



SOUTHWEST OILFIELD PRODUCTS, INC.

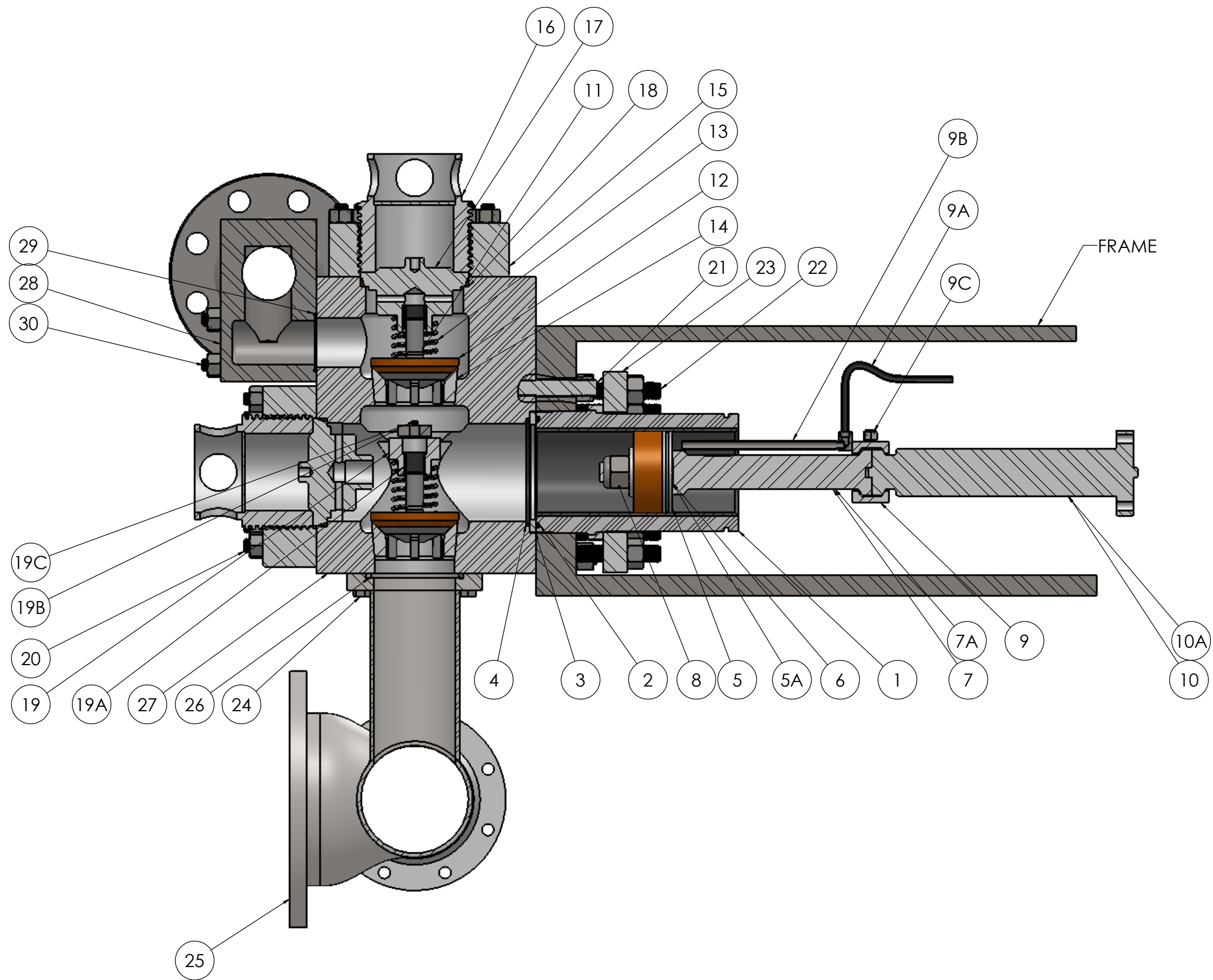
MUD PUMP EXPENDABLE PARTS LIST

OEM STYLE FLUID END FOR GARDNER DENVER PZ-11/PZ-10

®

MUD PUMP PERFORMANCE CHART

PUMP	MAX	MAX	STROKE	LINER SIZE IN INCHES													
MODEL	I.H.P.	S.P.M.	LENGTH		4	4 ½	5	5 ¼	5 ½	5 ¾	6	6 ¼	6 ½	6 ¾	7	7 ¼	7 ½
PZ-11	1600	115	11”	MAX-P.S.I.	5000	5000	5000	5000	5000	5000	5000	4899	4529	4200	3905	3641	3402
				G.P.R.	1.80	2.27	2.80	3.09	3.39	3.71	4.04	4.38	4.74	5.11	5.50	5.90	6.31
PZ-10	1300	115	10”	MAX-P.S.I.	5000	5000	5000	5000	5000	5000	4933	4547	4203	3898	3624	3379	3158
				G.P.R.	1.63	2.07	2.55	2.81	3.09	3.37	3.67	3.98	4.31	4.65	5.00	5.36	5.74
NOTE:	I.H.P.= INPUT HORSE POWER		S.P.M.= STROKE PER MINUTE			P.S.I.= POUNDS PER SQUARE INCH				G.P.R.= GALLONS PER REVOLUTION							
*MAX – P.S.I. CALCULATIONS DO NOT EXCEED MAXIMUM FLUID END PRESSURE RATINGS																	
BASED ON 100% VOLUMETRIC EFFICIENCY AND 90% MECHANICAL EFFICIENCY																	



	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/64$ DECIMAL ± 0.05 / -0.000 ANGULAR $\pm 0.5^\circ$ ALL FILLETS & RADI $1/16$ MAX CHAMFERS $1/16 \times 45^\circ$ MAX SURFACE FINISH 125 RMS MAX CONCENTRICITY NOT TO EXCEED .005 T.I.R. BREAK SHARP CORNERS $1/32 \times 45^\circ$ MAX		DRAWN BY: BH	DATE: 02/24/2015	SOUTHWEST OILFIELD PRODUCTS 10340 WALLISVILLE ROAD, HOUSTON, TX 77013	
			CHECKED BY: MG	DATE: 02/24/2015	TITLE: OEM FLUID END ASSEMBLY FOR GARDNER-DENVER PZ-10 & PZ-11	
			MATERIAL:	N/A	SIZE: DWG. NO.	
			HEAT TREAT:	N/A	REV. A	
					D catalog page	

THIRD ANGLE PROJECTION

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FLUID END TYPE	MODEL OF PUMP	SIZE OF PUMP
OEM GARDNER DENVER	PZ-11/PZ-10	7" X 11" / 10"

ITEM NO.	PART NO.	DESCRIPTION	QTY. REQ'D
1	1377YXX	LINER (REFER TO GUIDE TO ORDERING CHART FOR TYPE (Y) AND FOR SIZE (XX))	3
2	2975	LINER SEAL	3
3	SEE DETAILS FOR P.N.	WEARPLATE (8477-4 PART NUMBER SOUTHWEST MFG. FOR GARDNER DENVER OEM) GARDNER DENVER OEM 8477-53	3
4	2974-11	WEARPLATE GASKET	3
5	XX-BYY	PISTON (REFER TO GUIDE TO ORDERING CHART FOR SIZE (XX) AND FOR TYPE (YY))	3
5A	2932	PISTON BUSHING (FROM 1-5/8" TO 1-1/2" STRAIGHT BORE)	3
6	568-225	PISTON O-RING	3
7	1277-25	PISTON ROD (CLAMP TYPE WITH ELASTIC STOP NUT)	3
7A	6277-25	PISTON ROD (SCREW TYPE WITH ELASTIC STOP NUT)	
8	API-4ESN	PISTON ROD ELASTIC STOP NUT	3
		*FOR 2-PC. STUDDER PISTON ROD ASSEMBLY REFER TO GUIDE CHART FOR ORDERING	
9	1277CW	ROD CLAMP (CONSIST OF 9A, 9B, 9C)	3
9A	1200H30	HOSE (1/2" X 30" WITH 1/2" MALE X 3/8" MALE CONNECTIONS)	3
9B	1200120	SPRAY PIPE	3
9C	4018-96	ROD CLAMP BOLT (5/8" X 5-1/2" GRADE 8 BOLT W/ LOCK NUT AND WASHER)	6
10	1200G77	PONY ROD (CLAMP TYPE)	3
10A	1200G88	PONY ROD (SCREW TYPE)	3
11	SEE PAGE	VALVE	6
12	SEE PAGE	VALVE INSERT (IF REQUIRED)	6
13	SEE PAGE	VALVE SPRING	6
14	SEE PAGE	VALVE SEAT	6
	SWTM1700	HYDRAULIC SEAT PULLER KIT COMPLETE (REFER TO TOOLS SECTION OF CATALOG FOR DETAILS)	
15	80783LZP	THREADED FLANGE	6
16	4575-50	SCREW GLAND	6
17	4677-50	PLUG (COMPLETE WITH VALVE GUIDE, SCREWS, AND BUSHING)	6
18	P113	HP VALVE COVER PLUG SEAL (P113U URETHANE AVAILABLE)	6
19	4777-1R	LOWER VALVE GUIDE ASSEMBLY (INCLUDES 19A, 19B, 19C)	3
19A	4700I	VALVE GUIDE BUSHING (4700IU URETHANE AVAILABLE)	6
19B	4775-RP	VALVE GUIDE RETAINER PLATE	3
19C	80871AA5	VALVE GUIDE SCREW (WITH LOCK WASHER)	6
20	4020-125	VALVE COVER STUD (WITH SW PART# HHN1000-8 1"-8" HEAVY HEX NUT)	72
21	4017-76	POWER END STUD (WITH SW PART# HHN1250-7 1-1/4" - 7 HEAVY HEX HUT)	24
22	4017-75	LINER RETAINER STUD (WITH SW PART# HHN1250-7 1-1/4" - 7 HEAVY HEX NUTS)	24

FLUID END TYPE	MODEL OF PUMP	SIZE OF PUMP
OEM GARDNER DENVER	PZ-11/PZ-10	7" X 11" / 10"

ITEM NO.	PART NO.	DESCRIPTION	QTY. REQ'D
23	6477	LINER RETAINER FLANGE	3
24	4017-77	SUCTION MANIFOLD CAP SCREW (WITH LOCK WASHER)	24
25	8577	SUCTION MANIFOLD (FRONT OR SIDE INLET)	1
26	AJO245	SUCTION MANIFOLD SEAL	3
27	8477-8	FLUID END MODULE (STUDED ONLY)	3
28	8377	DISCHARGE MANIFOLD	1
29	AJO449R	DISCHARGE MANIFOLD SEAL	3
30	4017-74**	DISCHARGE MANIFOLD STUD (WITH SW PART#HHN1000-8 1- 8 HEAVY HEX NUT)	12
31	9070011	PONY ROD SEAL	6
32	9070011A	PONY ROD SEAL WITH SPRING	6
33	9060004	SPLASH GUARD	3
	**4019-94	DISCHARGE MANIFOLD STUD (USE W/ 8377 SOUTHWEST DISCHARGE MANIFOLD WITH 1"-8 HEAVY HEX NUT)	12
		** POLYURETHANE SEALS AVAILABLE **	

OEM GD 5000 PSI PZ-11 (PZL) / PZ-10 (PZK) GUIDE TO ORDERING

PISTONS				LINERS		LINER GASKETS	
SIZE	FAIL-SAFE	DUAL-DURO®	BLACK CAT	GRAYLOY®	ZIRCONIA	RUBBER	URETHANE
4"	76BFS	76BDD	76BBC	1377G06	1377ZIR06	2975	2975U
4 1/4"	77BFS	77BDD	77BBC	1377G07		2975	2975U
4 1/2"	78BFS	78BDD	78BBC	1377G08	1377ZIR08	2975	2975U
4 3/4"	79BFS	79BDD	79BBC	1377G09		2975	2975U
5"	81BFS	81BDD	81BBC	1377G1	1377ZIR1	2975	2975U
5 1/4"	82BFS	82BDD	82BBC	1377G2		2975	2975U
5 1/2"	83BFS	83BDD	83BBC	1377G3	1377ZIR3	2975	2975U
5 3/4"	84BFS	84BDD	84BBC	1377G4		2975	2975U
6"	85BFS	85BDD	85BBC	1377G5	1377ZIR5	2975	2975U
6 1/4"	86BFS	86BDD	86BBC	1377G6		2975	2975U
6 1/2"	87BFS	87BDD	87BBC	1377G7	1377ZIR7	2975	2975U
6 3/4"	88BFS	88BDD	88BBC	1377G8		2975	2975U
7"	89BFS	89BDD	89BBC	1377G9	1377ZIR9	2975	2975U
7 1/4"	91BFS	91BDD	91BBC	N/A		2975	2975U
7 1/2"	92BFS	92BDD	92BBC	N/A			

2-PIECE PISTON ROD ASSEMBLY

COMPLETE ASSEMBLY	PISTON ROD	CONNECTING STUD	SUB ROD
6279-25A CLAMP	6278-25	1290-2	6279-1
6280-25A SCREW	6278-25	1290-2	6280-1

NOTE: DUAL-DURO® AND GRAYLOY® ARE REGISTERED TRADEMARKS OF SOUTHWEST® OILFIELD PRODUCTS.

VALVES & SEATS OEM GD PZ-11/PZ-10

TYPE	VALVE	INSERT	SPRING	STAINLESS SPRING	SEAT	PULLER HEAD	PULLER HEAD STYLE
SOUTHWEST (Full Open)	777-8B	N/A	941	N/A	877-7	SWTM4250	SPLIT JAW
FULL OPEN-ROUGHNECK	SWND-7V2	N/A	SW5710-115L	N/A	SWND-7S1	SWTM40-SN SWND-7PH	SPLIT JAW PANCAKE
FULL OPEN-ROUGHNECK (High Temp)	SWND-7V2HC	N/A	SW5710-115L	N/A	SWND-7S1	SWTM40-SN SWND-7PH	SPLIT JAW PANCAKE
FULL OPEN-ROUGHNECK (w/Replaceable Urethane Insert)	SWND-7V1	SWND-7I	SW5710-115L	N/A	SWND-7S1	SWTM40-SN SWND-7PH	SPLIT JAW PANCAKE
3 WEB DOUBLE ANGLE O-RING	SWR0500110	SWR0514275	SWR0513744	SWR0514790	SWR0509309	SWTM3-7T	3 J HOOK
3 WEB (High Temp)	SWR0520502	SWR0520501	SWR0513744	SWR0514790	SWR0509309	SWTM3-7T	
3 WEB STANDARD PLATE	SWR0505062	SWR0504893	SWR0513937	SWR0514423	SWR0509309	SWTM3-7T	
4 WEB	SWU5C-EEF	SWUDD-7B	SW5710-110	N/A	SW7DD-B1	SWTM4-7	4 J HOOK
4 WEB (High Temp)	SWU5C-EEFHT	SWUDD-7BHT	SW5710-110	N/A	SW7DD-B1	SWTM4-7	

PANCAKE



SPLIT JAW



3 J HOOK



4 J HOOK

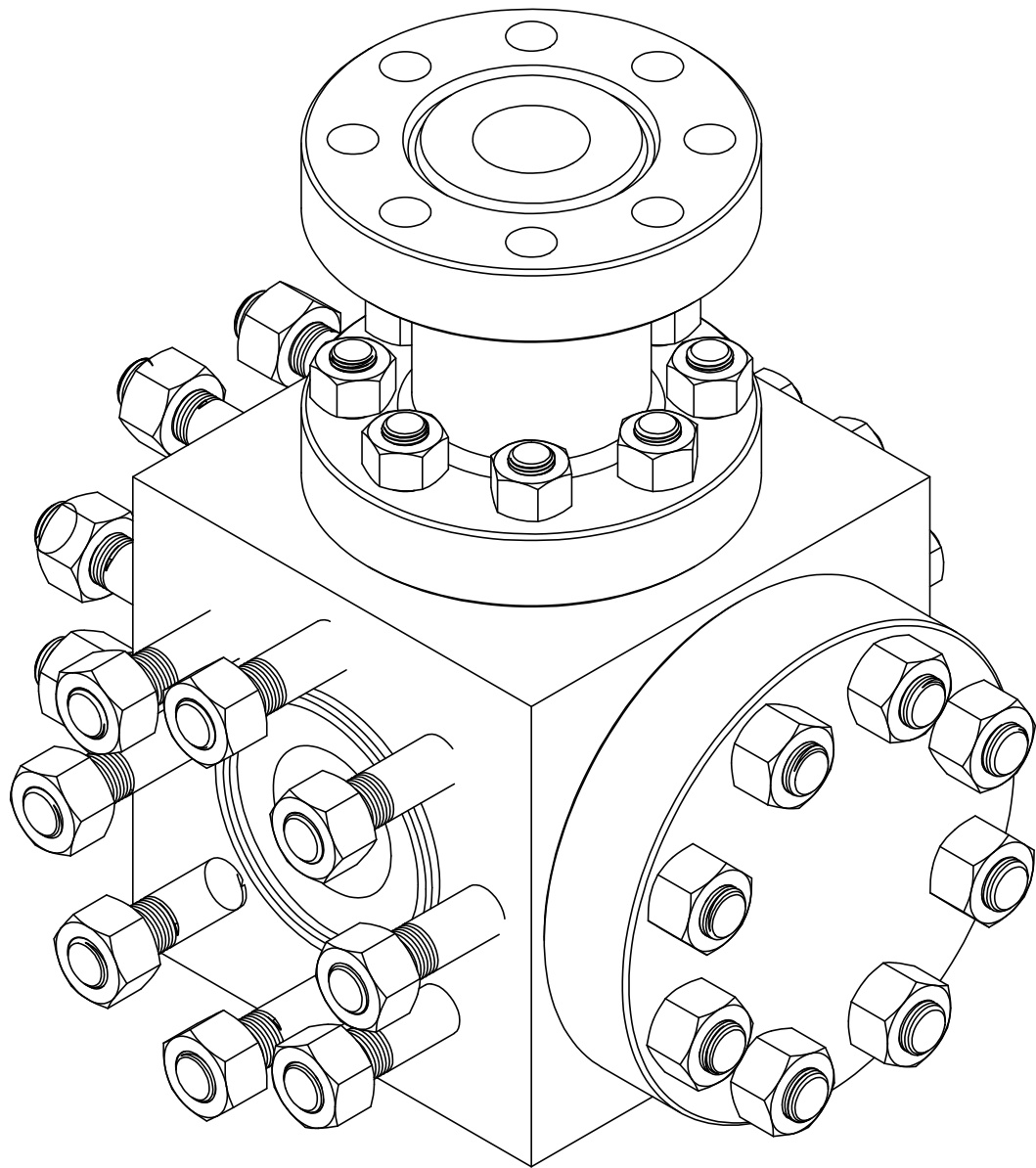


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C

B

A



8377-51A DISCHARGE STRAINER CROSS ASSEMBLY OVERVIEW

THE 8377-51 DISCHARGE STRAINER CROSS ASSEMBLY IS DESIGNED FOR USE ON MUD PUMP DISCHARGE MANIFOLDS AND HAS A WORKING PRESSURE RATING OF 5,000 PSI.

THIS CROSS FEATURES A STRAINER THAT IS ACCESSED BY REMOVING A BLIND FLANGE FROM THE OPPOSITE SIDE OF THE DISCHARGE MANIFOLD FLANGE.

THIS CROSS USES R TYPE RING JOINT GASKETS FOR SEALING.

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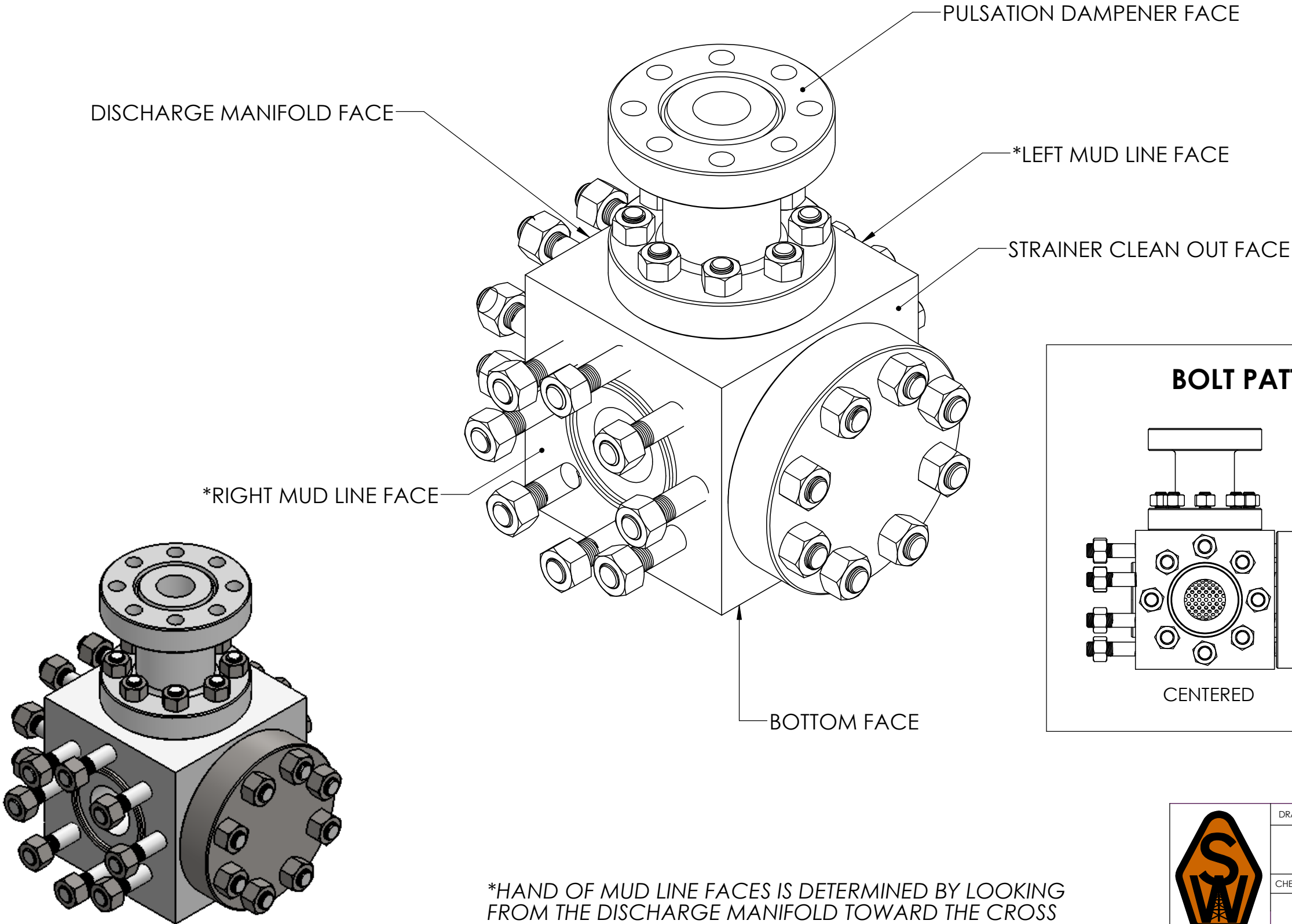
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- 1. OVERVIEW
- 2. NOMENCLATURE & BOLT PATTERNS
- 3. FACE SIZES
- 4. BILL OF MATERIALS

REVISION	DATE	DESCRIPTION
A	06/13/2012	INITIAL RELEASE
B	09/08/2014	REFORMATTED UPON REQUEST FROM MFG ENGR

	DRAWN BY	DATE	SOUTHWEST OILFIELD PRODUCTS 10340 WALLISVILLE ROAD, HOUSTON, TX 77013	
	NJ	09/08/2014	TITLE: DISCHARGE STRAINER CROSS ASSY F/ PZ-11, PZ-10, PZ-9, PZ-8, PZ-7 GARDNER DENVER W/ 5" DISCHARGE LINE	
	CHECKED BY	DATE		
	BH	09/08/2014	SIZE B	DWG. NO. 8377-51A
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8377-51A DISCHARGE STRAINER CROSS ASSEMBLY
NOMENCLATURE & BOLT PATTERN ORIENTATION

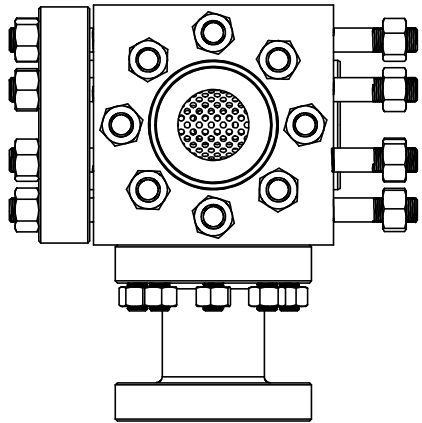


*HAND OF MUD LINE FACES IS DETERMINED BY LOOKING FROM THE DISCHARGE MANIFOLD TOWARD THE CROSS

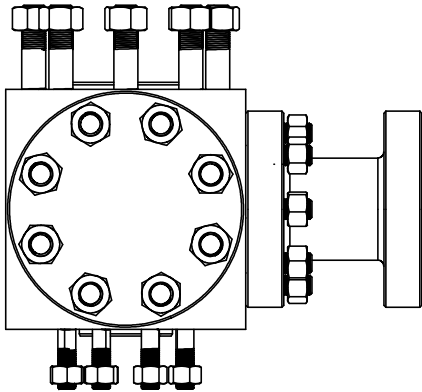


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SIZE		DWG. NO.	REV.	
B		8377-51A	B	

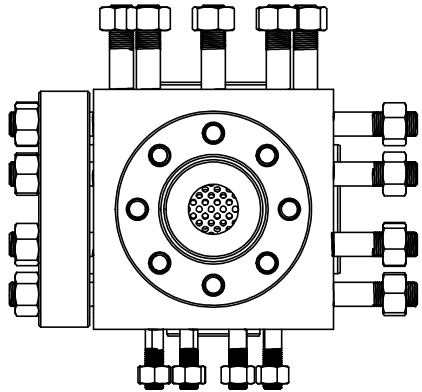
8377-51A DISCHARGE STRAINER CROSS ASSEMBLY
FLANGE SIZES



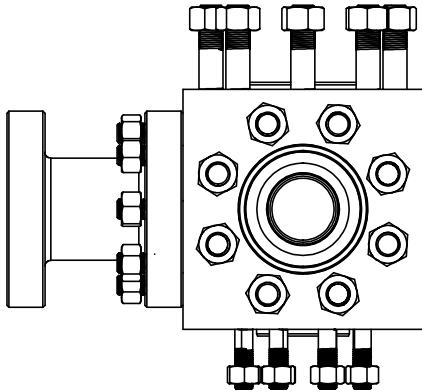
RIGHT MUD LINE FACE



STRAINER CLEAN OUT FACE

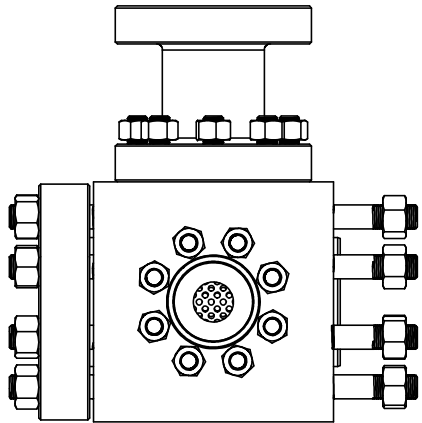


PULSATION DAMPENER FACE

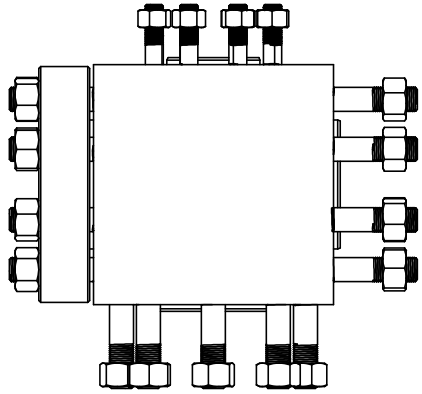


DISCHARGE MANIFOLD FACE

THREAD	TORQUE (lb/ft)	TORQUE (lb/ft)	TORQUE (lb/ft)
	COPPER COAT	MOLY GREASE	DRY
1 1/2 -8 UN	1397	2025	2794
1 1/8 - 8 UN	555	805	1111
1 1/4 - 8 UN	781	1133	1563



LEFT MUD LINE FACE



BOTTOM FACE

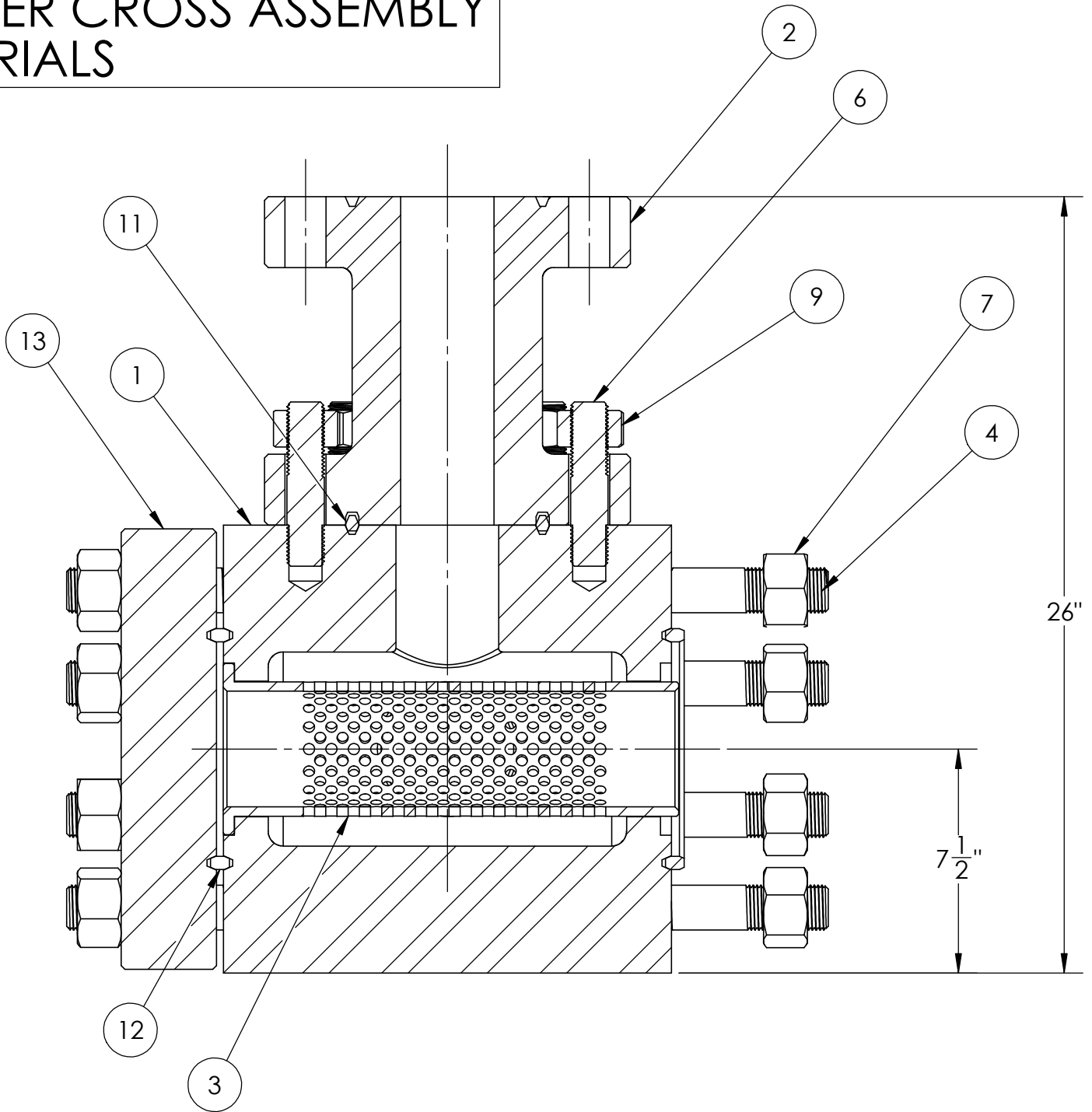
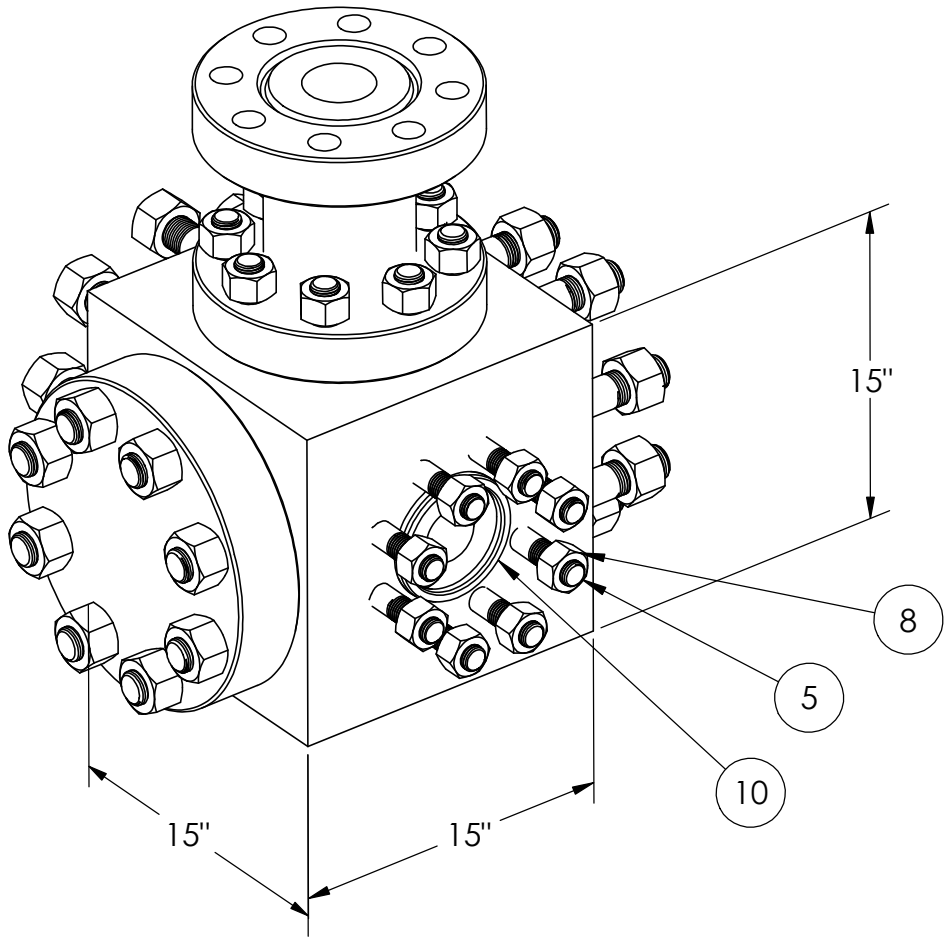
FACE	DESCRIPTION	GASKET	ORIENTATION
PULSATION DAMPENER FACE	4-1/16" API 6B, 5K	R-39	CENTERED
DISCHARGE MANIFOLD FACE	5-1/8" API 6B, 5K	R-44	STRADDLED
STRAINER CLEAN OUT FACE	5-1/8" API 6B, 5K	R-44	STRADDLED
RIGHT MUD LINE FACE	5-1/8" API 6B, 5K	R-44	CENTERED
LEFT MUD LINE FACE	3-1/8" API 6B, 5K	R-35	STRADDLED
BOTTOM FACE	N/A	N/A	N/A



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CHECKED BY	DATE	SIZE	DWG. NO.
BH	09/08/2014	B	8377-51A
		REV.	B

8377-51A DISCHARGE STRAINER CROSS ASSEMBLY
BILL OF MATERIALS



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	8377-51	DISCHARGE CROSS	1
2	8377-53	SPOOL	1
3	8277-50	DISCHARGE STRAINER	1
4	4020-30	STUD	24
5	4020-31	STUD	8
6	4018-82	STUD	8
7	HHN1500-8	1-1/2 - 8 HEAVY HEX NUT	24
8	HHN1125-8	1-1/8 - 8 HEAVY HEX NUT	8
9	HHN1250-8	1-1/4 - 8 HEAVY HEX NUT	8
10	R-35	RING GASKET	1
11	R-39	RING GASKET	1
12	R-44	RING GASKET	3
13	5000-5BFLANGE	5-1/8" 5000# BLIND RJT FLANGE	1



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		SHEET 4 OF 4	

**TORQUE SPECIFICATIONS FOR OEM FLUID END ASSEMBLY
GARDNER-DENVER PZ-11/PZ-10 5000 P.S.I.**

<u>PART NUMBER</u>	<u>DESCRIPTION</u>	TORQUE TYPE (EXPRESSED IN FOOT-POUNDS)		
		<u>COPPERCOTE</u>	<u>MOLY GREASE</u>	<u>DRY (NOT RECOMMENDED)</u>
API-4 ESN	PISTON NUT	NO MORE FORCE THAN ONE MAN ON 3' WRENCH/CHEATER COMBINATION		
4018-96	BOLT	150 MAXIMUM		
4020-125	VALVE COVER STUD	379	549	758
4017-76	POWER END STUD	757	1098	1514
4017-75	LINER RETAINER STUD	757	1098	1514
4017-77	SUCTION MANIFOLD CAP SCREW	188	282	376
4017-74	DISCHARGE MANIFOLD STUD	379	549	758



SOUTHWEST
OILFIELD PRODUCTS, INC.

OEM STYLE FLUID END REVISION SUMMARY

REVISION	DATE	REASON OF CHANGE
REV A	3/27/14	CHANGED ITEM 22 TO PART NO. 4020-125 (WAS PART NO. 4015-19)
REV B	4/17/14	UPDATED ASSEMBLY DRAWING, MAIN PARTS PG AND TORQUE SPECIFICATION PG
REV C	7/22/14	CHANGED ITEM 9C TO PART NO. 4018-96 (WAS PART NO. 4018-95) PART NO. WAS CHANGED TO WHAT COMPONENT LIST GENERATOR CALLS FOR.
REV D	8/20/14	ADDED TIGHTENING TORQUE NUMBERS TO PART NO 4020-125 IN TORQUES SPEC. PAGE
REV E	1/22/15	UPDATED DRAWING NO. 8377-51A DISCHARGE STRAINER CROSS ALSO IN THE VALVE & SEAT PG. CHANGED PART NO. SWND-7V2H TO SWND-7V2HC (REFER TO SW-PB-101)
REV F	9/10/18	ADDED A NOTE TO THE BOM **4019-94 (USE W/8377 SW DISCHARGE MANIFOLD W/1"-8 HEAVY HEX NUT)