SPM™ WS335 PUMP

MONOFRAME DESIGN BRINGS MAXIMUM RELIABILITY

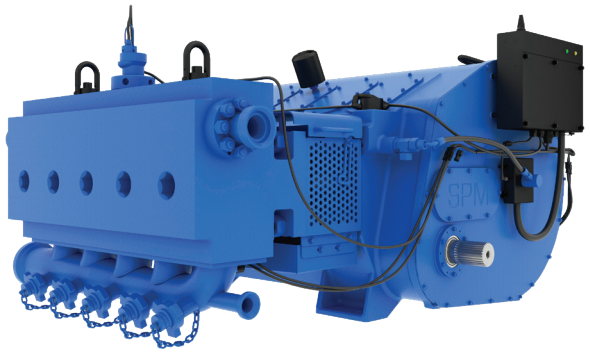
With an innovative single-piece cast frame construction and ruggedly engineered components, the SPM™ WS335 pump is built for maximum reliability, safety and structural integrity. Its unique monoframe design eliminates welds, dramatically reducing risk of failure and nonproductive time compared to conventional welded designs.

REDESIGNED CORE COMPONENTS

An optimized lubrication system features an integrated relief valve and on-board pressure regulation and filtration—for consistent oil pressure across critical components. A redesigned gear set, including larger pinion bearings, partial-groove journal bearings and an enhanced bull and pinion gear train, feature state-of-the-art design and manufacturing for longer-lasting performance.

FEATURES AND BENEFITS

- Single-piece cast frame improves structural integrity and mitigates common frame failure modes
- Two-piece stay rod design lowers cyclic loading and fatigue stress
- Robust gear system and crankshaft increase run life and reliability
- Optimized on-board oil system avoids lubrication-induced failures
- Functional design and improved access points improve serviceability
- SPM™ Everbore hardened steel packing bore eliminates the threat of washboarding
- Standardized fluid end components maximize parts interchangeability and operational flexibility
- Only available through a service contract: On-board Pump Electronic Monitoring System (PEMS) helps minimize downtime, preserve equipment and reduce risk of catastrophic failures



SPECIFICATIONS

Max Input: 3,300 bhp

Max Speed: 330 rpm

Gear Ratio: 6.353:1

Plungers: 5

Bore Centers: 10″

Stroke Length: 8″

Rod Load: 256,000 lbf

Frame Type: Single-piece cast

Pump Weight: 18,974 lbs

TOGETHER, WE GET IT DONE.

PERFORMANCE CHART

PUMP PERFORMANCE CHART - WS335 APEX

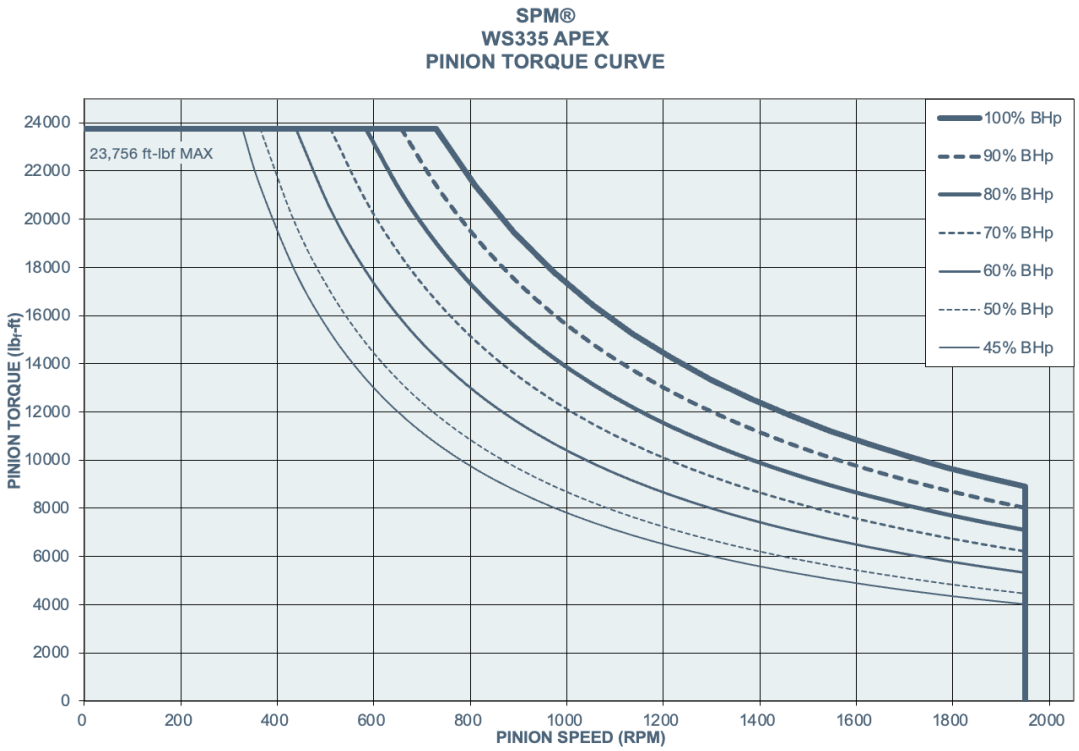
		DISPLACEMENT AT PUMP STROKES PER MINUTE/PINION RPM											
PLUNGER DIAMETER	DISPLACE. PER REV	50	318	115	730	163	1035	211	1340	259	1645	307	1950
in (mm)	gal/rev (liter/rev)	gpm (lpm)	psi (MPa)	gpm (lpm)	psi (MPa)	gpm (lpm)	psi (MPa)	gpm (lpm)	psi (MPa)	gpm (lpm)	psi (MPa)	gpm (lpm)	psi (MPa)
4 (101.6)	**2.18** (8.2)	**109** (412)	**20372** (140)	**250** (946)	**20372** (140)	**354** (1341)	**14364** (99)	**459** (1737)	**11093** (76)	**563** (2132)	**9035** (62)	**668** (2528)	**7622** (53)
4 1/2 (114.3)	**2.75** (10.4)	**138** (521)	**16096** (111)	**316** (1197)	**16096** (111)	**449** (1698)	**11350** (78)	**581** (2198)	**8765** (60)	**713** (2699)	**7139** (49)	**845** (3200)	**6022** (42)
5 (127.0)	**3.40** (12.9)	**170** (643)	**13038** (90)	**390** (1478)	**13038** (90)	**554** (2096)	**9193** (63)	**717** (2714)	**7100** (49)	**880** (3332)	**5783** (40)	**1044** (3950)	**4878** (34)
INPUT POWER: BHP (kW)		**1437** (1071)		**3300** (2461)		**3300** (2461)		**3300** (2461)		**3300** (2461)		**3300** (2461)	

[1] Based on 90% Mechanical Efficiency and 100% Volumetric Efficiency

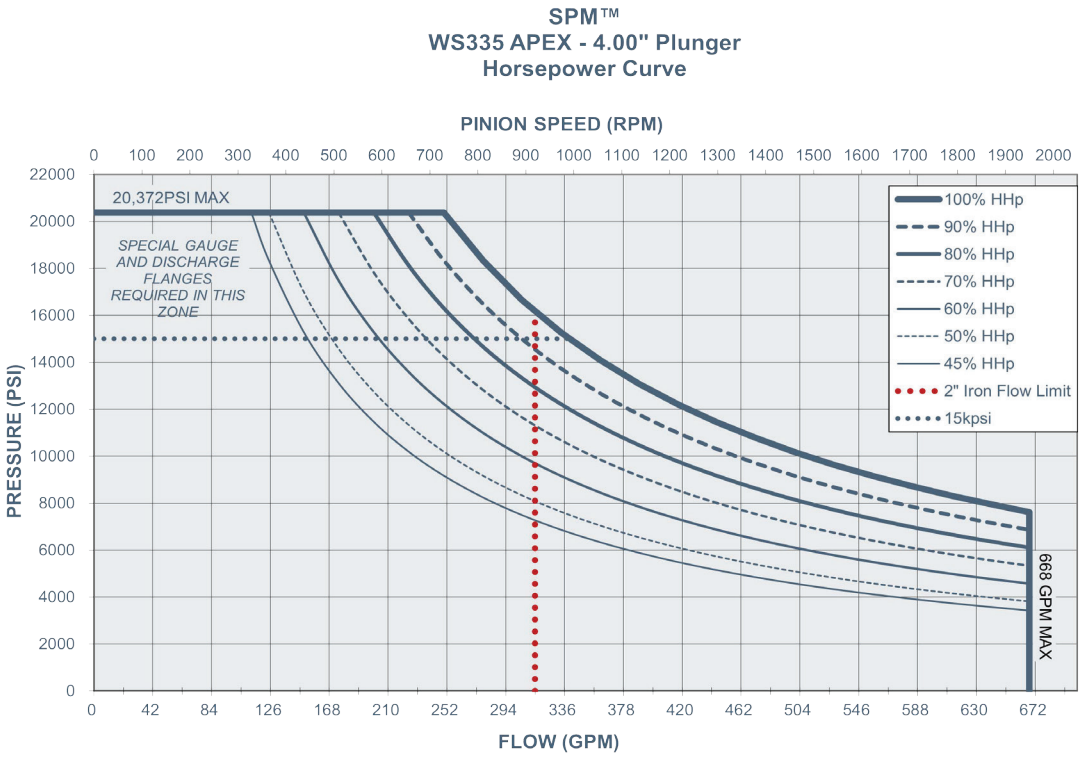
[2] Pumps with pressures in excess of 15000 psi require special gauge port and discharge flanges. Contact SPM Engineering for information.

[3] Cells highlighted in blue are intermediate zones where erosion is more prevalent when 3" iron is used (MAX 778 GPM/2945LPM)

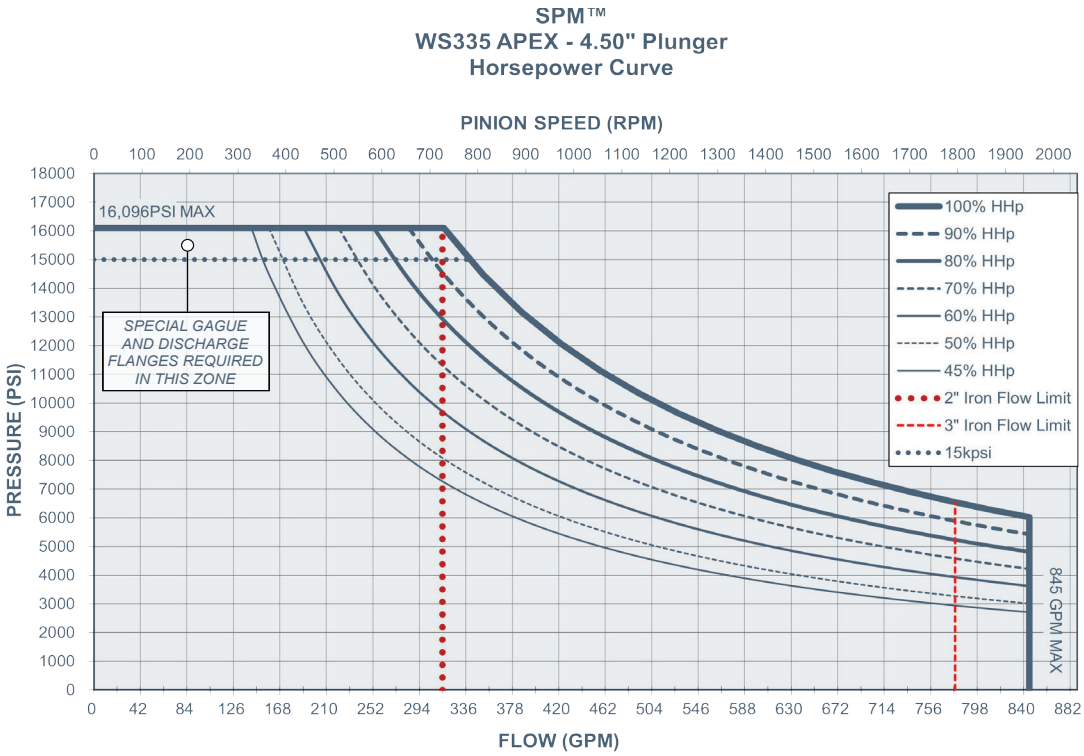
PINION TORQUE CURVE



PUMP CURVE 4 INCH PLUNGER



PUMP CURVE 4.5 INCH PLUNGER



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PUMP CURVE 5 INCH PLUNGER