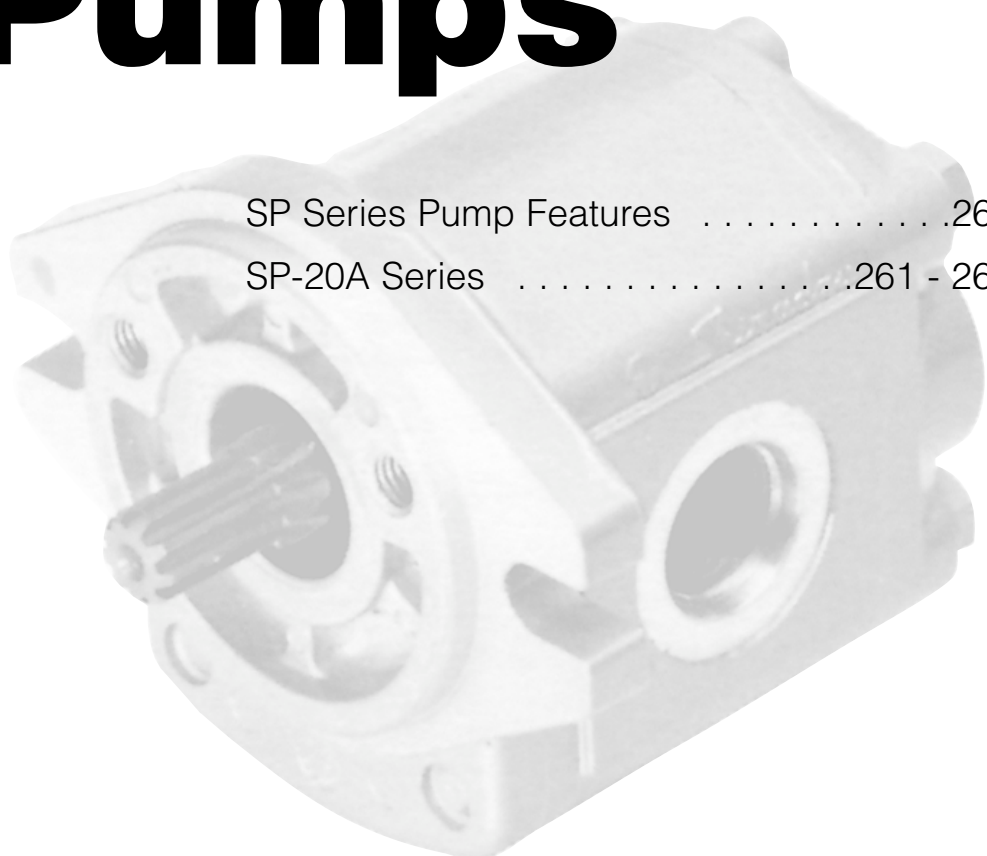




# Pumps



SP Series Pump Features	.....260
SP-20A Series	.....261 - 262

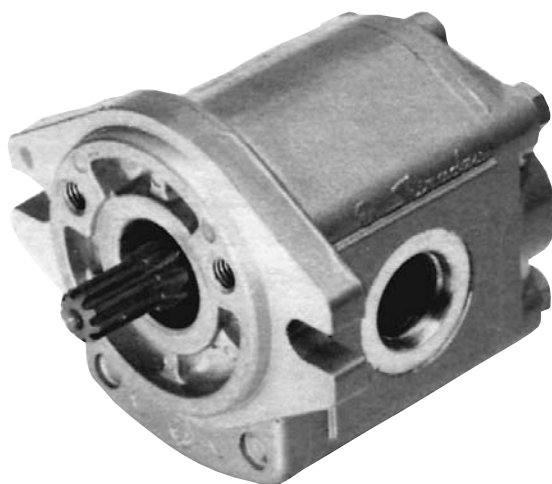


## SP SERIES HYDRAULIC GEAR PUMP

### OUTSTANDING FEATURES

- **Patented Non-Symmetrical Gears:** The adoption of non-symmetrical gears insures greater power per unit volume compared with pumps of conventional design. The compact gear compartment has enabled high pressure operation. The increased number of gear teeth has reduced the flow pulsation and minimized the noise.
- **Bearings:** PTFE composite bearings are used due to the ability to handle heavy loads, low shaft speeds, and high levels of contamination. Engineering tests on the PTFE bearings indicate they will withstand bearing loads over twice as high as conventional steel backed aluminum bearings used in many pumps. The PTFE resin layer will absorb a high degree of contamination without damage to the pump. Also, since the PTFE layer is self-lubricating, contamination from bearing wear in high load situations (when no oil film is present) is reduced. The side benefit from reduced friction under all conditions is a reduced consumption of power.
- **Gears and Drive Shaft** are hardened alloy steel of one piece construction.
- **Special Gear Design:** Non-symmetrical gear insures low noise and compactness.
- **Highest Quality Workmanship**
- **Pressures Up To 3000 P.S.I.**
- **Maximum speed** from 2500 to 4000 RPM using SAE 10W oil.
- **Dependable Service:** Balanced pressure loading insures small dispersion, good durability and maintains high performance. Extremely Efficient.
- **Perfect Alignment:** "Through bore" design provides perfect alignment of pump element and assures even bearing load.
- **With the aluminum casing,** the SP Series features light weight and easy handling.
- **Double Pumps:** Available in SP20, SP25 AND SP25/SP20 combinations.
- **Displacement covers:** .499 in 3/rev. to 3.869 in 3/rev.
- **Inlet pressure:** Pump inlet should not exceed 5 in. of mercury vacuum or 14 P.S.I. positive pressure.
- **Ports:** SAE straight thread O-ring boss for SP20 & SP25. SAE flange ports available - consult salesperson.
- **Working Oil:** A mineral based oil with additives to resist corrosion, oxidation, and foaming is recommended. Viscosity at any running condition should be 45 SUS minimum and 250 SUS maximum. 180° F is the maximum recommended system operating temperature.
- **Filtration:** 10 micron filtration is recommended to

### INTERNAL COMPONENTS BREAKDOWN

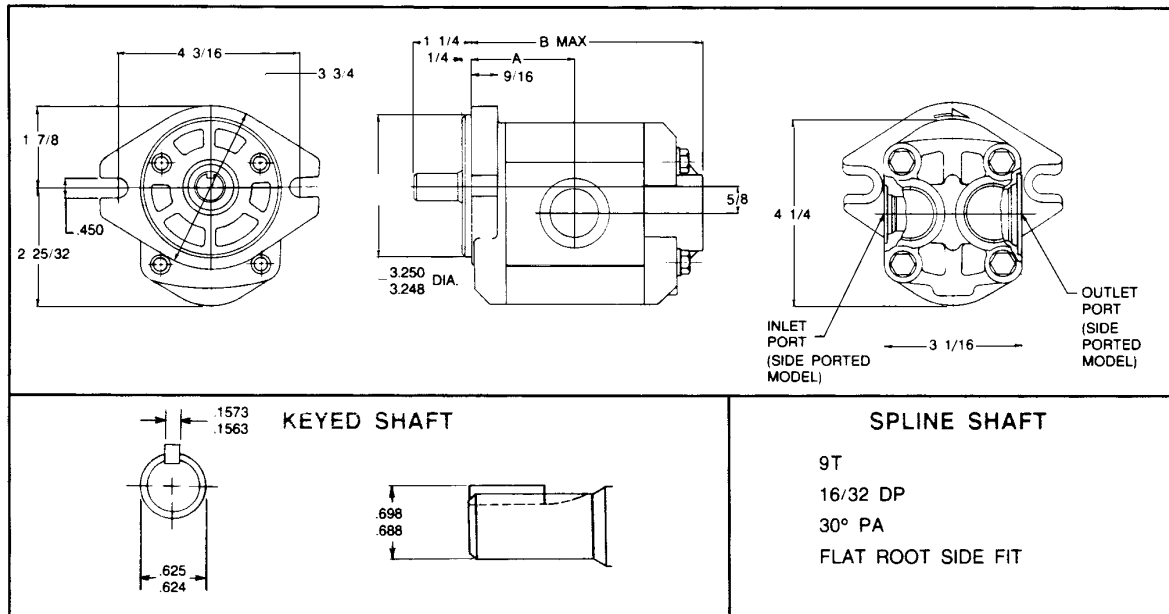


# Series SP-20A



**PRINCE - SP-20A**

## DIMENSIONS SP-20A SERIES



## TYPICAL PERFORMANCE DATA

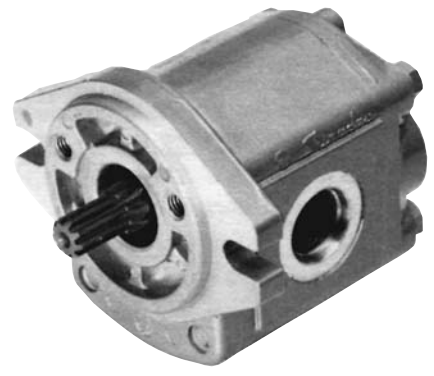
MODEL		RPM								PRESSURE (PSI)
		500	1000	1500	2000	2500	3000	3500	4000	
SP20A8	FLOW (GPM)	.88	1.91	2.97	4.04	5.10	6.16	7.27	8.33	3000
	INPUT HORSEPOWER	2.23	4.38	6.53	8.83	11.13	13.57	16.17	18.69	
SP20A9	FLOW (GPM)	1.03	2.30	3.52	4.75	5.97	7.19	8.46	9.74	
	INPUT HORSEPOWER	2.61	5.03	7.54	10.14	12.84	15.54	18.43	21.31	
SP20A11	FLOW (GPM)	1.27	2.74	4.16	5.63	7.05	8.51	9.98	11.40	
	INPUT HORSEPOWER	2.98	5.77	8.75	11.63	14.80	17.87	21.12	24.38	
SP20A14	FLOW (GPM)	1.61	3.36	5.19	7.01	8.91	10.74	12.56	14.39	
	INPUT HORSEPOWER	3.68	7.09	10.51	14.19	18.00	21.68	25.49	29.43	
SP20A16	FLOW (GPM)	1.80	3.82	5.87	7.93	9.98	12.11	14.24	16.22	
	INPUT HORSEPOWER	4.01	7.86	11.87	15.87	20.17	24.33	28.78	34.12	
SP20A20	FLOW (GPM)	2.35	4.92	7.49	10.05	12.70	15.26	17.76		
	INPUT HORSEPOWER	5.21	9.98	14.89	21.10	25.16	30.52	35.73		
SP20A23	FLOW (GPM)	2.80	5.72	8.73	11.60	14.68	17.61	20.55		2500
	INPUT HORSEPOWER	5.06	9.68	14.44	19.21	24.27	29.48	34.54		
SP20A27	FLOW (GPM)	3.30	6.90	10.47	13.90	17.52	20.94	24.46		
	INPUT HORSEPOWER	5.98	11.59	17.20	23.00	28.98	34.78	41.13		

Typical Performance Data Based on 140 SUS Oil at 120° F.

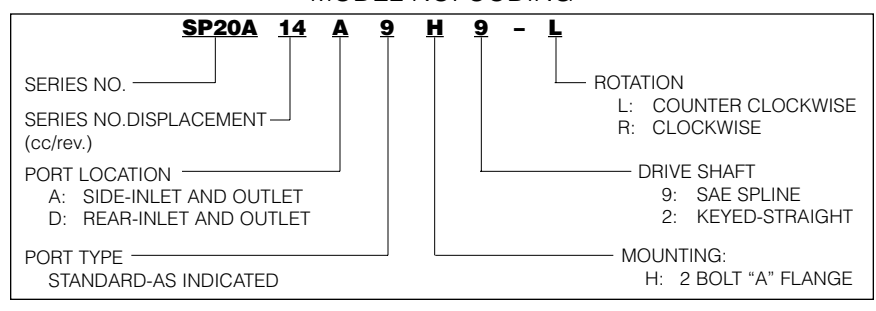


# SP-20A Series

## SP-20A SERIES



### MODEL NO. CODING



### SPECIFICATIONS

MODEL NUMBER	DISPL. IN 3/REV.	RATED PRESSURE	MAX RPM	A	B	INLET PORT			OUTLET PORT			WT.
						SIZE		FULL THREAD DEPTH	SIZE		FULL THREAD DEPTH	
						SIDE	REAR		SIDE	REAR		
SP20A8	.499	3000	4000	1.834	4.301	1 1/16-12 UN-2B	1 5/16-12 UN-2B	3/4"	7/8-14	1 1/16-12	5/8"	5.1
SP20A9	.589	3000	4000	1.873	4.380							5.3
SP20A11	.677	3000	4000	1.913	4.458							5.5
SP20A14	.860	3000	4000	1.992	4.616							5.7
SP20A16	.976	3000	4000	2.041	4.714	1 5/16-12 UN-2B	3/4"	1 1/16-12	3/4"	6.0		
SP20A20	1.220	3000	3500	2.149	4.931					6.2		
SP20A23	1.403	2500	3500	2.228	5.088					6.4		
SP20A27	1.654	2500	3500	2.336	5.305	1 5/16-12 UN-2B				3/4"	6.6	

### DOUBLE PUMPS (L or R Rotation)

MODEL	DESCRIPTION
<b>SPD2020</b>	SP20 FRONT PUMP SP20 REAR PUMP
<b>SPD2525</b>	SP25 FRONT PUMP SP25 REAR PUMP
<b>SPD2520</b>	SP25 FRONT PUMP SP20 REAR PUMP

Available in all combinations of standard displacements, keyed or splined drive shaft.

(Consult sales person for pump configurations not listed)