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HN-LOK
Fittings & Valves

Catalog No.Check Valve-2022.February

Check Valves

HV3C, HV3CH, HV3CP Series
HV3CA, HV3CPA Serie

Pressures up to 3000psig(206bar) and 6000psig(413bar)



HN-LOK
Fittings & Valves

Design Features

- Working pressure up to 6000psig (413bar) at 70°F(21°C)
- Temperature rating up to 375°F(191°C) with FKM seal
- Suitable for gas and liquid
- SS316 and Brass body material as standard
- Check valve is 100% factor tested for cracking and reseal
- Adjustable and fixed cracking pressures
- Variety of end connectors

Spring Cracking, Reseal and Back Pressures at 70°F(20°C)

Series	Nominal Cracking Pressure psig (bar)	Cracking Pressure Ranges psig (bar)		Reseal Pressure psig (bar)
		Min. Pressure	Max. Pressure	
HV3C	1/3 (0.02)	0 (0.00)	3 (0.21)	Up to 6 (0.41) Back pressure
	1 (0.07)	0 (0.00)	4 (0.28)	Up to 6 (0.41) Back pressure
	3 (0.21)	2 (0.14)	7 (0.48)	Up to 4 (0.28) Back pressure
	10 (0.69)	7 (0.48)	15 (1.03)	3 (0.21) or more inlet pressure
	25 (1.72)	20 (1.38)	30 (2.07)	17 (1.17) or more inlet pressure
HV3CP	1/3 (0.02)	0 (0.00)	3 (0.21)	Up to 20 (1.38) Back pressure
	1 (0.07)	0 (0.00)	4 (0.28)	Up to 20 (1.38) Back pressure
	10 (0.69)	7 (0.48)	13 (1.90)	Up to 10 (0.69) Back pressure
	25 (1.72)	21 (1.45)	29 (2.00)	5 (0.35) or more inlet pressure
HV3CH	1/3 (0.02)	0 (0.00)	3 (0.21)	Up to 6 (0.41) Back pressure
	1 (0.07)	0 (0.00)	4 (0.28)	Up to 5 (0.35) Back pressure
	5 (0.35)	3 (0.21)	9 (0.63)	Up to 2 (0.14) Back pressure
	10 (0.69)	7 (0.48)	15 (1.03)	3 (0.21) or more inlet pressure
	25 (1.72)	20 (1.38)	30 (2.07)	17 (1.17) or more inlet pressure

Cracking Pressure

- Check valve is actuated when the pressure difference between the inlet and the outlet reaches the range of cracking pressure. The indication of flow occurs (bubbles).

Reseal Pressure

- Check valve that have higher cracking pressure can be resealed to bubble-tight by the spring force.
- The reseal pressure is the pressure at the same flow direction, but lower than the cracking Pressure.

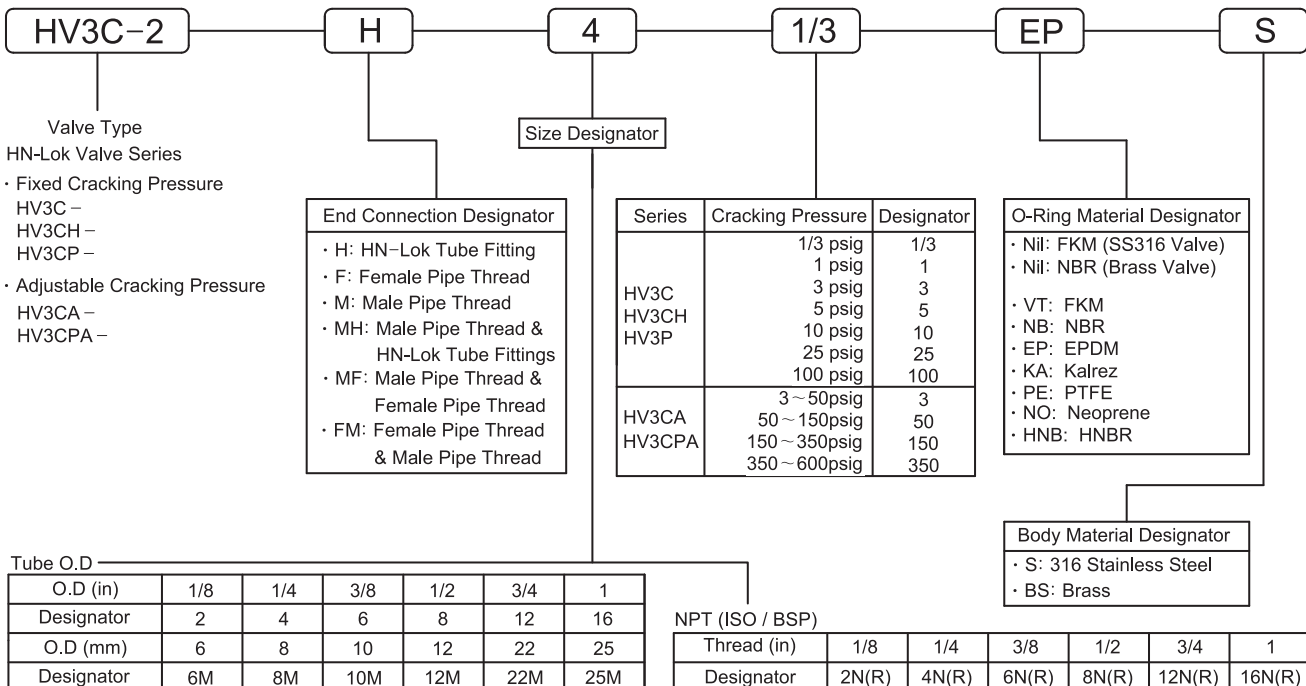
Back Pressure

- Check valve that have cracking pressure 5psig (0.34bar) and lower may not be able to return to the bobble-tight seal.
- The may require back pressure to press the seal to form a bubble-tight contact in addition to the spring force.

Note:

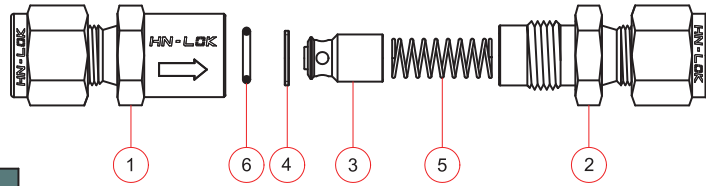
- Check valve not actuated for a period of time, initial cracking pressure may be higher than the set cracking pressure.

Ordering Information





HV3C Series Fixed Cracking Pressure



Material of Construction

Item	Component	Material / ASTM Specification	
		Stainless Steel	Brass
1	Inlet Body	SS316/A276,A479	Brass 360 /B16
2	Outlet Body		
3	Poppet	SS316 With PTFE Coating	
4	Washer	SS302/A313	
5	Spring	FKM	NBR
6	O - Ring		

Lubricant

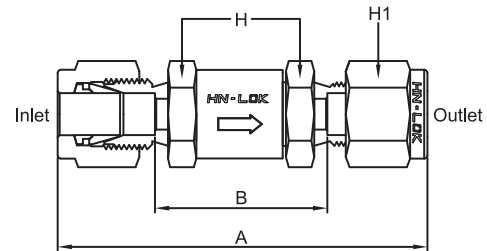
- Poppet: Silicon-based Lubricant
- SS316 Body: Molybdenum Dry Film

Spring Cracking Pressure Range Designator

HV3C Series

Cracking Pressure	Designator
1/3, 1, 3, 10, 25, 100 psig	1/3, 1, 3, 10, 25, 100

• To order, add a cracking pressure.



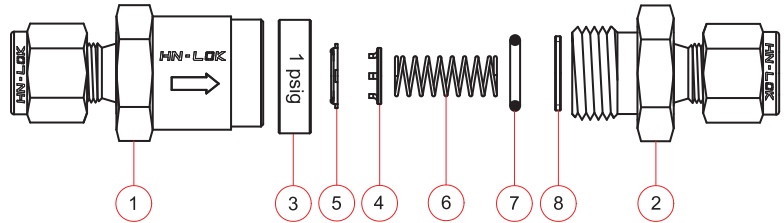
Ordering Information and Table of Dimensions

Basic Part NO.	Orifice mm (in)	Cv	End Connection		Dimensions mm (in)				
			Inlet	Outlet	A	B	H (Hex)	H1 (Hex)	
HV3C-2-	H-2-	4.8 (0.19)	0.16	1/8" HN-Lok		54.3 (2.14)	28.4 (1.12)	15.87 (5/8)	11.11 (7/16)
	H-4-			1/4" HN-Lok		59.7 (2.35)	29.5 (1.16)		14.28 (9/16)
	H-6M-			6mm HN-Lok		59.9 (2.36)			14
	MH-4N4-			1/4" Male NPT	1/4" HN-Lok	56.4 (2.22)	-		14.28 (9/16)
	M-2N-			1/8" Male NPT		43.4 (1.71)		-	
	M-4N-			1/4" Male NPT		53.1 (2.09)		-	
	F-2N-			1/8" Female NPT		48.0 (1.89)		-	
	F-4N-			1/4" Female NPT		54.6 (2.15)	19.05 (3/4)	-	
HV3C-4-	H-6-	7.1 (0.28)	1.48	3/8" HN-Lok		80.5 (3.17)	47.2 (1.86)	22.22 (7/8)	17.46 (11/16)
	H-8M-			8mm HN-Lok		84.3 (3.32)	50.0 (1.97)	16	
	H-10M-			10mm HN-Lok		70.6 (2.78)	-	19	
	M-6N-			3/8" Male NPT		-	-	-	
HV3C-6-	H-8-	10.0 (0.39)	1.70	1/2" HN-Lok		86.9 (3.42)	41.5 (1.63)	22.22 (7/8)	22.22 (7/8)
	H-12M-			12mm HN-Lok		80.3 (3.16)	-	22	
	M-8N-			1/2" Male NPT		75.7 (2.98)	-	-	
	F-6N-			3/8" Female NPT		-	-	-	
HV3C-8-	H-10-	13.5 (0.53)	2.60	5/8" HN-Lok		91.8 (3.61)	42.8 (1.69)	26.98 (1-1/16)	25.4 (1)
	F-8N-			1/2" Female NPT		90.9 (3.58)	-	-	
HV3C-12-	H-12-	16.0 (0.62)	5.20	3/4" HN-Lok		109.7 (4.32)	61.0 (2.40)	31.75 (1-1/4)	28.57 (1-1/8)
	M-12N-			3/4" Male NPT		103.6 (4.08)	-		-
	F-12N-			3/4" Female NPT		-	-		-
HV3C-16-	H-16-	18.0 (0.70)	8.00	1" HN-Lok		120.4 (4.74)	58.3 (2.30)	34.92 (1-3/8)	38.1 (1-1/2)
	M-16N-			1" Male NPT		114.8 (4.52)	-	-	
	F-16N-			1" Female NPT		122.9 (4.84)	-	41.27 (1-5/8)	-

HV3CH Series Fixed Cracking Pressure (6000psig)

Material of Construction

Item	Component	Material / ASTM Specification
1	Inlet Body	SS316/A276,A479
2	Outlet Body	
3	Indicator ring	
4	Poppet stop	
5	Poppet	FKM-Bonded SS316
6	Spring	SS302/A313
7	O-Ring	FKM
8	Backup ring	PTFE



Lubricant

- Poppet: Silicon-based Lubricant
- SS316 Body: Molybdenum Dry Film

Sour Gas Valve (HV3CH Series)

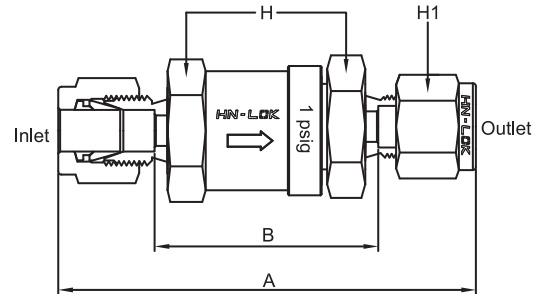
- HV3CH Series valves are available for sour gas service.
- Materials are selected in accordance with NACE MR01750/ISO 15156.

Spring Cracking Pressure Range Designator

HV3CH Series

Cracking Pressure	Designator
1/3, 1, 5, 10, 25, psig	1/3, 1, 5, 10, 25,

- To order, add a cracking pressure.



Ordering Information and Table of Dimensions

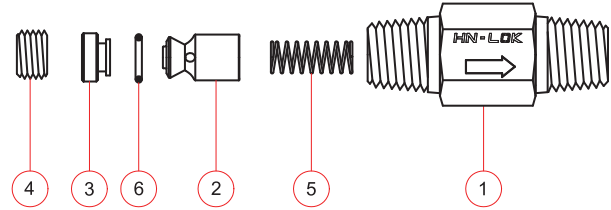
Basic Part NO.	Cv	End Connection		Dimensions mm (in)				Pressure Rating at 100°F (37°C) psig (bar)
		Inlet	Outlet	A	B	H (Hex)	H1 (Hex)	
HV3CH-4-	0.67	1/8" HN-Lok		57.7 (2.27)	31.8 (1.25)	17.46 (11/16)	11.11 (7/16)	6000 (413)
		1/4" HN-Lok		61.7 (2.43)	31.5 (1.24)		14.28 (9/16)	
		6mm HN-Lok					14	
		M-2N-	1/8" Male NPT	45.5 (1.79)				
		M-4N-	1/4" Male NPT	55.1 (2.17)				
		F-4N-	1/4" Female NPT	54.1 (2.13)				
HV3CH-8-	1.8	3/8" HN-Lok		69.9 (2.75)	36.6 (1.44)	25.4 (1)	17.46 (11/16)	6000 (413)
		1/2" HN-Lok		75.2 (2.96)	29.8 (1.17)		22.22 (7/8)	
		8mm HN-Lok		68.6 (2.70)	35.5 (1.40)		16	
		10mm HN-Lok		71.1 (2.80)	36.8 (1.45)		19	
		M-6N-	3/8" Male NPT	59.9 (2.36)				
		M-8N-	1/2" Male NPT	69.3 (2.73)				
		F-6N-	3/8" Female NPT	64.8 (2.55)				
		F-8N-	1/2" Female NPT	77.0 (3.03)		26.98 (1-1/16)		
HV3CH-16-	4.7	3/4" HN-Lok		89.4 (3.52)	40.7 (1.60)	41.27 (1-5/8)	28.57 (1-1/8)	5000 (344)
		1" HN-Lok		98.6 (3.88)	36.5 (1.44)		38.1 (1-1/2)	4700 (323)
		22mm HN-Lok		88.4 (3.48)			32	4900 (337)
		25mm HN-Lok		98.6 (3.88)			38	4600 (316)
		M-12N-	3/4" Male NPT	83.6 (3.29)				
		M-16N-	1" Male NPT	93.2 (3.67)				
		F-12N-	3/4" Female NPT	82.0 (3.23)				
		F-16N-	1" Female NPT	97.3 (3.83)				



HV3CP Series Fixed Cracking Pressure

Material of Construction

Item	Component	Material / ASTM Specification	
		Stainless Steel	Brass
1	Body	SS316/A276,A479	Brass 360 /B16
2	Poppet		
3	Insert		
4	Insert lock screw		
5	Spring	SS302/A313	
6	O - Ring	FKM	NBR



Lubricant

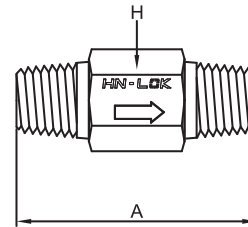
- Poppet: Silicon-based Lubricant
- SS316 Body: Molybdenum Dry Film

Spring Cracking Pressure Range Designator

HV3CP Series

Cracking Pressure	Designator
1/3, 1, 3, 5, 25, psig	1/3, 1, 3, 5, 25

- To order, add a cracking pressure.



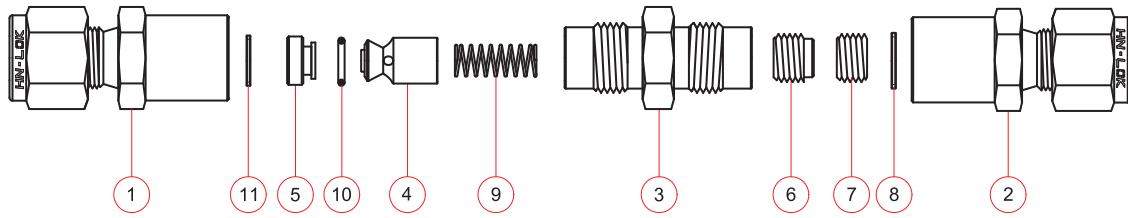
Ordering Information and Table of Dimensions

Basic Part NO.		Cv	End Connection		Dimensions mm (in)	
			Inlet	Outlet	A	H (Hex)
HV3CP-4-	F-4N-	0.35	1/4" Female NPT		61.2 (2.41)	19.05 (3/4)
	F-4R-		1/4" Female ISO Tapered		64.5 (2.54)	
	M-4N-		1/4" Male NPT		41.1 (1.62)	14.28 (9/16)
	M-4R-		1/4" Male ISO Tapered			
	FM-4N-		1/4" Female NPT	1/4" Male NPT	58.2 (2.29)	19.05 (3/4)
	MF-4N-		1/4" Male NPT	1/4" Female NPT	44.4 (1.75)	
HV3CP-8-	F-8N-	1.2	1/2" Female NPT		94.2 (3.71)	26.98 (1-1/16)
	M-8N-		1/2" Male NPT		57.9 (2.28)	22.22 (7/8)
	MF-8N-		1/2" Male NPT	1/2" Female NPT	71.9 (2.83)	26.98 (1-1/16)

Pressure-Temperature Ratings

Valve Series	HV3C-2, HV3C-4, HV3C-6, HV3C-8 HV3CP, HV3CA, HV3CPA Series		HV3C-12, HV3C-16 Series		HV3CH-4 HV3CH-8 Series	HV3CH-16 Series
O-Ring Material	FKM	NBR	FKM	NBR	FKM	
Material	SS 316	Brass	SS 316	Brass	SS 316	
Temperature, °F (°C)	Working Pressure, psig (bar)		Working Pressure, psig (bar)		Working Pressure, psig (bar)	
-10 (-23) to 100 (37)	3000 (206)	3000 (206)	2000 (137)	1500 (103)	6000 (413)	5000 (344)
200 (93)	2575 (177)	2600 (179)	1715 (118)	1300 (90)	5160 (355)	4290 (295)
250 (121)	2450 (168)	2405 (165)	1630 (112)	1200 (83)	4910 (338)	4080 (281)
300 (148)	2325 (160)	-	1545 (106)	-	4660 (321)	3875 (266)
375 (190)	2185 (150)	-	1450 (100)	-	4375 (301)	3640 (250)
400 (204)	-	-	-	-	4280 (294)	3560 (245)

HV3CA Series Adjustable Cracking Pressure

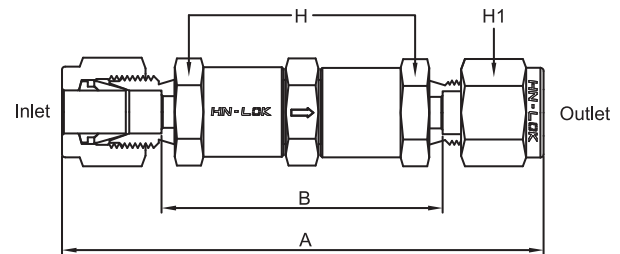


Material of Construction

Item	Component	Material / ASTM Specification	
		Stainless Steel	Brass
1	Inlet Body	SS316/A276,A479	Brass 360 /B16
2	Outlet Body		
3	Center Body		
4	Poppet		
5	Insert		
6	Adjusting screw		
7	Locking screw		
8	Outlet gasket	SS316 With PTFE Coating	
9	Spring	SS302/A313	
10	O - Ring	FKM	NBR
11	Inlet gasket	SS316 With PTFE Coating	

Lubricant

- Poppet: Silicon-based Lubricant
- SS316 Body: Molybdenum Dry Film

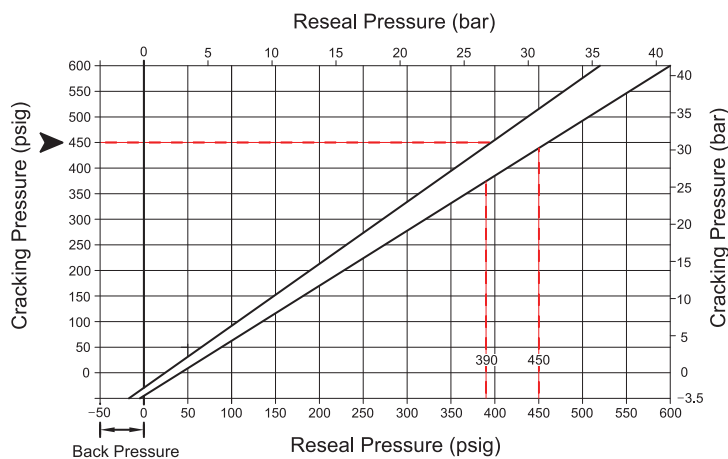


Ordering Information and Table of Dimensions

Basic Part NO.	Cv	End Connection		Dimensions mm (in)			
		Inlet	Outlet	A	B	H (Hex)	H1 (Hex)
HV3CA-	0.37	1/4" HN-Lok		82.0 (2.23)	51.8 (2.04)	15.87 (5/8)	14.28 (9/16)
		6mm HN-Lok					14
		8mm HN-Lok					16
		1/4" Male NPT	1/4" HN-Lok	79.2 (3.12)	-		14.28 (9/16)

Cracking and Reseal Pressures at 70°F(20°C)

HV3CA, HV3CPA Series



Spring Cracking Pressure Range Designator

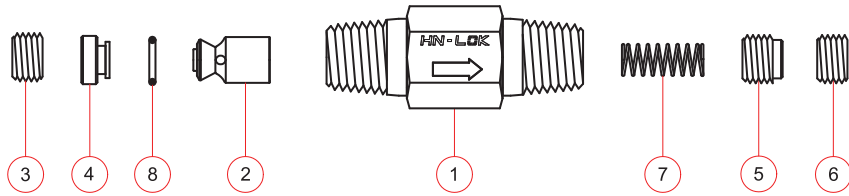
HV3CA, HV3CPA Series

Cracking Pressure	Designator
3 ~ 50psig	3
50 ~ 150psig	50
150 ~ 350psig	150
350 ~ 600psig	350

• To order, add a cracking pressure.



HV3CPA Series Adjustable Cracking Pressure

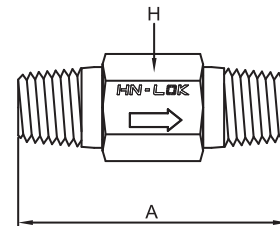


Material of Construction

Item	Component	Material / ASTM Specification	
		Stainless Steel	Brass
1	Body	SS316/A276,A479	Brass 360 /B16
2	Poppet		
3	Insert lock screw		
4	Insert		
5	Adjusting screw		SS316/A276,A479
6	Locking screw		
7	Spring	SS302/A313	
8	O - Ring	FKM	NBR

Lubricant

- Poppet: Silicon-based Lubricant
- SS316 Body: Molybdenum Dry Film



Ordering Information and Table of Dimensions

Basic Part NO.	Cv	End Connection		Dimensions mm (in)	
		Inlet	Outlet	A	H (Hex)
HV3CPA-4-	0.35	F-4N-	1/4" Female NPT	75.7 (2.98)	19.05 (3/4)
		M-4N-	1/4" Male NPT	41.1 (1.62)	14.28 (9/16)
		M-4R-	1/4" Male ISO Tapered		
HV3CPA-8-	1.2	M-8N-	1/2" Male NPT	65.0 (2.56)	22.22 (7/8)
		M-8R-	1/2" Male ISO Tapered		

Cracking Pressure Adjustment HV3CA, HV3CPA Series

Step 1	Step 2	Step 3
<p>Adjustable screw, Locking screw, Inlet, Outlet, Hex Wrench</p> <p>• Loosen the lock screw by rotating the hex wrench 1 to 2 full turns in the counterclockwise direction.</p>	<p>Adjustable screw, Locking screw, Inlet, Outlet, Hex Wrench</p> <ol style="list-style-type: none"> 1. Gently slide the hex wrench up to adjustable screw position. 2. To increase cracking pressure, turn adjustable screw clockwise. 3. To decrease cracking pressure, turn adjustable screw counter-clockwise. 	<p>Adjustable screw, Locking screw, Inlet, Outlet, Hex Wrench</p> <ol style="list-style-type: none"> 1. Move out the hex wrench up to the locking screw position. 2. To lock out the locking screw, turn the hex wrench clockwise.

SAFETY in VALVE SELECTION

The selection of a valve for any application or system design must be considered to ensure safe performance. Valve function, valve rating, material compatibility, proper installation, operation and maintenance remain the sole responsibility of the system designer and the user. HN-Tech accepts no liability for any improper selection, installation, operation or maintenance.



HN-LOK

Fittings & Valves

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