

LIQUID DUMP VALVES

LEVER OPERATED

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KIMRAY
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DIAPHRAGM BALANCED:	· · · · ·	· 03:10.1 - 03:10.3
APPLICATIONS: Used as oil or water dump valves on separators, treaters, knockouts, and other similar liquid accumulators.		
OPERATING PRESSURE RANGES: 0 psig to 250 psig		
PISTON BALANCED THROTTLE:	· · · · ·	· 03:20.1 - 03:20.3
APPLICATIONS: Used as oil or water dump valves on separators, treaters, knockouts, and other similar liquid accumulators. Designed for higher pressures or erosive service.		
OPERATING PRESSURE RANGES: 0 psig to 500 psig		
PISTON BALANCED:	· · · · ·	· 03:20.5 - 03:20.7
APPLICATIONS: Used as oil or water dump valves on separators, treaters, knockouts, and other similar liquid accumulators. Designed for higher pressure service.		
OPERATING PRESSURE RANGES: 0 psig to 500 psig		
MECHANICAL PILOT:	· · · · ·	· 03:30.1 - 03:30.2
APPLICATIONS: Oil and gas separators, water knockouts, and similar equipment where a mechanical to pneumatic interface is required to operate motor valves.		
OPERATING PRESSURE RANGES: 0 psig to 30 psig		
BI-STABLE MECHANICAL PILOT:	· · · · ·	· 03:40.1 - 03:40.2
APPLICATIONS: Oil and gas separators, knockouts, treaters and similar equipment where it is necessary to convert a mechanical dump into a wide span, snap, pneumatic signal.		
OPERATING PRESSURE RANGES: 0 psig to 30 psig		
FLANGED TRUNNION ASSEMBLY:	· · · · ·	· 03:50.2
APPLICATIONS: Used on oil and gas separators, freewater knockouts (FWKO), horizontal emulsion treaters and similar equipment where a float is desired to monitor fluid level.		
OPERATING PRESSURE RANGES: 0 psig to 250 psig		
HAMMER UNION TRUNNION ASSEMBLY:	· · · · ·	· 03:50.3
APPLICATIONS: Used on oil and gas separators, freewater knockouts (FWKO), horizontal emulsion treaters and similar equipment where a float is desired to monitor fluid level.		
OPERATING PRESSURE RANGES: 0 psig to 500 psig		
TRUNNION ASSEMBLY:	· · · · ·	· 03:50.4 - 03:50.5
APPLICATIONS: Used on oil and gas separators, freewater knockouts (FWKO), horizontal emulsion treaters and similar equipment where a float is desired to monitor fluid level.		
OPERATING PRESSURE RANGES: 0 psig to 500 psig		
FLOAT & FLOAT ARM OPTIONS:	· · · · ·	· 03:60.1
APPLICATIONS: For use with Trunnion Assemblies.		
MAX OPERATING PRESSURE: 600 psig		
CLOSURES:	· · · · ·	· 03:70.1
APPLICATIONS: Used as an access opening for pressure vessels.		
OPERATING PRESSURE RANGES: 0 psig to 1500 psig		
FLOW COEFFICIENT	· · · · ·	· 03:I
VALVE DIMENSIONS	· · · · ·	· 03:II
VALVE DIMENSIONS	· · · · ·	· 03:III
TRUNNION DIMENSIONS	· · · · ·	· 03:IV
SEALS	· · · · ·	· 03:V
MATERIAL SPECIFICATIONS	· · · · ·	· 03:VI

LIQUID DUMP VALVES LEVER OPERATED



CODE BUILDER D SERIES

Series:

D = Dump Valve

Model:

LD = Lever Operated Diaphragm Balanced

LP = Lever Operated Piston Balanced Throttle (2 & 3 inch only)

LB = Lever Operated Piston Balanced (2, 3 & 4 inch only)

Line Size:

2 = 2 NPS

3 = 3 NPS

4 = 4 NPS

6 = 6 NPS

End Connection:

SA = FNPT (2 & 3 NPS only)

AR = 150RF

Body Type:

A = Angle

T = Thru

Shell Material:

D = Ductile Iron

E = Ductile Iron w/Coating

Inner Valve Size:

F = Full Port

R = Reduced Port (LP only)

Actuator:

L = Lever Operated

Service Type:

S = Standard

C = Corrosive

LP Model: Corrosive is only available in 2"

D	LD	2	SA	A	D	F	L	S	
---	----	---	----	---	---	---	---	---	--

Options: Additional cost and lead times will apply

If multiple options required input in sequential order

Leave blank if no options required

1 = NACE Certification (Corrosive Option Only)

2 = Hydrostatic Test Certification

3 = MTR (Shell Components)

H = HSN Elastomers

V = FKM Elastomers

X = Export (Hydrostatic test, MTR & 3.1)

Not all selections available on all products listed.
See product pages 03:10.1 - 03:20.7 for available options

APPLICATION:

Used as oil or water dump valves on separators, treaters, knockouts, and other similar liquid accumulators.

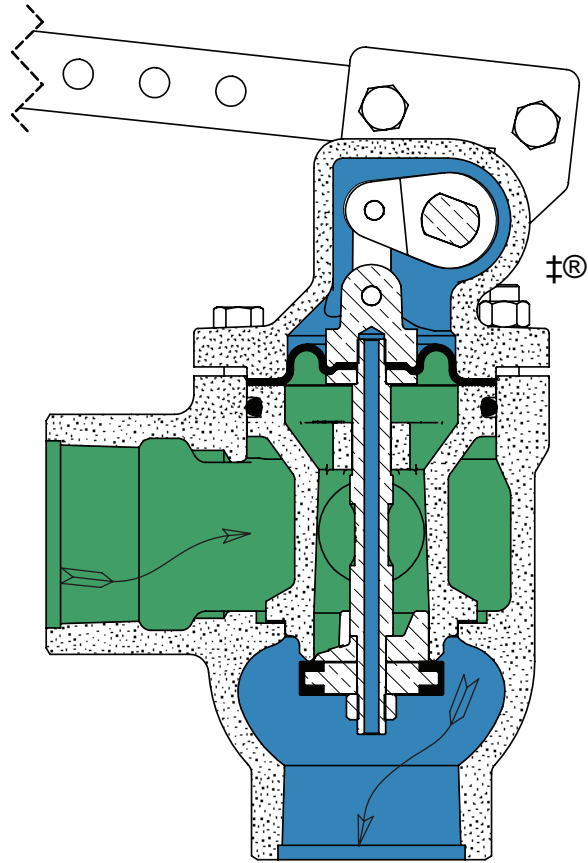
FEATURES:

- Balanced, single soft seat
- Teflon packed, rotary stuffing box
- All internal parts easily be removed with valve in line

CERTIFICATIONS:

Canadian Registration Number (CRN):
0C16234.24567890NTY (Ductile)
0C15610.24567890NTY (Steel)
Kimray is an ISO 9001- certified manufacturer.

-  Stem and Seat Assembly
-  Separator Fluid pressure
-  Downstream Pressure



Standard Configuration Code †	Order Code	Line Size	Connection Type	Body Type	Max Δ P psig	Max. W.P. psig ††	Cv	Cf					
DLD2SAADFLS	CBA	2"	NPT	Angle	125	300	23.3	0.79					
DLD2SATDFLS	CHA			Thru		250							
DLD2ARADFLS	CBB		150RF	Angle									
DLD2ARTDFLS	CHB			Thru									
DLD3SAADFLS	CBC	3"	NPT	Angle			125		43.8	0.79			
DLD3SATDFLS	CHC			Thru		250							
DLD3ARADFLS	CBE		150RF	Angle									
DLD3ARTDFLS	CHE			Thru									
DLD4ARADFLS	CBF	4"	150RF	Angle					125		70.1	0.79	
DLD4ARTDFLS	CHF		150RF	Thru									
DLD6ARADFLS	CBG	6"	150RF	Angle		125					277		0.79
DLD6ARTDFLS	CHG		150RF	Thru									

NOTES:

For standard & optional seals, metals, Cf Cv values, material specifications & dimensions see technical data on pages 03:1 - 03:VI

† For Corrosive service remove last "S" & replace with "C"

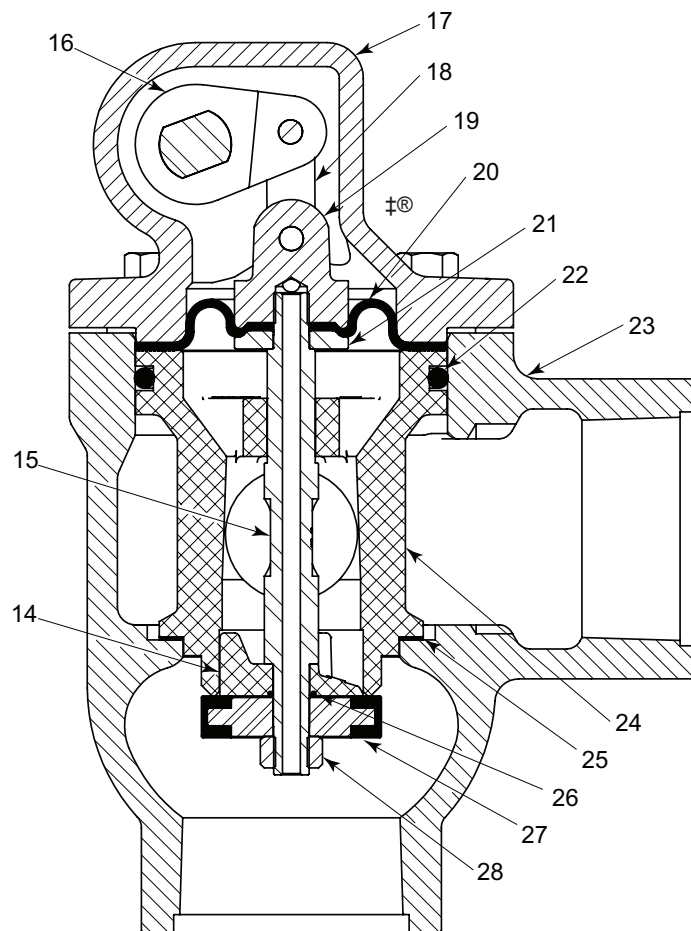
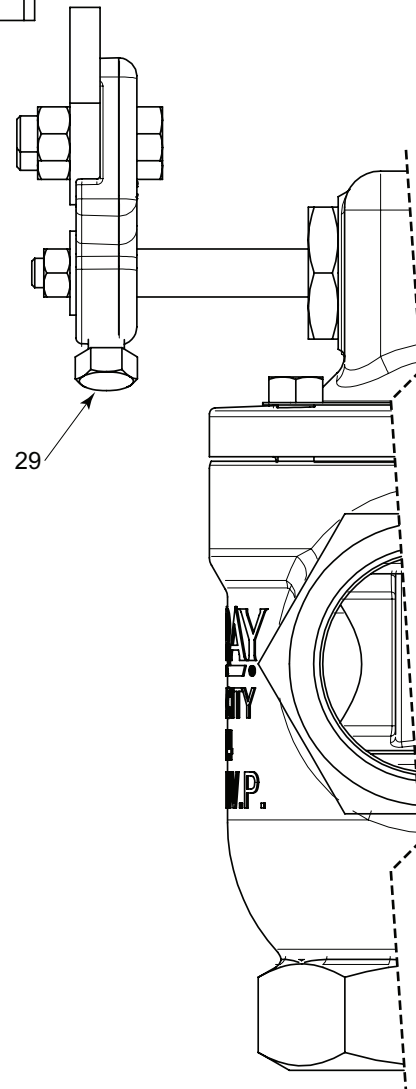
† For code builder see page 03:00.2

†† Max W.P. values based on -20°F to 100°F.

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A technical drawing of a mechanical assembly, likely a valve or actuator, shown in a cross-sectional view. The drawing includes the following numbered components:

- 1: A vertical shaft or stem passing through the center of the assembly.
- 2: A seal or gasket located at the base of the shaft where it meets the main body.
- 3: Two O-rings or seals, one located above the main body and one below it.
- 4: A central rectangular component, possibly a valve core or actuator, mounted on the shaft.
- 5: A seal or gasket located between the central component and the main body.
- 6: A hexagonal nut or cap screw located at the top of the main body.
- 7: The main body or housing of the assembly, shown in cross-section.
- 8: A flange or mounting bracket attached to the side of the main body.
- 9: A bolt or screw used to secure the flange to the main body.
- 10: A horizontal shaft or rod extending from the right side of the assembly.
- 11: A hexagonal nut or cap screw located at the base of the vertical shaft.
- 12: A horizontal support or base plate located below the vertical shaft.
- 13: A bolt or screw used to secure the horizontal support to the base plate.



Issued 12/23

ITEM	QTY.	DESCRIPTION		PART NO.								
				STANDARD				CORROSIVE				
				2 INCH	3 INCH	4 INCH	6 INCH	2 INCH	3 INCH	4 INCH	6 INCH	
1	1	O-Ring	*	154HSNPS	491HSNPS	----		154HSNPS	491HSNPS	----		
1a	1	Follower		----		350	1785	----		350SS6	1785SS6	
2	1	Stuffing Box		7661	7593	----		7661S6	7593S6	----		
2a	1	Stuffing Box		----		359	1779	----		359SS6	1779SS6	
2b	1	Nut		----		347	1778	----		347SS6	1778SS6	
3	2	O-Ring	*	2131HSN	5226HSN	----		2131HSN	5266HSN	----		
3a	2	Gasket	*	----		366	1789	----		366	1789	
4	1	Bushing	*	7660	7592	----		7660	7592	----		
4a	(Qty)	Packing Ring	*	----		353 x (1)	1787 x (2)	----		353 x (1)	1787 x (2)	
4b	1	Thrust Washer	*	----		362	1788	----		362	1788	
5	1	Packing	*	7662	355	356	1786	7662	355	356	1786	
6	1	Trunnion Plug		7522	7523	----		7522S6	75236	----		
6a	1	Trunnion Plug		----		369	1777	----		369SS6	1777SS6	
7	1	Shaft	Old Style	7404	7408	7427	7449	7404S6	7408S6	7427S6	7449S6	
			New Style	7609	7610	7611	7612	7609S6	7610S6	7611S6	7612S6	
8	2	Link Pin w/ Snap Ring ◇ *	(kit includes Snap Rings only)	316	317		1790	316SS6	317SS6		1790SS6	
9	(Qty)	Bolt		1672 (4)	1672 (6)	1672 (8)	81 (8)	1672 (4)	1672 (6)	1672 (8)	81 (8)	
10	1	Lever Bar	Optional	Standard	340			340				
				16 inches	340L16			340L16				
				20 inches	340L20			340L20				
				24 inches	340L24			340L24				
				30 inches	340L30			340L30				
				36 inches	340L36			340L36				
11	2	Bolt		247			247					
12	2	Nut		241			241					
13	1	Lever Hub		7600	7601	7602	7603	7600	7601	7602	7603	
14	1	Ratio Plug	◇	332DEL	333DEL	334	2348	2976SS6	2977SS6	2978SS6	3072SS6	
15	1	Stem	◇	326	327	328	2350SS6	326SS6	327SS6	328SS6	2350SS6	
16	1	Trunnion Hub	Old Style ◇	7403	7407	7454	7453	7403S6	7407S6	7454S6	7453S6	
			New Style ◇	7613S6	7614S6	7615S6	7616S6	7613S6	7614S6	7615S6	7616S6	
17	1	Bonnet		295	296	297	1767	295‡	296‡	297‡	1767‡	
18	2	Link	◇	318SS6	319SS6		2352SS6	318SS6	319SS6		2352SS6	
19	1	Nut	◇	2972	2973	322	2346	2972SS6	2973S6	2974SS6	2975SS6	
20	1	Diaphragm	◇ *	335	336	4700	4315	335	336	4700	4315	
21	1	Plate	◇	323SS6	324SS6	325SS6	2347	323SS6	324SS6	325SS6	4045SS6	
22	1	O-Ring	◇ *	329HSN	330HSN	331	2353	329HSN	330HSN	331HSN	2353HSN	
23	1	Body	NPT Angle	2384	2379	----	----	2384‡	2379‡	----	----	
			NPT Thru	3080	3086	----	----	3080‡	3086‡	----	----	
			150RF Angle	2385	2382	2383	2344	2385‡	2382‡	2383‡	2344‡	
			150RF Thru	3082	3087	3090	3091	3082‡	3087‡	3090‡	3091‡	
24	1	Cage	◇	304DEL	305DEL	306	2345	2966SS6	2967SS6	2968SS6	3071SS6	
		Gasket		----	----	----	----	7575	7576	----	----	
		Optional	Cage ◇	1751	1759	1761	2357	3097SS6	3098SS6	13099SS6	2357	
		Split Cage	Seat ◇	1752PH	1760PH	1762PH	2358PH	1752SS6	1760SS6	1762SS6	2358SS6	
25	1	Gasket	◇ *	276	277	309	2354	276	277	309	2354	
26	1	O-Ring	◇ *	----	----	920HSN	807HSN	----	----	920HSN	807HSN	
27	1	Seat	◇ *	7498HSN	7499HSN	----		7498HSN	7499HSN	----		
		Seat	◇	----		165HSN	2356HSN	----	----	165HSN	2356HSN	
		Seat Disc	◇ *	----		160	2349	----	----	2494SS6	3077SS6	
28	1	Lock Nut		173	906		175	173SS6	174SS6		175SS6	
29	1	Set Screw		7608				7608				
	2	Lifting Ring (not shown)		----	7559		----	----	7559		----	
‡ Coated Parts available with "E" shell material												
Cage Assemblies		Standard Cage		CBS	CBT	CBU	CBZ	CBSS6	CBTS6	CBUS6	CBZS6	
		Split Cage		CBS1	CBT1	CBU1	CBZ1	CBSS1S6	CBT1S6	CBU1S6	CBZ1S6	
		◇ These parts are stocked as Cage Assemblies.										
Repair Kits				RTJ	RTK	RTL	RTM		RTJ	RTK	RTL	RTM
		* These parts are recommended spare parts and are stocked as repair kits.										

NOTES:



Kimray is an ISO 9001- certified manufacturer.

APPLICATIONS:

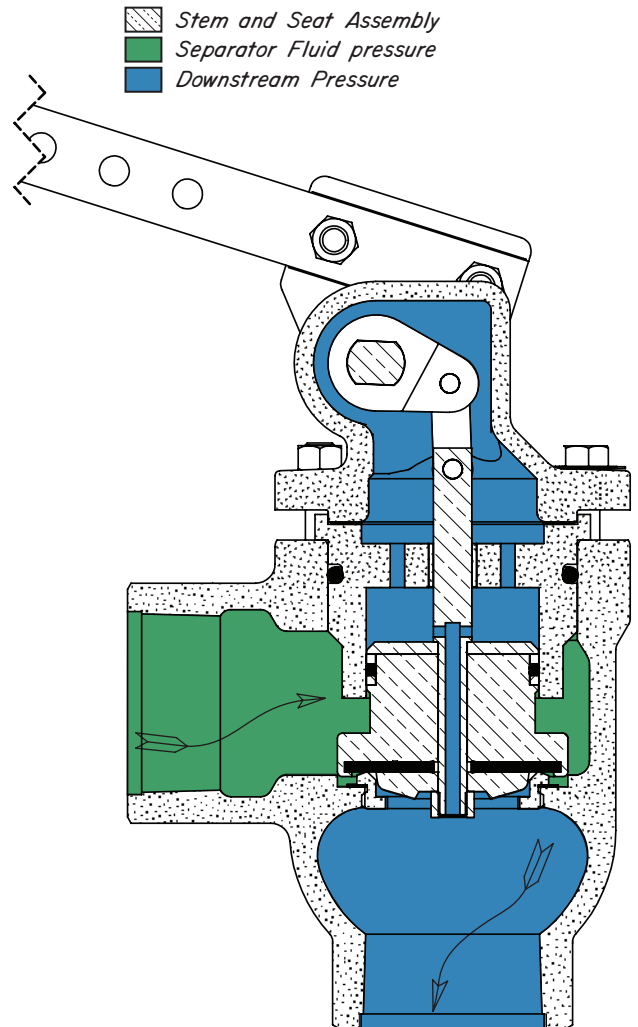
As oil or water dump valves on separators, treaters, knock-outs, and other similar liquid accumulators. Designed for high pressure erosive service.

FEATURES:

- Class VI shut off
- Teflon packed, rotary stuffing box
- All internal parts can easily be removed with valve in line

CERTIFICATIONS:

Canadian Registration Number (CRN):
0C16234.24567890NTY (Ductile)
Kimray is an ISO 9001- certified manufacturer



Standard Configuration Code †	Order Code	Line Size	Connection Type	Body Type	Inner Valve Size	Max Δ P psig	Max. W.P. psig ††	Cv	Cf	
DLP2SAADFLS	CAZ	2"	NPT	Angle	2"	250	500	47.0	0.75	
DLP2SATDFLS	CXA5				1 1/2"			22.7		
DLP2ARADFLS	CGU			Thru	2"			47.0		
DLP2ARADFLS	CAK			150RF	Angle		250	47.0		
DLP3SAADFLS	CVA	3"	NPT	Angle	3"		500	89.0		
DLP3ARADFLS	CVB									

NOTES:

For standard & optional seals, metals, Cf Cv values, material specifications & dimensions see technical data on pages 03:I - 03:VI

† For Corrosive service remove last "S" & replace with "C"

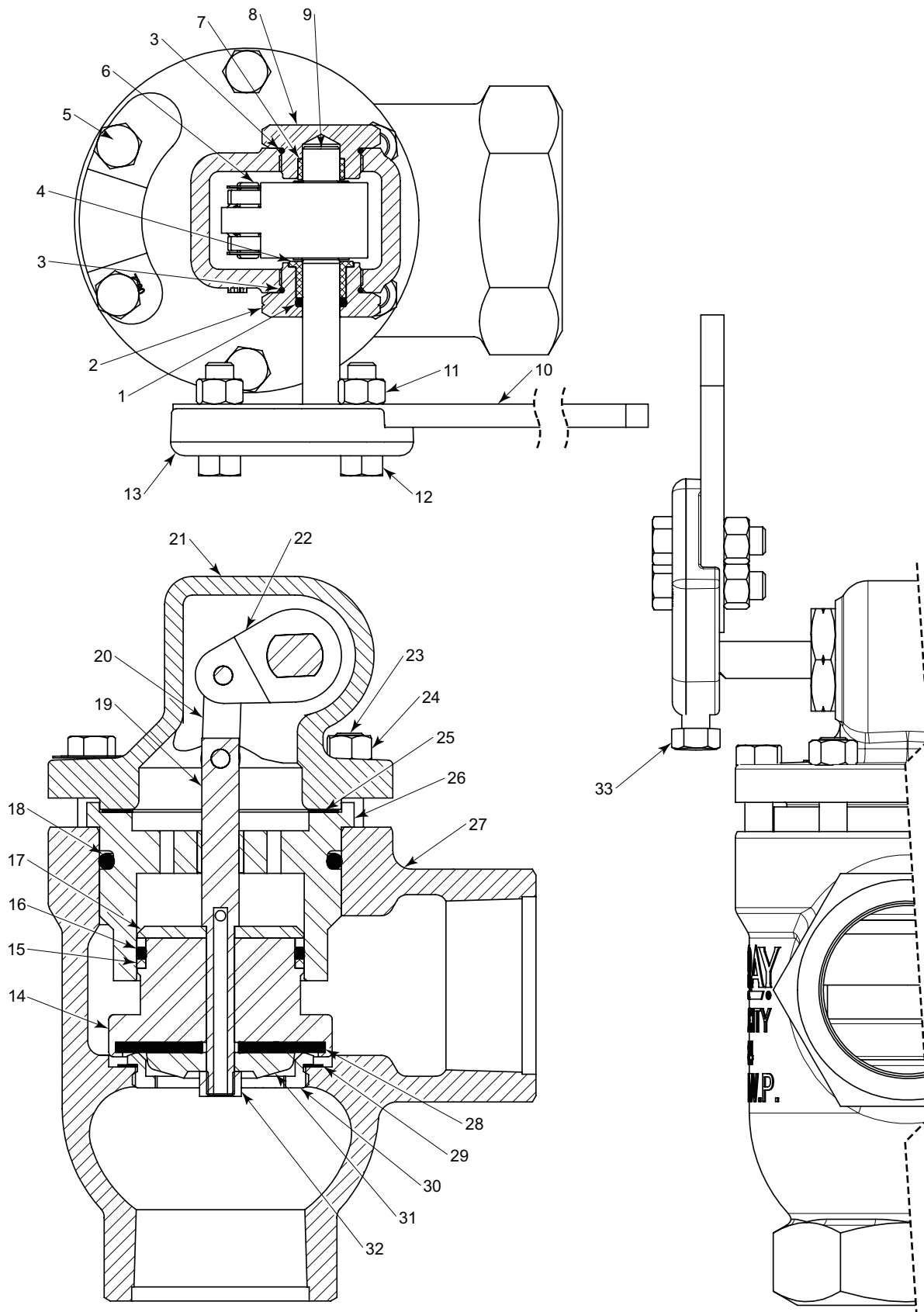
† For code builder see page 03:00.2

†† Max W.P. values based on -20°F to 100°F.

LIQUID DUMP VALVES LEVER OPERATED

PISTON BALANCED THROTTLING MODEL LP PARTS DRAWING

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All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.

ITEM	QTY.	DESCRIPTION		PART NO.			
				STANDARD		CORROSIVE	
				2 INCH	3 INCH		
1	1	O-Ring *		154HSNPS	491HSNPS	2 INCH only	
2	1	Stuffing Box		7661	7593	154HSNPS	
3	2	O-Ring *		2131HSN	5226HSN	7661S6	
4	1	Bushing *		7660	7592	2131HSN	
5	(Qty)	Bolt		833 (4)	833 (5)	7660	
6	2	Link Pin w/ Snap Ring ◇ *		316	317	833 (4)	
		(kit includes Snap Rings only)				316SS6	
7	1	Packing *		7662	355	7662	
8	1	Trunnion Plug		7522	7523	7522S6	
9	1	Shaft	Old Style	7404	7408	7404S6	
			New Style	7609	7610	7609S6	
10	1	Lever Bar	Standard	340		340	
			Optional	16 inches	340L16		340L16
				20 inches	340L20		340L20
				24 inches	340L24		340L24
				30 inches	340L30		340L30
				36 inches	340L36		340L36
11	2	Bolt		247		247	
12	2	Nut		241		241	
13	1	Lever Hub		7600	7601	7600	
14	1	Piston	Full Port ◇	6787S6	7138	6787S6	
			Reduced ◇	7557	----	7557S6	
15	2	Back Up	Full Port ◇ *	1458	772	1458	
			Reduced ◇ *	7558	----	7558	
16	1	O-Ring	Full Port ◇ *	774QHSN	329HSN	774QHSN	
			Reduced ◇ *	808HSN	----	808HSN	
17	1	Seal Retainer	Full Port ◇	5205	5206SS6	5205SS6	
			Reduced ◇	----		----	
18	1	O-Ring ◇ *		329HSN	330HSN	329HSN	
19	1	Stem ◇		7589	7887	7589SS6	
20	2	Link ◇		318SS6	319SS6	318SS6	
21	1	Bonnet		7164	296	7164 ±	
22	1	Trunnion Hub	Old Style ◇	7403	7407	7403S6	
			New Style	7613S6	7614S6	7613S6	
23	(Qty)	Stud		5108 (2)	5108 (1)	5108	
24	2	Nut		5109 (2)	5109 (1)	5109	
25	(Qty)	Gasket ◇ *		5199	5223	5199	
26	1	Cylinder	Full Port ◇	6785	7137	6785	
			Reduced ◇	7556	----	7556	
27	1	Body					
		NPT Angle		6786	7139	6786 ±	
		NPT Thru		7163	----	7163 ±	
		Flanged Angle		7655	7319	7655	
28	1	Seat	Full Port ◇ *	311HSN	165HSN	311HSN	
			Reduced ◇ *	7498HSN	----	7498HSN	
29	1	Gasket ◇ *		276	277	276	
30	1	Removable Seat	Full Port ◇	6789	7140	6789	
			Reduced ◇	7554	----	7554	
31	1	Ratio Plug	Full Port ◇	177SS6	178	177SS6	
			Reduced ◇	7553	----	7553S6	
32	1	Lock Nut ◇ *		173SS6	906	173SS6	
33	1	Set Screw		7608		7608	
34	2	Lifting Ring (not shown)		----	7559	----	
				± Coated Parts available with "E" shell material			
Plug Assemblies		Full Port		CLC	CLD	CLCS6	
		Reduced		CLC5	----	CLC5S6	
				◇ These parts are stocked as Plug Assemblies.			
Repair Kits		Full Port		RUV	RVU	RUV	
		Reduced		RXH	----	RXH	
* These parts are recommended spare parts and are stocked as repair kits.							

NOTES:



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APPLICATIONS:

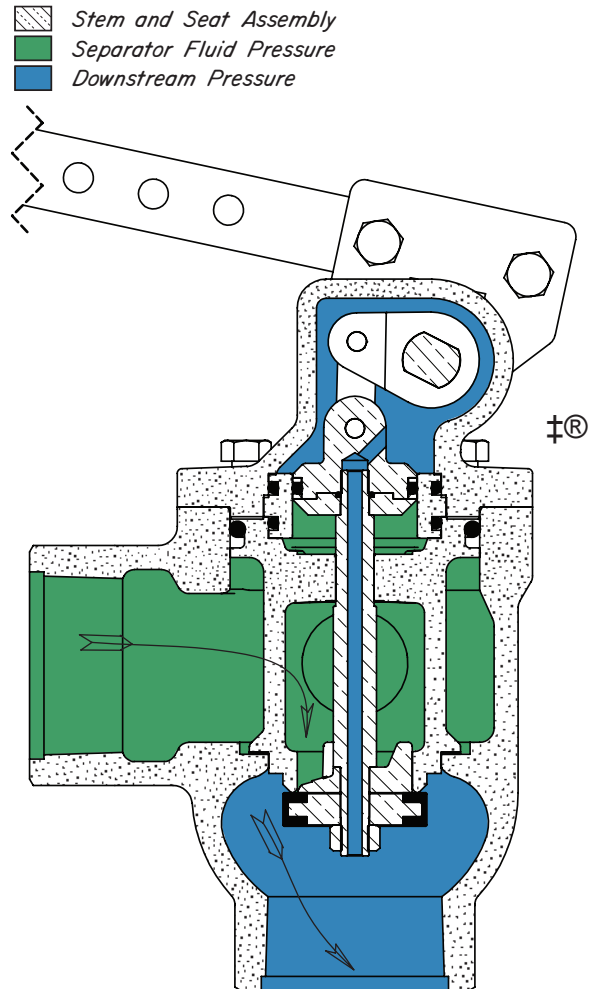
As oil or water dump valves on separators, treaters, knock-outs, and other similar accumulators where higher pressures may occur

FEATURES:

- Balanced single soft seat
- Teflon packed rotary stuffing box
- All internal parts easily removed with valve in line

CERTIFICATIONS:

Canadian Registration Number (CRN):
0C16234.24567890NTY (Ductile)
0C15610.24567890NTY (Steel)
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Standard Configuration Code †	Order Code	Line Size	Connection Type	Body Type	Max Δ P psig	Max. W.P. psig ††	Cv	Cf
DLB2SAADFLS	CAP	2"	NPT	Angle	500	500	23.3	0.79
DLB2SATDFLS	CGP			Thru				
DLB2ARADFLS	CAQ		150RF	Angle	250	250		
DLB2ARTDFLS	CGQ			Thru				
DLB3SAADFLS	CAS	3"	NPT	Angle			43.8	
DLB3SATDFLS	CGS			Thru				
DLB3ARADFLS	CAT		150RF	Angle				
DLB3ARTDFLS	CGT			Thru				
DLB4ARADFLS	CAX	4"	150RF	Angle			70.1	
DLB4ARTDFLS	CGX		150RF	Thru				

NOTES:

For standard & optional seals, metals, Cf Cv values, material specifications & dimensions see technical data on pages 03:1 - 03:VI

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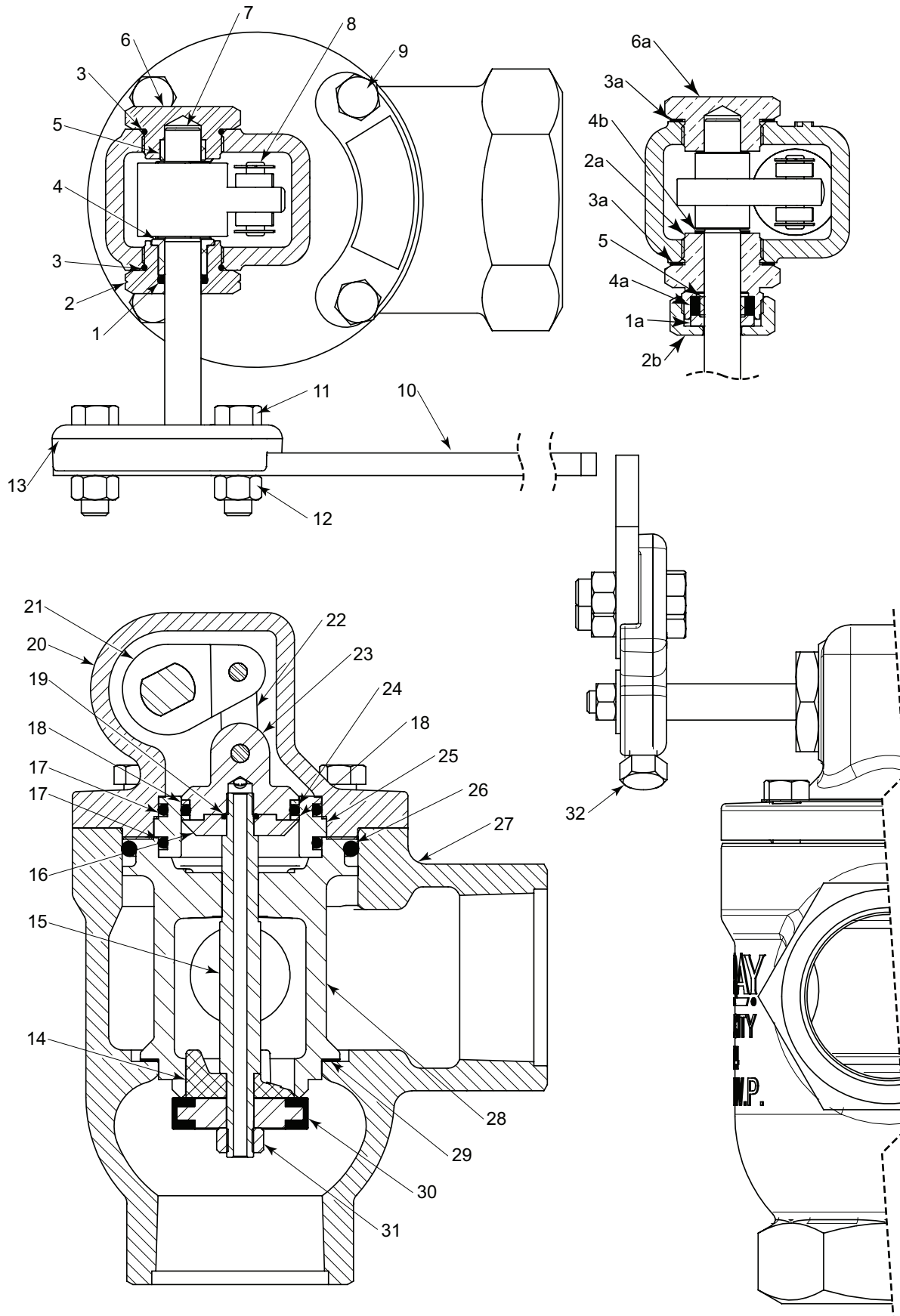
† For code builder see page 03:00.2

†† Max W.P. values based on -20°F to 100°F.

LIQUID DUMP VALVES LEVER OPERATED

PISTON BALANCED
MODEL LB PARTS DRAWING

KIMRAY[®]



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www.kimray.com

ITEM	QTY.	DESCRIPTION		PART NO.						
				STANDARD			CORROSIVE			
				2 INCH	3 INCH	4 INCH	2 INCH	3 INCH	4 INCH	
1	1	O-Ring	*	154HSNPS	491HSNPS	----	154HSNPS	491HSNPS	----	
1a	1	Follower		----		350	----	----	350SS6	
2	1	Stuffing Box		7661	7593	----	7661S6	7593S6	----	
2a	1	Stuffing Box		----		359	----	----	359SS6	
2b	1	Nut		----		347	----	----	347SS6	
3	2	O-Ring	*	2131HSN	5226HSN	----	2131HSN	5266HSN	----	
3a	2	Gasket	*	----		366	----	----	366	
4	1	Bushing	*	7660	7592	----	7660	7592	----	
4a	1	Packing Ring	*	----		353	----	----	353	
4b	1	Thrust Washer	*	----		362	----	----	362	
5	1	Packing	*	7662	355	356	7662	355	356	
6	1	Trunnion Plug		7522	7523	----	7522S6	7523S6	----	
6a	1	Trunnion Plug		----		369	----	----	369	
7	1	Shaft	Old Style	7404	7408	7427	7404S6	7408S6	7427S6	
			New Style	7609	7610	7611	7609S6	7610S6	7611S6	
8	2	Link Pin w/ Snap Ring ♦	*	316	317		316SS6	317SS6		
9	(Qty)	Bolt		1672 (4)	1672 (6)	1672 (8)	1672 (4)	1672 (6)	1672 (8)	
10	1	Lever Bar	Optional	Standard	340		340			
				16 inches	340L16		340L16			
				20 inches	340L20		340L20			
				24 inches	340L24		340L24			
				30 inches	340L30		340L30			
				36 inches	340L36		340L36			
11	2	Bolt		247		247				
12	2	Nut		241		241				
13	1	Lever Hub		7600	7601	7602	7600	7601	7602	
14	1	Ratio Plug	◇	332DEL	333DEL	334	2976SS6	2977SS6	2978SS6	
15	1	Stem	◇	326	327	328	326SS6	327SS6	328SS6	
16	1	Seal Retainer	◇	2949	1860	4268SS6	2949SS6	1860SS6	4268SS6	
17	2	O-Ring	◇ *	774HSN	329HSN	1872	774HSN	329HSN	1872	
18	2	Back Up	◇ *	1685	1870	1871	1685	1870	1871	
19	1	O-Ring	◇ *	265HSN	154HSN	154	265HSN	154HSN	154	
20	1	Bonnet		2948	4264	4265	2948‡	4264‡	4265‡	
21	1	Trunnion Hub	Old Style ◇	7403	7407	7454	7403S6	7407S6	7454S6	
			New Style ◇	7613S6	7614S6	7615S6	7613S6	7614S6	7615S6	
22	2	Link	◇	318SS6	319SS6		318SS6	319SS6		
23	1	Piston	◇	2950SS6	4266S6	4267SS6	2950SS6	4266S6	4267SS6	
24	1	O-Ring	◇ *	808HSN	802HSN	2083	808HSN	802HSN	2083	
25	1	Cylinder	◇	1679	1861	1865SS6	1679SS6	1861SS6	1865SS6	
26	1	O-Ring	◇ *	329HSN	330HSN	331	329HSN	330HSN	331HSN	
27	1	Body	NPT Angle	2384	2379	----	2384‡	2379‡	----	
			NPT Thru	3080	3086	----	3080‡	3086‡	----	
			150RF Angle	2385	2382	2383	2385‡	2382‡	2383‡	
			150RF Thru	3082	3087	3090	3082‡	3087‡	3090‡	
28	1	Cage	◇	304	305	306	2966SS6	2967SS6	2968SS6	
		Gasket / O-Ring	◇	----	----	----	7575	7576	920HSN	
		Optional	Cage	◇	1751	1759	1761	3097SS6	3098SS6	13099SS6
		Split Cage	Seat	◇ *	1752PH	1760PH	1762PH	1752SS6	1760SS6	1762SS6
29	1	Gasket	◇ *	276	277	309	276	277	309	
30	1	Seat	◇ *	7498HSN	7499HSN	----	7498HSN	7499HSN	----	
		Seat	◇ *	----	----	165HSN	----	----	165HSN	
		Seat Disc	◇	----	----	160	----	----	2994SS6	
31	1	Lock Nut	◇ *	173	906		173SS6	174SS6		
32	1	Set Screw		7608		7608				
	2	Lifting Ring (Not Shown)		----	7559		----	7559		
‡ Coated Parts available with "E" shell material										
Cage Assemblies		Standard Cage		CLA	CLB	CBU2	CLAS6	CLBS6	CBU2S6	
		Split Cage		CCS	CCW	----	CCS	CCW	----	
		◇ These parts are stocked as Cage Assemblies.								
Repair Kits				RNA	RNB	RNC		RNA	RNB	RNC
		* These parts are recommended spare parts and are stocked as repair kits.								

NOTES:



Kimray is an ISO 9001- certified manufacturer.

APPLICATIONS:

Oil and gas separators, water knockouts, and similar equipment where a mechanical to pneumatic interface is required to operate motor valves.

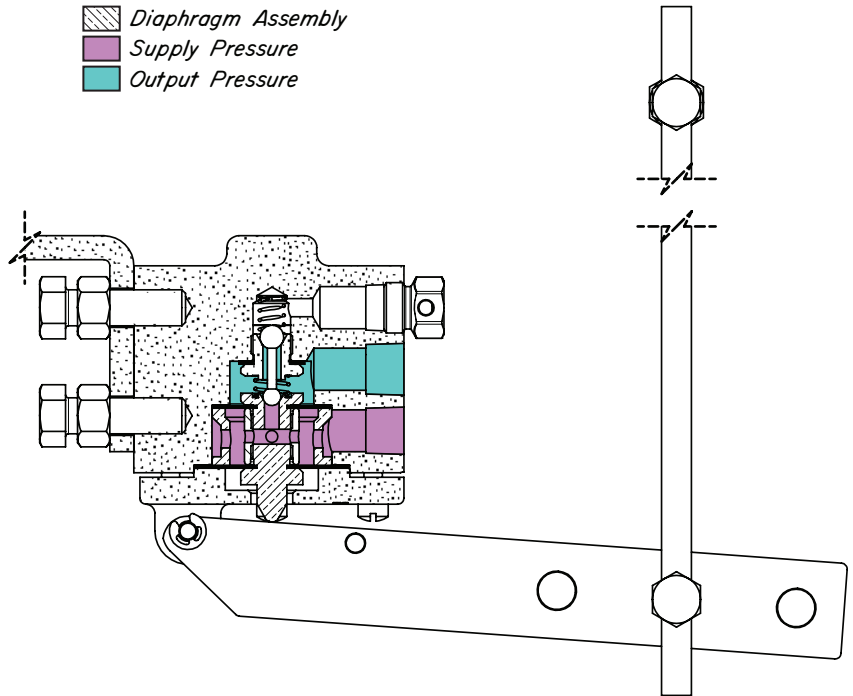
FEATURES:

- Direct float operated
- Snap or throttle action
- Field reversible

CERTIFICATIONS:

Kimray is an ISO 9001- certified manufacturer.

 Diaphragm Assembly
 Supply Pressure
 Output Pressure

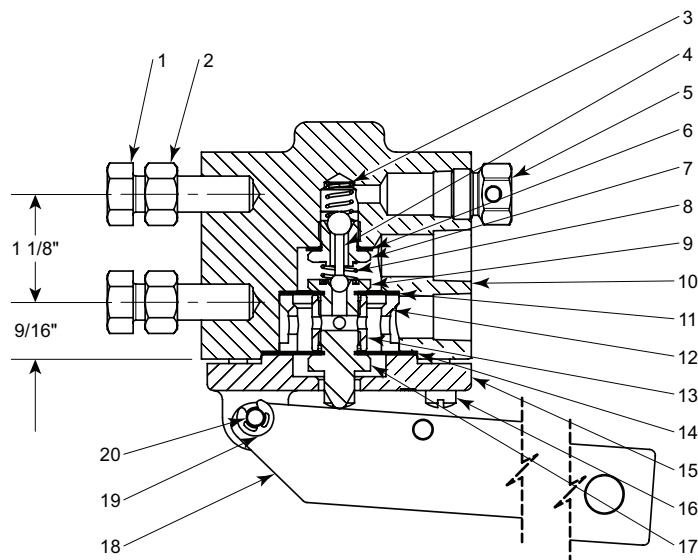


Float operated, 3 PM Pilot mounted on Kimray 8" Float Opening Cover.

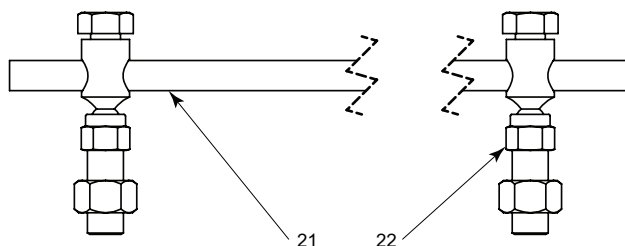
Standard Order Code	Description	Supply Pressure psig	Output Pressure psig	Max. W.P. ^{††} psig
CDA	3 PM	5 - 30	0 or Supply	30
NOTES:				
For standard & optional seals, metals, Cf Cv values, material specifications & dimensions see technical data on pages 03:I - 03:VI				
^{††} Max W.P. values based on -20°F to 100°F.				

LIQUID DUMP VALVES LEVER OPERATED

3 PM MECHANICAL PILOT



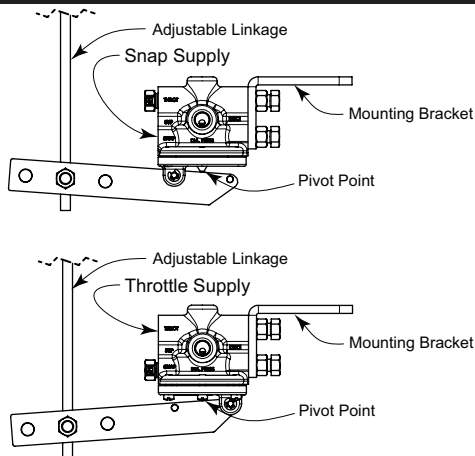
Adjustable Linkage (sold separately)



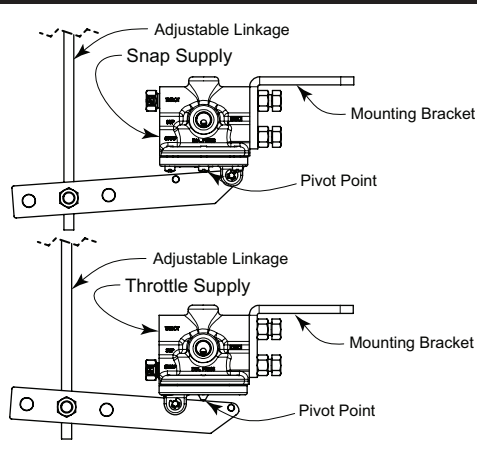
ITEM	QTY.	DESCRIPTION	PART NO.
1	2	3/8-16 Mounting Bolts	247
2	2	Nut	241
3	1	Spring	585L
4	1	Pilot Plug	112
5	1	Breather Plug	147
6	1	Gasket *	118
7	1	Seat	565
8	1	Spring	566
9	1	Seat	113
10	1	Body	592
11	1	Diaphragm *	584HSN
12	1	Spool	580
13	1	Spacer	581
14	1	Diaphragm *	583HSN
15	1	Cover	588
16	6	Screw	693
17	1	Button	590
18	1	Lever Bar	591
19	2	Snap Ring *	1181
20	1	Pin	589
Repair kit			RMN
* These parts are recommended spare parts & are stocked as repair kits.			
Adjustable Linkage (sold separately)			YTB
21	1	Rod	754
22	2	Ball joint	753

MOUNTING BRACKETS AVAILABLE	
Trunnion Description	Mounting Bracket
612 TO	903
812 TO	904
1012 TO	681
50 TOB-D	3035
25 TOB-D	3035
26 WA/26DM	1856

MECHANICAL PILOT INSTALLATION



ROD MOVEMENT	OUTPUT
Up	Supply Pressure
Down	Vented



ROD MOVEMENT	OUTPUT
Up	Vented
Down	Supply Pressure

All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.

APPLICATIONS:

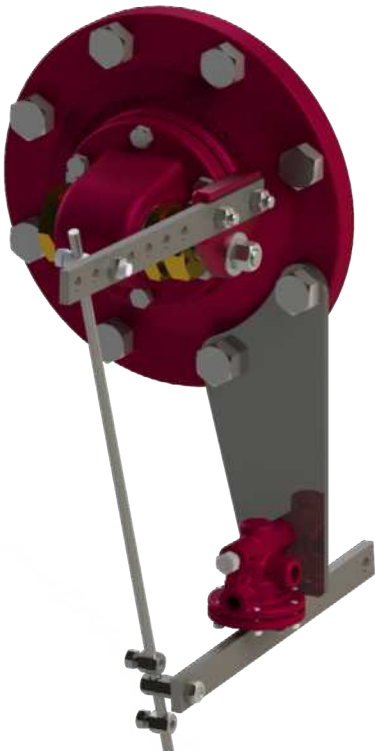
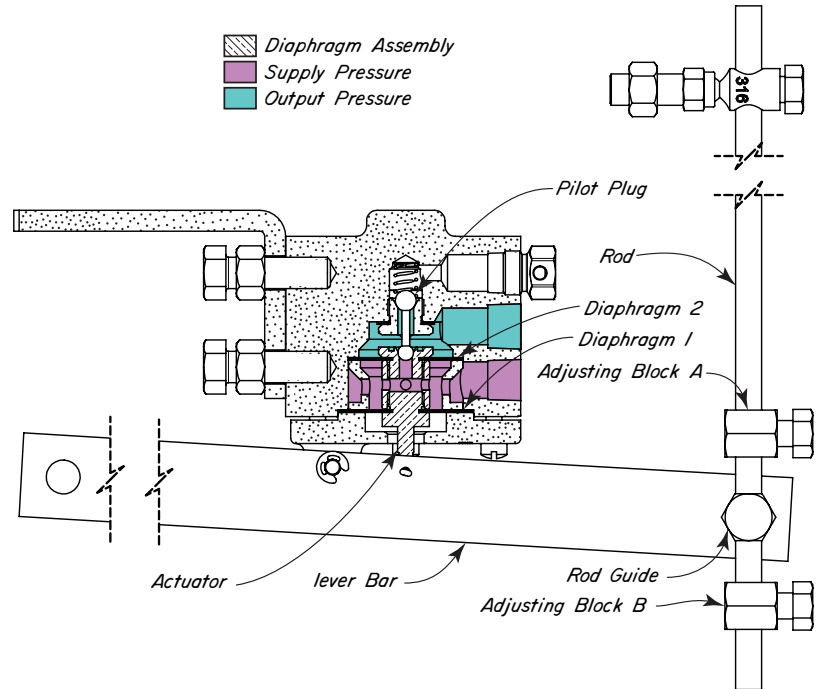
Oil and gas separators, knockouts, treaters and similar equipment where it is necessary to convert a mechanical dump into a wide span, snap, pneumatic signal.

FEATURES:

- Snap action
- Direct or indirect
- Intermittent vent pilot

CERTIFICATIONS:

Kimray is an ISO 9001- certified manufacturer.



Float operated, 3 PMB Pilot mounted on Kimray 6" Float Opening Cover.

Standard Order Code	Description	Supply Pressure psig	Output Pressure psig	Max. W.P. ^{††} psig
CDB	3 PMB	20 - 30	0 or Supply	30

NOTES:

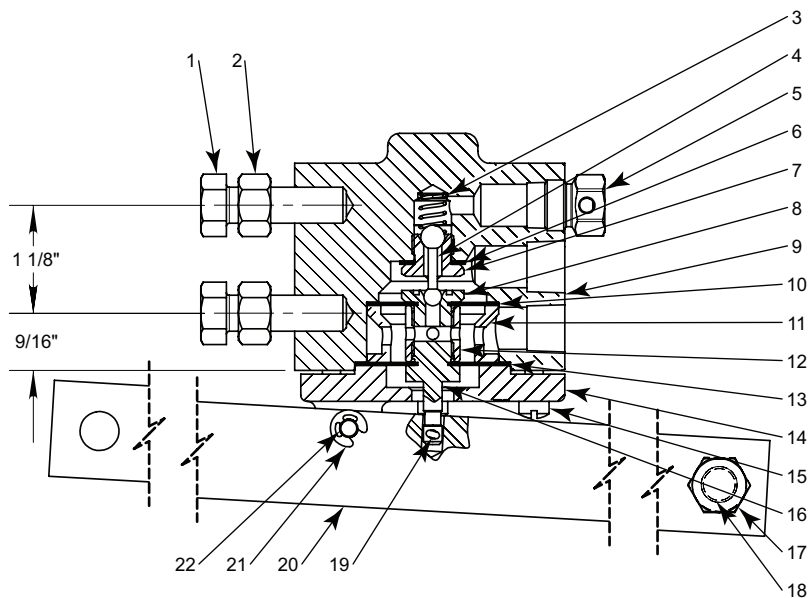
For standard & optional seals, metals, Cf Cv values, material specifications & dimensions see technical data on pages 03:I - 03:VI

^{††} Max W.P. values based on -20°F to 100°F.

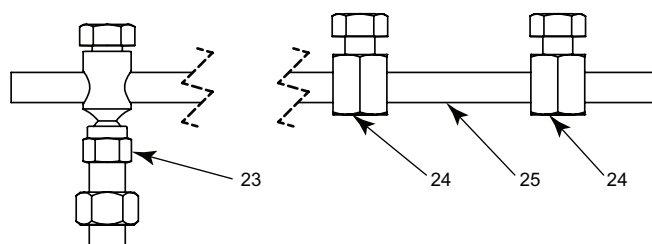
LIQUID DUMP VALVES LEVER OPERATED

3 PMB BI-STABLE MECHANICAL PILOT

KIMRAY INC.®



Turnbuckle Assembly (sold separately)

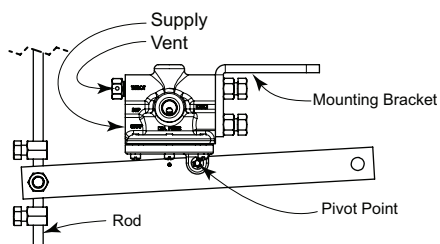


ITEM	QTY.	DESCRIPTION	PART NO.
1	2	3/8-16 Mounting Bolts	247
2	2	Nut	241
3	1	Spring	585L
4	1	Pilot Plug	112
5	1	Breather Plug	147
6	1	Gasket	* 118
7	1	Seat	565
8	1	Seat	113
9	1	Body	4151
10	1	Diaphragm	* 2619
11	1	Spool	2616
12	1	Spacer	581
13	1	Diaphragm	* 583HSN
14	1	Cover	588
15	6	Screw	693
16	1	Actuator	4149
17	1	Rod Guide	4154
18	1	Nut	173
19	1	Cotter Pin	* 363
20	1	Lever Bar	4148
21	2	Snap Ring	* 1181
22	1	Pin	589
Repair kit			RMK
* These parts are recommended spare parts & are stocked as repair kits.			
Turnbuckle Assembly (sold separately)			YTE
23	1	Ball joint	753
24	2	Adjusting Block	4153
25	1	Rod	754

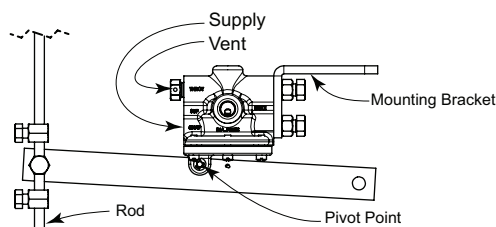
MOUNTING BRACKETS AVAILABLE	
Trunnion Description	Mounting Bracket
612 TO	1856
812 TO	3035
1012 TO	903
50 TOB-D	904
25 TOB-D	681

MECHANICAL PILOT INSTALLATION

INDIRECT



DIRECT



ROD MOVEMENT	OUTPUT
Up	Vented
Down	Supply Pressure

ROD MOVEMENT	OUTPUT
Up	Supply Pressure
Down	Vented

All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.

APPLICATIONS:

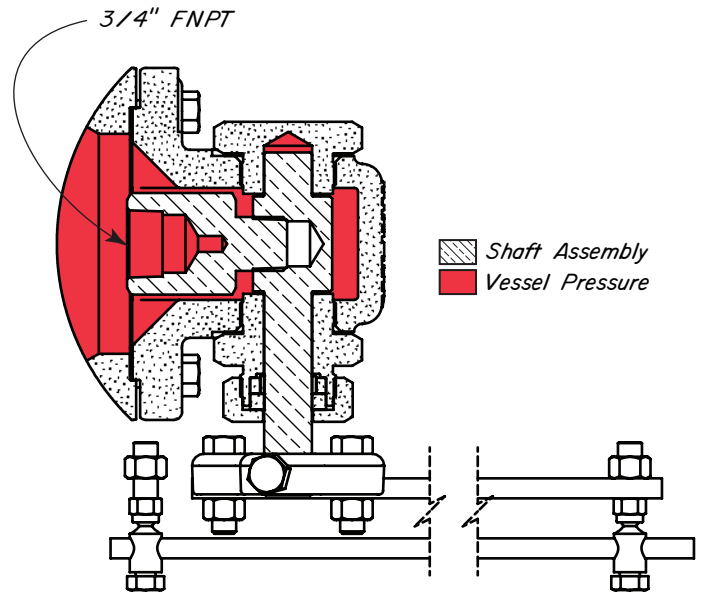
Used on oil and gas separators, freewater knockouts (FWKO), horizontal emulsion treaters and similar equipment where a float is desired to monitor fluid level.

FEATURES:

- Teflon packed rotary stuffing box
- Removable, bonnet type trunnion assembly
- 3/4" float arm hub
- ANSI 150 Flange
- 8" pipe x 5" long weldneck
- 8" ACME thread hammer union
- ASME code acceptable

CERTIFICATIONS:

Canadian Registration Number (CRN):
8" H.U. only: 0H13107.2134567890NTY
Kimray is an ISO 9001- certified manufacturer.



Standard Order Code	Description	Line Size	Connection Type	Max. W.P. psig ^{††}
CCA	612 TO-D	6"	150 RF	250
CCB	812 TO-D	8"		
CCC	1012 TO-D	10"		
CCT	850 HUTA	8"	Weld-neck	500
CCF	25 TOB-D	---	Bolt on	
CCG	50 TOB-S	---	Weld-up	

NOTES:

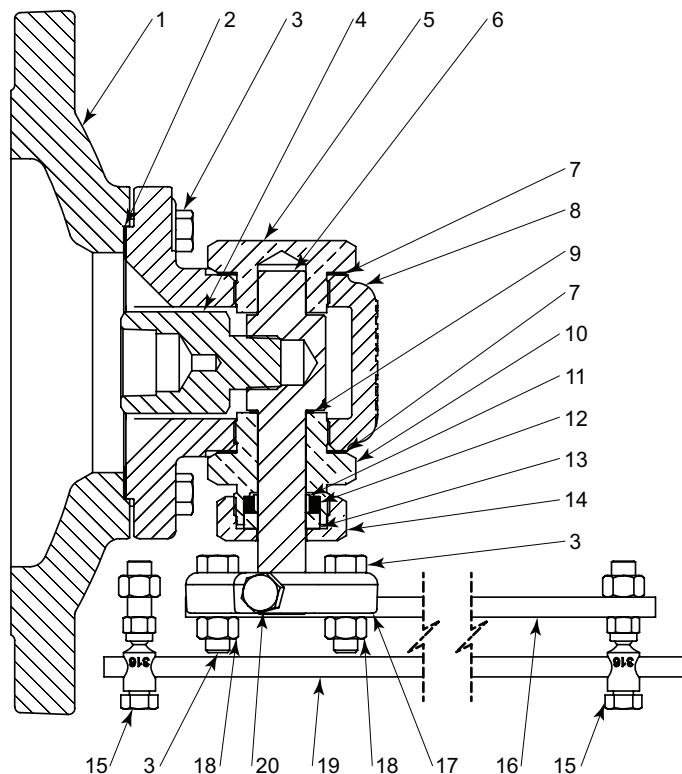
For standard & optional seals, metals, Cf Cv values, material specifications & dimensions see technical data on pages 03:I - 03:VI

^{††} Max W.P. values based on -20°F to 100°F.

LIQUID DUMP VALVES LEVER OPERATED

TRUNNION ASSEMBLY
MODEL 612, 812, 1012 TO-D

KIMRAY[®]



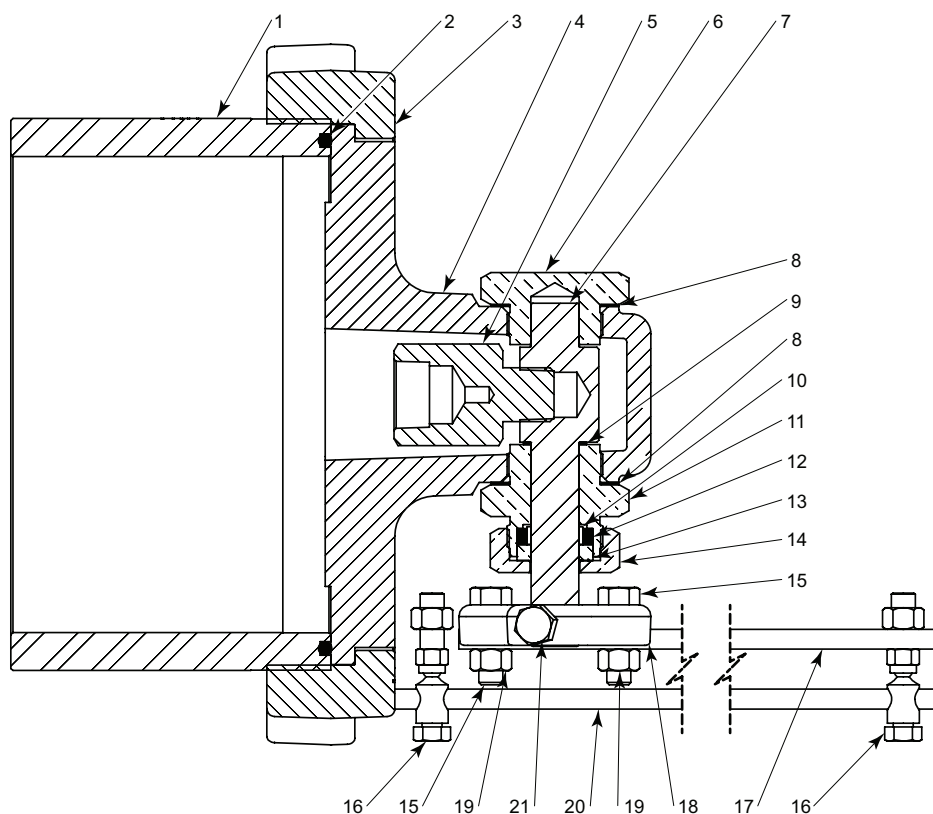
ITEM	QTY.	DESCRIPTION	PART NO.		
			6 inch	8 inch	10 inch
1	1	Cover	432	433	434
2	1	Gasket		437	
3	8	Bolt		247	
4	1	Float Arm Hub		7599	
5	1	Trunnion Plug		369	
6	1	Shaft		7606	
7	2	Gasket *		366	
8	1	Bonnet		7014	
9	1	Thrust Washer *		362	
10	1	Stuffing Box		359	
11	1	Packing *		356	
12	1	Pacing Ring *		353	
13	1	Packing Follower *		350	
14	1	Stuffing Box Nut		347	
15	2	Ball Joint		753	
16	1	Lever		340	
17	1	Lever Hub		7602	
18	2	Nut		241	
19	1	Linkage Rod		754	
20	1	Set Screw		7608	
		Repair Kits		REE	

* These parts are stocked as repair kits.

OPTIONAL WEIGHTED LEVER BARS & WEIGHTS			
ITEM	QTY.	DESCRIPTION	PART NO.
16	1	7 lb. Weight (not shown)	424
		9 lb. Weight (not shown)	425
		11 lb. Weight (not shown)	426
	1	24" Long Lever Bar	7591L24
		36" Long Lever Bar	7591L36
Ordered separately from item code			

OPTIONAL LONGER LEVER BARS			
ITEM	QTY.	DESCRIPTION	PART NO.
16	1	16" Long Lever Bar	340L16
		20" Long Lever Bar	340L20
		24" Long Lever Bar	340L24
	1	30" Long Lever Bar	340L30
		36" Long Lever Bar	340L36
		Ordered separately from item code	

All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.



ITEM	QTY.	DESCRIPTION	PART NO.
1	1	5" Long Weld Neck	2757L5
		8" Long Weld Neck	2757L8
		15" Long Weld Neck	2757L15
2	1	O-Ring *	2758
3	1	Hammer Union Nut	2756
4	1	Bonnet	4085
5	1	Float Arm Hub	7599
6	1	Trunnion Plug	369
7	1	Shaft	7606
8	2	Gasket *	366
9	1	Thrust Washer *	362
10	1	Packing *	356
11	1	Stuffing Box	359
12	1	Packing Ring *	353
13	1	Packing Follower *	350
14	1	Stuffing Box Nut	347
15	2	Bolt	247
16	2	Ball Joint	753
17	1	Lever	340
18	1	Lever Hub	7602
19	2	Nut	241
20	1	Linkage Rod	754
21	1	Set Screw	7608
Repair Kits			REE

* These parts are stocked as repair kits.

OPTIONAL WEIGHTED LEVER BARS & WEIGHTS			
ITEM	QTY.	DESCRIPTION	PART NO.
17	1	7 lb. Weight (not shown)	424
		9 lb. Weight (not shown)	425
		11 lb. Weight (not shown)	426
	1	24" Long Lever Bar	7591L24
		36" Long Lever Bar	7591L36
Ordered separately from item code			

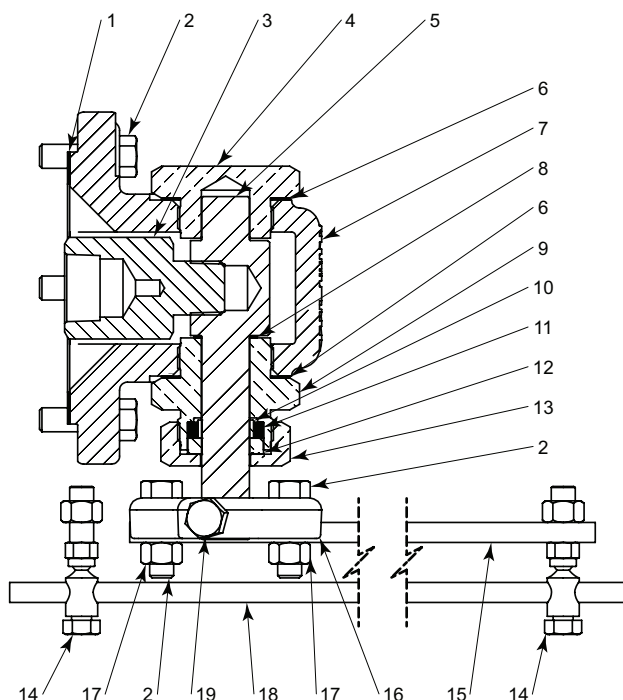
OPTIONAL LONGER LEVER BARS			
ITEM	QTY.	DESCRIPTION	PART NO.
17	1	16" Long Lever Bar	340L16
		20" Long Lever Bar	340L20
		24" Long Lever Bar	340L24
	1	30" Long Lever Bar	340L30
		36" Long Lever Bar	340L36
Ordered separately from item code			

All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.

LIQUID DUMP VALVES LEVER OPERATED

TRUNNION ASSEMBLY MODEL 25 TOB

KIMRAY
INC.®



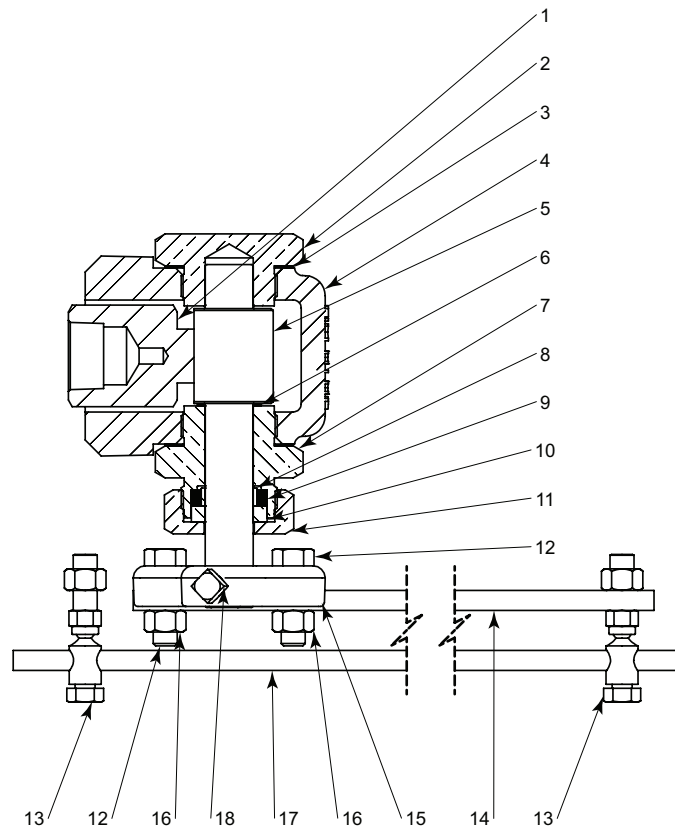
ITEM	QTY.	DESCRIPTION	PART NO.	
			STANDARD	316 SS6
1	1	Gasket		437
2	8	Bolt		247
3	1	Float Arm Hub	7599	7599S6
4	1	Trunnion Plug	369	369S6
5	1	Shaft	7606	7606S6
6	2	Gasket *		366
7	1	Bonnet		436
8	1	Thrust Washer *		362
9	1	Stuffing Box	359	359SS6
10	1	Packing *		356
11	1	Packing Ring *		353
12	1	Packing Follower *	350	350SS6
13	1	Stuffing Box Nut	347	347SS6
14	2	Ball Joint		753
15	1	Lever		340
16	1	Lever Hub		7602
17	2	Nut		241
18	1	Linkage Rod		754
19	1	Set Screw		7608
Repair Kits				REE

* These parts are stocked as repair kits.

OPTIONAL WEIGHTED LEVER BARS & WEIGHTS			
ITEM	QTY.	DESCRIPTION	PART NO.
15	1	7 lb. Weight (not shown)	424
		9 lb. Weight (not shown)	425
		11 lb. Weight (not shown)	426
	1	24" Long Lever Bar	7591L24
		36" Long Lever Bar	7591L36
Ordered separately from item code			

OPTIONAL LONGER LEVER BARS			
ITEM	QTY.	DESCRIPTION	PART NO.
15	1	16" Long Lever Bar	340L16
		20" Long Lever Bar	340L20
		24" Long Lever Bar	340L24
	1	30" Long Lever Bar	340L30
		36" Long Lever Bar	340L36
Ordered separately from item code			

OPTIONAL ADAPTER PLATE	
DESCRIPTION	PART NO.
6" O.D. x 1" Thick plate for welding applications	705
Ordered separately from item code	



ITEM	QTY.	DESCRIPTION	PART NO.	
			STANDARD	316 SS6
1	1	Float Arm Hub	7599	7599SS6
2	1	Trunnion Plug	369	369SS6
3	2	Gasket *	366	
4	1	Bonnet	2010	2010SS6
5	1	Shaft	7606	7606SS6
6	1	Thrust Washer *	362	
7	2	Stuffing Box	347	347SS6
8	1	Packing *	356	
9	1	Packing Ring *	353	
10	1	Packing Follower *	350	350SS6
11	1	Stuffing Box Nut	359	359SS6
12	2	Bolt	247	
13	2	Ball Joint	753	
14	1	Lever	340	
15	1	Lever Hub	7602	
16	2	Nut	241	
17	1	Linkage Rod	754	
18	1	Set Screw	7608	
Repair Kits			REE	

* These parts are stocked as repair kits.

OPTIONAL WEIGHTED LEVER BARS & WEIGHTS			
ITEM	QTY.	DESCRIPTION	PART NO.
14	1	7 lb. Weight (not shown)	424
		9 lb. Weight (not shown)	425
		11 lb. Weight (not shown)	426
	1	24" Long Lever Bar	7591L24
		36" Long Lever Bar	7591L36

Ordered separately from item code

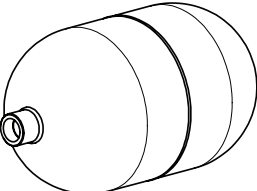
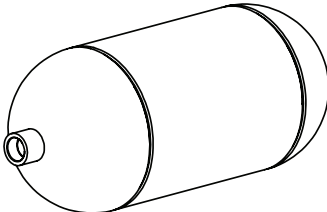
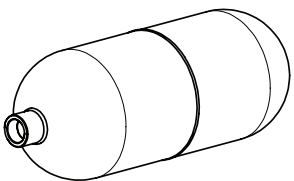
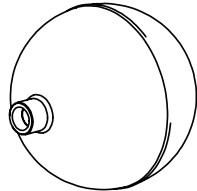
OPTIONAL LONGER LEVER BARS			
ITEM	QTY.	DESCRIPTION	PART NO.
14	1	16" Long Lever Bar	340L16
		20" Long Lever Bar	340L20
		24" Long Lever Bar	340L24
	1	30" Long Lever Bar	340L30
		36" Long Lever Bar	340L36

Ordered separately from item code

NOTES:



Kimray is an ISO 9001- certified manufacturer.

Floats for Trunnion Assemblies						
	Part Number	Size	Material	Weight (oz)	Displacement in Water (oz)	Max. Working Pressure
	4009S4	7in. x 12 in	304SS	100	214.9	600 psig
	4009S6	7in. x 12 in	316SS	100	214.9	600 psig
	7143S4	7in. x 16 in	304SS	100	305.6	275 psig
	5581S4	5 1/2in x 14in	304SS	63	166	350 psig
	7564S6	5 1/2in x 14in	316SS	63	166	350 psig
	2822S4	7 3/4in	304SS	53	141	250 psig
Float Arms for Trunnion Assemblies						
	4041	12 in.	All float arms are made of 3/4" NPT Schedule 40 ASTM A53.			
	4041L14	14 in.				
	4041L16	16 in.				
	4041L18	18 in.				
	4041L24	24 in.				
	4041L31	31 in.				

NOTES:



Kimray is an ISO 9001- certified manufacturer.

APPLICATIONS:

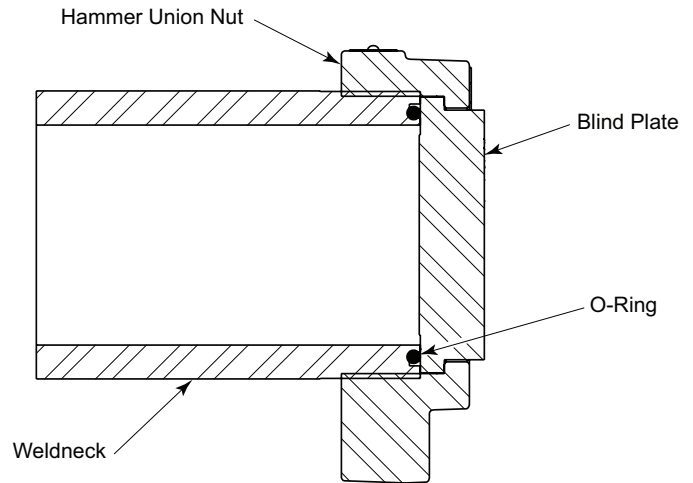
Used as an access opening for pressure vessels.

FEATURES:

- SA-106 Grade C pipe
- Heat specifications available for coding purposes
- Standard ACME thread on pipe and Hammer Union Nut for easy access
- O-Ring seal (Nitrile)
- Other weldneck lengths available on request

CERTIFICATIONS:

Canadian Registration Number (CRN):
0H065..2134567890NTY
Kimray is an ISO 9001- certified manufacturer.



HAMMER UNION CLOSURES WITH STANDARD ACME THREADS									
Cat No.	Valve	Pipe Size	Max. W.P.	Weldneck	Pipe Desc.	O-Ring	Blind Plate	Thickness	H.U. Nut
CCI	450	4"	500	4237	4" Sch 80, 5"	4238	6653	1"	2734
CCJL4	4150HUC	4"	1,500	4119L4	4" Sch 160, 4"	2745	2735	1"	2734
CCJL5	4150HUC	4"	1,500	4119L5	4" Sch 160, 5"	2745	2735	1"	2734
CCJL6	4150HUC	4"	1,500	4119L6	4" Sch 160, 6"	2745	2735	1"	2734
CCJL8	4150HUC	4"	1,500	4119L8	4" Sch 160, 8"	2745	2735	1"	2734
CCJL10	4150HUC	4"	1,500	4119L10	4" Sch 160, 10"	2745	2735	1"	2734
CCLL8	5150HUC	5"	1,500	2737L8	5" Sch 160, 8"	1177	2738	1 1/4"	2736
CCLL6	5150HUC	5"	1,500	4120	5" Sch 160, 6"	1177	2738	1 1/4"	2736
CCML6	6100HUC	6"	1,000	2760L6	6" Sch 160, 6"	2764	6654	1 1/4"	2759
CCML8	6100HUC	6"	1,000	2760L8	6" Sch 160, 8"	2764	6654	1 1/4"	2759
CCML10	6100HUC	6"	1,000	2760L10	6" Sch 160, 10"	2764	6654	1 1/4"	2759
CCRL6	6150HUC	6"	1,500	2760L6	6" Sch 160, 6"	2764	2761	1 1/4"	4532
CCRL8	6150HUC	6"	1,500	2760L8	6" Sch 160, 8"	2764	2761	1 1/4"	4532
CCRL10	6150HUC	6"	1,500	2760L10	6" Sch 160, 10"	2764	2761	1 1/4"	4532
CCNL5	8100HUC	8"	1,000	2757L5	8" Sch 100, 5"	2758	2927	1 1/4"	2756
CCNL8	8100HUC	8"	1,000	2757L8	8" Sch 100, 8"	2758	2927	1 1/4"	2756
CDQL5	8150HUC	8"	1,500	2757L5	8" Sch 100, 5"	2758	2928	1 1/2"	3040
CDQL8	8150HUC	8"	1,500	2757L8	8" Sch 100, 8"	2758	2928	1 1/2"	3040
CDQL12	8150HUC	8"	1,500	2757L12	8" Sch 100, 12"	2758	2928	1 1/2"	3040
CDQL15	8150HUC	8"	1,500	2757L15	8" Sch 100, 15"	2758	2928	1 1/2"	3040
CDRL5	8150HUC	8"	1,500	6410L5	8" Sch 120, 5"	2758	2928	1 1/2"	3040
CDRL8	8150HUC	8"	1,500	6410L8	8" Sch 120, 8"	2758	2928	1 1/2"	3040
CDRL12	8150HUC	8"	1,500	6410L12	8" Sch 120, 12"	2758	2928	1 1/2"	3040

HAMMER UNION CLOSURES WITH UNIFIED THREADS									
Cat No.	Valve	Pipe Size	Max. W.P.	Weldneck	Pipe Desc.	O-Ring	Blind Plate	Thickness	H.U. Nut
CDKL8	4150HUC	4"	1,500	2902	4" Sch 160, 8"	2745	2735	1"	2901

BLIND PLATES AVAILABLE					
Blind Plate	Pipe Size	Max. W.P.	Thickness	Contains	
4295	4"	1,500	1"	2" NPT	
4347	4"	1,500	1"	1/2" NPT	
5173	4"	1,500	1"	1" NPT	
5176	3"	1,500	1"	Yale Union 2" NPT	
5435	4"	1,500	1"	9/16"-18 thd	
6001	4"	1,500	1"	1" NPT	
6653	4"	500	1"	Plate	
6889	5"	1,500	1 1/4"	2" NPT	
7071	6"	1500	1 1/4"	2" NPT	
5089	8"	1,500	1 5/8"	2" NPT	
6939	8"	1,000	1 1/4"	2" NPT	

NOTES:



Kimray is an ISO 9001- certified manufacturer.

Table 1 - Flow Coefficient(Cv) for Lever Operated Dump Valves													
Line Size	Trim Size in. (mm)	Trim Type	Cf	Valve Opening Percentage									
				10	20	30	40	50	60	70	80	90	100
LD - Diaphragm Balanced													
2"	1 1/2 in (38mm)	Linear (Nominal)	0.79	5.0	8.5	11.7	14.6	17.0	19.0	20.5	21.6	22.6	23.3
3"	2 1/4 in (57 mm)		0.79	6.7	11.1	15.6	20.3	24.8	29.2	33.4	37.2	40.7	43.8
4"	3 in (76 mm)		0.79	12.0	18.9	25.8	32.8	39.9	46.9	53.7	60.0	65.7	70.1
6"	4.88 in (124 mm)		0.79	14.2	21.0	31.6	61.2	98.3	139.0	179.7	217.6	250.2	277.0
LP - Piston Balanced Throttling													
2"	1 1/2 in (38mm)	Linear (Nominal)	0.75	3.5	5.0	7.4	9.6	11.8	13.9	16.2	18.4	20.4	22.7
	2 in (51 mm)		0.75	6.6	12.3	18.4	24.2	29.5	34.1	38.0	41.2	44.0	47.0
3"	3 in (76 mm)		0.75	12.7	18.7	29.0	41.0	52.9	63.4	71.9	78.4	83.7	89.0
LB - Piston Balanced													
2"	2 in (51 mm)	Linear (Nominal)	0.79	5.0	8.5	11.7	14.6	17.0	19.0	20.5	21.6	22.6	23.3
3"	3 in (76 mm)		0.79	6.7	11.1	15.6	20.3	24.8	29.2	33.4	37.2	40.7	43.8
4"	4 in (76 mm)		0.79	12.0	18.9	25.8	32.8	39.9	46.9	53.7	60.0	65.7	70.1

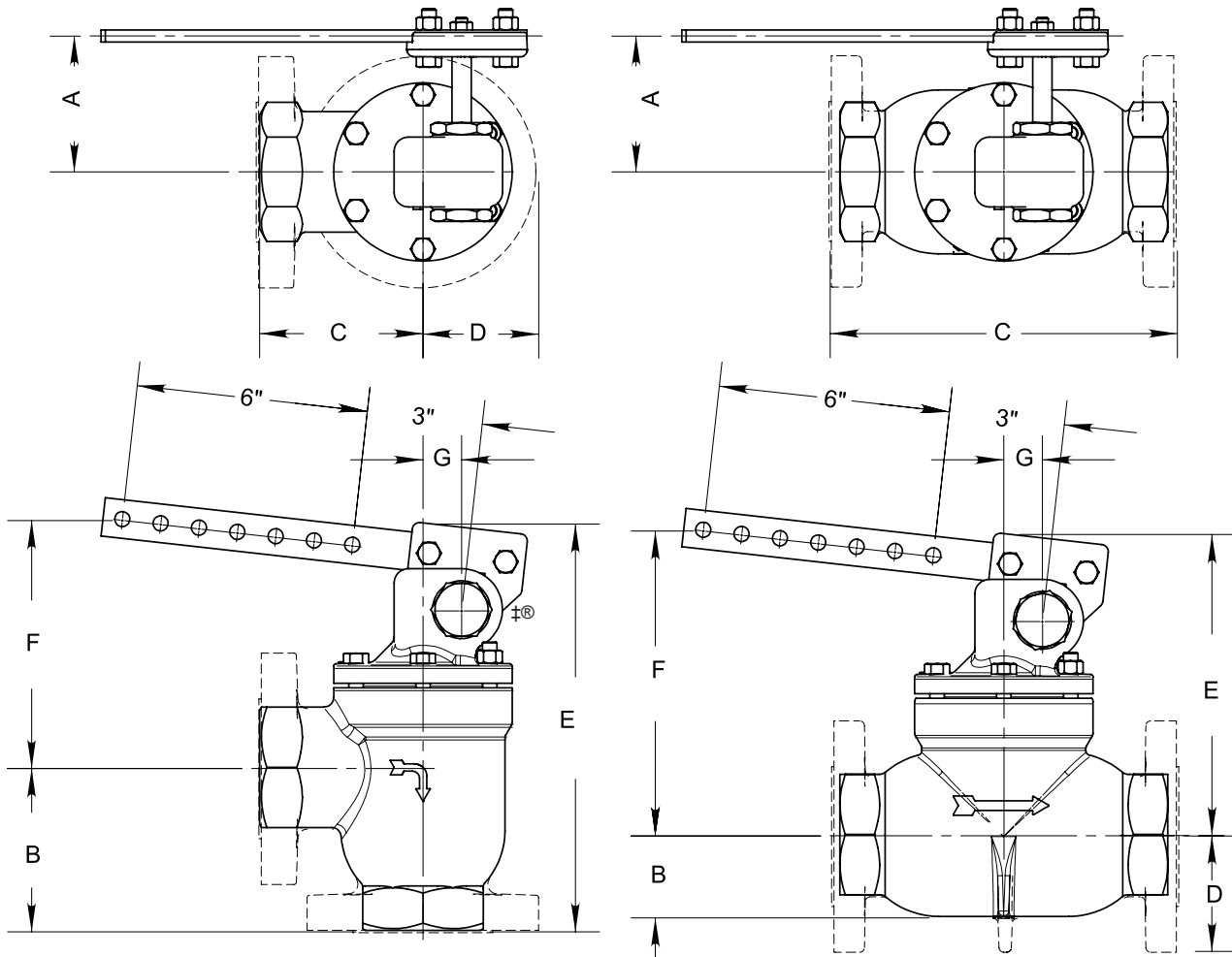
Kimray flow equations conform to ANSI/ISA - 75.01.01-2002
 Kimray inherent flow characteristics conform to ANSI/ISA 75.11.01 -1985

LIQUID DUMP VALVES LEVER OPERATED

KIMRAY[®] INC.

DIMENSIONS

MODEL: LD & LP

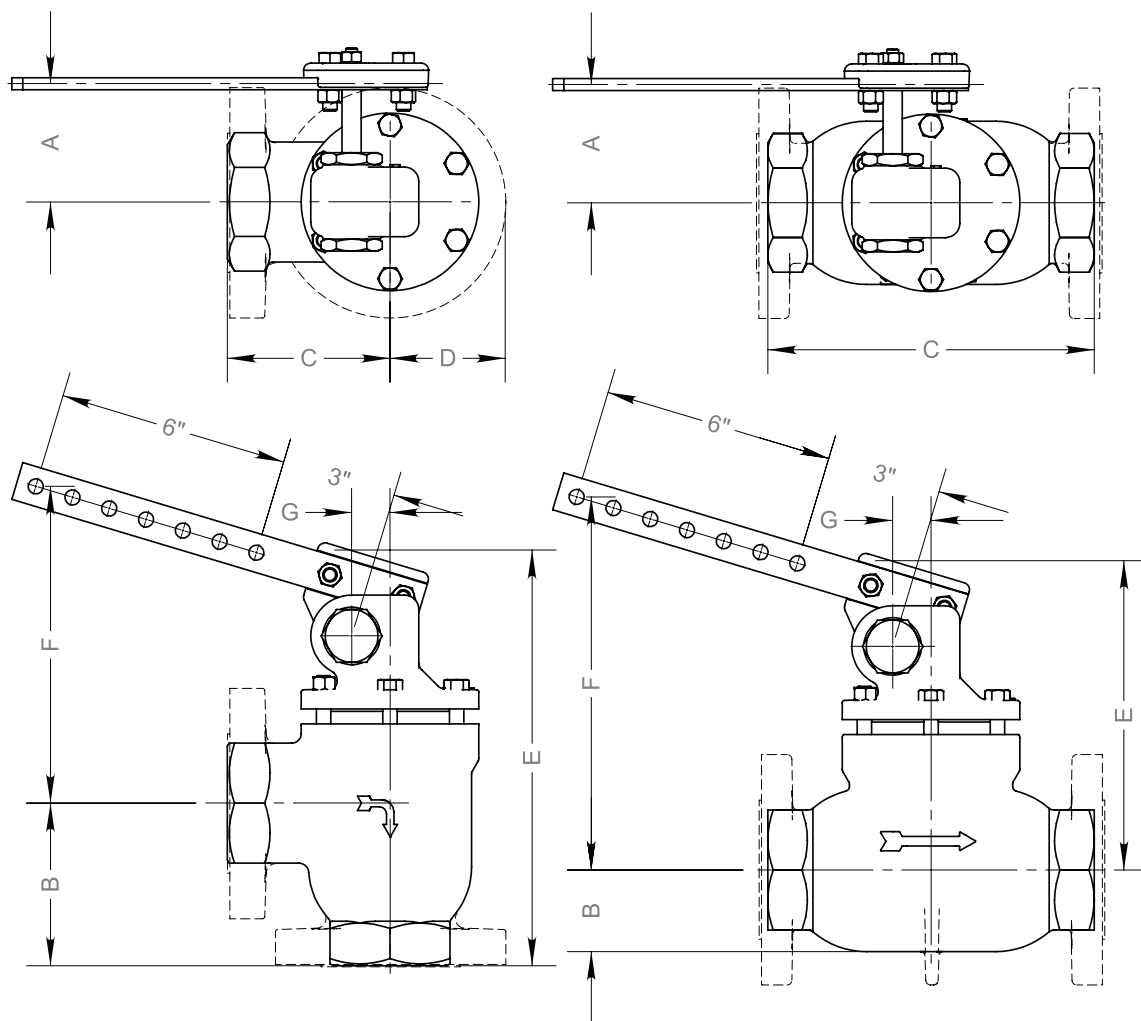


LINE SIZE	MATERIAL	BODY TYPE & END CONNECTION	A	B	C	D	E	F	G
2 in	DUCTILE	NPT / ANGLE	3 3/4 in	4 1/4 in	4 1/4 in	3 in	10 5/8 in	6 3/4 in	1 in
		NPT / THRU	3 11/16 in	2 1/8 in	8 1/2 in	3 in	7 7/8 in	8 1/4 in	1 in
		FLANGED / ANGLE	3 3/4 in	4 1/4 in	4 1/4 in	3 in	10 5/8 in	6 3/4 in	1 in
		FLANGED / THRU	3 11/16 in	2 1/8 in	9 in	3 in	7 7/8 in	8 1/4 in	1 in
	STEEL	FLANGED / ANGLE	3 3/4 in	4 5/16 in	4 5/16 in	3 in	10 7/8 in	6 3/4 in	1 in
		FLANGED / THRU	3 11/16 in	2 1/8 in	9 1/8 in	3 in	7 7/8 in	8 1/4 in	1 in
3 in	DUCTILE	NPT / ANGLE	3 3/4 in	6 1/8 in	5 1/2 in	3 3/4 in	13 13/16 in	7 1/8 in	1 3/8 in
		NPT / THRU	3 3/4 in	2 7/8 in	12 in	3 3/4 in	9 9/16 in	8 15/16 in	1 3/8 in
		FLANGED / ANGLE	3 3/4 in	5 1/2 in	5 1/2 in	3 3/4 in	13 3/16 in	7 1/8 in	1 3/8 in
		FLANGED / THRU	3 3/4 in	2 7/8 in	12 3/16 in	3 3/4 in	9 9/16 in	8 15/16 in	1 3/8 in
		GROOVED / ANGLE	3 3/4 in	5 1/2 in	5 1/2 in	3 3/4 in	13 13/16 in	7 1/8 in	1 3/8 in
	STEEL	FLANGED / ANGLE	3 3/4 in	5 1/2 in	5 1/2 in	3 3/4 in	13 3/8 in	8 15/16 in	1 3/8 in
4 in	DUCTILE	FLANGED / ANGLE	3 3/4 in	6 1/2 in	6 1/2 in	4 1/2 in	15 in	9 1/4 in	1 3/8 in
		FLANGED / THRU	3 13/16 in	3 11/16 in	15 in	4 1/2 in	10 9/16 in	11 1/2 in	1 3/8 in
	STEEL	FLANGED / ANGLE	3 3/4 in	6 1/2 in	6 1/2 in	4 1/2 in	15 1/16 in	9 1/4 in	1 3/8 in
6 in	DUCTILE	FLANGED / ANGLE	4 1/16 in	10 1/4 in	7 11/16 in	5 1/2 in	21 5/8 in	12 5/8 in	1 5/8 in
		FLANGED / THRU	4 1/16 in	4 7/8 in	22 1/16 in	5 1/2 in	14 7/8 in	16 1/16 in	1 5/8 in
	STEEL	FLANGED / ANGLE	4 1/16 in	10 1/4 in	7 3/4 in	5 1/2 in	21 7/16 in	12 5/8 in	1 5/8 in

FLANGE DIMENSIONS ARE ANSI 125/150 STANDARD.

All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.
 ‡ Configuration of Mechanical Oil Valve is a trademark of Kimray, Inc.

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LINE SIZE	MATERIAL	BODY TYPE & END CONNECTION	A	B	C	D	E	F	G
2 in	DUCTILE	NPT / ANGLE	3 3/4 in	4 1/4 in	4 1/4 in	2 5/16 in	11 in	7 15/16 in	1 in
		NPT / THRU	3 11/16 in	2 1/8 in	8 1/2 in	2 5/16 in	8 3/16 in	9 3/8 in	1 in
		FLANGED / ANGLE	3 11/16 in	4 1/4 in	4 1/4 in	3 in	8 3/16 in	9 3/8 in	1 in
3 in	DUCTILE	NPT / ANGLE	3 3/4 in	6 1/8 in	5 1/2 in	3 1/16 in	14 1/16 in	10 1/4 in	1 3/8 in
		FLANGED / ANGLE	3 3/4 in	5 1/2 in	5 1/2 in	3 3/4 in	13 3/16 in	10 1/4 in	1 3/8 in

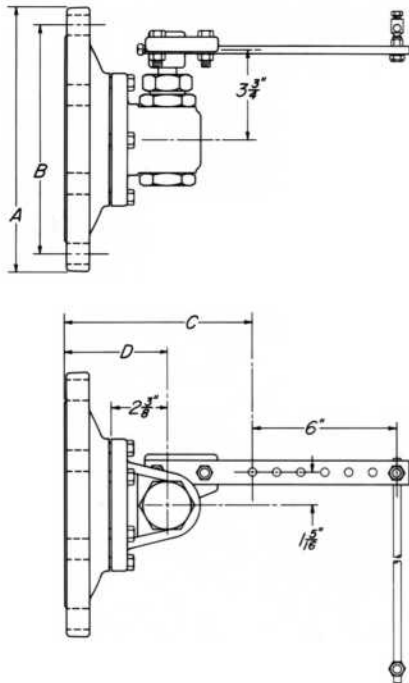
FLANGE DIMENSIONS ARE ANSI 125/150 STANDARD.

LIQUID DUMP VALVES LEVER OPERATED

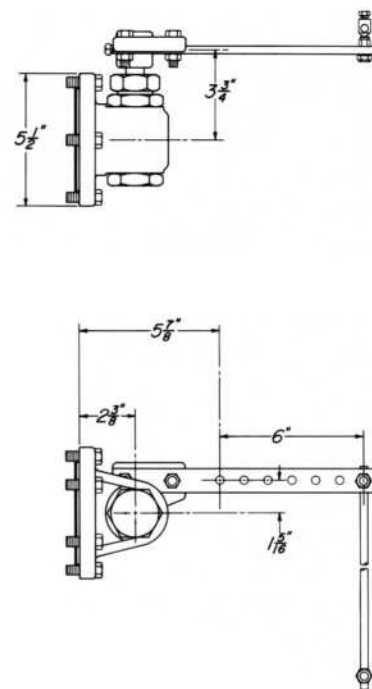
KIMRAY INC.®

DIMENSIONS TRUNNION ASSEMBLY

612, 812 & 1012 TO-D



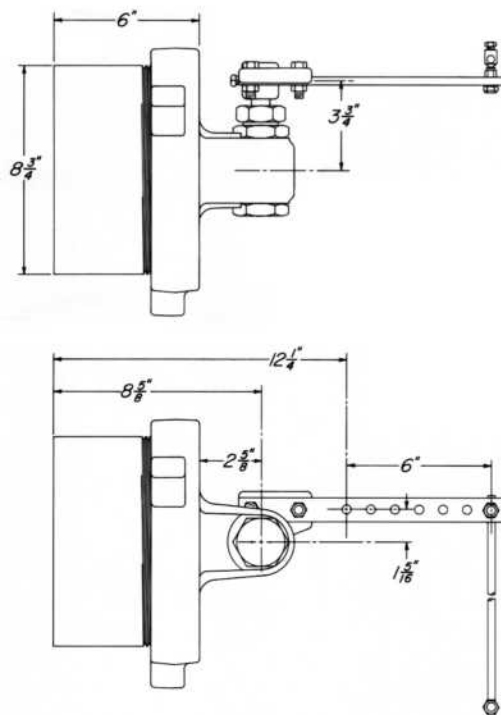
25 TOB



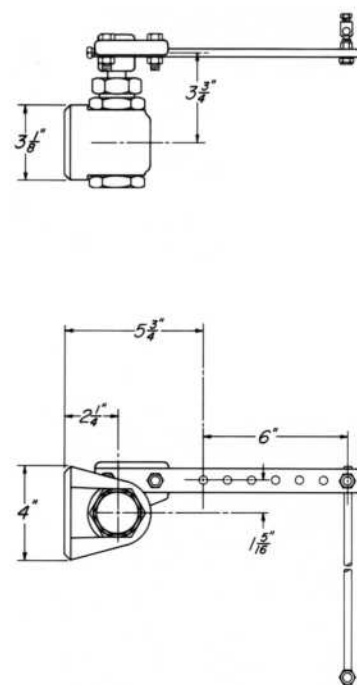
SIZE	NUMBER	A	B	C	D	No. SIZE OF BOLTS
6	612 TO	11 in	9 1/2 in	7 1/4 in	4 1/4 in	8 3/4 x 3 1/2
8	812 TO	13 1/2 in	11 3/4 in	7 1/4 in	4 1/4 in	8 3/4 x 3 1/2
10	6 1/8 in	16 in	14 1/4 in	7 1/2 in	4 1/2 in	12 7/8 x 3 1/2

All dimensions are in inches.

HUTA



50 TOB-S



All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.

Table 2 - Seal Options Dump Valves

Part	Standard Material	Optional Material
O-rings	HSN	FKM
Diaphragm	HSN	FKM
Seat	HSN	FKM

Table 3 - Seal Options Trunnion Assemblies

Part	Standard Material	Optional Material
O-rings	HSN	FKM

Table 4 - Seal Specifications

		HIGHLY SATURATED NITRILE	FKM
	Kimray Suffix	HSN	V
Resistance	Abrasion	G-E	G
	Acid	G-E	G-E
	Chemical	F	E
	Cold	G	P
	Flame	P	E
	Heat	E	E
	Oil	E	E
	Ozone	G	G-E
	Set	G	G-E
	Tear	F	F
	Water/Steam	E	P
	Weather	G	E
	CO2	G	G
	H2S	F	P
	Methanol	E	P
Properties	Dynamic	G	G
	Electrical	F	F
	Impermeability	G	G
	Tensile Strength	G-E	G
Temp. Range	-20° to +300°F	-15° to +400°F	
	-29° to +149°C	-26° to +204°C	
RATINGS: P-POOR, F-FAIR, G-GOOD, E-EXCELLENT			

Table 5 - Material Options Diaphragm Balanced Dump Valves

Part Description	Standard Material	Corrosive Material
Body	Ductile (ASTM A395)	Ductile (ASTM A395) + Kimcoat
Ratio Plug	2 & 3 inch Delrin (ASTM D4181), 4 & 6 inch Ductile (ASTM A395)	316SS (ASTM A351)
Cage	2 & 3 inch Delrin (ASTM D4181), 4 & 6 inch Ductile (ASTM A395)	316SS (ASTM A351)
Stuffing Box	2 & 3 inch 303SS (ASTM A582), 4 & 6 inch Brass (ASTM B-16)	316SS (ASTM A479)
Bonnet	Ductile (ASTM A395)	Ductile (ASTM A395) + Kimcoat
Seat Disc	4 & 6 inch Ductile (ASTM A395)	4 inch 316SS (ASTM A351)
Stem	2, 3 & 4 inch 303SS (ASTM A582), 6 inch 316SS (ASTM A213)	316SS (ASTM A351)

Table 6 - Material Options Piston Balanced Throttling Dump Valves

Part Description	Standard Material	Corrosive Material
Body	Ductile (ASTM A395)	Ductile (ASTM A395) + Kimcoat
Ratio Plug Full Port	2 inch 316 Powder Metal (ASTM 316-N1-25), 3 inch Powder Metal (F-008)	316 Powder Metal (ASTM 316-N1-25)
Stuffing Box	303SS (ASTM A582)	316SS (ASTM A479)
Bonnet	Ductile (ASTM A395)	Ductile (ASTM A395) + Kimcoat
Stem	303SS (ASTM A582)	316SS (ASTM A484)
Piston	2 inch 316SS (ASTM A484) , 2 inch reduced & 3 inch 303SS (ASTM A582)	316SS (ASTM A484)
Cylinder	303SS (ASTM A582)	316SS (ASTM A484)

Table 7 - Material Options Piston Balanced Dump Valves

Part Description	Standard Material	Corrosive Material
Body	Ductile (ASTM A395)	Ductile (ASTM A395) + Kimcoat
Ratio Plug	2 & 3 inch Delrin (ASTM D4181), 4 inch Ductile (ASTM A395)	316SS (ASTM A351)
Cage	Ductile (ASTM A395)	316SS (ASTM A351)
Stuffing Box	2 & 3 inch 303SS (ASTM A582), 4 inch Brass (ASTM B-16)	316SS (ASTM A479)
Bonnet	Ductile (ASTM A395)	Ductile (ASTM A395) + Kimcoat
Seat Disc	4 inch Ductile (ASTM A395)	4 inch 316SS (ASTM A351)
Stem	303SS (ASTM A582)	316SS (ASTM A479)
Piston	316SS (ASTM A351)	316SS (ASTM A351)
Cylinder	2 & 3 inch 303SS (ASTM A582), 4 inch 316SS (ASTM A351)	316SS (ASTM A249)

Table 8 - Material Options Trunnion Assemblies

Part Description	Standard Material	Corrosive Material
Bonnet	Ductile (ASTM A395)	
Plate	Steel SA515 Grade 70 Plate	
Stuffing Box	Brass B-16 C-36000 HO2	316SS (ASTM A479)
Union Nut	Ductile (ASTM A395)	
Weld Neck	Schedule 100 Pipe ASTM A-106 grade C	