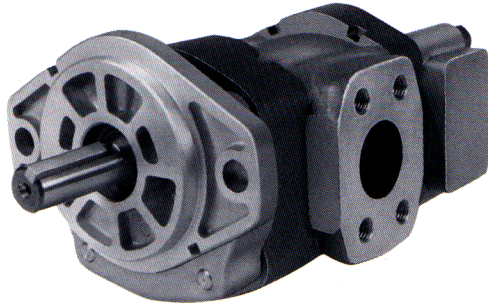


# Model THP16



Description . . . . . Gear Pumps (Two-place)  
 Flow Range . . . To 42 GPM Per Section (158.9 LTR)  
 Displacements . . . To 4.874 C.I.R. (79.87 CC's/REV.)  
 Maximum Pressure to. . . . . 3100 PSI (214 BAR)  
 Maximum Speed to. . . . . 2900 RPM  
 Rotation . . . . . A or C  
 Bearings . . . . . Journal  
 Construction. . . . . Cast Iron Bodies with  
 Aluminum Flange, Bearing and Cover Plates

## Performance Data

PUMP SERIES	SECTION SIZE	DISPLACEMENT/REVOLUTION (Theoretical)					MAXIMUM PRESSURE		MAXIMUM SPEED (RPM)	
		US Gallons	Cubic Inches	Liters	Cubic Centimeters	Imperial Gallons	PSI	BAR	Single	Tandem
HP16	85	.0072	1.663	.0273	27.252	.0059	3100	214	3400	2900
HP16	100	.0085	1.964	.0321	32.184	.0070	3100	214	3300	2800
HP16	115	.0097	2.241	.0367	36.723	.0080	3100	214	3100	2600
HP16	150	.0127	2.934	.0481	48.080	.0105	3100	214	2800	2400
HP16	180	.0152	3.511	.0575	57.535	.0125	2500	172	2500	2100
HP16	200	.0169	3.904	.0639	63.942	.0140	2250	155	2200	1900
HP16	250	.0211	4.874	.0798	79.871	.0175	1800	124	2000	1800

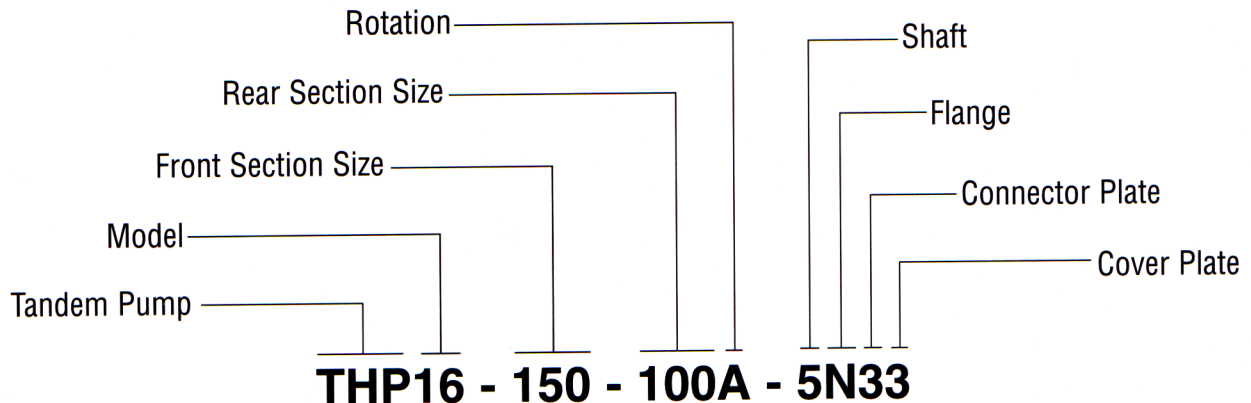
Note: For best inlet conditions, if PD factor is not exceeded, place largest displacement section in the rear position and use both inlet ports.  
 All data based on SAE 10W oil at 150°F.  
 Available with Viton Seals for use with phosphate ester base fluids.

**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 (VTHP16) when ordering pumps with Viton Seals for use with phosphate ester base fluids.

# Shafts Available

**2 7/8" Dia. 13 Tooth Spline**  
**Flat Root Side Fit**  
 Torque Limit 184 Ft. Lbs. (249,4 Nm)

**Spline Data**  
 Diametral Pitch ..... 16/32  
 Pressure Angle ..... 30°  
 No. Of Teeth ..... 13

**5 7/8" Straight Shaft**  
 Torque Limit 184 Ft. Lbs. (249,4 Nm)

**7 1" Dia. 13 Tooth Spline**  
**Flat Root Side Fit**  
 Torque Limit 341 Ft. Lbs. (462,3 Nm)

**Spline Data**  
 Diametral Pitch ..... 16/32  
 Pressure Angle ..... 30°  
 No. Of Teeth ..... 15

**8 1" Straight Shaft**  
 Torque Limit 184 Lbs. Ft. (462,3 Nm)

# Mounting Flanges Available

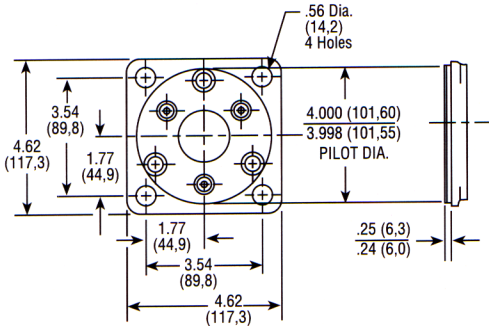
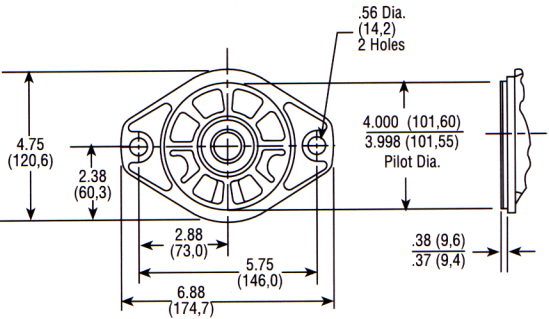
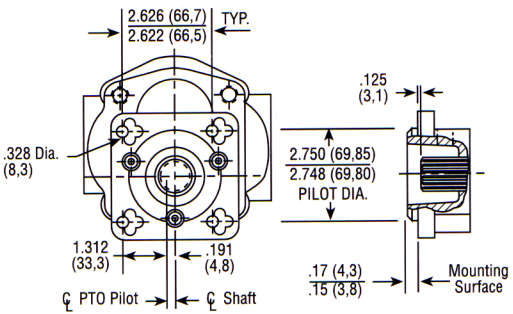
**D SAE 'A' 2-Bolt**

**E 6-Bolt Round**  
 Available with No. 2 or 5 Shaft Only

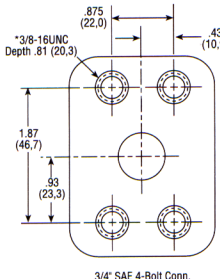
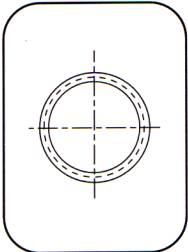
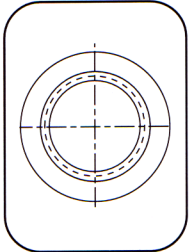
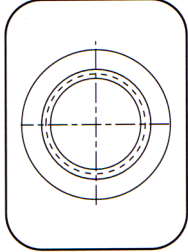
**F Pad Mount**

**G SAE 'C' 4-Bolt**  
 Available for No. 2 or 5 Shaft Only

## Discharge Ports for Connector Plate and Cover Plate

<p><b>J SAE 'B' 4-Bolt</b> Available with No. 2 or 5 Shaft Only (Typ.)</p> 	<p><b>N SAE 'B' 2-Bolt</b></p> 
<p><b>S P.T.O. Direct Mount</b> Available with No. 2 Shaft Only</p> 	

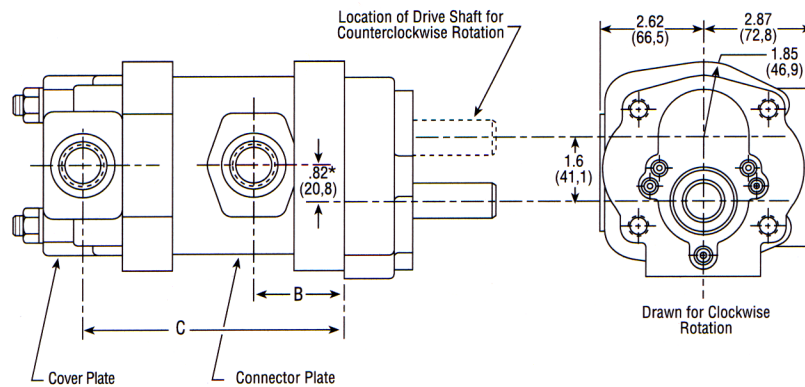
## Discharge Ports for Connector Plate and Cover Plate

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



# Dimensional Data



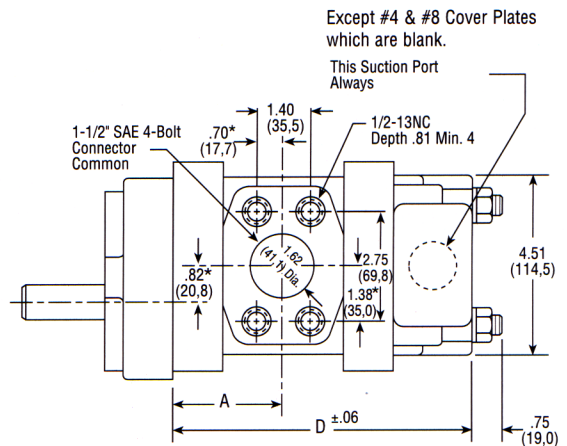
## PD Factors

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 1" drive shaft is 97.
- 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 THP16-200-200 with front and rear sections on pressure at the same time. The front section operates at 2500 PSI and the rear section operates at 2000 PSI:

- A. Drive Shaft:
  - (1) PD = (2500) (.0169) + (2000) (.0169) = 76.08 vs. 97. Capability is OK
- B. Coupling between front and rear sections:
  - (1) PD = (2000) (.0169) = 33.8 vs. 53. Capability is OK.



## Mounting Dimensions

PUMP SIZES	A		B		C		D		SHIPPING WEIGHTS (Approx.)	
	lbs.	kgs.	lbs.	kgs.	lbs.	kgs.	lbs.	kgs.	lbs.	kgs.
THP16-85-85	2.79	(70,87)	2.26	(57,40)	6.63	(168,4)	7.64	(194,1)	37	16.8
THP16-100-85	2.91	(73,91)	2.38	(60,45)	6.75	(171,5)	7.76	(197,1)	41	18.6
THP16-100-100	2.91	(73,91)	2.38	(60,45)	6.87	(174,5)	7.88	(200,2)	43	19.5
THP16-115-85	3.03	(79,96)	2.50	(63,50)	6.87	(174,5)	7.88	(200,2)	45	20.4
THP16-115-100	3.03	(79,96)	2.50	(63,50)	6.99	(177,6)	8.00	(203,2)	47	21.3
THP16-115-115	3.03	(79,96)	2.50	(63,50)	7.11	(180,6)	8.12	(206,3)	48	21.8
THP16-150-85	3.32	(84,33)	2.79	(70,87)	7.16	(181,9)	8.17	(207,5)	51	23.1
THP16-150-100	3.32	(84,33)	2.79	(70,87)	7.28	(184,9)	8.29	(210,6)	53	24.0
THP16-150-115	3.32	(84,33)	2.79	(70,87)	7.40	(188,0)	8.41	(213,6)	54	24.5
THP16-150-150	3.32	(84,33)	2.79	(70,87)	7.69	(195,3)	8.70	(221,0)	56	25.4
THP16-180-85	3.56	(90,42)	3.03	(76,96)	7.40	(188,0)	8.41	(213,6)	58	26.3
THP16-180-100	3.56	(90,42)	3.03	(76,96)	7.52	(191,0)	8.53	(216,7)	60	27.2
THP16-180-115	3.56	(90,42)	3.03	(76,96)	7.64	(194,1)	8.65	(219,7)	61	27.7
THP16-180-150	3.56	(90,42)	3.03	(76,96)	7.93	(201,4)	8.94	(227,1)	63	28.6
THP16-180-180	3.56	(90,42)	3.03	(76,96)	8.17	(207,5)	9.18	(233,2)	65	29.5
THP16-200-85	3.72	(94,49)	3.19	(81,03)	7.56	(192,0)	8.57	(217,7)	66	30.0
THP16-200-100	3.72	(94,49)	3.19	(81,03)	7.68	(195,1)	8.69	(220,7)	68	30.8
THP16-200-115	3.72	(94,49)	3.19	(81,03)	7.80	(198,1)	8.81	(223,8)	69	31.3
THP16-200-150	3.72	(94,49)	3.19	(81,03)	8.09	(205,5)	9.10	(231,1)	71	32.2
THP16-200-180	3.72	(94,49)	3.19	(81,03)	8.33	(211,6)	9.34	(237,2)	73	33.1
THP16-200-200	3.72	(94,49)	3.19	(81,03)	8.49	(215,7)	9.50	(241,3)	75	34.0
THP16-250-85	4.20	(106,7)	3.67	(93,22)	8.04	(204,2)	9.05	(229,9)	74	33.6
THP16-250-100	4.20	(106,7)	3.67	(93,22)	8.16	(207,3)	9.17	(232,9)	76	34.5
THP16-250-115	4.20	(106,7)	3.67	(93,22)	8.28	(210,3)	9.29	(236,0)	77	34.9
THP16-250-150	4.20	(106,7)	3.67	(93,22)	8.57	(217,7)	9.58	(243,3)	79	35.8
THP16-250-180	4.20	(106,7)	3.67	(93,22)	8.81	(223,8)	9.82	(249,4)	81	36.7
THP16-250-200	4.20	(106,7)	3.67	(93,22)	8.97	(227,8)	9.98	(253,5)	83	37.6
THP16-250-250	4.20	(106,7)	3.67	(93,22)	9.45	(240,0)	10.46	(265,7)	84	38.1

\* These dimensions locate C of bolt pattern only.