

165T-5 Triplex Plunger Pump

Specifications

Pump Size

(maximum plunger size x stroke length in.(mm))
4 x 5 (102 x 127)

Rated bhp at 400 rpm (kw)
165 (123)

Rated plunger load, pounds (Kg)
9800 (4445.2)

Maximum discharge pressure: psi (kPa)

"L" model: 1650 (11,376)

"M" model: 3120 (21,512)

"H" model: 5000 (34,474)

Crankshaft extension: in.(mm)

Diameter: 4.125 (104.8)

Length long side: 8 1/8 (206.4)

Length short side: 5 7/8 (149.2)

Keyway (width x depth): 1 x 1/2 (25.4 x 12.7)

Maximum recommended sheave in.(mm):
50 (1270)

Minimum recommended sheave in.(mm):
36 (914)

For larger sizes: **Contact Factory**

Pinion shaft extension, in.(mm):

if gear reducer is supplied

For belt or chain drive: **Contact Factory**

For direct drive: Diameter: 3.0 (76.2)

Length: 6 3/16 (157.2)

Keyway (width x depth):

3/4 x 3/8 (19.05 x 9.53)

Accessory gear reduction unit:

2.8:1, 3.22:1, 3.46:1, 4.00:1,

4.38:1, 4.78:1, 4.96:1, 5.74:1

Oil Capacity, gallons (L)

Crankcase: 8 (30)

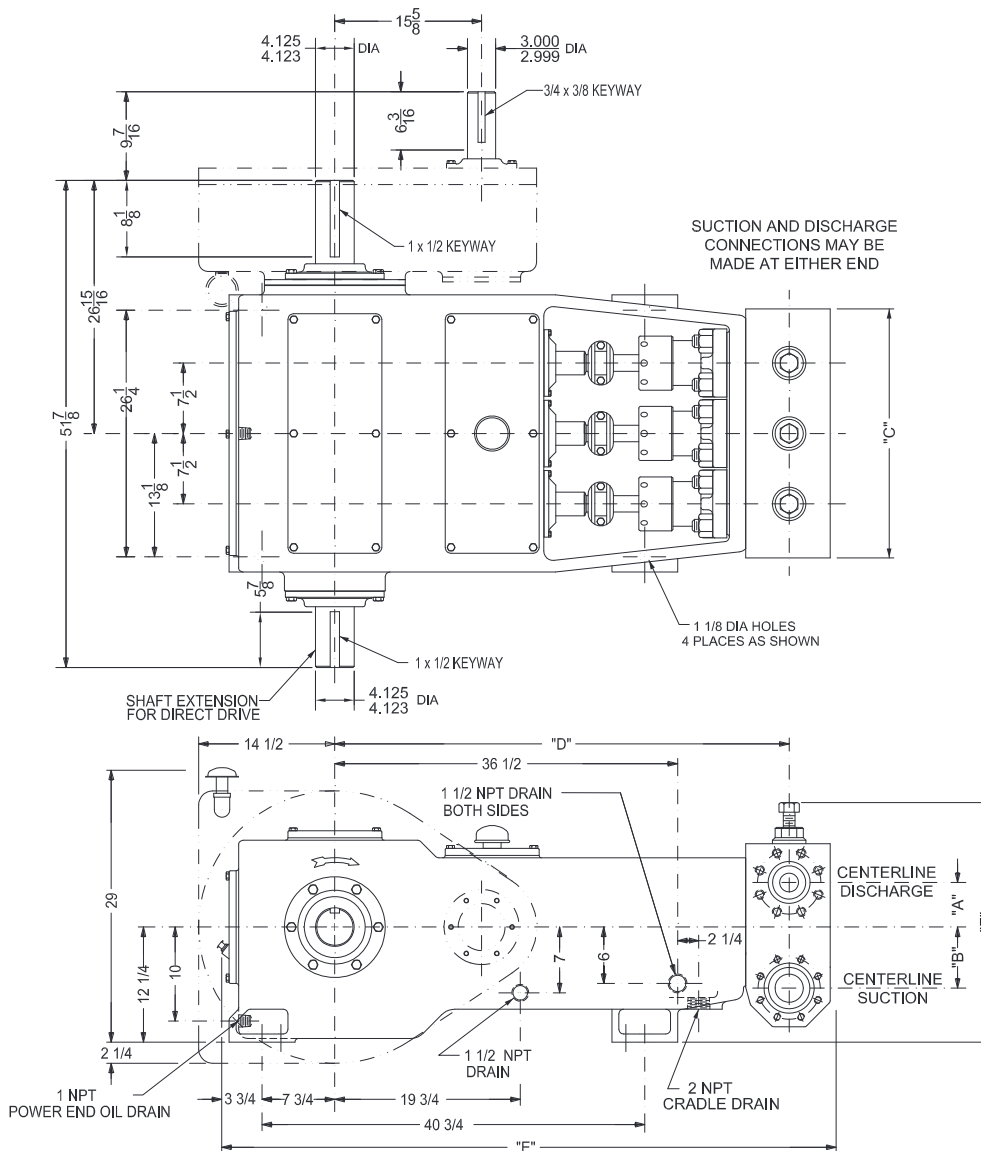
Gear Reducer-varies with ratio:

2.25 to 3.5 (8.52 to 13.25)

Weight, pump only on wood shipping skids

pounds (Kg): 4000 (1814)

Gear reducer, approximate pounds (Kg):
800 (363)



Pump Model	Flange Connections		Dimensions (Inches)					
	Discharge Connection Sizes	Suction Connection Sizes	A	B	C	D	E	F
165-5L	3 (76.2) API-2000 RJ	6 (152.4) ANSI-150 FF	5 11/16	7 5/8	27 3/4	48 3/4	65 3/4	23
165-5M	2 (50.8) API-5000 RJ	4 (101.6) ANSI-150 FF	4 3/4	6 1/2	26 1/2	48 3/8	64 7/8	25 5/16
165-5H	2 (50.8) ANSI-2500 RJ	3 (76.2) API-2000 RJ	4 3/4	6 1/2	26 1/2	48 3/8	64 1/4	25 5/16

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Performance Data

PUMP	English Units					100 RPM		200 RPM		250 RPM		300 RPM		350 RPM		400 RPM	
	Plunger Dia. In.	Plunger Area Sq. In.	BPD per RPM	GPM per RPM	Max. Press. PSI	BPD	GPM	BPD	GPM	BPD	GPM	BPD	GPM	BPD	GPM	BPD	GPM
165T-5L	4.000	12.5664	27.9770	0.8160	780	2798	81.6	5596	163.2	6995	204.0	8394	244.8	9792	285.6	11191*	326*
	3.750	11.0447	24.5892	0.7172	887	2459	71.7	4918	143.4	6148	179.3	7377	215.2	8607	251.0	9836	286.9
	3.500	9.6211	21.4199	0.6247	1019	2142	62.5	4284	124.9	5355	156.2	6426	187.4	7497	218.7	8568	249.9
	3.250	8.2958	18.4692	0.5387	1181	1847	53.9	3694	107.7	4618	134.7	5541	161.6	6465	188.5	7388	215.5
	3.000	7.0686	15.7371	0.4590	1386	1574	45.9	3148	91.8	3935	114.7	4722	137.7	5508	160.6	6295	183.6
	2.750	5.9396	13.2235	0.3857	1650	1323	38.6	2645	77.1	3306	96.4	3968	115.7	4629	135.0	5290	154.3
165T-5M	2.750	5.9396	13.2235	0.3857	1650	1323	38.6	2645	77.1	3306	96.4	3968	115.7	4629	135.0	5290	154.3
	2.500	4.9087	10.9285	0.3187	1996	1093	31.9	2186	63.7	2733	79.7	3279	95.6	3825	111.6	4372	127.5
	2.375	4.4301	9.8630	0.2877	2212	987	28.8	1973	57.5	2466	71.9	2959	86.3	3453	100.7	3946	115.1
	2.250	3.9761	8.8521	0.2582	2465	886	25.8	1771	51.6	2214	64.5	2656	77.5	3099	90.4	3541	103.3
	2.125	3.5466	7.8959	0.2303	2763	790	23.0	1580	46.1	1974	57.6	2369	69.1	2764	80.6	3159	92.1
	2.000	3.1416	6.9943	0.2040	3120	700	20.4	1399	40.8	1749	51.0	2099	61.2	2448	71.4	2798	81.6
165T-5H	2.000	3.1416	6.9943	0.2040	3120	700	20.4	1399	40.8	1749	51.0	2099	61.2	2448	71.4	2798	81.6
	1.875	2.7612	6.1473	0.1793	3549	615	17.9	1230	35.9	1537	44.8	1845	53.8	2152	62.8	2459	71.7
	1.750	2.4053	5.3550	0.1562	4074	536	15.6	1071	31.2	1339	39.0	1607	46.9	1875	54.7	2142	62.5
	1.625	2.0739	4.6173	0.1347	4725	462	13.5	924	26.9	1155	33.7	1386	40.4	1617	47.1	1847	53.9
	1.500	1.7671	3.9343	0.1147	5000	394	11.5	787	22.9	984	28.7	1181	34.4	1377	40.2	1574	45.9
Brake Horsepower Required						42		83		104		124		144		165	

PUMP	Metric Units					100 RPM		200 RPM		250 RPM		300 RPM		350 RPM		400 RPM	
	Plunger Dia. mm	Plunger Area cm ²	M ³ /Hr per RPM	L/Sec. per RPM	Max. Press. kPa	M ³ /Hr	L/Sec.	M ³ /Hr	L/Sec.	M ³ /Hr	L/Sec.	M ³ /Hr	L/Sec.	M ³ /Hr	L/Sec.	M ³ /Hr	L/Sec.
165T-5L	102	81.073	0.1853	0.0515	5377	18.5	5.1	37.1	10.3	46.3	12.9	55.6	15.4	64.9	18.0	74.1*	20.6*
	95	71.256	0.1629	0.0452	6118	16.3	4.5	32.6	9.0	40.7	11.3	48.9	13.6	57.0	15.8	65.1	18.1
	89	62.072	0.1419	0.0394	7023	14.2	3.9	28.4	7.9	35.5	9.9	42.6	11.8	49.7	13.8	56.8	15.8
	83	53.521	0.1223	0.0340	8145	12.2	3.4	24.5	6.8	30.6	8.5	36.7	10.2	42.8	11.9	48.9	13.6
	76	45.604	0.1042	0.0290	9559	10.4	2.9	20.8	5.8	26.1	7.2	31.3	8.7	36.5	10.1	41.7	11.6
	70	38.320	0.0876	0.0243	11376	8.8	2.4	17.5	4.9	21.9	6.1	26.3	7.3	30.7	8.5	35.0	9.7
165T-5M	70	38.320	0.0876	0.0243	11376	8.8	2.4	17.5	4.9	21.9	6.1	26.3	7.3	30.7	8.5	35.0	9.7
	64	31.669	0.0724	0.0201	13765	7.2	2.0	14.5	4.0	18.1	5.0	21.7	6.0	25.3	7.0	29.0	8.0
	60	28.581	0.0653	0.0181	15252	6.5	1.8	13.1	3.6	16.3	4.5	19.6	5.4	22.9	6.4	26.1	7.3
	57	25.652	0.0586	0.0163	16994	5.9	1.6	11.7	3.3	14.7	4.1	17.6	4.9	20.5	5.7	23.5	6.5
	54	22.881	0.0523	0.0145	19052	5.2	1.5	10.5	2.9	13.1	3.6	15.7	4.4	18.3	5.1	20.9	5.8
	51	20.268	0.0463	0.0129	21512	4.6	1.3	9.3	2.6	11.6	3.2	13.9	3.9	16.2	4.5	18.5	5.1
165T-5H	51	20.268	0.0463	0.0129	21512	4.6	1.3	9.3	2.6	11.6	3.2	13.9	3.9	16.2	4.5	18.5	5.1
	48	17.814	0.0407	0.0113	24471	4.1	1.1	8.1	2.3	10.2	2.8	12.2	3.4	14.3	4.0	16.3	4.5
	44	15.518	0.0355	0.0099	28092	3.5	1.0	7.1	2.0	8.9	2.5	10.6	3.0	12.4	3.4	14.2	3.9
	41	13.380	0.0306	0.0085	32580	3.1	0.8	6.1	1.7	7.6	2.1	9.2	2.5	10.7	3.0	12.2	3.4
	38	11.401	0.0261	0.0072	34474	2.6	0.7	5.2	1.4	6.5	1.8	7.8	2.2	9.1	2.5	10.4	2.9
Kilowatts Required						31		62		78		92		108		123	

Volumetric Rate is based on 100% Volumetric Efficiency. Brake Horsepower/Kilowatts Required is based on 90% Mechanical Efficiency. For Operation below 200 RPM, an auxiliary lubrication system is required. Not all plunger sizes are shown. Contact National-Oilwell for additional information. *Spherical Valves must be installed when the pump is fitted with 4.0" (102mm) plungers

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