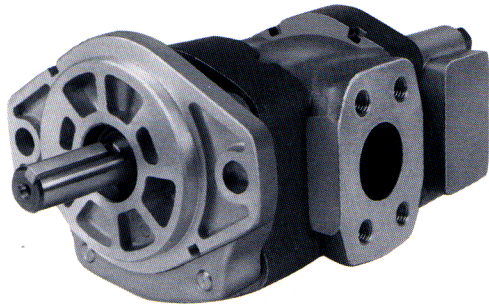


# Model TP16



Description . . . . . Gear Pumps (Two-place)  
 Flow Range . . . To 32 GPM (121.1 LTR) Per Section  
 Displacements . . . To 3.904 C.I.R. (63.94 CC's/REV.)  
 Maximum Pressure to. . . . . 3000 PSI (207 BAR)  
 Maximum Speed to . . . . . 3100 RPM  
 Rotation . . . . . A or C  
 Bearings . . . . . Journal  
 Construction . . . . . Cast Iron Gear Plates with  
 Aluminum Flange, Connector and Cover Plates

## Performance Data

PUMP MODEL	SECTION SIZE	DISPLACEMENT/REVOLUTION (Theoretical)					MAXIMUM PRESSURE		MAXIMUM SPEED (RPM)	
		US Gallons	Cubic Inches	Liters	Cubic Centimeters	Imperial Gallons	PSI	BAR	Single	Tandem
TP16	45	.0038	.878	.0144	14.388	.0031	3000	207	3600	3100
TP16	65	.0055	1.270	.0208	20.812	.0045	3000	207	3600	3000
TP16	85	.0072	1.663	.0273	27.252	.0059	3000	207	3400	2900
TP16	100	.0085	1.964	.0321	32.184	.0070	3000	207	3300	2800
TP16	115	.0097	2.241	.0367	36.723	.0080	3000	207	3100	2600
TP16	150	.0127	2.934	.0481	48.080	.0105	3000	207	2800	2400
TP16	180	.0152	3.511	.0575	57.535	.0126	2200	152	2500	2100
TP16	200	.0169	3.904	.0639	63.942	.0140	2000	138	2200	1900

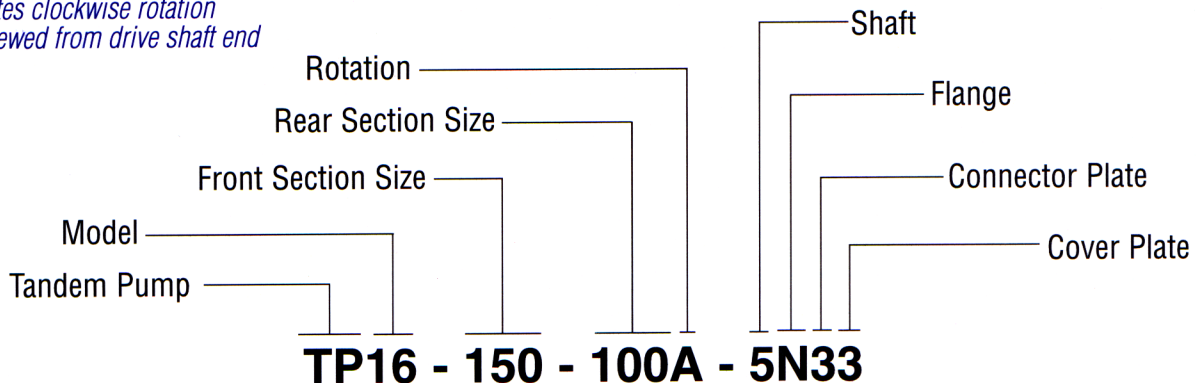
Note: For best inlet conditions, place largest displacement section in the rear position and use both inlet ports.  
 All data based on SAE 10W oil at 150°F.  
 Available with Viton Seals for use with phosphate ester base fluids.

**CAUTION:** "Inlet vacuum" should not exceed 5" Hg at normal operating speed and temperature.  
 Operation of pumps in excess of 5" Hg requires factory approval.

When sizing pumps, refer to the performance charts in the back of the catalog to determine the volumetric efficiency and input horsepower requirements.

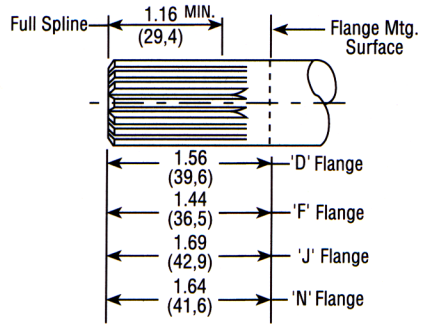
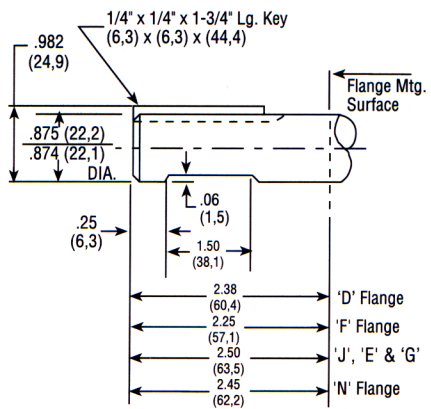
## How To Order

'A' denotes counterclockwise rotation  
 'C' denotes clockwise rotation  
 When viewed from drive shaft end

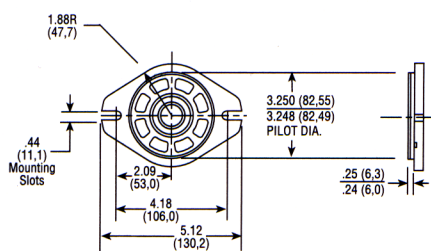
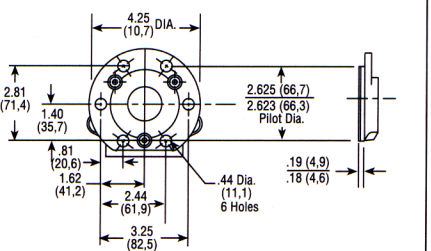
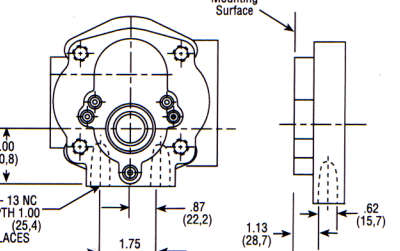
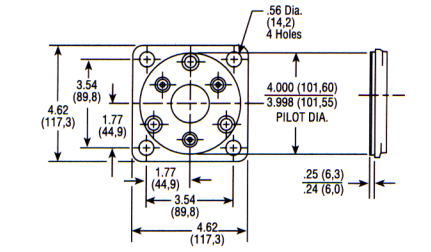
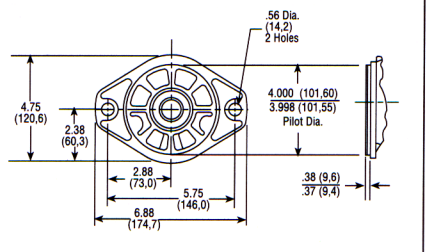
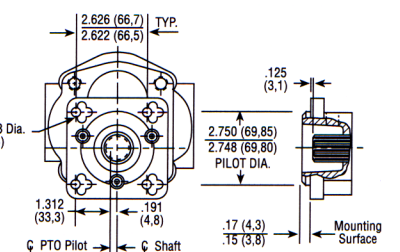


Note: Add prefix 'V' to pump model number (VTP16) when ordering pumps with Viton Seals for use with phosphate ester base fluids.

# Shafts Available

<p><b>2</b> <b>7/8" Dia. 13 Tooth Spline Flat Root Side Fit.</b> Torque Limit 184 Lbs. Ft. (249,4 Nm)</p>  <p><b>Spline Data</b>          Diametral Pitch ..... 16/32          Pressure Angle ..... 30°          No. Of Teeth ..... 13</p>	<p><b>5</b> <b>7/8" Straight Shaft</b> Torque Limit 184 Lbs. Ft. (249,4 Nm)</p> 
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# Mounting Flanges Available

<p><b>D</b> <b>SAE 'A' 2-Bolt</b></p> 	<p><b>E</b> <b>6-Bolt Round</b></p> 	<p><b>F</b> <b>Pad Mount</b></p> 
<p><b>J</b> <b>SAE 'B' 4-Bolt</b></p> 	<p><b>N</b> <b>SAE 'B' 2-Bolt</b></p> 	<p><b>S</b> <b>P.T.O. Direct Mount</b> Available with No. 2 Shaft Only</p> 

# Discharge Ports for Connector Plate and Cover Plate

<p><b>3</b> SAE 4-Bolt</p> <p>*Metric threads are available - Consult Factory SAE 4-Bolt NPT Connectors Are Available. See Accessory Section</p>	<p><b>4</b> NPT-Pipe Thread</p> <p><b>8</b> BSPT-Pipe Thread</p> <p>3/4-14 PT</p>	<p><b>5</b> SAE 12 Straight Thread</p> <p>1-1/16-12UN-2B</p>	<p><b>9</b> SAE 16 Straight Thread</p> <p>1-5/16-12UN-2B</p>
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## Dimensional Data

### PD Factors

The maximum size and number of sections of a tandem pump for a given application is limited to the torque capability of the input drive shaft and the spline coupling between the sections. To determine this capability, a "PD Factor" is used:

Maximum allowable PD for the 7/8" drive shaft is 53.  
Maximum allowable PD for a coupling is also 53.

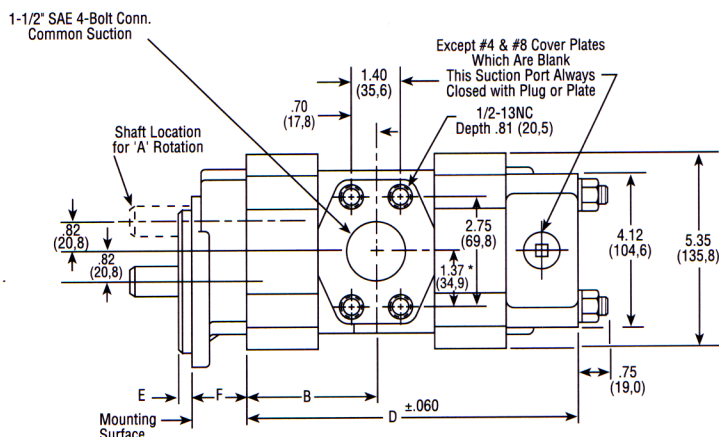
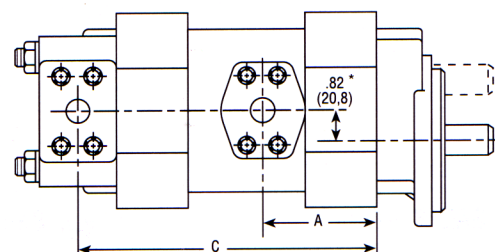
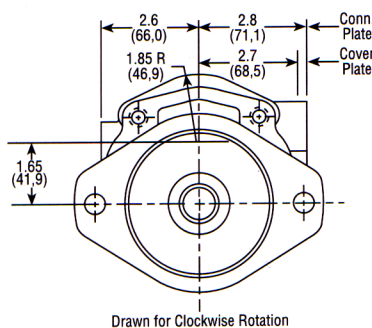
When: P = PSI (The relief valve setting of each individual section).  
D = Displacement (In U.S. gallons per revolution of each individual section).

Example: Assume a two-place pump TP16-150 — 150 with front and rear sections on pressure at the same time at 2000 PSI:

- A. Drive Shaft:  
 $PD = (2000) (.0127) + (2000) (.0127) = 50.8$  vs. 53. Capability is OK
- B. Coupling between front and center sections:  
 $PD = (2000) (.0127) = 25.4$  vs. 53. Capability is OK.

### Flange Dimensions

FLANGE TYPE	E		F	
D	.250	(6,35)	1.62	(41,15)
E	.187	(4,75)	2.75	(69,85)
F	—	—	1.75	(44,45)
J	.250	(6,35)	2.75	(69,85)
N	.375	(9,52)	1.55	(38,10)
S	.200	(5,08)	3.31	(84,07)



\*These dimensions locate  $\bar{C}$  of bolt pattern only.

## Dimensional Data

### Mounting Dimensions

PUMP SIZES	A		B		C		D		SHIPPING WEIGHTS (Approx.)	
									lbs.	kgs.
TP16-45-45	1.89	(48,01)	2.42	(61,47)	5.90	(149,9)	6.91	(175,5)	26	11.8
TP16-65-45	2.11	(53,59)	2.64	(67,06)	6.11	(155,2)	7.12	(180,9)	28	12.7
TP16-65-65	2.11	(53,59)	2.64	(67,06)	6.33	(160,8)	7.34	(186,4)	30	13.6
TP16-85-45	2.32	(58,93)	2.85	(72,39)	6.33	(160,8)	7.34	(186,4)	31	14.1
TP16-85-65	2.32	(58,93)	2.85	(72,39)	6.54	(166,1)	7.55	(191,8)	33	15.0
TP16-85-85	2.32	(58,93)	2.85	(72,39)	6.76	(171,7)	7.77	(197,4)	35	15.9
TP16-100-45	2.48	(62,99)	3.01	(76,45)	6.49	(164,9)	7.50	(190,5)	34	15.4
TP16-100-65	2.48	(62,99)	3.01	(76,45)	6.70	(170,2)	7.71	(195,8)	36	16.3
TP16-100-85	2.48	(62,99)	3.01	(76,45)	6.92	(175,8)	7.93	(201,4)	38	17.2
TP16-100-100	2.48	(62,99)	3.01	(76,45)	7.08	(179,8)	8.09	(205,5)	39	17.7
TP16-115-45	2.64	(67,06)	3.17	(80,52)	6.65	(168,9)	7.66	(194,6)	39	17.7
TP16-115-65	2.64	(67,06)	3.17	(80,52)	6.86	(174,2)	7.87	(199,9)	41	18.6
TP16-115-85	2.64	(67,06)	3.17	(80,52)	7.08	(179,8)	8.09	(205,5)	43	19.5
TP16-115-100	2.64	(67,06)	3.17	(80,52)	7.24	(183,9)	8.25	(209,6)	44	20.0
TP16-115-115	2.64	(67,06)	3.17	(80,52)	7.40	(188,0)	8.41	(213,6)	46	20.9
TP16-150-45	3.01	(76,45)	3.54	(89,92)	7.02	(178,3)	8.03	(204,0)	44	20.0
TP16-150-65	3.01	(76,45)	3.54	(89,92)	7.23	(183,6)	8.24	(209,3)	47	21.3
TP16-150-85	3.01	(76,45)	3.54	(89,92)	7.45	(189,2)	8.46	(214,9)	49	22.2
TP16-150-100	3.01	(76,45)	3.54	(89,92)	7.61	(193,3)	8.62	(219,0)	50	22.7
TP16-150-115	3.01	(76,45)	3.54	(89,92)	7.77	(197,4)	8.78	(223,0)	52	23.6
TP16-150-150	3.01	(76,45)	3.54	(89,92)	8.14	(206,8)	9.15	(232,4)	54	24.5
TP16-180-45	3.33	(84,58)	3.86	(98,04)	7.34	(186,4)	8.35	(212,1)	52	23.6
TP16-180-65	3.33	(84,58)	3.86	(98,04)	7.55	(191,8)	8.56	(217,4)	54	24.5
TP16-180-85	3.33	(84,58)	3.86	(98,04)	7.77	(197,4)	8.78	(223,0)	56	25.4
TP16-180-100	3.33	(84,58)	3.86	(98,04)	7.93	(201,4)	8.94	(227,1)	57	25.9
TP16-180-115	3.33	(84,58)	3.86	(98,04)	8.09	(205,5)	9.10	(231,1)	59	26.8
TP16-180-150	3.33	(84,58)	3.86	(98,04)	8.46	(214,9)	9.47	(240,5)	61	27.7
TP16-180-180	3.33	(84,58)	3.86	(98,04)	8.78	(223,0)	9.79	(248,7)	63	28.6
TP16-200-45	3.55	(90,17)	4.08	(103,6)	7.55	(191,8)	8.57	(217,7)	60	27.2
TP16-200-65	3.55	(90,17)	4.08	(103,6)	7.76	(197,1)	8.77	(222,8)	62	28.1
TP16-200-85	3.55	(90,17)	4.08	(103,6)	7.98	(202,7)	8.99	(228,4)	64	29.0
TP16-200-100	3.55	(90,17)	4.08	(103,6)	8.14	(206,8)	9.15	(232,4)	65	29.5
TP16-200-115	3.55	(90,17)	4.08	(103,6)	8.30	(210,8)	9.31	(236,5)	67	30.4
TP16-200-150	3.55	(90,17)	4.08	(103,6)	8.67	(220,2)	9.68	(245,9)	69	31.3
TP16-200-180	3.55	(90,17)	4.08	(103,6)	8.99	(228,4)	10.00	(254,0)	71	32.2
TP16-200-200	3.55	(90,17)	4.08	(103,6)	9.20	(233,7)	10.21	(259,3)	73	33.1