

P4000 Mechanical Dump Valve

The BelGAS^{CP} P4000 series is a mechanically operated dump valve for use with a P8000 trunnion assembly or other float operated lever to which the valve is connected.

Applications

- Separators
- Knockouts
- Treaters
- Other Similar Accumulators

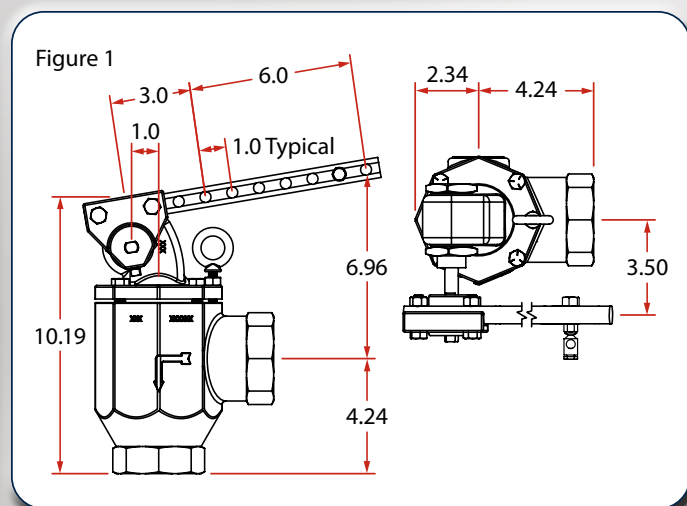
Features

- **Balanced Diaphragm:** The area of the diaphragm is the same as the area of the seat causing upward and downward forces to cancel which allows valve operation to be unaffected by fluid pressure.
- **Simple Maintenance:** Valve trim can be quickly changed without removing the valve from the line by removing bonnet to access entire cage and stem assembly. In addition, eliminating "key" slots from trunnion and lever hubs allows for simpler disassembly and eliminates potential binding of parts.
- **Improved Performance:** Replacing metal to metal contact points with Acetal bushings reduces friction and wear and allows valve to operate more efficiently. Replacing packing with o-ring seals provides longer life and better sealing than packing while also reducing adjustment frequency.

Materials of Construction

Part	Standard Material	Optional Material
Body & Bonnet	Ductile Iron	
Diaphragm	Nitrile	Fluorocarbon
Gaskets	Tealon TF1580	
Cage	Ductile Iron	Acetal
Seat	Nitrile	Polyurethane, Fluorocarbon
Stem & Trunnion Rod	Stainless Steel	
O-ring Box & Bonnet Plug	Stainless Steel	
Bushings	Acetal	
O-rings	Nitrile	Fluorocarbon

Dimensional Data (in.)



Specifications

Operating Pressure	250 PSIG
Working Pressure	300 PSIG (Max)
Temperature Range	-20° to 200°F (-29° to 93°C)
Shutoff Classification	ANSI Class VI per ANSI/FCI 70-2-2013

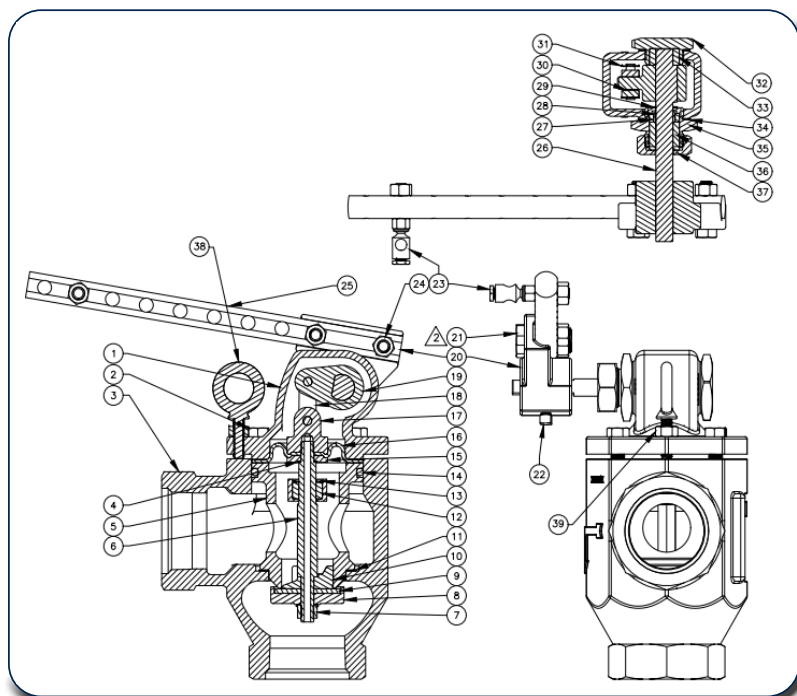
Cf and Cv Values

Line Size	Trim Size	Cf	Cv
2"	1.50"	0.79	23.3

P4000 Part Number Matrix

P40		S	0	A	0			0	0
Style									
Diaphragm Balanced	00								
Piston Balanced	10								
Body Size									
2" x 2"	16								
3" x 3"	20								
End Connection									
Female NPT		S							
Body Material									
Ductile Iron			0						
Body Style									
Angled				A					
Seat-Elastomer Material									
Polyurethane-Buna-N							P		
Polyurethane-Viton®							V		
Buna-N - Buna-N							0		
Viton®-Viton®							2		
Trim Material									
Ductile Iron Cage								D	
Acetal Cage								A	

P4000 Parts List & Repair Kits



*Parts Included in Repair Kit

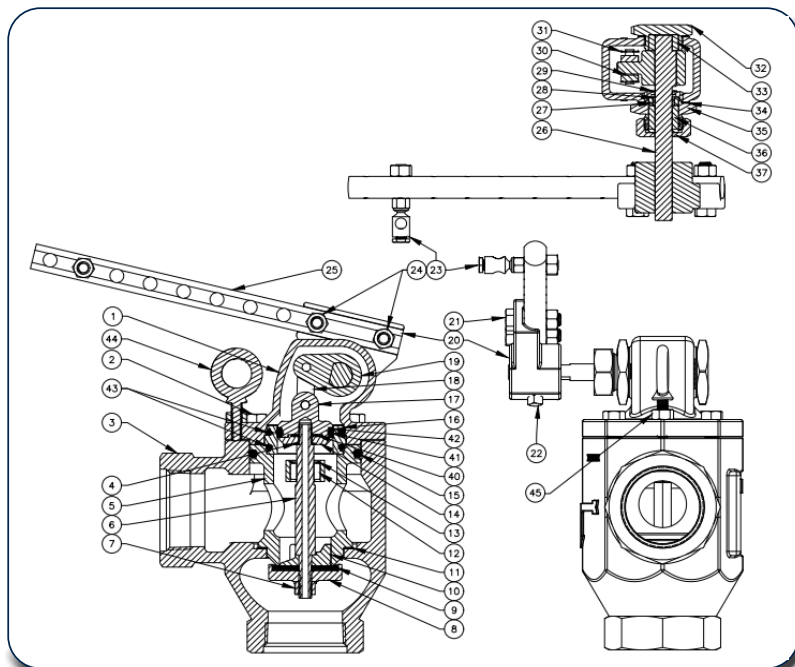
REPAIR KIT P/Ns	DESCRIPTION
971-P40-000	P4000 2" POLYURETHANE SEAT BUNA DIAPHRAGM
971-P40-001	P4000 2" POLYURETHANE SEAT FLUORO DIAPHRAGM
971-P40-002	P4000 2" BUNA SEAT BUNA DIAPHRAGM
971-P40-003	P4000 2" FLUOROCARBON SEAT FLUORO DIAPHRAGM
971-P40-004	P4000 3" POLYURETHANE SEAT BUNA DIAPHRAGM
971-P40-005	P4000 3" POLYURETHANE SEAT FLUORO DIAPHRAGM
971-P40-006	P4000 3" BUNA SEAT BUNA DIAPHRAGM
971-P40-007	P4000 3" FLUOROCARBON SEAT FLUORO DIAPHRAGM
704020000K	P4000 2" IRON CAGE REPAIR KIT
704020001K	P4000 2" ACETAL CAGE REPAIR KIT
704252000K	P4000 3" ACETAL CAGE REPAIR KIT
704252001K	P4000 3" IRON CAGE REPAIR KIT

REPAIR KIT PARTS (971-P40-00X)	QTY.
PLATE GASKET (2IN ONLY)	1
LOCK NUT	1
CAGE GASKET	1
RETAINING RING (2IN ONLY)	2
CAGE O-RING	1
MAIN DIAPHRAGM	1
MAIN SEAT	1
SHORT BUSHING	2
BONNET GASKET	2
SNAP RING	4
STUFFING BOX REPAIR	1

REPAIR KIT PARTS (704-XXX-XXXX)	QTY.
CAGE	1
CAGE GASKET	1

ITEM	DESCRIPTION	QTY.	2 INCH	3 INCH
1	BONNET	1	604-279-000	604-604-000
2	BODY BOLTS	6	648-580-000	648-580-000
3	BODY	1	664-592-000	664-683-000
	150RF FLANGE BODY	1	664-592-001	664-713-000
4*	PLATE GASKET	1	624-111-000	N/A
5	ACETAL CAGE	1	704-020-000	704-252-000
	DUCTILE IRON CAGE	1	704-020-001	704-252-001
6	STEM	1	651-111-000	651-133-000
7*	STEM LOCK NUT	1	650-134-000	634-527-001
8	SEAT DISC HOLDER	1	650-205-000	650-276-000
	SEAT FKM	1	628-277-002	619-091-000
9*	SEAT HSN	1	628-277-000	619-091-001
	SEAT POLYURETHANE	1	628-277-001	N/A
10	RATIO PLUG	1	639-146-000	639-186-000
11*	CAGE GASKET	1	624-113-000	624-145-000
12	CAGE BUSHING (IRON CAGE ONLY)	1	608-089-000	N/A
13*	RETAINING RING (IRON CAGE ONLY)	1	643-000-124	N/A
14*	CAGE O-RING FKM	1	649-345-001	649-443-000
	CAGE O-RING HSN	1	649-345-000	649-443-001
15	DIAPHRAGM PLATE	1	638-093-000	638-151-000
16*	BALANCED DIAPHRAGM FKM	1	600-519-001	618-136-001
	BALANCED DIAPHRAGM BUNA	1	600-519-000	618-136-003
17	DIAPHRAGM NUT	1	634-217-000	634-513-000
18	LINK	2	696-002-000	696-008-000
19	TRUNNION HUB	1	712-007-000	712-011-000
20	LEVER HUB	1	644-056-000	712-012-000
21	LEVER BOLTS	2	648-580-001	648-466-015
22	SET SCREW	1	648-582-000	648-647-001
23	INLINE JOINT LINKAGE ASSEMBLY	1	803-076-000	803-076-000
24	LEVER NUTS	2	634-216-000	634-216-000
25	LEVER	1	703-013-000	703-022-001
26	TRUNNION SHAFT	1	651-112-000	651-131-000
27*	STUFFING BOX PACKING RING	1	644-333-000	644-331-000
28*	TEFLON RING	1	644-332-000	644-330-000
29*	THRUST WASHER	1	662-457-000	662-456-000
30	PIN	2	635-087-000	635-113-000
31*	SNAP RING	4	644-049-000	644-319-000
32	BONNET PLUG	1	639-147-000	639-200-000
33*	PACKING RING	1	608-089-000	608-333-000
34*	BONNET PLUG GASKET	2	624-104-000	624-159-000
35*	STUFFING BOX	1	606-216-000	606-215-000
36*	STUFFING BOX BUSHING	1	608-337-000	608-336-000
37*	STUFFING BOX NUT	1	634-532-000	634-529-000
38	EYEBOLT	1	603-013-000	603-022-000
39	EYEBOLT HEX NUT	1	634-490-000	N/A
40	P4000 NAMEPLATE	1	632-592-000	632-592-000
41	P4000 NAMEPLATE SCREWS	1	648-464-000	648-464-000
42	WASHER (NOT SHOWN)	1	N/A	662-455-000
43	LEVER HUB LOCKNUT (NOT SHOWN)	1	N/A	634-526-000

P4010 Parts List & Repair Kits



* Parts Included in Repair Kit

REPAIR KIT P/Ns	DESCRIPTION
971-P40-100	P4010 2" POLYURETHANE SEAT BUNA TRIM
971-P40-101	P4010 2" POLYURETHANE SEAT FLUORO TRIM
971-P40-102	P4010 2" BUNA SEAT BUNA TRIM
971-P40-103	P4000 2" FLUOROCARBON SEAT FLUORO TRIM
971-P40-104	P4010 3" POLYURETHANE SEAT BUNA TRIM
971-P40-105	P4010 3" POLYURETHANE SEAT FLUORO TRIM
971-P40-106	P4010 3" BUNA SEAT BUNA TRIM
971-P40-107	P4010 3" FLUOROCARBON SEAT FLUORO TRIM
70402000K	P4000 2" IRON CAGE REPAIR KIT
70402001K	P4000 2" ACETAL CAGE REPAIR KIT
70425200K	P4000 3" ACETAL CAGE REPAIR KIT
704252001K	P4000 3" IRON CAGE REPAIR KIT

REPAIR KIT PARTS (971-P40-10X)	QTY.
PLATE GASKET (2IN ONLY)	1
LOCK NUT	1
CAGE GASKET	1
RETAINING RING (2IN ONLY)	2
CAGE O-RING	1
PLATE O-RING	1
MAIN SEAT	1
SHORT BUSHING	2
BONNET GASKET	2
STEM O-RING	1
SNAP RING	4
BACKUP RING	2
CYLINDER O-RING	2
STUFFING BOX REPAIR	1

REPAIR KIT PARTS (704-XXX-XXXX)	QTY.
CAGE	1
CAGE GASKET	1

ITEM	DESCRIPTION	QTY.	2 INCH	3 INCH
1	BONNET	1	604-279-001	604-607-000
2	BODY BOLTS	6	648-580-000	648-580-000
3	BODY	1	664-592-000	664-683-000
	150RF FLANGE BODY	1	664-592-001	664-713-000
4*	PLATE GASKET	1	624-111-000	N/A
5	ACETAL CAGE	1	704-020-000	704-252-000
	DUCTILE IRON CAGE	1	704-020-001	704-252-001
6	STEM	1	651-111-000	651-133-000
7*	STEM LOCK NUT	1	634-218-000	634-527-001
8	SEAT DISC HOLDER	1	650-205-000	650-276-000
9*	SEAT FKM	1	619-075-002	619-091-000
	SEAT HSN	1	619-075-000	619-091-001
	SEAT POLYURETHANE	1	619-075-001	N/A
10	RATIO PLUG	1	639-146-000	639-186-000
11*	CAGE GASKET	1	624-113-000	624-145-000
12	CAGE BUSHING (IRON CAGE ONLY)	1	608-089-000	N/A
13*	RETAINING RING (IRON CAGE ONLY)	1	643-000-124	N/A
14	PISTON PLATE	1	638-093-001	638-170-000
15*	CAGE O-RING FKM	1	649-345-001	649-443-000
	CAGE O-RING HSN	1	649-345-000	649-443-001
16	CYLINDER	1	617-301-000	617-281-000
17	PISTON NUT	1	634-217-001	634-525-000
18	LINK	2	696-002-000	696-008-000
19	TRUNNION HUB	1	712-007-000	712-011-000
20	LEVER HUB	1	712-006-000	712-012-000
21	LEVER BOLTS	2	648-580-001	648-466-015
22	SET SCREW	1	648-582-000	648-647-001
23	INLINE JOINT LINKAGE ASSEMBLY	1	803-076-000	803-076-000
24	LEVER NUT	2	634-216-000	634-216-000
25	LEVER	1	703-013-000	703-022-001
26	TRUNNION SHAFT	1	651-112-000	651-131-000
27*	STUFFING BOX PACKING RING	1	644-333-000	644-331-000
28*	TEFLON RING	1	644-332-000	644-330-000
29*	THRUST WASHER	1	662-457-000	662-456-000
30	PIN	2	635-087-000	635-113-000
31*	SNAP RING	4	644-049-000	644-319-000
32	BONNET PLUG	1	639-147-000	639-200-000
33*	PACKING RING	1	608-089-000	608-333-000
34*	BONNET PLUG GASKET	2	624-104-000	624-159-000
35*	STUFFING BOX	1	606-216-000	606-215-000
36*	STUFFING BOX BUSHING	1	608-337-000	608-336-000
37*	STUFFING BOX NUT	1	634-532-000	634-529-000
38	P4000 NAMEPLATE	1	632-592-000	632-592-000
39	P4000 NAMEPLATE SCREWS	4	648-464-000	648-464-000
40*	STEM O-RING FKM	1	649-387-000	649-461-000
	STEM O-RING HSN	1	649-394-000	649-461-001
41	PISTON NUT O-RING FKM	1	649-447-000	649-462-000
	PISTON NUT O-RING HSN	1	649-389-000	649-462-001
42*	BACKUP O-RING FKM	2	644-069-001	649-460-000
	BACKUP O-RING HSN	2	644-069-000	649-460-001
43*	CYLINDER O-RING FKM	2	649-388-001	649-459-000
	CYLINDER O-RING HSN	2	649-388-000	649-459-001
44	EYEBOLT	1	603-013-000	603-022-000
45	WASHER	1	N/A	662-455-000
46	LEVER HUB LOCKNUT	1	N/A	634-526-000



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