



This 5" stroke pump is designed for a variety of fluid transfer applications operating at low, medium or high pressures.

**Field Connections** in. (mm)

Pump Model	Discharge Connection Size	Suction Connection Size
165T-5L	3 (76.2) API-2000# RTJ	6 (152.4) ANSI-150 F.F.
165T-5M	2 (50.8) API-5000# RTJ	4 (101.6) ANSI-150 F.F.
165T-5H	2 (50.8) ANSI-2500 RTJ	3 (76.2) API-2000# RTJ

**Dimensions**

Pump Type	Length	Width	Height
165T-5L	65-1/2"	51-7/8"	22-7/8"
165T-5M	64-5/8"	51-7/8"	22-7/8"
165T-5H	64-1/4"	51-7/8"	22-7/8"

**Pump Specifications**

Pump Size (Max. Plunger Diameter x Stroke) in. (mm) ..... 4 x 5 (102 x 127)  
 Rated BHP At 400 RPM (Kw) ..... 165 (123)  
 Rated Plunger Load, pounds (Kg) ..... 9,800 (4,445.2)

**Maximum Working Pressure:** PSI (kPa)

"L" Model Discharge Pressure ..... 1,650 (11,376)  
 "M" Model Discharge Pressure ..... 3,120 (21,508)  
 "H" Model Discharge Pressure ..... 5,000 (34,473)

**Crankshaft Extension:** in. (mm)

Diameter ..... 4-1/8 (104.7)  
 Length ..... 5-7/8, 8-1/8 (231.5, 206.4)  
 Keyway (Width x Depth) ..... 1 x 1/2 (25.4 x 12.7)

**Pinion Shaft Extension, if gear unit supplied (mm)**

Belt Or Chain Drive: Diameter ..... 3 (76.2)  
 Length ..... 6-3/16 (157.16)  
 Keyway (Width x Depth) ..... 3/4 x 3/8 (19.05 x 9.53)  
 Direct Drive: Diameter ..... 3 (76.2)  
 Length ..... 6-3/16 (157.16)  
 Keyway (Width x Depth) ..... 3/4 x 3/8 (19.05 x 9.53)

**Oil Capacity:** Gallons (L)

Crankcase ..... 8 (30)  
 Gear Unit (Varies with Ratio) ..... 2-1/4 to 3-1/2 (8.52 to 13.25)

**Weight:** Pump Only On Wood Shipping Skids - Lbs. (Kg) ..... 4,000 (1814)  
 Gear Unit - Lbs. (Kg) ..... 800 (363)

**Standard Equipment**

- Aluminum Bronze Fluid End
- Aluminum Bronze Valve Covers
- Aluminum Bronze or Stainless Steel Stuffing Boxes
- Bronze Stuffing Box Internals
- Ceramic or Tungsten Carbide Plungers
- General Service or Kevlar Plunger Packing
- Stainless Steel Intermediate Rods
- Fluid King Spherical Valves
- Double Extended Crankshaft
- Oil Level Dipstick
- Crankcase Breather

**Optional Equipment**

- Alternate Fluid End Materials
- Alternate Fluid End Valve Styles
- Custom Designs For Specialized Applications

**Accessories**

- Bolt On Style Gear Reducers
  - 2.8:1 Ratio      3.22:1 Ratio      3.46:1 Ratio
  - 4.38:1 Ratio      4.96:1 Ratio

- Packing Lubricator
- Pulsation Dampeners
- Relief Valves
- Valve Service Kit
- Complete Unitization Services

**Quick Maintenance Features**

- Horizontal Design
- Large Power End Covers
- Easy Access For Bearing Adjustment
- Separate Crosshead/Plunger Construction
- Open Frame Construction
- Removable Stuffing Boxes
- Interchangeable Valves

**Continuous Duty Performance Data** (Volumes Indicated Are Displacement of Incompressible Fluid)

**English Units**

Plunger Dia. In.	Plunger Area Sq. In.	BPD Per RPM	GPM Per RPM	Max. Press. PSI	100 RPM*		150 RPM*		200 RPM		250 RPM		300 RPM		350 RPM		400 RPM		
					BPD	GPM	BPD	GPM	BPD	GPM	BPD	GPM	BPD	GPM	BPD	GPM	BPD	GPM	
<b>165T-5L</b>																			
2 3/4	5.9396	13.2291	0.3857	1650	1323	38.57	1984	57.85	2646	77.14	3307	96.42	3969	115.71	4630	134.99	5292	154.28	
3	7.0686	15.7437	0.4590	1387	1574	45.90	2362	68.85	3149	91.80	3936	114.75	4723	137.70	5510	160.65	6297	183.60	
3 1/4	8.2958	18.4770	0.5387	1181	1848	53.87	2772	80.80	3695	107.74	4619	134.67	5543	161.61	6467	188.54	7391	215.48	
3 1/2	9.6212	21.4289	0.6248	1019	2143	62.48	3214	93.71	4286	124.95	5357	156.19	6429	187.43	7500	218.66	8572	249.90	
3 3/4	11.0447	24.5995	0.7172	887	2460	71.72	3690	107.58	4920	143.44	6150	179.30	7380	215.16	8610	251.02	9840	286.88	
4	12.5664	27.9888	0.8160	780	2799	81.60	4198	122.40	5598	163.20	6997	204.00	8397	244.80	9796	285.60	*11195	*326.40	
<b>165T-5M</b>																			
2	3.1416	6.9972	0.2040	3120	700	20.40	1050	30.60	1399	40.80	1749	51.00	2099	61.20	2449	71.40	2799	81.60	
2 1/4	3.9761	8.8558	0.2582	2465	886	25.82	1328	38.73	1771	51.64	2214	64.55	2657	77.46	3100	90.37	3542	103.28	
2 1/2	4.9088	10.9331	0.3188	2000	1093	31.88	1640	47.81	2187	63.75	2733	79.69	3280	95.63	3827	111.56	4373	127.50	
2 3/4	5.9396	13.2291	0.3857	1650	1323	38.57	1984	57.85	2646	77.14	3307	96.42	3969	115.71	4630	134.99	5292	154.28	
<b>165T-5H</b>																			
1 1/2	1.7672	3.9359	0.1148	5000	394	11.48	590	17.21	787	22.95	984	28.69	1181	34.43	1378	40.16	1574	45.90	
1 3/4	2.4053	5.3572	0.1562	4075	536	15.62	804	23.43	1071	31.24	1339	39.05	1607	46.86	1875	54.67	2143	62.48	
2	3.1416	6.9972	0.2040	3120	700	20.40	1050	30.60	1399	40.80	1749	51.00	2099	61.20	2449	71.40	2799	81.60	
Brake Horsepower Required:					41		62		83		103		124		144		165		

**Metric Units**

Plunger Dia. mm	Plunger Area Sq. cm.	M <sup>3</sup> /D Per RPM	L/Min Per RPM	Max. Press. kPa	100 RPM*		150 RPM*		200 RPM		250 RPM		300 RPM		350 RPM		400 RPM		
					M <sup>3</sup> /D	L/Min.	M <sup>3</sup> /D	L/Min.											
<b>165T-5L</b>																			
70	38.3200	2.1033	1.4598	11376	210	145.98	315	218.97	421	291.97	526	364.96	631	437.95	736	510.94	841	583.93	
76	45.6040	2.5031	1.7373	9559	250	173.73	375	260.60	501	347.46	626	434.33	751	521.19	876	608.06	1001	694.93	
83	53.5213	2.9377	2.0389	8145	294	203.89	441	305.84	588	407.79	734	509.73	881	611.68	1028	713.63	1175	815.57	
89	62.0721	3.4070	2.3647	7023	341	236.47	511	354.70	681	472.94	852	591.17	1022	709.40	1192	827.64	1363	945.87	
95	71.2562	3.9111	2.7146	6118	391	271.46	587	407.18	782	542.91	978	678.64	1173	814.37	1369	950.09	1564	1085.82	
102	81.0737	4.4499	3.0886	5377	445	308.86	667	463.28	890	617.71	1112	772.14	1335	926.57	1557	1081.00	*1780	*1235.44	
<b>165T-5M</b>																			
51	20.2684	1.1125	0.7721	21508	111	77.21	167	115.82	222	154.43	278	193.04	334	231.64	389	270.25	445	308.86	
57	25.6522	1.4080	0.9772	16994	141	97.72	211	146.59	282	195.45	352	244.31	422	293.17	493	342.03	563	390.90	
64	31.6694	1.7383	1.2065	13790	174	120.65	261	180.97	348	241.29	435	301.62	521	361.94	608	422.26	695	482.59	
70	38.3200	2.1033	1.4598	11376	210	145.98	315	218.97	421	291.97	526	364.96	631	437.95	736	510.94	841	583.93	
<b>165T-5H</b>																			
38	11.4010	0.6258	0.4343	34470	63	43.43	94	65.15	125	86.87	156	108.58	188	130.30	219	152.02	250	173.73	
44	15.5180	0.8517	0.5912	28092	85	59.12	128	88.68	170	118.23	213	147.79	256	177.35	298	206.91	341	236.47	
51	20.2684	1.1125	0.7721	21508	111	77.21	167	115.82	222	154.43	278	193.04	334	231.64	389	270.25	445	308.86	
Kilowatts Required:					31		46		62		77		92		108		123		

\*For operations below 200 RPM an auxiliary lubrication system is required.  
 Volume is based on 100% volumetric efficiency. Brake horsepower is based on 90% mechanical efficiency.  
 †Requires Fluid King spherical valves for proper operation at listed RPM.



**Sales/Technical Information:**  
**USA Tollfree:** 1 (800) 800-4110  
**Internet:** www.natoil.com

*National Oilwell is a leading manufacturer of reciprocating plunger pumps, Mission centrifugal pumps, and Fluid King fluid end replacement parts. We also offer a complete set of solutions to your fluid transfer challenges.*

*For more information, contact National Oilwell directly at the Headquarters in Houston, Texas. All National Oilwell products are available throughout the U.S. and around the world from service centers, authorized distributors, and representatives.*

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