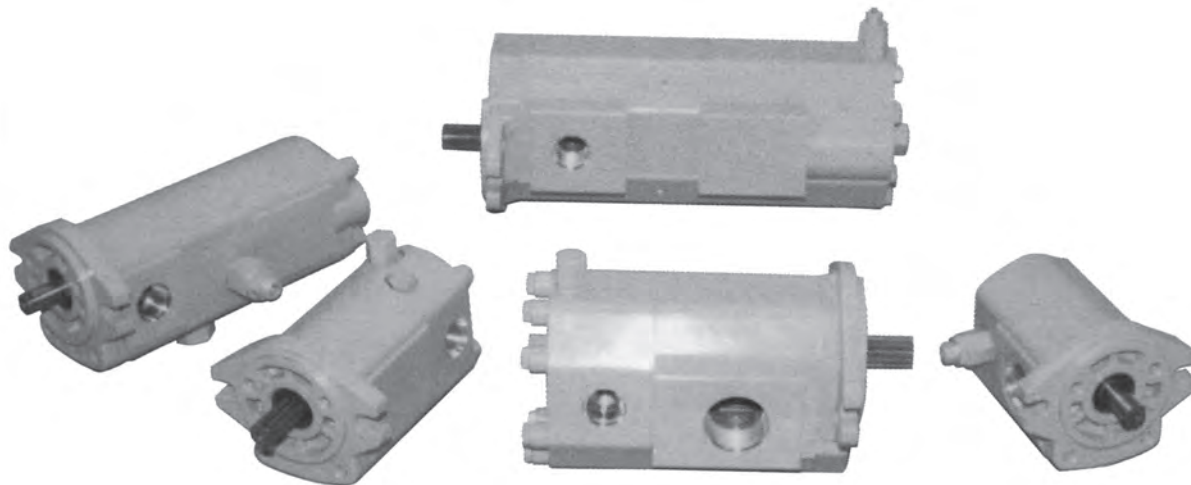


SP PUMP INTEGRAL VALVING OPTIONS



PRINCE SP PUMPS WITH INTEGRAL VALVING FEATURE EXTRUDED ALUMINUM REAR COVERS. THE EXTRUDED REAR COVERS ALLOW EXCEPTIONAL FLEXIBILITY FOR INCORPORATING DIFFERENT VALVING AND PORTING OPTIONS. PRINCE'S USE OF COMPUTER CONTROLLED MACHINING CENTERS IN THE MANUFACTURING PROCESS ALLOW EITHER STANDARD OR CUSTOM DESIGNS TO BE MADE IN BOTH SMALL AND LARGE QUANTITIES.

- **PRIORITY FLOW DIVIDER PUMPS**

Priority flow divider pumps split the flow between a priority port and an excess flow port. The flow is initially directed to the priority port until the priority setting is satisfied. At that time any additional flow is directed to the excess flow port. Priority divider pumps are typically used in steering circuits, brake circuits or any circuit where a primary flow needs to be satisfied first.

- **RELIEF VALVES**

Various styles and configurations of relief valves can be provided in the rear cover. The relief return flow can be either ported external to the pump or internally ported back to the inlet. Caution must be used so that the duration of the internally ported flow does not cause excessive heat build up.

- **CUSTOM DESIGN VALVE PACKAGES**

Prince Manufacturing offers custom designed integral valve packages. Configurations are developed based on customer specifications.

- **SOLENOID VALVES**

Various configurations of controlling pump flow by using solenoid cartridge valves are available.

- **SPECIAL REAR PORTING**

A wide variety of port types as well as port locations can be accommodated with the extruded rear cover.

- **DOUBLE PUMP CONFIGURATIONS**

Integral valve configurations can easily be integrated into double pump configurations. Valves in the rear cover typically control flow from the rear pump section, however valves can also be incorporated into the center section of the double pump for additional control options.

- **HIGH-LO PUMPS (Horse power limiting pumps)**

A high-lo configuration is available based on the SP20 series pump. The typical configuration provides 28 gpm low pressure flow and 7 gpm high pressure flow (at 3500 rpm). Typical horsepower requirements are 19 hp at 3000 psi and 3500 rpm.



PRINCE MANUFACTURING CORPORATION
NORTH SIOUX CITY, SD 57049
TELEPHONE: 605-235-1220
FAX: 605-235-1082

SP20P SERIES - PRIORITY FLOW DIVIDER PUMPS MODEL CODE

SP20PB 23 K 185 H 2 R

SERIES NO. _____

DISPLACEMENT CODE (CC/REV) _____

PRIORITY FLOW + _____

ROTATION (FACING END OF SHAFT)
L-COUNTER CLOCKWISE
R-CLOCKWISE

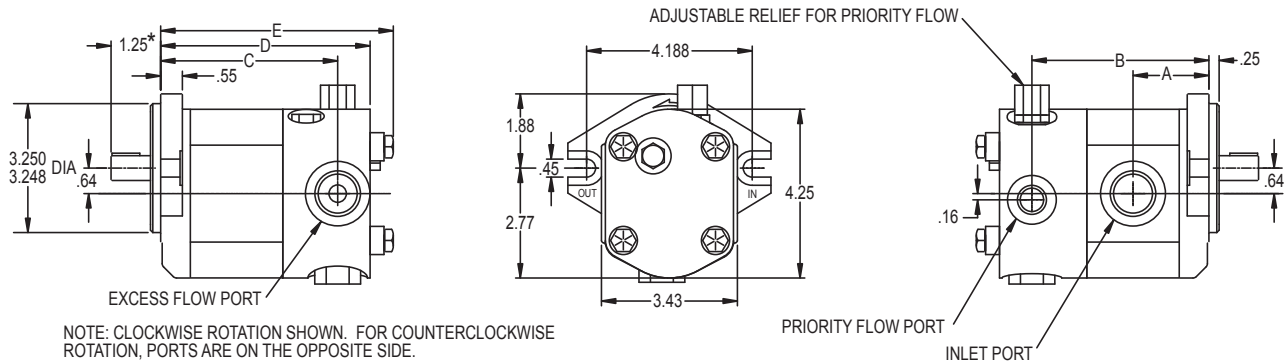
DRIVE SHAFT
9-SAE 9 TOOTH 16/32 SPLINE
2-SAE 5/8" STRAIGHT KEYED
3-11 TOOTH 16/32 SPLINE
4-3/4" STRAIGHT KEYED
5-SAE 10 TOOTH 16/32 SPLINE

MOUNTING
H-SAE "A" 2 BOLT

PRIORITY FLOW RELIEF SETTING
THE THREE DIGIT CODE REPRESENTS RELIEF VALVE SETTING DIVIDED BY 10. FOR INSTANCE A CODE NUMBER OF 185 REPRESENTS A RELIEF SETTING OF 1850 PSI. (RELIEF SETTING MUST BE BETWEEN 1000 AND 2250 PSI.)

- + FOR PRIORITY FLOWS AND RELIEF SETTINGS NOT INDICATED, CONTACT FACTORY.
- ° FOR DISPLACEMENT CODES 08 THROUGH 27, SHAFT CODES 2 AND 9 ARE STANDARD. FOR DISPLACEMENT CODES 30 AND 33, SHAFT CODES 3 AND 4 ARE STANDARD. PUMPS WITH NONSTANDARD SHAFT CODES ARE AVAILABLE IN MINIMUM QUANTITIES.

SP20P SERIES DIMENSIONAL DATA

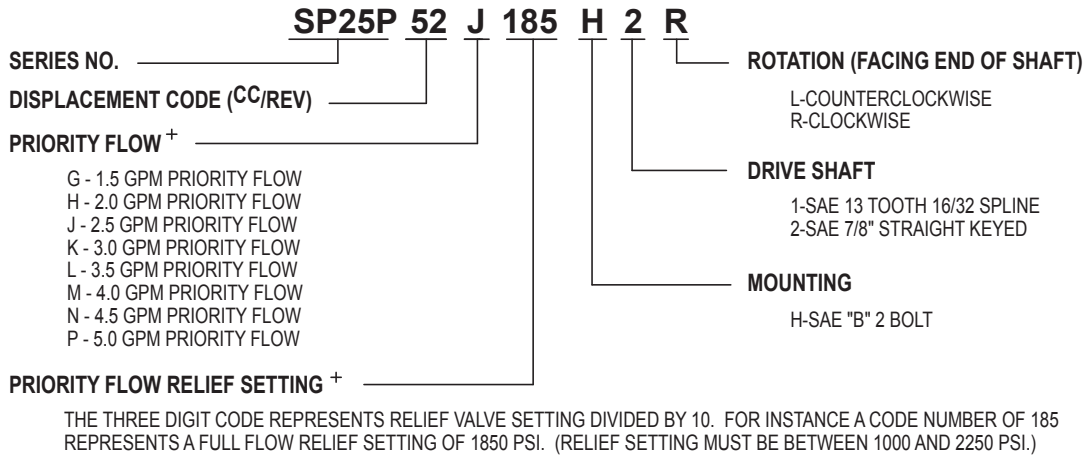


SPECIFICATIONS

MODEL NUMBER	DISP. IN ³ /REV	RATED PRESSURE PSI	MAX RPM	A	B	C	D	E	INLET PORT SIZE	EXCESS FLOW PORT SIZE	PRIORITY FLOW PORT SIZE	WT. (LB.)
SP20PB06	.400	3000	4000	1.79	4.22	4.22	5.04	5.36	7/8-14 UN-2B 5/8" FULL THREAD DEPTH	1 1/16-12 UN-2B	9/16-18 UNF-2B	6.7
SP20PB08	.499	3000	4000	1.83	4.30	4.30	5.12	5.82	6.8			
SP20PB09	.589	3000	4000	1.87	4.38	4.38	5.20	5.80	3/4" FULL THREAD DEPTH	3/4" FULL THREAD DEPTH	7.0	
SP20PB11	.677	3000	4000	1.91	4.46	4.46	5.28	5.88			7.2	
SP20PB14	.860	3000	4000	1.99	4.62	4.62	5.44	5.81	1 5/16-12 UN-2B	3/4" FULL THREAD DEPTH	7.4	
SP20PB16	.976	3000	4000	2.04	4.72	4.72	5.53	5.84			7.7	
SP20PB20	1.220	3000	3500	2.15	4.93	4.93	5.75	6.35	3/4" FULL THREAD DEPTH	3/4" FULL THREAD DEPTH	7.9	
SP20PB23	1.403	2500	3500	2.23	5.09	5.09	5.91	6.28			8.1	
SP20PB27	1.654	2500	3500	2.34	5.31	5.31	6.12	6.82	3/4" FULL THREAD DEPTH	3/4" FULL THREAD DEPTH	8.3	
SP20PB30	1.881	2500	3000	2.41	5.46	5.46	6.28	6.88			8.8	
SP20PB33	2.014	2500	3000	2.49	5.62	5.62	6.44	6.81			9.3	

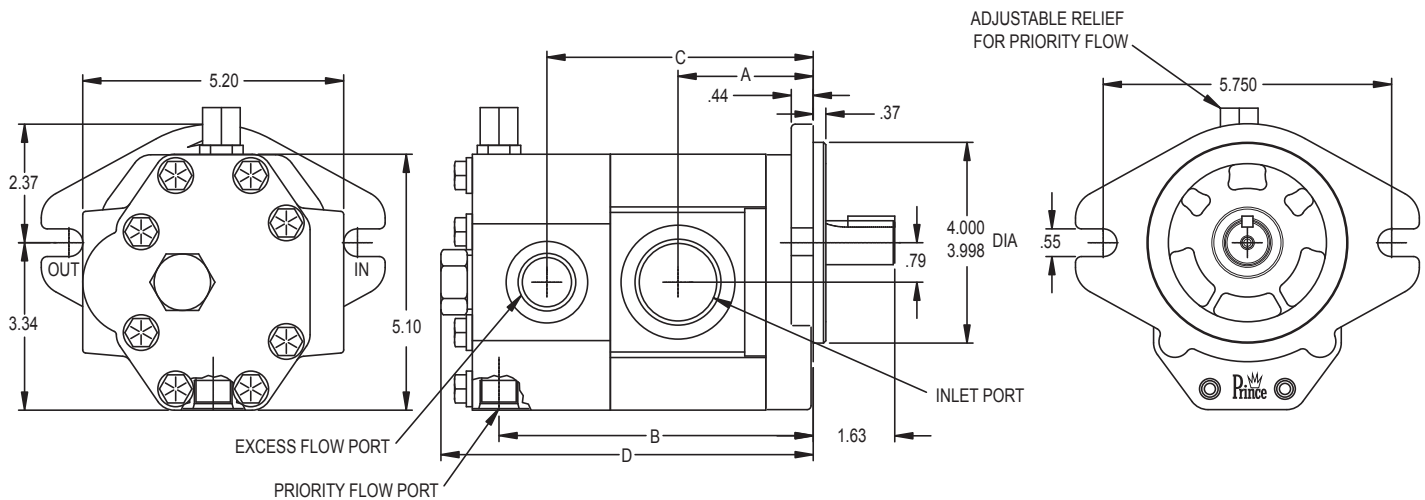
FOR PUMP PERFORMANCE DATA AND DIMENSIONAL DATA, REFER TO THE SP20B PUMP SECTION Standard Seal Kit for all SP20B Models is Prince Part No. PMCK-SP20.

SP25P SERIES - PRIORITY FLOW DIVIDER PUMPS MODEL CODE



+ FOR PRIORITY FLOWS AND RELIEF SETTINGS NOT INDICATED, CONTACT FACTORY.

SP25P SERIES DIMENSIONAL DATA



RIGHT HAND ROTATION SHOWN. FOR LEFT HAND ROTATION, INLET AND EXCESS FLOW PORTS GO TO THE OPPOSITE SIDE OF THE PUMP, PRIORITY FLOW PORT GOES FROM THE BOTTOM TO THE TOP OF THE PUMP.

SPECIFICATIONS

MODEL NUMBER	DISP. IN ³ /REV	RATED PRESSURE	MAX. RPM	A	B	C	D	INLET PORT SIZE		EXCESS FLOW PORT SIZE	PRIORITY FLOW PORT SIZE	WT. (LB.)
SP25P19	1.141	3000	3000	2.49	6.26	5.32	7.42	1 5/16-12 UN-2B	3/4" FULL THREAD DEPTH	1 1/16-12 UN-2B	3/4-16 UN-2B	14.7
SP25P22	1.349	3000	3000	2.55	6.38	5.44	7.54					14.9
SP25P27	1.660	3000	3000	2.64	6.56	5.62	7.71	1 5/8-12 UN-2B	3/4" FULL THREAD DEPTH	3/4" FULL THREAD DEPTH	9/16" FULL THREAD DEPTH	15.3
SP25P32	2.008	3000	3000	2.74	6.75	5.82	7.91					16.7
SP25P38	2.318	3000	3000	2.83	6.93	5.99	8.09					17.8
SP25P44	2.697	3000	3000	2.94	7.15	6.21	8.30	1 7/8-12				18.2
SP25P52	3.179	2500	2500	3.07	7.42	6.49	8.58					18.7
SP25P63	3.869	2500	2100	3.27	7.82	6.88	8.97					19.7

FOR PUMP PERFORMANCE DATA AND SHAFT DIMENSIONAL DATA, REFER TO THE SP25A PUMP SECTION.
Standard Seal Kit for all SP25 Models is Prince Part No. PMCK-SP25.

SPHL1 HI-LO PUMP SERIES MODEL CODE

SPHL1B 0616 H 2 R

SERIES NO. _____

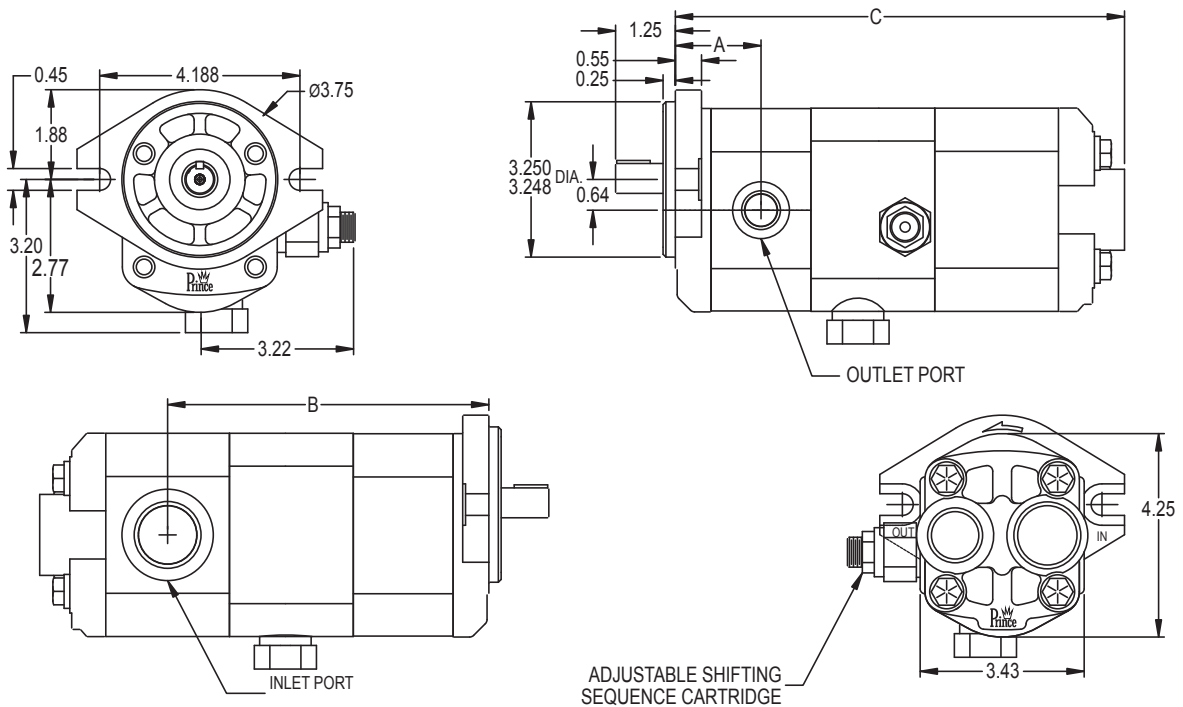
DISPLACEMENT CODE (CC/REV) _____
 06 16 (CC/REV)
 08 23 (CC/REV)

MOUNTING _____
 H-SAE "A" 2 BOLT
 TIME FACTORY SETTING FOR THE SHIFTING SEQUENCE CARTRIDGE
 IS SET FOR 500 PS. SHIFTING SEQUENCE CARTRIDGE IS ADJUSTABLE.

ROTATION (FACING END OF SHAFT)
 L-COUNTERCLOCKWISE
 R-CLOCKWISE

DRIVE SHAFT
 9-SAE 9 TOOTH 16/32 SPLINE
 2-SAE 5/8" STRAIGHT KEYED

SPHL1 DIMENSIONAL DATA



NOTE: CLOCKWISE ROTATION SHOWN. FOR COUNTERCLOCKWISE ROTATION, PORTS ARE ON THE OPPOSITE SIDES.

SPECIFICATIONS

MODEL NUMBER	FRONT DISP. IN ³ /REV.	REAR DISP. IN ³ /REV.	RATED PRESSURE	MAX RPM	A	B	C	INLET PORT SIZE	OUTLET PORT SIZE	FULL THREAD DEPTH	WT. (LB.)
SPHL1B0616	.400	.976	3000	3600	1.79	6.72	9.39	1 5/16-12 UN-2B	3/4-16 UN-2B	3/4"	14.4
SPHL1B0823	.499	1.403	3000	3600	1.83	6.99	9.85		1 1/16-12 UN-2B		14.7

PERFORMANCE

PUMP	RPM	HIGH FLOW (GPM)	LOW FLOW (GPM)	RECOMMENDED INPUT HORSEPOWER FOR 3000 PSI MAXIMUM WORKING PRESSURE	*NOTE: PLEASE CONSULT FACTORY FOR HORSEPOWER REQUIREMENTS OF DIFFERENT WORKING AND SHIFT PRESSURES.
SPHL1B0616	1800	10.51	2.98	7.8	
	3600	21.01	6.00	16.0	
SPHL1B0823	1800	14.40	3.70	10.0	
	3600	28.52	7.51	22.0	

Seal Kit for SPHL1 is Prince Part No. PMCK-SPHL1

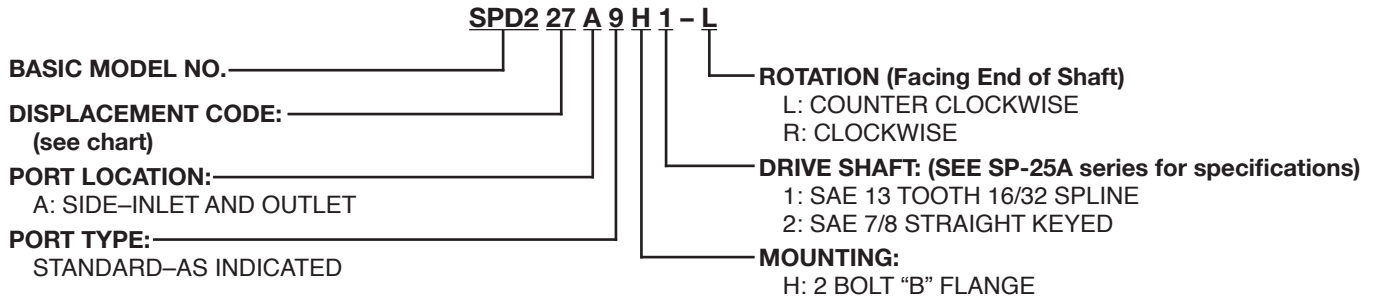
SPD2 DOUBLE PUMPS



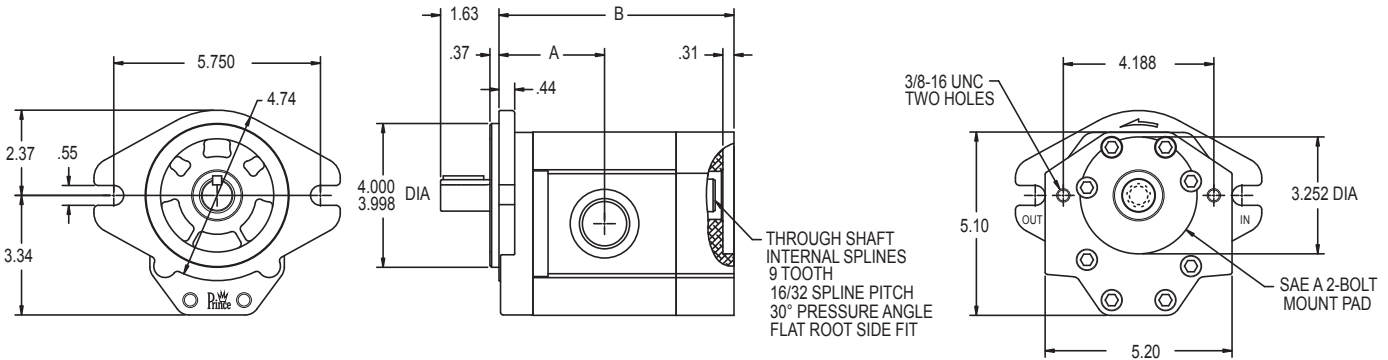
The SPD2 series of pumps are special SP-25A series pumps with through shafts. The through shafts have 9 tooth internal splines at the rear and the pump's rear cover has an integral SAE A-2 bolt mount pad. For double pump operation, a standard SAE A-2 bolt-splined shaft pump can be directly mounted on the rear on the SPD2. Typical performance of the pump is the same as indicated for the SP-25A series pump.

SPD2 as shown from rear

MODEL NO. CODING



SPECIFICATIONS



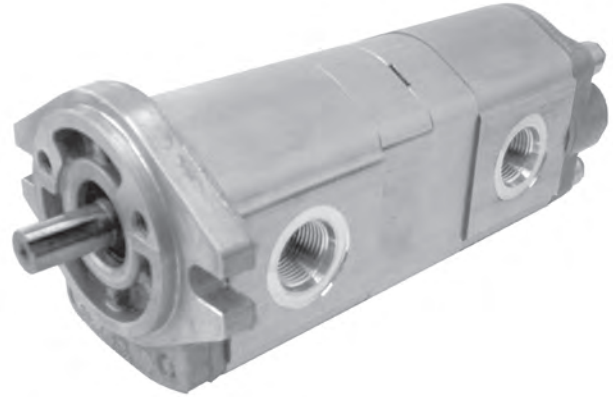
SPD2 THROUGH SHAFT PUMPS (PLUG-IN STYLE DOUBLE PUMPS)

MODEL NUMBER & DISPLACEMENT CODE	DISP. IN ³ /REV	RATED* PRESSURE (PSI)	MAX RPM	A (IN)	B (IN)	INLET PORT SIZE ^o	OUTLET PORT SIZE ^o	WT. (LB.)
SPD219	1.141	3000	3000	2.49	5.65	1 5/16-12	1 1/16-12	12.9
SPD222	1.349	3000	3000	2.55	5.77	1 5/16-12	1 1/16-12	13.1
SPD227	1.660	3000	3000	2.64	5.95	1 5/16-12	1 1/16-12	13.5
SPD232	2.008	3000	3000	2.74	6.15	1 5/8-12	1 5/16-12	13.9
SPD238	2.318	3000	3000	2.83	6.32	1 5/8-12	1 5/16-12	14.4
SPD244	2.697	3000	3000	2.94	6.54	1 5/8-12	1 5/16-12	14.9
SPD252	3.179	2500	3000	3.07	6.81	1 5/8-12	1 5/16-12	15.7
SPD263	3.869	2500	3000	3.27	7.21	1 7/8-12	1 5/16-12	16.4

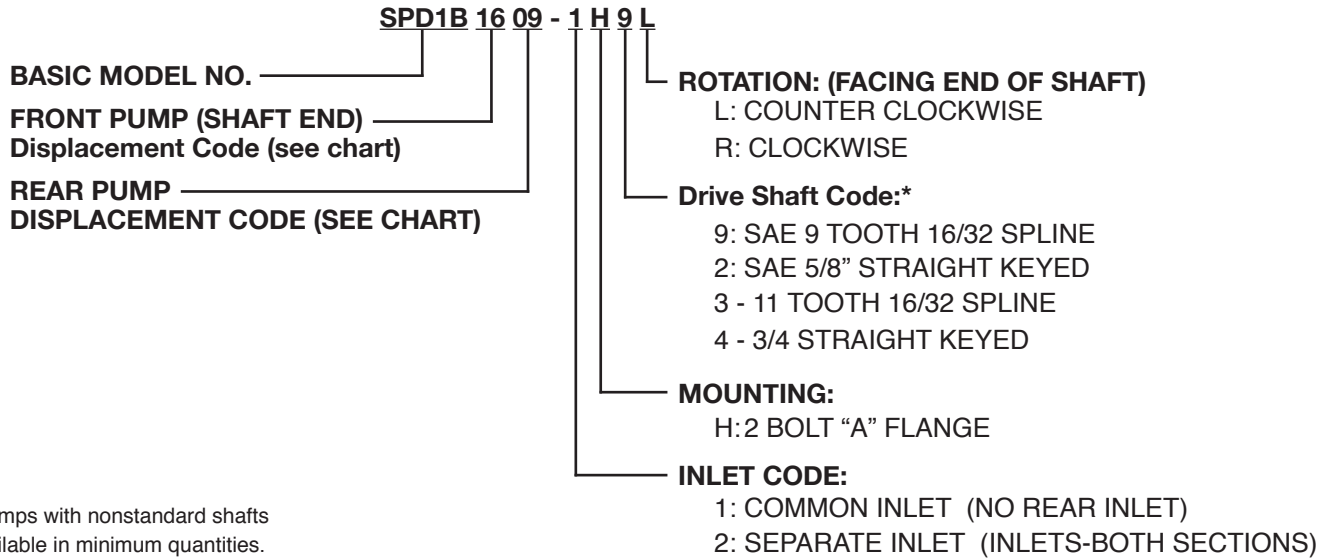
^o Standard ports as indicated are UN-2B straight thread O-Ring boss ports. Optional sizes and configurations are available. Consult factory. *Maximum operating pressure may be decreased depending on the displacement and operating pressure of the rear pump. The combination must conform to the following equation $PF \times DF + PR \times DR < 13200$ where PF and PR are the operation pressures (psi) and DF and DR are the displacements (in³/rev) for the front and rear pumps respectively.

SPD1 DOUBLE PUMPS

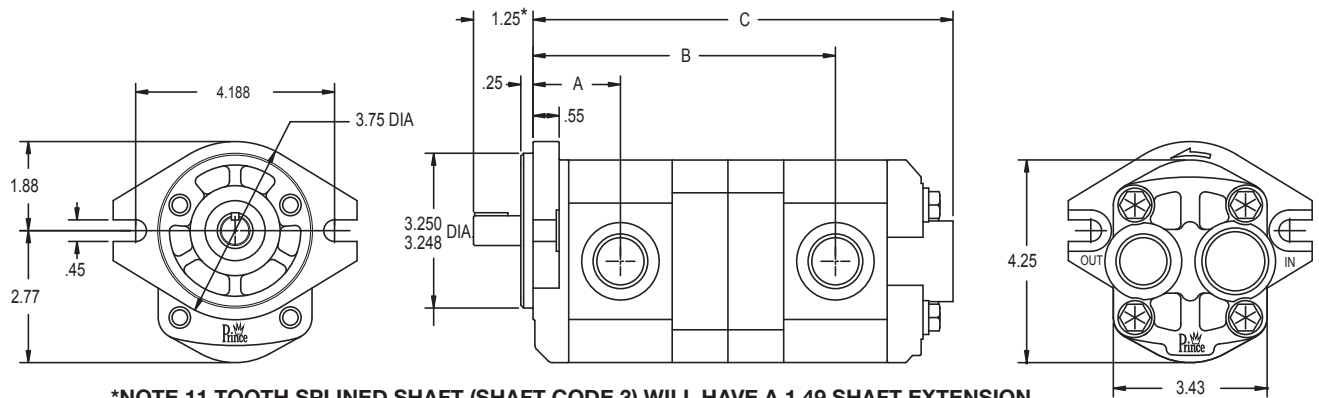
The SPD1 series of double pumps consists of two SP20B pump sections. The typical performance of each section and the features of the pump are the same as indicated for the SP20B series of pumps.



SPD1 DOUBLE PUMPS



SPD1 DOUBLE PUMPS

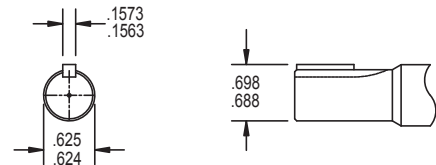


SPLINED SHAFT SPECIFICATIONS

SHAFT CODE 9
 9 Tooth
 16/32 DP
 30° PA
 Flat Root Side Fit

SHAFT CODE 3
 11 Tooth
 16/32 DP
 30° PA
 Flat Root Side Fit

KEYED SHAFT SPECIFICATIONS



SPD1 SERIES DOUBLE PUMPS

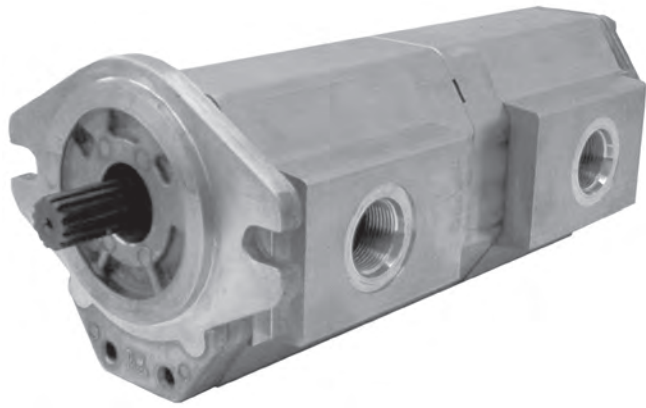
BASIC MODEL NUMBER & DISPLACEMENT CODES	DISPLACEMENT		MAXIMUM PRESSURE For 9 tooth & 5/8" shaft (for 11 tooth and 3/4" see formula below)		MAXIMUM SPEED RPM	OUTLET PORT ^o SAE SIZE		INLET PORT SAE SIZE ^o SEPARATE INLET PUMP		INLET PORT SAE SIZE COMMON INLET PUMP		PUMP DIMENSIONS			WT. (L.B.)		
	FRONT CU IN/REV	REAR CU IN/REV	FRONT PSI	REAR PSI		FRONT PUMP	REAR PUMP	FRONT PUMP	REAR PUMP	FRONT PUMP	REAR PUMP	A IN.	B IN.	C IN.			
SPD1B 08 08	0.499	0.499	3000	3000	3500	7/8-14	7/8-14	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1.83	6.35	8.81	11.6
SPD1B 09 08	0.589	0.499	3000	3000	3500	7/8-14	7/8-14	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1.87	6.43	8.89	11.8
SPD1B 09 09	0.589	0.589	3000	3000	3500	7/8-14	7/8-14	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1.87	6.46	8.97	12.0
SPD1B 11 08	0.677	0.499	3000	3000	3500+	7/8-14	7/8-14	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1.91	6.50	8.97	12.0
SPD1B 11 09	0.677	0.589	3000	3000	3500+	7/8-14	7/8-14	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1.91	6.54	9.05	12.2
SPD1B 11 11	0.677	0.677	3000	3000	3500+	7/8-14	7/8-14	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1.91	6.58	9.13	12.4
SPD1B 14 08	0.860	0.499	3000	3000	3500	7/8-14	7/8-14	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1.99	6.66	9.13	12.2
SPD1B 14 09	0.860	0.589	2800*	2800*	3500	7/8-14	7/8-14	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1.99	6.70	9.21	12.4
SPD1B 14 11	0.860	0.677	2600*	2800*	3500	7/8-14	7/8-14	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1.99	6.74	9.29	12.6
SPD1B 14 14	0.860	0.860	2400*	2400*	3500	7/8-14	7/8-14	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1.99	6.82	9.44	12.8
SPD1B 16 08	0.976	0.499	2800*	2800*	3500	7/8-14	7/8-14	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	2.04	6.76	9.23	12.5
SPD1B 16 09	0.976	0.589	2600*	2600*	3500	7/8-14	7/8-14	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	2.04	6.80	9.30	12.7
SPD1B 16 11	0.976	0.677	2400*	2600*	3500	7/8-14	7/8-14	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	2.04	6.84	9.38	12.9
SPD1B 16 14	0.976	0.860	2200*	2400*	3500	7/8-14	7/8-14	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	2.04	6.92	9.54	13.1
SPD1B 16 16	0.976	0.976	2000*	2200*	3500+	7/8-14	7/8-14	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	1/1/16-12	2.04	6.97	9.64	13.4
SPD1B 20 08	1.220	0.499	2400*	2400*	3500	1/1/16-12	7/8-14	1/5/16-12	1/1/16-12	1/1/16-12	1/5/16-12	1/5/16-12	1/5/16-12	2.15	6.98	9.44	12.7
SPD1B 20 09	1.220	0.589	2200*	2400*	3500	1/1/16-12	7/8-14	1/5/16-12	1/1/16-12	1/1/16-12	1/5/16-12	1/5/16-12	1/5/16-12	2.15	7.02	9.52	12.9
SPD1B 20 11	1.220	0.677	2200*	2200*	3500	1/1/16-12	7/8-14	1/5/16-12	1/1/16-12	1/1/16-12	1/5/16-12	1/5/16-12	1/5/16-12	2.15	7.06	9.60	13.1
SPD1B 20 14	1.220	0.860	2000*	2000*	3500	1/1/16-12	7/8-14	1/5/16-12	1/1/16-12	1/1/16-12	1/5/16-12	1/5/16-12	1/5/16-12	2.15	7.13	9.76	13.3
SPD1B 20 16	1.220	0.976	1800*	2000*	3500+	1/1/16-12	7/8-14	1/5/16-12	1/1/16-12	1/1/16-12	1/5/16-12	1/5/16-12	1/5/16-12	2.15	7.18	9.86	13.6
SPD1B 20 20	1.220	1.220	1600*	1800*	3500+	1/1/16-12	1/1/16-12	1/5/16-12	1/5/16-12	1/5/16-12	1/5/16-12	1/5/16-12	1/5/16-12	2.15	7.29	10.07	13.8
SPD1B 23 08	1.403	0.499	2200*	2200*	3500	1/1/16-12	7/8-14	1/5/16-12	1/1/16-12	1/1/16-12	1/5/16-12	1/5/16-12	1/5/16-12	2.23	7.13	9.60	12.9
SPD1B 23 09	1.403	0.589	2000*	2200*	3500	1/1/16-12	7/8-14	1/5/16-12	1/1/16-12	1/1/16-12	1/5/16-12	1/5/16-12	1/5/16-12	2.23	7.17	9.68	13.1
SPD1B 23 11	1.403	0.677	2000*	2000*	3500	1/1/16-12	7/8-14	1/5/16-12	1/1/16-12	1/1/16-12	1/5/16-12	1/5/16-12	1/5/16-12	2.23	7.21	9.76	13.3
SPD1B 23 14	1.403	0.860	1800*	2000*	3500	1/1/16-12	7/8-14	1/5/16-12	1/1/16-12	1/1/16-12	1/5/16-12	1/5/16-12	1/5/16-12	2.23	7.29	9.92	13.5
SPD1B 23 16	1.403	0.976	1800*	1800*	3500	1/1/16-12	7/8-14	1/5/16-12	1/1/16-12	1/1/16-12	1/5/16-12	1/5/16-12	1/5/16-12	2.23	7.34	10.01	13.8
SPD1B 23 20	1.403	1.220	1600*	1600*	3500+	1/1/16-12	1/1/16-12	1/5/16-12	1/5/16-12	1/5/16-12	1/5/16-12	1/5/16-12	1/5/16-12	2.23	7.45	10.23	14.0
SPD1B 23 23	1.403	1.403	1400*	1600*	3500+	1/1/16-12	1/1/16-12	1/5/16-12	1/5/16-12	1/5/16-12	1/5/16-12	1/5/16-12	1/5/16-12	2.23	7.53	10.39	14.2
SPD1B 27 08	1.654	0.499	1800*	2000*	3500	1/1/16-12	7/8-14	1/5/16-12	1/1/16-12	1/1/16-12	1/5/16-12	1/5/16-12	1/5/16-12	2.34	7.35	9.82	13.1
SPD1B 27 09	1.654	0.589	1800*	2000*	3500	1/1/16-12	7/8-14	1/5/16-12	1/1/16-12	1/1/16-12	1/5/16-12	1/5/16-12	1/5/16-12	2.34	7.39	9.90	13.3
SPD1B 27 11	1.654	0.677	1800*	1800*	3500	1/1/16-12	7/8-14	1/5/16-12	1/1/16-12	1/1/16-12	1/5/16-12	1/5/16-12	1/5/16-12	2.34	7.43	9.97	13.5
SPD1B 27 14	1.654	0.860	1600*	1800*	3500	1/1/16-12	7/8-14	1/5/16-12	1/1/16-12	1/1/16-12	1/5/16-12	1/5/16-12	1/5/16-12	2.34	7.51	10.13	13.7
SPD1B 27 16	1.654	0.976	1600*	1600*	3500	1/1/16-12	7/8-14	1/5/16-12	1/1/16-12	1/1/16-12	1/5/16-12	1/5/16-12	1/5/16-12	2.34	7.56	10.23	14.0
SPD1B 27 20	1.654	1.220	1400*	1600*	3500+	1/1/16-12	1/1/16-12	1/5/16-12	1/5/16-12	1/5/16-12	1/5/16-12	1/5/16-12	1/5/16-12	2.34	7.67	10.45	14.2
SPD1B 27 23	1.654	1.403	1400*	1400*	3500+	1/1/16-12	1/1/16-12	1/5/16-12	1/5/16-12	1/5/16-12	1/5/16-12	1/5/16-12	1/5/16-12	2.34	7.74	10.60	14.4
SPD1B 27 27	1.654	1.654	1200*	1400*	3500+	1/1/16-12	1/1/16-12	1/5/16-12	1/5/16-12	1/5/16-12	1/5/16-12	1/5/16-12	1/5/16-12	2.34	7.85	10.82	14.6

^o Standard ports as indicated are UN-2B straight thread O-Ring boss ports. Optional sizes and configurations are available. Consult factory.

* Different pressure and shaft combinations may be used if required provided they conform to the following equations PF x DF + PR x DR < 4150 for 9 tooth & 5/8" shafts (6250 for 11 tooth & 3/4" shafts) where PF and PR are the operating pressures (psi) and DF and DR are the displacements (cu in/rev) for the front and rear pumps respectively (maximum pressures are 3000 psi for displacement codes 8 - 20 and 2500 psi for displacement codes 23 - 27).

+ Common inlet pumps require a reduction in maximum rpm. Consult factory.

SPD3 DOUBLE PUMPS



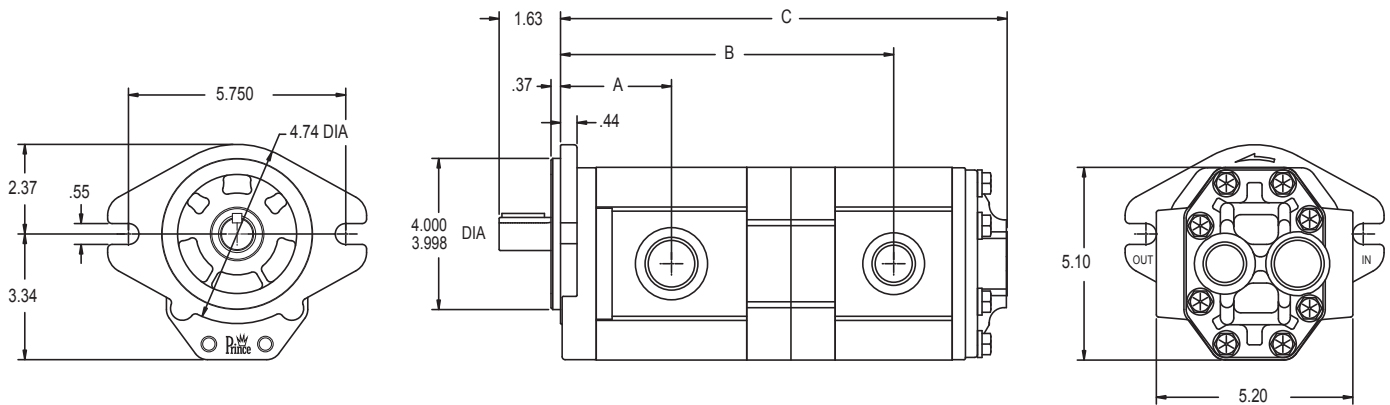
The SPD3 series of double pumps consists of two SP-25A pump sections. The typical performance of each section and the features of the pump are the same as indicated for the SP-25A series of pumps.

MODEL NO. CODING

SPD3 44 22 - 1 H 1 L

<p>BASIC MODEL NO. _____</p> <p>FRONT PUMP (SHAFT END) DISPLACEMENT CODE (SEE CHART) _____</p> <p>REAR PUMP DISPLACEMENT CODE (SEE CHART) _____</p>	<p>SPD3</p> <p>44</p> <p>22</p> <p>-</p> <p>1</p> <p>H</p> <p>1</p> <p>L</p>	<p>ROTATION: (FACING END OF SHAFT) L: COUNTER CLOCKWISE R: CLOCKWISE</p> <p>DRIVE SHAFT CODE: 1: SAE 13 TOOTH 16/32 SPLINE 2: SAE 7/8" STRAIGHT KEYED</p> <p>MOUNTING: H: 2 BOLT "B" FLANGE</p> <p>INLET CODE: 1: COMMON INLET (NO REAR INLET) 2: SEPARATE INLET (INLETS-BOTH SECTIONS)</p>
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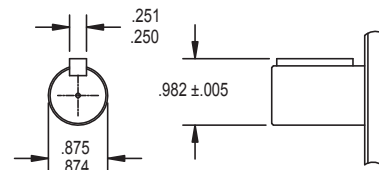
DIMENSIONS



SPLINED SHAFT SPECIFICATIONS

Per SAE Specifications
 13 Tooth
 16/32 Spline Pitch
 30 Degree Pressure Angle
 Flat Root Side Fit

KEYED SHAFT SPECIFICATIONS



SPD3 SERIES DOUBLE PUMPS

BASIC MODEL NUMBER & DISPLACEMENT CODES	DISPLACEMENT		MAXIMUM PRESSURE		MAXIMUM SPEED RPM	OUTLET PORT ^o SAE SIZE		INLET PORT SAE SIZE ^o SEPARATE INLET PUMP		INLET PORT SAE SIZE ^o COMMON INLET PUMP		PUMP DIMENSIONS			WT. (L.B.)
	FRONT CU IN/REV	REAR CU IN/REV	FRONT PSI	REAR PSI		FRONT PUMP	REAR PUMP	FRONT PUMP	REAR PUMP	FRONT PUMP	REAR PUMP	A IN.	B IN.	C IN.	
SPD3 19 19	1.141	1.141	3000	3000	3000	1 1/16-12	1 1/16-12	1 5/16-12	1 5/16-12	1 5/8-12	NONE	2.49	7.93	10.93	23.3
SPD3 22 19	1.349	1.141	3000	3000	3000	1 1/16-12	1 1/16-12	1 5/16-12	1 5/16-12	1 5/8-12	NONE	2.55	8.05	11.05	23.5
SPD3 22 22	1.349	1.349	3000	3000	3000	1 1/16-12	1 1/16-12	1 5/16-12	1 5/16-12	1 5/8-12	NONE	2.55	8.11	11.17	23.7
SPD3 27 19	1.660	1.141	3000	3000	3000	1 1/16-12	1 1/16-12	1 5/16-12	1 5/16-12	1 5/8-12	NONE	2.64	8.23	11.23	23.9
SPD3 27 22	1.660	1.349	3000	3000	3000	1 1/16-12	1 1/16-12	1 5/16-12	1 5/16-12	1 5/8-12	NONE	2.64	8.29	11.35	24.1
SPD3 27 27	1.660	1.660	3000	3000	3000	1 1/16-12	1 1/16-12	1 5/16-12	1 5/16-12	1 5/8-12	NONE	2.64	8.37	11.52	24.5
SPD3 32 19	2.008	1.141	3000	3000	3000	1 5/16-12	1 1/16-12	1 5/8-12	1 5/16-12	1 7/8-12	NONE	2.74	8.42	11.42	24.3
SPD3 32 22	2.008	1.349	3000	3000	3000	1 5/16-12	1 1/16-12	1 5/8-12	1 5/16-12	1 7/8-12	NONE	2.74	8.48	11.54	24.5
SPD3 32 27	2.008	1.660	3000	3000	3000	1 5/16-12	1 1/16-12	1 5/8-12	1 5/16-12	1 7/8-12	NONE	2.74	8.57	11.72	24.9
SPD3 32 32	2.008	2.008	3000	3000	3000	1 5/16-12	1 5/16-12	1 5/8-12	1 5/8-12	1 7/8-12	NONE	2.74	8.67	11.92	25.3
SPD3 38 19	2.318	1.141	3000	3000	3000	1 5/16-12	1 1/16-12	1 5/8-12	1 5/16-12	1 7/8-12	NONE	2.83	8.60	11.60	24.8
SPD3 38 22	2.318	1.349	3000	3000	3000	1 5/16-12	1 1/16-12	1 5/8-12	1 5/16-12	1 7/8-12	NONE	2.83	8.66	11.72	25.0
SPD3 38 27	2.318	1.660	3000	3000	3000	1 5/16-12	1 1/16-12	1 5/8-12	1 5/16-12	1 7/8-12	NONE	2.83	8.75	11.90	25.4
SPD3 38 32	2.318	2.008	3000	3000	3000	1 5/16-12	1 5/16-12	1 5/8-12	1 5/8-12	1 7/8-12	NONE	2.83	8.85	12.09	25.8
SPD3 38 38	2.318	2.318	3000	3000	3000	1 5/16-12	1 5/16-12	1 5/8-12	1 5/8-12	1 7/8-12	NONE	2.83	8.94	12.27	26.3
SPD3 44 19	2.697	1.141	3000	3000	3000	1 5/16-12	1 1/16-12	1 5/8-12	1 5/16-12	1 7/8-12	NONE	2.94	8.82	11.82	25.3
SPD3 44 22	2.697	1.349	3000	3000	3000	1 5/16-12	1 1/16-12	1 5/8-12	1 5/16-12	1 7/8-12	NONE	2.94	8.88	11.94	25.5
SPD3 44 27	2.697	1.660	3000	3000	3000	1 5/16-12	1 1/16-12	1 5/8-12	1 5/16-12	1 7/8-12	NONE	2.94	8.96	12.11	25.9
SPD3 44 32	2.697	2.008	3000	3000	3000	1 5/16-12	1 5/16-12	1 5/8-12	1 5/8-12	1 7/8-12	NONE	2.94	9.06	12.31	26.3
SPD3 44 38	2.697	2.318	3000	3000	3000+	1 5/16-12	1 5/16-12	1 5/8-12	1 5/8-12	1 7/8-12	NONE	2.94	9.15	12.49	26.8
SPD3 44 44	2.697	2.697	3000	3000	3000+	1 5/16-12	1 5/16-12	1 5/8-12	1 5/8-12	1 7/8-12	NONE	2.94	9.26	12.70	27.3
SPD3 52 19	3.179	1.141	2500	3000	3000	1 5/16-12	1 1/16-12	1 5/8-12	1 5/16-12	1 7/8-12	NONE	3.07	9.09	12.09	26.1
SPD 52 22	3.179	1.349	2500	3000	3000	1 5/16-12	1 1/16-12	1 5/8-12	1 5/16-12	1 7/8-12	NONE	3.07	9.15	12.21	26.3
SPD 52 27	3.179	1.660	2500	3000	3000	1 5/16-12	1 1/16-12	1 5/8-12	1 5/16-12	1 7/8-12	NONE	3.07	9.24	12.39	26.7
SPD3 52 32	3.179	2.008	2500	3000	3000	1 5/16-12	1 5/16-12	1 5/8-12	1 5/8-12	1 7/8-12	NONE	3.07	9.34	12.59	27.1
SPD3 52 38	3.179	2.318	2300*	3000+	3000+	1 5/16-12	1 5/16-12	1 5/8-12	1 5/8-12	1 7/8-12	NONE	3.07	9.43	12.76	27.6
SPD3 52 44	3.179	2.697	2100*	3000+	3000+	1 5/16-12	1 5/16-12	1 5/8-12	1 5/8-12	1 7/8-12	NONE	3.07	9.54	12.98	28.1
SPD3 52 52	3.179	3.179	2000*	3000+	3000+	1 5/16-12	1 5/16-12	1 5/8-12	1 5/8-12	1 7/8-12	NONE	3.07	9.67	13.26	28.9
SPD3 63 19	3.869	1.141	2500*	2900*	3000	1 5/16-12	1 1/16-12	1 7/8-12	1 5/16-12	1 7/8-12	NONE	3.27	9.49	12.49	26.8
SPD3 63 22	3.869	1.349	2500*	2500*	3000	1 5/16-12	1 1/16-12	1 7/8-12	1 5/16-12	1 7/8-12	NONE	3.27	9.55	12.61	27.0
SPD3 63 27	3.869	1.660	2300*	2500*	3000	1 5/16-12	1 1/16-12	1 7/8-12	1 5/16-12	1 7/8-12	NONE	3.27	9.63	12.78	27.4
SPD3 63 32	3.869	2.008	2100*	2500*	3000+	1 5/16-12	1 5/16-12	1 7/8-12	1 5/8-12	1 7/8-12	NONE	3.27	9.73	12.98	27.8
SPD3 63 38	3.869	2.318	2000*	2300*	3000+	1 5/16-12	1 5/16-12	1 7/8-12	1 5/8-12	1 7/8-12	NONE	3.27	9.82	13.16	28.3
SPD3 63 44	3.869	2.697	1900*	2100*	3000+	1 5/16-12	1 5/16-12	1 7/8-12	1 5/8-12	1 7/8-12	NONE	3.27	9.93	13.37	28.8
SPD3 63 52	3.869	3.179	1700*	2000*	3000+	1 5/16-12	1 5/16-12	1 7/8-12	1 5/8-12	1 7/8-12	NONE	3.27	10.07	13.65	29.6
SPD3 63 63	3.869	3.869	1500*	1800*	3000+	1 5/16-12	1 5/16-12	1 7/8-12	1 7/8-12	1 7/8-12	NONE	3.27	10.26	14.04	30.3

0 Standard ports as indicated are UN-2B straight thread 0-Ring boss ports. Optional sizes and configurations are available. Consult factory.

* Different pressure combinations may be used if required provided they conform to the following equation PF x DF + PR x DR < 13200 where PF and PR are the operating pressures (psi) and DF and DR are the displacements (cu in/rev) for the front and rear pumps respectively (maximum pressures are 3000 psi for displacement codes 19 - 44 and 2500 psi for displacement codes 52 - 63).

Consult factory.

+ Common inlet pumps require a reduction in maximum rpm. Consult factory.