

# METAL HOSE + ASSEMBLIES

**Polyhose**<sup>®</sup>

Providing Flexible Solutions Globally



A JAPANESE JOINT VENTURE

📞 1.800.932.0124

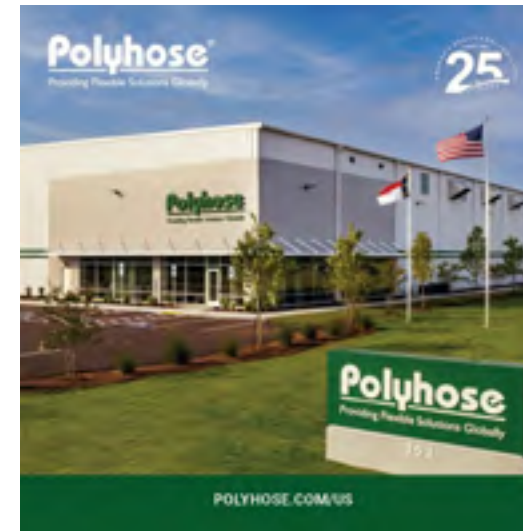
✉️ [phus.sales@polyhose.com](mailto:phus.sales@polyhose.com)



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Established in 2016, Polyhose Tofle Pvt. Ltd. is a joint venture with Japanese company Tofle Co. Ltd., the world's leading manufacturer of stainless-steel hoses and bellows with over 50 years of experience in manufacturing metal hoses. With state-of-the-art equipment and the latest machinery from Europe, Polyhose Tofle Pvt. Ltd. continues to provide value as one of the world's leading manufacturers and exporters of stainless steel hoses and bellows and looks forward to future growth.

### COMPANY HISTORY



In 1996, Polyhose India Pvt. Ltd was founded—kickstarting the beginning of a globally successful company. Backed by a small, but extremely passionate, hardworking, and loyal team, Polyhose began its manufacturing journey in the thermoplastic hose industry.

Since the founding of Polyhose, the company has continued to grow in both strength and size—now offering the widest range of flexible fluid conveyance products in the industry. In 2005, Polyhose incorporated a second division in rubber hydraulic manufacturing. Further expansion in 2008 brought the PTFE division to the fast-growing business, and the acquisition of Exitflex SA in 2009 put Polyhose on the global map.

Polyhose continued an upward trend of growth by diversifying its capabilities and manufacturing stainless steel hoses through a joint venture with TOFLE Japan. Both 2017 and 2018 proved to be largely successful years for the company as Polyhose entered the life science market, established an aerospace division, and became NADCAP-certified—allowing them to supply to Boeing and other aircraft manufacturers.

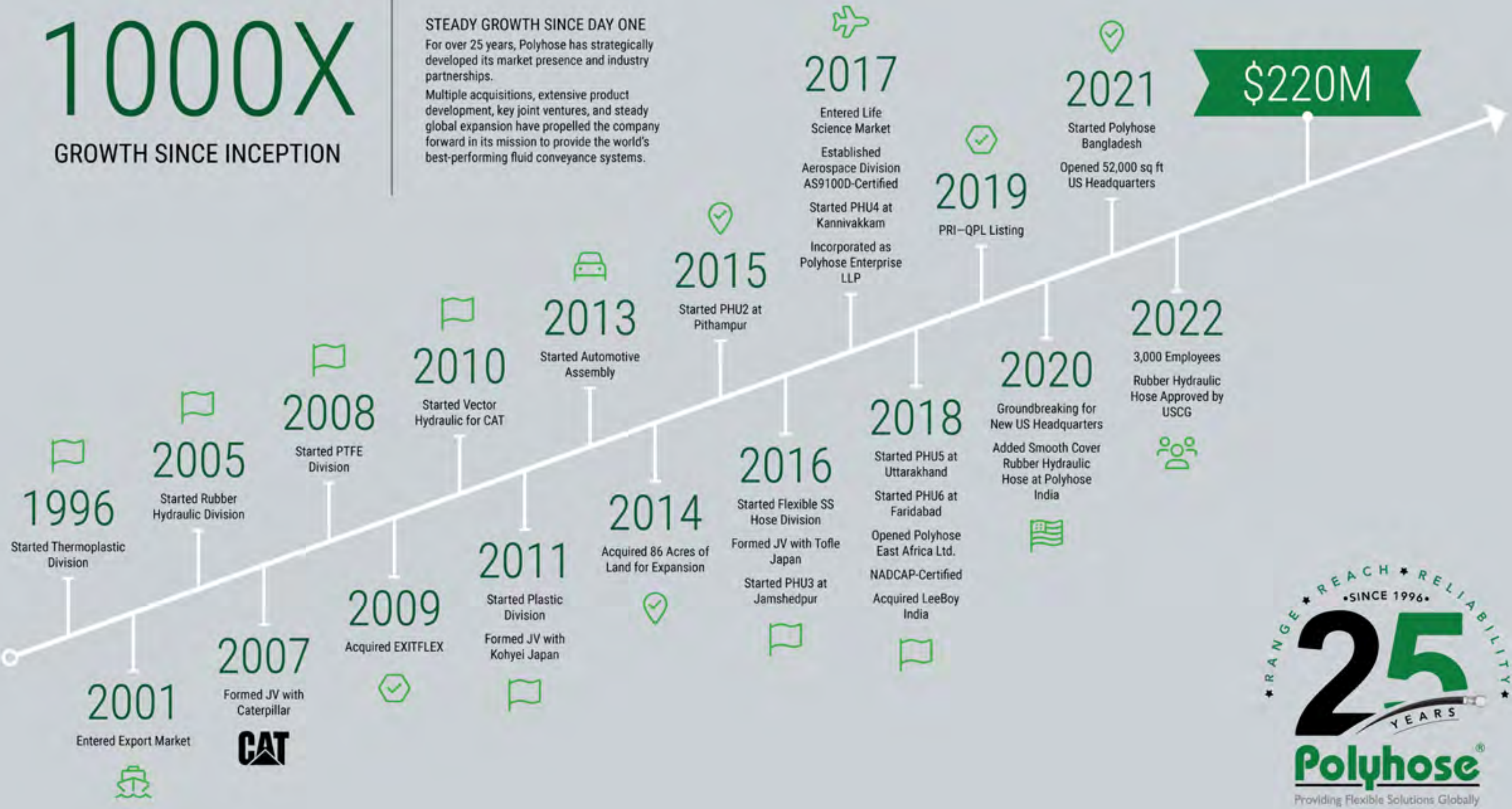
### POLYHOSE CERTIFICATIONS



# 1000X

GROWTH SINCE INCEPTION

**STEADY GROWTH SINCE DAY ONE**  
For over 25 years, Polyhose has strategically developed its market presence and industry partnerships. Multiple acquisitions, extensive product development, key joint ventures, and steady global expansion have propelled the company forward in its mission to provide the world's best-performing fluid conveyance systems.

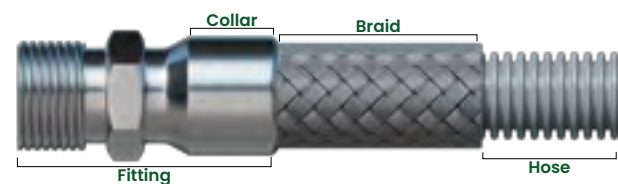




## 1.1 METAL CORRUGATED HOSE

Hoses can be used to convey most kinds of fluids, gases and liquids, chemicals, etc., and can function to absorb reciprocating motion, thermal expansion, vibration, and misalignment.

Actually for in High temperature or pressure, while remaining flexible.



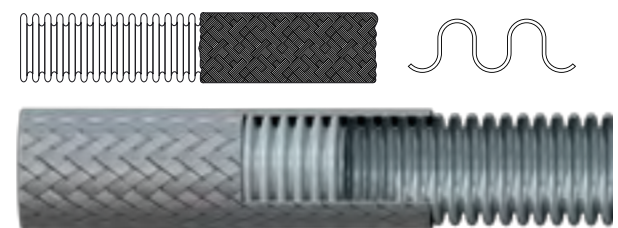
### Corrugated Hose:

**Profile Type:** Annular

#### Annular:

Hose is formed from tubing into individual parallel corrugations

#### Annularly Corrugated Hose:



#### Types of Forming:

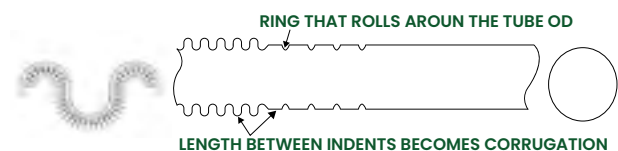
1. Mechanical Forming
2. Hydro Forming

### Mechanical Forming

**Size:** 1/4" to 4"

**Material:** SS304, SS316L & SS321

A Longitudinal Weld Tube is fed into the corrugator, a ring rolls around it, creating slight indentations at regular intervals. The ring has a smooth radius to minimize stress concentrations. The intervals will become valleys between the corrugations

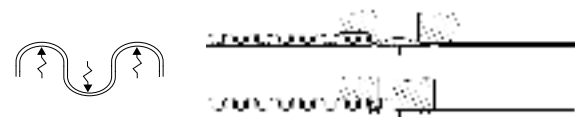


### Hydro Forming

**Size:** 1.1/4" to 12"

**Material:** SS304, SS316L & SS321

In hydro forming, the force used to push the metal outward to form the corrugation is generated by water. The water pressure from inside the tube pushes the metal into a die on the outside of the tube which gives the bump its shape. Hydro forming may be used to form the corrugations individually, or in a group of several humps all at once in a multi-station form



#### Braid:

**Wire Dia:** From 0.3mm to 0.7mm

**Braiding Material :** SS304L & SS316L



**Safety Factor:** 4:1

DESCRIPTION	RANGE
Size	1/4" -12"
Working Pressure	max-344 bar
Temperature	-200°C to 550°C
Wire Dia	0.3 to 0.7mm
Sheet Thick	0.15 to 0.7mm

## 1.2 STRIPWOUND HOSE:

Stripwound Metal Hose is a flexible metal hose that is ideal for the transfer of abrasive materials. Although it is not gas tight, like corrugated hose, it is durable and an excellent choice for use as a guard, an open-ended exhaust hose, and for the transfer of dry bulk materials.

It is also used in some water & wastewater treatment applications. One of the main benefits of stripwound hose is its ability to not contaminate the transferred product with any residue.

**Material:** SS304& GI

**End Fitting:** As per customer requirement.



### Double Interlock

The double interlocked profile is designed to meet the highest demands that comply With tensile and bending strength, compression and impact resistance against all mechanical stresses.

Adjacent strips are completely folded& locked into each other.it had remarkable strength against axial elongation.



### Squarelock

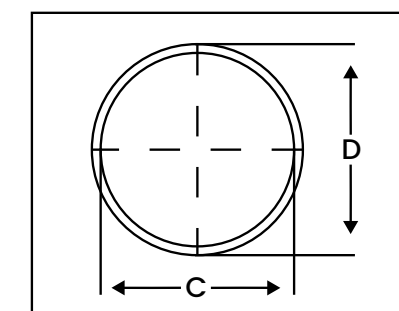
Squarelock manufactured with stainless steel strip by continuous wound in square-lock profile. Light in weight& typically used in application where limited to moderate strength is required.

**Features & benefit:** Extremely flexible. Applicable for electrical protection in Buildings, Railway System, Marines, Elevators, and etc..

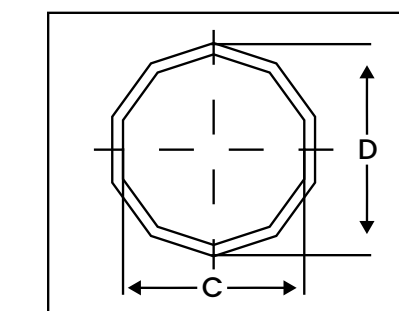


### Types

#### CIRCULAR CROSS SECTION



#### POLYGONAL CROSS SECTION





### 1.3 PRODUCT NOMENCLATURE (Annular Hose)

R	006	MFM	X	R	1	O	K
---	-----	-----	---	---	---	---	---

**Grade of Tube:**  
 R - SS 304  
 G - SS 316L  
 B - SS 321  
 W - Loose Braid without tube (Medium Wt)  
 W-Loose Braid without tube (Heavy Wt)

**ID of Tube:**  
 006- DN 6 ID 6.3mm  
 008-DN 8 ID 8.4mm and so on...

**Manufacturing Series:**  
 MFM- Mechanical Forming Medium Flexibility  
 MFMS- Mechanical Forming Medium Flexibility special  
 MFH- Mechanical Forming High Flexibility  
 HFH- Heavy duty Hose  
 HFM- Hydro forming medium Flexibility  
 HMM- Medium flexibility heavy weight hose  
 WMW- Medium weight braid  
 WHW- Heavy weight braid

X-None

**Grade of Braid:**  
 R - SS 304L  
 G - SS 316L  
 B - SS 321  
 0 - None

**Number of Braid:**  
 0 - No Braids  
 1 - 1 Braid  
 2 - 2 Braids  
 3 - 3 Braids

**Version:**  
 0 - Standard  
 1 - Special Wire

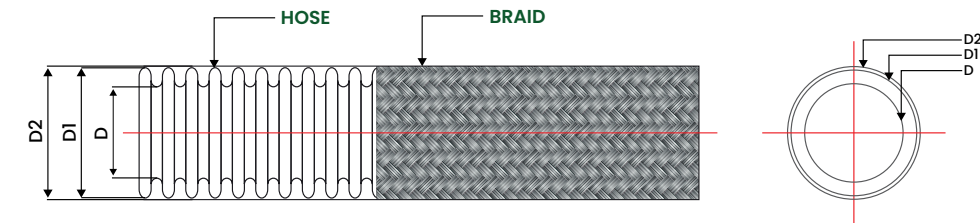
**Length of Hose:**  
 K - 15m  
 Q - 25m  
 P - 20m  
 T - 50m  
 Z - Random

### Product Specification



### 1.4 PH 2000 SERIES - MFM

- Structure** : Annular Corrugated Mechanical formed flexible metal hoses produced from longitudinally welded tubes with or without braiding
- Characteristics** : Light Weight / Medium Flexibility
- Standards** : EN ISO 10380
- Hose Material** : Stainless Steel AISI 304, AISI 321, AISI 316L
- Braiding Material** : Stainless Steel AISI 304L and AISI 316L
- Suitable fittings types** : Threaded end, Flange end, Pipe end, etc. as per customer specifications



### IMPERIAL SYSTEM

DN	ITEM CODE	BRAIDS	BRAID CONSTRUCTION (NO OF CARRIERS X NO OF STRANDS X WIRE DIAMETER)	BRAID COVERAGE	ID (D)	OD (D1 & D2)	WP (Max) @70°F	BP (Min) @70°F	BR/r		WEIGHT lbs per foot
									DYNAMIC	STATIC	
1/4"	R006MFMX000	0			0.25	0.38	72	---	4.33	0.98	0.05
	R006MFMXR10	1	24 X 4 X 0.012	94	0.25	0.43	1740	6960			
	R006MFMXR20	2			0.25	0.47	2610	10440			
5/16"	R008MFMX000	0			0.34	0.48	72	---	5.12	1.26	0.06
	R008MFMXR10	1	24 X 5 X 0.012	92	0.34	0.54	1624	6496			
	R008MFMXR20	2			0.34	0.58	2436	9744			
3/8"	R010MFMX000	0			0.39	0.56	72	---	5.91	1.50	0.07
	R010MFMXR10	1	24 X 6 X 0.012	92	0.39	0.62	1407	5628			
	R010MFMXR20	2			0.39	0.67	2111	8442			
1/2"	R012MFMX000	0			0.48	0.66	65	---	6.50	1.77	0.07
	R012MFMXR10	1	24 X 7 X 0.012	92	0.48	0.72	1088	4352			
	R012MFMXR20	2			0.48	0.76	1632	6528			



5/8"	R016MFMX000	0	36 X 7 X 0.012	96	0.65	0.86	65	---	7.68	2.28	0.12
	R016MFMXR10	1			0.65	0.93	870	3480			0.25
	R016MFMXR20	2			0.65	0.97	1305	5220			0.38
3/4"	R020MFMX000	0	36 X 9 X 0.012	94	0.80	1.05	43	---	8.86	2.76	0.18
	R020MFMXR10	1			0.80	1.11	870	3480			0.35
	R020MFMXR20	2			0.80	1.16	1305	5220			0.52
1"	R025MFMX000	0	36 X 10 X 0.012	96	1.00	1.27	43	---	10.24	3.35	0.24
	R025MFMXR10	1			1.00	1.33	725	2900			0.42
	R025MFMXR20	2			1.00	1.38	1088	4350			0.59
1 1/4"	R032MFMX000	0	48 X 8 X 0.016	94	1.32	1.62	43	---	11.81	4.13	0.36
	R032MFMXR10	1			1.32	1.69	667	2668			0.70
	R032MFMXR20	2			1.32	1.76	1001	4002			1.04
1 1/2"	R040MFMX000	0	48 X 9 X 0.016	92	1.58	1.95	28	---	13.39	5.12	0.47
	R040MFMXR10	1			1.58	2.02	609	2436			0.86
	R040MFMXR20	2			1.58	2.08	914	3654			1.25
2"	R050MFMX000	0	48 X 10 X 0.016	96	1.98	2.39	28	---	15.35	6.30	0.59
	R050MFMXR10	1			1.98	2.47	464	1856			1.02
	R050MFMXR20	2			1.98	2.53	696	2784			1.44

**Note:**

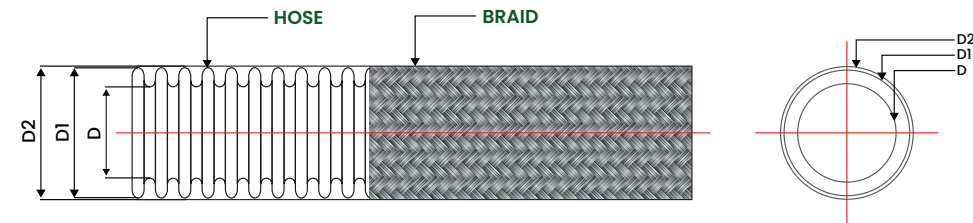
1. Test pressure is 1.5 times of working pressure @ 70°F
2. Wp - working pressure, Bp - burst pressure.
3. These informations are for guidance only, we reserve the right to alter (or) amend specifications as deemed necessary.
4. General tolerance is applicable.

**Product Specification**



**1.5 PH 2100 SERIES-MFM SPECIAL**

- Structure** : Annular Corrugated Mechanical formed flexible metal hoses produced from longitudinally welded tubes with or without braiding
- Characteristics** : Light Weight / Medium Flexibility
- Standards** : EN ISO 10380
- Hose Material** : Stainless Steel AISI 304, AISI 321, AISI 316L
- Braiding Material** : Stainless Steel AISI 304L and AISI 316L
- Suitable fittings types** : Threaded end, Flange end, Pipe end, etc. as per customer specifications



**IMPERIAL SYSTEM**

DN	ITEM CODE	BRAIDS	BRAID CONSTRUCTION (NO OF CARRIERS X NO OF STRANDS X WIRE DIAMETER)	BRAID COVERAGE	ID (D)	OD (D1 & D2)	WP (Max) @70°F	BP (Min) @70°F	BR/r		WEIGHT lbs per foot
									DYNAMIC	STATIC	
1/4"	R006MFMS000	0	24 X 5 X 0.012	94	0.25	0.38	72	---	4.33	0.98	0.05
	R006MFMSR10	1			0.25	0.43	2370	9396			0.11
	R006MFMSR20	2			0.25	0.47	2844	11275			0.16
5/16"	R008MFMS000	0	24 X 6 X 0.012	92	0.34	0.48	72	---	5.12	1.26	0.06
	R008MFMSR10	1			0.34	0.54	1650	6600			0.13
	R008MFMSR20	2			0.34	0.58	1980	7920			0.20
3/8"	R010MFMS000	0	24 X 7 X 0.012	92	0.39	0.56	72	---	5.91	1.50	0.07
	R010MFMSR10	1			0.39	0.62	1600	6400			0.15
	R010MFMSR20	2			0.39	0.67	1920	7680			0.23
1/2"	R012MFMS000	0	24 X 8 X 0.012	92	0.48	0.66	65	---	6.50	1.77	0.07
	R012MFMSR10	1			0.48	0.72	1290	5160			0.17
	R012MFMSR20	2			0.48	0.76	1548	6192			0.26



5/8"	R016MFMS000	0	36 X 8 X 0.012	96	0.65	0.86	65	---	7.68	2.28	0.12
	R016MFMSR10	1			0.65	0.93	1160	4640			0.27
	R016MFMSR20	2			0.65	0.97	1392	5568			0.41
3/4"	R020MFMS000	0	36 X 9 X 0.012	94	0.80	1.05	43	---	8.86	2.76	0.18
	R020MFMSR10	1			0.80	1.11	1015	4060			0.35
	R020MFMSR20	2			0.80	1.16	1218	4872			0.52
1"	R025MFMS000	0	36 X 9 X 0.016	96	1.00	1.27	43	---	10.24	3.35	0.24
	R025MFMSR10	1			1.00	1.35	840	3360			0.51
	R025MFMSR20	2			1.00	1.39	1008	4032			0.78
1 1/4"	R032MFMS000	0	48 X 8 X 0.016	94	1.32	1.62	43	---	11.81	4.13	0.36
	R032MFMSR10	1			1.32	1.69	665	2660			0.70
	R032MFMSR20	2			1.32	1.76	798	3192			1.04
1 1/2"	R040MFMS000	0	48 X 9 X 0.016	92	1.58	1.95	28	---	13.39	5.12	0.47
	R040MFMSR10	1			1.58	2.02	605	2420			0.86
	R040MFMSR20	2			1.58	2.08	754	3016			1.25
2"	R050MFMS000	0	48 X 9 X 0.020	93	1.98	2.39	28	---	15.35	6.30	0.59
	R050MFMSR10	1			1.98	2.48	550	2200			1.20
	R050MFMSR20	2			1.98	2.54	660	2640			1.80

**Note:**

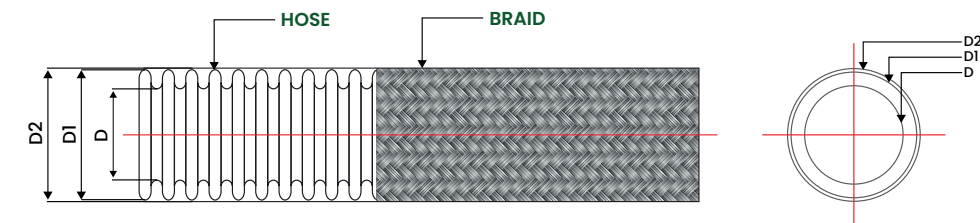
1. Test pressure is 1.5 times of working pressure @ 70°F
2. Wp - working pressure, Bp - burst pressure.
3. These informations are for guidance only, we reserve the right to alter (or) amend specifications as deemed necessary.
4. General tolerance is applicable.

**Product Specification**



**1.6 PH 2200 SERIES-MFH**

- Structure** : Annular Corrugated Mechanical formed flexible metal hoses produced from longitudinally welded tubes with or without braiding
- Characteristics** : Medium Weight / High Flexibility
- Standards** : EN ISO 10380
- Hose Material** : Stainless Steel AISI 304, AISI 321, AISI 316L
- Braiding Material** : Stainless Steel AISI 304L and AISI 316L
- Suitable fittings types** : Threaded end, Flange end Pipe, etc. as per customer specifications



**IMPERIAL SYSTEM**

DN	ITEM CODE	BRAIDS	BRAID CONSTRUCTION (NO OF CARRIERS X NO OF STRANDS X WIRE DIAMETER)	BRAID COVERAGE	ID (D)	OD (D1 & D2)	WP (Max) @70°F	BP (Min) @70°F	BR/r		WEIGHT (lbs per foot)
									DYNAMIC	STATIC	
									inch	inch	
1/4"	R006MFHX000	0	24 X 5 X 0.012	95	0.25	0.38	72	---	3.03	0.98	0.08
	R006MFHXR10	1			0.25	0.43	1740	6960			0.13
	R006MFHXR20	2			0.25	0.46	2610	10440			0.18
5/16"	R008MFHX000	0	24 X 6 X 0.012	92	0.34	0.48	72	---	3.58	1.26	0.10
	R008MFHXR10	1			0.34	0.54	1624	6496			0.17
	R008MFHXR20	2			0.34	0.57	2437	10148			0.24
3/8"	R010MFHX000	0	24 X 7 X 0.012	93	0.39	0.56	72	---	4.13	1.50	0.11
	R010MFHXR10	1			0.39	0.62	1407	5628			0.19
	R010MFHXR20	2			0.39	0.67	2110	8440			0.27
1/2"	R012MFHX000	0	24 X 8 X 0.012	92	0.48	0.66	65	---	4.57	1.77	0.11
	R012MFHXR10	1			0.48	0.72	1088	4352			0.21
	R012MFHXR20	2			0.48	0.76	1632	6528			0.30



5/8"	R016MFHX000	0	36 X 8 X 0.012	93	0.65	0.86	65	---	5.35	2.28	0.20
	R016MFHXR10	1			0.65	0.93	870	3480			0.34
	R016MFHXR20	2			0.65	0.98	1305	5220			0.48
3/4"	R020MFHX000	0	36 X 9 X 0.012	96	0.80	1.05	43	---	6.22	2.76	0.30
	R020MFHXR10	1			0.80	1.11	870	3480			0.47
	R020MFHXR20	2			0.80	1.17	1305	5220			0.64
1"	R025MFHX000	0	36 X 9 X 0.016	95	1.00	1.27	43	---	7.17	3.35	0.39
	R025MFHXR10	1			1.00	1.33	725	2900			0.66
	R025MFHXR20	2			1.00	1.39	1088	4352			0.93
1 1/4"	R032MFHX000	0	48 X 8 X 0.016	95	1.32	1.62	43	---	8.27	4.13	0.51
	R032MFHXR10	1			1.32	1.69	667	2668			0.84
	R032MFHXR20	2			1.32	1.75	1000	4000			1.18
1 1/2"	R040MFHX000	0	48 X 9 X 0.016	94	1.58	1.95	28	---	9.37	5.12	0.66
	R040MFHXR10	1			1.58	2.02	609	2436			1.05
	R040MFHXR20	2			1.58	2.08	914	3656			1.44
2"	R050MFHX000	0	48 X 9 X 0.020	94	1.98	2.39	28	---	10.75	6.30	0.83
	R050MFHXR10	1			1.98	2.47	464	1856			1.43
	R050MFHXR20	2			1.98	2.53	696	2784			2.04
2 1/2"	R065MFHX000	0	72 X 7 X 0.020	95	2.47	3.00	15	---	18.11	7.87	0.81
	R065MFHXR10	1			2.47	3.11	435	1740			1.58
	R065MFHXR20	2			2.47	3.19	522	2088			2.35
3"	R080MFHX000	0	72 X 9 X 0.020	93	3.10	3.72	15	---	25.98	9.45	1.27
	R080MFHXR10	1			3.10	3.82	363	1452			2.14
	R080MFHXR20	2			3.10	3.90	435.6	1742.4			3.02
4"	R100MFHX000	0	72 X 10 X 0.020	88	3.85	4.50	15	---	29.53	11.42	1.75
	R100MFHXR10	1			3.85	4.59	276	1104			2.69
	R100MFHXR20	2			3.85	4.67	331.2	1324.8			3.63

**Note:**

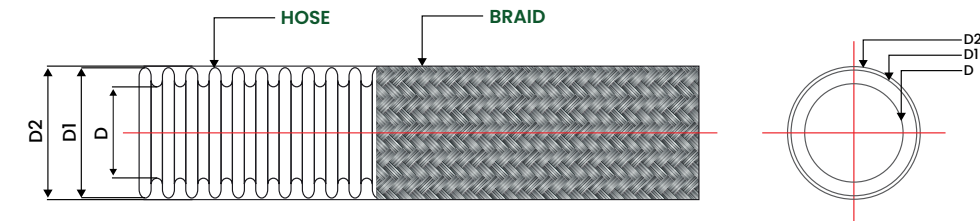
1. Test pressure is 1.5 times of working pressure @ 70°F
2. Wp - working pressure, Bp - burst pressure.
3. These informations are for guidance only, we reserve the right to alter (or) amend specifications as deemed necessary.
4. General tolerance is applicable.

**Product Specification**



**1.7 PH 2300 SERIES-HFH**

- Structure** : Annular Corrugated Mechanical / Hydroformed flexible metal hoses produced from longitudinally welded tubes with or without braiding
- Characteristics** : Heavy Weight / Flexible Hose
- Standards** : EN ISO 10380
- Hose Material** : Stainless Steel AISI 304, AISI 321, AISI 316L
- Braiding Material** : Stainless Steel AISI 304L and AISI 316L
- Suitable fittings types** : Threaded end, Flange end, Pipe end, etc. as per customer specifications



**IMPERIAL SYSTEM**

DN	ITEM CODE	BRAIDS	BRAID CONSTRUCTION (NO OF CARRIERS X NO OF STRANDS X WIRE DIAMETER)	BRAID COVERAGE %	ID (D) inch	OD (D1 & D2) inch	WP (Max) @70°F psi	BP (Min) @70°F psi	BR/r		WEIGHT lbs per foot
									DYNAMIC inch	STATIC inch	
1/4"	R006HFHX000	0	24 X 5 X 0.014	98	0.24	0.40	200	---	5.00	1.00	0.08
	R006HFHXR10	1			0.24	0.48	2494	9976			0.17
	R006HFHXR20	2			0.24	0.56	3741	14964			0.26
5/16"	R008HFHX000	0	24 X 6 X 0.014	98	0.30	0.48	180	---	5.00	1.00	0.11
	R008HFHXR10	1			0.30	0.57	2321	9284			0.20
	R008HFHXR20	2			0.30	0.63	3481.5	13926			0.30
3/8"	R010HFHX000	0	24 X 8 X 0.014	98	0.43	0.64	100	---	5.55	1.26	0.12
	R010HFHXR10	1			0.43	0.71	1740	6960			0.26
	R010HFHXR20	2			0.43	0.80	2610	10440			0.40
1/2"	R012HFHX000	0	24 X 9 X 0.014	94	0.57	0.83	80	---	6.10	1.58	0.22
	R012HFHXR10	1			0.57	0.90	1233	4932			0.37
	R012HFHXR20	2			0.57	0.98	1849.5	7398			0.52

3/4"	R020HFHX000	0	36 X 9 X 0.014	95	0.81	1.21	70	---	8.10	2.28	0.43
	R020HFHXR10	1			0.81	1.28	943	3772			0.65
	R020HFHXR20	2			0.81	1.35	1414	5656			0.86
1"	R025HFHX000	0	36 X 10 X 0.014	98	1.08	1.52	40	---	9.00	2.76	0.54
	R025HFHXR10	1			1.08	1.59	725	2900			0.79
	R025HFHXR20	2			1.08	1.66	1087.5	4350			1.04
1 1/4"	R032HFHX000	0	48 X 9 X 0.016	95	1.24	1.77	25	---	10.63	3.54	0.63
	R032HFHXR10	1			1.24	1.84	609	2436			1.00
	R032HFHXR20	2			1.24	1.90	914	3656			1.37
1 1/2"	R040HFHX000	0	48 X 10 X 0.016	95	1.59	2.17	20	---	12.21	3.94	0.76
	R040HFHXR10	1			1.59	2.23	551	2204			1.17
	R040HFHXR20	2			1.59	2.29	827	3306			1.59
2"	R050HFHX000	0	48 X 10 X 0.020	95	1.95	2.56	15	---	15.35	5.12	0.98
	R050HFHXR10	1			1.95	2.64	537	2148			1.65
	R050HFHXR20	2			1.95	2.72	806	3222			2.32
2 1/2"	R065HFHX000	0	72 X 8 X 0.020	94	2.55	3.27	12	---	18.11	7.87	1.07
	R065HFHXR10	1			2.55	3.35	493	1972			1.86
	R065HFHXR20	2			2.55	3.43	740	2958			2.65
3"	R080HFHX000	0	72 X 9 X 0.020	96	3.14	3.84	10	---	22.44	9.06	1.20
	R080HFHXR10	1			3.14	3.94	392	1568			2.07
	R080HFHXR20	2			3.14	4.03	588	2352			2.95
4"	R100HFHX000	0	72 X 11 X 0.020	96	3.93	4.72	8	---	27.17	12.99	1.68
	R100HFHXR10	1			3.93	4.82	290	1160			2.75
	R100HFHXR20	2			3.93	4.92	435	1740			3.72
5"	R125HFHX000	0	72 X 11 X 0.028	93	5.12	6.06	6	---	39.37	13.78	2.42
	R125HFHXR10	1			5.12	6.20	232	928			4.52
	R125HFHXR20	2			5.12	6.31	348	1392			6.61
6"	R150HFHX000	0	72 X 12 X 0.028	90	6.06	7.11	5	---	49.21	15.75	3.83
	R150HFHXR10	1			6.06	7.19	174	696			6.12
	R150HFHXR20	2			6.06	7.31	261	1044			8.40
8"	R200HFHX000	0	96 X 9 X 0.028	90	8.03	9.19	5	---	62.99	20.47	5.65
	R200HFHXR10	1			8.03	9.29	131	524			8.37
	R200HFHXR20	2			8.03	9.44	197	786			11.09
10"	R250HFHX000	0	96 X 12 X 0.028	90	10.00	11.18	3	---	78.74	24.41	7.05
	R250HFHXR10	1			10.00	11.30	102	408			10.85
	R250HFHXR20	2			10.00	11.41	153	612			14.65

**Note:**

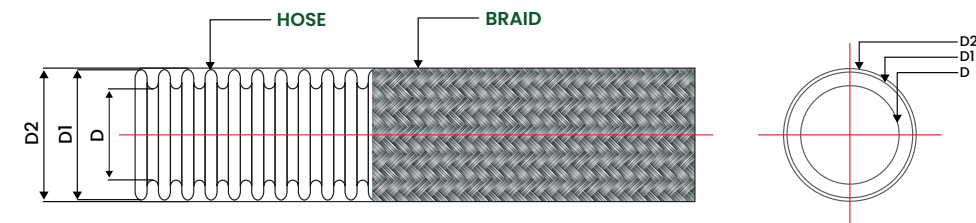
1. Test pressure is 1.5 times of working pressure @ 70°F
2. Wp - working pressure, Bp - burst pressure.
3. These informations are for guidance only, we reserve the right to alter (or) amend specifications as deemed necessary.
4. General tolerance is applicable.

**Product Specification**



**1.8 PH 2400 SERIES - HFM**

- Structure** : Annular Corrugated Hydroformed flexible metal hoses produced from longitudinally welded tubes with or without braiding
- Characteristics** : Light Weight / Medium Flexibility
- Standards** : EN ISO 10380
- Hose Material** : Stainless Steel AISI 304, AISI 321, AISI 316L
- Braiding Material** : Stainless Steel AISI 304L and AISI 316L
- Suitable fittings types** : Threaded end, Flange end, Pipe end, etc. as per customer specifications



**IMPERIAL SYSTEM**

DN	ITEM CODE	BRAIDS	BRAID CONSTRUCTION (NO OF CARRIERS X NO OF STRANDS X WIRE DIAMETER)	BRAID COVERAGE %	ID (D) inch	OD (D1 & D2) inch	WP (Max) @70°F psi	BP (Min) @70°F psi	BR/r		WEIGHT lbs per foot
									DYNAMIC inch	STATIC inch	
									1 1/4"	R032HFMX000	
R032HFMXR10	1	1.24	1.78	435	1740	11.81	4.13	0.59			
R032HFMXR20	2	1.24	1.83	653	2612	--	--	0.93			
1 1/2"	R040HFMX000	0	48 X 9 X 0.016	92	1.59	2.03	17	---	--	--	0.33
R040HFMXR10	1	1.59			2.09	435	1740	13.39	5.12	0.71	
R040HFMXR20	2	1.59			2.15	653	2612	--	--	1.08	
2"	R050HFMX000	0	48 X 10 X 0.016	96	1.95	2.47	15	---	--	--	0.44
R050HFMXR10	1	1.95			2.53	348	1392	15.35	6.30	0.85	
R050HFMXR20	2	1.95			2.59	522	2088	--	--	1.27	
2 1/2"	R065HFMX000	0	72 X 7 X 0.020	94	2.55	3.08	12	---	--	--	0.57
R065HFMXR10	1	2.55			3.16	319	1276	18.11	7.87	1.26	
R065HFMXR20	2	2.55			3.24	479	1916	--	--	1.96	



3"	R080HFMX000	0	72 X 8 X 0.020	96	3.14	3.80	10	---	--	--	0.77
	R080HFMXR10	1			3.14	3.88	261	1044	25.98	9.45	1.58
	R080HFMXR20	2			3.14	3.95	392	1568	--	--	2.38
4"	R100HFMX000	0	72 X 10 X 0.020	94	3.93	4.58	8	---	--	--	0.95
	R100HFMXR10	1			3.93	4.65	232	928	29.53	11.42	1.94
	R100HFMXR20	2			3.93	4.73	348	1392	--	--	2.93
5"	R125HFMX000	0	72 X 10 X 0.024	92	5.12	6.06	6	---	--	--	1.95
	R125HFMXR10	1			5.12	6.20	203	812	39.37	13.78	3.44
	R125HFMXR20	2			5.12	6.30	305	1220	--	--	4.94
6"	R150HFMX000	0	72 X 11 X 0.024	90	6.06	7.11	5	---	--	--	2.30
	R150HFMXR10	1			6.06	7.21	145	580	49.21	15.75	3.97
	R150HFMXR20	2			6.06	7.28	218	872	--	--	5.64
8"	R200HFMX000	0	96 X 9 X 0.026	90	8.03	9.19	5	---	--	--	3.76
	R200HFMXR10	1			8.03	9.29	116	464	62.99	20.47	5.81
	R200HFMXR20	2			8.03	9.40	174	696	--	--	7.86
10"	R250HFMX000	0	96 X 12 X 0.028	90	10.00	11.10	3	---	--	--	5.59
	R250HFMXR10	1			10.00	11.22	109	436	78.74	24.41	9.39
	R250HFMXR20	2			10.00	11.33	163	652	--	--	13.19
12"	R300HFMX000	0	96 X 14 X 0.028	94	12.28	13.70			--	--	7.26
	R300HFMXR10	1			12.28	13.86	87	348	94.49	28.54	12.22
	R300HFMXR20	2			12.28	13.97	130.5	522	--	--	17.20

**Note:**

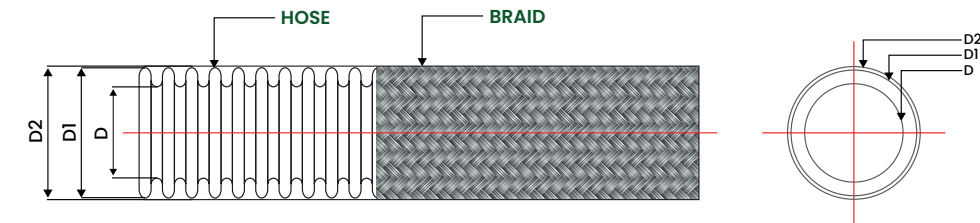
1. Test pressure is 1.5 times of working pressure @ 70°F
2. Wp - working pressure, Bp - burst pressure.
3. These informations are for guidance only, we reserve the right to alter (or) amend specifications as deemed necessary.
4. General tolerance is applicable.

**Product Specification**



**1.9 PH 2500 SERIES - HMH**

- Structure** : Annular Corrugated Mechanical / Hydroformed flexible metal hoses produced from longitudinally welded tubes with or without braiding
- Characteristics** : Heavy weight / Medium flexible
- Standards** : EN ISO 10380
- Hose Material** : Stainless Steel AISI 304, AISI 321, AISI 316L
- Braiding Material** : Stainless Steel AISI 304L and AISI 316L
- Suitable fittings types** : Threaded end, Flange end, Pipe end, etc. as per customer specifications



**IMPERIAL SYSTEM**

DN	ITEM CODE	BRAIDS	BRAID CONSTRUCTION (NO OF CARRIERS X NO OF STRANDS X WIRE DIAMETER)	BRAID COVERAGE	ID (D)	OD (D1 & D2)	WP (Max) @70°F	BP (Min) @70°F	BR/r		WEIGHT lbs per foot
									DYNAMIC	STATIC	
									inch	inch	
1/4"	R006HMHX00T	0	24 X 5 X 0.014	90	0.236	0.40	180	--	--	--	0.09
	R006HMHXR1T	1			0.236	0.45	2116	8464	5	1	0.17
	R006HMHXR2T	2			0.236	0.51	3174	12696	--	--	0.25
3/8"	R010HMHX00T	0	24X 7X 0.014	92	0.43	0.64	100	--	--	--	0.12
	R010HMHXR1T	1			0.43	0.69	1501	6004	5.5	1.25	0.24
	R010HMHXR2T	2			0.43	0.75	2252	9006	--	--	0.36
1/2"	R012HMHX00T	0	24X 7X 0.014	85	0.48	0.66	80	--	--	--	0.11
	R012HMHXR1T	1			0.48	0.71	1075	4300	6	1.5	0.22
	R012HMHXR2T	2			0.48	0.77	1612.5	6450	--	--	0.33
3/4"	R020HMHX00T	0	36 X 8 X 0.014	90	0.795	1.051	70	--	--	--	0.30
	R020HMHXR1T	1			0.795	1.106	792	3168	8	2.25	0.50
	R020HMHXR2T	2			0.795	1.161	1188	4752	--	--	0.70

1"	R025HMHX00T	0	36X 9X 0.014	85	1.00	1.27	40	--	--	--	0.39
	R025HMHXRIT	1			1.00	1.33	565	2260	9	2.75	0.61
	R025HMHXR2T	2			1.00	1.38	848	3390	--	--	0.83
1 1/4"	R032HMHX00P	0	48 X 7 X 0.016	85	1.32	1.62	25	--	--	--	0.51
	R032HMHXRIP	1			1.32	1.69	531	2124	10.5	3.5	0.82
	R032HMHXR2P	2			1.32	1.75	796.5	3186	--	--	1.13
1 1/2"	R040HMHX00P	0	48 X 9 X 0.016	88	1.58	1.95	20	--	--	--	0.66
	R040HMHXRIP	1			1.58	2.01	472	1888	12	4	1.05
	R040HMHXR2P	2			1.58	2.08	708	2832	--	--	1.44
2"	R050HMHX00P	0	48 X 9 X 0.020	90	1.98	2.39	15	--	--	--	0.83
	R050HMHXRIP	1			1.98	2.47	516	2064	15	5	1.45
	R050HMHXR2P	2			1.98	2.55	774	3096	--	--	2.07
2 1/2"	R065HMHX00P	0	72 X 7 X 0.020	88	2.47	3.00	12	--	--	--	0.81
	R065HMHXRIP	1			2.47	3.08	387	1548	20	8	1.51
	R065HMHXR2P	2			2.47	3.16	580.5	2322	--	--	2.21
3"	R080HMHX00P	0	72 X 8 X 0.020	87	3.10	3.72	10	--	--	--	1.27
	R080HMHXRIP	1			3.10	3.80	316	1264	22	9	2.06
	R080HMHXR2P	2			3.10	3.88	474	1896	--	--	2.85
4"	R100HMHX00P	0	72 X 10 X 0.020	85	3.85	4.50	8	--	--	--	1.75
	R100HMHXRIP	1			3.85	4.58	232	928	27	13	2.74
	R100HMHXR2P	2			3.85	4.65	348	1392	--	--	3.73
5"	R125HMHX00Z	0	72 X 8 X 0.025	75	5.12	6.06	6	--	--	--	2.42
	R125HMHXRIZ	1			5.12	6.16	191	764	31	18	3.86
	R125HMHXR2Z	2			5.12	6.27	286.5	1146	--	--	5.31
6"	R150HMHX00Z	0	96 X 12 X 0.020	90	6.06	7.09	4.3	--	--	--	3.83
	R150HMHXRIZ	1			6.06	7.17	165	660	36	19	6.42
	R150HMHXR2Z	2			6.06	7.24	247.5	990	--	--	9.01

**Note:**

1. Test pressure is 1.5 times of working pressure @ 70°F
2. Wp - working pressure, Bp - burst pressure.
3. These informations are for guidance only, we reserve the right to alter (or) amend specifications as deemed necessary.
4. General tolerance is applicable.

Product Specification






## 1.10 PH 2600 SERIES-WMW

- Material Available in SS304L & SS316L
- Clean and oil-free
- Soft texture allows for easy trimming and quicker hose assembly fabrication
- Engineered for optimal hose coverage
- Characteristics-Medium weight

### Abrasion Resistant Tubular Braid for Series PH 2000

### IMPERIAL SYSTEM

DN	ITEM CODE	BRAIDS	BRAID CONSTRUCTION (NO OF CARRIERS X NO OF STRANDS X WIRE DIAMETER)	BRAID COVERAGE			
				%	inch	inch	lbs per foot
1/4"	W006WMWXR100	1	24 X 4 X 0.012	94	0.38	0.43	0.05
5/16"	W008WMWXR100	1	24 X 5 X 0.012	92	0.48	0.54	0.06
3/8"	W010WMWXR100	1	24 X 6 X 0.012	92	0.56	0.62	0.08
1/2"	W012WMWXR100	1	24 X 7 X 0.012	92	0.66	0.72	0.09
5/8"	W016WMWXR101	1	36 X 7 X 0.012	96	0.86	0.93	0.13
3/4"	W020WMWXR100	1	36 X 9 X 0.012	94	1.05	1.11	0.17
1"	W025WMWXR100	1	36 X 10 X 0.012	96	1.27	1.33	0.17
1 1/4"	W032WMWXR100	1	48 X 8 X 0.016	94	1.62	1.69	0.34
1 1/2"	W040WMWXR100	1	48 X 9 X 0.016	92	1.95	2.02	0.39
2"	W050WMWXR100	1	48 X 10 X 0.016	96	2.39	2.47	0.42





### 1.11 PH 2700 SERIES-WHW

- Material Available in SS304L & SS316L
- Clean and oil-free
- Soft texture allows for easy trimming and quicker hose assembly fabrication
- Engineered for optimal hose coverage
- Characteristics-Heavy weight

**Abrasion Resistant Tubular Braid for Series PH2300 Hose**

**IMPERIAL SYSTEM**

DN	ITEM CODE	BRAIDS	BRAID CONSTRUCTION (NO OF CARRIERS X NO OF STRANDS X WIRE DIAMETER)	BRAID COVERAGE	BRAID ID	BRAID OD	WEIGHT
				%	inch	inch	lbs per foot
1/4"	W006WHWXR100	1	24 X 5 X 0.014	98	0.4	0.48	0.09
5/16"	W008WHWXR100	1	24 X 6 X 0.014	98	0.48	0.57	0.09
3/8"	W010WHWXR100	1	24 X 8 X 0.014	98	0.64	0.71	0.14
1/2"	W012WHWXR100	1	24 X 9 X 0.014	94	0.83	0.90	0.15
3/4"	W020WHWXR100	1	36 X 9 X 0.014	95	1.21	1.28	0.22
1"	W025WHWXR100	1	36 X 10 X 0.014	98	1.52	1.59	0.25
1.1/4"	W032WHWXR100	1	48 X 9 X 0.016	95	1.77	1.84	0.37
1.1/2"	W040WHWXR100	1	48 X 10 X 0.016	95	2.17	2.23	0.42
2"	W050WHWXR100	1	48 X 10 X 0.020	95	2.56	2.64	0.67
2.1/2"	W065WHWXR100	1	72 X 8 X 0.020	94	3.27	3.35	0.79
3"	W080WHWXR100	1	72 X 9 X 0.020	96	3.84	3.94	0.88
4"	W100WHWXR100	1	72 X 11 X 0.020	96	4.72	4.82	1.07
5"	W125WHWXR100	1	72 X 11 X 0.028	93	6.06	6.20	2.09
6"	W150WHWXR100	1	72 X 12 X 0.028	90	7.11	7.19	2.28
8"	W200WHWXR100	1	96 X 9 X 0.028	90	9.19	9.29	2.72
10"	W250WHWXR100	1	96 X 12 X 0.028	90	11.18	11.30	3.79

### 1.12 PH179-R14

Applicable Standard: SAE J517 - 100R14



**Construction**

- Core** : Sintered tube of polytetrafluoroethylene (P.T.F.E)
- Reinforcement** : Single braid of 304 series of stainless steel wire
- Application** : P.T.F.E hose has an excellent temperature characteristics both in high and low temperature, Excellent chemical resistance, non contamination properties, low coefficient of friction and resists deterioration. Therefore the hose is used generally in application

ITEM CODE	DASH SIZE	WT	ID		OD		WP		BP		BR/r		W
			inch	mm	inch	mm	psi	bar	psi	bar	inch	mm	g/m
PH179-3	-3	1.00	1/8	3.35	0.252	6.4	3,260	225	13,040	900	1.6	40	65
PH179-4	-4	0.75	3/16	4.83	0.300	7.6	3,000	210	12,000	840	2.0	50	84
PH179-5	-5	0.65	1/4	6.48	0.380	9.7	3,000	210	12,000	840	3.0	75	121
PH179-6	-6	0.75	5/16	8.00	0.440	11.2	2,500	175	10,000	700	4.0	100	163
PH179-7	-7	0.75	3/8	9.65	0.495	12.6	2,400	165	9,600	660	5.0	125	170
PH179-8	-8	0.75	13/32	10.41	0.543	13.8	2,000	140	8,000	560	5.3	135	185
PH179-10	-10	0.75	1/2	12.83	0.650	16.5	1,750	120	7,000	480	6.5	165	234
PH179-12	-12	0.90	5/8	16.00	0.780	19.8	1,270	88	5,080	352	8.0	200	318
PH179-14	-14	0.90	3/4	19.18	0.900	22.9	1,100	75	4,400	300	9.1	230	395
PH179-16	-16	1.00	7/8	22.23	1.030	26.2	900	62	3,600	248	9.1	230	462
PH179-18	-18	1.05	1	25.53	1.160	29.5	900	62	3,600	248	11.8	300	528
PH179-20	-20	1.20	1.1/8	28.58	1.300	33.0	630	44	2,520	176	16.1	410	585

**Temperature Range:** Continuous: -54°C to +260°C  
**Double braided available for higher performance, please check our part # PH381**

### 1.13 PH370-PTFE-CONVOLUTED HOSE

Applicable Standard: Polyhose proprietary product



#### Construction

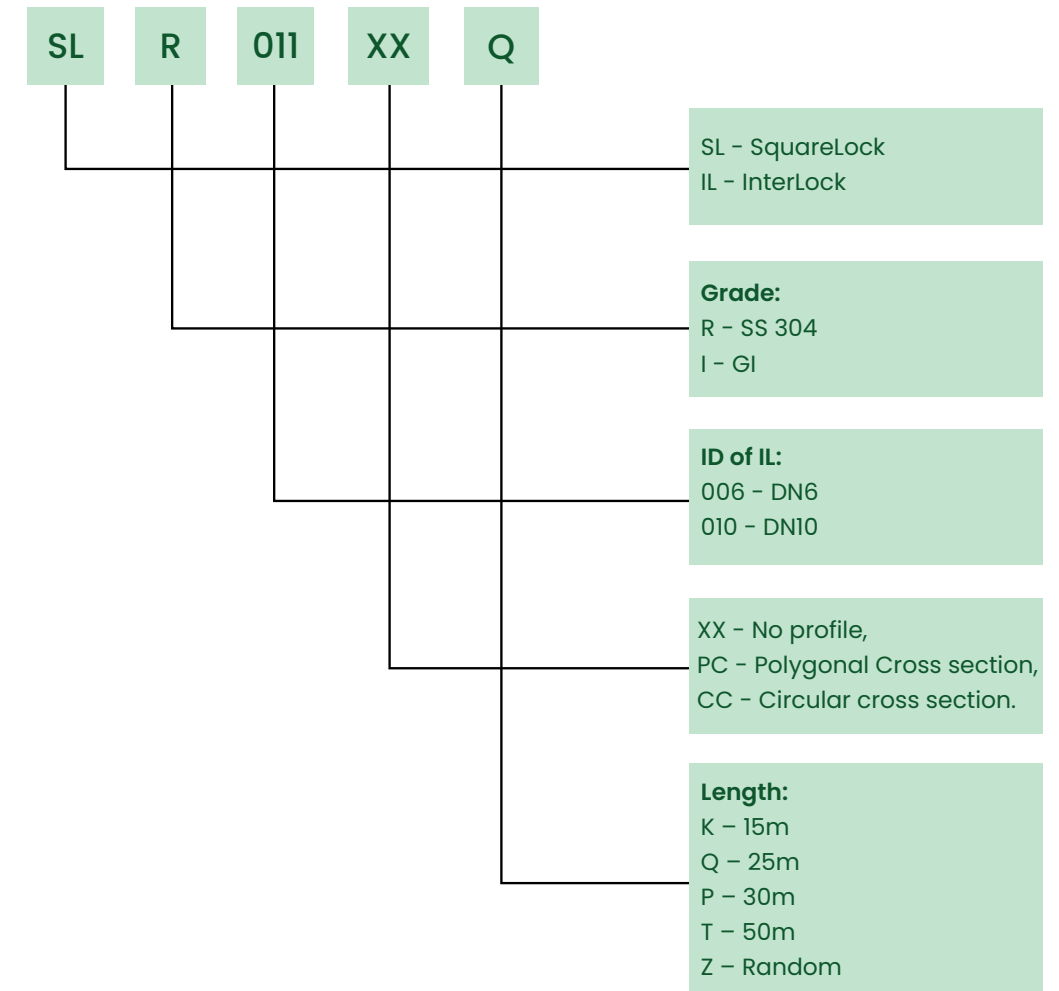
- Core** : Helically convoluted sintered tube of polytetrafluoroethylene (P.T.F.E)
- Reinforcement** : Single braid of 304/316 series of stainless steel wire
- Application** : P.T.F.E hose has an excellent temperature characteristics both in high and low temperature. Excellent chemical resistance, non contamination properties, low coefficient of friction and resists deterioration. Therefore the hose is used generally in applications where all or one of the above properties is the main criteria in automotive, chemical, pharmaceutical & food processing, plastic & rubber molding machines. Also for some applications the tube can also be made conductive to dissipate electro -static charges.

ITEM CODE	DASH SIZE	WT	ID		OD		WP		BP		BR/r		g/m
			inch	mm	inch	mm	psi	bar	psi	bar	inch	mm	
PH370-04	-4	0.75	1/4	6.60	0.410	10.4	2,500	175	10,000	700	0.8	20	149
PH370-05	-4	0.75	5/16	8.18	0.490	12.4	2,300	160	9,200	640	0.8	20	170
PH370-06	-6	0.75	3/8	9.65	0.540	13.7	1,740	120	6,960	480	0.8	20	182
PH370-08	-8	0.75	1/2	12.83	0.725	18.4	1,595	110	6,380	440	1.0	25	289
PH370-10	-10	0.80	5/8	16.00	0.827	21.0	1,450	100	5,800	400	2.0	50	349
PH370-12	-12	0.90	3/4	19.18	1.020	25.9	1,160	80	4,640	320	2.6	65	494
PH370-14	-14	1.00	7/8	22.23	1.170	29.7	870	60	3,480	240	3.1	80	565
PH370-16	-16	1.00	1	25.53	1.331	33.8	800	55	3,200	220	3.6	90	677
PH370-20	-20	1.00	1.1/4	31.88	1.680	42.7	665	45	2,660	180	4.4	110	891
PH370-24	-24	1.00	1.1/2	38.23	1.890	48.0	510	35	2,040	140	6.0	150	959
PH370-32	-32	1.10	2	50.93	2.420	61.5	365	25	1,460	100	8.0	200	1309
PH370-40	-40	1.30	2.1/2	63.50	3.346	85.0	254	17.5	1,016	70	8.0	250	1450
PH370-48	-48	1.30	3	76.00	3.504	89.0	236	16.3	944	65	8.0	310	1550

**Temperature Range:** Continuous: -54°C to +260°C

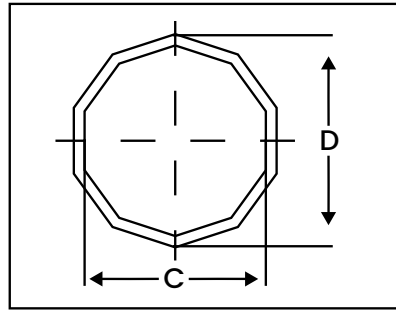
**Working and burst pressure are at 20 Deg C Temperature . Available in electrical conductive version also and our part # shall be PH 371**

### 1.14 PRODUCT NOMENCLATURE (Stripwound Hose)

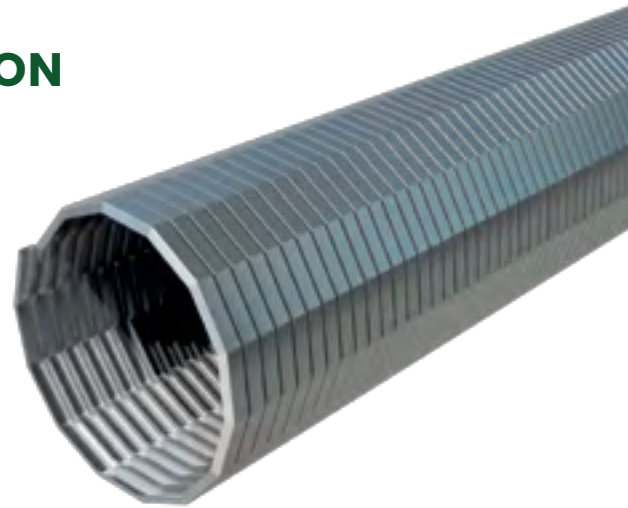




## DOUBLE INTERLOCK 1.15 TECHNICAL SPECIFICATION FOR DOUBLE INTERLOCK

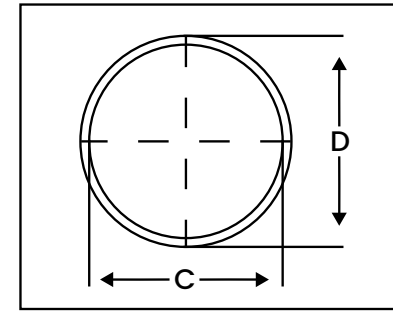


POLYGONAL CROSS SECTION



INTERLOCK - UNPACKED									
NOMINAL SIZE		ID		OD		WEIGHT ±10%		MIN BEND RAD +10%	
INCH	MM	MM	INCH	MM	INCH	KG/M	LBS	MM	INCH
1.1/2"	38	38	1.50	42	1.654	0.900	0.604	180	7.087
	40	40	1.57	44	1.732	1.090	0.731	200	7.874
1.3/4"	45	45	1.77	49	1.929	1.220	0.819	225	8.858
	46	46	1.81	50	1.969	1.260	0.845	230	9.055
2	51	51	2.01	55	2.165	1.430	0.960	250	9.843
	52	52	2.05	56	2.205	1.490	1.000	260	10.236
2.1/4"	57	57	2.24	61	2.402	1.640	1.100	275	10.827
	60	60	2.36	64.5	2.539	1.750	1.174	300	11.811
2.1/2"	65	65	2.56	67.5	2.657	1.910	1.282	325	12.795
	70	70	2.76	74.5	2.933	2.070	1.389	350	13.780
3"	76	76	2.99	80.5	3.169	2.230	1.496	375	14.764
	80	80	3.15	84.5	3.327	2.390	1.604	400	15.748
	85	85	3.35	89.5	3.524	2.550	1.711	425	16.732
3.1/2"	87	87	3.43	91.5	3.602	2.610	1.751	435	17.126
	90	90	3.54	94.5	3.720	2.700	1.812	450	17.717
	101	101	3.98	105.5	4.154	3.000	2.013	500	19.685
4"	110	110	4.33	114.5	4.508	3.480	2.335	550	21.654
	115	115	4.53	119.5	4.705	3.720	2.496	575	22.638
	120	120	4.72	124.5	4.902	3.960	2.657	600	23.622
5"	130	130	5.12	134.5	5.295	4.320	2.899	650	25.591
	140	140	5.51	144.5	5.689	4.500	3.020	700	27.559
6"	150	150	6	154.5	6.083	4.700	3.154	750	29.528

## DOUBLE INTERLOCK 1.16 TECHNICAL SPECIFICATION FOR DOUBLE INTERLOCK



CIRCULAR CROSS SECTION



INTERLOCK - UNPACKED									
NOMINAL SIZE		ID		OD		WEIGHT		MIN BEND RAD +10%	
INCH	MM	MM	INCH	MM	INCH	KG/M	LBS	MM	INCH
3/8"	9	9	0.35	12	0.472	0.145	0.097	45	1.772
	10	10	0.39	13	0.512	0.160	0.107	50	1.969
	11	11	0.43	14	0.551	0.190	0.127	55	2.165
1/2"	12	12	0.47	15	0.591	0.213	0.143	65	2.559
	13	13	0.51	16	0.630	0.230	0.154	70	2.756
	14	14	0.55	17	0.669	0.248	0.166	75	2.953
5/8"	15	15	0.59	18	0.709	0.265	0.178	80	3.150
	16	16	0.63	19	0.748	0.283	0.190	82	3.228
	17	17	0.67	20	0.787	0.301	0.202	85	3.346
3/4"	18	18	0.71	21	0.827	0.319	0.214	90	3.543
	18	18	0.71	22	0.866	0.335	0.225	90	3.543
	19	19	0.75	23	0.906	0.350	0.235	95	3.740
1"	20	20	0.79	24	0.945	0.370	0.248	100	3.937
	21	21	0.83	25	0.984	0.390	0.262	105	4.134
	22	22	0.87	26	1.024	0.400	0.268	110	4.331
1.1/8"	23	23	0.91	27	1.063	0.420	0.282	115	4.528
	24	24	0.94	28	1.102	0.440	0.295	120	4.724
	25	25	0.98	29	1.142	0.460	0.309	125	4.921
1.1/4"	26	26	1.02	30	1.181	0.480	0.322	130	5.118
	27	27	1.06	31	1.220	0.500	0.336	135	5.315
	28	28	1.10	32	1.260	0.520	0.349	140	5.512
1.1/2"	29	29	1.14	33	1.299	0.540	0.362	145	5.709
	32	32	1.26	35.0	1.378	0.580	0.389	160	6.299
1.3/4"	40	40	1.57	43.5	1.713	0.690	0.463	180	7.087
	45	45	1.77	48.5	1.909	0.800	0.537	190	7.480

2"	50	50	1.97	53.5	2.106	1.450	0.973	205	8.071
2.3/16"	55	55	2.17	59.5	2.343	1.600	1.074	225	8.858
2.3/8"	60	60	2.36	64.0	2.520	1.740	1.168	234	9.213
2.1/2"	65	65	2.56	69.0	2.717	1.890	1.268	245	9.646
2.5/8"	70	70	2.76	74.0	2.913	2.030	1.362	273	10.748
3"	75	75	2.95	79.0	3.110	2.180	1.463	293	11.535
3.5/16"	80	80	3.15	84.0	3.307	2.320	1.557	312	12.283
3.3/8"	85	85	3.35	89.0	3.504	2.450	1.644	330	12.992
4"	100	100	3.94	105.0	4.134	2.900	1.946	390	15.354
4.3/8"	110	110	4.33	115.0	4.528	3.090	2.073	430	16.929
4.3/4"	120	120	4.72	125.0	4.921	3.480	2.335	468	18.425
5"	125	125	4.92	130.0	5.118	3.630	2.436	490	19.291
5.1/4"	130	130	5.12	135.0	5.315	4.790	3.214	620	24.409
5.5/8"	140	140	5.51	145.0	5.709	5.250	3.523	665	26.181
6"	150	150	5.91	155.0	6.102	5.550	3.724	715	28.150
7.1/2"	190	190	7.48	195.0	7.677	7.000	4.697	905	35.630
8"	200	200	7.9	205.0	8.071	7.400	4.965	950	37.402
9.1/2"	240	240	9.45	245.0	9.646	8.850	5.938	1150	45.276
12"	300	300	11.8	305.0	12.008	11.050	7.415	1440	56.693

## 1.17 TECHNICAL SPECIFICATION FOR SQUARE LOCK ROUND CROSS SECTION



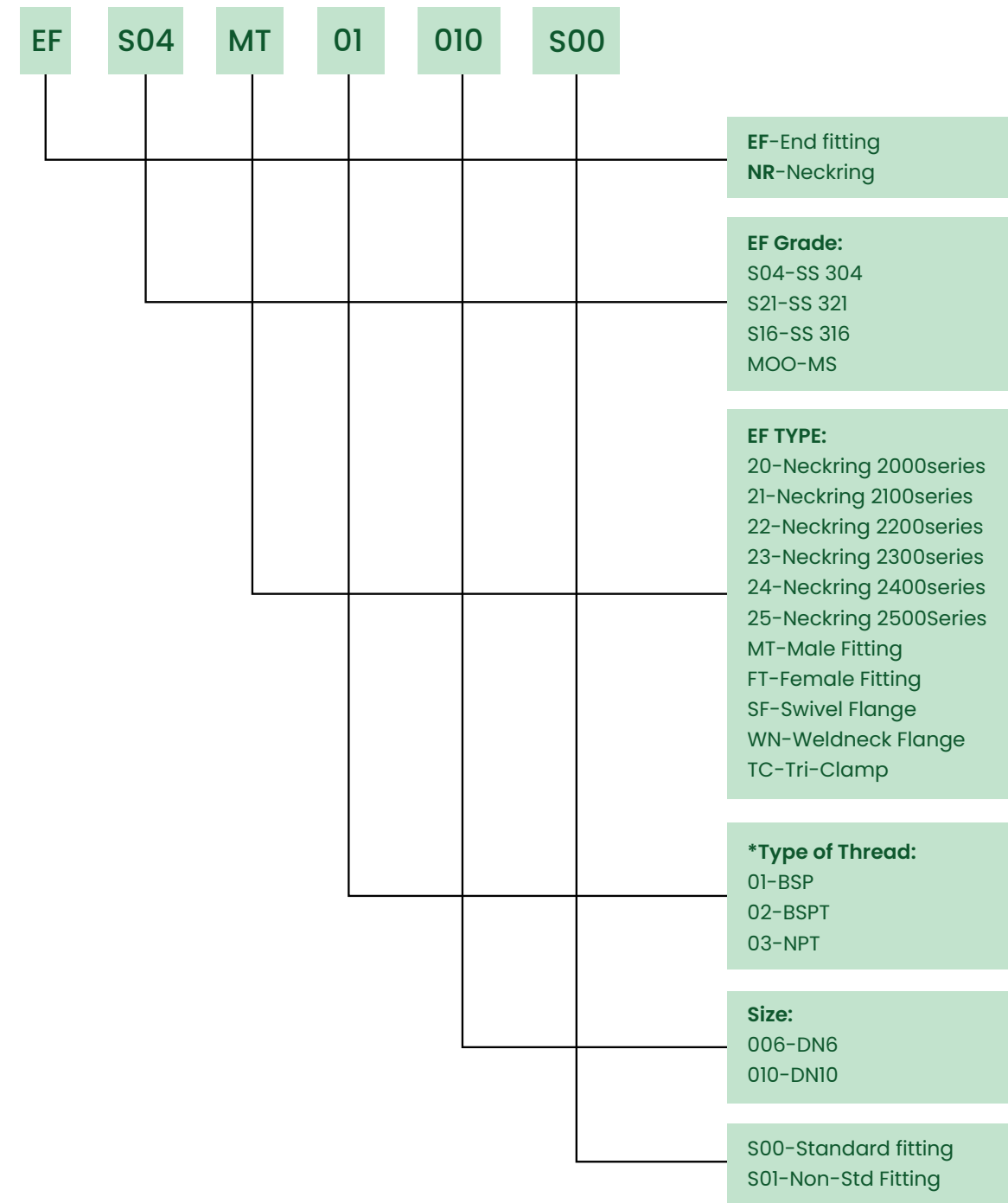
SQUAELOCK - UNPACKED									
NOMINAL SIZE		ID		OD		WEIGHT ±10%		MIN BEND RAD +10%	
INCH	MM	MM	INCH	MM	INCH	KG/M	LBS	MM	INCH
3/8"	8	8.73	0.34	11.51	0.453	0.1	0.067	22	0.866
	9	9.53	0.38	12.70	0.500	0.11	0.074	25	0.984
	11	11.11	0.44	14.29	0.563	0.12	0.081	31	1.220
1/2"	12	12.7	0.50	15.88	0.625	0.125	0.084	32	1.260
	14	14.29	0.56	17.46	0.687	0.140	0.094	35	1.378
	15	15.88	0.63	19.05	0.750	0.150	0.101	37	1.457
3/4"	19	19.05	0.75	24.61	0.969	0.215	0.144	40	1.575
	22	22.23	0.88	25.4	1.000	0.280	0.188	48	1.890
1"	25	25.40	1.00	28.58	1.125	0.292	0.196	60	2.362



# END FITTINGS



## 2.1 PRODUCT NOMENCLATURE (End Fitting)



**Note:** \*Thread can be use as per customer requirement.

## 2.2 END FITTING

### Weldmale

**Material** : SS 304 / SS 316L / CS

**Thread** : BSP-01, BSPT-02, NPT-03, NPSM-04,  
GasPitch-05, M22 X1.5-06

SIZE	1/4"	3/8"	1/2"	3/4"	1"	1.1/4"	1.1/2"	2"	2.1/2"	3"
L(IN)	1.04	1.04	1.20	1.310	1.390	1.610	1.690	1.730	1.97	1.97

### Weld Neck Flange / Fixed Flange

**Material** : SS 304 / SS 316L / CS

**Flange** : ANSI, DIN, JIS, TABLE FLANGE & as per customer req

**Class** : #150-01, #300-02

SIZE	1/2"	3/4"	1"	1.1/4"	1.1/2"	2"	2.1/2"	3"	4"	5"	6"	8"	10"	12"
L(IN)-#150	1.81	2	2.12	2.19	2.38	2.44	2.69	2.69	2.94	3.44	3.44	3.94	3.94	4.44
L(IN)-#300	2	2.19	2.38	2.5	2.63	2.69	2.94	3.06	3.32	3.82	3.82	4.32	4.56	5.06

### Swivel Flange

**Material** : SS 304 / SS 316L / CS

**Flange** : ANSI, DIN, JIS, TABLE FLANGE & as per customer req

**Class** : #150-01, #300-02

SIZE	1/2"	3/4"	1"	1.1/4"	1.1/2"	2"	2.1/2"	3"	4"	5"	6"	8"	10"	12"
L(IN)-#150	0.38	0.44	0.5	0.56	0.62	0.69	0.81	0.88	0.88	0.88	0.94	1.06	1.12	1.19
L(IN)-#300	0.5	0.56	0.62	0.69	0.75	0.81	0.94	1.06	1.19	1.31	1.38	1.56	1.81	1.94

### Hex Nut / Female

**Material** : SS 304 / SS 316L / CS

**Thread** : BSP, BSPT, NPT, NPSM

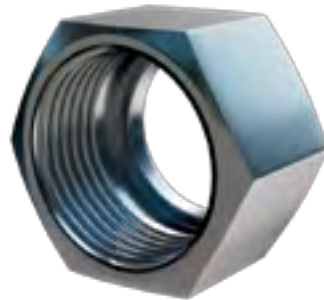
**Thread** : BSP-01, BSPT-02, NPT-03, NPSM-04, GasPitch-05, M22 X1.5-06

SIZE	1/4"	3/8"	1/2"	3/4"	1"	1.1/4"	1.1/2"	2"	3"
L(IN)	0.669	0.709	0.787	0.866	0.945	1.024	1.102	1.181	1.378
AF(IN)	0.748	0.866	1.063	1.260	1.496	1.969	2.165	2.559	3.858

### TC -Clamp

**Material** : SS 304 / SS 316L / CS

SIZE	1/2"	3/4"	1"	1.1/2"	2"	2.1/2"	3"	4"	6"	8"
A(IN)	1.125	1.125	1.125	1.125	1.125	1.125	1.125	1.125	1.5	1.5
B(IN)	0.370	0.620	0.870	1.370	1.870	2.370	2.870	3.834	5.782	7.760
C(IN)	0.5	0.75	1	1.5	2	2.5	3	4	6	8



# ASSEMBLED HOSE





### 3.1 CORRUGATED METAL HOSE (DESIGNING AN ASSEMBLY)

#### Analyzing an Application

#### S.T.A.M.P.E.D.

To properly design a metal hose assembly for a particular application, the following design parameters must be determined. To help remember them, they have been arranged to form the acronym "S.T.A.M.P.E.D."

#### SIZE

The diameter of the connections in which the assembly will be installed is needed to provide a proper fit. This information is required.

#### TEMPERATURE

As the temperature to which the assembly is exposed (internally and externally) increases, the strength of the assembly's components decreases. Also, the coldest temperature to which the hose will be exposed can affect the assembly procedure and/or fitting materials. If you do not provide this information, it will be assumed that the temperatures are 70°F.

#### APPLICATION

This refers to the configuration in which the assembly is installed. This includes both the dimensions of the assembly as well as the details of any movement that the assembly will experience. This information is necessary to calculate assembly length and required flexibility.

#### MEDIA

Identify all chemicals to which the assembly will be exposed, both internally and externally. This is important since you must be sure that the assembly's components are chemically compatible with the media going through the hose as well as the environment in which the hose is installed. If no media is given, it will be assumed that both the media and the external environment are compatible with all of the available materials for each component.

#### PRESSURE

Identify the internal pressure to which the assembly will be exposed. Also, determine if the pressure is constant or if there are cycles or spikes. This information is important to determine if the assembly is strong enough for the application. If no pressure is given it will be assumed that the pressure is low and there are no pressure surges or spikes.

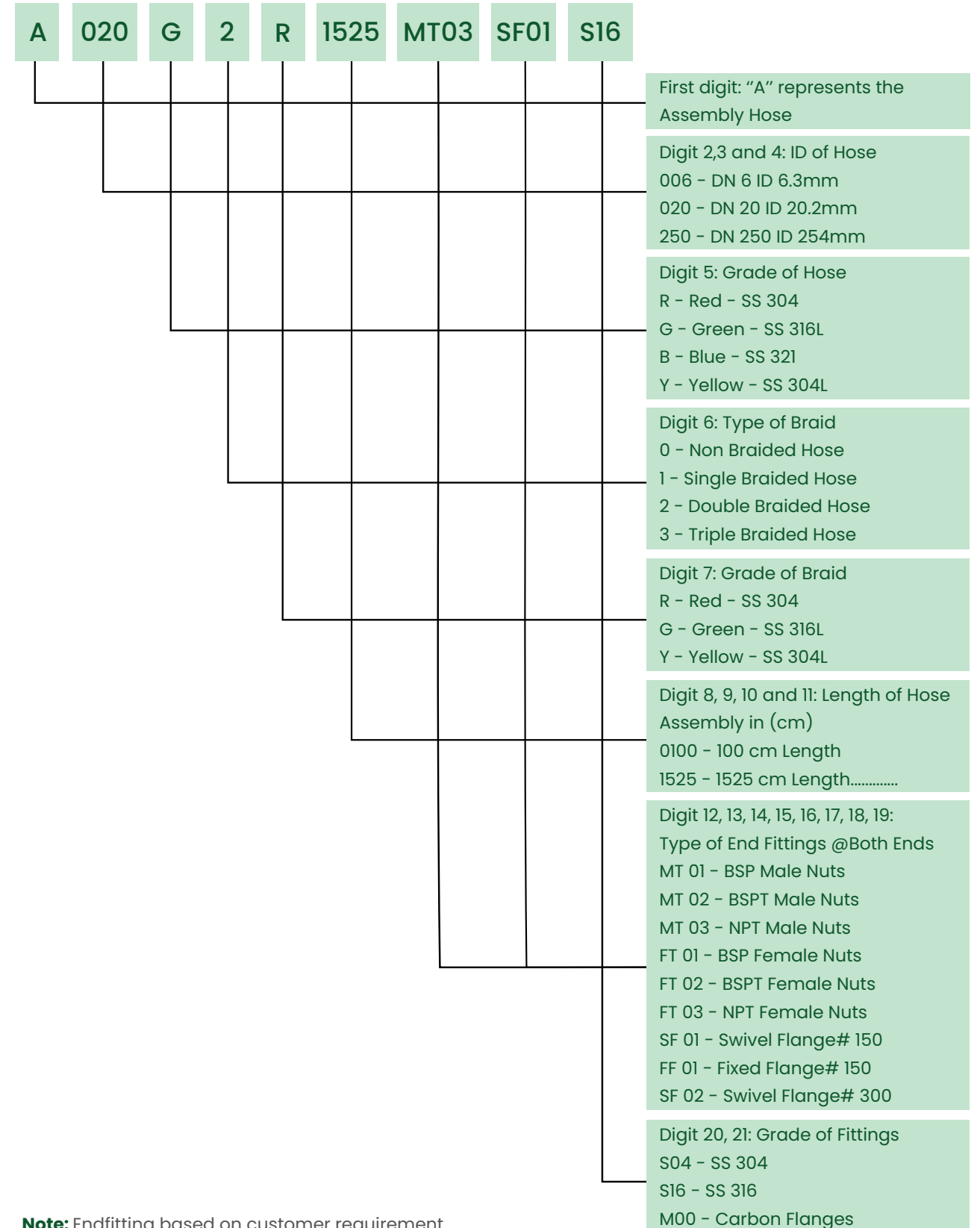
#### END FITTINGS

Identify the necessary end fittings. This is required since fittings for the assembly must be chosen to properly fit the mating connections.

#### DYNAMICS

Identify the velocity at which the media will flow through the assembly. Since a corrugated metal hose does not have a smooth interior, rapid media flow can set up a resonant frequency that will cause the hose to vibrate and prematurely fail. If no velocity is given, it will be assumed that the velocity is not fast enough to affect the assembly's performance.

### 3.2 PRODUCT NOMENCLATURE (Assembled Hose)





### 3.3 PUMP CONNECTOR

This Pump Connector is used to absorb noise and vibration on a piping system, and help to avoid piping stress.

**Type:**

1. Flexible Flange Pump Connector
2. Threaded Pump Connector

#### Flexible Flange Pump Connector

**Features:**

- Hose Material** : SS304 , SS316L & SS321
- Braid Material** : SS304 & SS316L
- Type of Braid** : Single Braid/Double Braid
- Size** : DN 50 to DN 300
- End Fitting** : Fixed Flange/Swivel Flange
- End Fitting Material** : MS/SS
- End Fitting Dim** : #150, #300, Table E& H Flange
- Application** : Heavy Duty
- Packing** : Individual box with Weight Balancing Stiffener



HOSE ID (INCH)	PART NO	*OAL (INCH)	*LIVE LENGTH (INCH)	*FITTING LENGTH (EACH END)	WORKING PRESSURE @70°F PSI-SB
2"	PC-050-FF	9"	5.3/4"	5/8"	465
2.1/2"	PC-065-FF	9"	5.3/4"	5/8"	435
3"	PC-080-FF	9"	5.3/4"	5/8"	363
4"	PC-100-FF	9"	5.3/4"	5/8"	275
5"	PC-125-FF	11"	7.1/2"	3/4"	203
6"	PC-150-FF	11"	7.1/2"	3/4"	145
8"	PC-200-FF	12"	8"	1"	116
10"	PC-250-FF	13"	9"	1"	108
12"	PC-300-FF	14"	10"	1"	87

#### Threaded Pump Connector

**Features:**

- Hose Material** : SS304 , SS316L & SS321
- Braid Material** : SS304 & SS316L
- Type of Braid** : Single Braid/ Double Braid
- Size** : DN 12 to DN 50
- End Fitting** : Threaded male connector /Female fitting
- End Fitting Material** : MS/SS
- Application** : low-pressure utility applications.

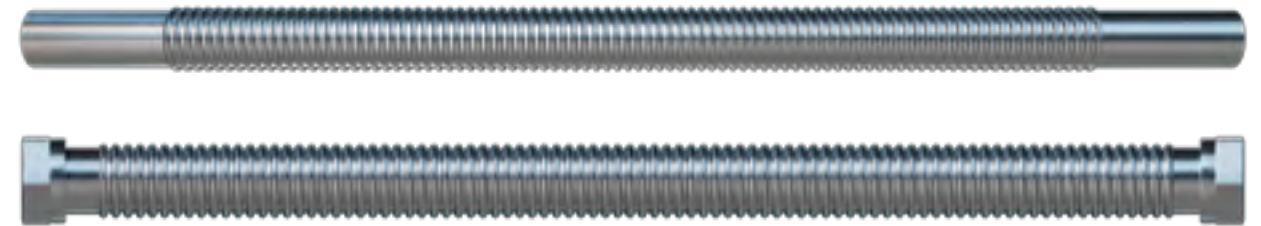


HOSE ID (INCH)	PART NO	*OAL (INCH)	*LIVE LENGTH (INCH)	*FITTING LENGTH (EACH END)	WORKING PRESSURE @70°F PSI-SB
1/2"	PC-012-MM	6.1/2"	2.1/4"	1.1/2"	1088
3/4"	PC-020-MM	7"	2.1/4"	1.1/2"	900
1"	PC-025-MM	8"	3"	1.3/4"	725
1.1/4"	PC-032-MM	8.1/2"	3"	2"	667
1.1/2"	PC-040-MM	9"	3.1/2"	2"	610
2"	PC-050-MM	10.1/2"	4.1/2"	2.1/4"	465
2.1/2"	PC-065-MM	12"	5.1/2"	2.1/2"	435
3"	PC-080-MM	14"	6.1/2"	3"	363
4"	PC-100-MM	16"	7"	3.1/2"	275

**Note:** \*As per Customer requirement

### 3.4 NON-WELDED HOSE ASSEMBLY

- Hose Material** : SS304, SS316L&SS321
- End Fitting** : Threaded Type (NPT, BSPT,BSPP)
- EF Material** : CS & SS



SIZE	HOSE ID (INCH)	HOSE OD (INCH)	L (INCH)	*OAL (INCH)	WORKING PRESSURE @70°F, (PSI)
1/4"	0.24	0.4	2	39	200
5/16"	0.30	0.48	2	39	180
3/8"	0.43	0.64	2	39	100
1/2"	0.57	0.83	2	39	80
3/4"	0.81	1.21	2	39	70
1"	1.08	1.52	2	39	40

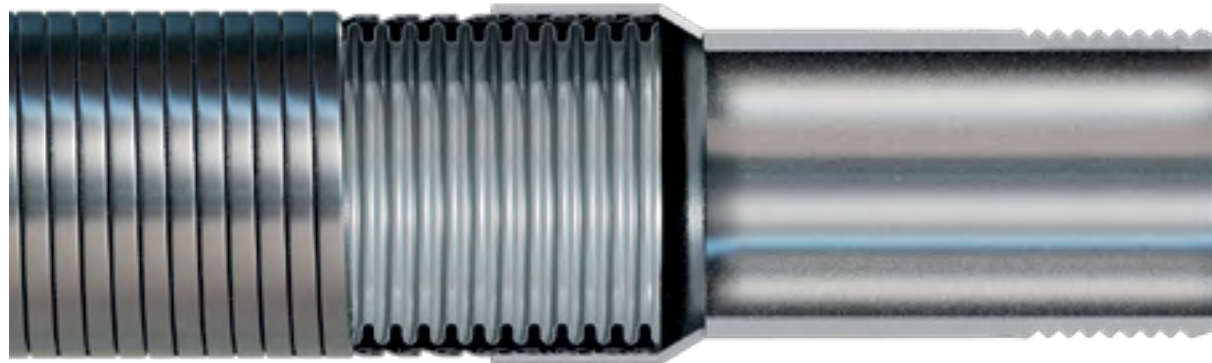
SIZE	HOSE ID (MM)	HOSE OD (MM)	L (MM)	*OAL (M)	WORKING PRESSURE @20°C, (BAR)
1/4"	6.10	10.16	50	1	13.8
5/16"	7.62	12.19	50	1	12.4
3/8"	10.92	16.26	50	1	6.9
1/2"	14.48	21.08	50	1	5.5
3/4"	20.57	30.73	50	1	4.8
1"	27.43	38.61	50	1	2.8

**Note:** \*Based on customer requirement

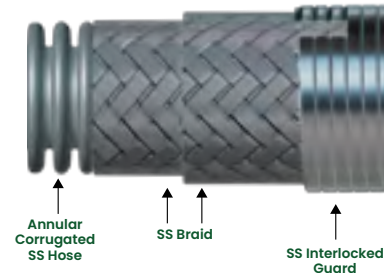
## SPECIAL HOSE

### 4.1 ARMOR & LINER

#### ARMOR



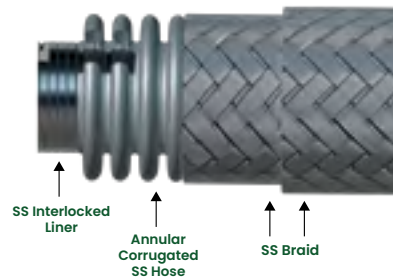
**Application:** Where a corrugated metal hose could be damaged by rough handling, abrasion, or over-bending



#### LINER



- The liner commonly serves in 2 purpose while still maintaining full working pressure of corrugated hose.
- The first is to protect the hose corrugations from excessive media velocities
- The second purpose for a liner is abrasion resistance



## 4.2 PCSCH

Corrugated Braided Hose consist of PH 2000 SERIES-HFH hose & single outer braid with outer jacket of ThermoPlastic Vulcanizates (TPV). End Fitting as per customer requirement.

### Extruded Hose Features:

- Hose Material** : PH 2000 SERIES-MFM Hose
- Braid Material** : SS304
- Jacket material** : ThermoPlastic Vulcanizates (TPV)
- Operating Temp** : -76°F to 275°F



Figure 1 - Extruded Hose Dimensions

SIZE	HOSE ID (INCH)	BRAIDED HOSE OD (INCH)	*EXTRUSION THICKNESS (INCH)	MAWP (PSIG)@ 70°F	MIN STATIC BEND RADIUS (INCH)	MIN DYNAMIC BEND RADIUS (INCH)
1/4"	0.25	0.43	0.019- 0.027	1740	0.98	4.33
5/16"	0.34	0.54	0.019- 0.027	1624	1.26	5.12
3/8"	0.39	0.62	0.019- 0.027	1407	1.5	5.91
1/2"	0.48	0.72	0.019- 0.027	1088	1.77	6.50
5/8"	0.65	0.93	0.019- 0.027	870	2.28	7.68
3/4"	0.8	1.11	0.039- 0.047	870	2.76	8.86
1"	1	1.33	0.039- 0.047	725	3.35	10.24
1.1/4"	1.32	1.69	0.051- 0.059	667	4.13	11.81
1.1/2"	1.58	2.02	0.051- 0.059	609	5.12	13.39
2"	1.98	2.47	0.051- 0.059	464	6.3	15.35

SIZE	HOSE ID (MM)	BRAIDED HOSE OD (MM)	*EXTRUSION THICKNESS (MM)	MAWP (BAR) @ 20°C	MIN STATIC BEND RADIUS (MM)	MIN DYNAMIC BEND RADIUS (MM)
1/4"	6.35	10.92	0.5-0.7	120	25	110
5/16"	8.64	13.72	0.5-0.7	112	32	130
3/8"	9.91	15.75	0.5-0.7	97	38	150
1/2"	12.19	18.29	0.5-0.7	75	45	165
5/8"	16.51	23.62	0.5-0.7	60	58	195
3/4"	20.32	28.19	1-1.2	60	70	225
1"	25.4	33.78	1-1.2	50	85	260
1.1/4"	33.53	42.93	1.3-1.5	46	105	300
1.1/2"	40.13	51.31	1.3-1.5	42	130	340
2"	50.29	62.74	1.3-1.5	32	160	390

**Note:** \*Extrusion thickness can be modified as per customer requirement.

### 4.3 JACKETED HOSE

- Keep cryogenic liquids cold
- Increase flow of viscous media
- Safety containment

A Jacketed Hose Assembly is a hose within a hose. Both inner and outer hoses act independently as separate pressure carriers. Vacuum Jacketed Hose Assemblies are typically found in cryogenic applications because of their insulation properties. Steam Jacketed Hose Assemblies are utilized when the media is viscous and steam is used to help reduce viscosity and increase flow.

Commonly used in Bitumen & Asphalt application.



### 4.4 LANCE HOSE

- Large size range available
- Customized to meet critical application requirements
- Cleaned and capped for commercial oxygen service

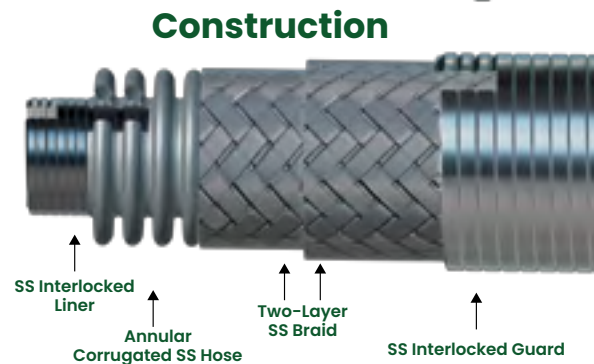
Critical applications such as supplying commercial oxygen require expertise of an experienced metal hose manufacturer. Polyhose Tofle Oxygen Lance Hose is fabricated to meet this critical application when specified. Our fabrication department can customize the hose assembly, available in sizes through 16", to include a liner (to reduce turbulence resulting from high velocity), reinforced ends, casing or special end fittings. Each hose assembly is cleaned and capped for commercial oxygen service.

#### Types of Lance Hose Assemblies

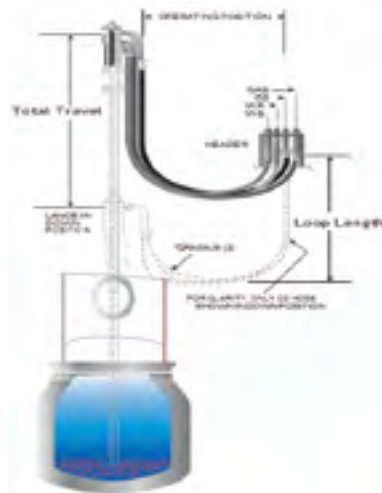
1. Oxygen Lance Hose Assembly
2. Water Lance Hose Assembly

#### Available Size of Lance Hose Assemblies

1. 4" to 10"- Oxygen Lance Hose Assembly
2. 4" to 10"- Water Lance Hose Assembly



#### Oxygen Hose Installation



### 4.5 SOLAR HOSE

Solar Hose is a flexible metal tube stainless steel material covered by High Temp Resistance EDPM Insulation designed for connecting solar heating systems.

#### Corrugated pliable tubes in AISI 304 thickness 0.3mm preinsulated with:

- EDPM closed cell structure insulation coating and covered.
- Films providing high protection from UV rays and mechanical wear.
- Special formulation of flexible expanded polyurethane that makes the tube suitable for continuous operative temperature up to 150°C.

#### Solar Hose 1 in 1



Solar hose are composed by SS tube in thick-0,3 mm with EDPM closed cell structure insulation coating and covered with mechanical ware and UV protective film.

- Low cost & Easy installation.
- Type 1 :with electric cable, Type 2: Without electric cable.

**Available Size :** DN 12, DN16, DN20 & DN25

**Steel Thickness :** 0.3mm

**Application :** Heating Systems & Solar Systems

SIZE	CONNECTION THREAD	SS THICK		*LENGTH	
		MM	INCH	M	FT
DN 12	1/2"	0.3	0.012	25	82
		0.3	0.012	50	164
DN 16	3/4"	0.3	0.012	25	82
		0.3	0.012	50	164
DN 20	1"	0.3	0.012	25	82
		0.3	0.012	50	164
DN 25	1.1/4"	0.3	0.012	25	82
		0.3	0.012	50	164

#### Solar Hose 2 in 1



Solar hose are composed by SS tube in thick- 0,3 mm with EDPM closed cell structure insulation coating and covered with mechanical ware and UV protective film.

- It can be easily separate.
- Available with electric cable.
- Easy to bend & separate with using no additional tools.

**Available Size :** DN 12, DN16, DN20 & DN25

**Steel Thickness :** 0.3mm

**Application :** Heating System & Solar system

SIZE	CONNECTION THREAD	SS THICK		*LENGTH	
		MM	INCH	M	FT
DN 12	1/2"	0.3	0.012	15	49.2
		0.3	0.012	25	82
		0.3	0.012	50	164
DN 16	3/4"	0.3	0.012	15	49.2
		0.3	0.012	25	82
		0.3	0.012	50	164
DN 20	1"	0.3	0.012	15	49.2
		0.3	0.012	25	82
		0.3	0.012	50	164
DN 25	1.1/4"	0.3	0.012	15	49.2
		0.3	0.012	25	82
		0.3	0.012	50	164



### Solar Hose 1 in 1 with Red Roof



Solar hose are composed by SS Tube thickness 0,3 mm with red roof color low thickness thermal insulation in expanded polyurethane and covered with mechanical ware and UV protective film.

**Available type:** without electric cable

**Available Size :** DN16 & DN20

**Steel Thickness :** 0.3mm

**Application :** High Working Temp

SIZE	CONNECTION THREAD	SS THICK		*LENGTH	
		MM	INCH	M	FT
DN 16	3/4"	0.3	0.012	25	82
		0.3	0.012	50	164
		0.3	0.012	100	328
DN 20	1"	0.3	0.012	25	82
		0.3	0.012	50	164
		0.3	0.012	100	328

### Solar Hose 2 in 1 with Red Roof



Solar Double Presses are composed by PCSSH in AISI 304, thickness 0.3mm with red roof color low thickness thermal insulation in expanded polyurethane and covered with mechanical ware and UV protective film.

Solar Double Presses are coupled and can be separated easily. This tube can be hand-bended to make easier the laying of the line both inside and outside the buildings.

**Available Size :** DN16 & DN20

**Steel Thickness :** 0.3mm

**Application :** High Working Temp

SIZE	CONNECTION THREAD	SS THICK		*LENGTH	
		MM	INCH	M	FT
DN 16	3/4"	0.3	0.012	25	82
		0.3	0.012	50	164
		0.3	0.012	100	328
DN 20	1"	0.3	0.012	25	82
		0.3	0.012	50	164
		0.3	0.012	100	328

### Solar Thin Power



Solar Thin Power-Mono Hoses are composed by CSST tube in AISI 304, thickness 0.3mm, preinsulated with a special formulation of flexible expanded polyurethane that makes the tube suitable for continuous operative temperature up to 150°C

**Available Size :** DN16 & DN20

**Steel Thickness :** 0.3mm

**Note:** \*Length as per customer requirement

SIZE	CONNECTION THREAD	SS THICK		*LENGTH	
		MM	INCH	M	FT
DN 16	3/4"	0.3	0.012	25	82
		0.3	0.012	50	164
		0.3	0.012	100	328
		0.3	0.012	150	492
		0.3	0.012	200	656
DN 20	1"	0.3	0.012	25	82
		0.3	0.012	50	164
		0.3	0.012	100	328
		0.3	0.012	150	492
		0.3	0.012	200	656

## 4.6 BOILER HOSE

- Profile of the boiler hoses is similar to solar hose, but the wall thickness is larger.
- These hoses have a longer life at high pressure due to their high wall thickness.
- It is used in the manufacture of heat exchangers, especially boilers.

### Application:

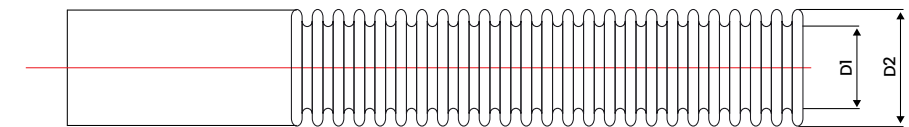
- Boiler System, heat pump, Hot& cold water pipelines

### Advantages:

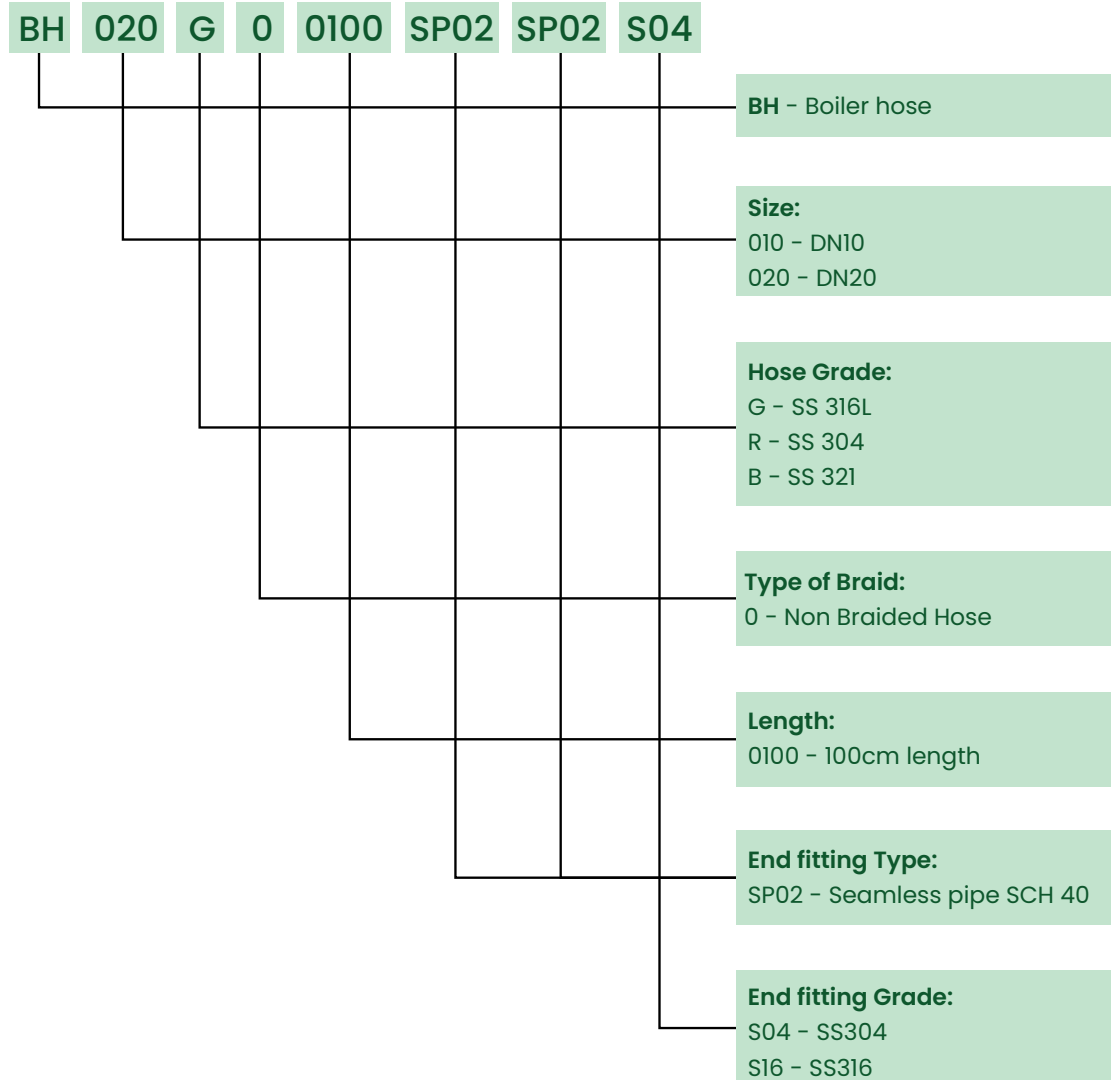
- Large surface areas.
- High heat transfer efficiency.
- Can be supplied in one long piece length.
- Heating surface without calcification for heating.
- High acid and corrosion resistance with its stainless steel body.
- Can be installed easily different boiler type with its flexible body.

### Design Values:

- without braid
- Hose Material-316L
- Fitting Material- 304,316L
- Working Pressure 0-10barg
- Size:DN 20-DN 40



DN		TYPE	D1(ID)	D2(OD)	TOLERANCE	WORKING PRESSURE AT 20°C	SURFACE AREA	WEIGHT	LENGTH
MM	INCH		MM	MM	MM	BARG	M <sup>2</sup> /M	KG/M	M
20	3/4"	G020MFMX000Z	20.2	26.7	±0.3	12	0.18	0.27	10-100
25	1"	G025MFMX000Z	25.3	32.3	±0.4	10	0.23	0.36	10-100
32	1.1/4"	G032MFMX000Z	33.6	41.2	±0.4	10	0.31	0.54	10-100
40	1.1/2"	G040MFMX000Z	40	49.5	±0.4	10	0.36	0.70	10-100



## 4.7 FLEXIBLE METALIC ELECTRICAL CONDUIT

### Conduit:

- Construction** : SS 304/GI, Helicaly wound, flexible conduit with PVC coating
- Application** : General factory Wiring & Connections to machine
- Temp** : -15°C to 70°C
- Size** : 3/8" to 1"

### Key Features:

- High Compression Strength
- High Pull-Off Strength
- High Abrasion Resistance
- High Impact Strength
- Suitable for Heavy-Duty Applications
- Reduce risk of water or dust ingress



NOMINAL SIZE		ID		SQUARELOCK-OD		PVC THICK	
INCH	MM	MM	INCH	MM	INCH	MM	INCH
3/8"	8	8.73	0.34	11.51	0.453	0.3-0.5	0.012-0.020
	9	9.53	0.38	12.70	0.500	0.3-0.5	0.012-0.020
	11	11.11	0.44	14.29	0.563	0.3-0.5	0.012-0.020
1/2"	12	12.7	0.50	15.88	0.625	0.3-0.5	0.012-0.020
	14	14.29	0.56	17.46	0.687	0.3-0.5	0.012-0.020
	15	15.88	0.63	19.05	0.750	0.3-0.5	0.012-0.020
3/4"	19	19.05	0.75	24.61	0.969	0.3-0.5	0.012-0.020
	22	22.23	0.88	25.4	1.000	0.3-0.5	0.012-0.020
1"	25	25.40	1.00	28.58	1.125	0.3-0.5	0.012-0.020

## 5.1 ISO 10380 & TESTING

### ISO

ISO or International Standards Organization was created to establish worldwide standards for industry. They are responsible for the formulation of standards regarding quality assurance of specific products. The ISO 10380 standard was developed to help define the industry requirements for design, manufacture and testing of corrugated metal hoses and hose assemblies. The following is a summary of the various sections covered in this standard.

### Materials

ISO 10380 specification lists the more popular materials used in the manufacture of corrugated metal hoses, braids, ferrules, and end fittings. Two of the most common materials used for corrugated metal hoses are austenitic stainless steel and copper-based alloys.

The specification is very clear that the material used in manufacturing the corrugated metal hose shall be selected on the basis of their suitability for forming or welding and for the application conditions under which they will operate. Materials other than those listed above may be selected by agreement between the manufacturer and the user.

### Critical Dimensions

Details and requirements specified in this section include hose diameter, bend radii and overall length tolerances. It is common for manufacturers to list their nominal hose diameter in published literature. ISO 10380 lists the requirement that the actual hose inside diameter will be at least 98% of the nominal hose size. The bend radius covered in the specification includes nominal static and nominal dynamic bend radius. Dynamic bend radius is used in cycle life fatigue testing. Overall length tolerances listed in the ISO 10380 are -1% to +3%.

### Design

#### Pressure

The specification lists the maximum permissible pressure ratings to be used in testing performed in accordance with ISO 10380.

#### Elevated Temperatures

Pressure reduction for elevated temperature conditions is critical in applying the proper metal hose for an application. This specification provides for a method of determining the maximum service

we pressure for a metal hose assembly under these conditions.

#### Low Temperatures

The materials listed in the specification, with the exception of carbon steel, do not need to be derated in low temperature applications down to -392°F or -200°C. Carbon steel material used for end fittings may be used to a minimum temperature of -68°F or -20°C.

#### Cycle Life

Corrugated metal hose bend radius and minimum acceptable cycle life design requirements are outlined. Values and test criteria for meeting static and dynamic bend radii are also listed.

### Construction

#### Hose

Manufacturing and corrugation designs are addressed by the ISO 10380 specification. Seamless or longitudinally-welded tube may be corrugated into annular or helical corrugation designs. Details of methods for joining or segmenting metal hose are also listed.

#### Braid

ISO 10380 specifications are broad for the design of the braid.

#### Methods of Assembly

Many different methods of fitting attachment and unacceptable weld characteristics are outlined by the ISO 10380 specification. The use of protective covers is also addressed.

### Testing

#### General Tests

Bend, fatigue, and burst test requirements are defined by ISO 10380. Polyhose Tofle performs each of these tests when designing or qualifying our products. The fatigue test is widely recognized in the metal hose industry as a standard for cycle life testing. While ISO 10380 lists the average number of cycles of 50,000 at their specified pressure ratings, Polyhose Tofle performs testing at our published maximum working pressure.

#### Production Tests

Several types of non-destructive testing are addressed by the specification. These include pressure proof test by hydraulic pressure or pneumatic pressure and leakage test by pneumatic or vacuum testing. Cleaning and marking of metal hose assemblies is outlined.

## 5.2 TESTING

**1. Non-Destructive Testing:** Evaluate the properties of a material, component, structure or system without causing any damage.

**2. Destructive Testing:** A test method conducted to find the exact point of failure of materials, components, or machines. During the process, the tested item undergoes stress that eventually deforms or destroys the material.

### Non-Destructive Testing:

#### 1. Dye Penetrant

Dye penetrant testing is available for both leak and weld bead inspection, in accordance with Polyhose Tofle procedures or to customer-specified standards.

#### 2. Hydrostatic Testing

While the standard test is designed to detect leaks, hydrostatic testing is designed to test the assembly's strength. Testing of an assembly to its full permissible test pressure can be economically and accurately accomplished by filling the assembly with liquid while concurrently evacuating all air. The assembly is then hydrostatically pressurized using high pressure pumps and the test pressure is maintained for a predetermined period of time.

#### 3. Pneumatic Test

Every corrugated hose assembly is leak tested prior to shipment. Standard testing consists of pressurizing the assembly with air and then submerging the entire assembly under water. This method is reliable and sufficient for the majority of applications.

### Destructive Testing:

#### 1. Burst Test

Normally, hydraulic pressure is slowly increased until failure occurs. Based on the burst test results, a safety factor is applied. This establishes the ultimate pressure rating.

#### 2. Cycle Test

**Purpose:** To find fatigue life of Braided Hose

**Testing Frequency –** As per ISO 10380

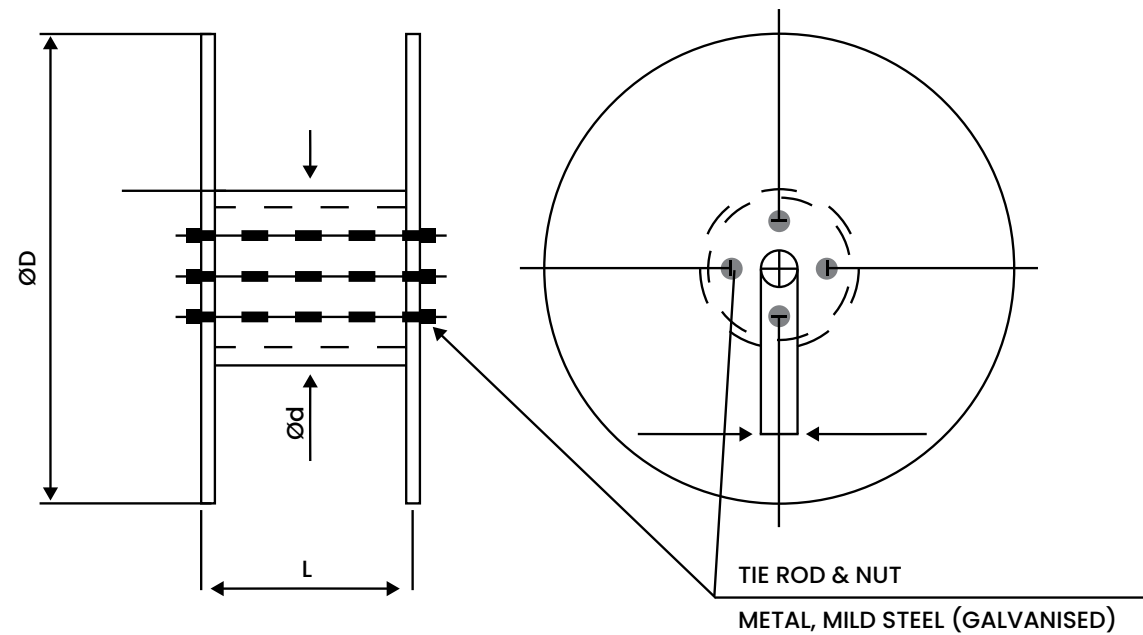
**Sizes of Testing :** DN 6 to DN 300



## 6 PHTO PACKING METHOD

- Bundles wrapped with bubble sheets.
- Bundles wrapped with PV Woven fabric.
- Only braids can be packed in boxes and loaded in container.
- Container loading for bulk hose will be planned according to ordered sizes.

### PACKING METHOD-REEL TYPE



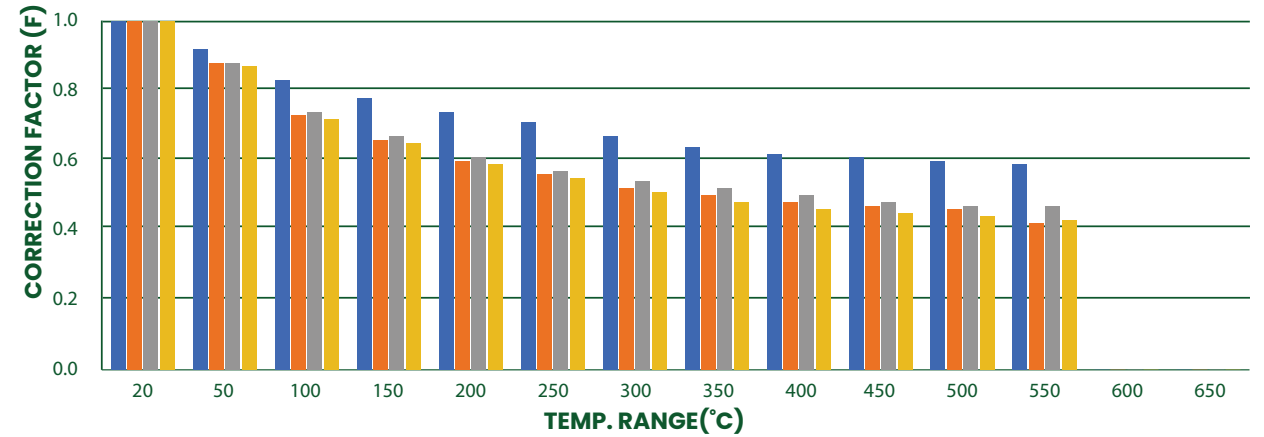
WOODEN REEL CAPACITY		
HOSE SIZE	DRUM TYPE	CAPACITY IN METER
1/4"	INC 1	300
	INC 2	1300
5/16"	INC 1	250
	INC 2	750
3/8"	INC 1	150
	INC 2	700
1/2"	INC 1	150
	INC 2	500
5/8"	INC 2	300
	INC 3	750
	MASTER	200
3/4"	INC 2	200
	MASTER	650
1"	INC 2	150
	MASTER	600
1.1/4"	INC 3	150
	MASTER	300
1.1/2"	INC 3	120
	MASTER	250
2"	INC 3	75
	MASTER	180

TYPE	ØD(INCH)	Ød(INCH)	L(INCH)
INC 1	21.7	10.43	13.8
INC 2	27.6	9.45	22
INC 3	39.4	13.78	22.4
MASTER	43.3	18.11	32.7

**Note:** Packing can be customised as per customer requirement.

## 7.1 TEMPERATURE CORRECTION FACTOR(F)

When hoses are required to work at higher temperatures, the working pressure given in the table should be multiplied by the correction factor. This will determine the pressure rating of the hoses for higher temperatures.



TEMP.RANGE(°C)	20	50	100	150	200	250	300	350	400	450	500	550	600	650
■ 1.4541	1	0.92	0.83	0.78	0.74	0.71	0.67	0.64	0.62	0.61	0.6	0.59	0	0
■ 1.4301	1	0.88	0.73	0.66	0.6	0.56	0.52	0.5	0.48	0.47	0.46	0.42	0	0
■ 1.4404	1	0.88	0.74	0.67	0.61	0.57	0.54	0.52	0.5	0.48	0.47	0.47	0	0
■ 1.4306	1	0.87	0.72	0.65	0.59	0.55	0.51	0.48	0.46	0.45	0.44	0.43	0	0

TEMP RANGE(°C)	1.4541	1.4301	1.4404	1.4306	CARBON STEEL
	SS 321	SS 304	SS 316L	SS 304L	
-200 TO -20	1	1	1	1	1
20	1	1	1	1	1
50	0.92	0.88	0.88	0.87	0.97
100	0.83	0.73	0.74	0.72	0.91
150	0.78	0.66	0.67	0.65	0.84
200	0.74	0.6	0.62	0.59	0.77
250	0.71	0.56	0.58	0.55	0.71
300	0.67	0.52	0.54	0.51	0.65
350	0.64	0.5	0.52	0.48	0.6
400	0.62	0.48	0.5	0.46	0.57
450	0.67	0.47	0.48	0.45	0.29
500	0.6	0.46	0.47	0.44	0.18
550	0.59	0.42	0.47	0.43	--
600	--	--	--	--	--
650	--	--	--	--	--

## 7.2 CORROSION RESISTANCE

	SS304L	SS316L	SS321		SS304L	SS316L	SS321
Acetic acid				Ammonia (anhydrous)			
5 % to 20 % agitated or aerated	A	A	A	All concentrations	A	A	A
50 %, 20 °C	A	A	A	Hot Gas	C	C	C
50 % to 80%, boiling	C	B	C	Ammonium chloride			
80%,20°C	A	A	A	1%	A	A	A
100%,20°C	A	A	A	10%	A	A	A
100 %, boiling	C	B	C	28%	B	A	B
Acetic anhydride	A	A	A	50%	B	A	B
Acetone, boiling	A	A	A	Ammonium bromide	B	A	B
Acetyl chloride, boiling	B	B	B	Ammonium bicarbonate, hot	A	A	A
Acetylene	A	A	A	Ammonium carbonate, 1% & 5%	A	A	A
Acid Salt Mixture	A	A	A	Ammonia liquor			
Air	A	A	A	20°C	A	A	A
Aluminium acetate, saturated	A	A	A	Boiling	A	A	A
Aluminium hydroxide, saturated	A	A	A	Ammonium monophosphate	A	A	A
Aluminium sulfate				Ammonium oxalate 5%	A	A	A
5%	A	A	A	Ammonium perchlorate 10% boiling	A	A	A
10% ,20°C	A	A	A	Ammonium sulfite, 20° boiling	A	A	A
10% ,boiling	B	A	B	Aniline			
Saturated, 20°C	A	A	A	3%	A	A	A
Saturated, boiling	B	A	B	Concentrated Crude	A	A	A
Aluminium potassium sulfate (alum)				Argon (refrigerated liquid)	A	A	A
2% to 1%, 20°C	A	A	A	Barium carbonate	A	A	A
10% , boiling	B	A	B	Barium chloride, 5% saturated	A	A	A
Saturated	C	B	C	Barium hydroxide, aqueous solution, hot	A	A	A
Amyl acetate, concentrate	A	A	A	Barium nitrate, Aqueous solution hot	A	A	A
Amyl chloride	A	A	A	Barium sulfate	A	A	A
				Barium sulfide, saturated solution	A	A	A
				Benzene (Benzol) 20°C or hot	A	A	A
				Benzoic Acid	A	A	A
				Bitumen	A	A	A
				Butane			
				-50°C	A	A	A
				20°C	A	A	A
				Butyl Acid 5%	A	A	A
				Aqueous solution, dilution of 0.964g/l	A	A	A
				Calcium carbonate	A	A	A
				Calcium chlorate, dilute solution	A	A	A
				Calcium chlorite, dilute or concentrate solution	B	A	B
				Calcium hypochlorite, 2%	B	A	B
				Calcium hydroxide 10% to 20%	A	A	A
				Calcium sulfate, saturated	A	A	A
				Carbonated Water	A	A	A
				Carbonic acid, saturated solution	A	A	A
				Carbon dioxide			
				Dry	A	A	A
				Moist	A	A	A
				Carbon disulfite	A	A	A
				Carbon tetrachloride			
				CP	A	A	A
				Dry CP	A	A	A
				Commercial +1% water	C	C	C
				Cellulose	A	A	A
				Chloroacetic acid	C	C	C

**Note:** A-Recommended, B-Partially resist, C-Not Recommended

## 7.2 CORROSION RESISTANCE

	SS304L	SS316L	SS321		SS304L	SS316L	SS321
Chlorine Gas				Oxalic Acid	C	C	C
Dry	C	C	C	5%, 10% 20°C	C	C	C
Moist	C	C	C	10% boiling	A	A	A
Chlorinated Water, saturated	A	A	A	25%, 50% boiling	A	A	A
Chloroform	A	A	A	Paraffin Hot	C	B	C
Chromium (VI) Acid (Chromic Acid)				Petrol	A	A	A
5% CP	A	A	A	Petroleum Ether	A	A	A
10%	C	B	C	Phenol			
Chromium plating bath	A	A	A	Picric Acid	A	A	A
Chloroethane (Ethyl chloride)	A	A	A	Potassium bromide	B	A	B
Citric Acid				Potassium hypochlorite	A	A	A
5% still	A	A	A	Potassium permanganate, 5%	C	C	C
15% still, 20°C	A	A	A	Potassium sulfite (salt)	A	A	A
15% boiling	B	A	B	Propane	C	C	C
Copper (II) acetate, saturated solution	A	A	A	-50°C			
Copper (II) cyanide, saturated solution	A	A	A	20°C	B	A	B
Creosote (coal tar)	A	A	A	Pyrogallol (Pyrogalllic Acid)	B	A	B
Creosote Oil	A	A	A	Quinine bisulfate, Dry			
Cyanogen Gas	A	A	A	Quinine sulfate, Dry	C	B	C
Developing Solution	A	A	A	Resin			
Diethyl ether	A	A	A	Sea Water	B	A	B
Disodium tetraborate (Borax), 5%	A	A	A	Silver bromide	C	C	C
Distillery Wort	A	A	A	Silver nitrate	C	C	C
Dyewood Liquor	A	A	A	Soap			
Ethylene glycol	A	A	A	Sodium acetate, moist	A	A	A
Ethanol (Ethyl Alcohol 20°C & boiling)	A	A	A	Sodium carbonate			
Ethyl acetate, concentrated solution	A	A	A	5%, 66°C	A	A	A
Ethylene chloride	A	A	A	5%,50% boiling	A	A	A
				10%	A	A	A
				Kerosene	A	A	A
				Lactic Acid			
				1%, 20°C	A	A	A
				1%, boiling	A	A	A
				5%, 20°C	A	A	A
				5%, boiling	B	A	B
				10%, 20°C	B	A	B
				10%, boiling	C	B	C
				Lead diacetate (Lead acetate) 5%	A	A	A
				Linseed Oil	A	A	A
				Magnesium chloride			
				1% quiescent, 20°C	A	A	A
				1% Quiescent, Hot	C	B	C
				5% Quiescent, 20°C	A	A	A
				5% Quiescent, Hot	C	B	C
				Malic Acid	B	A	B
				Mash	A	A	A
				Mercury	A	A	A
				Methane (refrigerated liquid)	A	A	A
				Methanol (Methyl Alcohol) boiling	C	B	C
				Mixed Acids, 53% H <sub>2</sub> SO <sub>4</sub>	A	A	A
				Molasses	A	A	A
				Mustard	A	A	A
				Nephtha			
				Crude	A	A	A
				Pure	A	A	A
				Naphthalene Sulfonic Acid	A	A	A

**Note:** A-Recommended, B-Partially resist, C-Not Recommended

## 7.2 CORROSION RESISTANCE

	SS304L	SS316L	SS321		SS304L	SS316L	SS321		SS304L	SS316L	SS321
Nickel chloride solution	A	A	A	10% Agitated or aerated	C	B	C	Dilution of 1.6g/l	C	C	C
Nickel sulfate	A	A	A	10%, 50% boiling	A	A	A	Potassium cyanide	A	A	A
Nitre Cake	B	A	B	80%, 20°C	C	C	C	Potassium dichromate			
Nitric Acid				80%, 110°C	C	C	C	Potassium bichromate			
5%, 50%, 70% boiling	A	A	A	85%, boiling	C	C	C	25%, 20°C	A	A	A
65%, 20°C	A	A	A	Oxalic Acid				25%, boiling	A	A	A
65%, boiling	B	B	B	5%, 10% 20°C	A	A	A	Potassium hexacyanoferrate(III)			
Concentrated, 20°C	A	A	A	10%, boiling	C	C	C	5%, 25%, 20°C	A	A	A
Concentrated, boiling	C	C	C	25%, 50% boiling	C	C	C	25%, boiling	A	A	A
Fuming concentrated, 43°C	A	A	A	Oxygen (refrigerated liquid)	A	A	A	Potassium hexacyanoferrate(II)			
Fuming concentrated, boiling	C	C	C	Paraffin Hot	A	A	A	5%	A	A	A
Nitrogen refrigerated liquid	A	A	A	Petrol	A	A	A	Potassium hydrogen oxalate			
Nitrous Acid, 5%	A	A	A	Petroleum Ether	A	A	A	5%	A	A	A
Oil, Crude	A	A	A	Phenol	A	A	A	27%	A	A	A
Oil vegetable, mineral	A	A	A	Picric Acid	A	A	A	50%	B	A	B
Oleic Acid	A	A	A	Potassium bromide	B	A	B	Potassium hypochlorite	B	B	B
Orthoboric Acid				Potassium carbonate				Potassium nitrate			
5% Solution, 20°C	A	A	A	1% 20°C	A	A	A	1%,5% still or agitated	A	A	A
5% Solution, boiling	A	A	A	Hot	A	A	A	1%,5% Aerated	A	A	A
Saturated solution, 20°C	A	A	A	Potassium chlorate saturated at 100°C	A	A	A	50%, 20°C	A	A	A
Saturated solution, boiling	A	A	A	Potassium chlorate				50%, boiling	A	A	A
Orthophosphoric Acid				1%, Quiescent	A	A	A	Molten	A	A	A
1%, 20°C	A	A	A	1%, Agitated or aerated	A	A	A	Potassium permanganate, 5%	A	A	A
1%, boiling	A	A	A	5%, Quiescent	A	A	A	Potassium sulfate			
1% 3, 1bar, 140°C	A	A	A	5%, Agitated or aerated	A	A	A	1%, 5% still or agitated	A	A	A
5% Quiescent or agitated	A	A	A	5%, boiling	A	A	A	1%, 5% Aerated, 20°C	A	A	A
5% Aerated	A	A	A	Potassium chromium sulfate				Hot	A	A	A
10% Quiescent	C	A	C	5%	A	A	A	Potassium sulfite (salt)	A	A	A

**Note:** A-Recommended, B-Partially resist, C-Not Recommended

## 7.2 CORROSION RESISTANCE

	SS304L	SS316L	SS321		SS304L	SS316L	SS321		SS304L	SS316L	SS321
Propane				Saturated solution	C	C	C	Dry	A	A	A
-50°C	A	A	A	Sodium hydroxide	A	A	A	Sulfuric Acid			
20°C	A	A	A	Sodium hypochlorite	C	C	C	5%,10%	C	B	C
Pyrogallol (Pyrogalllic Acid)	A	A	A	Sodium nitrate	A	A	A	50%	C	C	C
Quinine bisulfate, Dry	B	A	B	Sodium perchlorate, 10%	A	A	A	Tannic Acid			
Quinine sulfate, Dry	A	A	A	Sodium phosphate	A	A	A	20°C	A	A	A
Resin	A	A	A	Sodium sulfate				66°C	A	A	A
Sea Water	B	C	B	5% still	A	A	A	Tanning Liquor	A	A	A
Silver bromide	B	A	B	All concentrations	A	A	A	Tar	A	A	A
Silver nitrate	A	A	A	Disodium sulfate, saturated	B	A	B	Trichloroacetic Acid	C	C	C
Soap	A	A	A	Sodium sulfite				Trichloroethylene			
Sodium acetate, Moist	A	A	A	5%	A	A	A	Dry	A	A	A
Sodium carbonate				10%	A	A	A	Moist	C	C	C
5%, 66°C	A	A	A	Sodium thiosulfate				Trichloroacetic Acid	C	C	C
5%,50% boiling	A	A	A	Saturated solution	A	A	A	Varnish	A	A	A
Molten	C	C	C	Acid mixing bath(hypo)	A	A	A	Vegetable juice	A	A	A
Sodium chloride				25% solution	A	A	A	Vinegar fumes	B	A	B
5% still	A	A	A	Sodium thiosulfite				Vinegar, still agitated or aerated	A	A	A
20% aerated	A	A	A	Steam	A	A	A	Water, potable	A	A	A
Saturated, 20°C	A	A	A	Stearic Acid	A	A	A	Whisky	A	A	A
Saturated, boiling	B	A	B	Strontium hydroxide	A	A	A	Wine, all phases of processing & storing	A	A	A
Sodium cyanide	A	A	A	Strontium nitrate solution	A	A	A	Yeast	A	A	A
Sodium fluoride, 5% solution	B	A	B	Sulfur				Zinc chloride			
Sodium bicarbonate				Moist	B	A	B	5% still	A	A	A
All Concentrations, 20°C	A	A	A	Molten	A	A	A	20°C boiling	B	B	B
5% still, 66°C	A	A	A	Sulfur chloride, Dry	C	C	C	Zinc cyanide, Moist	A	A	A
Sodium hydrogen sulfate				Sulfur dioxide, Gas				Zinc nitrate, solution	A	A	A
Solution	A	A	A	Moist	B	A	B	Zinc sulfate, 4%	A	A	A

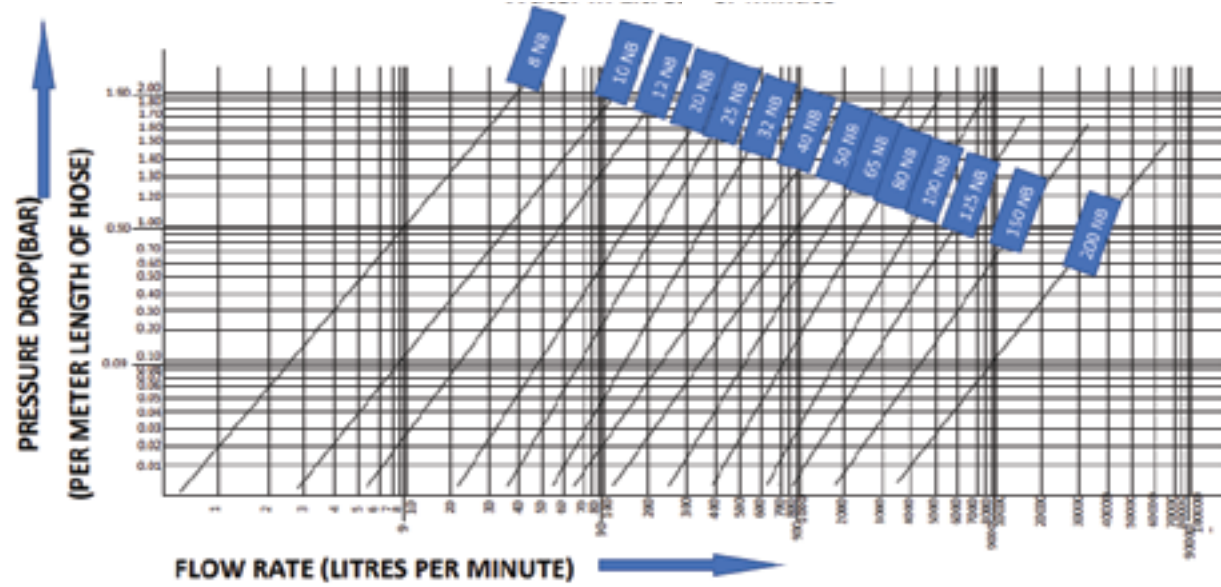
**Note:** A-Recommended, B-Partially resist, C-Not Recommended



### 7.3 PRESSURE DROP CHART

Pressure drop mainly depends on temperatures, surface conditions, and hose configurations. Commonly, when the temperature rises, pressure drop will increase.

Chart Indicating the Approximate Pressure Drop Per Meter Length in Corrugated Hose Corresponding to Flow Rate of Water in Litres Per Minute



### 7.4 INSTALLATION CONDITION

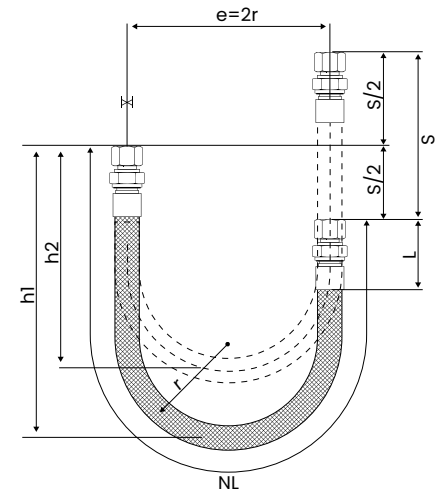
	Do	Don't
<b>Maintain Bend Radius</b>		
<b>Provide Support</b>		
<b>Use Double Wrench Avoid Twisting</b>		
<b>Not Allow Hose Movement in Multiple Direction</b>		

### 7.5 NOMINAL LENGTH OF HOSE

#### 1. Vertically 180° Bend & Vertical Movement

$$NL = 4r + (s/2) + 2L$$

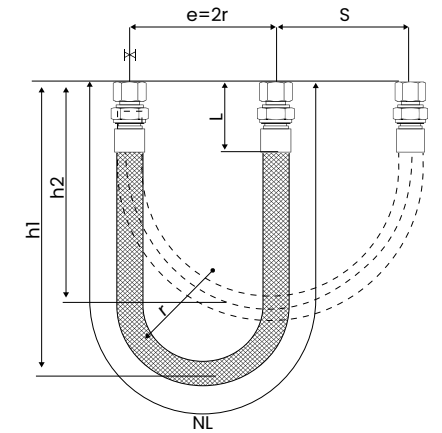
Here  
 r-Bending radius-mm  
 e-installation distance-mm  
 l-length of the connection fitting-mm  
 h1-max.height of 180°bend  
 h2-min.height of 180°bend  
 s-elevation-mm  
 NL-nominal length-mm



#### 2. Vertically 180° Bend & Horizontal Movement

$$NL = 4r + 1.57s + 2L$$

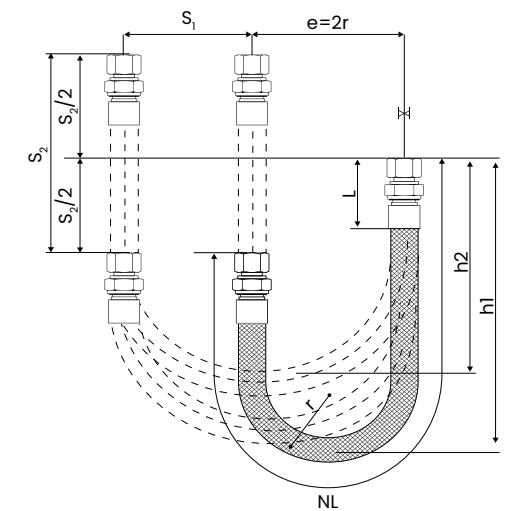
Here  
 r-Bending radius-mm  
 e-installation distance-mm  
 l-length of the connection fitting-mm  
 h1-max.height of 180°bend  
 h2-min.height of 180°bend  
 s-elevation-mm  
 NL-nominal length-mm



#### 3. Horizontally 180° Bend & Horizontal Movement

$$NL = 4r + 1.57 S_1 + (S_2/2) + 2L$$

Here  
 r-Bending radius-mm  
 e-installation distance-mm  
 l-length of the connection fitting-mm  
 h1-max.height of 180°bend  
 h2-min.height of 180°bend  
 s-elevation-mm  
 NL-nominal length-mm



## 7.6 FLOW VELOCITY

When to use Liners Liquid or Gas applications conveying media at high velocity should use an interlock liner in the hose assembly. This liner will decrease the turbulence caused by the high velocity and reduce the vibration that will occur. A liner is recommended if the velocity is greater than the following:

### Conversion Formulas

DEFINITIONS	FEET PER SECOND (FT./SEC.)
gph: gallons per hour	$(\text{gph} \div \text{ID2}) \times 0.0068$
gpm: gallons per minute	$(\text{gpm} \div \text{ID2}) \times 0.4083$
cfh: cubic feet per hour	$(\text{cfh} \div \text{ID2}) \times 0.0509$
cfm: cubic feet per minute	$(\text{cfm} \div \text{ID2}) \times 3.0558$
cfs: cubic feet per second	$(\text{cfs} \div \text{ID2}) \times 183.35$

MEDIA	HOSE ALIGNMENT	MAXIMUM VELOCITY NO LINER (FT./SEC.)
Liquid	Straight	70
Liquid	45° bend	55
Liquid	90° bend	35
Gas	Straight	140
Gas	45° bend	110
Gas	90° bend	70

## 7.7 LIVE HOSE LENGTH BENDING TABLE

CENTERLINE BEND RADIUS IN INCHES	MINIMUM LIVE LENGTH		
	45°	90°	180°
1	1	2	4
2	2	3 1/2	7
3	2 1/2	5	10
4	3 1/2	6 1/2	13
5	4	8	16
6	5	10	20
7	5 1/2	11	22
8	6 1/2	13	26
9	7 1/2	14 1/2	29
10	8	16	32
11	9	18	36
12	10	19 1/2	39
13	10 1/2	21	42
14	11 1/2	22 1/2	45
15	12	24	48
16	13	26	52
17	13 1/2	27	54
18	14 1/2	29	58

CENTERLINE BEND RADIUS IN INCHES	MINIMUM LIVE LENGTH		
	45°	90°	180°
19	15 1/2	30 1/2	61
20	16	32	64
25	20	40	80
30	24	48	95
34	27	54	108
50	40	80	160
55	45	90	180
60	49	97	194
65	53	105	210
70	56	112	224
80	65	130	260
90	73	145	290
100	80	160	320
120	95	190	380
140	112	225	450
160	128	255	510
180	143	285	570
200	160	320	640

**Note:** Based on hose size, bend radius may vary.

## 8.1 TERMINOLOGY

### Abrasion

External damage to a hose assembly caused by it being rubbed on a foreign object.

### Ambient or Atmospheric Conditions

The surrounding conditions, such as temperature, pressure and corrosion, to which a hose assembly is exposed.

### Angular Deflection

The displacement that occurs when an assembly is bent into a single curve, expressed as an angle.

### Anchor

A restraint applied to a pipeline to control its motion caused by thermal growth.

### Annular

Refers to the convolutions on a hose that are a series of complete circles or rings located at right angles to the longitudinal axis of the hose (sometimes referred to as “bellows”).

### Application

The service conditions that determine how a metal hose assembly will be used.

### Armor Guard Or Casing

Flexible interlocked or squarelocked tubing placed over the entire length of a hose or in short lengths at the end of a metal hose, to protect it from physical damage and to limit the bending radius.

### Attachment

The method of fixing end fittings to flexible metal hose—welding, brazing, soldering, swaging or mechanical.

### Axial Movement

Compression or elongation of the hose along its longitudinal axis.

### Basket Weave

A braid pattern in which the strands of wire alternately cross over and under two braid bands (two over – two under).

### Beamed Braid

Braid construction where the strands of wire in each carrier are parallel.

### Bend Radius

The radius of a bend measured to the hose centerline.

### Braid

A flexible wire sheath surrounding a metal hose that prevents the hose from elongation due to internal pressure. Braid is composed of a number of wires wrapped helically around the hose while at the same time going under and over each other in a basket weave fashion.

### Braid Angle

The acute angle formed by the braid strands and the axis of the hose.

### Braid Sleeve, Braid Band or Ferrule

A ring made from tube or metal strip placed over the ends of a braided hose to contain the braid wires for attachment of fittings.

### Braid Wear

Motion between the braid and corrugated hose which normally causes wear on the outside diameter of the corrugation and the inside diameter of the braid.

### Braided Braid

In this braid, the strands of wire on each carrier of the braiding machine are braided together, and then braided in normal fashion. Hence the term braided braid.

### Brazing

A process of joining metals using a non-ferrous filler metal with a melting point that is lower than the “parent metals” to be joined.

### Butt Weld

A process in which the edges or ends of metal sections are butted together and joined by welding.

### Controlled Flexing

Controlled flexing occurs when the hose is being flexed regularly, as in connections to moving components.

### Examples:

Platen presses, thermal growth in pipe work.

### Convolution/Corrugation

The annular or helical flexing member in corrugated or stripwound hose.

### Corrosion

The chemical or electro-chemical attack of a media upon a hose assembly.

### Cycle Life

The number of cycles completed by an assembly before failure.

### Cycle-Motion

The movement from normal to extreme position and return.

### Developed Length/Overall Length

The length of a hose, plus fittings required to meet the conditions of a specific application.

### Diamond Weave

A braid pattern in which the strands alternately cross over one and under one of the strands (one over – one under). Also known as plain weave.

### Dye Penetrant Inspection or Test

A method for detecting surface irregularities, such as cracks, voids, porosity, etc. The surface to be checked is coated with a red dye that will penetrate existing defects.

Dye is removed from surface and a white developer is applied. If there is a defect in the surface being checked, the red dye remaining in it causes the white developer to be stained, thereby locating the defective area.

### Displacement

The amount of motion applied to a hose defined as inches for parallel offset and degrees for radial misalignment.

### Erosion

The wearing away of the inside or outside convolutions of a hose caused by the flow of the media conveyed, such as wet steam, abrasive particles, etc.

### Exposed Length

The amount of active (exposed) hose in an assembly. Does not include the length of fittings and ferrules.

### Fatigue

Failure of the metal structure associated with, or due to, the flexing of metal hose or bellows.

### Fitting/Coupling

A loose term applied to the nipple, flange, union, etc., attached to the end of a metal hose.

### Flow Rate

Pertains to a volume of media being conveyed in a given time period. E.g., cubic feet per hour, pounds per second, gallons per minute, etc.

### Frequency

The rate of vibration or flexure of a hose in a given

time period. E.g., cycles per second (CPS), cycles per minute (CPM), cycles per day (CPD), etc.

### Helical

Used to describe a type of corrugated hose having one continuous convolution resembling a screw thread.

### Helical Wire Armor/Spring Guard

To provide additional protection against abrasion. Metal hoses can be supplied with an external round or oval section wire spiral.

### Inside Diameter (I.D.)

The diameter inside the hose corrugation.

### Interlocked/Squarelocked Hose

Formed from profiled strip and wound into flexible metal tubing with no subsequent welding, brazing, or soldering. May be made pressure-tight by winding in strands of packing.

### Lap Weld (LW)

Type of weld in which the ends or edges of the metal overlap each other and are welded together.

### Lateral Offset

The perpendicular distance between parallel fitting axes of an assembly.

### Liner

Flexible sleeve used to line the inside diameter of hose when conveying a high-velocity media, also prevents erosion.

### Live Length

The amount of active (flexible) length of hose in an assembly. Does not include the length of fittings and ferrules.

### Loop Installation

The assembly is installed in a loop or “U” shape and is most often used when frequent and/or large amounts of motion are involved.

### Medium, Media

The substance(s) being conveyed through a system.

### Nominal Diameter

Indicates the approximate inside diameter.

### Offset-Lateral, Parallel

The distance that the ends of a hose assembly are displaced in relation to each other as a result of connecting two misaligned terminations in a system, or intermittent flexure required in a hose application.



**Operating Conditions**

The pressure, temperature, motion, and environment to which a hose assembly is subjected.

**Outside Diameter (O.D.)**

The external diameter of a metal hose, measured at the top of the corrugation or braiding.

**Percent of Braid Coverage**

The percent of the surface area of a hose that is covered by braid.

**Pitch**

The distance between the two peaks of adjacent corrugations or convolutions.

**Ply, Plies**

The number of individual thicknesses of metal used in the construction of a wall of the convoluted hose.

**Pressure**

Usually expressed in pounds per square inch (psi).

**Pressure, Burst**

Failure of the hose where the braid fails in tensile, or the hose ruptures, or both, due to the internal pressure applied.

**Pressure, Deformation**

The pressure at which the convolutions of a hose become permanently deformed.

**Pressure, Maximum Allowable Working**

The maximum pressure at which a hose or hose assembly is designed to be used.

**Pressure, Pulsating**

A rapid change in pressure above and below the normal base pressure, usually associated with reciprocating type pumps. This pulsating pressure can cause excessive wear between the braid and the tops of the hose convolutions.

**Pressure, Shock**

A sudden increase of pressure in a hydraulic or pneumatic system which produces a shock wave. This shock can cause severe permanent deformation of the hose corrugations, as well as rapid failure due to metal fatigue.

**Pressure, Static**

A non-changing, constant pressure.

**Pressure, Working**

The pressure, usually internal but sometimes

external, imposed on a hose during operating conditions.

**Safety Factor**

The relationship of working pressure to burst pressure.

**Strand(S)**

Individual groups of wires in a braid. Each group is supplied from a separate carrier in the braiding machine.

**Stress Corrosion**

A form of corrosion in stainless steel normally associated with chlorides.

**TIG Weld/GTAW**

The gas tungsten arc welding process sometimes referred to as a "shielded arc" or "heliarc."

**Traveling Loop**

A general classification of bending wherein the hose is installed in a U-shaped configuration.

**Traveling Loop, Class A Loop**

An application wherein the radius remains constant and one end of the hose moves parallel to the other end.

**Traveling Loop, Class B Loop**

A condition wherein a hose is installed in a U-shaped configuration and the ends move perpendicular to each other so as to enlarge or decrease the width of the loop.

**Torque (Torsion)**

A force that produces, or tends to produce, rotation of or torsion about the longitudinal axis of a hose assembly while the other end is fixed.

**Vacuum**

Negative pressure or suction.

**Velocity**

The speed at which the medium flows through the hose.

**Velocity Resonance**

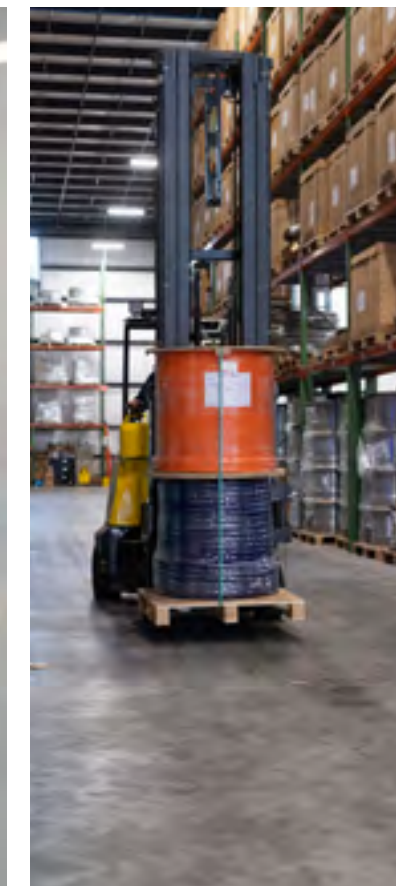
The vibration of convolutions due to the buffeting of a high velocity gas or liquid flow.

**Vibration**

Low-amplitude motion occurring at high frequency.

**Welding**

The process of localized joining of two or more metallic components by means of heating their surfaces to a state of fusion, or by fusion with the use of additional filler material.







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