

# SANITARY HOSE & FITTINGS

## Flex-Rite™

R-Series Rubber

S-Series Silicone

P-Series PVC

T-Series Teflon

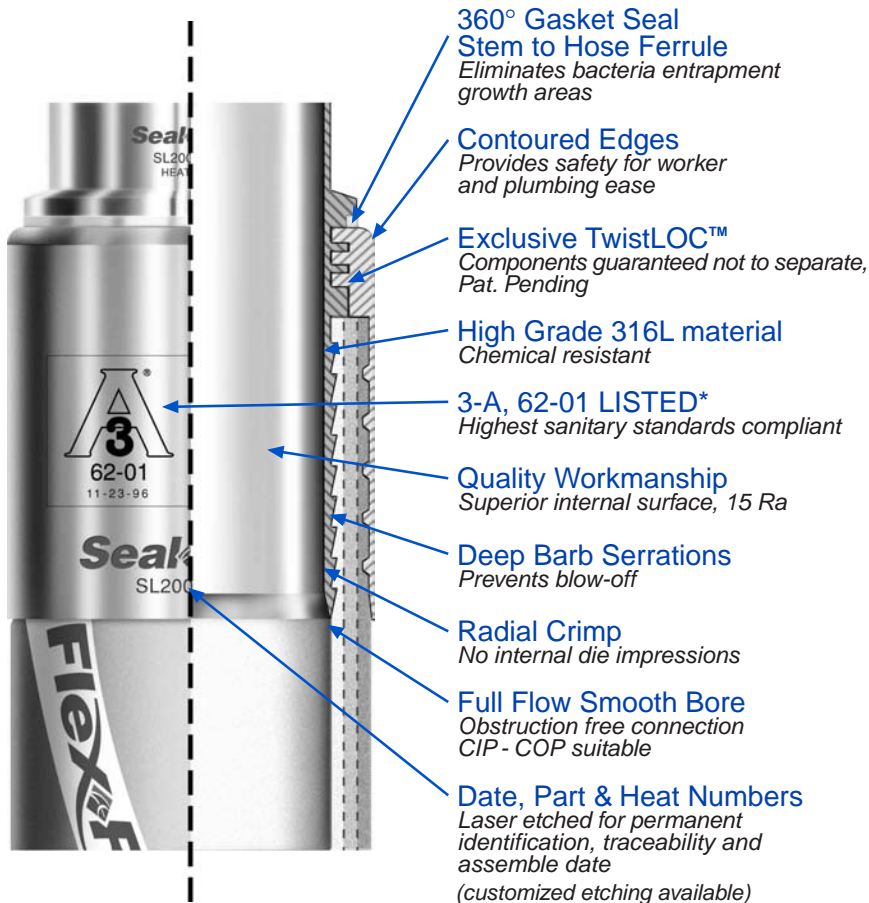
## Seal-Rite™

ISO: 9001:2000  
REGISTERED





*Ace Manufacturing Company formed in 1969 and has evolved over the years into a precision machining facility. We are dedicated to providing High Quality Standards to our customer base and look forward to developing new business partnerships. To this end, in 2004 we started the Flex-Rite™ and Seal-Rite™ lines of hose products and hose fittings. We work hard to know your business, assist you in problem solving, provide you with quality products and over 100 years of experience.*



ISO 9001: 2000 REGISTERED

ACCEPTED BY: USDA Dairy

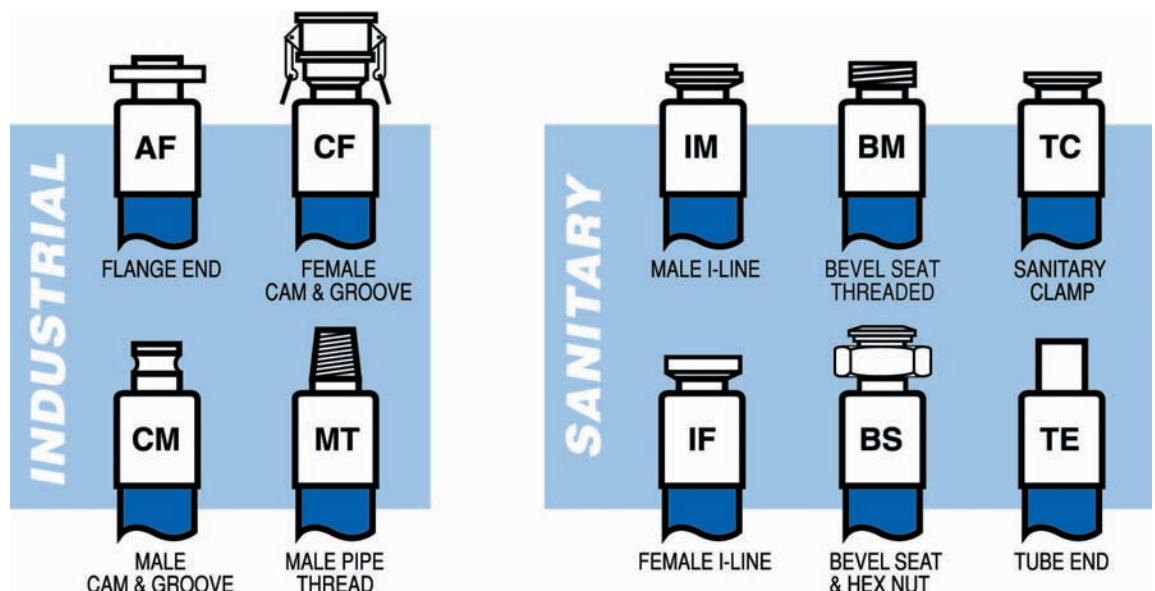
COMPLIANCE: FDA Grade "A" Pasteurized Milk Ordinance

Seal-Rite™ radial crimp couplers are the purest unitized assemblies available today. Our external crimp design provides a 360° fixed seal at the coupler stem to hose junction point that eliminates the possibility of product wicking between the hose and coupler. Unlike internal expansion which can deform metal and yield die impressions, radial crimp technology will not interfere with the internal surface of the coupling stem. A full flow smooth bore transition is created after fabrication that excludes ledges or crevices that can collect bacteria.

TwistLOC™ components become a single unit that resist separation under severe applications. Internal surface finishes exceed 15 Ra. Each coupling stem is manufactured from 316L grade stainless steel and stamped with a material traceability number which is our commitment to quality. Seal-Rite radial crimped couplers are available for attachment on Flex-Rite hoses. A wide range of end styles, sizes 1/2" through 6" are available.

### Popular End Connector Styles

For additional STYLES not shown here, see page 11



\*Applies to ALL combinations of Seal-Rite "SL" fittings on "R, P & S" Series hose of 1" I.D. and over.

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5031 Winton Road, Cincinnati, OH 45232

www.flex-rite.com

### RSD Suction & Discharge



This versatile hose is designed to handle a wide variety of products and application requirements. (Meets 3-A 62-01 standards, USDA requirements and is FDA compliant.) Rated for full suction and discharge use up to 150 PSI. The specially compounded tube is engineered to handle high temperatures, will not impart taste or odor and is highly resistant to common CIP solutions. A dual wire helix makes the RSD extremely flexible and easy to handle.

MODEL	I.D.	O.D.	WORKING PRESSURE	MIN. BEND RADIUS	WEIGHT PER FT.	VACUUM IN HG.
RSD050*	1/2"	1.0"	150 PSI	2.0"	.32 lbs.	29"
RSD075*	3/4"	1.25"	150 PSI	2.0"	.57 lbs.	29"
RSD100	1"	1.50"	150 PSI	3.0"	.91 lbs.	29"
RSD150	1 1/2"	2.06"	150 PSI	4.0"	1.03 lbs.	29"
RSD200	2"	2.57"	150 PSI	4.5"	1.32 lbs.	29"
RSD250	2 1/2"	3.12"	150 PSI	5.5"	1.84 lbs.	29"
RSD300	3"	3.74"	150 PSI	7.0"	2.55 lbs.	29"
RSD400	4"	4.77"	150 PSI	10.0"	3.51 lbs.	29"
RSD600	6"	6.75"	150 PSI	18.0"	5.42 lbs.	29"

**TUBE:** White, FDA, 3-A, Chlorbutyl

**REINFORCEMENT:** Spiral-plied synthetic fabric with dual wire helix

**RECOMMENDED CLEANING:** CIP, COP

**COVER:** Gray EPDM w/white stripe

**TEMP. RANGE:** -40 to 225° F

**COLORS AVAILABLE:** Consult Factory

### RCT Comestible Transfer



Excellent choice for edible **oils**, and **personal care products** as well as most dairy applications. (Meets 3-A 62-01 standards, USDA requirements and is FDA compliant.) Rated for full transfer use up to 150 PSI. Nitrile hose is engineered to handle high temperatures and maintain product color, taste and aroma. A dual wire helix makes the RCT extremely flexible and easy to handle.

MODEL	I.D.	O.D.	WORKING PRESSURE	MIN. BEND RADIUS	WEIGHT PER FT.	VACUUM IN HG.
RST100	1"	1.50"	150 PSI	3.5"	.95 lbs.	29"
RCT150	1 1/2"	2.13"	150 PSI	4.0"	1.10 lbs.	29"
RCT200	2"	2.64"	150 PSI	4.5"	1.45 lbs.	29"
RCT250	2 1/2"	3.19"	150 PSI	6.0"	1.90 lbs.	29"
RCT300	3"	3.76"	150 PSI	7.0"	2.68 lbs.	29"
RCT400	4"	4.77"	150 PSI	10.5"	3.54 lbs.	29"

**TUBE:** White, FDA, 3-A, Nitrile/PVC Blend

**REINFORCEMENT:** Spiral-plied synthetic fabric with dual wire helix

**RECOMMENDED CLEANING:** CIP, COP

**COVER:** White Nitrile w/white stripe

**TEMP. RANGE:** -25 to 250° F

### RCR Crush Resistant



Consistent flow is maintained by this crush resistant hose whether kinked, twisted or run over it is designed to spring back to its original shape. Excellent for high traffic areas, the RCR delivers generous flow rates for wine, beer and other sanitary liquid food stuffs. Bacteria resistant construction delivers taste and odor free flow, even at high temperatures.

MODEL	I.D.	O.D.	WORKING PRESSURE	MIN. BEND RADIUS	WEIGHT PER FT.	VACUUM IN HG.
RCR150	1 1/2"	2.11"	250 PSI	4.0"	.98 lbs.	27"
RCR200	2"	2.68"	250 PSI	7.0"	1.38 lbs.	27"
RCR250	2 1/2"	3.21"	250 PSI	10.0"	1.78 lbs.	27"
RCR300	3"	3.85"	250 PSI	12.0"	2.59 lbs.	27"

**TUBE:** White, FDA, 3-A, Chlorbutyl

**REINFORCEMENT:** Spiral-plied synthetic fabric with monofilament helix

**RECOMMENDED CLEANING:** CIP, COP

**COVER:** Orange EPDM w/white stripe

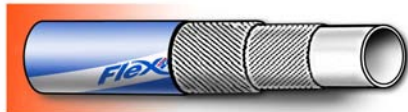
**TEMP. RANGE:** -30 to 225° F

FDA COMPLIANT: 21 CFR, 177.2600

\*The 3-A 62-01 standard applies only to assemblies of 1" diameter and larger.

**WARNING:** Working pressure ratings for all Flex-Rite™ brand hoses are based on 70° F (ambient temperature). Working pressure and vacuum ratings will decrease as temperatures increase. For "R" series applications that exceed 200° F contact manufacturer for suggestions.

### RDC Discharge



This ultra-light discharge hose provides extra flexibility and smooth handling. Designed to be chemically resistant to mild caustic solutions. This discharge hose is well suited for overhead CIP wash units and capable of handling pressures up to 250 PSI.

MODEL	I.D.	O.D.	WORKING PRESSURE	MIN. BEND RADIUS	WEIGHT PER FT.	VACUUM IN HG.
RDC150	1½"	2.07"	250 PSI	-	.88 lbs.	-
RDC200	2"	2.59"	250 PSI	-	1.13 lbs.	-
RDC250	2½"	3.11"	250 PSI	-	1.40 lbs.	-

**TUBE:** White FDA, 3-A, Chlorbutyl

**REINFORCEMENT:** Spiral-plied synthetic fabric

**RECOMMENDED CLEANING:** CIP, COP

**COVER:** Blue EPDM w/white stripe

**TEMP. RANGE:** -40 to 225° F

### RBT Beverage Transfer



A high pressure hose with limited suction capability is ideal for the highly demanding service of transferring liquid products in breweries, wineries and dairies. Bounce back design resists damage from kinking or flattening in high traffic areas.

MODEL	I.D.	O.D.	WORKING PRESSURE	MIN. BEND RADIUS	WEIGHT PER FT.	VACUUM IN HG.
RBT100	1"	1.69"	250 PSI	4.0"	0.81 lbs.	20"
RBT150	1½"	2.23"	250 PSI	5.5"	1.20 lbs.	20"
RBT200	2"	2.92"	250 PSI	6.5"	1.86 lbs.	20"
RBT300	3"	4.09"	250 PSI	10.0"	3.57 lbs.	20"

**TUBE:** White FDA, 3-A, Chlorbutyl

**REINFORCEMENT:** Spiral-plied synthetic fabric 4 plies 1.5" - 6 plies 2" & over

**RECOMMENDED CLEANING:** CIP, COP

**COVER:** Purple EPDM w/white stripe

**TEMP. RANGE:** -40 to 225° F

### RES Premium Suction & Discharge



This premium quality hose withstands rough handling and high temperatures. A suction and discharge hose that will not impart taste or odor to products being transferred. Typical use includes: Milk, Dairy, Food and Beverage, Cosmetics, Chemical, and CIP Pharmaceutical Applications. Meets 3-A 1800 standards, USDA requirements and is FDA compliant.

MODEL	I.D.	O.D.	WORKING PRESSURE	MIN. BEND RADIUS	WEIGHT PER FT.	VACUUM IN HG.
RES050	½"	.93"	150 PSI	2.5"	.23 lbs.	29"
RES075	¾"	1.18"	150 PSI	3.75"	.31 lbs.	29"
RES100	1"	1.50"	150 PSI	4.0"	.39 lbs.	29"
RES150	1½"	2.09"	150 PSI	5.0"	.80 lbs.	29"
RES200	2"	2.60"	150 PSI	6.0"	1.16 lbs.	29"
RES250	2½"	3.17"	150 PSI	7.0"	1.70 lbs.	29"

**TUBE:** White FDA, 3-A, EPDM

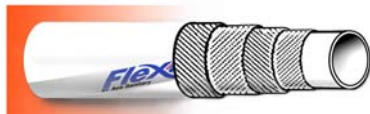
**REINFORCEMENT:** Two polyester spirals with dual helix wire

**RECOMMENDED CLEANING:** CIP, SIP, Autoclave

**COVER:** Light Blue, EPDM Synthetic Rubber

**TEMP. RANGE:** -40 to 300° F

### RWD Premium Washdown



Designed for cleanup duties in dairies, creameries, breweries, food, beverage, meat and poultry processing plants. This premium quality hose is capable of handling hot water up to 300° F. A chemically resistant hose, with a wrapped cover construction designed to provide excellent resistance to cuts and abrasion while providing handling stability.

MODEL	I.D.	O.D.	WORKING PRESSURE	MIN. BEND RADIUS	WEIGHT PER FT.	VACUUM IN HG.
RWD075	¾"	1.250"	350 PSI	-	.41 lbs.	-

**TUBE:** White FDA, 3-A, EPDM

**REINFORCEMENT:** Spiral-plied synthetic fabric 4 plies

**RECOMMENDED CLEANING:** CIP, COP, SIP

**COVER:** White EPDM, Wrapped Finish

**TEMP. RANGE:** -40 to 300° F

FDA COMPLIANT: 21 CFR, 177.2600

\*The 3-A 62-01 standard applies only to assemblies of 1" diameter and larger.

**WARNING:** Working pressure ratings for all Flex-Rite™ brand hoses are based on 70° F (ambient temperature). Working pressure and vacuum ratings will decrease as temperatures increase. For "R" series applications that exceed 200° F contact manufacturer for suggestions.

Pharmaceutical grade, USP Class VI silicone with full traceability to produce seamless, extruded, platinum cured tubes, manufactured in clean room environment

### SMW

#### Multi-ply Wire Reinforced



ULTRA-Flexible, stainless steel wire-reinforced silicone hose. Specially designed for bulk transfer, high-pressure, and vacuum process applications and is compliant with 3A, USDA and FDA standards. This is the only hose of its type manufactured in a Class 1000 clean room of medical-grade platinum-cured silicone throughout.

MODEL	I.D.	O.D.	WORKING PRESSURE	MIN. BEND RADIUS	VACUUM IN HG.	LENGTH
SMW050	1/2"	.82"	200 PSI	3.0"	29"	24'
SMW075	3/4"	1.11"	200 PSI	5.0"	29"	24'
SMW100	1"	1.36"	175 PSI	7.0"	29"	24'
SMW150	1 1/2"	1.86"	175 PSI	9.0"	29"	24'
SMW200	2"	2.36"	150 PSI	11.0"	29"	24'
SMW250	2 1/2"	2.86"	110 PSI	12.0"	29"	15'
SMW300	3"	3.37"	110 PSI	15.0"	29"	12'
SMW400	4"	4.36"	90 PSI	18.0"	29"	12'

**TUBE:** FDA/USP Class VI silicone - Platinum cured

**REINFORCEMENT:** Four ply, polyester braid with stainless steel wire helix

**RECOMMENDED CLEANING:** CIP, SIP, Autoclave

**COVER:** White translucent

**TEMP. RANGE:** -100 to 375° F

### SMD

#### Multi-ply Discharge



A 4-ply, fabric reinforced hose designed for higher pressure applications. The inner diameter is a continuous extruded bore to ensure maximum smoothness and purity. Available in standard polyester. 3A, USDA and FDA compliant.

MODEL	I.D.	O.D.	WORKING PRESSURE	MIN. BEND RADIUS	VACUUM IN HG.	LENGTH
SMD050	1/2"	.81"	150 PSI	8.0"	27"	24'
SMD075	3/4"	1.10"	150 PSI	10.0"	24"	24'
SMD100	1"	1.35"	150 PSI	12.0"	20"	24'
SMD150	1 1/2"	1.85"	150 PSI	-	17"	24'
SMD200	2"	2.35"	125 PSI	-	14"	24'
SMD250	2 1/2"	2.85"	125 PSI	-	9"	15'
SMD300	3"	3.35"	125 PSI	-	6"	12'

**TUBE:** FDA/USP Class VI silicone - Platinum cured

**REINFORCEMENT:** Four ply, polyester braid

**RECOMMENDED CLEANING:** CIP, SIP, Autoclave

**COVER:** White translucent

**TEMP. RANGE:** -100 to 375° F

### SSD

#### Single Braid Discharge



A braid reinforced silicone hose, processed with pharmaceutical grade elastomer, designed for mid-range pressures. Manufactured using standard polyester or Nomex braid. Compliant 3A, USDA and FDA standards. Resist weathering & temperature extremes.

MODEL	I.D.	O.D.	WORKING PRESSURE	MIN. BEND RADIUS	VACUUM IN HG.	LENGTH
SSD025	1/4"	.52"	155 PSI	1.5"	-	50'
SSD037	3/8"	.66"	125 PSI	2.0"	-	50'
SSD050	1/2"	.80"	120 PSI	2.0"	-	50'
SSD075	3/4"	1.10"	90 PSI	3.0"	-	50'
SSD100	1"	1.36"	70 PSI	4.0"	-	50'
SSD150	1 1/2"	1.90"	45 PSI	5.5"	-	?

**TUBE:** FDA/USP Class VI silicone - Platinum cured

**REINFORCEMENT:** Single ply, polyester or nomex braid

**RECOMMENDED CLEANING:** CIP, SIP, Autoclave

**COVER:** White translucent

**TEMP. RANGE:** -80 to 350° F

### SDB

#### Double Braided Discharge



This high-pressure, silicone, double braided, non-metallic hose can be autoclaved, irradiated or sterilized by ethylene oxide gas. Designed to resist weathering and temperature extremes - 3A, USDA and FDA compliant.

MODEL	I.D.	O.D.	WORKING PRESSURE	MIN. BEND RADIUS	VACUUM IN HG.	LENGTH
SDB050	1/2"	.94"	225 PSI	2.5"	-	50'
SDB075	3/4"	1.25"	200 PSI	3.0"	-	50'
SDB100	1"	1.47"	130 PSI	3.5"	-	50'

**TUBE:** FDA/USP Class VI silicone - Platinum cured (clear)

**REINFORCEMENT:** Double ply, polyester braid

**RECOMMENDED CLEANING:** CIP, SIP, Autoclave

**COVER:** Solid white

**TEMP. RANGE:** -100 to 350° F

FDA COMPLIANT: 21 CFR, 177.2600

**WARNING:** Working pressure ratings for all Flex-Rite™ brand hoses are based on 70° F (ambient temperature). Working pressure and vacuum ratings will decrease as temperatures increase. For "S" series applications that exceed 250° F contact manufacturer for suggestions.

### SHF

#### HI-FLEX Wire Reinforced



This highly flexible hose is extremely easy to handle. Reinforced with stainless steel wire ensures a balance between strength and lightness. Designed for bulk transfer, high-pressure, and vacuum process applications and is compliant with 3A, FDA and USP Class VI standards. Short lengths are ideal for proportioning and load cells.

MODEL	I.D.	O.D.	WORKING PRESSURE	MIN. BEND RADIUS	VACUUM IN HG.	LENGTH
SHF050	1/2"	.94"	150 PSI	1.50"	28"	-
SHF075	3/4"	1.18"	150 PSI	2.00"	28"	-
SHF100	1"	1.42"	150 PSI	2.50"	28"	-
SHF150	1 1/2"	1.93"	125 PSI	4.50"	28"	-
SHF200	2"	2.44"	105 PSI	5.50"	28"	-
SHF250	2 1/2"	2.91"	75 PSI	7.00"	28"	-
SHF300	3"	3.46"	70 PSI	9.00"	28"	-
SHF400	4"	4.49"	50 PSI	14.50"	28"	-

**TUBE:** USP Class VI silicone - Platinum cured

**REINFORCEMENT:** Four ply, polyester braid with stainless steel wire helix

**RECOMMENDED CLEANING:** CIP, SIP, Autoclave

**COVER:** White translucent

**TEMP. RANGE:** -76 to 395° F

### Properties of Teflon® PTFE T-62 Resin

Regarding Convuluted Hoses: Ace Manufacturing uses only DuPont Teflon PTFE T-62 resin due to the extraordinary performance it provides.

Properties	Unit	Teflon PTFE T-62 Copolymer	PTFE Homopolymer	FEP
Continue Service Temp	°F	500°F	500°F	300°F
Tensile Strength	PSI	5,000	3,000	3,000
Flex Life	Cycles	>18,000,000	>1,000,000	5,000

Teflon Differences: A variety of hoses are marketed under the name of Teflon, when in fact they are fluoropolymers. Teflon PTFE (polytetrafluoroethylene) and Teflon FEP (fluorinated ethylene propylene copolymer) are marketed under the brand name Teflon, however they are not equivalent in every hose application.

Dupont's T-62 PTFE resin is one of the most chemically inert materials known to man. It has a life up to 60 times greater than many types of fluoropolymers, this is why Ace only uses this outstanding all-purpose hose for flexible applications. However, we do offer a rubber covered, smooth bore, FEP lined hose. In

this application, FEP is suitable as the rubber cover with embedded helical wire limit both temperature and the potential for over bending.

Teflon is widely known as a non-stick material which is in large demand from various industries. The non-stick attribute is perfect for hose cores, providing for complete transfer of material while maintaining product integrity. Dupont's PTFE Teflon resin is rated from -80°F to 450° F which exceeds most application requirements. When specifying hoses for your applications, be sure that you get the resin type best suited to your application. Simply specifying Teflon does not guarantee that you will get Teflon PTFE.

### Application

Working conditions should be given careful consideration when specifying a hose. If the assembly will be constantly flexing, surging or bent, the capabilities of the assembly could change. In some applications accessories like kink guards, vacuum spring wires and armor guard protectors can be installed that will prolong the life of the hose assembly.

Teflon is a registered trademark of E.I. DuPont deNemours and Company

FORMERLY TRC

### TRS EPDM Rubber Covered Smooth Bore



A steel wire is helically wound through the carcass which provides crush, kink and vacuum resistance. Ideal where external abrasion resistance is required.

### TSB Braided Smooth Bore



Excellent for fixed applications where minimal abuse, handling or flexing exist. Available for "Flaired Through" applications.

### TCB Steel Braided Convoluted



Crush resistant hose that is easy to flex and has a tighter bend radii than smooth bore. Open-pitched, seamless, helical convolutions provide for easy cleaning and transport of pharmaceuticals, chemicals, food and beverages.

### TCP Poly Braided Convoluted



Better abrasion resistance than metal braids, easy to flex and has a tighter bend radii than smooth bore. Crush resistant with open-pitched, seamless, helical convolutions that provide for easy cleaning and transport of pharmaceuticals, chemicals, food and beverages.

### TSC Silicone Covered Smooth Bore



Incorporates **extreme** flexibility with a smoothbore PTFE lined hose and a silicone cover. Exceptional for High Purity use in Pharmaceutical, Biotech and Foodstuffs industries where ease of cleaning is required. This hose will not impart taste or odor to products being transferred and provides cleaning ease both inside and out.

TSC is excellent for use in applications where hot fluids or gases pose risks of accidental burns. i.e. hot oil or steam transfer applications.

All "T-Series" hose meet USP Class VI & FDA Criteria - ALL liners are extra thick to provide better flex life and less permeation

TRS050	1/2"	.97"	500 PSI	1.5"	.32 lbs.	30"
TRS075	3/4"	1.27"	500 PSI	2.5"	.48 lbs.	30"
TRS100	1"	1.48"	400 PSI	3.0"	.57 lbs.	30"
TRS150	1 1/2"	2.04"	350 PSI	4.5"	.89 lbs.	30"
TRS200	2"	2.54"	300 PSI	7.0"	1.22 lbs.	30"
TRS250	2 1/2"	3.07"	200 PSI	10.0"	1.64 lbs.	30"

**TUBE:** FEP white, USP Class VI & FDA Criteria

**REINFORCEMENT:** Steel wire, helically wound

**OPTIONAL HEAVY DUTY:** Available upon request

**RECOMMENDED CLEANING:** CIP, SIP - Steam shouldn't exceed 25 psi/250°

**COVER:** Green EPDM w/white stripe

**TEMP. RANGE:** -20 to 300° F

**3-A LISTED:** 1" I.D. and over

TSB050	1/2"	.63"	1425 PSI	6.5"	.16 lbs.	30"
TSB075	3/4"	.86"	1000 PSI	8.2"	.20 lbs.	30"
TSB100	1"	1.19"	1000 PSI	12.0"	.53 lbs.	30"
TSB150	1 1/2"	1.76"	1000 PSI	18.0"	.70 lbs.	30"

**TUBE:** PTFE unpigmented, USP Class VI & FDA Criteria

**REINFORCEMENT:** 1" & 1-1/2" double braided

**RECOMMENDED CLEANING:** CIP, SIP, Autoclave

**COVER:** Stainless Steel Braid

**TEMP. RANGE:** -20 to 425° F

TCB050	1/2"	.75"	1425 PSI	2.0"	.19 lbs.	29"
TCB075	3/4"	1.05"	1300 PSI	2.7"	.29 lbs.	29"
TCB100	1"	1.35"	1100 PSI	4.0"	.51 lbs.	29"
TCB150	1 1/2"	2.03"	700 PSI	6.0"	.81 lbs.	29"
TCB200	2"	2.46"	525 PSI	7.5"	1.00 lbs.	29"
TCB300	3"	3.70"	350 PSI	14.0"	-	29"
TCB400	4"	5.00"	275 PSI	16.0"	-	29"

**TUBE:** PTFE unpigmented, USP Class VI & FDA Criteria

**RECOMMENDED CLEANING:** CIP, SIP, Autoclave

**COVER:** 316 Stainless Steel Braid

**TEMP. RANGE:** -20 to 425° F

TCP050	1/2"	.86"	475 PSI	2.0"	.12 lbs.	29"
TCP075	3/4"	1.16"	425 PSI	2.7"	.18 lbs.	29"
TCP100	1"	1.44"	375 PSI	4.0"	.26 lbs.	29"
TCP150	1 1/2"	2.16"	325 PSI	6.0"	.47 lbs.	29"
TCP200	2"	2.56"	275 PSI	7.5"	.54 lbs.	29"
TCP300	3"	3.92"	225 PSI	14.0"	-	29"
TCP400	4"	5.22"	100 PSI	16.0"	-	29"

**TUBE:** PTFE unpigmented, USP Class VI & FDA Criteria

**RECOMMENDED CLEANING:** CIP, SIP

**COVER:** Blue polypropylene

**TEMP. RANGE:** -20 to 250° F

MODEL	I.D.	O.D.	WORKING PRESSURE	MIN. BEND RADIUS	WEIGHT PER FT.	VACUUM IN HG.
TSC050	1/2"	.77"	1000 PSI	1.5"	.25 lbs.	29"
TSC075	3/4"	1.07"	900 PSI	2.5"	.42 lbs.	29"
TSC100	1"	1.37"	750 PSI	4.0"	.57 lbs.	29"
TSC150	1 1/2"	2.03"	550 PSI	7.0"	1.14 lbs.	29"
TSC200	2"	2.56"	400 PSI	8.5"	1.58 lbs.	29"

**TUBE:** PTFE unpigmented, USP Class VI & FDA Criteria

**REINFORCEMENT:** Stainless steel braid

**RECOMMENDED CLEANING:** CIP, SIP, Autoclave

**COVER:** White, Platinum Cured Silicone Rubber

**TEMP. RANGE:** -80° to +400° F

**3-A LISTED:** 1" I.D. and over

**WARNING:** Working pressure ratings for all Flex-Rite™ brand hoses are based on 70° F (ambient temperature). Working pressure and vacuum ratings will decrease as temperatures increase. For "T"series applications that exceed 250° F contact manufacturer for suggestions.

### PCT Clear Non-reinforced Tubing



FDA PVC transparent tubing is a clear extrusion that is compliant with 3A, USDA and FDA standards.

MODEL	I.D.	O.D.	WORKING PRESSURE	MIN. BEND RADIUS	WEIGHT PER FT.	VACUUM IN HG.
PCT050*	1/2"	.75"	45 PSI	-	.13 lbs.	-
PCT075*	3/4"	1.12"	40 PSI	-	.30 lbs.	-
PCT100	1"	1.37"	35 PSI	-	.38 lbs.	-
PCT150	1 1/2"	1.87"	35 PSI	-	.54 lbs.	-
PCT200	2"	2.50"	35 PSI	-	.96 lbs.	-

**TUBE:** FDA PVC

**REINFORCEMENT:** Clear extrusion no reinforcement

**COVER:** Transparent

**TEMP. RANGE:** 25 to 150° F

### PBT Braid Reinforced Tubing



A flexible clear tubing with multiple polyester braids provides dependable reinforcement for all suitable applications and is compliant with 3A, USDA and FDA standards.

MODEL	I.D.	O.D.	WORKING PRESSURE	MIN. BEND RADIUS	WEIGHT PER FT.	VACUUM IN HG.
PBT050*	1/2"	.81"	200 PSI	-	.13 lbs.	-
PBT075*	3/4"	1.12"	150 PSI	-	.22 lbs.	-
PBT100	1"	1.30"	125 PSI	-	.30 lbs.	-
PBT150	1 1/2"	1.94"	100 PSI	-	.64 lbs.	-
PBT200	2"	2.49"	75 PSI	-	.94 lbs.	-

**TUBE:** FDA PVC

**REINFORCEMENT:** Clear extrusion with polyester textile inner braid

**COVER:** Transparent

**TEMP. RANGE:** 25 to 150° F

### PWT Wire Reinforced Tubing



A heavy-duty hose with steel wire helix rod reinforcement, suitable for milk handling and food processing. It is compliant with 3A, USDA and FDA standards and provides high suction even in higher temperatures.

MODEL	I.D.	O.D.	WORKING PRESSURE	MIN. BEND RADIUS	WEIGHT PER FT.	VACUUM IN HG.
PWT050*	1/2"	.81"	100 PSI	2.0"	.15 lbs.	29"
PWT075*	3/4"	1.12"	70 PSI	3.0"	.24 lbs.	29"
PWT100	1"	1.30"	70 PSI	4.0"	.33 lbs.	29"
PWT150	1 1/2"	1.86"	50 PSI	6.0"	.58 lbs.	29"
PWT200	2"	2.39"	50 PSI	8.0"	.84 lbs.	29"
PWT250	2 1/2"	3.00"	50 PSI	10.0"	1.38 lbs.	29"
PWT300	3"	3.50"	50 PSI	12.0"	1.64 lbs.	29"

**TUBE:** FDA PVC

**REINFORCEMENT:** Clear extrusion with steel wire helix

**COVER:** Transparent

**TEMP. RANGE:** 25 to 150° F

### PBW Suction/Transfer Hose



This hose combines polyester braids with steel wire of the PBT & PWT hoses to provide the benefits of both.

MODEL	I.D.	O.D.	WORKING PRESSURE	MIN. BEND RADIUS	WEIGHT PER FT.	VACUUM IN HG.
PBW150	1 1/2"	2.03"	175 PSI	5.5"	.80 lbs.	29"
PBW200	2"	2.60"	150 PSI	7.0"	1.28 lbs.	29"

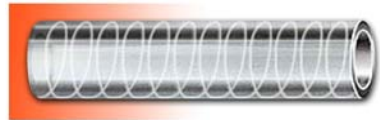
**TUBE:** FDA PVC

**REINFORCEMENT:** Clear extrusion with steel wire helix polyester textile inner braid

**COVER:** Transparent

**TEMP. RANGE:** -40 to 150° F

### PHH Suction/Transport Hose



Transparent extrusion, reinforced with white helix rod is compliant with 3A, USDA and FDA standards. It provides extreme low temperature flexibility, ideal for use in milk hauling.

MODEL	I.D.	O.D.	WORKING PRESSURE	MIN. BEND RADIUS	WEIGHT PER FT.	VACUUM IN HG.
PHH150	1 1/2"	1.79"	75 PSI	4.0"	.45 lbs.	28"
PHH200	2"	2.33"	75 PSI	5.0"	.65 lbs.	28"
PHH250	2 1/2"	2.87"	55 PSI	8.0"	.84 lbs.	28"
PHH300	3"	3.42"	55 PSI	11.0"	1.18 lbs.	28"

**TUBE:** FDA HMW-PVC

**REINFORCEMENT:** Clear extrusion with white helix

**COVER:** Transparent

**TEMP. RANGE:** -40 to 150° F

### PHC Suction/Transfer Hose



A clear hose, reinforced with clear helix rod is compliant with 3A, USDA and FDA standards. Suited for in-plant environments, it's low temperature flexibility is perfect for all liquid dairy or dry product transfers.

MODEL	I.D.	O.D.	WORKING PRESSURE	MIN. BEND RADIUS	WEIGHT PER FT.	VACUUM IN HG.
PHC100	1"	1.28"	100 PSI	3.0"	.24 lbs.	29"
PHC150	1 1/2"	1.80"	85 PSI	6.0"	.50 lbs.	29"
PHC200	2"	2.36"	85 PSI	8.0"	.71 lbs.	29"
PHC250	2 1/2"	2.88"	65 PSI	10.0"	.94 lbs.	29"
PHC300	3"	3.42"	55 PSI	11.0"	1.14 lbs.	29"

**TUBE:** FDA PVC

**REINFORCEMENT:** Clear extrusion with clear helix

**COVER:** Transparent

**TEMP. RANGE:** -4 to 150° F

FDA COMPLIANT: 21 CFR, 170-199

\*The 3-A 62-01 standard applies only to assemblies of 1" diameter and larger.

**WARNING:** Working pressure ratings for all Flex-Rite™ brand hoses are based on 70° F (ambient temperature). Working pressure and vacuum ratings will decrease as temperatures increase. For "P" series applications that exceed 120° F contact manufacturer for suggestions.

### IWD

#### Washdown



Designed for cleanup duties in dairies, creameries, breweries, food, beverage, meat and poultry processing plants. This is an economical, high quality hose capable of handling hot water up to 200° F. The spiral construction provides for excellent handling and flexibility. Abrasion resistant, non-marking cover maintains its sanitary appearance.

MODEL	I.D.	O.D.	WORKING PRESSURE	WEIGHT PER FT.
IWD075	3/4"	1.17"	300 PSI	.40 lbs.

**TUBE:** Black Nitrile

**REINFORCEMENT:** Two synthetic textile spiral cords

**COVER:** White Nitrile/PVC blend

**TEMP. RANGE:** -20 to +200° F

### ISH

#### Steam



A rugged, abrasive and blister resistant hose for cleaning pumps, valves, tubing and equipment suitable for steam. Stands up to the harshest of environments with a specially formulated tube and cover that will not harden or crack during normal service. The steel wire reinforcement provides for safe use with steam pressures up to 250 PSI at 430° F.

MODEL	I.D.	O.D.	WORKING PRESSURE	WEIGHT PER FT.
ISH075	3/4"	1.25"	250 PSI	.48 lbs.

**TUBE:** Black Chlorbutyl

**REINFORCEMENT:** Steel braid

**COVER:** Red EPDM

**TEMP. RANGE:** -40 to +430° F

## Steam Hose Safety Facts

Working with steam can be very hazardous. Safety precautions should be observed when handling to minimize or eliminate personal injury or property damage.

### Selection and use of steam hoses

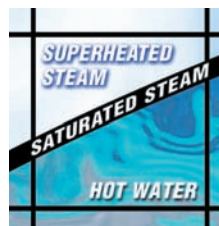
- Make sure steam hose is identified as a steam hose. It should be identified, stating working pressure and temperature rating.
- Make sure working pressure and temperature is not exceeded.
- Do not allow hose to remain under pressure when not in use.
- Avoid excess bending or flexing of hose near the coupling. Straight line operation is preferred. If bends are necessary as part of operation, spring guards may help.
- Be sure to use recommended steam hose couplings and clamps on hose.

### Maintenance Procedures

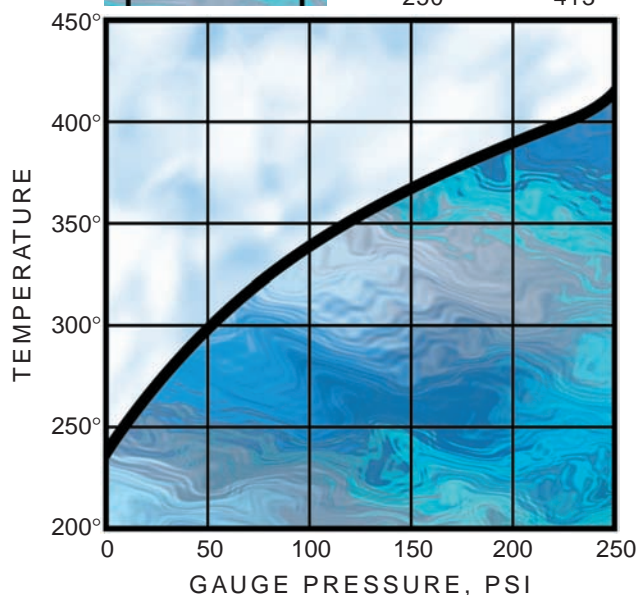
- Periodic inspection of hose should include looking for cover blisters and lumps.
- Check for kinked areas that could damage hose.
- Drain hose after each use to avoid tube damage before hose is put back in operation, to avoid "pop corning" of the tube.
- Check tightness of clamp bolts after each use.
- Check to see if clamp halves are touching. If they are, recouple hose with smaller clamps to insure proper tightness or grip around hose.
- Do not store hose over hooks.
- Steam hose lying on metal racks or installed around steel piping will dry out the hose, causing tube and cover cracking.
- For service in sub-zero applications, use only T331 Chlorobutyl hose.

### Steam Hose Chart

Represented is water when subjected to heat and pressure. Use only hoses specifically designed for each application.



Gauge Pressure (PSI)	SATURATED STEAM Temperature of Saturated Steam (°F)
10	239
25	257
50	298
75	320
100	338
125	353
150	366
175	377
200	385
225	400
250	413



## Assembly Part Number (Example)

<b>RSD</b>	<b>050</b>	<b>TC</b>	<b>050</b>	<b>TC</b>	<b>050</b>	<b>288</b>
Hose	I.D. Size	Style / Size 1st End	Style / Size 2nd End	Assembly Length (INCHES)		

Hose	I.D. Size	End Style
RSD	025 = 1/4"	TC = Sanitary Clamp <i>(stepup available)</i>
RCT	037 = 3/8"	TE = Butt Weld - Tube
RDC	050 = 1/2"	BS = Bevel Seat - Plain w/nut
RCR	062 = 5/8"	BM = Bevel Seat - Threaded
RBT	075 = 3/4"	IF = I - Line - Female
RWD	100 = 1"	IM = I - Line - Male
SMD	150 = 1 1/2"	JM = John Perry - Threaded
SSD	200 = 2"	JF = John Perry - Plain w/nut
SMW	250 = 2 1/2"	QM = Q - Line
SHF	300 = 3"	CF = Cam - Female
PCT	400 = 4"	CM = Cam - Male
PBT	600 = 6"	MT = Male - Pipe Thread
PWT		AF = Flange End
PHH		SF = SMS - Plain w/nut
PHC		SM = SMS - Threaded
TRS FORMERLY TRC		CONSULT FACTORY
TSB		FOR ADDITIONAL CHOICES
TCB		
TCP		
TSC		



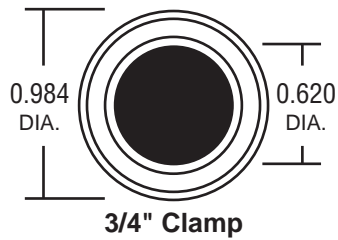
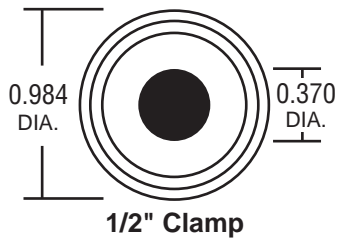
### WARRANTY:

Products are warranted for a period of 180 days from the date of delivery to purchaser to be free from defects of material and workmanship when used in a normal manner, and excludes all implied warranties, including those of merchantability and providing periodic inspection is conducted to maintain Good Manufacturing Practices. The liability of the Warrantor hereunder excludes consequential damage to persons or property of all types and is limited, at warrantor's option, to replace, repair or refund as applicable. Purchaser should make written claim to warrantor to commence warranty adjustment procedures. Upon warrantor's receipt of written notice from purchaser, within the warranty period that claim is being made, pursuant hereto, together and substantiating purchase documentation, warrantor shall have reasonable opportunity to inspect all assembly components.

Overall length tolerances for assemblies are:

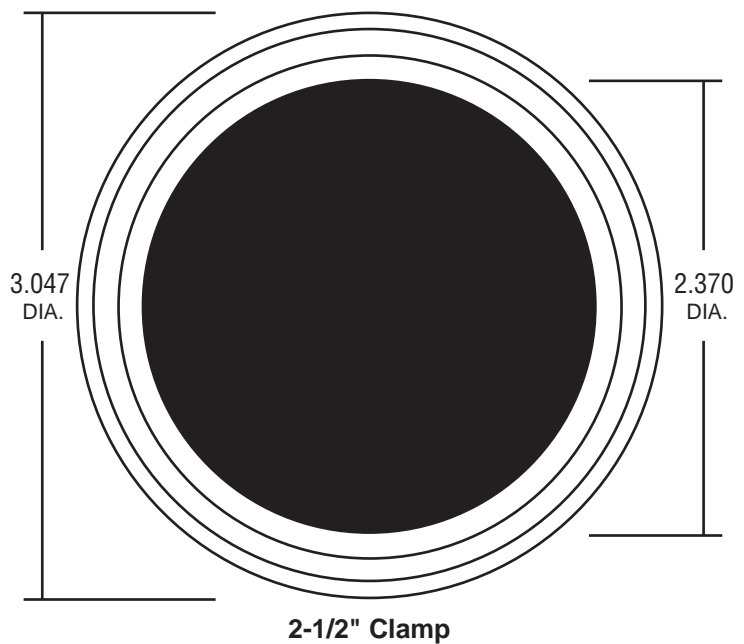
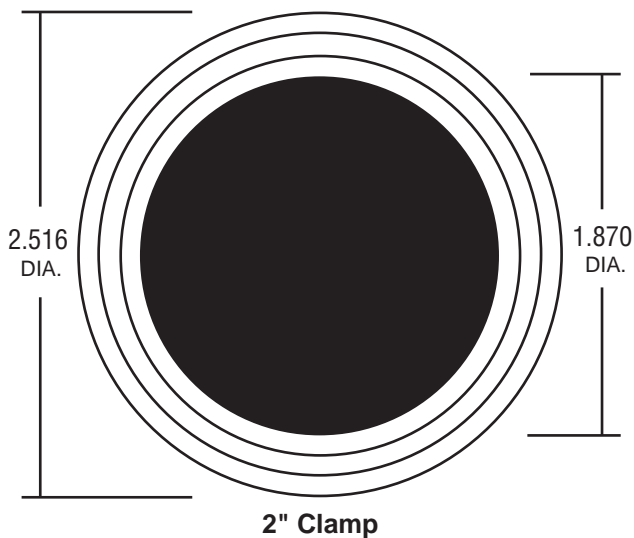
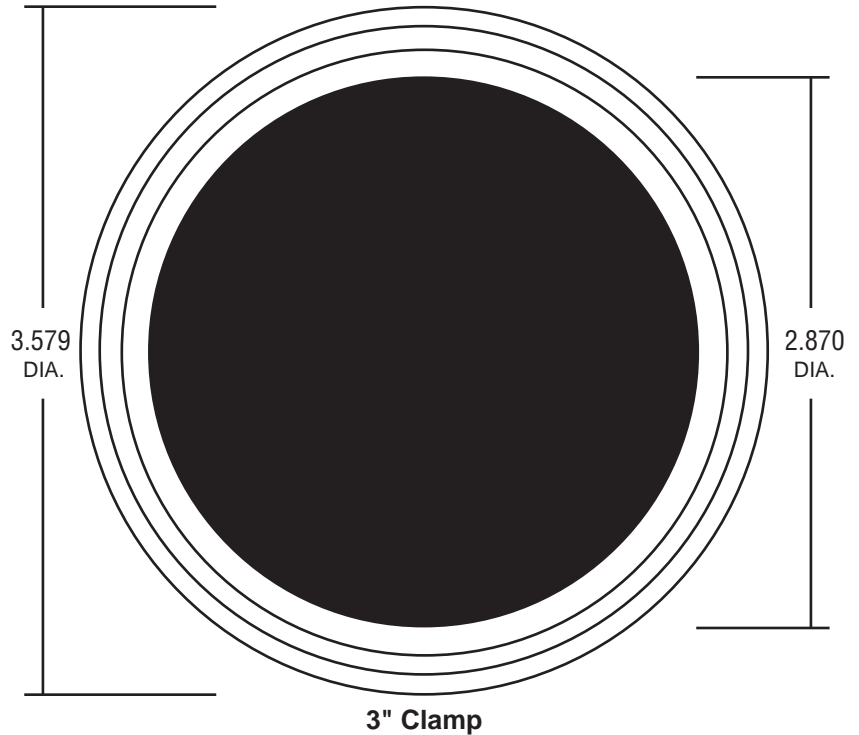
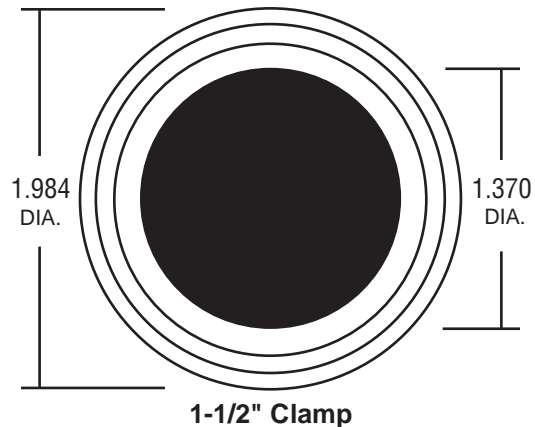
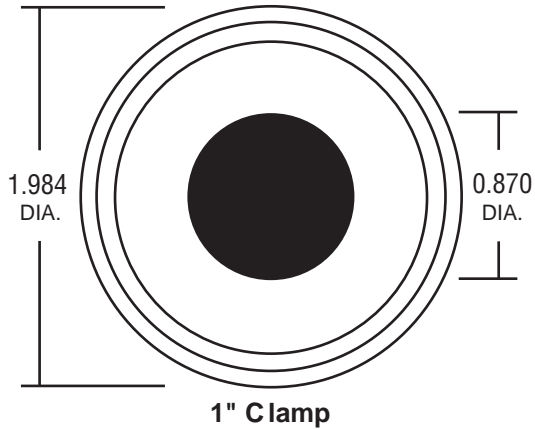
- 1/4" on assemblies to 24"
- 1/2" on assemblies 25" to 60"
- 1% on assemblies over 60"

### Sanitary Clamp Fitting



These actual-size drawings are provided for your convenience and ordering accuracy when specifying sanitary fittings.

- 0.984" O.D. is the same for 1/2", 3/4" I.D. styles.
- 1.984" O.D. is the same for 1" and 1-1/2" I.D. styles.
- Varying O.D. for the 2", 2-1/2" and 3" I.D. styles



### Installation Information

USING THIS ACRONYM "**STAMPED**" WILL ASSIST YOU IN ORDERING THE APPROPRIATE HOSE.

**S = SIZE**

**T = TEMPERATURE** (WORKING & CLEANING)

**A = APPLICATION**

**M = MEDIA** (MATERIAL BEING TRANSFERRED)

**P = PRESSURE** (WORKING & CLEANING)

**E = END STYLE** (TYPE & ALIGNMENT)

**D = DELIVERY** (SPECIAL PACKAGING)

# STAMPED

**Chemical Charts are located on our website**

### Prior to Installation

Inspect hose completely for signs of obvious damage. Possible damage may include cuts to cover, kinking, broken braids and crushing. This damage can reduce hose life and pressure rating.

#### Do Not Use any damaged hose.

Hose should be application specific. Review materials, pressures, chemical compatibility, temperature and environment to ensure proper selection of hose.

- Restrict hose movement to a single plane (Fig. 1) to minimize resultant twisting or torque. Within the bending plane is where flexing should occur. Stress fatigue increases with excessive bending of hose.
- Axial or twisting movement (Fig. 2) should be eliminated. The likelihood of leakage or failure increases for hoses that are twisted (torqued) during assembly. Floating flanges or swivel-type fittings (i.e., JIC) can eliminate improper twisting.
- Avoid stretching or compressing the hose (Fig. 3) along its longitudinal axis with in-line installation.
- Failure of hose will occur when hose is bent (Fig. 4) beyond minimum bend radius. Bend radii are given for individual products and sizes. The bend radius values must be observed (measure to inside radius of fluoropolymer-lined hose and centerline for stainless steel metal hose) for hoses to be installed properly. Occasionally, vacuum and pressure ratings are based on not to exceed 25% of the minimum bend radius. The manufacturer should be contacted for specific hose ratings and data.

### Motion Calculations

**Axial Motion:** Motion that occurs when a hose is compressed along its longitudinal axis. Axial motion is only applicable in very short lengths of annular hose only. Fluoropolymer lined hose should not be subjected to axial motion.

**Offset Motion:** Motion that occurs when one end of the hose is deflected in a plane perpendicular to its longitudinal axis with the ends remaining parallel. In offset applications where motion is repeated, the offset should never exceed 25% of the minimum bend radius. To calculate the required live length to achieve a desired offset, use the following calculations:

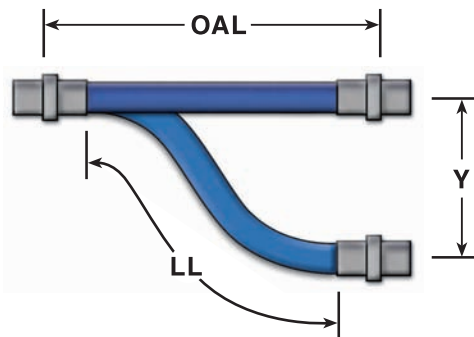
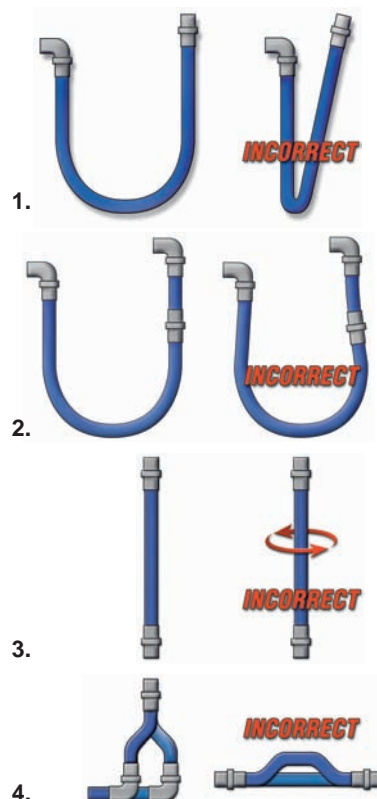
$$LL = \sqrt{6YR + Y^2}$$

LL = Hose live length, inches

R = Min. Bend Radius, inches

Y = Offset, inches

OAL = LL + Fitting Length + (2x nominal hose diameter)



**Note:** Where offset motion "Y" occurs on both sides of hose centerline, the hose live length should be based on total travel, or 2Y. The modified calculation will be:

$$LL = \sqrt{12YR + (2Y)^2}$$

### Bend Radius (fluoropolymer hose and all rubber hose)

- The radius of a bent section of hose measured to the innermost surface of the curved portion (R1).

### Bend Radius (metal hose)

- The radius of a bent section of hose measured to the hose centerline (R2).

### Minimum Bend Radius

- The smallest radius at which a hose can be used.

### Force to Bend

- The amount of stress required to induce bending around a specified radius - a measure of stiffness.

### Maximum Rated Working Pressure

- The maximum pressure hoses should be subjected to on a continuous basis.

### Maximum Rated Test Pressure

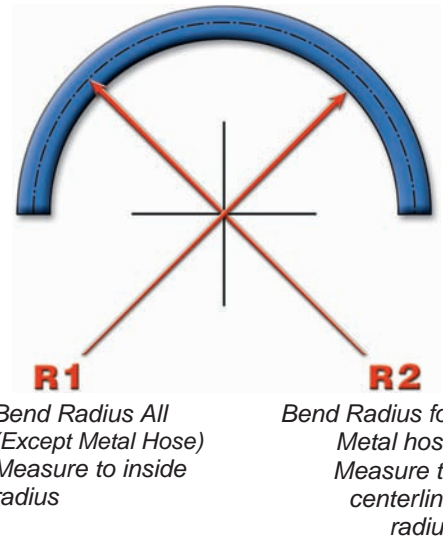
- The maximum rated pressure is multiplied by 150%.

### Nominal Rated Burst Pressure

- The average pressure at which the core or braid will rupture at ambient temperature.

### Pressure / Temperature Correction

- Hose pressure capabilities decrease as the temperature increases. Consult factory to determine pressure rating at elevated temperatures.



## Flexibility / Bend Radius

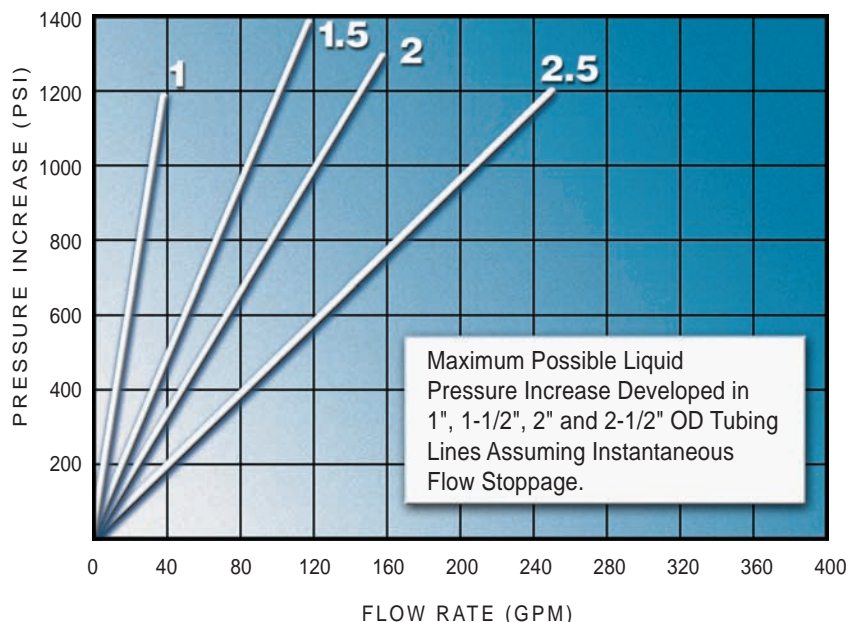
*Reprinted from RMA Hose Handbook IP-2 Fourth Edition*

Flexibility and minimum bend radius are important factors in hose design and selection if it is known that the hose will be subjected to sharp curvatures in normal use. When bent at too sharp an angle, hose may kink or flatten in the cross-section. The reinforcement may also be unduly stressed or distorted and the hose life thereby shortened.

Adequate flexibility means the hose should be able to conform to the smallest anticipated bend radius without over stress. The minimum bend radius is generally specified for each hose in this catalog. This is the radius to which the hose can be bent in service without damage or appreciably shortening its life. The radius is measured to the inside of the curvature.

## Hydraulic Shock...

### Due To Instantaneous Pressure Increase



**Formula to determine minimum hose length given bend radius and degree of bend required:**

$$L = \frac{A}{360^\circ} \times 2\pi B$$

**L** = Minimum length of hose to make bend  
(bend must be made equally along this portion of hose length)

**A** = Angle of bend

**B** = Given bend radius of hose

$\pi$  = 3.14

*Example: To make a 60° bend at the hose's rated minimum bend radius of 15 cm*

$$L = \frac{60}{360^\circ} \times 2 \times 3.14 \times 15 \approx 16 \text{ cm}$$

Thus, the bend must be made over approximately 16 cm of hose length. The bend radius used must be equal to or greater than the rated minimum bend radius. Bending the hose to a smaller bend radius than minimum may kink the hose and the result in damage and early failure.



### **Cautionary Statement**

All products are in the nature of commodities and they are sold by published specifications and not for particular purposes, uses or applications. Purchaser shall first determine their suitability for the intended purposes, uses or applications and shall either conduct its own engineering studies or tests, or retain qualified engineers, consultants or testing laboratories and consult with them before determining the proper use, suitability or propriety of the merchandise or products for the intended purposes, uses or applications.

Purchaser shall follow all instructions contained in seller's catalogs, brochures, technical bulletins and other documents regarding the product. Purchasers or users of the products should frequently and consistently undertake inspections and protective measures with respect to the use and application of products, which should include the examination of tube and cover, conditions of the hose or tubing, and the identification, repair or replacement of sections showing cracking, blistering, separations, internal and external abrasions, leaking or slipped couplings or connections and make proper proof tests.

### **Limited Warranty**

The merchandise or products sold or distributed by seller are warranted to its customers to be free from defects in material and workmanship at the time of shipment by us, subject to the following provisions. All warranty claims shall be made within six (6) months after seller shipped the products. Seller's liability hereunder is limited to the purchase price of any products proving defective, or, at seller's option, to the replacement of such products upon its authorized return to seller.

This warranty is in lieu of and excludes all other warranties, expressed, implied, statutory, or otherwise created under applicable law including, but not limited to, the warranty of merchantability and the warranty of fitness for a particular purpose. In no event shall seller or the manufacturer of the product be liable for special, incidental, or consequential damages, including loss of profits, whether or not caused by or resulting from the negligence of seller and/or the manufacturer of the product, unless specifically provided herein. In addition, this warranty shall not apply to any products or portions thereof which have been subjected to abuse, misuse, improper installation, maintenance or operation, electrical failure or abnormal conditions, and to products which have been tampered with, altered, modified, repaired, reworked by anyone not approved by seller, or used in any manner inconsistent with the provisions of the "cautionary statement " above.



## Seal-Rite™ Hose Support

The Seal-Rite hose support provides additional protection for your transfer hoses. In environments where abnormal cover wear can occur, you can lift up and extend the life of your hose. The two halves easily attach with two recessed locking screws. The lightweight design, wide outer edges and an even wider collar provides stability which eliminates kinking. Our supports are ideal for use in receiving bays to eliminate damming or pooling water.



Flex-Crimp™ brand of crimpers is a powerful machine capable of crimping a variety of sanitary, hydraulic, composite and industrial hoses. All Flex-Crimp models offer a user friendly control, foot pedal control, color coded die sets, easy machine calibration and a one year manufacturer's warranty.

The Flex-Crimp system consistently crimps to within .005", everytime. The Flex-Crimp line of products offers the most consistent crimp in the market today.



## Precision CNC Machining

Ace Manufacturing Co. can provide the solution to your most demanding production problems by combining today's technology with over 100 years of manufacturing experience. We serve many industries in producing a diverse range of parts from a variety of materials, from cold rolled steel to exotic alloys. Our computer generated programs minimize turnaround time, enabling us to produce your parts on time. We operate in compliance with ISO standards to ensure that the parts we produce are to specification. Our experience and full service commitment make us a vital member of your manufacturing team.

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