to +200°F  
(-40°C to +93°C).

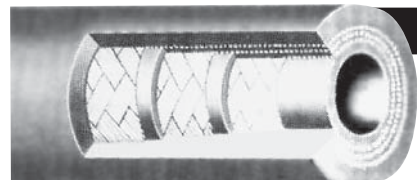


**Length change at working pressure:** +2%, -4%.

**Couplings:** None specified. Corrosion resistant couplings applied by diving contractor.

**Lengths:** Long length packages 15.2 m to 304 m + (50' to 1000' +).

Thorburn Numbers	Hose I.D.		Hose O.D.		Plies	Rated W.P.		Min. Bend Radius		Weight	
	mm	in.	mm	in.		MPa	PSI	mm	in.	kg/100 m	Lbs/100 ft
42TDH06	10.0	3/8	20	.75	2	7.8	1125	101.6	4	31	20.5
42TDH08	12.5	1/2	24	.94	2	6.9	1000	122.0	5	46	30.9



**500  
PSI**

**42TOC  
OXYGEN CHARGING HOSE**

To order,  
see page 158

Thorburn Numbers	Hose I.D.		Hose O.D.		Plies	Rated W.P.		Weight	
	mm	in.	mm	in.		MPa	PSI	kg/100 m	Lbs/100 ft
42TOC08	13	1/2	25	1	4	3.4	500	0.70	0.47
42TOC12	19	3/4	32	1-1/4	4	3.4	500	0.90	0.60
42TOC16	25	1	38	1-1/2	4	3.4	500	1.10	0.74
42TOC20	32	1-1/4	49	1-15/16	4	3.4	500	1.65	1.10
42TOC24	38	1-1/2	56	2-3/16	4	3.4	500	2.30	1.54
42TOC32	51	2	70	2-3/4	4	3.4	500	3.00	2.01

**APPLICATION**

For use in steel mills to manually charge the furnace with hand held lance. Also used on automatic scarfing machines. Cleaned and capped for oxygen service.

**CONSTRUCTION**

**Tube:** Seamless Neoprene.

**Reinforcement:** XHT heavy textile yarn.

**Cover:** Green Neoprene.

**Lengths:** 100' and 200'.



## 46TSP BUTANE-PROPANE HOSE

**CGA Approved**

### APPLICATION

Recommended for hydrocarbons such as liquid or gaseous propane, butane or any combination of these two gases at pressures up to 350 psi on most hose sizes. Hose has continuous embossed label for permanent identification. Hose cover is pricked to eliminate blistering effect of permeation. Meets or exceeds CGA specifications CAN-1-8.1-77. All sizes CGA approved.

**To order,  
see page 158**

Thorburn Numbers	Hose I.D.		Hose O.D.		Braids	Rated W.P.		Weight	
	mm	in.	mm	in.		MPa	PSI	kg/100 m	Lbs/100 ft
46TSP03	4.8	3/16	11.9	0.47	1	2.4	350	13	9
46TSP04	6.4	1/4	14.2	0.56	1	2.4	350	18	12
46TSP06	9.5	3/8	19.1	0.75	1	2.4	350	31	21
46TSP08	12.7	1/2	25.4	1.00	2	2.4	350	51	34
46TSP12	19.1	3/4	31.8	1.50	2	2.4	350	94	63
46TSP16	25.4	1	43.2	1.70	2	2.4	350	92	62
46TSP20	31.8	1-1/4	43.2	1.70	2	2.4	350	92	62
46TSP24	38.1	1-1/2	57.2	2.25	2	2.4	350	181	122
46TSP32	50.8	2	71.4	2.86	2	2.4	350	258	172
46TSP48	76.2	3	97.5	3.88	2	2.4	350	376	251

### CONSTRUCTION

**Tube:** Type C (Buna-N).

**Reinforcement:** One or two braids of high tensile synthetic yarn to provide flexibility and a 5 to 1 safety factor.

**Cover:** Type A (Neoprene) 4.8 mm (3/16") size is grey color, all other sizes are black. Cover is pricked to prevent blistering effect of permeation.

**Couplings:** CGA approved insert types up to 2" Power Crimp couplings. Over 2" ground joint type (p. 100).

**Lengths:** Long lengths on reels.

## 446TSP ANHYDROUS AMMONIA HOSE

### APPLICATION

Designed to handle anhydrous ammonia at up to 350 psi working pressure with a 5:1 safety factor (1750 psi minimum burst). The ammonia resistant nylon reinforcement provides flexibility with high tensile strength. Meets or exceeds RMA/TFI and LSU specifications.

### CONSTRUCTION

**Tube:** Black Neoprene.

**Fittings:** Permanent fittings. Contact Thorburn for availability (p. 100).

**Special note:** EPDM tube and stainless steel braid also available. Call Thorburn for details.

**CAUTION:  
USE FOR  
ANHYDROUS  
AMMONIA ONLY**

**To order, see page 158**

Thorburn Numbers	Hose I.D.		Hose O.D.		Braids	Rated W.P.		Min. Bend Radius		Weight	
	mm	in.	mm	in.		MPa	PSI	mm	in.	kg/100 m	lbs/100 ft
446TSP08	12.7	1/2	24	1.94	2	2.4	350	127	5	44	30
446TSP12	19.0	3/4	32	1.25	2	2.4	350	203	8	73	49
446TSP16	25.4	1	38	1.50	2	2.4	350	250	10	85	57
446TSP20	31.7	1-1/4	44	1.75	2	2.4	350	305	12	104	70
446TSP24	38.1	1-1/2	51	2.00	2	2.4	350	356	14	122	82
446TSP32	50.8	2	69	2.75	2	2.4	350	406	16	241	162





### 43TSP

#### PAINT SPRAY FLUID HOSE



#### APPLICATION

Thorburn's 43TSP is an ideal industrial paint service hose for paints, thinners and lacquers up to 66°C (150°F) without discoloration. Typical applications include hot sprays, airless spray guns, applications of adhesives and agricultural chemicals. Paint spray "Air Hose 444TSP" is generally used in conjunction with this hose.

Thorburn Numbers	Hose I.D.		Hose O.D.		Braids	Rated W.P.		Weight	
	mm	in.	mm	in.		MPa	PSI	kg/100 m	Lbs/100 ft
43TSP04	6.4	1/4	12.7	.50	1	3.5	500	12	8
43TSP06	9.5	3/8	17.0	.67	1	3.5	500	19	13
43TSP08	12.7	1/2	22.1	.87	2	4.2	750	34	23
43TSP12	19.1	3/4	30.2	1.19	2	4.2	750	60	40

#### CONSTRUCTION

**Tube:** Type Z (Nylon). Specially compounded for resistance to solvents required to clean paint from the hose.  
**Reinforcement:** One or two braids of synthetic yarn.  
**Cover:** Type A (Neoprene). Smooth for easy identification as fluid line.

To order, see page 158

### 444TSP

#### PAINT SPRAY AIR HOSE



#### APPLICATION

Thorburn 444TSP is an ideal hose for compressed air in industrial paint spray service. Paint spray "Fluid Hose 43TSP" is generally used in conjunction with this hose.

Thorburn Numbers	Hose I.D.		Hose O.D.		Braids	Rated W.P.		Weight	
	mm	in.	mm	in.		MPa	PSI	kg/100 m	Lbs/100 ft
444TSP04	6.4	1/4	12.7	.50	1	1.0	150	13	9
444TSP05	7.9	5/16	16.3	.64	1	1.0	150	22	15
444TSP05A	7.9	5/16	16.3	.64	2	1.4	200	22	15
444TSP06	9.5	3/8	17.5	.69	2	1.4	200	24	16
444TSP08	12.7	1/2	22.4	.88	2	1.4	200	.37	25

To order, see page 158

#### CONSTRUCTION

**Tube:** Type P (EPDM).  
**Reinforcement:** One or two braids of synthetic yarn.  
**Cover:** Red Type P (EPDM). Available with a corrugated cover for easy identification as air line.

### 445TSP

#### HIGH PRESSURE PAINT SPRAY

#### APPLICATION

Thorburn's 445TSP is a high pressure, semi-conductive thermoplastic hose suitable for conveying paints, fuels, oils and most solvents. The 445TSP is recommended for applications where temperatures range from 0°F to 200°F (-18°C to 93°C) and where an electrostatic charge must be eliminated. Thorburn's 445TSP is an ideal hose for paint spray lines where the static drain is a requirement.

- 1/2 the weight of comparable rubber wire hose
- 4 to 1 safety factor
- test proof pressure 2 x W.P.

To order, see page 158



Thorburn Numbers	Hose I.D.		Hose O.D.		Rated W.P.		Min. Bend Radius		Weight	
	mm	in.	mm	in.	MPa	PSI	mm	in.	kg/100 m	Lbs/100 ft
445TSP03	4.7	3/16	10.6	.417	20.7	3000	44.4	1.75	7.15	4.8
445TSP04	6.3	1/4	12.0	.475	20.7	3000	63.5	2.5	7.45	5.0
445TSP06	9.5	3/8	16.3	.645	17.2	2500	88.9	3.5	13.00	8.7

## TOTAL FLEXIBLE PIPING SPECIALISTS

**To solve your worst, most demanding hose installation, Thorburn's flexible piping division will provide a unique solution to highly hazardous, costly problems that none of your other suppliers have thought about.**

Thorburn's flexible piping assemblies are serving a great variety of applications across industry –from bakery ovens to basic oxygen furnaces– where unrestricted flow of gas or fluids is critical, where the working environment is exposed to heat, vibration, tight bending and other problems that cannot be solved adequately or safely by all-metal hose, swivel joints or plain unarmoured hose.

### Custom hose construction for the steel making industry

Depending on the type of service, the inner hose is specially designed for the material to be handled: steam, air, chemical, oxygen, hydraulic fluid, and other substances. These inner hoses are specially made to be armoured in Thorburn's metal protective sheath.

The tube of the hose is specially compounded to resist chemical action of the material being handled.

The carcass, which is the strength member of the hose, can be textile or wire braid wire, spiral wire or cable.

Layers of insulation between the protective armour and the hose member protects the entire assembly from external heat. Additional layers provide further protection and different types of insulation material are available to meet special needs.

Thorburn's metal protective armour is galvanized, stainless steel, aluminum, or bronze, as specified. It offers resistance to external abuse greater than all-metal hose, yet it remains extremely flexible and resists kinking or collapse in tight loops, knots or bends.

Thorburn custom design problem solving hoses for:

### Steel production

#### *Blast furnace*

- Water cooling hose for stack plates, with bronze ends
- Water hose for panel and door cooling
- Hydraulic hose for platform lift
- Hydraulic shear hose
- Basic oxygen furnace (BOF): conducting water and oxygen in the BOF.

#### *Open hearth*

- Furnace door hose

#### *Hot mill*

- Armoured for 30" top and bottom mill spray on stands

#### *Cold mill*

- Roll cooling on stands

### Continuous casting, electric and open hearth furnaces

- Water cooling hoses
- Air hoses
- Hydraulic hoses
- Oil and lubrication hoses
- Oxygen and acetylene hose for cutoff burners
- 3/4" argon stirring hose

### Other applications

- Sand blast hose in foundries to blast hot pots
- Black liquor hose on black liquor recovery boilers in pulp and paper mills
- Ammonia hose to prevent kinking in plant use
- Steam hose in applications where vibration is severe
- Choke and kill hose on oil drilling rigs
- Blowout preventor hose on off-shore drilling rigs



## 47TSP

### SEWER CLEANING HOSE



#### APPLICATION

High pressure hydraulic sewer cleaning equipment.

#### CONSTRUCTION

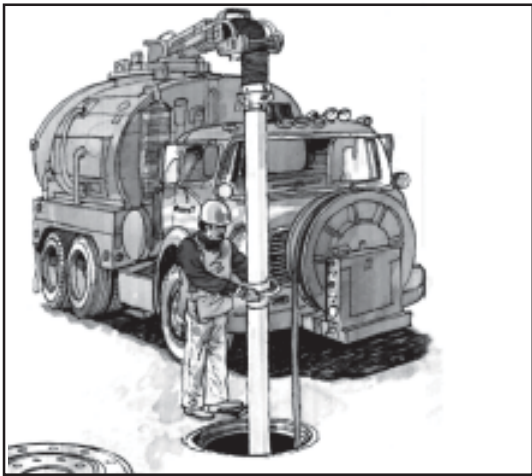
**Inner Core:** Seamless. Specially engineered Polyolefin.

**Reinforcement:** Polyester fibre braid. Designed for low volumetric expansion. Bonded to inner core.

**Cover:** Perforated Ether based Polyurethane. Bonded to reinforcement. Offers superior cut resistance.

**Standard color:** High-visibility yellow.

To order,  
see page 158



#### Compare these advantages:

- ✓ Tightest bend radius on the market
- ✓ Excellent flexibility in cold weather
- ✓ Extremely lightweight and easily recoilable
- ✓ Superior cut and abrasion resistance
- ✓ Available in lengths up to 600'

Thorburn Number	Hose I.D.	Maximum Average O.D.	Maximum Operating Pressure (psi)	Minimum Burst Strength (psi)	Minimum Bend Radius	Volumetric Expansion (cc/inch)	Weight lbs/100 ft
47TSP16	1"	1.460"	2000	5000	3.0' at 75°F (24°C)	3.2 (at 2000 psi)	38
47TSP12	0.750"	1.190"	2500	6250	1.5' at 75°F (24°C)	1.8 (at 2500 psi)	27



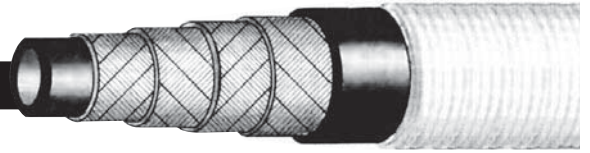
**Totally Bonded  
for Superior Life**

400', 500 and  
600' foot lengths  
standard

Temperature range:  
-40°F to 200°F  
-40°C to 93°C

## 48 TSP

### FURNACE DOOR HOSE



#### APPLICATION

Typically used as a water coolant hose for furnace doors. Especially designed for service in steel mills, glass-works and all the operations where the hose must be resistant to heat radiation, open flame and splashes of white-hot metals.

#### CONSTRUCTION

**Tube:** Black, smooth, special synthetic rubber compound.

**Special note:** Can also be supplied with a non-conductive tube for use in covering electrical cables.

**Reinforcement:** High strength synthetic cord.

**Cover:** Various heat shielding material, such as Asbestos, Fiberglass, Nomex®, Kevlar®, etc. Impregnated with heat and flame resistant synthetic rubber.

Available 1/4" and 3/8" size upon request

To order, see page 158

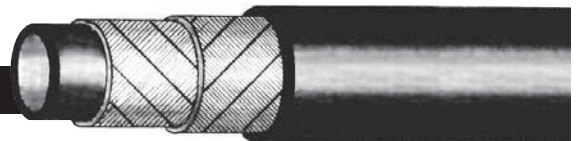
Thorburn Numbers	Hose I.D.		Hose O.D.		Plies	Rated W.P.		Weight	
	mm	in.	mm	in.		MPa	PSI	kg/100 m	lbs/100 ft
48TSP*08	12.7	1/2	28.9	1-1/8	2	2.05	400	65	44
48TSP*12	19.0	3/4	35.2	1-3/8	2	2.07	300	86	58
48TSP*16	25.4	1	41.6	1-5/8	2	2.07	300	107	72
48TSP*20	31.8	1-1/4	48.0	1-7/8	2	1.72	250	128	86
48TSP*24	38.0	1-1/2	59.4	2-3/8	4	1.72	250	214	144
48TSP*32	50.8	2	72.2	2-7/8	4	1.34	200	271	182
48TSP*40	76.2	3	97.6	3-2/8	4	1.38	200	325	218
48TSP*48	76.2	4	123.0	4-7/8	4	1.03	150	381	256
48TSP*64	101.6	4	123.0	4-7/8	4	1.03	150	493	331

\* Insert A = Asbestos; F = Fiberglass; N = Nomex®, K = Kevlar®/Polyester.

Nomex and Kevlar are registered trade marks of Dupont

## 548TSP

### CABLE COVERING



To order, see page 158

#### APPLICATION

Thorburns' cable cover hose is designed for underground operations to cover various cables in mines and port facilities. Meets or exceeds USMSHA Flame Retardant and Fume Emission specifications. All hose is embossed showing USMSHA number. Hose is coated with lubricant on inside for ease of pulling over wires.

#### CONSTRUCTION

**Tube:** Black synthetic rubber.

**Reinforcement:** Fiberglass tire cord, spirally wound.

**Cover:** Flame retardant yellow synthetic rubber.

Thorburn Numbers	Cover I.D.		Cover O.D.		Plies	Weight	
	mm	in.	mm	in.		kg/100 m	lbs/100 ft
548TSP08	12.4	1/2	22.4	7/8	2	56	38
548TSP10	15.9	5/8	25.4	1	2	62	42
548TSP12	19.0	3/4	28.0	1-1/8	2	82	55
548TSP14	22.2	7/8	32.2	1-1/4	2	92	62
548TSP16	25.4	1	35.4	1-3/8	2	106	71
548TSP18	28.6	1-1/8	38.6	1-1/2	2	112	75
548TSP20	31.8	1-1/4	42.8	1-5/8	2	117	79
548TSP22	34.9	1-3/8	45.0	1-3/4	2	131	88
548TSP24	38.0	1-1/2	48.0	1-7/8	2	134	90
548TSP26	44.5	1-3/4	55.5	2-1/8	2	155	104
548TSP28	47.6	1-7/8	57.0	2-1/4	2	171	115
548TSP32	50.8	2	60.0	2-3/8	2	190	128
548TSP36	57.2	2-1/4	67.2	2-5/8	2	196	132
548TSP38	60.3	2-3/8	70.3	2-3/4	2	216	145
548TSP40	63.5	2-1/2	73.5	2-7/8	2	231	155
548TSP48	76.2	3	86.2	3-3/8	2	262	176

### AQUA BLUE Model TPWBLU

- “Non Marking”     Blue Cover     3000 psi

**RECOMMENDED FOR:**

On hot and cold water high pressure cleaning equipment where heavy duty service is required. Thorburn’s “Aqua Blue” model TPWBLU was specially designed for applications that require non-marking cover.

**WARNING:** Not recommended for steam service

**Couplings:** “Crimp Type” See following page.  
Bend restrictors recommended to extend service.

**Specifications**

Thorburn Part Number	Nominal I.D.		Nominal O.D.		Maximum Working Pressure		Minimum Bend radius		Weight	
	in.	mm	in.	mm	psi	MPa	in.	mm	kg/100m	lbs/100ft
TPWBLU04*	1/4	6.3	1/2	12.7	3000	20.7	2	51	19.4	13
TPWBLU06	3/8	9.5	5/8	15.9	3000	20.7	2.5	64	26.8	18
TPWBLU08*	1/2	12.7	20/32	19.8	3000	20.7	3.5	89	37.3	25



**CONSTRUCTION**

**Tube:** Black oil, heat and detergent resistant Buna “N” blend

**Reinforcement:** High tensile braided steel wire

**Cover:** Blue Neoprene specially compounded to be non marking, abrasion, heat, ozone and weather resistant. Not resistant to animal fats

**Temperature:** -40° F. to 250° F.  
(-40° C to 122° C)

**Lengths:** Up to 150 ft. available

### AQUA BLACK Model TPWBLK

- Animal fat and oil resistant     Black Cover     3000 psi

**RECOMMENDED FOR:**

On hot and cold water high pressure cleaning equipment where heavy duty service is required. Thorburn’s “Aqua Black” model TPWBLK was specially designed for applications that require a cover that is resistant to animal fats.

**WARNING:** Not recommended for steam service

**Couplings:** “Crimp Type” See following page.  
Bend restrictors recommended to extend service.

**Specifications**

Thorburn Part Number	Hose I.D.		Hose O.D.		Maximum Working Pressure	Minimum Bend radius		Weight	
	in.	mm	in.	mm		in.	mm	kg/100m	lbs/100ft
TPWBLK04*	1/4	6.3	.53	13.4	3000	4	102	21	14
TPWBLK06	3/8	9.5	.68	17.2	3000	5	127	34	23
TPWBLK08*	1/2	12.7	.82	20.8	2500	7	178	42	28



**CONSTRUCTION**

**Tube:** Black oil, heat and detergent resistant Buna “N” blend

**Reinforcement:** High tensile braided steel wire

**Cover:** Blue Neoprene specially compounded to be resistant to animal fats, abrasion, heat, ozone and weather resistant. Not resistant to

**Temperature:** -40° F. to 212° F.  
(-40° C to 100° C)

**Lengths:** Up to 150 ft. available

## AQUA THERM Model TPWHT

✓ Super Heated Water 350° F. @ 350psi (Super heated water)



**RECOMMENDED FOR:**

Hot and cold high pressure cleaning equipment where heavy duty service is required. Thorburn's "Aqua Therm" model TPWHT was specially designed for applications that require cleaning with super-heated water at 350° at 350 psi.

**WARNING:** Not recommended for steam service

Couplings: "Crimp Type" See below.  
Bend restrictors recommended to extend service.

**CONSTRUCTION**

**Tube:** Black EPDM heat resistant synthetic rubber

**Reinforcement:** High tensile braided steel wire

**Cover:** Hypalon cover which provides abrasion, ozone and oil resistance

**Temperature:** -40° F to 350° F.  
(-40° C to 177° C)

**Lengths:** Up to 150 ft. available

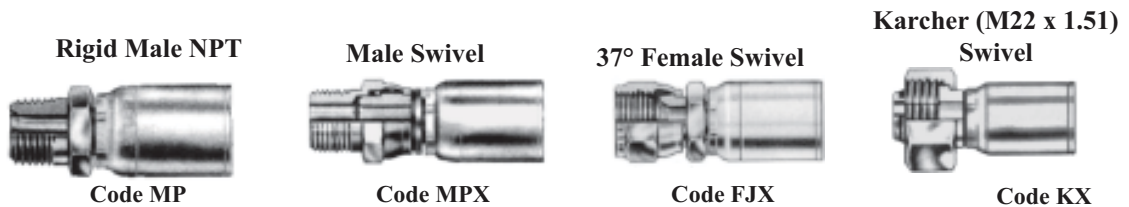
**Specifications**

Thorburn Part Number	Hose I.D.		Hose O.D.		Maximum Working Pressure	Minimum Bend radius		Weight	
	in.	mm	in.	mm		in.	mm	kg/100m	lbs/100ft
TPWHT06	3/8	9.5	.68	17.2	3000	2	51	29.5	19

\*Non-stock available on special orders

**Typical Crimp Couplings Plated Steel**

Couplings also available in stainless steel.



**Typical PressureWasher Quick Coupling Brass also available in Carbon Steel, Stainless Steel**



**Pressure Washer Hose Assembly**

Markets	Applications
Industrial Cleaning Markets	Pressure wash engines, equipment, tanks, buildings, and roof cleaning, etc.
Food Industry	Wash down of food processing facilities and equipment
Construction Industry	High pressure cleaning and degreasing
Marine	Boat cleaning
Agricultural	Pressure wash engines, farm equipment, tanks and buildings

**How to order Thorburn Pressure Washer Hose Assembly**

Hose/Size	Ends		O.A.L. ft.	Options
	1st Material	2nd Material		
TPWHT06	MPXC	MPC	50	BR

**Description of Hose Assembly**

Thorburn Model TPWHT06 at 3/8" size c/w 3/8" Male Rigid Swivel 50' O.A.L. c/w Bend Restrictor

**Material Codes**

316SS = S6  
Carbon Steel = C



# THORBURN

Special Purpose  
Hose Assemblies

Models 11 TWB, 22TWB, 44TWB, 66TWB,

## ULTRA HIGH PRESSURE FLEXIBLE PIPING TECHNOLOGY

WORKING  
PRESSURES TO  
46,000 PSI

**Thorburn** introduces an exciting line of high pressure flexible piping products. These hose products are manufactured using state-of-the-art equipment and rigid step-by-step quality assurance systems providing full tractability, exceptional handling and pressures up to 46,000 psi. The unique characteristics of superior flexibility, slimness and reduced weight make these



Offshore

hoses ideal for selected high pressure fluid transmission applications found in water blasting, waterjet cutting, hydraulic tools and equipment as well as the offshore/onshore oil and gas industries.



Every Thorburn waterblast assembly is pressure tested to 1.5 times the working pressure tagged and serialized.

- Burst pressures to 116,000 psi
- Working pressures to 46,000
- Light-weight
- Excellent flexibility
- Compact design
- Long lengths

### APPLICATION

#### General

- Water blasting • Hydrostatic testing • Waterjet cutting

#### Hydraulic Tools

- Torque tensioning • Stud tensioning • Rescue
- Bearing pullers • Spreaders • Cable cutters
- Nut splitters

#### Hydraulic Equipment

- Intensifiers • Pumps • Jacks • Pressure calibration
- Presses • Clamping fixtures • Crimpers
- Blowout preventers

#### Offshore/Onshore Oil and Gas Industry

- Well testing • Well treatment/chemical injection
- Wire line grease injection involving an ongoing dynamic situation (deployment or retrieval)
- Umbilicals • Sour gas containing hydrogen sulfide



Waterjet cutting/blasting



Stud tensioning

### Model 11TWB

#### Construction

**Inner core:** Polyamid PA / Nylon 11/12

**Reinforcement:** 2 spiral layers of high tensile steel wire

**Cover:** Polyamid PA / Nylon 11/12

**Operating temperature:** -22 F. to 176° F.  
-30° C. to 80° C.

**Couplings:** See page 87

Operating pressures to 17000 psi



Lightweight and flexible with low volume expansion

Thorburn part number	Hose Size - inches		Pressure psi maximum working	Rating psi minimum burst	Min. Bend radius in.	Weight lbs./ft.
	I.D.	O.D.				
11TWB04	.16	.31	17,000	43,000	3.0	.07
11TWB05	.20	.37	15,000	37,500	3.7	.08
11TWB06	.25	.45	13,000	34,500	4.3	.12
11TWB0 8	.32	.52	11,000	29,000	5.1	.13
11TWB10	.39	.63	9,000	23,000	6.3	.20
11TWB13	.50	.76	9,000	23,000	7.9	.29
11TWB20	.78	1.10	7,000	18,500	9.4	.50
11TWB25	.93	1.22	6,000	15,000	11.8	.57

## ULTRA HIGH PRESSURE FLEXIBLE PIPING TECHNOLOGY

### Model 44TWB

#### Construction

**Inner core:** Polyamid PA / nylon 11/12

**Reinforcement:** 4 spiral layers of high tensile steel wire

**Cover:** Polyamid PA / nylon 11/12

**Couplings:** See page 87

Operating temperature: -22 F. to 176° F. (-30° C. to 80° C.)  
Operating pressures to 31,000 psi



Versatility for severe hydraulics in waterblasting and pressure testing

Thorburn part number	Hose Size - inches		Pressure psi maximum working	Rating psi minimum burst	Min. Bend radius in.	Weight lbs./ft.
	I.D.	O.D.				
44TWB04	.16	.41	31,000	78,000	5.1	.16
44TWB05	.20	.44	26,000	65,000	5.9	.18
44TWB06	.25	.50	21,000	55,000	7.1	.20
44TWB08	.32	.58	21,000	55,000	7.9	.26
44TWB10	.39	.72	21,000	55,000	7.9	.46
44TWB13	.50	.87	20,000	50,000	7.9	.59
44TWB20	.78	1.17	14,000	36,000	9.8	.91

### Model 66TWB

#### Construction

**Inner core:** Polyamid PA / nylon 11/12

**Reinforcement:** 6 spiral layers of high tensile steel wire

**Cover:** Polyamid PA / nylon 11/12

**Couplings:** See page 87

Operating temperature: -22 F. to 176° F. (-30° C. to 80° C.)  
Operating pressures to 40,000 psi



Outstanding reliability for the toughest extreme pressure applications

Thorburn part number	Hose Size - inches		Pressure psi maximum working	Rating psi minimum burst	Min. Bend radius in.	Weight lbs./ft.
	I.D.	O.D.				
66TWB04	.16	.45	40,000	100,000	6.9	.25
66TWB05	.20	.53	38,000	95,000	7.9	.30
66TWB08	.32	.65	29,000	72,500	9.8	.43
66TWB10	.39	.80	27,000	69,000	9.8	.67
66TWB13	.50	.92	24,000	60,500	11.8	.78

### Model 88TWB

#### Construction

**Inner core:** Polyamid PA / nylon 11/12

**Reinforcement:** 8 spiral layers of high tensile steel wire

**Cover:** Polyamid PA / nylon 11/12

**Couplings:** See page 87

Operating temperature: -22 F. to 176° F. (-30° C. to 80° C.)  
Operating pressures to 46,000 psi



Ultra high pressure applications

Thorburn part number	Hose Size - inches		Pressure psi maximum working	Rating psi minimum burst	Min. Bend radius in.	Weight lbs./ft.
	I.D.	O.D.				
88TWB04	.16	.54	46,000	116,000	6.9	.39

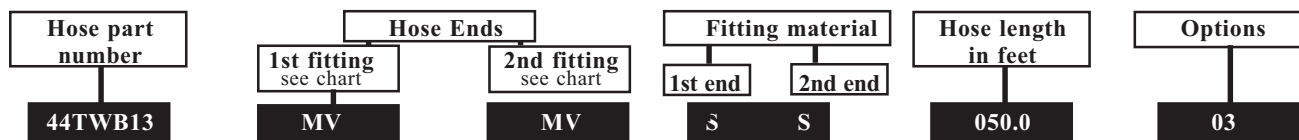
**WARNING!** Waterblasting is extremely dangerous. If not properly controlled, waterblasting can cause property damage, serious bodily injury or death. Please be careful to choose the proper hose for your specific application. Also, proper installation, usage and maintenance of the waterblast hose you select will contribute to increased operator safety.



## HOSE PRESSURE COUPLINGS (FITTING) CODES

Hose fitting Description	High Pressure										Medium Pressure								Low Pressure			
	Style #1				Style #2						Style #3				Style #4				Style #5			
	Male high pressure cone & threaded tubing connection Max. W.P. 50,000 psi				Female high pressure cone & threaded tubing connection Max. W.P. 50,000 psi						Male cone & threaded tubing connection Max. W.P. 35,000 psi				Female cone and threaded tubing connection Max. W.P. 35,000 psi				Male NPT Max. W.P. 10,000 psi			
Hose Fitting Connection																						
Hose Type	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
	1/4"	3/8"	9/16"	3/4"	9/16"	3/4"	7/8"	1"	1 1/8"	1/4"	3/8"	9/16"	3/4"	9/16"	3/4"	1"	1 15/16"		1/8"	1/4"	3/8"	1/2"
A 88TWB04		AB	AC																			
B																						
C 66TWB04	CA	CB			CE																	
D 66TWB05	DA	DB	DC		DE																	
E 66TWB08		EB	EC	ED		EF	EG		EI													
F 66TWB10			FC																			
G 66TWB13			GC	GD				GH														
H 44TWB04										HJ	HK								HS			
I 44TWB05										IJ	IK	IL		IN						IT		
J 44TWB06											JK											
K 44TWB08											KK	KL			KO					KT		
L 44TWB10																				LU		
M 44TWB13												ML				MP						MV
N 33TWB04																						
O 33TWB05																						
P 33TWB06																						
Q																						
R 11TWB04											RJ								RS	RT		
S 11TWB05																			SS	ST		
T 11TWB06												TK	TL	TN						TT	TU	
U 11TWB08																				UT	UU	
V 11TWB10																					VU	
W 11TWB13													WM			WP						WV

### How To Order Thorburn High Pressure Hose Assemblies



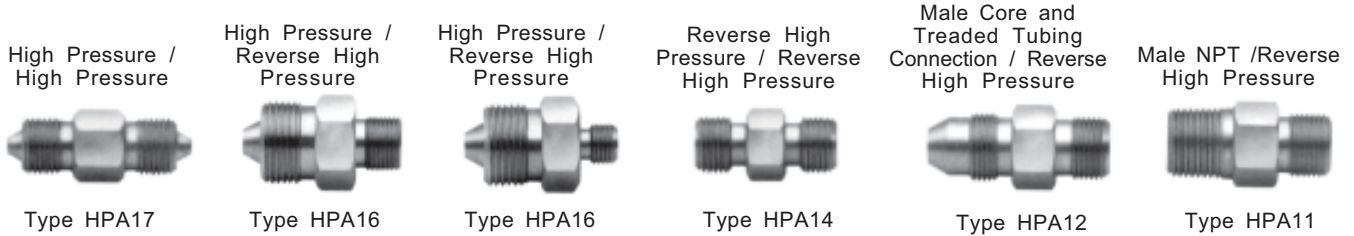
<b>Part number</b>	
High pressure hose	44TWB13
1st end fitting	1/2 male NPT
2nd end fitting	1/2 male NPT
Fitting material	316SS
Option	Heavy duty whip checks

**Fitting material**  
C=carbon steel  
S=316SS

Blank- None  
01 Abrasion cover  
02 Plastic bend restrictors  
03 heavy duty whip checks  
04 Metal bend restrictors  
05 Support grips

## WATER BLAST HOSE ADAPTERS

### Hose Adapters Order Codes



### High Pressure Hose Fittings Adapters — Male-to-Male

Series	Size	High Pressure			Reverse High Pressure			Slimline	
		1/4" M	3/8" M	9/16" M	9/16"-18	3/4"-16	1"-12	3/8" SM	9/16" SM
		A	B	C	D	E	F	G	H
High Pressure	A	1/4" M	17AA						
	B	3/8" M		17BB					
	C	9/16" M			17CC				
Reverse High Pressure	D	9/16"-18	16DA	16DB	16DC	17DD			
	E	3/4"-16			16EC		14EE		
	F	1"-12			16FC			14FF	
BSP	G	1/4"	15GA						
Slimline Medium Pressure	H	3/8" SM				12HD			9HG
	I	9/16" SM				12ID	12IE	12IF	
	J	3/4" SM				12JD	12JE	12JF	
	K	1" SM ("torpedo" style)					12KE	12KF	
Pipe	L	1/4" MNPT				11LD			
	M	3/8" MNPT				11MD	11ME		
	N	1/2" MNPT				11ND	11NE	11NF	
	O	3/4" MNPT					11OE	11OF	
	P	1" MNPT					11PE	11PF	

#### How to Order Water Blast Hose Adapters



C = Carbon Steel  
S6 = 316SS

# HIGH PRESSURE HOSE ASSEMBLIES

## Accessories



### Heavy Duty Abrasion Cover

#### Extend the life of your hose.

Heavy Duty Abrasion Covers are designed to help protect the hose from excessive wear due to cuts, abrasion or scuffing. Made of high quality clear PVC or Vinyl.



### Whip Checks

#### Safety First.

Used to limit hose whipping in the event of connection failure. They will reduce the possibility of serious injury to personnel and damage to equipment. Made of stainless steel with double weave mesh construction.



### Bend Restrictors

#### Protect against abuse.

Reduces bending stress in the hose near the coupling. No adhesives or clamps are required to hold bend restrictors in place. Available in PVC or Plated Steel Spings.



### Support Grips

#### Support.

Used to hold the weight of the hose as it hangs in a vertical, sloping or horizontal position. Made of high grade, non magnetic tin coated bronze strand.

### Safety Notes for All Thorburn High Pressure Hose Assemblies

**DO NOT** kink the hose assembly or exceed its minimum recommended bend radius.

**DO NOT** torsionally stress.

**DO NOT** use couplings or methods of attachment of couplings to the hose other than those expressly made by Thorburn.

**DO NOT** use the hose assembly as a strength member, for example, to pull or lift equipment.

**DO NOT** convey fluids through the hose assembly or expose the jacket or any other part of the hose to fluids which have not been previously approved by Thorburn.

**DO NOT** use with unfiltered fluids or gases.

**DO NOT** use hose for hazardous liquids or gases.

**INSPECT** the hose assembly periodically.

Appropriate safety equipment should be worn by all operators.

**REPLACE** the hose under the following circumstances:

1. If there is any abnormality visible on the hose sheath.
2. If the fittings or hose sheath are damaged or leak.
3. If the hose is kinked or damaged.
4. If the reinforcement is visible through the sheath.

### Application Guidelines

When selecting Thorburn High Pressure Assemblies, consideration must be given to the pressure, temperature, cycling, physical motion and location of the hose relative to personnel.

The following is a chart of applications and corresponding recommended safety factors as well as optional safety devices.

Application	Safety Factor	Suggested Optional Devices
Water or oil, static pressure.	2.5:1	Outer protective metal sleeve if personnel in area. Outer protective plastic sleeve and/or end guards if hose movement.
Water or oil, cyclic pressure.	3.0:1	Outer protective metal sleeve if personnel in area. Outer protective plastic sleeve and/or end guards if hose movement.
Chemicals, static or cyclic pressure.	3.0:1	Outer protective plastic sleeve and/or end guards if hose movement.
Inert gas, static or cyclic. Remote installation only.	4.0:1	End guards if movement. Outer cover must be specifically prepared using stainless steel wire hose only.

#### Notes:

1. Hose should not be used for hazardous liquids or gases.
2. Appropriate safety equipment should be worn by all operators.
3. These safety factors (against burst pressure rating) apply to new hose.

**WARNING!** Waterblasting is extremely dangerous. If not properly controlled, waterblasting can cause property damage, serious bodily injury or death. Please be careful to choose the proper hose for your specific application. Also, proper installation, usage and maintenance of the waterblast hose you select will contribute to increased operator safety.

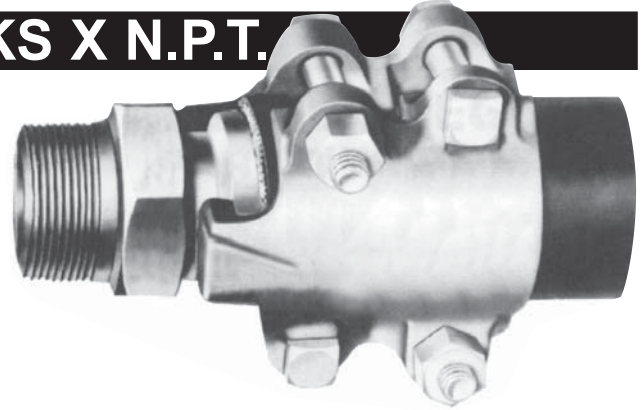
## Block 23 I

### HEAVY DUTY HOSE SHANKS X N.P.T.

**MATERIAL:** Machined from cold drawn bar steel, heat treated for extra toughness, malleable iron, brass, stainless steel.

**STEM:** Showing collar back of hex engaging gripping "fingers" of clamp.

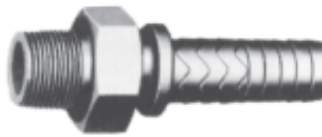
**CLAMP:** To be specified separately.



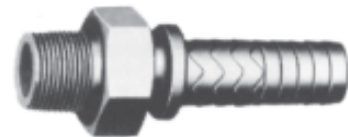
**Plated Steel**



**Malleable Iron**



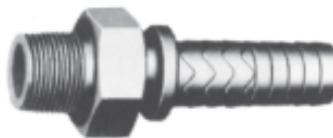
**Stainless**



Thorburn Number	Hose I.D. mm in.	N.P.T. Size	Thorburn Number	Hose I.D. mm in.	N.P.T. Size	Thorburn Number	Hose I.D. mm in.	N.P.T. Size
23 IC 04 X 02	6.4 1/4	1/8	23 IM 12 X 16	19 3/4	1	23 ISS 08 X 08	12.7 1/2	1/2
23 IC 04 X 04	6.4 1/4	1/4	23 IM 16 X 12	25 1	3/4	23 ISS 12 X 12	19 3/4	3/4
23 IC 06 X 04	9.5 3/8	1/4	23 IM 16 X 16	25 1	1	23 ISS 16 X 16	25 1	1
23 IC 08 X 06	12.7 1/2	3/8	23 IM 20 X 20	32 1-1/4	1-1/4	23 ISS 20 X 20	32 1-1/4	1-1/4
23 IC 08 X 08	12.7 1/2	1/2	23 IM 24 X 24	38 1-1/2	1-1/2	23 ISS 24 X 24	38 1-1/2	1-1/2
23 IC 12 X 08	19.1 1/4	1/2	23 IM 32 X 32	51 2	2	23 ISS 32 X 32	51 2	2
23 IC 12 X 12	19.1 3/4	3/4	23 IM 40 X 40	64 2-1/2	2-1/2	23 ISS 40 X 40	64 2-1/2	2-1/2
23 IC 16 X 12	25.4 1	3/4	23 IM 48 X 48	76 3	3	23 ISS 48 X 48	76 3	3
23 IC 16 X 16	25.4 1	1	23 IM 64 X 64	102 4	4	23 ISS 64 X 64	102 4	4
			23 IM 80 X 80	127 5	5			
			23 IM 96 X 96	152 6	6			

**Brass**

**Yes, We Can Deliver!**



*Jump sizes available upon request*

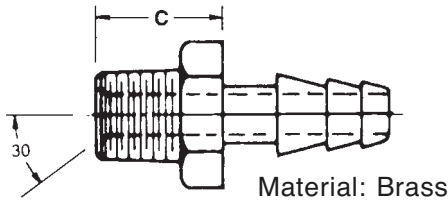
Thorburn Number	Hose I.D. mm in.	N.P.T. Size
23 IB 12 X 12	19 3/4	3/4
23 IB 16 X 16	25 1	1
23 IB 20 X 20	32 1-1/4	1-1/4
23 IB 24 X 24	38 1-1/2	1-1/2
23 IB 32 X 32	51 2	2
23 IB 40 X 40	64 2-1/2	2-1/2
23 IB 48 X 48	76 3	3

### PUSH-ON LOCK-IN LOL HOSE COUPLINGS

**NO CLAMPS  
REQUIRED**

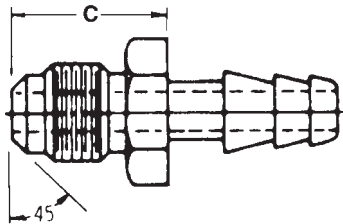
To order, see page 159

**NPTF Solid Male**



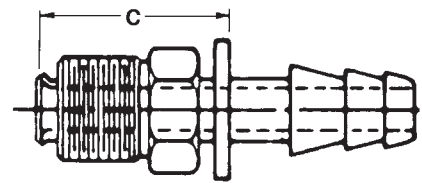
Material: Brass

**SAE Solid Male**



Material: Brass

**Inverted Swivel Male**



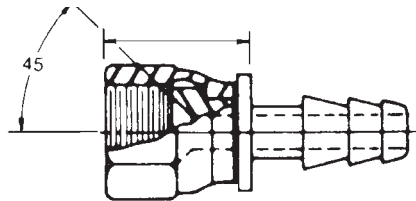
Material: Brass

Thorburn Numbers	Hose I.D.		Thread Size
	mm	in.	
4LOC-2RMP	6.3	1/4	1/8 - 20
4LOC-4RMP	6.3	1/4	1/4 - 18
6LOC-4RMP	10.0	3/8	1/4 - 18
6LOC-6RMP	10.0	3/8	3/8 - 18
8LOC-6RMP	12.5	1/2	3/8 - 18
8LOC-8RMP	12.5	1/2	1/2 - 14
10LOC-8RMP	16.0	5/8	1/2 - 14
12LOC-12RMP	19.0	3/4	3/4 - 14

Thorburn Numbers	Hose I.D.		Thread Size
	mm	in.	
4LOC-4RMS	6.3	1/4	7/16 - 20
4LOC-5RMS	6.3	1/4	1/2 - 20
6LOC-6RMS	10.0	3/8	5/8 - 18
8LOC-8RMS	12.5	1/2	3/4 - 16

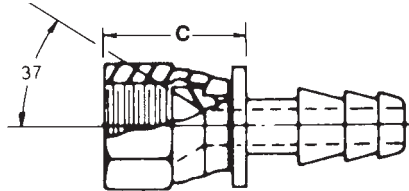
Thorburn Numbers	Hose I.D.		Thread Size
	mm	in.	
4LOC-3RMIX	6.3	1/4	3/8 - 24
4LOC-4RMIX	6.3	1/4	7/16 - 24
4LOC-5RMIX	6.3	1/4	1/2 - 20
6LOC-6RMIX	10.0	3/8	5/8 - 18
8LOC-8RMIX	12.5	1/2	3/4 - 18
10LOC-10RMIX	16.0	5/8	7/8 - 18

**SAE Swivel Female**



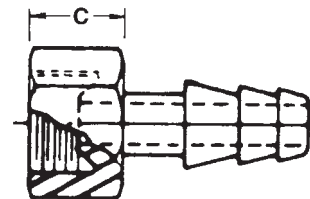
Material: Brass

**JIC Swivel Female**



Material: Brass

**Inverted Solid Female**



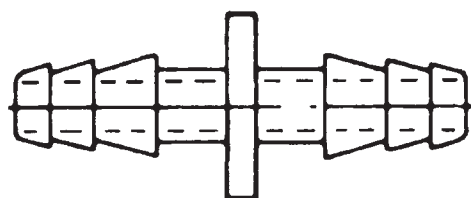
Material: Brass

Thorburn Numbers	Hose I.D.		Thread Size
	mm	in.	
4LOC-4RFSX	6.3	1/4	7/16 - 20
4LOC-5RFSX	6.3	1/4	1/2 - 20
6LOC-6RFSX	10.0	3/8	5/8 - 18
8LOC-8RFSX	12.5	1/2	3/4 - 16
10LOC-10RFSX	16.0	5/8	7/8 - 14
12LOC-12RFSX	19.0	3/4	1-1/16 - 14

Thorburn Numbers	Hose I.D.		Thread Size
	mm	in.	
4LOC-4RFJX	6.3	1/4	7/16 - 20
4LOC-5RFJX	6.3	1/4	1/2 - 20
6LOC-6RFJX	10.0	3/8	9/16 - 18
8LOC-8RFJX	12.5	1/2	3/4 - 16
10LOC-10RFJX	16.0	5/8	7/8 - 14
12LOC-12RFJX	19.0	3/4	1-1/16 - 12

Thorburn Numbers	Hose I.D.		Thread Size
	mm	in.	
4LOC-3RFI	6.3	1/4	3/8 - 24
4LOC-4RFI	6.3	1/4	7/16 - 24
4LOC-5RFI	6.3	1/4	1/2 - 20
6LOC-6RFI	10.0	3/8	5/8 - 18

**Hose Mender**



Material: Brass

Thorburn Numbers	Hose I.D.	
	mm	in.
4LOC-4RHM	6.3	1/4
6LOC-6RHM	10.0	3/8
8LOC-8RHM	12.5	1/2
10LOC-10RHM	16.0	5/8

**ALSO AVAILABLE IN NYLON  
AND STAINLESS STEEL. CALL  
THORBURN FOR DETAILS.**



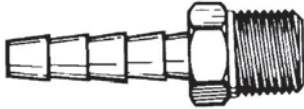
**TO ORDER WITH HOSE ASSEMBLY SEE PAGE 159**

## BRASS HOSE BARB FITTINGS

**USAGE:** May be used with synthetic and natural rubber hose. Hose barbs should be secured by mean of a ferrule or clamp (see pp. 117-121).

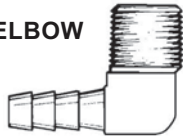
**APPLICATION:** Air, gas, all fluid products at low pressure usage.

**HOSE BARB**  
To Male Pipe Connector  
Style MP



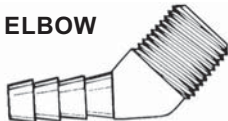
Thorburn Numbers	Size Hose I.D. x Pipe	
HB-02x02-MP	1/8	1/8
HB-02x04-MP	1/8	1/4
HB-03x02-MP	3/16	1/8
HB-03x04-MP	3/16	1/4
HB-04x02-MP	1/4	1/8
HB-04x04-MP	1/4	1/4
HB-04x06-MP	1/4	3/8
HB-05x02-MP	5/16	1/8
HB-05x04-MP	5/16	1/4
HB-05x06-MP	5/16	3/8
HB-06x02-MP	3/8	1/8
HB-06x04-MP	3/8	1/4
HB-06x06-MP	3/8	3/8
HB-06x08-MP	3/8	1/2
HB-08x04-MP	1/2	1/4
HB-08x06-MP	1/2	3/8
HB-08x08-MP	1/2	1/2
HB-08x12-MP	1/2	3/4
HB-10x06-MP	5/8	3/8
HB-10x08-MP	5/8	1/2
HB-10x12-MP	5/8	3/4
HB-12x08-MP	3/4	1/2
HB-12x12-MP	3/4	3/4
HB-16x12-MP	1	3/4
HB-16x16-MP	1	1

**HOSE BARB 90° ELBOW**  
To Male Pipe  
Style MP90



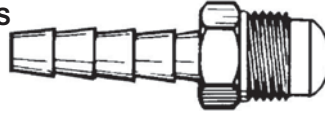
Thorburn Numbers	Size Hose I.D. x Pipe	
HB-04x02-MP90	1/4	1/8
HB-04x04-MP90	1/4	1/4
HB-06x02-MP90	3/8	1/8
HB-06x04-MP90	3/8	1/4

**HOSE BARB 45° ELBOW**  
To Male Pipe  
Style MP45



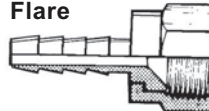
Thorburn Numbers	Size Hose I.D. x Pipe	
HB-04x02-MP45	1/4	1/8
HB-05x02-MP45	5/16	1/8
HB-06x02-MP45	3/8	1/8
HB-06x04-MP45	3/8	1/4
HB-06x06-MP45	3/8	3/8

**HOSE BARB**  
To Male SAE Connector  
Style MS



Thorburn Numbers	Size Hose ID x Tube OD	
HB-03x03-MS	3/16	3/16
HB-04x04-MS	1/4	1/4
HB-04x05-MS	1/4	5/16
HB-04x06-MS	1/4	3/8
HB-05x05-MS	5/16	5/16
HB-05x06-MS	5/16	3/8
HB-06x06-MS	3/8	3/8
HB-06x08-MS	3/8	1/2
HB-08x08-MS	1/2	1/2
HB-08x10-MS	1/2	5/8
HB-10x10-MS	5/8	5/8

**HOSE BARB**  
To Female SAE Flare  
2 Piece Swivel  
Style FSX



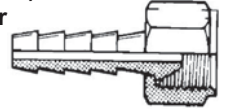
Thorburn Numbers	Size Hose ID x Tube OD	
HB-03x04-FSX	3/16	1/4
HB-04x04-FSX	1/4	1/4
HB-04x05-FSX	1/4	5/16
HB-04x06-FSX	1/4	3/8
HB-05x05-FSX	5/16	5/16
HB-05x06-FSX	5/16	3/8
HB-06x06-FSX	3/8	3/8
HB-06x08-FSX	3/8	1/2
HB-08x08-FSX	1/2	1/2
HB-08x10-FSX	1/2	5/8
HB-10x10-FSX	5/8	5/8

**HOSE BARB SPLICER**  
Round Shoulder  
Style HM



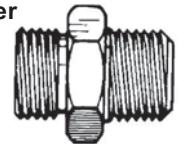
Thorburn Numbers	Size Hose I.D.	
HM-03	3/16	
HM-04	1/4	
HM-05	5/16	
HM-06	3/8	
HM-08	1/2	

**HOSE BARB BALL SEAT/FEMALE SWIVEL NUT (NSPM)**  
Used with Adapter  
134T or 134ST  
Style BSX



Thorburn Numbers	Size Hose I.D. x Pipe	
HB-02x02-BSX	1/8	1/8
HB-03x02-BSX	3/16	1/8
HB-03x04-BSX	3/16	1/4
HB-04x02-BSX	1/4	1/8
HB-04x04-BSX	1/4	1/4
HB-04x06-BSX	1/4	3/8
HB-05x04-BSX	5/16	1/4
HB-06x04-BSX	3/8	1/4
HB-06x06-BSX	3/8	3/8
HB-06x08-BSX	3/8	1/2
HB-08x06-BSX	1/2	3/8
HB-08x08-BSX	1/2	1/2
HB-10x08-BSX	5/8	1/2
HB-12x12-BSX	3/4	3/4

**ADAPTER STRAIGHT BALL SEAT MALE NPSM PIPE CONNECTOR**  
To Male Pipe Taper  
Style 134-T



Used with Hose Barb Style BSX

Thorburn Numbers	Pipe Size Straight x Taper	
134-T-02x02	1/8	1/8
134-T-04x02	1/4	1/8
134-T-04x04	1/4	1/4
134-T-04x06	1/4	3/8
134-T-06x04	3/8	1/4
134-T-06x06	3/8	3/8
134-T-06x08	3/8	1/2
134-T-08x06	1/2	3/8
134-T-08x08	1/2	1/2
134-T-12x12	3/4	3/4

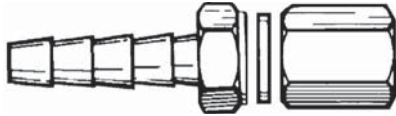
**STRAIGHT BALL SEAT NPSM CONNECTOR**  
Male Both Ends  
Style 134-ST

Used with Hose Barb Style BSX

Thorburn Numbers	Size Straight Pipe	
134-ST-04x04	1/4 x 1/4	
134-ST-06x06	3/8 x 3/8	
134-ST-08x08	1/2 x 1/2	
134-ST-12x12	3/4 x 3/4	

**TO ORDER WITH HOSE ASSEMBLY SEE PAGE 159**

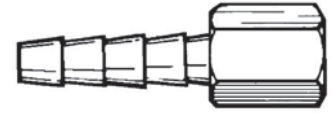
### HOSE BARB FITTINGS



Thorburn Numbers	Size Hose I.D. x Pipe	
HB-02x02-FS	1/8	1/8
HB-03x02-FS	3/16	1/8
HB-03x04-FS	3/16	1/4
HB-04x02-FS	1/4	1/8
HB-04x04-FS	1/4	1/4
HB-04x06-FS	1/4	3/8
HB-05x04-FS	5/16	1/4
HB-06x04-FS	3/8	1/4
HB-06x06-FS	3/8	3/8
HB-06x08-FS	3/8	1/2
HB-08x06-FS	1/2	3/8
HB-08x08-FS	1/2	1/2

**HOSE BARB  
To Female Pipe  
Connector  
Style FP**

**HOSE BARB COUPLER  
Flat Seat with Gasket  
Straight Pipe  
Style FS**



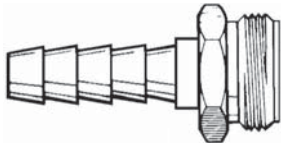
Thorburn Numbers	Size Hose I.D. x Pipe	
HB-02x02-FP	1/8	1/8
HB-02x04-FP	1/8	1/4
HB-03x02-FP	3/16	1/8
HB-03x04-FP	3/16	1/4
HB-04x02-FP	1/4	1/8
HB-04x04-FP	1/4	1/4
HB-04x06-FP	1/4	3/8
HB-05x02-FP	5/16	1/8
HB-05x04-FP	5/16	1/4
HB-05x06-FP	5/16	3/8
HB-06x02-FP	3/8	1/8
HB-06x04-FP	3/8	1/4
HB-06x06-FP	3/8	3/8
HB-06x08-FP	3/8	1/2
HB-08x04-FP	1/2	1/4
HB-08x06-FP	1/2	3/8
HB-08x08-FP	1/2	1/2

### GARDEN HOSE FITTINGS

**USAGE:** May be used with synthetic or rubber garden hose. Thorburn's garden hose fittings should be secured by means of ferrules or clamps. For ferrules, ask for Thorburn fitting catalogue.

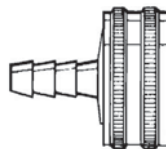
**APPLICATION:** Mostly for industrial usage in plant requirements.

**BARB CONNECTOR  
To 3/4 Male Hose Thread**



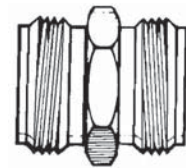
Thorburn Numbers	Hose Size I.D.
GH193-6	3/8
GH193-8	1/2
GH193-10	5/8
GH193-12	3/4

**BARB CONNECTOR  
To 3/4 Female Hose, Swivel**



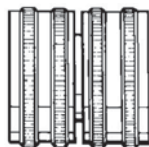
Thorburn Numbers	Hose Size I.D.
GH195-6	3/8
GH195-8	1/2
GH195-10	5/8
GH195-12	3/4

**MALE HOSE  
To Male Hose Coupling**



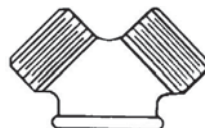
Thorburn Numbers	Garden Hose Thread
GH196-W	3/4

**HOSE SWIVEL NUT**



Thorburn Numbers	Garden Hose Thread
GH203-W	3/4

**"Y" HOSE COUPLING  
Male Hose to Female Hose**



Thorburn Numbers	Garden Hose Thread
GH202-W	3/4

**RUBBER GARDEN HOSE  
COUPLING WASHER**



Thorburn Numbers	For Garden Hose Fitting
GH204-12	3/4

**TO ORDER WITH HOSE ASSEMBLY SEE PAGE 159**

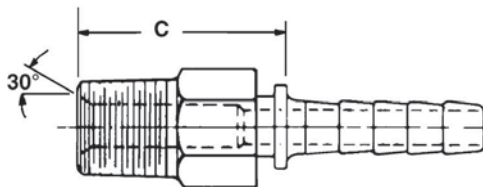
## BUTANE-PROPANE COUPLINGS

C.G.A.  
APPROVED  
COUPLINGS

### STEEL STEMS & FERRULES

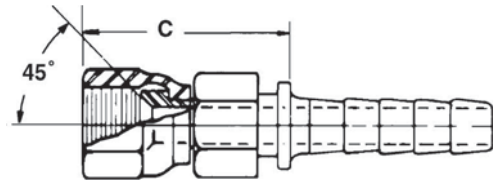
#### STEMS

NPTF SOLID MALE



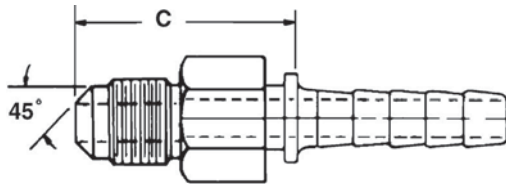
Thorburn Numbers	Hose I.D.		Thread Size
	mm	in.	
BP3-2MP	5.0	3/16	1/8 - 27
BP3-4MP	5.0	3/16	1/4 - 18
BP4-2MP	6.3	1/4	1/8 - 27
BP4-4MP	6.3	1/4	1/4 - 18
BP4-6MP	6.3	1/4	3/8 - 18
BP4-8MP	6.3	1/4	1/2 - 14
BP5-4MP	8.0	5/16	1/4 - 18
BP6-4MP	10.0	3/8	1/4 - 18
BP6-6MP	10.0	3/8	3/8 - 18
BP6-8MP	10.0	3/8	3/8 - 18
BP6-8MP	10.0	3/8	1/2 - 14
BP8-6MP	12.5	1/2	3/8 - 18
BP8-8MP	12.5	1/2	1/2 - 14
BP8-12MP	12.5	1/2	3/4 - 14
BP10-8MP	16.0	5/8	1/2 - 14
BP10-12MP	16.0	5/8	3/4 - 14
BP12-8MP	19.0	3/4	1/2 - 14
BP12-12MP	19.0	3/4	3/4 - 14
BP12-16MP	19.0	3/4	1 - 11-1/2
BP14-16MP	22.0	7.8	1 - 11-1/2
BP16-12MP	25.0	1	3/4 - 14
BP16-16MP	25.0	1	1 - 11-1/2
BP20-20MP	31.5	1-1/4	1-1/4 - 11-1/2

SAE SWIVEL FEMALE



Thorburn Numbers	Hose I.D.		Thread Size
	mm	in.	
BP4-4FSX	6.3	1/4	7/16 - 20
BP4-5FSX	6.3	1/4	1/2 - 20
BP4-6FSX	6.3	1/4	5/8 - 18
BP6-6FSX	10.0	3/8	5/8 - 18
BP6-8FSX	10.0	3/8	3/4 - 16
BP8-8FSX	12.5	1/2	3/4 - 16
BP8-10FSX	12.5	1/2	7/8 - 14
BP12-12FSX	19.0	3/4	1-1/16 - 14

SAE SWIVEL MALE



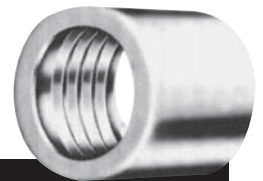
Thorburn Numbers	Hose I.D.		Thread Size
	mm	in.	
BP4-4MS	6.3	1/4	7/16 - 20
BP4-5MS	6.3	1/4	1/2 - 20
BP6-6MS	10.0	3/8	5/8 - 18
BP6-8MS	10.0	3/8	3/4 - 16
BP8-8MS	12.5	1/2	3/4 - 16
BP8-10MS	12.5	1/2	7/8 - 14
BP12-12MS	19.0	3/4	1-1/16 - 14

#### CRIMPING DATA

- ☒ Settings using Gates Crimper
- ☒ Die Set used with Crimper Setting

#### FERRULES

POWER CRIMP #2



Thorburn Number	Computer Number	Hose Size	PC601		PC707		PC3000B		
			Die No.	Crimp Setting	Die No.	Crimp Setting	Die No.	Crimp Setting	Crimp Diameter
BP4-PC2F2	80416	1/4	1	3-1/2	E	4.60	31	3-1/2	.700
BP6-PC2F2	80418	3/8	2	4	H	5.10	32	1	.830
BP10-PC2F2	80421	1/2	4	4-3/4	N	4.10	33	4-3/4	1.100
BP12-PC2F4	80422	3/4*	6	4-1/4	P	7.85	35	4-1/4	1.350
BP1-PC2F4	80425	1	9	2-1/2	S	11.60	36	7	1.700
BP20-PC2F2	80427	1-1/4	--	--	U	9.60	38	5	2.050

\* Buff O.D. to 1.19

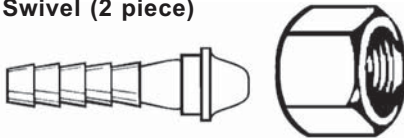
TO ORDER WITH HOSE ASSEMBLY SEE PAGE 159



### WELDING HOSE COUPLINGS

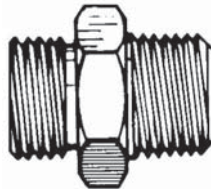
#### FOR GREEN OXYGEN HOSE COUPLINGS

**HOSE BARB**  
To Welding Standard 9/16 - 18  
Thread  
Right Hand Thread (oxygen hose)  
Swivel (2 piece)



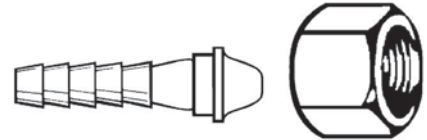
Thorburn Numbers	Hose Size I.D.
T132-3R	3/16
T132-4R	1/4
T132-5R	5/16
T132-6R	3/8

**STANDARD WELDING CONNECTOR**  
9/16 - 18 Right Hand to Male Pipe



Thorburn Numbers	Pipe Size
T135-RA	1/8
T135-RB	1/4
T135-RC	3/8

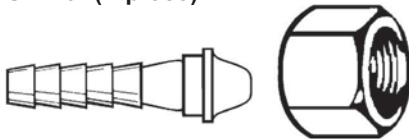
**WELDING NUTS, STANDARD Oxygen**



Thorburn Numbers	Size
T137-R	R.H. 9/16 - 18

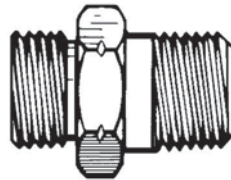
#### FOR RED ACETYLENE HOSE COUPLINGS

**HOSE BARB**  
To Welding Standard 9/16 Thread  
Left Hand Thread (acetylene hose)  
Swivel (2 piece)



Thorburn Numbers	Hose Size I.D.
T133-3L	3/16
T133-4L	1/4
T133-5L	5/16
T133-6L	3/8

**STANDARD WELDING CONNECTOR**  
9/16 - 18 Left Hand to Male Pipe



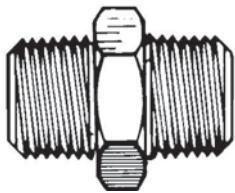
Thorburn Numbers	Pipe Size
T135-LA	1/8
T135-LB	1/4
T135-LC	3/8

**WELDING NUTS, STANDARD Acetylene left hand thread**



Thorburn Numbers	Size
T137-L	L.H. 9/16 - 18

**WELDING COUPLING**  
Standard 9/16 - 18 Both Ends



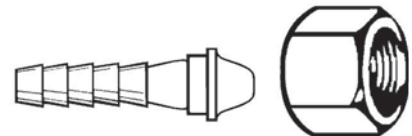
Thorburn Numbers	Size
T136-R	9/16 - 18 R.H.
T136-L	9/16 - 18 L.H.

**PIPE "Y"**



Thorburn Numbers	Pipe Size
T678-YB	1/4 x 1/4 x 1/4

**HOSE BARB**  
For use with T137 Nuts



Thorburn Numbers	Hose Size I.D.
T138-3	3/16
T138-4	1/4
T138-5	5/16
T138-6	3/8

**TO ORDER WITH HOSE ASSEMBLY SEE PAGE 159**

**AIR QUICK ACTING**

**TWO-LUG UNIVERSAL HEAD HOSE COUPLING**

**ALL GASKETS  
OIL RESISTANT**

**Quick Acting Couplings**

For use with air, water, oil and other products where connections must be made quickly or often. Specially designed for quick acting coupling with washer seal. External interlocking type safety clamps or bands secure hose to serrated shank.

Hose I.D.		Block 27I Malleable Iron and Bronze Hose Ends			Block 28I Female N.P.T. Ends			Block 29I Male N.P.T. Ends		
mm	in.	Malleable Iron/Plated Part Number	Bronze Part Number	Stainless Part Number	Malleable Iron/Plated Part Number	Bronze Part Number	Stainless Part Number	Malleable Iron/Plated Part Number	Bronze Part Number	Stainless Part Number
6.4	1/4	27IC04	27IB04	--	28IC04	28IB04	--	29IC04	29IB04	--
9.5	3/8	27IC06	27IB06	--	28IC06	28IB06	--	29IC06	29IB06	--
12.7	1/2	27IC08	27IB08	27IS08	28IC08	28IB08	28IS08	29IC08	29IB08	29IS08
15.9	5/8	27IC10	27IB10	--	28IC10	28IB10	--	29IC10	29IB10	--
19.1	3/4	27IC12	27IB12	27IS12	28IC12	28IB12	28IS12	29IC12	29IB12	29IS12
25.4	1	27IC16	27IB16	27IS16	28IC16	28IB16	28IS16	29IC16	29IB16	29IS16

**AIR QUICK ACTING**

**FOUR-LUG AND TWO-LUG UNIVERSAL HEAD HOSE COUPLING**

**Four-Lug Couplings**

Hose I.D.		Block 30I Hose Ends		Block 31I Female N.P.T. Ends	
mm	in.	Malleable Iron/Plated Part Number	Bronze Part Number	Malleable Iron/Plated Part Number	Bronze Part Number
32	1-1/4	30IC20	30IB20	31IC20	31IB20
38	1-1/2	30IC24	30IB24	31IC24	31IB24
51	2	30IC32	30IB32	31IC32	31IB32

**Special Two-Lug Couplings**

Block 32I Accessory Universal Couplings (2 Lug) Malleable Iron/Plated		Block 33I Accessory Universal Couplings (2 Lug) Malleable Iron/Plated	
3-Way Connection		Dead End	
Malleable Iron/Plated Part Number	Bronze Part Number	Malleable Iron/Plated Part Number	Bronze Part Number
32IC	32IB	33IC	33IB

**Safety Clip  
(Bag of 25)**

Part Number  
36I



Zinc Plated  
Spring Steel

**Lanyards  
(Bag of 25)**

Part Number  
37I

Synthetic Cord



Two Hose Ends Connected

**TO ORDER WITH HOSE ASSEMBLY SEE PAGE 159**

### SAND-BLAST HOSE COUPLINGS

#### Sand Blast Quick Coupling

Thorburn Aluminum Coupling	Thorburn Brass Coupling	Hose Size
SBQA12	SBQB12	3/4"
SBQA16	SBQB16	1"
SBQA20	SBQB20	1-1/4"
SBQA24	SBQB24	1-1/2"



#### Sand Blast Nozzle Holders

Thorburn Aluminum Coupling	Thorburn Brass Coupling	Hose Size
SBNA12	SBNB12	3/4"
SBNA16	SBNB16	1"
SBNA20	SBNB20	1-1/4"
SBNA24	SBNB24	1-1/2"



Screws not included

#### Sand Blast Threaded Coupling

Thorburn Aluminum Coupling	Thorburn Brass Coupling	Hose Size
SBTA20	SBTB20	1-1/4"
SBTA24	SBTB24	1-1/2"



#### Sand Blast Replacement Gasket (one size fits all)



Thorburn Number
SBG

Sold in bags of 50

### MINING HOSE FITTINGS

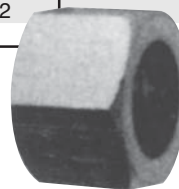
#### Mining Barbed Hose Stems

Thorburn Number	Description
TMB08-16	1/2" I.D. hose stem for 1" nut
TMB12-16	3/4" I.D. hose stem for 1" nut
TMB16-16	1" I.D. hose stem for 1" nut
TMB20-20	1-1/4" I.D. hose stem for 1-1/4" nut
TMB24-24	1-1/2" I.D. hose stem for 1-1/2" nut
TMB32-32	2" I.D. hose stem for 2" nut



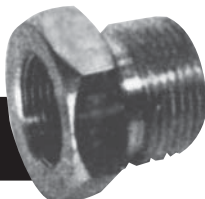
#### Mining Hose Hex Nut

Thorburn Number	Description
TMN16	Hex nut for 1/2", 3/4" and 1" stem
TMN20	Hex nut for 1-1/4" stem
TMN24	Hex nut for 1-1/2" stem
TMN32	Hex nut for 2" stem



#### Mining Hose Female Spud

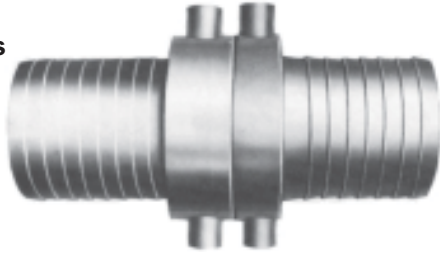
Thorburn Number	Description
TMFS06-16	3/8" female NPT x male thread for 1" nut
TMFS12-16	3/4" female NPT x male thread for 1" nut
TMFS16-16	1" female NPT x male thread for 1" nut
TMFS12-20	3/4" female NPT x male thread for 1-1/4" nut
TMFS16-20	1" female NPT x male thread for 1-1/4" nut



TO ORDER WITH HOSE ASSEMBLY SEE PAGE 159

## SHANK COUPLINGS FOR WATER AND SUCTION SERVICES

### Block 14I Complete Sets

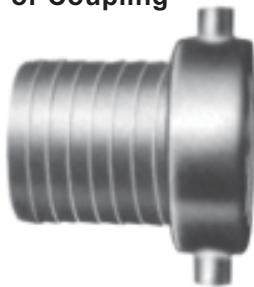


#### Water Suction and Water Discharge

For use on heavy duty suction and discharge water hose. External clamps or bands secure inside of hose to serrated shank. Pins lugs on sizes 3 inches (76.2 mm) and larger on both male and female; on female only, in smaller sizes.

Hose I.D.		Thorburn Number		
		Aluminum Mal. Iron Swivel Nut	All Brass	Plated Mal. Iron Incl. Nut
mm	in.			
25	1	14IAM16	14IB16	14IM16
32	1-1/4	14IAM20	14IB20	14IM20
38	1-1/2	14IAM24	14IB24	14IM24
51	2	14IAM32	14IB32	14IM32
64	2-1/2	14IAM40	14IB40	14IM40
76	3	14IAM48	14IB48	14IM48
102	4	14IAM64	14IB64	14IM64
127	5	--	--	14IM80
152	6	14IAM96	14IB96	14IM96
203	8	--	--	14IM128

### Block 15I Female Half of Coupling



Hose Shank with Straight Female N.P.S., Pin-Lug Swivel Nut.

Hose I.D.		Thorburn Number		
		Aluminum Mal. Iron Swivel Nut	All Brass	Plated Mal. Iron Incl. Nut
mm	in.			
25	1	15IAM16	15IB16	15IM16
32	1-1/4	15IAM20	15IB20	15IM20
38	1-1/2	15IAM24	15IB24	15IM24
51	2	15IAM32	15IB32	15IM32
64	2-1/2	15IAM40	15IB40	15IM40
76	3	15IAM48	15IB48	15IM48
102	4	15IAM64	15IB64	15IM64
127	5	--	--	15IM80
152	6	15IAM96	15IB96	15IM96
203	8	--	--	15IM128

### Block 16I Male Half of Coupling



**No Pin Lugs**  
For sizes up to and including 2-1/2"



**Pin Lugs**  
For size 3" through 8"

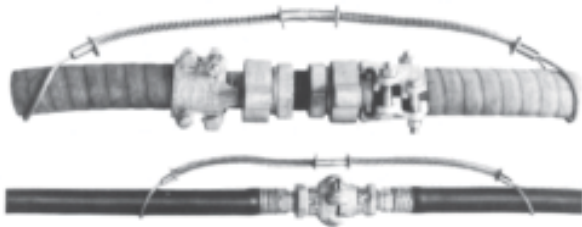
Hose I.D.		Thorburn Number		
		Aluminum Mal. Iron Swivel Nut	All Brass	Plated Mal. Iron Incl. Nut
mm	in.			
25	1	16IAM16	16IB16	16IM16
32	1-1/4	16IAM20	16IB20	16IM20
38	1-1/2	16IAM24	16IB24	16IM24
51	2	16IAM32	16IB32	16IM32
64	2-1/2	16IAM40	16IB40	16IM40
76	3	16IAM48	16IB48	16IM48
102	4	16IAM64	16IB64	16IM64
127	5	--	--	16IM80
152	6	16IAM96	16IB96	16IM96
203	8	--	--	16IM128

TO ORDER WITH HOSE ASSEMBLY SEE PAGE 159

To order, see page 159

Hose I.D. mm	Hose I.D. in.	Plated Steel	SS 316	Nylon
6.4	1/4	25IC04	25ISS604	25IN04
9.5	3/8	25IC06	25ISS606	25IN06
12.7	1-1/2	25IC08	25ISS608	25IN08
15.9	5/8	25IC10	25ISS610	25IN10
19.1	3/4	25IC12	25ISS612	25IN12
25.4	1	25IC16	25ISS616	25IN16
31.8	1-1/4	25IC20	25ISS620	25IN20
34.9	1-3/8	25IC22	25ISS622	25IN22
38.1	1-1/2	25IC24	25ISS624	25IN24
50.8	2	25IC32	25ISS632	25IN32
63.5	2-1/2	25IC40	25ISS640	25IN40
76.2	3	25IC48	25ISS648	25IN46
101.6	4	25IC64	25ISS664	25IN64
139.7	5	25IC80	25ISS680	25IN80
152.4	6	25IC96	25ISS696	25IN96
203.2	8	25IC128	25ISS6128	25IN128
254.0	10	25IC160	25ISS6160	25IN160
304.8	12	25IC192	25ISS6192	25IN192

### "Check Whip" Steel Safety Cables



**PURPOSE:** To prevent hose whipping in case of accidental separation of coupling or clamp device. Thorburn's "Check Whip" reaches across the hose fittings to provide stand-by safety for any type of hose. Spring-loaded loops in the cable ends open easily to pass over the couplings, for firm grip on hose, as shown below. Thoroughly tested with years of service. Two styles:

**TW:** For hose-to-hose service; with spring loops on both ends.

**TWSR:** For hose-to-pipe service; with spring loop one end, other end with choker for side rod or pipe. All parts plated.

**Hose-to-Hose Service – Spring Loops on Both Ends**  
1/8" cable for 1/2" to 1-1/4" incl. hose sizes – TWB1  
1/4" cable for 1-1/2" to 3" incl. hose sizes – TWB2

**Hose-to-Tool Service – Spring Loop One End; Choker Other End**

1/8" cable for 1/2" to 1-1/4" incl. hose sizes – TWSR1  
1/4" cable for 1-1/2" to 3" incl. hose size – TWSR2

### Block 25 I Thorburn Hose Mender



**PURPOSE:** To repair hose for service by joining two hose ends after the damaged portions have been cut off.

**SERVICES:** Air hose in sizes to 1", water, suction and other hose used under normal pressures, in all sizes to 12".

**CONSTRUCTION:** Made from well defined corrugations accommodating two or more clamps on each end.

### ANSI B16.5 Class 150/300 Forged Flanges

#### Slip-On



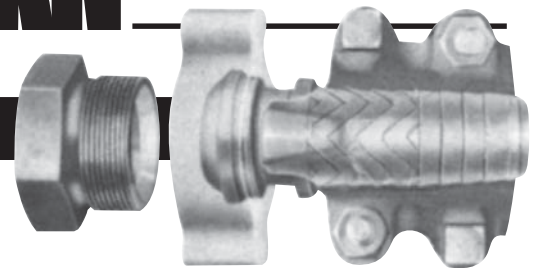
#### Threaded



Slip-On		Threaded	
Thorburn Number	Pipe Size	Thorburn Number	Pipe Size
FLFF** 32 X 150/300	2"	FLTH** 32 X 150/300	2"
FLFF** 40 X 150/300	2-1/2"	FLTH** 40 X 150/300	2-1/2"
FLFF** 48 X 150/300	3"	FLTH** 48 X 150/300	3"
FLFF** 64 X 150/300	4"	FLTH** 64 X 150/300	4"
FLFF** 80 X 150/300	5"	FLTH** 80 X 150/300	5"
FLFF** 96 X 150/300	6"	FLTH** 96 X 150/300	6"
FLFF** 128 X 150/300	8"	FLTH** 128 X 150/300	8"
FLFF** 160 X 150/300	10"	FLTH** 100 X 150/300	10"
FLFF** 192 X 150/300	12"	FLTH** 192 X 150/300	12"

\*\* Ordering: insert CS for Carbon Steel; S4 for SS304; S6 for SS316, MM for Monel. Also available Class 300 forged flanges. Also include suffix 150 for #150 drillings and suffix 300 for #300 drillings.

**TO ORDER WITH HOSE ASSEMBLY SEE PAGE 159**



## HEAVY DUTY COUPLINGS

### "Ground Joint Type Plated"

#### APPLICATION

All-purpose hose couplings, universally recommended for steam hose connections. They are also widely used with equal efficiency for high- or low-pressure air, water, liquid petroleum gas, fluid petroleum products, chemical fluids and almost any other type of fluid or gas. They can be applied to all types of rubber, synthetic, plastic, metallic (with special stem) or semi-metallic hoses.

- ✓ Washerless positive metal-to-metal seal
- ✓ Check whip safety cables strongly recommended
- ✓ Use high pressure clamps (p.121)

### PLATED MALLEABLE IRON SERIES

17I Hose stem with wing nut and female spud



18I Hose stem



19I Wing nut



20I Female spud NPT



21I Male spud NPT



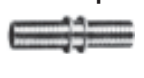
22I Double spud



23I Male pipe NPT stem



24I Hose splicer No clamp



Hose I.D.		Thorburn Number							
		Block 17 I	Block 18 I	Block 19 I	Block 20 I	Block 21 I	Block 22 I	Block 23 I	Block 24 I
mm	in.								
6.4	1/4	17   04	18   04	19   04	20   04	21   05	--	--	--
9.5	3/8	17   06	18   06	19   06	20   06	21   06	--	--	--
12.7	1/2	17   08	18   08	19   08	20   08	21   08	22   08	23   08	24   08
19.1	3/4	17   12	18   12	19   12	20   12	21   12	22   12	23   12	24   12
25.0	1	17   16	18   16	19   16	20   16	21   16	22   16	23   16	24   16
32.0	1-1/4	17   20	18   20	19   20	20   20	21   20	22   20	23   20	24   20
38.0	1-1/2	17   24	18   24	19   24	20   24	21   24	22   24	23   24	24   24
51.0	2	17   32	18   32	19   32	20   32	21   32	22   32	23   32	24   32
64.0	2-1/2	17   40	18   40	19   40	20   40	21   40	22   40	23   40	24   40
76.0	3	17   48	18   48	19   48	20   48	21   48	22   48	23   48	24   48
102.0	4	17   64	18   64	19   64	20   64	--	--	23   64	24   64
127.0	5	17   80	18   80	19   80	20   80	--	--	23   80	24   80
152.0	6	17   96	18   96	19   96	20   96	--	--	23   96	24   96

### BRASS AND STAINLESS #316 SERIES

17I Hose stem with wing nut and female spud



18I Hose stem



19I Wing nut



20I Female spud NPT



17I Hose stem with wing nut and female spud



18I Hose stem



19I Wing nut



20I Female spud NPT



Brass				Hose I.D.		Stainless Steel			
Block 17 I	Block 18 I	Block 19 I	Block 20 I			Block 17 I	Block 18 I	Block 19 I	Block 20 I
				mm	in.				
17 IB 12	18 IB 12	19 IB 12	20 IB 12	19.1	3/4	17 ISS 12	18 ISS 12	19 ISS 12	20 ISS 12
17 IB 16	18 IB 16	19 IB 16	20 IB 16	25.0	1	17 ISS 16	18 ISS 16	19 ISS 16	20 ISS 16
17 IB 20	18 IB 20	19 IB 20	20 IB 20	32.0	1-1/4	17 ISS 20	18 ISS 20	19 ISS 20	20 ISS 20
17 IB 24	18 IB 24	19 IB 24	20 IB 24	38.0	1-1/2	17 ISS 24	18 ISS 24	19 ISS 24	20 ISS 24
17 IB 32	18 IB 32	19 IB 32	20 IB 32	51.0	2	17 ISS 32	18 ISS 32	19 ISS 32	20 ISS 32

TO ORDER WITH HOSE ASSEMBLY SEE PAGE 159

### COMBINATION HOSE NIPPLES

- ☑ Nylon
- ☑ Brass
- ☑ Polypropylene
- ☑ Aluminum
- ☑ Steel
- ☑ Stainless Steel 316

For use on hose without enlargement of hose ends. Especially suitable for wire-woven hose to convey fuel or water fluids by suction or discharge. Serrated shank attached to hose using positive sealing round wire clamps, single or double bolt clamps or flat bands. See Thorburn clamping section for details on page 117-121.

Hose I.D.		11IC			NPT End Material/Size		
mm	in.	Plated Steel	316 SS	Aluminum	Brass	Nylon	Polypropylene
12.7	1/2	11IC08	11ICS608	11ICA08	11ICB08	--	11ICP08
19.1	3/4	11IC12	11ICS612	11ICA12	11ICB12	--	11ICP12
25.4	1	11IC16	11ICS616	11ICA16	11ICB16	--	11ICP16
32	1-1/4	11IC20	11ICS620	11ICA20	11ICB20	11ICN20	--
38	1-1/2	11IC24	11ICS624	11ICA24	11ICB24	11ICN24	11ICP24
51	2	11IC32	11ICS632	11ICA32	11ICB32	11ICN32	11ICP32
64	2-1/2	11IC40	11ICS640	11ICA40	11ICB40	--	--
76	3	11IC48	11ICS648	11ICA48	11ICB48	11ICN48	11ICP48
102	4	11IC64	11ICS664	11ICA64	11ICB64	--	--
127	5	11IC80	11ICS680	11ICA80	11ICB80	--	--
152	6	11IC96	11ICS696	11ICA96	11ICB96	--	--
203	8	11IC128	11ICS6128	11ICA128	--	--	--
254	10	11IC160	11ICS6160	--	--	--	--
305	12	11IC192	11ICS6192	--	--	--	--



**BLOCK 11 IFS**  
Stub end for floating flanges

Hose I.D.		Block 11 IS - Stub End		Block 11 IV - Victaulic End		Block 11 IW - Welded End	
mm	in.	Plated Steel	316 SS	Plated Steel	316 SS	Unpl. Steel	316 SS
12.7	1/2	11IFS08	11IFSS608	11IV08	11IVSS608	11IW08	11IWSS608
19.1	3/4	11IFS12	11IFSS612	11IV12	11IVSS612	11IW12	11IWSS612
25.4	1	11IFS16	11IFSS616	11IV16	11IVSS616	11IW16	11IWSS616
32	1-1/4	11IFS20	11IFSS620	11IV20	11IVSS620	11IW20	11IWSS620
38	1-1/2	11IFS24	11IFSS624	11IV24	11IVSS624	11IW24	11IWSS624
51	2	11IFS32	11IFSS632	11IV32	11IVSS632	11IW32	11IWSS632
64	2-1/2	11IFS40	11IFSS640	11IV40	11IVSS640	11IW40	11IWSS640
76	3	11IFS48	11IFSS648	11IV48	11IVSS648	11IW48	11IWSS648
102	4	11IFS64	11IFSS664	11IV64	11IVSS664	11IW64	11IWSS664
127	5	11IFS80	11IFSS680	11IV80	11IVSS680	11IW80	11IWSS680
152	6	11IFS96	11IFSS696	11IV96	11IVSS696	11IW96	11IWSS696
203	8	11IFS128	11IFSS6128	11IV128	11IVSS6128	11IW128	11IWSS6128
254	10	11IFS160	11IFSS6160	11IV160	11IVSS6160	11IW160	11IWSS6160
305	12	11IFS192	11IFSS6192	11IV192	11IVSS6192	11IW192	11IWSS6192

**Purpose:** To put a floating flange on at least one end of a hose assembly so that torsional stress is relieved in the hose and for ease in connecting to another flanged outlet.



**BLOCK 11 IVSS**  
Victaulic grooved end



**BLOCK 11 IWSS**  
Welded End

**TO ORDER WITH HOSE ASSEMBLY SEE PAGE 159**

## SANI CUP MODEL "SC" 1 1/2", 2", 3"

### 316SS FOOD GRADE HOSE COUPLING SYSTEM

Thorburn's "Sani Cup" coupling system was specifically designed for various food applications including the processing of wine, beer, juice, vegetable and dairy products. Thorburn stainless steel hose couplings meet USAD and new 3-A standards for hose assemblies.



### Thorburn Sani Cup Coupling Styles

#### Sanitary End Stem

Size	Thorburn Part #
1 1/2"	SC24SE-S6
2"	SC32SE-S6
3"	SC48SE-S6



#### Bevel Seat Female Stem

Size	Thorburn Part #
1 1/2"	SC24BF-S6
2"	SC32SF-S6
3"	SC48SF-S6



#### Male NPT Stem

Size	Thorburn Part #
1 1/2"	SC24MP-S6
2"	SC32MP-S6
3"	SC48MP-S6



#### Sanitary Clamps

For use with Sanitary End Stems



Size	Thorburn Part #
1 1/2"	SC24SC-S6
2"	SC32SC-S6
3"	SC48SC-S6

#### Acme Thread Hex Nuts

For use with Bevel Seat Stems



Size	Thorburn Part #
1 1/2"	SC24AN-S6
2"	SC32AN-S6
3"	SC48AN-S6

#### Sanitary Gaskets

For use with Sanitary End Stems  
Buna-N White



Size	Thorburn Part #
1 1/2"	SC24SG-BW
2"	SC32SG-BW
3"	SC48SG-BW

#### Stainless Steel Ferrules

#### "Sani-Cup" Stainless Steel Ferrules Part Numbers



Hose 1 1/2"		Hose 2"		Hose 3"	
Hose O.D.	Thorburn Part #	Hose O.D.	Thorburn Part #	Hose O.D.	Thorburn Part #
1 15/16" - 2 1/32"	SC31F-S6	2 9/16" - 2 21/32"	SC41F-S6	3 9/16" - 3 21/32"	SC57F-S6
2 1/16" - 2 5/32"	SC33F-S6	2 11/16" - 2 25/32"	SC43F-S6	3 11/16" - 3 25/32"	SC59F-S6
2 3/16" - 2 9/32"	SC36F-S6	2 13/16" - 2 29/32"	SC45F-S6	3 13/16" - 3 29/32"	SC61F-S6
2 5/16" - 2 13/32"	SC37F-S6	2 15/16" - 3 1/32"	SC47F-S6	3 15/16" - 4 1/32"	SC63F-S6
2 7/16" - 2 1/2"	SC39F-S6			4 1/16" - 4 1/8"	SC65F-S6

TO ORDER WITH HOSE ASSEMBLY SEE PAGE 159



### THOR SWAGE STYLE "TSX" EXTERNAL SWAGE HOSE COUPLING SYSTEM 1 1/4" TO 10"

Thorburn "Thor-Swage" is a unique Hose Fitting for end joint sealing system that attaches the couplings by a draw type progressive swage

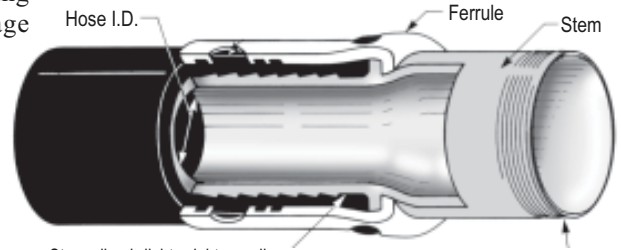


#### "TSX" Ferrules

The selection of ferrules is very important to achieve the proper coupling-to-hose assembly. Style TSXF Ferrules are used with all standard length male stems. Style TSXFL Ferrules are extra long and are used with all long style stems.



STANDARD TYPE TSXF



Streamlined, lightweight coupling consisting of ferrule and stem. No protrusions to snag on equipment. Thorburn Thor-Swage un-interrupted 360° progressive swage band around the hose for the ultimate in fitting to end joint sealing technology

LONG TYPE TSXFL

Hose I.D.	Thorburn Parts #		Fits Hose O.D.	
	Standard	Long	From	To
1 1/4"	TSXF20-1	TSXFL20-1	1 11/16"	1 25/32"
	TSXF20-2	TSXFL20-2	1 13/16"	1 29/32"
	TSXF20-3	TSXFL20-3	1 15/16"	2 1/32"
	TSXF20-4	TSXFL20-4	2 1/16"	2 1/8"
1 1/2"	TSXF24-1	TSXFL24-1	1 15/16"	2 1/32"
	TSXF24-2	TSXFL24-2	2 1/16"	2 5/32"
	TSXF24-3	TSXFL24-3	2 3/16"	2 9/32"
	TSXF24-4	TSXFL24-4	2 5/16"	2 13/32"
	TSXF24-5	TSXFL24-5	2 7/16"	2 1/2"
2"	TSXF32-1	TSXFL32-1	2 9/16"	2 21/32"
	TSXF32-2	TSXFL32-2	2 11/16"	2 25/32"
	TSXF32-3	TSXFL32-3	2 13/16"	2 29/32"
	TSXF32-4	TSXFL32-4	2 15/16"	3 1/32"
2 1/2"	TSXF40-1	TSXFL40-1	3 1/16"	3 5/32"
	TSXF40-2	TSXFL40-2	3 3/16"	3 9/32"
	TSXF40-3	TSXFL40-3	3 5/16"	3 13/32"
	TSXF40-4	TSXFL40-4	3 7/16"	3 17/32"
	TSXF40-5	TSXFL40-5	3 9/16"	3 5/8"

Hose I.D.	Thorburn Parts #		Fits Hose O.D.	
	Standard	Long	From	To
3"	TSXF48-1	TSXFL48-1	3 9/16"	3 21/32"
	TSXF48-2	TSXFL48-2	3 11/16"	3 25/32"
	TSXF48-3	TSXFL48-3	3 13/16"	3 29/32"
	TSXF48-4	TSXFL48-4	3 15/16"	4 1/32"
	TSXF48-5	TSXFL48-5	4 1/16"	4 1/8"
4"	TSXF64-1	TSXFL64-1	4 5/8"	4 23/32"
	TSXF64-2	TSXFL64-2	4 3/4"	4 27/32"
	TSXF64-3	TSXFL64-3	4 7/8"	4 31/32"
	TSXF64-4	TSXFL64-4	5"	5 3/32"
	TSXF64-5	TSXFL64-5	5 1/8"	5 7/32"
	TSXF64-6	TSXFL64-6	5 1/4"	5 11/32"
	TSXF64-7	TSXFL64-7	5 3/8"	5 15/32"
	TSXF64-8	TSXFL64-8	5 1/2"	5 9/16"
5"	TSXF80-1	TSXFL80-1	5 7/8"	5 31/32"
	TSXF80-2	TSXFL80-2	6"	6 3/32"
	TSXF80-3	TSXFL80-3	6 1/8"	6 7/32"
	TSXF80-4	TSXFL80-4	6 1/4"	6 11/32"
	TSXF80-5	TSXFL80-5	6 3/8"	6 15/32"
	TSXF80-6	TSXFL80-6	6 1/2"	6 9/16"
	TSXF80-7	TSXFL80-7	6 5/8"	6 11/16"

Hose I.D.	Thorburn Parts #		Fits Hose O.D.	
	Standard	Long	From	To
6"	TSXF96-1	TSXFL96-1	7"	7 1/16"
	TSXF96-2	TSXFL96-2	7 3/32"	7 3/16"
	TSXF96-3	TSXFL96-3	7 7/32"	7 5/16"
	TSXF96-4	TSXFL96-4	7 11/32"	7 7/16"
	TSXF96-5	TSXFL96-5	7 15/32"	7 9/16"
	TSXF96-6	TSXFL96-6	7 19/32"	7 11/16"
	TSXF96-7	TSXFL96-7	7 23/32"	7 13/16"
	TSXF96-8	TSXFL96-8	7 27/32"	7 15/16"
	TSXF96-9	TSXFL96-9	7 31/32"	8"
8"	TSFX128-1	TSXFL128-1	9 5/16"	9 13/32"
	TSFX128-2	TSXFL128-2	9 7/16"	9 17/32"
	TSFX128-3	TSXFL128-3	9 9/16"	9 21/32"
	TSFX128-4	TSXFL128-4	9 11/16"	9 25/32"
	TSFX128-5	TSXFL128-5	9 13/16"	9 29/32"
	TSFX128-6	TSXFL128-6	9 15/16"	9 3/32"
	TSFX128-7	TSXFL128-7	10 1/16"	10 1/16"
10"	TSFX160-1	TSXFL160-1	11 1/2"	11 11/16"
	TSFX160-2	TSXFL160-2	11 3/4"	11 15/16"
	TSFX160-3	TSXFL160-3	12"	12 3/16"
	TSFX160-4	TSXFL160-4	12 1/4"	12 7/16"
	TSFX160-5	TSXFL160-5	12 1/2"	12 11/16"

For Stainless Steel Ferrules insert suffix S6

### Thor Swage Style "TSX" Couplings

**Style TSXP Plain 37° Beveled End**  
Also style TSXPL\*\* long type



**Style TSXM Male N.P.T. End**  
Also style TSXML\*\* long type



**Style TSXG Victaulic Grooved End**  
Also style TSXGL\*\* long type



Standard insert material Plated Steel. For Stainless Steel 316 insert suffix S6

\*\*Use longer stems and ferrules when working with higher pressures

#### Multi-range couplings - Standard and Long Styles

ID & NPT sizes	Thorburn Part # Standard styles			Thorburn Part # Long styles		
	TSXM	TSXP	TSXG	TSXML	TSXPL	TSXGL
1 1/4"	TSXM20	TSXP20	TSXG20	TSXML20	TSXPL20	TSXGL20
1 1/2"	TSXM24	TSXP24	TSXG24	TSXML24	TSXPL24	TSXGL24
2"	TSXFW32	TSXP32	TSXG32	TSXML32	TSXPL32	TSXGL32
2 1/2"	TSXFW40	TSXP40	TSXG40	TSXML40	TSXPL40	TSXGL40
3"	TSXFW48	TSXP48	TSXG48	TSXML48	TSXPL48	TSXGL48
4"	TSXFW64	TSXP64	TSXG64	TSXML64	TSXPL64	TSXGL64
5"	TSXFW80	TSXP80	TSXG80	TSXML80	TSXPL80	TSXGL80
6"	TSXFW96	TSXP96	TSXG96	TSXML96	TSXPL96	TSXGL96
8"	TSXFW128	TSXP128	TSXG128	TSXML128	TSXPL128	TSXGL128
10"	TSXFW160	TSXP160	TSXG160	TSXML160	TSXPL160	TSXGL160

#### ThorSwage Style "M"

These ferrules are to be used with thin wall hose. Specially designed ferrules have serrations on the outside and are for use with styles TSXM, TSXP and TSXG stems.

Hose I.D.	Part #
1 1/2"	TSXFW24
2"	TSXFW32
2 1/2"	TSXFW40
3"	TSXFW48
4**	TSXFW64



Material: Plated Steel

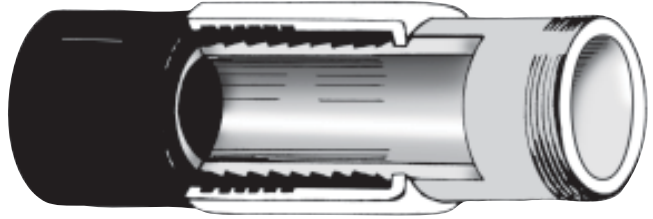
\*4 takes special stem TSM64-4

TO ORDER WITH HOSE ASSEMBLY SEE PAGE 159

## Thor-Swage Style "TSI"

### INTERNALLY EXPANDED COUPLING SYSTEM 1 1/4" TO 4"

Thorburn Internally Expanded Couplings are essential when maximum flow is important. Some recommended applications of these fittings are concrete pump hose, plaster and grout hose, oil suction and discharge hose, multi-purpose heavy duty air hose, jetting hose, barge loading hose and bottom loading hose.



### Internally Expanded Ferrules

Available in stainless steel



### Internally Expanded Couplings

#### Benefits of Internally Expanded Fittings

- Maximum flow of media
- Reduction of turbulence through hose
- Excellent sealing and retention characteristics
- Out-performs band clamps
- Easy and consistent installation

*Available in Stainless Steel and Carbon Steel*

I.D. Size	Ferrule Size	Part #
1 1/4"	1 11/16"	TSI20-Z
	1 3/4"	TSI20-1
	1 13/16"	TSI20-2
	1 7/8"	TSI20-3
	1 15/16"	TSI20-4
	2"	TSI20-5
1 1/2"	2 1/16"	TSI20-6
	1 15/16"	TSI24-Z
	2"	TSI24-1
	2 1/16"	TSI24-2
	2 1/8"	TSI24-3
	2 3/16"	TSI24-4
2"	2 1/4"	TSI24-5
	2 9/16"	TSI32-Y
	2 5/8"	TSI32-Z
	2 11/16"	TSI32-1
	2 3/4"	TSI32-2
	2 13/16"	TSI32-3
	2 7/8"	TSI32-4
	2 31/32"	TSI32-5

I.D. Size	Ferrule Size	Part #
2 1/2"	3 1/16"	TSI40-1
	3 1/8"	TSI40-2
	3 3/16"	TSI40-3
3"	3 1/4"	TSI40-4
	3 5/16"	TSI40-5
	3 9/16"	TSI48-T
	3 5/8"	TSI48-U
	3 11/16"	TSI48-V
	3 3/4"	TSI48-W
	3 13/16"	TSI48-X
	3 7/8"	TSI48-Y
	3 15/16"	TSI48-Z
	4"	TSI48-1
	4 1/16"	TSI48-2
	4 1/8"	TSI48-3
	4 3/16"	TSI48-4
	4 1/4"	TSI48-5

I.D. Size	Ferrule Size	Part #
4"	4 5/8"	TSI64-T
	4 11/16"	TSI64-U
	4 3/4"	TSI64-V
	4 13/16"	TSI64-W
	4 7/8"	TSI64-X
	5 15/16"	TSI64-Y
	5"	TSI64-Z
	5 1/16"	TSI64-1
	5 1/8"	TSI64-2
	5 3/16"	TSI64-3
	5 1/4"	TSI64-4
	5 5/16"	TSI64-5

**Larger sizes available to 8"  
CALL THORBURN NOW!**

### Internally Expanded Stems



**Style TSIM**  
Male Pipe End



**Style TSIV**  
Grooved End



**Style TSIP**  
Plain End



**Style TSIH**  
Heavy Duty, Raise  
End California Style

I.D. Size	Part #	Part #	Part #	Part #
1 1/4"	TSIM20	TSIV20		
1 1/2"	TSIM24	TSIV24		
2"	TSIM32	TSIV32	TSIH32	
2 1/2"	TSIM40	TSIV40	TSIH40	TSIP40
3"	TSIM48	TSIV48	TSIH48	
4"	TSIM64	TSIV64	TSIH64	

#### Special note: Materials

- 1 All parts are plated steel standard
- 2 For stainless steel 316 insert suffix S6

**TO ORDER WITH HOSE ASSEMBLY SEE PAGE 159**

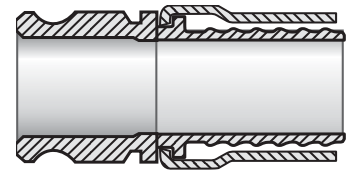
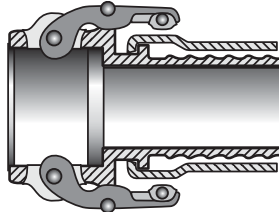


### SWAGED-ON CAM AND GROOVE

Available in 316SS 1 1/2" to 4" sizes

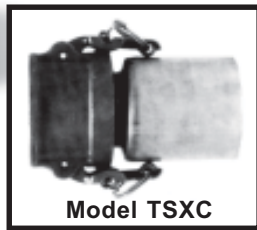
Female Coupler/Ferrule

Male Coupler/Ferrule



Model TSXC

Model TSXE



Model TSXC

Hose I.D.	Female Coupler with Ferrule	O.D. Range	Male Adapter with Ferrule
1 1/2	TSXC24-S6	1 15/16" - 2 3/64	TSXE24-S6
1 1/2	TSXC24-S6	2 1/16" - 2 7/32	TSXE24-S6
2	TSXC32-S6	2 15/32" - 2 11/16	TSXE32-S6
2	TSXC32-S6	2 21/32" - 2 27/32	TSXE32-S6
3	TSXC48-S6	3 15/32" - 2 23/32	TSXE48-S6

### Thor Swage style "THL" High Pressure Coupling System

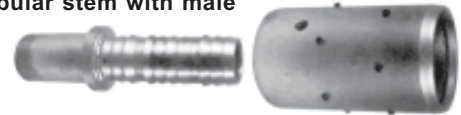
Use these couplings for services requiring a fitting which will stand extremely high pressures (up to 3,000 psi) and severe operating conditions, such as on small and medium size drilling rigs, used for Slim Hole, Core Drill, Workover, Seismograph, Water Well, Blast or Shot Holes, etc. These extra long, rugged fittings are machined from seamless pipe and tubing with specially designed serrations and rows of set screws for better coupling retention.

### Stem/Ferrule Assemblies

Hose ID & NPT size	Part #	Hose ID & API size	Part #
2"	THLM32	2" x 2 1/2"	THLM3240
2 1/2"	THLM40	2 1/2" x 3"	THLM4048
3"	THLM48	3" x 4"	THLM4864

The LM fitting is a complete coupling including stem and ferrule. Accurate hose O.D. must be provided to insure proper retention.

The LM tubular stem with male N.P.T. end and ferrule



## Thor Swage Maximum Working Pressures

Thor Swage Series TSX and TSI

Size	Standard Fittings	Long Style Fittings	Thor-Swage Cam & Groove	Internally Expanded
	TSXM, TSXP, TSXG	TSXML, TSXPL, TSXGL	TSXC / TSXE	TSI
1 1/4"	600	1,000	—	800
1 1/2"	600	1,000	300	800
2"	600	1,000	300	800
2 1/2"	600	1,000	250	600
3"	600	1,000	200	600
4"	500	850	—	500
5"	450	750	—	—
6"	400	700	—	—
8"	350	600	—	—
10"	300	550	—	—

Pressures are for couplings only. Pressure also dependent on hose design working pressure.



**THOR-SWAGE**  
THE ULTIMATE IN FITTING TO END JOINT SEALING TECHNOLOGY

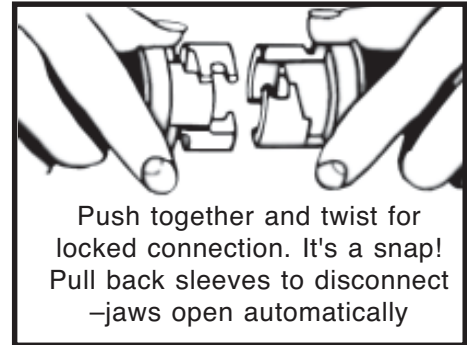
TO ORDER WITH HOSE ASSEMBLY SEE PAGE 159

## "THOR-QUICK

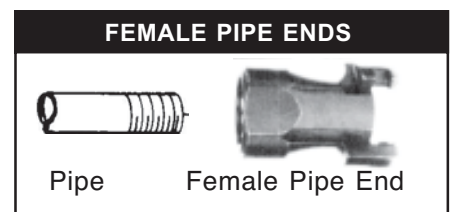
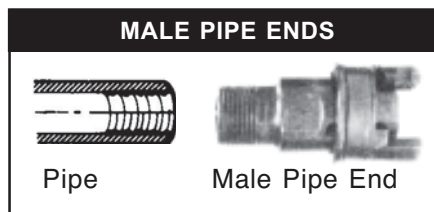
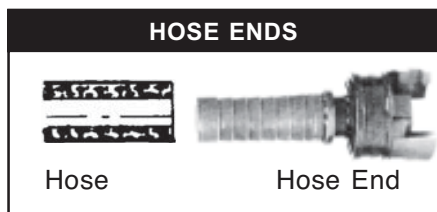
### THE SAFE CONNECTION

Perfect Safety Hose Couplings Can't Let Go Accidentally

- Double-locking safety "fingers" prevent accidental disconnect
- Unobstructed air flow
- Rugged alloy, cadmium plated steel or naval brass construction
- Two size ranges – 3/8" to 1" Series or 1" to 1-1/4" Jumbo Series
- Equipped with phosphor bronze locking
- Couplings are fully interchangeable within each size range
- Meet OSHA safety standards



#### BUNA "N" GASKET STANDARD



### PERFECT SAFETY HOSE COUPLINGS

(with Safety Locking Sleeve Feature)

BLACK PLATED STEEL					
Hose Ends		Male Pipe Ends		Fem. Pipe Ends	
Thorburn Numbers	Hose Size	Thorburn Number	Pipe Size	Thorburn Number	Pipe Size
TH2070	3/8"	TH101049	3/8"	--	3/8"
TH2071	1/2"	TH72569	1/2"	--	1/2"
TH2072	3/4"	TH22434	3/4"	--	3/4"
TH22657	1"	--	1"	--	1"

NAVAL BRASS					
Hose Ends		Male Pipe Ends		Fem. Pipe Ends	
Thorburn Numbers	Hose Size	Thorburn Number	Pipe Size	Thorburn Number	Pipe Size
TH96023	1/2"	--	1/2"	--	1/2"
TH96024	3/4"	--	3/4"	--	3/4"

CADMIUM PLATED STEEL					
Hose Ends		Male Pipe Ends		Fem. Pipe Ends	
Thorburn Numbers	Hose Size	Thorburn Number	Pipe Size	Thorburn Number	Pipe Size
TH98363	3/8"	TH98371	3/8"	--	3/8"
TH98178	1/2"	TH98174	1/2"	--	1/2"
TH98180	3/4"	TH98169	3/4"	TH98167	3/4"
--	1"	--	1"	--	1"

JUMBO HOSE COUPLINGS - BLACK PLATED STEEL			
(not interchangeable with other perfect safety hose couplings)			
Hose Ends		Male Pipe Ends	
Thorburn Numbers	Hose Size	Thorburn Number	Pipe Size
TH21320	1"	TH21322	1"
TH21321	1-1/4"	TH21323	1-1/4"

TO ORDER WITH HOSE ASSEMBLY SEE PAGE 159

## INDUSTRIAL INTERCHANGE SERIES

## SINGLE SHUT-OFF VALVE COUPLERS

### 1/4" PLUGS



#### Male Threaded End

TDCP-101 1/8" NPT-M  
TDCP-1 1/4" NPT-M  
TDCP-103 3/8" NPT-M



#### Female Threaded End

TDCP-221 1/8" NPT-F  
TDCP-2 1/4" NPT-F  
TDCP-223 3/8" NPT-F



#### Hose Shank End

TDCP-142 1/4" hose shank  
TDCP-143 5/16" hose shank  
TDCP-144 3/8" hose shank

### 1/4" COUPLERS



#### Male Threaded End

TDC-101 1/8" NPT-M  
TDC-1 1/4" NPT-M  
TDC-103 3/8" NPT-M



#### Female Threaded End

TDC-221 1/8" NPT-F  
TDC-2 1/4" NPT-F  
TDC-223 3/8" NPT-F



#### Hose Shank End

TDC-242 1/4" hose shank  
TDC-243 5/16" hose shank  
TDC-244 3/8" hose shank

### 3/8" PLUGS



#### Male Threaded End

TDCP-7 1/4" NPT-M  
TDCP-5 3/8" NPT-M  
TDCP-504 1/2" NPT-M



#### Female Threaded End

TDCP-8 1/4" NPT-F  
TDCP-6 3/8" NPT-F  
TDCP-624 1/2" NPT-F



#### Hose Shank End

TDCP-542 1/4" hose shank  
TDCP-544 3/8" hose shank  
TDCP-545 1/2" hose shank

### 3/8" COUPLERS



#### Male Threaded End

TDC-7 1/4" NPT-M  
TDC-5 3/8" NPT-M  
TDC-504 1/2" NPT-M



#### Female Threaded End

TDC-8 1/4" NPT-F  
TDC-6 3/8" NPT-F  
TDC-624 1/2" NPT-F



#### Hose Shank End

TDC-642 1/4" hose shank  
TDC-644 3/8" hose shank  
TDC-645 1/2" hose shank

### 3/8" PLUGS



#### Male Threaded End

TDCP-903 3/8" NPT-M  
TDCP-9 1/2" NPT-M  
TDCP-906 3/4" NPT-M



#### Female Threaded End

TDCP-1023 3/8" NPT-F  
TDCP-10 1/2" NPT-F  
TDCP-1026 3/4" NPT-F



#### Hose Shank End

TDCP-944 3/8" hose shank  
TDCP-945 1/2" hose shank  
TDCP-946 3/4" hose shank

### 3/8" COUPLERS



#### Male Threaded End

TDC-903 3/8" NPT-M  
TDC-9 1/2" NPT-M  
TDC-906 3/4" NPT-M



#### Female Threaded End

TDC-1023 3/8" NPT-F  
TDC-10 1/2" NPT-F  
TDC-1026 3/4" NPT-F



#### Hose Shank End

TDC-1044 3/8" hose shank  
TDC-1045 1/2" hose shank  
TDC-1046 3/4" hose shank







TO ORDER WITH HOSE ASSEMBLY SEE PAGE 159

## 3/4" INDUSTRIAL QUICK-CONNECT FITTINGS

### Industrial Interchange

Interchange with Hansel and Foster 3/4" Series. Couplers are plated steel. Plugs are hardened and plated. Shut-off valve in coupler half.

**Note:** Due to their large size these couplers should not be connected or disconnected under pressures of more than 40 psi. Rated 300 psi.

PLUGS			COUPLERS		
<b>Male NPT</b>	<b>Plated Steel</b>		<b>Male NPT</b>	<b>Plated Steel</b>	
1/2"	TDCP71-04		1/2"	TDC71-04	
3/4"	TDCP71-06		3/4"	TDC71-06	
1"	TDCP71-08		1"	TDC71-08	
<b>Female NPT</b>	<b>Plated Steel</b>		<b>Female NPT</b>	<b>Plated Steel</b>	
1/2"	TDCP70-24		1/2"	TDC70-24	
3/4"	TDCP70-26		3/4"	TDC70-26	
1"	TDCP70-28		1"	TDC70-28	
<b>Hose Barb</b>	<b>Plated Steel</b>		<b>Hose Barb</b>	<b>Plated Steel</b>	
1/2"	TDCP71-45		1/2"	TDC70-45	
3/4"	TDCP71-46		3/4"	TDC70-46	
1"	TDCP71-48		1"	TDC70-48	

**TO ORDER WITH HOSE ASSEMBLY SEE PAGE 159**

### IN-LINE SWIVELS

Part #	NPTM	NPTF
TD22	1/4" x	1/4"
TD33	3/8" x	3/8"



Rated for 150 psi. Use with air only.

For fast and efficient service that helps prevent hose kinking.

### IN-LINE SWIVELS

- Supply 3 air tools from a single hose
- Strong, lightweight machined aluminum construction

#### Suggested applications

Supply 3 air operated tools from a single supply hose. Mount to pipe at workbench or overhead. Permits use of air supply by more than one mechanic. Different tools in the shop use different styles of couplers. Mount 3 different style couplers on one manifold.



Model No.	Inlet Thread	Outlet Thread
TD3202	1/4" NPT	1/4" NPT
TD3302	3/8" NPT	1/4" NPT
TD3402	1/2" NPT	1/4" NPT

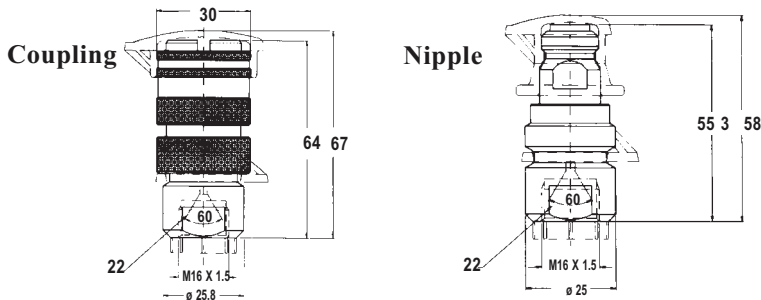
## SERIES 30HQ HIGH PRESSURE QUICK COUPLINGS



There is a growing worldwide need for ultra high pressures for hydraulic tools and Thorburn is providing the answer with a new generation of quick couplings.

### FEATURES

- ☑ Working pressures 30,000 psi (minimum break 85,000 psi)
- ☑ Dead tight sealing on connection or disconnection
- ☑ Safety locking mechanism to prevent slides of disconnection



Thorburn

Description	Part no.	Connection
Coupling	30 HQC-04C	M16 x 1,5 female w. 60 sealing cone
Nipple	30 HQC-04C	M16 x 1,5 female w. 60 sealing cone

### TECHNICAL SPECIFICATIONS

- Max. working pressure: 30,000 psi (2069 bar)
  - Min. burst pressure: 87,000 psi (6,000 bar)
  - Sealing material: Nitrile rubber
  - Temperature range: -20° C - + 80° C (-4° F - + 176° F)
  - Nominal hole dia.: Ø 2,5 mm
  - Surface treatment: Black finished
- (Locking sleeve Zinc chromate plated)

## High Pressure Quick Couplings Model NTFD Water Blast

### FEATURES

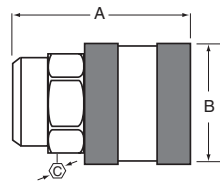
- ☑ Minimum burst pressure 40,000 psi
- ☑ Safety sleeve lock guards against accidental disconnection
- ☑ Smooth bore "straight through" design for high flow
- ☑ Heavy duty back-up ring to prevent O-Ring extrusion
- ☑ Made from corrosion resistant 316 stainless steel
- ☑ Also available in plated carbon steel upon request



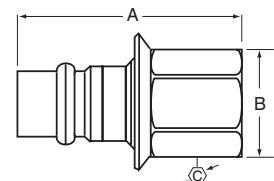
NTFD69 nipple

NTFD69 coupler

Female Pipe Coupler  
(NTFD69)



Female Pipe Nipple  
(NTFD69)



Thorburn Part #	Size (in.)	Female Pipe Thread (in.)	Dimensions (in.)		
			A	B	C
NTFD69C08S6	1/2	1/2 - 14	2.13	1.62	1.64

Thorburn Part #	Size (in.)	Female Pipe Thread (in.)	Dimensions (in.)		
			A	B	C
NTFD69N08S6	1/2	1/2 - 14	2.34	1.30	1.64

## CAM TYPE QUICK ACTING OPERATING DETAILS

Metal	Size (in.)	Pressure Rating (psi)
<b>Aluminum, Bronze</b>	1/2 - 3/4	250
Std. gasket 225°F	1	250
Viton* 350°F but reduce pressure by 1/2	1-1/4	250
Teflon* gaskets also available	1-1/2	250
	2	250
	2-1/2	150
	3	125
	4	100
	5	75
	6	75
	8	50
<b>Cast Iron</b>	1/2 - 3/4	125
Std. gasket 225°F	1	125
Viton* gasket 350°F	1-1/2	125
Teflon gaskets also available	2	125
	2-1/2	100
	3	100
	4	100
<b>Stainless Steel, Steel</b>	1/2 - 3/4	250
Std. gasket 225°F	1	250
Viton** gasket 350°F	1-1/4	250
Teflon** gasket 450°F	1-1/2	250
	2	150
	3	150
	4	150
<b>Monel</b>	1/2 - 3/4	250
Std. w gasket 225°F	1	250
Viton** gasket 350°F	1-1/4	250
Teflon** gasket 450°F	1-1/2	250
	2	250
	2-1/2	200
	3	200
	4	150
<b>Polypropylene</b>	1	100
Std. gasket 70°F	1-1/2 - 2	100
Std gasket 200°F	1-1/2 - 2	50
Std gasket 70°F	3	50

Pressures shown have a 3 to 1 safety  
 \* For temperatures in excess of 225°F, consult Thorburn  
 \*\* For temperatures in excess of 300°F, consult Thorburn  
**Note:** For pressure requirements greater than above, consult Thorburn

All *Thorburn Quick Connect/Disconnect Couplings* in every metal and size through 6" parts are manufactured to specification MIL-C-27487. Conformance to this specification allows complete interchangeability. Couplings not interchangeable in the industry are sizes 8" and 10". No standards were established by the government for these sizes.

Quality is controlled in every phase of manufacture as is required for compliance to MIL-C-27487.

*Security Chain* with "S" hooks or finger rings are available especially for Dust Plugs and Dust Caps.

All *Thorburn Cam Arms* are supplied complete with pins and finger rings. They are available in a sintered bronze forging, stainless steel, and an investment cast stainless steel. Bronze cams are standard on bronze, aluminum and iron. Sintered stainless cams are standard on polypropylene and nylon couplings. Our stainless steel couplings are equipped with 316 stainless steel cams. Any variation must be specified.

**Note:** Finger rings are supplied on all cams and on all couplings Also available are Paddle Handles and Half Moon Handles for extra leverage and better grip in cold weather.

Standard *Gaskets* are in Buna N. Any variation must be specified.

Gaskets are furnished in:

Code	Code
Buna N ..... D	Gum ..... B
Neoprene ..... C	Silicone ..... L
Viton A ..... I	White ..... WD
Teflon (PTFE) ..... J	Thiokol ..... TL
Nordel (EPT) ..... ND	Hypalon ..... F
EPDM	

*Materials generally in stock* for standard sizes are:

- |                    |               |
|--------------------|---------------|
| Aluminum           | Semi-steel    |
| Bronze             | Ductile       |
| Hard Coat Aluminum | Polypropylene |
| Stainless Steel    | Nylon         |

*Materials available for special uses* are:

- |              |              |
|--------------|--------------|
| Monel        | Carpenter 20 |
| Ni-Resist    | Hastaloy C   |
| Carbon Steel |              |

These listings are not exclusive. Please contact us for parts engineered to fit your special needs.

*Gaskets can be coded* with color stripes as follows:

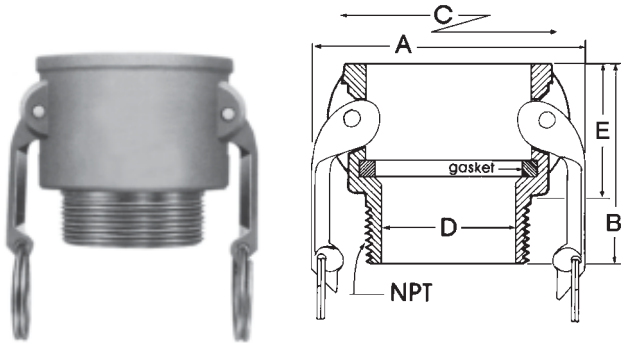
- |              |                  |
|--------------|------------------|
| Buna N       | Orange           |
| Neoprene     | White            |
| Viton A      | Green            |
| Thiokol      | Yellow and green |
| Silicone     | Blue             |
| Hypalon      | White and Red    |
| Nordel (EPT) | Yellow           |



## CAM TYPE COUPLERS, QUICK ACTING

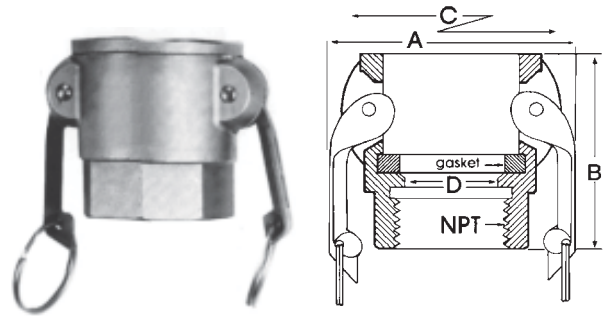
### 633-B COUPLER

Male NPT  
Style Code "B"



### 633-D COUPLER

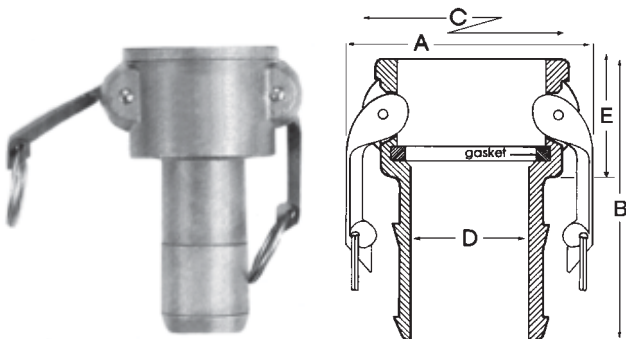
Female N.P.T.  
Style Code "D"



### 633-C COUPLER HOSE SHANK

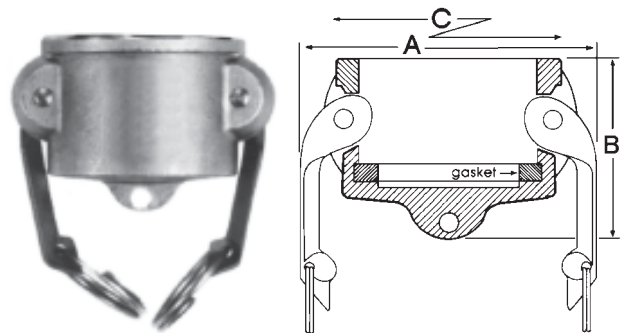
Style Code "C"

Part # used for attachment to  
hose welded, swaged or  
crimped



### 633-DC DUST CAP

FOR ADAPTERS  
Style Code "DC"



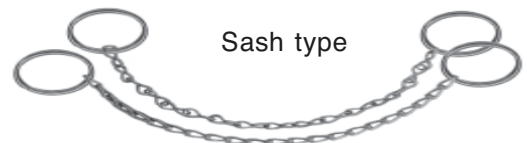
TO ORDER WITH HOSE ASSEMBLY SEE PAGE 159

## SECURITY CHAINS AND "S" HOOKS

Thorburn Number	Description
TCHB6	6" long brass
TCHB12	12" long brass
TCHSS6	6" long stainless steel
TCHSS12	12" long stainless steel
TCHSS24	24" long stainless steel
TCHC12	12" long plated steel (sash chain)



"S" Hooks



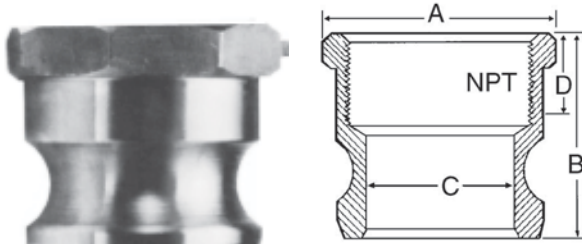
Sash type

## CAM TYPE COUPLERS, QUICK ACTING

Now Available with Key Lugs

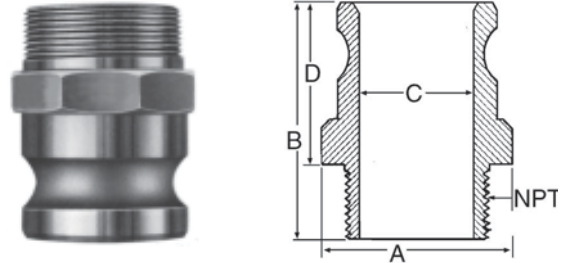
### 633-A ADAPTER

Female NPT  
Style Code "A"



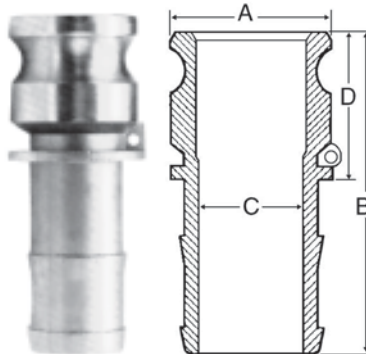
### 633-F ADAPTER

Male NPT  
Style Code "F"



### 633-E ADAPTER

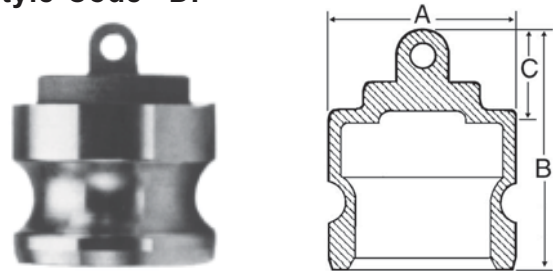
Hose shank  
Style Code "E"



Part # used for attachment to hose welded, swaged or crimped

### 633-DP PLUG

for Couplers  
Style Code "DP"



## HOW TO ORDER THORBURN CAM TYPE COUPLERS

Insert style code mentioned above where \* is located in the Thorburn Number below

IE: 633AAL64 = 4" I.D. Type "A" female NPT adaptor

*All dimensions available upon request.  
Size and material availability shown below.*

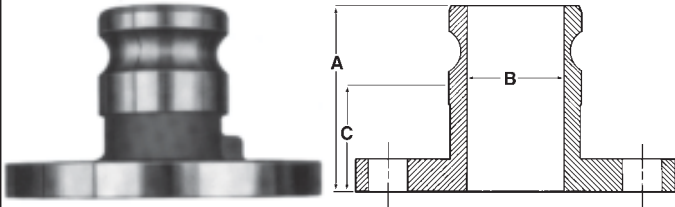
Size	Thorburn Part Numbers						
	Aluminum	Brass-Bronze	Carbon Steel	Stainless	Hd. ct. Alum.	Polypropylene	Nylon
1/2	633*AL08	633*BR08	633*CS08	633*SS08	633*HA08	--	--
3/4	633*AL12	633*BR12	633*CS12	633*SS12	633*HA12	633*PP12	--
1	633*AL16	633*BR16	633*CS16	633*SS16	633*HA16	633*PP16	--
1-1/4	633*AL20	633*BR20	633*CS20	633*SS20	633*HA20	633*PP20	--
1-1/2	633*AL24	633*BR24	633*CS24	633*SS24	633*HA24	633*PP24	633*NL24
2	633*AL32	633*BR32	633*CS32	633*SS32	633*HA32	633*PP32	633*NL32
2-1/2	633*AL40	633*BR40	633*CS40	633*SS40	633*HA40	--	--
3	633*AL48	633*BR48	633*CS48	633*SS48	633*HA48	--	--
4	633*AL64	633*BR64	633*CS64	633*SS64	633*HA64	--	--
5	633*AL80	633*BR80	--	633*SS80	633*HA80	--	--
6	633*AL96	633*BR96	--	633*SS96	633*HA96	--	--
8	633*AL128	633*BR128	--	633*SS128	633*HA128	--	--
10	633*AL160	--	--	--	--	--	--

TO ORDER WITH HOSE ASSEMBLY SEE PAGE 159

## CAM TYPE FLANGE ADAPTERS

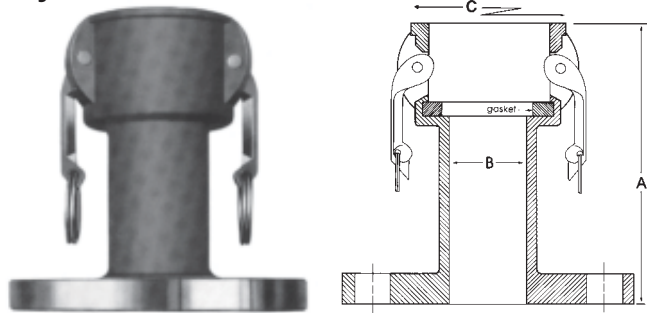
### 633-PFE ADAPTER

Male flange  
Class 150  
Style code "PFE"



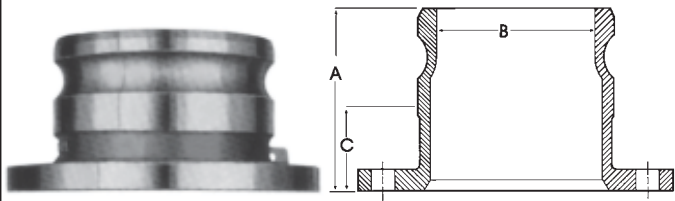
### 633-PFC COUPLER

Female flange  
Class 150  
Style code "PFC"



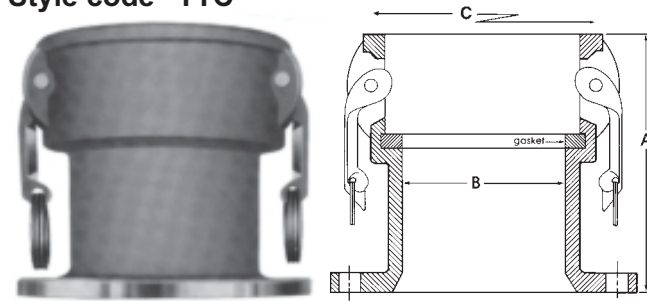
### 633-TTE ADAPTER

Tank truck  
Male adapter  
Style code "TTE"



### 633-TTC COUPLER

Tank truck  
Female coupler  
Style code "TTC"

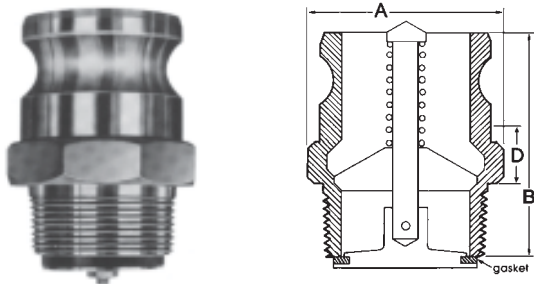


OTHER STYLES AVAILABLE UPON REQUEST

## THORBURN INTRODUCES Check Valve CAM and Groove Couplings

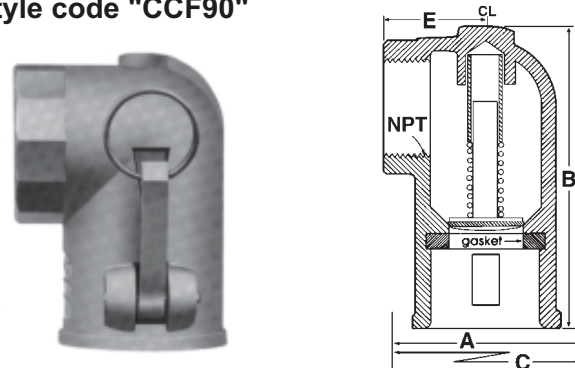
### 633-CEM ADAPTER

W/Check Valve  
Male check valve  
Style code "CEM"



### 633-CCF90 ELBOW

Coupler W/Check Valve  
Style code "CCF90"



TO ORDER WITH HOSE ASSEMBLY SEE PAGE 159

## CAM AND GROOVE STYLE ELBOWS

### 633-90EC

90° Coupler  
and Adapter  
Style code "90EC"



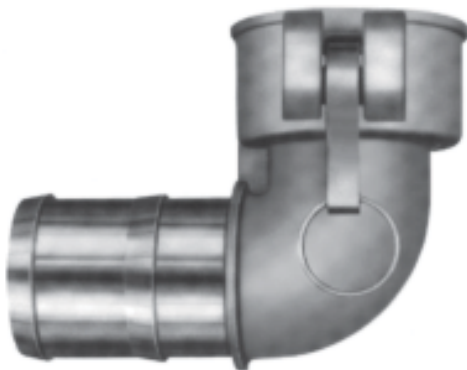
### 633-90CC

90° Coupler  
and Coupler  
Style code "90CC"



### 633-90HC

90° Coupler  
and Hose Shank  
Style code "90HC"



### 633-90FPC

90° Coupler  
and Female NPT  
Style code "90FPC"



### 633-90FPE

90° Adapter  
and Female NPT  
Style code "90FPE"



### 633-90EE

90° Adapter  
and Adapter  
Style code "90EE"




TO ORDER WITH HOSE ASSEMBLY SEE PAGE 159

## TANK CAR CONNECTIONS TO RAILROAD TANK CARS

### TANK CAR HOSE SHANK ADAPTER /

5" female A.A.R. thread 90°


STYLE TCS90

	Hose size I.D.	Part number Aluminum	Part number 316SS	Part number Malleable iron
	3	48TCSAL90	48TCSSS90	48TCSMI90
	4	64TCSAL90	64TCSSS90	64TCSMI90

### TANK CAR MALE NPT 90° ADAPTER /

5" female A.A.R. thread 90°


STYLE TCM90

	Hose size I.D.	Part number Aluminum	Part number 316SS	Part number Malleable iron
	3	48TCMAL90	48TCMSS90	48TCMMI90
	4	64TCMAL90	64TCMSS90	64TCMMI90

### TANK CAR VITAULIC 90° ADAPTER /

5" female A.A.R. thread 90°


STYLE TCV90

	Hose size I.D.	Part number Aluminum	Part number 316SS	Part number Malleable iron
	3	48TCVAL90	48TCVSS90	48TCVMI90
	4	64TCVAL90	64TCVSS90	64TCVMI90

### TANK CAR CAMLOK MALE ADAPTER /

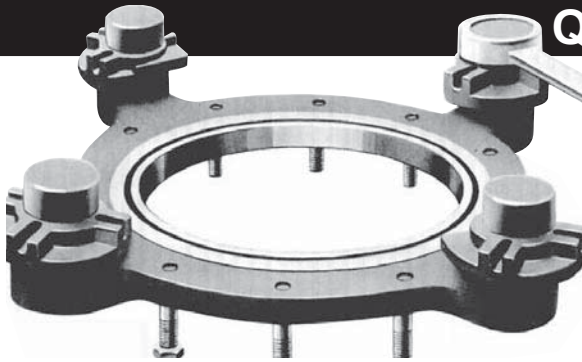
5" female A.A.R. thread

STYLE TCE

	Hose size I.D.	Part number Aluminum	Part number Bronze	Part number 316SS	Part number Carbon Steel
	2	32TCEAL	32TCEB	32TCESS	32TCECS
	2-1/2	40TCEAL	40TCEB	40TCESS	40TCECS
	3	48TCEAL	48TCEB	48TCESS	48TCECS
	4	64TCEAL	64TCEB	64TCESS	64TCECS

TO ORDER WITH HOSE ASSEMBLY SEE PAGE 159

## THORBURN "BIG-CAM" FLANGED #150 & # 300 QUICK COUPLING SYSTEM



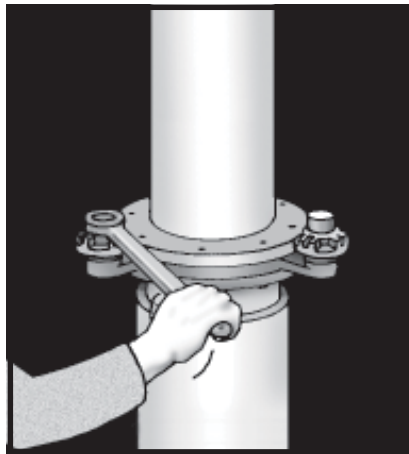
**NEW**

A four-cam coupler ready to be bolted to a standard pipe flange. Note: recessed "O" ring and Thorburn camlock wrench included with all.

### How to Make Tight, Leakproof Flanged Couplings in Seconds



First the **Thorburn** camlock coupling is permanently installed by bolting it to a standard ANSI flange. Couplings are made to engage all 150 pound ANSI flanges. 300 pound ANSI flange couplings are available. Once installed, the coupling is ready to be joined to a matching flange of the same diameter. **Thorburn** camlock couplings are available in weld neck, slip-on and screw neck versions.



A matching ANSI flange is positioned against the face of the coupling. The open cams serve as guides making positioning easier. Cams may be swung into place by hand before using the **Thorburn** camlock wrench to tighten cams and compress the recessed "O" ring. Average time to secure an eight-inch hose connection is less than one minute. Breakaway time is even less.



The connection is positive and leakproof. It is virtually impossible to loosen while there is pressure in the line. Couplings are corrosion resistant and hydrostatically tested as leakproof at 450 psi. The coupling body is carbon steel; complete assembly is cadmium plated; cams are 410 stainless steel. "O" rings are Buna-N; Butyl, Viton, Neoprene, Teflon or other materials are available.

Thorburn number	Nominal pipe size	Flange O.D. 150 lbs ANSI	Flange thickness	Seal I.D.	Number of cams	Minimum locking range	Maximum locking range	Number of studs	Stud dimensions	Weight (lbs)
BC48*XY	3	7-1/2	15/16	4	2	5/8	1-1/8	4	5/8 x 2-5/8	20
BC64*XY	4	9	15/16	4	2	5/8	1-1/8	4	5/8 X 2-5/8	42
BC80*XY	5	10	15/16	6-5/16	2	11/16	1-3/16	8	3/4 X 2-3/4	45
BC96*XY	6	11	1	7-5/16	2	3/4	1-1/4	8	3/4 X 2-3/4	48
BC128*XY	8	13-1/2	1-1/8	9-1/16	3	7/8	1-3/8	8	3/4 X 2-3/4	74
BC160*XY	10	16	1-3/16	11-9/16	3	15/16	1-7/16	12	7/8 X 3-1/4	86
BC192*XY	12	19	1-1/4	13-3/8	4	1	1-1/2	12	7/8 X 3-1/4	122
BC224*XY	14	21	1-3/8	15	4	1-1/8	1-5/8	12	1 X 3-3/4	150
BC256*XY	16	23-1/2	1-7/8	16-15/16	5	1-3/16	1-11/16	16	1 X 4-1/4	186
BC320*XY	20	27-1/2	1-11/16	21-1/2	6	1-7/16	1-15/16	20	1-1/8 X 4-3/4	252
BC384*XY	24	32	1-15/16	25-1/2	7	1-11/16	2-3/16	20	1-1/4 X 5-1/2	303
BC448*XY	28	36-1/2	2-1/16	29-1/4	9	1-11/16	2-7/16	28	1-1/4 X 6	371

X: Specify material: A=Aluminum B=Bronze C=Carbon Steel S=Stainless 316

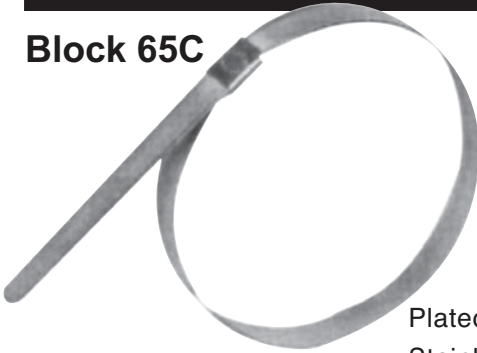
Y: Specify gasket: B=Buna "N" N=Neoprene E=EPDM T=Teflon V=Viton

\*: For 300 lbs ANSI flange, insert suffix 3 (also available in European DIN class)

**TO ORDER WITH HOSE ASSEMBLY SEE PAGE 159**

### PREFORMED "FAST-LOK" CLAMPS AND ACCESSORIES

#### Block 65C



Plated steel 5/8" wide  
Stainless 3/4" wide

Type "CK" clamp is a preformed clamp with a special buckle which permits this clamp to be tightened and locked with not only Thorburn's 68CF1 tool, but with other makes as well.

Inside diameter		Steel	Stainless	Standard Pack
mm	in.	Thorburn Number	Thorburn Number	
25	1	65CK04	65CKS04	100
32	1-1/4	65CK05	65CKS05	100
38	1-1/2	65CK06	65CKS06	100
45	1-3/4	65CK07	65CKS07	100
51	2	65CK08	65CKS08	100
57	2-1/4	65CK09	65CKS09	100
64	2-1/2	65CK10	65CKS10	50
70	2-3/4	65CK11	65CKS11	50
76	3	65CK12	65CKS12	50
89	3-1/2	65CK14	65CKS14	50
102	4	65CK16	65CKS16	25
104	4-1/2	65CK18	65CKS18	25
127	5	65CK20	65CKS20	25
152	6	65CK24	65CKS24	25
203	8	65CK32	65CKS32	25

### Field Installation Clamping

#### Block 66C and 67C

#### Bulk Strapping and Buckles

"Clamp-It" provides separate stainless steel or galvanized steel strapping in 4 widths and in 100 ft. rolls with clamp buckles of corresponding widths in 50 through 300 piece quantities and a special Jack-type clamping tool Thorburn number 68C2 for use on all widths with adjustable tensioning.

#### Buckle



#### Strapping - 100 ft. per box



Thorburn Number	Strapping			Buckles		
	Width (inches)	Thickness (inches)	Material	Thorburn Number	No./Box	Material
66CS606	3/8	.025	316 Stainless	67CS606	300	316 Stainless
66CS608	1/2	.030	316 Stainless	67CS608	150	316 Stainless
66CS610	5/8	.030	316 Stainless	67CS610	100	316 Stainless
66CS612	3/4	.030	316 Stainless	67CS612	75	316 Stainless
66CS206	3/8	.025	201 Stainless	67CS206	300	201 Stainless
66CS208	1/2	.030	201 Stainless	67CS208	150	201 Stainless
66CS210	5/8	.030	201 Stainless	67CS210	100	201 Stainless
66CS212	3/4	.030	201 Stainless	67CS212	75	201 Stainless
66CC06	3/8	.25	Galvanized	67CC06	300	Galvanized
66CC08	1/2	.030	Galvanized	67CC08	150	Galvanized
66CC10	5/8	.030	Galvanized	67CC10	100	Galvanized
66CC12	3/4	.030	Galvanized	67CC12	75	Galvanized

### Block 68C - Fast-Lok Tools and Accessories

#### 68CF1

Clamping tool for 5/8" fast-lok clamps



#### 68CF2

Tool for 3/4" clamps

#### 68CF550

Fast-lok strap cutter



#### 68C2

Lightweight, side-entry, Jack-type clamping tool specifically designed for applying "Clamp-It" buckles to any width. Adjusts clamp tension and locks buckle in place.



## PRACTICAL CLAMP SOLUTIONS

### Worm Gear Clamps

### 2-Ear Clamps

#### Block 60CHS



#### Block 61CHAS



#### Block 62CC



#### MATERIALS

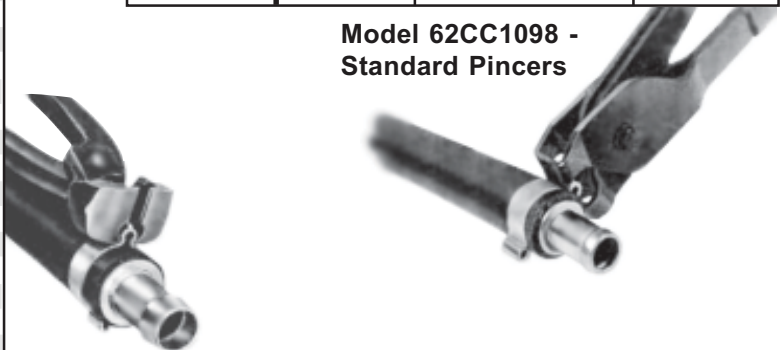
**Style CHS:** Standard type - Series 301 (18-8) stainless band and housing, SAE 1018 case-hardened carbon steel, zinc-plated and chromate dipped screw.

**Style CHAS:** Standard type – All stainless steel – SAE 301 (18-8) series stainless band and hosing, SAE 305 series stainless screw.

Hose diam. range O.D.		CHS type Thorburn Number	CHAS type Thorburn Number
From	To		
0.250	0.625	60CHS02	61CHAS2
0.313	0.875	60CHS04	61CHAS4
0.375	0.875	60CHS06	61CHAS6
0.438	1.000	60CHS08	61CHAS8
0.563	1.063	60CHS10	61CHAS10
0.563	1.125	60CHS12	61CHAS12
0.688	1.500	60CHS16	61CHAS16
0.750	1.750	60CHS20	61CHAS20
1.063	2.000	60CHS24	61CHAS24
1.313	2.250	60CHS28	61CHAS28
1.563	2.500	60CHS32	61CHAS32
1.813	2.750	60CHS36	61CHAS36
2.063	3.000	60CHS40	61CHAS40
2.313	3.250	60CHS44	61CHAS44
2.563	3.500	60CHS48	61CHAS48
2.813	3.750	60CHS52	61CHAS52
3.063	4.000	60CHS56	61CHAS56
3.313	4.125	60CHS60	61CHAS60
3.563	4.500	60CHS64	61CHAS64
4.125	5.000	60CHS72	61CHAS72
4.938	5.750	60CHS84	61CHAS84
4.250	6.000	60CHS88	61CHAS88
4.500	6.438	60CHS96	61CHAS96
5.000	7.000	60CHS104	61CHAS104
6.500	8.500	60CHS128	61CHAS128
8.125	10.000	60CHS152	61CHAS152
10.875	12.250	60CHS188	61CHAS188
11.00	13.000	60CHS200	61CHAS200
11.750	13.750	60CHS212	61CHAS212
12.500	14.500	60CHS224	61CHAS224
13.250	15.250	60CHS236	61CHAS236
14.000	16.000	60CHS248	61CHAS248
18.000	20.000	60CHS312	61CHAS312

Thorburn Number	Nominal Size (in.)	Inches		Standard pack
		Closed	Open	
62CC0041	5/32	.122	.161	100
62CC0045	11/64	.138	.177	100
62CC0305	3/16	.118	.197	500
62CC0507	1/4	.197	.276	500
62CC0709	5/16	.276	.354	500
62CC0811	3/8	.315	.433	500
62CC0911	7/16	.354	.433	500
62CC1113	1/2	.433	.512	500
62CC1315	9/16	.512	.591	500
62CC1517	19/32	.591	.669	250
62CC1518	5/8	.591	.708	250
62CC1720	3/4	.669	.787	250
62CC1922	13/16	.748	.866	250
62CC2023	7/8	.787	.905	250
62CC2225	15/16	.866	.984	250
62CC2327	1	.905	1.063	250
62CC2528	1-1/16	.984	1.102	100
62CC2731	1-1/8	1.063	1.220	100
62CC2831	1-3/16	1.102	1.220	100
62CC3134	1-5/16	1.220	1.339	100
62CC3437	1-7/16	1.339	1.457	100
62CC3740	1-1/2	1.457	1.575	100
62CC4043	1-5/8	1.575	1.693	100
62CC4346	1-3/4	1.693	1.811	100

Model 62CC1098 - Standard Pincers



Model 62CC1099 - Side Jaw Pincers

**Packaging:** All standard worm gear clamps are packed 10 per box.



### Block 69C Single Bolt Malleable Iron Clamp

#### APPLICATION

May be used on low or medium pressure hose with such couplings as long shank, short shank, combination nipples or scored nipples.

#### MATERIALS

Regularly furnished in plated malleable iron, with plated steel machine bolts and nuts. Also available in heavy cast brass, with brass bolts and nuts, for corrosion-resistant or non-sparking services, on special order only.



Thorburn Number	Fits hose outside diam.		Width of Clamp	Weight lbs per 100
	From	To		
69C02	7/8	1	13/32	10.0
69C03	31/32	1-1/8	15/32	10.0
69C04	1-1/16	1-3/16	15/32	10.0
69C05	1-5/32	1-1/4	17/32	10.0
69C06	1-1/4	1-3/8	9/16	10.0
69C07	1-11/32	1-7/16	5/8	10.0
69C08	1-7/16	1-9/16	5/8	10.0
69C09	1-17/32	1-11/16	5/8	10.0
69C10	1-21/32	1-3/4	5/8	20.0
69C11	1-3/4	1-7/8	5/8	20.0
69C12	1-7/8	2-1/32	5/8	20.0
69C13	2	2-1/8	5/8	25.0
69C14	2-1/8	2-9/32	5/8	25.0
69C15	2-1/4	2-13/32	3/4	25.0
69C16	2-3/8	2-1/2	3/4	30.0
69C17	2-1/2	2-5/8	3/4	30.0
69C18	2-5/8	2-7/8	3/4	40.0
69C19	2-7/8	3-1/16	3/4	40.0
69C20	3-1/16	3-1/4	3/4	40.0
69C21	3-1/4	3-7/16	3/4	60.0
69C22	3-7/16	3-5/8	13/16	60.0
69C23	3-5/8	3-13/16	7/8	70.0
69C24	3-13/16	4-1/8	7/8	75.0
69C25	4-1/8	4-5/16	7/8	90.0
69C26	4-1/4	4-1/2	1	100.0
69C27	4-7/16	4-5/8	1	120.0
69C27X	4-5/8	4-7/8	1-1/16	114.0
69C28	4-7/8	5-1/4	1-1/16	110.0

**ATTENTION:** Check Hose O.D. accurately before ordering clamps

### Block 70C Double Bolt Malleable Iron Clamp

#### APPLICATION

For heavy-duty applications with larger sizes of combination nipples, pipe nipples, or pin lugs.

#### MATERIALS

Cast malleable iron, cadmium plated. Also available in heavy cast brass on special order only.



Thorburn Number	Fits hose outside diam.		Width of Clamp	Weight lbs each
	From	To		
70C400	3-1/2	4	1	1.6
70C463	4-1/16	4-7/16	1	1.8
70C525	4-3/16	5	1-1/8	2.4
70C550	5	5-1/2	1-1/8	2.6
70C600	5-1/2	6-1/16	1-1/8	2.6
70C675	6-1/8	6-7/8	1-3/16	2.8
70C769	6-15/16	7-5/8	1-3/16	3.9
70C818	7-11/16	8-3/16	1-3/8	5.2
70C875	8-1/4	8-7/8	1-3/8	5.4
70C988	8-15/16	9-7/8	1-3/8	5.9
70C1125	9-15/16	11-3/8	1-5/8	7.6
70C1275	11-3/16	13	1-5/8	9.1
70C1450	13-3/16	15	1-13/16	13.8
70C1700	15-1/16	17-1/2	2	19.5

## SPECIAL BOLTED CLAMPS

### Block 770CX Thorburn Heavy Duty "King Lock" Clamps

Thorburn Number	Hose I.D. Size (in.)
770CX32	2
770CX40	2-1/2
770CX48	3
770CX64	4
770CX80	5
770CX96	6
770CX112	7
770CX128	8
770CX160	10
770CX192	12



To be used on Thorburn style 110AR, 111HR, and heavy duty PVC series 160, 161 and 162 hoses and on Food-flex hoses 154/156FF, 155/157FFS

### Bag Clamp, Permaclamp, Hose Clamp

#### APPLICATION

To secure heavy rubber sleeve used to connect dredge pipes from 9-1/2" to 34-7/8" O.D. In both single and double bolt styles, a full-width saddle bridges the gap between the bolt lugs as the clamp is tightened. One bolt lug is slotted for quicker, easier handling. Both styles are readily reuseable.

#### SERVICES

For use wherever rubber sleeves are connected to pipe. Can also be used on large diameter hose.

#### MATERIAL

Plated malleable iron bolt lugs, riveted to strong, flexible plated steel band. Saddles are also plated malleable iron. Furnished with steel "T" head bolt and special steel nut to fit recess in slotted bolt lug.

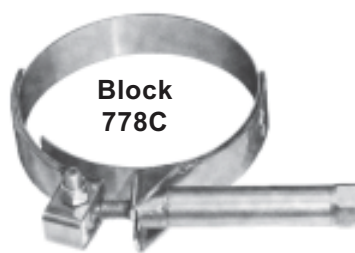
**Available in mild steel  
and stainless steel in  
sizes up to 24" I.D.**



**Block  
777C**

#### Permaclamp

- 100% stainless steel construction
- 3/4" wide band
- Double banded for durability
- Easily installed without removing hoses
- 2 ply band for even distribution of torque
- Full range of sizes- 1.5" to 10"
- Larger sizes available upon request
- Ideal for hoses, filter bags and marine engine installations



**Block  
778C**

#### Hose Coupling

- Used for permanent or semi-permanent applications
- Parallel take-up
- Quick release action
- 1 piece construction
- 304 stainless steel
- 1" wide band
- Patented "Lorenz" locking system prevents loss of handle
- Hex head for wrench to obtain maximum torque

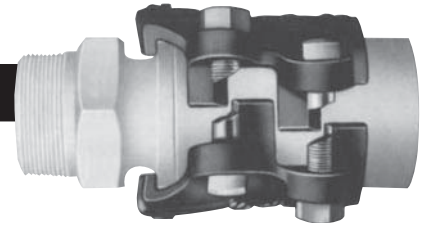


**Block  
779C**

#### Bag Clamp

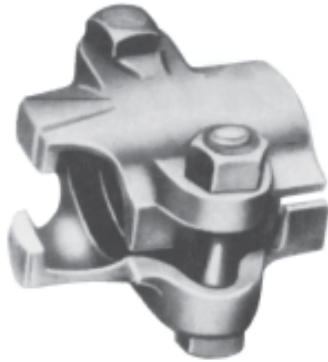
- "T" handle for quick "by hand" tightening and removal
- 1 piece construction
- 304 stainless steel
- 1" wide band
- Patented "Lorenz" locking system prevents loss of handle
- 3" OD minimum size

### HIGH PRESSURE INTERLOCKING CLAMPS



#### APPLICATION

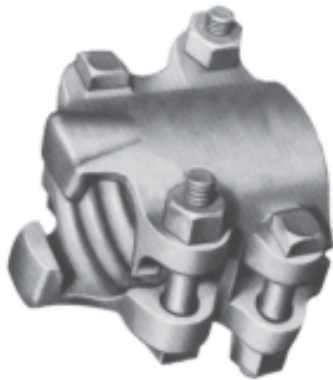
For use with interlocking type inserts or universal quick-acting couplings for heavy duty high pressure applications.



Two-section  
Two-bolt  
Sizes 1/4" to  
3/4"

#### Block 71 - 2 Bolt

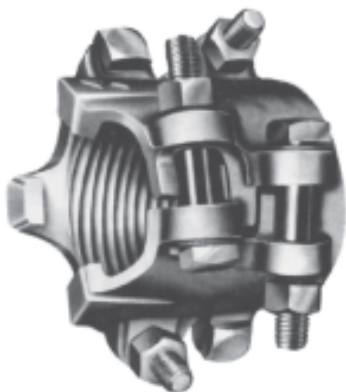
Hose I.D.	Hose O.D.		Plated Malleable Iron	Heavy Duty Brass	Stainless Steel
	From	To			
1/4	.563	.656	71C209	--	--
3/8	.688	.875	71C211	--	--
1/2	.813	.938	71C213	--	--
1/2	.938	1.063	71C215	71C215B	71C215SS
1/2	1.062	1.188	71C217	--	--
3/4	.813	.938	71C219	71C219B	71C219SS
3/4	1.313	1.500	71C221	71C221B	71C221SS
3/4	1.500	1.688	71C224	--	--



Two-section  
Four-bolt  
Sizes 1" to 3"

#### Block 72 - 4 Bolt

Hose I.D.	Hose O.D.		Plated Malleable Iron	Heavy Duty Brass	Stainless Steel
	From	To			
1	1.531	1.719	72C417	72C417B	73C417SS
1	1.688	1.844	72C422	72C422B	72C422SS
1	1.875	2.063	72C428	--	--
1-1/4	2.063	2.250	72C434	72C434B	72C434SS
1-1/2	2.094	2.281	72C435	72C435B	72C435SS
1-1/2	2.250	2.438	72C440	72C440B	72C440SS
1-1/2	2.469	2.719	72C447	--	--
2	2.500	2.781	72C448	72C448B	72C448SS
2	2.750	3.063	72C456	72C456B	72C456SS
2	3.094	3.438	72C459	--	--
2-1/2	3.500	3.938	72C464	--	--
3	3.813	4.188	72C474	--	--
3	4.063	4.438	72C478	--	--



Three-section  
Six-bolt  
Sizes 4" to 6"

#### Block 73 - 6 Bolt

Hose I.D.	Hose O.D.		Plated Malleable Iron
	From	To	
4	4.250	4.813	73C668
4	4.875	5.313	73C678
4	5.125	6.188	73C696
6	6.875	7.188	73C697
6	7.500	8.00	73C700

## THORBURN FOOT VALVE FOR SUCTION HOSE SERVICE

### Cast-Iron

Size	Thorburn Number	
	Painted	Galvanized
1-1/2"	TDFVS20	TGFV20
2"	TDFVS25	TGFV25
2-1/2"	TDFVS30	TGFV30
3"	TDFVS35	TGFV35
4"	TDFVS40	TGFV40
6"	TDFVS60	TGFV60
8"	TDFVS80	TGFV80
10"	TDFVS100	--
12"	TDFVS120	--



Both the 10" and 12" have 150# flanged connections

### APPLICATION

On the immersed end of a length of suction hose to prevent objects over a given size from entering the hose and fouling the suction pump and to prevent pumps from losing their prime when they shut-down. Even "self-priming" pumps sometimes lose prime without these valves.

## SUCTION HOSE STRAINERS

Round Hole



Square Hole



Non-Metallic



**RUGGED  
ECONOMICAL**

Size	Thorburn #		Size	Thorburn #	Size	Thorburn #
	Plated Steel	304SS		Plated Steel		Polyethylene
1-1/2"	TRHS24	TRRHS24	1-1/2"	TSHS24	1-1/2"	TSS24
2"	TRHS32	TRRHS32	2"	TSHS32	2"	TSS32
2-1/2"	TRHS40	--	2-1/2"	TSHS40	--	--
3"	TRHS48	TRRHS48	3"	TSHS48	3"	TSS48
4"	TRHS64	TRRHS64	4"	TSHS64	--	--
5"	TRHS80	--	--	--	--	--
6"	TRHS96	TRRHS96	6"	TSHS96	--	--
8"	TRHS128	--	--	--	--	--
10"	TRHS160	--	--	--	--	--
12"	TRHS192	--	--	--	--	--

**WON'T  
RUST**

## THORBURN SOLID BRASS NOZZLE



Thorburn Number	Thread Size	Description	Discharge
TBN6	3/4"	GHT X 6" long	1/4"
TBN7	3/4"	NPSM X 6" long	5/16"
TBN10	1"	NPSM X 8" long	5/16"
TBN12	1-1/4"	NPSM X 10" long	3/8"
TBN15	1-1/2"	NPSM X 12" long	1/2"
TBN20	2"	NPSM X 12" long	9/16"
TBN25	2-1/2"	NPSM X 12" long	1"

## INSULATED WATER NOZZLE

with 3/4" garden hose treads



TSN75

- Heavy duty brass valve and adjusting nut
- Hold open clip locks any spray pattern
- Chrome plated all zinc body
- Industrial strength nylon handle
- Rubber head guard on threaded GHT front version
- Handle GHT threads

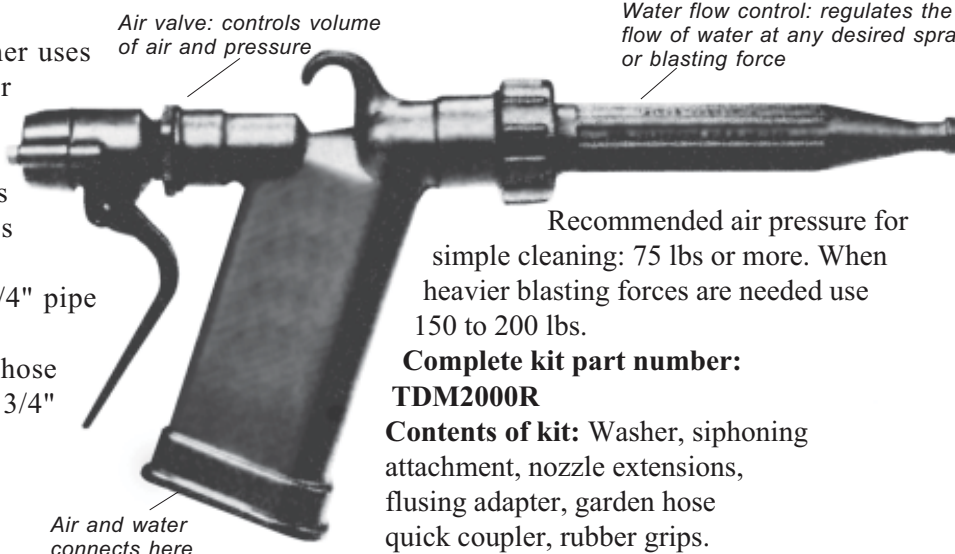
### THORBURN HYDRO-AIR PRESSURE WASHER

The hydro-air pressure washer uses approximately 4 cu. ft. of air per minute, varying of course with air pressure used, and less than 4 gallons of water per minute at 50 lbs water pressure.

**Air connection:** Standard 1/4" pipe thread.

**Water connection:** Garden hose thread. For best results, use 3/4" water line and 1/2" air line.

**Complete rubber seal replacement kit available**



Recommended air pressure for simple cleaning: 75 lbs or more. When heavier blasting forces are needed use 150 to 200 lbs.

**Complete kit part number: TDM2000R**

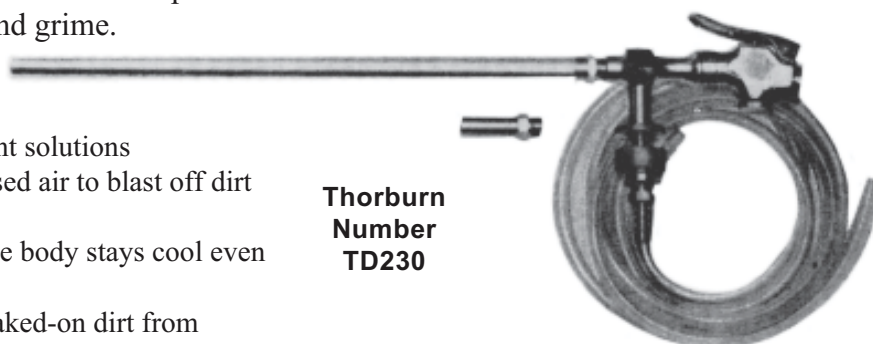
**Contents of kit:** Washer, siphoning attachment, nozzle extensions, flusing adapter, garden hose quick coupler, rubber grips.

### HYDRO-BLAST CLEANING TOOL AND SIPHON

Hydro-blast cleaning tool and siphon combines compressed air and water pressure to blast away dirt and grime.

This powerful and versatile cleaning tool:

- Uses siphon to spray solvent or detergent solutions
- Uses regular garden hose plus compressed air to blast off dirt and residue
- Can be used with hot or cold water. Valve body stays cool even when used with hot water
- Used in garages and factories to blast caked-on dirt from vehicles and equipment
- Complete, ready to use. TD230 includes valve body, 2" and 15" extensions, six foot siphon tubing and adapter for garden hose.



**Thorburn Number TD230**

The tubing supplied is vinyl and the internal seals in the valve body are Buna-N. Consult chemical resistance charts for compatibility of solvents before putting gun into solvent service.

### "STRATA-FLOW" AIR NOZZLE

**Performance:** Compressed air moving over the Strata-Flo nozzle cone "captures" free air and concentrates it into a powerful stream.

**Safety:** There is no hole through the Strata-Flo nozzle, so dead-ending it can not cause a dangerous pressure buildup.

**Economy:** The Strata-Flo consumes only 6 cfm of air at 100 psi. It should repay its cost in only a few months based on compressed air cost.

**Noise reduction:** Because the high velocity air stream is less turbulent, the Strata-Flow is much quieter than ordinary blow guns –far below any existing noise level standards.



**Part no.: TD212**

**Note:** Strata-Flo blow guns have a safety tip which prevents buildup of tip pressure in the event the outlet is obstructed or "dead ended". It comply's with the requirements of OSHA 1910.2421b and 191095 when used on air lines of 150 psi or less.

**Safety glasses or shield must be worn when using any blow gun.**

## DRY-ONE MODEL DN

# DRY DISCONNECT HOSE COUPLING ASSEMBLY

The Dry-One coupling assembly consists of a coupler and an adapter. When locked together, they form a secure hose connection with a unique flow shut-off device built in. The shut-off device is designed with two identical half discs, each supported by an independent shaft. The discs press together as the coupler and adapter halves are connected. When the handle on the coupler is turned, the discs move simultaneously, acting as a single disc.

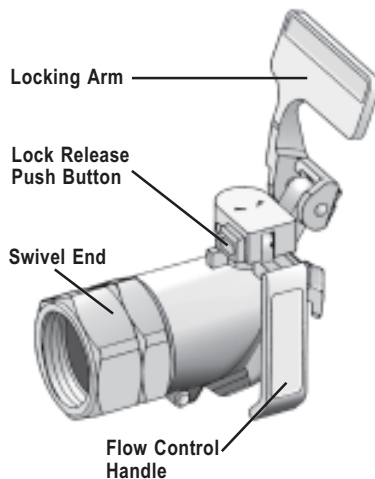
When the Dry-One assembly is disconnected, the disc again splits into two identical yet separate halves. Using innovative sealing technology, no fluid gets between



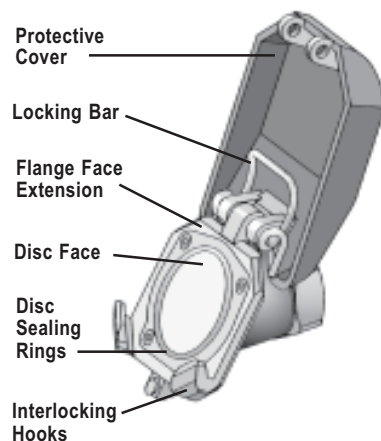
the disc faces when there is flow in the line. The disc is in the full open position when the coupler handle is turned 90°. A mechanical interlock prevents the disc from opening unless the locking bar is pressed down into position to complete and lock the connection. As an added safety feature, the Dry-One assembly cannot be disconnected until the disc is in the full closed position.

For operator convenience, the Dry-One assembly features a swivel end on the coupler to facilitate handling and prevent the hose from twisting. The Dry-One assembly is designed and proven to transfer fluids without leaks. Now, for the first time, there's a dry disconnect that lives up to its name.

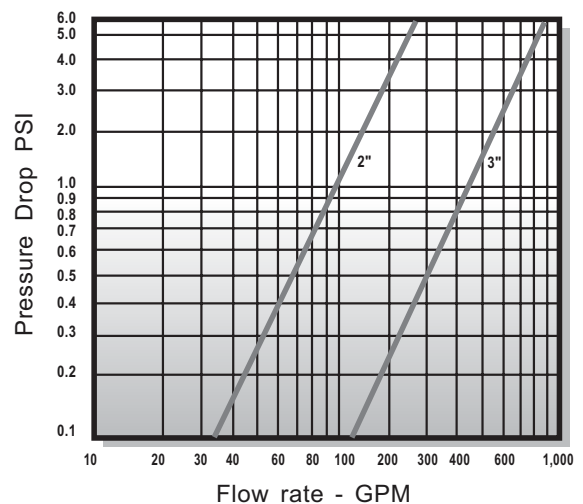
### Style DNC25 Coupler



### Style DNA26 Adapter



### Flow Data



### TECHNICAL SPECIFICATIONS

#### PRESSURE DATA

Uncoupled with disc closed (coupler or adapter):  
Maximum working pressure: 100 PSI  
Coupled with discs open:  
Maximum working pressure: 200 PSI

**WARNING: FOR ONE TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1 1/2 times the figures shown.**

Vacuum:  
Tested to 28 in. vacuum in all positions without leakage.

#### MISCELLANEOUS TEST DATA

Bending Moments (coupled assembly):  
Maximum 200 ft-lbs at the swivel

#### TEMPERATURE

The Dry One adapter/coupler assembly has an operating temperature range of -20° to +212 F. regardless of the seal material used.

#### MATERIALS \*

Wetted Metal Parts: All 316 stainless steel

Seals: Choice of Viton, EPDM or Teflon

### The Dry-One Dry Disconnect Advantages

#### Drip-free Design

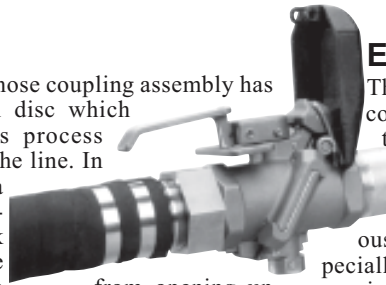
Only the Dry-One hose coupling assembly has a drip-free design that minimizes exposure to fluids or vapours during fluid transfer. Conventional dry disconnects routinely leak up to 15 cc's of process fluid after every transfer and require catch buckets and costly cleanup.

#### Better flow

The smooth bore, simple configuration of the Dry-One coupling assembly results in the lowest pressure drop available. This means better flow even for highly viscous fluids.

#### No spills

The Dry-One hose coupling assembly has a quarter-turn disc which securely seals process fluids within the line. In addition, a unique mechanical interlock prevents the connection from opening unless the discs are closed and sealed. This is a big advantage compared to other dry disconnects — which can be separated accidentally while the line is still open, releasing significant amounts of fluid onto the ground or exposing the operator to risk.



#### Easier operation

The Dry-One is up to 50% lighter than comparable products. What's more, the standard swivel end on the coupler half eases alignment regardless of hose orientation. As a result, fluid transfers are less strenuous for the operator, an advantage especially where frequent disconnects are required.

#### Simpler maintenance

Visual inspection and cleaning of the sealing area in Dry-One assembly is fast and easy. Seals are readily accessible and simple to replace when necessary.

#### To connect and allow flow



1. Lift the protective cover on the adapter unit.



2. Press to allow locking arm to spring up.



3. Bring the disc faces together and slide downward.



4. Press the locking button down past the push stop.



5. Turn the flow control handle clockwise to allow flow.

#### To disconnect



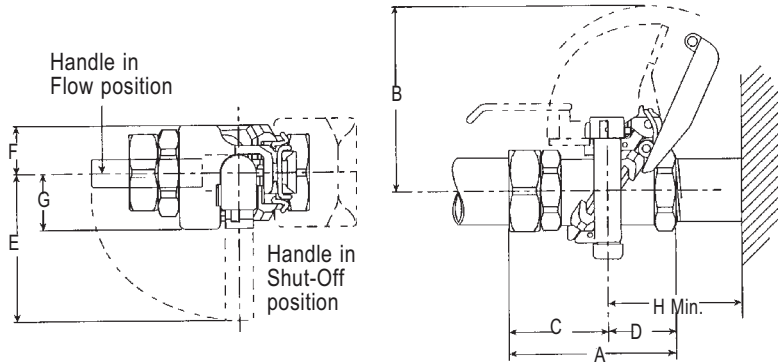
1. Turn the flow control handle counterclockwise 90°.



2. Press push button and lift locking arm.



3. Remove the coupler from the adapter.



#### Dry-One Dimensional Specifications

Nominal size in.	A	B	C	D	E	F	G	H	Approx. weight ea
2	6.25	6.30	3.75	2.50	5.25	1.70	2.00	5.00	9.0
3	8.60	9.88	5.10	3.50	7.50	2.35	2.70	7.00	24.0

#### Warning

Proper seal and wetted metal parts material selection is critical for safe operation. To assure maximum life for the service intended use only those materials compatible with the fluids being handled. Please note material being supplied and make certain that it is suited for the intended service. Failure to so could result in serious personal injury, property damage, or leakage.

#### Warning

The Dry-One coupling assembly does not eliminate possible exposure to hazardous substances. Likewise, some product residue may appear on the disc faces. The conditions of handling and use are beyond our control, and we make no guarantee, and assume no liability for damages or injuries related to the use of this coupling assembly. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Always employ safety precautions and handling techniques. Failure to so could result in serious personal injury, property damage, or leakage.

#### How To Order The Dry-One

ID	Coupler Size	Seal
2"	DNC25 - 32	V
3"	DNC25 - 48	T

ID	Adapter Size	Seal
2"	DNA26 - 32	E
3"	DNA26 - 48	V

Seal code  
 Viton=V  
 Teflon=T  
 EPDM=E

## THORVOLOK MODEL TVS20 AND TVD17

# DRY-BREAK POPPET TYPE QUICK DISCONNECT COUPLING SYSTEM

### Dry-Disconnect Two Designs

**Model TVD17** It provides automatic closure from **both** directions— the coupler and the adaptor. It is still the first choice for loading operations and manifold mixing.

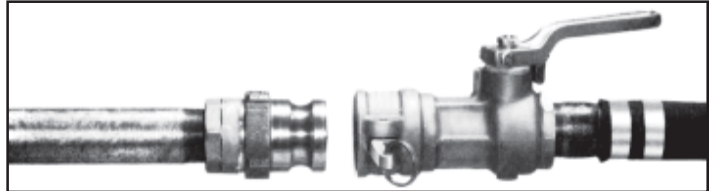
**Model TVS20** If your application requires automatic closure from **only one** direction the TVS20 can provide your best dry-disconnect value.

### USE THORBURN DRY-DISCONNECT COUPLINGS WHEN YOUR PRODUCT IS:

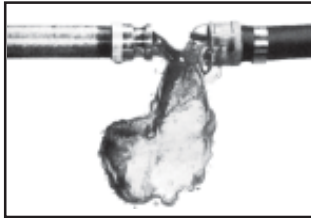
- Expensive
- Hazardous to workers or the environment
- Expensive to clean up
- Expensive to reprocess or dispose of
- Prone to accidental spillage and product loss

### APPLICATIONS

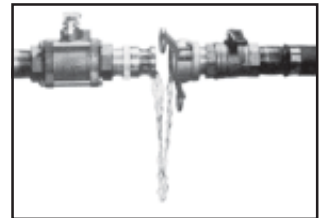
- Pharmaceutical
- Acids, detergents, adhesives
- Petroleum products, solvents



*Thorvolok helps eliminate spills even if the valve is accidentally left open. Please Note: Potential spillage will still occur between the poppets. Please consult Thorburn for connecting details.*



**Ordinary Quick Coupling**  
*Any fluid in either hose or pipe spills as soon as disconnection is made.*



**Quick Coupling with Two Ball Valves**  
*Any fluid trapped between ball valves is released when couplings are disconnected.*

### TYPICAL APPLICATIONS FOR THORBURN DRY-DISCONNECT COUPLING



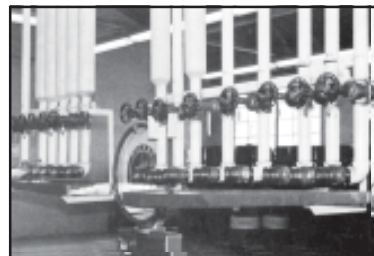
**Petroleum Industry** Dry-disconnect-equipped tank truck delivers three different grades of gasoline to service station underground storage tanks



**Chemical Processing** Dry-disconnect couplers and adapters used at a pumping station for chemical processing



**Paint and Varnish Industry** Dry-disconnect used for blending pigments in a paint mixing tank



**Cosmetics Industry** Dry-disconnect manifold system used to transfer perfumes and oils in the cosmetics industry



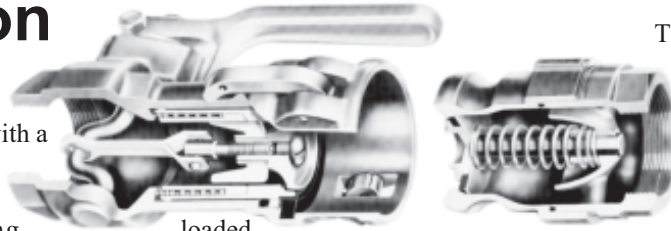
**Pharmaceutical Industry** Dry-disconnect manifold used to blend raw materials in the pharmaceutical industry



### Operation

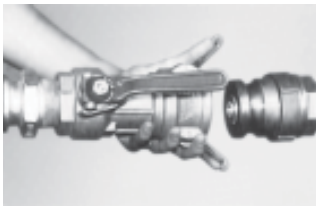
Thorvolok is a dry disconnect coupling with a quick connect and quick disconnect feature. The spring loaded coupler contains a built-in valve; The adaptor contains a spring loaded poppet to assure fast closing and a tight seal. Should the dry-disconnect be *accidentally disconnected* while the lever on the coupler is in the open position and product flow is in progress, the poppet in the adaptor will automatically close and the seal cylinder will *immediately* stop flow through the coupler. Excessive product spill is prevented.

Connections and disconnections are accomplished simply by closing and opening two cam arms which lock into a machined groove around the circumference of the mating adaptor. *There are no locating lugs or threads.*



The dry-disconnect adaptor contains a poppet assembly, spring loaded to hold the poppet disc firmly in the closed position until the coupler is attached and the entire assembly is lever actuated.

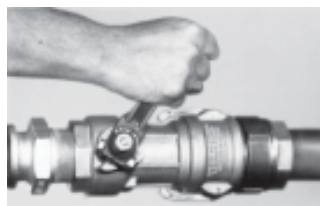
The coupler contains the open/close lever plus its own valve assembly. This valve consists of a spring-loaded poppet and disc which firmly closes the coupler until opened by the open/close actuating lever. After the dry-disconnect adaptor and coupler are firmly coupled together, the lever is turned to the *OPEN* position. This action moves the coupler poppet toward the adaptor poppet disc until these two mating discs make contact. Complete turning of the lever to the full open position causes the coupler poppet to extend beyond the end of the coupler, depressing the adaptor poppet back into the adaptor body, which creates clearance for liquid flow around both discs.



1. Couple in any position.



2. Cam arms lock coupler and adaptor together.



3. Lever opens valve.

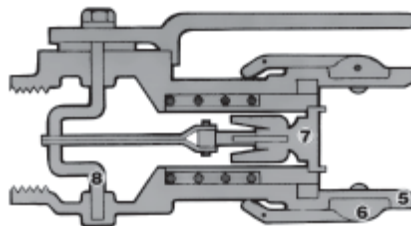


4. Full flow starts

### Design Principle

#### Dry-Disconnect Uncoupled with Valve Closed

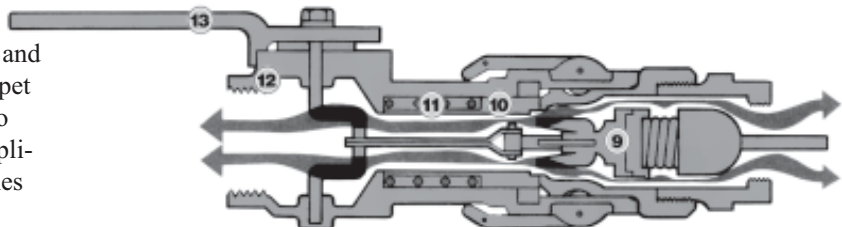
Here, this simplified drawing graphically demonstrates how, when the dry-disconnect adaptor is separated from the coupler, its own spring-loaded poppet assembly holds the poppet disc firmly in the closed position. The coupler poppet disc is also held in the closed position.



- |                             |                         |                   |
|-----------------------------|-------------------------|-------------------|
| 1. Pipe End                 | 5. Body                 | 10. Seal Cylinder |
| 2. Adaptor                  | 6. Cam Arm              | 11. Spring        |
| 3. Spring                   | 7. Poppet               | 12. Body          |
| 4. Poppet Sub-Assembly Disc | 8. Stem Sub-Assembly    | 13. Lever         |
|                             | 9. Center Guided Poppet |                   |

#### Dry-Disconnect Coupled with Valve Opened

With the coupler and adaptor coupled together and the Open/Close level actuated, the coupler poppet mates with the adaptor poppet, then pushes it to full open position, allowing flow through. Simplified drawing shows clearance, and guiding vanes that enable liquid to flow smoothly.



## DRY-DISCONNECT COUPLER SYSTEM STYLES

### Couplers

#### Model TVD17



**Female NPT to Female Coupler**  
Double Shut-Off Series

Thorburn Part #	Size in.
TVD17-24	1 1/2
TVD17-32	2
TVD17-48	3

Available in aluminum & 316 SS

#### Model TVS20



**Female NPT to Female Coupler**  
Single Shut-Off Series

Thorburn Part #	Size in.
TVS20-24	1 1/2
TVS20-32	2
TVS20-48	3

Available in aluminum & 316 SS

#### Model TVD19



**Female NPT to Female Coupler**  
Double Shut-Off Series

Thorburn Part #	Size in.
TVD19-32	2

Available in aluminum

This coupler has a built-in elbow swivel for freedom of movement when used with a hose on tank trucks. The elbow swivel end is female pipe threaded.

#### Model TVD18



**Female NPT to Coupler**

This actuating non-poppeted coupler is often used for gravity drops, with hoses mounted on tank trucks. Its internal components permit an almost straight through flow.

Thorburn Part #	Size in.
TVD18-32	2
TVD18-48	3

Available in aluminum

### Adaptors

#### Model TVD16



**Male Shank to Female NPT Shut-Off**

Thorburn Part #	Size in.
TVD16-24	1 1/2
TVD16-32	2
TVD16-48	3

Available in aluminum & 316 SS

#### Model TVD15



**Male Shank to 2" Tank Truck Flange Shut-Off**

Thorburn Part #	Size in.
TVD15-32	2

Available in aluminum

#### Model TVP



**Dry-Disconnect Plug**

Thorburn Part #	Size in.
TVP-24	1 1/2
TVP-32	2
TVP-48	3

Available in aluminum & stainless

#### Model TVC



**Dry-Disconnect Cap**

Thorburn Part #	Size in.
TVC-24	1 1/2
TVC-32	2
TVC-48	3

Available in aluminum & stainless

Please note cap & plugs are only for Thorburn dry-disconnect couplings

### How to Order

Part #	Material	Seal
TVD17-32	A	B

**Material Code**  
A=Aluminum  
S=316SS

**Type Seal Code**  
Buna=B  
Viton=V  
EPDM=E  
Teflon=T

### Model TBBMC

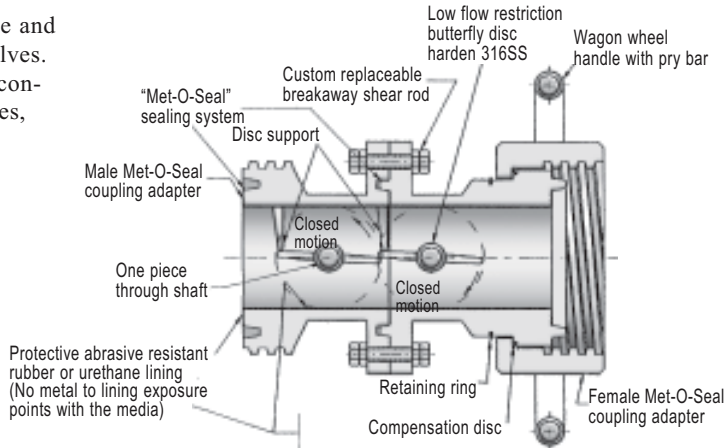
Patented/Patent pending  
Proprietary

**MADE IN CANADA  
TECHNOLOGY**

## DRYBREAK BREAKAWAY COUPLING SYSTEM

As shown, Met-O-Seal male and female coupling adapter halves. To simplify connection/disconnection with hose assemblies, platform, supply ship, etc.

**BI-DIRECTIONAL  
FULL FLOW FULL  
PORT DESIGN  
OPEN POSITION**



**Body Material available**

- SS 304, 304L
- SS 316, 316L
- C. Steel

**End Connections**

- Threaded
  - Met-O-seal (male/female)
  - Buttweld
  - Socketweld
- Contact Thorburn for details

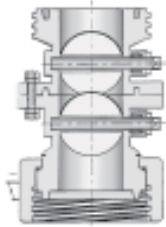
**Sizes available:**

3" to 8" nominal size

**Design Pressure Range:**

150 psi, 300 psi, 450 psi

### DRYBREAK-BREAKAWAY BUTTERFLY STYLE WEDGE SEAL COUPLING



Top Cross Section  
View, Open  
Position

**Installation**

The Thorburn breakaway "Model TBBMC" may be installed at either end to the hose. However, the preferred location for the installation is at the opposite end of the hose to the fixed installation.

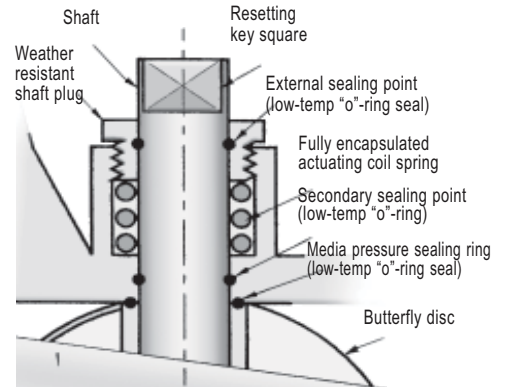
\*Contact Thorburn for further details.

Reinstatement of units

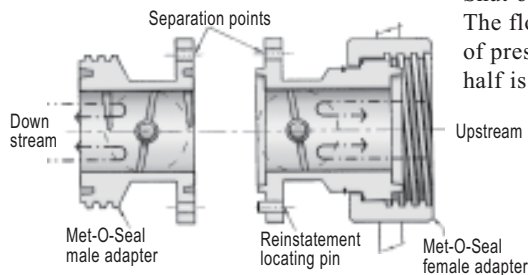
In the event that the units required re-assembly after a pull-out.

\*See Thorburn reinstatement instructions for further details.

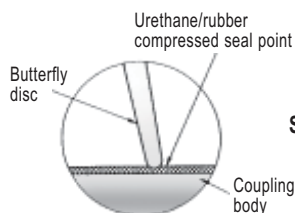
### EXTERNAL SHAFT & COIL SPRING DETAIL



### DRYBREAK/BREAKAWAY SIMULATION



**Cross side section**



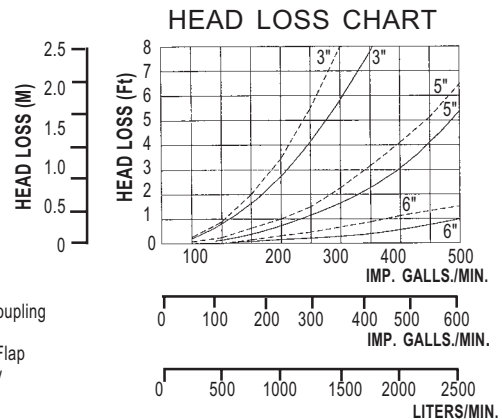
Scale 4X

### Drybreak-Breakaway Description

Shut off of the unit occurs automatically upon separation of the coupling halves.

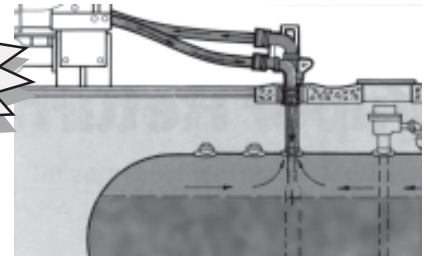
The flow stoppage on the upstream coupling half is self directed through a combination of pressure thrust and spring activation, The flow stoppage on the downstream coupling half is self directed through a combination of back flow pressure and spring activation.

Head loss-flow rate characteristics of Thorburn "TBBMC" vs. Gall Thomson Flip-Flap drybreak breakaway couplings (based on water flow at 68°F., 20°C.)

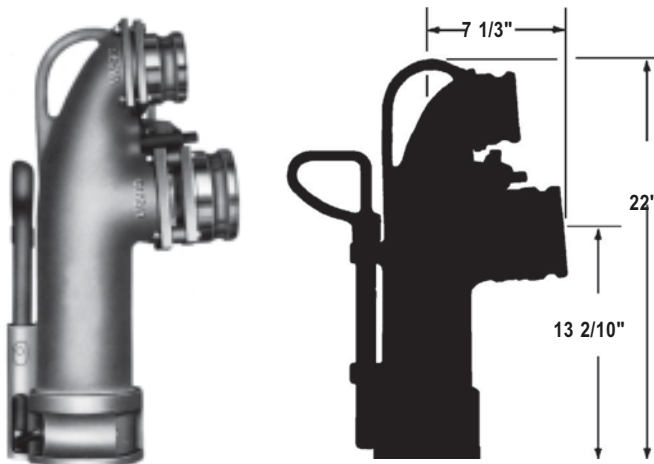


## THOR TITE COAXIAL ELBOW MODEL "TEC" SINGLE POINT VAPOUR DROP ELBOWS

Thorburn coaxial elbow connects both the delivery hose and product return hose to the fill adapter in coaxial vapor recovery systems. The product inlet is a standard 4" cam and groove fitting, the vapor return is a standard 3" cam and groove fitting.



Smaller, lighter and easier to work with

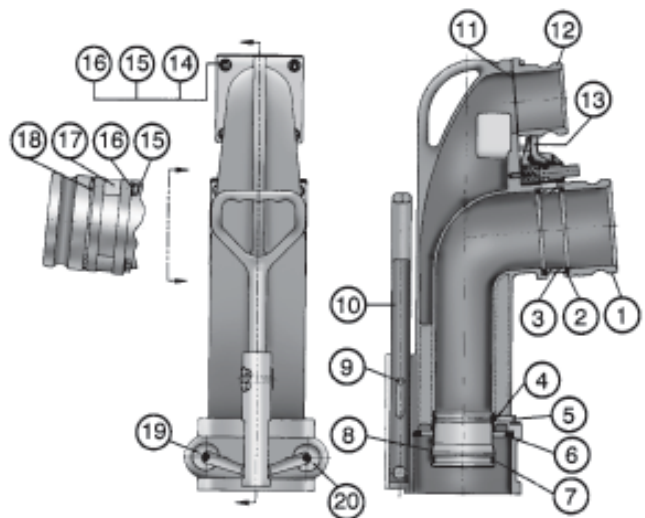


MODEL TEC64EA/63EA

Exclusive Thorburn coaxial elbow design features the liquid port on the bottom, and the vapor port on the top. This design provides for easier handling and storage, and improved flow rates over competitive models. A flange by flange product adapter mount permits easy adapter replacement. Cylindrical acrylic sight glass allows complete viewing of product flow from all sides. Elbow features a rolled-lip coupling tube to pilot alignment to the adapter and prevent seal damage. Special seal assures a tight connection and prevents product from entering the vapor line. Elbow is constructed from durable cast aluminum and is smaller and lighter than competitive models.

### TEC Individual parts list

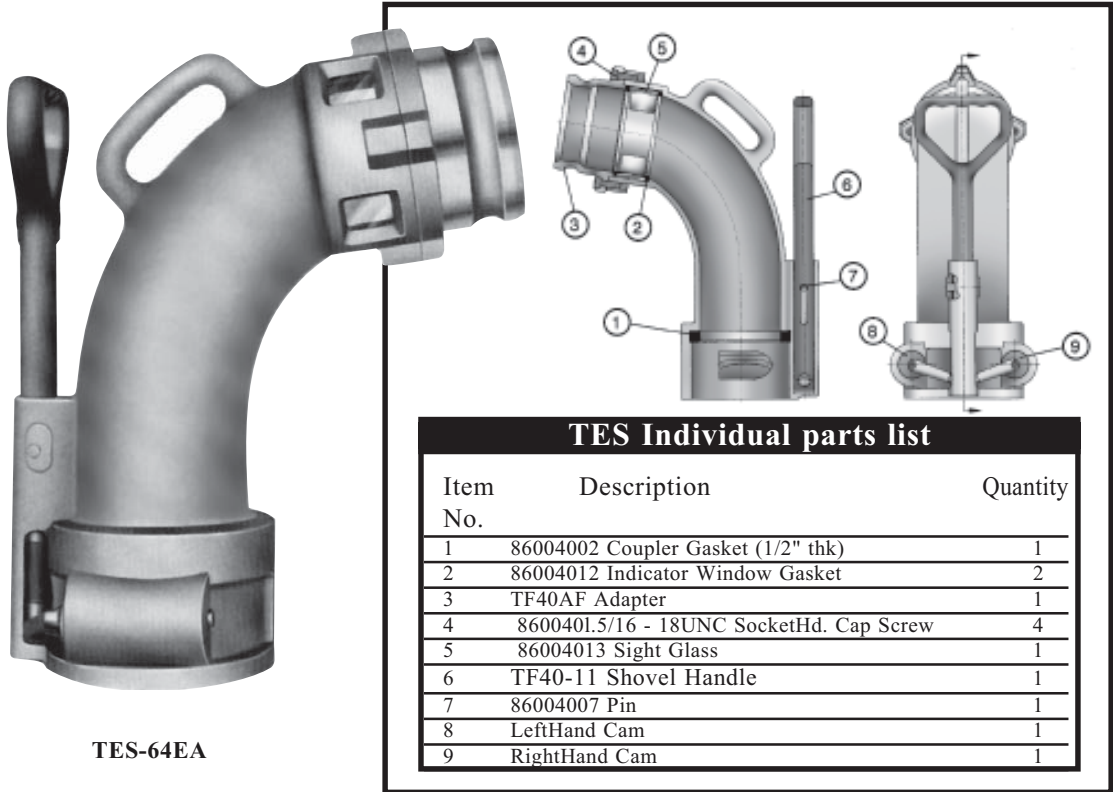
Item No.	Description	Quantity
1	TEC401 4" Flanged Adapter	1
2	TEC406 Flow Indicator Gasket	2
3	TEC403 Sight Glass	1
4	TEC425 O'Ring (#040 Neoprene)	2
5	TEC424 Square Head Set Screw	1
6	TEC407 Coupler Gasket	1
7	TEC405 U'Ring Gasket	1
8	TEC404 Coupler End Tube	1
9	TEC86004007 Pin	1
10	TEC40-11 Shovel Handle	1
11	TEC415 Flange Gasket	1
12	TEC402 3" Flanged Adapter	1
13	TEC420 Locking Latch Assembly	1
14	TEC427 5/16 - 18 UN Hex Hd. Screw 1 1/2" Long	4
15	TEC 5/16 - 18 UN Hex Nut	8
16	TEC 5/16 - Lockwasher	8
17	TEC Spacer 4" Adapter	4
18	TEC430 2 1/4 18 UNC Hex Hd. Screw	4
19	TEC Cam Left Hand	1
20	TEC Cam Right Hand	1



Thorburn number	Fuel	Product Adapter	Product Coupler	Vapour Adapter	Weight
TEC64EA/63EA	Leaded/Unleaded	4"	4"	3"	17 1/2 lbs.

## THOR TITE ELBOWS MODEL "TES"

### 4" TIGHT FILL ELBOWS SHOVEL HANDLE TYPE



**TES Individual parts list**

Item No.	Description	Quantity
1	86004002 Coupler Gasket (1/2" thk)	1
2	86004012 Indicator Window Gasket	2
3	TF40AF Adapter	1
4	8600401.5/16 - 18UNC SocketHd. Cap Screw	4
5	86004013 Sight Glass	1
6	TF40-11 Shovel Handle	1
7	86004007 Pin	1
8	LeftHand Cam	1
9	RightHand Cam	1



TEL-64CA  
4" Female Coupler



TEL-64EA  
4" Male Adapter



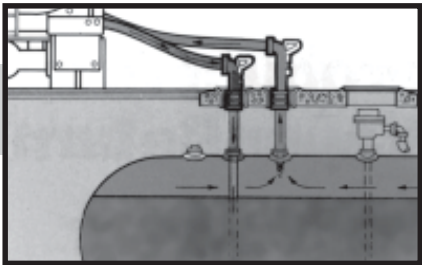
TES-64VA  
4" Tight Fill  
Locking Cap



TES-64AA  
4" Tight Fill  
Adapter X NPT

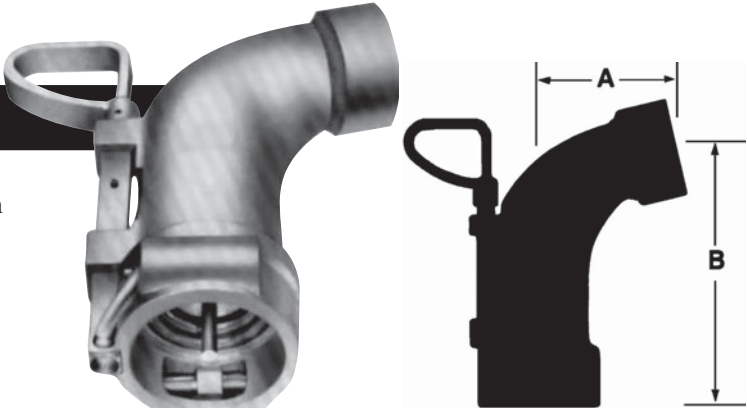


TES-64  
4" Tight Fill  
Adapter X NPSH



## THOR TITE TEVS VAPOUR COUPLER

The TEVS Vapor Coupler is used in dual point systems to connect the vapor line to the vapor return adapter. Features a convenient, single-motion coupling and a special center probe to automatically open the popped adapter upon connection.



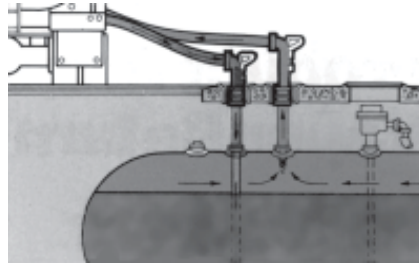
Model TEVS64

Thorburn #	Size	Seals	Adapter	Weight	A	B
TEVS64	4"	Buna	4"	12 lbs.	6"	13 3/4"

## THOR TITE ELBOWS MODELS TEL 4" TIGHT FILL ELBOWS LEVER TYPE

**ThorTite Model TEL is a lever type**

The F523 Elbow connects the delivery hose to the fill adaptor in conventional and dual point vapor recovery systems. Features an integral handle for easy lifting, a buna seal for tight, positive connection, and a recessed sight gauge to monitor product flow. Constructed from high tensile aluminum with manganese bronze push rods and cams. Available in four standard cam and groove connections: 3" x 3", 4" x 4", 4" x 3" and 4" coupler x 4" coupler.



Shown is typical Drop & Vapor Elbow System

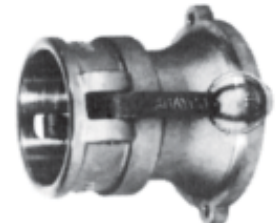


**4" LEVER ACTION  
TIGHT FILL ELBOW  
Adaptor Inlet**

**TEL-64A  
Assembly (less inlet)**



**3" TEL-48EA  
4" TEL-64EA  
Male Adaptor**



**3" TEL-48CA  
4" TEL-64CA  
Female Adaptor**

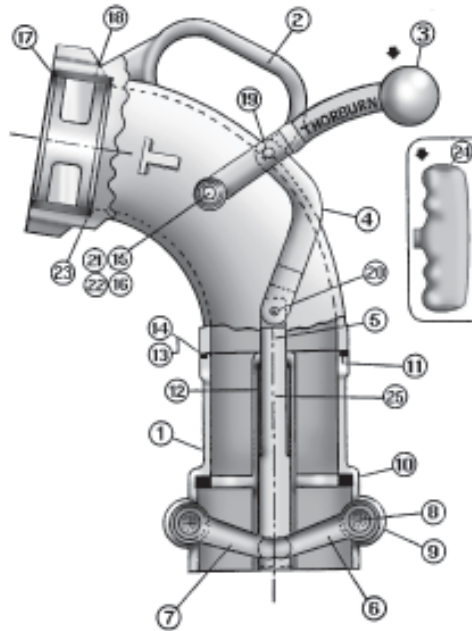
### TITE-FILL CAPS



**TEL-64VA**

### Thorburn Model TEL Parts

Item	Description	Part#
1	Body	TH6000-2
2	Elbow	TH6200-1
3	Handle	TH6200-15
4	Lever	TH6200-16
5	Lever Stem	TH6300-17
6	Right Arm	TH6300-18
7	Left Arm	TH6300-19
8	Small Bushing	TH6400-20
9	Large Bushing	TH6400-21
10	Main Gasket	TH6400-22
11	O Ring	TH6500-23
12	Spring	TH6500-25
13	Washer	TH6500-30
14	Screw	TH6600-35
15	Stud	TH6600-40
16	Bushing	TH6600-45
17	Sight Glass Gasket	TH6800-50
18	Sight Glass	TH6800-51
19	Lever Pin	TH6800-52
20	Stem Pin	TH7000-53
21	Washer	TH7000-54
22	Locknut	TH7000-55
23	Sight Glass Seal	TH7000-56
24	T-Handle	TH-Option-07
25	Pipe Plug	TH7200-58



### API CONNECTORS



**API Coupler X Adaptor**

Part No.	Description	Adaptor Size
API48EA	Drop Adaptor Assembly	3"
API64EA	Drop Adaptor Assembly	4"



**API Coupler X Coupler**

Part No.	Description	Adaptor Size
API48CA	Drop Coupler Assembly	3"
API64CA	Drop Coupler Assembly	4"

### SERIES "SJ" SWIVEL JOINTS

Thorburn swivel joints make it possible to use rigid metal piping for loading and unloading caustic or hazardous liquids, petroleum, dry products such as grains, cement, and other material, under pressure or vacuum, without the difficulty of manhandling heavy, cumbersome hoses.

In circumstances where the use of hose is necessary, Thorburn swivel joints, mounted at the end of the hose, will eliminate kinking and twisting. In other cases, metal frameworks fitted with swivel joints, to which hosing is attached, will guide the hose more easily, and keep uncontrolled hose from kinking or from denting or scratching tanks, trucks and other equipment.

Thorburn swivel joints have a broad range of uses in the petroleum, machine tool, chemical, refining, mining, distilling, brewing, and paint industries, as well as farm irrigation and fertilizing and hundreds of others.

Thorburn swivel joints are standard in combinations of five metals and five seal materials so that you can order, from stock, the ones that are most suitable for the products you handle. Two types of body construction (Cast and Fabricated) cover pressures, temperatures, corrosion resistance, weights and load-bearing capacities well within the requirements of most products handled.

From the pressure/temperature graphs shown below, you can easily determine which metals and seals you need.

Thorburn swivel joints are available in the following materials with pressure ratings as shown:

- Cast Steel ..... 1500 psi
- Cast Bronze ..... 100 psi
- Cast Aluminum ..... 100 psi
- Cast Stainless Steel ..... 500 psi
- Cast Ductile Iron..... 300 psi
- Fabricated Steel..... 500 psi
- Fabricated Stainless Steel .. 500 psi

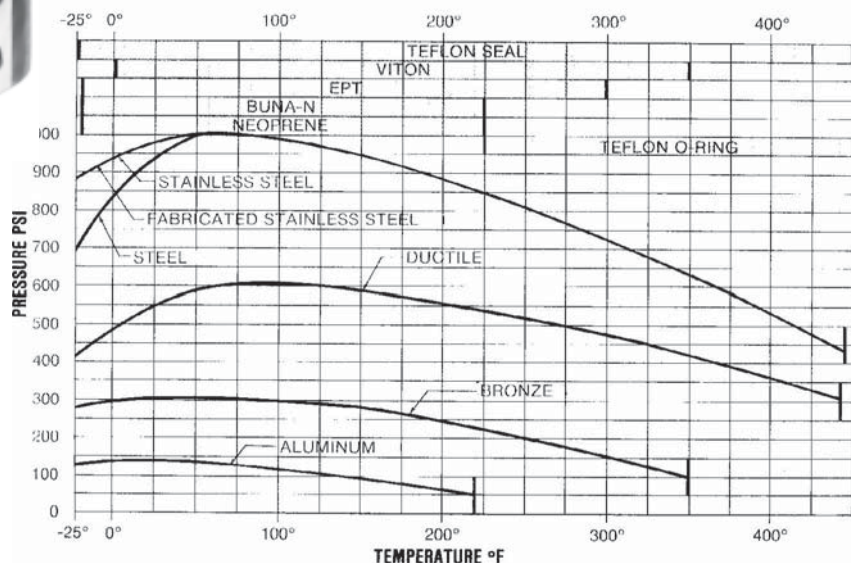


Buna-N seals are standard with all of the above swivel joints, but each is available with seals made of Neoprene, Teflon, EPT or Viton-A, depending on the pressures and temperatures of your operation.



Fabricated Type

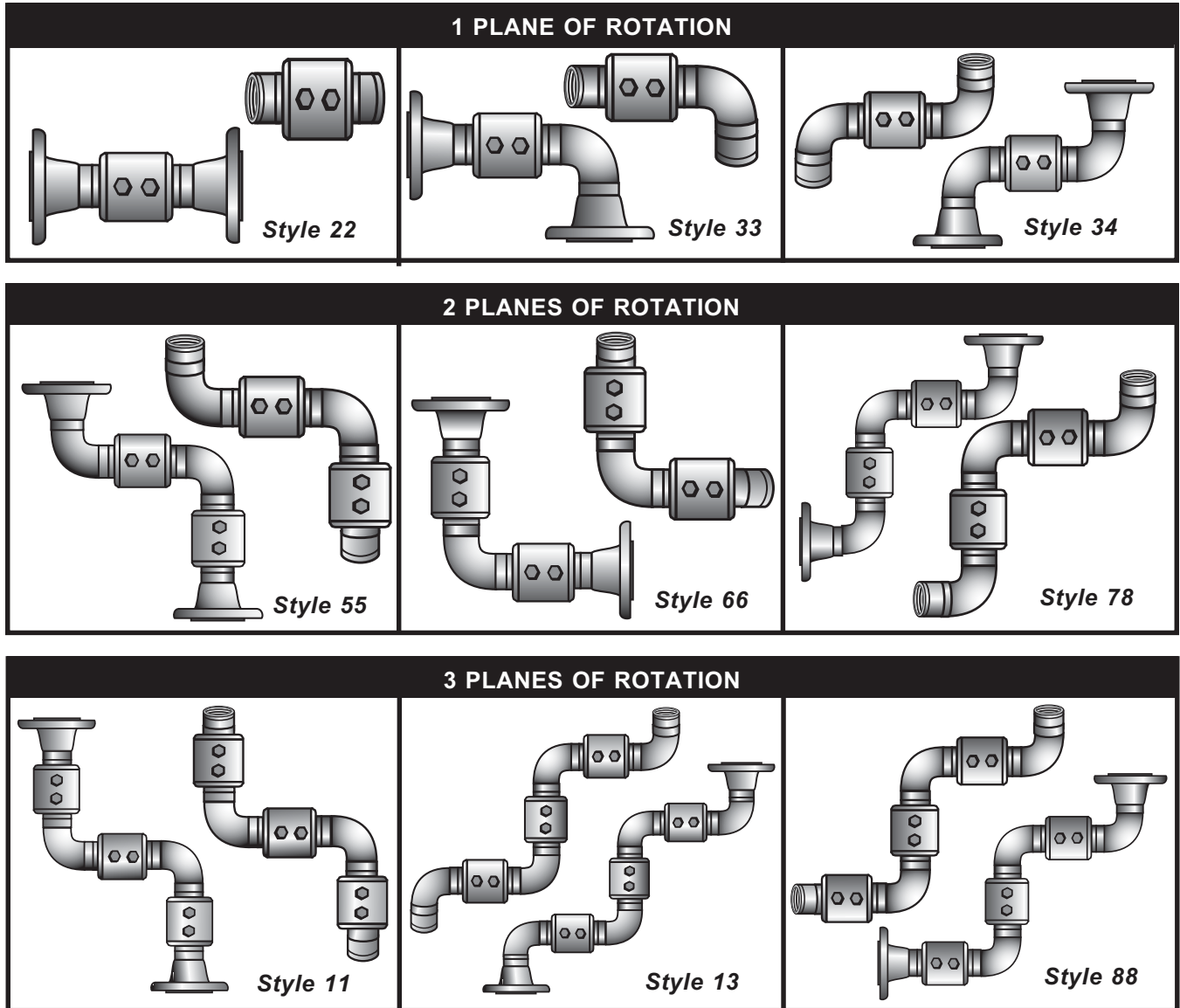
#### PRESSURE/TEMPERATURE



Cast Type

## SWIVEL JOINTS

Combination of flanged and threaded ends available



## Specifying Swivel Joints

Step ① ② ③ ④<sup>a</sup> ④<sup>b</sup> ⑤

# SJ - 48 - 2 - 11 - F1 - T1 - B

Size ① Code in	Metal construction* ② Code	Style ③	End Style A and B ④ Code	Seals ⑤ Code
3/4 12	Cast Steel High Pressure 1	11 55	ANSI 150 Flange F1	Buna N (standard) B
1 16	Bronze 2	13 66	ANSI 300 Flange F2	Neoprene N
1-1/4 20	Fabricated Steel 3	22 78	Female NPT T1	Teflon T
1-1/2 24	Aluminum 4	33 88	Special (specify) XX	EPDM E
2 32	Cast Stainless Steel 5	34 SP**		Viton V
3 48	Ductile Iron 6			
4 64	Fabricated SS 304 7			
6 96	Fabricated SS 316 8			

All sizes are not available in all materials. Call Thorburn for details

\*For materials other than specified, insert Code X and specify

\*\*SP = Special



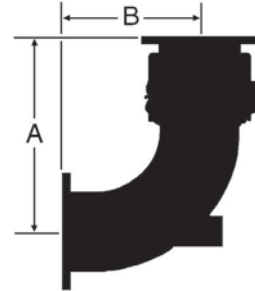
### BOTTOM LOADING ACCESSORIES

#### SINGLE OUTBOARD SWING JOINT

Model BLS-1



Thorburn's long radius single swing joint is specifically designed for use on hose loaders. It allows for 360° rotation on the horizontal plane. Cast aluminium construction makes it lightweight, yet rugged and durable. Long radius design provides for low pressure drop. The BLS-1 has the same seals used in our fabricated swivel joints. The seals are available in Viton, Buna N and PTFE. The BLS-1 is supplied with 4" tank truck flange for use with Thorburn's TJ942-API coupler.



Thorburn Number	A (in.)	B (in.)	Weight (lbs)
BLS164	11	7-3/4	13

#### DOUBLE OUTBOARD SWING JOINT

Model BLS-2



The BLS-2 double swing joint is used to make outboard connections on "A" frame styles of bottom loaders. It can rotate 360° in both the horizontal and vertical planes to facilitate alignment during coupling. Cast aluminum construction is available in 2" through 6" sizes. Quadring seals available in Viton and Buna N.



Thorburn Number	Size (in.)	A (in.)	B (in.)	C (in.)	Weight (lbs)
BLS248	3	8-3/8	4-3/4	8-3/8	11
BLS264	4	9-5/16	5-15/16	9-1/4	18

#### TJ942-API COUPLER



Thorburn's TJ942 is the standard for the industry. A true work horse with a solid reputation built on years of service. It is an API style dry-break coupler built to conform with API RP-1004. It is available in a 4" size only. Thorburn's TJ942 is designed with an interlock so that the coupler cannot be opened unless it is properly connected to an API style adapter. Once coupled, it cannot be uncoupled while the valve is open. Constructed of aluminum, this durable coupler has a 4" tank truck flanged inlet.

#### Seal Repair Kit

Thorburn number	Description
492705	Seal repair kit, PNF
492717	Seal repair kit, Buna
492718	Seal repair kit, Viton
492719	Seal repair kit, EPR

Thorburn's API coupler has a special seal design that allows the poppet, nose and side seals to be replaced without disassembling the coupler or removing it from the loading arm. Standard seals are Viton O-rings. Other elastomers available.

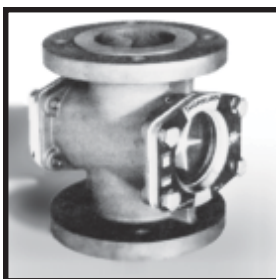
## "THOR-SIGHT" TS24 & TS25...

when you must know color,  
clarity or directional flow

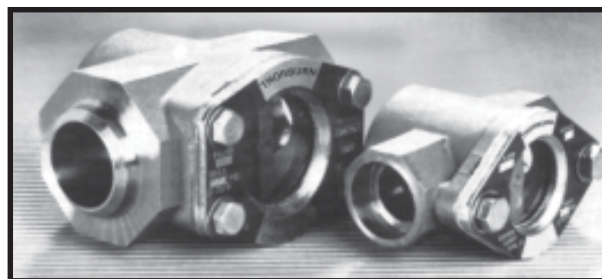
THREADED



FLANGE



BUTTWELD\*



SOCKET WELD\*

### Model TS24 & TS25 Specifications

Series	TS24	TS25
Max. pressure of... at temp	200psi 150°F 1.4MPa 66°C	250psi 175°F 1.7MPa 79°C
Max. temp. of... at psi	150psi 225°F 1.0MPa 107°C	150psi 500°F 1.0MPa 260°C
Glass	Tempered Soda Lime	Tempered borosilicate
Seals	Buna-N*	Viton-A*
Indicator material	Delrin <sup>®</sup> ***	Ryton <sup>®</sup> ***

\* Other seals available: Neoprene, EPT, Teflon and high temperature Teflon

\*\* Teflon is available upon request

### TS25 Series Maximum Temperature Rating at 150 psi

	Bronze	Ductile Iron	Carbon Steel	Stainless Steel
Threaded 1/4" - 2"	350°F 177°C	350°F 177°C	350°F 177°C	350°F 177°C
3" - 4"		500°F* (260°C)		
Flanged 1" - 2"			350°F 177°C	350°F 177°C
Flanged 3" - 4"		500°F* 177°C	400°F* 177°C	500°F* 177°C

\* With high temperature Teflon

Four critical ways to view the media to increase productivity and reduce process maintenance costs

**Propeller** The best way to show flow of opaque liquids. Also ideal for observations at a distance. Flow from right to left is standard. Specify if left to right flow is needed.



**Bi-Directional Flapper** This bi-directional indicator points in either direction to show you at a glance which way the liquid is flowing.



**Drip Tube** Ideal for gravity, extremely low or intermittent flow. Keeps product from dripping on the glass. Assures constant see-through. For vertical lines.

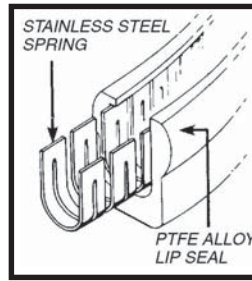


**Bi-Directional Plain** When the color and clarity of your liquid are of prime importance.



# "THOR-SIGHT" Models TS24 & TS25 Better Sealing Method

Thor-Sight offers an elastomer radial seal with superior shape retention that creates a contact and uninterrupted seal between the body and the outside diameter of the glass lens. To handle high temperature applications, Thorburn introduces a Teflon® lip seal design that houses a durable stainless steel spring that maintains a constant expanding force within the seal. Both seal designs form a longer lasting, more secure seal than any conventional product.



Cutaway showing lip/spring seal installed in Thor-Sight flow indicator. Spring and lip provide excellent sealing.

### Thor-Sight Applications

**POWER PLANTS** Monitor flow of critical fluids, such as lubricants pumped to turbines in hydro-electric generators and water cooling lines

**ELIMINATING STEAM BETWEEN LINE EROSION** Wet steam combined with fly ash and dirt form a high velocity abrasive compound. Thor-Sight can show when filters begin to fail, when traps become clogged or worse, the abrasive steam will pass through the sight flow indicator.

**MONITORING CLOGGED FILTERS** Sight flow indicators are usually installed before and after a filter trap to monitor the filtration efficiency.

**MONITORING PROGRESS AND PURGE** The Bi-directional flapper shows flow direction.

## Specifying Thor-Sight

Thor-Sight ④ Part Number
Step ① ② ③ ④ ⑤ ⑥
# T24 - S - 32 - FF - 3 - B
④ Each end

Type ①	Code
TS24 Series: Standard Temperature up to 225°F	T24
TS25 Series: High Temperature up to 500°F	T25

Metal ②	Code
Carbon Steel	C
Bronze	B
316 Stainless Steel	S
Ductile Iron	D
Other (specify)	X

Please note that ductile iron and bronze materials available in limited styles only. Contact Thorburn sales department for availability before specifying these materials.

Size ③	Code
1/4" (Threaded only)	
3/8" (Threaded only)	
1/2" (Threaded only)	
3/4" (Threaded only)	
1"	
1 1/4"	
1 1/2"	
2"	
2 1/2"	
3"	
4"	
6" (flange ends only)	
8" (flange ends only)	128
10" (flange ends only)	160
12" (flange ends only)	192
Jump sizes available upon request	

End Connections ④	Code
Flanged ANSI Class 150	F
Female NPT	T
Butt Weld	B
Socket Weld	S
Combinations available upon request	

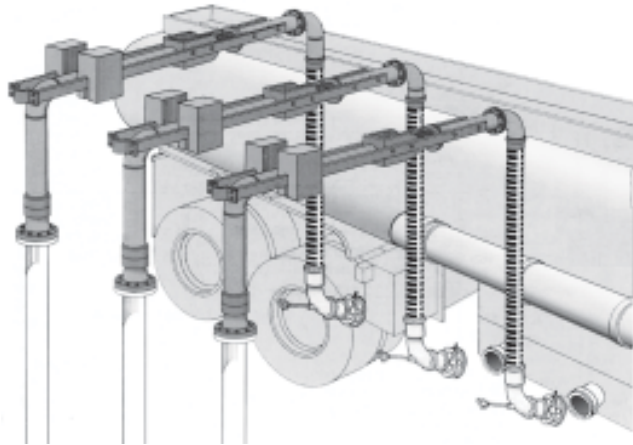
Indicator ⑤	Code
Plain	0
Propeller	1
Flapper	2
Drip Tube	3
Low Flow (1/4" & 1/2" only)	4

Seal Material ⑥	Code
Buna-N Standard on TS24 Series B	
Viton Standard on TS25 Series V	
Neoprene	N
EPDM	E
Teflon	T
High Temperature Teflon	Z
Other (specify)	X

Max. Temperature F. ⑦	Code
225	
350	
200	
300	
400	
500	

## Model BLS

### BOTTOM LOADING SYSTEMS



#### Hose Loader

Briefly, the hose loader is utilized primarily where three or more products are loaded simultaneously and when multiple crossover of arms may be required.

Bottom loading arms come in a standard 4" size. Other sizes are available. Standpipes, outboard swivel joints and API couplers must be ordered separately.

Bottom loading of gasoline transports offers many advantages in speed, safety and savings. Due to the ease of making bottom loading connections at ground level, transports are loaded more quickly, which adds up to faster turnaround times and savings. Also, bottom loading allows for simultaneous loading of compartments which increases overall loading rates, while maintaining safe product velocities.

Increased safety consideration from an environmental standpoint is that bottom loading reduces the amount of vapour. Vapours that are generated can easily be collected because bottom loading is readily adaptable to a positive, closed-loop system.

The advantages of bottom loading combine to offer substantial savings to terminal operators. More product handled in less time with greater safety, less spillage and less vapour loss means savings. The bottom loading design requires a minimal amount of maintenance and eliminates the need for expensive overhead racks.

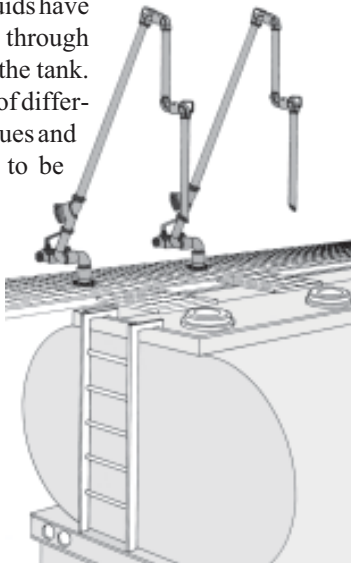
#### Envelope (Range) and Handling

The loading arm's range of movement (envelop dimension) should be capable of reaching the farthest compartment to be loaded without respotting the vehicle. Standard arm lengths cover most requirements, however, longer lengths are available.

## Model TLS

### TOP LOADING SYSTEMS

Traditionally, bulk liquids have almost always been loaded through open manholes at the top of the tank. Top loading allows a variety of different loading methods, techniques and loading arm configurations to be used.



## Design Considerations

#### Top or Bottom Loading

Top loading is the time-proven, efficient method of loading transports and rail cars. It allows for greater simplicity in rack design and in some ways is less expensive than bottom loading systems.

However, vapour loss during top loading operations can be two to three times as much as in bottom loading. If there are stringent clean air standards in your area, you may want to consider a bottom loading system.

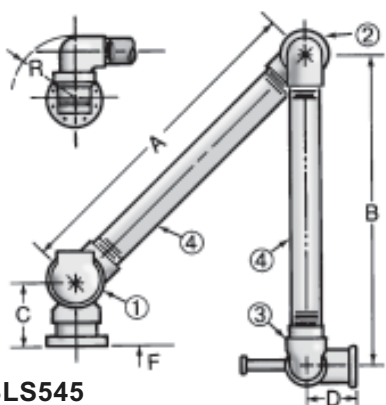
#### Line Size

Standard line sizes on loading assemblies are 2", 3", 4", and 6". Larger sizes are available on request. Industry practice dictates that line velocities should not exceed 15 ft/sec. at 1500. Below are maximum flow rates for the line sizes.

#### Line Velocity

Line Size	15 ft. per sec. Flow USGPM	20 ft. per sec. Flow USGPM
2"	150	210
3"	350	460
4"	600	800
6"	1350	1800

Higher velocities can be achieved with increased pumping costs.



### Model BLS545

**Dimensions** (when critical consult Thorburn)

Inboard Leg Length A	Drop Pipe Length B	C	D	Clearance Radius R	*Mounting Flange Elevation F
5'-0"	5'-0"	8 1/2"	6"	11 1/8"	6'-0"
5'-0"	6'-0"	8 1/2"	6"	11 1/8"	7'-0"
5'-0"	7'-0"	8 1/2"	6"	11 1/8"	8'-0"
5'-0"	8'-0"	8 1/2"	6"	11 1/8"	9'-0"
5'-6"	5'-0"	8 1/2"	6"	11 1/8"	6'-0"
5'-6"	6'-0"	8 1/2"	6"	11 1/8"	7'-0"
5'-6"	7'-0"	8 1/2"	6"	11 1/8"	8'-0"
5'-6"	8'-0"	8 1/2"	6"	11 1/8"	9'-0"

\*Measured from Driveway Surface

### Model BLS545

#### Features

When your application calls for economy, quality, compactness, and lightweight, the Model BLS545 Loading Arm is the right choice. The Model BLS545 with either the 5'-0" or 5'-6" inboard leg will meet the reach range requirements of API RP1004, in banks of up to (4) arms.

#### The Model BLS545 features include:

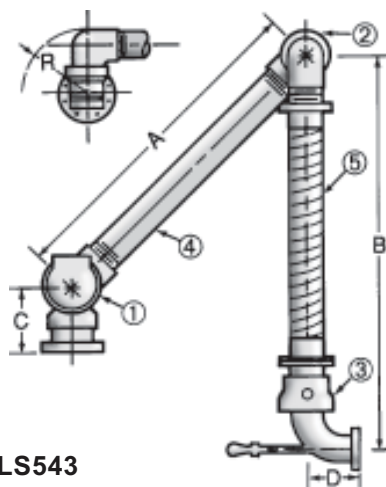
- Compactness: Standard riser flange elevation spacings are 12" and horizontal spacings of 18". Trucks should pull within 5'-6" to 6'-6" on arms with 5'-0" inboard legs and to within 6'-0" to 7'-0" on arms with 5'-6" inboard legs. (Please consult factory for optional arrangements.)
- Lightweight: The all aluminum construction and torsion spring balance mechanism (no counterweights) lead to the lightest loading arms in the industry.
- Configuration: The BLS design is the most versatile in the industry. This design allows for field configuration to either Left Hand (standard) or Right Hand Offsets as well as Inverted Left or Inverted Right Hand Offsets.

#### Components

- 1 6"x4" Style 55 BLS Spring Swivel. Alum., with 4"-150# ANSI Flanged Inlet.
- 2 4" Style 34 LPS Swivel. Alum., with 4"-FNTP Ends. Alum., with 4"-150# ANSI Flanged Inlet.
- 3 4" Style 50 BLS-1 Swivel. Alum., with 4"-TTMA Truck Flanged Outlet and Handle.
- 4 4" schedule 40 Aluminum Pipe.

#### Options

- Seals are available in: Buna-N (standard), Viton-A and Teflon
- API RP1004 Drybreak Coupler.
- 4" dia.x6" long Extension Spool.
- Riser Offset Spools
- TTMA Flanged Connections (except riser flange.)



### Model BLS543

**Dimensions** (when critical consult Thorburn)

Inboard Leg Length A	Drop Pipe Length B	C	D	Clearance Radius R	*Mounting Flange Elevation F
5'-0"	7'-6"	8 1/2"	6"	11 1/8"	8'-6"
5'-0"	8'-6"	8 1/2"	6"	11 1/8"	9'-6"
5'-0"	9'-6"	8 1/2"	6"	11 1/8"	10'-6"
5'-0"	10'-6"	8 1/2"	6"	11 1/8"	11'-6"

\*Measured from Driveway Surface

### Model BLS543

#### Features

When your application calls for economy, quality, compactness, and lightweight, the Model BLS543 Loading Arm is the right choice. The Model BLS543 is available with a 5'-0" inboard leg and will meet the reach range requirements of API RP1004, in banks of up to (4) arms.

#### The Model BLS543 features include:

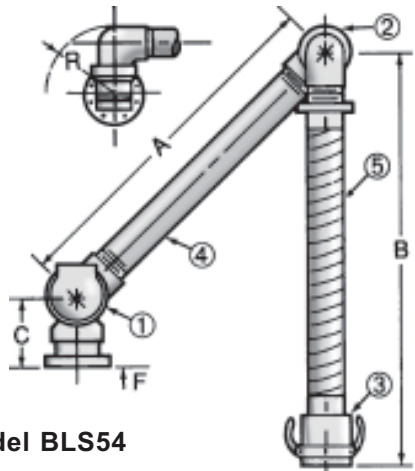
- Compactness: Standard riser flange elevation spacings are 12" and horizontal spacings of 18". Trucks should pull within 5'-6" to 6'-6" of arms with 5'-0" inboard leg. (Please consult factory for optional arrangements.)
- Lightweight: The all aluminum construction and torsion spring balance mechanism (no counterweights) lead to the lightest loading arms in the industry.
- Configuration: The BLS design is the most versatile in the industry. This design allows for field configuration to either Left Hand (standard) or Right Hand Offsets as well as Inverted Left or Inverted Right Hand Offsets.

#### Components

- 1 6"x4" Style 55 BLS Spring Swivel. Alum., with 4"-150# ANSI Flanged Inlet.
- 2 4" Style 34 LPS Swivel. Alum., with 4"-FNTP x 4"-TTMA Truck Flange Ends.
- 3 4" Style 22 LPS Swivel. Alum., with 4"-TTMA Truck Flanged Ends and Handle.
- 4 4" schedule 40 Aluminum Pipe.
- 5 4" Loading Hose (stainless steel braided or composite)

#### Options

- Seals are available in: Buna-N (standard), Viton-A and Teflon
- API RP1004 Drybreak Coupler.
- 4" dia.x6" long Extension Spool.
- Riser Offset Spools
- TTMA Flanged Connections (except riser flange.)



**Model BLS54**

**Dimensions** (when critical consult Thorburn)

Inboard Leg Length A	Drop Pipe Length B	C	Clearance Radius R	*Mounting Flange Elevation F
5'-0"	10'-0"	8 1/2"	6"	7'-0"
5'-6"	10'-0"	8 1/2"	6"	7'-0"

\*Measured from Driveway Surface

## Model BLS54 (Vapour Arm)

### Features

The model BLS54 Vapour Arm is a popular companion to any of the BLS Loading Arms. This model provides a convenient, safe, and economical means of handling and storing your vapour recovery hose. This model features the same compact, lightweight profile offered by the liquid arms. The replacement parts are also common to the liquid arms, saving on replacement parts inventory.

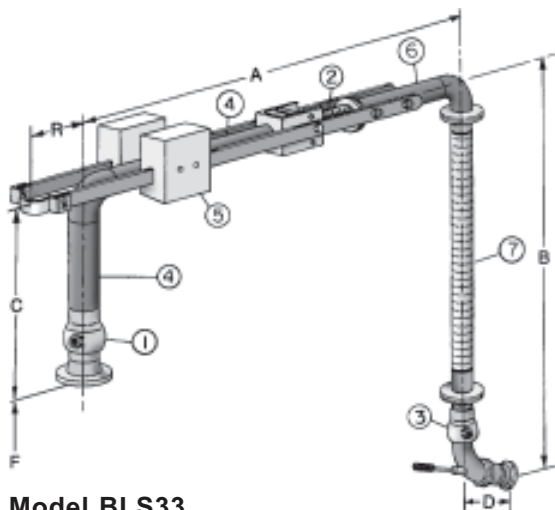
Like the liquid BLS Models, the Model 54 can be field configured to either Left Hand (standard) or Right Hand Offsets as well as Inverted Left or Inverted Right Hand Offsets.

### Components

- 1 6"x4" Style 55 BLS Spring Swivel. Alum., with 4"-150# ANSI Flanged Inlet.
- 2 4" Style 34 LPS Swivel. Alum., with 4"-FNTP Ends. Alum., with 4"-TTMA Truck Flanged Ends.
- 3 3"x4" Vapour Return Hose Coupler (Standard). Optional 4"x4" size available
- 4 4" schedule 40 Aluminum Pipe.
- 5 4" Vapour Hose.

### Options

- Seals are available in: Buna-N (standard), Viton-A and Teflon
- Riser Offset Spools
- TTMA Flanged Connections (except riser flange.)



**Model BLS33**

**Dimensions** (when critical consult Thorburn)

Inboard Leg Length A	Drop Pipe Length B	C	D	Clearance Radius R	*Mounting Flange Elevation F
9'-6"	7'-6"	38"	6"	8"	8'-6"
9'-6"	8'-10"	38"	6"	8"	9'-6"
9'-6"	10'-2"	38"	6"	8"	10'-6"
9'-6"	11'-6"	38"	6"	8"	11'-6"

\*Measured from Driveway Surface

## Model BLS33

### Features

The LSI Model BLS33 Hose Loading Arm is the right choice when your application calls for economy, quality and an extended horizontal reach from riser centerline to truck connections. The Model 33 is available with a 9"-6" inboard leg and will meet the reach range requirements of API RP1004, in banks of up to (4) arms.

### The Model BLS33 features include:

- Standard riser flange elevation spacings of 16" and horizontal spacings of 18". Trucks should pull within 10'-0" to 11'-0". (Please consult factory for optional arrangements.)
- Easy, precise balancing is accomplished by sliding counterweights on horizontal counterweight bar.

### Components

- 1 4" Style 22 LPS Spring Swivel. Carbon steel, with 4"-150# ANSI Flanged Inlet.
- 2 4" Hinged Hose Joint, with 4"-#150 TTMA Truck Flange Ends.
- 3 4" Style 22 LPS Swivel. Alum., with 4"-TTMA Truck Flanged Ends and Handle.
- 5 Counterweights, Steel.
- 6 4" schedule 40, Aluminum Pipe.
- 7 4" Loading Hose (stainless steel braided or composite)

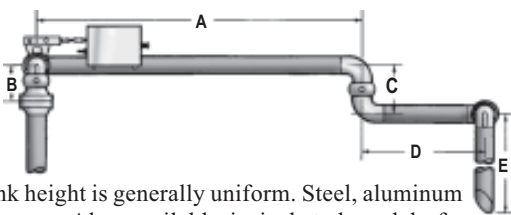
### Options

- Seals are available in: Buna-N (standard), Viton-A and Teflon
- API RP1004 Drybreak Coupler.
- 4" dia.x6" long Extension Spool.
- Arm available in 3" or 4"x3" size with drop leg 6'-6" to 9'-6".

### OPEN SYSTEM LOADING ARMS

#### Model 544

Rugged, economical arm for handling chemicals and petroleum products where tank height is generally uniform. Steel, aluminum or stainless steel arms. Also available in jacketed models for liquid sulfur or other hot fluids.

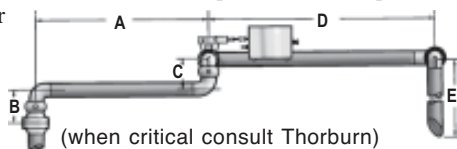


Dimensions (when critical consult Thorburn)

Size	A	B	C	D	E	Approximate Weight (#)
2"	9'0"	8 1/4"	6 1/8"	3'0"	4'0"	240
3"	9'0"	9 5/8"	7 1/2"	3'0"	4'0"	260
4"	9'0"	10 5/8"	9 1/4"	3'0"	4'0"	340
6"	9'0"	15 15/16"	18 1/2"	3'0"	4'0"	775

#### Model 374

Easy-to-handle but rugged arm for chemicals and petroleum products. Ideal where additional reach is required and for open-dome loading from either side of a platform.

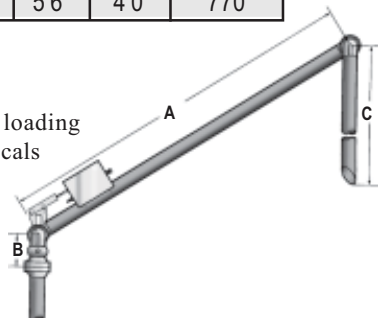


Dimensions (when critical consult Thorburn)

Size	A	B	C	D	E	Approximate Weight (#)
2"	6'0"	8 1/4"	6 1/8"	5'6"	4'0"	175
3"	6'0"	9 5/8"	7 1/2"	5'6"	4'0"	255
4"	6'0"	10 3/4"	9 1/8"	5'6"	4'0"	300
6"	6'0"	15 15/16"	18 1/2"	5'6"	4'0"	770

#### Model 54

Simple inexpensive arm for loading petroleum products and chemicals into tank cars or trucks where distance from dock to hauling vehicle does not vary. Available in jacketed models for handling sulfur or hot products.



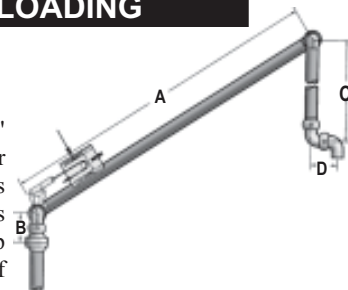
Dimensions (when critical consult Thorburn)

Size	A	B	C	Approximate Weight (#)
2"	12'0"	8 1/4"	6 1/8"	170
3"	12'0"	9 5/8"	7 1/2"	240
4"	12'0"	10 5/8"	9 1/8"	309
6"	12'0"	15 15/16"	18 1/2"	680

### CLOSED SYSTEM LOADING

#### Model 545

Available in sizes 2", 3", 4" and 6" in steel, aluminum or stainless steel. This model is well suited to applications requiring closed system top loading and unloading of hard-to-handle products such as LPG, anhydrous ammonia and acids. Model 545 may also be used for bottom loading of petroleum products.



Dimensions (when critical consult Thorburn)

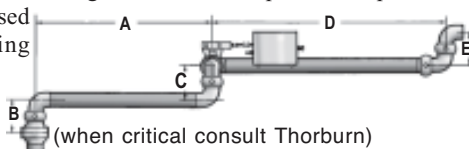
Size	A	B	C	D	Approximate Weight (#)
2"	8'0"	8 1/4"	4'0"	6 1/8"	175
3"	8'0"	9 5/8"	4'0"	7 1/2"	245
4"	8'0"	10 5/8"	4'0"	9 1/8"	315
6"	8'0"	15 15/16"	4'0"	18 1/2"	750

#### Model 541

Same as Model 545, but terminates with a Style 22 swivel instead of Style 55, allowing a flange connection.

#### Model 375

Widely used closed-system model. Rugged, long-reaching units for loading or unloading chemicals and petroleum products. Can also be used for top loading installations.



Dimensions (when critical consult Thorburn)

Size	A	B	C	D	E	Approximate Weight (#)
2"	6'0"	8 1/4"	6 1/8"	5'6"	6 1/8"	170
3"	6'0"	9 5/8"	7 1/2"	5'6"	7 1/2"	240
4"	6'0"	10 3/4"	9 1/8"	5'6"	9 1/4"	290
6"	6'0"	15 15/16"	18 1/2"	5'6"	18 1/2"	810

#### Model 371

Same as Model 375, but terminates with a Style 22 swivel instead of Style 55, allowing a flange connection.

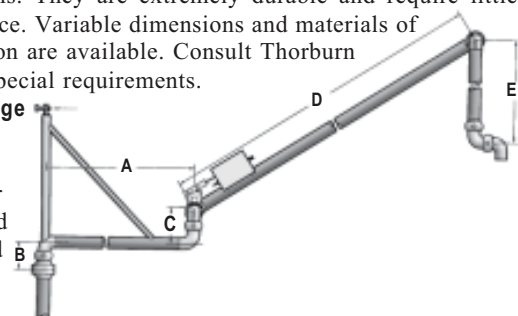
#### Model 3745

The long range boom loaders are designed for use in rugged applications. They are extremely durable and require little maintenance. Variable dimensions and materials of construction are available. Consult Thorburn for your special requirements.

#### Size Range

2"-8"

Consult factory for customized design and weights.



## MODELS BLS AND TLS: TECHNICAL DATA

### CHARTS AND TABLES

Table 1 gives pressure drops at various flow rates for water flowing through 100' of straight steel pipe.

For density variations

Pressure drop

(Product)

$$\text{Pressure drop X} \frac{\text{Density of product}}{\text{Density of water}} \text{ (water)}$$

Density of water = 62.3 lb./ft.<sup>3</sup>

For viscosity variations

$$\text{Pressure drop X} \sqrt[5]{\frac{\text{Viscosity of product}}{\text{Viscosity of water}}} \text{ (water)}$$

Viscosity of water = 1.3 c/stokes

Table 1

Flow of Water through 100 ft. Schedule 40 Steelpipe

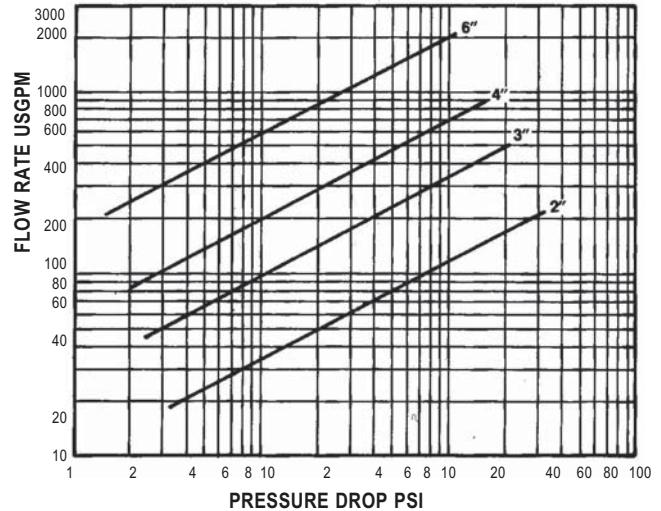


Table 2

Standard Pipe Data  
Schedule 40 Steelpipe

Nom. Dia., in.	Actual O.D. Dia., in.	Actual I.D. Dia., in.	Inside area, sq. in.	Weight per ft., lbs.	Length in ft. containing one US gal.	Length in ft. containing one US gal.
1/2	0.840	0.622	0.304	.805	63.322	473.910
1	1.315	1.049	0.864	1.678	22.280	166.618
1 1/2	1.900	1.610	2.036	2.717	9.454	70.733
2	2.375	2.067	3.355	3.652	5.736	42.913
2 1/2	2.875	2.469	4.788	5.79	4.020	30.077
3	3.500	3.068	7.393	7.57	2.593	19.479
3 1/2	4.000	3.548	9.886	9.11	1.947	14.565
4	4.500	4.026	12.730	10.79	1.512	11.312
5	5.563	5.047	20.006	14.62	0.962	7.198
6	6.625	6.065	28.890	18.97	0.666	4.984
8	8.625	7.981	50.027	28.55	0.384	2.878

Table 3

Specific Gravity and Viscosity of Liquids

Liquid	Specific Gravity*	Viscosity S.S.U.		
		60°F	100°F	160°F
Water	1.00	31.5	30.5	—
Gasoline	.71-.74	30.9	30.4	—
Jet Fuel	.74-.85	31.5 to 36	30.9 to 33.3	—
Kerosene	.78-.82	36	33	—
No. 1 Fuel Oil	.82-.95	34-37	33	—
No. 1 Fuel Oil	.82-.95	37-52	33-40	—
No. 3 Fuel Oil	.82-.95	52-69	40-45	34-35
No. 5 Fuel Oil	.82-.95	600-5600	150-850	55-140
No. 6 Fuel Oil	.82-.95	8000-100,000	1050-8400	165-650
S.A.E.10	.88-.94	630-860	170-220	60-67
S.A.E.20	.88-.94	860-3000	220-550	67-115
S.A.E.30	.88-.94	3000-4400	550-800	115-155
S.A.E.60	.88-.94	11000-17000	1850-2500	285-370

\*Multiply by 62.36 to convert specific gravity to density lb./ft.<sup>3</sup>

Table 4

Pressure Equivalents

Oz. per sq. in.	Lbs. per sq. in.	Atmospheres	Column of Mercury at 32°F.		Column of Water at 60°F.		
			Meters	Inches	Meters	Inches	feet
1.	0.06250	0.004253	0.003232	0.1273	0.04403	1.734	0.1445
16.00	1.	0.06805	0.05172	2.036	0.7045	27.74	2.311
235.1	14.70	1.	0.7600	29.92	10.35	407.6	33.97
309.4	19.34	1.316	1.	39.37	13.62	536.4	44.70
7.859	0.4912	0.03342	0.02540	1.	0.3460	13.62	1.135
22.71	1.419	0.09658	0.07340	2.890	1.	39.37	3.281
0.5768	0.03605	0.002453	0.001864	0.07340	0.2540	1.	0.08333
6.922	0.4326	0.02944	0.02237	0.8309	0.3048	12.00	1.

Mercury at 32°F. = 13.5951grams per cubic centimeter = 0.491156 pounds per cubic inch.

Water at 60°F. = 62.2994 pounds per cubic foot in air.

1 Atmosphere 760.0 millimeters of mercury at 32°F.



# GENERAL MAINTENANCE, TESTING, AND INSPECTION OF HOSE

## Special Procedure

Hose assemblies shall be inspected and tested immediately after the hose is subjected to abnormal abuse such as: severe end pull, flattening or crushing or sharp kinking. As you inspect a hose assembly, remember that most hose failures occur between the coupling and the first three feet along the hose length. Pay close attention to this area. Any hose that has been recoupled shall be proof-tested and inspected before being placed in service.

## Hydrostatic Pressure Test

For large bore hose being used in dock service, an inspection card which describes the hose manufacturer, date received, purchase order number and date of installation should be maintained for each hose. The inspection card should be used to record the test results and condition of the hose.

Thorburn recommends that new hose assemblies be hydrostatically tested before being placed in service. Hydrostatic testing should be done at periodic intervals to determine if a hose is suitable for continued service. The hydrostatic test and examination shall be conducted in the following manner.

Hose to be pressure tested must be restrained by placing steel rods or straps close to each end and at approximate 10 foot (3m) intervals along its length to keep the hose from “whipping” if failure occurs; the steel rods or straps may be anchored firmly to the test structure but in such a manner that they do not contact the hose which must be free to move.

1. **Hose shall lie in a straight and horizontal position supported on rollers to permit easy movement when under the test pressure.**
2. **Water should be used as the test liquid. Never pressure test with solvents, corrosive liquids, or with compressed gases.**
3. **Fill the hose with water with the outlet end raised and the outlet valve open to insure the complete removal of air. When all the air has been exposed, close the outlet valve and lower the raised end.**
4. **For new hose, raise the pressure to 1 1/2 times the rated working pressure of the hose and hold for 5 minutes. During this hold period, the hose shall be examined for leaks at the couplings, fitting slippage, or for any indication of weakness in the hose structure.**

5. **For used hose, test with a pressure of 1 1/2 times the rated working pressure of the hose and examine as above.**
6. **Completely relieve test pressure from the system prior to releasing hose from test equipment.**
7. **Thoroughly drain the water from the hose after completion of the hydrostatic test.**

## Electrical Continuity

When required by the user, electrical continuity between the fittings shall be tested using an ohm meter. The hose must be clean and dry for this test.

## Hose

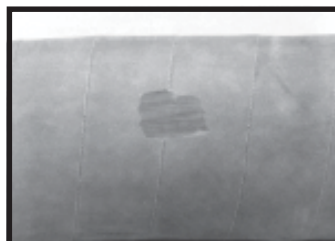
Hose has a limited life based on the severity and type of chemical contact, environment or exposure to heat and petroleum products. Thorburn recommends the following maintenance procedure to determine when hose should be replaced

## Visual Inspection

### 1. Hose

Any cuts, gouges or tears in the cover which do not expose the reinforcement should be repaired before the hose is returned to service. If the reinforcement is exposed, retire the hose from service.

Covers may show surface cracking or crazing due to prolonged exposure to sunlight, ozone, or high temperature during soak tank cleaning. Such deterioration, which does not expose reinforcing material, is not cause for retirement.



**Check for signs of soft spots, blisters, and kinking. If soft spots exist, pressure test the hose assembly and determine whether it is necessary to discard.**

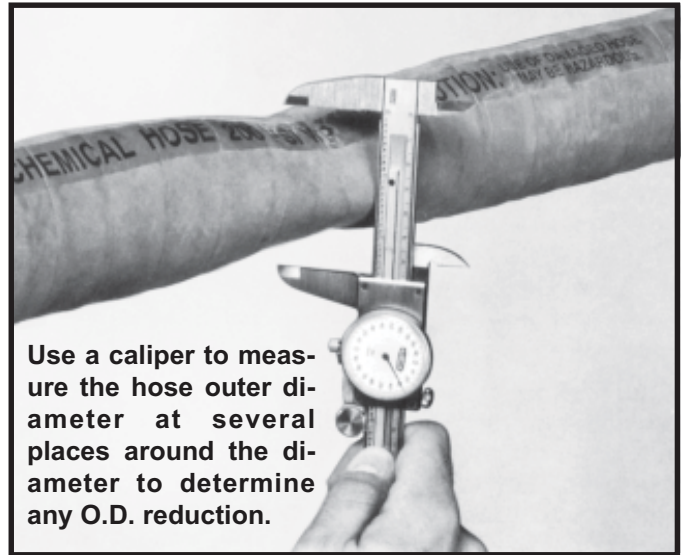
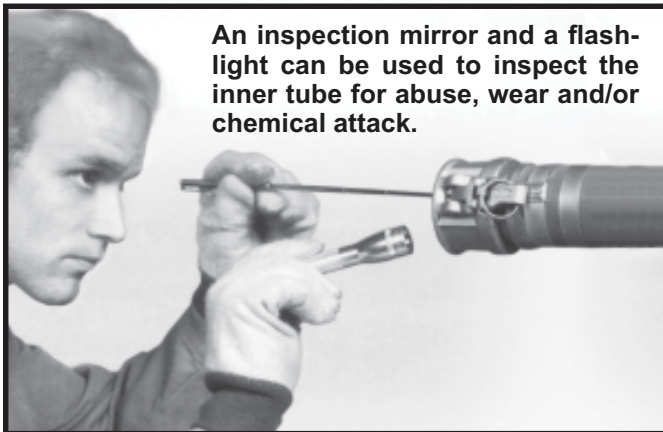
**WARNING! If cover blisters exist, be careful not to pop them. If the hose was damaged in such a way that material was leaked between the cover and inner tube, the blisters may contain this material. If the material is hazardous and splatters when the blisters are popped, it could cause serious physical injury.**

Look for any indication of kinking or broken reinforcement as evidenced by any permanent distortion, longitudinal ridges, or bulges.

According to RMA IP-11-7 Chemical Hose Bulletin, crushed or kinked spots where the hose O.D. is reduced by 20 per cent or more of the normal O.D. indicate the hose probably has internal damage. The hose assembly must be removed from service to ensure the safety of people in the work area.

**WARNING! Kinks can cause hose to burst, leading to bodily harm.**

Hose containing crushed or kinked spots where the outside diameter is reduced less than 20% may be used if the hose passes the hydrostatic test.



## 2. Couplings

All metals are subject to attack by various chemicals. Check with Thorburn to make sure that suitable end fittings, appropriate to both the hose and the chemical being handled, are being used.

Exposed surfaces of couplings, flanges and nipples shall be examined for cracks or excessive corrosion. Either condition shall cause the hose to be retired from service. Any evidence of coupling or nipple slippage on the hose is cause for removing the hose from service.

The Rubber Manufacturers Association has published a series of technical bulletins which detail maintenance, testing and inspection recommendations.

## CARE, MAINTENANCE AND STORAGE

Because the life expectancy of the hose is limited, the user must be alert to signs of impending failure, particularly when the conditions of service include high working pressures and/or the conveyance or containment of hazardous materials. The periodic inspection and testing procedures described here provide a schedule of specific measures which constitute a minimum level of user action to detect signs indicating hose deterioration or loss of performance before conditions leading to malfunction or failure are reached.

**SAFETY WARNING:** Failure to follow properly the manufacturer's recommended procedures for the care, maintenance and storage of a particular hose might result in its failure to perform in the manner intended and might result in possible damage to property and serious bodily injury.

General instructions are also described for the proper storage of hose to minimize deterioration from exposure to elements or environments which are known to be harmful to rubber products. Proper storage conditions can enhance and extend substantially the ultimate life of hose products.

### General Care and Maintenance of Hose

Hose should not be subjected to any form of abuse in service. It should be handled with reasonable care. Hose should not be dragged over sharp or abrasive surfaces unless specifically designed for such service. Care should be taken to protect hose from severe end loads for which the hose or hose assembly were not designed. Hose should be used at or below its rated working pressure; any changes in pressure should be made gradually so as to not subject the hose to excessive surge pressures. Hose should not be kinked or be run over by equipment. In handling large size hose, dollies should be used whenever possible; slings or handling rigs, properly placed, should be used to support heavy hose in oil suction and discharge service.

### General Test and Inspection Procedures for Hose

An inspection and hydrostatic test should be made at periodic intervals to determine if a hose is suitable for continued service.

A visual inspection of the hose should be made for loose covers, kinks, bulges, or soft spots which might

indicate broken or displaced reinforcement.\*. The couplings or fittings should be closely examined and, if there is any sign of movement of the hose from the couplings, the hose should be removed from service.

The periodic inspection of the hose should include a hydrostatic test for one minute at 150% of the recommended working pressure of the hose. An exception to this would be woven jacketed fire hose.\*\* During the hydrostatic test, the hose should be straight, not coiled or in a kinked position. Water is the usual test medium, and following the test, the hose should be flushed with alcohol to remove traces of moisture. A regular schedule should be followed and inspection records maintained.

**SAFETY WARNING:** Before conducting any pressure test on hose, provision should be made to ensure the safety of the personnel performing the tests and to prevent any possible damage to property. Only trained personnel using proper tools and procedures should conduct any pressure tests.

1. Air or any other compressible gas must never be used as the test medium because of the explosive action of the hose should a failure occur. Such a failure might result in possible damage to property and serious bodily injury.
2. Air should be removed from the hose by bleeding it through an outlet valve while the hose is being filled with the test medium.
3. Hose to be pressure tested must be restrained by placing steel rods or straps close to each end and at approximate 10 foot (3m) intervals along its length to keep the hose from "whipping" if failure occurs; the steel rods or straps are to be anchored firmly to the test structure but in such a manner that they do not contact the hose which must be free to move.
4. The outlet end of hose is to be bulwarked so that a blown-out fitting will be stopped.

\* See photographs on page 145.

\*\* Woven jacketed fire hose should be tested in accordance with the service test provisions contained in the current edition of National Fire Protection Association Bulletin No. 1962—Standard for the Care, Use and Service Testing of Fire Hose, Chapter 5.

5. Provisions must be made to protect testing personnel from the forces of the pressure media if a failure occurs.
6. Testing personnel must never stand in front of in back of the ends of the hose being pressure tested.
7. If liquids such as gasoline, oil, solvent, or other hazardous fluids are used as the test fluid, precautions must be taken to protect against fire or other damage should a hose fail and the test liquid be sprayed over the surrounding area.

## Storage

Rubber hose products in storage can be affected adversely by temperature, humidity, ozone, sunlight, oils, solvents, corrosive liquids and fumes, insects, rodents and radioactive materials.

The appropriate method for storing hose depends to a great extent on its size (diameter and length), the quantity to be stored, and the way in which it is packaged. Hose should not be piled or stacked to such an extent that the weight of the stack creates distortions on the lengths stored at the bottom. Since hose products vary considerably in size, weight and length, it is not practical to establish definite recommendations on this point. Hose having a very light wall will not support as much load as could a hose having a heavier wall or hose having a wire reinforcement. Hose which is shipped in coils or bales should be stored so that the coils are in a horizontal plane.

Whenever possible rubber hose products should be stored in their original shipping containers, especially when such containers are wooden crates or cardboard cartons which provide some protection against the deteriorating effects of oils, solvents and corrosive liquids; shipping containers also afford some protection against ozone and sunlight.

Certain rodents and insects will damage rubber hose products, and adequate protection from them should be provided.

Cotton jacketed hose should be protected against fungal growths if the hose is to be stored for prolonged periods in humidity conditions in excess of 70%.

The ideal temperature for the storage of rubber hose products ranges from 50° to 70° F. (10° - 21° C) with a

maximum limit of 100° F (38° C.). If stored below 32° (0° C.), some rubber products become stiff and would require warming before being placed in service. Rubber products should not be stored near sources of heat, such as radiators, base heaters, etc. Nor should they be stored under conditions of high or low humidity.

To avoid the effects of high ozone concentration, rubber hose products should not be stored near electrical equipment that may generate ozone or be stored for any lengthy period in geographical areas of known high ozone concentration.

Exposure to direct or reflected sunlight — even through windows— should also be avoided. Uncovered hose should not be stored under fluorescent or mercury lamps which generate light waves harmful to rubber.

Storage areas should be relatively cool and dark, and free of dampness and mildew. Items should be stored on a first-in first-out basis, since even under the best of conditions, an unusually long shelf life could deteriorate certain rubber products.

The Rubber Manufacturers Association has published a series of Hose Technical Information bulletins describing hoses designed for different applications which detail Maintenance, Testing and Inspection recommendations. Reference should be made to the RMA Catalog of Publications, issued annually, to determine the availability for the latest edition. Bulletins published as of January 1987 include the following:

## Publication No.

**IP 11—1—Steam Hose**

**IP 11—2—Anhydrous Ammonia Hose**

**IP 11—4—Oil Suction and Discharge Hose**

**IP 11—5—Welding Hose**

**IP 11—6—Fire Hose**

**IP 11—7—Chemical Hose**

**IP 11—8—Fuel Dispensing Hose**

# MAINTENANCE, TESTING, AND INSPECTION OF CHEMICAL HOSES

## CHEMICAL HOSE

**WARNING:** A failure of chemical hose in service can result in damage to property and injury to personnel. All chemical hose manufacturers recommend specific hose constructions to handle various chemicals.

Do not use chemical hose at temperatures or pressures above those recommended by the manufacturer. All operators must be thoroughly trained in the care and use of this hose and must at all times wear protective clothing. A hose or system failure could cause the release of a poisonous, corrosive or flammable material.

## Foreword

The object of the following procedure is to detect any weakness in a hose assembly before the weakness causes failure of a hose in service. While these testing and inspection procedures may be applied to any hose, the periodic testing and inspection procedures outlined therein are mandatory for hose used in applications where a failure may release material that could result in serious injury to personnel or property.

Rules for the proper selection, handling, use and storage of hose are to be carefully followed. It is imperative that hose, while not in storage or service, not be subjected to any form of abuse such as kinking, exposure to an environment involving extremes of temperature, corrosive or oxidizing fumes or liquids, oils and solvents, ozone, etc. The procedure outlined in the RMA **Hose Handbook**, Chapter IX, Care, Maintenance and Storage of hose should be carefully followed.

## Scope

This procedure is intended as a guide for the maintenance, testing and inspection of chemical hose. It covers hose containing carcass reinforcements, of woven textile fabric; textile cords; textile or wire braids; flat, oval or round wire helix; spiral wire of cable; or any combinations of these reinforcements. Chemical hose is available with various types of ends or, where specified, suitable metal fittings.

## Handling

Crushing or kinking of the hose can cause severe damage to the reinforcement. Care should be exercised to prevent mishandling.

Do not drage the hose or lift large bore hose from the middle of its length with the ends hanging down. Limit the curvature of the hose to that recommended by the manufacturer and avoid sharp bends at the end fittings and at manifold connections.

## Operation

Important: Personnel involved in an operation using chemical hose must use safety precautions such as wearing eye or face protection, rubber gloves, boots and other types of protective clothing.

Pressures and temperatures are to be monitored to see that the hose is not exposed to conditions above specified limits. Exceeding specified limits could injure the hose and result in damage to property and serious bodily harm.

Never allow chemicals to drip on the exterior of a hose or allow hose to lie in a pool of chemicals since the hose cover may not have the corrosion resistance of the tube. Should a corrosive material come in contact with the reinforcing material, early failure could result.

If crushing or kinking occurs, examine the hose carefully, and, if the outside diameter is reduced 20% or less, the hose must be immediately subjected to the Hydrostatic Pressure Test and Examination on page [?]. If the reduction in diameter is more than 20%, retire the hose from service.

Care must be taken when different chemicals are conveyed in the same hose; the chemicals may react and shorten the service life of the hose. When it is impractical to disconnect the hose line after use, drain any remaining chemical from the hose.

## Storage

Before placing chemical hose in storage, the hose must be completely drained and any potentially explosive vapours or corrosive residues flushed out. **NOTE: Extreme care must be taken when flushing out a chemical hose with water; some chemicals, such as concentrated acids, may react with water and cause splattering.** When flushing a hose, disposal of the effluent must be made in such a manner that environmental problems are not created.

Chemical hose should be stored so that air can circulate through it— laid straight on a solid support. This procedure helps extend the life of the hose. Hose should be stored in a cool, dark place at a temperature of less than 100° F. (38° C).

## Frequency of Inspection and Pressure Testing

When chemical hose is used in bulk transfer service, it shall be visually inspected daily and hydrostatically tested every 90 days. The details of the examination and testing are listed on page 140-141. An inspection card and recording system should be adopted for chemical hose used in dock applications.

This information taken from the Rubber Manufacturers Association, Hose Technical Information Sub Committee, IP-11-Chemical Hose, copyright 1979. Revised 1987. (202) 682-1338

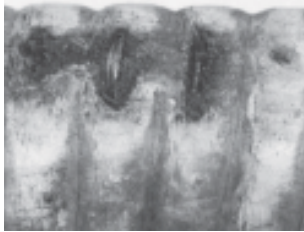
## TYPICAL HOSE FAILURE ANALYSIS

**WARNING! Selection of Hose:** Selection of the proper hose for the application is essential to the proper operation and safe use of the hose and related equipment. Inadequate attention to selection of the hose for application can result in serious bodily injury or property damage. In order to avoid serious bodily injury or property damage resulting from selection of the wrong hose, you should carefully review the information in this catalogue.

Hose failures can be caused by conditions such as excessive pressures, fluid incompatibility, extreme temperatures and many more. Illustrated below are some of the more common failures. If the conditions you are experiencing are not listed, please contact your Thorburn representative for further assistance or contact customer service at 1-800-343-4413.

**1. Problem:** The hose has exposed reinforcement and a loose cover. This could be caused by an abrasive environment or the life of the hose has been exceeded.

**Solution:** Route hose to properly avoid excess abrasion. Some hoses are made with materials that handle abrasion better.



**2. Problem:** Cracks in the hose cover can be caused by prolonged exposure to sunlight, ozone or high temperatures.

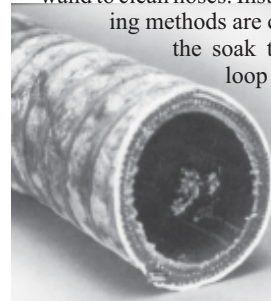
**Solution:** Store hose in cool dark areas when possible. Do not store or use the hose where the recommended temperature rating is exceeded.



**3. Problem:** Cuts, gouges or tears in the hose tube can be caused by improper cleaning with high-pressure water wand.

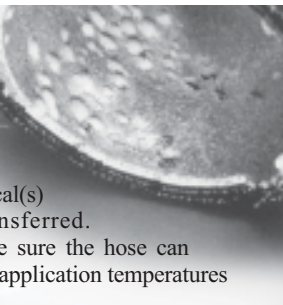
**Solution:** Do not use high-pressure water wand to clean hoses. Instead, three cleaning methods are commonly used: the soak tank, the closed loop system or the rotating brush.

The most appropriate method will depend on the hose use and location.



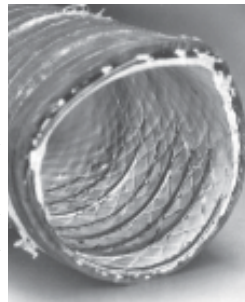
**4. Problem:** Bubbling and flaking of the tube material caused by the tube not being compatible with the chemical being conveyed.

**Solution:** Check the chemical resistance guidelines to make sure the hose you are using is compatible with the chemical(s) being transferred. Also, make sure the hose can handle the application temperatures



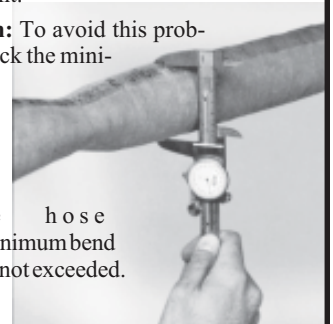
**5. Problem:** Deterioration of the hose has caused the reinforcement to be exposed. This may be caused by abrasive material being conveyed through a hose not made for this abrasive material or hose life has been exceeded.

**Solution:** Make sure the hose can handle the material being conveyed. Possibly use a hose with a thicker tube.



**6. Problem:** Hose is kinked caused by exceeding the minimum bend radius of the hose. The result is damaged reinforcement.

**Solution:** To avoid this problem, check the minimum bend-radius of the hose and route hose so the minimum bend radius is not exceeded.



**7. Problem:** Improperly banded shank may create a possible leak path problem.

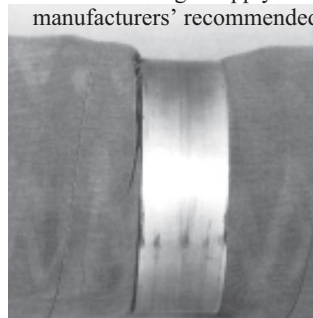
**Solution:** Make sure the coupling is secured tightly and according to manufacturer's specifications. Bands should be placed inside the barbs on the coupling shank, toward the coupling side. The band farthest from the hose end should be tightened first.

If two bands are present, Thorburn suggests rotating the clamp buckles 180° from each other.



**8. Problem:** Overtightened band may cause leaks, spraying and end blow-offs.

**Solution:** Do not attach bands at pressures that are too high. Apply the bands to the manufacturers' recommended settings.



**9. Problem:** The steam hose has developed cracks in the cover due to heat in the application.

**Solution:** Steam hose has a limited shelf life. It should be inspected before every use. Any crack that exposes the reinforcement is reason for the hose to be removed from service.



## COUPLING THREAD COMPATIBILITY

### IPT Thread Compatibility Chart

Description	Seal	Thread (Female)	Compatible Threads (Male)
American Standard Tapered Pipe Thread	Thread Seal (with Sealing Compound)	NPT	NPT NPTF
American Standard Dryseal Pipe Thread	Thread Seal (Dryseal)*	NPTF	NPTF NPT
American Standard Straight Pipe Thread for mechanical joints (includes 2 female types, depending on sealing method, and one male type compatible with both females)	Washer or Mechanical Ground Joint	NPSM	NPSM NPT NPTF
American Standard Straight Pipe Threads for hose couplings and nipples	Washer or	NPSH	NPSH NPT NPTF

\*When NPTF Threads are once used, they require sealing compound for future use

In addition, there are various other thread types that may be found on industrial hose couplings. These types are generally not compatible with any other thread types:

GHT	Garden Hose Thread	Washer seal
API	American Petroleum Institute Thread	Thread seal
JIC (37°)	Joint Industry Conference	O-ring or mechanical seal
SAE (45°)	Society of Automotive Engineers	Mechanical seal
NF	Welding Hose Threads-Left Hand and Right Hand	Mechanical seal
CHT	Chemical Hose Thread (for booster hoses)	Gasket seal

## OIL RESISTANCE — DEFINITION AND DEGREES

Oilproof, as defined by the Rubber Manufacturers Association (RMA), means “not affected by exposure to oil”. Since all rubber compounds presently available are affected to a degree by exposure to oil, they must be classified as Oil Resistant, and not Oil Proof.

Since the definition of oil resistance is relative, the hose industry has created three classifications: Maximum

Oil Resistance, Medium Oil Resistance, and Non-Oil Resistant. To classify a material, two important properties are measured after exposure to oil as set forth in the following:

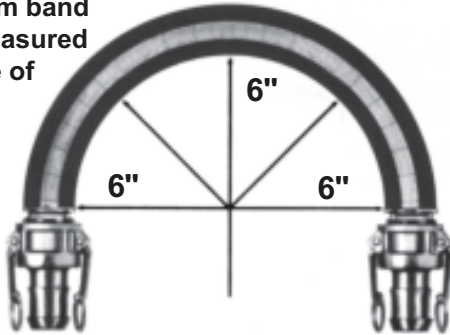
Test Fluid and Conditions: Immersion in A.S.T.M. = 3 Oil @ 212° F. (100° C) for 70 hrs., and in A.S.T.M. Reference Fuel B at room temperature for 70 hrs.

	Maximum Oil Resistance		Medium Oil Resistance		Non-Oil Oil Resistant	
	A.S.T.M. #3 Oil	A.S.T.M. Ref. Fuel B	A.S.T.M. #3 Oil	A.S.T.M. Ref. Fuel B	A.S.T.M. #3 Oil	A.S.T.M. Ref. Fuel B
<b>Tensile Retention</b>	80% Min.	50% Min.	40% Min.	35% Min.	Less than 40%	Less than 35%
<b>Volume Change (Swell)</b>	25% Max.	35% Max.	100% Max.	80% Max.	More than 100%	More than 80%

## BEND RADIUS

The Bend Radius is the radius to which the hose can be bent in service without damage or shortening its life. Textile reinforced hoses have a tendency to kink as the bend radius is reduced. A helical wire is used when a hose must withstand severe bends without flattening or kinking.

The minimum band radius is measured to the inside of the curve



### General Formula to Determine the Bend Length:

$$\frac{\text{Angle of bend}}{360^\circ} \times 2\pi r = \text{minimum length of hose to make bend}$$

$$\pi = 3.14$$

r = given radius of hose

**Example:** to make a 180° bend with PUMA tank truck hose which has a 2" I.D.

Given r = 6 "

$$180^\circ [ 2 \times 3.14 \times 6 ] =$$

$$360^\circ$$

$$.5 \times 2 \times 3.14 \times 6 = 18.84"$$

Remember that the bend should take place over the entire minimum length and not a portion of it.

**NOTE:** This formula does not mean 18.84" will be long enough to meet application need. It only means that if the 180° bend takes place in less than 18.84" the flow of fluid or material could be restricted or the hose could be damaged.

MATERIAL DESIGNATION		RATING SCALE CODE	ELASTOMER PHYSICAL & CHEMICAL PROPERTIES COMPARISON																											
ANSI / ASTM D1418-77	ASTM D-2000 SAE J-200	7 — Outstanding 6 — Excellent 5 — Very Good 4 — Good	3 — Fair to Good 2 — Fair 1 — Poor to Fair 0 — Poor	WATER	ALKALI, CONC. ANIMAL & VEG. OIL CHEMICAL	ALKALI, DILUTE	OIL & GASOLINE	LACQUERS	OXYGENATED HYDRO.	AROMATIC HYDRO.	ALIPHATIC HYDRO.	ACID CONC.	ACID, DILUTE	SWELLING IN OIL	RADIATION	WATER ABSORP.	ELE. INSULATION	DIELECTRIC STR.	TENSILE STRENGTH	REBOUND-COLD	REBOUND-HOT	DYNAMIC IMPERMEABILITY	ABRASION	TEAR	FLAME	HEAT	SUNLIGHT	WEATHER	OXIDATION	OXIDATION
		COMMON NAME CHEMICAL GROUP NAME																												
CR	BC BE	NEOPRENE CHLOROPRENE		4 3 4 0	4 4 0 1	2 3 4 6	4 5 4 3	5 4 2 4	5 2 4 5	4 4 4 4	5 5 6 5																			
NR	AA	GUM RUBBER POLYISOPRENE, NATURAL		5 3 x x	x 0 0 4	0 0 3 3	0 6 5 5	6 6 4 6	6 6 2 7	5 0 5 2	4 0 2 0																			
IR	AA	NATURAL RUBBER POLYISOPRENE, SYNTHETIC		5 3 x x	x 0 0 4	0 0 3 3	0 6 5 5	6 6 4 6	6 2 2 6	5 0 5 2	4 0 2 0																			
IIR	AA	BUTYL ISOBUTENE-ISOPRENE		5 6 5 4	4 0 3 4	0 0 4 6	0 4 5 5	5 4 3 0	5 2 6 4	4 0 4 5	6 5 5 6																			
CIIR	AA BA	BUTYL, CHLORO CHLORO-ISOBUTENE-ISOPRENE		5 6 5 4	4 0 3 4	0 0 4 6	0 4 5 5	5 4 3 0	5 2 6 4	4 0 4 5	6 5 5 6																			
NBR	BF BK CH	BUNA-N/NITRILE NITRILE-BUTADIENE		4 3 5 0	4 5 2 0	4 6 4 4	5 5 4 1	0 5 5 4	4 5 4 4	3 0 3 4	4 0 2 2																			
SBR	AA	SBR/GRS/BUNA-S STYRENE-BUTADIENE		5 3 x 2	4 0 0 4	0 0 3 3	0 6 5 5	4 5 4 4	4 4 2 5	3 0 5 3	2 0 2 0																			
CSM	CE	HYPALON CHLORO-SULFONYL-POLYETHYLENE		5 6 4 4	4 4 0 1	2 3 4 6	4 5 4 3	5 2 2 2	4 2 4 4	3 4 4 4	6 7 6 7																			
FKM	HK	VITON*/FLUOREL FLUOROCARBON ELASTOMER		5 6 6 0	4 6 1 0	6 6 6 5	6 5 5 3	5 5 6 2	4 5 5 4	2 6 2 7	7 7 6 7																			
EPDM	BA CA DA	EPDM ETHYLENE-PROPYLENE-DIENE- TERPOLYMER		5 6 5 6	6 0 3 6	0 0 4 6	0 7 6 6	7 5 4 6	6 5 4 5	4 0 5 6	6 7 6 7																			
AFMU		TEFLON*/TFE/FEP FLUORO-THYLENE-POLYMERS		7 7 7 7	7 7 7 7	7 7 7 7	7 3 7 x	x x x x	x x x 4	x x x 7	7 7 7 7																			
SI	GE	SILICONE		5 5 5 0	2 x 0 2	0 0 2 6	2 5 6 6	4 0 3 6	6 0 2 0	2 2 6 7	6 6 6 6																			

\*Registered trademark of E.I. Dupont de Nemours & Co., Inc.

\*\*Registered trademark of 3M Companies

x = Contact Thorburn



### CHEMICAL RESISTANCE

#### RATING CODE:

- A Excellent: Suitable for continuous service.
  - B Good: Generally suitable for continuous service and for intermittent service.
  - C Fair or Conditional: NOT Recommended for Continuous Service, but generally suitable for intermittent service.
  - D Unsatisfactory: Not Recommended
  - No data available
- All ratings are based on 70° F

#### WARNING: TO BE USED AS GUIDE ONLY

RATING CODE:									
A Excellent									
B Good									
C Fair or Conditional									
D Unsatisfactory									
- No data available									
All ratings are based on 70° F									
	Natural Rubber	SBR	Butyl	Nitrile	Neoprene	Hypalon	EPDM	Viton	X-Linked Polyethylene Teflon/TFE/FEP
Acetal	C	C	B	D	C	C	B	D	A
Acetaldehyde	C	D	A	D	C	C	A	D	A
Acetamide	C	C	A	B	B	B	A	B	A
Acetate Solvents	C	D	C	D	D	D	C	D	A
Acetic Acid, 10%	B	B	B	D	C	C	B	C	A
Acetic Acid, 30%	D	D	B	D	C	B	A	C	A
Acetic Acid, 50%	D	D	B	C	C	D	A	D	A
Acetic Acid, Glacial	D	D	B	D	C	D	B	D	A
Acetic Anhydride	D	D	B	D	D	D	B	D	A
Acetic Ester (Ethyl Acetate)	D	D	B	D	D	D	B	D	A
Acetic Ether (Ethyl Acetate)	D	D	B	D	D	C	B	D	A
Acetic Oxide (Acetic Anhydride)	D	D	B	D	D	D	B	D	A
Acetone	B	C	A	D	C	C	A	D	A
Acetophenone	C	D	A	D	D	D	A	D	A
Acetyl Acetone	B	D	B	D	D	D	B	D	A
Acetyl Chloride	D	D	C	D	D	C	B	B	A
Acetylene	D	D	A	A	B	B	B	A	A
Acrylonitrile	C	D	D	D	C	C	D	D	A
Air	A	A	A	A	A	A	A	A	A
Alcohols Aliphatic	A	B	A	A	A	A	A	C	A
Alcohols, Aromatic	C	D	D	C	C	D	D	A	A
Alk-Tri (Trichlorethylene)	D	D	D	D	D	D	D	A	A
Allyl Alcohol	A	B	A	A	A	A	A	B	A
Allyl Bromide	D	D	D	D	D	D	D	B	B
Allyl Chloride	D	D	D	D	D	D	D	B	B
Alum (Aluminum Potassium Sulfate)	A	A	A	A	A	A	A	A	A
Aluminum Acetate	C	C	A	C	C	B	A	A	A
Aluminum Chloride	A	A	A	A	A	A	A	A	A
Aluminum Fluoride	A	A	A	A	A	A	A	A	A
Aluminum Hydroxide	A	A	A	A	A	A	A	A	A
Aluminum Nitrate	A	A	A	A	A	A	A	A	A
Aluminum Phosphate	A	A	A	A	A	A	A	A	A
Aluminum Sulfate	A	A	A	A	A	A	A	A	A
Ammonia Anhydrous	A	C	A	A	A	B	A	D	A
Ammonia Gas (150°F)	Anhydrous Ammonia Hose Only								
Ammonia in Water	B	B	B	B	B	B	A	B	A
Ammonia Liquid	B	B	A	A	A	A	A	A	A
Ammonia, Gas (Cold)	Anhydrous Ammonia Hose Only								
Ammonium Carbonate	A	A	A	C	A	A	A	A	A
Ammonium Chloride	A	A	A	A	A	A	A	A	A
Ammonium Hydroxide	B	B	B	B	A	B	B	A	A
Ammonium Metaphosphate	A	A	A	A	A	A	A	A	A
Ammonium Nitrate	B	A	A	A	A	A	A	A	A
Ammonium Nitrite	A	A	A	A	A	A	A	A	A
Ammonium Persulfate	A	D	A	D	A	A	A	A	A
Ammonium Phosphate	A	A	A	A	A	A	A	A	A
Ammonium Sulfate	A	A	A	A	A	A	A	A	A
Ammonium Sulfide	A	A	A	A	A	A	A	A	A
Ammonium Sulfite	A	A	A	A	A	A	A	A	A
Ammonium Thiocyanate	A	A	A	A	A	A	A	A	A
Ammonium Thiosulfate	A	A	A	A	A	A	A	A	A
Amyl Acetate	C	D	B	D	D	D	B	D	A
Amyl Acetone	D	D	B	D	D	D	B	D	A
Amyl Alcohol	A	A	A	A	A	A	A	A	A

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RATING CODE:										
A Excellent										
B Good										
C Fair or Conditional										
D Unsatisfactory										
- No data available										
All ratings are based on 70° F										
	Natural Rubber	SBR	Butyl	Nitrile	Neoprene	Hypalon	EPDM	Viton	X-Linked Polyethylene	Teflon/TFE/FEP
Amyl Borate	D	D	D	A	A	C	D	A	A	A
Amyl Chloride	D	D	D	D	D	D	D	A	A	A
Amyl Chloronaphthalene	D	D	D	D	D	D	D	A	A	A
Amyl Naphthalene	D	D	D	D	D	D	D	A	A	A
Amyl Oleate	D	D	B	D	D	D	B	C	A	A
Amyl Phenol	D	D	D	D	D	D	A	A	A	A
Amylamine	See Ammonia									
Anethole	D	D	D	D	D	D	D	B	B	A
Aniline	D	D	B	D	C	C	D	B	A	A
Aniline Dyes	B	B	B	C	B	B	B	B	A	A
Aniline Hydrochloride	B	C	B	B	D	B	B	B	A	A
Animal Fats	D	D	B	A	B	B	B	A	A	A
Animal Grease	D	D	D	B	B	D	C	A	A	A
Animal Oils	D	D	A	C	D	D	C	A	A	A
Ansul Ether	D	D	C	C	D	D	C	D	A	A
Antifreeze (Ethylene Glycol)	A	A	A	A	A	A	A	A	A	A
Antimony Pentachloride	D	D	C	D	D	D	C	A	B	A
Antimony Trichloride	D	D	A	B	B	B	B	A	A	A
Aqua Regia	D	D	D	D	D	C	C	B	D	A
Aromatic Hydrocarbons	D	D	D	C	D	D	D	A	A	A
Arquad	A	A	A	A	A	A	A	A	A	A
Arsenic Acid	A	A	A	A	A	A	A	A	A	A
Arsenic Chloride	D	D	B	D	B	D	B	D	D	A
Arsenic Trichloride	D	D	B	D	B	D	B	D	D	A
Asphalt	D	D	D	A	B	D	D	A	B	A
Astm #1 Oil	D	D	D	A	A	B	D	A	A	A
Astm #2 Oil	D	D	D	A	B	C	D	A	A	A
Astm #3 Oil	D	D	D	A	B	C	D	A	A	A
Aviation Gasoline	D	D	D	A	C	D	D	A	A	A
Barium Carbonate	A	A	A	A	A	A	A	A	A	A
Barium Chloride	A	A	A	A	A	A	A	A	A	A
Barium Hydroxide	A	A	A	A	A	A	A	A	A	A
Barium Sulfate	A	A	A	A	A	A	A	A	A	A
Barium Sulfide	A	A	A	A	A	A	A	A	A	A
Beer	(F.D.A. Tube Required)									
Beet Sugar Liquors	A	A	A	A	A	A	A	A	A	A
Benzaldehyde	D	D	D	C	D	D	B	D	A	A
Benzene (Benzol)	D	D	D	C	D	D	D	A	A	A
Benzene Sulfonic Acid	D	D	D	B	A	A	C	A	A	A
Benzine Solvent (Ligroin)	D	D	D	A	A	C	D	A	A	A
Benzoic Acid	D	D	B	D	B	B	D	A	A	A
Benzoic Aldehyde	D	D	D	D	D	D	D	D	A	A
Benzotrithloride	D	D	D	D	D	D	D	B	B	A
Benzoyl Chloride	D	D	D	D	D	D	D	B	B	A
Benzyl Acetate	D	D	B	D	D	B	B	D	B	A
Benzyl Alcohol	B	B	B	D	B	B	B	A	A	A
Benzyl Chloride	D	D	C	D	D	D	D	A	A	A
Bichromate of Soda (Sodium Dichromate)	D	D	A	D	B	B	C	A	A	A
Bichromate of Soda (Sodium Bichromate)	D	D	A	D	B	B	C	A	A	A
Black Sulfate Liquor	B	B	A	B	A	B	A	A	A	A
Blast Furnace Gas	D	D	C	C	B	B	C	A	A	B
Bleach Solutions	D	D	D	B	D	C	B	B	B	A
Borax	B	B	A	B	A	A	A	A	A	A
Bordeaux Mixture	B	B	A	A	A	A	A	A	A	A
Brandy	(F.D.A. Tube Required)									
Brine	A	A	A	A	A	A	A	A	A	A
Bromine	D	D	D	D	C	D	C	D	A	A
Bromine Water	D	D	B	C	B	A	B	A	A	A
Bromobenzene	D	D	D	D	D	D	D	B	C	A
Bunker Oil	D	D	D	A	B	D	D	A	A	A
Butane	(Use Butane-Propane Hose Only)									
Butanol (Butyl Alcohol)	A	A	A	A	A	A	A	A	A	A
Butter (Non-F.D.A.)	C	C	B	A	A	A	B	A	A	A
Butyl Acetate	D	D	B	D	D	D	C	D	A	A

**WARNING: TO BE USED AS GUIDE ONLY**

RATING CODE: A Excellent B Good C Fair or Conditional D Unsatisfactory - No data available	All ratings are based on 70° F									
	Natural Rubber	SBR	Butyl	Nitrile	Neoprene	Hypalon	EPDM	Viton	X-Linked Polyethylene	Teflon/TFE/FEP
Butyl Acrylate	D	D	D	D	D	D	D	B	A	
Butyl Benzene	D	D	D	D	D	D	D	A	A	
Butyl Bromide	D	D	D	D	D	D	D	B	A	
Butyl Butyrate	D	D	C	D	D	D	B	C	B	
Butyl Carbitol	D	D	A	B	B	B	A	A	A	
Butyl Cellosolve	D	D	A	B	B	B	A	D	A	
Butyl Chloride	D	D	C	D	D	D	D	A	B	
Butyl Ether	D	D	C	B	B	B	C	D	A	
Butyl Ethyl Acetaldehyde	D	D	C	D	D	D	D	C	A	
Butyl Ethyl Ether	D	D	C	D	D	B	C	C	A	
Butyl Oleate	D	D	B	D	D	D	B	A	A	
Butyl Phthalate	D	D	C	D	D	D	C	C	A	
Butyl Stearate	D	D	C	B	D	D	C	A	A	
Butylamine	See Ammonia									
Butyric Acid	C	D	C	C	C	B	C	C	A	
Butyric Acid	C	D	C	C	C	B	C	C	A	
Butyric Anhydride	C	D	C	C	D	B	C	C	A	
Butyraldehyde	C	D	D	D	D	D	D	D	A	
Calcium Acetate	C	D	A	D	D	D	A	D	A	
Calcium Bisulfate	A	A	A	A	A	A	A	A	A	
Calcium Bisulfite	A	A	A	A	A	A	A	A	A	
Calcium Carbonate	A	A	A	A	A	A	A	A	A	
Calcium Chloride	A	A	A	A	A	A	A	A	A	
Calcium Hydroxide	A	B	A	B	A	B	A	C	A	
Calcium Hypochlorite	D	D	B	D	D	C	B	A	B	
Calcium Nitrate	A	A	A	A	A	A	A	A	A	
Calcium Sulfate	A	A	A	A	A	A	A	A	A	
Calcium Sulfide	A	A	A	A	A	A	A	A	A	
Calcium Sulfite	A	A	A	A	A	A	A	A	A	
Caliche Liquor (Crude Sodium Nitrate)	A	A	A	A	A	A	A	A	A	
Cane Sugar Liquors (Non F.D.A.)	D	D	A	D	A	B	B	B	A	
Carbitol	D	D	A	D	A	B	B	B	A	
Carbitol Acetate	D	D	B	D	D	D	B	D	A	
Carbolic Acid (Phenol)	D	D	B	C	C	C	B	A	A	
Carbon Bisulfide	(See Carbon Disulfide)									
Carbon Dioxide	A	A	A	A	A	A	A	A	A	
Carbon Disulfide	D	D	D	D	D	D	A	A	A	
Carbon Monoxide	A	A	A	A	A	A	A	A	A	
Carbon Tetrachloride	D	D	D	C	D	D	D	A	C	
Carbon Tetrafluoride	D	D	D	C	D	D	D	A	C	
Carbonic Acid	A	A	A	A	A	A	A	A	A	
Castor Oil	C	D	B	A	B	C	B	A	A	
Caustic Potash (Potassium Hydroxide)	A	B	A	A	B	A	A	C	A	
Caustic Soda (Sodium Hydroxide)	A	B	A	A	A	A	A	C	A	
Cellosolve	D	D	B	B	A	B	B	C	A	
Cellulose Acetate	C	D	B	D	C	C	B	D	B	
Cellulose	C	D	B	D	D	D	A	C	A	
China Wood Oil (Tung Oil)	D	D	B	A	B	B	B	A	A	
Chlorinated Hydrocarbons	D	D	D	D	D	D	D	A	B	
Chlorine Dioxide	D	D	D	D	D	C	D	A	B	
Chlorine Gas (Dry)	C	C	C	C	D	B	C	B	A	
Chlorine Water Solutions	C	D	C	D	D	B	C	A	A	
Chloroacetic Acid	B	D	C	D	D	D	C	C	A	
Chloroacetone	D	D	B	D	D	D	C	D	A	
Chlorobenzene	D	D	D	D	D	D	D	A	B	
Chlorobutadiene	D	D	D	D	D	D	D	A	B	
Chlorobutane	D	D	D	D	D	D	D	A	B	
Chloroform	D	D	D	D	D	D	D	A	B	
Chloropentane	D	D	D	D	C	D	D	A	A	
Chlorophenol	D	D	D	D	D	D	D	B	B	
Chloropropanone	D	D	C	D	D	D	C	D	A	
Chlorosulfonic Acid	D	D	D	D	D	C	D	D	B	
Chlorothene (Trichloroethane)	D	D	D	D	D	D	D	A	B	
Chlorotoluene	D	D	D	D	D	D	D	A	B	
Chromic Acid	D	D	D	D	D	A	C	C	A	
Citric Acid	A	A	A	B	B	A	A	A	A	
Coal Oil	D	D	D	A	B	D	D	A	A	
Coal Tar	D	D	D	A	B	B	B	A	A	
Coal Tar Naptha	D	D	D	C	C	D	D	A	A	

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	Natural Rubber	SBR	Butyl	Nitrile	Neoprene	Hypalon	EPDM	Viton	X-Linked Polyethylene	Teflon/TFE/FEP
Cobalt Chloride	A	A	A	A	A	A	A	A	A	
Coconut Oil	D	D	B	A	B	B	A	A	A	
Cod Liver Oil	D	D	A	A	B	B	A	A	A	
Coke Oven Gas	D	D	C	D	D	B	D	A	A	
Copper Arsenate	A	A	A	A	A	A	A	A	A	
Copper Chloride	A	A	A	A	A	A	A	A	A	
Copper Cyanide	A	A	A	A	A	A	A	A	A	
Copper Nitrate	A	A	A	A	A	A	A	A	A	
Copper Nitrite	A	A	A	A	A	A	A	A	A	
Copper Sulfate	C	A	A	A	A	A	A	A	A	
Copper Sulfide	C	A	A	A	A	A	A	A	A	
Corn Oil	D	D	B	A	B	B	B	A	A	
Cottonseed Oil	D	D	A	A	B	A	A	A	A	
Creosols	D	D	D	C	C	C	D	A	A	
Creosote (Coal Tar)	D	D	D	B	C	C	D	A	A	
Creosote (Wood)	D	D	D	B	C	C	D	A	A	
Cresylic Acid	D	D	D	C	C	C	D	A	A	
Crude Oil	D	D	D	C	C	C	D	A	A	
Cumene	D	D	D	A	B	D	D	A	A	
Cupric Carbonate	D	D	D	C	C	D	D	A	A	
Cupric Chloride	C	C	A	B	B	B	A	A	A	
Cupric Nitrate	C	C	A	A	B	A	A	A	A	
Cupric Nitrite	C	C	A	A	B	A	A	A	A	
Cupric Sulfate	C	C	A	A	B	A	A	A	A	
Cyclohexane	C	B	A	A	B	B	A	A	A	
Cyclohexanol	D	D	D	D	D	D	D	C	A	
Cyclohexanone	D	D	D	B	D	D	D	A	A	
Cyclopentane	D	D	D	B	B	D	D	B	A	
D.M.P. (Dimethyl Phenols)	B	D	D	D	D	D	D	C	A	
DDT In Kerosene	D	D	D	C	D	D	D	A	A	
Decaline (Deklin)	D	D	D	A	B	C	D	A	A	
Decane	D	D	D	D	D	D	D	A	A	
Detergent Solutions	D	D	D	B	D	D	D	A	A	
Diacetone Alcohol	B	B	A	A	A	A	A	A	A	
Diamylamine	See Ammonia									
Dibenzyl Ether	D	D	D	D	D	D	D	C	A	
Dibenzyl Sebacate	D	D	D	D	D	D	D	C	A	
Dibromobenzene	C	D	B	D	D	C	B	B	A	
Dibutyl Sebacate	D	D	B	D	D	D	B	D	B	
Dibutylamine	See Ammonia									
Dibutylether	B	C	C	B	A	C	B	D	A	
Dibutylphthalate	D	D	B	D	D	D	A	D	A	
Dicalcium Phosphate	A	A	A	A	A	A	A	A	A	
Dichloroacetic Acid	D	D	C	D	D	D	C	C	A	
Dichlorobutane	D	D	D	D	D	D	D	A	A	
Dichlorodifluoromethane(Freon 12)	D	D	D	B	D	D	D	B	A	
Dichloroethane	D	D	D	D	D	D	D	A	A	
Dichloroethyl Ether	D	D	D	D	D	D	D	C	A	
Dichloroethylene	D	D	D	D	D	D	D	A	A	
Dichlorohexane	D	D	D	D	D	D	D	A	A	
Dichloroisopropyl Ether	D	D	C	D	D	D	C	C	A	
Dichloromethane	D	D	D	D	D	D	D	A	A	
Dichloropentane	D	D	D	D	D	D	D	A	A	
Dicyclohexylamine	See Ammonia									
Dieldrin in Xylene	D	D	D	D	D	D	D	A	A	
Dieldrin in Xylene and Water Spray	D	D	D	B	B	D	D	A	A	
Diesel Oil	D	D	D	A	B	C	D	A	A	
Diethanolamine	See Ammonia									
Diethyl Benzene	D	D	D	D	D	D	D	A	A	
Diethyl Ether	D	D	D	B	C	C	C	D	A	
Diethyl Oxalate	A	A	A	D	D	D	C	A	A	
Diethyl Phthalate	D	D	A	D	D	D	B	C	A	
Diethyl Sebacate	D	D	A	D	D	D	B	C	A	
Diethyl Sulfate	D	D	B	D	D	D	B	D	A	
Diethyl Triamine	B	C	A	B	B	C	B	C	A	
Diethylamine	See Ammonia									
Diethylene Dioxide	D	D	B	D	D	D	B	D	A	
Diethylenetriamine	See Ammonia									
Dihydroxyethyl Amine	See Ammonia									

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	SBR	Butyl								
Dihydroxyethyl Ether	A	A	A	A	B	A	B	A	A	A
Diisobutyl Ketone	D	D	B	D	D	D	B	D	A	A
Diisobutylene	D	D	D	A	B	D	D	A	A	A
Diisodecyl Adipate	D	D	A	D	D	C	A	C	A	A
Diisodecyl Phthalate	D	D	A	D	D	C	A	C	A	A
Diisooctyl Adipate	D	D	A	D	D	C	A	C	A	A
Diisooctyl Phthalate	D	D	A	D	D	C	A	C	A	A
Diisopropanol Amine	B	C	A	B	B	C	A	C	A	A
Diisopropyl Benzene	D	D	D	C	D	D	D	A	A	A
Diisopropyl Ether	D	D	D	B	C	D	D	B	A	A
Diisopropyl Ketone	D	D	A	D	D	D	A	D	A	A
Dilauryl Ether	D	D	D	D	D	D	D	C	A	A
Dimethyl Benzene	D	D	D	D	D	D	D	A	A	A
Dimethyl Ketone (Acetone)	B	C	A	D	C	C	A	D	A	A
Dimethyl Phthalate	D	D	A	D	D	D	B	C	A	A
Dimethyl Sulfate	D	D	D	D	D	D	D	D	A	A
Dimethyl Sulfide	D	D	D	D	D	D	C	B	A	A
Dimethylamine	See Ammonia									
Dimethylaniline	D	D	D	D	D	D	D	B	A	A
Dimethylformamide (DMF)	C	C	C	D	C	C	C	D	A	A
Dinitrobenzene	D	D	C	D	C	D	C	A	A	A
Dinitrotoluene	D	D	D	D	D	D	D	C	A	A
Dioctyl Adipate (DOA)	D	D	B	D	D	D	B	C	A	A
Dioctyl Phthalate (DOP)	D	D	B	D	D	D	B	A	A	A
Dioctyl Sebacate (DOS)	D	D	B	D	D	D	B	B	A	A
Dioctylamine	See Ammonia									
Dioxane	D	D	B	D	D	D	B	D	A	A
Dioxolane	D	D	C	D	D	D	B	C	A	A
Dipentene (Limonene)	D	D	D	C	D	D	D	A	A	A
Diphenyl (Biphenyl)	D	D	D	D	D	D	D	A	A	A
Diphenyl Oxide (Phenylether)	D	D	D	D	C	D	A	A	A	A
Dipropyl Ketone	D	D	B	D	D	D	B	D	A	A
Dipropylamine	See Ammonia									
Dipropylene Glycol	A	A	A	A	A	A	A	A	A	A
Disodium Phosphate	A	A	A	A	A	A	A	A	A	A
Divinyl Benzene	D	D	D	D	D	D	D	D	A	A
Dodecyl Benzene	D	D	D	D	D	D	D	A	A	A
Dodecyl Toluene	D	D	D	D	D	D	D	A	A	A
Dow-Per (Perchloroethylene)	D	D	D	C	D	D	D	A	A	A
Dowfume W 40, 100%	D	D	D	D	C	C	C	C	B	A
Dowtherm Oil, A & E	D	D	D	D	D	C	D	A	A	A
Dowtherm S.R.-1	A	A	A	A	A	A	A	A	A	A
Dry Cleaning Fluids	D	D	D	C	D	D	D	A	B	A
Epichlorohydrin	D	D	B	D	D	C	B	D	B	A
Ethanol (Ethyl Alcohol)	A	A	A	A	A	A	A	A	A	A
Ethanolamine	See Ammonia									
Ethers	D	D	C	D	D	C	D	C	A	A
Ethyl Acetate	D	D	B	D	D	C	B	D	A	A
Ethyl Acetoacetate	D	D	B	D	D	D	B	D	A	A
Ethyl Acrylate	D	D	C	D	D	D	D	B	A	A
Ethyl Benzene	D	D	D	C	D	D	D	A	B	A
Ethyl Benzoate	D	D	B	B	C	C	B	C	A	A
Ethyl Butyl Alcohol	A	A	A	A	A	A	A	B	A	A
Ethyl Butyl Amine	See Ammonia									
Ethyl Butyl Ketone	D	D	B	D	D	D	B	D	A	A
Ethyl Celulose	B	B	B	B	B	B	D	D	A	A
Ethyl Chloride	C	C	D	C	C	D	D	A	A	A
Ethyl Dichloride	D	D	D	D	D	D	D	B	B	A
Ethyl Ether	D	D	D	C	D	D	D	D	A	A
Ethyl Formate	D	D	B	D	D	D	C	D	A	A
Ethyl Hexanol	A	A	A	A	A	A	A	B	A	A
Ethyl Methyl Ketone	C	D	B	D	D	D	B	D	A	A
Ethyl Oxalate	A	A	A	D	D	D	B	C	A	A
Ethyl Phthalate	D	D	A	D	D	D	B	C	A	A
Ethyl Propyl Ether	D	D	D	D	D	D	D	C	A	A
Ethyl Propyl Ketone	D	D	B	D	D	D	B	D	A	A
Ethyl Silicate	C	C	A	A	A	A	A	A	A	A
Ethyl Sulfate	D	D	B	D	D	D	B	D	A	A

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	SBR	Butyl								
Ethylene	D	D	D	A	B	C	D	A	A	A
Ethylene Bromide	D	D	D	D	D	D	D	A	B	A
Ethylene Chloride	D	D	D	D	D	D	D	A	B	A
Ethylene Diamine	See Ammonia									
Ethylene Dibromide	D	D	D	D	D	D	D	B	B	A
Ethylene Dichloride	D	D	D	D	D	D	D	B	B	A
Ethylene Glycol	A	A	A	A	A	A	D	A	A	A
Ethylene Oxide	D	D	C	D	D	D	C	D	C	A
Ethylene Trichloride (Trichloroethylene)	D	D	D	C	D	D	D	A	B	A
EX TRI (Trichloroethylene)	D	D	D	C	D	D	D	A	B	A
Fatty Acids	D	D	D	B	B	B	C	A	A	A
Ferric Bromide	A	A	A	A	A	A	A	A	A	A
Ferric Chloride	A	A	A	A	A	A	A	A	A	A
Ferric Nitrate	A	A	A	A	A	A	A	A	A	A
Ferric Sulfate	A	A	A	A	A	A	A	A	A	A
Ferrous Acetate	D	D	A	D	D	D	B	D	A	A
Ferrous Ammonium Sulfate	A	A	A	A	A	A	A	A	A	A
Ferrous Chloride	A	A	A	A	A	A	A	A	A	A
Ferrous Hydroxide	B	C	A	B	A	B	A	C	A	A
Ferrous Sulfate	A	A	A	A	A	A	A	A	A	A
Fish Oil	D	D	A	A	A	A	A	A	A	A
Fluorine	D	D	D	D	D	D	D	D	D	A
Fluoroboric Acid	A	C	A	A	B	A	A	C	A	A
Fluosilicic Acid	B	B	A	B	B	B	B	A	A	A
Formaldehyde (Formalin)	C	C	A	B	B	B	B	A	A	A
Formamide	A	A	A	A	A	A	A	D	A	A
Formic Acid	B	B	A	C	C	C	D	B	A	A
Freon 11	D	D	D	A	B	A	D	A	A	A
Freon 12	D	D	D	B	C	D	C	B	B	A
Freon 13	A	A	A	A	A	A	A	A	A	A
Freon 13B1	A	A	A	A	A	A	A	A	A	A
Freon 21	D	D	D	D	B	D	D	D	A	A
Freon 22	D	D	A	D	A	D	A	D	A	A
Freon 31	B	B	A	D	A	B	A	D	A	A
Freon 32	A	A	A	A	A	A	A	C	A	A
Freon 112	D	D	D	B	B	B	D	A	A	A
Freon 113	C	B	D	A	A	A	D	B	A	A
Freon 114	A	A	A	A	A	A	A	B	A	A
Freon 114B2	D	C	D	B	A	A	D	B	A	A
Freon 115	A	A	A	A	A	A	A	B	A	A
Freon 142B	A	A	A	A	A	A	A	D	A	A
Freon 152A	A	A	A	A	A	C	A	D	A	A
Freon 218	A	A	A	A	A	A	A	A	A	A
Freon 502	A	A	A	B	A	A	A	B	A	A
Freon BF	D	D	D	B	B	B	D	A	A	A
Freon C316	A	A	A	A	A	A	A	A	A	A
Freon C318	A	A	A	A	A	A	A	A	A	A
Freon MF	D	B	D	A	C	B	D	A	A	A
Freon T-P35	A	A	A	A	A	A	A	A	A	A
Freon T-WD 602	C	B	A	A	B	B	B	A	A	A
Freon TA	A	A	A	A	A	A	A	C	A	A
Freon TC	D	B	A	A	A	A	B	A	A	A
Freon TF	C	B	A	A	A	A	A	A	A	A
Freon TMC	B	C	B	B	B	B	B	A	A	A
Fuel Oil	D	D	D	A	B	C	D	A	A	A
Fuel, ASTM A	D	D	D	A	A	C	D	A	A	A
Fuel, ASTM B	D	D	D	A	B	C	D	A	A	A
Fuel, ASTM C	D	D	D	B	C	D	D	A	B	A
Fumaric Acid	A	A	D	A	B	B	D	A	A	A
Furan	D	D	C	D	D	D	C	D	A	A
Furfural	D	D	B	D	C	B	C	D	A	A
Furfuryl Alcohol	D	D	C	D	C	C	C	D	A	A
Gallic Acid	A	A	B	B	B	B	B	B	A	A
Gasoline, Hi-Test	D	D	D	A	B	D	D	A	A	A
Gasoline, Lead Free	D	D	D	B	B	D	D	A	A	A
Gasoline, Reg	D	D	D	A	A	C	D	A	A	A
Gelatin	A	A	A	A	A	A	A	A	A	A
Gluconic Acid	D	D	C	C	C	B	C	A	A	A
Glucose	A	A	A	A	A	A	A	A	A	A

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	Glue	A	A	A	A	A	A	A	A	A
Glycerine (Glycerol)	A	A	A	A	A	A	A	A	A	A
Glycols	A	A	A	A	A	A	A	A	A	A
Grease	D	D	D	A	B	C	D	A	A	A
Green Sulfate Liquor	A	A	A	A	B	A	A	B	A	A
Halowax Oil	D	D	D	D	D	D	D	A	A	A
Heptachlor in Petroleum Solvents	D	D	D	B	B	D	D	A	A	A
Heptachlor in Petroleum Solvents, Water Spray	D	D	D	B	B	D	D	A	A	A
Heptanal (Heptaldehyde)	D	D	D	D	D	D	B	D	A	A
Heptane Carboxylic Acid	D	D	C	C	B	B	C	A	A	A
Heptane	D	D	D	A	A	B	D	A	A	A
Hexaldehyde (n-Hexaldehyde)	D	D	B	D	B	C	B	D	A	A
Hexane	D	D	D	A	A	C	D	A	A	A
Hexanol (Hexyl Alcohol)	A	A	A	A	A	A	A	A	A	A
Hexene	D	D	D	B	B	C	D	A	A	A
Hexyl Methyl Ketone	D	D	B	D	D	D	B	D	A	A
Hexylamine	See Ammonia									
Hexylene	D	D	D	A	B	D	C	A	B	A
Hexylene Glycol	A	A	A	A	A	A	A	A	A	A
Hi-Tri (Trichloroethylene)	D	D	D	C	D	D	D	A	B	A
Hydraulic Fluid (Petroleum)	D	D	D	A	B	B	D	A	A	A
Hydraulic Fluid (Phosphate Ester Base)	D	D	A	D	D	D	A	D	A	A
Hydraulic Fluid (Poly Alkylene Glycol Base)	B	B	A	A	A	A	A	A	A	A
Hydrobromic Acid	A	D	A	D	C	A	B	A	A	A
Hydrochloric Acid, 5%	A	B	A	C	C	A	B	A	A	A
Hydrochloric Acid, 15%	A	D	B	D	D	A	C	A	A	A
Hydrochloric Acid, 37%	B	D	C	D	D	B	C	C	A	A
Hydrocyanic Acid	B	C	A	B	C	A	B	B	A	A
Hydrofluoric Acid	B	D	B	D	C	A	B	B	A	A
Hydrofluosilicic Acid	A	D	A	D	C	A	B	B	A	A
Hydrogen Gas	B	B	A	A	A	A	B	A	A	A
Hydrogen Peroxide, 3%	A	B	A	B	C	A	B	A	A	A
Hydrogen Peroxide, 10%	D	D	C	D	C	C	C	A	A	A
Hydrogen Peroxide, 30%	D	D	D	D	D	D	C	A	A	A
Hydrogen Peroxide, 90%	D	D	D	D	D	D	C	B	B	A
Hydrogen Sulfide	D	D	A	D	A	B	A	A	A	A
Hydroquinone	B	B	B	D	D	C	B	D	A	A
Hypochlorous Acid	B	B	B	D	B	A	B	A	A	A
Ink Oil (Linseed Oil Base)	D	D	B	B	B	B	A	A	-	-
Insulating Oil	D	D	D	A	B	D	D	A	A	-
Iodine	D	D	D	D	D	C	D	C	A	A
Iron Acetate	D	D	A	D	D	D	B	D	A	A
Iron Hydroxide	C	C	A	B	A	B	B	C	A	A
Iron Salts	A	A	A	A	A	A	A	A	A	A
Iron Sulfate	A	A	A	A	A	A	A	A	A	A
Iron Sulfide	A	A	A	A	A	A	A	A	A	A
Isoamyl Acetate	D	D	A	D	D	D	B	D	A	A
Isoamyl Alcohol	A	A	A	A	A	A	A	A	A	A
Isoamyl Bromide	D	D	D	D	D	D	D	B	B	A
Isoamyl Butyrate	D	D	C	D	D	D	C	D	B	A
Isoamyl Chloride	D	D	C	D	D	D	D	B	B	A
Isoamyl Ether	D	D	D	D	D	D	D	D	A	A
Isoamyl Phthalate	D	D	A	D	D	D	B	C	A	A
Isobutane	D	D	D	A	A	D	D	A	A	A
Isobutanol (Isobutyl Alcohol)	A	A	A	A	A	A	A	A	A	A
Isobutyl Acetate	D	D	A	D	D	D	B	D	A	A
Isobutyl Aldehyde	C	D	B	D	D	D	B	D	A	A
Isobutyl Amine	B	C	B	D	D	C	B	D	A	A
Isobutyl Bromide	D	D	D	D	D	D	D	B	B	-
Isobutyl Carbinol	A	A	A	A	B	A	A	B	A	A
Isobutyl Chloride	D	D	D	D	D	D	D	B	B	A
Isobutyl Ether	D	D	D	D	D	D	D	D	A	A
Isobutylene	D	D	D	C	C	D	D	A	A	A
Isoctane	D	D	D	A	A	B	D	A	A	A
Isocyanates	C	D	B	D	D	C	B	C	B	-
Isopentane	D	D	D	A	A	D	D	A	B	A
Isopropyl Acetate	D	D	A	D	D	C	B	D	A	A

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	Isopropyl Alcohol (Iso-propanol)	A	A	A	A	A	A	B	B	B
Isopropyl Amine	B	D	B	C	A	C	B	D	A	A
Isopropyl Benzene	D	D	D	D	D	D	D	A	A	A
Isopropyl Chloride	D	D	D	D	D	D	D	B	B	A
Isopropyl Ether	D	D	D	C	D	C	D	D	A	A
Isopropyl Toluene	D	D	D	D	D	D	D	A	A	A
Jet Fuels (JP1-JP6)	D	D	D	A	B	C	D	A	A	A
Ketones	B	B	B	D	D	D	B	D	A	A
Kerosene	D	D	D	A	B	C	D	A	A	A
Lacquer Solvents	D	D	D	D	D	D	D	D	A	A
Lacquers	D	D	D	D	D	D	D	D	A	A
Lactic Acid	B	B	B	A	A	A	B	A	A	A
Lard	D	D	D	A	B	D	C	A	A	A
Lauryl Alcohol	A	A	A	A	A	A	A	B	A	A
Lead Acetate	D	D	A	C	C	D	B	C	A	A
Lead Nitrate	A	A	A	A	A	A	A	A	A	A
Lead Sulfamate	B	B	A	B	A	B	A	A	A	A
Lead Sulfate	A	A	A	A	A	A	A	A	A	A
Ligroin	D	D	D	A	A	D	D	A	A	A
Lime Water	D	D	A	C	A	A	A	A	A	A
Lindol (Tricresyl Phosphate)	D	D	A	D	D	D	A	A	A	A
Linseed Oil	D	D	A	A	B	B	B	A	A	A
Liquid Petroleum Gas	D	D	D	A	B	D	D	A	A	A
Liquid Soap	A	A	A	A	A	A	A	A	A	A
Lubricating Oils	D	D	D	A	B	C	D	A	A	A
Lye (Sodium Hydroxide)	A	B	A	B	A	A	A	D	A	A
Magnesium Acetate	D	D	A	D	D	D	B	D	A	A
Magnesium Carbonate	A	A	A	A	A	A	A	A	A	A
Magnesium Chloride	A	A	A	A	A	A	A	A	A	A
Magnesium Hydrate	A	B	A	B	A	B	A	B	A	A
Magnesium Hydroxide	A	A	A	A	A	A	B	A	A	A
Magnesium Nitrate	A	A	A	A	A	A	A	A	A	A
Magnesium Sulfate	A	A	A	A	A	A	A	A	A	A
Malathion 50 in Aromatic Solvents	D	D	D	C	C	D	D	A	A	A
Malathion 50 in Aromatic Solvents, Water Spray	D	D	D	A	A	D	D	A	A	A
Maleic Acid	D	D	C	D	C	D	C	A	B	A
Maleic Anhydride	D	D	C	D	C	D	C	A	A	A
Malic Acid	A	B	D	B	C	B	D	A	A	A
Manganese Sulfate	A	A	A	A	A	A	A	A	A	A
Manganese Sulfide	C	A	A	A	B	A	B	A	A	A
Manganese Sulfite	C	A	A	A	B	A	B	A	A	A
Mercuric Chloride	B	B	B	C	C	B	C	A	A	A
Mercury	B	B	A	A	B	A	A	A	A	A
Methacrylic Acid	B	D	D	B	D	B	C	B	A	A
Methane	D	D	D	A	B	B	D	A	A	A
Methyl Acetate	C	D	B	D	D	D	B	D	A	A
Methyl Acrylate	C	D	B	D	C	D	B	D	A	A
Methyl Alcohol (Methanol)	A	A	A	A	A	A	C	A	A	A
Methyl Benzene (Toluene)	D	D	D	D	D	D	D	D	A	A
Methyl Bromide	D	D	B	B	D	D	B	A	A	A
Methyl Butyl Ketone	D	D	B	D	D	D	B	D	A	A
Methyl Cellosolve	D	D	B	C	B	C	B	D	A	A
Methyl Chloride	D	D	B	C	B	C	B	D	A	A
Methyl Cyclohexane	D	D	D	C	D	D	C	B	C	A
Methyl Ethyl Ketone (MEK)	B	D	B	D	D	D	B	D	A	A
Methyl Formate	C	C	B	D	B	C	B	C	B	A
Methyl Hexanol	A	A	A	A	A	A	A	B	A	A
Methyl Hexyl Ketone	D	D	B	D	D	D	B	D	A	A
Methyl Isobutyl Carbinol	B	C	A	B	B	B	A	B	A	A
Methyl Isobutyl Ketone (MIBK)	D	D	B	D	D	D	B	D	A	A
Methyl Isopropyl Ketone	D	D	B	D	D	D	B	D	A	A
Methyl Methacrylate	D	D	D	D	D	B	D	D	B	A
Methyl Propyl Ether	D	D	D	D	D	D	D	D	A	A
Methyl Propyl Ketone	D	D	B	D	D	D	B	D	A	A
Methyl Salicylate	D	D	B	D	D	D	B	C	B	A
Methylene Bromide	D	D	D	D	D	D	B	B	A	A

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A Excellent	SBR	Butyl	Nitrile	Neoprene	Hypalon	EPDM	Viton				
B Good											
C Fair or Conditional											
D Unsatisfactory											
- No data available											
All ratings are based on 70° F											
Methylene Chloride	D	D	D	D	D	D	D	B	A	A	A
Mineral Oil	D	D	D	A	B	B	D	A	A	A	A
Mineral Spirits	D	D	D	A	B	D	D	A	A	A	A
Monochloro difluoromethane (Freon 22)	D	D	A	D	A	D	A	D	A	A	A
Monochlorobenzene	D	D	D	D	D	D	D	A	A	A	A
Monoethanolamine	See Ammonia										
Monomethylether	B	B	A	A	A	C	A	C	A	A	A
Monovinyl Acetate	D	D	B	D	D	C	C	A	A	A	A
Motor Oil	D	D	D	A	A	D	D	A	A	A	A
Muriatic Acid	(See Hcl 37%)										
Naphtha	D	D	D	A	B	D	D	A	A	A	A
Naphthalene	D	D	D	D	D	D	D	A	B	A	A
Napthenic Acid	D	D	C	D	D	D	D	A	B	A	A
Natural Gas	Contact Titan Tech										
Neatsfoot Oil	D	D	B	A	B	B	B	A	A	A	A
Neu-Tri (Trichloroethylene)	D	D	D	C	D	D	D	A	B	A	A
Nickel Acetate	D	D	A	D	D	D	B	D	A	A	A
Nickel Chloride	A	A	A	A	A	A	A	A	A	A	A
Nickel Nitrate	A	A	A	A	A	A	A	A	A	A	A
Nickel Plating Solution	A	D	B	B	C	B	B	A	A	A	A
Nickel Sulfate	A	A	A	A	A	A	A	A	A	A	A
Niter Cake	A	A	A	A	A	A	A	A	A	A	A
Nitric Acid, 10%	D	D	B	D	C	B	B	A	A	A	A
Nitric Acid, 20%	D	D	B	D	D	B	C	A	A	A	A
Nitric Acid, 30%	D	D	B	D	D	C	C	A	B	A	A
Nitric Acid, 30-70%	D	D	C	D	D	D	D	C	C	A	A
Nitric Acid, Red Fuming	D	D	D	D	D	D	D	D	D	A	A
Nitrobenzene	D	D	D	D	D	D	D	B	A	A	A
Nitrogen Gas	A	A	A	A	A	A	A	A	A	A	A
Nitrogen Tetroxide	D	D	D	D	D	D	D	D	D	A	A
Nitromethane	B	B	B	D	C	C	B	D	A	A	A
Nitropropane	C	C	A	D	C	C	B	D	A	A	A
Nitrous Oxide	A	A	A	A	A	A	A	A	A	A	A
Octadecanoic Acid	D	D	B	A	B	D	C	C	A	A	A
Octane	D	D	D	A	B	D	D	A	B	A	A
Octanol (Octyl Alcohol)	B	B	B	B	A	B	B	A	A	A	A
Octyl Acetate	D	D	A	D	D	D	B	D	A	A	A
Octyl Amine	See Ammonia										
Octyl Carbinol	A	A	A	A	A	A	A	B	A	A	A
Octylene Glycol	A	A	A	A	A	A	A	A	A	A	A
Oil, Astm #1	D	D	D	A	A	B	D	A	A	A	A
Oil, Astm #2	D	D	D	A	A	C	D	A	A	A	A
Oil, Astm #3	D	D	D	A	B	C	D	A	A	A	A
Oil, Petroleum	D	D	D	A	A	C	D	A	A	A	A
Oleic Acid	D	D	B	B	C	B	C	A	A	A	A
Oleum (Fuming Sulfuric Acid)	D	D	D	D	D	D	D	D	D	A	A
Olive Oil (Non F.D.A.)	D	D	B	A	B	B	B	A	A	A	A
Orthodichlorobenzene	D	D	D	D	D	D	D	A	B	A	A
Oxalic Acid	C	C	A	B	C	B	A	C	A	A	A
Oxygen, Cold	B	B	A	B	B	B	B	A	A	A	A
Oxygen, Hot	D	D	D	D	D	D	D	B	A	A	A
Ozone	D	C	B	D	B	A	A	A	A	A	A
P-Cymene	D	D	D	C	D	D	D	A	A	A	A
P-Dichlorobenzene	D	D	D	D	D	D	D	A	A	A	A
Paint Thinner (Duco)	D	D	D	D	D	D	D	C	A	A	A
Palm Oil	D	D	A	A	B	B	B	A	A	A	A
Palmitic Acid	D	D	B	A	B	B	B	A	B	A	A
Papermaker's Alum	A	A	A	A	A	A	A	A	A	A	A
Paradichlorobenzene	D	D	D	D	D	D	D	A	B	A	A
Paraffin	D	D	D	A	A	D	D	A	D	A	A
Paraformaldehyde	D	D	B	B	B	B	B	C	A	A	A
Peanut Oil	D	D	C	A	B	B	D	A	B	A	A
Pentane	D	D	A	A	B	D	A	A	B	A	A
Perchloric Acid	B	B	B	D	A	A	B	A	A	A	A
Perchloroethylene	D	D	D	C	D	D	D	A	B	A	A
Petrolatum	D	D	D	A	A	C	D	A	A	A	A
Petroleum Ether (Naphtha)	D	D	D	A	A	D	D	A	A	A	A
Petroleum Oils	D	D	D	A	A	C	D	A	A	A	A

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A Excellent	SBR	Butyl	Nitrile	Neoprene	Hypalon	EPDM	Viton				
B Good											
C Fair or Conditional											
D Unsatisfactory											
- No data available											
All ratings are based on 70° F											
Petroleum, Crude	D	D	D	A	A	C	D	A	A	A	A
Phenol	C	C	B	D	C	C	C	A	A	A	A
Phenol Sulfonic Acid	D	D	C	D	C	D	C	A	B	A	A
Phenyl Chloride	D	D	D	D	D	D	D	A	A	A	A
Phenylhydrazine	C	D	B	D	D	C	C	A	A	A	A
Phorone	D	D	A	D	D	D	B	C	A	A	A
Phosphate Esters	D	D	A	D	D	D	A	C	A	A	A
Phosphoric Acid, 10%	A	A	A	A	A	A	A	A	A	A	A
Phosphoric Acid: 10-85%	C	C	A	C	B	A	A	A	A	A	A
Phosphorous Trichloride	D	D	A	D	D	D	A	A	A	A	A
Pickling Solution	C	C	C	C	C	C	C	B	A	A	A
Picric Acid, Molten	C	C	C	C	C	B	C	C	D	A	A
Picric Acid, Water Solution	A	C	A	B	B	A	B	C	A	A	A
Pine Oil	D	D	D	C	C	D	D	B	A	A	A
Pinene	D	D	D	A	D	D	D	A	A	A	A
Piperidine	D	D	D	D	D	D	D	D	B	A	A
Pitch	D	D	D	B	B	C	D	C	A	A	A
Plating Solution, Chrome	D	D	A	B	B	C	A	A	A	A	A
Plating Solutions, Others	A	A	A	B	B	C	A	B	A	A	A
Polyethylene Glycol	A	A	A	A	A	A	A	A	A	A	A
Polypropylene Glycol	A	A	A	A	A	A	A	A	A	A	A
Polyvinyl Acetate Emulsion (PVA)	C	C	A	C	B	B	A	C	A	A	A
Potassium Bicarbonate	A	A	A	A	A	A	A	A	A	A	A
Potassium Bisulfate	A	A	A	A	A	A	A	A	A	A	A
Potassium Bisulfite	A	A	A	A	A	A	A	A	A	A	A
Potassium Carbonate	A	A	A	A	A	A	A	A	A	A	A
Potassium Chloride	A	A	A	A	A	A	A	A	A	A	A
Potassium Chromate	D	D	A	D	C	C	B	A	B	A	A
Potassium Cyanide	A	A	A	A	A	A	A	A	A	A	A
Potassium Dichromate	D	D	A	D	B	C	B	A	A	A	A
Potassium Hydrate	A	B	A	B	B	B	A	C	A	A	A
Potassium Hydroxide	A	A	A	A	B	A	A	D	A	A	A
Potassium Nitrate	A	A	A	A	A	A	A	A	A	A	A
Potassium Permanganate	D	D	A	D	D	D	A	A	A	A	A
Potassium Silicate	A	A	A	A	A	A	A	A	A	A	A
Potassium Sulfate	A	A	A	A	A	A	A	A	A	A	A
Potassium Sulfide	A	A	A	A	A	A	A	A	A	A	A
Potassium Sulfite	A	A	A	A	A	A	A	A	A	A	A
Producer Gas	D	D	D	A	B	B	D	A	A	A	A
Propane Gas	Use Butane Propane Hose Only										
Propanediol	A	A	A	A	B	A	A	A	A	A	A
Propyl Acetate	D	D	B	D	D	D	B	D	A	A	A
Propyl Alcohol (Propanol)	A	A	A	A	A	A	A	A	A	A	A
Propyl Aldehyde	C	D	B	D	D	D	B	D	A	A	A
Propyl Chloride	D	D	C	D	C	D	C	B	B	A	A
Propylene Diamine	See Ammonia										
Propylene Dichloride	D	D	D	D	D	D	D	B	B	A	A
Propylene Glycol	A	A	A	A	A	A	A	A	A	A	A
Pydraul Hydraulic Fluids	D	D	B	D	D	D	B	A	B	A	A
Pyranol	D	D	D	C	D	D	D	A	A	A	A
Pyridine	D	D	B	D	D	D	B	D	A	A	A
Pyroligneous Acid	C	C	B	C	B	B	B	A	A	A	A
Pyrrrole	C	B	B	D	D	D	C	C	A	A	A
Rape Seed Oil	D	D	A	B	B	B	B	A	B	A	A
Red Oil (Crude Oleic Acid)	D	D	B	D	B	B	B	A	A	A	A
Richfield A Weed Killer, 100%	D	D	D	D	D	D	D	C	B	A	A
Richfield B Weed Killer, 33%	D	D	B	B	B	C	D	C	B	A	A
Rosin Oil	D	D	D	A	A	B	D	A	A	A	A
Rotenone and Water	A	A	A	A	A	A	A	A	A	A	A
Rum	(F.D.A. Tube Required)										
Sal Ammoniac (Ammonium Chloride)	A	A	A	A	A	A	A	A	A	A	A
Salicylic Acid	A	B	A	D	D	A	A	A	A	A	A
Salt Water (Sea Water)	A	A	A	A	A	A	A	A	A	A	A
Sewage	C	C	C	A	B	A	B	A	A	A	A
Silicate Esters	D	D	D	B	A	A	D	A	A	A	A
Silicate of Soda (Sodium Silicate)	A	A	A	A	A	A	A	A	A	A	A
Silicone Greases	A	A	A	A	A	A	A	A	A	A	A
Silicone Oils	A	A	A	A	A	A	A	A	A	A	A

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	Silver Nitrate	A	A	A	A	A	A	A	A	A
Skelly Solvent	D	D	D	A	B	C	D	A	A	A
Skydrol Hydraulic Fluids	D	D	A	D	D	D	A	D	A	A
Soap Solutions	A	A	A	A	A	A	A	A	A	A
Soda Ash (Sodium Carbonate)	A	A	A	A	A	A	A	A	A	A
Soda Niter (Sodium Nitrate)	A	A	A	A	A	A	A	A	A	A
Soda, Caustic (Sodium Hydroxide)	A	B	A	B	A	A	D	A	A	A
Soda, Lime	A	B	A	B	B	B	A	C	A	A
Sodium Acetate	D	A	D	D	D	B	D	A	A	A
Sodium Aluminate	A	A	A	A	A	A	A	A	A	A
Sodium Bicarbonate	A	A	A	A	A	A	A	A	A	A
Sodium Bisulfate	A	A	A	A	A	A	A	A	A	A
Sodium Bisulfite	A	A	A	A	A	A	A	A	A	A
Sodium Borate	A	A	A	A	A	A	A	A	A	A
Sodium Carbonate	A	A	A	A	A	A	A	A	A	A
Sodium Chloride	A	A	A	A	A	A	A	A	A	A
Sodium Chromate	D	D	A	D	C	C	B	C	B	A
Sodium Cyanide	A	A	A	A	A	A	A	A	A	A
Sodium Dichromate	D	D	A	D	C	C	B	C	A	A
Sodium Fluoride	A	A	A	A	A	A	A	A	A	A
Sodium Hydroxide	A	B	A	B	A	A	D	A	A	A
Sodium Hypochlorite	C	D	B	D	D	C	B	A	B	A
Sodium Metaphosphate	A	A	A	A	B	B	A	A	A	A
Sodium Nitrate	A	A	A	A	A	A	A	A	A	A
Sodium Nitrite	A	A	A	A	A	A	A	A	A	A
Sodium Perborate	C	D	A	D	D	D	B	A	A	A
Sodium Peroxide	B	B	A	B	B	B	A	A	B	A
Sodium Phosphate	A	A	A	A	A	A	A	A	A	A
Sodium Silicate	A	A	A	A	A	A	A	A	A	A
Sodium Sulfate	A	A	A	A	A	A	A	A	A	A
Sodium Sulfide	A	A	A	A	A	A	A	A	A	A
Sodium Sulfite	A	A	A	A	A	A	A	A	A	A
Sodium Thiosulfate	A	A	A	A	A	A	A	A	A	A
Soybean Oil	D	D	B	B	B	B	B	A	A	A
Stannic Chloride	A	A	B	A	A	A	A	A	A	A
Stannic Sulfide	A	A	A	A	A	A	A	A	A	A
Stannous Chloride	A	A	A	A	A	A	A	A	A	A
Stannous Sulfide	A	A	A	A	A	A	A	A	A	A
Steam, over 300° F	Steam Hose Only									
Steam, under 300° F	Steam Hose Only									
Stearic Acid	D	D	B	A	B	B	C	A	A	B
Stoddard's Solvent	D	D	D	A	C	D	D	A	A	B
Styrene	D	D	D	D	D	D	D	B	A	B
Sugar Sols. (Sucrose) Non F.D.A.	A	A	A	A	A	A	A	A	A	A
Sulfamic Acid	C	C	A	B	B	B	A	A	A	A
Sulfite Liquors	B	B	A	B	B	A	B	A	A	A
Sulfonic Acid	D	D	D	D	C	C	D	D	B	C
Sulfur (Molten)	D	D	B	C	C	C	C	A	D	D
Sulfur Chloride	D	D	D	D	D	B	D	A	B	C
Sulfur Dioxide	C	C	B	D	B	B	C	A	A	B
Sulfur Hexafluoride	A	A	A	A	A	A	A	A	A	A
Sulfur Trioxide	D	D	B	D	D	D	C	A	B	B
Sulfuric Acid, 25%	D	D	D	D	A	A	D	A	A	A
Sulfuric Acid, 25-50%	B	D	A	D	C	B	B	A	A	A
Sulfuric Acid, Fuming	D	D	D	D	D	D	D	D	D	D
Sulfurous Acid	B	C	B	C	B	A	B	A	A	A
Tall Oil	D	D	D	C	D	D	D	A	A	B
Tallow	D	D	D	A	A	D	D	A	A	B
Tannic Acid	A	B	A	C	B	B	A	A	A	A
Tar	D	D	D	B	B	D	D	A	D	A
Tartaric Acid	A	A	A	A	B	A	A	A	A	A
Terpineol	D	D	C	D	D	D	C	A	B	A
Tertiary Butyl Alcohol	A	A	A	A	A	A	A	A	A	A
Tetrachlorobenzene	D	D	D	D	D	D	D	B	B	A
Tetrachloroethane	D	D	D	D	D	D	D	A	B	A
Tetrachloroethylene	D	D	D	D	D	D	D	A	B	A

**WARNING: TO BE USED AS GUIDE ONLY**

RATING CODE: A Excellent B Good C Fair or Conditional D Unsatisfactory - No data available All ratings are based on 70° F	Natural Rubber	SBR	Butyl	Nitrile	Neoprene	Hypalon	EPDM	Viton	X-Linked Polyethylene	Teflon/TFE/FEP
	Tetrachloromethane	D	D	D	C	D	D	D	A	B
Tetrachloronaphthalene	D	D	D	D	D	D	D	B	B	A
Tetraethyl Lead	D	D	D	B	C	D	D	A	A	A
Tetraethylene Glycol	A	A	A	A	A	A	A	A	A	A
Tetrahydrofuran (THF)	D	D	D	D	D	D	D	D	A	A
Thionyl Chloride	D	D	D	D	D	D	D	B	A	A
Tin Chloride	A	A	A	A	A	A	A	A	A	A
Tin Tetrachloride	A	A	A	A	A	A	A	A	A	A
Titanium Tetrachloride	D	D	D	B	C	C	C	A	A	A
Toluene (Toluol)	D	D	D	D	D	D	D	A	A	A
Toluene Diisocyanate (TDI)	C	C	A	C	D	D	A	B	A	A
Toxaphene	D	D	D	B	B	D	D	A	A	A
Transformer Oils (Chlorinated Phenyl Base Askerels)	D	D	D	D	D	D	A	A	B	A
Transformer Oils (Petroleum Base)	D	D	D	A	B	B	D	A	A	A
Transmission Fluids-A	D	D	D	B	C	D	D	A	A	A
Transmission Fluids-B	D	D	D	C	D	D	D	A	A	A
Tributyl Amine	See Ammonia									
Tributyl Phosphate	D	D	B	D	D	D	B	D	A	A
Tricetin	A	B	A	B	B	B	A	D	A	A
Trichlorobenzene	D	D	D	D	D	D	D	B	B	A
Trichloroethane	D	D	D	D	D	D	D	A	A	A
Trichloroethylene	D	D	D	C	D	D	D	A	B	A
Trichloropropane	D	D	D	D	D	D	D	A	A	A
Tricresyl Phosphate (TCP)	D	D	A	D	D	D	B	B	A	A
Triethanolamine (TEA)	See Ammonia									
Triethylamine	See Ammonia									
Triethylene Glycol	A	A	A	A	A	A	A	A	A	A
Trinitrotoluene (TNT)	D	D	D	D	B	B	D	B	D	A
Triphenyl Phosphate	D	D	A	D	C	B	C	B	C	A
Trisodium Phosphate	A	A	A	A	A	A	A	A	A	A
Tung Oil	D	D	C	A	B	B	D	A	A	A
Turbine Oil	D	D	D	B	B	B	D	A	A	A
Turpentine	D	D	D	B	B	D	D	A	A	A
2,4D With 10% Fuel Oil	D	D	D	A	A	D	D	A	A	A
Ucon Hydrolube Oils	D	D	A	A	B	D	A	A	A	A
Undecanol	A	A	A	A	A	A	A	B	A	A
Unsymmetrical Dimethyl Hydrazine (UDMH)	D	D	A	D	D	A	A	D	A	A
Uran	B	C	B	B	B	A	B	C	A	A
Urea	See Ammonia									
V.M.& P. Naptha	D	D	D	A	A	D	D	A	A	A
Varnish	D	D	D	B	B	C	D	A	A	A
Vegetable Oils	D	D	A	A	B	B	A	A	A	A
Versilube	A	A	A	A	A	A	A	A	A	A
Vinegar	A	C	A	C	A	A	B	B	A	A
Vinyl Acetate	D	D	A	D	D	C	C	D	B	A
Vinyl Benzene	D	D	D	D	D	D	D	A	B	A
Vinyl Chloride (Monomer)	C	D	D	D	D	D	D	A	A	A
Vinyl Ether	D	D	D	D	D	C	C	D	A	A
Vinyl Toluene	D	D	D	D	D	D	D	A	B	A
Vinyl Trichloride	D	D	D	D	D	D	D	A	A	A
Water Spray	D	D	D	B	B	D	D	A	A	A
Water, Fresh (Non F.D.A.)	A	A	A	A	A	A	A	A	A	A
Water, Salt	A	A	A	B	A	A	A	A	A	A
Whiskey, Wines	(F.D.A Tube Required)									
White Liquor	A	A	B	A	A	A	C	A	A	A
White Oil	D	D	D	A	B	D	D	A	A	A
Wood Alcohol (Methanol)	A	A	A	A	A	A	A	D	A	A
Xylene (Xy101)	D	D	D	D	D	D	D	A	A	A
Xylidine	D	D	D	D	D	D	D	C	B	A
Zeolites	A	A	A	A	A	A	A	A	A	A
Zinc Acetate	C	D	A	C	C	C	B	D	A	A
Zinc Carbonate	A	A	A	A	A	A	A	A	A	A
Zinc Chloride	A	A	A	A	A	A	B	A	A	A
Zinc Chromate	A	C	A	A	A	C	A	A	B	A
Zinc Sulfate	A	A	A	A	A	A	A	A	A	A

### DIMENSIONS OF SEAMLESS AND WELDED STEEL PIPE - ASA — B36.10 and B36.19

Nominal Pipe Size (in.)	Outside Diameter (in.)	10	20	30	Standard	40	60	Extra Strong	80	100	120	140	160	XX Strong
1/8	0.405	—	—	—	0.068	0.068	—	0.095	0.095	—	—	—	—	—
1/4	0.540	—	—	—	0.088	0.088	—	0.119	0.119	—	—	—	—	—
3/8	0.675	—	—	—	0.091	0.091	—	0.126	0.126	—	—	—	—	—
1/2	0.840	—	—	—	0.109	0.109	—	0.147	0.147	—	—	—	0.188	0.294
3/4	1.050	—	—	—	0.113	0.113	—	0.154	0.154	—	—	—	0.219	0.308
1	1.315	—	—	—	0.133	0.133	—	0.179	0.179	—	—	—	0.250	0.358
1 1/4	1.660	—	—	—	0.140	0.140	—	0.191	0.191	—	—	—	0.250	0.382
1 1/2	1.900	—	—	—	0.145	0.145	—	0.200	0.200	—	—	—	0.281	0.400
2	2.375	—	—	—	0.154	0.154	—	0.218	0.218	—	—	—	0.344	0.436
2 1/2	2.875	—	—	—	0.203	0.203	—	0.276	0.276	—	—	—	0.375	0.552
3	3.50	—	—	—	0.216	0.216	—	0.300	0.300	—	—	—	0.438	0.600
3 1/2	4.00	—	—	—	0.226	0.226	—	0.318	0.318	—	—	—	—	—
4	4.50	—	—	—	0.237	0.237	—	0.337	0.337	—	0.438	—	0.531	0.674
5	5.563	—	—	—	0.258	0.258	—	0.375	0.375	—	0.500	—	0.625	0.750
6	6.625	—	—	—	0.280	0.280	—	0.432	0.432	—	0.562	—	0.719	0.864
8	8.625	—	0.250	0.277	0.322	0.322	0.406	0.500	0.500	0.594	0.719	0.812	0.906	0.873
10	10.75	—	0.250	0.307	0.365	0.365	0.500	0.500	0.594	0.719	0.844	1.000	1.125	1.000
12	12.75	—	0.250	0.330	0.375	0.406	0.562	0.500	0.688	0.844	1.000	1.125	1.312	1.000
14 O.D.	14.00	0.250	0.312	0.375	0.375	0.438	0.594	0.500	0.750	0.938	1.094	1.250	1.406	—
16 O.D.	16.00	0.250	0.312	0.375	0.375	0.500	0.656	0.500	0.844	1.031	1.219	1.438	1.594	—
18 O.D.	18.00	0.250	0.312	0.438	0.375	0.562	0.750	0.500	0.938	1.156	1.375	1.562	1.781	—
20 O.D.	20.00	0.250	0.375	0.500	0.375	0.594	0.812	0.500	1.031	1.281	1.500	1.750	1.969	—
22 O.D.	22.00	0.250	0.375	0.500	0.375	—	0.875	0.500	1.125	1.375	1.625	1.875	2.125	—
24 O.D.	24.00	0.250	0.375	0.562	0.375	0.688	0.969	0.500	1.218	1.531	1.812	2.062	2.344	—
26 O.D.	26.00	0.312	0.500	—	0.375	—	—	0.500	—	—	—	—	—	—
28 O.D.	28.00	0.312	0.500	0.625	0.375	—	—	0.500	—	—	—	—	—	—
30 O.D.	30.00	0.312	0.500	0.625	0.375	—	—	0.500	—	—	—	—	—	—
32 O.D.	32.00	0.312	0.500	0.625	0.375	0.688	—	0.500	—	—	—	—	—	—
34 O.D.	34.00	0.312	0.500	0.625	0.375	0.688	—	0.500	—	—	—	—	—	—
36 O.D.	36.00	0.312	0.500	0.625	0.375	0.750	—	0.500	—	—	—	—	—	—
42 O.D.	42.00	—	—	—	0.375	—	—	0.500	—	—	—	—	—	—

### DIMENSIONS OF 150-LB. STEEL FLANGES ASA

Nominal Pipe Size (in.)	Diameter of Bolt Circle (in.)	Number of Bolts	Diameter of Bolts (in.)	Diameter of Bolt holes (in.)	Flange O.D.	*Weight (lbs.)
1	3 1/8	4	1/2	5/8	4 1/2	2
1 1/2	3 7/8	4	1/2	5/8	5	3
2	4 3/4	4	5/8	3/4	6	5
2 1/2	5 1/2	4	5/8	3/4	7	8
3	6	4	5/8	3/4	7 1/2	10
3 1/2	7	8	5/8	3/4	8 1/2	12
4	7 1/2	8	5/8	3/4	9	13
5	8 1/2	8	3/4	7/8	10	15
6	9 1/2	8	3/4	7/8	11	19 1/2
8	11 3/4	8	3/4	7/8	13 1/2	30
10	14 1/4	12	7/8	1	16	41
12	17	12	7/8	1	19	65
14	18 3/4	12	1	1 1/8	21	85
16	21 1/4	16	1	1 1/8	23 1/2	93
18	22 3/4	16	1 1/8	1 1/4	25	120
20	25	20	1 1/8	1 1/4	27 1/2	155
24	29 1/2	20	1 1/4	1 3/8	32	210

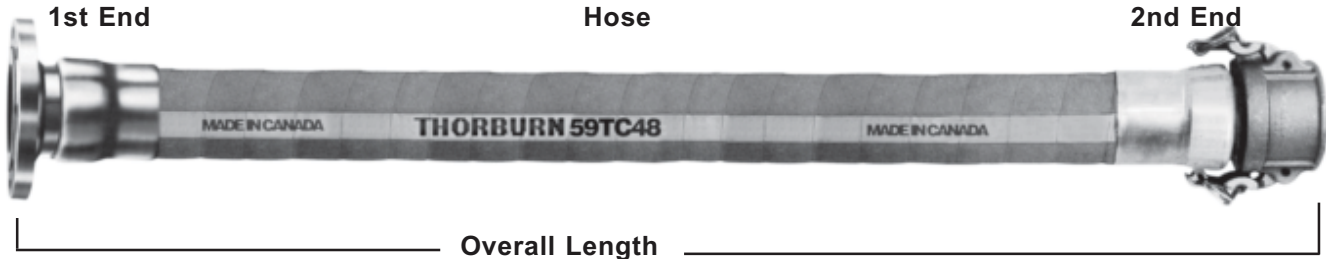
\*Weights shown for sizes up through 24" are for threaded flanges.

### DIMENSIONS OF 300-LB. STEEL FLANGES ASA

Nominal Pipe Size (in.)	Diameter of Bolt Circle (in.)	Number of Bolts	Diameter of Bolts (in.)	Diameter of Bolt holes (in.)	Flange O.D.	*Weight (lbs.)
1	3 1/2	4	5/8	3/4	4 7/8	3
1 1/2	4 1/2	4	3/4	7/8	6 1/8	6 1/2
2	5	8	5/8	3/4	6 1/2	7
2 1/2	5 7/8	8	3/4	7/8	7 1/2	10
3	6 5/8	8	3/4	7/8	8 1/4	14
3 1/2	7 1/4	8	3/4	7/8	9	16
4	7 7/8	8	3/4	7/8	10	24
5	9 1/4	8	3/4	7/8	11	31
6	10 5/8	12	3/4	7/8	12 1/2	36
8	13	12	7/8	1	15	56
10	15 1/4	16	1	1 1/8	17 1/2	80
12	17 3/4	16	1 1/8	1 1/4	20 1/2	110
14	20 1/4	20	1 1/8	1 1/4	23	164
16	22 1/2	20	1 1/4	1 3/8	25 1/2	220
18	24 3/4	24	1 1/4	1 3/8	28	280
20	27	24	1 1/4	1 3/8	30 1/2	325
24	32	24	1 1/2	1 5/8	36	490

\*Weights shown for sizes up through 24" are for threaded flanges.

## GUIDE FOR ORDERING THORBURN HOSE ASSEMBLIES



Hose Type Code	Size Code	1st End Code	Material Code	2nd End Code	Material Code	O.A.L. in inches	Accessories & Options
<b>59TC</b>	<b>48</b>	<b>144</b>	<b>S6</b>	<b>161</b>	<b>S6</b>	<b>240"</b>	<b>A191</b>

### HOSE TYPES

Code	AIR HOSES	pp. 7-12
10TA	Multi-Purpose	
11TA	Premium Multi-Purpose	
12TA	Mine-Air-Water Hose (Ribbed Cover)	
14TA	Air Drill Standard	
15TA	Air Drill (Extra Pressure)	
16TA	Air Drill Wire Braid	
17TA	PVC Red Multi-Purpose	
18TA	PVC Clear Multi-Purpose Reinforced	
19TA	Multi-Purpose High Pressure	
110TA	Hot Air Blower Hose	
LOL	Series LOL Push-on/Lock-in Hose	
PTS	Polyurethane Self-Storing Assemblies - Standard & Co-Axial	

Code	WATER HOSES	pp. 13-20
20TW	Contractors Standard Discharge	
21TW	High Pressure Discharge	
22TW	Flat-Flex PVC Water Discharge	
22TWB	PVC Brown Heavy-Duty Discharge	
22TWG	PVC Green Heavy-Duty Discharge	
24TW	Heavy-Duty Suction Medium-Duty PVC Suction	
25TWH	Heavy-Duty PVC Suction	
26TW	White Sanitary Wash-Down Hose	
26TWS	Supreme White Sanitary Wash-Down Hose	
27TW	Paper Mill & Packers Wash-Down Hose	
27TWN	Paper Mill Wash-Down Hose C/W "Built-In" Nozzle	
262TW	Commercial Garden Hose High Pressure Jetting Hose	

Code	STEAM HOSES	pp. 21-22
32TS	Fiberglass Steam Hose	
30TS	Refinery Steam Queen	
31TS	Refinery Steam Queen "Oil Resistant Cover"	

Code	PETROLEUM HOSES	pp. 23-28
52TP	Petroleum Discharge Hose Low Temperature Drop Arctic Hose	
55TP	Tank-Truck Hose	
556TP	Fuelair Hose	
558TPX	Petroleum Floater Hose Assembly	
557TP	Hot Tar & Asphalt Hose	

Code	SPECIALTY PETROLEUM HOSES	p. 29-33
53TPDF	Drop-Flex Gasoline Drop Hose	
53TPW/53TPS	Petroflex Tank-Truck Hose & Vapour Recovery Hose	
53TPW/53TPS	Petroflex Petroleum Drop Hose	
54TPVF	Vapour-Flex Vapour Recovery Hoses	
54TP	Petroflex Vapour Recovery Hose	
554TP	Petroflex Dock, Barge, Vapour Recovery Hose	
555TP	Petroflex X-Link Chemical Suction & Discharge Hose	

Code	CHEMICAL HOSES	pp. 34-36
59TC	Cross Link Polyethylene Suction & Discharge Hose	
59TCXL	Extra Light Cross Link Polyethylene Suction & Discharge Hose	
59TCE	EPDM Lined Chemical Suction & Discharge Hose	
59TCH	Hypalon Lined Chemical Suction & Discharge Hose	
59TCVH	Viton Suction & Discharge Hose	

Code	SPECIAL PURPOSE PETRO-CHEMICAL HOSES	pp. 37-39
58TCAAP	Thorflex Polypropylene Composite Hose for Hydrocarbons (Orange Cover)	
58TCAPP	Thorflex Polypropylene Composite Tank Truck Drop Hose	
58TCGAP	Thorflex Polypropylene Composite Hose for Hydrocarbons (Black Cover)	
58TCGP	Thorflex Polypropylene Composite Hose for Standard Chemicals (Blue Cover)	
58TCSGT	Thorflex Teflon Lined Composite Hose for Aggressive Chemicals (Red Cover)	
58TCSSP	Thorflex Polypropylene Composite Hose for Standard Chemicals (Red Cover)	
58TCSST	Thorflex Teflon Lined Composite Hose for Aggressive Chemicals (Red Cover)	

Code	MATERIAL HANDLING HOSES	pp. 42-45
62TMH	Sand Blast Hose	
662TMH	Vacuum Return Sand Suction Hose	
772TMH	Elephant Trunk Hose	

Code	SPECIAL PURPOSE MATERIAL HANDLING HOSES	pp. 46-53
172PM	Plaster Master Wire Braid	
171PM	Plaster Master Extra High Pressure	
170PM	Plaster Master High Pressure	
110AR	Hercules Bullflex	
111HR	Hercules Hotflex	
1102RS	Hercules Coldflex	
121SD	Rent-O-Flex Suction/Discharge	
120ER	Rent-O-Flex Suction	
160PFC	Plast-O-Flex Heavy-Duty Suction Hose - Clear	
161PFG	Plast-O-Flex Heavy-Duty Suction Hose - Green	
162PFC	Plast-O-Flex Heavy-Duty Suction Hose - Clear	
163PFG	Plast-O-Flex Heavy-Duty Suction Hose - Green	
164UL	Uroline Vacuum Hose	
190PS	Water-Chem Spray Hose	
196EVS	Weed-Flex Spray Hose	
191AC	Agro-Chem Spray Hose - Green	
192AC	Agro-Chem Spray Hose - Yellow	
193AC	Agro-Chem Spray Hose - Blue	

Code	FOOD HANDLING HOSES	pp. 54-55
154/155FF	PVC Food-Flex	
156/157FF	PVC Food-Flex	
158PV	Poly-Vac	
180PF	Pure-Flex	
181PF	Pure-Flex	
182PF	Pure-Flex	

Code	SPECIAL PURPOSE DUCTING HOSES	pp. 69-70
130SD	Ductflex Heavy Duty Ducting Hose	
132WS	Ductflex Heavy Duty Ducting Hose	
133HD	Ductflex Heavy Duty Ducting Hose	
134OM	Ductflex Heavy Duty Ducting Hose	
135PD	Ductflex Heavy Duty Ducting Hose	
140BL	Blo-Flex Ducting Hose	
141SD	See-Duct Ducting Hose	

Code	HEATER & EXHAUST HOSES	pp. 71-74
49T1SP	1 Ply Silicone Coolant Hose	
49T2SP	2 Ply Silicone Wire Reinforced Coolant Hose	
49T3SP	3 Ply Silicone Coolant Hose	
49T4SP	4 Ply Silicone Coolant Hose	
449TSP	Auto Heater Hose	
559TSP	Radiator Hose	
57TPS	Marine Wet Exhaust Softwall	
57TPH	Marine Wet Exhaust Hardwall	
669TFA	Defroster & Air Intake Hose	
GE	Garage Exhaust Hose	

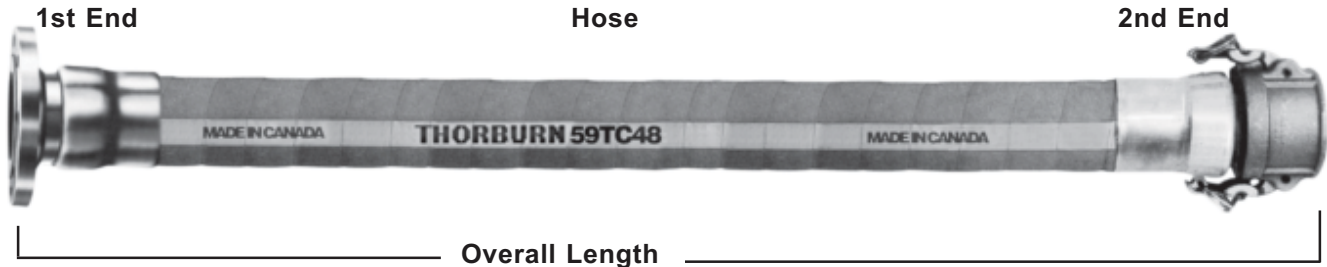
Code	GAS HOSES	pp. 75-78
42TDH	Diver's Hose	
42TOC	Oxygen Charging Hose	
42TPSRM	Single Line Welding Hose, Grade RM (Oxygen Green)	
42TPSRM	Single Line Welding Hose, Grade RM (Acetylene Red)	
40TSP	Dual Line Welding Hose, Grade T	
40TSP	Dual Line Welding Hose, Grade RM or R	
41TSP	Single Line Welding Hose, Grade R (Oxygen Green)	
42TSP	Single Line Welding Hose, Grade R (Acetylene Red)	
46TSP	Butane-Propane Hose	
446TSP	Anhydrous Ammonia Hose	

Code	PAINT HOSES	p. 79
43TSP	Paint Spray Fluid Hose	
444TSP	Paint Spray Air Hose	
445TSP	High Pressure Paint Spray	

Code	SPECIAL PURPOSE HOSES	pp. 81-82
47TSP	Sewer Cleaning Hose	
48TSP	Furnace Door Hose	
548TSP	Cable Covering	



### GUIDE FOR ORDERING THORBURN HOSE ASSEMBLIES



Hose Type Code	Size Code	1st End Code	Material Code	2nd End Code	Material Code	O.A.L. in inches	Accessories & Options
<b>59TC</b>	<b>48</b>	<b>144</b>	<b>S6</b>	<b>161</b>	<b>S6</b>	<b>240"</b>	<b>A191</b>

Aluminum	= AS	Bronze	= BR	Nylon	= NN
Aluminum, Hard Coat	= AH	Carbon Steel	= CS	Polypropylene	= PP
Brass	= BB	Carbon Steel, Plated	= CP	304 Stainless Steel	= S4
Brass, Naval	= NB	Iron, Malleable	= MI	316 Stainless Steel	= S6
		Monel	= MM	Specify	= X

Specify if not shown below. Put prefix A (Accessories)

**Nominal hose size codes in 1/16 of an inch**

**Examples:**

- 1/16 = 01
- 1/8 = 02
- 3/16 = 03
- 1/4 = 04
- 5/16 = 05
- 3/8 = 06
- 7/16 = 07
- 1/2 = 08
- 5/8 = 10
- 3/4 = 12
- 7/8 = 14
- 1 = 16
- 1 1/4 = 20
- 1 1/2 = 24
- 2 = 32
- 2 1/2 = 40
- 3 = 48
- 3 1/2 = 56
- 4 = 64
- 4 1/2 = 72
- 5 = 80
- 6 = 96
- 7 = 112
- 8 = 128
- 9 = 144
- 10 = 160
- 11 = 176
- 12 = 192
- etc.

Description	Code	Description	Code	Description	Code
<b>Push-on Lock-in Hose Couplings p. 91</b>	<b>Code</b>	<b>Shank Couplings for Water &amp; Suction Services p. 98</b>	<b>Code</b>	<b>Swaged-On Cam &amp; Groove p. 105</b>	<b>Code</b>
Male NPT Solid .....	000	Female Half of Coupling 15I .....	080	Male Hose Stem TSXE .....	160
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# THORBURN

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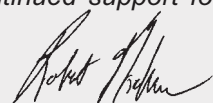
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Shown is Jack Thorburn, who founded the company in 1954, enjoying one of his passions, sailing. Unfortunately, Jack passed away on February 16th 1995. He will be sorely missed. The company's leadership passed on to Jack's eldest son, Robert, in September 1994.

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