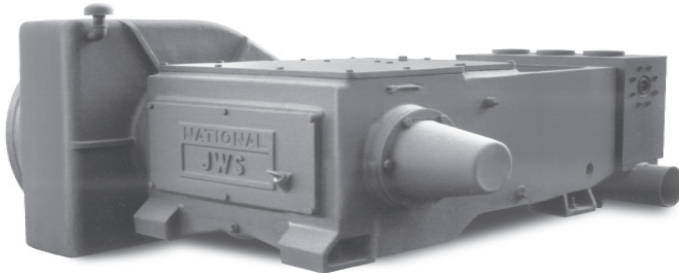


Triplex Intermittent Duty

JWS-185

"J" series intermittent duty pump

Rated input horsepower



NATIONAL-OILWELL Intermittent Duty Pumps are appropriate for high-pressure, high horsepower, operations. This includes applications such as reverse circulation, well killing, acidizing, cementing, sand fracturing, and horizontal directional drilling.

Field Connections in.

Pump Model	Discharge Connection Size	Suction Connection Size
JWS-185	2-1/16" API-10,000# RTJ	6" Std Pipe

Dimensions

Pump Type	Length	Width	Height
JWS-185	68-1/16"	51-7/8"	22-7/8"

PUMP SPECIFICATIONS

Pump Size (Max. Plunger Diameter x Stroke) in. (mm).....4 x 5 (102x127)
 Rated BHP At 450 RPM (Kw)185 (137.9)
 Maximum Working Pressure: PSI (kPa)10,000 (68,947.6)
 Stroke Length, in. (mm).....5 (127)
 Maximum Speed, rpm.....450
 Maximum Plunger size, in. (mm).....4 (101.6)
 Maximum Piston size, in. (mm).....4-1/2 (114.3)

Crankshaft Extension: in. (mm)

Diameter.....4-1/8 (104.78)
 Length8-1/8 (206.38)
 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: Diameter3 (76.2)
 Length.....6-3/16 (157.16)
 Keyway (Width x Depth)3/4 x 3/8 (19.05 x 9.53)
 Direct Drive: Diameter3 (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)

Crankcase8 (30)
 Gear Unit (Varies with Ratio)2.25 to 3.5 (8.52:13.25)

Weight: Pump Only On Wood Shipping Skids - Lbs. (Kg)4,000 (1,814)
 Gear Unit - Lbs. (Kg)800 (363)

Standard Equipment

Forged Steel Fluid End
 Forged Steel Valve Covers
 Pistons & Liners
 Or Plungers & Packing
 Stainless Steel Extension Rods
 Slush-Type Valves
 Double Extended Crankshaft
 Oil Level Dipstick
 Crankcase Breather

Accessories

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

Plunger Lubricator
 Suction Stabilizer
 Discharge Dampener
 Liner Flush System
 Relief Valves
 Valve Service Kit
 Complete Unitization Services

Quick Maintenance Features

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

JWS-185 Performance Data (Volumes Indicated are Displacement of Incompressible Fluid)

English Units

Plunger/ Piston* Dia. In.	Area Inches Squared	Gallon Per RPM	25 RPM		50 RPM		100 RPM		200 RPM		225 RPM		250 RPM		300 RPM		350 RPM		400 RPM		450 RPM	
			PSI	GPM	PSI	GPM	PSI	GPM	PSI	GPM	PSI	GPM	PSI	GPM	PSI	GPM	PSI	GPM	PSI	GPM	PSI	GPM
JWS-185																						
2	3.1416	0.2040	10,000	5.10	10,000	10.20	10,000	20.40	7,000	40.80	6,220	45.90	5,600	51.00	4,660	61.20	4,000	71.40	3,500	81.60	3,110	91.80
2 3/4	5.9396	0.3857	5,250	9.64	5,250	19.28	5,250	38.57	3,700	77.14	3,290	86.78	2,960	96.42	2,470	115.71	2,110	134.99	1,850	154.28	1,644	173.56
3 1/2	9.6212	0.6248	3,240	15.62	3,240	31.24	3,240	62.48	2,280	124.95	2,030	140.57	1,830	156.19	1,520	187.43	1,310	218.66	1,140	249.90	1,020	281.14
4	12.5664	0.8160	2,480	20.40	2,480	40.80	2,480	81.60	1,750	163.20	1,550	183.60	1,400	204.00	1,170	244.80	1,000	285.60	870	326.40	780	367.20
4 1/2	15.9044	1.03275	1,960	25.82	1,960	51.64	1,960	103.28	1,380	206.55	1,230	232.37	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Brake Horsepower Required			33		66		132		185		185		185		185		185		185		185	

* 2" Available in Plunger Only.

** 4-1/2" Available with Piston Only.

Metric Units

Plunger/ Piston* Dia. mm.	Area Centi- meters Squared	Liter Per RPM	25 RPM		50 RPM		100 RPM		200 RPM		225 RPM		250 RPM		300 RPM		350 RPM		400 RPM		450 RPM	
			kPa	L/Min.	kPa	L/Min.	kPa	L/Min.	kPa	L/Min.	kPa	L/Min.	kPa	L/Min.	kPa	L/Min.	kPa	L/Min.	kPa	L/Min.	kPa	L/Min.
JWS-185																						
51	30.30	0.772	68,950	19.30	68,950	38.61	68,950	77.21	48,265	154.43	42,887	173.73	38,612	193.04	32,131	231.64	27,580	270.25	24,133	308.86	21,443	347.46
70	57.29	1.460	36,199	36.50	36,199	72.99	36,199	145.98	25,512	291.97	22,685	328.46	20,409	364.96	17,031	437.95	14,548	510.94	12,756	583.93	11,335	656.92
89	92.80	2.365	22,340	59.12	22,340	118.23	22,340	236.47	15,721	472.94	13,997	532.05	12,618	591.17	10,480	709.40	9,032	827.64	7,860	945.87	7,033	1,064.11
102	121.20	3.089	17,100	77.21	17,100	154.43	17,100	308.86	12,066	617.71	10,687	694.93	9,653	772.14	8,067	926.57	6,895	1,081.00	5,999	1,235.42	5,378	1,389.85
114	153.40	3.909	13,514	97.72	13,514	195.45	13,514	390.90	9,515	781.79	8,481	879.52	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Kilowatts Required			25		49		98		138		138		138		138		138		138		138	

* 51 mm Available in Piston Only.

** 114 mm Available with Piston Only.

Horsepower and Kilowatts required are based on 90% mechanical efficiency and 100% volumetric efficiency.

Intermittent Duty Ratings: These ratings are for intermittent service. Pressures as shown may be utilized for a period not to exceed 30 minutes followed by an equal period at no load, but not to exceed 4 hours in a 24 hour period.

Pressure Limitations, Caution: When pump is equipped with pistons and liners, pressures in excess of 5,000 psi (34,475 kPa) should not be exceeded except for emergencies or intermittent duty of short duration.

Speed Limitations: Speed in excess of 225 RPM is not recommended on JWS-185 pumps for maximum liner and piston life.

Charge Pump: A suction system charge pump is recommended for best operation. The charge pump should be capable of delivering 1-1/2 times the maximum discharge flow rate of the reciprocating pump.