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## Size: 1/8" to 1 1/8" Working Pressure: 5171 to 20700 kPa SMOOTHBORE HIGH PRESSURE PTFE Page 10 Size: 1/4" to 1 1/8" Working Pressure: 32,000 kPa Page 11 ULTRA HIGH SMOOTHBORE PRESSURE PTFE Size: 1/4" to 1" Working Pressure: 25000 to 47500 kPa HIGH PRESSURE PTFE THERMOPLASTIC Page 12 **SMOOTHBORE** Size: 1/8" to 13/32" | Working Pressure: 31000 to 55200 kPa TAPE WRAPPED CONVOLUTED PTFE Page 13 Size: 3/8" to 4" Working Pressure: 1000 to 6900 kPa **EASYFLEX CONVOLUTED PTFE** Page 14 Size: 3/8" to 2" Working Pressure: 2300 to 13800 kPa **ENCAPSULATED PTFE** Page 15 Size: 1/4" to 6" Working Pressure: 500 to 1500 kPa **ENCAPSULATED PTFE SS1 METALLIC HOSE** Page 16 Size: 1/2" to 6" Working Pressure: 1200 to 6500 kPa SLICKFLEX SMOOTHBORE/CONVOLUTED PTFE Page 17 Size: 1/4" to 2" GLICKFLEX Working Pressure: 3000 to 8800 kPa CONPRO PTFE Page 18 Size: 1/2" to 3" Working Pressure: 600 to 1000 kPa CHLORINE TRANSFER PTFE Page 19 Size: 1/2" to 1" Working Pressure: 2600 to 3400 kPa PTFE ULTRA HIGH PRESSURE GAS CYLINDER HOSE Page 20 Size: 1/4" Working Pressure: 47500 kPa TEFLEX SILICONE JACKET PTFE Page 21 Size: 1/4" to 1" Working Pressure: 6200 to 22500 kPa RUBBER FEP LINER Page 22 Size: 1/2" to 4" Working Pressure: 1034 to 3447 kPa **PTFE TUBING** Page 23-24 Size: Imperial = 1/16" to 1" | Metric = 2mm to 32mm | Working Pressure: 1034 kPa

Page 9

# PTFE Hose Design

### Introduction

Polytetrafluoroethylene (PTFE) is an engineered fluoropolymer. Outstanding resistance to chemicals is one of its primary attributes. All PTFE products are either post sintered or slow sintered. Post sintered PTFE gives the best overall performance on permeation therefore is better for use with gases. Slow sintered allow for a better level of permeation but not as good as post sintered. Slow sintered PTFE is mainly used for fluids. Post sintered in available in the UHP-PTFE (Ultra High Pressure Smoothbore PTFE) Range. Refer to Page 11.

A broad temperature range of -54°C to 260°C makes this hose material suitable for the majority of fluids and ambient temperature conditions found in most industries. With all types of hose, increased working temperatures require a reduction in maximum rated working or burst pressure. Whenever excessive flexing, vibration, thermal fluctuations or rapid pressure impulsing is in evidence, further caution should be exercised in reducing the maximum working pressure.

An extremely low coefficient of friction (0.05 to 0.20) provides a non-stick surface. Water absorption of PTFE is negligible, less than 0.01% by ASTM test, and it is FDA-approved for food and pharmaceutical use.

Additionally, PTFE will withstand flexing and vibration without failure from flex fatigue. PTFE is chemically inert. It will not break down or deteriorate in service, and it has an unlimited shelf life because properties do not change with age or exposure to weather. PTFE hose can be used in aerospace, automotive, chemical and industrial applications.

Pacific Hoseflex offers PTFE hose in a variety of configurations. PTFE hose innercore is offered in smooth bore, convoluted, smooth inner with a convoluted outer, conductive (Carbon black added) anti-static and non-conductive virgin. Type 304 or 316 stainless steel wire braid is the standard reinforcement with other speciality materials available.

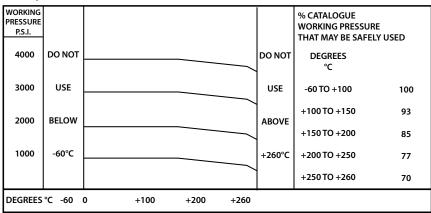
Pacific Hoseflex can offer alternative hose covers for chafe resistance and silicone-covered hose for heat and fire resistance. Alternate braid materials include Nomex braided convoluted hose and Kevlar braided high-pressure smoothbore hose.

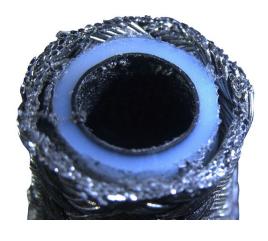
All stated burst pressures are static and are measured on samples at ambient temperature from which averages are recorded to create relevant specifications. Proof or test pressures are usually twice working pressure. All burst pressures are conservatively rated to provide a high margin of safety. At working pressure this falls within the range +2% to -4% (1/8" & 3/16" +0% to -6%). Pacific Hoseflex 100% tests all assemblies.

A damaging electrostatic charge can build up inside the hose when electrically resistive fluids are being transmitted at very high flow rates (particularly if the PTFE hose assemblies are lengthy). To prevent this, special carbon is mixed with the PTFE to reduce its resistivity. The need for earth conductor braids or wires in the bore of the hose is therefore eliminated.

Regarding PTFE tubing, PTFE Hose and Hose Assemblies: Please be advised that we have found no instance of the use of bovine or other animal derived materials used in the manufacture of our PTFE braided products. The subject products are 100% animal origin free. Therefore, there is no concern with regard to the BSE/TSE issue in the PTFE tube and hose as defined in specification EMEA 410.01 Rev.2.

# Temperature Correction Factor Table





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TFE HOSE

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# **Conductive Hose**

## Conductive Hose Use

There are general principles we have applied to understand if anti-static (AS) is required or not and this very much depends on the medium passing through the hose.

- For a single phase medium passing through the hose, AS is usually considered necessary where the medium electrical conductivity is less than 10,000 pS/m (pico Siemens per meter). Note electrical conductivity is not always known and electrical conductivity varies with temperature.
- For a two (or more) phase medium (e.g. a mixture of gas and liquid (such as wet steam), solid particles and liquid or solid particles and gas) AS IS ALWAYS REQUIRED.
- Pure clean gases should not require AS.
- If there is any doubt always use AS. (Often customers do not know the electrical conductivity of the medium passing through the hose)

### STATEMENT ON RECOMMENDED FLOW RATES (CONDUCTIVE OR NON-CONDUCTIVE HOSE)

Limiting flow velocities in hoses often relates to electrostatic charging/discharging issues. There are standards for chemical plant equipment (e.g. IEC 60069-32-1) which recommend flow velocities should be less than 7 m/s for low conductivity fluids e.g. fluids which would generate potentially damaging electrostatic charges. Cavitation is likely to be related to this in that a two phase flow would be formed (e.g. gas bubbles in a liquid) and would generate high levels of electrostatic charge. The whole area of electrostatic charging is complex in that a low conductivity fluid can becomes electrostatically charged as it flows through a pipe or hose.

At the same time the pipe or hose also becomes charged (with the opposite polarity of charge to that in the fluid). As far as hoses go we can supply an AS hose to take care of any charge which tries to build up on the inner surface of the liner (e.g. giving any charge a path to earth) and prevent electrostatic discharges taking place through the hose wall. However normally this does not remove much electrostatic charge from the fluid passing through. Designers of chemical plants are aware of low conductivity fluids becoming charged and are supposed to take this into account when the plant is designed.

As far as hoses are concerned we should recommend an AS hose when we are aware the application needs one e.g. a low conductivity fluid or two phase flow is going to pass through. This will depend on information we obtain from the customer. If they can't supply enough information to make a decision between a natural PTFE liner or AS liner then the default should be to offer an AS liner. Under these circumstances there should be no need to limit the flow velocity in our hoses.



# Vacuum Performance

Hose construction determines the 'hoop' strength or the relative ability of the hose to resist collapse. Generally, smaller IDs, thicker walls, external reinforcement such as wire wrap or covers and bonding together the hose layers server to increase hoop strength. As the temperature of a hose increases, the hoop strength typically decreases because the hose material softens.

As a hose approaches its static bend radius limit, hoop strength can be adversely affected because the hose profile will go form round to oval. If combinations of these factors exist (i.e. large ID, thin wall, high temperature, extreme bending), hoop strength is reduced further.

PTFE hose is a relatively thin walled product and is therefore subject to vacuum collapse if not properly specified and protected. With single braided smooth bore hose, the unbounded metal braid (the pressure handling element of the hose) is of limited value in a vacuum application, especially as temperature increases.



The addition of internal or external springs or bonded covers is the best way to overcome potential vacuum collapse. Certain styles and smaller sizes, smooth bore hoses are rated to 28 Hg at ambient temperature and within specified bend radius.

When vacuum is involved in an application, always determine the expected range of temperature and the potential bending conditions before specifying a particular hose. A common mistake to be avoided involves the use of a transfer hose connected to an 'upstream' valve. Since the hose assembly is open ended, the vacuum that is created when the valve is closed can be overlooked.

However as fluid continues to flow downstream, the vacuum created can often exceed 28 Hg, causing even a 'full vacuum' rated hose to collapse. In this case, additional reinforcement is recommended.



# PTFE Hose - SB6S

# **Smoothbore PTFE**

Part No.: SB6S

**Construction:** Smoothbore

**Profile:** Medium Flexibility / Medium Pressure **Tube Available:** PTFE Virgin / Anti-static Inner Tube

**Braid Available:** 316 / 304 Stainless Steel

**Size Available:** 1/8" - 1 1/8" Temperature: -70°C to 260°C

# Low | Med | High Flexibility Cycle Life **Pressure Rating** Chemical Resistance Wall Thickness

# Construction

**Use:** The inner hose core is manufactured from PTFE. No pigments or additives are incorporated, thus giving the hose liner a translucent appearance free from any contamination.

Standards: FDA Approved, Accepted by the U.S. Coast Guard, PTFE Perfluorocarbon Resins meets FDA 21 CFR 177.1550

ISO 1402 – Rubber and plastic hose and assemblies – hydrostatic testing

SAE J517 - Dimensional and performance Specification

SAE 100R14 – PTFE Dimensional and performance Specification

### **Sintered/Permeation:**

Slow Sintered (medium level of permeation)

# Specifications

					Temp	erature Co	orrection F	actor					
-60         -40         -20         0         20         50         100         120         150         180         200         220         250         260													260
1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.93	0.93	.85	0.85	0.77	0.77	0.70

Part Number	Size	Diar	ernal neter nm)	Wall Thickness	Dian	side neter m)	Min. Bend Radius	SAE 10 Max. Wo	orking		E 100R14 Burst ssure 4:1	Vacuum
316 Braid	Inch	Min.	Max.	mm	Min.	Max.	mm	kPa	Bar	kPa	Bar	mm hg
SB6S-03-R14	1/8"	3.3	3.5	0.76	5.84	6.35	38	20700	207	82800	828	711.20
SB6S-04-R14	3/16"	4.64	5.2	0.76	7.32	8.2	51	20700	207	82800	828	711.20
SB6S-06-R14	1/4"	6.17	6.73	0.76	8.92	9.47	76	18098	180	72392	723	711.20
SB6S-08-R14	5/16"	7.54	8.38	0.76	10.36	11.63	102	17236	172	68944	689	711.20
SB6S-10-R14	3/8"	9.27	9.77	0.76	12.2	13.21	127	15513	155	62052	620	711.20
SB6S-11-R14	13/32"	10.08	10.85	0.76	13.03	14.19	133	13789	137	55156	551	711.20
SB6S-12-R14	1/2"	12.42	13.18	0.76	15.44	16.71	165	10342	103	41368	413	711.20
SB6S-15-R14	5/8"	15.36	16.38	0.76	18.74	20.02	197	8618	86	34472	344	711.20
SB6S-20-R14	3/4"	18.61	19.38	0.89	21.59	22.86	229	7584	75	30336	303	508.00
SB6S-22-R14	7/8"	21.46	23.0	0.89	24.60	26.90	229	6894	68	27576	275	355.59
SB6S-25-R14	1″	24.63	26.16	0.89	27.80	29.85	305	6205	62	24820	248	355.59
SB6S-28-R14	1 1/8"	27.80	28.34	1.14	31.95	33.50	406	5171	51	20684	206	355.59

<sup>\*</sup> Please note that Hoseflex PTFE HOSE meets and exceeds the stated working and burst pressure (4:1) values of the SAE 100R14 specifications.

# **Applications**





































<sup>\*</sup> Please note all pressures stated are static

# PTFE Hose - PTFE-HP

# **Smoothbore High Pressure PTFE**

Part No.: PTFE-HP

Construction: Smoothbore

**Profile:** Low Flexibility / High Pressure **Tube Available:** PTFE Virgin Inner Tube

Braid Available: Double 304 Stainless Steel Braid

Cover: Optional Hytrel Cover, use Part Number PTFE-HP-06-H

Size Available: 1/4"

**Temperature:** -60°C to 260°C **Note:** Only available as an assembly

Sintered/Permeation:

Slow Sintered (medium level of permeation)

# Construction

### Use:

Slow sintered PTFE hose that is ideal for gas delivery applications due to lower permeation. Double braided to provide higher pressure rating for high pressure gas applications.

### **Standards:**

Part 1.PTFE-E.P.D.M 1.6.1.C.E.4 12

ISO 1402 - Rubber and plastic hose and assemblies - hydrostatic testing

SAE J517 – Dimensional and performance Specification



Flexibility

Cycle Life

Pressure Rating

Wall Thickness

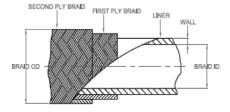
**Chemical Resistance** 

Low | Med | High

## Specifications

						Temp	erature Co	orrection F	actor					
ſ	-60	-40	-20	0	20	50	100	120	150	180	200	220	250	260
Γ	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.93	0.93	.85	0.85	0.77	0.77	0.70

Part Number	Size	Tube Wall Thinkness	Outside Diameter	Min. Bend Radius		orking sure	Min. Pres	
Number	inch	mm	mm	mm	kPa	bar	kPa	bar
PTFE-HP-06	1/4"	1.02	11.43	76	32000	320	128000	1280
PTFE-HP-06-H	1/4"	1.02	11.43	76	32000	320	128000	1280



# **Applications**





































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Part No.: PTFE-UHP

Construction: Smoothbore

**Profile:** High Flexibility / High Pressure

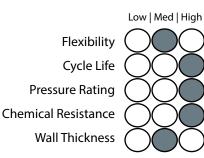
Tube Available: PTFE Virgin / Anti-static Inner Tube

Cover: 2 Aramid braids and 1 high tensile 304 maypole wound Stainless steel braid

Size Available: 1/4" - 1" Temperature: -60°C +260°C

Sintered/Permeation: Slow Sintered (medium level of permeation). 1/4, 3/8" and 1/2"

are available in Post Sintered on request (example PTFE-UHP-xx-PS)



# Construction

### Use:

Ultra high pressure smoothbore PTFE is highest pressure hose and the lightest weight PTFE Hose on the market. Performing well above its weight due to its excellent routability, bend radius and reduced OD. Used for High pressure gas or fluid applications.

### Standards:

FDA Approved, Accepted by the U.S. Coast Guard,

PTFE Perfluorocarbon Resins meets FDA 21 CFR 177.1550 ISO

ISO 1402 – Rubber and plastic hose and assemblies – hydrostatic testing

SAE J517 – Dimensional and performance Specification



# Specifications

					Temp	erature Co	orrection F	actor					
-60         -40         -20         0         20         50         100         120         150         180         200         220         250         260													
1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.93	0.93	.85	0.85	0.77	0.77	0.70

Part Number	Size	Internal Diameter	Outside Diameter	Min. Bend Radius		king sure		rst sure
Number	inch	mm	mm	mm	kPa	bar	kPa	bar
PTFE-UHP-06	1/4"	6.20	12.30	38	47500	475	190000	1900
PTFE-UHP-08	5/16"	8.10	14.20	47	45000	450	180000	1800
PTFE-UHP-10	3/8"	9.50	16.00	64	43000	430	175000	1750
PTFE-UHP-12	1/2"	12.70	19.50	74	42500	425	170000	1700
PTFE-UHP-15	5/8"	15.10	22.00	90	36000	360	145000	1450
PTFE-UHP-20	3/4"	20.00	27.50	180	27500	275	110000	1100
PTFE-UHP-25	1″	24.00	31.80	200	25000	250	100000	1000

# Applications





































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# PTFE Hose - PTFE-HPPT

# **High Pressure PTFE Thermoplastic Smoothbore**

**Part No.:** PTFE-HPPT **Construction:** Smoothbore

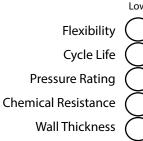
**Profile:** High Flexibility / High Pressure

**Tube Available:** PTFE Virgin / Anti-static Inner Tube

**Cover:** Black Perforated Thermoplastic

Size Available: 1/4" - 13/32" Temperature: -70°C +260°C

**Sintered/Permeation:** Slow Sintered (medium level of permeation)





# Construction

### Use:

High performance gas hose specially processed to minimise permeation applications. Aerosol, gas bottle, dehydration and breathing lines.

### **Standards:**

FDA Approved, Accepted by the U.S. Coast Guard,
PTFE Perfluorocarbon Resins meets FDA 21 CFR 177.1550
ISO 1402 – Rubber and plastic hose and assemblies – hydrostatic testing
SAE J517 – Dimensional and performance Specification



# Specifications

					Temp	erature Co	orrection I	actor					
-60         -40         -20         0         20         50         100         120         150         180         200         220         250         260											260		
1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.93	0.93	.85	0.85	0.77	0.77	0.70

Part Number	Size		rnal neter m)	Wall Thickness	Dian	side neter m)	Min. Bend Radius	Standa Wor Pres	king	Min. Pres	
	inch	Min.	Max.	mm	Min.	Max.	mm	kPa	bar	kPa	bar
PTFE-HPPT-06	1/4″	6.35	6.86	1.02	9.65	10.67	76.2	55200	552	165500	1655
PTFE-HPPT-10	13/32"	10.03	10.54	1.02	13.84	14.86	133	31000	310	124000	1240

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# Applications





































# PTFE Hose - CTFB

# **Tape Wrapped Convoluted PTFE**

Part No.: CTFB / CTFBHV

**Construction:** Tape Wrapped helical convoluted **Profile:** High Flexibility / Medium Pressure

Tube Available: PTFE Virgin / Anti-static Inner Tube

Braid Available: 304 / 316 Stainless Steel

Size Available: 3/8" - 4"
Temperature: -50°C / +150°C

Sintered/Permeation: Slow Sintered (medium level of permeation)

# Flexibility Cycle Life Pressure Rating Chemical Resistance Wall Thickness



## Construction

### Use:

Flame resistant convoluted multilayer PTFE hose with fibreglass covering and wire braid reinforcement for use on demanding marine and offshore applications. The convoluted profile ensures easier crimping of the hose and with the approved DNV GL fitting and ferrule range now offers a proven minimum 150K impulse cycle life expectancy at elevated temperatures.

### Standards:

PTFE BS2782 Method 327A:1993 ASTM-D 882 DNV GL class programme CP-0183

- Type Approval of flexible hoses of non-metallic material



## **Specifications**

					Temp	erature Co	orrection I	actor					
-60         -40         -20         0         20         50         100         120         150         180         200         220         250         260													
1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.93	0.93	.85	0.85	0.77	0.77	0.70

Part	Size	Internal Diameter	Outside Diameter	Min. Bend Radius		orking sure	Min. Pres	Burst sure	Vac	uum
Number	inch	mm	mm	mm	kPa	bar	kPa	bar	(bar)	mm hg
CTFB-10	3/8"	9.65	15.8	50	12500	125	4999	500	0.9	675.13
CTFB-12	1/2″	13.45	19.8	65	10501	105	4199	420	0.9	675.13
CTFB-15	5/8″	16.4	23.4	80	9997	100	3999	400	0.9	675.13
CTFB-20	3/4"	19.8	26.9	100	8998	90	3599	360	0.9	675.13
CTFB-25	1"	25	32.9	125	7998	80	3199	320	0.9	675.13
CTFB-32	1 1/4"	32.3	39.75	150	6398	64	2558	256	0.9	675.13
CTFB-38	1 1/2"	38.3	46.1	200	5302	53	2117	212	0.9	675.13
CTFB-50	2"	51.5	60.5	250	3503	35	1400	140	0.5	375.16
		Н	igh Vacuum 1	Tape Wrappe	d Convoluted	l Hose ( Exte	rnal Spring )			
CTFBHV-38	1 1/2"	38.3	46.1	200	5302	53	2117	212	9.4	711.19
CTFBHV-50	2"	51.5	60.5	250	3503	35	1400	140	9.4	711.19
CTFBHV-75	3"	76.20	93.47	381	1700	17	6900	69	9.4	711.19
CTFBHV-100	4"	101.60	123.19	610	1000	10	4100	41	9.4	711.19

# **Applications**





































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# PTFE Hose - ECTB

# **Easyflex Convoluted PTFE**

**Part No.:** ECTB6S / ECTB4S **Construction:** Convoluted

Profile: High Flexibility / Medium Pressure

Tube Available: PTFE Virgin / Anti-static Inner Tube

Braid Available: 304 / 316 Stainless Steel

**Size Available:** 3/8" - 2" **Temperature:** -70°C to 260°C

**Sintered/Permeation:** Slow Sintered (medium level of permeation)

# Low | Med | High Flexibility Cycle Life Pressure Rating Chemical Resistance Wall Thickness

# Construction

### Use:

General purpose convoluted PTFE hose, convolutions self cleaning spiral construction. Applications include food transfer, chemical dosing, oil, hydraulics and water treatment.

### Standards:

FDA Approved, Accepted by the U.S. Coast Guard, PTFE Perfluorocarbon Resins meets FDA 21 CFR 177.1550



# Specifications

					Temp	erature Co	orrection F	actor					
-60	-40	-20	0	20	50	100	120	150	180	200	220	250	260
1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.93	0.93	.85	0.85	0.77	0.77	0.70

Pa Nun	nrt nber	Size		rnal neter m)	Wall Thickness		side er (mm)	Min. Bend Radius	Wor	rd Max. king sure	Min.   Pres	
316 Braid	304 Braid	Inch	Min.	Max.	mm	Min.	Max.	mm	kPa	Bar	kPa	Bar
ECTB6S-10	ECTB4S-10	3/8"	9.14	9.91	0.76	14.73	15.75	20.30	13800	138	41400	414
ECTB6S-12	ECTB4S-12	1/2"	12.45	13.21	0.89	18.29	19.30	25.40	10300	103	31000	310
ECTB6S-15	ECTB4S-15	5/8"	15.37	16.38	0.89	21.59	22.61	50.80	8300	83	24800	248
ECTB6S-20	ECTB4S-20	3/4"	18.54	19.56	0.89	24.00	25.27	63.50	6900	69	20700	207
ECTB6S-22	ECTB4S-22	7/8"	21.84	22.86	0.89	27.94	29.46	76.20	5700	57	17200	172
ECTB6S-25	ECTB4S-25	1″	24.89	26.16	1.02	32.13	33.66	88.90	4600	46	13800	138
ECTB6S-32	ECTB4S-32	1 1/4"	31.00	33.00	1.02	39.00	42.00	127.00	3400	34	10300	103
ECTB6S-38	ECTB4S-38	1 1/2"	37.50	40.50	1.02	46.99	49.20	152.40	3000	30	9000	90
ECTB6S-50	ECTB4S-50	2″	48.00	52.00	1.02	58.67	59.70	190.50	2300	23	6900	69

### Applications





































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# **Encapsulated PTFE**

Part No.: SCTB

**Construction:** Convoluted

**Profile:** High Flexibility / Low Pressure

**Tube Available:** PTFE Virgin / Anti-static Inner Tube

Braid Available: 304 / 316 Stainless Steel

**Size Available:** 1/4" - 6" **Temperature:** -70°C to 260°C

**Sintered/Permeation:** Slow Sintered (medium level of permeation)

# Flexibility ( Cycle Life ( Pressure Rating ( Chemical Resistance ( Wall Thickness (



# Construction

### Use:

The PTFE spiral Liner is extruded within the hose and encapsulated over the flange or fitting, creating a total hygienic seal. The most hygienic PTFE on the market. Approved for food, chemical, cosmetic and pharmaceutical applications.

### Standards:

FDA Approved, Accepted by the U.S. Coast Guard, PTFE Perfluorocarbon Resins meets FDA 21 CFR 177.1550



## Specifications

	Temperature Correction Factor													
-60	-60         -40         -20         0         20         50         100         120         150         180         200         220         250         260													
1.0 1.0 1.0 1.0 1.0 1.0 1.0 0.93 0.93 85 0.85 0.77 0.77 0.70												0.70		

Part	Size		rnal er (mm)	Wall Outside Thickness Diameter (mm)		Min. Bend Radius	Max. W Pres	orking sure		Burst sure	Vacuum	
Number	Inch	Min.	Max.	mm	Min.	Max.	mm	kPa	Bar	kPa	Bar	mmHg
SCTB-06	1/4"	5.5	6.9	0.76	11.4	13.3	25	1500	15	4500	45	744
SCTB-10	3/8"	8.5	10.5	0.76	14.7	16.5	25	1500	15	4500	45	744
SCTB-12	1/2"	11.6	13.6	0.89	17.9	20.0	25	1500	15	4500	45	711
SCTB-15	5/8"	15.1	16.4	0.89	24.7	25.8	35	1500	15	4500	45	711
SCTB-20	3/4"	149.5	20.5	1.00	28.6	31.4	55	1500	15	4500	45	680
SCTB-25	1″	25.4	25.5	1.10	34.2	38.2	85	1500	15	4500	45	653
SCTB-32	1 1/4"	34.5	32.5	1.15	41.9	46.1	100	1500	15	4500	45	503
SCTB-38	1 1/2"	36.5	37.5	1.45	47.2	49.9	120	1500	15	4500	45	301
SCTB-43	1 3/4"	44.5	45.5	1.45	55.8	61.4	135	1500	15	4500	45	301
SCTB-50	2″	49.5	50.5	1.50	60.5	66.7	165	1500	15	4500	45	120
SCTB-65	2 1/2"	62.5	63.5	1.60	80.9	89.1	230	1000	10	3000	30	102
SCTB-80	3″	73.5	74.5	1.60	90.4	99.6	260	800	8	2400	24	102
SCTB-100	4"	94.5	99.5	1.82	121.1	127.5	400	800	8	2400	24	102
SCTB-150	6"	148	154	2.5	176	188	520	500	5	1500	15	105
		1	Note: Exte	rnal suction/va	cuum wire	can be inti	oduced to achie	eve high va	cuum ratin	gs		

# **Applications**





































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# PTFE Hose - SS1SCT

# **Encapsulated PTFE SS1 Metallic Hose**

Part No.: SS1SCT

Construction: Smoothbore PTFE / Convoluted Metallic Hose

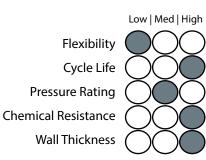
**Profile:** Low Flexibility / Low Pressure

**Tube Available:** PTFE Virgin / Anti-static Inner Tube

Braid Available: 304 / 316 Stainless Steel

**Size Available:** 1/2" - 6" **Temperature:** -70°C to 260°C

Sintered/Permeation: Slow Sintered (medium level of permeation)



### Construction

### Use:

The PTFE Smoothbore Liner is extruded within the metallic hose assembly and encapsulated over the flange or fitting, creating a total hygienic seal. The most hygienic PTFE on the market. Approved for food, chemical, cosmetic and pharmaceutical applications.

### Standards:

FDA Approved, Accepted by the U.S. Coast Guard, PTFE Perfluorocarbon Resins meets FDA 21 CFR 177.1550



# Specifications

	Temperature Correction Factor													
-60	-40	-20	0	20	50	100	120	150	180	200	220	250	260	
1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.93	0.93	.85	0.85	0.77	0.77	0.70	

Part Number	Size	Outside Diameter	Min. Bend Radius		king ssure		rst sure
Number	inch	mm	Radius	kPa	Bar	kPa	Bar
SS1SCT-12	1/2"	18.00		6500	300	30000	300
SS1SCT-20	3/4"	28.00		5000	200	20000	200
SS1SCT-25	1"	33.70		4400	176	17600	176
SS1SCT-32	1 1/4"	42.60		3500	140	14000	140
SS1SCT-40	1 1/2"	50.90		2800	112	11200	112
SS1SCT-50	2"	61.70	LIMITED FLEXIBILITY	2000	80	8000	80
SS1SCT-65	2 1/2"	85.30	I LEXIBILITY	1800	72	7200	72
SS1SCT-80	3"	100.30		1800	72	7200	72
SS1SCT-100	4"	126.30		1600	64	6400	64
SS1SCT-125	5"	155.30		1400	14	5600	56
SS1SCT-150	6"	180.30		1200	12	4800	48

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### **Applications**







































# PTFE Hose - SF6S

# SLICKFLEX Smoothbore Inner / Convoluted Outer PTFE

Part No.: SF6S

Construction: Smoothbore inner with Convoluted on the outer

**Profile:** High Flexibility / Medium Pressure

Tube Available: PTFE Virgin / Anti-static Inner Tube / PFA

**Braid Available:** 316 Stainless Steel

Size Available: 1/4" - 2" Temperature: -70°C to 260°C

Vacuum Resistance: Full Vacuum up to 130°C

**Sintered/Permeation:** Slow Sintered (medium level of permeation)

# Low | Med | High Flexibility Cycle Life Pressure Rating **Chemical Resistance** Wall Thickness

### Construction

Use: PTFE liner tube is smoothbore on the inside but convoluted on the outside, to combine the ease of assembly and high flow rates of a smooth bore hose with the flexibility and kink resistance. Pharmaceutical, Bio-tech, Food & Beverage, Chemical, Petro-chemical, General Purpose Industrial, Automotive OE & Autosport

Standards: PTFE Perfluorocarbon Resins meets FDA 21 CFR 177.1550 (on request) ISO

1402 – Rubber and plastic hose and assemblies

PTFE T62X according to "ASTM D4895, Type 1, Grade4, Class B",EU Food, USP Class VI.



### Options:

Blue EPDM Cover

Silicon Cover

Polypropylene Braid

**Encapsulated Hose Ends** 











## **Specifications**

	Temperature Correction Factor													
-60	-60         -40         -20         0         20         50         100         120         150         180         200         220         250         260													
1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.93	0.93	.85	0.85	0.77	0.77	0.70	

Part Number	Size	Internal Diameter	Wall Thickness	Outside Diameter (mm)		Min. Bend Radius	Max. W	dard orking sure	Min. Pres	
	inch	mm	mm	Tube	Braid	mm	kPa	bar	kPa	bar
SF6S-06	1/4"	6.8	1.6	8.6	9.6	19	8800	88	35000	350
SF6S-10	3/8"	10.0	1.6	12.5	13.5	25	8000	80	32000	320
SF6S-12	1/2"	13.4	1.6	16.4	18.0	38	6000	60	24000	240
SF6S-20	3/4"	19.1	1.8	20.0	24.1	50	6000	60	24000	200
SF6S-22	7/8"	21.0	2.1	23.8	27.0	55	5500	55	20000	170
SF6S-25	1"	25.5	2.2	30.0	31.4	70	5000	50	20000	160
SF6S-32	1 1/4"	31.8	2.65	37.3	39.3	100	4500	45	18000	180
SF6S-38	1 1/2"	38.1	3	45.0	46.1	140	4000	40	16000	160
SF6S-50	2"	50.8	3	59.1	61.0	200	3000	30	12000	120

# **Applications**





































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# PTFE Hose - CONPRO

# **Convoluted PTFE**

Part No.: CONPRO

Construction: Convoluted

**Profile:** High Flexibility / Low Pressure

**Tube Available:** PTFE Virgin / Anti-static Inner Tube

**Braid Available:** Polypropylene

Size Available: 1/2" - 3"
Temperature: -70°C to 260°C

Sintered/Permeation: Slow Sintered (medium level of permeation)

# Low | Med | High Flexibility Cycle Life Pressure Rating Chemical Resistance Wall Thickness

# Construction

### Use:

High corrosive environment. Conpro is more suited to use in more arduous applications throughout the process plant industry. Polypropylene braid produces a low electrically conductive assembly.



FDA Approved, Accepted by the U.S. Coast Guard, PTFE Perfluorocarbon Resins meets FDA 21 CFR 177.1550



# Specifications

	Temperature Correction Factor													
-60	-40	-20	0	20	50	100	120	150	180	200	220	250	260	
1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.93	0.93	.85	0.85	0.77	0.77	0.70	

Part Number	Size	Internal Diameter	Wall Thickness	Dian	side neter m)	Min. Bend Radius	Max. W	dard Orking sure	Min. Pres	Burst sure
	inch	mm	mm	Tube	Braid	mm	kPa	bar	kPa	bar
CONPRO-12	1/2"	11.6	0.89	13.38	21.4	50	1000	10	4000	40
CONPRO-15	5/8"	15.1	0.89	16.88	26.3	65	1000	10	4000	40
CONPRO-20	3/4"	19.5	1	21.5	31.1	55	1000	10	4000	40
CONPRO-25	1″	24.5	1.1	26.7	36.7	85	1000	10	4000	40
CONPRO-32	1 1/4"	31.5	1.15	33.80	44.4	100	1000	10	4000	40
CONPRO-40	1 1/2"	36.5	1.45	39.4	49.7	120	1000	10	4000	40
CONPRO-45	1 3/4"	44.5	1.45	47.40	58.3	135	1000	10	4000	40
CONPRO-50	2″	49.5	1.5	52.5	62.5	165	800	8	3200	32
CONPRO-65	2 1/2"	62.5	1.6	65.7	83.4	230	700	7	2800	28
CONPRO-80	3″	73.5	1.6	76.7	92.9	260	600	6	2400	24

### Applications





































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Part No.: PCTH

**Construction:** Convoluted

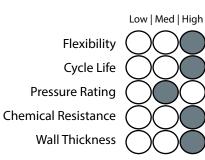
**Profile:** High Flexibility / Medium Pressure

**Tube Available:** PTFE Virgin Inner Tube with an intergal fibreglass cover

Braid Available: Two layers of Kynar reinforcement braid

**Size Available:** 1/2" - 1" **Temperature:** -70°C to 260°C

Sintered/Permeation: Slow Sintered (medium level of permeation)



### Construction

### Use:

It's the only hose that can adequately transfer chlorine in a safe manner. Exclusive design resists rugged handling and collapse.

### Standards:

FDA Approved, Accepted by the U.S. Coast Guard, PTFE Perfluorocarbon Resins meets FDA 21 CFR 177.1550 Chlorine Institute Pamphlet 6. Appendix A



# Specifications

	Temperature Correction Factor													
-60         -40         -20         0         20         50         100         120         150         180         200         220         250         260												260		
1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.93	0.93	.85	0.85	0.77	0.77	0.70	

Part Number	Size	Internal Diameter	Outside Diameter (mm) Min. Bend Radius		Stan Max. W Pres	orking		Burst sure
	inch	mm	Braid	mm	kPa	bar	kPa	bar
PCTH-12	1/2″	13.72	23.37	38	3400	34	13000	138
PCTH-25	1″	26.54	35.20	152	2600	26	12900	129

### **Alternative products:**

Refer to Monel Metallic Hose - Page 44

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# **Applications**





































# PTFE Hose - PTFE-UHP-SILVERSNAKE

# **PTFE Ultra High Pressure Gas Cylinder Hose**

**Part No.:** PTFE-UHP-SILVERSNAKE **Construction:** Smoothbore

**Profile:** High Flexibility / High Pressure

**Tube Available:** PTFE Virgin / Anti-static Inner Tube

Cover: 2 Aramid braids and 1 high tensile 304 maypole wound stainless steel braid

Whip Restraints - Stainless steel anti whip restraint wire safety system

**Size Available:** 1/4"

Temperature: -60°C +260°C

Sintered/Permeation: Slow Sintered (medium level of permeation). 1/4, 3/8" and 1/2"

are available in Post Sintered on request (example PTFE-UHP-xx-PS)

# Low | Med | High Flexibility Cycle Life Pressure Rating Chemical Resistance Wall Thickness

# Construction

**Use:** The PTFE Ultra High Pressure Gas Cylinder Hose is the most advanced high-pressure hose on the market. It outperforms expectations with its exceptional routability, tight bend radius, and reduced outer diameter, making it ideal for high-pressure gas and fluid applications.

### Standards:

- ISO 1402 Rubber and plastic hose and assemblies hydrostatic testing
- ISO 14113 Gas and welding equipment Rubber and Plastic Hoses assembled for compressed and liquefied up to a maximum design pressure of 450 bar.
- CGA E-9:2004 Standard of flexible PTFE lined pigtails for compressed gas services.

**Applications:** Oxygen Cylinder, Argon Cylinder, Nitrogen Cylinder, Hydrogen Cylinder, Acetylene Cylinder

**Standard Lengths:** 600mm, 800mm, 1200mm, 1800mm, 2400mm, 3600mm (custom lengths available)



# **Specifications**

	Temperature Correction Factor													
-60	-40	-20	0	20	50	100	120	150	180	200	220	250	260	
1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.93	0.93	0.85	0.85	0.77	0.77	0.70	

Part Number	Size	Internal Diameter	Outside Diameter	Min. Bend Radius		king sure	Bu Pres	
Number	inch	mm	mm	mm	kPa	bar	kPa	bar
PTFE-UHP-06	1/4"	6.20	12.30	38	47500	475	190000	1900











Part No.: TEFLEX

**Construction:** Smoothbore

**Profile:** High Flexibility / High Pressure

Tube Available: PTFE Virgin Inner Tube impregnated fiberglass braid

Braid Available: 304 / 316 Stainless Steel

Cover: Silicone

Size Available: 1/4" - 1" **Temperature:** -70°C +204°C

**Sintered/Permeation:** Slow Sintered (medium level of permeation)

# Low | Med | High Flexibility Cycle Life **Pressure Rating Chemical Resistance** Wall Thickness

## Construction

### Use:

Liquid food and beverage transfer, also suitable for air, water, chemical, oil and automotive applications

Hygienic food grade cover ideal for food and pharmaceutical applications.



FDA Approved, Accepted by the U.S. Coast Guard, PTFE Perfluorocarbon Resins meets FDA 21 CFR 177.1550

# Specifications

	Temperature Correction Factor												
-60	-40	-20	0	20	50	100	120	150	180	200	220	250	260
1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.93	0.93	.85	0.85	0.77	0.77	0.70

Part Number	Size	Internal Diameter	Outside Braid O.D.	Outside Jacket O.D.	Min. Bend Radius (Static)	Standard Max. Working Pressure		Min. Burst Pressure	
	inch	mm	mm	mm	mm	kPa	bar	kPa	bar
TEFLEX-SXX-06	1/4″	6.22	11.81	14.61	44	22500	225	90000	900
TEFLEX-SXX-10	3/8"	9.14	14.86	17.65	70	20000	200	80000	800
TEFLEX-SXX-12	1/2"	12.50	18.21	21.01	108	11000	110	45000	450
TEFLEX-SXX-15	5/8"	15.50	21.94	24.99	140	10000	100	40000	400
TEFLEX-SXX-20	3/4"	18.80	24.74	27.79	178	8800	88	35000	350
TEFLEX-SXX-25*	1″	25.40	33.66	38.74	292	6200	62	25000	250

<sup>\* 1&</sup>quot; Hose construction is PTFE Liner with double stainless steel Braid

# Table Key:

Silicone Jacket Colour (SXX)

SRD = RedSBK = BlackSBL = BlueSWH = White

# **Applications**





































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# PTFE Hose - RFEP

# **Rubber FEP Liner**

Part No.: RFEP

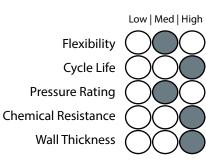
**Colour:** Green / Yellow Labeling **Tube Available:** FEP liner Smoothbore

**Cover:** Green EPDM rubber cover, covered and reinforced with multi-layered rubber

Reinforcement: Spiral-wound polyester cords and a double helix wire

Size Available: 1/2" - 4"
Temperature: -40°C +177°C
Vacuum Resistance: Full Vacuum

Sintered/Permeation: Slow Sintered (medium level of permeation)



# Construction

### Use:

Designed for extended use in hostile environments involving severe chemical, thermal, and mechanical stresses. Does not suffer aging or embrittlement, even with extreme thermal cycling.



### Standards:

Pharmacopoeia Class VI, USDA, FDA-approved

# Specifications

	Temperature Correction Factor												
-60	-40	-20	0	20	50	100	120	150	180	200	220	250	260
1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.93	0.93	.85	0.85	0.77	0.77	0.70

Part Number	Nomir	nal Dia.	Working	pressure	Vacuum Rating	Min Bend Radius	Weight Per Mtr
	Inches	O.D (mm)	kPa	Bar	in. Hg	mm	Kg
RFEP-12	1/2"	24.13	2413	24	29.9	67.31	0.15
RFEP-20	3/4"	31.75	2413	24	29.9	88.90	0.23
RFEP-25	1"	39.37	3102	31	29.9	101.60	0.32
RFEP-32	1 1/4"	44.45	2585	25	29.9	215.90	0.40
RFEP-38	1 1/2"	54.10	2585	24	29.9	266.70	0.44
RFEP-50	2"	68.07	2068	20	29.9	330.20	0.62
RFEP-75	3"	96.52	1723	17	29.9	533.40	1.15
RFEP-100	4"	127.00	1206	12	29.9	990.60	1.58
RFEP-150	6"	181.10	689	7	29.9	1473.20	2.15

Note: Fittings can be Encapsulated

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# **Applications**





































# **PTFE Imperial Tubing**

Part No.: PTFEIT

Construction: Smoothbore

**Profile:** High Flexibility / Low Pressure Tube Available: PTFE Virgin Inner Tube

Metric Size Available: 2mm - 28mm I.D. (Larger sizes upon Request) Imperial Size Available: 1/16" - 5/8" I.D. (Larger sizes upon Request)

**Temperature:** -70°C to 260°C Lengths: 25m, 50m and 100m rolls

**Sintered/Permeation**: Slow Sintered (medium level of permeation)

# Low | Med | High Flexibility Cycle Life **Pressure Rating Chemical Resistance** Wall Thickness

# Construction

### Use:

PTFE provides the ultimate in lubricity, high temperature use, chemical resistance, biocompatibility and precision extruded tolerances. Food, Medical and chemical transfer applications.

### **Standards:**

**FDA** Approved

PTFE Perfluorocarbon Resins meets FDA 21 CFR 177.1550



# Specifications

					Temp	erature Co	orrection F	actor					
-60	-40	-20	0	20	50	100	120	150	180	200	220	250	260
1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.93	0.93	.85	0.85	0.77	0.77	0.70

		MPERIAL SIZ	ES	
Part Number	Size O.D. x I.D.	O.D. (mm)	I.D. (mm)	Max Pressure (kPa)
PTFEIT-0201	1/8" x 1/16"	3.175	1.5875	1034
PTFEIT-0302	3/16" x 1/8"	4.7625	3.175	1034
PTFEIT-0403	1/4" x 3/16"	6.35	4.7625	1034
PTFEIT-0504	5/16" x 1/4"	7.9375	6.35	1034
PTFEIT-0604	3/8" x 1/4"	9.525	6.35	1034
PTFEIT-0605	3/8" x 5/16"	9.525	7.9375	1034
PTFEIT-0806	1/2" x 3/8"	12.7	9.525	1034
PTFEIT-1008	5/8" x 1/2"	15.875	12.7	1034
PTFEIT-1210	3/4" x 5/8"	19.05	15.875	1034

# **Applications**





































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# PTFE Hose - PTFEMT

# **PTFE Metric Tubing**

Part No.: PTFEMT

Construction: Smoothbore

**Profile:** High Flexibility / Low Pressure **Tube Available:** PTFE Virgin Inner Tube

Metric Size Available: 2mm - 28mm I.D. (Larger sizes upon Request) Imperial Size Available: 1/16" - 5/8" I.D. (Larger sizes upon Request)

**Temperature:** -70°C to 260°C **Lengths:** 25m, 50m and 100m rolls

**Sintered/Permeation**: Slow Sintered (medium level of permeation)

# Cycle Life Pressure Rating Chemical Resistance Wall Thickness

# Construction

### Use:

PTFE provides the ultimate in lubricity, high temperature use, chemical resistance, biocompatibility and precision extruded tolerances. Food, Medical and chemical transfer applications.

### Standards:

**FDA Approved** 

PTFE Perfluorocarbon Resins meets FDA 21 CFR 177.1550



## **Specifications**

	Temperature Correction Factor														
-60	-40	-20	0	20	50	100	120	150	180	200	220	250	260		
1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.93	0.93	.85	0.85	0.77	0.77	0.70		

	METR	RIC SIZES	
Part Number	O.D. (mm)	I.D. (mm)	Max Pressure (kPa)
PTFEMT-0402	4	2	1034
PTFEMT-0503	5	3	1034
PTFEMT-0604	6	4	1034
PTFEMT-0805	8	5	1034
PTFEMT-0806	8	6	1034
PTFEMT-1008	10	8	1034
PTFEMT-1209	12	9	1034
PTFEMT-1412	14	12	1034
PTFEMT-1614	16	14	1034
PTFEMT-2420	24	20	1034
PTFEMT-3228	32	28	1034

### Applications





































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# PTFE Jacketed Hose

### **PTFE Jacketed Hose**

A Jacketed assembly consists of a "hose within a hose."

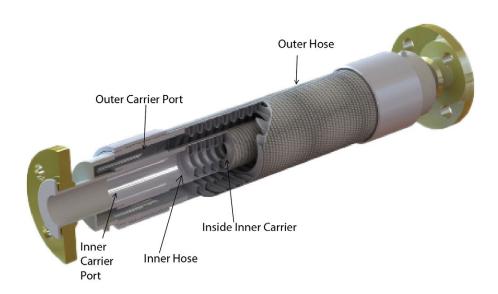
An inner or primary media conveying hose is enclosed or jacketed by a larger diameter hose. The hoses are joined at each end by specially designed fittings so that there is no media pathway between the two hoses.

Jacketed assemblies are often specified when the primary media must be kept at either an elevated or cryogenic temperature. Steam is often circulated through the jacket hose to keep a viscous material in the inner hose hot and easily conveyed. A vacuum can also be pulled on the jacket hose to insulate cryogenic liquids being conveyed in the inner hose.

The media typically is steam, hot oil or hot water to raise the temperature of the fluid moved in the internal hose. Also cold products such as liquid helium or nitrogen can be used to lower the temperature of the fluid with-in the internal hose.

# **Following Applications:**

- Heated processes
- Rail car and tank truck loading/unloading
- Marine Transfer
- Flexible connections to vibrating equipment
- To relieve pump housing stresses
- Hazardous material piping system using an alarmed vacuum jacket
- Safety barrier for toxic processes
- · Leak detection systems
- · Liquified food transfer systems
- Chlorine transfer
- Cryogenics (fast freezing)



Inner hose nb size	6mm	10mm	12mm	19mm	25mm	32mm	38mm	50mm	65mm	75mm	100mm
Outer hose nb size	12mm	19mm	19mm	32mm	38mm	50mm	65mm	75mm	100mm	150mm	150mm
Inner hose max pressure (kPa)	18089	15513	10342	6900	4600	3400	3000	2300	1000	800	800