

ROTATING RIGHT

MODEL JWS-185 SINGLE ACTING WELL SERVICE PUMP



JWS-185

A 185 horsepower 5" stroke intermittent duty single acting well service piston/plunger pump. Equipped with forged alloy steel mono-block fluid end and rated at pump speeds up to 450 RPM and maximum discharge pressures up to 10,000 psi. Can be equipped with multiple external gear reduction units.

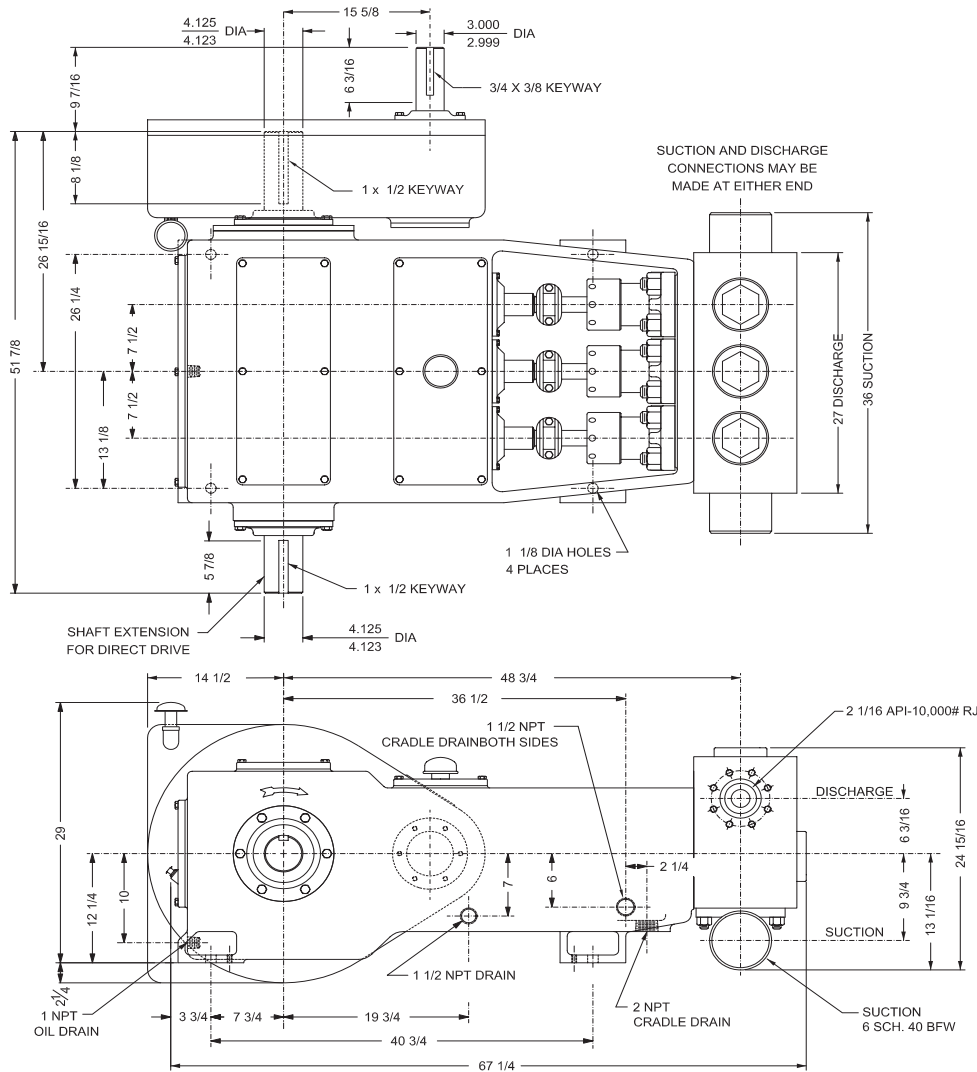
Power End Features

- One piece, High strength steel power frame
- Heavy-duty, tapered roller crankshaft bearings
- Precision type, aluminum alloy crankpin bearings
- Stainless steel connecting rods, removable from crossheads
- Forged Alloy steel crankshaft w/ ground journals and polished throws
- Alloy steel crosshead pins, case hardened and finish ground
- Cast iron crossheads with upper/lower oil grooves
- Replaceable Stainless Steel intermediate rods
- Internal Pressurized Lubrication System

Fluid End Features

- Pumps equipped with Liners
- Forged Alloy Steel Fluid Ends
- Forged Steel buttress threaded valve covers
- Two Piece Piston Rods
- Individually removable Liners
- Full Open Valves and Seats
- Pumps equipped with Plungers
- Plungers and packing, general service lip type
- Forged Alloy Steel Fluid Ends
- Ductile iron stuffing boxes with screw type glands
- Full Open Valves and Seats
- Forged Steel buttress threaded valve covers

JWS-185 Triplex Well Service Pump



Specifications

Pump Size:

max. dia. x stroke, in.(mm):
4 1/2 x 5 (114.3 x 127)

Rated bhp at 450 rpm (kw): 185 (137.9)

Maximum pressure: psi(kPa):
10,000 (68,950)

Stroke Length in.(mm): 5 (127)

Max. Speed rpm: 450

Max. plunger in.(mm): 4 (101.6)

Max. piston in.(mm): 4 1/2 (114.3)

Crankshaft extension: in.(mm)

Diameter: 4 1/8 (104.78)

Length: 8 1/8 (206.38)

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

Pinion shaft extension,

if gear unit supplied in.(mm)

For Belt or chain drive:

Diameter: 3 (76.2)

Length: 6 3/16 (157.2)

Keyway (width x depth):
3/4 x 3/8 (19.1 x 9.5)

For direct drive:

Diameter: 3 (76.2)

Length: 6 3/16 (157.2)

Keyway (width x depth):
3/4 x 3/8 (19.1 x 9.5)

Accessory Gear Units:

See accessories for reduction ratios.

Oil Capacity: gallons (L)

Crankcase: 8 (30)

Gear unit - Varies with gear ratio:
2.25 to 3.5 (8.52 to 13.25)

Weight, Pump only on
wood shipping skids, pounds(Kg):

4000 (1814)

Gear unit, approximate, pounds(Kg):

800 (363)

Standard Equipment:

Forged steel fluid end

Forged steel valve covers

Piston & liners or plungers & packing

Slush type valves

Oil level dipstick

Crankcase breather

Stainless steel extension rods

Double extended crankshaft

Accessories:

Gear reduction units:

3.22:1, 3.46:1, 4.38:1, 4.96:1

Suction stabilizer

Discharge dampener

Liner flush system

Plunger lubricator

Valve seat puller assembly

Complete unitization with

electric motor or engine drive

Pump Model	Flange Connections	
	Discharge Connection Sizes	Suction Connection Sizes
JWS-185	2 1/16 API 10,000# RJ	6 STD Pipe

JWS-185 Triplex Well Service Pump

Performance Data

English Units

Diameter, in.		Plungers Only 2"			Plungers only 2 1/2"			2 3/4"			3"			3 1/2"			4"			Pistons Only 4 1/2"		
gal/min. per RPM		.2040			.3187			.3857			.4590			.6247			.8160			1.0327		
bbl/min. per RPM		.0049			.0076			.0092			.0109			.0149			.0194			.0246		
RPM	Req'd. hp	PSI	gal/ min.	bbl/ min.	PSI	gal/ min.	bbl/ min.	PSI	gal/ min.	bbl/ min.	PSI	gal/ min.	bbl/ min.	PSI	gal/ min.	bbl/ min.	PSI	gal/ min.	bbl/ min.	PSI	gal/ min.	bbl/ min.
450	185	3110	92	2.19	1995	143	3.42	1644	174	4.13	1382	206.6	4.894	1020	281	6.69	780	367	8.74	-	-	-
400	185	3500	82	1.94	2247	127	3.04	1850	154	3.67	1544	183.6	4.371	1140	250	5.95	870	326	7.77	-	-	-
350	185	4000	71	1.70	2548	112	2.66	2110	135	3.21	1776	160.7	3.825	1310	219	5.21	1000	286	6.80	-	-	-
300	185	4660	61	1.46	2973	96	2.28	2470	116	2.75	2072	137.7	3.279	1520	187	4.46	1170	245	5.83	-	-	-
250	185	5600	51	1.21	3567	80	1.90	2960	96	2.30	2487	114.8	2.732	1830	156	3.72	1400	204	4.86	-	-	-
225	185	6220	46	1.09	3964	72	1.71	3290	87	2.07	2763	103.3	2.459	2030	141	3.35	1550	184	4.37	1230	232	5.53
200	185	7000	41	0.97	4459	64	1.52	3700	77	1.84	3109	91.8	2.186	2280	125	2.97	1750	163	3.89	1380	207	4.92
100	132	10000	20	0.49	6350	32	0.76	5250	39	0.92	4444	45.9	1.093	3240	62	1.49	2480	82	1.94	1960	103	2.46
50	66	10000	10	0.24	6350	16	0.38	5250	19	0.46	4444	23.0	0.546	3240	31	0.74	2480	41	0.97	1960	52	1.23
25	33	10000	5	0.12	6350	8	0.19	5250	10	0.23	4444	11.5	0.273	3240	16	0.37	2480	20	0.49	1960	26	0.61

Metric Units

Diameter, mm		Plungers only 50.8			Plungers only 63.5			69.9			76.2			88.9			101.6			Pistons only 114.3		
Liter/min per RPM		.7722			1.2065			1.4600			1.7375			2.3649			3.0889			3.9094		
M3/min per RPM		.00077			.001207			.00146			.00174			.00236			.00308			.0039		
RPM	Req'd. hp	kg/ cm2	L/ min.	M3/ min.	kg/ cm2	L/ min.	M3/ min.	kg/ cm2	L/ min.	M3/ min.	kg/ cm2	L/ min.	M3/ min.	kg/ cm2	L/ min.	M3/ min.	kg/ cm2	L/ min.	M3/ min.	kg/ cm2	L/ min.	M3/ min.
450	185	220	.347	.347	140	543	0.543	116	657	.657	97	782	0.782	72	1064	1.06	55	1390	1.39	-	-	-
400	185	247	.309	.309	158	483	0.483	131	584	.584	109	695	0.695	81	946	.946	62	1236	1.23	-	-	-
350	185	283	.270	.270	179	422	0.422	150	511	.511	125	608	0.608	92	828	.828	71	1081	1.08	-	-	-
300	185	330	.232	.232	209	362	0.362	174	438	.438	146	521	0.521	108	709	.709	82	927	.927	-	-	-
250	185	396	.193	.193	251	302	0.302	209	365	.365	175	435	0.435	129	591	.591	99	772	.772	-	-	-
225	185	440	.174	.174	279	271	0.271	233	328	.328	194	391	0.391	144	532	.532	110	695	.695	87	880	.880
200	185	495	.154	.154	314	241	0.241	262	292	.292	219	348	0.348	162	473	.473	124	618	.618	98	782	.782
100	132	703	.077	.077	447	121	0.121	369	146	.146	312	174	0.174	228	236	.236	174	309	.309	138	391	.391
50	66	703	.039	.039	447	60	0.060	369	73	.073	312	87	0.087	228	118	.118	174	154	.154	138	195	.195
25	33	703	.019	.019	447	30	0.030	369	36	.036	312	44	0.044	228	59	.059	174	77	.077	138	98	.098

(Volumes indicated are displacement of incompressible fluid) Volumetric rate is based on 100% Volumetric Efficiency. Brake Horsepower/Kilowatts Required is based on 90% Mechanical Efficiency. These ratings are for intermittent service. Pressure up to those shown may be utilized for a period not to exceed a total of 4 hours in 240 hours. Caution: When pump is equipped with pistons and liners, pressures in excess of 5000 psi(352 kg/cm2) should not be exceeded except for emergencies or intermittent duty of short duration. Speed in excess of 225 rpm is recommended for plunger only and not recommended for pump equipped with pistons for maximum liner and piston life.

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.

Accessories

Rotating Right offers a full line of accessories to ensure long trouble free and safe operation of your multiplex pumps.

Accessories Include:

- Pulsation Dampeners - Suction & Discharge
- Vibration Shock Switches
- Liquid Level Gauges & Switches
- Pressure Safety Valves
- Plunger Lubricators
- Fire Safety Valves
- High Discharge Pressure Switch
- Condensate Drain
- N.A.C.E. Valving
- Lubricator Level Controller
- API Valves
- Drive Options



Expendables



With our worldwide buying power Rotating Right is well equipped to provide a wide range of replacement parts & expendables for virtually all multiplex plunger pumps regardless of make or model.

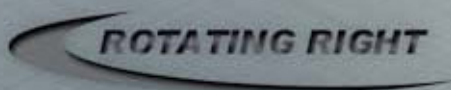
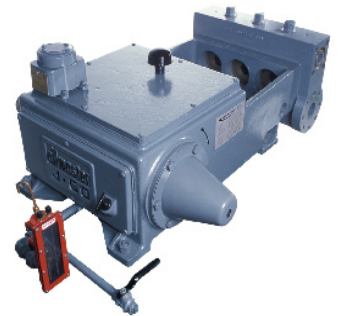


Our expendables inventory includes plungers, packing, brass, valves, bearings, crankshafts, connecting rods and seals.



Repair & Overhauls

Rotating Right service technicians follow strict quality control procedures for every pump repair and overhaul. The use of consistent and reliable re-manufacturing techniques ensure your equipment is returned to you in "Like New" condition.



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