

LIQUID DUMP VALVES

LEVER OPERATED



KIMRAY
INC.®

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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

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

Inner Valve Size:

F = Full Port
 R = Reduced Port (LP only)

Actuator:

L = Lever Operated

Service Type:

S = Standard
 C = Corrosive
 K = Corrosive with Coated Shell Components

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.

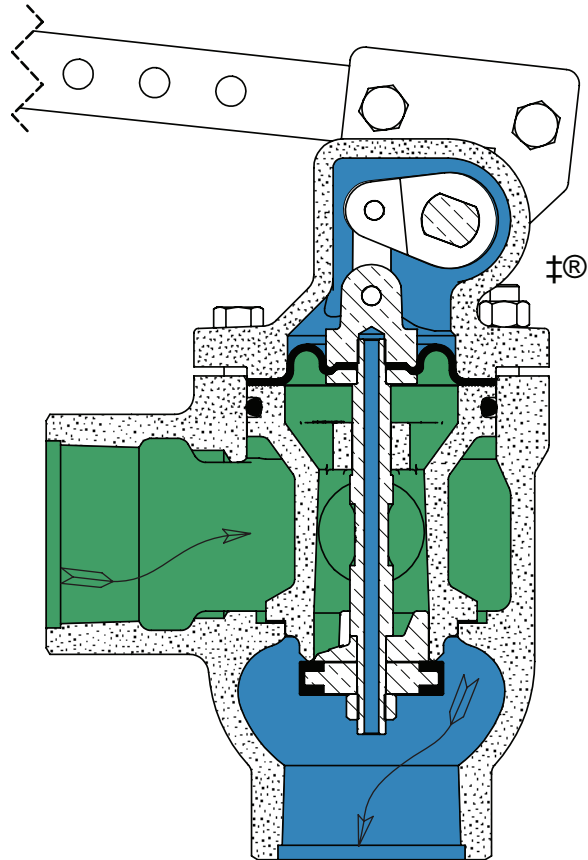
FEATURES:

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



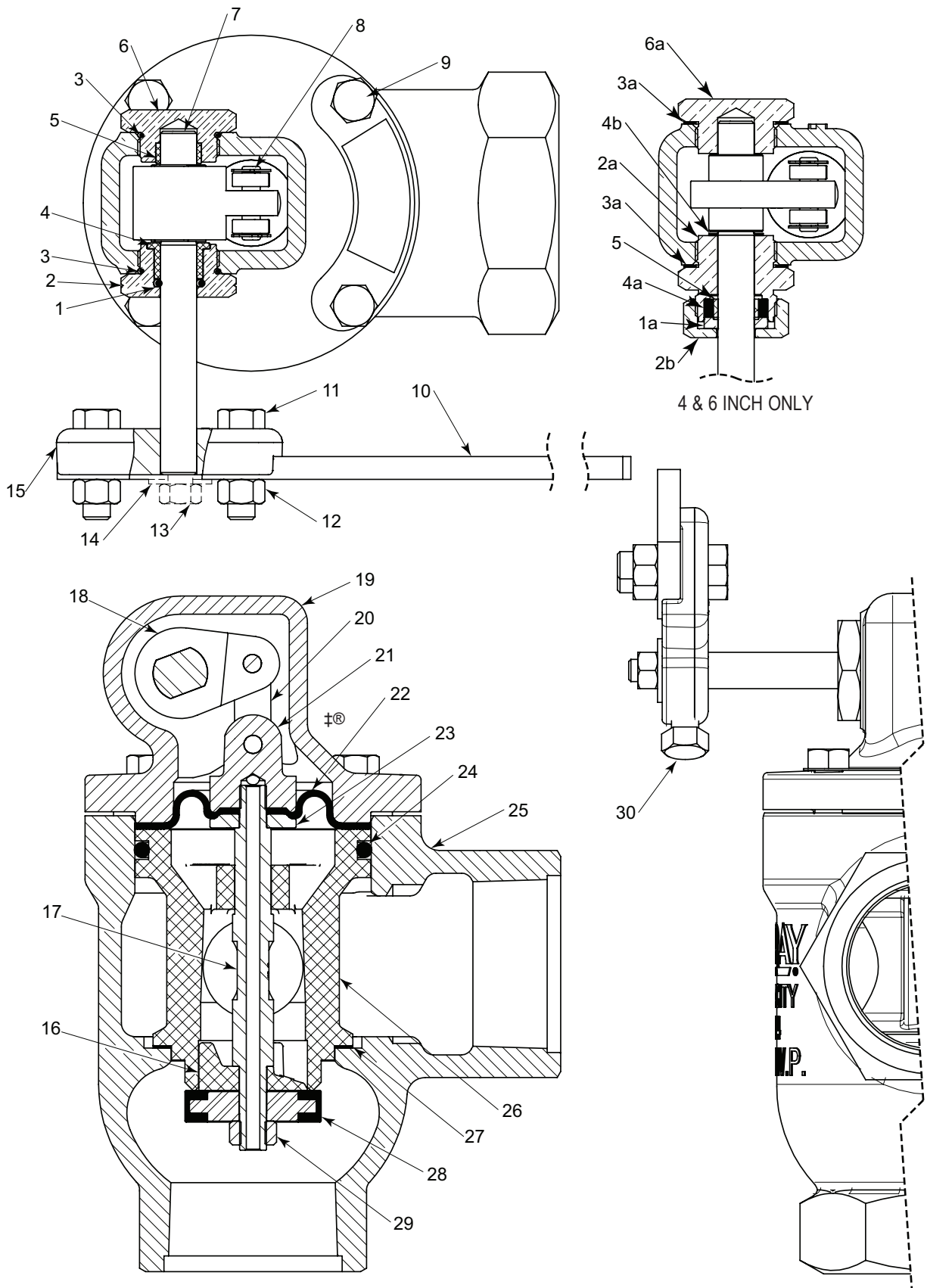
Standard Configuration Code †	Order Code	Line Size	Connection Type	Body Type	Max Δ P psig	Max. W.P. psig ††	Cv	Cf
DLD2SAADFLS	CBA	2"	NPT	Angle	125	300	23.3	0.79
DLD2SATDFLS	CHA			Thru				
DLD2ARADFLS	CBB		150RF	Angle				
DLD2ARTDFLS	CHB			Thru				
DLD3SAADFLS	CBC	3"	NPT	Angle		250	43.8	
DLD3SATDFLS	CHC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

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 KimCoat option remove last "S" & replace with "K"
† For code builder see page 03:00.2
†† Max W.P. values based on -20°F to 100°F.

LIQUID DUMP VALVES LEVER OPERATED

DIAPHRAGM BALANCED
MODEL LD PARTS DRAWING



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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LIQUID DUMP VALVES LEVER OPERATED

**DIAPHRAGM BALANCED
MODEL LD PARTS LIST**

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	5226HSN	----			
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	7523S6	----			
6a	1	Trunnion Plug	----		369	1777	----		369SS6	1777SS6		
7	1	Shaft	7609	7408	7427	7449	7609S6	7408S6	7427S6	7449S6		
8	2	Link Pin w/ Snap Ring \diamond * (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	Standard	340			340	340				
			Optional	16 inches	340L16			340L16	340L16			
				20 inches	340L20			340L20	340L20			
				24 inches	340L24			340L24	340L24			
				30 inches	340L30			340L30	340L30			
				36 inches	340L36			340L36	340L36			
11	2	Bolt	247			247	247					
12	2	Nut	241			241	241					
13	1	Lock Nut	----	7411	7486	7486	----	7411	7486	7486		
14	1	Washer	----	7544	4491	4491	----	7544	4491	4491		
15	1	Lever Hub	7600	7601	7602	7603	7600	7601	7602	7603		
16	1	Ratio Plug \diamond	332DEL	333DEL	334	2348	2976SS6	2977SS6	2978SS6	3072SS6		
17	1	Stem \diamond	326	327	328	2350SS6	326SS6	327SS6	328SS6	2350SS6		
18	1	Trunnion Hub \diamond	7613S6	7407	7454	7453	7613S6	7407S6	7454S6	7453S6		
19	1	Bonnet	295	296	297	1767	295‡	296‡	297‡	1767‡		
20	2	Link \diamond	318SS6	319SS6		2352SS6	318SS6	319SS6		2352SS6		
21	1	Nut \diamond	2972	2973	322	2346	2972SS6	2973SS6	322SS6	2346SS6		
22	1	Diaphragm \diamond *	335	336	4700	4315	335	336	4700	4315		
23	1	Plate \diamond	323SS6	324SS6	325SS6	2347	323SS6	324SS6	325SS6	2347SS6		
24	1	O-Ring \diamond *	329HSN	330HSN	331	2353	329HSN	330HSN	331HSN	2353HSN		
25	1	Body	NPT Angle	2384	2379	----	2384‡	2379‡	----	----		
			NPT Thru	3080	3086	----	3080‡	3086‡	----	----		
			150RF Angle	2385	2382	2383	2385‡	2382‡	2383‡	2344‡		
			150RF Thru	3082	3087	3090	3082‡	3087‡	3090‡	3091‡		
26	1	Cage \diamond	304DEL	305DEL	306	2345	2966SS6	2967SS6	2968SS6	3071SS6		
		Gasket	----	----	----	7575	7576	----	----			
		Optional Split Cage	Cage \diamond	1751	1759	1761	2357	3097SS6	3098SS6	13099SS6	2357	
Seat \diamond	1752PH		1760PH	1762PH	2358PH	1752SS6	1760SS6	1762SS6	2358SS6			
27	1	Gasket \diamond *	276	277	309	2354	276	277	309	2354		
28	1	Seat \diamond *	7498HSN	7499HSN	----		7498HSN	7499HSN	----			
		Seat \diamond *	----		165	2356	----		165HSN	2356HSN		
		Seat Disc \diamond	----		160	2349	----		2494SS6	3077SS6		
29	1	Lock Nut \diamond *	173	906		175	173SS6	174SS6		175SS6		
30	1	Set Screw	7608			7608	7608					
	2	Lifting Ring (not shown)	----	7559		----	----	7559		----		
Cage Assemblies			Standard Cage	CBS	CBT	CBU	CBZ	CBSS6	CBTS6	CBUS6	CBZS6	
			Split Cage	CBS1	CBT1	CBU1	CBZ1	CBS1S6	CBT1S6	CBU1S6	CBZ1S6	
Repair Kits			\diamond These parts are stocked as Cage Assemblies.									
			RTJ	RTK	RTL	RTM	RTJ	RTK	RTL	RTM		
			* These parts are recommended spare parts and are stocked as repair kits.									

‡ Coated Parts available with "K" service type

NOTES:



Kimray is an ISO 9001- certified manufacturer.

APPLICATIONS:

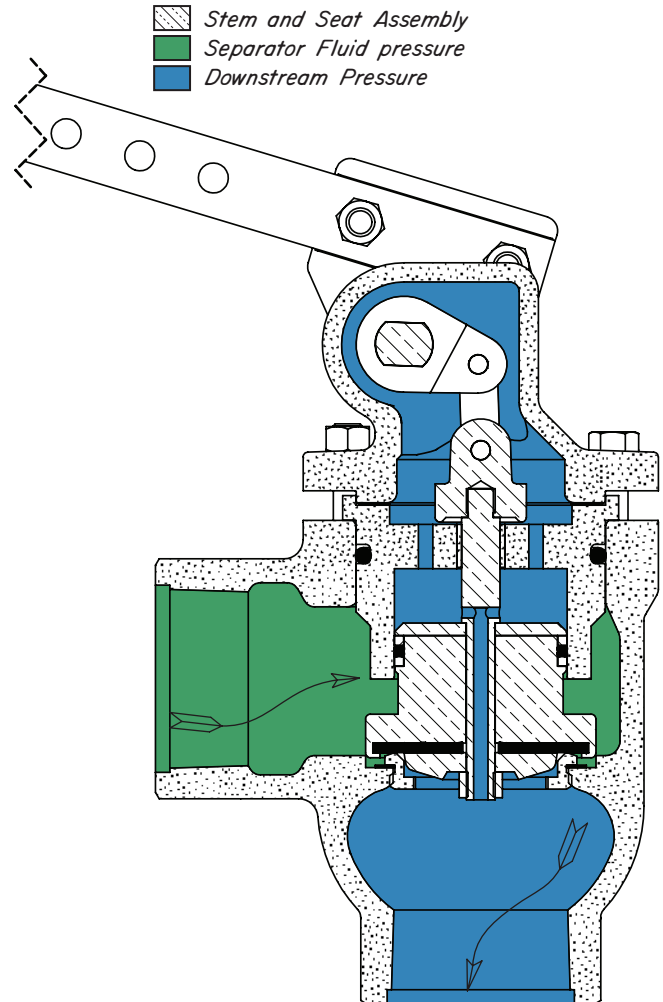
As oil or water dump valves on separators, treaters, knock-outs, and other similar liquid accumulators. Designed for high pressure erosive service.

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	47.0				
DLP2ARADFLS	CAK	3"	150RF	Angle	2"		250	89.0	
DLP3SAADFLS	CVA			Angle	3"		500		
DLP3ARADFLS	CVB						250		

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 KimCoat option remove last "S" & replace with "K"

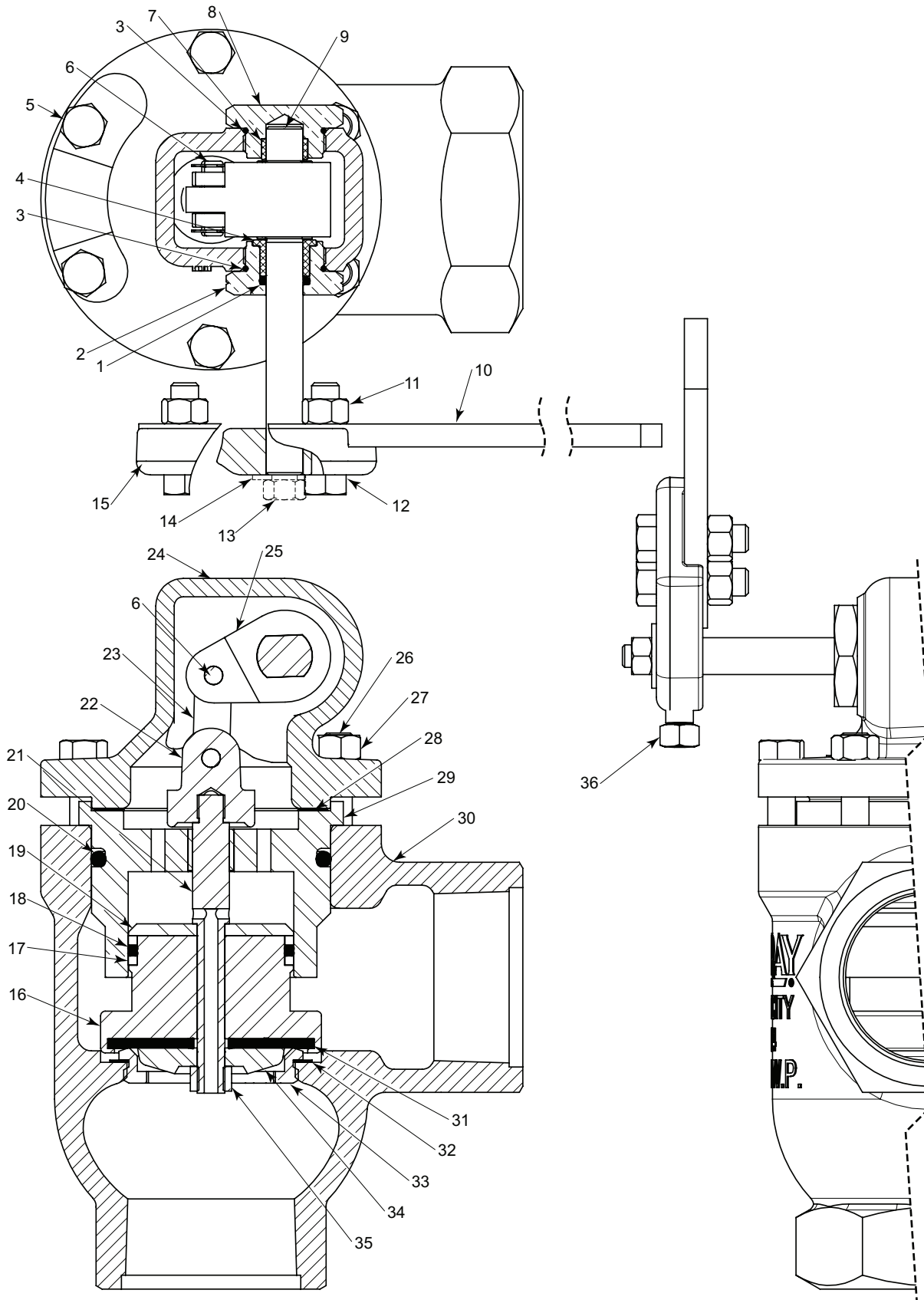
† For code builder see page 03:00.2

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

LIQUID DUMP VALVES LEVER OPERATED



PISTON BALANCED THROTTLING MODEL LP PARTS DRAWING



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	2 INCH only		
1	1	O-Ring	* 154HSNPS	491HSNPS	154HSNPS		
2	1	Stuffing Box	7661	7593	7661S6		
3	2	O-Ring	* 2131HSN	5226HSN	2131HSN		
4	1	Bushing	* 7660	7592	7660		
5	(Qty)	Bolt	833 (4)	833 (5)	833 (4)		
6	2	Link Pin w/ Snap Ring (kit includes Snap Rings only)	◇ *	316	317	316SS6	
7	1	Packing	* 7662	355	7662		
8	1	Trunnion Plug	7522	7523	7522S6		
9	1	Shaft	7609	7408	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	Lock Nut	----	7411	----		
14	1	Washer	----	7544	----		
15	1	Lever Hub	7600	7601	7600		
16	1	Piston	Full Port ◇	6787S6	7138	6787S6	
			Reduced ◇	7557	----	7557S6	
17	2	Back Up	Full Port ◇ *	1458	772	1458	
			Reduced ◇ *	7558	----	7558	
18	1	O-Ring	Full Port ◇ *	774QHSD	329HSN	774QHSD	
			Reduced ◇ *	808HSN	----	808HSN	
19	1	Seal Retainer	Full Port ◇	5205	5206SS6	5205SS6	
			Reduced ◇	----	----	----	
20	1	O-Ring	◇ *	329HSN	330HSN	329HSN	
21	1	Stem	◇	6790	7142	6790S6	
22	1	Trunnion Nut	◇	2972	2973	2972SS6	
23	2	Link	◇	318SS6	319SS6	318SS6	
24	1	Bonnet		7164	296	7164 ‡	
25	1	Trunnion Hub	◇	7613S6	7407	7613S6	
26	(Qty)	Stud		5108 (2)	5108 (1)	5108	
27	2	Nut		5109 (2)	5109 (1)	5109	
28	(Qty)	Gasket	◇ *	5199	5223	5199	
29	1	Cylinder	Full Port ◇	6785	7137	6785	
			Reduced ◇	7556	----	7556	
30	1	Body					
		NPT Angle		6786	7139	6786 ‡	
		NPT Thru		7163	----	7163 ‡	
		Flanged Angle		7655	7319	7655	
31	1	Seat	Full Port ◇ *	311HSN	165HSN	311HSN	
			Reduced ◇ *	7498HSN	----	7498HSN	
32	1	Gasket	◇ *	276	277	276	
33	1	Removable Seat	Full Port ◇	6789	7140	6789	
			Reduced ◇	7554	----	7554	
34	1	Ratio Plug	Full Port ◇	177SS6	178	177SS6	
			Reduced ◇	7553	----	7553S6	
35	1	Lock Nut	◇ *	173SS6	906	173SS6	
36	1	Set Screw		7608		7608	
	2	Lifting Ring (not shown)		----	7559	----	
				‡ Coated Parts available with "K" service type			
Plug Assemblies		Full Port	CLC	CLD	CLCS6		
		Reduced	CLC5	----	CLC5S6		
				◇ These parts are stocked as Cage Assemblies.			
Repair Kits			RUV	RVU	RUV		

* 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 accumulators where higher pressures may occur

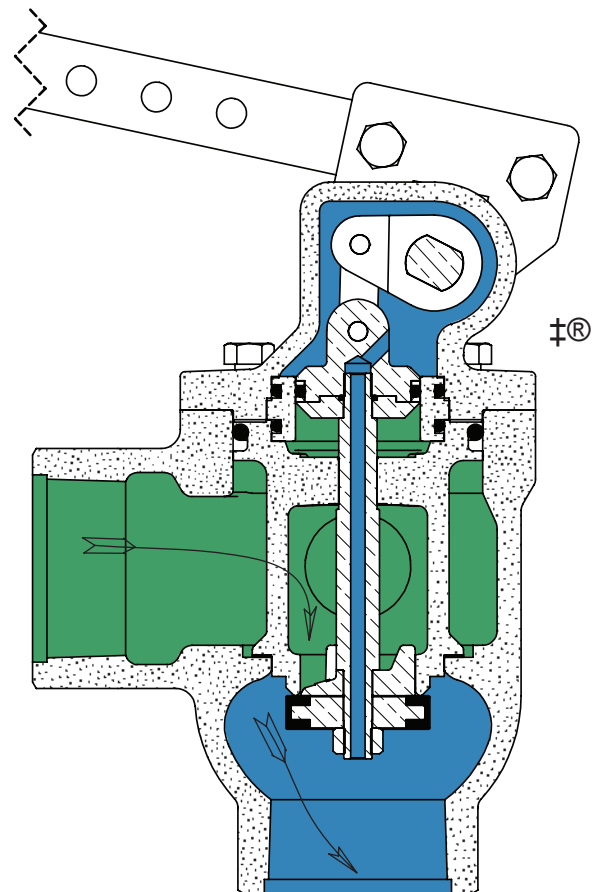
FEATURES:

- 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)
 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
DLB2SAADFLS	CAP	2"	NPT	Angle	500	500	23.3	0.79
DLB2SATDFLS	CGP			Thru				
DLB2ARADFLS	CAQ		150RF	Angle				
DLB2ARTDFLS	CGQ			Thru				
DLB3SAADFLS	CAS	3"	NPT	Angle	250	250	43.8	
DLB3SATDFLS	CGS			Thru				
DLB3ARADFLS	CAT		150RF	Angle				
DLB3ARTDFLS	CGT			Thru				
DLB4ARADFLS	CAX	4"	150RF	Angle	250	250	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
- † For Corrosive service remove last "S" & replace with "C"
- † For KimCoat option remove last "S" & replace with "K"
- † 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 LIST**

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	5226HSN	----	
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	7609	7408	7427	7609	7408	7427	
8	2	Link Pin w/ Snap Ring ◇ * (kit includes Snap Rings only)	316	317		316SS6	317SS6		
9	(Qty)	Bolt	1672 (4)	1672 (6)	1672 (8)	1672 (4)	1672 (6)	1672 (8)	
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	Lock Nut	----	7411	7486	----	7411	7486	
14	1	Washer	----	7544	4491	----	7544	4491	
15	1	Lever Hub	7600	7601	7602	7600	7601	7602	
16	1	Ratio Plug ◇	332DEL	333DEL	334	2976SS6	2977SS6	2978SS6	
17	1	Stem ◇	326	327	328	326SS6	327SS6	328SS6	
18	1	Seal Retainer ◇	2949	1860	4268SS6	2949SS6	1860SS6	4268SS6	
19	2	O-Ring ◇ *	774HSN	329HSN	1872	774HSN	329HSN	1872	
20	2	Back Up ◇ *	1685	1870	1871	1685	1870	1871	
21	1	O-Ring ◇ *	265HSN	154HSN	154	265HSN	154HSN	154	
22	1	Bonnet	2948	4264	4265	2948‡	4264‡	4265‡	
23	1	Trunnion Hub ◇	7613S6	7407	7454	7613S6	7407S6	7454S6	
24	2	Link ◇	318SS6	319SS6		318SS6	319SS6		
25	1	Piston ◇	2950SS6	4266S6	4267SS6	2950SS6	4266S6	4267SS6	
26	1	O-Ring ◇ *	808HSN	802HSN	2083	808HSN	802HSN	2083	
27	1	Cylinder ◇	1679	1861	1865SS6	1679SS6	1861SS6	1865SS6	
28	1	O-Ring ◇ *	329HSN	330HSN	331	329HSN	330HSN	331HSN	
29	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‡
30	1	Cage	304	305	306	2966SS6	2967SS6	2968SS6	
		Gasket	----	----	----	7575	7576	----	
		Optional Split Cage	Cage ◇	1751	1759	1761	3097SS6	3098SS6	13099SS6
Seat ◇	1752PH		1760PH	1762PH	1752SS6	1760SS6	1762SS6		
31	1	Gasket ◇	276	277	309	276	277	309	
32	1	Seat ◇ *	7498HSN	7499HSN	----	7498HSN	7499HSN	----	
		Seat ◇ *	----	----	165HSN	----	----	165HSN	
		Seat Disc ◇ *	----	----	160	----	----	2994SS6	
33	1	Lock Nut	173	906		173SS6	174SS6		
34	1	Set Screw ◇ *	7608		----	7608			
	2	Lifting Ring (Not Shown)	----	7559		----	7559		
‡ Coated Parts available with "K" service type									
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.

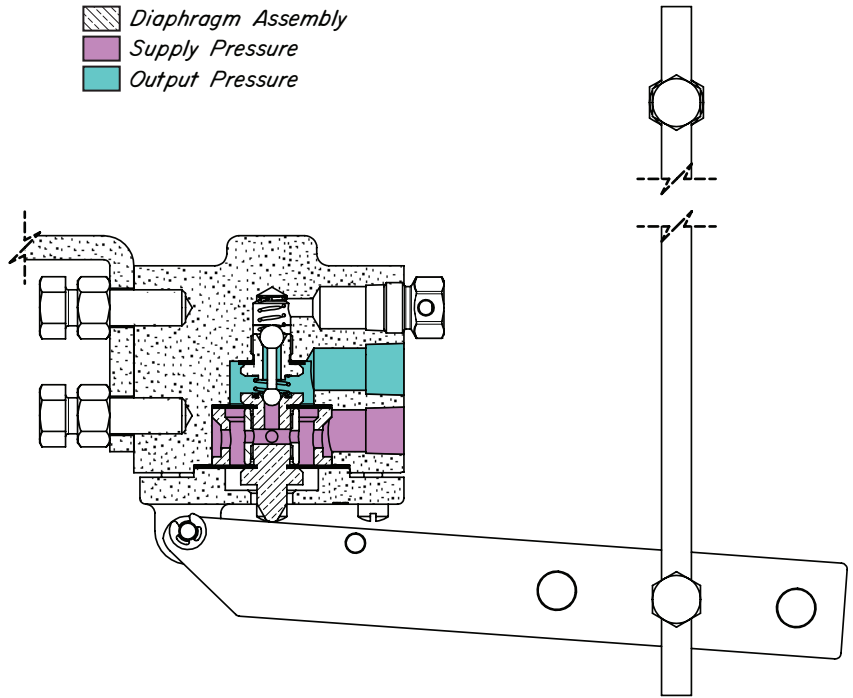
FEATURES:

- 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

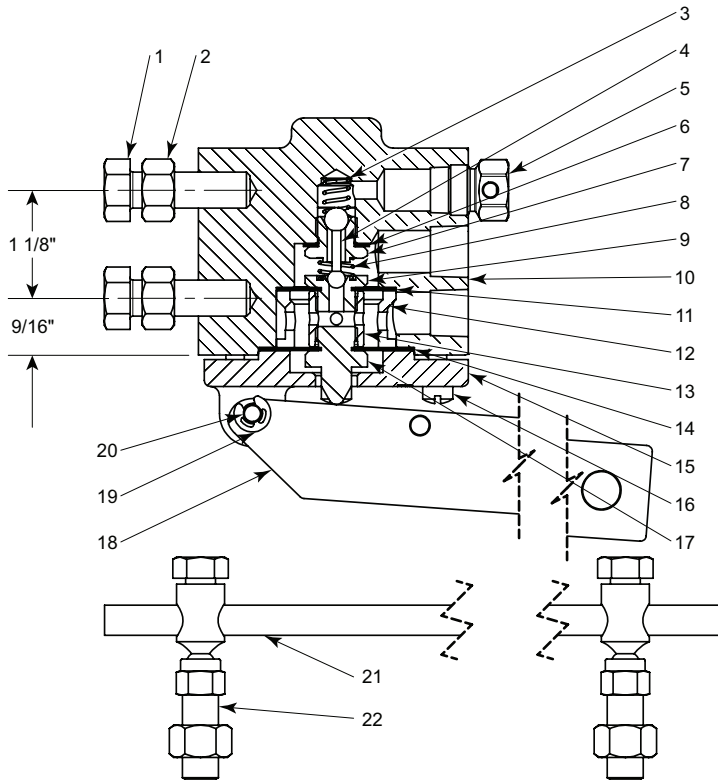
NOTES:

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

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

LIQUID DUMP VALVES LEVER OPERATED

3 PM MECHANICAL PILOT

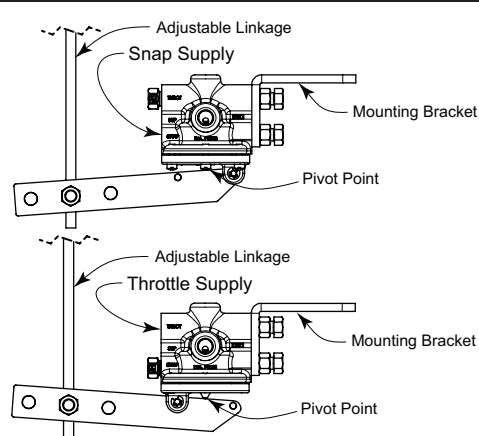
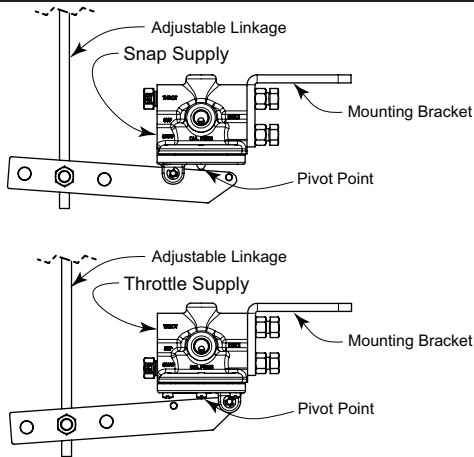


ITEM	QTY.	DESCRIPTION	PART NO.
1	2	3/8-16 Mounting Bolts	247
2	2	Nut	241
3	1	Spring	585L
4	1	Pilot Plug	112
5	1	Breather Plug	147
6	1	Gasket	* 118
7	1	Seat	565
8	1	Spring	566
9	1	Seat	113
10	1	Body	592
11	1	Diaphragm	* 584HSN
12	1	Spool	580
13	1	Spacer	581
14	1	Diaphragm	* 583HSN
15	1	Cover	588
16	6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

* These parts are recommended spare parts & are stocked as repair kits.

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:

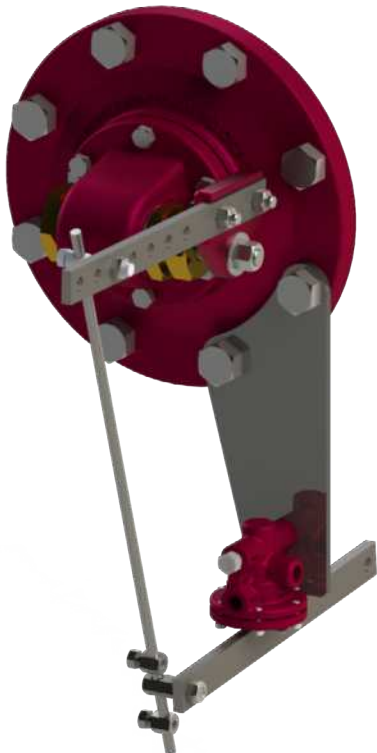
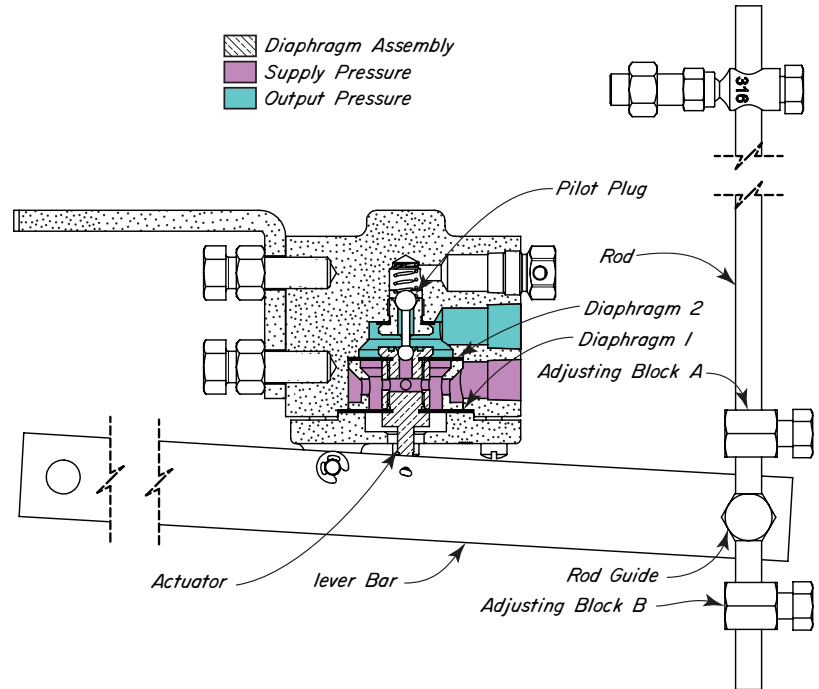
Oil and gas separators, knockouts, treaters and similar equipment where it is necessary to convert a mechanical dump into a wide span, snap, pneumatic signal.

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

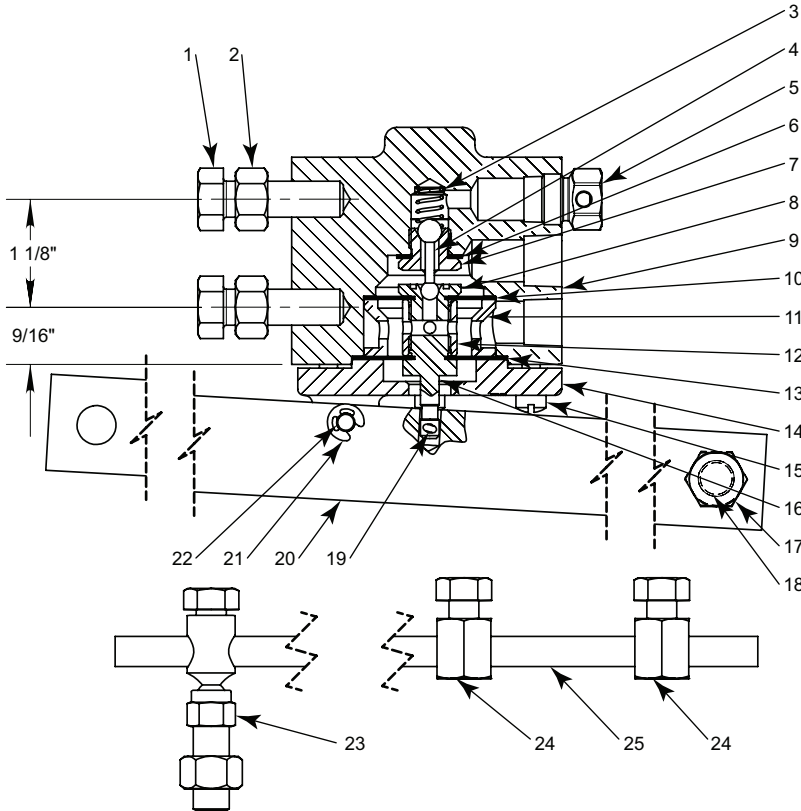
NOTES:

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

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

LIQUID DUMP VALVES LEVER OPERATED

3 PMB BI-STABLE MECHANICAL PILOT



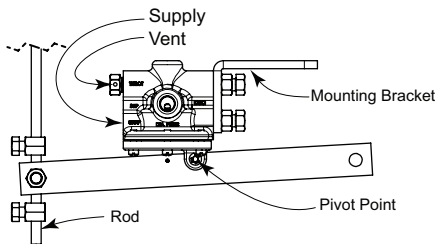
ITEM	QTY.	DESCRIPTION	PART NO.
1	2	3/8-16 Mounting Bolts	247
2	2	Nut	241
3	1	Spring	585L
4	1	Pilot Plug	112
5	1	Breather Plug	147
6	1	Gasket	* 118
7	1	Seat	565
8	1	Seat	113
9	1	Body	4151
10	1	Diaphragm	* 2619
11	1	Spool	2616
12	1	Spacer	581
13	1	Diaphragm	* 583HSN
14	1	Cover	588
15	6	Screw	693
16	1	Actuator	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
TB 7 (sold separately)			26 YTE
23	1	Ball joint	753
24	2	Adjusting Block	4153
25	1	Rod	754
Repair kit			RMK

* These parts are recommended spare parts & are stocked as repair kits.

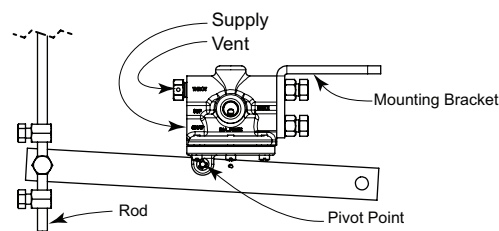
MOUNTING BRACKETS AVAILABLE	
Trunnion Description	Mounting Bracket
612 TO	1856
812 TO	3035
1012 TO	903
50 TOB-D	904
25 TOB-D	681

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:

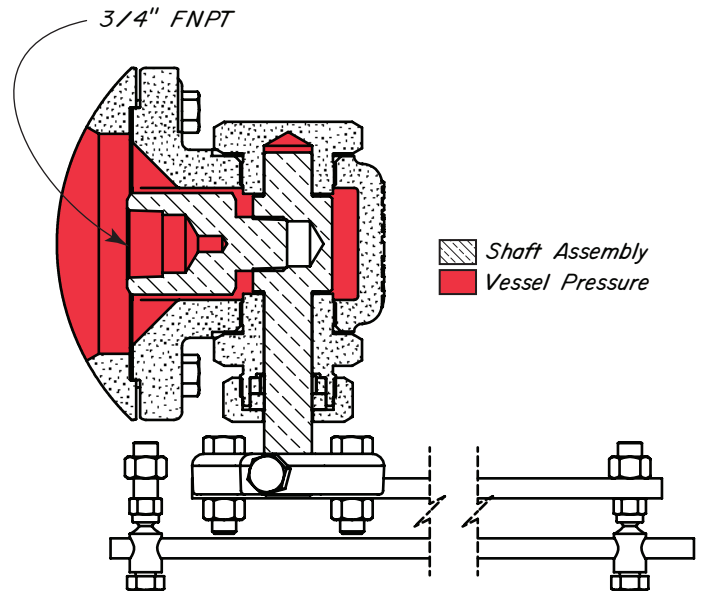
Used on oil and gas separators, freewater knockouts (FWKO), horizontal emulsion treaters and similar equipment where a float is desired to monitor fluid level.

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):
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	

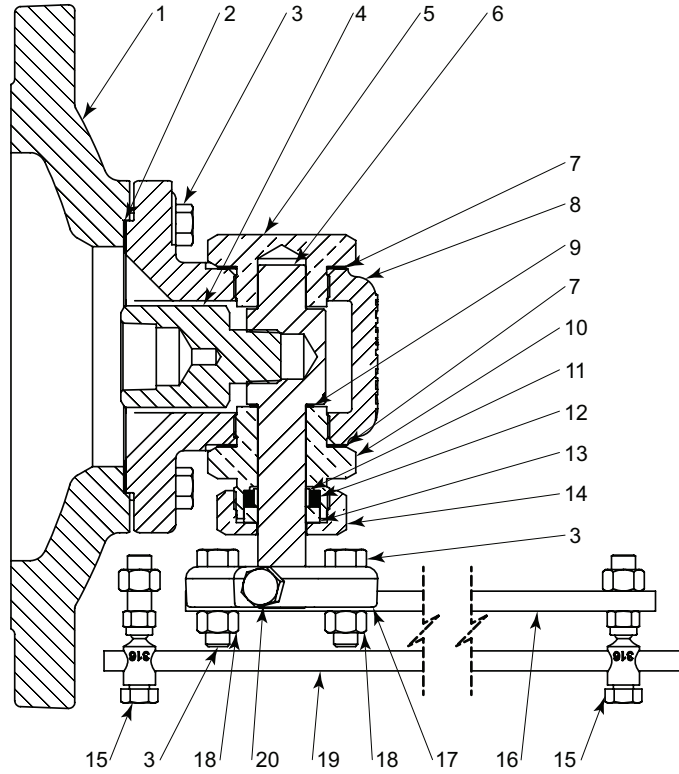
NOTES:

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



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.

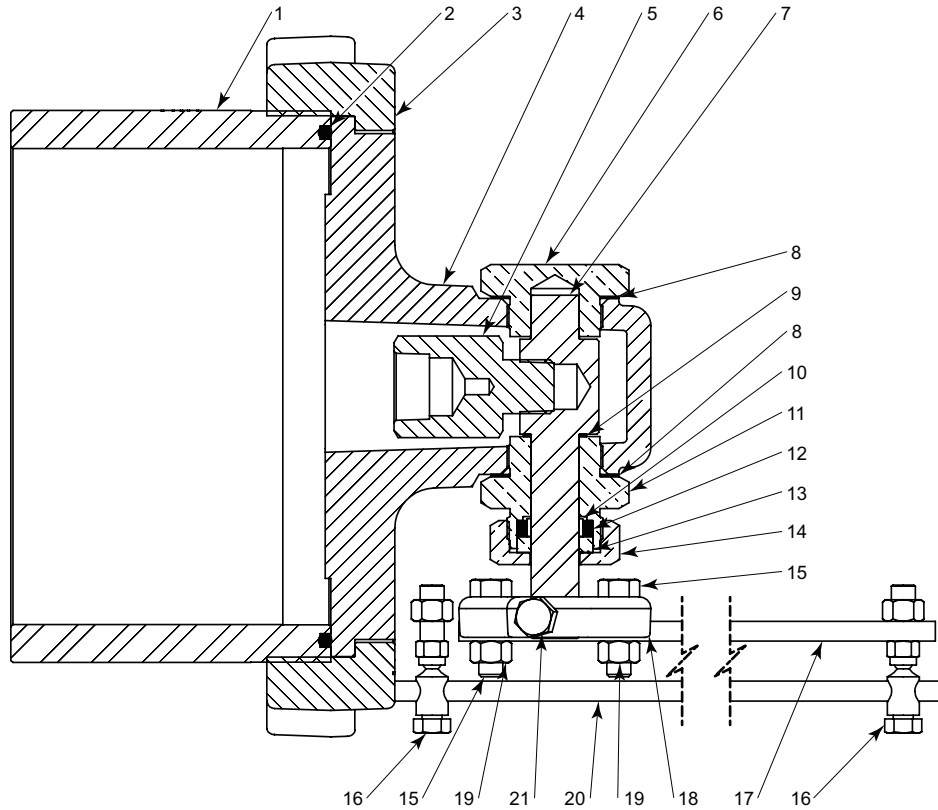
OPTIONAL WEIGHTED LEVER BARS & WEIGHTS			
ITEM	QTY.	DESCRIPTION	PART NO.
16	1	7 lb. Weight (not shown)	424
		9 lb. Weight (not shown)	425
		11 lb. Weight (not shown)	426
16	1	24" Long Lever Bar	7591L24
		36" Long Lever Bar	7591L36

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
		30" Long Lever Bar	340L30
16	1	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
17	1	24" Long Lever Bar	7591L24
		36" Long Lever Bar	7591L36
Ordered separately from item code			

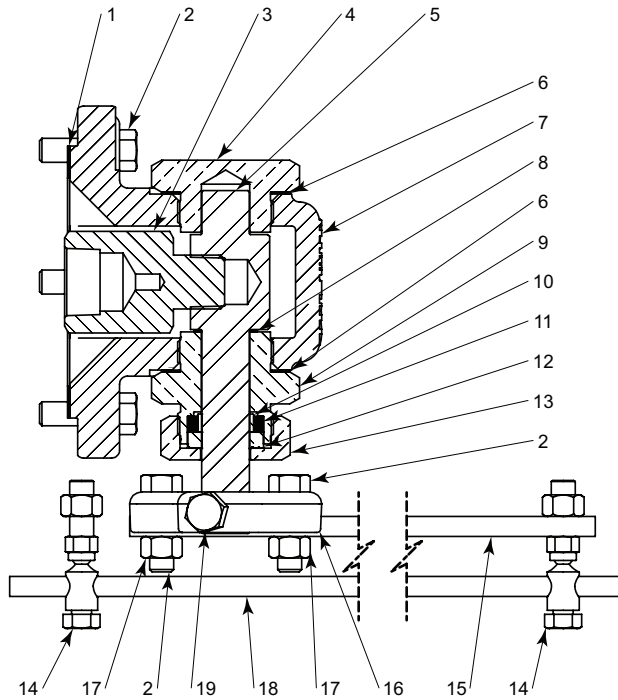
OPTIONAL LONGER LEVER BARS			
ITEM	QTY.	DESCRIPTION	PART NO.
17	1	16" Long Lever Bar	340L16
		20" Long Lever Bar	340L20
		24" Long Lever Bar	340L24
17	1	30" Long Lever Bar	340L30
		36" Long Lever Bar	340L36
Ordered separately from item code			

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



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	

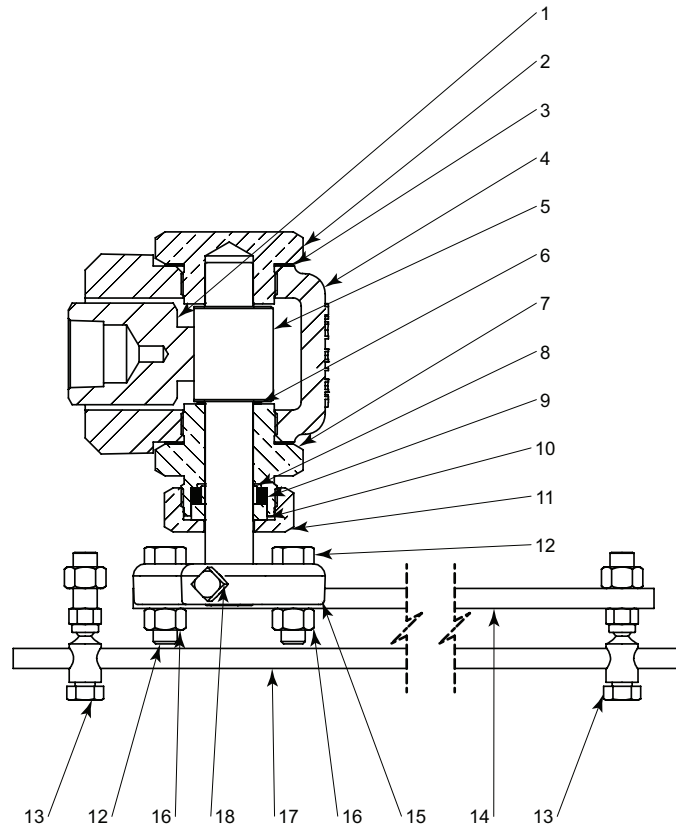
* These parts are stocked as repair kits.

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
15	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
15	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	

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



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
14	1	24" Long Lever Bar	7591L24
		36" Long Lever Bar	7591L36

Ordered separately from item code

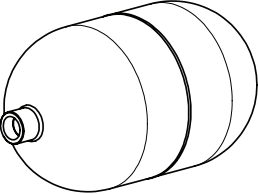
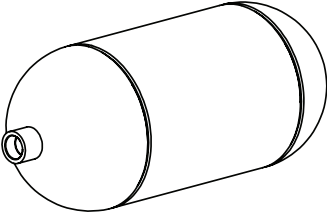
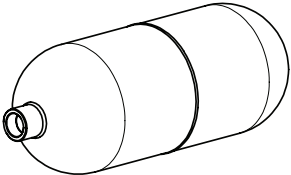
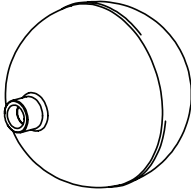

OPTIONAL LONGER LEVER BARS			
ITEM	QTY.	DESCRIPTION	PART NO.
14	1	16" Long Lever Bar	340L16
		20" Long Lever Bar	340L20
		24" Long Lever Bar	340L24
14	1	30" Long Lever Bar	340L30
		36" Long Lever Bar	340L36

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:

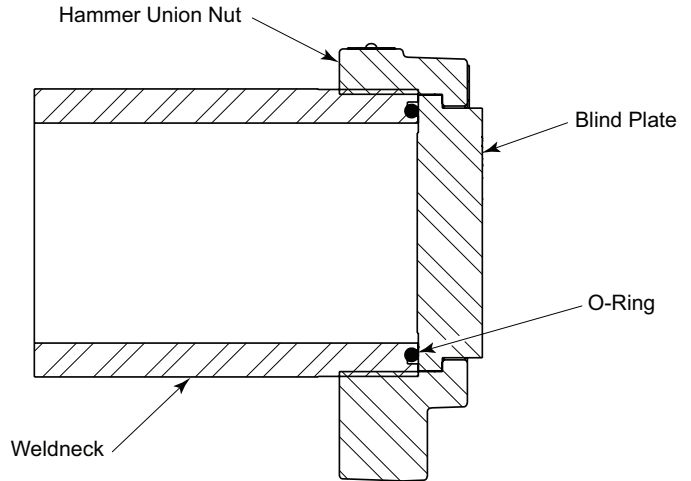
Used as an access opening for pressure vessels.

FEATURES:

- SA-106 Grade B 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

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

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

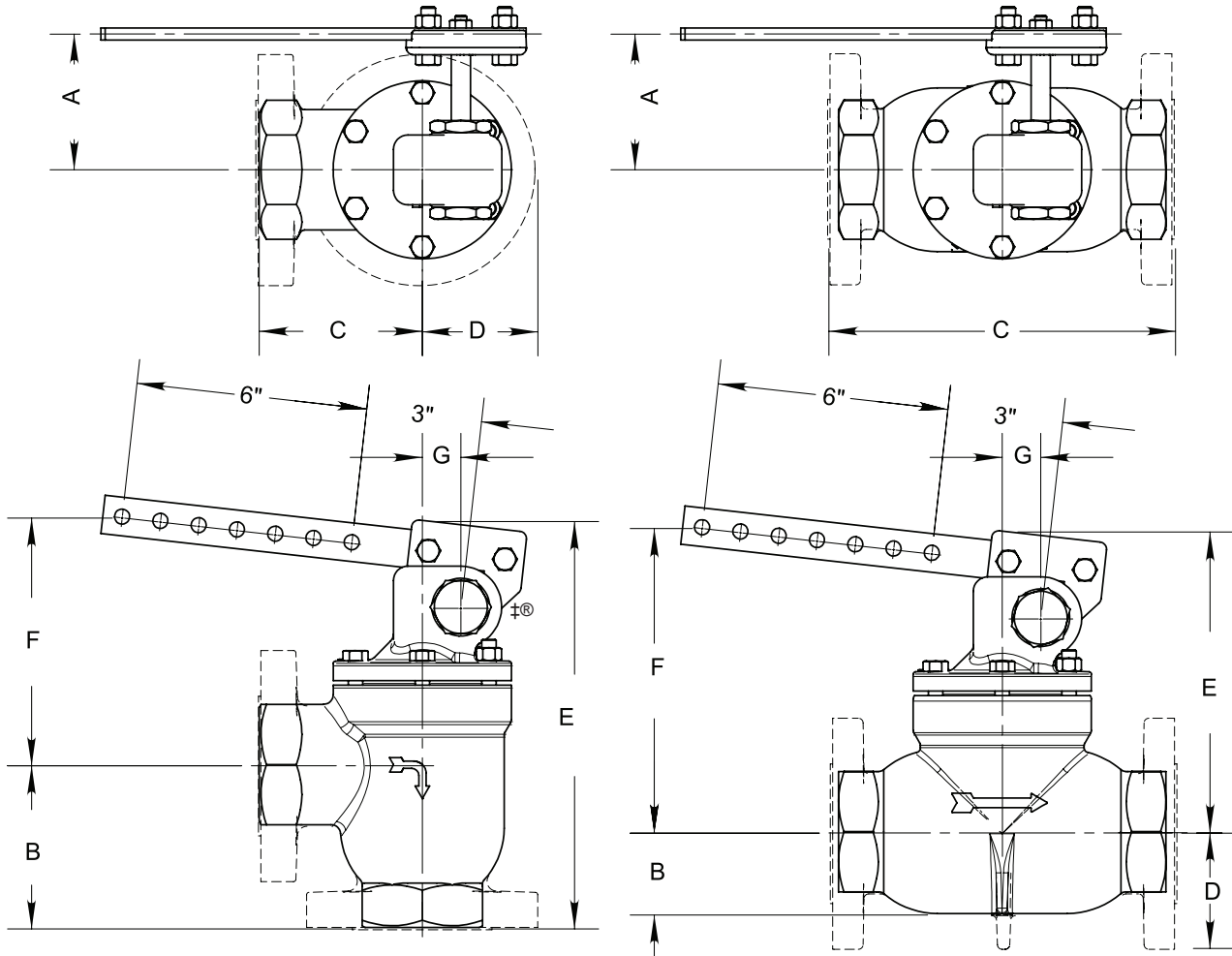
Kimray flow equations conform to ANSI/ISA - 75.01.01-2002
 Kimray inherent flow characteristics conform to ANSI/ISA 75.11.01 -1985

LIQUID DUMP VALVES LEVER OPERATED



DIMENSIONS

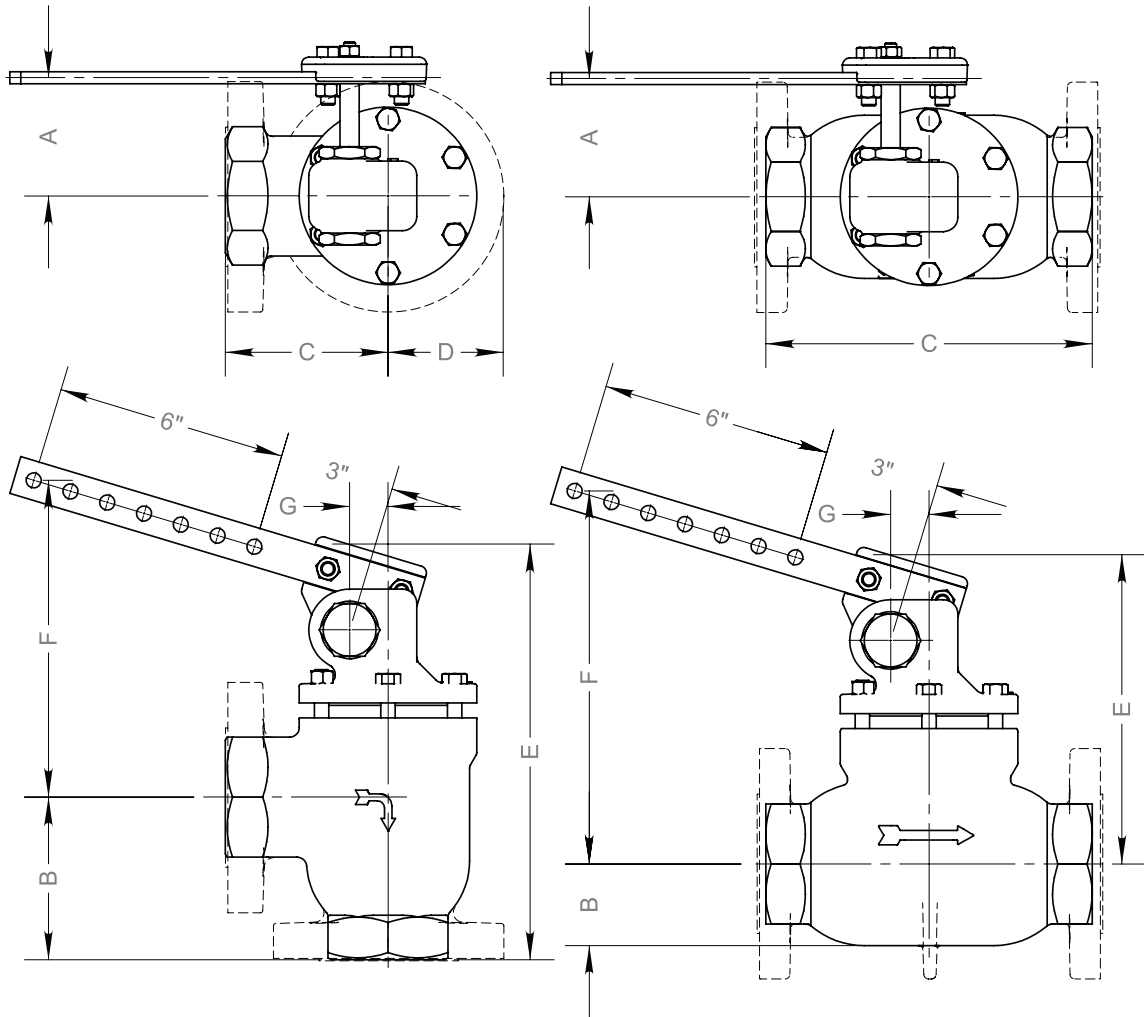
MODEL: LD & LP



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.



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

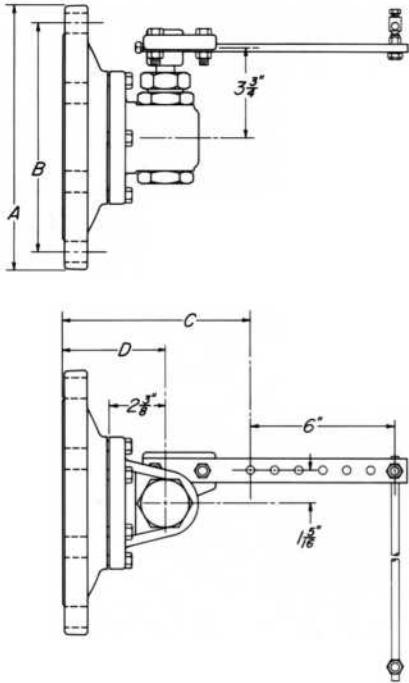
FLANGE DIMENSIONS ARE ANSI 125/150 STANDARD.

LIQUID DUMP VALVES LEVER OPERATED

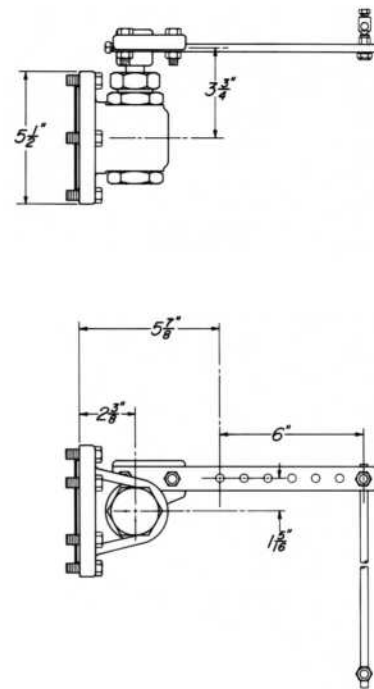


DIMENSIONS TRUNNION ASSEMBLY

612, 812 & 1012 TO-D



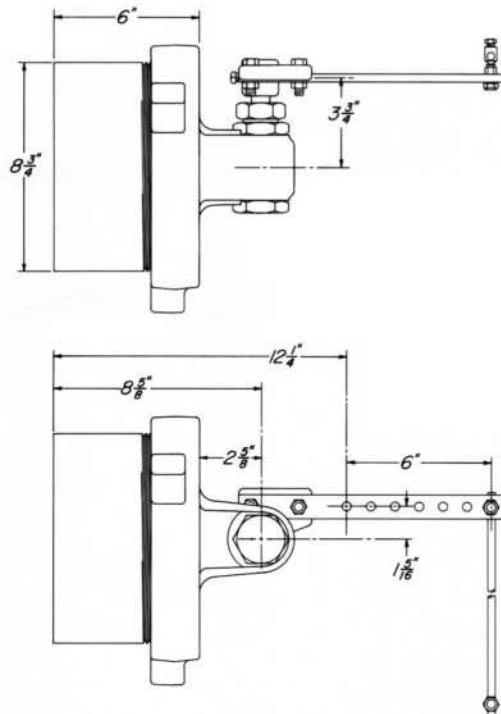
25 TOB



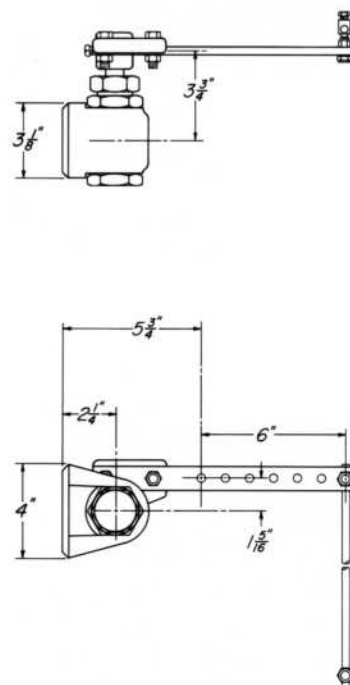
SIZE	NUMBER	A	B	C	D	No. SIZE OF BOLTS
6	612 TO	11 in	9 1/2 in	7 1/4 in	4 1/4 in	8 3/4 x 3 1/2
8	812 TO	13 1/2 in	11 3/4 in	7 1/4 in	4 1/4 in	8 3/4 x 3 1/2
10	6 1/8 in	16 in	14 1/4 in	7 1/2 in	4 1/2 in	12 7/8 x 3 1/2

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 B	