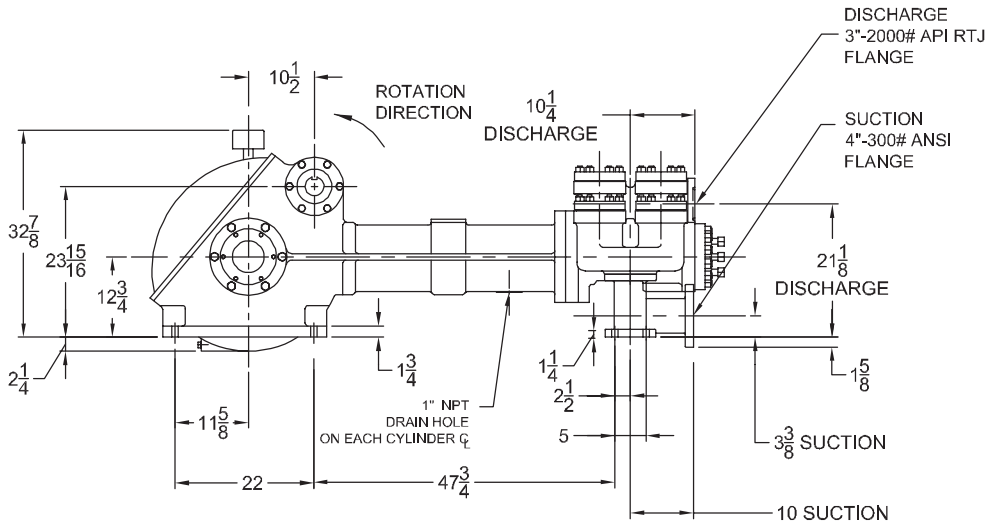
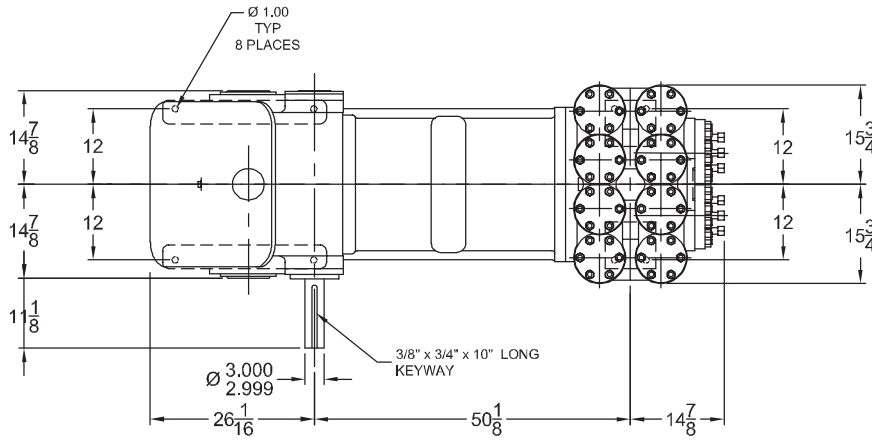


1654 Duplex Double-Acting Piston Pump



Pump Model	Flange Connections	
	Discharge Connection Sizes	Suction Connection Sizes
1654	3 (76.2) API 2000 RJ	4 (101.6) ANSI 300 FF

Specifications

Pump Size:

maximum piston size x stroke length, in.(mm):
5 x 8 (127.0 x 203.2)

Rated BHP (kW) at 90 RPM (Crankshaft speed):
104 (77)

Rated piston load, pounds (kg): 12680 (5752)

Maximum discharge pressure, psi (kPa):
1800 (12411)

Pinion gear ratio: 4.750:1

Pinion shaft extension:

Diameter, in.(mm): 3.000 (76.20)

Length, in.(mm): 11.000 (279.40)

Keyway width x depth, in.(mm):

3/4 x 3/8 (19.1 x 9.5)

Maximum recommended sheave diameter,
in.(mm): 44 (1118)

For larger sheave diameters:

Contact Factory

Oil Capacity, gallons (L): 12.0 (45.41)

Weight, pump only on

wood shipping skids, pounds (kg): 4475 (2030)

Standard Materials for Fluid End Bodies:

Cast Steel

Cast Ductile Iron



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1654 Duplex Double-Acting Piston Pump

Performance Data

PUMP	English Units					30 RPM		45 RPM		60 RPM		75 RPM		90 RPM	
	Piston Dia. In.	Piston Area Sq. In.	BPD per RPM	GPM per RPM	Max. Press. PSI	BPD	GPM	BPD	GPM	BPD	GPM	BPD	GPM	BPD	GPM
1654	2.500	4.9087	19.1177	0.5576	1800	574	16.7	861	25.1	1148	33.5	1434	41.8	1721	50.2
	3.000	7.0686	29.3760	0.8568	1794	882	25.7	1322	38.6	1763	51.4	2204	64.3	2644	77.1
	3.500	9.6211	41.4720	1.2096	1318	1245	36.3	1867	54.4	2489	72.6	3111	90.7	3733	108.9
	4.000	12.5664	55.4880	1.6184	1009	1665	48.6	2497	72.8	3330	97.1	4162	121.4	4994	145.7
	4.500	15.9043	71.3417	2.0808	797	2141	62.4	3211	93.6	4281	124.8	5351	156.1	6421	187.3
	5.000	19.6349	89.0605	2.5976	646	2672	77.9	4008	116.9	5344	155.9	6680	194.8	8016	233.8
Brake Horsepower Required						35		52		69		86		104	

PUMP	Metric Units					30 RPM		45 RPM		60 RPM		75 RPM		90 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.
1654	64	31.669	0.1266	0.0352	12411	3.8	1.1	5.7	1.6	7.6	2.1	9.5	2.6	11.4	3.2
	76	45.604	0.1946	0.0541	12368	5.8	1.6	8.8	2.4	11.7	3.2	14.6	4.1	17.5	4.9
	89	62.072	0.2747	0.0763	9087	8.2	2.3	12.4	3.4	16.5	4.6	20.6	5.7	24.7	6.9
	102	81.073	0.3675	0.1021	6957	11.0	3.1	16.5	4.6	22.1	6.1	27.6	7.7	33.1	9.2
	114	102.608	0.4725	0.1313	5497	14.2	3.9	21.3	5.9	28.4	7.9	35.4	9.8	42.5	11.8
	127	126.677	0.5899	0.1639	4453	17.7	4.9	26.5	7.4	35.4	9.8	44.2	12.3	53.1	14.7
Kilowatts Required						26		39		52		64		77	

For operation below 65 RPM, an auxiliary lubrication system is required.

RPM shown is Crankshaft speed. For Pinion Shaft speed, multiply RPM by Gear Ratio. Volumetric Rate is based on 100% Volumetric Efficiency. Brake Horsepower/Kilowatts Required is based on 85% Mechanical Efficiency.

The information and data on this sheet is accurate to the best of our knowledge and belief, but are intended for general information only. Applications suggested for the materials are described only to help readers make their own evaluations and decisions, and are neither guarantees nor to be construed as express or implied warranties of suitability for these or other applications. National Oilwell makes no warranty either express or implied beyond that stipulated in National Oilwell Standard Terms and Conditions of Sale.



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