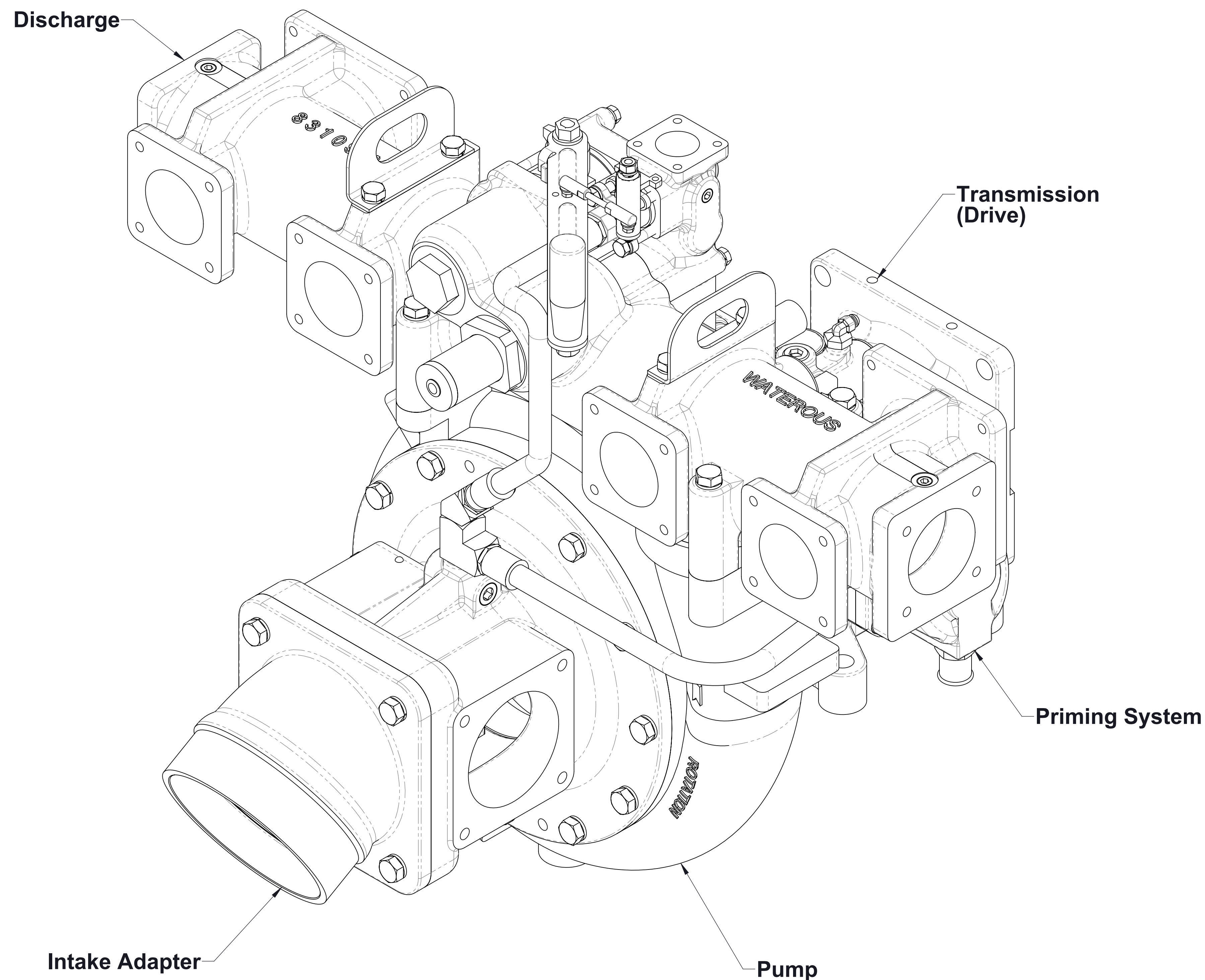
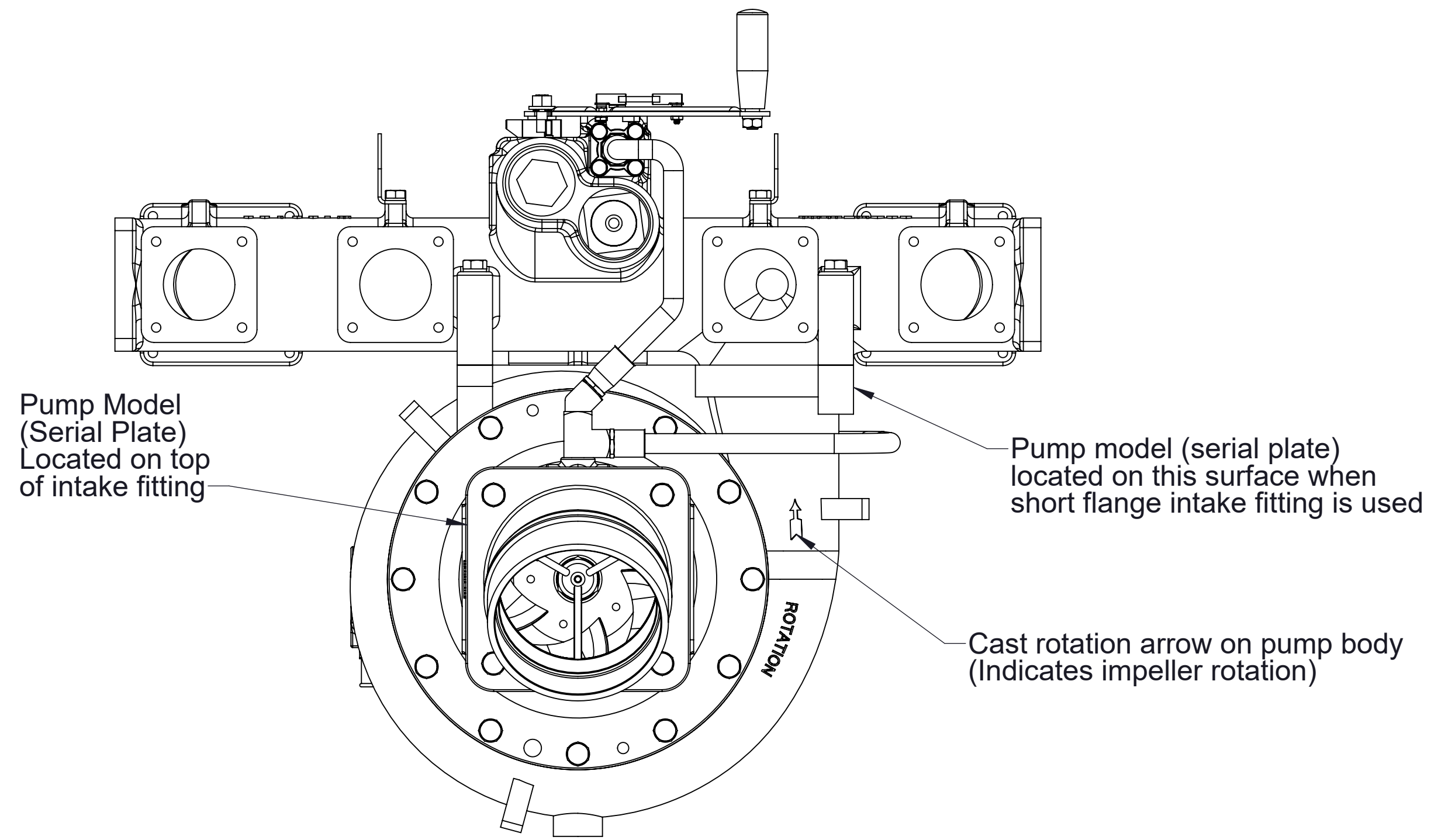


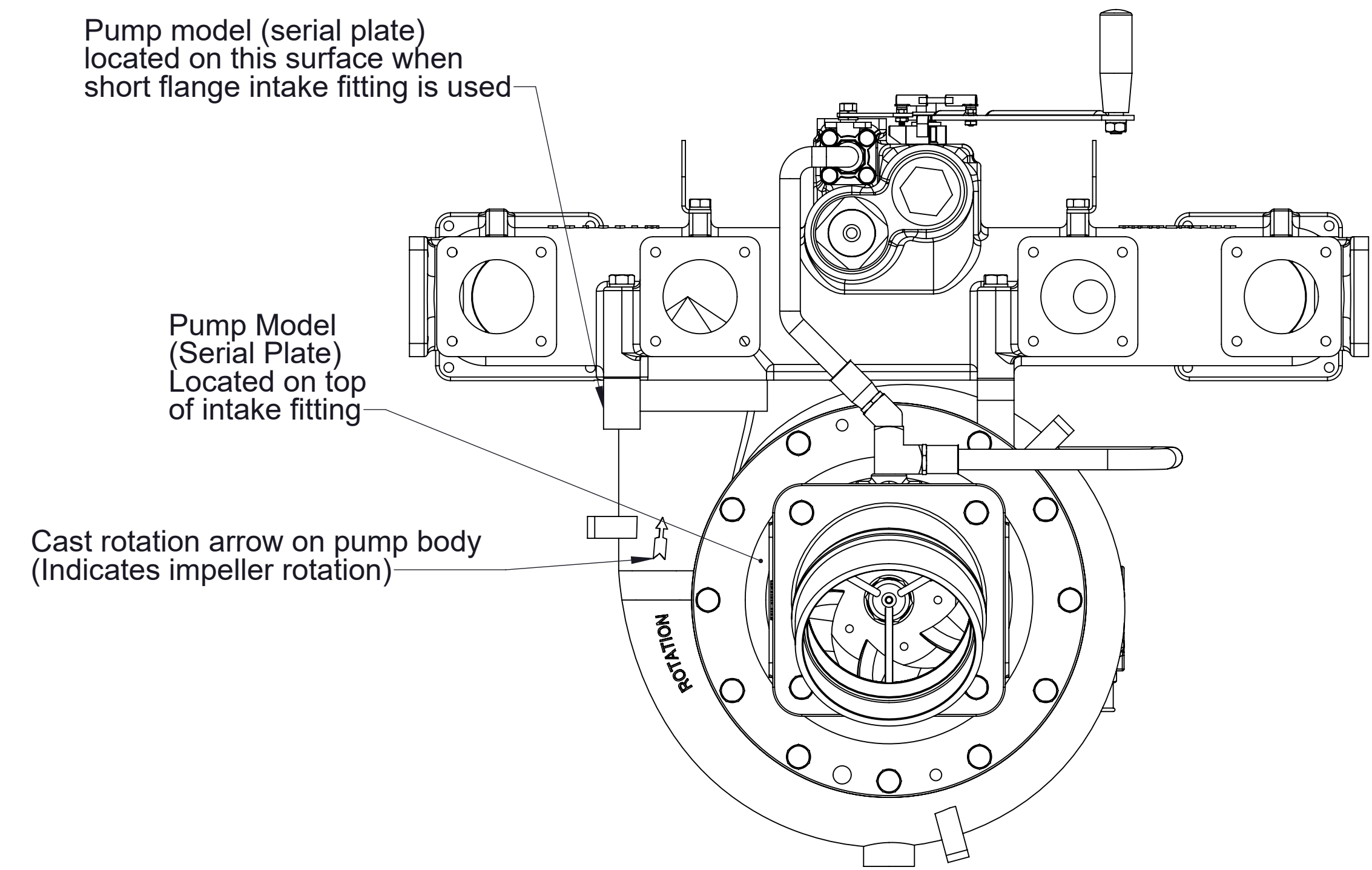
## HL400 Series Fire Pump Service Parts List



Index:					
Component		See Pages			
		Complete Pump and Transmission Model (Located on pump serial plate)			
		Direct Drive (D Series) HL400D		Gear Drive (K Series) HL400K	
		Input Rotation		Input Rotation	
		CW	CCW	CW	CCW
Determining Pump Model and Input Rotation		2			
Intake Adapter		3, 4			
Discharge	Crossover Valve	5	6	6	5
	Manifold	7	8	8	7
Priming System	Primers		9		
	PIV (Priming Isolation Valve)	With	10		
		Without	11		
Pump	Body and Impellers		12		
	Impeller Shaft and Pedestal		13	14	
	Cross-Section View		15	16	
Transmission (Drive)		13	16		
Optional Items	Auxiliary Intake and Discharge Fittings		See SPL83156		
	RTP Foam System		See SPL83157		
	Control Panel		See SPL83158		
	Gauges and Tank Level Monitors				

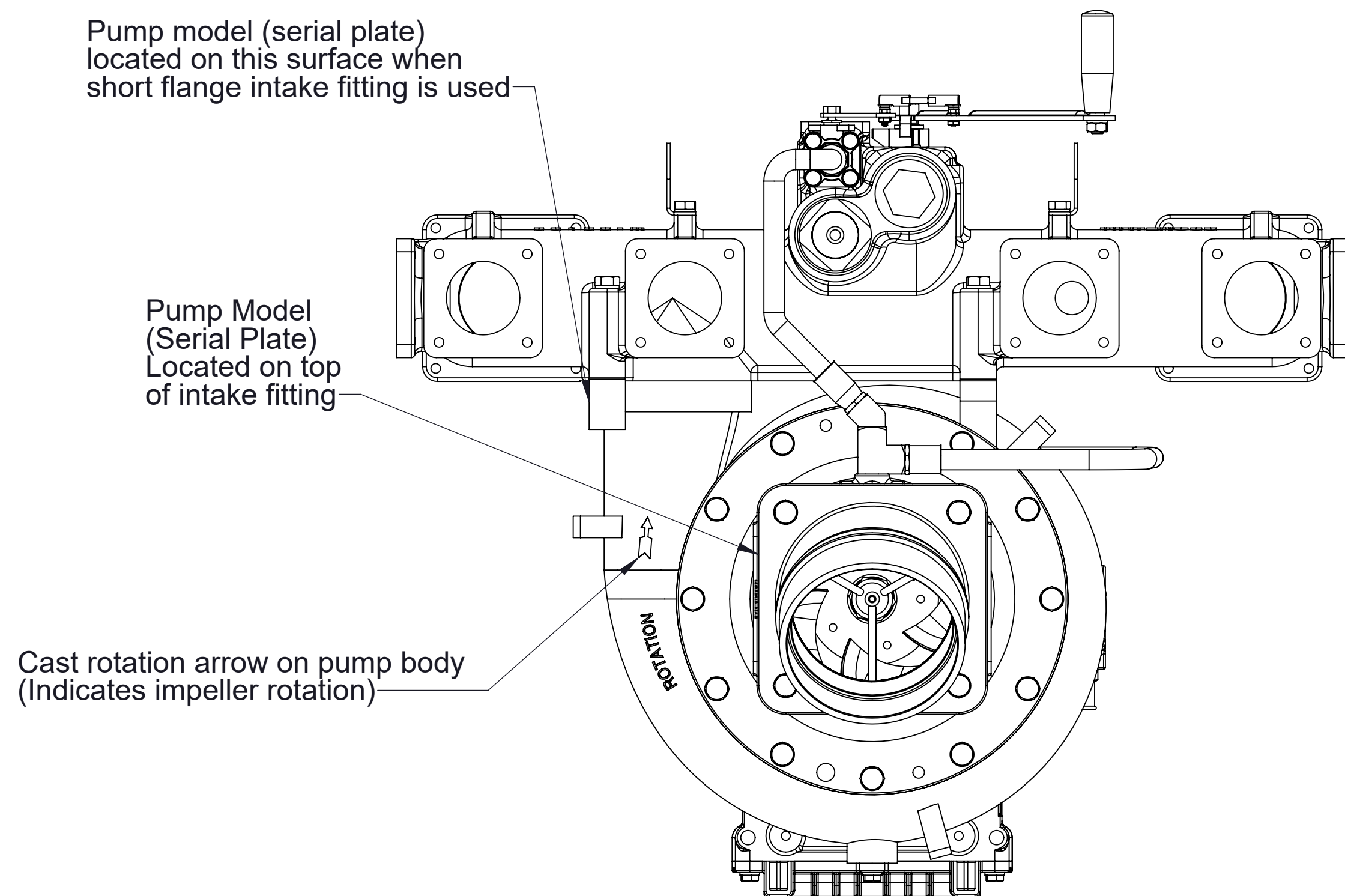


**Clockwise (CW) Input Rotation**  
Counter-clockwise (CCW) impeller rotation

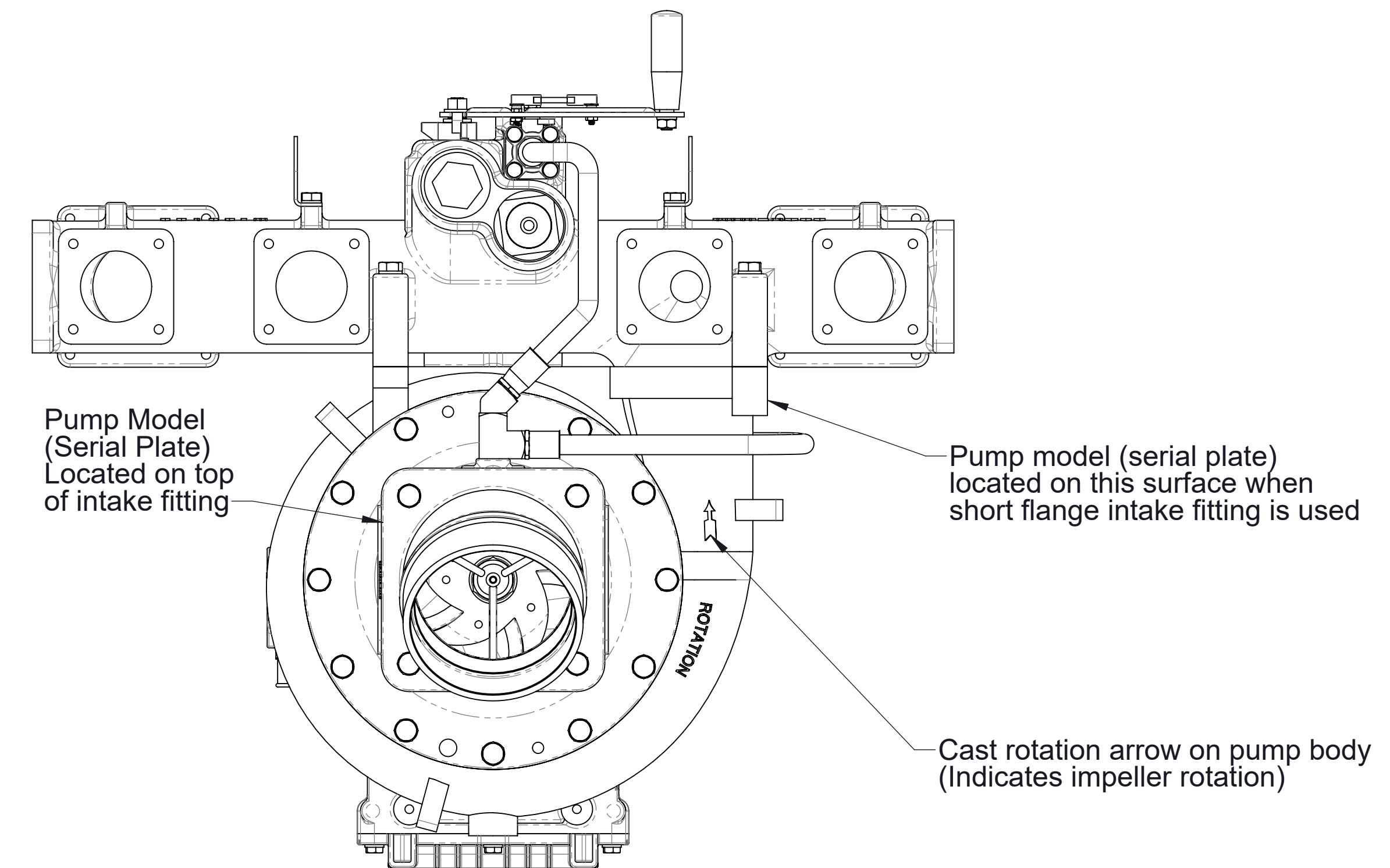


**Counter-Clockwise (CCW) Input Rotation**  
Clockwise (CW) impeller rotation

**Model HL400D**



**Clockwise (CW) Input Rotation**  
Clockwise (CW) impeller rotation



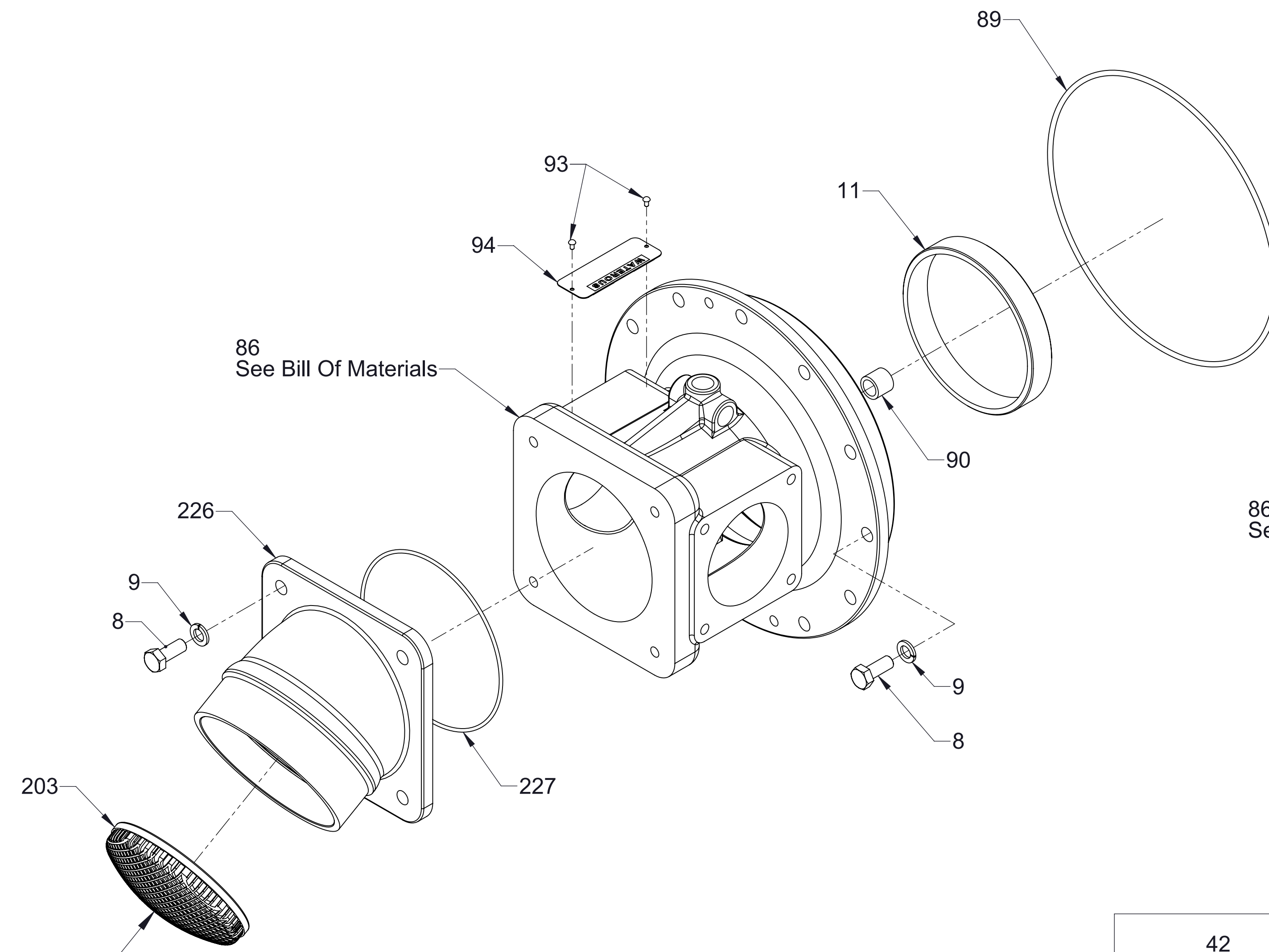
**Counter-Clockwise (CCW) Input Rotation**  
Counter-clockwise (CCW) impeller rotation

**Model HL400K**

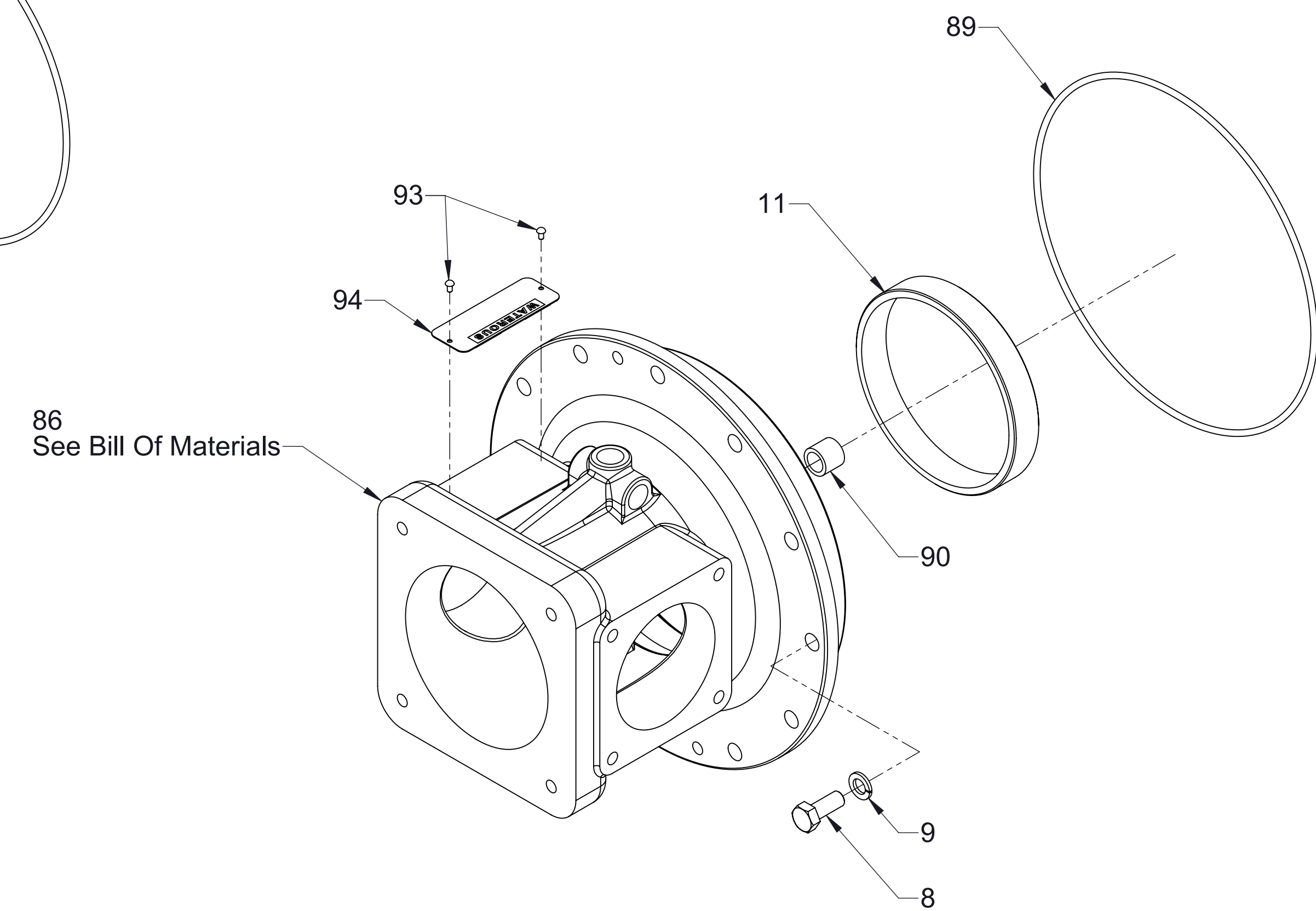
**Determining Pump Model and Input Rotation**

- The pump configuration and components vary for each pump model and input rotation.
- The input rotation of the drive end of the pump determines the direction the pump impeller rotates.
- Use the pump model and input rotation when referring to pages listed in the index.
- If you are unsure of the input rotation of your pump, the cast rotation arrow on the pump body can be used to determine which rotation configuration you have. The pump model can be obtained from the serial plate attached to the pump intake fitting.
- Compare your pump to the diagrams on this page.

Ref No.	Description
8	Screw-Hex Hd, M12-1.75 x 30 mm
9	Washer-Lock, 12 mm
11	Ring-Wear
42	O-Ring Repair Kit (Includes 44, 45, 81, 82, 89, 95, 119, 255 plus o-rings for intake and discharge fittings, see reference number 42 on SPL83156)
86	Intake Fitting Assembly (Includes 11, 90, 93, 94)
89	O-Ring, 11 x 11-3/8 in
90	Bearing-Out Board
93	Screw-Drive, #6 x 1/4 in
94	Plate-Serial
203	Screen-Intake
226	Fitting-Intake, 6 in, 30°
227	O-Ring, 6-3/4 x 7 in



**Single Threaded Inlet**

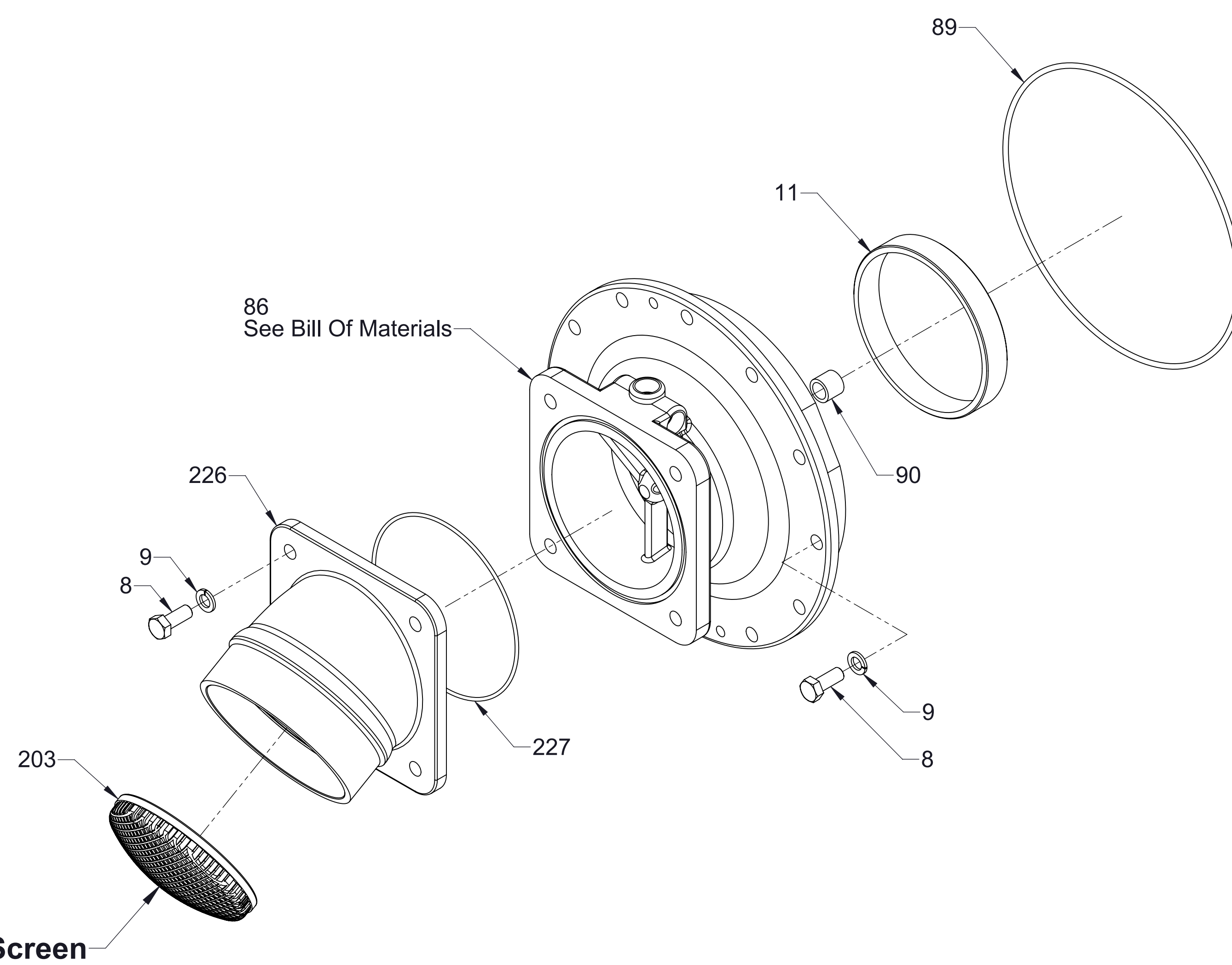


**Single 4-Bolt Flanged Inlet**

Optional Intake Screen

**Intake Adapter**  
All models

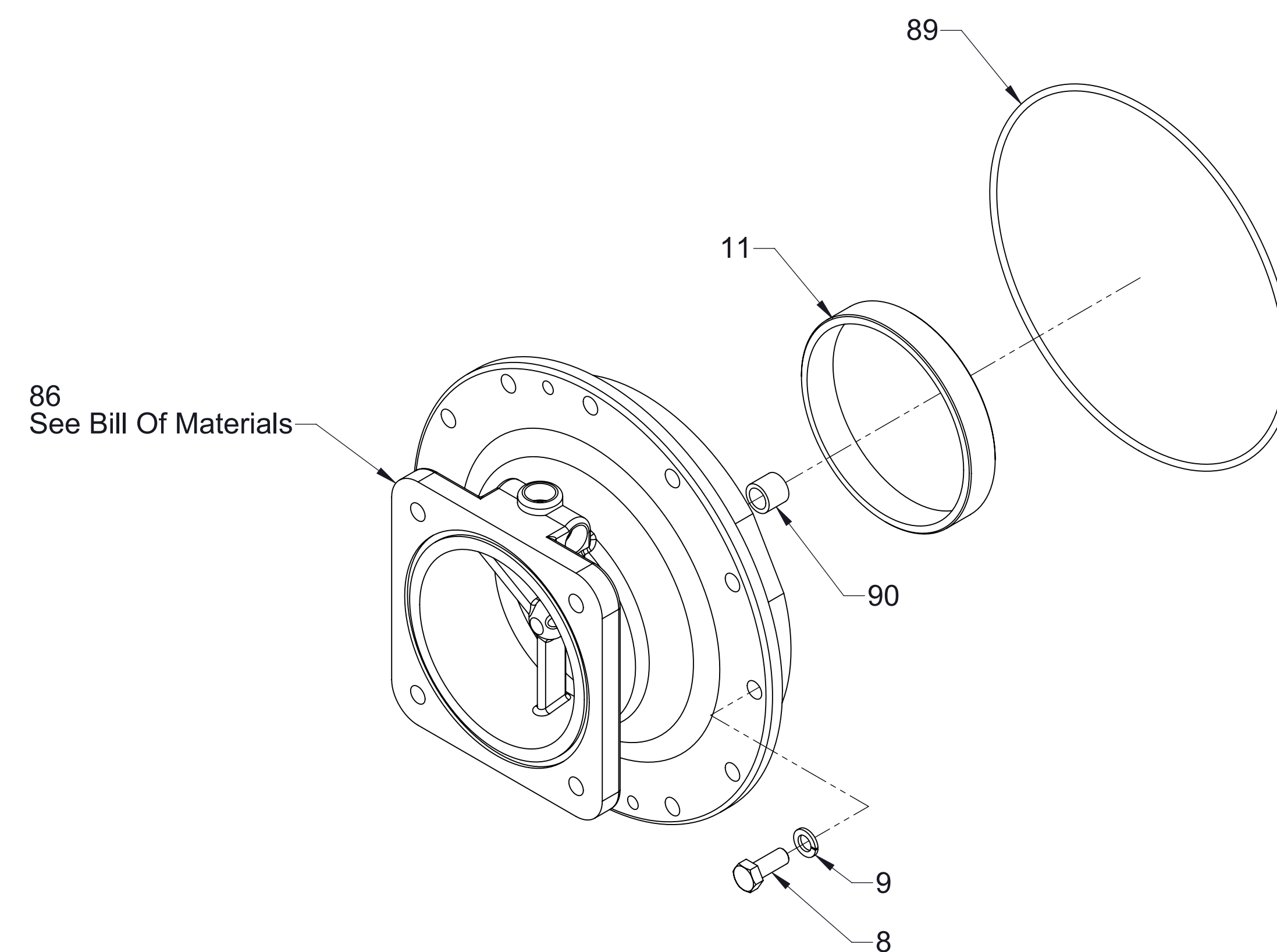
Ref No.	Description
8	Screw-Hex Hd, M12-1.75 x 30 mm
9	Washer-Lock, 12 mm
11	Ring-Wear
42	O-Ring Repair Kit (Includes 44, 45, 81, 82, 89, 95, 119, 255 plus o-rings for intake and discharge fittings, see reference number 42 on SPL83156)
86	Intake Fitting Assembly (Includes 11, 90, 93, 94)
89	O-Ring, 11 x 11-3/8 in
90	Bearing-Out Board
93	Screw-Drive, #6 x 1/4 in
94	Plate-Serial
203	Screen-Intake, 6 in
226	Fitting-Intake, 6 in, 30°
227	O-Ring, 6-3/4 x 7 in



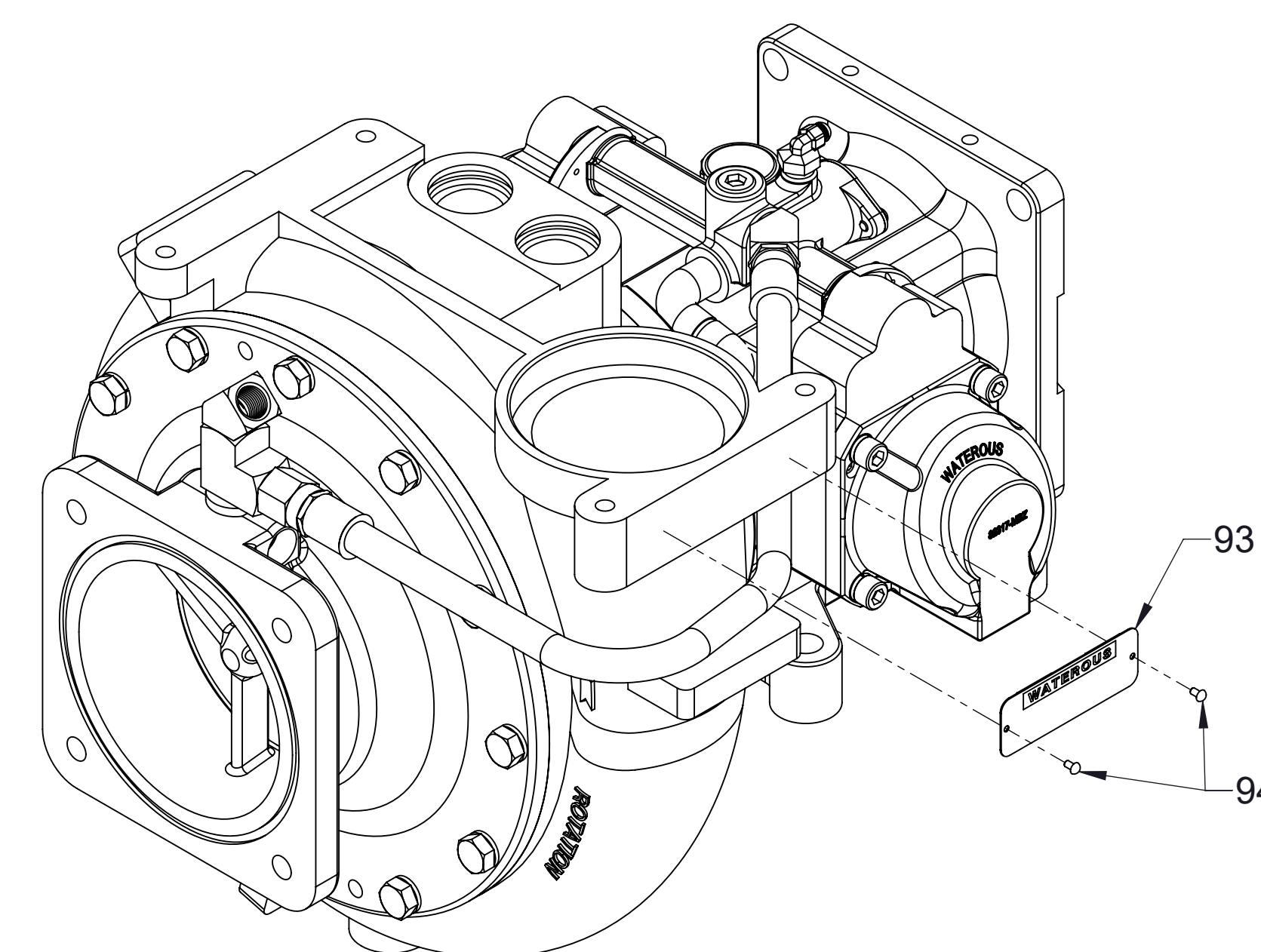
**Single Threaded Inlet**

42  
O-ring Repair Kit

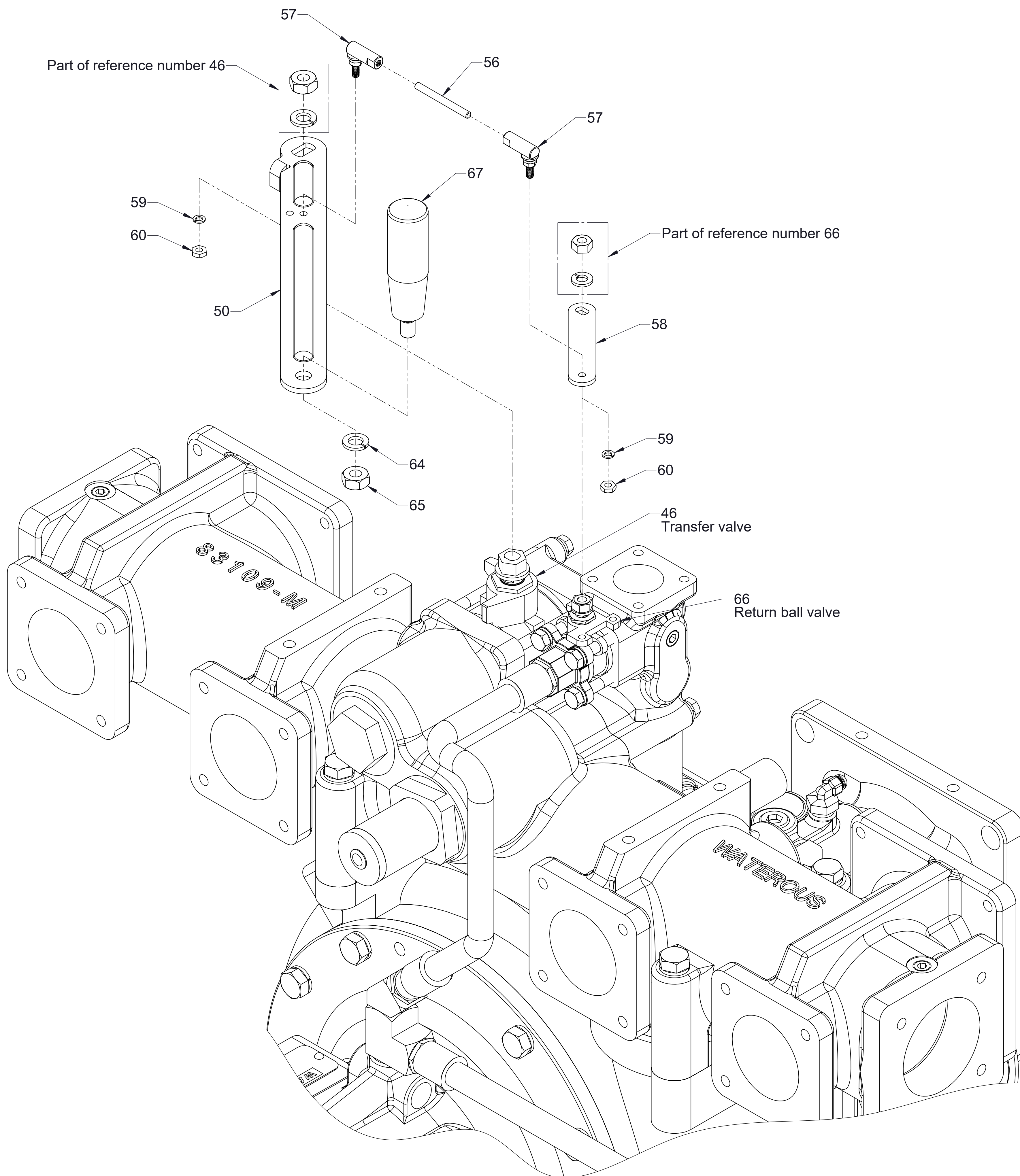
**Intake Adapter**  
All models



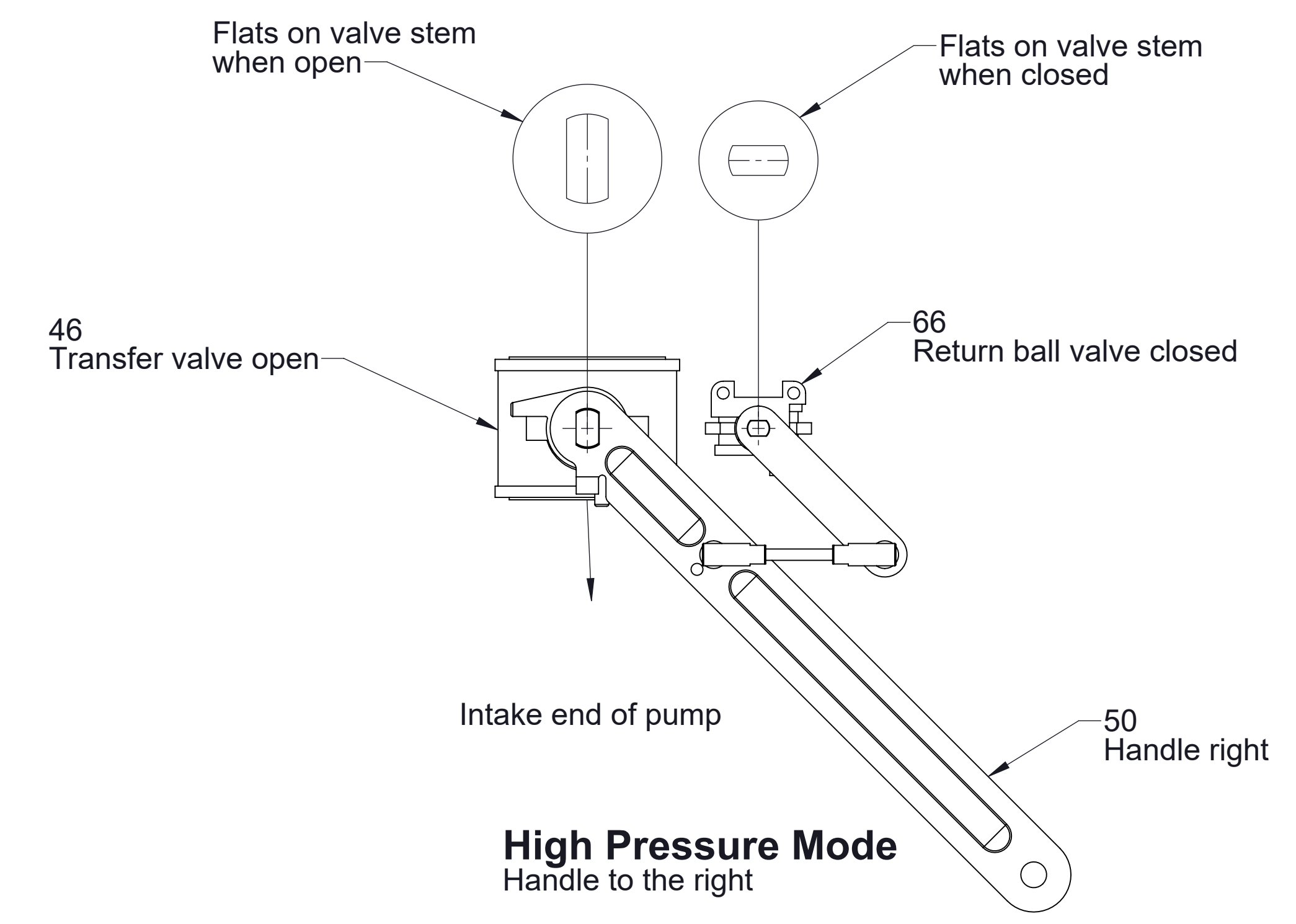
**Single 4-Bolt Flanged Inlet**



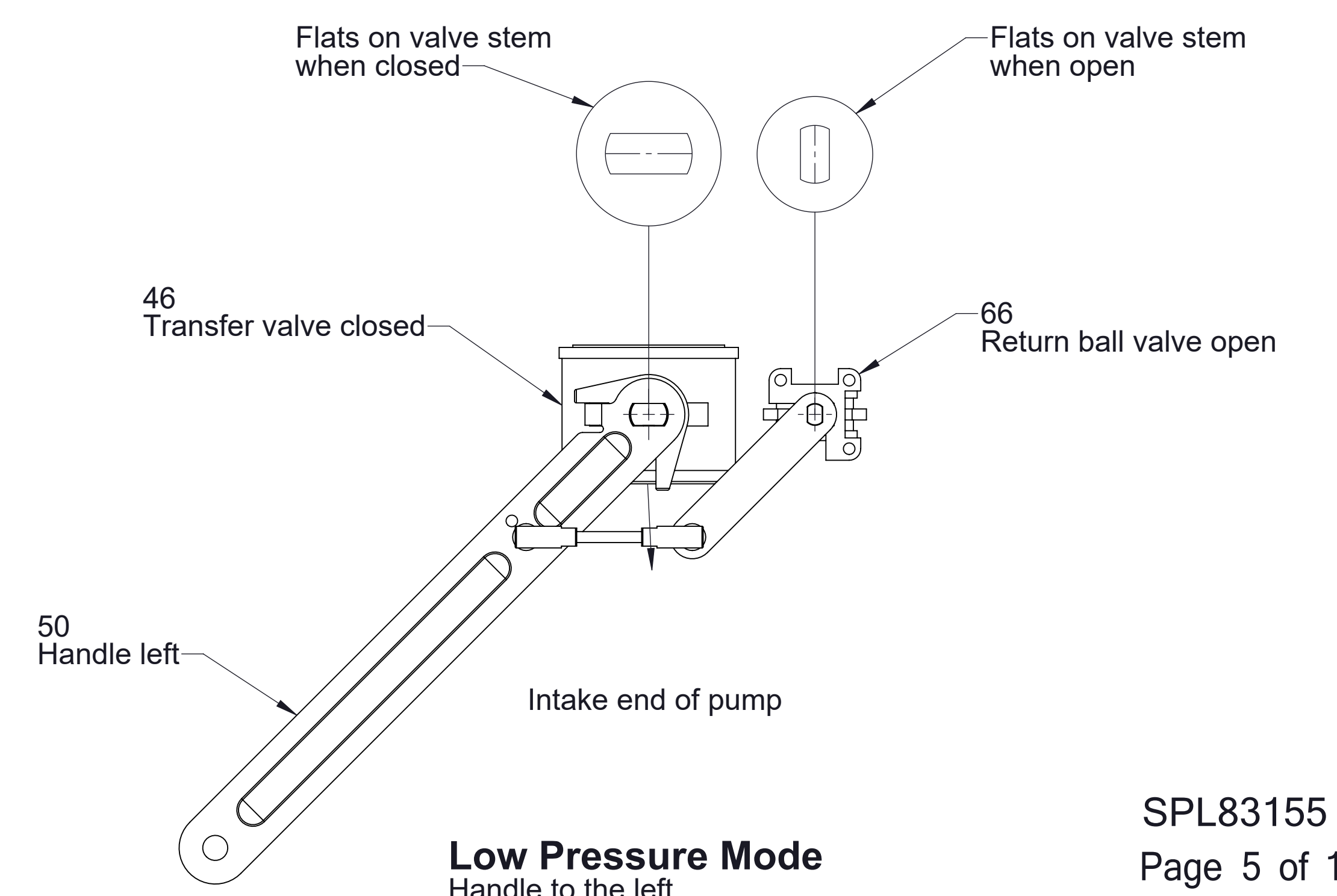
Ref No.	Description
46	Transfer Valve, 1-1/2 in (Includes 7/16-14 UNC Hex Nut and Lockwasher)
50	Handle-Crossover Valve
56	Stud-Fine, #10-32 x 2 in
57	Linkage-Ball Joint, Right Angle
58	Handle-Recirculation (CCW Rotation)
59	Washer-Lock, Med-Spring, #10
60	Nut-Hex, Machine, #10-32
64	Washer-Lock, 10 mm
65	Nut-Hex, M10-1.5
66	Ball Valve, 1/2 in NPT (Includes 3/8-16 UNC Hex Nut and Lockwasher)
67	Handle
144	Washer, 5 mm



**Discharge-Crossover Valve**  
 HL400D - CW input rotation (CCW impeller rotation)  
 HL400K - CCW input rotation (CCW impeller rotation)

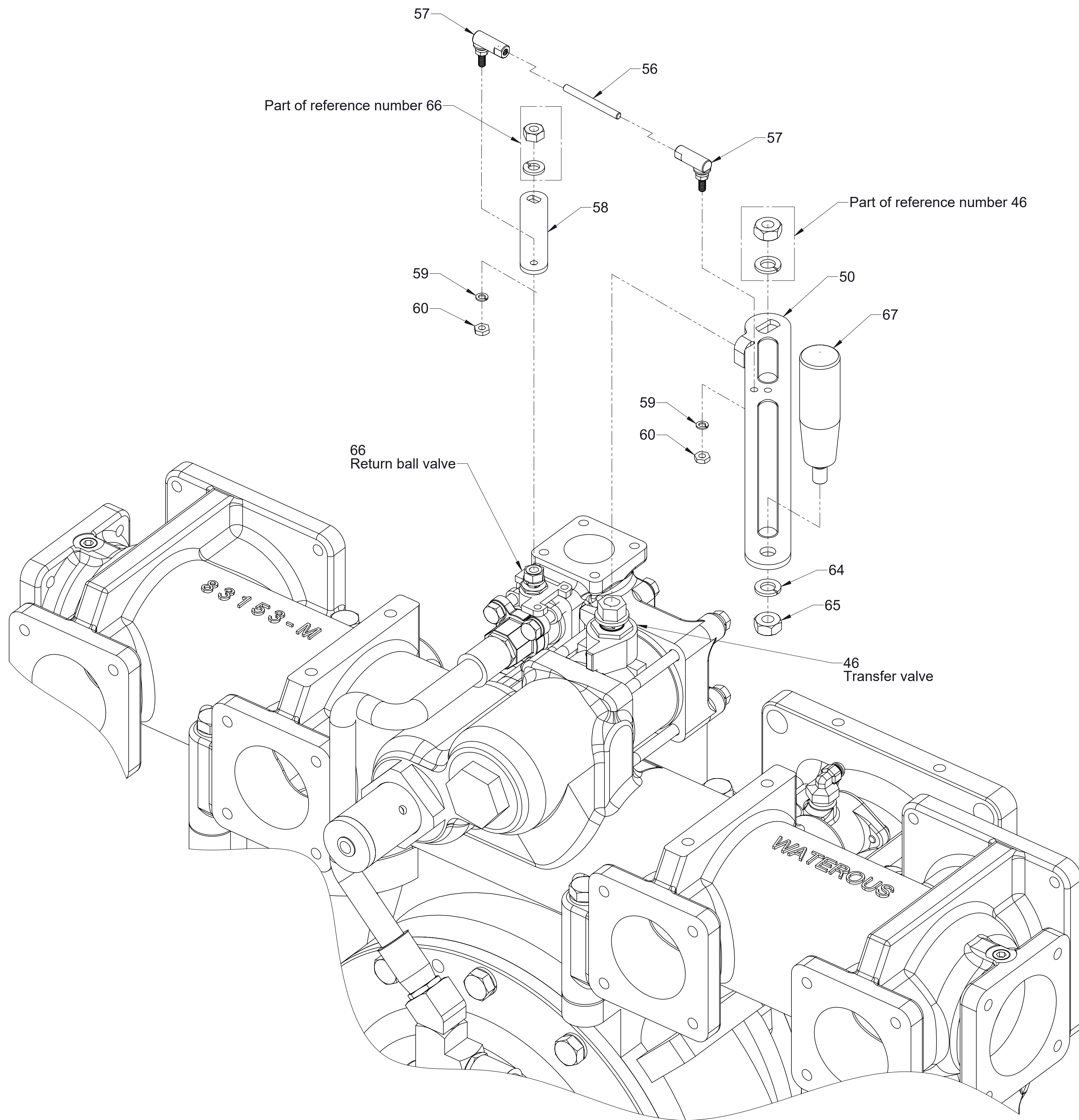


**High Pressure Mode**  
 Handle to the right

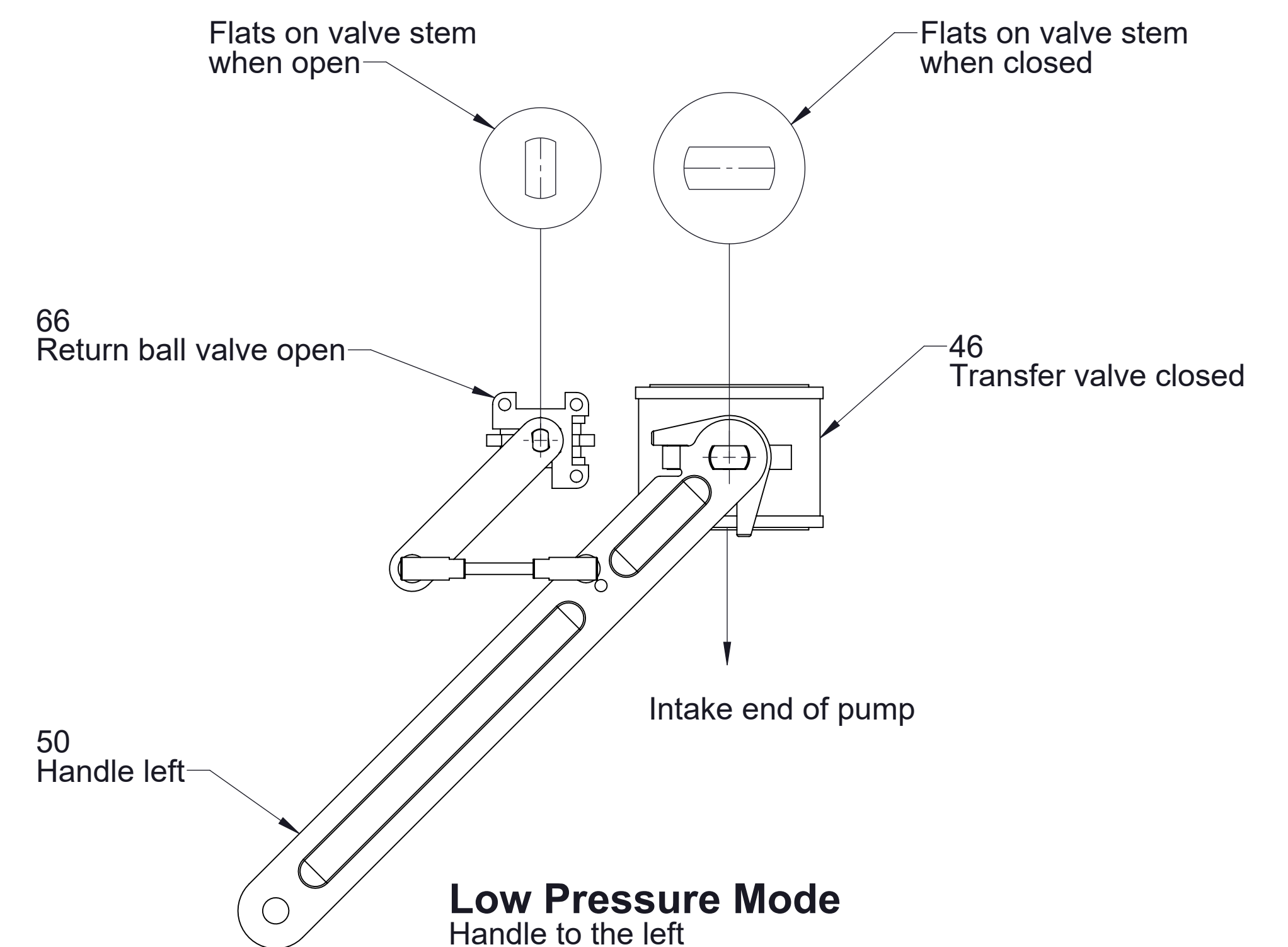
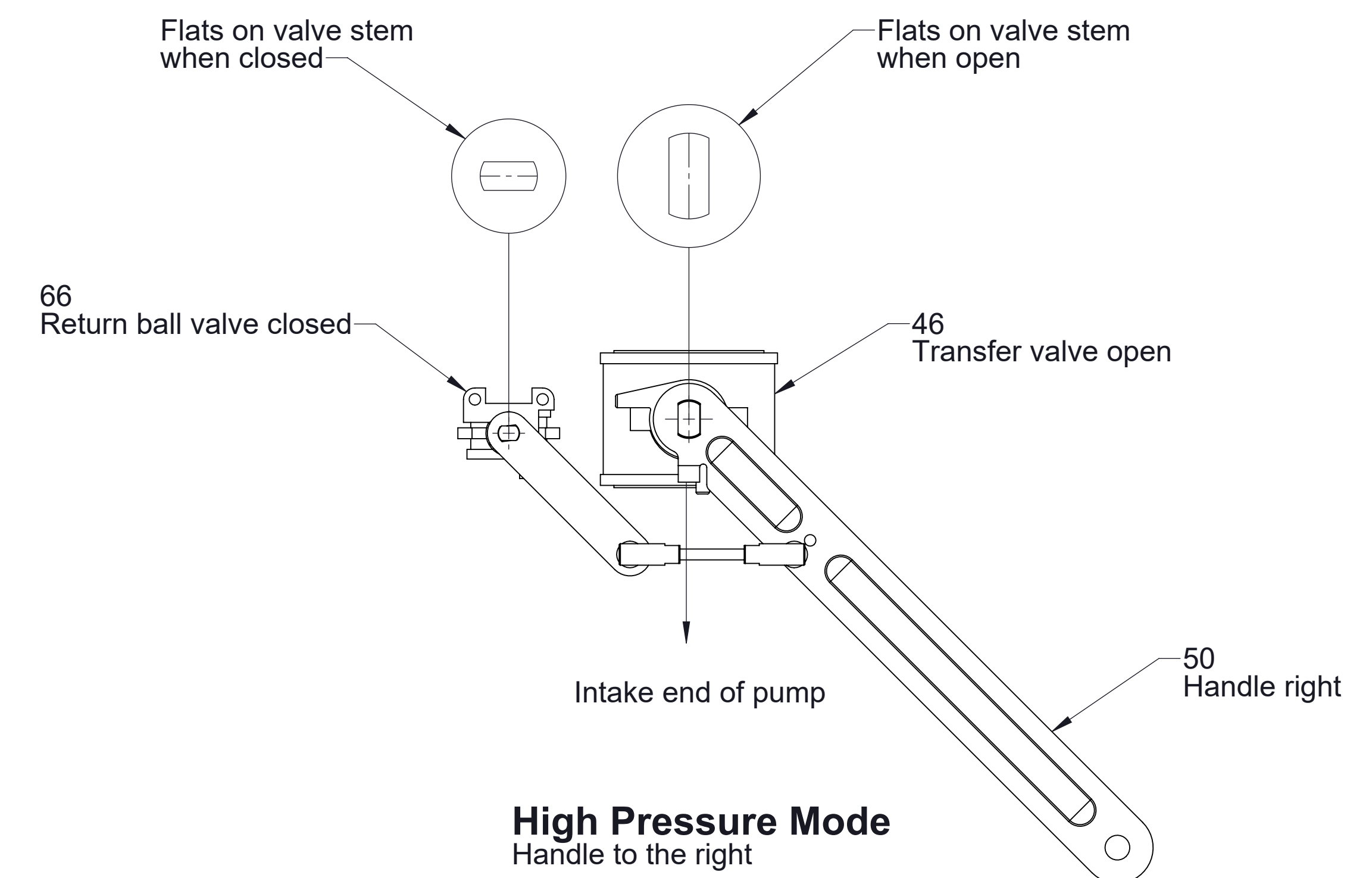


**Low Pressure Mode**  
 Handle to the left

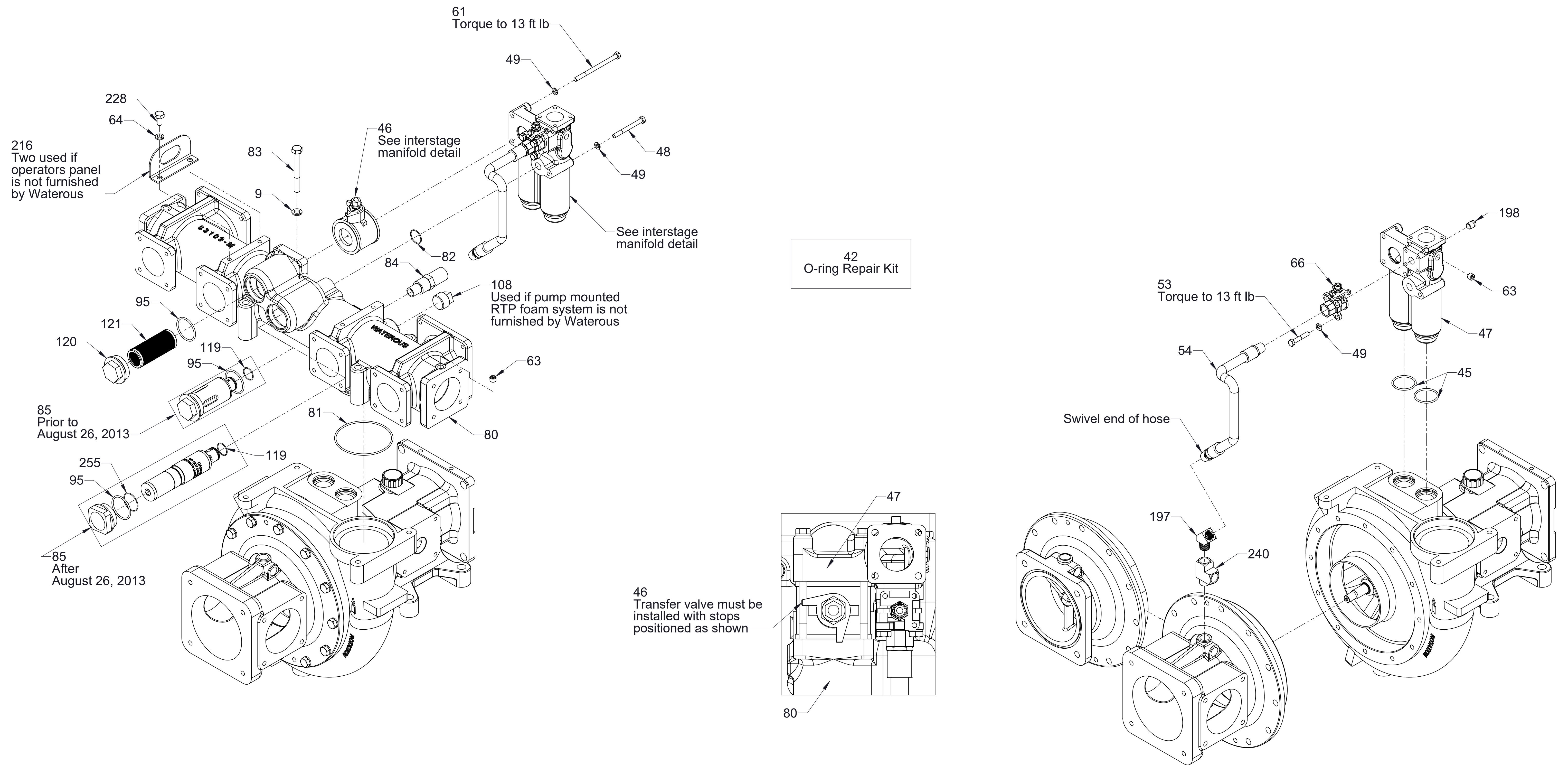
Ref No.	Description
46	Transfer Valve, 1-1/2 in (Includes 7/16-14 UNC Hex Nut and Lockwasher)
50	Handle-Crossover Valve
56	Stud-Fine, #10-32 x 2 in
57	Linkage-Ball Joint, Right Angle
58	Handle-Recirculation (CW Rotation)
59	Washer-Lock, Med-Spring, #10
60	Nut-Hex, Machine, #10-32
64	Washer-Lock, 10 mm
65	Nut-Hex, M10-1.5
66	Ball Valve, 1/2 in NPT (Includes 3/8-16 UNC Hex Nut and Lockwasher)
67	Handle
143	Washer, 5 mm
144	O-Ring, 3/4 x 1 in



**Discharge-Crossover Valve**  
 HL400D - CCW input rotation (CW impeller rotation)  
 HL400K - CW input rotation (CW impeller rotation)



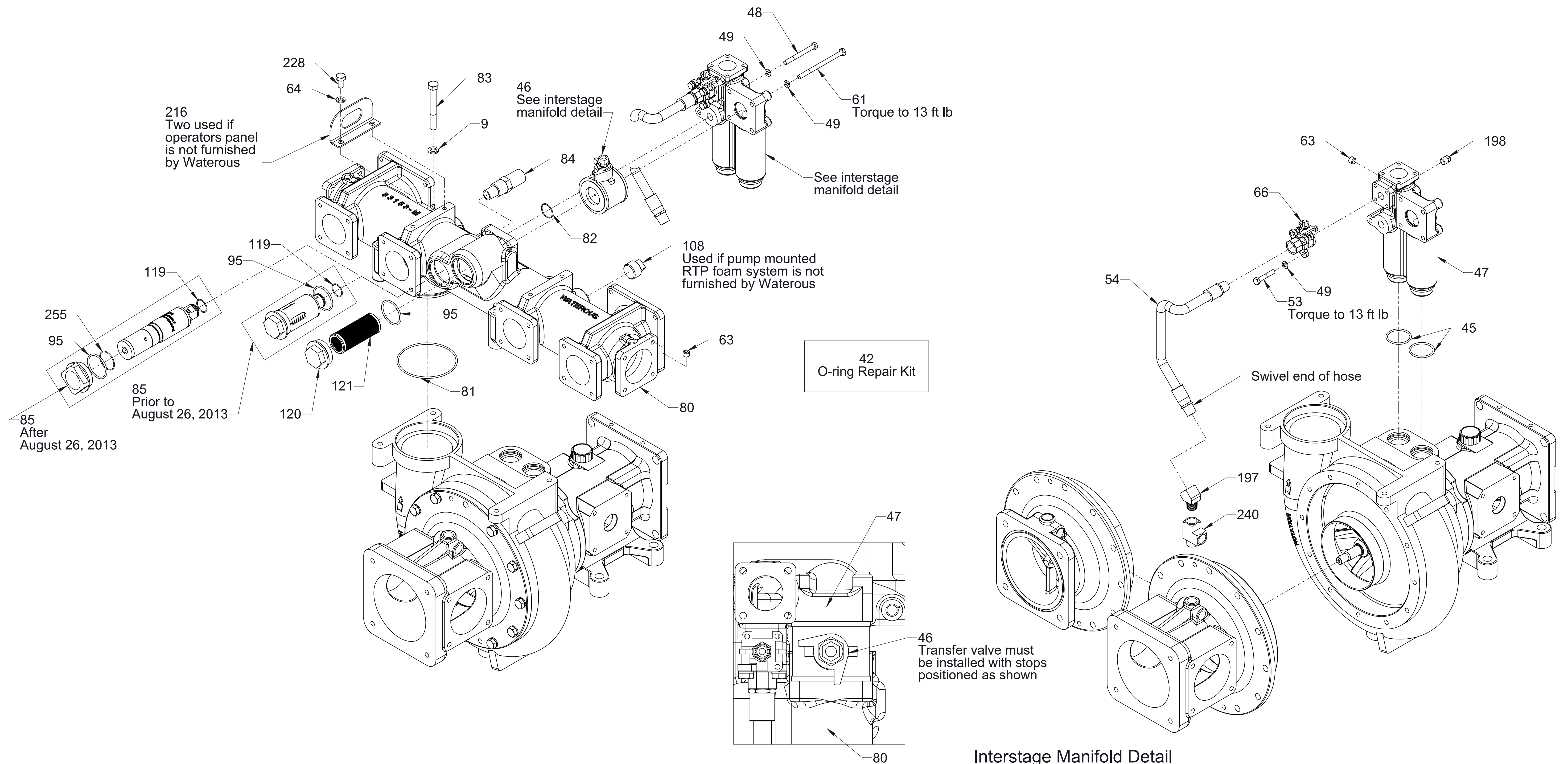
Ref No.	Description	Ref No.	Description	Ref No.	Description
9	Washer-Lock, 12 mm	63	Plug-Pipe, JIS, 1/4 BSPT	108	Plug-Pipe, Square Hd, 1 NPT
42	O-Ring Repair Kit (Includes 44, 45, 81, 82, 89, 95, 119, 255 plus o-rings for intake and discharge fittings, see reference number 42 on SPL83156)	64	Washer-Lock, 10 mm	119	O-Ring, 1 x 1-1/8 in
45	O-Ring, 1-3/4 x 2 in	64	Valve-Ball, 1/2 NPT (Includes 3/8-16 UNC Hex Nut and Lockwasher)	120	Cap-End, Strainer
46	Valve-Ball, 1-1/2 in (Includes 7/16-14 UNC Hex Nut and Lockwasher)	80	Manifold-Discharge	121	Strainer
47	Manifold-Interstage	81	O-Ring, 4-1/2 x 4-3/4 in	197	Elbow-Street, 45°, 1/2 NPT
48	Screw-Hex Hd, M8-1.25 x 80 mm	82	O-Ring, 1-1/8 x 1-1/4 in	198	Plug-Pipe, Square Hd, 1/4 NPT
49	Washer-Lock, 8 mm	83	Screw-Hex Hd, M12-1.75 x 100 mm	216	Bracket-Lifting
53	Screw-Hex Hd, M8-1.25 x 45 mm	84	Valve-Thermal Relief	228	Screw-Hex Hd, M10-1.5 x 20 mm
54	Hose Assembly	85	Discharge Relief Valve Assembly (Includes 95, 119)	240	Tee-Street, 1/2 NPT
61	Screw-Hex Hd, M8-1.25 x 120 mm	95	O-Ring, 1-7/8 x 2-1/8 in	255	O-Ring, 1-1/2 x 1-5/8 in



Interstage Manifold Detail

**Discharge-Manifold**  
 HL400D - CW input rotation (CCW impeller rotation)  
 HL400K - CCW input rotation (CCW impeller rotation)

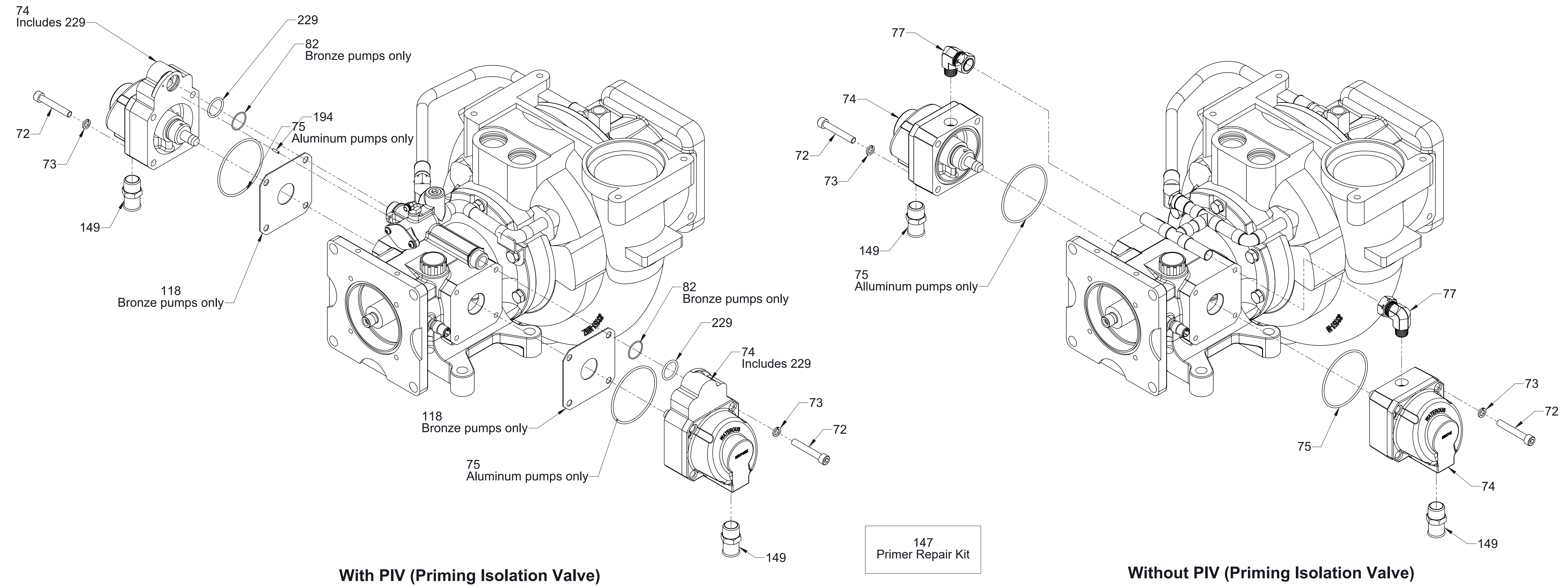
Ref No.	Description	Ref No.	Description	Ref No.	Description
9	Washer-Lock, 12 mm	63	Plug-Pipe, JIS, 1/4 BSPT	108	Plug-Pipe, Square Hd, 1 NPT
42	O-Ring Repair Kit (Includes 44, 45, 81, 82, 89, 95, 119, 255 plus o-rings for intake and discharge fittings, see reference number 42 on SPL83156)	64	Washer-Lock, 10 mm	119	O-Ring, 1 x 1-1/8 in
45	O-Ring, 1-3/4 x 2 in	66	Valve-Ball, 1/2 NPT (Includes 3/8-16 UNC Hex Nut and Lockwasher)	120	Cap-End, Strainer
46	Valve-Ball, 1-1/2 in (Includes 7/16-14 UNC Hex Nut and Lockwasher)	80	Manifold-Discharge (CW)	121	Strainer
47	Manifold-Interstage (CW)	81	O-Ring, 4-1/2 x 4-3/4 in	197	Elbow-Street, 45°, 1/2 NPT
48	Screw-Hex Hd, M8-1.25 x 80 mm	82	O-Ring, 1-1/8 x 1-1/4 in	198	Plug-Pipe, Square Hd, 1/4 NPT
49	Washer-Lock, 8 mm	83	Screw-Hex Hd, M12-1.75 x 100 mm	216	Bracket-Lifting
53	Screw-Hex Hd, M8-1.25 x 45 mm	84	Valve-Thermal Relief	228	Screw-Hex Hd, M10-1.5 x 20 mm
54	Hose Assembly	85	Discharge Relief Valve Assembly (Includes 95, 119)	240	Tee-Street, 1/2 NPT
61	Screw-Hex Hd, M8-1.25 x 120 mm	95	O-Ring, 1-7/8 x 2-1/8 in	255	O-Ring, 1-1/2 x 1-5/8 in



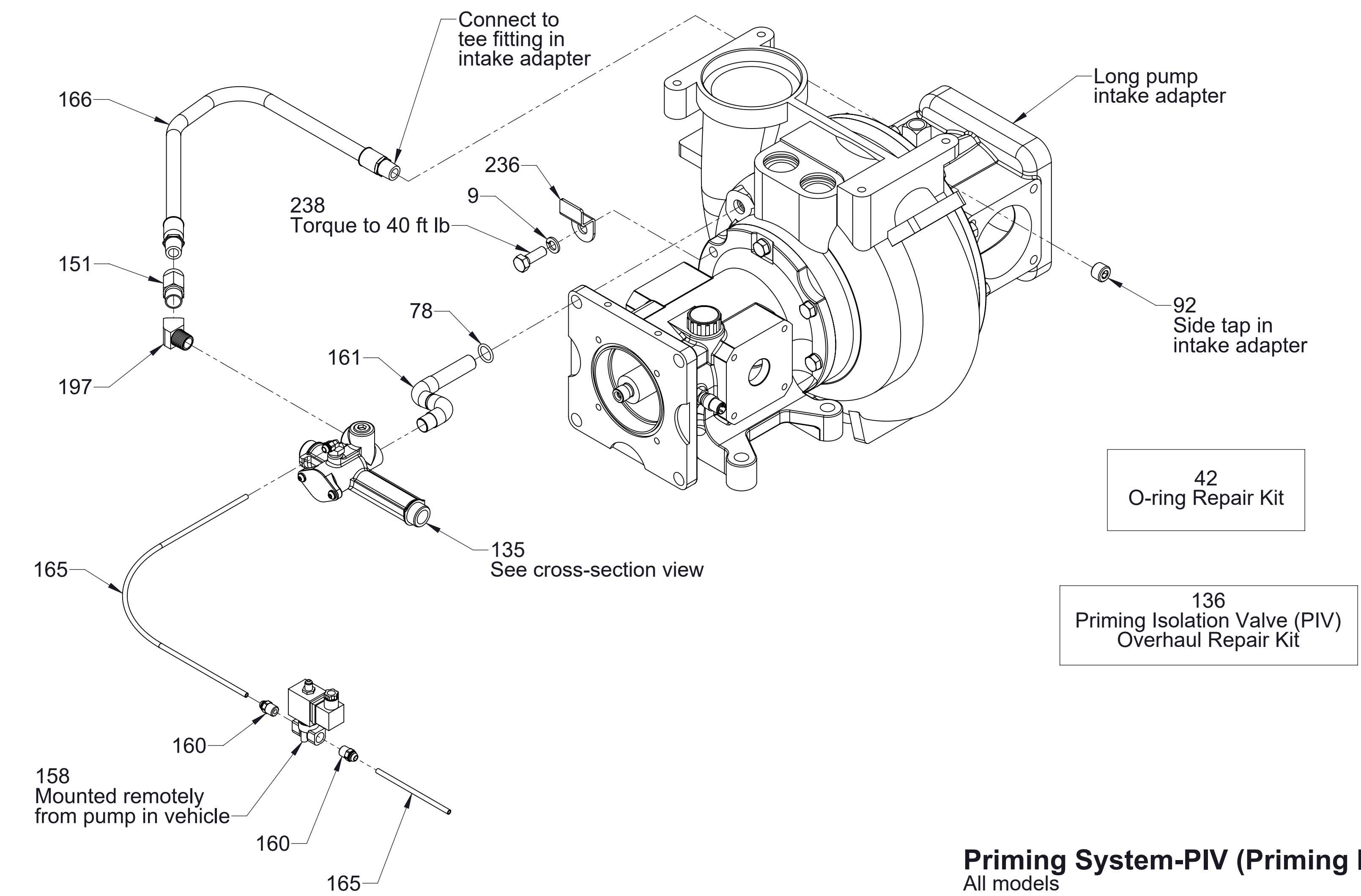
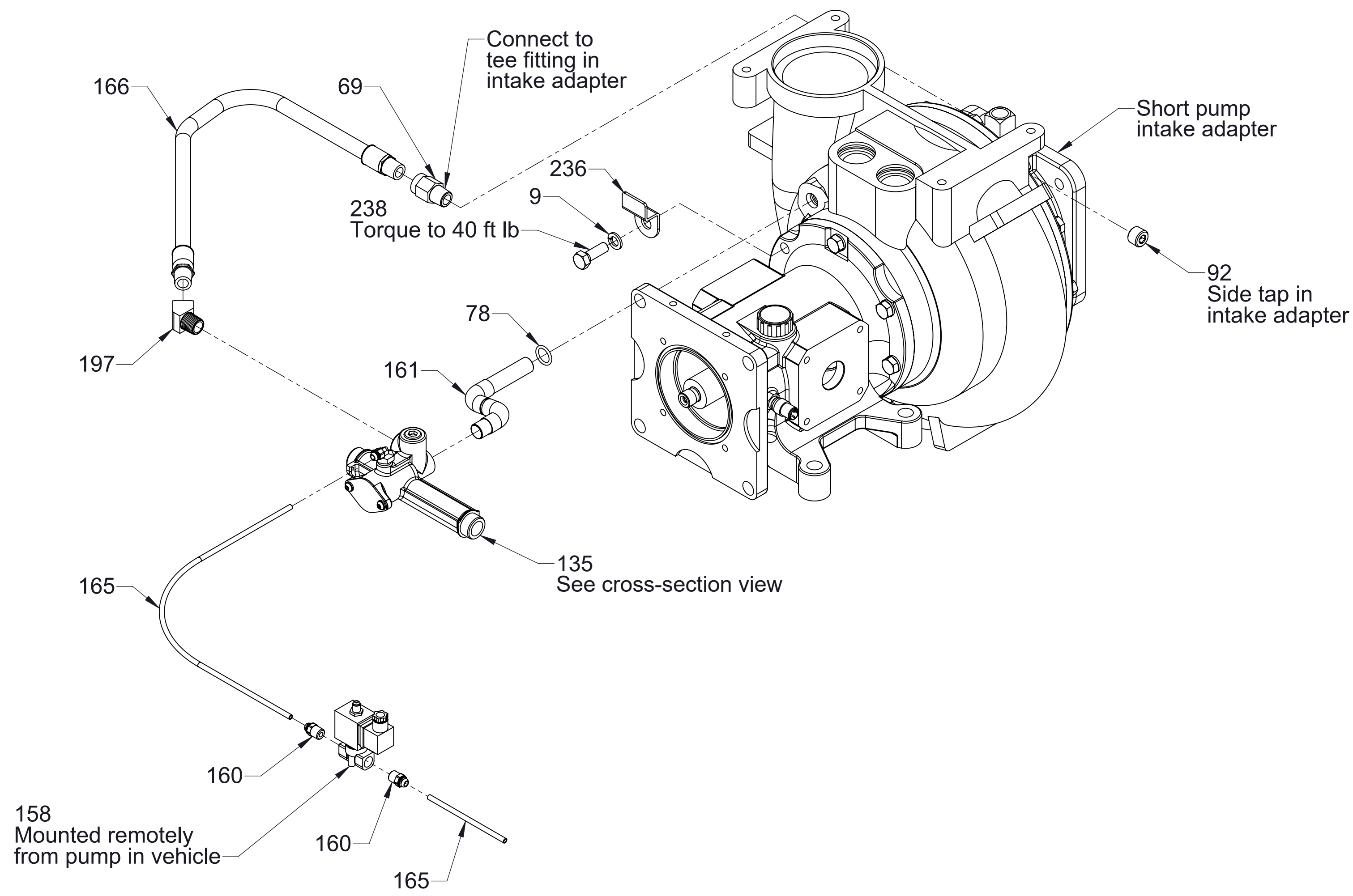
**Discharge-Manifold**  
 HL400D - CCW input rotation (CW impeller rotation)  
 HL400K - CW input rotation (CW impeller rotation)



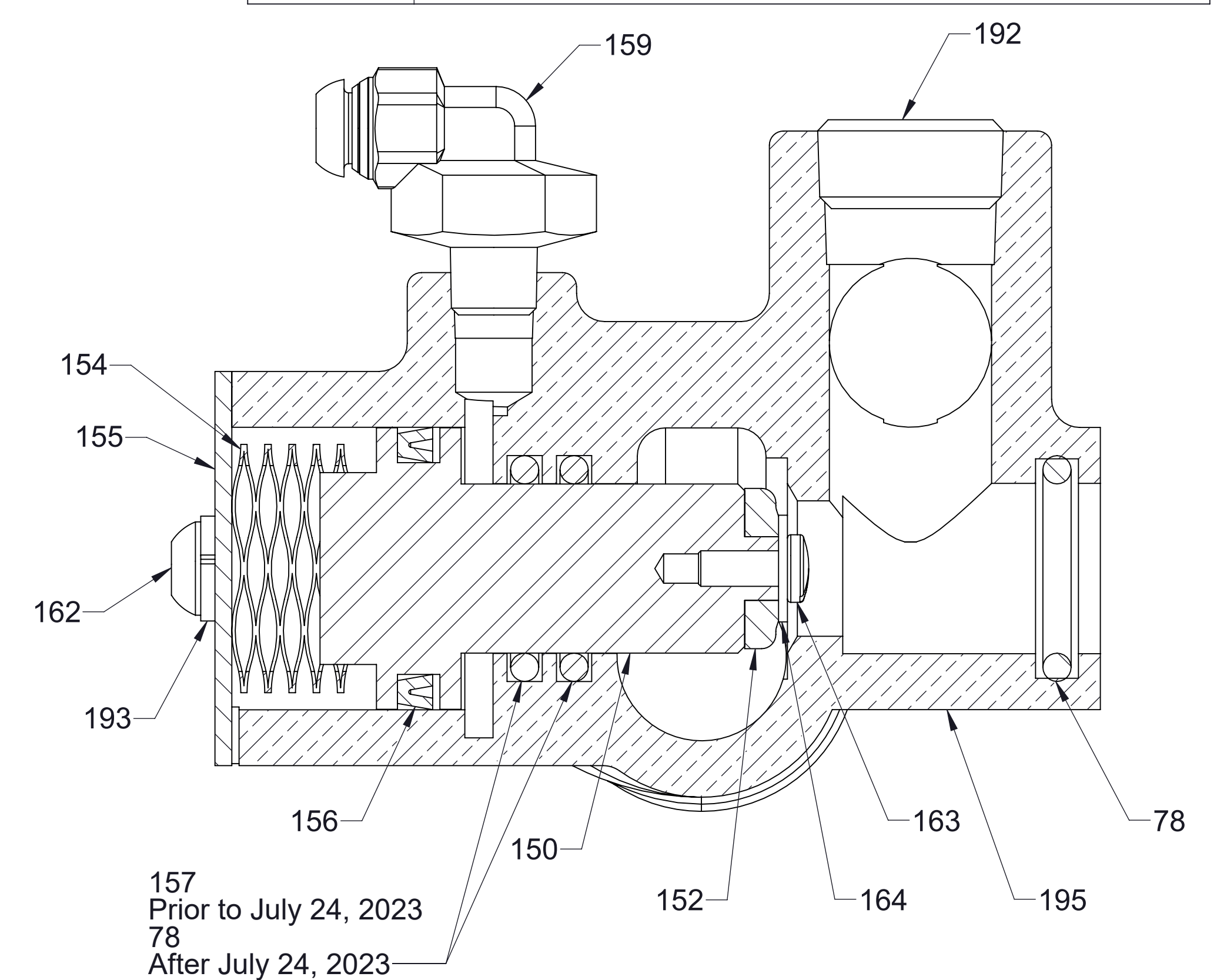
Ref No.	Description
72	Screw-Soc Hd, M10-1.5 x 65 mm
73	Washer-Lock, High Collar, 10 mm
74	Piston Primer Assembly (Includes 229)
75	O-Ring, 3-3/4 X 4 in
77	Elbow-Male, 1/2 NPT X 3/4 Tube
82	O-Ring, 1-1/8 x 1-1/4 in
118	Gasket-Priming Module
147	Piston Primer Repair Kit
149	Fitting-Hose Barb, 3/4 NPT X 1 Hose
194	Pin-Spring, 1/8 x 5/8 in
229	O-Ring, 1-1/8 x 1-3/8 in



**Priming System-Primers**  
All models



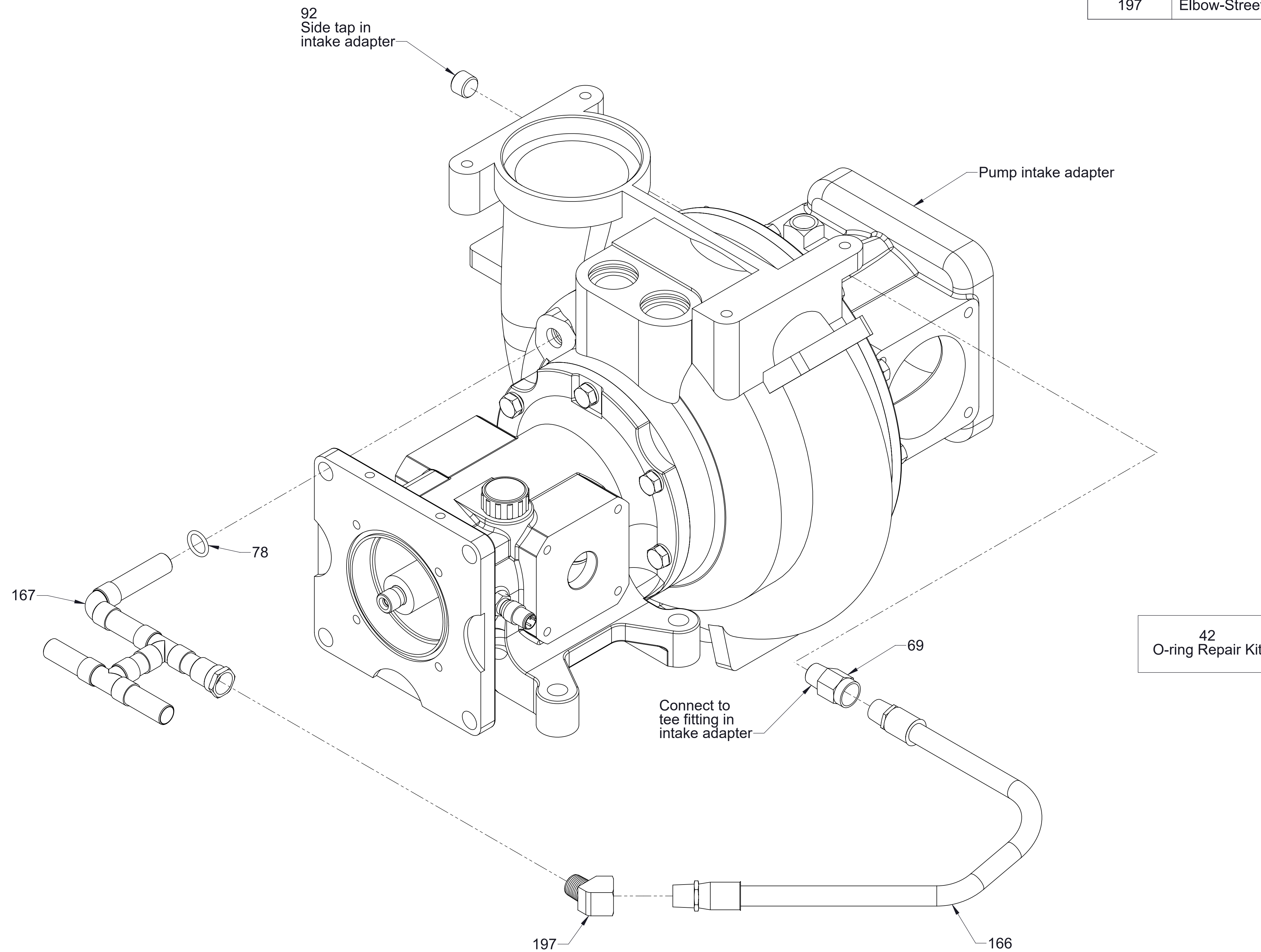
Ref No.	Description
9	Washer-Lock, 12 mm
42	O-Ring Repair Kit (Includes 44, 45, 81, 82, 89, 95, 119, 255 plus o-rings for intake and discharge fittings, see reference number 42 on SPL83156)
69	Valve-Check, Primer
78	O-Ring, 3/4 x 1 in
135	Priming Isolation Valve (PIV) Assembly (Includes 78, 150, 152, 154, 155, 156, 157, 159, 162, 163, 164, 192, 195)
136	Priming Isolation Valve (PIV) Overhaul Repair Kit (Includes 75, 78, 82, 118, 152, 154, 156, 163, 164, 229)
150	Piston-Priming Valve
151	Valve-Check, Primer
152	Seal-Priming Valve
154	Spring-Wave
155	Cover-Priming Valve
156	Seal-Piston
157	Seal-Rod
158	Valve-Solenoid, 3-Way, 1/4 NPT, 12V
159	Connector-Elbow, 90°, 6 mm Tube X 1/8 BSPT
160	Connector-Male, 6 mm Tube x 1/4 BSPT
161	Tube-Priming
162	Screw-Soc Button Hd, M6-1 x 12 mm
163	Screw-Pan Hd, M4-.7 x 10 mm
164	Washer, 4 mm
165	Tube-Nylon, Metric
166	Hose Assembly
192	Plug-Pipe, JIS, 1/2 BSPT
193	Washer-Lock, 6 mm
195	Valve-Priming, Body
197	Elbow-Street, 45°, 1/2 NPT
236	Clip-PIV Priming Tube
238	Screw-Hex Hd, M12-1.75 x 35 mm



**Priming System-PIV (Priming Isolation Valve)-With**  
All models

**Reference Number 135**  
Cross-Section View

Ref No.	Description
42	O-Ring Repair Kit (Includes 44, 45, 81, 82, 89, 95, 119, 255 plus o-rings for intake and discharge fittings, see reference number 42 on SPL83156)
69	Valve-Check, Primer
78	O-Ring, 3/4 x 1 in
166	Hose Assembly
167	Tube-Priming (Non-PIV)
197	Elbow-Street, 45°, 1/2 NPT



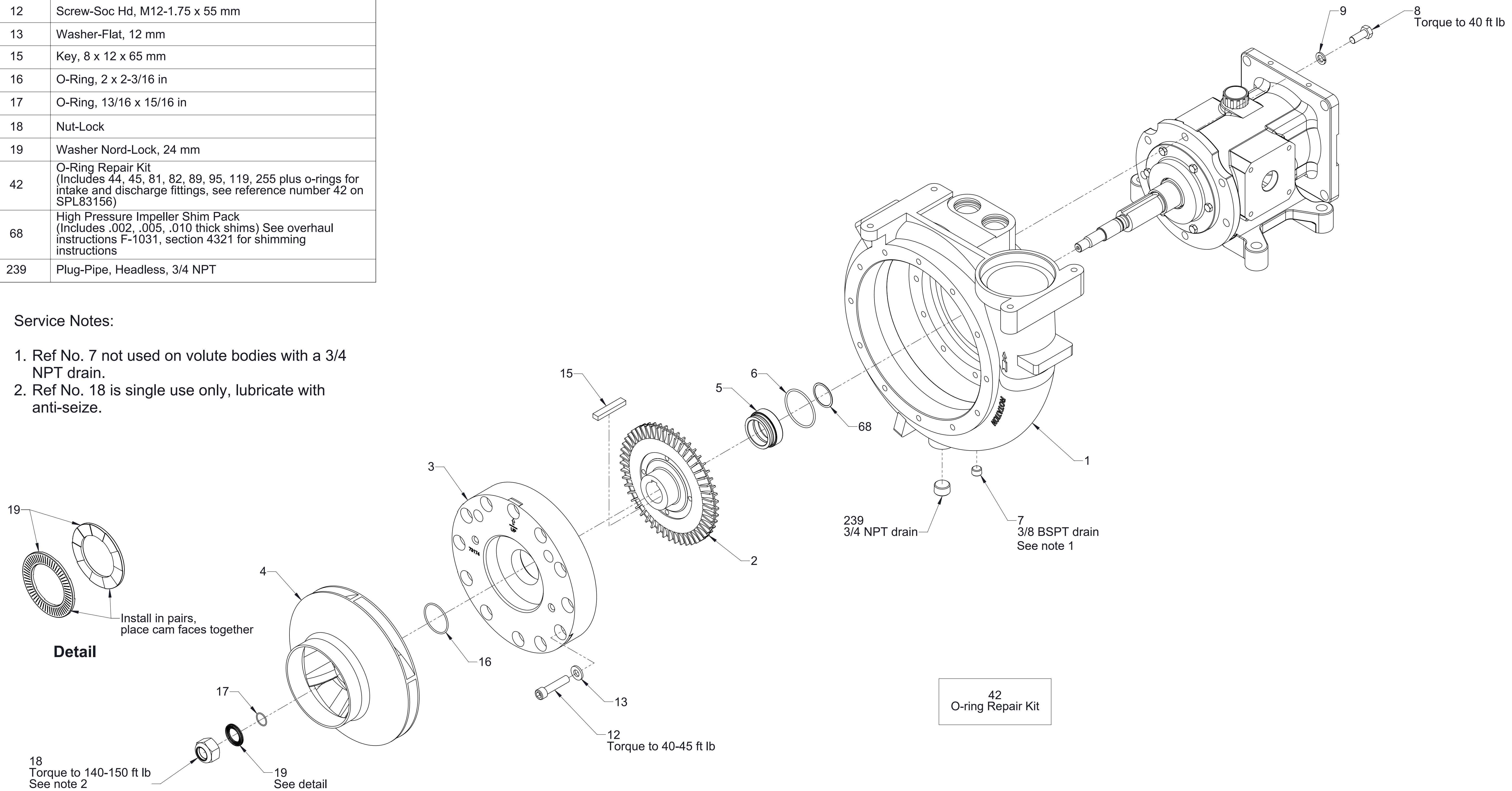
**Priming System-PIV (Priming Isolation Valve)-Without**  
All models

Prior to April 15, 2022

Ref No.	Description
1	Body-Volute
2	Impeller-High Pressure
3	Plate-Separator (CW or CCW)
4	Impeller
5	Mechanical Seal Repair Kit (Includes 6, 16, 17, 18, 19, 68, 89)
6	O-Ring, 2-1/2 x 2-3/4 in
7	Plug-Pipe, JIS, 3/8 BSPT
8	Screw-Hex Hd, M12-1.75 x 30 mm
9	Washer-Lock, 12 mm
12	Screw-Soc Hd, M12-1.75 x 55 mm
13	Washer-Flat, 12 mm
15	Key, 8 x 12 x 65 mm
16	O-Ring, 2 x 2-3/16 in
17	O-Ring, 13/16 x 15/16 in
18	Nut-Lock
19	Washer Nord-Lock, 24 mm
42	O-Ring Repair Kit (Includes 44, 45, 81, 82, 89, 95, 119, 255 plus o-rings for intake and discharge fittings, see reference number 42 on SPL83156)
68	High Pressure Impeller Shim Pack (Includes .002, .005, .010 thick shims) See overhaul instructions F-1031, section 4321 for shimming instructions
239	Plug-Pipe, Headless, 3/4 NPT

**Service Notes:**

1. Ref No. 7 not used on volute bodies with a 3/4 NPT drain.
2. Ref No. 18 is single use only, lubricate with anti-seize.

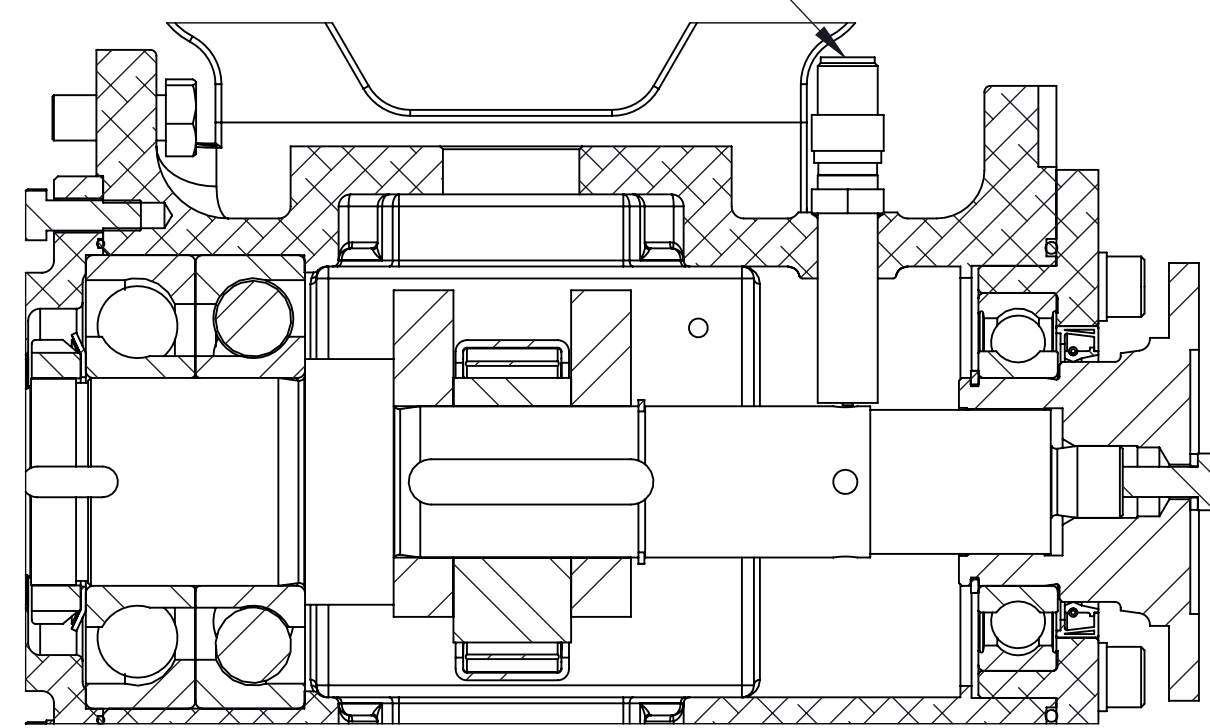


**Pump-Body and Impeller**  
All models

Ref No.	Description
20	Housing-Oil Seal
21	Seal-Oil, 2 x 2-5/8 in
22	Nut-Lock, Bearing, N11
23	Washer-Lock, Bearing, W11
24	Bearing-Ball, Single Row
25	Shaft-Impeller
26	Counterweight-Primer
27	Key, 8 x 12 x 55 mm
28	Eccentric-Primer
30	Bearing, Ball, Single Row, 55 x 100 x 21 mm
31	Bearing - Roller, Needle
32	Pedestal
33	Plug-Straight Thread, Hex Hd, M16-1.5
34	Washer-Flat, 5/8 in
35	Seal-Oil, 2-1/2 x 3-1/4 in
36	Ring-Retaining, External, 1-9/16 in Shaft Dia

Ref No.	Description
38	Pick-Up-Magnetic, Tachometer
39	Dipstick-Oil
40	Connector-Cable Assembly
42	O-Ring Repair Kit (Includes 44, 45, 81, 82, 89, 95, 119, 255 plus o-rings for intake and discharge fittings, see reference number 42 on SPL83156)
43	Flange-Companion, 1410 Series
44	O-Ring, 124 x 128 mm
49	Washer-Lock, 8 mm
52	Screw-Hex Hd, M8-1.25 x 25 mm
64	Washer-Lock, 10 mm
225	O-Ring, 5/8 x 3/4 in
231	Screw-Soc Hd, M10-1.5 x 25 mm
232	Ring-Retaining, External, 2-5/32 in Shaft Dia
233	O-Ring, 4-3/4 x 5 in
234	Housing-Bearing
237	Screw-Hex Hd, M8-1.25 x 30 mm

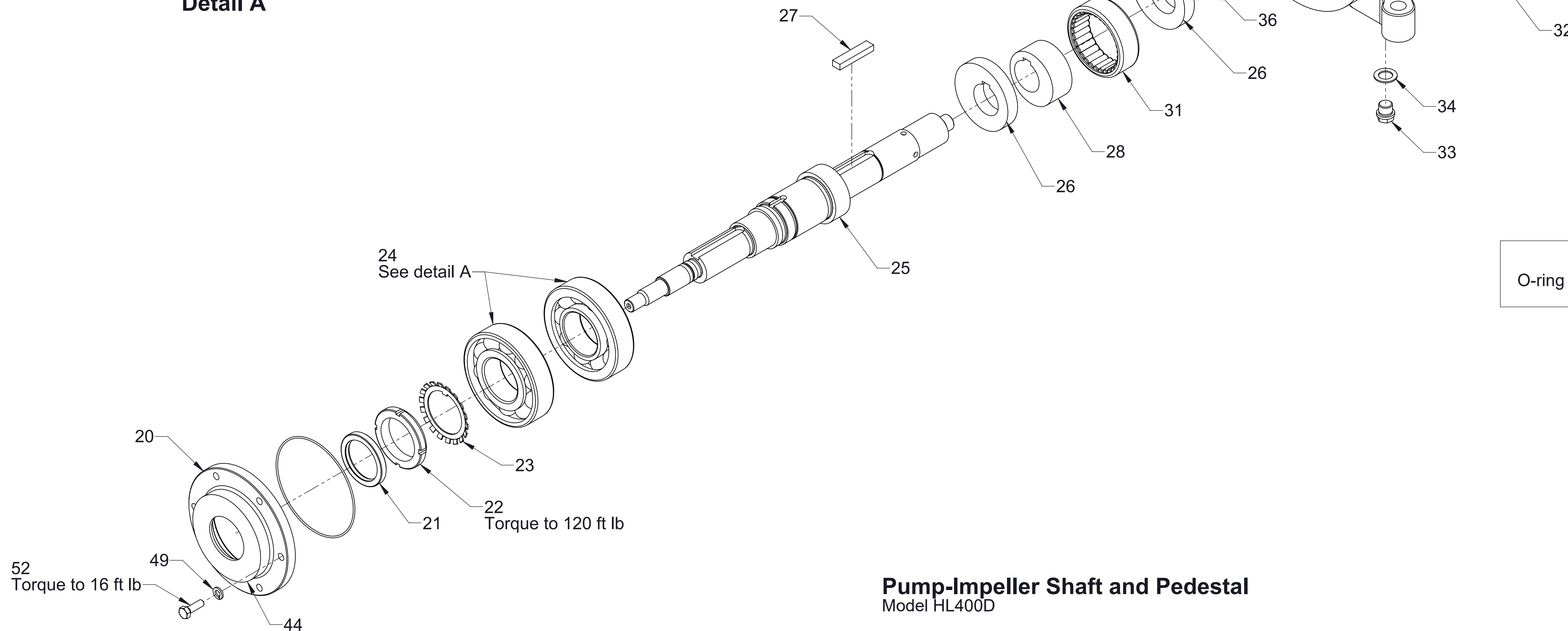
Thread into housing until contact with impeller shaft is made, back off 1/4 turn and tighten nut



Angular contact bearing installation

Tachometer pickup installation

**Detail A**

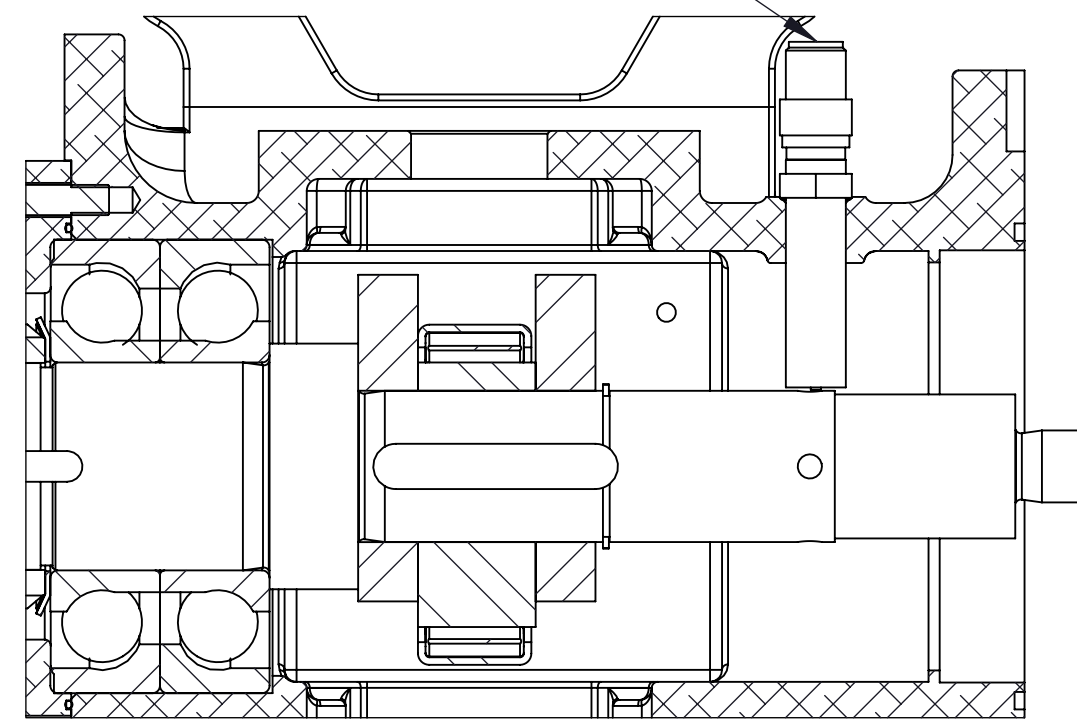


**Pump-Impeller Shaft and Pedestal**  
Model HL400D

Ref No.	Description
20	Housing-Oil Seal
21	Seal-Oil, 2 x 2-5/8 in
22	Nut-Lock, Bearing, N11
23	Washer-Lock, Bearing, W11
24	Bearing-Ball, Single Row
25	Shaft-Impeller
26	Counterweight-Primer
27	Key, 8 x 12 x 55 mm
28	Eccentric-Primer
31	Bearing - Roller, Needle
32	Pedestal
33	Plug-Straight Thread, Hex Hd, M16-1.5

Ref No.	Description
34	Washer-Flat, 5/8 in
36	Ring-Retaining, External, 1-9/16 in Shaft Dia
38	Pick-Up-Magnetic, Tachometer
39	Dipstick-Oil
40	Connector-Cable Assembly
42	O-Ring Repair Kit (Includes 44, 45, 81, 82, 89, 95, 119, 255 plus o-rings for intake and discharge fittings, see reference number 42 on SPL83156)
44	O-Ring, 124 x 128 mm
49	Washer-Lock, 8 mm
52	Screw-Hex Hd, M8-1.25 x 25 mm
225	O-Ring, 5/8 x 3/4 in

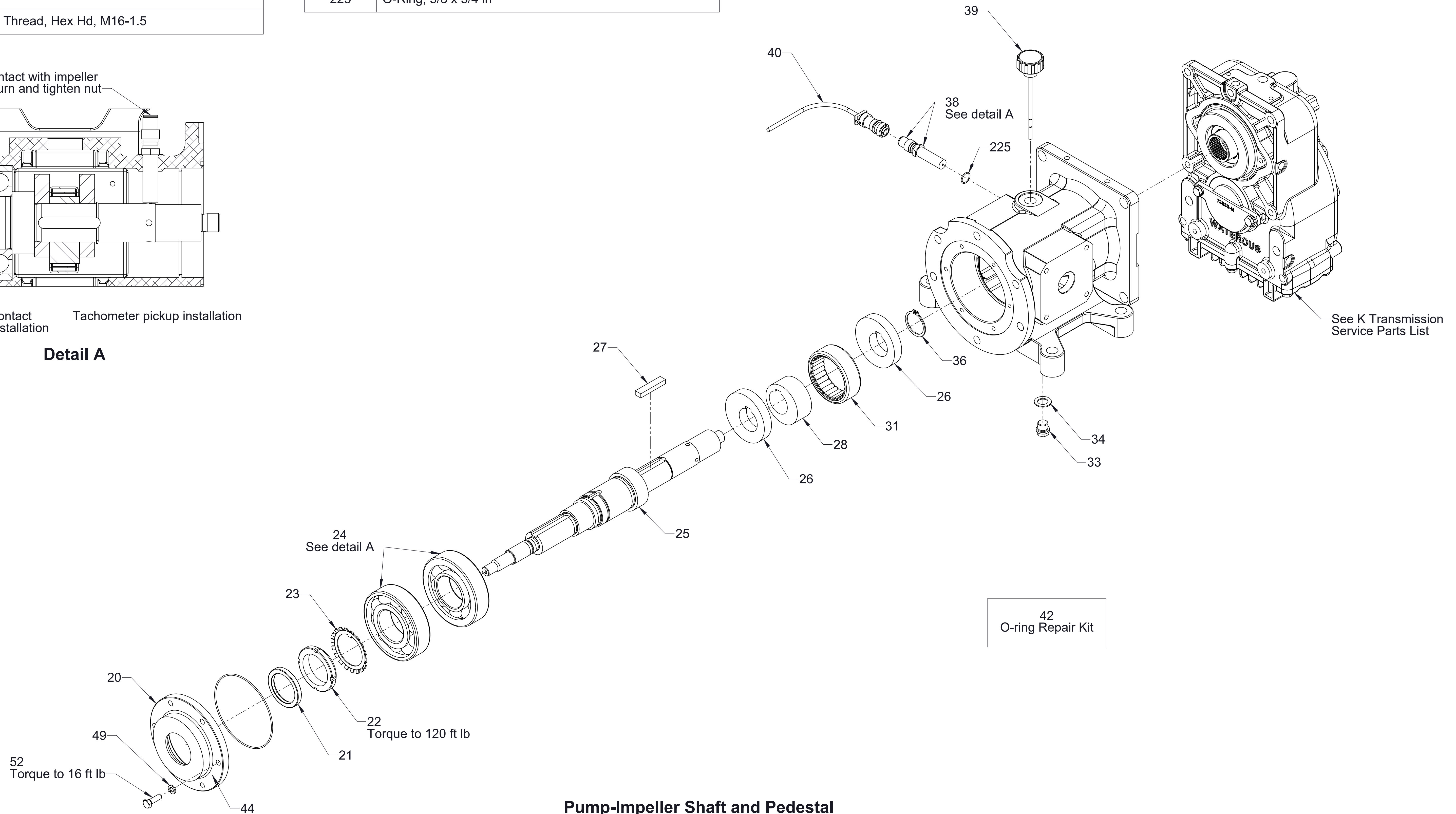
Thread into housing until contact with impeller shaft is made, back off 1/4 turn and tighten nut



Angular contact bearing installation

Tachometer pickup installation

**Detail A**

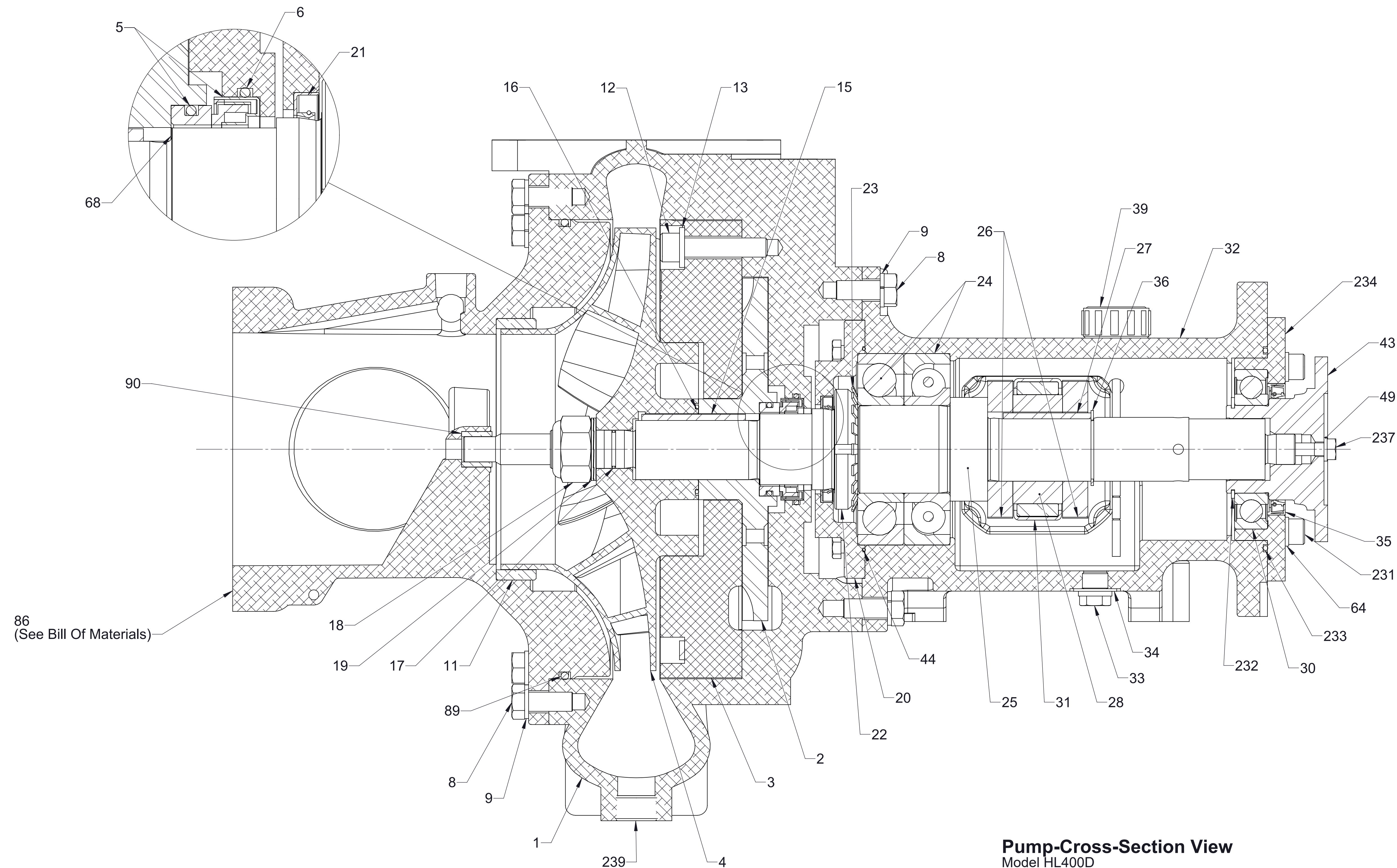


**Pump-Impeller Shaft and Pedestal**  
Model HL400K

Ref No.	Description
1	Body-Volute
2	Impeller-High Pressure
3	Plate-Separator (CW or CCW)
4	Impeller
5	Mechanical Seal Repair Kit (Includes 6, 16, 17, 18, 19, 68, 89)
6	O-Ring, 2-1/2 x 2-3/4 in
8	Screw-Hex Hd, M12-1.75 x 30 mm
9	Washer-Lock, 12 mm
11	Ring-Wear
12	Screw-Soc Hd, M12-1.75 x 55 mm
13	Washer-Flat, 12 mm
15	Key, 8 x 12 x 65 mm
16	O-Ring, 2 x 2-3/16 in
17	O-Ring, 13/16 x 15/16 in
18	Nut-Lock
19	Washer Nord-Lock, 24 mm

Ref No.	Description
20	Housing-Oil Seal
21	Seal-Oil, 2 x 2-5/8 in
22	Nut-Lock, Bearing, N11
23	Washer-Lock, Bearing, W11
24	Bearing-Ball, Single Row
25	Shaft-Impeller
26	Counterweight-Primer
27	Key, 8 x 12 x 55 mm
28	Eccentric-Primer
30	Bearing, Ball, Single Row, 55 x 100 x 21 mm
31	Bearing - Roller, Needle
32	Pedestal
33	Plug-Straight Thread, Hex Hd, M16-1.5
34	Washer-Flat, 5/8 in
35	Seal-Oil, 2-1/2 x 3-1/4 in
36	Ring-Retaining, External, 1-9/16 in Shaft Dia

Ref No.	Description
39	Dipstick-Oil
43	Flange-Companion, 1410 Series
44	O-Ring, 124 x 128 mm
49	Washer-Lock, 8 mm
64	Washer-Lock, 10 mm
68	High Pressure Impeller Shim Pack (Includes .002, .005, .010 thick shims) See overhaul instructions F-1031, section 4321 for shimming instructions
86	Intake Fitting Assembly (Includes 11, 90, 93, 94)
89	O-Ring, 11 x 11-3/8 in
90	Bearing-Out Board
231	Screw-Soc Hd, M10-1.5 x 25 mm
232	Ring-Retaining, External, 2-5/32 in Shaft Dia
233	O-Ring, 4-3/4 x 5 in
234	Housing-Bearing
237	Screw-Hex Hd, M8-1.25 x 30 mm
239	Plug-Pipe, Headless, 3/4 NPT

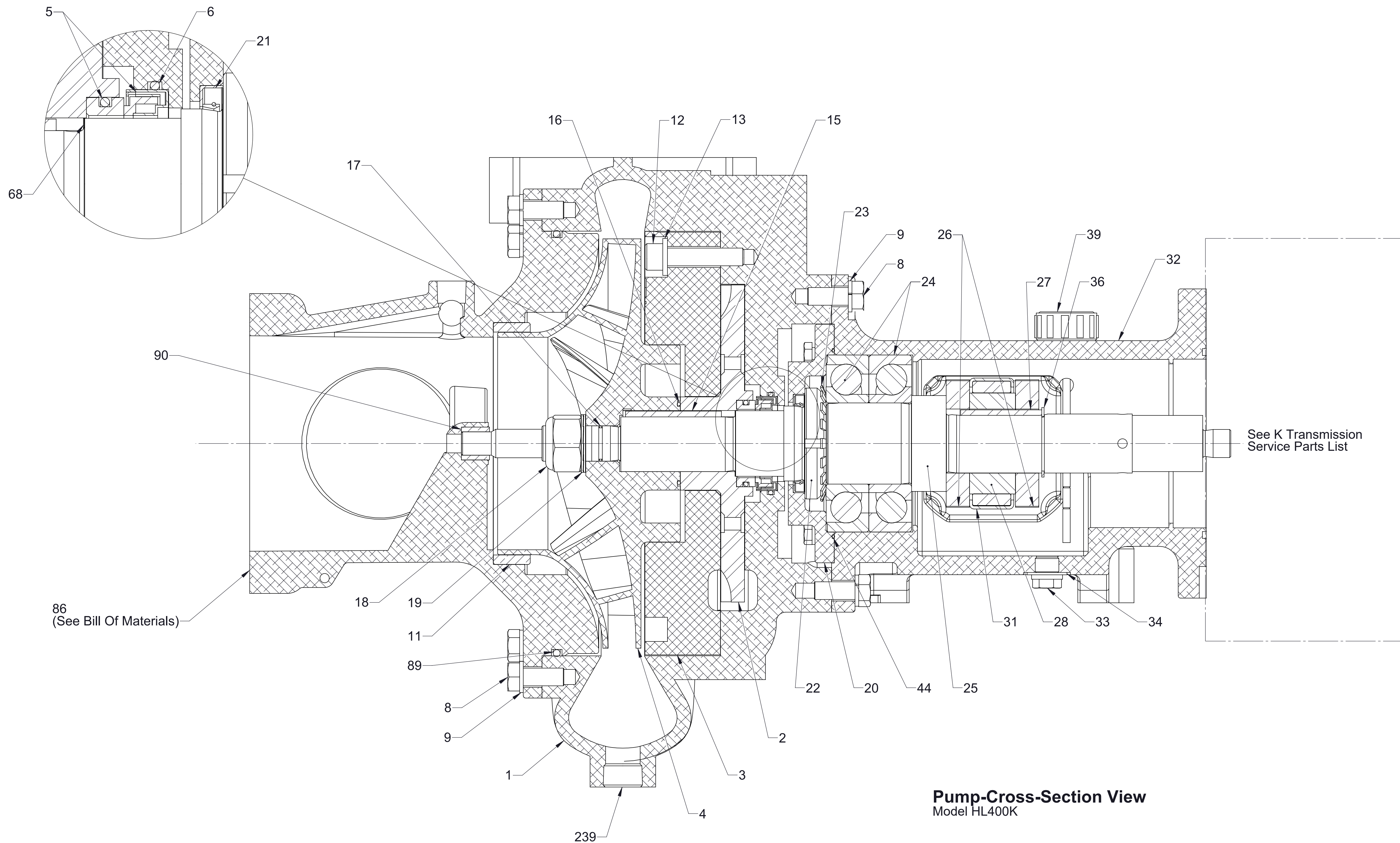


**Pump-Cross-Section View**  
Model HL400D

Ref No.	Description
1	Body-Volute
2	Impeller-High Pressure
3	Plate-Separator (CW or CCW)
4	Impeller
5	Mechanical Seal Repair Kit (Includes 6, 16, 17, 18, 19, 68, 89)
6	O-Ring, 2-1/2 x 2-3/4 in
8	Screw-Hex Hd, M12-1.75 x 30 mm
9	Washer-Lock, 12 mm
11	Ring-Wear
12	Screw-Soc Hd, M12-1.75 x 55 mm
13	Washer-Flat, 12 mm
15	Key, 8 x 12 x 65 mm
16	O-Ring, 2 x 2-3/16 in

Ref No.	Description
17	O-Ring, 13/16 x 15/16 in
18	Nut-Lock
19	Washer Nord-Lock, 24 mm
20	Housing-Oil Seal
21	Seal-Oil, 2 x 2-5/8 in
22	Nut-Lock, Bearing, N11
23	Washer-Lock, Bearing, W11
24	Bearing-Ball, Single Row
25	Shaft-Impeller
26	Counterweight-Primer
27	Key, 8 x 12 x 55 mm
28	Eccentric-Primer
31	Bearing - Roller, Needle

Ref No.	Description
32	Pedestal
33	Plug-Straight Thread, Hex Hd, M16-1.5
34	Washer-Flat, 5/8 in
36	Ring-Retaining, External, 1-9/16 in Shaft Dia
39	Dipstick-Oil
44	O-Ring, 124 x 128 mm
68	High Pressure Impeller Shim Pack (Includes .002, .005, .010 thick shims) See overhaul instructions F-1031, section 4321 for shimming instructions
86	Intake Fitting Assembly (Includes 11, 90, 93, 94)
89	O-Ring, 11 x 11-3/8 in
90	Bearing-Out Board
239	Plug-Pipe, Headless, 3/4 NPT



**Pump-Cross-Section View**  
Model HL400K