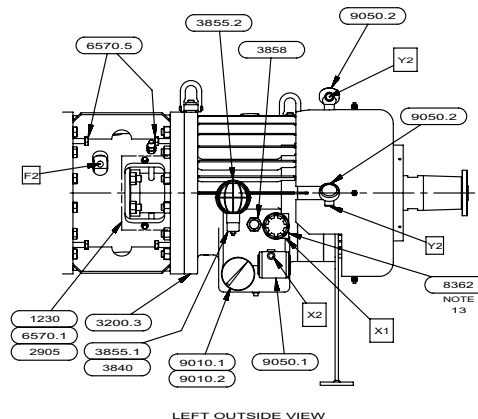
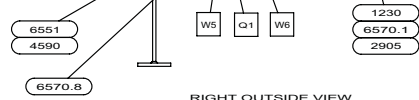




1. FOR LIST OF CONNECTIONS SEE GENERAL ARRANGEMENT (GA) DRAWING D69315.
2. FOR LIST OF PARTS SEE "PUMP PARTS LIST" PL69481.
3. ALL INTERNAL CASING WELDS TO BE GROUND FLUSH TO BASE METAL. THE ENTIRE INTERNAL SURFACE OF THE CASING TO BE FINISHED TO 125 RMS [3,2 μ m] MAXIMUM.
4. PEEL LAMINATED SHIM (3126) AS REQUIRED TO OBTAIN .005 TO .008 INCH [0,13 TO 0,20 MM] SHAFT END PLAY. VERIFY END PLAY AFTER SHIM THICKNESS IS FINALIZED AND PUMP IS RE-ASSEMBLED.
5. TIGHTENING TORQUE FOR FASTENER (6570.3) & (6570.4) SCREWS IS 269 LB-FT [365 N-M].
6. TIGHTENING TORQUE FOR FASTENERS (6570.2) & (6580.2) IS 269 LB-FT [365 N-M].
7. TIGHTENING TORQUE FOR FASTENER (6580.3) IS 162 LB-FT [220 N-M]
8. ****CAUTION****
REMOVE SHAFT SUPPORT STUDS (6572.2) PRIOR TO STARTING PUMP. STUDS ARE FOR ASSISTING IN DISASSEMBLY ONLY.
9. REQUIRED SEATING TORQUE PER LOCKING SCREW FOR SLEEVE LOCKNUT (3712) IS 150 IN-LB [17 N-M].
10. TO REMOVE IMPELLER HUB CAP (2914) AND IMPELLER NUT (2912) TURN NUT CLOCKWISE 5 TO 8 TURNS WHILE FACING PUMP SUCTION. BREAK CAP AWAY FROM PROPELLER (2270) TO RELEASE ANY TRAPPED RESIDUAL PRESSURE PRIOR TO COMPLETELY REMOVING NUT.
11. TIGHTENING TORQUE FOR IMPELLER NUT (2912)

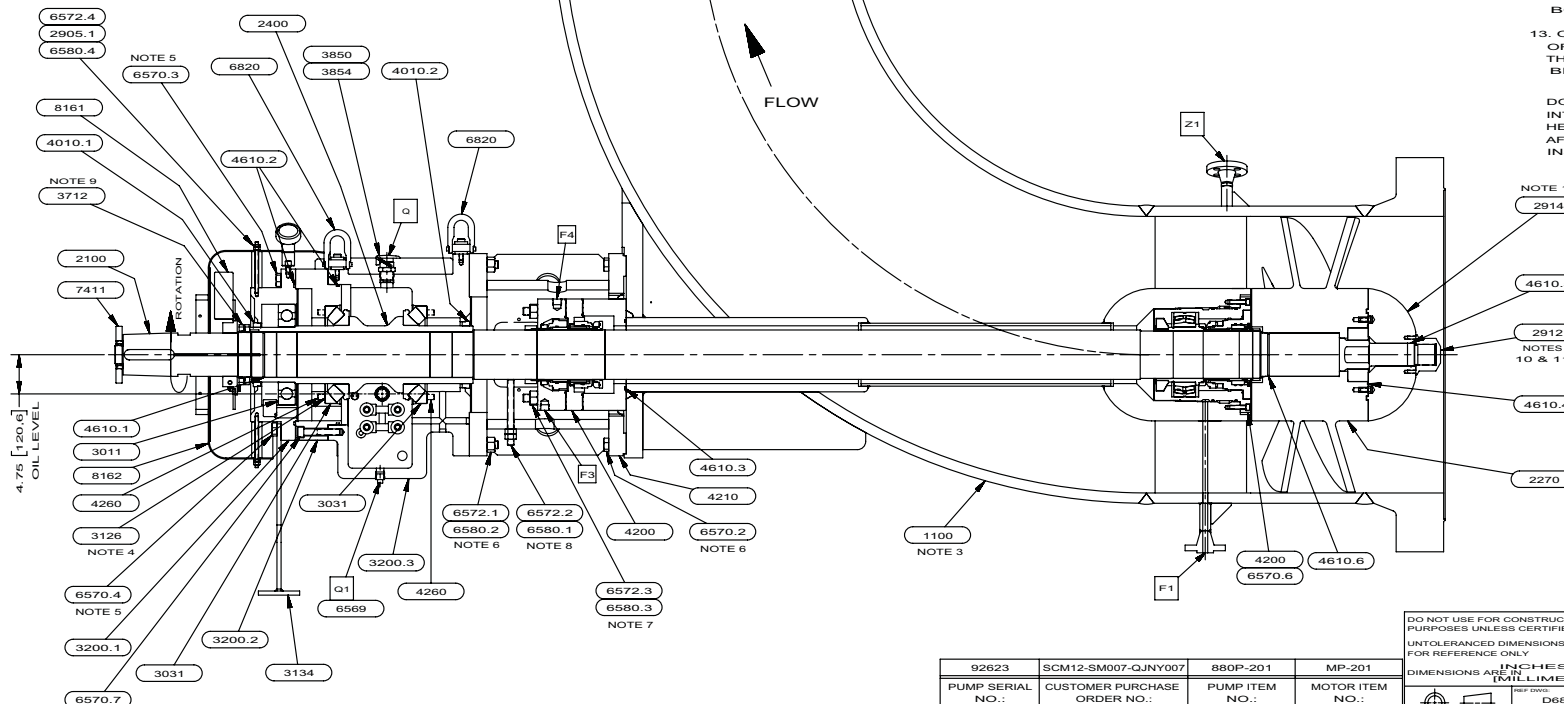
COEFFICIENT OF FRICTION	TORQUE LB-FT	TORQUE N-M
.06	1061	1438
.09	1549	2100

12. TIGHTENING TORQUE FOR INBOARD PRIMARY SEAL (4200.1) BOLTING (6570.6) IS 23 FT-LBS [31 N-M].

13. OIL LEVEL SWITCH (8362) TO BE INSTALLED WITH THE TWIN TIPS OF THE SENSOR PROBE IN A HORIZONTAL PLANE. IN THIS POSITION THE FLOW ARROWS ON ONE OF THE FLATS OF THE SENSOR PROBE WILL BE IN A VERTICAL PLANE.

CAUTION

DO NOT USE THE INSTRUMENT HEAD TO TIGHTEN THE SWITCH INTO THE THRUST BEARING HOUSING. ROTATION OF THE INSTRUMENT HEAD WITH RESPECT TO THE SENSOR PROBE CAN ONLY BE DONE AFTER REMOVING THE SENSOR PROBE WIRING FROM THE INSTRUMENT HEAD.



SERVICE: 880R 201 PUMP

DO NOT USE FOR CONSTRUCTION PURPOSES UNLESS CERTIFIED		1	MAD	KBE	12-18-12	UPDATE PER CUSTOMER COMMENTS	
		REV	REV	APP	DATE	DESCRIPTION	
UNTOLERANCED DIMENSIONS ARE FOR REFERENCE ONLY		REVISIONS					
DIMENSIONS ARE (INCHES)		DR BY: GUS		08-13-2012		 LAWRENCE PUMPS <i>A Flowserve company</i>	
(MILLIMETERS)		CK BY: KZ		09-18-2012			
		APP ENG:					
		REL ENG:				CROSS SECTIONAL DRAWING OF 36" x 36" SERIES 9500 HORIZONTAL LOOP REACTOR CIRCULATION PUMP SIZE: D DWG NO: 69481 SCALE: 1" = 1" SHEET: 1 OF 1	
NEW DWG							
D68861							
D65517							
©2012 LAWRENCE PUMPS							
NOTICE: This document is the property of Lawrence Pumps, and is protected by U.S. and international copyrights; all rights reserved. The contents are proprietary to Lawrence Pumps and may be the subject of issued or pending patents and/or confidentiality agreements. Retention, retrieval, use, disclosure or conveyance to third parties of this document and/or its contents is prohibited without prior written consent of Lawrence Pumps.							

CROSS SECTIONAL DRAWING OF
36" x 36" SERIES 9500 HORIZONTAL
LOOP REACTOR CIRCULATION PUMP

SIZE	DWG NO	SCALE: NTS
D	69481	SHEET: 1 OF

PUMP PARTS LIST

LAWRENCE PUMPS

A Flowserve company

DESCRIPTION: 36"x 36" SERIES
9500 HORIZONTAL LOOP
REACTOR CIRCULATION PUMP

CERTIFIED BY _____ DATE _____

R S P	PART NO.	QTY PER UNIT	PART NAME	MATERIALS		ITEM NO.	REMARKS
				TYPE	ASTM		
	1100	1	CASING	STEEL	SA234-WPC -S58, SA420-WPL6-S58, SA516-GR:70, SA105, A108, SA36, SA333 GR.6, SA350LF2 CL1	092-69153-001	
	1230	2	HAND HOLE COVER	STEEL		042-7809-C000	EXPANDED METAL
X	2100	1	SHAFT	4340 STEEL	A322	001-69475-000	
X	2270	1	PROPELLER (DRIVE COLLAR)	ALUMINUM (4340 STEEL)	B247-GR:6061 T6 (A322)	081-401-69455	
X	2400	1	BEARING SLEEVE	1045 STEEL		012-69462-000	THRUST/RADIAL
X	2912	1	IMPELLER NUT	17-4PH	B564	255-65516-001	
X	2914	1	IMPELLER HUB CAP	ALUMINUM 6061		810-69456-000	
X	3011	1	RADIAL BALL BEARING	SKF INDUSTRIES #6234M/C3		002-0194	
X	3031	2	THRUST BEARING	SKF INDUSTRIES #29336 E/L5DA		002-0413	
X	3126	1	BEARING SHIM	STAINLESS STEEL		307-00005-000	
	3134	1	SUPPORT FOOT	STEEL	A36	259-69472-000	
	3200.1	1	BEARING HOUSING	STEEL	A216 GR. WCB	034-69453-000	RADIAL
	3200.2	1	BEARING HOUSING	STEEL	A36	034-69452-000	THRUST
	3200.3	1	BEARING HOUSING	STEEL	A216 GR. WCB/A36	034-69449-000	THRUST
X	3712	1	SLEEVE LOCKNUT	WHITTET HIGGINS		900-06-28	
	3840	1	LUBRICATING PIPE	STEEL		237-0840500-00	
	3850	1	OIL STRAINER	TEDECO		232-001-00000	
	3854	1	BREATHING/FILLER CAP	TEDECO		232-000-00003	
	3855.1	1	CONSTANT LEVEL OILER	TRICO		232-002-00014	
	3855.2	1	LUBRICATOR GUARD	TRICO		232-002-00013	
	3858	1	OIL SIGHT GLASS	TEDECO		232-007-00029	

PUMP PARTS LIST

PL 69481

R S P	PART NO.	QTY PER UNIT	PART NAME	MATERIALS		ITEM NO.	REMARKS
				TYPE	ASTM		
X	4010.1	1	SHAFT SEAL	INPRO		007-05-0113	
X	4010.2	1	SHAFT SEAL	INPRO		007-05-0112	
X	4200	1	MECHANICAL SEAL (INBOARD PRIMARY SEAL)	JOHN CRANE		315-92623-00	
X		1	MECHANICAL SEAL (OUTBOARD PRIMARY)	JOHN CRANE		(INCLUDED WITH 4200)	
	4210	1	MECHANICAL SEAL HOUSING	STEEL/316	A36/53/276	071-69479-000	
X	4260	40	SPRING	STEEL		243-00013	
X	4590	1	GASKET	NEOPRENE		252-40104-003	
X	4610.1	1	O-RING	BUNA-N		231-2252-02	
X	4610.2	2	O-RING	BUNA-N		231-2462-02	
X	4610.3	1	O-RING	KALREZ		231-2445-06	
X	4610.4	1	O-RING	KALREZ		231-2268-06	
X	4610.5	1	O-RING	KALREZ		231-2148-06	
X	4610.6	1	O-RING	KALREZ		231-2250-06	
	6551	1	COOLING COIL	DUPLEX SS /304/316	A182/240/276/790	232-004-51873-4	
X	7411	1	COUPLING LOCK NUT	STEEL	1018/1020	311-63077-000	
	8161	1	FAN	ALUMINUM		082-69468-000	
	8162	1	FAN HOOD	ALUMINUM		249-69467-000	
	8362	1	SWITCH (LEVEL)	MAGNETROL		232-009-00115	
	9010.1	1	TEMPERATURE MEASURING INSTRUMENT	ASHCROFT		232-018-00011A	THERMOMETER
	9010.2	1	TEMPERATURE MEASURING INSTRUMENT	ASHCROFT		232-011-00064	THERMOWELL
	9050.1	1	TRANSMITTER (TEMPERATURE)	ROSEMOUNT		232-011-00295A	
	9050.2	2	TRANSMITTER (VIBRATION)	METRIX		232-019-00370	
X		1	BEARING FRAME – CARTRIDGE ASSEMBLY			315-92623-00	
			CONSTISTING OF P/N'S 3031,3011, 6570.3, 6570.4, 6570.7, 6820, 4010.1, 4010.2, 2400, 3200.1, 3200.2, 3200.3, 3134, 6569, 3126, 4260, 4610.1, 7411, 3850, 3854, 4610.2, 3855.2, 3858, 8362, 9050.1, 9050.2, 9010.1, 9010.2, 3855.1, 3840.1, 3712, 4590, 6551				
		1	PRIMARY FASTENER KIT	316 SS/STEEL		258-1X-69481	