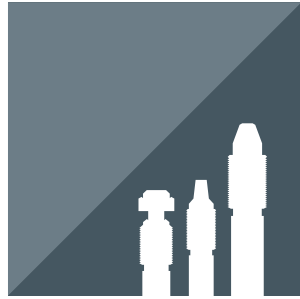


SEVERE SERVICE SCREWED-BONNET NEEDLE VALVES

H-98 & H-98HP SERIES



FEATURES

- Blowout-Proof Stem
- MAWP up to 10,000 psi (690 bar)
- MAWT up to 260°C (500°F)
- Size range: 1/4" to 1" or 6mm to 25mm
- Adjustable Packing
- Packing below stem threads protects stem threads from fluid contaminations

GENERAL

The H-98 & H-98HP Series offers a severe-service valve of rugged design and construction.

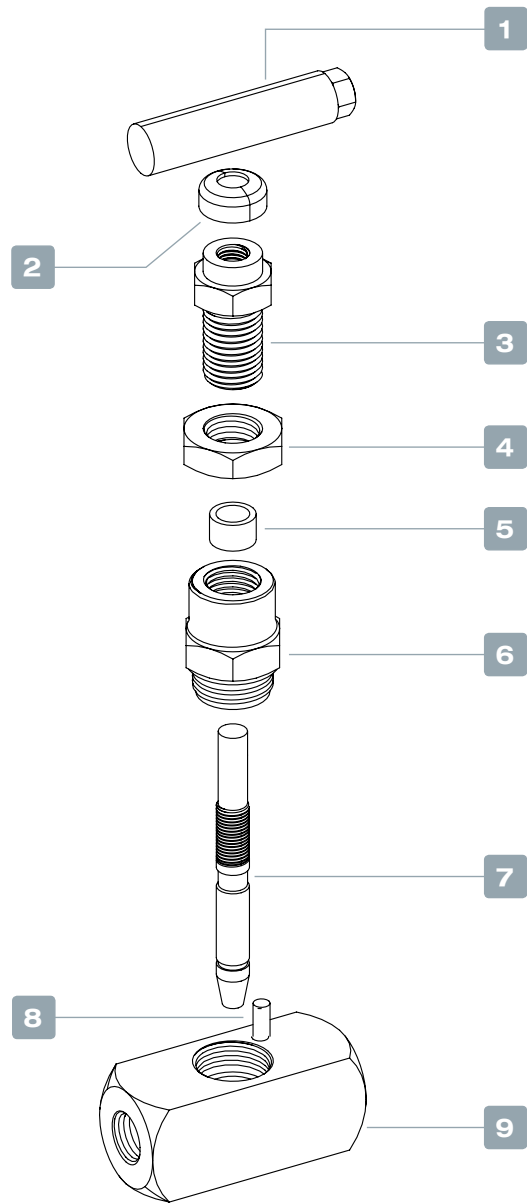
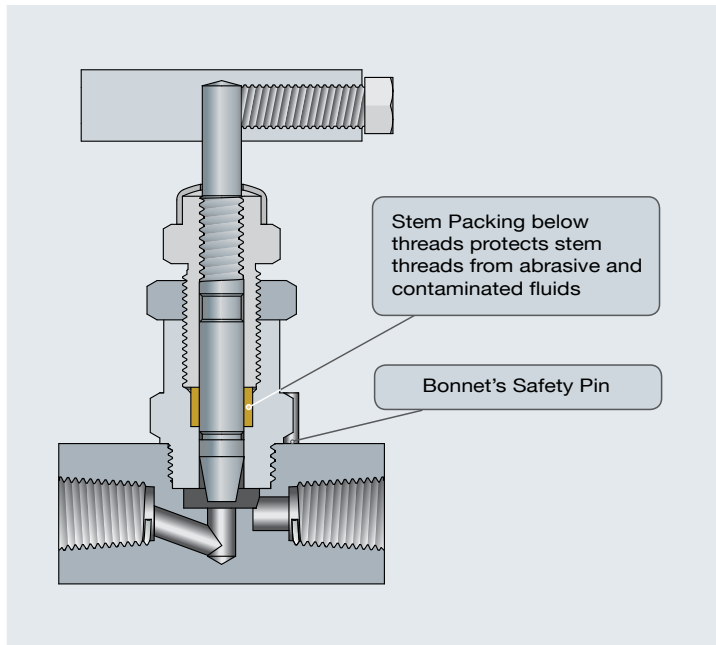
It is available in stainless steel to suit a wide range of services.

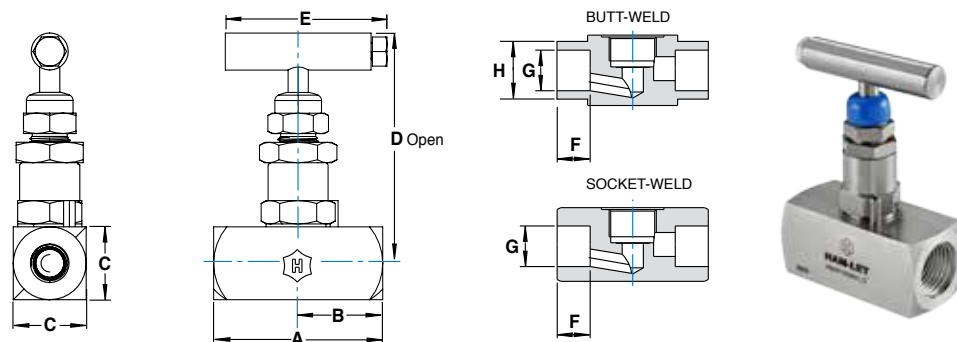
It is capable of withstanding high pressures (10,000 psig max) and high temperature.

This valve is typically used in a severe environments, high pressure sampling systems, high pressure shut-down systems and test stands.

MATERIALS OF CONSTRUCTION				
No.	Components	Qty	Material	
1	Handle	1	Stainless Steel 304	
2	Cap	1	PVC	
3	Gland	1	Stainless Steel 304	
4	Locking Nut	1	Stainless Steel 304	
5	Packing	1	PTFE / PEEK	
6	Bonnet	H-98HP	1	ASTM A351 Gr CF8M
		H-98	1	ASTM A351 Gr CF8M
7	Stem		1	Stainless Steel 316 / A276
8	Safety Pin		1	Stainless Steel 304
9	Body	H-98HP	1	ASTM A276 Gr 316*
		H-98	1	ASTM A351 Gr CF8M*

*For weld ends valves, body is made of low carbon stainless steel





STANDARD CONFIGURATION DIMENSIONS

End		Orifice		A		B		C		D		E		F		G		H		
Connection	Size	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	
Let-Lok® Tube Fittings	1/4"			72.7	2.9	36.4	1.4													
	3/8"	5.00	0.20	72.7	2.9	36.4	1.4	25.0	1.0	79.0	3.1	62.0	2.4							
	1/2"			78.3	3.1	39.2	1.5													
	3/4"	6.00	0.24	85.3	3.4	42.7	1.7	30.0	1.2	81.0	3.2									
Let-Lok® Metric	6mm			72.8	2.9	36.4	1.4													
	8mm	5.00	0.20	73.0	2.9	36.5	1.4	25.0	1.0	79.0	3.1	62.0	2.4							
	10mm			73.2	2.9	36.6	1.4													
	12mm			78.2	3.1	39.1	1.5													
Female Thread (NPT/ISO)	1/8"																			
	1/4"	5.00	0.20	58.0	2.3	29.0	1.1	25.0	1.0	79.0	3.1									
	3/8"											62.0	2.4							
	1/2"			65.0	2.6	32.5	1.3	30.0	1.2	81.0	3.2									
	3/4"	6.00	0.24	70.0	2.8	35.0	1.4	35.0	1.4	84.0	3.3									
1"	8.00	0.31	80.0	3.1	40.0	1.6	45.0	1.8	89.0	3.5										
Tube Socket Weld Inch	1/4"													6.4	0.25	6.5	0.26			
	3/8"	5.00	0.20	58.0	2.3	29.0	1.1	25.0	1.0	79.0	3.1	62.0	2.4	9.7	0.38	9.7	0.38			
	1/2"													12.7	0.50	12.9	0.51			
	3/4"			65.0	2.6	32.5	1.3	30.0	1.2	81.0	3.2			14.2	0.56	19.2	0.76			
	1"	6.00	0.24	70.0	2.8	35.0	1.4	35.0	1.4	84.0	3.3			19.2	0.76	25.6	1.01			
Tube Socket Weld Metric	6mm													6.0	0.24	6.2	0.24			
	8mm	5.00	0.20	58.0	2.3	29.0	1.1	25.0	1.0	79.0	3.1	62.0	2.4	7.9	0.31	8.2	0.32			
	10mm													12.7	0.50	10.2	0.40			
	12mm													12.7	0.50	12.2	0.48			
	25mm	6.00	0.24	70.0	2.8	35.0	1.4	35.0	1.4	84.0	3.3			19.2	0.76	25.2	0.99			
Pipe Socket Weld	1/8"													9.0	0.35	10.8	0.43			
	1/4"	5.00	0.20	58.0	2.3	29.0	1.1	25.0	1.0	79.0	3.1	62.0	2.4	14.0	0.55	14.0	0.55			
	3/8"													14.0	0.55	17.5	0.69			
	1/2"			65.0	2.6	32.5	1.3	30.0	1.2	81.0	3.2			16.5	0.65	22.0	0.87			
	3/4"	6.00	0.24	70.0	2.8	35.0	1.4	35.0	1.4	84.0	3.3			18.0	0.71	27.5	1.08			
	1"	8.00	0.31	80.0	3.1	40.0	1.6	45.0	1.8	89.0	3.5			20.0	0.79	34.5	1.36			
Tube Butt Weld Inch	1/4"													6.4	0.25	3.1	0.12	6.4	0.25	
	3/8"	5.00	0.20	58.0	2.3	29.0	1.1	25.0	1.0	79.0	3.1	62.0	2.4	6.0	0.24	6.2	0.24	9.5	0.37	
	1/2"													6.0	0.24	8.5	0.33	12.7	0.50	
	3/4"			65.0	2.6	32.5	1.3	30.0	1.2	81.0	3.2			8.0	0.31	13.5	0.53	19.1	0.75	
	1"	6.00	0.24	70.0	2.8	35.0	1.4	35.0	1.4	84.0	3.3			10.0	0.39	19.3	0.76	25.4	1.00	
Tube Butt Weld Metric	6mm													6.0	0.24	3.1	0.12	6.0	0.24	
	8mm	5.00	0.20	58.0	2.3	29.0	1.1	25.0	1.0	79.0	3.1	62.0	2.4	7.9	0.31	4.8	0.19	8.0	0.31	
	10mm													6.0	0.24	6.7	0.26	10.0	0.39	
	12mm													6.0	0.24	7.8	0.31	12.0	0.47	
	25mm	6.00	0.24	70.0	2.8	35.0	1.4	35.0	1.4	84.0	3.3			10.0	0.39	18.9	0.74	25.0	0.98	
	Pipe (S40) Butt Weld	1/8"															7.1	0.28	10.5	0.41
1/4"		5.00	0.20	58.0	2.3	29.0	1.1	25.0	1.0	79.0	3.1	62.0	2.4	6.0	0.24	9.2	0.36	13.7	0.54	
3/8"																12.5	0.49	17.1	0.67	
1/2"				65.0	2.6	32.5	1.3	30.0	1.2	81.0	3.2			8.0	0.31	15.8	0.62	21.3	0.84	
3/4"		6.00	0.24	70.0	2.8	35.0	1.4	35.0	1.4	84.0	3.3			10.0	0.39	21.0	0.83	26.7	1.05	
1"		8.00	0.31	80.0	3.1	40.0	1.6	45.0	1.8	89.5	3.5			12.0	0.47	26.6	1.04	33.4	1.31	
Male Thread to Female Thread (NPT/ISO)	1/4"																			
	3/8"	5.00	0.20	60.0	2.4	29.0	1.1	25.0	1.0	79.0	3.1	62.0	2.4							
	1/2"			70.0	2.8	32.5	1.3	30.0	1.2	81.0	3.2									
	3/4"	6.00	0.24	75.0	3.0	35.0	1.4	35.0	1.4	84.0	3.3									
	1"	8.00	0.31	85.0	3.3	40.0	1.6	45.0	1.8	89.5	3.5									

Dimensions are for reference only, and are subject to change. Face to face dimensions for LET-LOK® end connections (dimensions A and B) are finger tight.

CLEANING & PACKAGING

Every H98- & H98-HP series needle valve is cleaned in accordance with Standard Cleaning and Packaging (procedure 8184). Oxygen Clean & Lubricant Free Cleaning and packaging, in accordance with Special Cleaning and Packaging (procedure 8185), is available as an option.

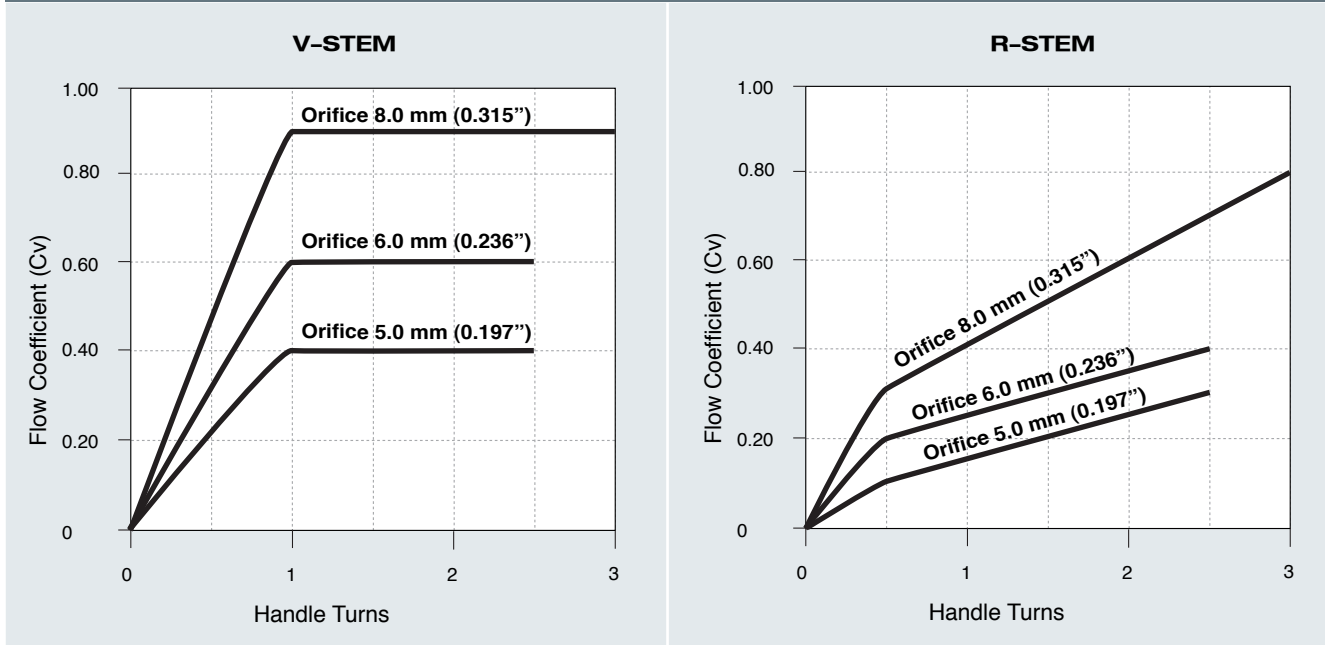
TESTING

The H98- & H98-HP Series Needle Valve designs have been tested for Proof and Burst. Every H98- & H98-HP Needle Valve is factory tested with Nitrogen at 1000 psi (69 bar). The maximum allowable leakage across the seat is 0.1 std cc/min.

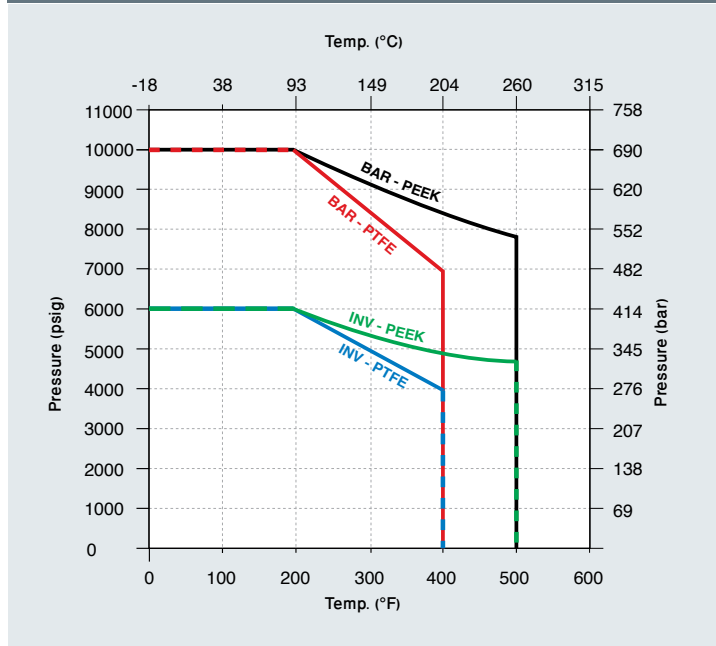
PACKING ADJUSTMENT

Due to the varied service applications of the valve, packing adjustment may occasionally be necessary. Valve packing is factory pre adjusted to 1000 psig service. Initial packing adjustment is recommended after installation and prior to start-up.

FLOW DATA AT 100°F (37°C)



PRESSURE TEMPERATURE RATING THREADED & WELD CONNECTIONS



MAX. PRESSURE RATING AT 70°F (21°C)

Body Raw Material	Pressure	
	psi	bar
Investment casting	6000	414
Bar Stock	10000	690

MAX. ALLOWED WORKING AT TEMPERATURE

Packing Material	Pressure	
	°C	°F
PTFE	204	400
PEEK	260	500

The maximum allowable pressure of welded connected valve is limited to the maximum allowed working pressure of the tube.

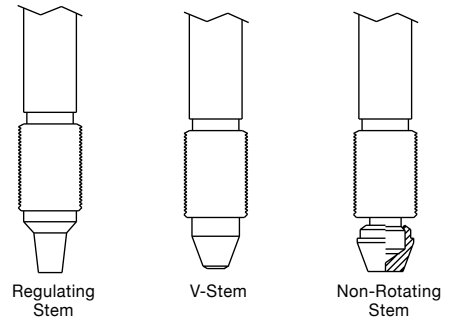
ALTERNATIVE STEMS

HAM-LET Needle Valves are available with a choice of stem-tip options to allow greater flexibility.

Regulating: Used where some degree of flow control is required.

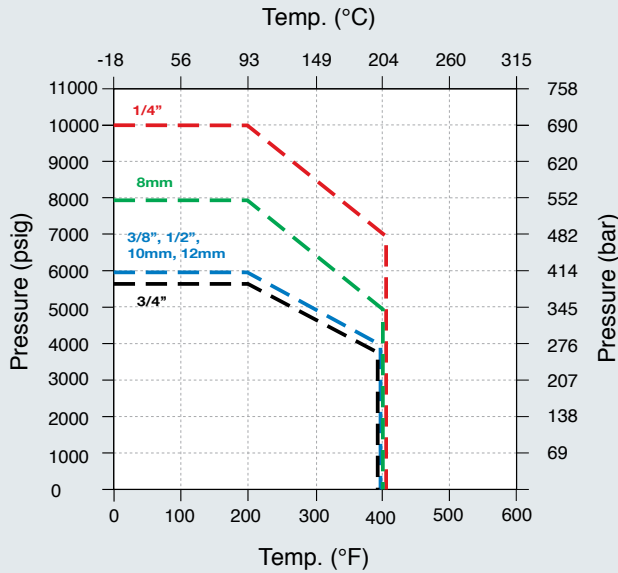
V-Stem: A standard stem tip used for general-purpose liquids and gases.

Non-Rotating: Typically used in high-cycle applications to extend valve life. It is designed to prevent galling between the seat and the stem.

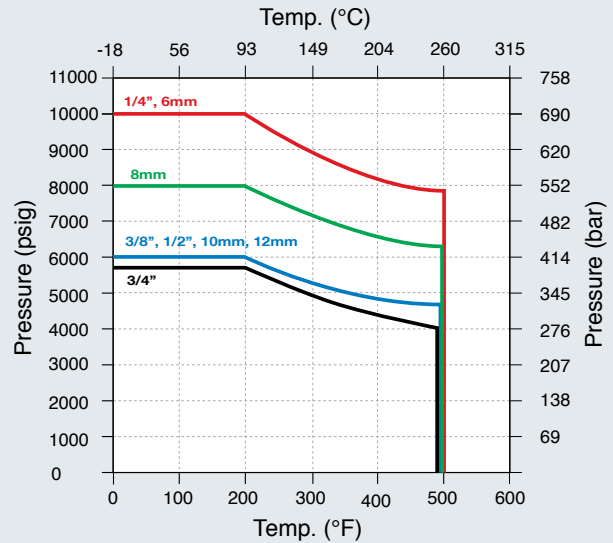


PRESSURE TEMPERATURE RATING LET-LOK CONNECTION

PTFE PACKING



PEEK PACKING



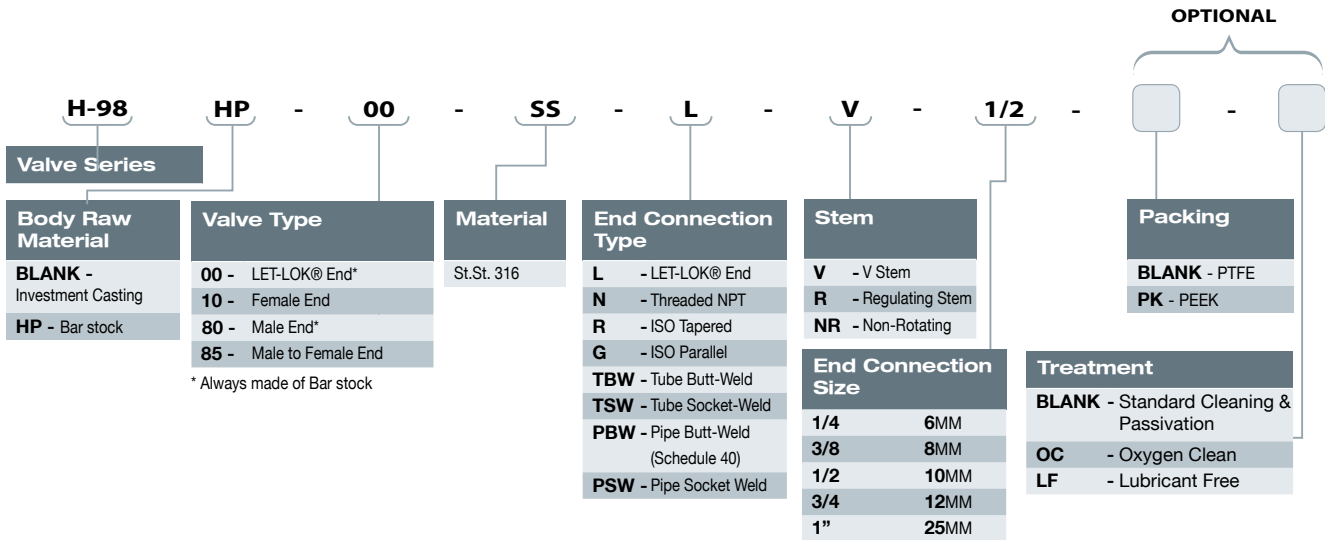
MAX. PRESSURE RATING AT 70°F (21°C)

Pressure per LET-LOK® Size			
in	Pressure	mm	Pressure
1/4	10000 psi	6	10000 psi
-	-	8	8000 psi
3/8	6000 psi	10	6000 psi
1/2	6000 psi	12	6000 psi
3/4	5850 psi	-	-
1"	4700 psi	25	4700 psi

Note: The maximum allowed working pressure that is marked on the valve may be limited according to the pressure limitations that are recommended by the tubing /piping standards (Reference: Let-Lok tube fittings General Information).

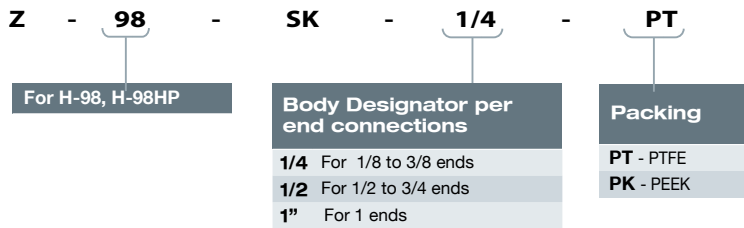
Note: Valves with Let-Lok ends are always made of barstock body.

H-98 & H-98HP SERIES ORDERING INFORMATION



SEAL KIT

Kit includes packing and label



Note: For TBW and TSW end connections please contact HAM-LET Local representative

Warning!

The system designer and user have the sole responsibility for selecting products suitable for their special application requirements, ensuring their safe and trouble-free installation, operation, and maintenance. Application details, material compatibility and product ratings should all be considered for each selected product. Improper selection, installation or use of products can cause property damage or personal injury.

H-99, Rev.04, January 2014