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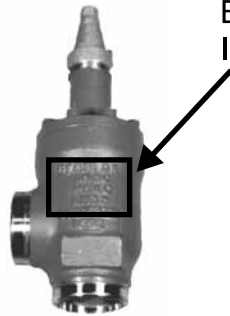
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FRICK®, HUBBELL, HERL, GRAM, & DANFOSS SHUTOFF VALVE IDENTIFICATION GUIDE 1/4" — 12"

This publication covers "standard valves" used on Frick Units. Low temperature or other non-standard valves are not considered. In the recent past, Frick has used these manufacturers of valves: Frick, Hubbell, Herl, Gram, and Danfoss. We have developed this publication to help identify valves found on our units.

Valve Marking:

Each manufacturer's valve is uniquely Marked. Refer to information on valve Body and on the following pages to aid In identification.



ON THE FOLLOWING PAGES:

1. Valves are listed by manufacturer:
 - a. Frick, Hubbell, Herl, Gram, and Danfoss
 - b. connection (SW, NPT and WIL)
 - c. type (Angled/Globe) in ascending size.
2. Valves pictured are typical of those listed in each section, with handwheel or sealcap shown.
3. Asterisk (*) following part number denotes actual valve pictured.
4. Globe and Straight are the same type of valve.
5. Weld-in-Line (WIL) and Butt Weld (BW) are the same type.
6. Symbol explanation:

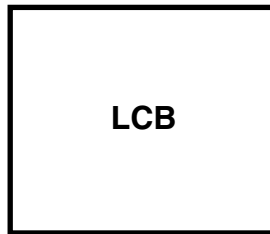
HW	Handwheel	NPT	National Pipe Thread
SC	Seal Cap	WIL	Weld-in-Line
SW	Socket Weld	BW	Butt Weld
*	valve shown		

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FRICK® VALVES

Valves made by Frick have "LCB" on the body (for "Low temperature CarBon steel").



1985 — 1996

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580D0164G04	2" Angle, SC, SW																										

1. Frick SW Valves, sizes 1/2—4", have square bolted bonnets.



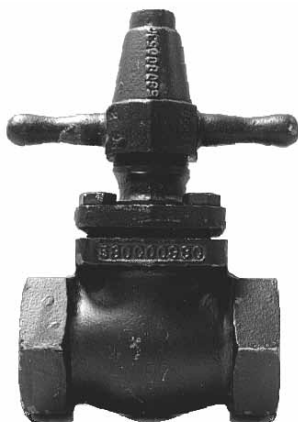
1/4—1/2" ANGLE NPT FRICK

Frick	Description
580D0056G02	1/4" NPT, Angle, HW
580D0055G02	1/4" NPT, Angle, SC
580D0052G02*	3/8" NPT, Angle, HW
580D0053G02	3/8" NPT, Angle, SC
580D0048G02	1/2" NPT, Angle, HW
580D0047G02	1/2" NPT, Angle, SC



3/4—1-1/4" ANGLE NPT FRICK

Frick	Description
580D0044G02	3/4" NPT, Angle, HW
580D0043G02	3/4" NPT, Angle, SC
580D0040G02*	1" NPT, Angle, HW
580D0039G02	1" NPT, Angle, SC
580D0038G02	1 1/4" NPT, Angle, HW
580D0037G02	1 1/4" NPT, Angle, SC



1/4—1-1/4" GLOBE NPT FRICK

Frick	Description
580D0056G01	1/4" NPT, Globe, HW
580D0055G01	1/4" NPT, Globe, SC
580D0052G01	3/8" NPT, Globe, HW
580D0053G01	3/8" NPT, Globe, SC
580D0048G01	1/2" NPT, Globe, HW
580D0047G01	1/2" NPT, Globe, SC
580D0044G01	3/4" NPT, Globe, HW
580D0043G01	3/4" NPT, Globe, SC
580D0040G01	1" NPT, Globe, HW
580D0039G01	1" NPT, Globe, SC
580D0038G01	1 1/4" NPT, Globe, HW
580D0037G01*	1 1/4" NPT, Globe, SC



1-1/4—4" ANGLE WIL FRICK⁽¹⁾

Frick	Description
581D0058G03	1 1/4" Angle, HW, WIL
581D0058G04	1 1/4" Angle, SC, WIL
581D0062G03	1 1/2" Angle, HW, WIL
581D0062G04	1 1/2" Angle, SC, WIL
581D0063G03*	2" Angle, HW, WIL
581D0063G04	2" Angle, SC, WIL
581D0064G03	2 1/2" Angle, HW, WIL
581D0064G04	2 1/2" Angle, SC, WIL
581D0065G03	3" Angle, HW, WIL
581D0065G04	3" Angle, SC, WIL
581D0066G03	4" Angle, HW, WIL
581D0066G04	4" Angle, SC, WIL

1. Frick WIL Valves, sizes 1-1/4—4", have square bolted bonnets.



5—8" ANGLE WIL FRICK⁽¹⁾

Frick	Description
581D0038G03	5" Angle, HW, WIL
581D0038G04	5" Angle, SC, WIL
581D0034G03	6" Angle, HW, WIL
581D0034G04	6" Angle, SC, WIL
581D0037G03*	8" Angle, HW, WIL
581D0037G04	8" Angle, SC, WIL

1. Frick WIL Valves, sizes 5—8", have 5/8" bolts.



10—12" ANGLE WIL FRICK⁽¹⁾

Frick	Description
581E0010G01	10" Angle, HW, WIL
581E0010G02*	10" Angle, SC, WIL
581E0011G01	12" Angle, HW, WIL
581E0011G02	12" Angle, SC, WIL

1. Frick 10" WIL Valves, have twelve 5/8" bolts.
Frick 12" WIL Valves, have sixteen 5/8" bolts.



1-1/4—4" GLOBE WIL FRICK⁽¹⁾

Frick	Description
581D0058G01	1 1/4" Globe, HW, WIL
581D0058G02	1 1/4" Globe, SC, WIL
581D0062G01	1 1/2" Globe, HW, WIL
581D0062G02	1 1/2" Globe, SC, WIL
581D0063G01*	2" Globe, HW, WIL
581D0063G02	2" Globe, SC, WIL
581D0064G01	2 1/2" Globe, HW, WIL
581D0064G02	2 1/2" Globe, SC, WIL
581D0065G01	3" Globe, HW, WIL
581D0065G02	3" Globe, SC, WIL
581D0066G01	4" Globe, HW, WIL
581D0066G02	4" Globe, SC, WIL

1. Frick WIL Valves, sizes 1-1/4—4", have square bolted bonnets.



5—8" GLOBE WIL FRICK⁽¹⁾

Frick	Description
581D0038G01	5" Globe, HW, WIL
581D0038G02*	5" Globe, SC, WIL
581D0034G01	6" Globe, HW, WIL
581D0034G02	6" Globe, SC, WIL
581D0037G01	8" Globe, HW, WIL
581D0037G02	8" Globe, SC, WIL

1. Frick WIL Valves, sizes 5—8", have 5/8" bolts.



10—12" GLOBE WIL FRICK

Frick	Description
581E0010G03*	10" Globe, HW, WIL
581E0010G04	10" Globe, SC, WIL
581E0011G03	12" Globe, HW, WIL
581E0011G04	12" Globe, SC, WIL

1. Frick 10" WIL Valves, have twelve 5/8" bolts.
Frick 12" WIL Valves, have sixteen 5/8" bolts.

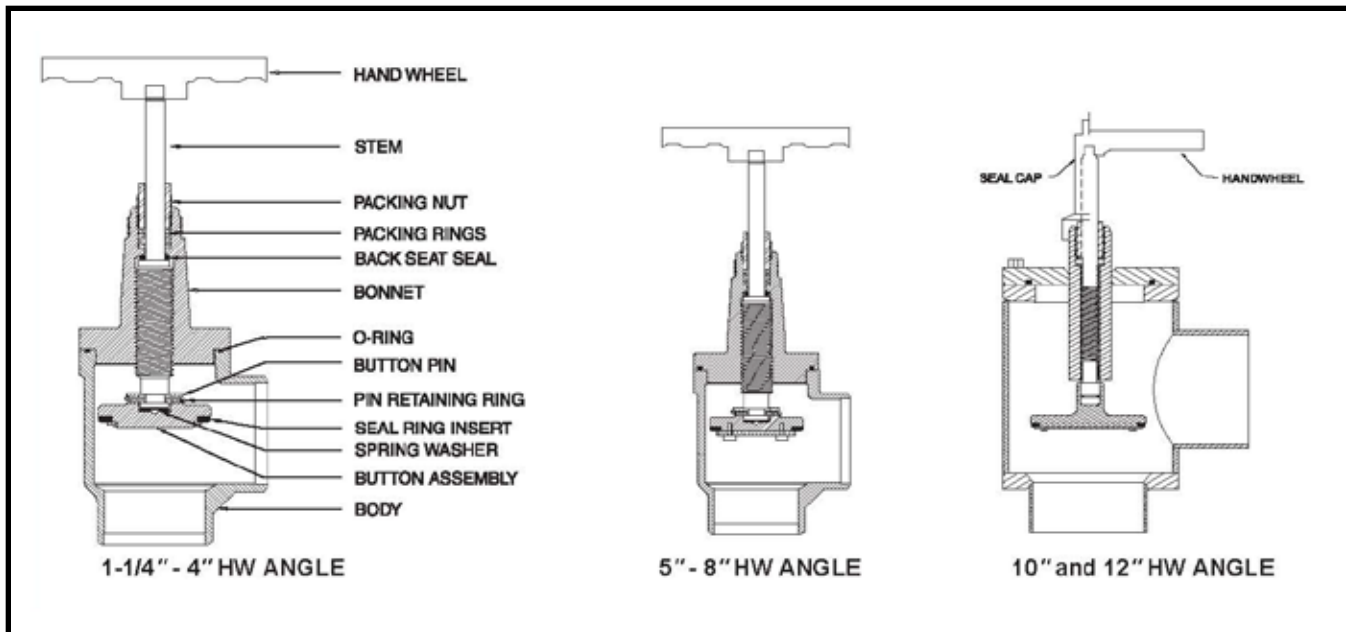


Figure 1. Weld-in-Line Parts, Late Design (Frick®)

WELD-IN-LINE VALVE PARTS - LATE DESIGN

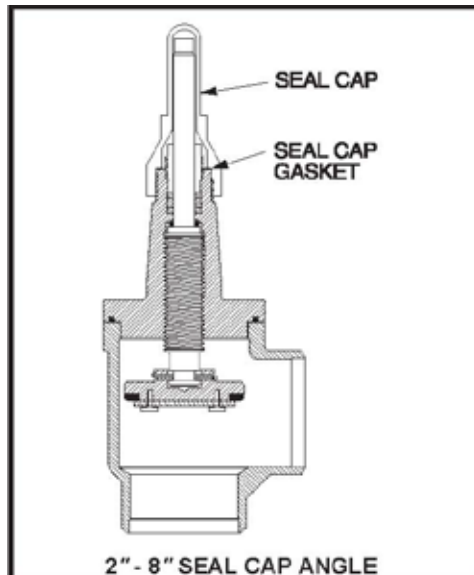
SIZE (in.)	ITEM NO.			
	HANDWHEEL	STEM	PACKING NUT	BACKSEAT
1/2	580B0115C01	580B0259H01	580A0273H01	-
3/4	580B0115C01	580B0259H01	580A0273H01	-
1	580B0115C01	580B0259H01	580A0273H01	-
1 1/4	581B0001H01	581B0036H01	581B0031H01	581B0033H01
1 1/2	581B0001H01	581B0036H01	581B0031H01	581B0033H01
2	581B0001H02	581B0029H02	581B0031H01	581B0033H01
2 1/2	581B0001H02	581B0029H03	581B0031H01	581B0033H01
3	581B0001H03	581B0030H02	581B0032H01	581B0033H02
4	581B0001H03	581B0030H03	581B0032H01	581B0033H02
5	581B0001H04	581C0037H01	581A0024H01	531A0023H01
6	581B0001H04	581C0045H01	581A0024H01	581A0023H01
8	581B0001H05	581C0042H01	581B0045H01	581A0012H01
10	581B0001H06	581B0009H01	581B0045H01	581A0020H01
12	581B0001H07	581B0010H01	581B0055H01	581A0030H01

SIZE (in.)	ITEM NO.			
	BONNET GKT ⁽²⁾	BONNET O/R ⁽²⁾	BUTTON ASSY ⁽³⁾	DOWEL PINS ⁽⁴⁾
1/2	-	980A0014A76	580A0286G01	580A0090H01
3/4	-	980A0014A76	580A0286G01	580A0090H01
1	-	980A0014A76	580A0286G01	580A0090H01
1 1/4	959A0022H03	980A0014H38	581C0046G01	580A0090H01
1 1/2	959A0022H02	980A0014H39	581C0046G02	580A0090H01
2	959A0022H01	980A0014H43	581C0046G03	580A0090H01
2 1/2	959A0022H04	980A0014H48	581C0046G04	580A0090H01
3	959A0022H05	980A0014H51	581C0046G05	580A0090H02
4	959A0022H06	980A0014H59	581C0046G06	580A0090H02
5	959A0022H07	980A0014H67	581A0040H01	580A0090H02
6	959A0022H08	980A0014H71	581A0040H02	580A0090H02
8	959A0022H09	980A0014H80	581A0040H03	580A0192H01
10	581A0007H01	980A0014K29	581A0040H04	581A0001H04
12	581A0007H02	980A0014K33	581A0040H05	581A0001H04

WELD-IN-LINE VALVE PARTS - LATE DESIGN

SIZE (in.)	ITEM NUMBER			
	RETAINING RING	SPRG WASHER	PACKING RING ⁽⁵⁾	CENTER RING
1/2	580A0274H01	581A0022H04	959A0055H01	959A0056H01
3/4	580A0274H01	581A0022H04	959A0055H01	959A0056H01
1	580A0274H01	581A0022H04	959A0055H01	959A0056H01
1 1/4	580A0092H01	581A0022H01	959A0055H11	959A0056H11
1 1/2	580A0092H01	581A0022H01	959A0055H11	959A0056H11
2	580A0092H01	581A0022H01	959A0055H11	959A0056H11
2 1/2	580A0092H01	581A0022H01	959A0055H11	959A0056H11
3	580A0096H01	581A0022H02	959A0055H12	959A0056H12
4	580A0096H01	581A0022H02	959A0055H12	959A0056H12
5	580A0096H01	580A0095H01	959A0055H06	959A0056H06
6	580A0096H01	580A0095H01	959A0055H06	959A0056H06
8	580A0108H01	580A0109H01	959A0055H07	959A0056H07
10	581B0003H06	-	581A0046H01	959A0076H01
12	581B0003H07	-	581A0047H01	959A0076H02

1. Late design valves are identified by the packing nut configuration as shown below. Current design valves were originally produced with bodies using gaskets; they were later revised to use O-rings (see NOTE 2). Replacement bonnets are available for valves using gaskets.
2. To determine whether the valve requires an O-ring or gasket, inspect the body to bonnet joint connection. Valves using gaskets will have a clearance while the O-ring valves will have a metal to metal fit.
3. Includes seal ring and button disc on 1/2 - 4". Item numbers on 5 - 12" sizes represent replaceable seal ring insert.
4. Quantity of 4 required on sizes 1/2 - 4". Quantity of 8 required on sizes 5 - 8". 10" and 12" valves require ball bearings in quantities of 16 and 18 respectively.
5. Quantity of 2 required.



W-I-L SEAL CAP VALVE PARTS - LATE DESIGN

SIZE (in)	ITEM NO.	
	SEAL CAP	SEAL CAP GKT
1/2	580B0282C01	580A0275H07
3/4	580B0282C01	580A0275H07
1	580B0282C01	580A0275H07
1 1/4	581C0001H08	580A0275H01
1 1/2	581C0001H08	580A0275H01
2	581C0001H08	580A0275H01
2 1/2	581C0001H08	580A0275H01
3	581C0001H09	580A0275H02
4	581C0001H09	580A0275H02
5	581C0001H04	580A0275H03
6	581C0001H04	580A0275H03
8	581C0001H05	580A0275H04
10	581C0050H01	580A0275H05
12	581C0051H01	580A0275H06

Figure 2. W-I-L Parts, Seal Cap, Late Design (Frick®)

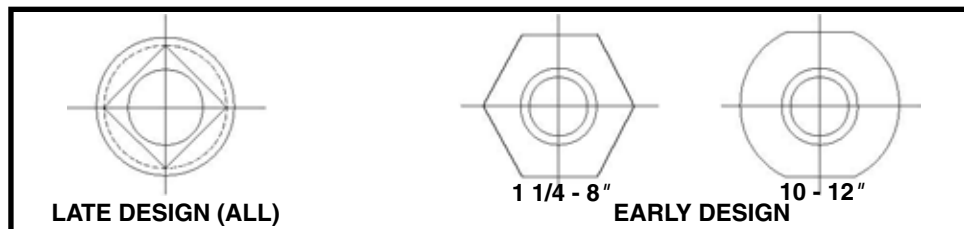


Figure 3. Weld-In-Line, Packing Gland Design (Frick®)

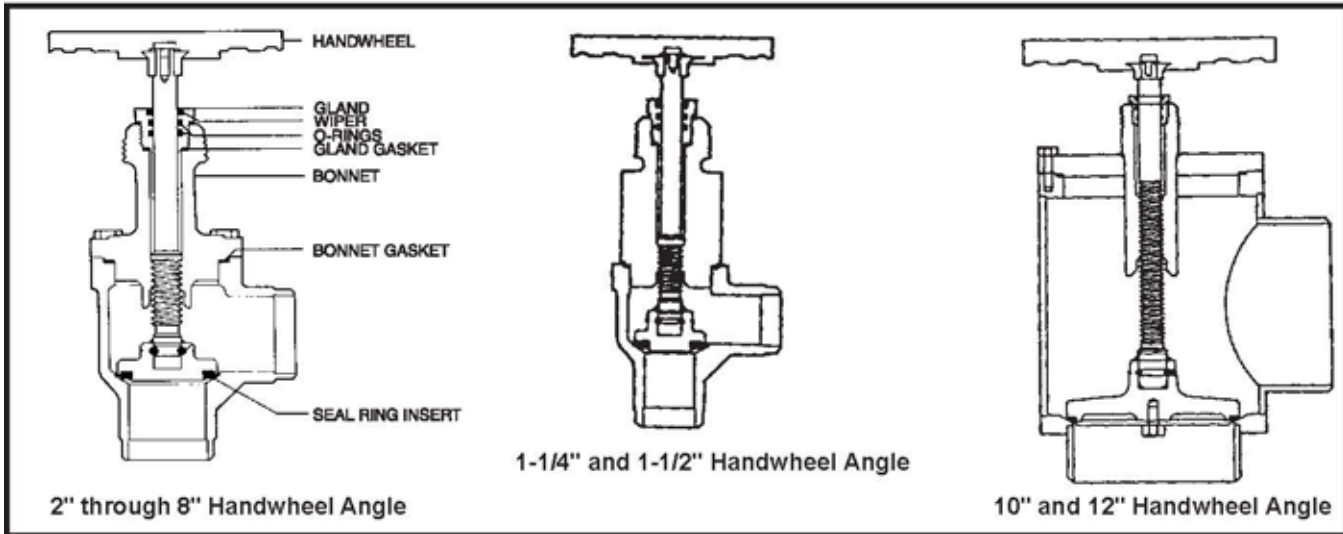


Figure 4. Weld-In-Line Parts, Early Design (Frick®)

WELD-IN-LINE VALVE PARTS - EARLY DESIGN

SIZE (in.)	ITEM NO.				
	BONNETT ⁽²⁾⁽³⁾	HANDWHEEL	GLAND	STEM SEAL KIT ⁽⁴⁾	BONNET GASKET
1 1/4	581C0137G01	581B0001H01	581B0011H01	111W0011230	959A0022H03
1 1/2	581C0137G02	581B0001H01	581B0011H01	111W0011230	959A0022H02
2	581C0137G03	581B0001H02	581B0012H01	111W0011231	959A0022H01
2 1/2	581C0137G04	581B0001H02	581B0012H01	111W0011231	959A0022H04
3	581C0137G05	581B0001H03	581B0013H01	111W0011232	959A0022H05
4	581C0137G06	581B0001H03	581B0013H01	111W0011232	959A0022H06
5	581B0071G01	581B0001H04	581B0014H01	111W0011233	959A0022H07
6	581B0071G02	581B0001H04	581B0014H01	111W0011233	959A0022H08
8	581B0071G03	581B0001H05	581B0015H01	111W0011234	959A0022H09
10	581B0072G01	581B0001H06	581B0016H01	111W0011235	581A0007H01
12	581B0072G02	581B0001H07	581B0017H01	111W0011236	581A0007H02

1. Original design valves have the following features: O-ring-type packing, replaceable seal ring insert, gasketed bodies, and threaded bonnets on 1 1/4" and 1 1/2" valves. Original design W-I-L valves can be identified by the packing nut configuration as shown on Page 3.
2. Replacement bonnets incorporate the latest design revisions. These include coarse stem threads, improved packin, fully retained button seals, and backseat above the threads. Frick recommends replacement of the bonnet assembly if major servicing is required. Replacement bonnets can be utilized on any W-I-L valve with gasketed body and bolted bonnet. Bonnets are supplied without handwheels or seal caps.
3. Replacement bonnets are not available for 1 1/4" and 1 1/2" W-I-L valves with screwed bonnets. For replacement parts, order individual components.
4. Stem seal kit consists of wiper (qty. 1), O-rings (qty. 2), and gland gasket (qty 1).

W-I-L SEAL CAP VALVE PARTS - EARLY DESIGN

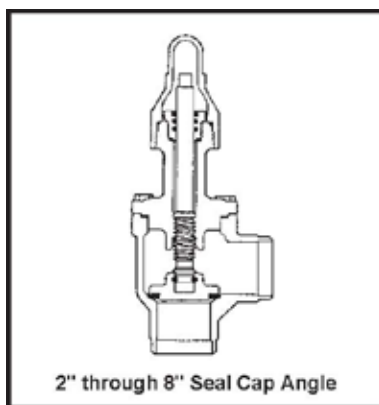


Figure 5. W-I-L Parts, Early Design (Frick®)

SIZE (in)	ITEM NO.	
	SEAL CAP	SEAL CAP GKT
1 1/4	581C0001H08	580A0275H01
1 1/2	581C0001H08	580A0275H01
2	581C0001H08	580A0275H01
2 1/2	581C0001H08	580A0275H01
3	581C0001H09	580A0275H02
4	581C0001H09	580A0275H02
5	581C0001H04	580A0275H03
6	581C0001H04	580A0275H03
8	581C0001H05	580A0275H04
10	581C0050H01	580A0275H05
12	581C0051H01	580A0275H06

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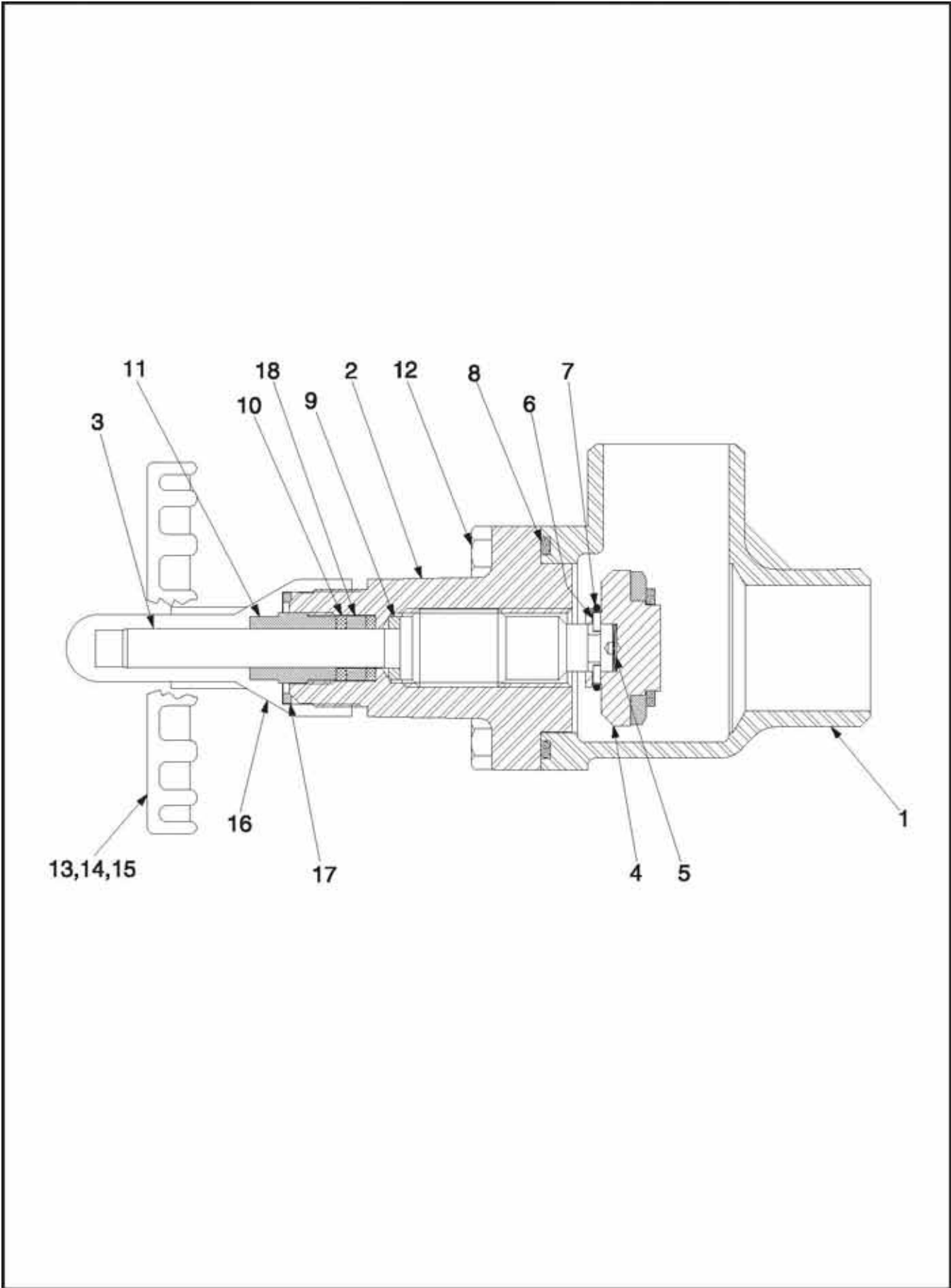


Figure 6. Angle Shutoff Valve Parts, 2" (Frick®)

FIG. & INDEX	ITEM NUMBER	DESCRIPTION	QTY.	REV.
6—	581D0063G01	2" Globe Shutoff Valve, HW, WIL (Frick)	Ref.	
	581D0063G02	2" Globe Shutoff Valve, SC, WIL (Frick)	Ref.	
	581D0063G03	2" Angle Shutoff Valve, HW, WIL (Frick)	Ref.	
	581D0063G04	2" Angle Shutoff Valve, SC, WIL (Frick)	Ref.	
—1	581D0057G01	Assembly, Angle Valve Body	1	
—2	581C0084C03	Bonnet, Stop Valve	1	
—3	581B0029H02	Stem, Stop Valve	1	
—4	581C0046G03	Assembly, Button	1	
—5	581A0022H01	Washer, Spring, Curved	1	
—6	580A0090H01	Pin, Dowel	4	
—7	580A0092H01	Ring, Retaining	1	
—8	980A0014H43	O-ring	1	
—9	581B0033H01	Seal, Backseat	1	
—10	959A0055H11	Ring, Packing, Split	1	
—11	581B0031H01	Nut, Packing	1	
—12	901A0045D05	Capscrew, Hex Head	4	
—13	581B0001H02	Handwheel	1	
—14	581A0011H06	Washer, Spring	1	
—15	901A0041D02	Capscrew	1	
—16	581C0001H08	Seal Cap	1	
—17	580A0275H01	Gasket, Seal Cap	1	
—18	959A0056H11	Ring, Packing, Center	1	

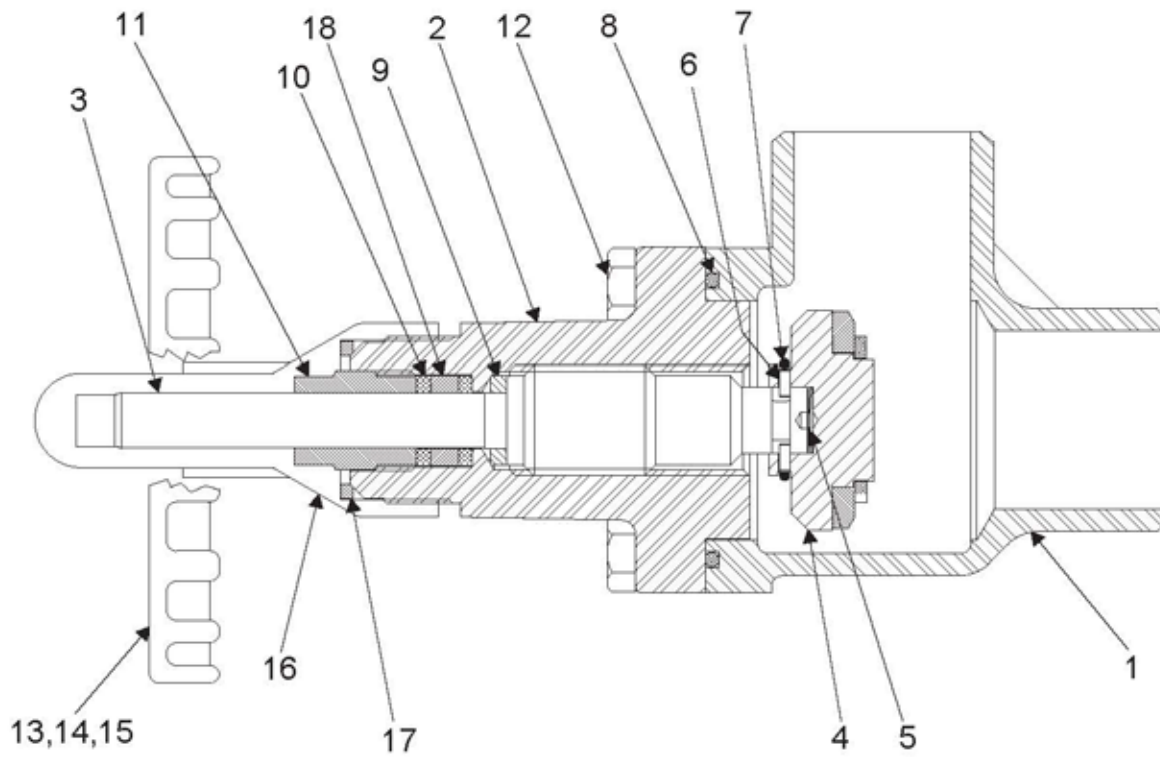


Figure 7. Angle Shutoff Valve Parts, 3" and 4" (Frick®)

FIG. & INDEX	ITEM NUMBER	DESCRIPTION	QTY.	REV.
7—	581D0065G01	3" Globe Shutoff Valve, HW, WIL (Frick)	Ref.	
	581D0065G02	3" Globe Shutoff Valve, SC, WIL (Frick)	Ref.	
	581D0065G03	3" Angle Shutoff Valve, HW, WIL (Frick)	Ref.	
	581D0065G04	3" Angle Shutoff Valve, SC, WIL (Frick)	Ref.	
	581D0066G01	4" Globe Shutoff Valve, HW, WIL (Frick)	Ref.	
	581D0066G02	4" Globe Shutoff Valve, SC, WIL (Frick)	Ref.	
	581D0066G03	4" Angle Shutoff Valve, HW, WIL (Frick)	Ref.	
	581D0066G04	4" Angle Shutoff Valve, SC, WIL (Frick)	Ref.	
—1	581C0110G01	Body, Angle, Valve, 3"	1	
	581C0110G02	Body, Angle, Valve, 4"	1	
—2	581C0086C02	Bonnet, Stop Valve, 3"	1	
	581C0087C03	Bonnet, Stop Valve, 4"	1	
—3	581B0030H02	Stem, Stop Valve, 3"	1	
	581B0030H03	Stem, Stop Valve, 4"	1	
—4	581C0046G05	Button Assembly, 3"	1	
	581C0046G06	Button Assembly, 4"	1	
—5	581A0022H02	Washer, Spring	1	
—6	580A0090H02	Pin, Button	4	
—7	580A0096H01	Ring, Retaining	1	
—8	980A0014H51	O-ring, Bonnet, 3"	1	
	980A0014H59	O-ring, Bonnet, 4"	1	
—9	581B0033H02	Seal, Backseat	1	
—10	959A0055H12	Ring, Packing, Split	1	
—11	581B0032H01	Nut, Packing	1	
—12	580A0235H01	Ring, Packing, Split, 3"	1	
	581A0027H01	Ring, Packing, Split, 4"	1	
—13	901A0046A04	Capscrew, Hex Head, 3"	4	
	901A0047A05	Capscrew, Hex Head, 4"	4	
—14	581B0001H03	Handwheel	1	
—15	581A0011H07	Washer, Spring	1	
—16	581A0010H03	Capscrew, Hex Head	1	
—17	581C0001H09	Seal Cap	1	
—18	580A0275H02	Gasket, Seal Cap	1	
—19	959A0056H12	Ring, Packing, Center	1	

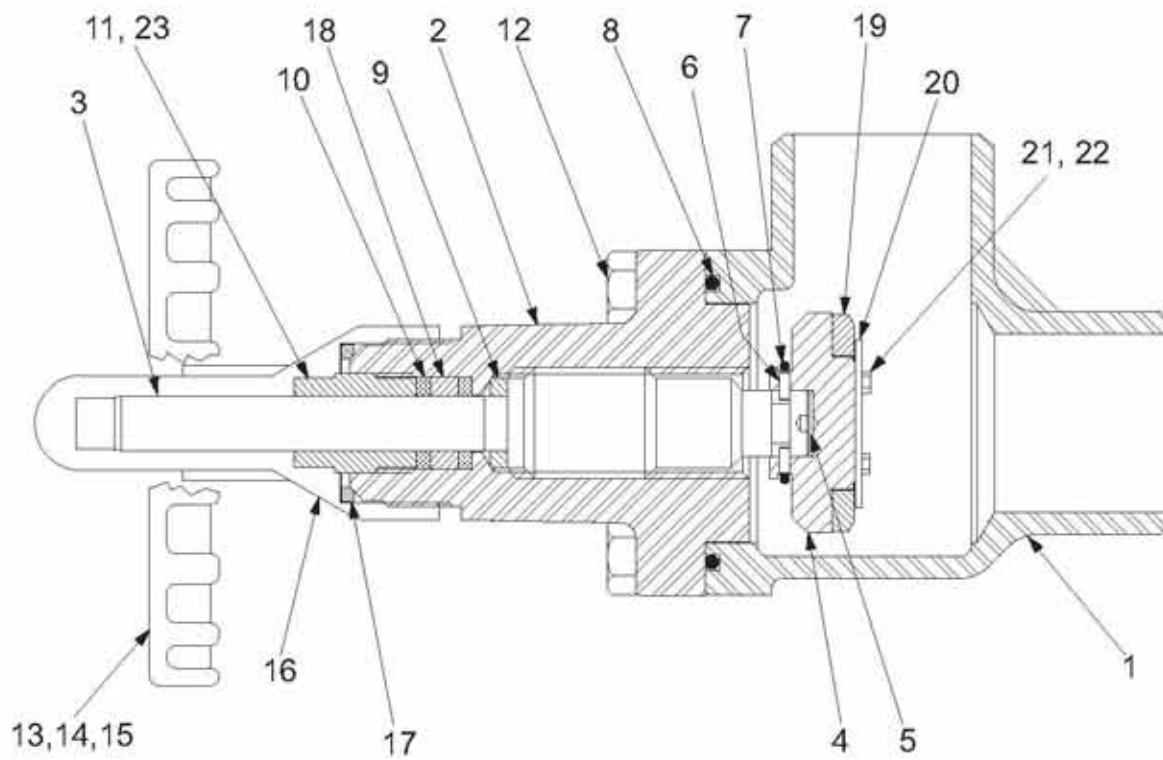


Figure 8. Angle Shutoff Valve Parts, 5" and 8" (Frick®)

FIG. & INDEX	ITEM NUMBER	DESCRIPTION	QTY.	REV.
8—	581D0038G03	5" Angle Shutoff Valve, HW, WIL (Frick)	Ref.	
	581D0038G04	5" Angle Shutoff Valve, SC, WIL (Frick)	Ref.	
	581D0034G03	6" Angle Shutoff Valve, HW, WIL (Frick)	Ref.	
	581D0034G04	6" Angle Shutoff Valve, SC, WIL (Frick)	Ref.	
	581D0037G03	8" Angle Shutoff Valve, HW, WIL (Frick)	Ref.	
	581D0037G04	8" Angle Shutoff Valve, SC, WIL (Frick)	Ref.	
—1	581C0110G03	Body, Valve, 5"	1	
	581C0110G04	Body, Valve, 6"	1	
	581C0110G05	Body, Valve, 8"	1	
—2	581C0048C01	Bonnet, Stop Valve, 5"	1	
	581D0033C01	Bonnet, Stop Valve, 6"	1	
	581D0032C01	Bonnet, Stop Valve, 8"	1	
—3	581C0037H01	Stem, Stop Valve, 5"	1	
	581C0045H01	Stem, Stop Valve, 6"	1	
	581C0042H01	Stem, Stop Valve, 8"	1	
—4	581C0144C01	Button, 5"	1	
	581C0142C01	Button, 6"	1	
	581C0139C01	Button, 8"	1	
—5	580A0095H01	Spring, 5", 6"	1	
	580A0109H01	Spring, 8"	1	
—6	580A0090H02	Pin, Button, 5", 6"	8	
	580A0192H01	Pin, Button, 8"	8	
—7	580A0096H01	Ring, Retaining, 5", 6"	1	
	580A0108H01	Ring, Retaining, 8"	1	
—8	980A0014H67	O-ring, Bonnet, 5"	1	
	980A0014H71	O-ring, Bonnet, 6"	1	
	980A0014H80	O-ring, Bonnet, 8"	1	
—9	581A0023H01	Seal, Backseat, 5", 6"	1	
	581A0012H01	Seal, Backseat, 8"	1	
—10	959A0055H06	Ring, Packing, Split, 5", 6"	1	
	959A0055H07	Ring, Packing, Split, 8"	1	
—11	581A0024H01	Nut, Packing, 5", 6"	1	
	581B0045H01	Nut, Packing, 8"	1	
—12	901A0046A03	Capscrew, Hex Head, 5", 6"	a/r	
	901A0046D03	Capscrew, Hex Head, 8"	8	
—13	581B0001H04	Handwheel, 5", 6"	1	
	581B0001H05	Handwheel, 8"	1	
—14	581A0011H07	Washer, Spring, 5", 6"	1	
	581A0011H03	Washer, Spring, 8"	1	
—15	581A0010H03	Capscrew, Hex Head, 5", 6"	1	
	581A0010H04	Capscrew, Hex Head, 8"	1	
—16	581C0001H04	Seal Cap, 5", 6"	1	
	581C0001H05	Seal Cap, 8"	1	
—17	580A0275H03	Gasket, Seal Cap, 5", 6"	1	
	580A0275H04	Gasket, Seal Cap, 8"	1	
—18	959A0056H06	Ring, Packing Center, 5", 6"	1	
	959A0056H07	Ring, Packing Center, 8"	1	
—19	581A0040H01	Seal, Button, 5"	1	
	581A0040H02	Seal, Button, 6"	1	
	581A0040H03	Seal, Button, 8"	1	
—20	581A0016H01	Plate, Retaining, 5"	1	
	581A0015H01	Plate, Retaining, 6"	1	
	581A0014H01	Plate, Retaining, 8"	1	
—21	901A0043E03	Capscrew, Hex Head, 5", 6", 8"	a/r	
—22	111Q0940012	Lockwasher, 5", 6", 8"	a/r	
—23	580A0183H06	Washer, Packing, 5", 6", 8"	1	

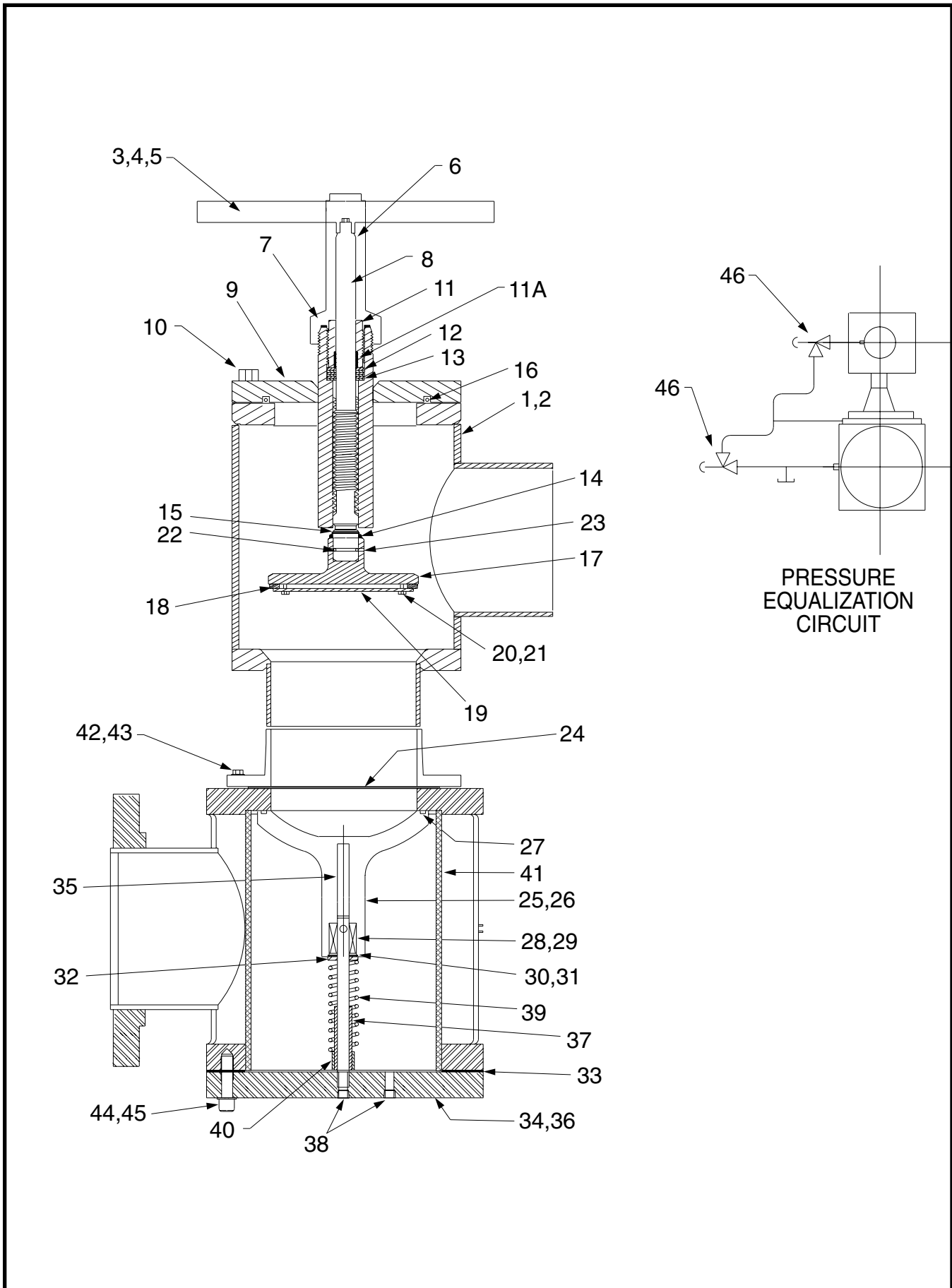


Figure 9. 10" Multivalve, 150 PSIG (Frick®)

FIG. & INDEX	ITEM NUMBER	DESCRIPTION	QTY.	REV.
9—	535D0406G01	Assembly, Multivalve, 10", 150 PSIG, HW (Frick)	Ref.	B
	535D0406G02	Assembly, Multivalve, 10", 150 PSIG, SC	Ref.	B
—1	535C0232G13	Assembly, Valve, Handwheel	1	
—2	535C0232G15	Assembly, Valve, Seal Cap	1	
—3	581B0001H06	Handwheel	1	
—4	901A0045A03	Capscrew	1	
—5	581A0011H03	Washer, Spring	2	
—6	581C0050H01	Seal Cap	1	
—7	580A0275H05	Gasket, Seal Cap	1	
—8	581B0009H01	Stem	1	
—9	581C0074G01	Bonnet	1	
—10	901A0046A05	Capscrew	12	
—11	581B0066H01	Packing Nut	1	
—11A	581A0042H01	Packing Nut Bushing	1	
—12	581A0046H01	Ring, Bushing End	2	
—13	959A0076H01	Ring, Center Packing	1	
—14	581A0020H01	Seal, Backseat	1	
—15	581A0044H01	Ring, Retaining	1	
—16	581A0007H01	Gasket, Bonnet (original)	1	
	980A0014K29	O-ring, Bonnet (later)	1	
—17	581C0072G01	Button	1	
—18	581A0040H04	Button Seal	1	
—19	581A0017H01	Retaining Plate	1	
—20	111Q0110535	Capscrew	6	
—21	111Q0940012	Lockwasher	6	
—22	581A0001H04	Ball Bearing	16	
—23	581B0003H06	Retaining Clip	1	
—24	959A0062H05	Gasket, Body, 150/300 PSIG	1	
—25	580B0240G07	Assembly, Sliding Button	1	
—26	580C0262C01	Sliding Button	1	
—27	980A0014H80	O-ring	1	
—28	580B0243G01	Assembly, Bearing	1	
—29	580A0235H03	Liner, TFE	2	
—30	111Q0452525	Retaining Ring	1	
—31	111Q0940170	Washer, Flat	1	
—32	111Q0940164	Washer, Flat	1	
—33	959A0061H04	Gasket, End Cover	1	
—34	580B0246G07	Assembly, End Cover	1	
—35	580B0273H07	Shaft, Check Valve	1	
—36	580C0301H01	End Cover	1	
—37	580A0232H01	Spacer, Check Valve	1	
—38	944A0008H02	Pipe Plug	2	
—39	580A0229H01	Spring	1	
—40	580A0234H01	Spring Adjuster	1	
—41	580C0268H01	Strainer	1	
—42	901A0048A06	Capscrew, 150 PSIG	12	
	901A0048D06	Capscrew, 300 PSIG	12	
—43	111Q0940028	Lockwasher, 150/300 PSIG	12	
—44	111Q0740822	Capscrew	16	
—45	111Q0940028	Lockwasher	16	
—46	957A0003H02	Valve, Angle	2	

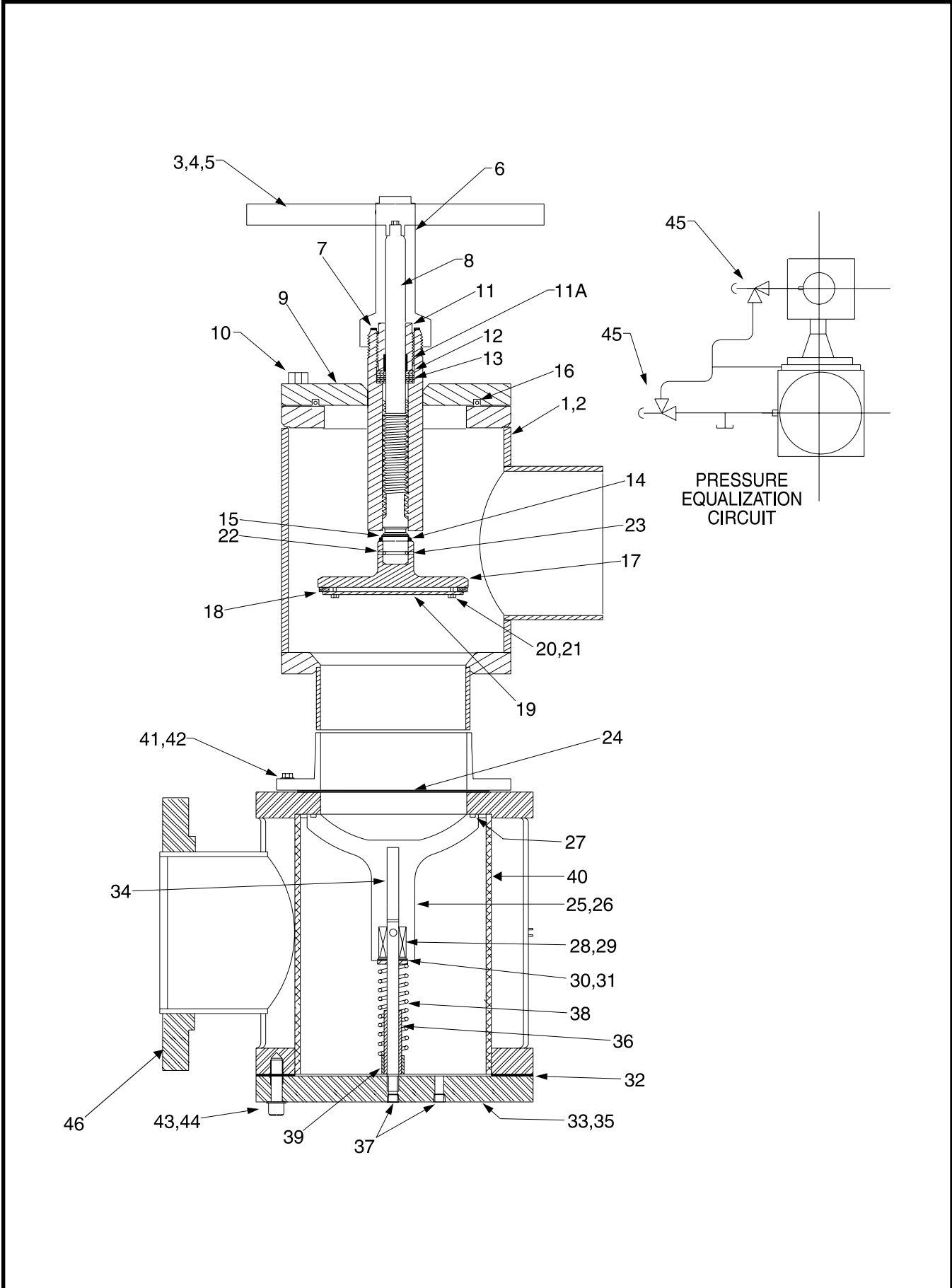


Figure 10. 14" Multivalve, 300 PSIG (Frick®)

FIG. & INDEX	ITEM NUMBER	DESCRIPTION	QTY.	REV.
10—	535E0049G01	Assembly, Multivalve, 14", 300 PSIG, SC (Frick)	Ref.	M
	535E0049G03	Assembly, Multivalve, 14", 300 PSIG, SC 110V (Frick)	Ref.	M
	535E0049G05	Assembly, Multivalve, 14", 300 PSIG, SC 220V (Frick)	Ref.	M
	535E0049G02	Assembly, Multivalve, 14", 300 PSIG, HW (Frick)	Ref.	M
	535E0049G04	Assembly, Multivalve, 14", 300 PSIG, HW 110V (Frick)	Ref.	M
	535E0049G06	Assembly, Multivalve, 14", 300 PSIG, HW 220V (Frick)	Ref.	M
—1	535C0232G14	Assembly, Valve, Flanged, Handwheel	1	
—2	535C0232G16	Assembly, Valve, Flanged, Seal Cap	1	
—3	581B0001H07	Handwheel	1	
—4	901A0046H01	Capscrew	1	
—5	581A0011H04	Washer, Spring	1	
—6	581C0051H01	Seal Cap	1	
—7	580A0275H06	Gasket	1	
—8	581B0010H01	Stem	1	
—9	581C0078H01	Bonnet	1	
—10	901A0046A05	Capscrew	16	
—11	581B0067H01	Packing Nut	1	
—11A	581A0043H01	Packing Nut Bushing	1	
—12	581A0047H01	Ring, Bushing End	2	
—13	959A0076H02	Ring, Center Packing	1	
—14	581A0030H01	Seal, Backseat	1	
—15	581A0044H02	Retaining Ring	1	
—16	980A0014K33	O-ring, Bonnet	1	
—17	581C0071G01	Button	1	
—18	581A0040H05	Button Seal	1	
—19	581A0019H01	Retaining Plate	1	
—20	111Q0110535	Capscrew	6	
—21	111Q0940012	Lockwasher	6	
—22	581A0001H04	Ball Bearing	18	
—23	581B0003H07	Retaining Clip	1	
—24	959A0038H06	Gasket, Body	1	
—25	580B0240G08	Assembly, Sliding Button	1	
—26	580C0264C01	Sliding Button*	1	
—27	980A0014H85	O-ring*	1	
—28	580B0243G01	Assembly, Bearing*	1	
—29	580A0235H03	Liner, TFE	2	
—30	111Q0452525	Retaining Ring*	1	
—31	581A0026H04	Washer, Flat*	1	
—32	580B0241H04	Gasket, End Cover	1	
—33	580B0246G08	Assembly, End Cover	1	
—34	580B0273H08	Shaft, Check Valve	1	
—35	580C0302H01	End Cover	1	
—36	580A0232H02	Spacer, Check Valve	1	
—37	944A0008H02	Pipe Plug	2	
—38	580A0230H01	Spring	1	
—39	580A0234H02	Spring Adj.	1	
—40	580C0269H01	Strainer	1	
—41	901A0048D07	Capscrew	12	
—42	111Q0940028	Lockwasher	12	
—43	111Q0740822	Capscrew	16	
—44	111Q0940029	Lockwasher	16	
—45	82402546409	Valve, Angle, SC, 1/2" NPT	2	
—46	959A0054H36	Gasket, Mounting	1	
	*580B0240G16	Kit, Sliding Button Repair	1	

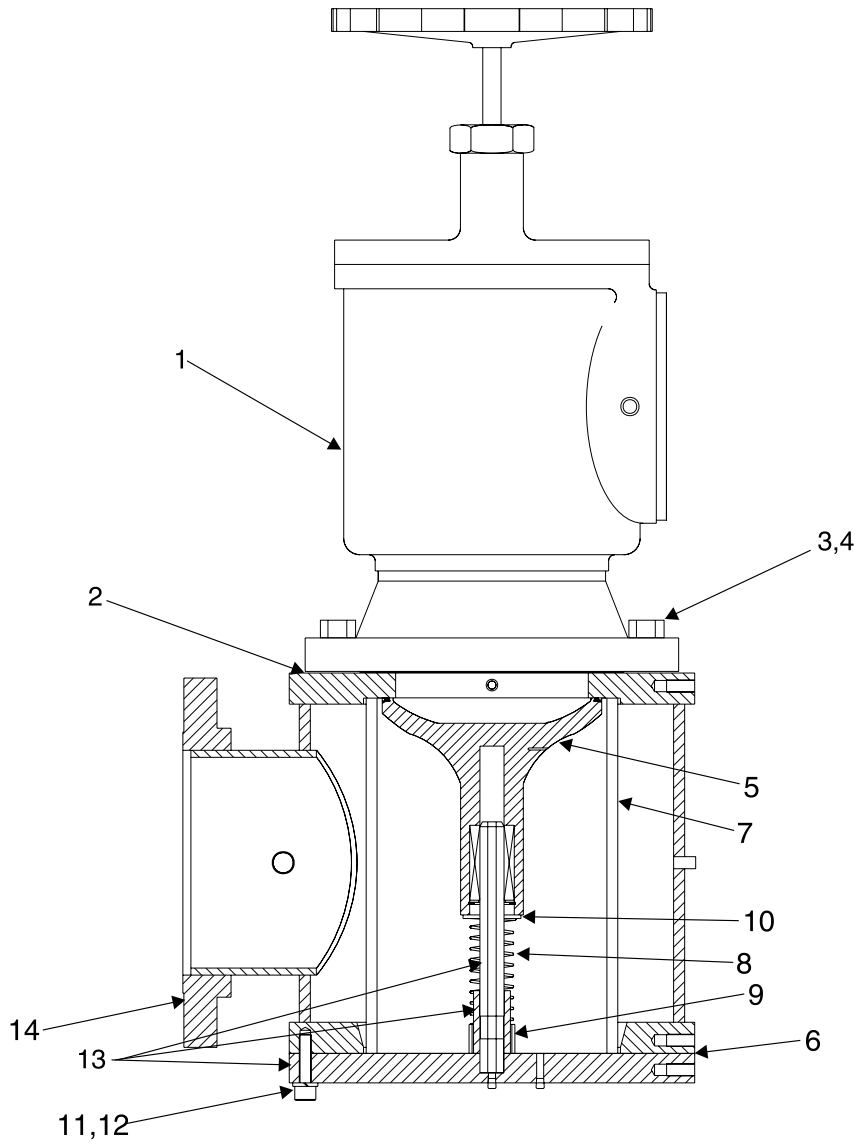


Figure 11. 14" Multivalve, 300 PSIG (Hansen / Frick®)

FIG. & INDEX	ITEM NUMBER	DESCRIPTION	QTY.	REV.
11—	535D0517G01	Assembly, Multivalve, 14", 300 PSIG, HW (Hansen / Frick)	Ref.	A
—1	950A0185G01	Valve, Angle, 14" Flanged, HW, Hansen	Ref.	
—2	959A0062H27	Gasket, 14", 300#	1	
—3	901A0050D02	Capscrew, Hex Head, 1-1/8 x 3-1/4"	20	
—4	111Q0940113	Lockwasher, 1-1/8"	20	
	535D0507G01	Assembly, Suction Trap, 14"	Ref.	
—5	580B0240G08	Assembly, Sliding Button	1	
	111Q0452525	Ring, Retaining*	1	
	580B0243G01	Assembly, Bearing*	1	
	580A0235H03	Liner, TFE	2	
	580C0264C01	Button, Sliding*	1	
	581A0026H04	Seal, Washer*	1	
	980A0014H85	O-ring, 2-380*	1	
—6	959A0061H05	Gasket, End Cover	1	
—7	580C0269H01	Strainer, Double Screen	1	
—8	580A0230H01	Spring, Return	1	
—9	580A0234H02	Adjuster, Spring	1	
—10	111Q0940164	Washer	1	
—11	111Q0740822	Capscrew, Socket Head, 7/8 NC x 3"	16	
—12	111Q0940028	Lockwasher, 7/8"	16	
—13	580B0246G08	Subassembly, End Cover	1	
	580B0273H08	Shaft	1	
	580A0232H02	Spacer, Check	1	
—14	959A0054H36	Gasket, Mounting	1	
	*580B0240G16	Kit, Sliding Button Repair	1	

SHUTOFF VALVE IDENTIFICATION GUIDE
FRICK® VALVES

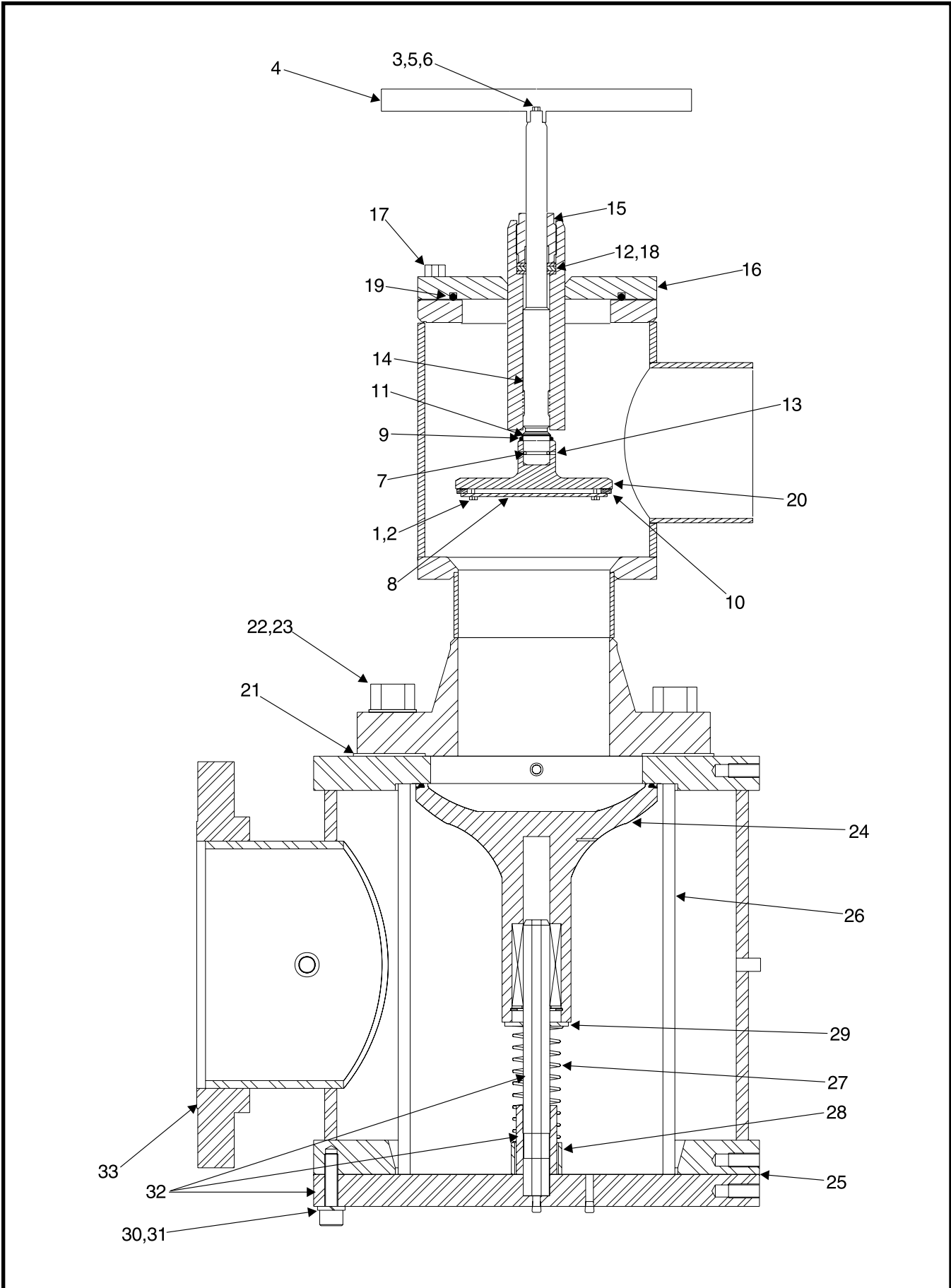


Figure 12. 12 X 14" Multivalve, 300 PSIG (Frick®)

FIG. & INDEX	ITEM NUMBER	DESCRIPTION	QTY.	REV.
12—	535D0460G01	Multivalve Assembly, 12" Inlet x 14" Outlet (Frick)	Ref.	C
	535C0232G18	Valve, Flanged, HW, 300#	Ref.	N
—1	111Q0110535	Capscrew, Hex Head, 3/8 NF x 1"	6	
—2	111Q0940012	Lockwasher	6	
—3	111Q0940089	Washer	1	
—4	581B0001H07	Wheel, Hand	1	
—5	581A0011H04	Washer, Spring, 5/8 x 1-1/4"	1	
—6	901A0046H01	Capscrew, Hex Head, 5/8 NC x 1"	1	
—7	581A0001H04	Bearing, Ball	18	
—8	581A0019H01	Plate, Retaining	1	
—9	581A0030H01	Seal, Backseat	1	
—10	581A0040H05	Button, Seal	1	
—11	581A0044H02	Ring, Retaining	1	
—12	581A0047H01	Ring, End	2	
—13	581B0003H07	Clip, Retaining	1	
—14	581B0010H01	Stem	1	
—15	581B0055H01	Nut, Packing	1	
—16	581C0078G01	Bonnet	1	
—17	901A0046D05	Capscrew, Hex Head, 5/8 NC x 2"	16	
—18	959A0076H02	Ring, Packing	1	
—19	980A0014K33	O-ring, 2-456	1	
—20	581C0071G01	Disk	1	
—21	959A0062H26	Gasket, 12", 300#	1	
—22	901A0050D02	Capscrew, Hex Head, 1-1/8 NC x 3-1/4"	16	
—23	111Q0940113	Lockwasher, 1-1/8"	16	
	535D0449G01	Assembly, Suction Trap, 14"	Ref.	C
—24	580B0240G08	Assembly, Sliding Button	1	
	580C0264C01	Sliding Button*	1	
	980A0014H85	O-ring*	1	
	580B0243G01	Assembly, Bearing*	1	
	580A0235H03	Liner, TFE	2	
	111Q0452525	Retaining Ring*	1	
	581A0026H04	Washer, Flat*	1	
—25	959A0061H05	Gasket, End Cover	1	
—26	580C0269H01	Strainer, Double Screen	1	
—27	580A0230H01	Spring, Return	1	
—28	580A0234H02	Adjuster, Spring	1	
—29	111Q0940164	Washer	1	
—30	111Q0740822	Capscrew, Socket Head, 7/8 NC x 3"	16	
—31	111Q0940028	Lockwasher, 7/8"	16	
—32	580B0246G08	Subassembly, End Cover	1	
	580B0273H08	Shaft	1	
	580A0232H02	Spacer, Check	1	
—33	959A0054H36	Gasket, Mounting	1	
	*580B0240G16	Kit, Sliding Button Repair	1	

HUBBELL VALVES (OBSOLETE)

Hubbell's name (or "H") is on the valve. Valve sizes range from 1 1/4" to 8". Body is one piece LCB steel with ductile iron bonnet. Stainless steel stem and packing cartridge.

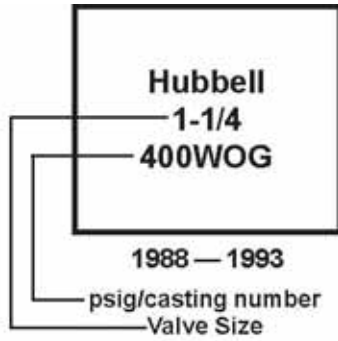


Figure 13. Hubbell Valve Examples (Obsolete)

HUBBELL VALVES			
P/N	Size ⁽¹⁾	Description	Repair Kit ⁽²⁾
956A0019H01	2	Angle, SC, WIL	980A0016G01
956A0019H02	2 1/2	Angle, SC, WIL	980A0016G01
956A0019H03	3	Angle, SC, WIL	980A0016G02
956A0019H04	4	Angle, SC, WIL	980A0016G02
956A0019H05	5	Angle, SC, WIL	980A0016G03
956A0019H06	6	Angle, SC, WIL	980A0016G03
956A0019H07	8	Angle, SC, WIL	980A0016G03
956A0020H01	2	Globe, SC, WIL	980A0016G01
956A0020H02	2 1/2	Globe, SC, WIL	980A0016G01
956A0020H03	3	Globe, SC, WIL	980A0016G02
956A0020H04	4	Globe, SC, WIL	980A0016G02
956A0021H01	1 1/4	Angle, HW, WIL	980A0016G01
956A0021H02	1 1/2	Angle, HW, WIL	980A0016G01
956A0021H03	2	Angle, HW, WIL	980A0016G01
956A0021H04	2 1/2	Angle, HW, WIL	980A0016G01
956A0021H05	3	Angle, HW, WIL	980A0016G02
956A0021H06	4	Angle, HW, WIL	980A0016G02
956A0021H07	5	Angle, HW, WIL	980A0016G03
956A0021H08	6	Angle, HW, WIL	980A0016G03
956A0021H09	8	Angle, HW, WIL	980A0016G03
956A0022H01	1/4	Globe, HW, WIL	980A0016G01
956A0022H02	1/2	Globe, HW, WIL	980A0016G01
956A0022H03	2	Globe, HW, WIL	980A0016G01
956A0022H04	2 1/2	Globe, HW, WIL	980A0016G01
956A0022H05	3	Globe, HW, WIL	980A0016G02
956A0022H06	4	Globe, HW, WIL	980A0016G02

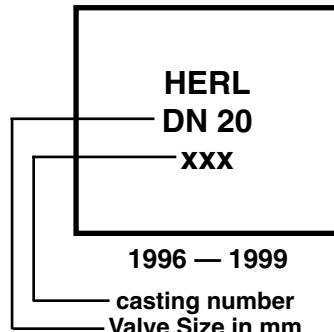
Table 1. Hubbel Valve Repair Kits.

1. Size in inches

2. Kit (no longer available) consists of two stem O-rings and two bonnet O-rings. Applicable to Hubbel Valves with stem packing.





HERL VALVES

Herl's name is on the valve.
Valve sizes range from 1/2 to 2".
Herl handwheels and sealcaps
are unpainted aluminum. Herl
bolts are metric.



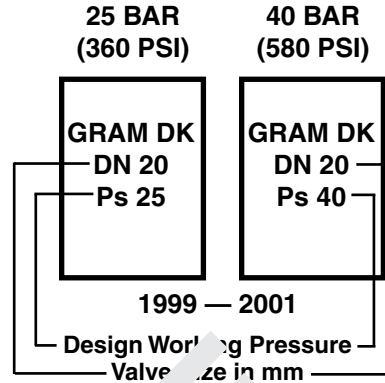
mm	inches
15	1/2
20	3/4
25	1
32	1 1/4
40	1 1/2
50	2

	<p>1/2—2" ANGLE SW HERL</p> <table border="1"> <thead> <tr> <th>Part Number</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>950A0117H01</td> <td>1/2" Angle, HW, SW</td> </tr> <tr> <td>950A0117H02</td> <td>1/2" Angle, SC, SW</td> </tr> <tr> <td>950A0119H01</td> <td>3/4" Angle, HW, SW</td> </tr> <tr> <td>950A0119H02</td> <td>3/4" Angle, SC, SW</td> </tr> <tr> <td>950A0121H01</td> <td>1" Angle, HW, SW</td> </tr> <tr> <td>950A0121H02</td> <td>1" Angle, SC, SW</td> </tr> <tr> <td>950A0123H01*</td> <td>1 1/4" Angle, HW, SW</td> </tr> <tr> <td>950A0123H02</td> <td>1 1/4" Angle, SC, SW</td> </tr> <tr> <td>950A0125H01</td> <td>1 1/2" Angle, HW, SW</td> </tr> <tr> <td>950A0125H02</td> <td>1 1/2" Angle, SC, SW</td> </tr> <tr> <td>950A0127H01</td> <td>2" Angle, HW, SW</td> </tr> <tr> <td>950A0127H02</td> <td>2" Angle, SC, SW</td> </tr> </tbody> </table>	Part Number	Description	950A0117H01	1/2" Angle, HW, SW	950A0117H02	1/2" Angle, SC, SW	950A0119H01	3/4" Angle, HW, SW	950A0119H02	3/4" Angle, SC, SW	950A0121H01	1" Angle, HW, SW	950A0121H02	1" Angle, SC, SW	950A0123H01*	1 1/4" Angle, HW, SW	950A0123H02	1 1/4" Angle, SC, SW	950A0125H01	1 1/2" Angle, HW, SW	950A0125H02	1 1/2" Angle, SC, SW	950A0127H01	2" Angle, HW, SW	950A0127H02	2" Angle, SC, SW
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950A0130H02	1 1/4" Globe, SC, WIL																		
950A0132H01	1 1/2" Globe, HW, WIL																		
950A0132H02	1 1/2" Globe, SC, WIL																		
950A0134H01*	2" Globe, HW, WIL																		
950A0134H02	2" Globe, SC, WIL																		

GRAM VALVES (OBSOLETE)

Gram has two different design working pressures: the earlier 25 bar (365 psi) and the newer 40 bar (580 psi). Gram bolts are metric. Gram valves have a stainless steel ring stamped with: Manufacturer; type; size; pipe schedule; connection type; design working pressure; temperature range; and internal product number. A sample ring is shown below.



mm	Inches
15	1/2
20	3/4
25	1
40	1-1/4
50	1-1/2
65	2
80	2-1/2
100	3
125	4
150	5
200	8




OBSOLETE

GRAM VALVES - 25 BAR

2-1/2—12" ANGLE WIL GRAM⁽¹⁾

Part Number	Description
950A0135G01*	2 1/2" Angle, HW, WIL
950A0135G02	2 1/2" Angle, SC, WIL
950A0137G01	3" Angle, HW, WIL
950A0137G02	3" Angle, SC, WIL
950A0139G01	4" Angle, HW, WIL
950A0139G02	4" Angle, SC, WIL
950A0141G01	5" Angle, HW, WIL
950A0141G02	5" Angle, SC, WIL
950A0143G01	6" Angle, HW, WIL
950A0143G02	6" Angle, SC, WIL
950A0145G01	8" Angle, HW, WIL
950A0145G02	8" Angle, SC, WIL
950A0147G01	10" Angle, HW, WIL
950A0147G02	10" Angle, SC, WIL
950A0149G01	12" Angle, HW, WIL
950A0149G02	12" Angle, SC, WIL



	<p style="text-align: center;">GRAM VALVES - 25 BAR</p> <p style="text-align: center;">2-1/2—12" GLOBE WIL GRAM⁽¹⁾</p> <table border="1"> <thead> <tr> <th>Part Number</th> <th>Description</th> </tr> </thead> <tbody> <tr><td>950A0136G01</td><td>2 1/2" Globe, HW, WIL</td></tr> <tr><td>950A0136G02</td><td>2 1/2" Globe, SC, WIL</td></tr> <tr><td>950A0138G01*</td><td>3" Globe, HW, WIL</td></tr> <tr><td>950A0138G02</td><td>3" Globe, SC, WIL</td></tr> <tr><td>950A0140G01</td><td>4" Globe, HW, WIL</td></tr> <tr><td>950A0140G02</td><td>4" Globe, SC, WIL</td></tr> <tr><td>950A0142G01</td><td>5" Globe, HW, WIL</td></tr> <tr><td>950A0142G02</td><td>5" Globe, SC, WIL</td></tr> <tr><td>950A0144G01</td><td>6" Globe, HW, WIL</td></tr> <tr><td>950A0144G02</td><td>6" Globe, SC, WIL</td></tr> <tr><td>950A0146G01</td><td>8" Globe, HW, WIL</td></tr> <tr><td>950A0146G02</td><td>8" Globe, SC, WIL</td></tr> <tr><td>950A0148G01</td><td>10" Globe, HW, WIL</td></tr> <tr><td>950A0148G02</td><td>10" Globe, SC, WIL</td></tr> <tr><td>950A0150H01</td><td>12" Globe, HW, WIL</td></tr> <tr><td>950A0150H02</td><td>12" Globe, SC, WIL</td></tr> </tbody> </table>	Part Number	Description	950A0136G01	2 1/2" Globe, HW, WIL	950A0136G02	2 1/2" Globe, SC, WIL	950A0138G01*	3" Globe, HW, WIL	950A0138G02	3" Globe, SC, WIL	950A0140G01	4" Globe, HW, WIL	950A0140G02	4" Globe, SC, WIL	950A0142G01	5" Globe, HW, WIL	950A0142G02	5" Globe, SC, WIL	950A0144G01	6" Globe, HW, WIL	950A0144G02	6" Globe, SC, WIL	950A0146G01	8" Globe, HW, WIL	950A0146G02	8" Globe, SC, WIL	950A0148G01	10" Globe, HW, WIL	950A0148G02	10" Globe, SC, WIL	950A0150H01	12" Globe, HW, WIL	950A0150H02	12" Globe, SC, WIL
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GRAM VALVES - 40 BAR

1/2—2" ANGLE NPT GRAM⁽¹⁾

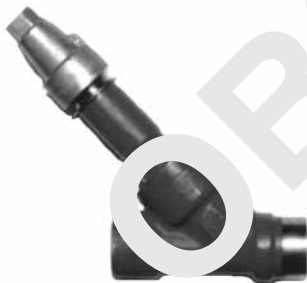
Part Number	Description
82402545709	1/2" Angle, HW
82402546409	1/2" Angle, SC
82403545809	3/4" Angle, HW
82403546109	3/4" Angle, SC
82404546609	1" Angle, HW
82404546609	1" Angle, SC
82405546009	1 1/4" Angle, HW
82405546709	1 1/4" Angle, SC
82406546309	1 1/2" Angle, HW
82406546309	1 1/2" Angle, SC
82407546209	2" Angle, HW
82407546909	2" Angle, SC



GRAM VALVES - 40 BAR

1/2—2" GLOBE NPT GRAM⁽¹⁾

Part Number	Description
82402547109	1/2" Globe, HW
82402548009	1/2" Globe, SC
82403547209	3/4" Globe, HW
82403548109*	3/4" Globe, SC
82404547309	1" Globe, HW
82404548209	1" Globe, SC
82405547409	1 1/4" Globe, HW
82405548309	1 1/4" Globe, SC
82406547509	1 1/2" Globe, HW
82406548409	1 1/2" Globe, SC
82407547609	2" Globe, HW
82407548509	2" Globe, SC





GRAM VALVES - 40 BAR

2-1/2—12" ANGLE WIL GRAM⁽¹⁾

Part Number	Description
82408535209	2 1/2" Angle, HW, WIL
82408536209	2 1/2" Angle, SC, WIL
82409535309	3" Angle, HW, WIL
82409536309*	3" Angle, SC, WIL
82410536409	4" Angle, HW, WIL
82410536409	4" Angle, SC, WIL
82411535509	5" Angle, HW, WIL
82412536509	5" Angle, SC, WIL
82412536509	6" Angle, HW, WIL
82412536509	6" Angle, SC, WIL
8241353809	8" Angle, HW, WIL
8241353809	8" Angle, SC, WIL



GRAM VALVES - 40 BAR

2-1/2—12" GLOBE WIL GRAM⁽¹⁾

Part Number	Description
82408537209	2 1/2" Globe, HW, WIL
82408538209	2 1/2" Globe, SC, WIL
82409537309	3" Globe, HW, WIL
82409538309*	3" Globe, SC, WIL
82410537409	4" Globe, HW, WIL
82410538409	4" Globe, SC, WIL
82411537509	5" Globe, HW, WIL
82411538509	5" Globe, SC, WIL
82412537609	6" Globe, HW, WIL
82412538609	6" Globe, SC, WIL
82413537809	8" Globe, HW, WIL
82413538809	8" Globe, SC, WIL

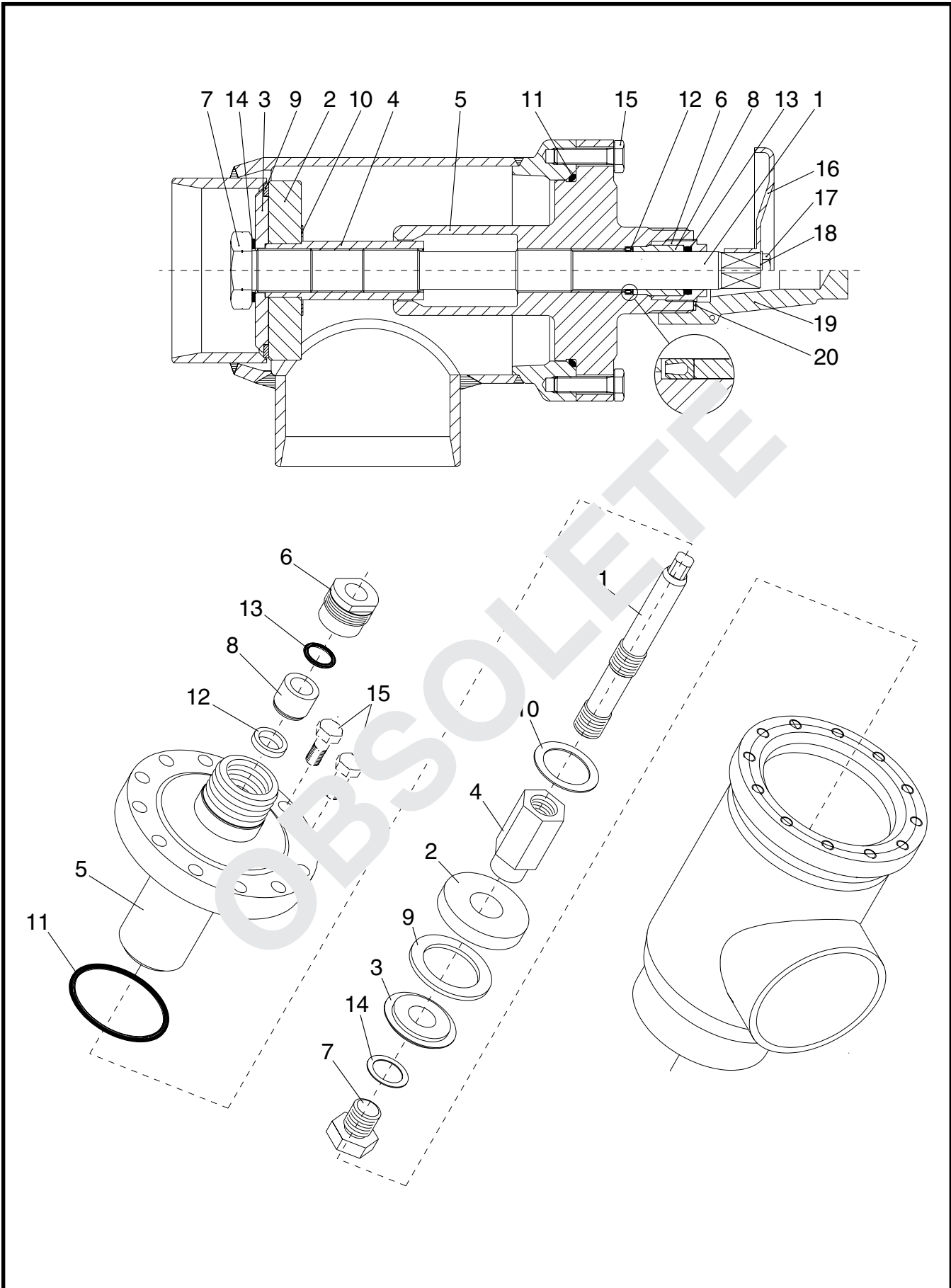


Figure 14. Angle Shutoff Valve Parts, 2 1/2" — 6", Gram 25 bar (Obsolete)

FIG. & INDEX	ITEM NUMBER	DESCRIPTION	QTY.	REV.
14—	950A0135G01	2 1/2" Angle Shutoff Valve, HW, WIL (Gram)	Ref.	
	950A0135G02	2 1/2" Angle Shutoff Valve, SC, WIL (Gram)	Ref.	
	950A0137G01	3" Angle Shutoff Valve, HW, WIL (Gram)	Ref.	
	950A0137G02	3" Angle Shutoff Valve, SC, WIL (Gram)	Ref.	
	950A0139G01	4" Angle Shutoff Valve, HW, WIL (Gram)	Ref.	
	950A0139G02	4" Angle Shutoff Valve, SC, WIL (Gram)	Ref.	
—1	724003174GR	Spindle, 2 1/2", 3"	1	
	724003177GR	Spindle, 4"	1	
—2	724003283GR	Cone, 2 1/2"	1	
	724003285GR	Cone, 3"	1	
	724003287GR	Cone, 4"	1	
—3	724003233GR	Plate, 2 1/2"	1	
	724003235GR	Plate, 3"	1	
	724003237GR	Plate, 4"	1	
—4	724003260GR	Guide, 2 1/2", 3"	1	
	724003262GR	Guide, 4"	1	
—5	724001060GR	Cover, Top, 2 1/2"	1	
	724001061GR	Cover, Top, 3"	1	
	724001062GR	Cover, Top, 4"	1	
—6	724003460GR	Screw, Packing, 2 1/2", 3"	1	
	724003462GR	Screw, Packing, 4"	1	
—7	724003210GR	Screw, 2 1/2", 3"	1	
	724003212GR	Screw, 4"	1	
—8	724003485GR	Bushing, 2 1/2", 3"	1	
	724003487GR	Bushing, 4"	1	
—9	724003308GR	Seat, 2 1/2"	1	
	724003310GR	Seat, 3"	1	
	724003312GR	Seat, 4"	1	
—10	724003335GR	Seal, 2 1/2", 3"	1	
	724003337GR	Seal, 4"	1	
—11	550840183GR	O-ring, 2 1/2"	1	
	550845339GR	O-ring, 3"	1	
	550840194GR	O-ring, 4"	1	
—12	550940233GR	U-sleeve, 2 1/2", 3"	1	
	550940238GR	U-sleeve, 4"	1	
—13	550845210GR	Conical, 2 1/2", 3"	1	
	550845213GR	Conical, 4"	1	
—14	550657045GR	Washer, 30 x 23 x 2, 2 1/2", 3"	1	
	550657046GR	Washer, 30 x 27 x 2, 4"	1	
—15	420098166GF	Screw, Allen Head, SS, 2 1/2"	10	
	420098167GF	Screw, Allen Head, SS, M10 x 35, 3"	10	
	420098167GR	Screw, Allen Head, SS, M10 x 35, 4"	12	
—16	480011080GR	Handwheel, 2 1/2"	1	
	480012225GR	Handwheel, 3"	1	
	480012300GR	Handwheel, 4"	1	
—17	420092125GR	Screw, M8 x 16, 2 1/2", 3"	1	
	420092202GR	Screw, M12 x 25, 4"	1	
—18	421611056GR	Washer, M16, 2 1/2", 3"	1	
	421642107GR	Washer, M12, 4"	1	
—19	724003612GR	Cap, 2 1/2", 3"	1	
	724003614GR	Cap, 4"	1	
—20	724003662GR	Seal, 2 1/2", 3"	1	
	724003664GR	Seal, 4"	1	

SHUTOFF VALVE IDENTIFICATION GUIDE
 GRAM VALVES



FIG. & INDEX	ITEM NUMBER	DESCRIPTION	QTY.	REV.
14—	950A0141G01 950A0141G02	5" Angle Shutoff Valve, HW, WIL, (Gram) 5" Angle Shutoff Valve, SC, WIL, (Gram)	Ref. Ref.	B B
—1	724003183GR	Spindle	1	
—2	724003289GR	Cone	1	
—3	724003239GR	Plate	1	
—4	724003266GR	Guide	1	
—5	724001063GR	Cover, Top	1	
—6	724003466GR	Screw, Packing	1	
—7	724003216GR	Screw	1	
—8	724003491GR	Bushing	1	
—9	724003314GR	Seat	1	
—10	724003341GR	Seal	1	
—11	550845354GR	O-ring	1	
—12	550940245GR	U-sleeve	1	
—13	550845217GR	O-ring	1	
—14	550657051GR	Washer, 44 x 32 x 2	1	
—15	420095244GR	Screw, Allen Head, SS 1/4" x 1 1/2"	10	
—16	480012400GR	Handwheel	1	
—17	420092241GR	Screw, M16 x 1.5	1	
—18	421642109GR	Washer	1	
—19	724003616GR	Cap	1	
—20	724003666GR	Seal	1	

FIG. & INDEX	ITEM NUMBER	DESCRIPTION	QTY.	REV.
14—	950A0143G01	6" Angle Shutoff Valve, HW, WIL, (Gram)	1	C
	950A0143G02	6" Angle Shutoff Valve, SC, WIL (Gram)	1	C
—1	724003183GR	Spindle	1	
—2	724003291GR	Cone	1	
—3	724003241GR	Plate	1	
—4	724003266GR	Guide	1	
—5	724001064GR	Cover, Top	1	
—6	724003466GR	Screw, Packing	1	
—7	724003216GR	Screw	1	
—8	724003491GR	Bushing	1	
—9	724003316GR	Seat	1	
—10	724003341GR	Seal	1	
—11	550840252GR	O-ring	1	
—12	550940245GR	U-sleeve	1	
—13	550845217GR	O-ring	1	
—14	550657051GR	Washer, 44 x 32 x 2	1	
—15	420048382GR	Screw, Allen Head, 1/2", M16 x 100	12	
—16	480012400GR	Handwheel	1	
—17	420092241GR	Screw, M16 x 30	1	
—18	421642109GR	Washer	1	
—19	724003616GR	Cap	1	
—20	724003666GR	Seal	1	

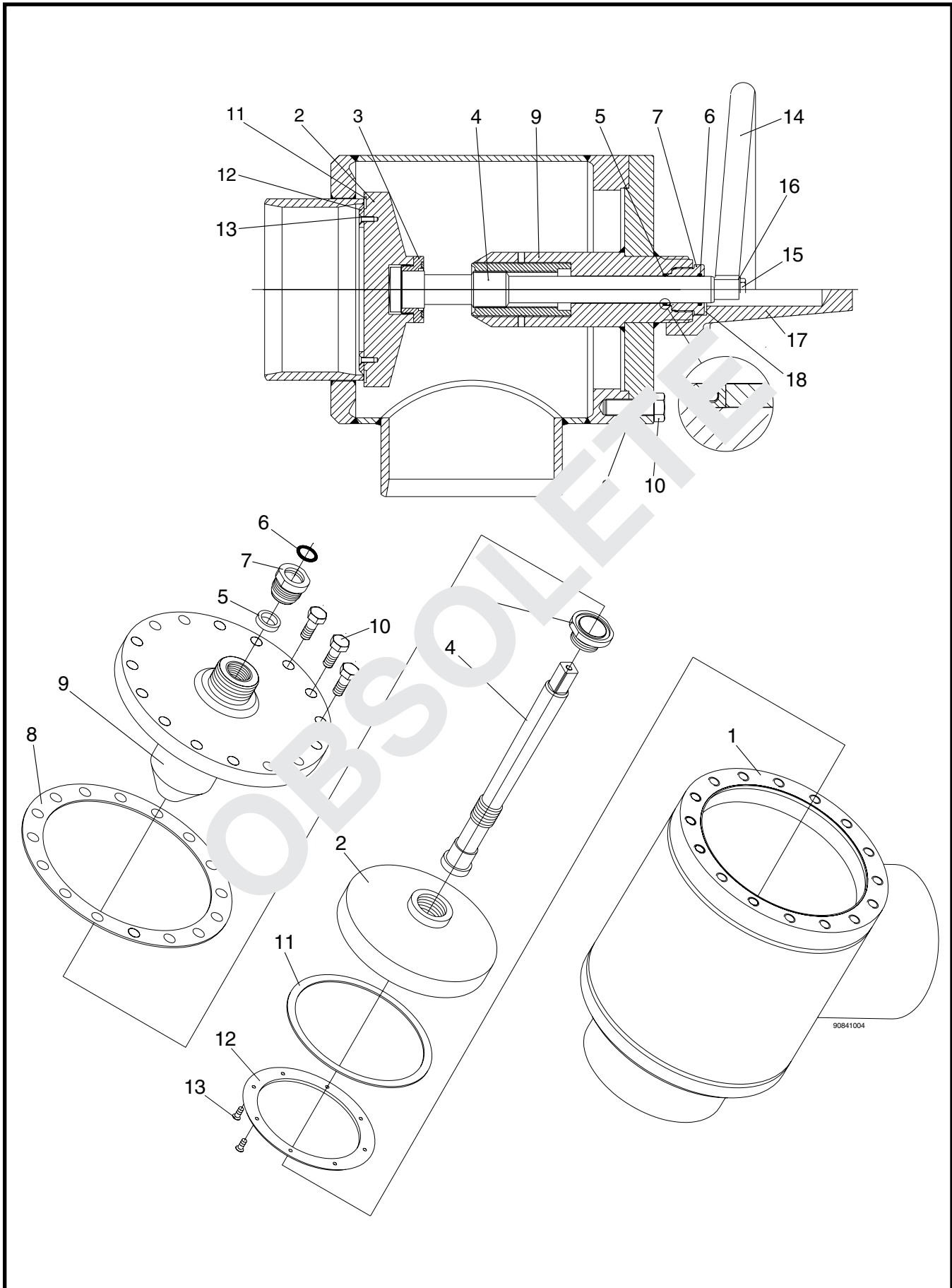


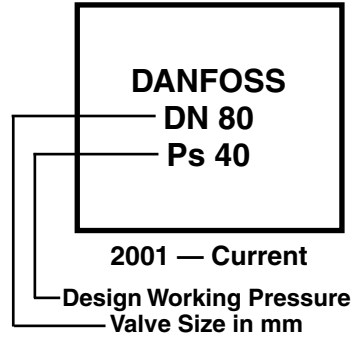
Figure 15. Angle Shutoff Valve Parts, 8" & 10", Gram 25 bar (Obsolete)

FIG. & INDEX	ITEM NUMBER	DESCRIPTION	QTY.	REV.
15—	950A0145G01	8" Angle Shutoff Valve, HW, WIL (Gram)	Ref.	D
	950A0145G02	8" Angle Shutoff Valve, SC, WIL (Gram)	Ref.	D
	950A0147G01	10" Angle Shutoff Valve, HW, WIL (Gram)	Ref.	D
	950A0147G02	10" Angle Shutoff Valve, SC, WIL (Gram)	Ref.	D
—1	NA	Body, Stop Valve	Ref.	
—2	724000641GR	Cone, 8"	1	
	724000643GR	Cone, 10"	1	
—3	724000374GR	Nut, 8"	1	
	724000494GR	Nut, 10"	1	
—4	724000599GR	Spindle, 8"	1	
	724000600GR	Spindle, 10"	1	
—5	550940247GR	U-Sleeve, 8"	1	
	550940253GR	U-Sleeve, 10"	1	
—6	550840109GR	O-Ring, 8"	1	
	550840113GR	O-Ring, 10"	1	
—7	724000552GR	Screw, Packing, 8"	1	
	724000553GR	Screw, Packing, 10"	1	
—8	724000375GR	Gasket, 8"	1	
	724000495GR	Gasket, 10"	1	
—9	724000550GR	Cover, 8"	1	
	724000551GR	Cover, 10"	1	
—10	420098283GR	Screw, Allen Head, SS, M20 x 60	A/R	
—11	724000620GR	Seat, 8"	1	
	724000621GR	Seat, 10"	1	
—12	724000642GR	Plate, 8"	1	
	724000643GR	Plate, 10"	1	
—13	420801148GR	Screw, Allen Head, M6 x 16	A/R	
—14	480012100GR	Handwheel, 8"	1	
	480012101GR	Handwheel, 10"	1	
—15	420092241GR	Screw, M16 x 30	1	
—16	421642109GR	Disk	1	
—17	724003618GR	Cap	1	
—18	724003668GR	Seal	1	

FIG. & INDEX	ITEM NUMBER	DESCRIPTION	QTY.	REV.
16—	82410535409	4" Angle Shutoff Valve, HW, WIL (Gram)	Ref.	
	82410536409	4" Angle Shutoff Valve, SC, WIL (Gram)	Ref.	
	82411535509	5" Angle Shutoff Valve, HW, WIL (Gram)	Ref.	
	82411536509	5" Angle Shutoff Valve, SC, WIL (Gram)	Ref.	
	82412535609	6" Angle Shutoff Valve, HW, WIL (Gram)	Ref.	
	82412536609	6" Angle Shutoff Valve, SC, WIL (Gram)	Ref.	
	82413535809	8" Angle Shutoff Valve, HW, WIL (Gram)	Ref.	
	82413536809	8" Angle Shutoff Valve, SC, WIL (Gram)	Ref.	
—1	724001878GR	Cone, Complete, 4"	1	
	724001879GR	Cone, Complete, 5"	1	
	724001880GR	Cone, Complete, 6"	1	
	724001881GR	Cone, Complete, 8"	1	
—2	724001424GR	Spindle, 4"	1	
	724001425GR	Spindle, 5"	1	
	724001426GR	Spindle, 6"	1	
	724001428GR	Spindle, 8"	1	
—3	(1)	Gasket, Backstop, PTFE	1	
—4	(1)	Gasket, Top	1	
—5	(1)	U-sleeve, PTFE	1	
—6	(1)	O-ring	1	
—7	724008100GR	Hand wheel, including hardware	1	
	724008127GR	Hand wheel, 5 & 6", including hardware	1	
	724008202GR	Hand wheel, 8", including hardware	1	
(1)	724008100GR	Kit, Gasket, 4"	1	
	724008125GR	Kit, Gasket, 5"	1	
	724008150GR	Kit, Gasket, 6"	1	
	724008200GR	Kit, Gasket, 8"	1	

DANFOSS VALVES

Danfoss Valves are sized from 1/2" to 8". The design working pressure is 40 bar (580 psi). Bolts are metric. They have a stainless steel ring stamped with: Manufacturer; type; size; design working pressure; temperature range; and internal product number. A sample ring is shown below.



mm	inches
15	1/2
20	3/4
25	1
32	1 1/4
40	1 1/2
50	2
65	2 1/2
80	3
100	4
125	5
150	6
200	8



1/2—2" ANGLE SW DANFOSS

Part Number	Description
950A0232H01	1/2" Angle, HW
950A0233H01	1/2" Angle, SC
950A0232H02	3/4" Angle, HW
950A0233H02*	3/4" Angle, SC
950A0232H03	1" Angle, HW
950A0233H03	1" Angle, SC
950A0232H04	1 1/4" Angle, HW
950A0233H04	1 1/4" Angle, SC
950A0232H05	1 1/2" Angle, HW
950A0233H05	1 1/2" Angle, SC
950A0232H06	2" Angle, HW
950A0233H06	2" Angle, SC



1/2—2" GLOBE SW DANFOSS

Part Number	Description
950A0244H01	1/2" Globe, HW
950A0245H01	1/2" Globe, SC
950A0244H02	3/4" Globe, HW
950A0245H02*	3/4" Globe, SC
950A0244H03	1" Globe, HW
950A0245H03	1" Globe, SC
950A0244H04	1 1/4" Globe, HW
950A0245H04	1 1/4" Globe, SC
950A0244H05	1 1/2" Globe, HW
950A0245H05	1 1/2" Globe, SC
950A0244H06	2" Globe, HW
950A0245H06	2" Globe, SC



1/2—1-1/4 " ANGLE FPT DANFOSS

Part Number	Description
950A0236H01*	1/2" Angle, HW
950A0237H01	1/2" Angle, SC
950A0236H02	3/4" Angle, HW
950A0237H02	3/4" Angle, SC
950A0236H03	1" Angle, HW
950A0237H03	1" Angle, SC
950A0236H04	1 1/4" Angle, HW
950A0237H04	1 1/4" Angle, SC



1/2—1-1/4 " GLOBE FPT DANFOSS

Part Number	Description
950A0248H01	1/2" Globe, HW
950A0249H01	1/2" Globe, SC
950A0248H02	3/4" Globe, HW
950A0249H02*	3/4" Globe, SC
950A0248H03	1" Globe, HW
950A0249H03	1" Globe, SC
950A0248H04	1 1/4" Globe, HW
950A0249H04	1 1/4" Globe, SC



1/2—2-1/2 " ANGLE WIL DANFOSS

Part Number	Description
950A0240H01	1/2" Angle, HW
950A0241H01	1/2" Angle, SC
950A0240H02	3/4" Angle, HW
950A0241H02	3/4" Angle, SC
950A0240H03	1" Angle, HW
950A0241H03	1" Angle, SC
950A0240H04	1 1/4" Angle, HW
950A0241H04	1 1/4" Angle, SC
950A0240H05	1 1/2" Angle, HW
950A0241H05	1 1/2" Angle, SC
950A0240H06	2" Angle, HW
950A0241H06	2" Angle, SC
950A0240H07	2 1/2" Angle, HW
950A0241H07*	2 1/2" Angle, SC



1/2—2-1/2" GLOBE WIL DANFOSS

Part Number	Description
950A0252H01	1/2" Globe, HW
950A0253H01	1/2" Globe, SC
950A0252H02	3/4" Globe, HW
950A0253H02	3/4" Globe, SC
950A0252H03	1" Globe, HW
950A0253H03	1" Globe, SC
950A0252H04	1 1/4" Globe, HW
950A0253H04	1 1/4" Globe, SC
950A0252H05	1 1/2" Globe, HW
950A0253H05	1 1/2" Globe, SC
950A0252H06*	2" Globe, HW
950A0253H06	2" Globe, SC
950A0252H07	2 1/2" Globe, HW
950A0253H07	2 1/2" Globe, SC



3—8" ANGLE WIL DANFOSS

Part Number	Description
950A0240H08	3" Angle, HW, WIL
950A0241H08*	3" Angle, SC, WIL
950A0240H09	4" Angle, HW, WIL
950A0241H09	4" Angle, SC, WIL
950A0240H10	5" Angle, HW, WIL
950A0241H10	5" Angle, SC, WIL
950A0240H11	6" Angle, HW, WIL
950A0241H11	6" Angle, SC, WIL
950A0240H12	8" Angle, HW, WIL
950A0241H12	8" Angle, SC, WIL



3—8" GLOBE WIL DANFOSS

Part Number	Description
950A0252H08	3" Globe, HW, WIL
950A0253H08	3" Globe, SC, WIL
950A0252H09	4" Globe, HW, WIL
950A0253H09*	4" Globe, SC, WIL
950A0252H10	5" Globe, HW, WIL
950A0253H10	5" Globe, SC, WIL
950A0252H11	6" Globe, HW, WIL
950A0253H11	6" Globe, SC, WIL
950A0252H12	8" Globe, HW, WIL
950A0253H12	8" Globe, SC, WIL

DANFOSS VALVE SPARE PARTS KITS

VALVE	COMPLETE⁽¹⁾	CONE⁽³⁾	PACKING GLAND⁽²⁾	SEAL CAP & GASKET⁽⁴⁾	HANDWHEEL⁽⁴⁾	CAP & BONNET⁽⁵⁾
950A0232H01	950A0232H21	950A0232H41	950A0232H31	N/A	950A0232H51	N/A
950A0232H02	950A0232H21	950A0232H41	950A0232H31	N/A	950A0232H51	N/A
950A0232H03	950A0232H22	950A0232H42	950A0232H32	N/A	950A0232H52	N/A
950A0232H04	950A0232H22	950A0232H42	950A0232H32	N/A	950A0232H52	N/A
950A0232H05	950A0232H22	950A0232H42	950A0232H32	N/A	950A0232H52	N/A
950A0232H06	950A0232H23	950A0232H43	950A0232H33	N/A	950A0232H53	N/A
950A0233H01	950A0232H21	950A0232H41	950A0232H31	950A0233H61	N/A	950A0233H51
950A0233H02	950A0232H21	950A0232H41	950A0232H31	950A0233H61	N/A	950A0233H51
950A0233H03	950A0232H22	950A0232H42	950A0232H32	950A0233H62	N/A	950A0233H52
950A0233H04	950A0232H22	950A0232H42	950A0232H32	950A0233H62	N/A	950A0233H52
950A0233H05	950A0232H22	950A0232H42	950A0232H32	950A0233H62	N/A	950A0233H52
950A0233H06	950A0232H23	950A0232H43	950A0232H33	950A0233H62	N/A	950A0233H52
950A0236H01	950A0232H21	950A0232H41	950A0232H31	N/A	950A0232H51	N/A
950A0236H02	950A0232H21	950A0232H41	950A0232H31	N/A	950A0232H51	N/A
950A0236H03	950A0232H22	950A0232H42	950A0232H32	N/A	950A0232H52	N/A
950A0236H04	950A0232H22	950A0232H42	950A0232H32	N/A	950A0232H52	N/A
950A0237H01	950A0232H21	950A0232H41	950A0232H31	950A0233H61	N/A	950A0233H51
950A0237H02	950A0232H21	950A0232H41	950A0232H31	950A0233H61	N/A	950A0233H51
950A0237H03	950A0232H22	950A0232H42	950A0232H32	950A0233H62	N/A	950A0233H52
950A0237H04	950A0232H22	950A0232H42	950A0232H32	950A0233H62	N/A	950A0233H52
950A0240H01	950A0232H21	950A0232H41	950A0232H31	N/A	950A0232H51	N/A
950A0240H02	950A0232H21	950A0232H41	950A0232H31	N/A	950A0232H51	N/A
950A0240H03	950A0232H22	950A0232H42	950A0232H32	N/A	950A0232H52	N/A
950A0240H04	950A0232H22	950A0232H42	950A0232H32	N/A	950A0232H52	N/A
950A0240H05	950A0232H22	950A0232H42	950A0232H32	N/A	950A0232H52	N/A
950A0240H06	950A0232H23	950A0232H43	950A0232H33	N/A	950A0232H53	N/A
950A0240H07	950A0240H24	950A0240H44	950A0232H33	N/A	950A0232H53	N/A
950A0240H08	950A0240H25	950A0240H45	950A0240H34	N/A	950A0240H54	N/A
950A0240H09	950A0240H26	950A0240H46	950A0240H34	N/A	950A0240H55	N/A
950A0240H10	950A0240H27	950A0240H47	950A0240H35	N/A	950A0240H56	N/A
950A0240H11	950A0240H28	950A0240H48	950A0240H35	N/A	950A0240H56	N/A
950A0240H12	950A0240H29	950A0240H49	950A0240H36	N/A	950A0240H57	N/A
950A0241H01	950A0232H21	950A0232H41	950A0232H31	950A0233H61	N/A	950A0233H51
950A0241H02	950A0232H21	950A0232H41	950A0232H31	950A0233H61	N/A	950A0233H51
950A0241H03	950A0232H22	950A0232H42	950A0232H32	950A0233H62	N/A	950A0233H52
950A0241H04	950A0232H22	950A0232H42	950A0232H32	950A0233H62	N/A	950A0233H52
950A0241H05	950A0232H22	950A0232H42	950A0232H32	950A0233H62	N/A	950A0233H52
950A0241H06	950A0232H23	950A0232H43	950A0232H33	950A0233H62	N/A	950A0233H53
950A0241H07	950A0240H24	950A0240H44	950A0232H33	950A0233H62	N/A	950A0241H54
950A0241H08	950A0240H25	950A0240H45	950A0240H34	950A0241H63	N/A	950A0241H55
950A0241H09	950A0240H26	950A0240H46	950A0240H34	950A0241H63	N/A	950A0241H56
950A0241H10	950A0240H27	950A0240H47	950A0240H35	950A0241H64	N/A	950A0241H57
950A0241H11	950A0240H28	950A0240H48	950A0240H35	950A0241H64	N/A	950A0241H58
950A0241H12	950A0240H29	950A0240H49	950A0240H36	950A0241H65	N/A	950A0241H59
950A0244H01	950A0232H21	950A0232H41	950A0232H31	N/A	950A0232H51	N/A
950A0244H02	950A0232H21	950A0232H41	950A0232H31	N/A	950A0232H51	N/A
950A0244H03	950A0232H22	950A0232H42	950A0232H32	N/A	950A0232H52	N/A
950A0244H04	950A0232H22	950A0232H42	950A0232H32	N/A	950A0232H52	N/A
950A0244H05	950A0232H22	950A0232H42	950A0232H32	N/A	950A0232H52	N/A
950A0244H06	950A0232H23	950A0232H43	950A0232H33	N/A	950A0232H53	N/A
950A0245H01	950A0232H21	950A0232H41	950A0232H31	950A0233H61	N/A	950A0233H51
950A0245H02	950A0232H21	950A0232H41	950A0232H31	950A0233H61	N/A	950A0233H51
950A0245H03	950A0232H22	950A0232H42	950A0232H32	950A0233H62	N/A	950A0233H52
950A0245H04	950A0232H22	950A0232H42	950A0232H32	950A0233H62	N/A	950A0233H52
950A0245H05	950A0232H22	950A0232H42	950A0232H32	950A0233H62	N/A	950A0233H52
950A0245H06	950A0232H23	950A0232H43	950A0232H33	950A0233H62	N/A	950A0233H53
950A0248H01	950A0232H21	950A0232H41	950A0232H31	N/A	950A0232H51	N/A
950A0248H02	950A0232H21	950A0232H41	950A0232H31	N/A	950A0232H51	N/A
950A0248H03	950A0232H22	950A0232H42	950A0232H32	N/A	950A0232H52	N/A

Table 2. Danfoss Valves Spare Parts Kits.

DANFOSS VALVE SPARE PARTS KITS CONT'D

VALVE	COMPLETE ⁽¹⁾	CONE ⁽³⁾	PACKING GLAND ⁽²⁾	SEAL CAP & GASKET ⁽⁴⁾	HANDWHEEL ⁽⁴⁾	CAP & BONNET ⁽⁵⁾
950A0248H04	950A0232H22	950A0232H42	950A0232H32	N/A	950A0232H52	N/A
950A0249H01	950A0232H21	950A0232H41	950A0232H31	950A0233H61	N/A	950A0233H51
950A0249H02	950A0232H21	950A0232H41	950A0232H31	950A0233H61	N/A	950A0233H51
950A0249H03	950A0232H22	950A0232H42	950A0232H32	950A0233H62	N/A	950A0233H52
950A0249H04	950A0232H22	950A0232H42	950A0232H32	950A0233H62	N/A	950A0233H52
950A0252H01	950A0232H21	950A0232H41	950A0232H31	N/A	950A0232H51	N/A
950A0252H02	950A0232H21	950A0232H41	950A0232H31	N/A	950A0232H51	N/A
950A0252H03	950A0232H22	950A0232H42	950A0232H32	N/A	950A0232H52	N/A
950A0252H04	950A0232H22	950A0232H42	950A0232H32	N/A	950A0232H52	N/A
950A0252H05	950A0232H22	950A0232H42	950A0232H32	N/A	950A0232H52	N/A
950A0252H06	950A0232H23	950A0232H43	950A0232H33	N/A	950A0232H53	N/A
950A0252H07	950A0240H24	950A0240H44	950A0232H33	N/A	950A0232H53	N/A
950A0252H08	950A0240H25	950A0240H45	950A0240H34	N/A	950A0240H54	N/A
950A0252H09	950A0240H26	950A0240H46	950A0240H34	N/A	950A0240H55	N/A
950A0252H10	950A0240H27	950A0240H47	950A0240H35	N/A	950A0240H56	N/A
950A0252H11	950A0240H28	950A0240H48	950A0240H35	N/A	950A0240H56	N/A
950A0252H12	950A0240H29	950A0240H49	950A0240H36	N/A	950A0240H57	N/A
950A0253H01	950A0232H21	950A0232H41	950A0232H31	950A0233H61	N/A	950A0233H51
950A0253H02	950A0232H21	950A0232H41	950A0232H31	950A0233H61	N/A	950A0233H51
950A0253H03	950A0232H22	950A0232H42	950A0232H32	950A0233H62	N/A	950A0233H52
950A0253H04	950A0232H22	950A0232H42	950A0232H32	950A0233H62	N/A	950A0233H52
950A0253H05	950A0232H22	950A0232H42	950A0232H32	950A0233H62	N/A	950A0233H52
950A0253H06	950A0232H23	950A0232H43	950A0232H33	950A0233H62	N/A	950A0233H53
950A0253H07	950A0240H24	950A0240H44	950A0232H33	950A0233H62	N/A	950A0241H54
950A0253H08	950A0240H25	950A0240H45	950A0240H34	950A0241H63	N/A	950A0241H55
950A0253H09	950A0240H26	950A0240H46	950A0240H34	950A0241H63	N/A	950A0241H56
950A0253H10	950A0240H27	950A0240H47	950A0240H35	950A0241H64	N/A	950A0241H57
950A0253H11	950A0240H28	950A0240H48	950A0240H35	950A0241H64	N/A	950A0241H58
950A0253H12	950A0240H29	950A0240H49	950A0240H36	950A0241H65	N/A	950A0241H59

HANDWHEEL NUTS & WASHERS		
VALVE SIZE	NUT KIT	WASHER KIT
3 - 4"	950A0240H61	950A0240H64
5 - 6"	950A0240H62	950A0240H65
8"	950A0240H63	950A0240H66

- (1) Consists of Cone, Setscrew, Steel Balls, O-ring, Cap Gasket, Soft Backseat.
- (2) Consists of Packing Gland and Washer, O-rings, Wear Ring, and U-sleeves (where applicable).
- (3) Consists of Cone, Setscrew, Steel Balls, O-ring.
- (4) Consists of Handwheel, Washer, Screw/Nut or Seal Cap and Gasket.
- (5) Consists of O-ring and Cap Gasket (plus Soft Backseat where applicable).