

ROTATING RIGHT

## MODEL JWS-400 SINGLE ACTING WELL SERVICE PUMP



### JWS-400

A 400 horsepower 7" stroke intermittent duty single acting well service piston/plunger pump. Equipped with individual forged alloy steel fluid ends and rated at pump speeds up to 286 RPM and maximum discharge pressures up to 10,000 psi. Equipped with 4.667:1 chain reduction drive.

#### 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
- Cast iron crossheads with upper/lower oil grooves
- 4.667:1 chain driven reducer standard
- Stainless steel Intermediate rods, removable from crossheads
- Cast iron crossheads with upper/lower oil grooves
- Replaceable Stainless Steel intermediate rods
- Flooded sump, splash distribution lubrication

#### Fluid End Features

- Forged steel fluid end
- Forged steel buttress type threaded valve covers
- Two piece piston rods
- Individually removable liners
- Plungers and packing, general service lip type
- Ductile iron stuffing boxes with screw type glands
- Mission Service Master Valves and Seats

# JWS-400 Triplex Well Service Pump

## Specifications

**Pump size:** (max. liner dia. X stroke) in. (mm):  
5 1/2 x 7 (139.7 x 177.8)

**Pump size:** (max. plunger dia. X stroke) in. (mm):  
4 1/2 x 7 (114.3 x 177.8)

**Rated bhp** at 286 rpm (kw): 400 (298)

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

**Stroke length,** in. (mm): 7 (177.8)

**Max. speed** rpm: 286

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

**Max. piston** in.(mm): 5 1/2 (139.7)

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

Diameter: 6 (152.4)

Length: 10 1/4 (260.4)

Keyway (width x depth):

1 1/2 x 3/4 (38.1 x 19.05)

**Pinion shaft extension,**

if chain drive supplied in. (mm)

Diameter: 3.75 (95.25)

Length: 6 (152.4)

Keyway (width x depth):

7/8 x 7/16 (22.2 x 11.1)

**Accessory gear units:**

See accessories for reduction ratios

**Oil Capacity:** gallons (L)

Crankcase: 22 (83.3)

Chaincase : 30 (113.5)

**Weight,** pump with reducer pounds (Kg):

15,000 (6804)

**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:**

Chain reducer (4.667:1)

Suction stabilizer

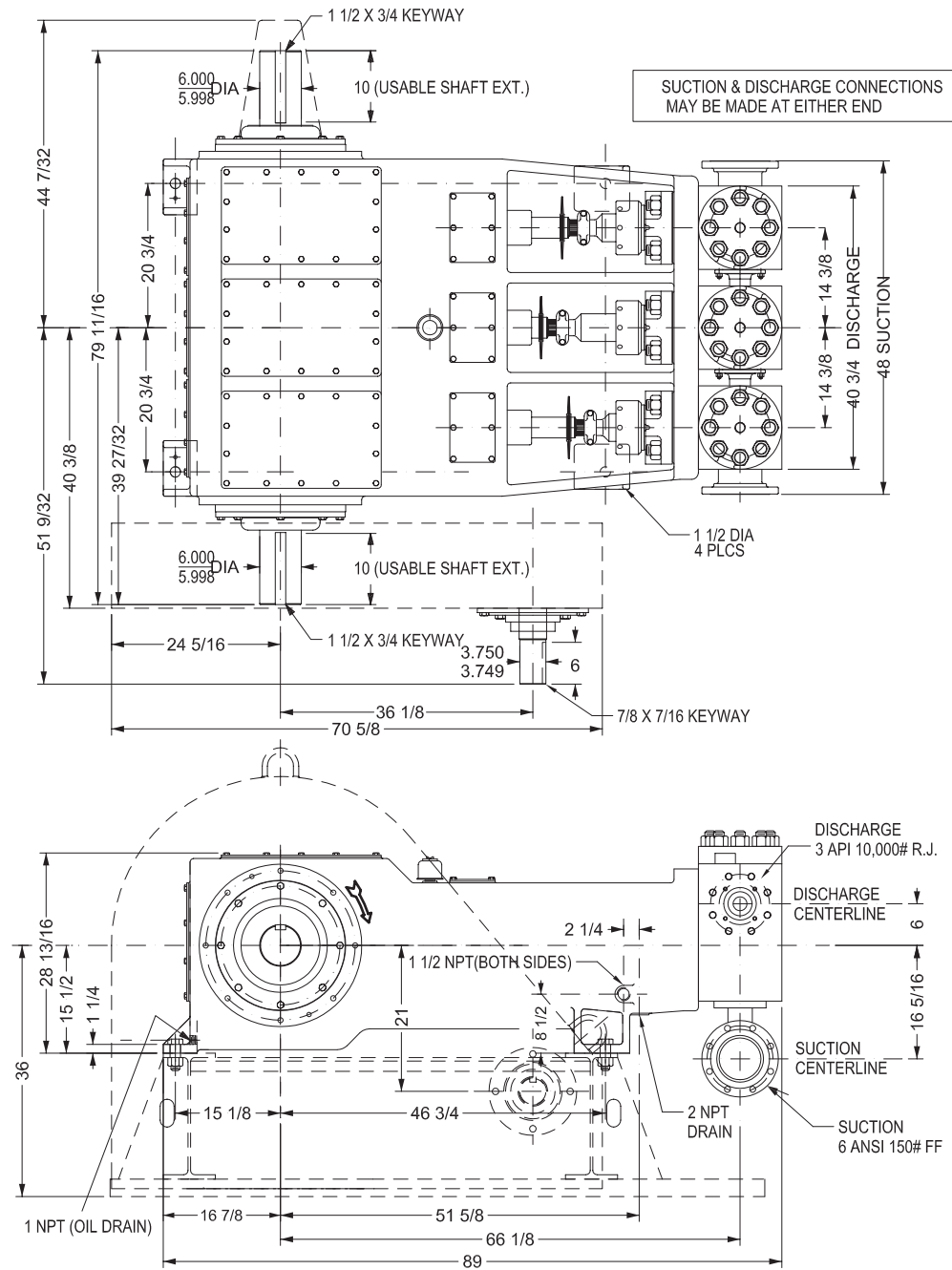
Discharge dampener

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-400	3 1/16 API 6 BX 10,000 PSI	6 ANSI-150 RF

# JWS-400 Triplex Well Service Pump

## Performance Data

Diameter, in.		4"			4 1/2"			Pistons Only 5"			Pistons Only 5 1/4"			Pistons Only 5 1/2"		
gal/min. per RPM		1.142			1.446			1.785			1.968			2.159		
bbl/min. per RPM		.02719			.0344			.0425			.0469			.0514		
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.
286	400	1900	327	7.78	1500	414	9.85	1217	510	12.1	1102	563	13.4	1004	618	14.7
250	400	2175	286	6.80	1715	361	8.61	1390	446	10.6	1261	492	11.7	1149	540	12.8
200	400	2725	228	5.44	2140	289	6.88	1741	357	8.5	1579	394	9.38	1439	432	10.3
175	400	3100	200	4.76	2435	253	6.02	1979	312	7.43	1795	344	8.19	1635	378	9.0
140	400	3819	160	3.80	3072	202	4.82	2483	250	5.95	2249	276	6.57	2055	302	7.19
100	400	5445	114	2.72	4280	145	3.44	3482	178	4.24	3159	197	4.69	2878	216	5.14
75	400	7250	86	2.04	5747	108	2.58	4636	134	3.19	4205	148	3.52	3831	162	3.86
55	400	10,000	63	1.50	8000	80	1.89	6334	98	2.33	5747	108	2.57	5216	119	2.83
25	187	10,000	29	.68	8000	36	.86	6400	45	1.07	5804	49	1.17	5289	54	1.28

(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/cm<sup>2</sup>) should not be exceeded except for emergencies or intermittent duty of short duration. Speed in excess of 175 rpm is recommended for plunger only and not recommended for pumps 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.

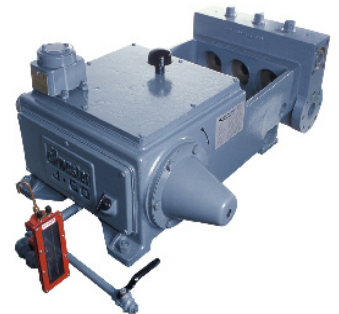


Our expendables inventory includes plungers, packing, brass, valves, bearings, crankshafts, connecting rods and seals.



## 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.



**Head Office:**  
6120 Davies Road  
Edmonton, AB  
T6E 4M9

Phone: (780) 485-2010 • Toll Free: (866) 707-7867  
Fax: (780) 485-1938  
• Calgary • Drayton Valley • Lloydminster  
[www.rotatingright.com](http://www.rotatingright.com)