

# MODEL 14-P-220 TRIPLEX MUD PUMP

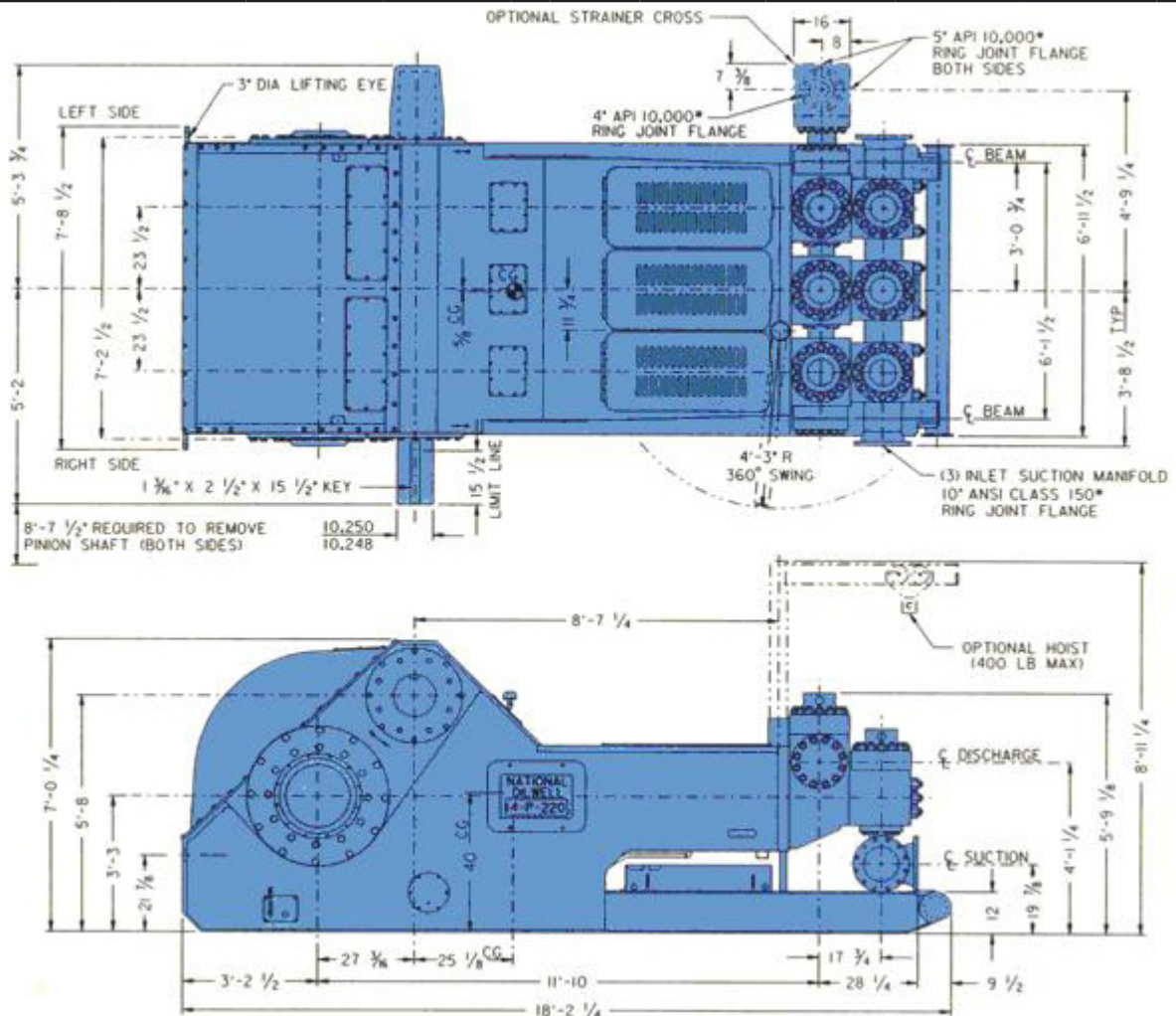


National Oilwell Varco's 14-P-220 Mud Pump is rated at 2200 input horsepower (1640 kW) at 105 strokes per minute, with a 14-inch (355.6 mm) stroke.

Multiple liner sizes allow pressures and volumes to handle circulation requirements in deep drilling applications.

Specifications	
Dimensions	
Height, floor to center of front inlet suction, inches (mm)	19 7/8" (505)
Height, floor to center of discharge, inches (mm)	49 1/4" (1251)
Overall length over skids, inches (mm)	218 1/4" (5544)
Width over frame, inches (mm)	91" (2311)
Width over pinion shaft, inches (mm)	125 3/4" (3194)
Height, floor to top of gear case, inches (mm)	84 1/4" (2139)
Height over fluid cylinders, inches (mm)	69 1/8" (1756)
Weight-complete, less sheave, lbs. (kg)	86,000 (39,007)
Fluid Connections	
Suction connection	10" ASA-150 lb. R.J. flange
Discharge connection, cross	6" API-5000 lb. R.J. flange
Capacity Data	
Maximum liner bore, inches (mm)	9" (228.6)
Stroke, inches (mm)	14" (355.6)
Maximum input horsepower (kW)	2200 (1640)
Rated pump speed, spm	105
Pinion speed, rpm	417
Hydrostatic test pressure of fluid cylinders (High Pressure Fluid End), psi (kg/cm <sup>2</sup> )	11,250 (791)
Hydrostatic test pressure of fluid cylinders (Standard Fluid End), psi (kg/cm <sup>2</sup> )	10,000 (703)
Mechanical Data	
Fluid cylinder	Steel, 2 piece interchangeable modular design
Valves, API number	MOD. 8
Valve seats Bottom shouldering,	modified for high pressure
Piston rod-piston connection	Piloted and shouldered, National CB-4
Piston rod-intermediate rod connection	Piloted and shouldered, metal-to-metal lock
Type of gears	Relieved herringbone
Gear ratio	3.969:1
Gear and pinion	Through hardened alloy
Type of crosshead pin	Tapered
Number and type of pinion shaft bearing	2 self aligning roller
Number and type of main bearing	2 double row tapered roller
Number and type of crosshead bearing	3 double row needle
Number and type of crankshaft-connecting rod bearing	3 cylindrical roller
Sheave, QD Hub Type S	53" 10-8V Section belts

Performance Data										
Liner size, inches (mm)			9"**** (228.6)	8" (203.2)	7-1/2" (190.5)	7" (177.8)	6-1/2" (165.1)	6" (152.4)	5-1/2" (139.7)	5" (127)
Max. Discharge Pressure, psi (kg/cm2) with high pressure Fluid End***			2795 (196.5)	3535 (248.6)	4025 (283.0)	4615 (324.5)	5360 (376.8)	6285 (441.9)	7475 (525.5)	7500 (527.3)
Pump Speed spm	Input HP, HP (kW)	Hyd.** HP, HP (kW)	GPM** (LPM**)	GPM** (LPM**)	GPM** (LPM**)	GPM** (LPM**)	GPM** (LPM**)	GPM** (LPM**)	GPM** (LPM**)	GPM** (LPM**)
105*	2200* (1641*)	1980 (1476)	1215 (4600)	960 (3634)	843 (3191)	735 (2782)	633 (2396)	540 (2044)	454 (1718)	375 (1419)
80	1676 (1250)	1509 (1125)	925 (3501)	731 (2767)	643 (2434)	560 (2120)	483 (1828)	411 (1556)	346 (1309)	286 (1082)
60	1257 (937)	1131 (843)	694 (2627)	548 (2074)	482 (1824)	420 (1590)	362 (1370)	308 (1166)	259 (980)	214 (810)
40	838 (625)	754 (562)	462 (1748)	366 (1385)	321 (1215)	280 (1060)	241 (912)	206 (780)	173 (654)	143 (541)
Volume/Stroke, gal. (Liters)			11.57 (43.797)	9.14 (34.598)	8.03 (30.397)	7.00 (26.498)	6.03 (22.826)	5.14 (19.457)	4.32 (16.353)	3.57 (13.514)
*Rated maximum input horsepower and speed						***5,000 PSI Fluid End configuration available				
**Based on 90% mechanical efficiency and 100% volumetric efficiency						**** 9-inch liner requires special liner bushing and liner clamp				



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