



3/4" ATB075C Bolted Bonnet Shut-Off Valve

INTRODUCTION

The advanced design and materials of Hansen refrigerant shut-off and hand expansion valves make them far superior to commonly available products. The extended neck of the bolted bonnet design greatly simplifies insulation, and allows compliance with industry guidelines for insulation thickness. In addition, non-leak seats, stems, and bonnets virtually eliminate the possibility for refrigerant leakage. Anyone who has experienced the failure of a shut-off valve at a crucial time will take care to insist upon these highly reliable valves.

APPLICATIONS

Typical uses include:

Refrigeration system suction, liquid, recirculating liquid, hot gas, thermosyphon, and oil lines, using handwheel or seal cap models.

Steel pipe portions of halocarbon, commercial, industrial, and air conditioning systems, using seal cap models.

Valves are also available for other fluids such as propane, propylene, and glycol with compatible seals. Contact factory with specific fluid and application details for written approval.

The low friction, non-leak stem seal design permits low torque valve operation without the need to retighten the packing.

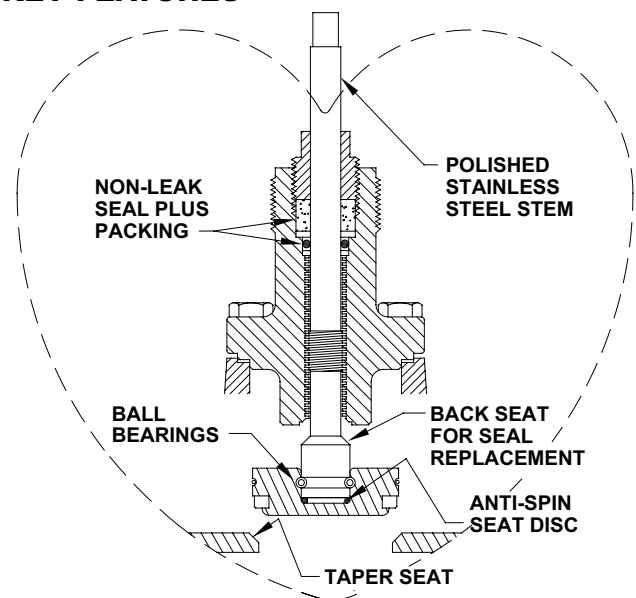
Specifications, Applications, Service Instructions & Parts

THREADED SHUT-OFF VALVES

3/8" through 1-1/4"
(10 mm through 32 mm)
Globe & Angle
for Refrigerants



KEY FEATURES



ADDITIONAL FEATURES

Globe and angle valves available.

Low pressure drop design.

Interchangeable handwheel or seal cap.

Teflon seat disc.

Back seating for packing replacement.

Suitable for R717 (ammonia), R22, R134a, R507, R404a, R744 (CO₂) and other Hansen approved refrigerants.

Valves for 600 psig (41 bar g) SWP available.

MATERIAL SPECIFICATIONS

Body:

- Screwed bonnet, 3/8" to 1 1/4" (10mm to 32mm): Cast ductile iron, ASTM A536
- Bolted Bonnet, 1/2" to 1 1/4" (13mm to 32mm): Forged steel, ASTM A105

Bonnet:

- Screwed bonnet, 3/8" to 1 1/4" (10mm to 32mm): Zinc plated steel, ASTM A311 Grade 1018
- Bolted Bonnet, 1/2" to 1 1/4" (13mm to 32mm): Cast ductile iron, ASTM A536

Bonnet Seal:

- Screwed bonnet, 3/8" to 1 1/4" (10mm to 32mm): Neoprene O-ring plus steel knife edge
- Bolted Bonnet, 1/2" to 1 1/4" (13mm to 32mm): Non-asbestos graphite composite

Stem: Polished stainless steel

Stem Packing: Graphite composite plus neoprene O-ring in series

Packing Nut: Zinc plated steel

Disc Holder: Plated steel

Seat Disc: Retained PTFE Teflon

Ball Bearings: Stainless steel

Handwheel: 3/8" to 1 1/4" (10mm to 32mm): Zinc plated alloy

Seal Cap: 3/8" to 1 1/4" (10mm to 32mm): Glass-filled polymer, Neoprene O-ring seal, safety vented

Operating Temperature:

- Standard, -60°F to 240°F (-51°C to 115°C), temperatures below -60°F (-51°C) to -76°F (-60°C) at coincident pressures (Bolted bonnet only)
- Optional, -20°F to 300°F (-29°C to 149°C) consult factory (Bolted bonnet only)

Safe Working Pressure: 400 psig (28 bar g) standard, 600 psig (41 bar g) upon request (Bolted bonnet only)

Connection Dimensions: Threaded 3/8" to 1 1/4" match US NPT female tapered pipe thread

ADVANTAGES

Compared to conventional stem seal designs, Hansen's non-leak seal plus stem packing virtually eliminates stem seal leakage. In addition, the stem is polished to avoid packing wear. The precision stem threads avoid stem wobble and the packing nut is close fitting to remove dirt particles and frost from the stem. This results in infrequent maintenance or tightening and almost no refrigerant loss.

Hansen valves are designed with anti-spin seat discs. High velocity gas can sometimes cause ordinary seat discs to fail over time. Hansen adds a snubber to prevent the seat disc from freely rotating when valve is in the open position.

Bolted bonnet shut-off valves feature an extended bonnet to allow greater insulation clearance. Large bonnet bolts provide exceptional strength. The forged steel valve bodies have much greater tensile strength, ductility, and impact resistance than cast iron. They also have a heavy, forged steel wall thickness for greater rigidity. Screwed bonnet valves offer a unique O-ring plus knife edge locking design. This in addition to the non-leak seal plus packing design improve the screwed bonnet issues associated with conventional designs.

Valves have no flanged-gasket pipe joints. Hansen valves also will not open or close so rapidly as to cause severe pipe shock due to sudden change in liquid velocity. In addition, ball valve stem packing typically cannot be replaced while the valve is in a pressurized line. The stem packing on these Hansen valves can be replaced while the valve is in a pressurized line. Also, dirt or damage to ball valve Teflon seats cannot be overcome by greater stem closing forces, an advantage of Hansen valves.

INSTALLATION

All Hansen valves can be installed in horizontal or vertical pipe lines. Stems are normally installed horizontally, but, depending on the application, stems may be installed vertically. Inlet pressure or direction of flow for all valve sizes should normally be under valve seat disc. However, to avoid installing an angle valve with the stem down, it is better to install the valve with the normal flow opposite the direction of the arrow.

Care must be taken when handling and installing valves, safety precautions must be observed.

Painting of valves is recommended for corrosion protection. Pipe covering, where applied, should have a proper moisture barrier.

Before putting valves into service, all pipe connections, valve seats, bonnet seals, and stem seals should be tested for leaks at pressure levels called for in appropriate codes.

Shut-off valves leading to the atmosphere must not be left unsupervised and must be plugged or capped to prevent corrosion inside the valve as well as leakage due to seat expansion, vibration, pressure shock, or improper opening. The valve seat should be cracked open to prevent hydrostatic expansion between the valve and the cap. A bleed valve and gauge should be installed to provide a means of monitoring and pump-out. Valves should never directly feed a water tank because of potential internal corrosion or seat opening caused by vibration. Where hand wheel valves are subject to excessive vibration or liquid shock loads, the packing nut should be tightened to prevent handwheel vibration from a potentially rotating valve stem.

INSULATION

Conventional valve-shaped block insulation can occasionally be used for both angle and globe valves. However, fabricated insulation shapes are recommended. Refer to Sales Drawing 5002-28 for bolted bonnet exterior valve insulation dimensions.

EXTENDED NECK VALVES

Hansen bolted bonnet valves with extended necks, 1/2" thru 1 1/4" (13mm–32mm), meet or exceed the recommended low temperature insulation thickness dimensions of the IIAR Piping Handbook. In addition, the stem and packing nut trim are upgraded to 316 for stainless steel materials. Stainless steel trim is recommended for environments where severe corrosive conditions exist. (Add an "E" suffix to the model number, for example ATE100C or GTE126H.)

SIZING GUIDE

These flow capacity recommendations are not affected by the length of the pipe line. These are approximate optimum sizes based on power costs versus the investment costs of piping and its total installed cost. Piping sized to this capacity will have a 1°F (0.6°C) pressure drop for the following equivalent lengths:

- suction lines 700 diameters
- discharge lines 1400 diameters
- liquid lines 2400 diameters

Example: Hansen valves have about 145 diameters of equivalent flow resistance, or $145/700 = 0.2^\circ\text{F}$ (0.12°C) of equivalent pressure drop at the suction line capacities shown for a valve in a suction line.

The rationale for the vapor line sizing was developed by William V. Richards in two papers: "Refrigerant Vapor Line Sizing Not Dependent of Length," 16th International Congress of Refrigeration, IIR, Paris, 1983; and "Practical Pipe Sizing for Refrigerant Vapor Lines," Sixth Annual Meetings, IIAR, San Francisco, 1984.

FLOW COEFFICIENTS

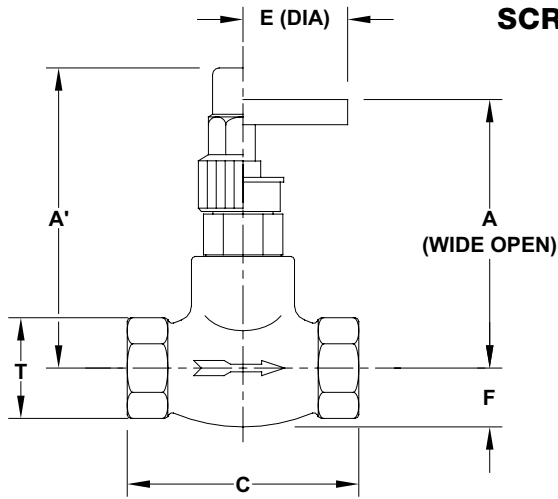
MODEL	NOMINAL SIZE		ANGLE				GLOBE			
	INCH	MM	FLOW COEFFICIENT		EQUIVALENT LENGTH		FLOW COEFFICIENT		EQUIVALENT LENGTH	
			Cv	Kv	FEET	METERS	Cv	Kv	FEET	METERS
GT AT	3/8"	10	8	6.9	0.5	0.2	5	4.3	1.4	0.4
	1/2"	13	9	7.8	1.7	0.5	6	5.2	3.7	1.1
	3/4"	20	10	8.7	6.8	2.1	7	6.1	14	4.2
	1"	25	26	22	3.8	1.2	18	16	8.0	2.4
	1 1/4"	32	30	26	13	4.0	21	18	27	8.2
GTB ATB	1/2"	13	6	5.2	3.7	1.1	4	3.5	8.4	2.6
	3/4"	20	9	7.8	8.4	2.6	8	6.9	11	3.2
	1"	25	19	16.4	7.2	2.2	15	13	12	3.5
	1 1/4"	32	21	18.2	27	8.2	16	14	46	14

FLOW CAPACITIES PIPING AND VALVE SIZING GUIDE FOR AMMONIA

SERVICE	CONDITIONS				CAPACITIES (MM)							
	TEMPERATURE °F (°C)		PRESSURE PSIG (BAR)		1/2" (13) TONS (kW)		3/4" (20) TONS (kW)		1" (25) TONS (kW)		1 1/4" (32) TONS (kW)	
Suction Lines Single Stage Compressor	+20	(-6.7)	33.5	(2.3)	-	-	-	-	8.6	(30)	15.8	(56)
	0	(-17.8)	15.7	(1.1)	-	-	-	-	5.7	(20)	10.4	(37)
Liquid Overfeed Return Lines (4X)	+20	(-6.7)	33.5	(2.3)	-	-	-	-	5.0	(18)	9.1	(32)
	0	(-17.8)	15.7	(1.1)	-	-	-	-	3.4	(12)	6.3	(22)
	-20	(-28.9)	3.6	(0.25)	-	-	-	-	2.2	(8.0)	4.0	(14)
	-40	(-40)	8.7"	(0.7)	-	-	-	-	-	-	2.4	(8.0)
Hot Gas Feed Hot Gas Main	+70	(+21.1)	114	(7.9)	2.2	(8)	4.3	(15)	7.3	(26)	14.1	(50)
	+70	(+21.1)	114	(7.9)	4.4	(15)	8.6	(30)	14.7	(52)	28.1	(99)
Compressor Discharge	+86	(+30)	155	(10.7)	-	-	-	-	12.6	(44)	24.1	(85)
Condenser Drains	+86	(+30)	-	-	6.0	(21)	14.5	(51)	24.0	(84)	50.0	(176)
Liquid Mains	+86	(+30)	-	-	28.3	(100)	53.1	(187)	90.8	(320)	143	(503)
Liquid Feed Branch	+86	(+30)	-	-	54.9	(193)	103	(363)	176	(620)	277	(975)
Liquid Overfeed Supply (4X)	+10	(-12.2)	-	-	9.0	(32)	17.0	(60)	29.0	(102)	46.0	(162)

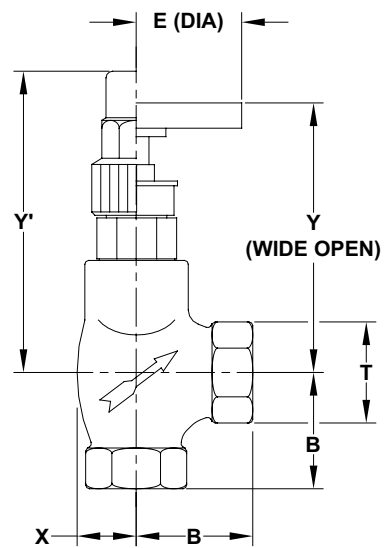
INSTALLATION DIMENSIONS

SCREWED BONNET



GLOBE

3/8" THROUGH 1 1/4" (10MM - 32MM)

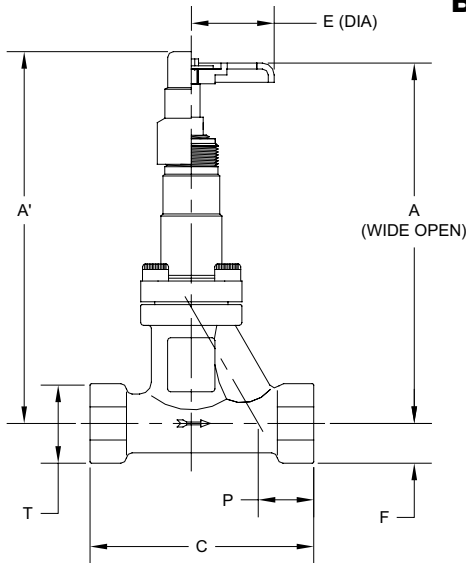


ANGLE

3/8" THROUGH 1 1/4" (10MM - 32MM)

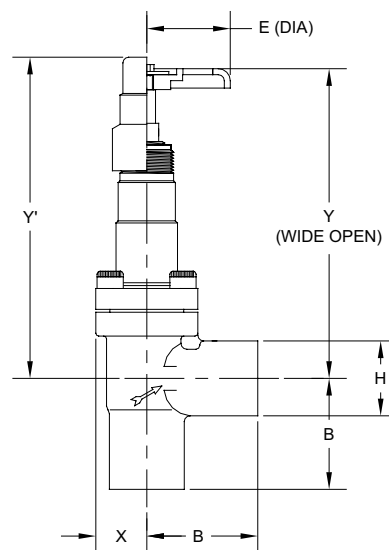
SIZE (mm)	GLOBE				ANGLE				E	T
	A	A'	C	F	Y	Y'	B	X		
3/8" (10)	4.75" (121)	5.00" (127)	3.63" (92)	1.00" (25)	4.63" (118)	4.88" (124)	1.88" (48)	1.00" (25)	3.50" (89)	1.50" (38)
1/2" (13)	4.75" (121)	5.00" (127)	3.63" (92)	1.00" (25)	4.63" (118)	4.88" (124)	1.88" (48)	1.00" (25)	3.50" (89)	1.50" (38)
3/4" (20)	4.75" (121)	5.00" (127)	3.63" (92)	1.00" (25)	4.63" (118)	4.88" (124)	1.88" (48)	1.00" (25)	3.50" (89)	1.50" (38)
1" (25)	5.00" (127)	5.25" (140)	4.50" (114)	1.50" (38)	5.00" (127)	5.25" (140)	2.13" (54)	1.50" (38)	3.50" (89)	2.25" (57)
1 1/4" (32)	5.00" (127)	5.25" (140)	4.50" (114)	1.50" (38)	5.00" (127)	5.25" (140)	2.13" (54)	1.50" (38)	3.50" (89)	2.25" (57)

BOLTED BONNET



GLOBE

1/2" THROUGH 1 1/4" (13MM - 32MM)

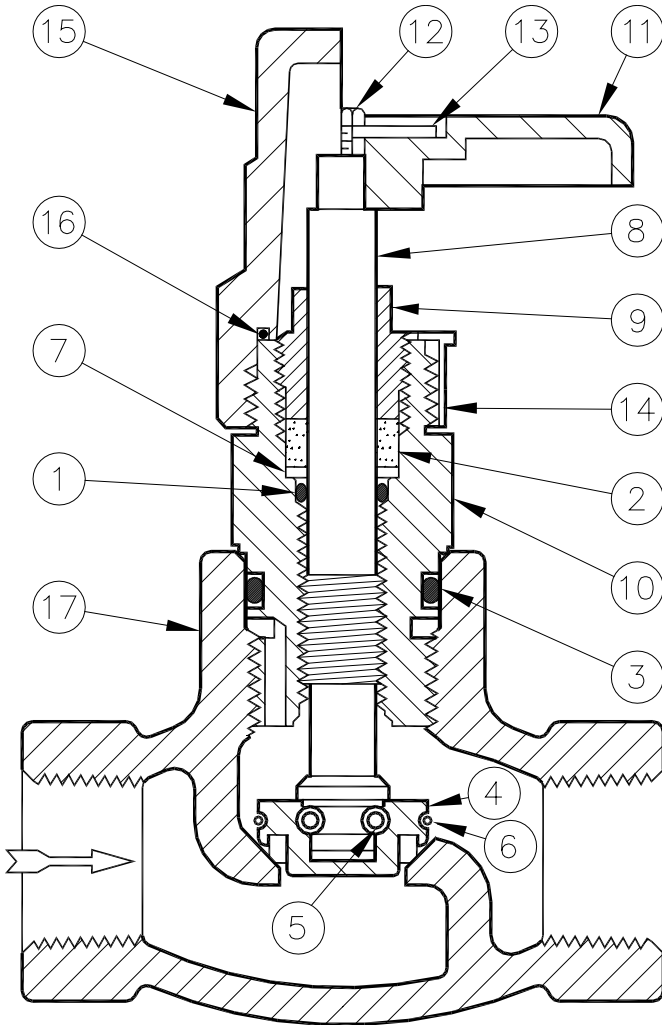


ANGLE

1/2" THROUGH 1 1/4" (13MM - 32MM)

SIZE (mm)	GLOBE					ANGLE					E	ADD TO A, A', Y, Y' EXT NECK
	A	A'	C	T	F	Y	Y'	B	H	X		
1/2" (13)	7.62" (194)	7.86" (200)	4.73" (120)	1.68" (43)	0.84" (21)	6.46" (164)	6.70" (170)	2.33" (59)	1.57" (40)	1.07" (27)	.50" (13)	1.8" (45)
3/4" (20)	7.62" (194)	7.86" (200)	4.73" (120)	1.68" (43)	0.84" (21)	6.46" (164)	6.70" (170)	2.33" (59)	1.57" (40)	1.07" (27)	.50" (13)	1.8" (45)
1" (25)	7.88" (200)	8.09" (206)	5.93" (150)	2.31" (58)	1.15" (29)	6.24" (158)	6.52" (166)	2.75" (75)	2.31" (59)	1.22" (31)	.50" (13)	1.8" (45)
1 1/4" (32)	7.88" (200)	8.09" (206)	5.93" (150)	2.31" (58)	1.15" (29)	6.24" (158)	6.52" (166)	2.75" (75)	2.31" (59)	1.22" (31)	.62" (16)	1.8" (45)

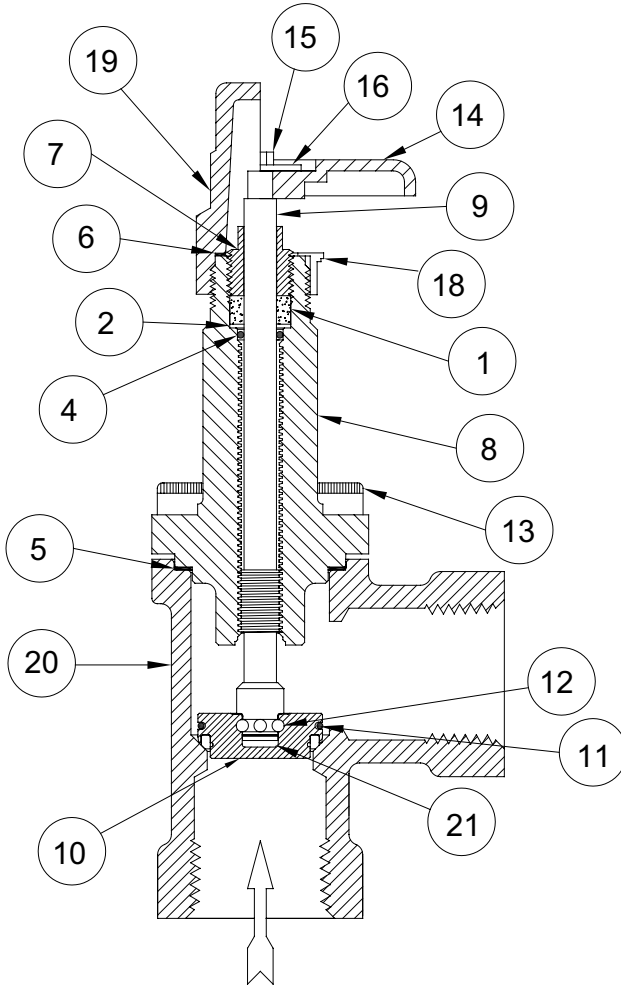
REPLACEMENT PARTS – SCREWED BONNET
3/8" THROUGH 1-1/4" (10MM THROUGH 32MM)



ITEM	DESCRIPTION	QTY	PART NO
	Gasket Kit consist of:		50-1040†
1	Stem O-Ring	1	50-0179
2	Stem Packing	1	50-0045
3a	Bonnet O-Ring 3/8", 1/2", 3/4"	1	50-0453
3b	Bonnet O-Ring 1", 1-1/4"	1	50-0017
7	Stem Washer	1	50-0046
16	Seal Cap O-Ring	1	50-0432
9	Packing Nut	1	50-0013
	Bonnet Assembly Kit 3/8", 1/2", 3/4"		50-1041†
	Bonnet Assembly Kit 1", 1-1/4"		50-1021
	<i>Above kits consist of:</i>		
4a	Disc Assembly 3/8", 1/2", 3/4"	1	50-0803
4b	Disc Assembly 1", 1-1/4"	1	50-0804
5	Balls	10	50-0016
6a	Ball Retainer 3/8", 1/2", 3/4"	1	50-0439
6b	Ball Retainer 1", 1-1/4"	1	50-0026
8	Stem	1	50-0012
10a	Bonnet 3/8", 1/2", 3/4"	1	50-0422
10b	Bonnet 1", 1-1/4"	1	50-0429
	Gasket Kit	1	50-1040
	Disc Assembly Kit 3/8", 1/2", 3/4"		50-1042†
	Disc Assembly Kit 1", 1-1/4"		50-1004
	<i>Above kits consist of:</i>		
4a	Disc Assembly 3/8", 1/2", 3/4"	1	50-0803
4b	Disc Assembly 1", 1-1/4"	1	50-0804
5	Balls	10	50-0016
6a	Ball Retainer 3/8", 1/2", 3/4"	1	50-0439
6b	Ball Retainer 1", 1-1/4"	1	50-0026
3a	Bonnet O-Ring 3/8", 1/2", 3/4"	1	50-0453
3b	Bonnet O-Ring 1", 1-1/4"	1	50-0017
	Handwheel Kit consists of:		50-1005
11	Handwheel	1	50-0027
12	Screw	1	50-0479
13	Name Plate	1	50-0094
14	Bonnet Thread Cap	1	50-0434
	Seal Cap Kit consists of:		50-1036
15	Seal Cap	1	50-0423
16	Seal Cap O-Ring	1	50-0432
17a	Body, Globe FPT 3/8" (10 mm)	1	50-0504
17b	Body, Globe FPT 1/2" (13 mm)	1	50-0505
17c	Body, Globe FPT 3/4" (20 mm)	1	50-0506
17d	Body, Globe FPT 1" (25 mm)	1	50-0035
17e	Body, Globe FPT 1-1/4" (32 mm)	1	50-0036
17f	Body, Angle FPT 3/8" (10 mm)	1	50-0507
17g	Body, Angle FPT 1/2" (13 mm)	1	50-0508
17h	Body, Angle FPT 3/4" (20 mm)	1	50-0509
17i	Body, Angle FPT 1" (25 mm)	1	50-0037
17j	Body, Angle FPT 1-1/4" (32 mm)	1	50-0038

† Replacement part kits for older, larger style 1/2" and 3/4" shut-off valves (GT050, AT050, GT075, AT075): Gasket Kit, 50-1040; Bonnet Assembly Kit, 50-1028; Disc Assembly Kit, 50-1042 (includes bonnet O-ring 50-0017).

REPLACEMENT PARTS – BOLTED BONNET
1/2" THROUGH 1-1/4" (13MM THROUGH 32MM)



NOTE: Angle valve shown; kits are the same for globe valves.

ITEM	DESCRIPTION	QTY	PART NO
	Gasket Kit 1/2", 3/4", 1", 1-1/4" (13mm, 20mm, 25mm, 32mm)		50-1040
	Gasket Kit, Extended Neck 1/2", 3/4", 1", 1-1/4" (13mm, 20mm, 25mm, 32mm)		50-1171
	<i>Above kits consist of:</i>		
1	Stem Packing	1	50-0045
2	Stem Washer	1	50-0046
4	Stem O-Ring	1	50-0179
5a	Bonnet Gasket 1/2", 3/4" (13mm, 20mm)	1	50-0805
5b	Bonnet Gasket 1", 1-1/4" (25mm, 32mm)	1	50-0806
6	Seal Cap O-Ring	1	50-0432
7a	Packing Nut	1	50-0933
7b	Packing Nut, Extended Neck	1	50-2483
21	O-Ring, Anti-Spin	1	50-2697
* 1	Bonnet Assembly Kit 1/2", 3/4" (13mm, 20mm)		50-1094
	Bonnet Assembly Ext Neck Kit 1/2", 3/4" (13mm, 20mm)		50-1172
* 1	Bonnet Assembly Kit 1", 1-1/4" (25mm, 32mm)		50-1095
	Bonnet Assembly Ext Neck Kit 1", 1-1/4" (25mm, 32mm)		50-1174
	<i>Above kits consist of:</i>		
8a	Bonnet 1/2", 3/4" (13mm, 20mm)	1	50-0743
8b	Bonnet 1", 1-1/4" (25mm, 32mm)	1	50-0774
8c	Bonnet, Ext Neck 1/2", 3/4" (13mm, 20mm)	1	50-2636
8d	Bonnet, Ext Neck 1", 1-1/4" (25mm, 32mm)	1	50-2637
9a	Stem	1	50-0765
9b	Stem, Extended Neck	1	50-2478
10a	Disc Assembly 1/2", 3/4" (13mm, 20mm)	1	50-0803
10b	Disc Assembly 1", 1-1/4" (25mm, 32mm)	1	50-0804
11a	Ball Retainer 1/2", 3/4" (13mm, 20mm)	1	50-0439
11b	Ball Retainer 1", 1-1/4" (25mm, 32mm)	1	50-0026
12	Balls	10	50-0016
13	Bonnet Cap Screws	4	50-0813
	Gasket Kit 1/2" to 1-1/4" (13mm to 32mm)	1	50-1040
	Gasket Kit, Ext Neck 1/2" to 1-1/4"	1	50-1171
	(13mm to 32mm)		
	Disc Assembly Kit 1/2", 3/4" (13mm, 20mm)		50-1042
	Disc Assembly Kit 1", 1-1/4" (25mm, 32mm)		50-1004
	<i>Above kits consist of:</i>		
5a	Bonnet Gasket 1/2", 3/4" (13mm, 20mm)	1	50-0805
5b	Bonnet Gasket 1", 1-1/4" (25mm, 32mm)	1	50-0806
10a	Disc Assembly 1/2", 3/4" (13mm, 20mm)	1	50-0803
10b	Disc Assembly 1", 1-1/4" (25mm, 32mm)	1	50-0804
11a	Ball Retainer 1/2", 3/4" (13mm, 20mm)	1	50-0439
11b	Ball Retainer 1", 1-1/4" (25mm, 32mm)	1	50-0026
12	Balls	10	50-0016
21	O-Ring, Anti-Spin	1	50-2697
	Handwheel Kit		50-1005
	<i>Above kits consist of:</i>		
14	Handwheel	1	50-2691
15	Screw	1	50-0479
16	Nameplate	1	50-0094
18	Bonnet Thread Cap	1	50-0434
	Seal Cap Kit		50-1036
	<i>Above kits consist of:</i>		
6	Seal Cap O-Ring	1	50-0432
19	Seal Cap	1	50-0423
20a	Body, Globe 1/2" FPT (13mm)	1	50-2300
20b	Body, Globe 3/4" FPT (20mm)	1	50-2312
20c	Body, Globe 1" FPT (25mm)	1	50-2301
20d	Body, Globe 1-1/4" FPT (32mm)	1	50-2313
20e	Body, Angle 1/2" FPT (13mm)	1	50-0769
20f	Body, Angle 3/4" FPT (20mm)	1	50-0772
20g	Body, Angle 1" FPT (25mm)	1	50-0780
20h	Body, Angle 1-1/4" FPT (32mm)	1	50-0783

SERVICE AND MAINTENANCE

Hansen threaded shut-off valves require practically no service or maintenance due to the combination of polished stainless steel stems and reliable O-ring stem seals plus graphite composite packing. This almost entirely eliminates stem leakage, the common ailment of shut-off valves.

To help ensure safety, verify the tightness of the packing nut whenever the position (open or closed) is changed on isolation shut-off valves before opening the system. Ensuring that the packing nut is tight helps reduce the possibility that any line or system vibration may cause a slight unseating of a closed valve.

STEM PACKING

When verifying the tightness of the packing nut, use an adjustable wrench. Extrusion of some black graphite packing material along the stem is normal. If the O-ring or the adjustable packing ever needs replacement as evidenced by refrigerant or oil leakage at the stem, open the valve stem firmly to the back-seat position. This separates the O-ring and packing from the system refrigerant. Remove the packing nut carefully and then use a wire hook or a small blade screwdriver to remove the packing and O-ring. Take care not to scratch the stem or bonnet sealing surfaces. Carefully install a backup washer, new lubricated stem O-ring, stem washer, and stem packing. Tighten the packing nut only enough to give the handwheel slight turning friction.

VALVE SEAT

To inspect or replace the valve seat disc, isolate the valve from the system and safely pump out all refrigerant to zero pressure with the stem open at least one turn. Evenly loosen all bolts one to two turns. Using a screwdriver, break the seal between the bonnet and valve body, proceeding cautiously to avoid any refrigerant which may still remain inside the valve body. Remove the bonnet bolts and bonnet assembly, being careful not to damage the Teflon seat disc surface. If the seat surface in the body is marred, it may be possible to repair the seat by polishing with emery paper.

If the Teflon seat disc is damaged, replace the entire disc assembly $\frac{3}{8}$ " (10mm) thru $1\frac{1}{4}$ " (32mm) by first removing the ball retainer spring, ball bearings and anti-spin O-ring. Install a new disc assembly including anti-spin O-ring. Alternately, use a lathe to take a $\frac{1}{64}$ " (0.4 mm) by 45° surface cut on the Teflon seat.

Replace bonnet gasket or O-ring and reassemble bonnet into body using care not to damage Teflon seat surface. Be careful not to pinch the O-ring. If necessary, retain O-ring in O-ring groove by using a suitable O-ring grease. Ensure the stem is opened at least several turns.

Hansen screwed bonnet valve assemblies $\frac{3}{8}$ " to $1\frac{1}{4}$ " (10mm to 32mm) are factory tightened to 75 ft-lbs (102 Nm). Hansen bolted bonnet valve assemblies $\frac{1}{2}$ " to $1\frac{1}{4}$ " (13mm to 32mm) with bonnet cap screws are factory tightened to 30 ft-lbs (41 Nm). Test the valve for leaks before returning it to service.

TROUBLESHOOTING VALVE LEAKS

On the rare occasion when a small valve leak is discovered, the following procedures may help:

Stem seal leaks – The possibility of this occurrence is based on many factors, such as frequency of use, exercising, debris or rust on stem, etc. First, simply tighten the packing nut to see if this eliminates the leak. If not, back seat the valve or isolate it entirely from the refrigeration system. See Stem Packing section of this bulletin.

Bonnet gasket leaks – If a leak is discovered at the bonnet-to-body interface, first bring the pressure in the valve to zero pressure and check the bonnet or bolt tightness. If the leak persists, isolate the valve from the refrigeration system and disassemble the valve. Check the sealing surfaces on the bonnet and valve body for scratches or gouges. These scratches can sometimes be polished smooth. Install a new gasket or O-ring and reassemble the valve. Evenly tighten bonnet or bolts to properly seat the bonnet. Repeat the pressure test.

ORDERING INFORMATION, THREADED SHUT-OFF VALVES

SCREWED BONNET		
SIZE	DESCRIPTION	CAT NO
3/8" (10 mm)	Globe, Handwheel	GT038H
	Angle, Handwheel	AT038H
	Globe, Seal Cap	GT038C
	Angle, Seal Cap	AT038C
1/2" (13 mm)	Globe, Handwheel	GT051H
	Angle, Handwheel	AT051H
	Globe, Seal Cap	GT051C
	Angle, Seal Cap	AT051C
3/4" (20 mm)	Globe, Handwheel	GT076H
	Angle, Handwheel	AT076H
	Globe, Seal Cap	GT076C
	Angle, Seal Cap	AT076C
1" (25 mm)	Globe, Handwheel	GT100H
	Angle, Handwheel	AT100H
	Globe, Seal Cap	GT100C
	Angle, Seal Cap	AT100C
1 1/4" (32 mm)	Globe, Handwheel	GT125H
	Angle Handwheel	AT125H
	Globe, Seal Cap	GT125C
	Angle, Seal Cap	AT125C

BOLTED BONNET		
SIZE	DESCRIPTION	CAT NO
1/2" (13 mm)	Globe, Handwheel	GTB051H
	Angle, Handwheel	ATB050H
	Globe, Seal Cap	GTB051C
	Angle, Seal Cap	ATB050C
3/4" (20 mm)	Globe, Handwheel	GTB076H
	Angle, Handwheel	ATB075H
	Globe, Seal Cap	GTB076C
	Angle, Seal Cap	ATB075C
1" (25 mm)	Globe, Handwheel	GTB101H
	Angle, Handwheel	ATB100H
	Globe, Seal Cap	GTB101C
	Angle, Seal Cap	ATB100C
1 1/4" (32 mm)	Globe, Handwheel	GTB126H
	Angle, Handwheel	ATB125H
	Globe, Seal Cap	GTB126C
	Angle, Seal Cap	ATB125C

TO ORDER

Specify catalog number.

Bolted Bonnet Valves:

To order valves with extended neck, add the letter "E" to the catalog number (Example: GTE051H or ATE125C). To order valves for 600 psig (41 bar g) SWP, add the letter "C" prefix to catalog number (Example: CGTB076H or CATB100H). CE marked valves are available, contact the factory.

CAUTION

Hansen valves are for refrigeration systems only. These instructions must be completely read and understood before selecting, using, or servicing Hansen valves and electronics. Only knowledgeable, trained refrigeration mechanics should install, operate, or service. Stated temperature and pressure limits should not be exceeded. Bonnets should not be removed from valves unless the system has been evacuated to zero pressure. See also Safety Precautions in the current List Price Schedule and the Safety Precautions Sheet supplied with the product.

WARRANTY

All Hansen products, except electronics, are guaranteed against defective materials or workmanship for one year F.O.B. factory. Electronics are guaranteed against defective materials or workmanship for 90 days F.O.B. factory. No consequential damages or field labor is included.

TYPICAL SPECIFICATIONS

"Threaded refrigerant shut-off valves shall have stainless steel stems with dual seals, forged bolted bonnets or ductile iron screwed bonnet bodies, back-seating design for packing replacement, bonnet threads for installation of stem seal caps, threaded ends machined dimensionally correct for schedule 80 pipe sizes 3/8" to 1 1/4", and suitable for a safe working pressure of 400 psig (28 bar g) or 600 psig (41 bar g), as manufactured by Hansen Technologies Corporation, or approved equal."

H HANSEN

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