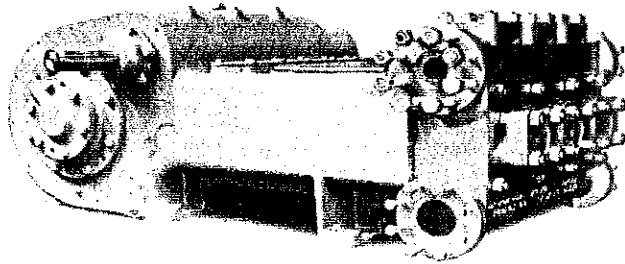
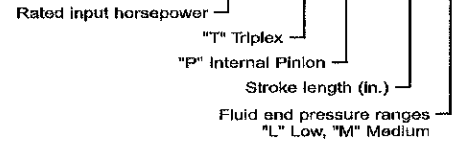




NATIONAL OILWELL

Formerly 336-P & 346-P
Triplex Plunger Pump 160TP-6



This 6" 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
160TP-6L	3 (76.2) ANSI 600 L.R.	6" (154.4) ANSI 600 F.F.
160TP-6M	2-1/2 (63.5) ANSI 1500 L.R.	4" (101.6) ANSI 600 F.F.

Dimensions

Pump Type	Length	Width	Height
160TP-6L	73-1/4"	49-1/2"	33-3/4"
160TP-6M	73-1/4"	49-1/2"	33-1/4"

Pump Specifications

Pump Size (Max. Plunger Diameter x Stroke) in. (mm) ...4-1/4 x 6 (107.9 x 152.4)
 Rated BHP At 320 RPM (Kw)160 (119)
 Rated Plunger Load, pounds (Kg).....10,000 (4,536)

Maximum Working Pressure: PSI (kPa)

"L" Model Discharge Pressure1,420 (9791)
 "M" Model Discharge Pressure.....3,180 (21,925)

Pinion Shaft Extension, if gear unit supplied (mm)

Belt Or Chain Drive: Diameter2.995 (76.07)
 Length.....7-1/4 (184.15)
 Keyway (Width x Depth)3/4 x 1/4 (19.05 x 6.35)

Oil Capacity: Gallons (L)

Crankcase13 (49)

Weight: Pump Only On Wood Shipping Sklds - Lbs. (Kg)4,725 (2,143)

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 Plunger Packing
- Stainless Steel Intermediate Rods
- Fluid King Spherical Valves
- Lubricating Oil Pump
- Oil Level Dipstick
- Crankcase Breather

Optional Equipment

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

Accessories

- Internal Pinion Gear
- 4.440:1 Ratio (Standard) 1.529:1 Ratio (Optional)
 - 1.588:1 Ratio (Optional) 1.776:1 Ratio (Optional)
 - 2.487:1 Ratio (Optional) 3.121:1 Ratio (Optional)
 - 5.476:1 Ratio (Optional) 7.130:1 Ratio (Optional)

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

Quick Maintenance Features

- Horizontal Design
- Large Power End Access Covers And Doors
- Outside Access For Bearing Adjustment
- Separate Crosshead/Plunger Construction
- Open Cradle Frame
- 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		320 RPM	
					BPD	GPM	BPD	GPM	BPD	GPM	BPD	GPM	BPD	GPM	BPD	GPM
160TP-6L																
3	7.0686	18.8924	0.5508	1420	1889	55.08	2834	82.62	3778	110.16	4723	137.70	5668	165.24	6046	176.26
3 1/4	8.2958	22.1724	0.6464	1200	2217	64.64	3326	96.96	4434	129.29	5543	161.61	6652	193.93	7095	206.86
3 1/2	9.6212	25.7147	0.7497	1040	2571	74.97	3857	112.46	5143	149.94	6429	187.43	7714	224.91	8229	239.90
3 3/4	11.0447	29.5194	0.8606	905	2952	86.06	4428	129.09	5904	172.13	7380	215.16	8856	258.19	9446	275.40
4	12.5664	33.5866	0.9792	795	3359	97.92	5038	146.88	6717	195.84	8397	244.80	10076	293.76	10748	313.34
4 1/4	14.1863	37.9161	1.1054	705	3792	110.54	5687	165.81	7583	221.09	9479	276.36	11375	331.63	12133	353.74
160TP-6M																
2	3.1416	8.3966	0.2448	3180	840	24.48	1259	36.72	1679	48.96	2099	61.20	2519	73.44	2687	78.34
2 1/4	3.9761	10.6270	0.3098	2520	1063	30.98	1594	46.47	2125	61.97	2657	77.46	3188	92.95	3401	99.14
2 1/2	4.9088	13.1198	0.3825	2040	1312	38.25	1968	57.38	2624	76.50	3280	95.83	3936	114.75	4198	122.40
2 3/4	5.9396	15.8749	0.4628	1680	1587	46.28	2381	69.42	3175	92.57	3969	115.71	4762	136.85	5080	148.10
3	7.0686	18.8924	0.5508	1420	1889	55.08	2834	82.62	3778	110.16	4723	137.70	5668	165.24	6046	176.26
Brake Horsepower Required:					50		75		100		125		150		160	

Metric Units

Plunger Dia. mm	Plunger Area Sq. cm.	M ³ /D Per RPM	L/Min Per RPM	Max. Press. kPa	100 RPM*		150 RPM		200 RPM		250 RPM		300 RPM		320 RPM	
					M ³ /D	L/Min.	M ³ /D	L/Min.	M ³ /D	L/Min.	M ³ /D	L/Min.	M ³ /D	L/Min.	M ³ /D	L/Min.
160TP-6L																
76	45.6040	3.0037	2.0848	9791	300	208.48	451	312.72	601	416.96	751	521.19	901	625.43	961	667.13
83	53.5213	3.5252	2.4467	8274	353	244.67	529	367.01	705	489.34	881	611.68	1058	734.02	1128	782.95
89	62.0721	4.0884	2.8376	7171	409	283.76	613	425.64	818	567.52	1022	709.40	1227	851.28	1308	908.04
95	71.2562	4.6933	3.2575	6240	469	325.75	704	488.62	939	651.49	1173	814.37	1408	977.24	1502	1042.39
102	81.0737	5.3399	3.7063	5481	534	370.63	801	555.94	1068	741.25	1335	926.57	1602	1111.88	1709	1186.01
108	91.5246	6.0283	4.1840	4861	603	418.40	904	627.61	1206	836.81	1507	1046.01	1808	1255.21	1929	1338.89
160TP-6M																
51	20.2684	1.3350	0.9266	21925	133	92.66	200	138.99	267	185.31	334	231.64	400	277.97	427	296.50
57	25.6522	1.6896	1.1727	17374	169	117.27	253	175.90	338	234.54	422	293.17	507	351.81	541	375.26
64	31.6694	2.0859	1.4478	14065	209	144.78	313	217.16	417	289.55	521	361.94	626	434.33	667	483.28
70	38.3200	2.5239	1.7518	11583	252	175.18	379	262.77	505	350.36	631	437.95	757	525.54	808	560.57
76	45.6040	3.0037	2.0848	9791	300	208.48	451	312.72	601	416.96	751	521.19	901	625.43	961	667.13
Kilowatts Required:					38		56		75		94		113		119	

* For operation below 50 RPM an auxiliary lube system is required.

Volume is based on 100% volumetric efficiency. Brake horsepower is based on 90% mechanical efficiency.