

**Fartan**  
energy group

QUALITY POSITIVE DISPLACEMENT MOTORS  
AND RELATED SUPPORT SERVICES  
TO THE DRILLING INDUSTRY



## **MOTOR SPECIFICATIONS**

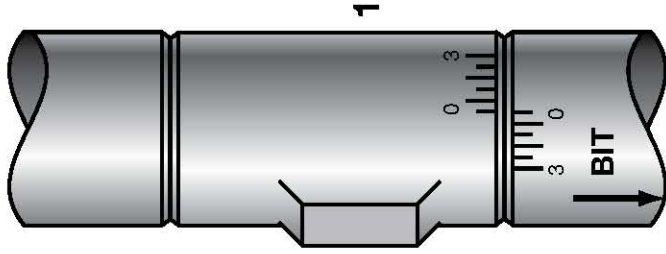
2009 EDITION

This manual is provided for informational purposes. The use and interpretation of the information contained in this manual is the user's responsibility.

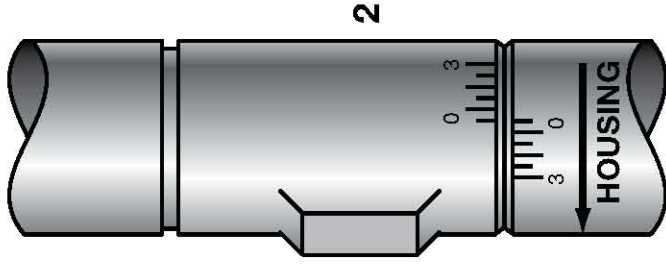


# BENT HOUSING ADJUSTMENT PROCEDURE

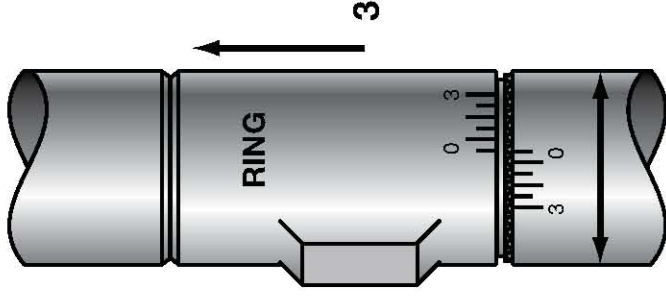
1 Untorque right hand connection



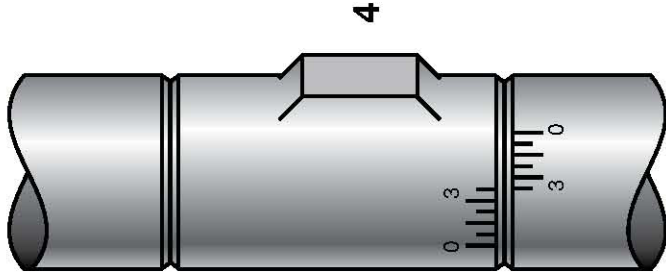
2 Unscrew housing 2 turns.



3 Lift the ring to disengage teeth from lower hsg. Rotate lower hsg. in direction that achieves desired bend in shortest distance. **WARNING: Never rotate hsg. more than 1/2 turn in this step.**



4 Engage teeth at desired bend. Torque connection.



Matched #'s indicate angle and "scribe line" location

## Adjustable Housing Torques

	2-7/8	3-3/4	4-3/4	5-1/2	6-1/4	6-1/2&6-3/4	8	9-5/8	11-1/4
<b>3 deg</b>									
Ft-lbs	2,200	5,300	10,750	16,750	23,000	30,000	50,000	80,000	96,000
Nm	3,000	7,200	14,500	22,750	31,150	40,650	67,800	108,500	130,000
<b>4 deg</b>									
Ft-lbs	-	4,900	8,200						
Nm	-	6,650	11,100						

Motor Type		Motor Output			Motor Input		Bit Size (in)	Physical Motor Data		
Dia (IN)	Model	Bit Speed (RPM)	Torque FT-LBS (NM)	Power HP (KW)	Flow Rate GPM (LPM)	Motor DP PSI (BAR)		Power Section		
								Stages	Lobes	Rev/Gal
1-11/16	SS100	216-433	131 (178)	11 (8.2)	20-40 (76-151)	600 (41)	1-7/8 - 2-3/4	2.3	5/6	10.82
2-1/8	SS150	270-680	256 (347)	33 (25)	20-50 (76-190)	1500 (103)	2-3/16 - 3-1/4	6.0	5/6	13.61
	SS150SR	270-680	162 (219)	21 (16)	20-50 (76-190)	950 (66)		3.8	5/6	13.61
2-7/8	SS150	200-400	637 (834)	49 (37)	60-120 (225-450)	875 (60)	3-1/4 - 4	3.5	5/6	3.33
	SS150AD <sup>1</sup>	200-400	637 (834)	49 (37)	225-450 scfm <sup>1</sup>	875 (60)		3.5	5/6	.889/scfm
3-3/4	SS150	129-290	1978 (2682)	109 (81)	80-180 (300-680)	1075 (74)	4-1/8 - 5-1/2	4.3	4/5	1.61
	SS150SR	131-295	1000 (1356)	56 (42)	80-180 (300-680)	550 (38)		2.2	4/5	1.64

SR = Short Radius Motor AD = Air Drilling Motor

Notes: 1. Air Motor units: Flow ranges are in scfm (m<sup>3</sup>/min), displacements are in scfm/rev.



EVEN LAYER OF RUBBER

REDUCED RUBBER SWELLING IN TEMPERATURE OF NITROGEN ENVIRONMENTS

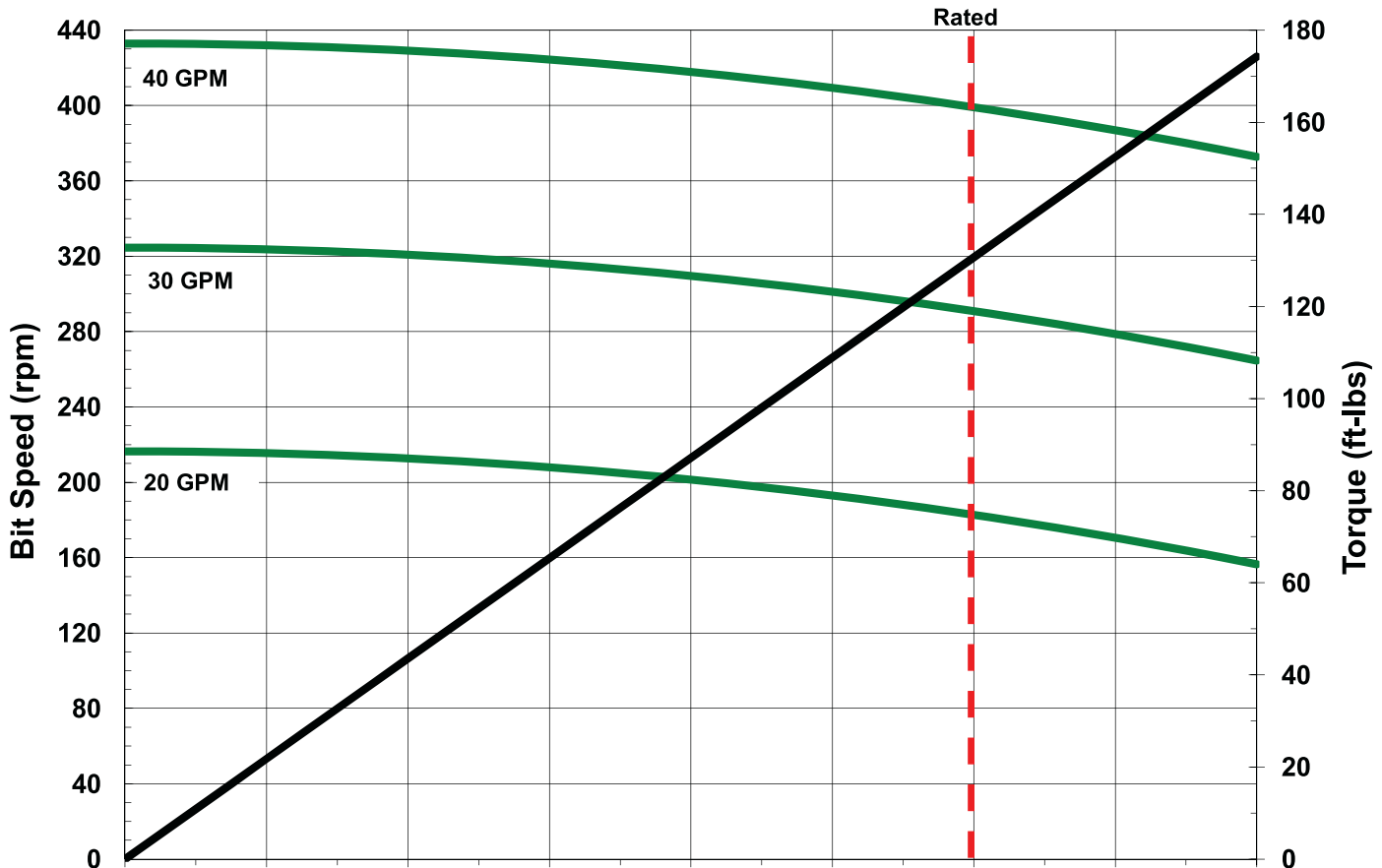
2X THE POWER OF CONVENTIONAL STATORS

DOES NOT LOSE RPM UNDER LOADED CONDITIONS LIKE CONVENTIONAL STATORS

## 1-11/16 SS100 Motor Specifications

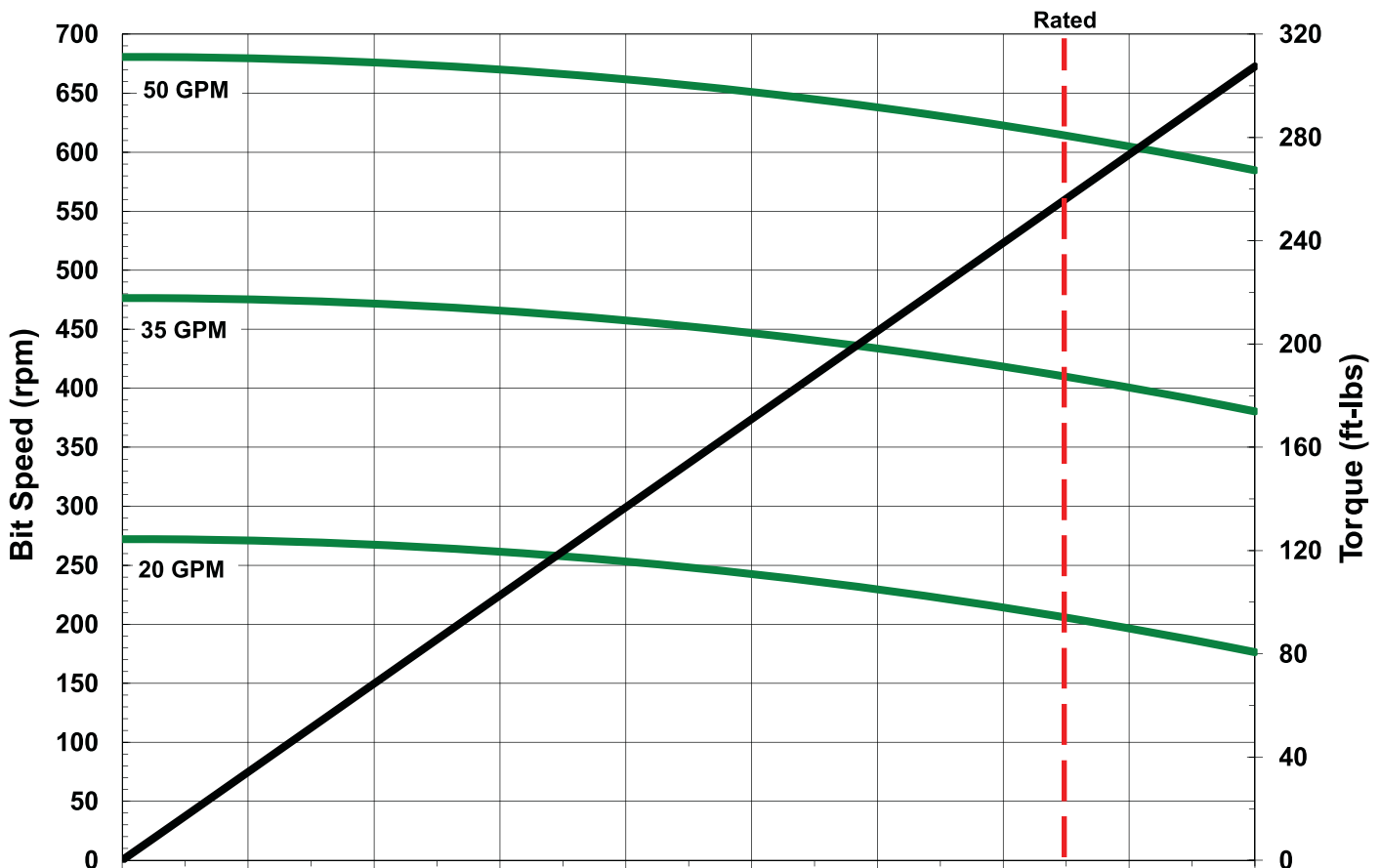
Performance Curves Based on Dynamometer Test Data

Operating Data			
Flow Range	gpm (lpm)		20 - 40 (76 - 151)
Motor Pressure	psi (bar)		600 (41)
Bit Speed	rpm		216 - 433
Displacement	rev/gal (rev/l)		10.82 (2.86)
Torque	ft-lbs (Nm)		131 (178)
Power	HP (Kw)		11 (8.2)
Physical Dimensions			
Power Section Configuration	Stages		2.3
	Lobes		5/6
Overall Motor Length	ft (m)		7.8 (2.4)
Weight	lbs (kg)		40 (18)
Connections	Standard	Box	1" MT/Reg Top and Bottom
	Optional	Box	Available Upon Request
Bit Size	in (mm)		1-7/8 to 2-3/4 (47.6 - 69.9)



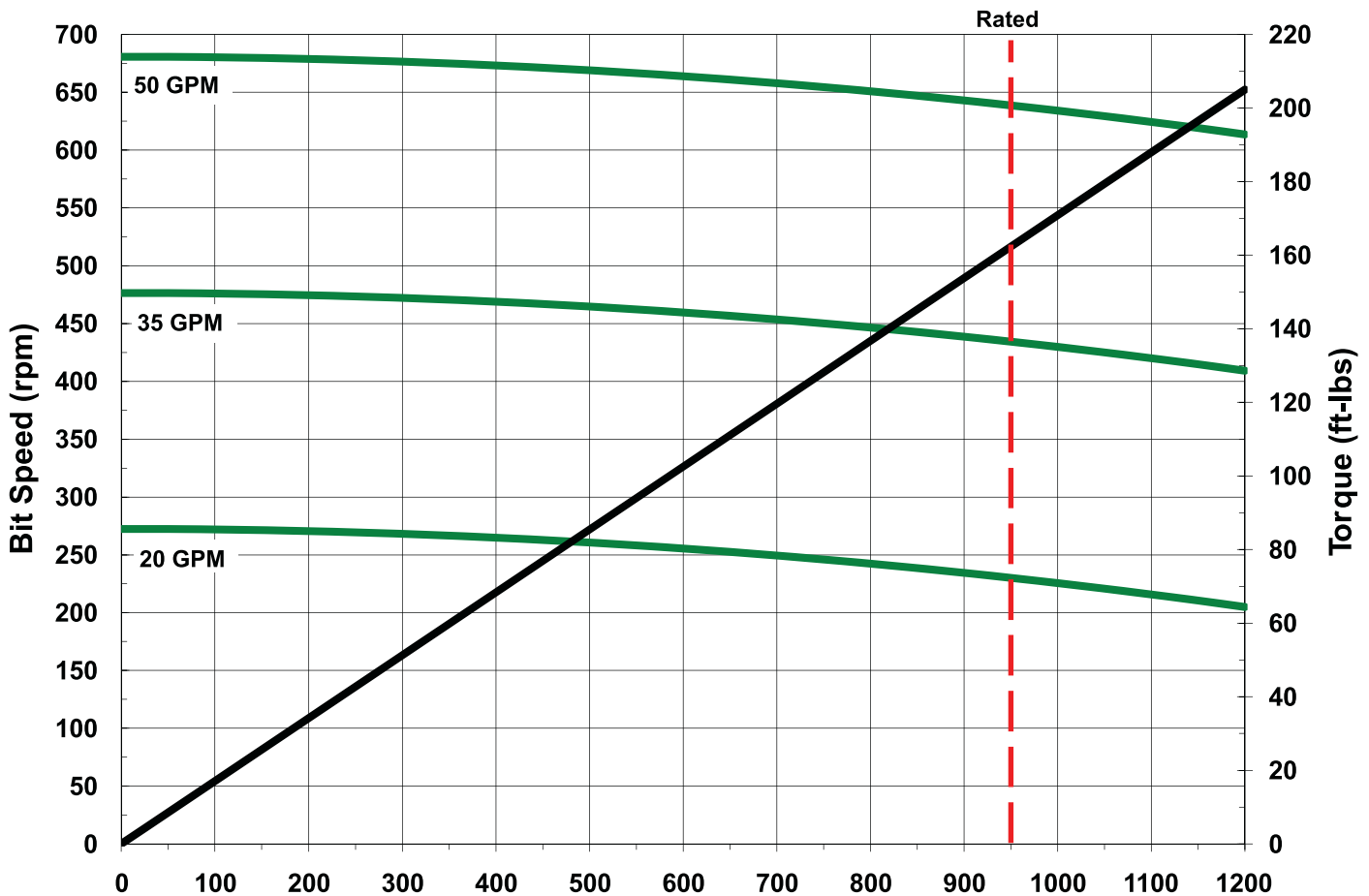
## 2-1/8 SS150 Motor Specifications

Operating Data			
Flow Range	gpm (lpm)		20 - 50 (76 - 190)
Motor Pressure	psi (bar)		1,500 (103)
Bit Speed	rpm		270 - 680
Displacement	rev/gal (rev/l)		13.612 (3.630)
Torque	ft-lbs (Nm)		256 (347)
Power	HP (Kw)		33 (25)
Physical Dimensions			
Power Section Configuration	Stages		6
	Lobes		5/6
Overall Motor Length	ft (m)		11.0 (3.4)
Weight	lbs (kg)		86 (39)
Connections	Standard	Box	1-1/2" Reg, Top and Bottom
	Optional	Box	Available Upon Request
Bit Size	in (mm)		2-3/16 to 3-1/4 (55.6 - 82.6)



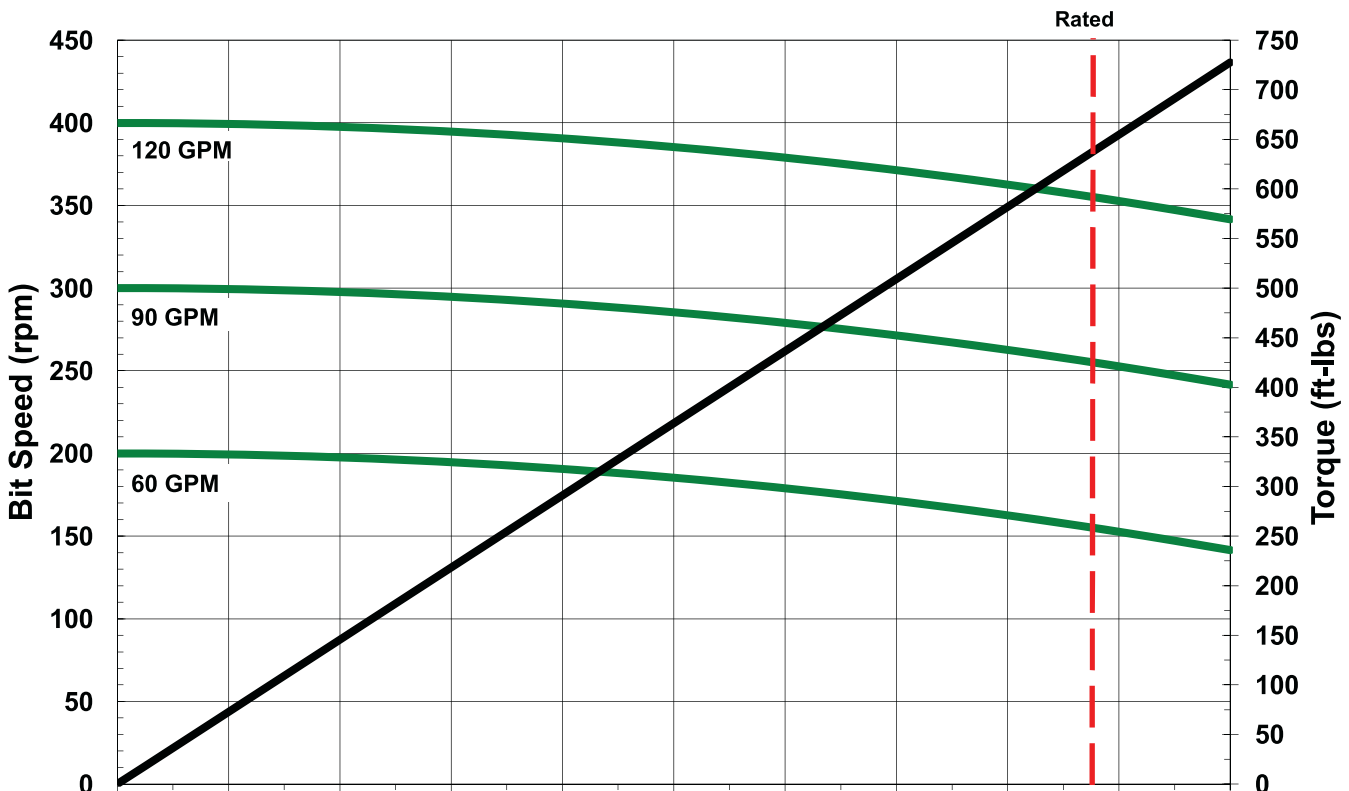
## 2-1/8 Ss150 SR Motor Specifications

Operating Data			
Flow Range	gpm (lpm)		20 - 50 (76 - 190)
Motor Pressure	psi (bar)		950 (66)
Bit Speed	rpm		270 - 680
Displacement	rev/gal (rev/l)		13.612 (3.630)
Torque	ft-lbs (Nm)		162 (219)
Power	HP (Kw)		21 (16)
Physical Dimensions			
Power Section Configuration	Stages		3.8
	Lobes		5/6
Overall Motor Length	ft (m)		8.7 (2.7)
Weight	lbs (kg)		86 (39)
Connections	Standard	Box	1-1/2" Reg, Top and Bottom
	Optional	Box	Available Upon Request
Bit Size	in (mm)		2-3/16 to 3-1/4 (55.6 - 82.6)



## 2-7/8 SS150 Motor Specifications

Operating Data			
Flow Range		gpm (lpm)	60 - 120 (225 - 450)
Motor Pressure		psi (bar)	875 (60)
Bit Speed		rpm	200 - 400
Displacement		rev/gal (rev/l)	3.333 (.881)
Torque		ft-lbs (Nm)	637 (864)
Power		HP (Kw)	49 (37)
Physical Dimensions			
Power Section Configuration		Stages	3.5
		Lobes	5/6
Bit to Stabilizer		in (mm)	N/A
Bit to Bend	Fixed	in (mm)	31.1 (790)
	Adj	in (mm)	37.2 (945)
Overall Motor Length	Fixed	ft (m)	12.0 (3.7)
	Adj	ft (m)	12.9 (3.9)
Weight		lbs (kg)	205 (93)
Connections		Box	2-3/8 Reg, Top/Bottom
Bit Size		in (mm)	3-1/4 - 4 (82.6 - 101.6)

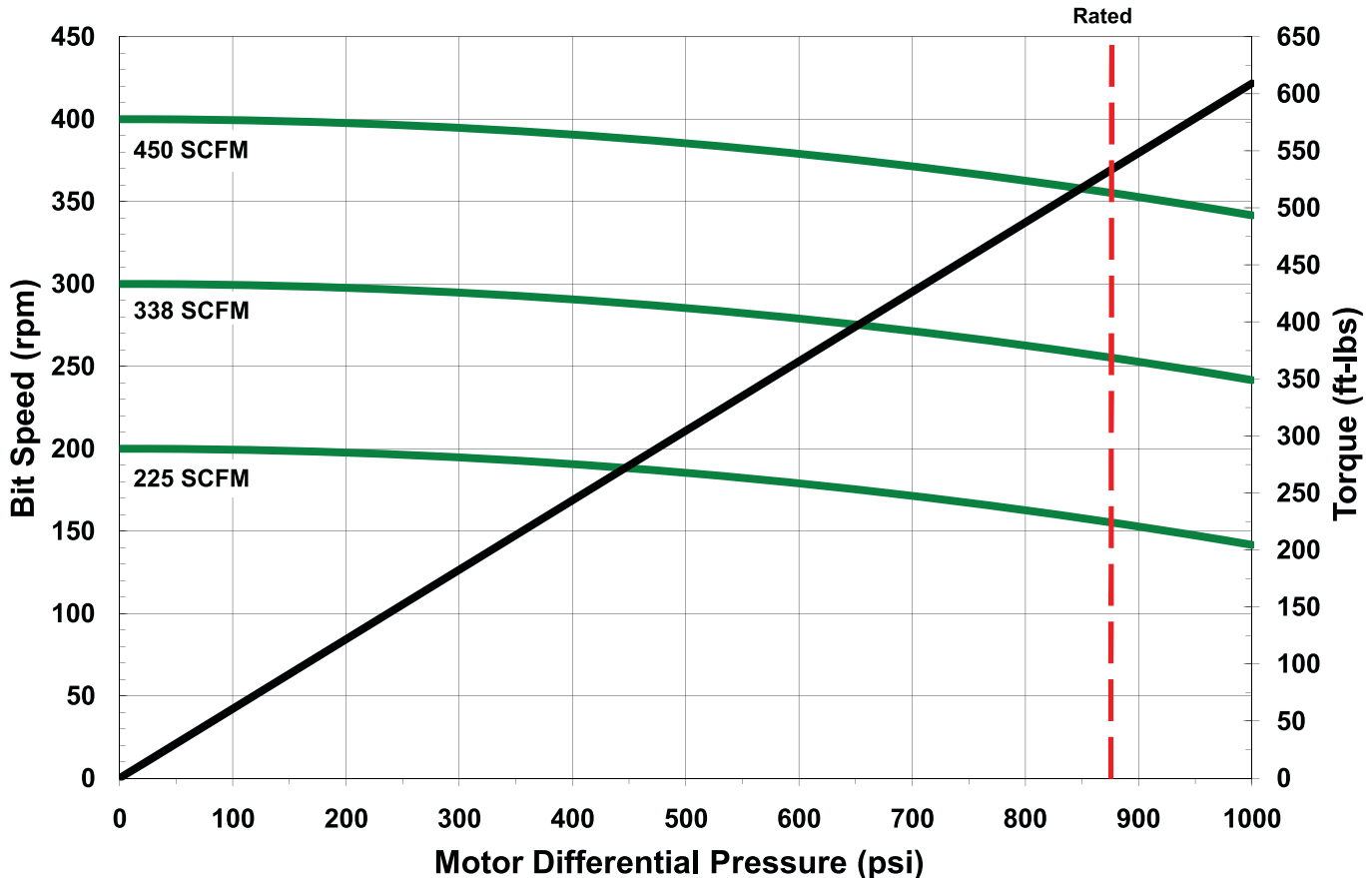


## 2-7/8 SS150 AD Motor Specifications



Performance Curves Based on Dynamometer Test Data

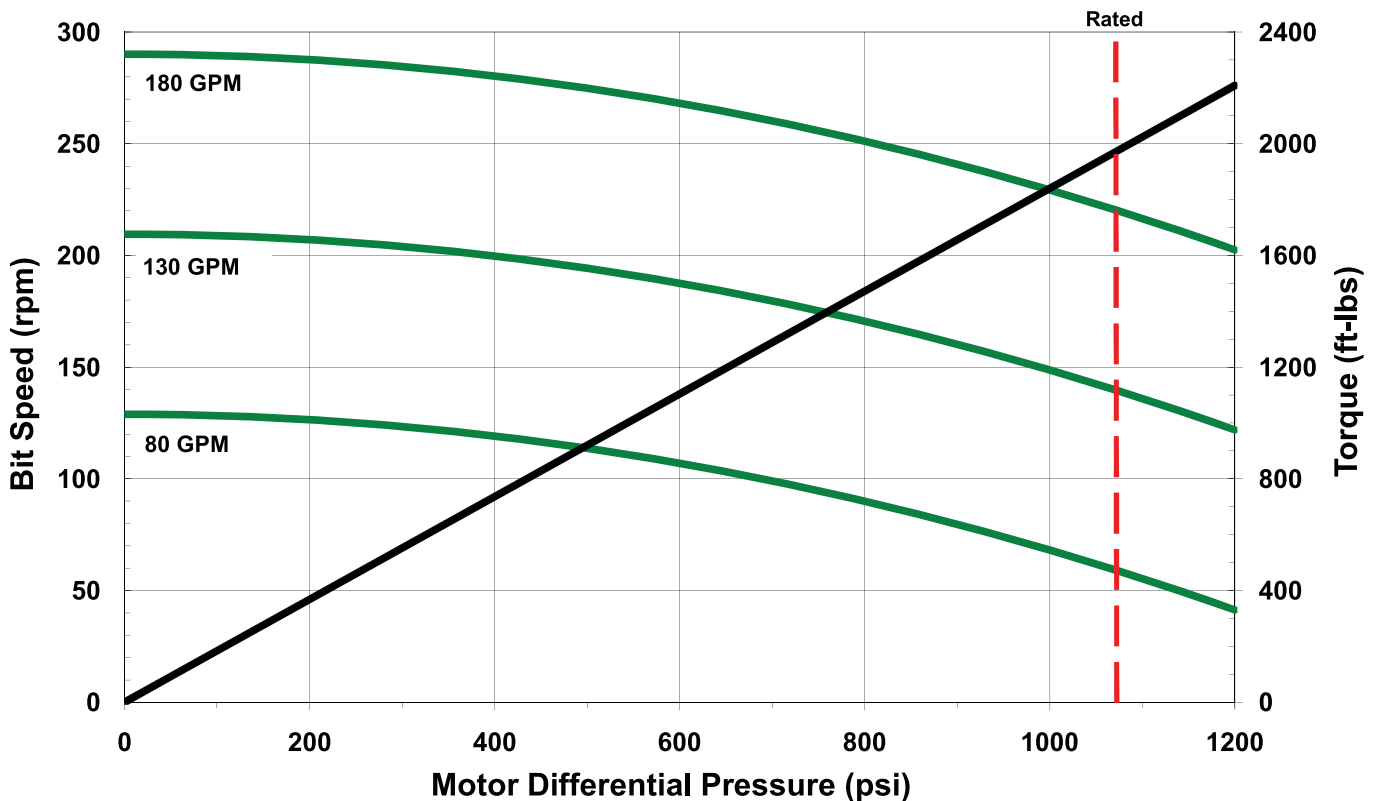
Operating Data		
Flow Range	scfm (m <sup>3</sup> /min)	225 - 450 (6.37 - 12.75)
Motor Pressure	psi (bar)	875 (60)
Bit Speed	rpm	200 - 400
Displacement	rev/scfm (rev/m <sup>3</sup> /min)	.889 (31.384)
Torque	ft-lbs (Nm)	637 (864)
Power	HP (Kw)	49 (37)
Physical Dimensions		
Power Section Configuration	Stages	3.5
	Lobes	5/6
Bit to Stabilizer	in (mm)	N/A
Bit to Bend	Fixed	in (mm)
	Adj	in (mm)
Overall Motor Length	Fixed	ft (m)
	Adj	ft (m)
Weight	lbs (kg)	205 (93)
Connections	Box	2-3/8 Reg, Top/Bottom
Bit Size	in (mm)	3-1/4 - 4 (82.6 - 101.6)



## 3-3/4 SS150 Motor Specifications

Performance Curves Based on Dynamometer Test Data

Operating Data			
Flow Range	gpm (lpm)		80 - 180 (300 - 680)
Motor Pressure	psi (bar)		1,075 (74)
Bit Speed	rpm		129 - 290
Displacement	rev/gal (rev/l)		1.611 (.428)
Torque	ft-lbs (Nm)		1,978 (2,682)
Power	HP (Kw)		109 (81)
Physical Dimensions			
Power Section Configuration	Stages		4.3
	Lobes		4/5
Bit to Stabilizer	in (mm)		22.3 (566)
Bit to Bend	Fixed	in (mm)	36.5 (927)
	Adj	in (mm)	48.7 (1,237)
Overall Motor Length	Fixed	ft (m)	18.8 (5.7)
	Adj	ft (m)	19.7 (6.0)
Weight	lbs (kg)		420 (190)
Connections	Std	Box	2-3/8 Reg Top, 2-7/8 Reg Bottom
	Opt		Available upon request
Bit Size	in (mm)		4-1/8 - 5-1/2 (105.8 - 139.7)



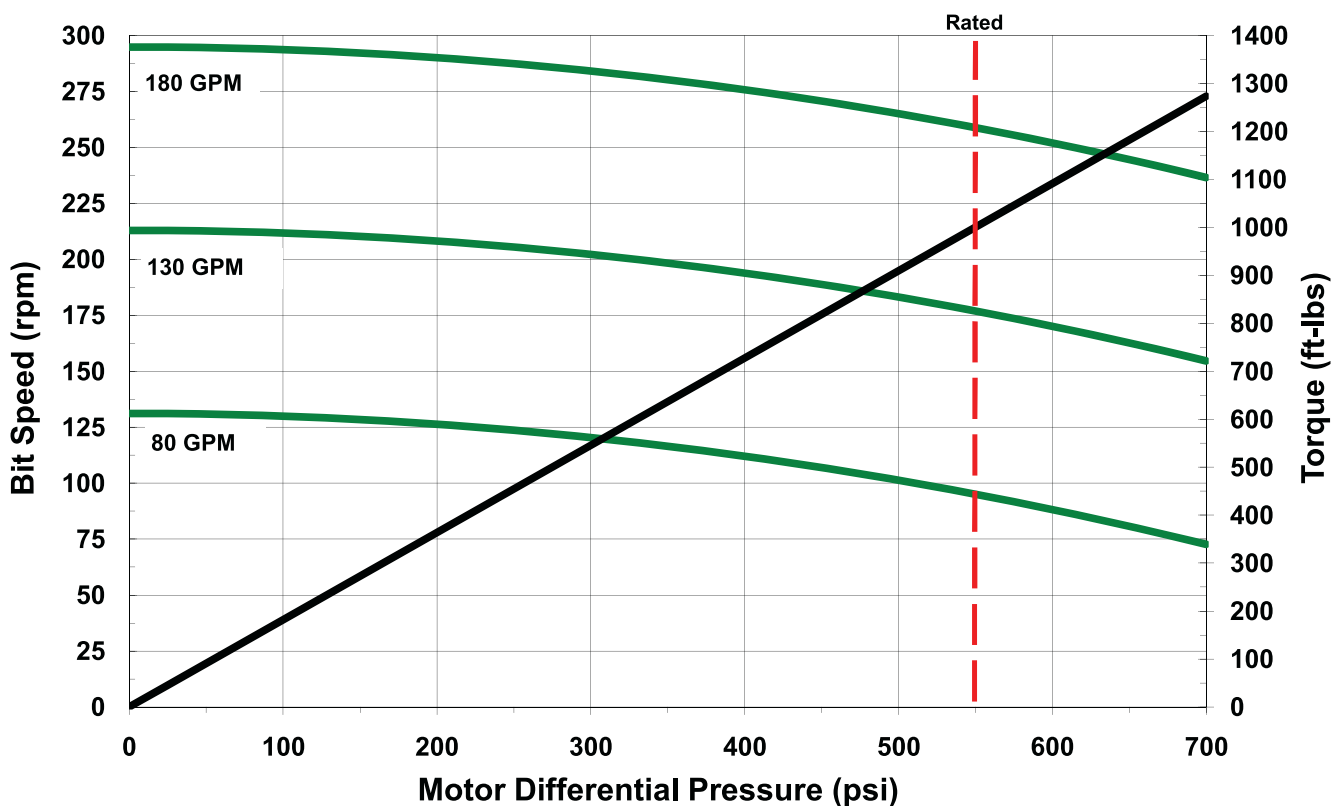


## 3-3/4 SS150 SR Motor Specifications



Performance Curves Based on Dynamometer Test Data

Operating Data			
Flow Range	gpm (lpm)		80 - 180 (300 - 680)
Motor Pressure	psi (bar)		550 (38)
Bit Speed	rpm		131 - 295
Displacement	rev/gal (rev/l)		1.638 (.435)
Torque	ft-lbs (Nm)		1,000 (1,356)
Power	HP (Kw)		56 (42)
Physical Dimensions			
Power Section Configuration		Stages	2.2
		Lobes	4/5
Bit to Stabilizer		in (mm)	22.3 (566)
Bit to Bend	Fixed	in (mm)	36.5 (927)
	Adj	in (mm)	48.7 (1,237)
Overall Motor Length	Fixed	ft (m)	12.8 (3.9)
	Adj	ft (m)	13.8 (4.2)
Weight		lbs (kg)	410 (186)
Connections	Std	Box	2-3/8 Reg Top, 2-7/8 Reg Bottom
	Opt		Available upon request
Bit Size		in (mm)	4-1/8 - 5-1/2 (105.8 - 139.7)





Motor Type		Motor Output			Motor Input		Bit Size (in)	Physical Motor Data		
Dia (IN)	Model	Bit Speed (RPM)	Torque FT-LBS (NM)	Power HP (KW)	Flow Rate GPM (LPM)	Motor DP PSI (BAR)		Power Section		
								Stages	Lobes	Rev/Gal
1-11/16	SS100	216-433	131 (178)	11 (8.2)	20-40 (76-151)	600 (41)	1-7/8 - 2-3/4	2.3	5/6	10.82
2-1/8	SS150	270-680	256 (347)	33 (25)	20-50 (76-190)	1500 (103)	2-3/16 - 3-1/4	6.0	5/6	13.61
	SS150SR	270-680	162 (219)	21 (16)	20-50 (76-190)	950 (66)		3.8	5/6	13.61
2-7/8	SS150	200-400	637 (834)	49 (37)	60-120 (225-450)	875 (60)	3-1/4 - 4	3.5	5/6	3.33
	SS150AD <sup>1</sup>	200-400	637 (834)	49 (37)	225-450 scfm <sup>1</sup>	875 (60)		3.5	5/6	.889/scfm
3-3/4	SS150	129-290	1978 (2682)	109 (81)	80-180 (300-680)	1075 (74)	4-1/8 - 5-1/2	4.3	4/5	1.61
	SS150SR	131-295	1000 (1356)	56 (42)	80-180 (300-680)	550 (38)		2.2	4/5	1.64
4-3/4	SS100	88-147	4689 (6357)	122 (91)	150-250 (568-946)	950 (66)	5-3/4 - 6-3/4	3.8	7/8	0.59
	SS100SR	57-143	2660 (3610)	72 (54)	100-250 (568-946)	550 (38)		2.2	7/8	0.57
	SS170	150-300	3567 (4832)	197 (147)	150-300 (380-950)	1350 (93)		5.4	5/6	1.13
	SS300	250-740	1840 (2495)	260 (195)	100-300 (379-1136)	1975 (136)		7.9	2/3	2.47
5	SS50	39-79	5380 (7290)	81 (60)	150-300 (568-1136)	600 (41)	5-3/4 - 6-3/4	2.4	7/8	0.26
6-1/4	SS100	53-140	9830 (13328)	235 (175)	150-400 (568-1514)	1200 (83)	7-7/8 - 8-3/4	4.8	7/8	0.35
6-1/2	SS50	36-107	13440 (18220)	274 (264)	200-600 (760-2270)	800 (55)	7-7/8 - 9-7/8	3.1	7/8	0.18
6-3/4	SS100	55-166	12188 (16525)	385 (287)	200-600 (760-2270)	1250 (86)	8-1/4 - 9-7/8	5.0	7/8	0.28
	SS100SR	57-171	7620 (10330)	248 (185)	200-600 (760-2270)	750 (52)		3.0	7/8	0.29
	SS100SR <sup>2</sup>	57-171	7620 (10330)	248 (185)	200-600 (760-2270)	750 (52)		3.0	7/8	0.29
	SS110	61-184	10718 (14532)	375 (280)	200-600 (760-2270)	950 (66)		3.8	6/7	0.31
	SS110 <sup>2</sup>	61-184	10718 (14532)	375 (280)	200-600 (760-2270)	950 (66)		3.8	6/7	0.31
	SS150	100-250	8945 (12130)	430 (320)	300-600 (1140-2270)	1550 (107)		6.2	4/5	0.48
8	SS100	66-149	16540 (22425)	469 (350)	400-900 (1510-3410)	1000 (69)	11-1/4 - 26	4.0	7/8	0.17

SR = Short Radius Motor AD = Air Drilling Motor  
 Notes: 1. Air Motor units: Flow ranges are in scfm (m<sup>3</sup>/min), displacements are in scfm/rev.

More power - Underlying steel lobes permit the rubber to achieve a stronger seal resulting in 2x more power than most conventional motors.



Higher temperature ratings - Thin, uniform thickness of the rubber causes it to expand very little with temperature changes. Even wall power sections have been run in wells with temperatures approaching 400 Degrees.

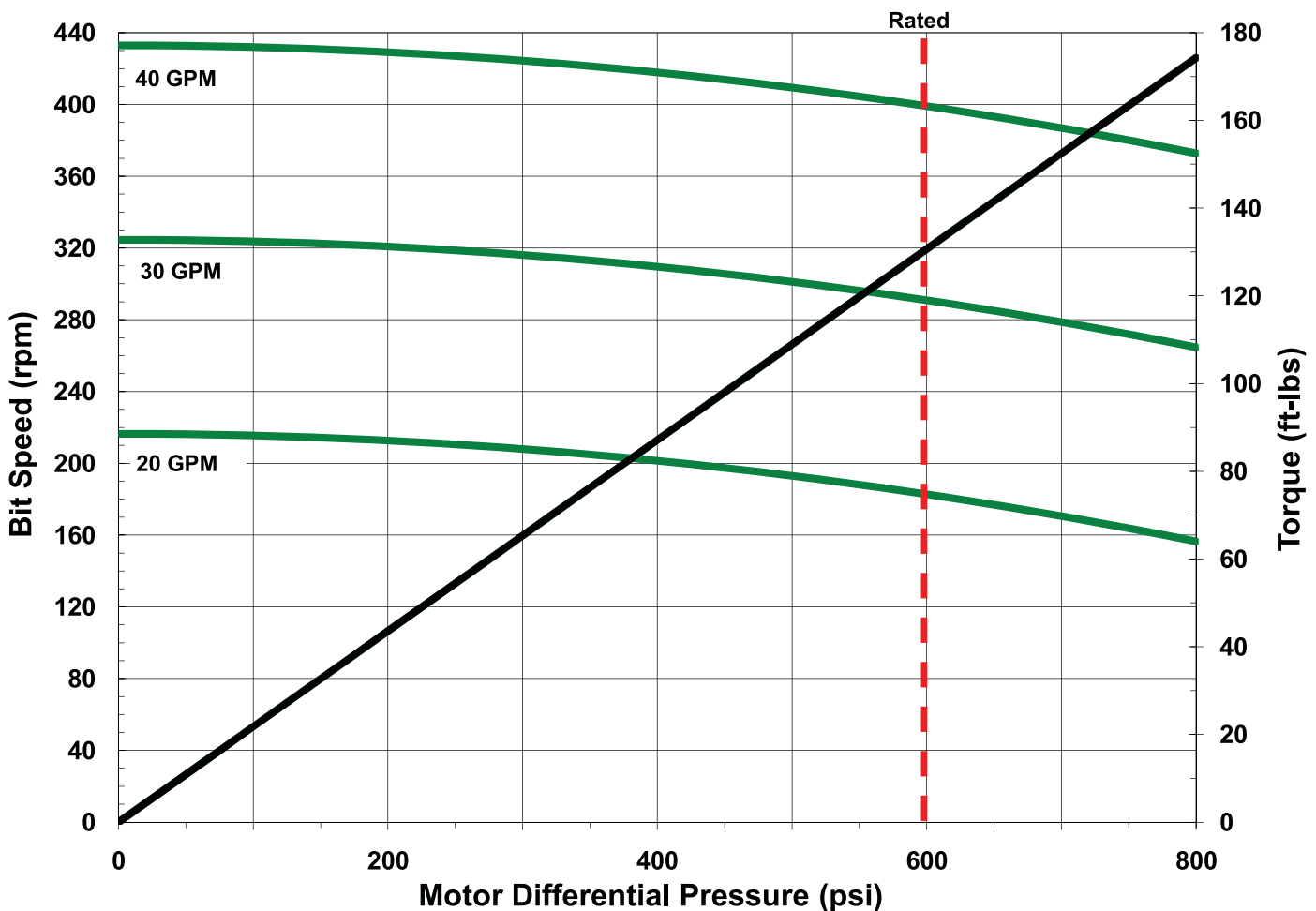
Chemical resistance - Fluids that tend to swell or soften other various rubber compounds on the market do not effect the Even Wall stators in many cases.

Improved performance capability - In many directional or short radius applications a shorter tool can be run due to the higher power output per unit length.

## 1-11/16 SS100 Motor Specifications

Performance Curves Based on Dynamometer Test Data

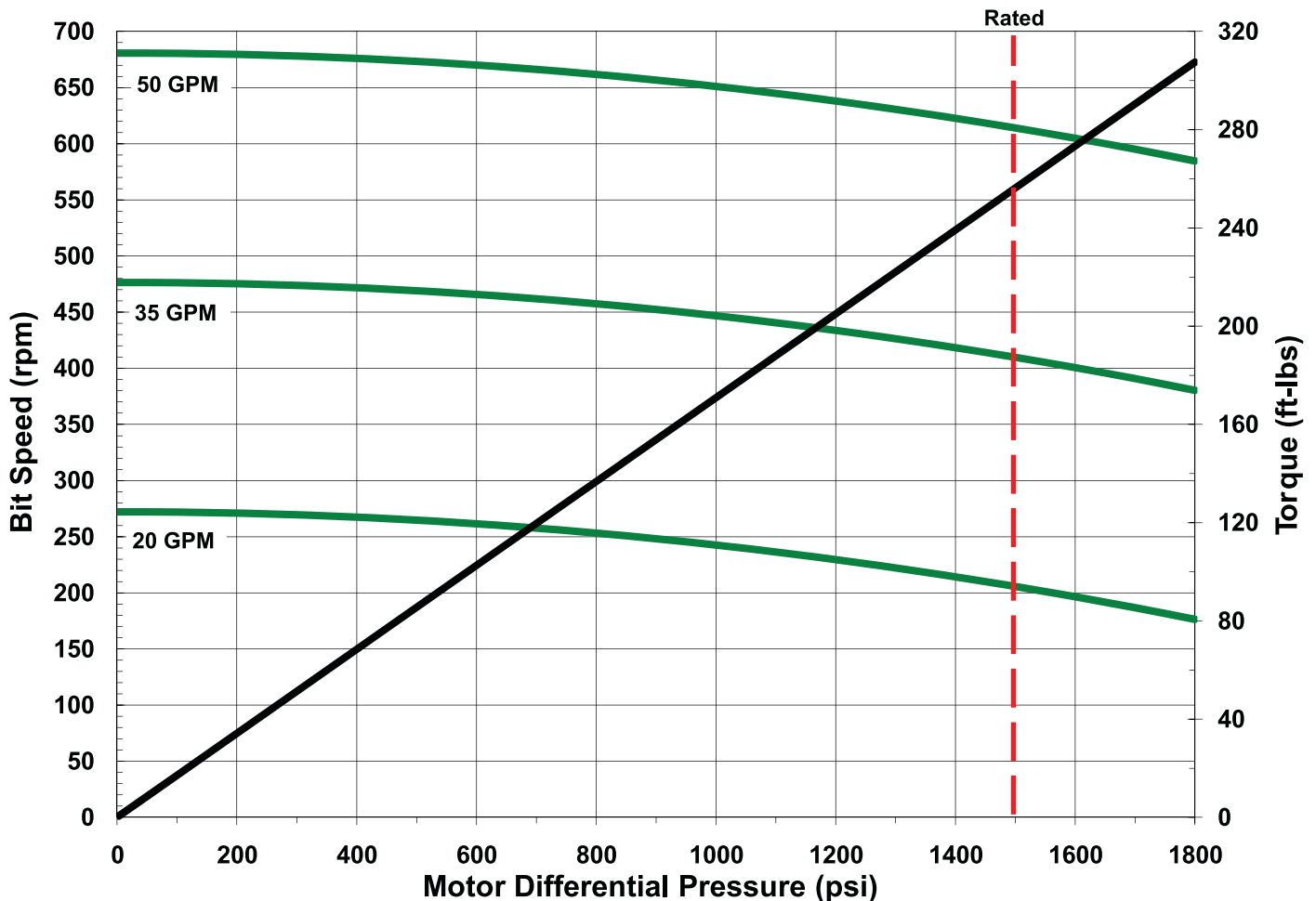
Operating Data			
Flow Range	gpm (lpm)		20 - 40 (76 - 151)
Motor Pressure	psi (bar)		600 (41)
Bit Speed	rpm		216 - 433
Displacement	rev/gal (rev/l)		10.82 (2.86)
Torque	ft-lbs (Nm)		131 (178)
Power	HP (Kw)		11 (8.2)
Physical Dimensions			
Power Section Configuration	Stages		2.3
	Lobes		5/6
Overall Motor Length	ft (m)		7.8 (2.4)
Weight	lbs (kg)		40 (18)
Connections	Standard	Box	1" MT/Reg Top and Bottom
	Optional	Box	Available Upon Request
Bit Size	in (mm)		1-7/8 to 2-3/4 (47.6 - 69.9)



## 2-1/8 SS150 Motor Specifications

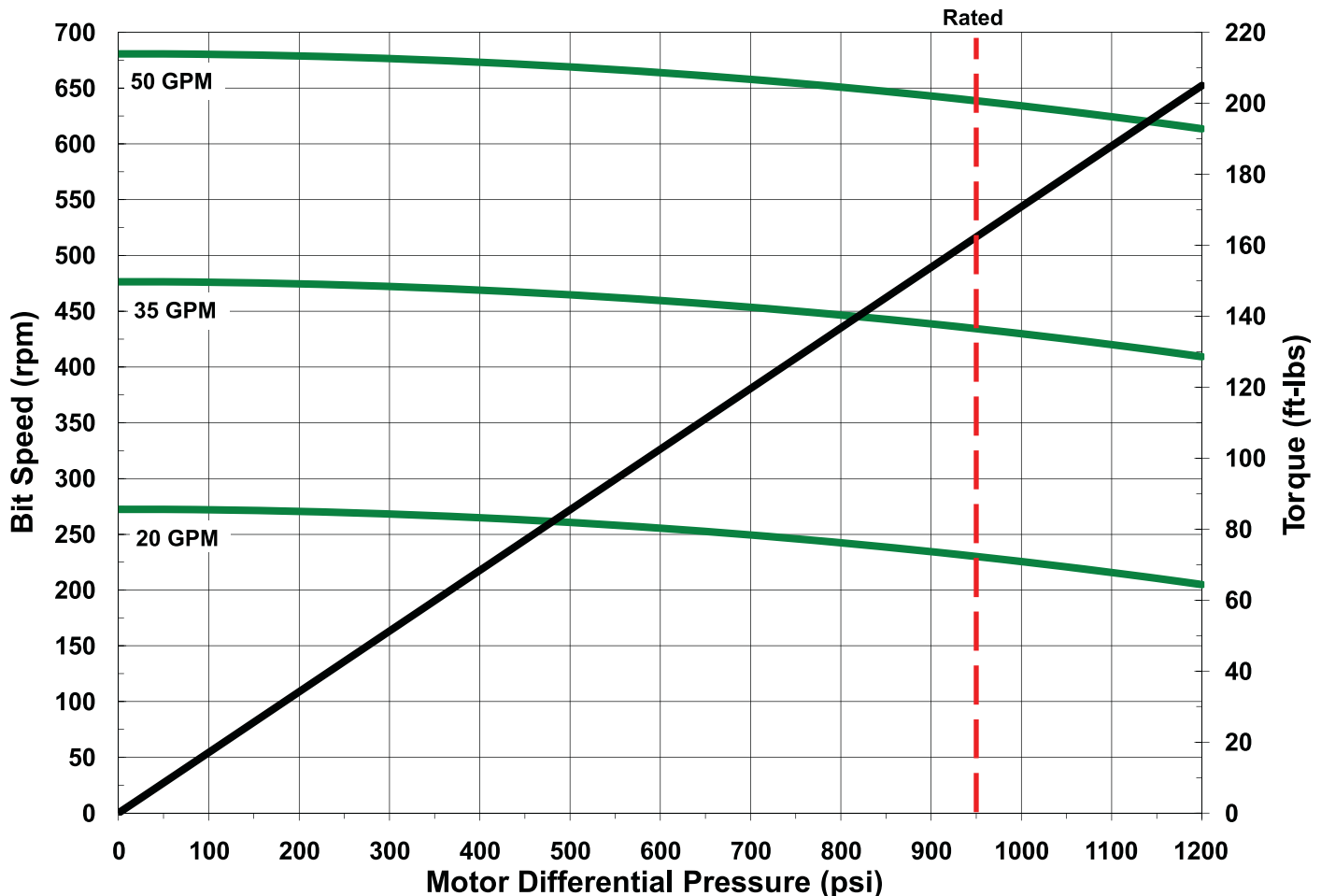
Performance Curves Based on Dynamometer Test Data

Operating Data			
Flow Range	gpm (lpm)		20 - 50 (76 - 190)
Motor Pressure	psi (bar)		1,500 (103)
Bit Speed	rpm		270 - 680
Displacement	rev/gal (rev/l)		13.612 (3.630)
Torque	ft-lbs (Nm)		256 (347)
Power	HP (Kw)		33 (25)
Physical Dimensions			
Power Section Configuration	Stages		6
	Lobes		5/6
Overall Motor Length	ft (m)		11.0 (3.4)
Weight	lbs (kg)		86 (39)
Connections	Standard	Box	1-1/2" Reg, Top and Bottom
	Optional	Box	Available Upon Request
Bit Size	in (mm)		2-3/16 to 3-1/4 (55.6 - 82.6)



## 2-1/8 SS150 SR Motor Specifications

Operating Data			
Flow Range	gpm (lpm)		20 - 50 (76 - 190)
Motor Pressure	psi (bar)		950 (66)
Bit Speed	rpm		270 - 680
Displacement	rev/gal (rev/l)		13.612 (3.630)
Torque	ft-lbs (Nm)		162 (219)
Power	HP (Kw)		21 (16)
Physical Dimensions			
Power Section Configuration	Stages		3.8
	Lobes		5/6
Overall Motor Length	ft (m)		8.7 (2.7)
Weight	lbs (kg)		86 (39)
Connections	Standard	Box	1-1/2" Reg, Top and Bottom
	Optional	Box	Available Upon Request
Bit Size	in (mm)		2-3/16 to 3-1/4 (55.6 - 82.6)

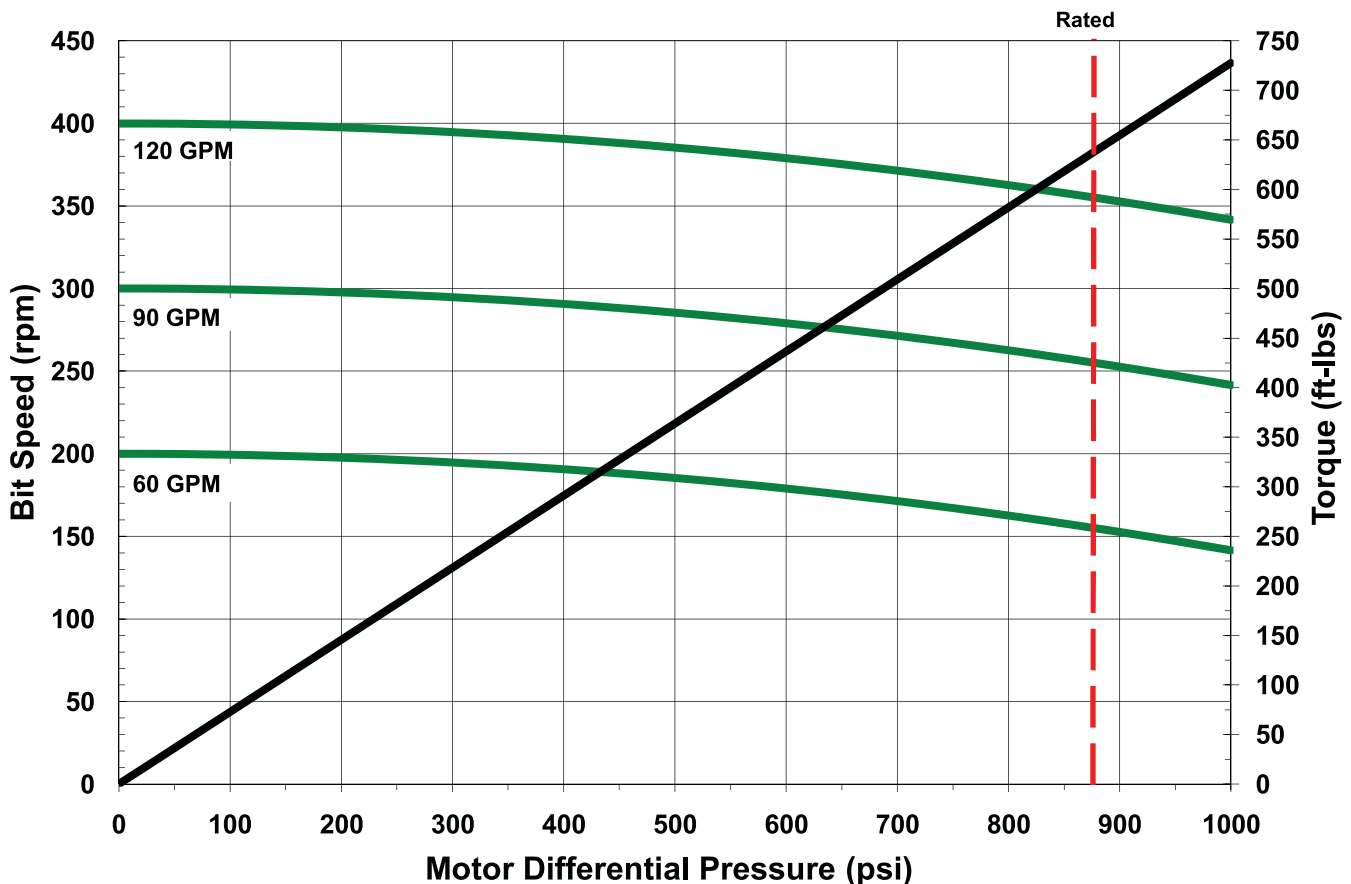


2-7/8 SS150  
Motor Specifications



Performance Curves Based on Dynamometer Test Data

Operating Data			
Flow Range		gpm (lpm)	60 - 120 (225 - 450)
Motor Pressure		psi (bar)	875 (60)
Bit Speed		rpm	200 - 400
Displacement		rev/gal (rev/l)	3.333 (.881)
Torque		ft-lbs (Nm)	637 (864)
Power		HP (Kw)	49 (37)
Physical Dimensions			
Power Section Configuration		Stages	3.5
		Lobes	5/6
Bit to Stabilizer		in (mm)	N/A
Bit to Bend	Fixed	in (mm)	31.1 (790)
	Adj	in (mm)	37.2 (945)
Overall Motor Length	Fixed	ft (m)	12.0 (3.7)
	Adj	ft (m)	12.9 (3.9)
Weight		lbs (kg)	205 (93)
Connections		Box	2-3/8 Reg, Top/Bottom
Bit Size		in (mm)	3-1/4 - 4 (82.6 - 101.6)

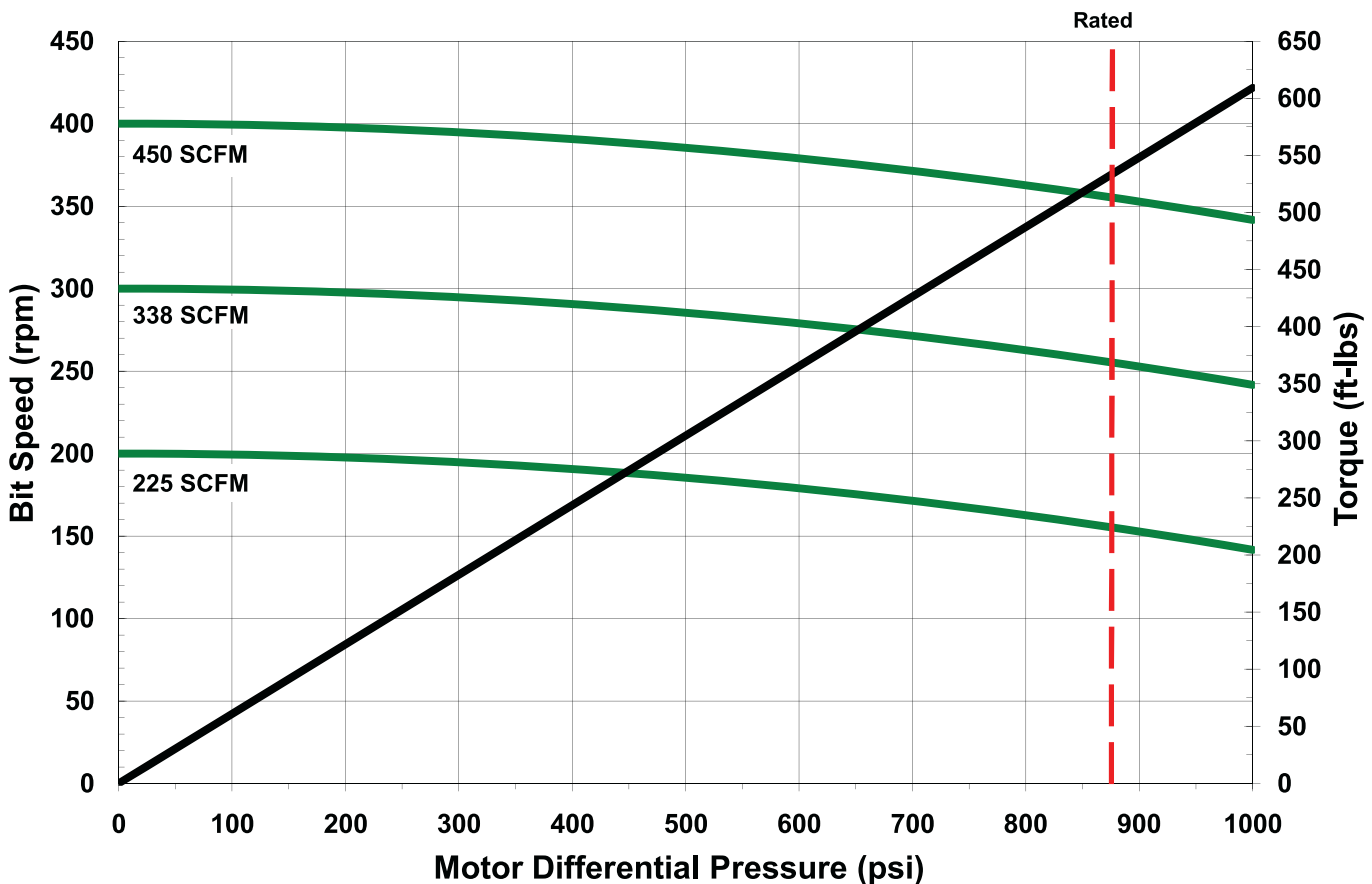


## 2-7/8 SS150 AD Motor Specifications



Performance Curves Based on Dynamometer Test Data

Operating Data			
Flow Range	scfm (m <sup>3</sup> /min)		225 - 450 (6.37 - 12.75)
Motor Pressure	psi (bar)		875 (60)
Bit Speed	rpm		200 - 400
Displacement	rev/scfm (rev/m <sup>3</sup> /min)		.889 (31.384)
Torque	ft-lbs (Nm)		637 (864)
Power	HP (Kw)		49 (37)
Physical Dimensions			
Power Section Configuration		Stages	3.5
		Lobes	5/6
Bit to Stabilizer		in (mm)	N/A
Bit to Bend	Fixed	in (mm)	31.1 (790)
	Adj	in (mm)	37.2 (945)
Overall Motor Length	Fixed	ft (m)	12.0 (3.7)
	Adj	ft (m)	12.9 (3.9)
Weight		lbs (kg)	205 (93)
Connections		Box	2-3/8 Reg, Top/Bottom
Bit Size		in (mm)	3-1/4 - 4 (82.6 - 101.6)



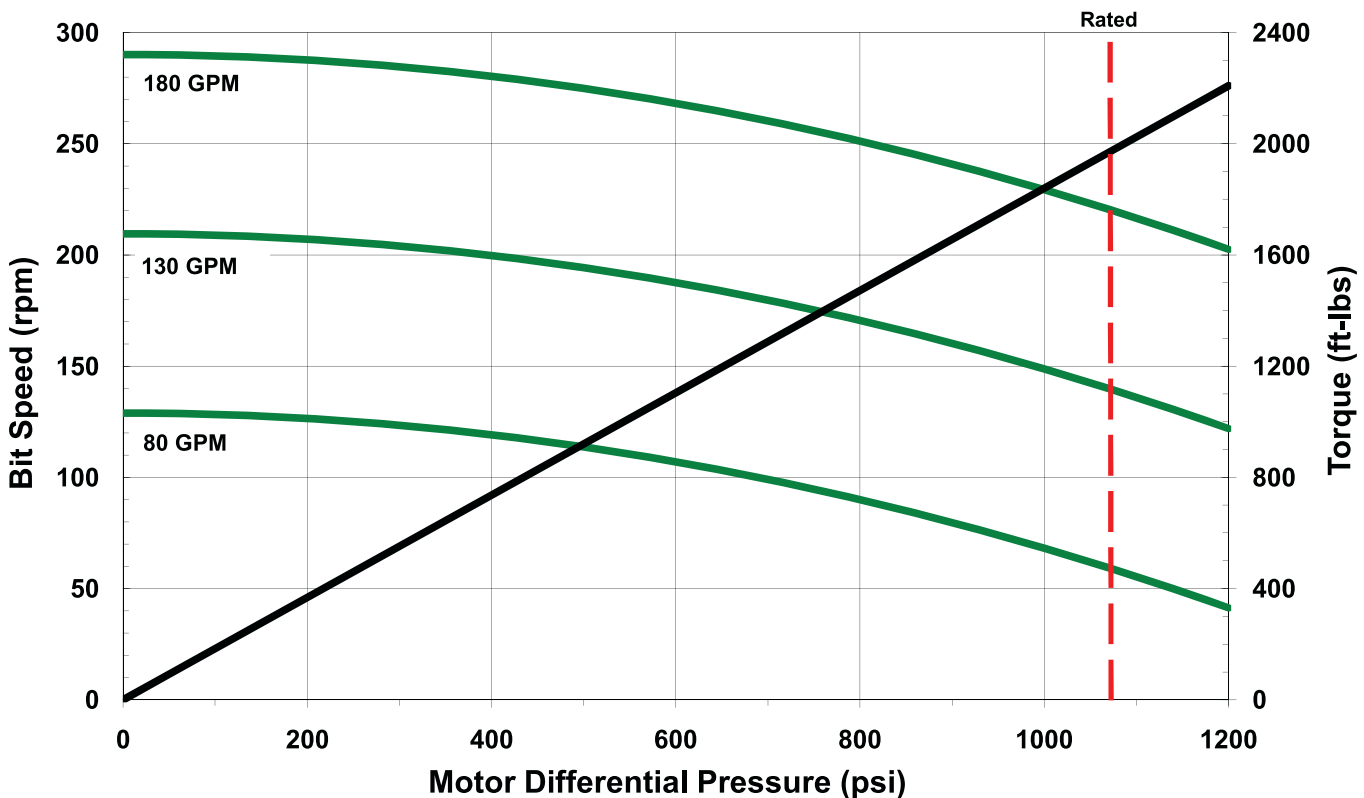


# Tartan

**3-3/4 SS150**  
**Motor Specifications** energy group

Performance Curves Based on Dynamometer Test Data

Operating Data			
Flow Range		gpm (lpm)	80 - 180 (300 - 680)
Motor Pressure		psi (bar)	1,075 (74)
Bit Speed		rpm	129 - 290
Displacement		rev/gal (rev/l)	1.611 (.428)
Torque		ft-lbs (Nm)	1,978 (2,682)
Power		HP (Kw)	109 (81)
Physical Dimensions			
Power Section Configuration		Stages	4.3
		Lobes	4/5
Bit to Stabilizer		in (mm)	22.3 (566)
Bit to Bend	Fixed	in (mm)	36.5 (927)
	Adj	in (mm)	48.7 (1,237)
Overall Motor Length	Fixed	ft (m)	18.8 (5.7)
	Adj	ft (m)	19.7 (6.0)
Weight		lbs (kg)	420 (190)
Connections	Std	Box	2-3/8 Reg Top, 2-7/8 Reg Bottom
	Opt		Available upon request
Bit Size		in (mm)	4-1/8 - 5-1/2 (105.8 - 139.7)

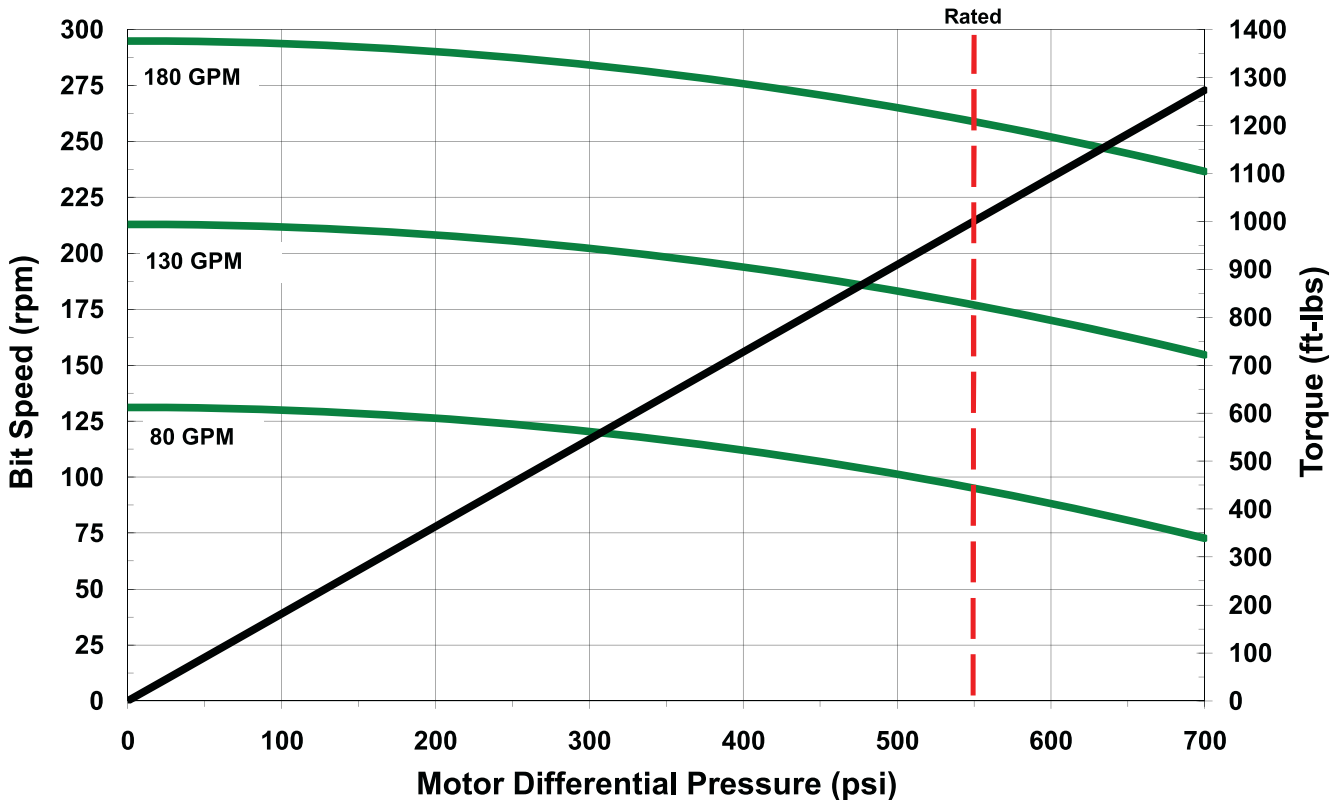


# Tartan

**3-3/4 SS150 SR**  
**Motor Specifications** energy group

Performance Curves Based on Dynamometer Test Data

Operating Data			
Flow Range	gpm (lpm)		80 - 180 (300 - 680)
Motor Pressure	psi (bar)		550 (38)
Bit Speed	rpm		131 - 295
Displacement	rev/gal (rev/l)		1.638 (.435)
Torque	ft-lbs (Nm)		1,000 (1,356)
Power	HP (Kw)		56 (42)
Physical Dimensions			
Power Section Configuration	Stages		2.2
	Lobes		4/5
Bit to Stabilizer	in (mm)		22.3 (566)
Bit to Bend	Fixed	in (mm)	36.5 (927)
	Adj	in (mm)	48.7 (1,237)
Overall Motor Length	Fixed	ft (m)	12.8 (3.9)
	Adj	ft (m)	13.8 (4.2)
Weight	lbs (kg)		410 (186)
Connections	Std	Box	2-3/8 Reg Top, 2-7/8 Reg Bottom
	Opt		Available upon request
Bit Size	in (mm)		4-1/8 - 5-1/2 (105.8 - 139.7)



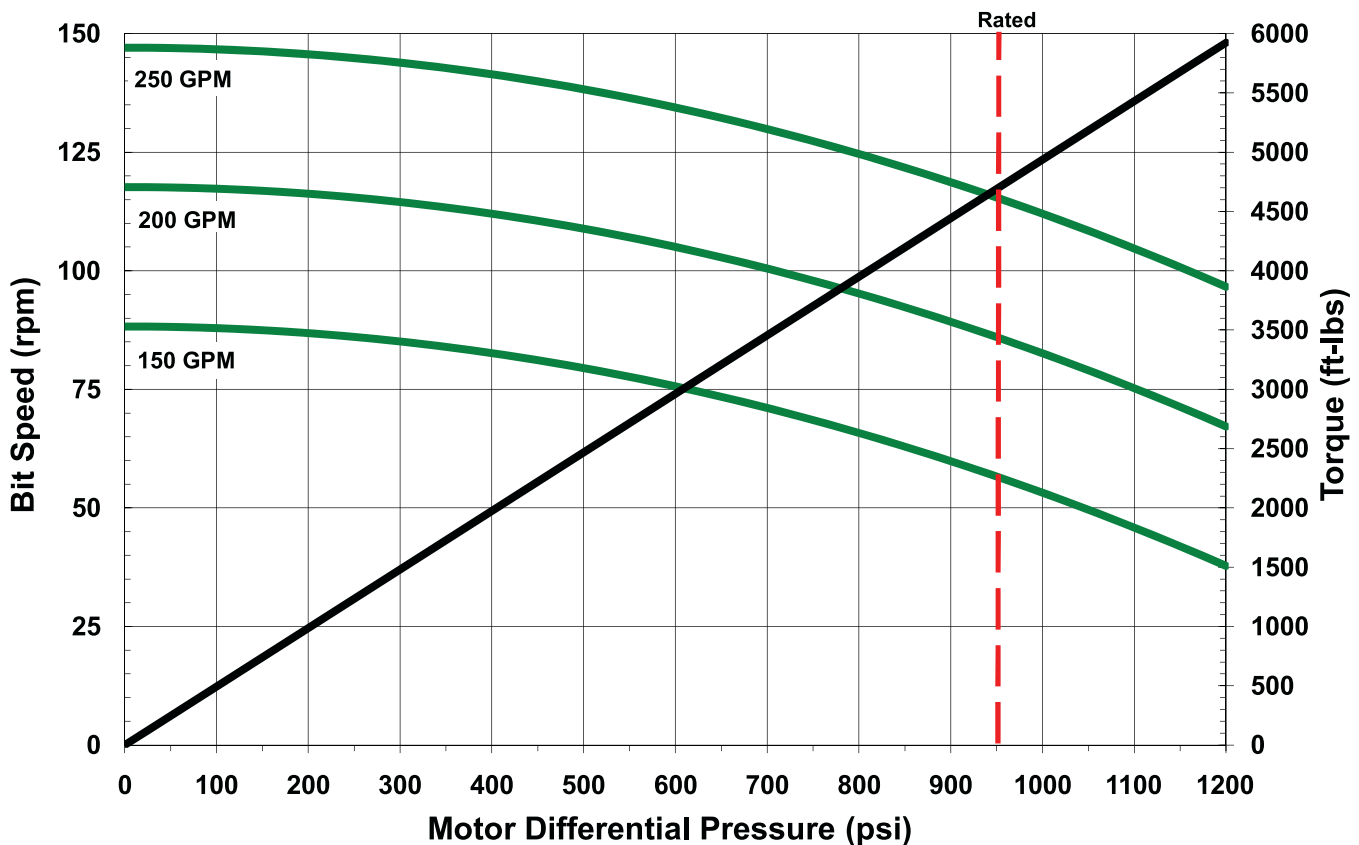
# Tartan

energy group

## 4-3/4 SS100 Motor Specifications

Performance Curves Based on Dynamometer Test Data

Operating Data			
Flow Range		gpm (lpm)	150 - 250 (568 - 946)
Motor Pressure		psi (bar)	950 (66)
Bit Speed		rpm	88 - 147
Displacement		rev/gal (rev/l)	.588 (.155)
Torque		ft-lbs (Nm)	4,689 (6,357)
Power		HP (Kw)	131 (98)
Physical Dimensions			
Power Section Configuration		Stages	3.8
		Lobes	7/8
Bit to Stabilizer		in (mm)	28.9 (735)
Bit to Bend	Fixed	in (mm)	52.4 (1,330)
	Adj	in (mm)	66.3 (1,685)
Overall Motor Length	Fixed	ft (m)	23.0 (7.0)
	Adj	ft (m)	24.4 (7.4)
Weight		lbs (kg)	865 (390)
Connections	Standard	Box	3½ IF Top, 3½ Reg Bottom
	Optional	Box	Available upon request
Bit Size		in (mm)	5¾ - 6¾ (146.1 - 171.5)

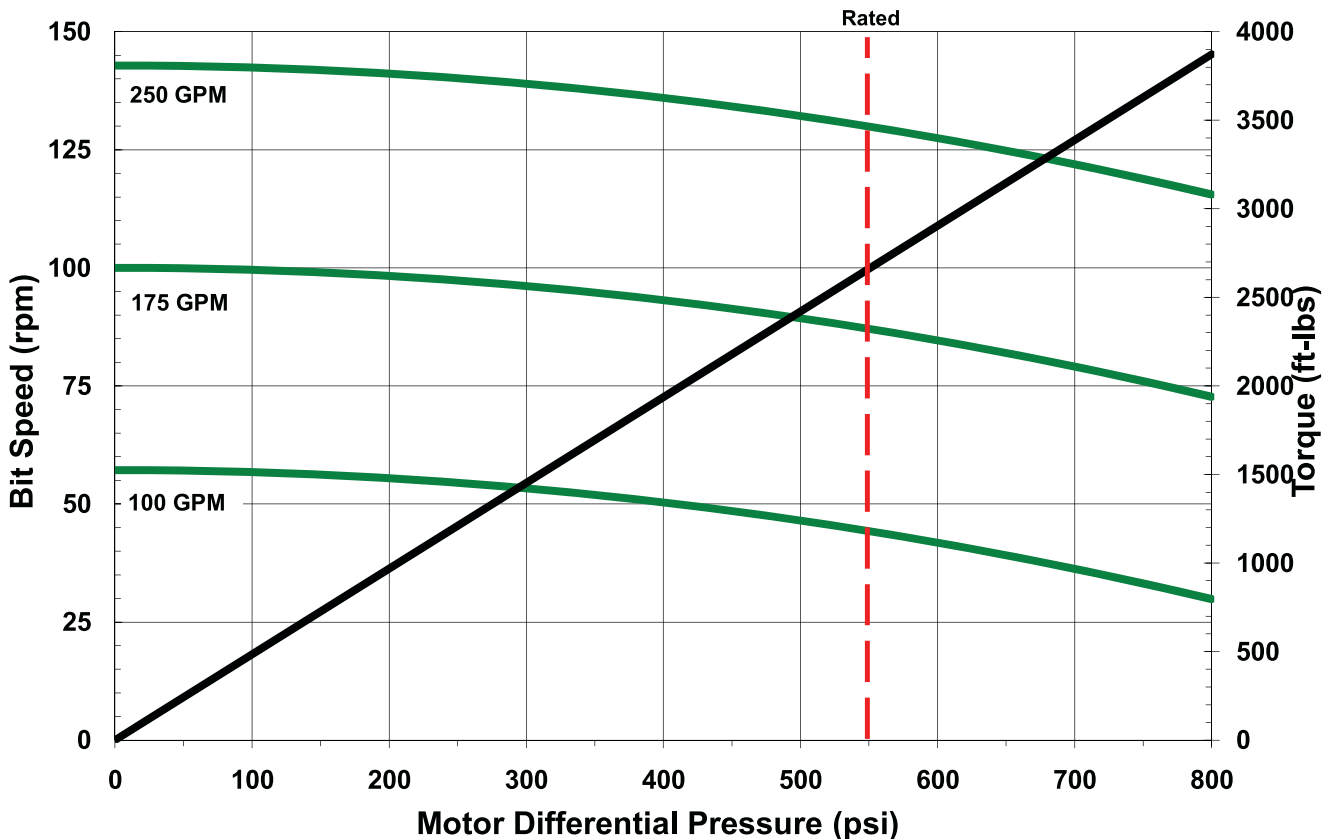


# 4-3/4 SS100 SR Motor Specifications



Performance Curves Based on Dynamometer Test Data

Operating Data			
Flow Range	gpm (lpm)		100 - 250 (380 - 950)
Motor Pressure	psi (bar)		550 (38)
Bit Speed	rpm		57 - 143
Displacement	rev/gal (rev/l)		.571 (.150)
Torque	ft-lbs (Nm)		2,660 (3,610)
Power	HP (Kw)		72 (54)
Physical Dimensions			
Power Section Configuration	Stages		2.2
	Lobes		7/8
Bit to Stabilizer		in (mm)	28.9 (735)
Bit to Bend	Fixed	in (mm)	54.4 (1,382)
	Adj	in (mm)	66.7 (1,694)
Overall Motor Length	Fixed	ft (m)	17.1 (5.2)
	Adj	ft (m)	18.5 (5.6)
Weight		lbs (kg)	865 (390)
Connections	Standard	Box	3½ IF Top, 3½ Reg Bottom
	Optional	Box	Available upon request
Bit Size		in (mm)	5¾ - 6¾ (146.1 - 171.5)

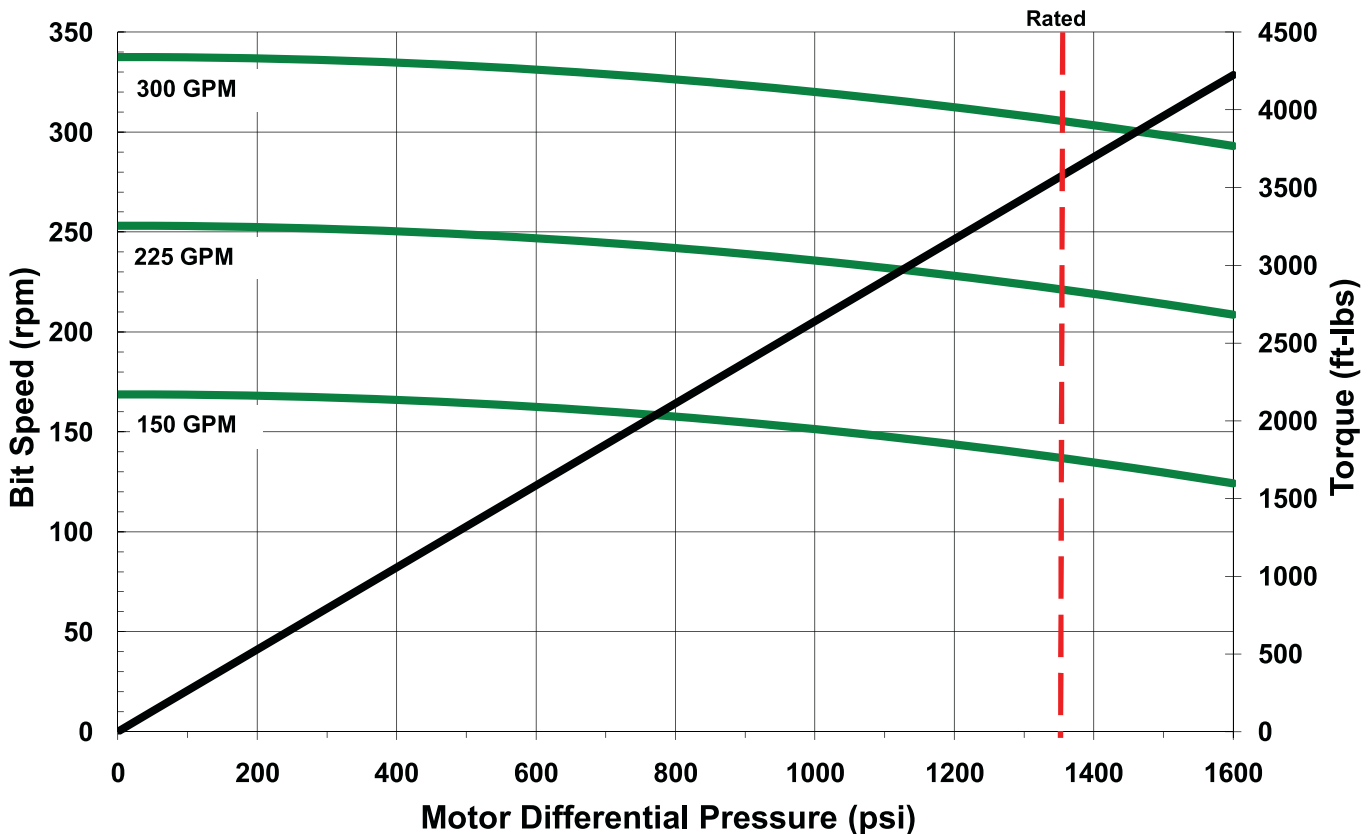


# Tartan

**4-3/4 SS170**  
**Motor Specifications** energy group

Performance Curves Based on Dynamometer Test Data

Operating Data			
Flow Range	gpm (lpm)	150 - 300 (570 - 1,135)	
Motor Pressure	psi (bar)	1,350 (93)	
Bit Speed	rpm	169 - 338	
Displacement	rev/gal (rev/l)	1.125 (.297)	
Torque	ft-lbs (Nm)	3,564 (4,832)	
Power	HP (Kw)	229 (171)	
Physical Dimensions			
Power Section Configuration	Stages	5.4	
	Lobes	5/6	
Bit to Stabilizer	in (mm)	25.2 (640)	
Bit to Bend	Fixed	in (mm)	47.6 (1,209)
	Adj	in (mm)	61.8 (1,570)
Overall Motor Length	Fixed	ft (m)	21.4 (6.5)
	Adj	ft (m)	22.7 (6.9)
Weight	lbs (kg)	865 (392)	
Connections	Box	3-1/2 IF Top, 3-1/2 Reg Bottom	
Bit Size	in (mm)	5-3/4 to 6-3/4 (146.1 - 171.5)	

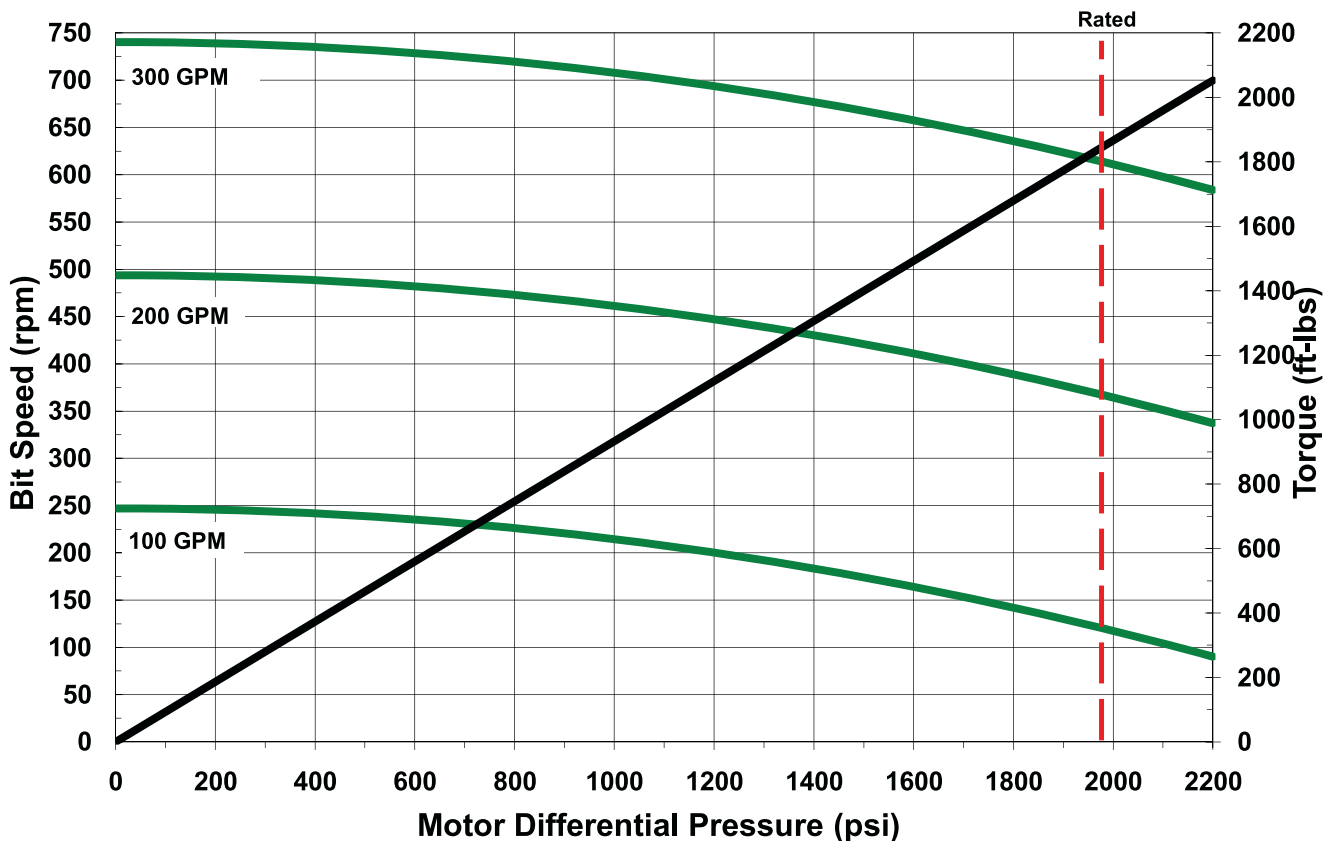


# Tartan

**4-3/4 SS300**  
**Motor Specifications** energy group

Performance Curves Based on Dynamometer Test Data

Operating Data			
Flow Range	gpm (lpm)		100 - 300 (379 - 1,136)
Motor Pressure	psi (bar)		1,975 (136)
Bit Speed	rpm		250 - 740
Displacement	rev/gal (rev/l)		2.468 (0.652)
Torque	ft-lbs (Nm)		1,840 (2,495)
Power	HP (Kw)		260 (195)
Physical Dimensions			
Power Section Configuration	Stages		7.9
	Lobes		2/3
Bit to Stabilizer	in (mm)		25.2 (640)
Bit to Bend	Fixed	in (mm)	47.6 (1,209)
	Adj	in (mm)	61.8 (1,570)
Overall Motor Length	Fixed	ft (m)	25.8 (7.9)
	Adj	ft (m)	26.2 (8.0)
Weight	lbs (kg)		940 (425)
Connections	Standard	Box	3½ IF Top, 3½ Reg Bottom
	Optional	Box	Available upon request
Bit Size	in (mm)		5¾ - 6¾ (146.1 - 171.5)

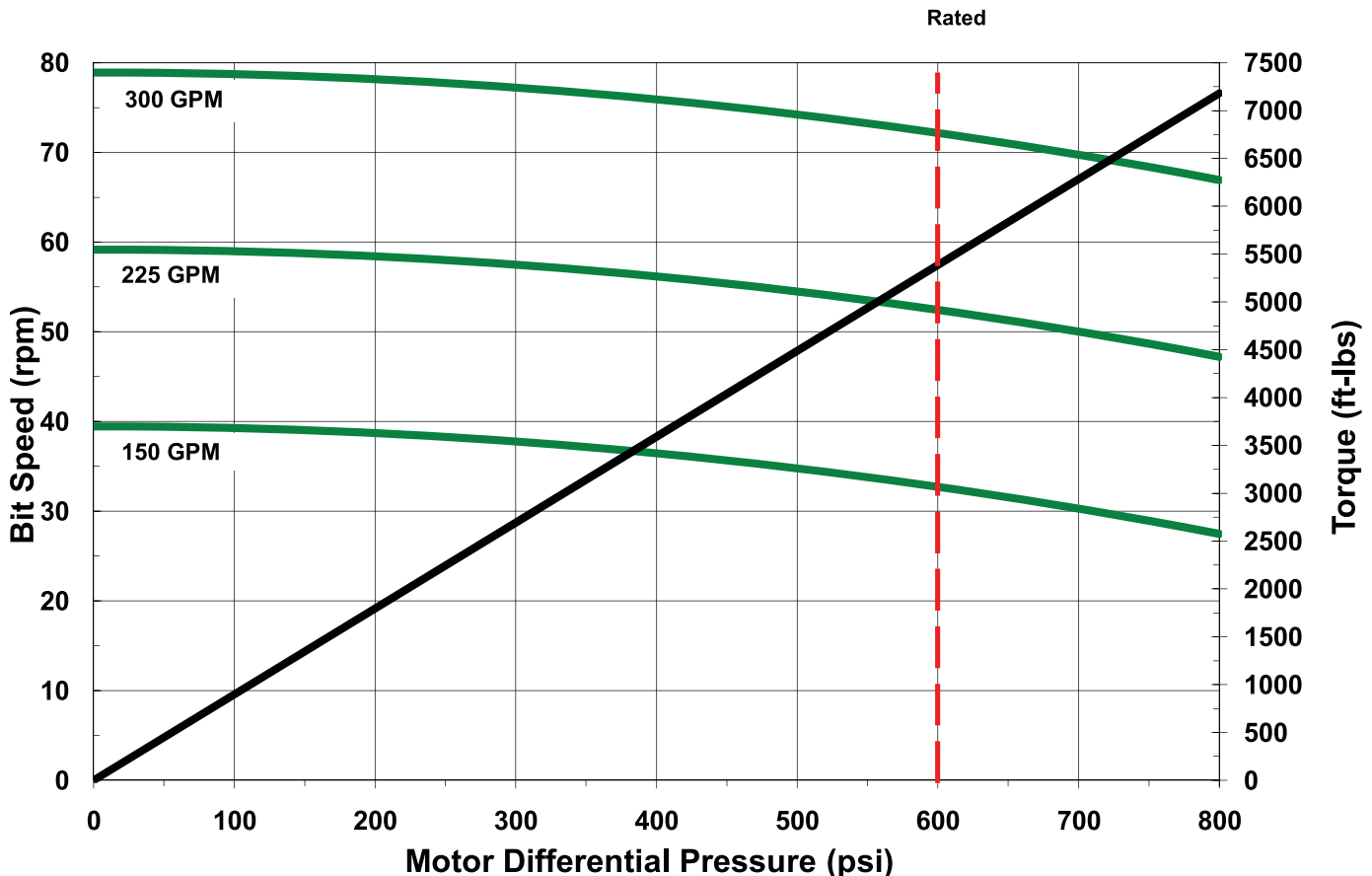


# 5 SS50 Motor Specifications



Theoretical Prediction on 4-3/4" G2 Lower End with a 5" SS50 Power Section

Operating Data			
Flow Range	gpm (lpm)		150 - 300 (568 - 1,136)
Motor Pressure	psi (bar)		600 (41)
Bit Speed	rpm		39 - 79
Displacement	rev/gal (rev/l)		.263 (.069)
Torque	ft-lbs (Nm)		5,380 (7,290)
Power	HP (Kw)		81 (60)
Physical Dimensions			
Power Section Configuration	Stages		2.4
	Lobes		7/8
Bit to Stabilizer	in (mm)		28.9 (735)
Bit to Bend	in (mm)		82.86 (2,105)
Overall Motor Length	ft (m)		29.4(8.96)
Weight	lbs (kg)		865 (390)
Connections	Standard	Box	3½ IF Top, 3½ Reg Bottom
	Optional	Box	Available upon request
Bit Size	in (mm)		5¾ - 6¾ (146.1 - 171.5)

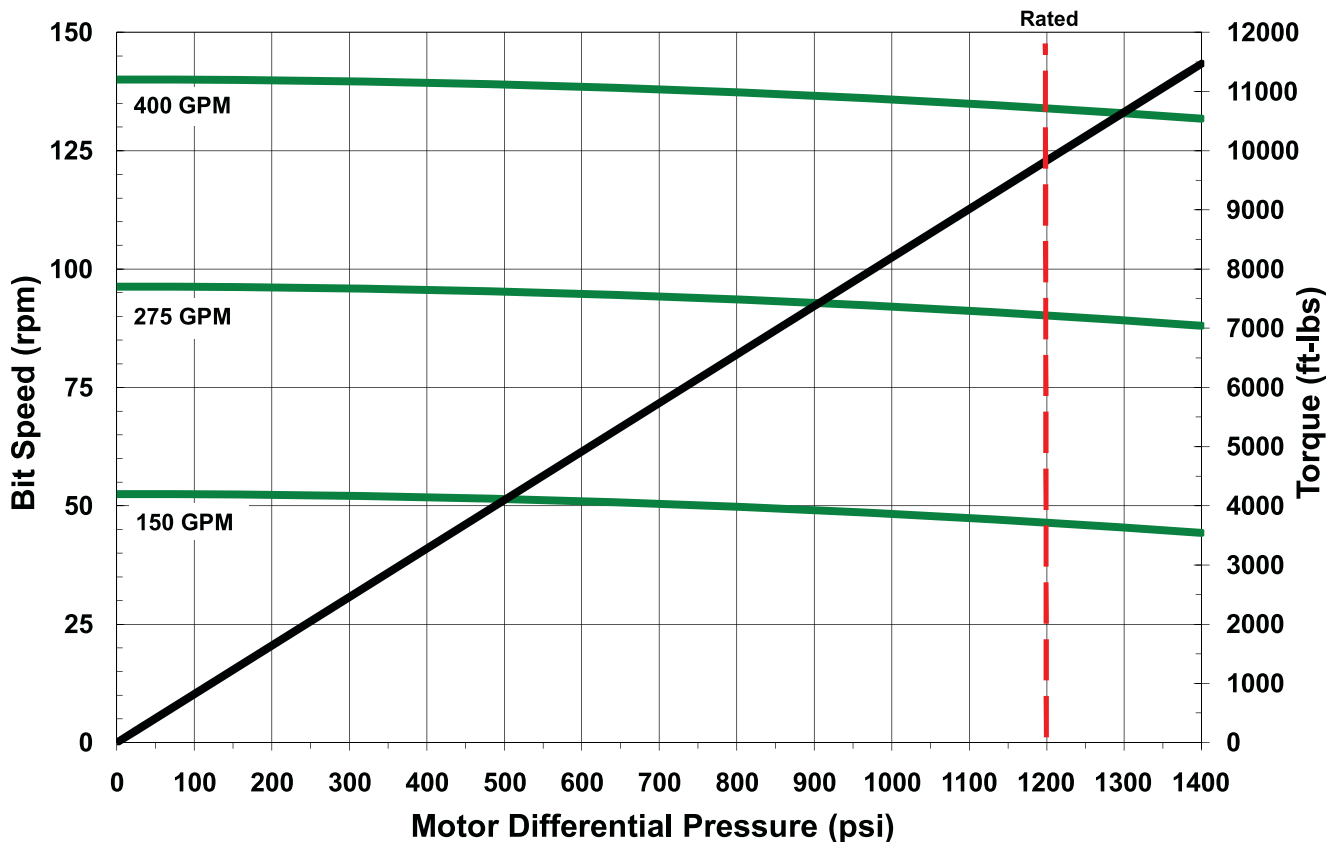


## 6-1/4 SS100 Motor Specifications

6¼ SS100 Power Section with 6½ Lambda G2 Lower End

Performance Curves Based on Dynamometer Test Data

Operating Data			
Flow Range	gpm (lpm)		150 - 400 ( 568 - 1,514)
Motor Pressure	psi (bar)		1,200 (83)
Bit Speed	rpm		53 - 140
Displacement	rev/gal (rev/l)		.350 (.093)
Torque	ft-lbs (Nm)		9,830 (13,328)
Power	HP (Kw)		262 (195)
Physical Dimensions			
Power Section Configuration	Stages		4.8
	Lobes		7/8
Bit to Stabilizer		in (mm)	25.5 (648)
Bit to Bend	Fixed	in (mm)	77.3 (1,963)
	Adj	in (mm)	91.5 (2,324)
Overall Motor Length	Fixed	ft (m)	27.6 (8.41)
	Adj	ft (m)	29.0 (8.84)
Weight		lbs (kg)	1,760 (800)
Connections	Standard	Box	4½ Reg Top and Bottom
	Optional	Box	Available upon request
Bit Size		in (mm)	7-7/8 - 8-3/4 (200.0 - 222.2)





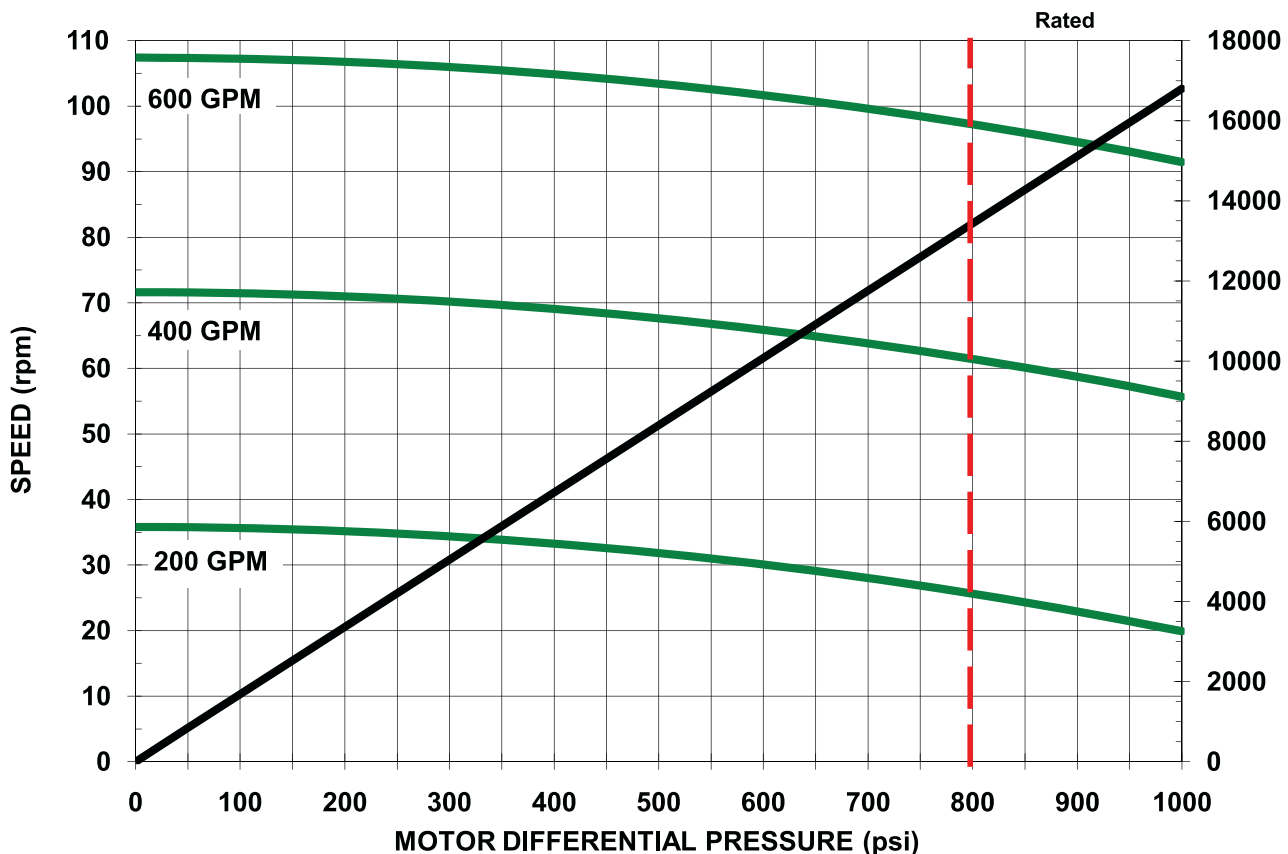
# Tartan

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## 6-1/2 SS50 Motor Specifications

(6-1/2 SS50 Power Section with 6-1/2 G2 Lower End)

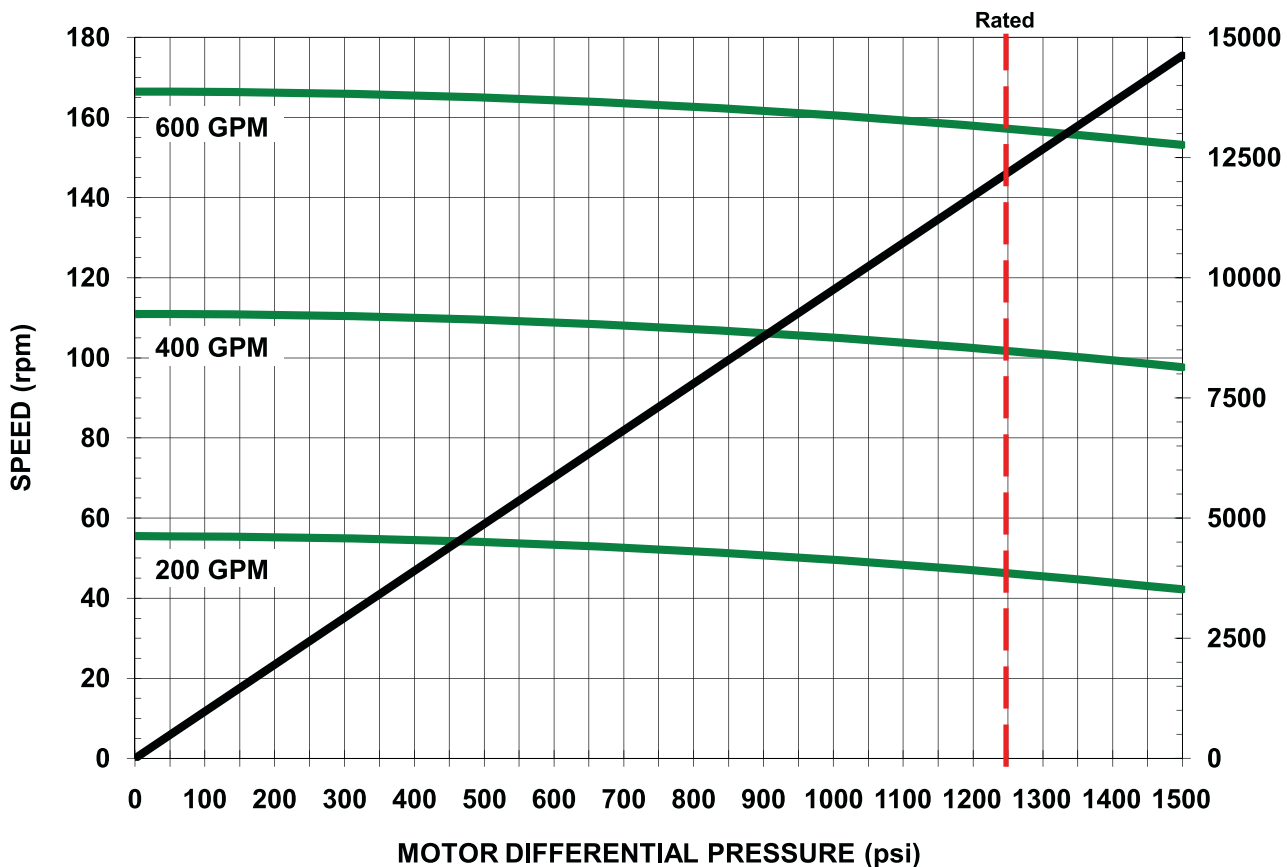
Operating Data			
Flow Range		gpm (lpm)	200 - 600 (760 - 2,270)
Motor Pressure		psi (bar)	800 (55)
Bit Speed		rpm	36 - 107
Displacement		rev/gal (rev/l)	.179 (.047)
Torque		ft-lbs (Nm)	13,440 (18,220)
Power		HP (Kw)	274 (204)
Physical Dimensions			
Power Section Configuration		Stages	3.1
		Lobes	7/8
Bit to Stabilizer		in (mm)	25.5 (648)
Bit to Bend	Fixed	in (mm)	77.3 (1,963)
	Adj	in (mm)	85.1 (2,160)
Overall Motor Length	Fixed	ft (m)	25.1 (7.7)
	Adj	ft (m)	26.6 (8.1)
Weight		lbs (kg)	1,765 (800)
Connections	Standard	Box	4-1/2 Reg Top and Bottom
	Optional	Box	Available upon request
Bit Size		in (mm)	7-7/8 to 9-7/8 (200 - 251)



## 6-3/4 SS100 Motor Specifications

Performance Curves Based on Dynamometer Test Data

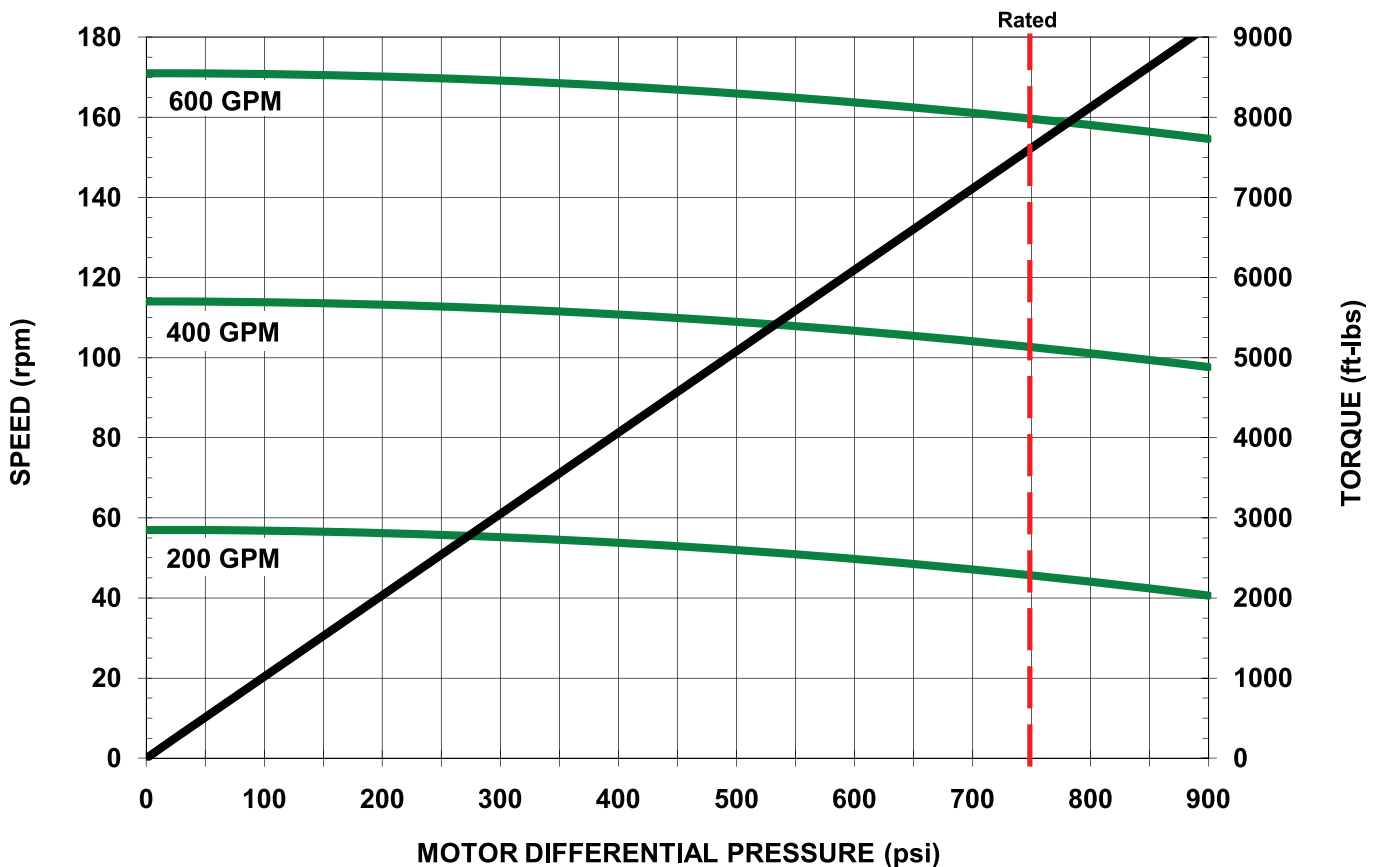
Operating Data			
Flow Range	gpm (lpm)	200 - 600 (760 - 2,270)	
Motor Pressure	psi (bar)	1,250 (86)	
Bit Speed	rpm	55 - 166	
Displacement	rev/gal (rev/l)	.277 (.073)	
Torque	ft-lbs (Nm)	12,188 (16,525)	
Power	HP (Kw)	385 (287)	
Physical Dimensions			
Power Section Configuration		Stages	5.0
		Lobes	7/8
Bit to Stabilizer		in (mm)	25.5 (648)
Bit to Bend	Fixed	in (mm)	77.3 (1,963)
	Adj	in (mm)	85.1 (2,160)
Overall Motor Length	Fixed	ft (m)	25.1 (7.7)
	Adj	ft (m)	26.6 (8.1)
Weight		lbs (kg)	1,765 (800)
Connections		Box	4-1/2" Reg, Top and Bottom
Bit Size		in (mm)	8-1/4 to 9-7/8 (200.0 - 250.8)



## 6-3/4 SS100 SR Motor Specifications

Performance Curves Based on Dynamometer Test Data

Operating Data			
Flow Range	gpm (lpm)	200 - 600 (760 - 2,270)	
Motor Pressure	psi (bar)	750 (52)	
Bit Speed	rpm	57 - 171	
Displacement	rev/gal (rev/l)	.285 (.075)	
Torque	ft-lbs (Nm)	7,620 (10,330)	
Power	HP (Kw)	248 (185)	
Physical Dimensions			
Power Section Configuration	Stages	3.0	
	Lobes	7/8	
Bit to Stabilizer	in (mm)	25.5 (648)	
Bit to Bend	Fixed	in (mm)	77.3 (1,963)
	Adj	in (mm)	85.1 (2,160)
Overall Motor Length	Fixed	ft (m)	19.3 (5.9)
	Adj	ft (m)	20.8 (6.3)
Weight	lbs (kg)	1,730 (785)	
Connections	Box	4-1/2" Reg, Top and Bottom	
Bit Size	in (mm)	8-1/4 to 9-7/8 (200.0 - 250.8)	

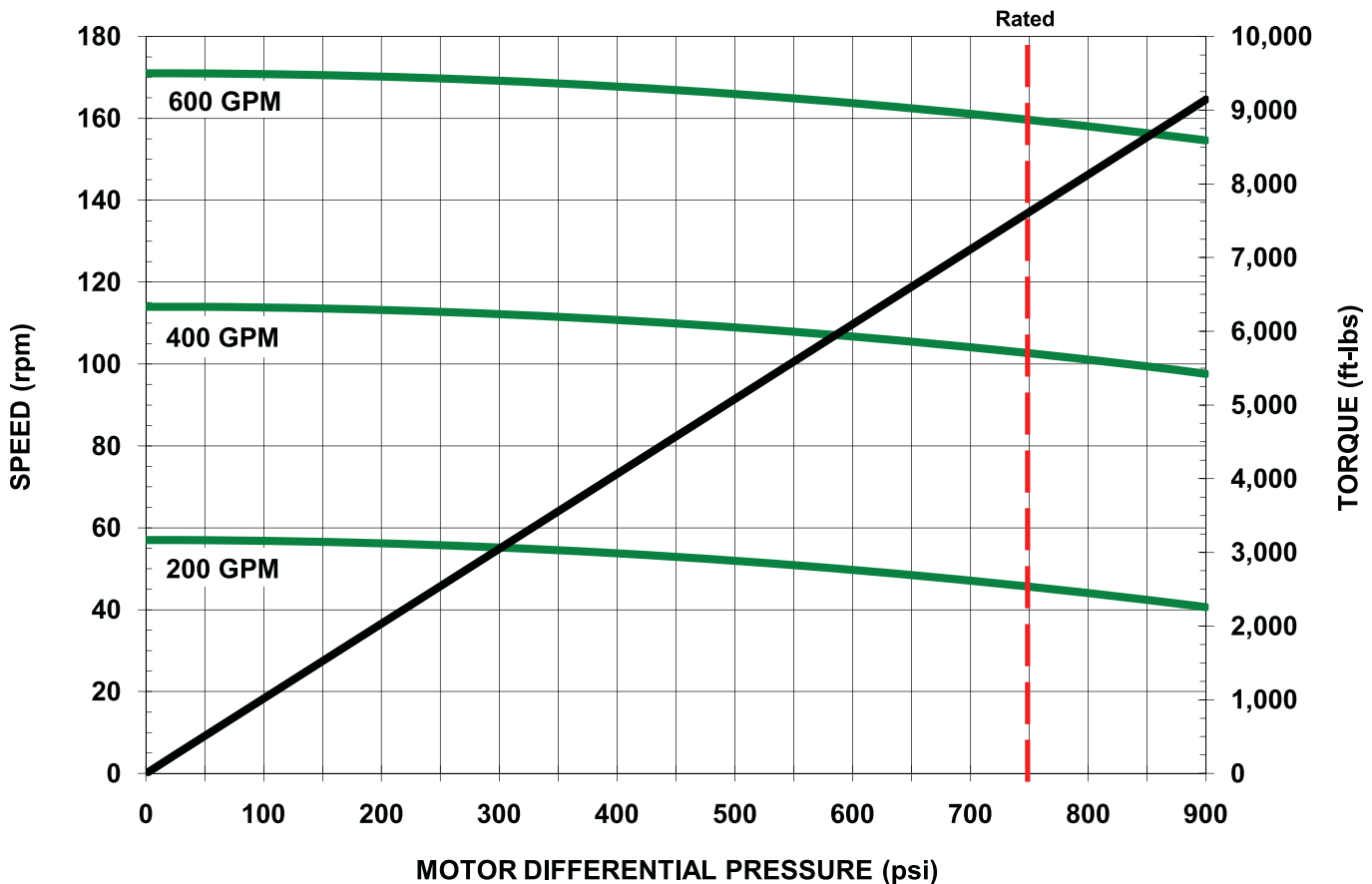


## 6-3/4 SS100 SR Motor Specifications

6-3/4 G2 SBTB Lower End

Performance Curves Based on Dynamometer Test Data

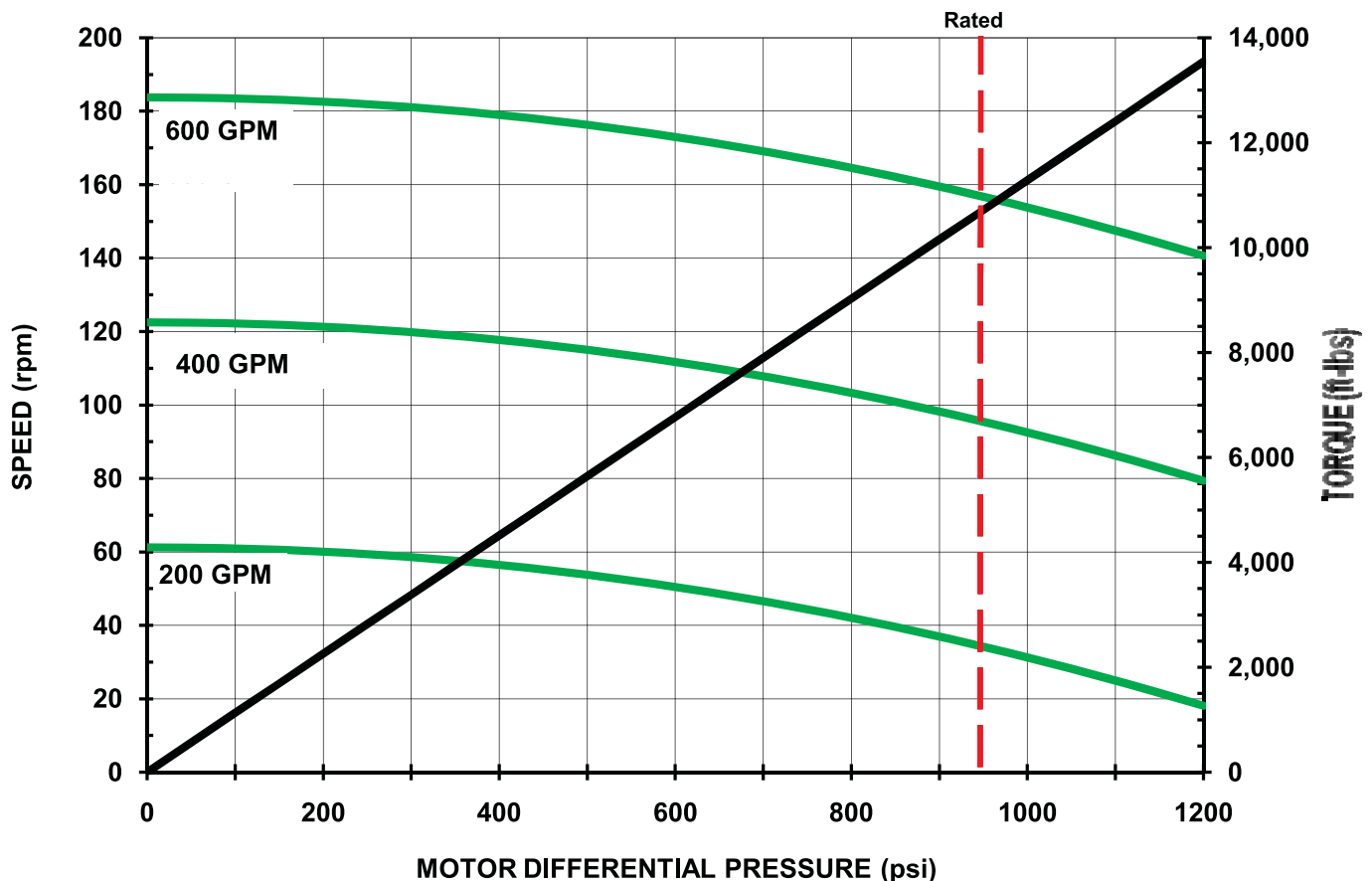
Operating Data		
Flow Range	gpm (lpm)	200 - 600 (760 - 2,270)
Motor Pressure	psi (bar)	750 (52)
Bit Speed	rpm	57 - 171
Displacement	rev/gal (rev/l)	.285 (.075)
Torque	ft-lbs (Nm)	7,620 (10,330)
Power	HP (Kw)	248 (185)
Physical Dimensions		
Power Section Configuration	Stages	3.0
	Lobes	7/8
Bit to Stabilizer	in (mm)	25 (635)
Bit to Bend	in (mm)	47.9 (1,217)
Overall Motor Length	ft (m)	17.5 (5.3)
Weight	lbs (kg)	1,730 (785)
Connections	Box	4-1/2" Reg, Top and Bottom
Bit Size	in (mm)	8-1/4 to 9-7/8 (200.0 - 250.8)



## 6-3/4 SS110 Motor Specifications

Performance Curves Based on Dynamometer Test Data

Operating Data			
Flow Range	gpm (lpm)	200 - 600 (760 - 2,270)	
Motor Pressure	psi (bar)	950 (66)	
Bit Speed	rpm	61 - 184	
Displacement	rev/gal (rev/l)	.306 (.081)	
Torque	ft-lbs (Nm)	10,718 (14,532)	
Power	HP (Kw)	375 (280)	
Physical Dimensions			
Power Section Configuration	Stages	3.8	
	Lobes	6/7	
Bit to Stabilizer	in (mm)	25.5 (648)	
Bit to Bend	Fixed	in (mm)	77.3 (1,963)
	Adj	ft (m)	85.1 (2,160)
Overall Motor Length	Fixed	ft (m)	19.5 (5.9)
	Adj	ft (m)	21.0 (6.4)
Weight	lbs (kg)	1,765 (800)	
Connections	Box	4-1/2" Reg, Top and Bottom	
Bit Size	in (mm)	8-1/4 to 9-7/8 (200.0 - 250.8)	

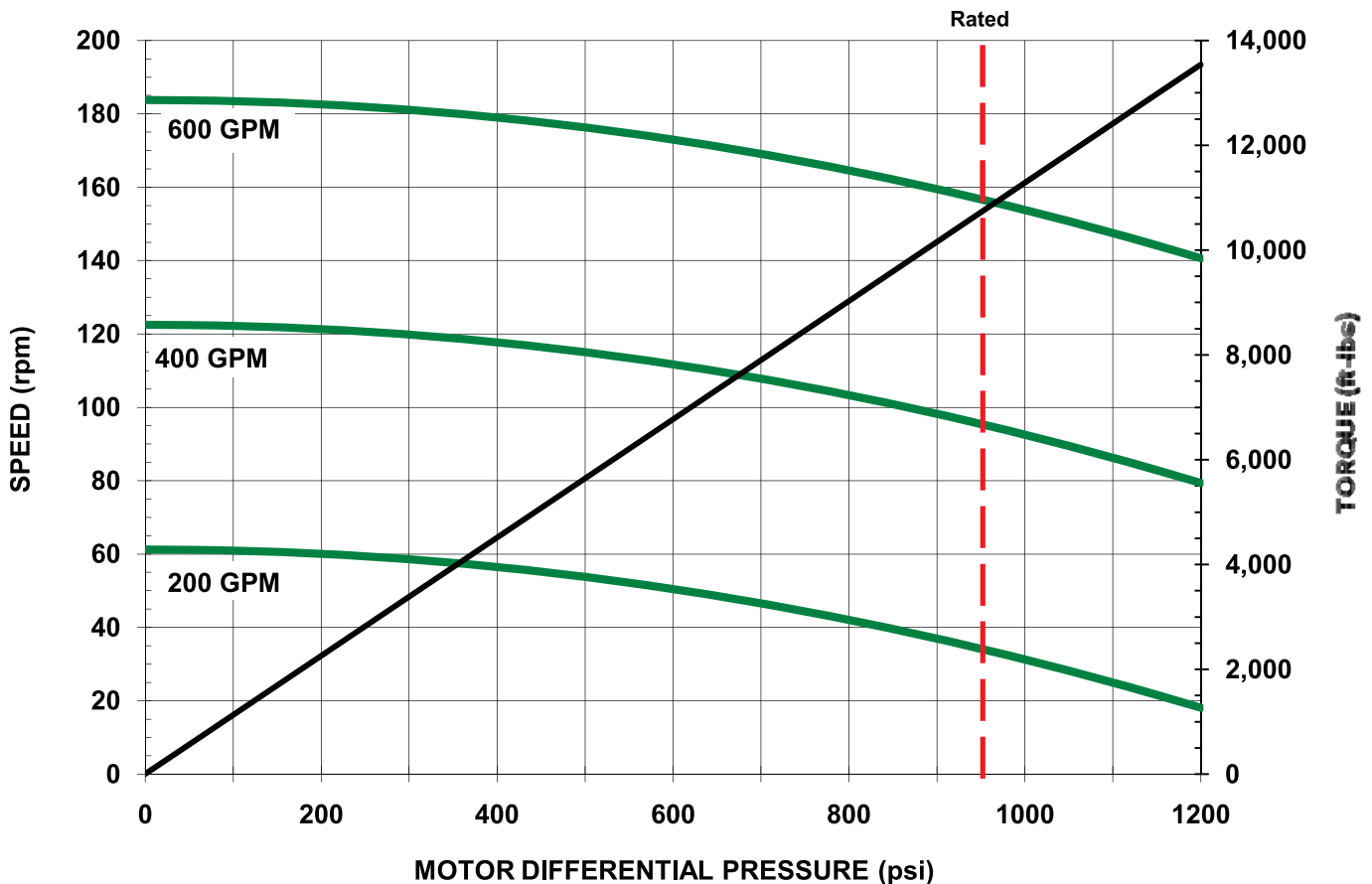


## 6-3/4 SS110 Motor Specifications

6-3/4 G2 SBTB Lower End

Performance Curves Based on Dynamometer Test Data

Operating Data		
Flow Range	gpm (lpm)	200 - 600 (760 - 2,270)
Motor Pressure	psi (bar)	950 (66)
Bit Speed	rpm	61 - 184
Displacement	rev/gal (rev/l)	.306 (.081)
Torque	ft-lbs (Nm)	10,718 (14,532)
Power	HP (Kw)	375 (280)
Physical Dimensions		
Power Section Configuration	Stages	3.8
	Lobes	6/7
Bit to Stabilizer	in (mm)	25 (635)
Bit to Bend	in (mm)	47.9 (1,217)
Overall Motor Length	ft (m)	19.9 (6.1)
Weight	lbs (kg)	1,765 (800)
Connections	Box	4-1/2" Reg, Top and Bottom
Bit Size	in (mm)	8-1/4 to 9-7/8 (200.0 - 250.8)

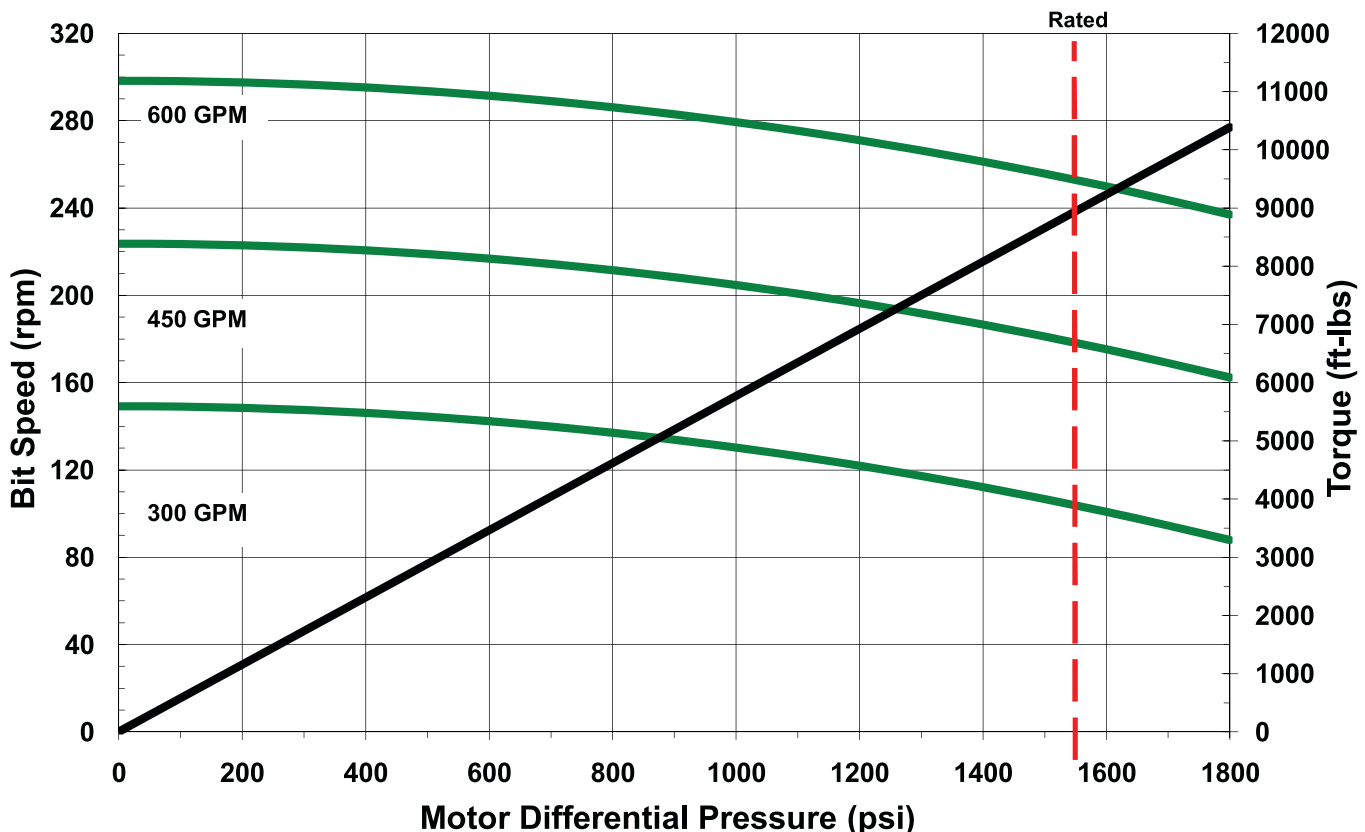


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## 6-3/4 SS150 Motor Specifications

Operating Data			
Flow Range	gpm (lpm)		300 - 600 (1,140 - 2,270)
Motor Pressure	psi (bar)		1,550 (107)
Bit Speed	rpm		100 - 250
Displacement	rev/gal (rev/l)		.497 (.131)
Torque	ft-lbs (Nm)		8,945 (12,130)
Power	HP (Kw)		430 (320)
Physical Dimensions			
Power Section Configuration	Stages		6.2
	Lobes		4/5
Bit to Stabilizer	in (mm)		25.5 (648)
Bit to Bend	Fixed	in (mm)	77.3 (1,963)
	Adj	in (mm)	85.1 (2,160)
Overall Motor Length	Fixed	ft (m)	24.6 (7.5)
	Adj	ft (m)	26.0 (7.9)
Weight	lbs (kg)		2,180 (989)
Connections	Box		4-1/2 Reg, Top and Bottom
Bit Size	in (mm)		8-1/4 to 9-7/8 (200.0 - 250.8)



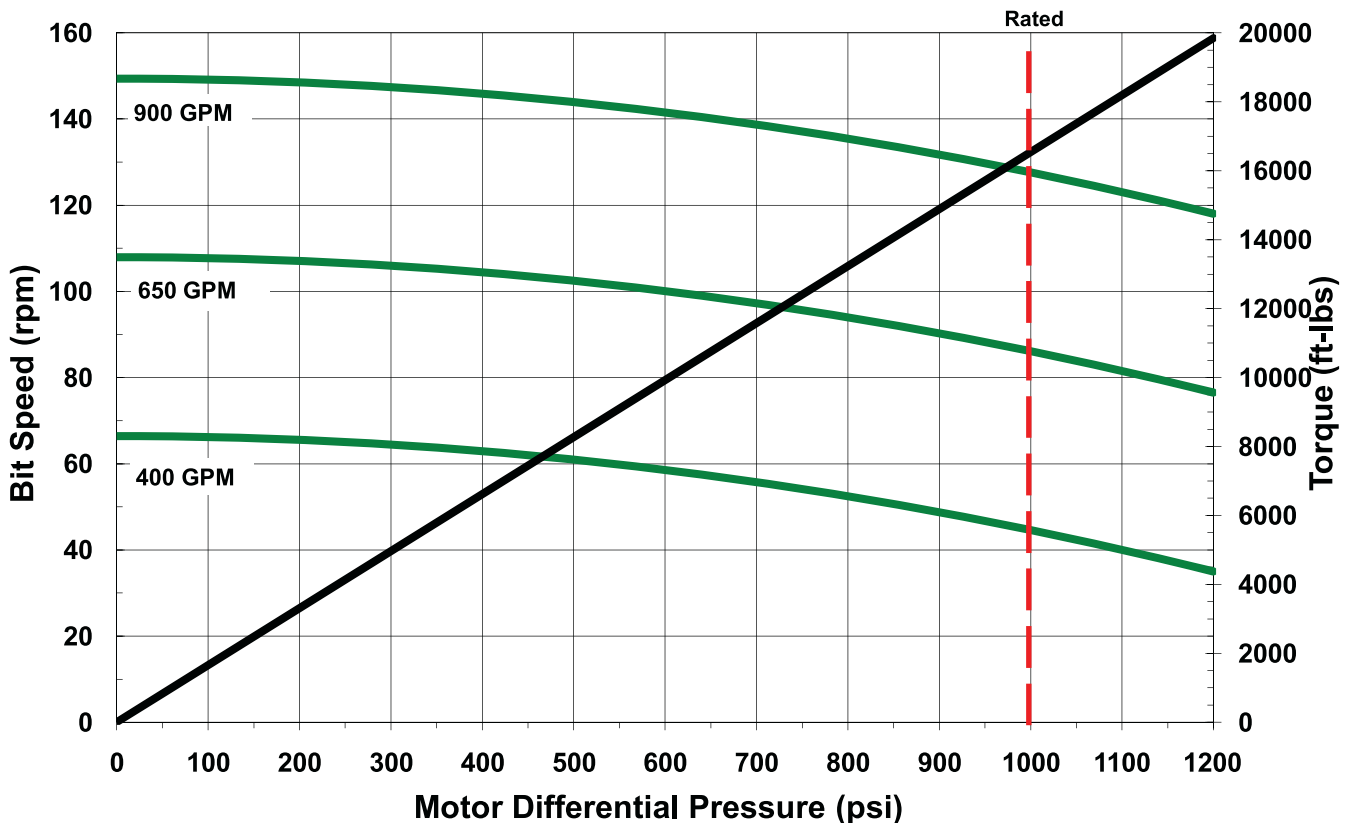
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## 8 SS100 Motor Specifications

(8 SS100 Power Section with 9-5/8 Lower End)

Operating Data			
Flow Range	gpm (lpm)	400 - 900 (1,510 - 3,410)	
Motor Pressure	psi (bar)	1,000 (69)	
Bit Speed	rpm	66 - 149	
Displacement	rev/gal (rev/l)	.166 (.044)	
Torque	ft-lbs (Nm)	16,540 (22,425)	
Power	HP (Kw)	469 (350)	
Physical Dimensions			
Power Section Configuration	Stages	4.0	
	Lobes	7/8	
Bit to Stabilizer	in (mm)	36.4 (925)	
Bit to Bend	Fixed	in (mm)	108.8 (2,764)
	Adj	in (mm)	114.4 (2,906)
Overall Motor Length	Fixed	ft (m)	28.8 (8.8)
	Adj	ft (m)	31.1 (9.5)
Weight	lbs (kg)	4,200 (1,905)	
Connections	Box	6-5/8 Reg Top and 7-5/8 Reg Bottom	
Bit Size	in (mm)	11-1/4 to 26 (285.8 - 660.4)	





## FLEX DRILL MOTOR OVERVIEW

Motor Type		Motor Output			Motor Input		Bit Size (in)	Physical Motor Data		
Dia (IN)	Model	Bit Speed (RPM)	Torque FT-LBS (NM)	Power HP (KW)	Flow Rate GPM (LPM)	Motor DP PSI (BAR)		Power Section		
							Stages	Lobes	Rev/Gal	
1-11/16	P100	190-380	100 (136)	7 (5)	20-40 (76-151)	350 (24)	1-7/8 - 2-3/4	2.3	5/6	9.50
2-7/8	P150	107-427	192 (260)	16 (12)	20-80 (76-303)	500 (34)	3-1/2 - 4-1/2	3.3	5/6	5.33
	P150XL	108-432	530 (720)	44 (33)	20-80 (76-303)	1050 (72)		7.0	5/6	5.40
3-3/4	P100	67-133	1140 (1546)	29 (22)	80-160 (303-606)	350 (24)	4-1/2 - 5-7/8	2.3	7/8	0.83
	P100AD <sup>1</sup>	67-133	1140 (1546)	29 (22)	300-600 (8.5-17) <sup>1</sup>	350 (24)		2.3	7/8	.222/scfm
	P100XL	129-258	1650 (2237)	81 (60)	80-160 (303-606)	1005 (69)		6.7	7/8	1.61
	P150	124-248	960 (1300)	45 (34)	80-160 (303-606)	525 (36)		3.5	4/5	1.55
	P150 SR	230-460	590 (800)	52 (39)	100-200 (379-757)	570 (39)		3.8	5/6	2.30
	P150XL	159-423	1295 (1756)	104 (78)	60-160 (227-606)	1320 (91)		8.8	4/5	2.65
4-3/4	P50XL	35-71	3500 (4750)	53 (40)	150-300 (568-1136)	390 (27)	5-3/4 - 6-3/4	2.6	7/8	0.26
	P50XLAD <sup>1</sup>	35-71	3500 (4750)	53 (40)	560-1125 (15.9-31.9) <sup>1</sup>	390 (27)		2.6	7/8	.070/scfm
	P100	54-136	1640 (2230)	42 (31)	100-250 (380-946)	330 (23)		2.2	7/8	0.54
	P100AD <sup>1</sup>	54-136	1640 (2230)	42 (31)	375-940 (10.6-26.6) <sup>1</sup>	330 (23)		2.2	7/8	.145/scfm
	P100XL	78-130	2960 (4020)	73 (54)	150-250 (570-946)	570 (39)		3.8	7/8	0.52
	P100XLAD <sup>1</sup>	78-130	2960 (4020)	73 (54)	560-940 (15.9-26.6) <sup>1</sup>	570 (39)		3.8	7/8	.139/scfm
	P100XLHR	78-130	4472 (6063)	111 (83)	150-250 (570-946)	860 (59)		3.8	7/8	0.52
	P150	102-255	1450 (1966)	70 (52)	100-250 (380-946)	525 (36)		3.5	4/5	1.02
	P150XL	102-255	2460 (3330)	119 (89)	100-250 (380-946)	900 (62)		6.0	4/5	1.02
	P300XL	163-460	1813 (2458)	169 (126)	150-300 (568-1136)	1185 (82)		7.9	2/3	1.63
6-1/4	P50XL	34-85	6470 (8770)	105 (78)	200-500 (760-1890)	440 (30)	7-7/8 - 8-3/4	2.9	7/8	0.17
	P50XLAD <sup>1</sup>	34-85	6470 (8770)	105 (78)	750-1875 (21.3-53.1) <sup>1</sup>	440 (30)		2.9	7/8	.045/scfm
	P100	50-132	3340 (4530)	85 (63)	150-400 (570-1510)	420 (29)		2.8	7/8	0.33
	P100XL	50-132	5740 (7780)	144 (108)	150-400 (570-1510)	720 (50)		4.8	7/8	0.33
	P100XLAD <sup>1</sup>	50-132	5740 (7780)	144 (108)	560-1500 (15.9-42.5) <sup>1</sup>	720 (50)		4.8	7/8	.088/scfm
	P150XL	100-265	4770 (6470)	240 (180)	150-400 (570-1510)	1125 (78)		7.5	4/5	0.66

XL = Extended Length Motor SR = Short Radius Motor AD = Air Drilling Motor HR = Hard Rubber Compound

Notes: 1. Air Motor units: Flow ranges are in scfm (m<sup>3</sup>/min), displacements are in scfm/rev.

## FLEX DRILL MOTOR OVERVIEW

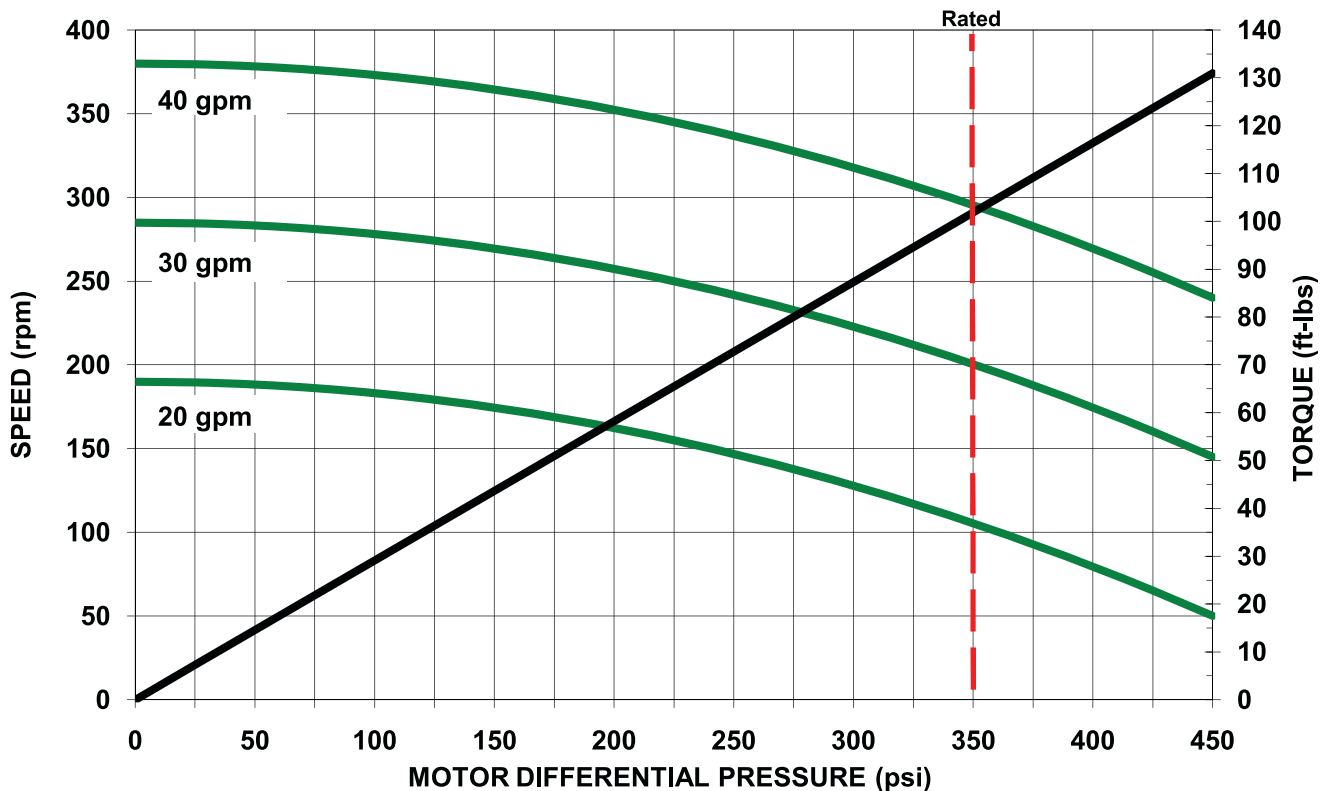
Motor Type		Motor Output			Motor Input		Bit Size (in)	Physical Motor Data		
Dia (IN)	Model	Bit Speed (RPM)	Torque FT-LBS (NM)	Power HP (KW)	Flow Rate GPM (LPM)	Motor DP PSI (BAR)		Power Section		
								Stages	Lobes	Rev/Gal
6-1/2 and 6-3/4	P50XL	33-67	6140 (8325)	78 (58)	250-500 (950-1890)	320 (22)	8-1/4 - 9-7/8	2.1	7/8	0.13
	P50XLAD <sup>1</sup>	33-67	6140 (8325)	78 (58)	940-1875 (26.6-53.1) <sup>1</sup>	320 (22)		2.1	7/8	.035/scfm
	P50XLHR	33-67	9210 (12490)	118 (88)	250-500 (950-1890)	470 (32)		2.1	7/8	0.13
	P75	42-98	5530 (7500)	103 (77)	300-700 (1136-2650)	300 (21)		2.0	7/8	0.14
	P75AD <sup>1</sup>	42-98	5530 (7500)	103 (77)	1125-2625 (31.6-73.8) <sup>1</sup>	300 (21)		2.0	7/8	.038/scfm
	P100	85-170	4185 (5675)	135 (101)	300-600 (1136-2270)	450 (31)		3.0	7/8	0.28
	P100XL	86-173	6980 (9464)	230 (172)	300-600 (1136-2270)	750 (52)		5.0	7/8	0.29
	P100XLAD <sup>1</sup>	86-173	6980 (9464)	230 (172)	1125-2250 (31.6-63.7)	750 (52)		5.0	7/8	.077/scfm
	P110	57-171	5990 (8121)	195 (145)	200-600 (760-2270)	540 (37)		3.6	6/7	0.29
	P150XL	150-300	6060 (8216)	346 (258)	300-600 (1136-2270)	1050 (72)		7.0	4/5	0.50
8	P100	66-149	7465 (10120)	212 (158)	400-900 (1515-3410)	450 (31)	9-1/2 - 12-1/4	3.0	7/8	0.17
	P100AD <sup>1</sup>	66-149	7465 (10120)	212 (158)	1500-3375 (42.5-95.6) <sup>1</sup>	450 (31)		3.0	7/8	.044/scfm
	P100XL	66-149	9953 (13490)	282 (210)	400-900 (1515-3410)	600 (41)		4.0	7/8	0.17
	P150XL	101-228	8930 (12110)	388 (289)	400-900 (1515-3410)	800 (55)		5.3	4/5	0.25
9-5/8	P100XL	97-179	16115 (21850)	550 (410)	700-1300 (2650-4920)	750 (52)	11-1/4 - 26	5.0	5/6	0.14
	P150XL	128-307	11495 (15585)	672 (501)	500-1200 (1890-4540)	1100 (76)		7.2	4/5	0.26
	P180XL	88-199	11715 (15885)	444 (330)	600-1200 (2270-4540)	900 (62)		6.0	3/4	0.22
11-1/4	P150	116-174	13395 (18150)	444 (330)	1000-1500 (3785-5680)	540 (37)	14-3/4 - 26	3.6	3/4	0.12

XL = Extended Length Motor SR = Short Radius Motor AD = Air Drilling Motor HR = Hard Rubber Compound

Notes: 1. Air Motor units: Flow ranges are in scfm (m<sup>3</sup>/min), displacements are in scfm/rev.

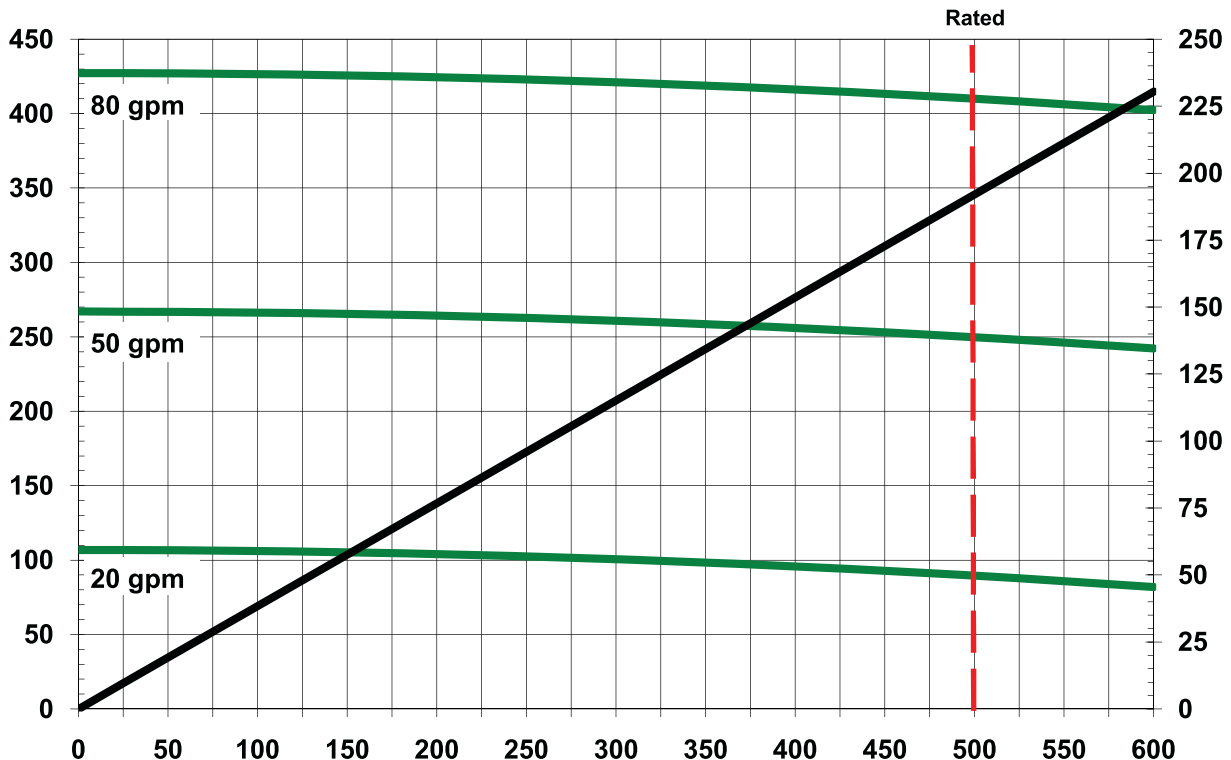
## 1-11/16 P100 Motor Specifications

Operating Data			
Flow Range	gpm (lpm)		20 - 40 (76 - 151)
Motor Pressure	psi (bar)		350 (24)
Bit Speed	rpm		190 - 380
Displacement	rev/gal (rev/l)		9.50 (2.51)
Torque	ft-lbs (Nm)		100 (136)
Power	HP (Kw)		7 (5)
Physical Dimensions			
Power Section Configuration	Stages		2.3
	Lobes		5/6
Bit to Stabilizer	in (mm)		N/A
Bit to Bend	Fixed	in (mm)	N/A
	Adj	in (mm)	N/A
Overall Motor Length	Fixed	ft (m)	7.8 (2.4)
	Adj	ft (m)	N/A
Weight	lbs (kg)		40 (18)
Connections	Box		1" Reg Top and Bottom
Bit Size	in (mm)		1-7/8 to 2-3/4 (47.6 - 69.9)



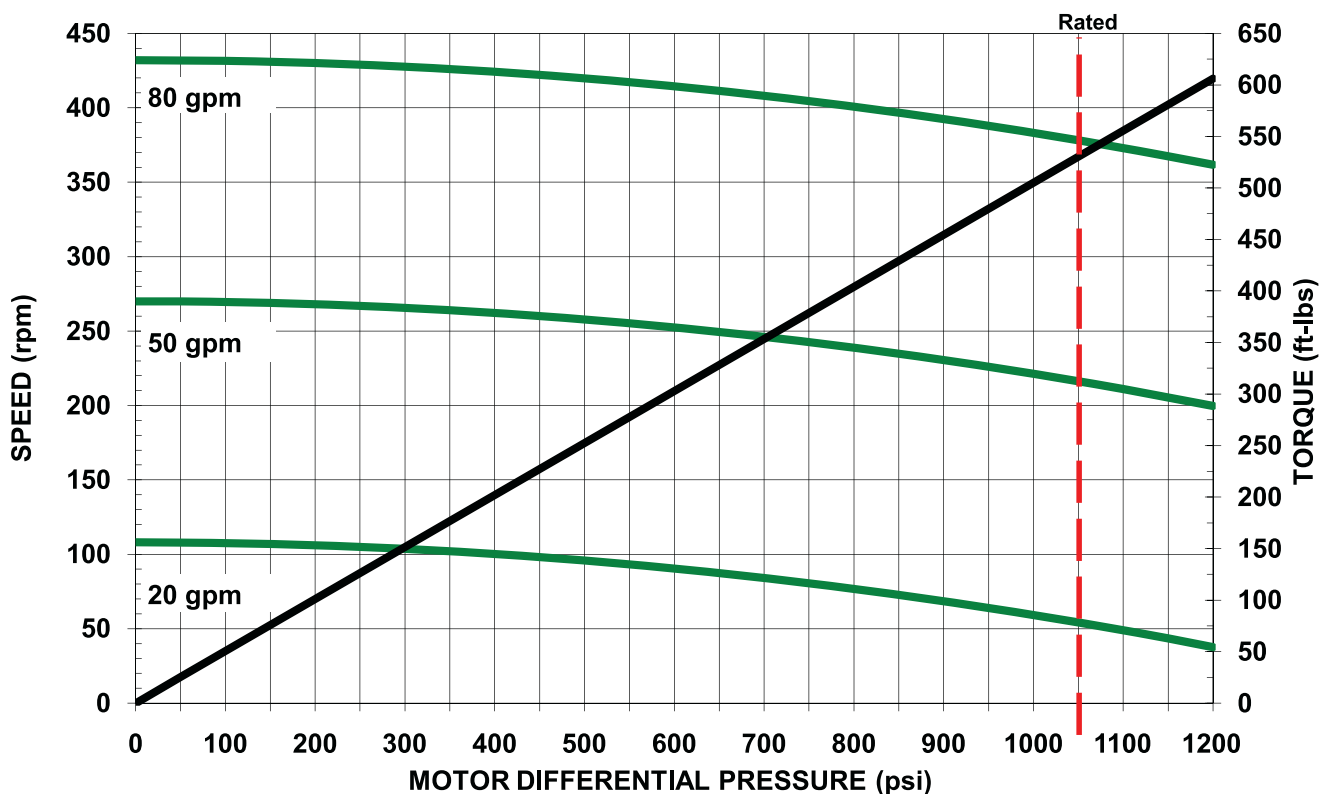
## 2-7/8 P150 Motor Specifications

Operating Data			
Flow Range	gpm (lpm)	20 - 80 (76 - 303)	
Motor Pressure	psi (bar)	500 (34)	
Bit Speed	rpm	107 - 427	
Displacement	rev/gal (rev/l)	5.333 (1.409)	
Torque	ft-lbs (Nm)	192 (260)	
Power	HP (Kw)	16 (12)	
Physical Dimensions			
Power Section Configuration	Stages	3.3	
	Lobes	5/6	
Bit to Stabilizer	in (mm)	N/A	
Bit to Bend	Fixed	in (mm)	29.7 (753)
	Adj	in (mm)	35.8 (909)
Overall Motor Length	Fixed	ft (m)	9.01 (2.75)
	Adj	ft (m)	9.90 (3.02)
Weight	lbs (kg)	130 (60)	
Connections	Box	2-3/8" Reg Top and Bottom	
Bit Size	in (mm)	3-1/2 to 4-1/2 (88.9 - 114.3)	



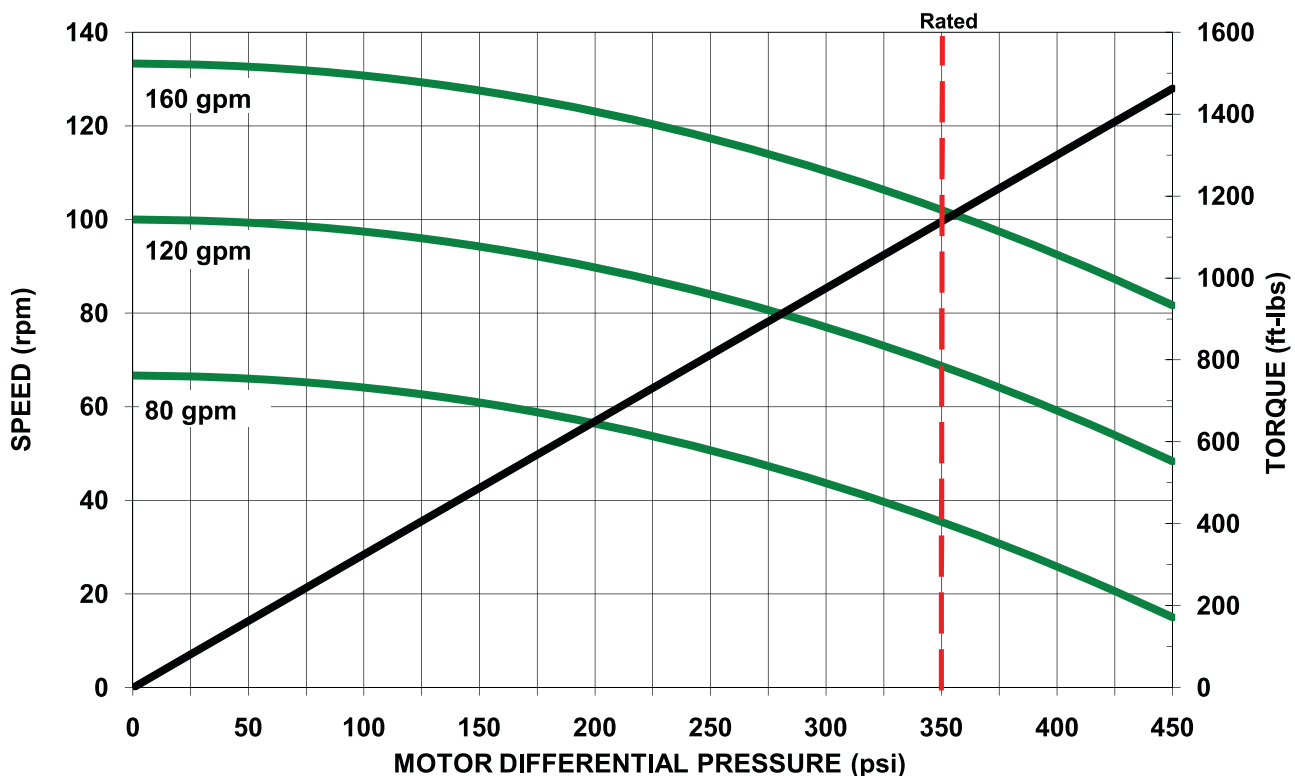
## 2-7/8 P150 XL Motor Specifications

Operating Data			
Flow Range	gpm (lpm)		20 - 80 (76 - 303)
Motor Pressure	psi (bar)		1,050 (72)
Bit Speed	rpm		108 - 432
Displacement	rev/gal (rev/l)		5.400 (1.426)
Torque	ft-lbs (Nm)		530 (720)
Power	HP (Kw)		44 (33)
Physical Dimensions			
Power Section Configuration	Stages		7
	Lobes		5/6
Bit to Stabilizer	in (mm)		N/A
Bit to Bend	Fixed	in (mm)	29.7 (753)
	Adj	in (mm)	35.8 (909)
Overall Motor Length	Fixed	ft (m)	13.6 (4.1)
	Adj	ft (m)	14.5 (4.4)
Weight	lbs (kg)		205 (93)
Connections	Box		2-3/8" Reg Top and Bottom
Bit Size	in (mm)		3-1/2 to 4-1/2 (88.9 - 114.3)



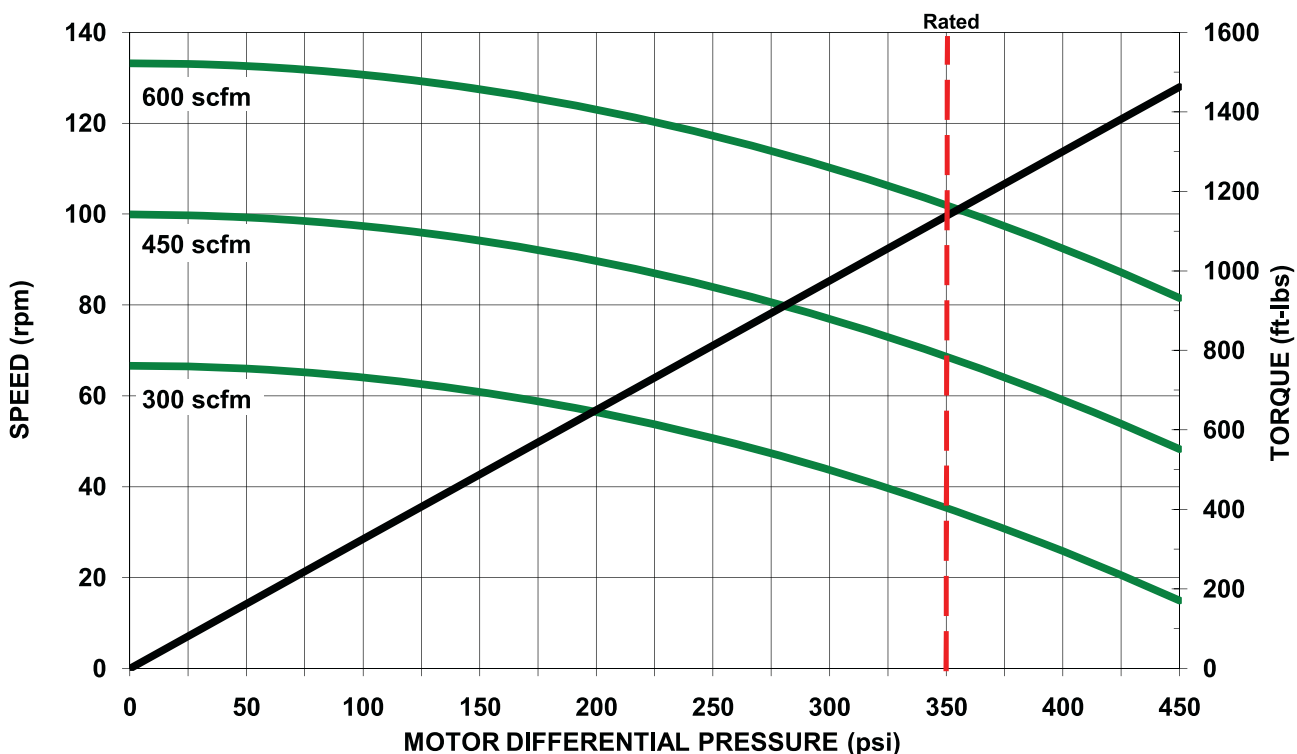
## 3-3/4 P100 Motor Specifications

Operating Data			
Flow Range	gpm (lpm)		80 - 160 (303 - 606)
Motor Pressure	psi (bar)		350 (24)
Bit Speed	rpm		67 - 133
Displacement	rev/gal (rev/l)		.833 (.215)
Torque	ft-lbs (Nm)		1,140 (1,546)
Power	HP (Kw)		29 (22)
Physical Dimensions			
Power Section Configuration	Stages		2.3
	Lobes		7/8
Bit to Stabilizer	in (mm)		15.6 (396)
Bit to Bend	Fixed	in (mm)	36.5 (927)
	Adj	in (mm)	49.5 (1,257)
Overall Motor Length	Fixed	ft (m)	16.3 (5.0)
	Adj	ft (m)	17.3 (5.3)
Weight	lbs (kg)		380 (170)
Connections	Box		2-3/8" Reg Top and 2-7/8" Reg Bottom
Bit Size	in (mm)		4-1/2 to 5-7/8 (114.3 - 149.9)



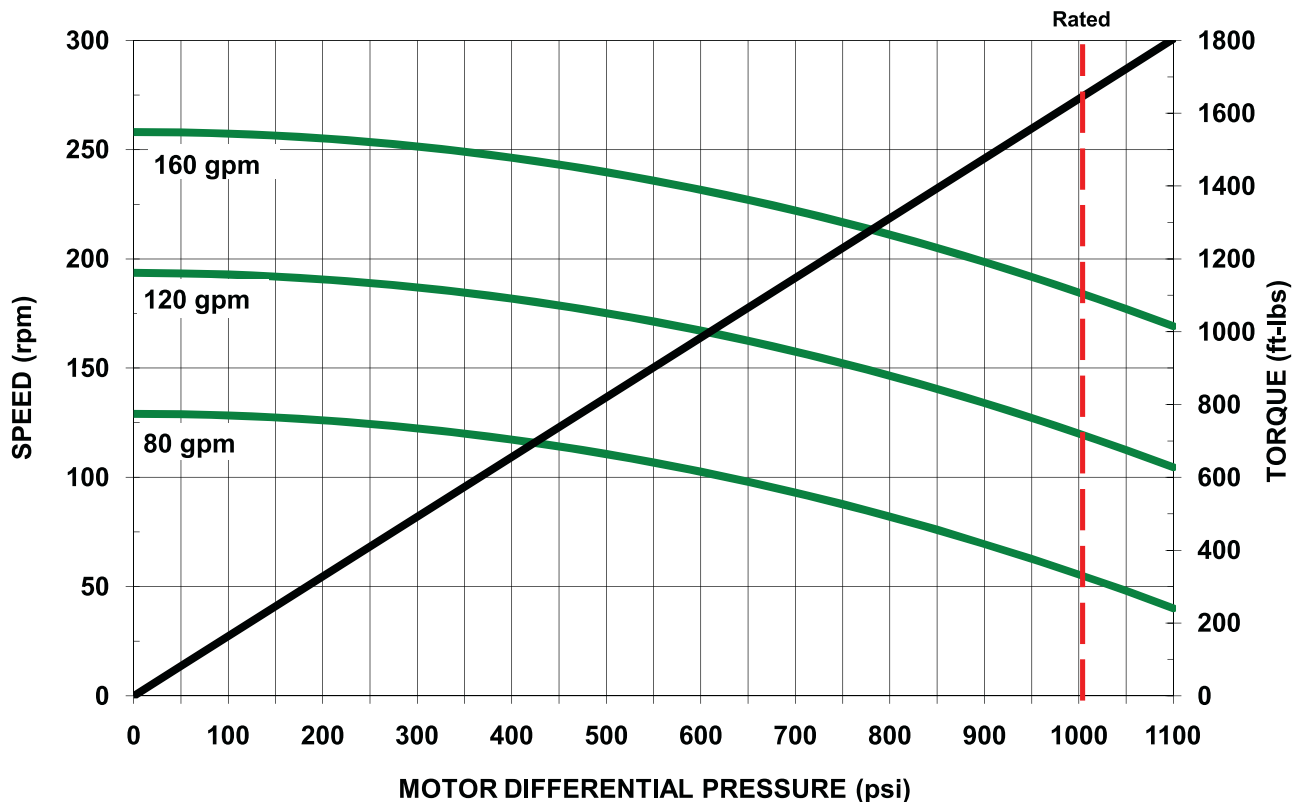
## 3-3/4 P100 AD Motor Specifications

Operating Data			
Flow Range	scfm (m <sup>3</sup> /min)		300 - 600 (8.5 - 17.0)
Motor Pressure	psi (bar)		350 (24)
Bit Speed	rpm		67 - 133
Displacement	rev/scfm (rev/[m <sup>3</sup> /min])		.222 (7.87)
Torque	ft-lbs (Nm)		1,140 (1,546)
Power	HP (Kw)		29 (22)
Physical Dimensions			
Power Section Configuration		Stages	2.3
		Lobes	7/8
Bit to Stabilizer		in (mm)	15.6 (396)
Bit to Bend	Fixed	in (mm)	36.5 (927)
	Adj	in (mm)	49.5 (1,257)
Overall Motor Length	Fixed	ft (m)	16.3 (5.0)
	Adj	ft (m)	17.3 (5.3)
Weight		lbs (kg)	380 (170)
Connections		Box	2-3/8" Reg Top and 2-7/8" Reg Bottom
Bit Size		in (mm)	4-1/2 to 5-7/8 (114.3 - 149.9)



## 3-3/4 P100 XL Motor Specifications

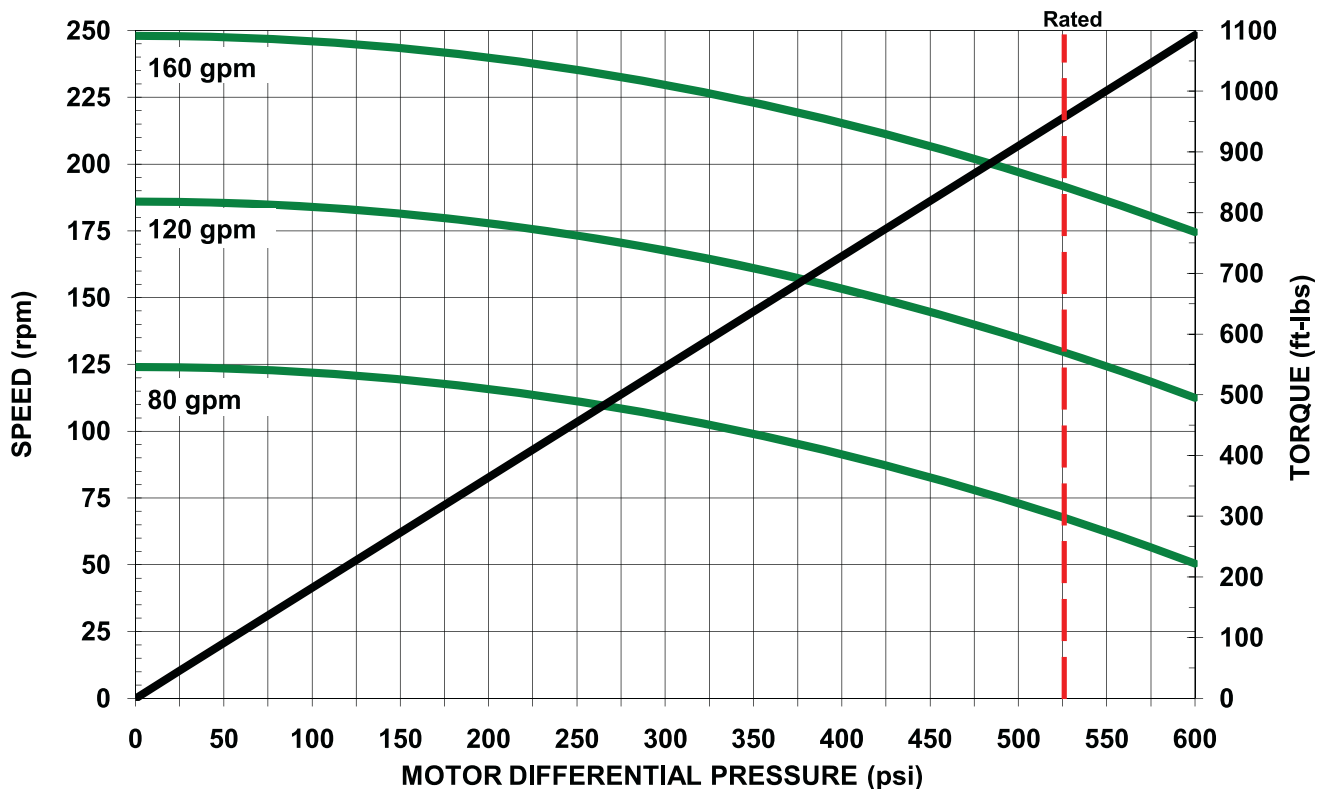
Operating Data			
Flow Range	gpm (lpm)	80 - 160 (303 - 606)	
Motor Pressure	psi (bar)	1,005 (69)	
Bit Speed	rpm	129 - 258	
Displacement	rev/gal (rev/l)	1.613 (.426)	
Torque	ft-lbs (Nm)	1,650 (2,237)	
Power	HP (Kw)	81 (60)	
Physical Dimensions			
Power Section Configuration	Stages	6.7	
	Lobes	7/8	
Bit to Stabilizer	in (mm)	15.6 (396)	
Bit to Bend	Fixed	in (mm)	36.5 (927)
	Adj	in (mm)	49.5 (1,257)
Overall Motor Length	Fixed	ft (m)	20.1 (6.1)
	Adj	ft (m)	21.1 (6.4)
Weight	lbs (kg)	465 (210)	
Connections	Box	2-3/8" Reg Top and 2-7/8" Reg Bottom	
Bit Size	in (mm)	4-1/2 to 5-7/8 (114.3 - 149.9)	





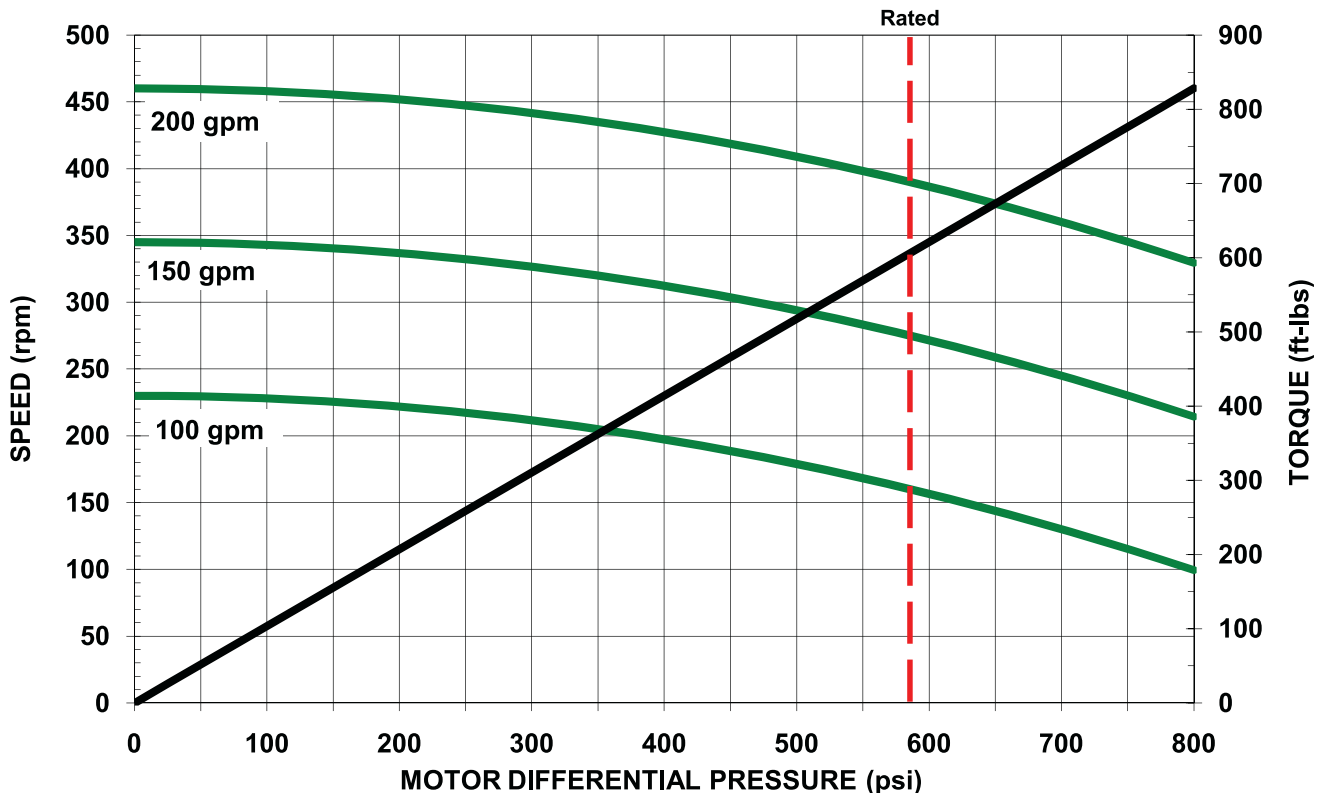
## 3-3/4 P150 Motor Specifications

Operating Data			
Flow Range	gpm (lpm)	80 - 160 (300 - 606)	
Motor Pressure	psi (bar)	525 (36)	
Bit Speed	rpm	124 - 248	
Displacement	rev/gal (rev/l)	1.550 (.409)	
Torque	ft-lbs (Nm)	960 (1,300)	
Power	HP (Kw)	45 (34)	
Physical Dimensions			
Power Section Configuration	Stages	3.5	
	Lobes	4/5	
Bit to Stabilizer	in (mm)	19.2 (488)	
Bit to Bend	Fixed	in (mm)	36.5 (927)
	Adj	in (mm)	48.7 (1,237)
Overall Motor Length	Fixed	ft (m)	16.3 (5.0)
	Adj	ft (m)	17.3 (5.3)
Weight	lbs (kg)	370 (170)	
Connections	Box	2-3/8" Reg Top, 2-7/8" Reg Bottom	
Bit Size	in (mm)	4-1/2 to 5-7/8 (114.3 - 149.2)	



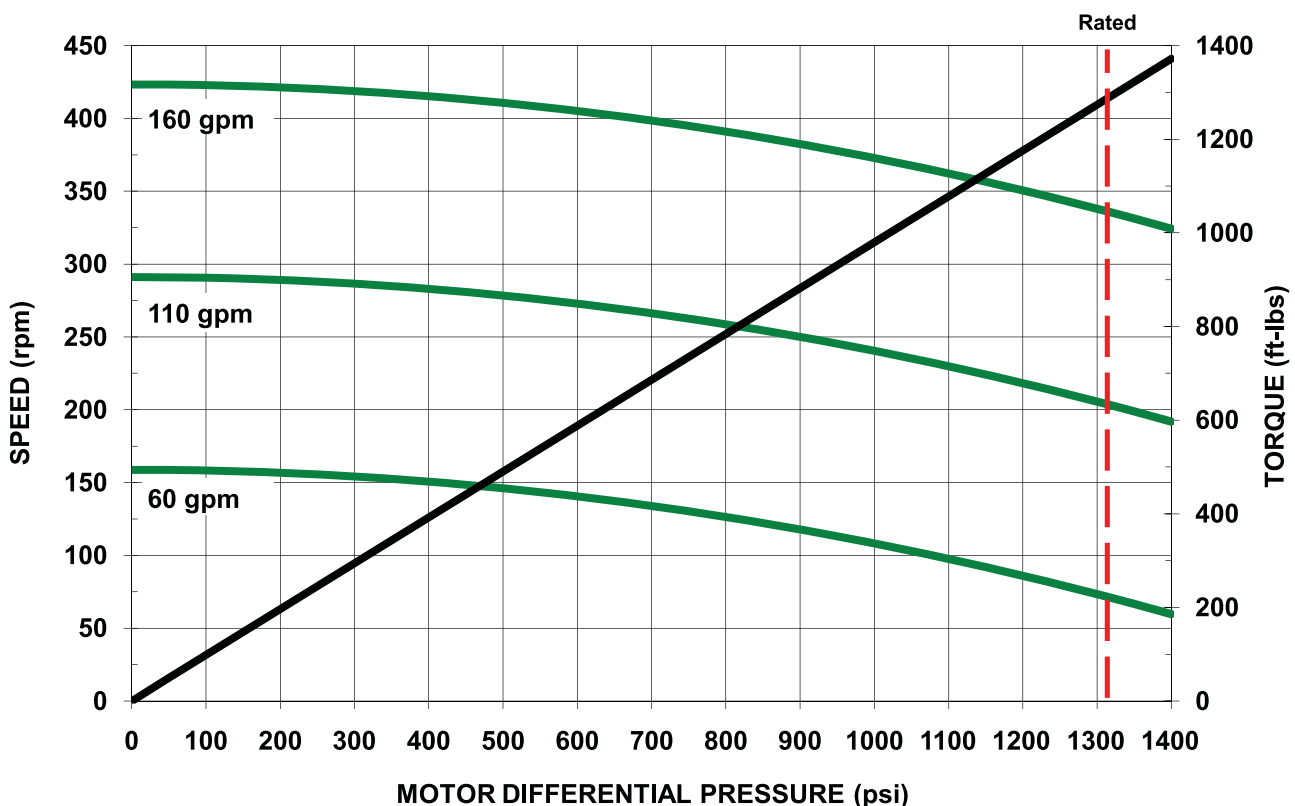
## 3-3/4 P150 SR Motor Specifications

Operating Data			
Flow Range	gpm (lpm)	100 - 200 (379 - 757)	
Motor Pressure	psi (bar)	570 (39)	
Bit Speed	rpm	230 - 460	
Displacement	rev/gal (rev/l)	2.300 (.607)	
Torque	ft-lbs (Nm)	590 (800)	
Power	HP (Kw)	52 (39)	
Physical Dimensions			
Power Section Configuration	Stages	3.8	
	Lobes	5/6	
Bit to Stabilizer	in (mm)	15.6 (396)	
Bit to Bend	Fixed	in (mm)	36.5 (927)
	Adj	in (mm)	49.5 (1,257)
Overall Motor Length	Fixed	ft (m)	12.1 (3.7)
	Adj	ft (m)	13.1 (4.0)
Weight	lbs (kg)	235 (107)	
Connections	Box	2-3/8" Reg Top, 2-7/8" Reg Bottom	
Bit Size	in (mm)	4-1/2 to 5-1/2 (114.3 - 139.7)	



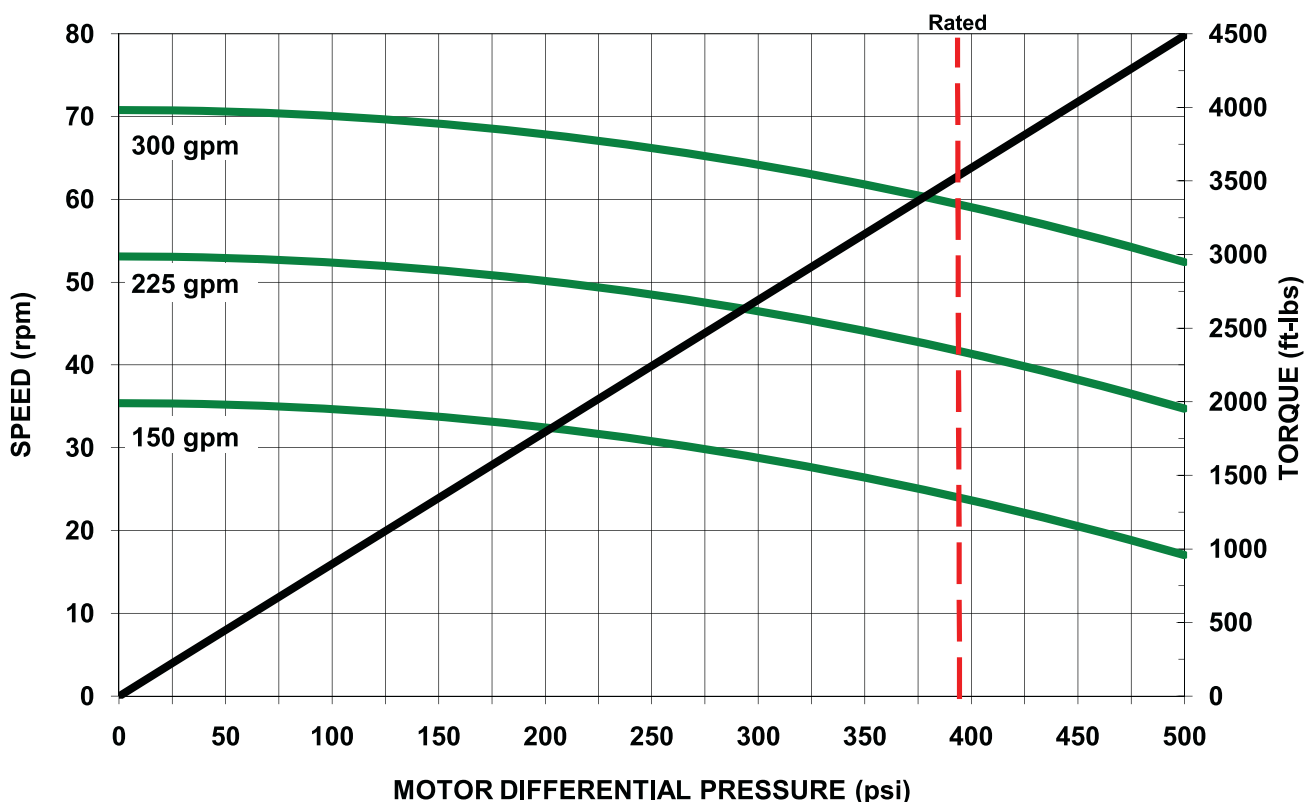
## 3-3/4 P150 XL Motor Specifications

Operating Data			
Flow Range	gpm (lpm)	60 - 160 (227 - 606)	
Motor Pressure	psi (bar)	1,320 (91)	
Bit Speed	rpm	159 - 423	
Displacement	rev/gal (rev/l)	2.646 (.699)	
Torque	ft-lbs (Nm)	1,295 (1,756)	
Power	HP (Kw)	104 (78)	
Physical Dimensions			
Power Section Configuration	Stages	8.8	
	Lobes	4/5	
Bit to Stabilizer	in (mm)	15.6 (396)	
Bit to Bend	Fixed	in (mm)	36.5 (927)
	Adj	in (mm)	49.5 (1,257)
Overall Motor Length	Fixed	ft (m)	20.8 (6.3)
	Adj	ft (m)	21.8 (6.6)
Weight	lbs (kg)	465 (210)	
Connections	Box	2-3/8" Reg Top and 2-7/8" Reg Bottom	
Bit Size	in (mm)	4-1/2 to 5-7/8 (114.3 - 149.9)	



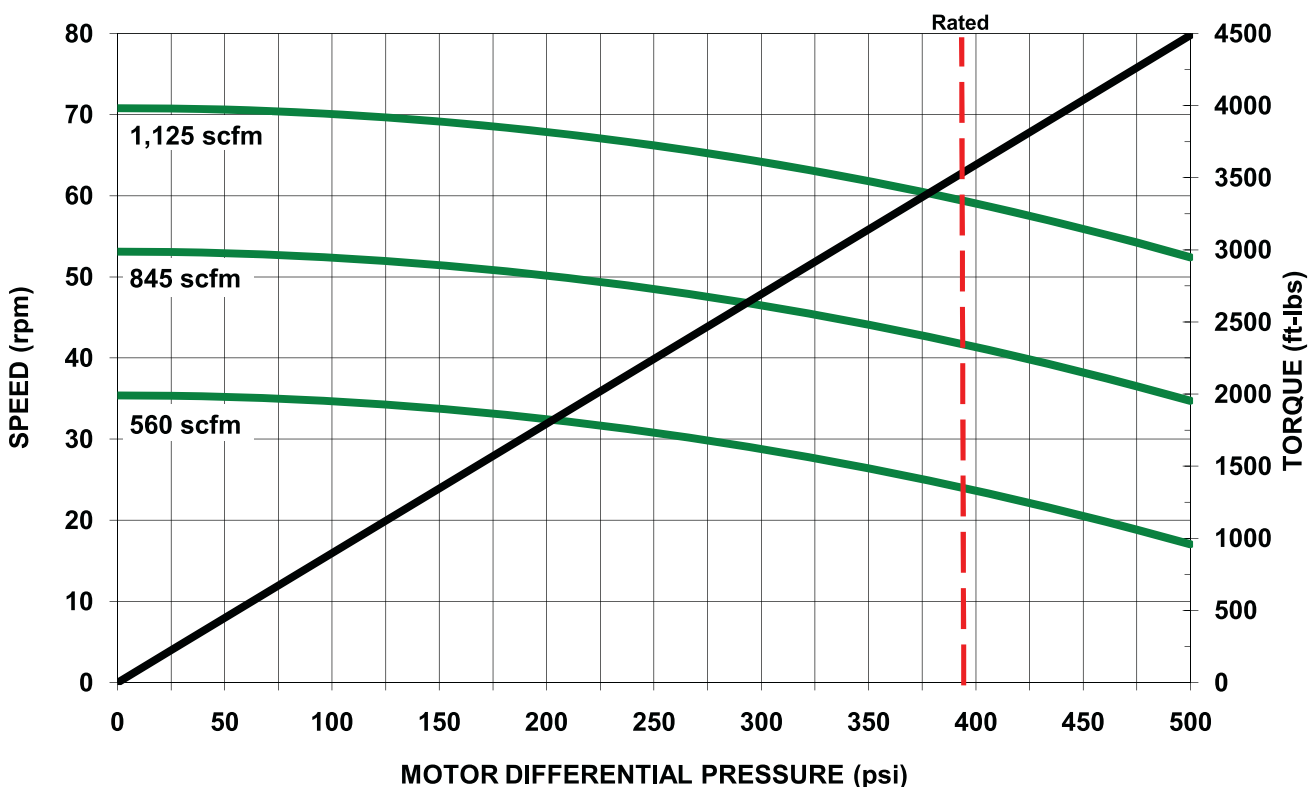
## 4-3/4 P50 XL Motor Specifications

Operating Data			
Flow Range	gpm (lpm)		150 - 300 ( 568 - 1,136)
Motor Pressure	psi (bar)		390 (27)
Bit Speed	rpm		35 - 71
Displacement	rev/gal (rev/l)		.263 (.070)
Torque	ft-lbs (Nm)		3,500 (4,750)
Power	HP (Kw)		53 (40)
Physical Dimensions			
Power Section Configuration	Stages		2.6
	Lobes		7/8
Bit to Stabilizer	in (mm)		25.69 (653)
Bit to Bend	Fixed	in (mm)	54.41 (1,382)
	Adj	in (mm)	66.70 (1,694)
Overall Motor Length	Fixed	ft (m)	26.6 (8.1)
	Adj	ft (m)	27.9 (8.5)
Weight	lbs (kg)		865 (390)
Connections	Box		3-1/2" IF Top and 3-1/2" Reg Bottom
Bit Size	in (mm)		5-3/4 to 6-3/4 (146.1 - 171.5)



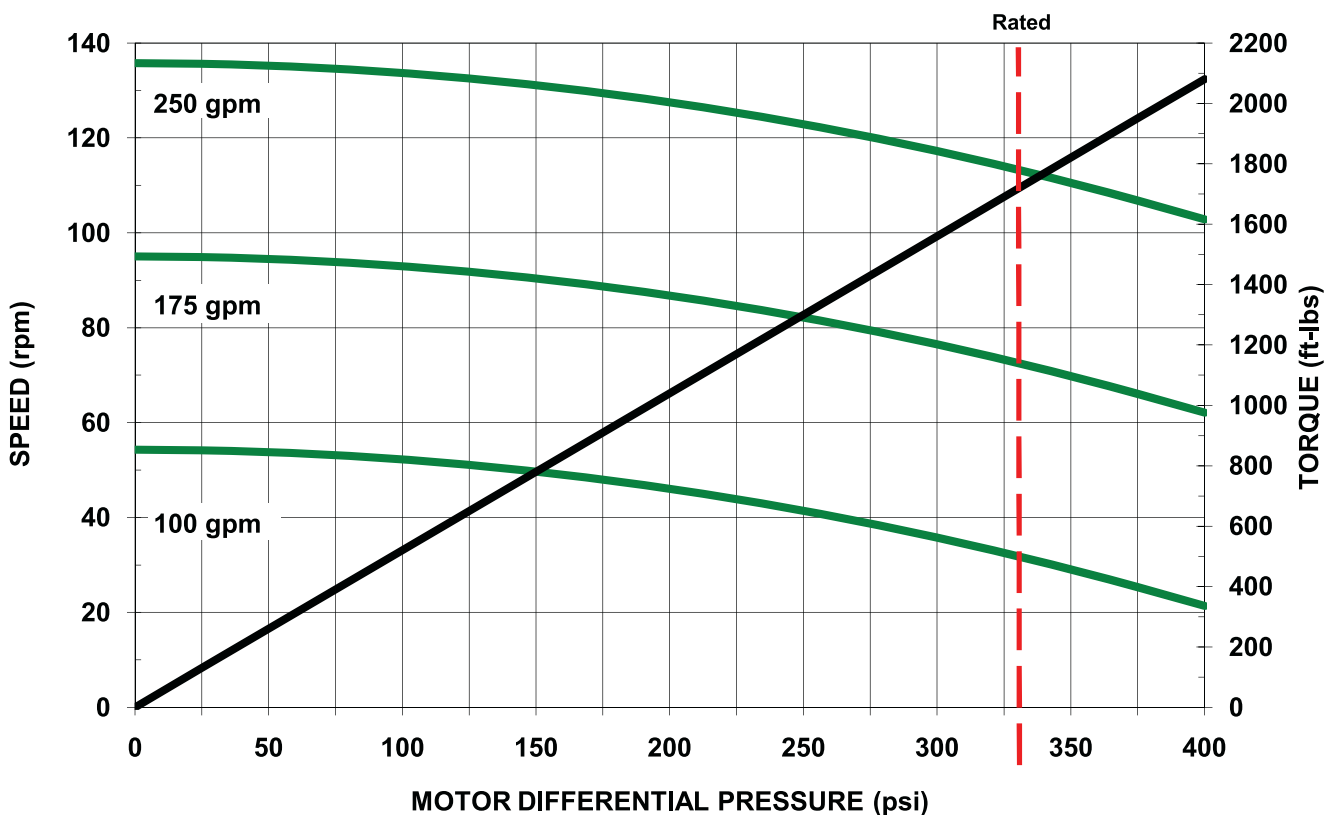
## 4-3/4 P50 XLAD Motor Specifications

Operating Data			
Flow Range	scfm (m <sup>3</sup> /min)	560 - 1,125 (15.9 - 31.9)	
Motor Pressure	psi (bar)	390 (27)	
Bit Speed	rpm	35 - 71	
Displacement	rev/scfm (rev/m <sup>3</sup> /min)	.070 (2.213)	
Torque	ft-lbs (Nm)	3,500 (4,750)	
Power	HP (Kw)	53 (40)	
Physical Dimensions			
Power Section Configuration	Stages	2.6	
	Lobes	7/8	
Bit to Stabilizer	in (mm)	25.69 (653)	
Bit to Bend	Fixed	in (mm)	54.41 (1,382)
	Adj	in (mm)	66.70 (1,694)
Overall Motor Length	Fixed	ft (m)	26.6 (8.1)
	Adj	ft (m)	27.9 (8.5)
Weight	lbs (kg)	865 (390)	
Connections	Box	3-1/2" IF Top and 3-1/2" Reg Bottom	
Bit Size	in (mm)	5-3/4 to 6-3/4 (146.1 - 171.5)	



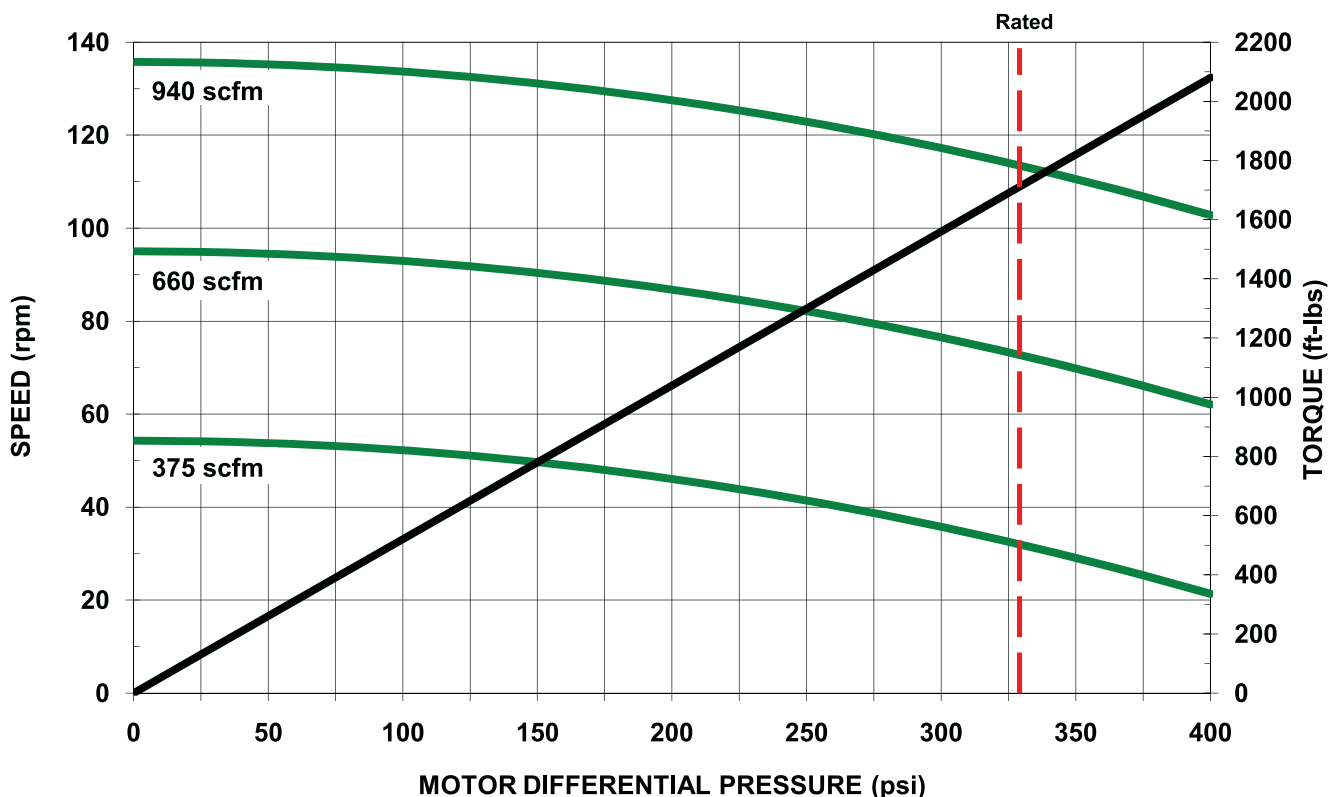
## 4-3/4 P100 Motor Specifications

Operating Data			
Flow Range	gpm (lpm)	100 - 250 ( 380 - 946)	
Motor Pressure	psi (bar)	330 (23)	
Bit Speed	rpm	54 - 136	
Displacement	rev/gal (rev/l)	.543 (.143)	
Torque	ft-lbs (Nm)	1,640 (2,230)	
Power	HP (Kw)	42 (31)	
Physical Dimensions			
Power Section Configuration	Stages	2.2	
	Lobes	7/8	
Bit to Stabilizer	in (mm)	25.69 (653)	
Bit to Bend	Fixed	in (mm)	54.41 (1,382)
	Adj	in (mm)	66.70 (1,694)
Overall Motor Length	Fixed	ft (m)	17.1 (5.2)
	Adj	ft (m)	18.5 (5.6)
Weight	lbs (kg)	650 (295)	
Connections	Box	3-1/2" IF Top and 3-1/2" Reg Bottom	
Bit Size	in (mm)	5-3/4 to 6-3/4 (146.1 - 171.5)	



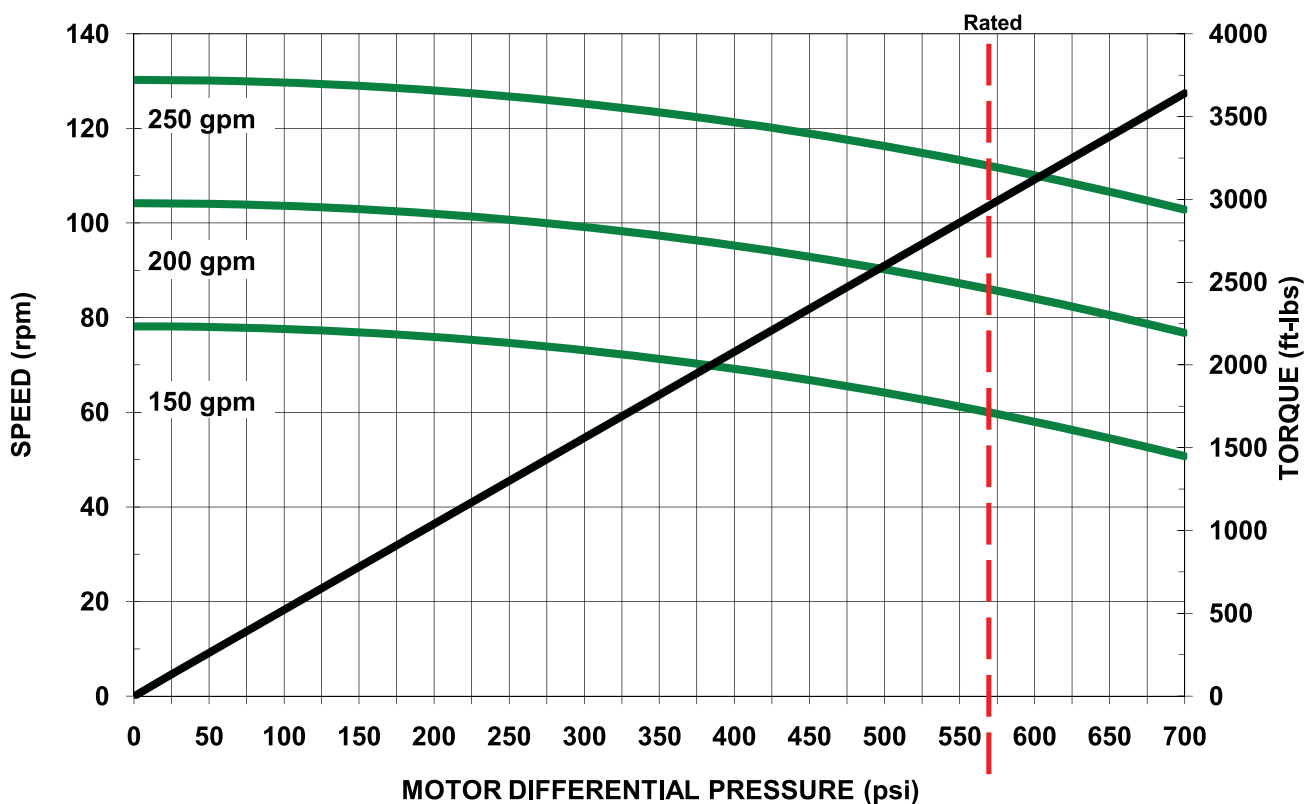
## 4-3/4 P100 AD Motor Specifications

Operating Data			
Flow Range		scfm (m <sup>3</sup> /min)	375 - 940 (10.6 - 26.6)
Motor Pressure		psi (bar)	330 (23)
Bit Speed		rpm	54 - 136
Displacement		rev/scfm (rev/m <sup>3</sup> /min)	.145 (5.104)
Torque		ft-lbs (Nm)	1,640 (2,230)
Power		HP (Kw)	42 (31)
Physical Dimensions			
Power Section Configuration		Stages	2.2
		Lobes	7/8
Bit to Stabilizer		in (mm)	25.69 (653)
Bit to Bend	Fixed	in (mm)	54.41 (1,382)
	Adj	in (mm)	66.70 (1,694)
Overall Motor Length	Fixed	ft (m)	17.1 (5.2)
	Adj	ft (m)	18.5 (5.6)
Weight		lbs (kg)	650 (295)
Connections		Box	3-1/2" IF Top and 3-1/2" Reg Bottom
Bit Size		in (mm)	5-3/4 to 6-3/4 (146.1 - 171.5)



## 4-3/4 P100 XL Motor Specifications

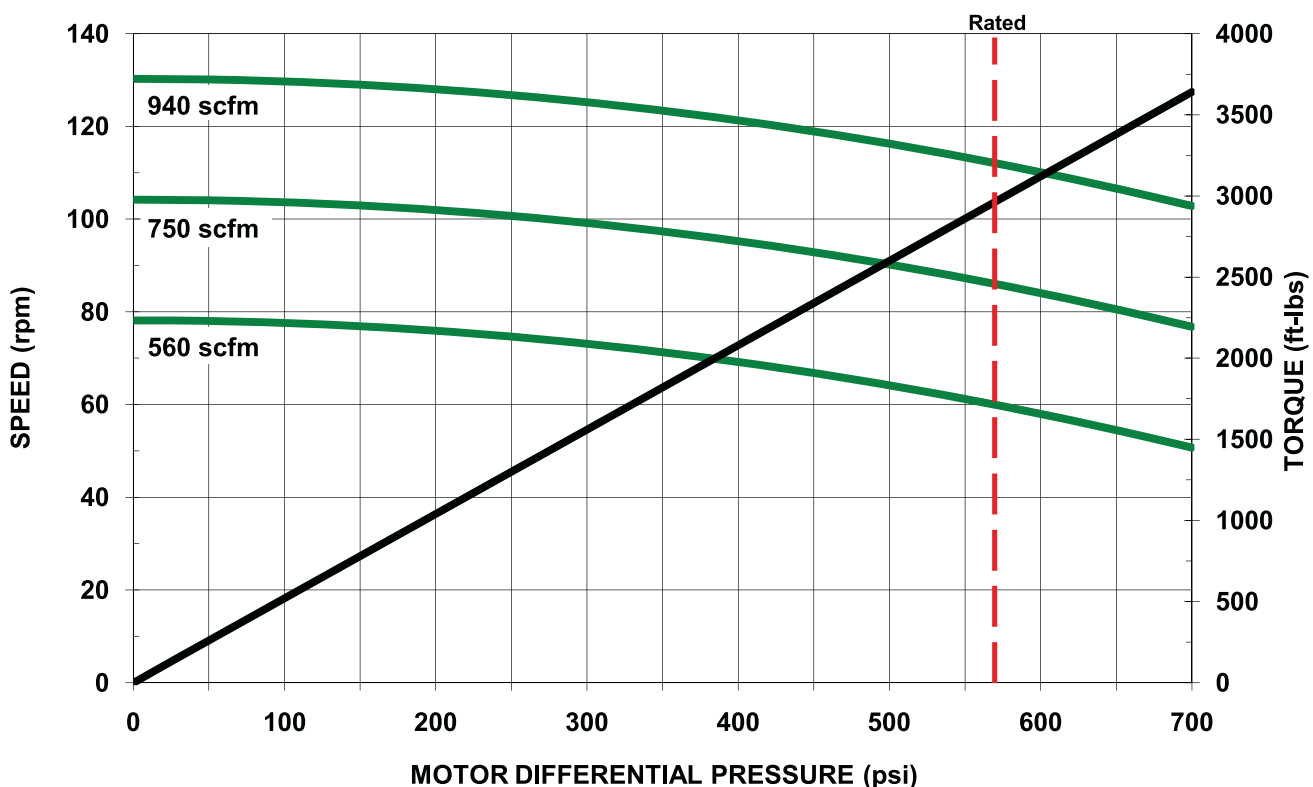
Operating Data			
Flow Range	gpm (lpm)	150 - 250 ( 570 - 946)	
Motor Pressure	psi (bar)	570 (39)	
Bit Speed	rpm	78 - 130	
Displacement	rev/gal (rev/l)	.521 (.138)	
Torque	ft-lbs (Nm)	2,960 (4,020)	
Power	HP (Kw)	73 (54)	
Physical Dimensions			
Power Section Configuration	Stages	3.8	
	Lobes	7/8	
Bit to Stabilizer	in (mm)	25.69 (653)	
Bit to Bend	Fixed	in (mm)	54.41 (1,382)
	Adj	in (mm)	66.70 (1,694)
Overall Motor Length	Fixed	ft (m)	23.0 (7.0)
	Adj	ft (m)	24.4 (7.4)
Weight	lbs (kg)	865 (390)	
Connections	Box	3-1/2" IF Top and 3-1/2" Reg Bottom	
Bit Size	in (mm)	5-3/4 to 6-3/4 (146.1 - 171.5)	





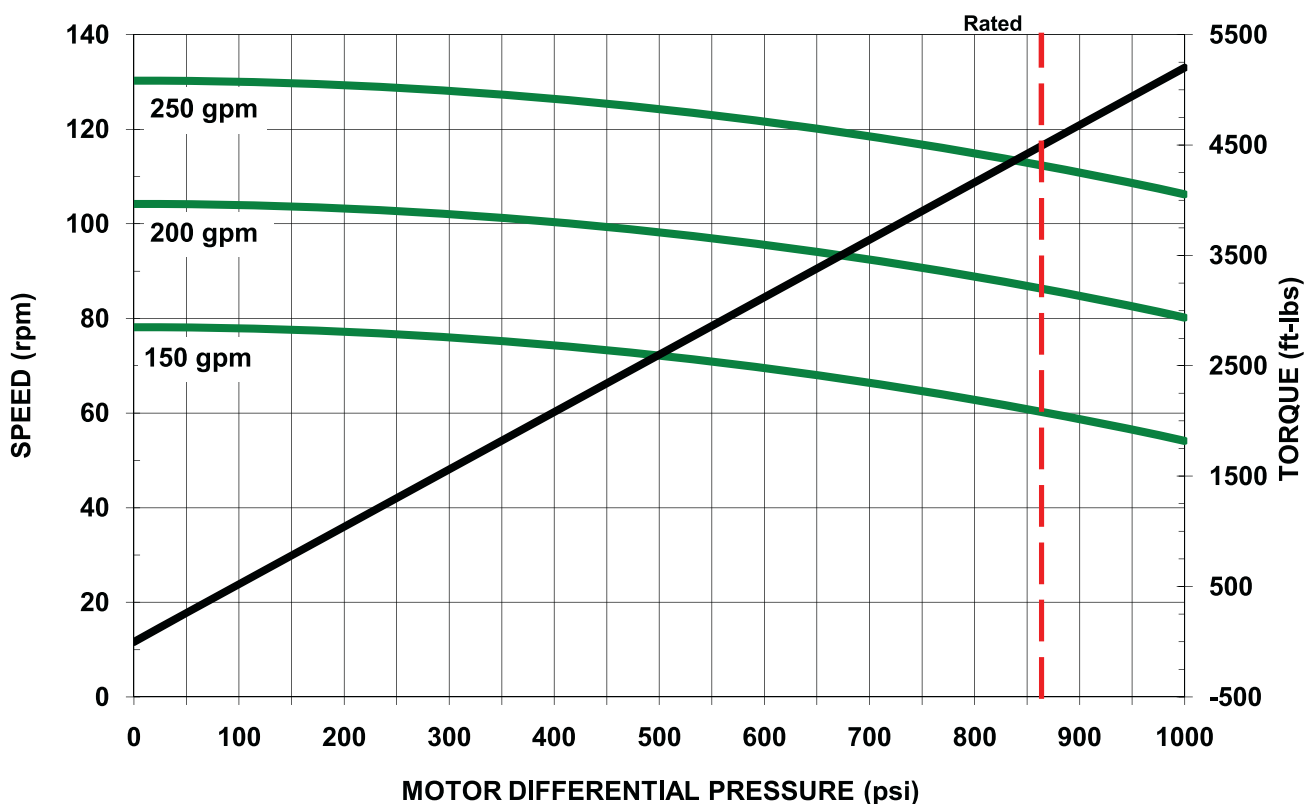
## 4-3/4 P100 XLAD Motor Specifications

Operating Data			
Flow Range	scfm (m <sup>3</sup> /min)		560 - 940 (15.9 - 26.6)
Motor Pressure	psi (bar)		570 (39)
Bit Speed	rpm		78 - 130
Displacement	rev/scfm (rev/m <sup>3</sup> /min)		.139 (4.896)
Torque	ft-lbs (Nm)		2,960 (4,020)
Power	HP (Kw)		73 (54)
Physical Dimensions			
Power Section Configuration	Stages		3.8
	Lobes		7/8
Bit to Stabilizer	in (mm)		25.69 (653)
Bit to Bend	Fixed	in (mm)	54.41 (1,382)
	Adj	in (mm)	66.70 (1,694)
Overall Motor Length	Fixed	ft (m)	23.0 (7.0)
	Adj	ft (m)	24.4 (7.4)
Weight	lbs (kg)		865 (390)
Connections	Box		3-1/2" IF Top and 3-1/2" Reg Bottom
Bit Size	in (mm)		5-3/4 to 6-3/4 (146.1 - 171.5)



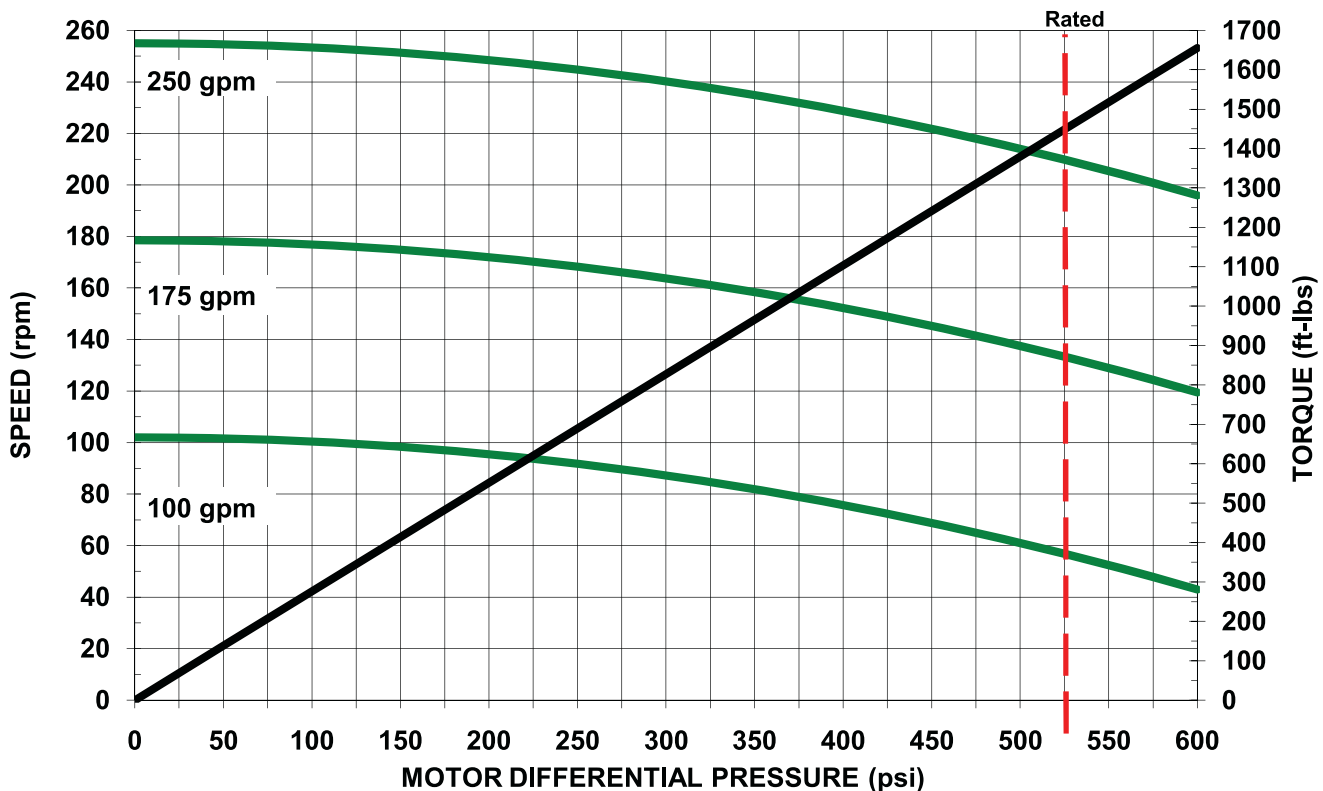
## 4-3/4 P100 XL-HR Motor Specifications

Operating Data			
Flow Range	gpm (lpm)	150 - 250 ( 570 - 946)	
Motor Pressure	psi (bar)	860 (59)	
Bit Speed	rpm	78 - 130	
Displacement	rev/gal (rev/l)	.521 (.138)	
Torque	ft-lbs (Nm)	4,472 (6,063)	
Power	HP (Kw)	111 (83)	
Physical Dimensions			
Power Section Configuration	Stages	3.8	
	Lobes	7/8	
Bit to Stabilizer	in (mm)	25.69 (653)	
Bit to Bend	Fixed	in (mm)	54.41 (1,382)
	Adj	in (mm)	66.70 (1,694)
Overall Motor Length	Fixed	ft (m)	23.0 (7.0)
	Adj	ft (m)	24.4 (7.4)
Weight	lbs (kg)	865 (390)	
Connections	Box	3-1/2" IF Top and 3-1/2" Reg Bottom	
Bit Size	in (mm)	5-3/4 to 6-3/4 (146.1 - 171.5)	



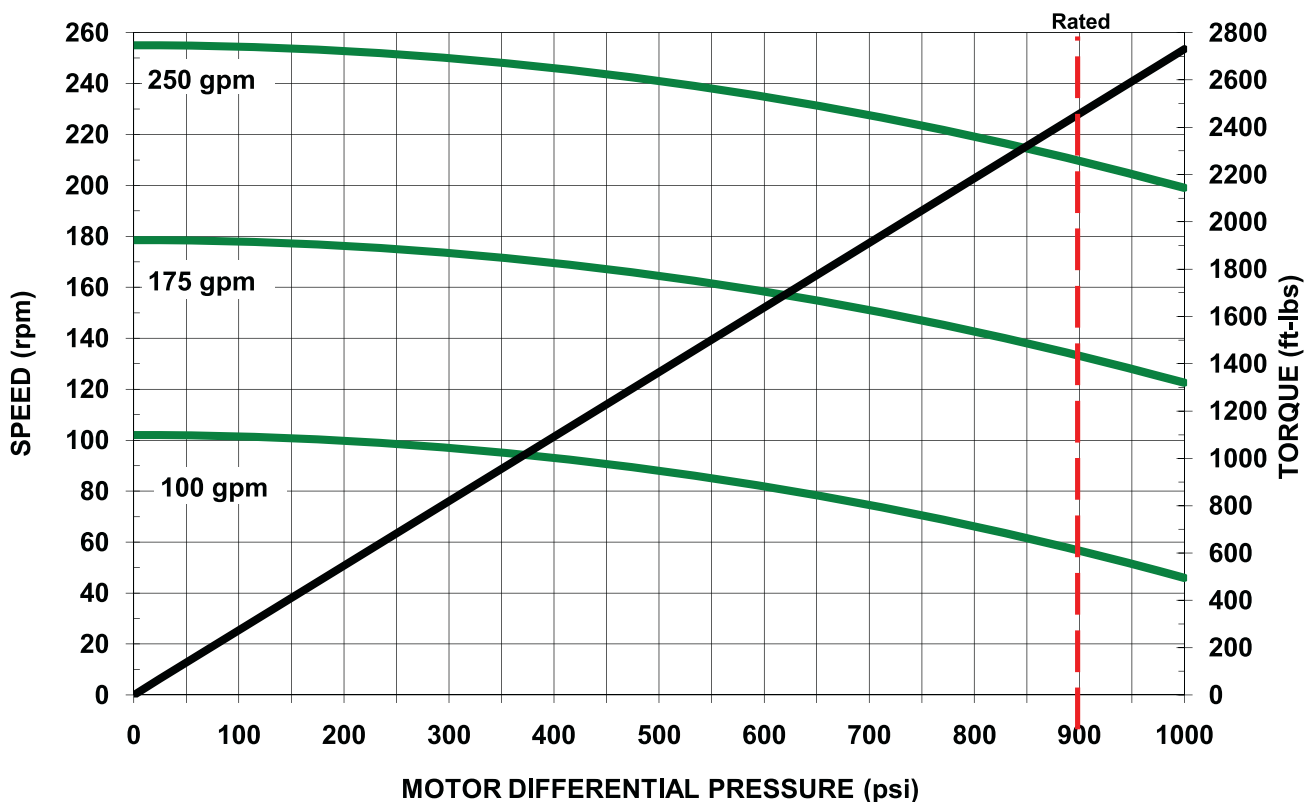
## 4-3/4 P150 Motor Specifications

Operating Data			
Flow Range	gpm (lpm)	100 - 250 (380 - 946)	
Motor Pressure	psi (bar)	525 (36)	
Bit Speed	rpm	102 - 255	
Displacement	rev/gal (rev/l)	1.020 (.269)	
Torque	ft-lbs (Nm)	1,450 (1,966)	
Power	HP (Kw)	70 (52)	
Physical Dimensions			
Power Section Configuration	Stages	3.5	
	Lobes	4/5	
Bit to Stabilizer	in (mm)	25.5 (647)	
Bit to Bend	Fixed	in (mm)	52.4 (1,331)
	Adj	in (mm)	66.5 (1,689)
Overall Motor Length	Fixed	ft (m)	17.1 (5.2)
	Adj	ft (m)	18.5 (5.6)
Weight	lbs (kg)	650 (295)	
Connections	Box	3-1/2" IF Top, 3-1/2" Reg Bottom	
Bit Size	in (mm)	5-3/4 to 6-3/4 (146.1 - 171.5)	



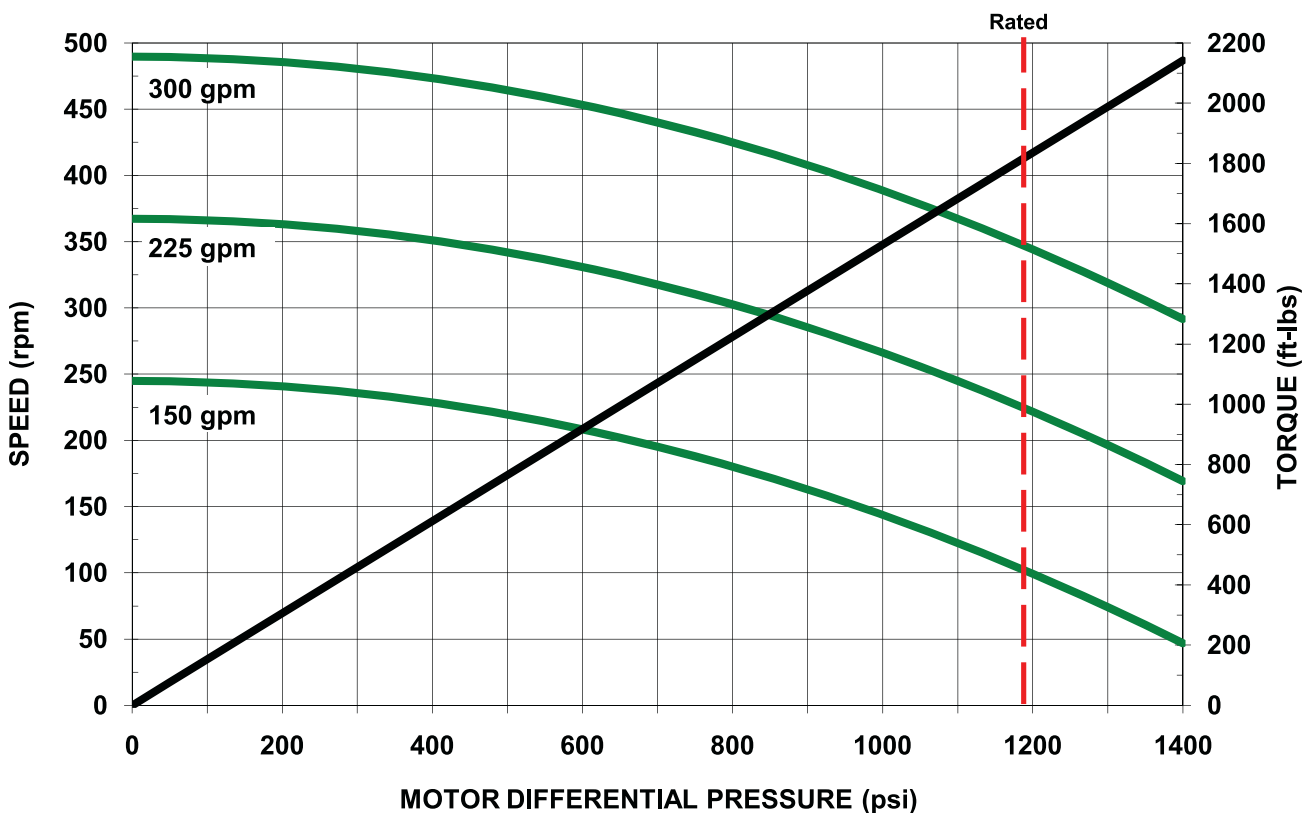
## 4-3/4 P150 XL Motor Specifications

Operating Data			
Flow Range	gpm (lpm)	100 - 250 ( 380 - 946)	
Motor Pressure	psi (bar)	900 (62)	
Bit Speed	rpm	102 - 255	
Displacement	rev/gal (rev/l)	1.020 (.269)	
Torque	ft-lbs (Nm)	2,460 (3,330)	
Power	HP (Kw)	119 (89)	
Physical Dimensions			
Power Section Configuration	Stages	6.0	
	Lobes	4/5	
Bit to Stabilizer	in (mm)	25.69 (653)	
Bit to Bend	Fixed	in (mm)	54.41 (1,382)
	Adj	in (mm)	66.70 (1,694)
Overall Motor Length	Fixed	ft (m)	23.0 (7.0)
	Adj	ft (m)	24.4 (7.4)
Weight	lbs (kg)	865 (390)	
Connections	Box	3-1/2" IF Top and 3-1/2" Reg Bottom	
Bit Size	in (mm)	5-3/4 to 6-3/4 (146.1 - 171.5)	



## 4-3/4 P300 XL Motor Specifications

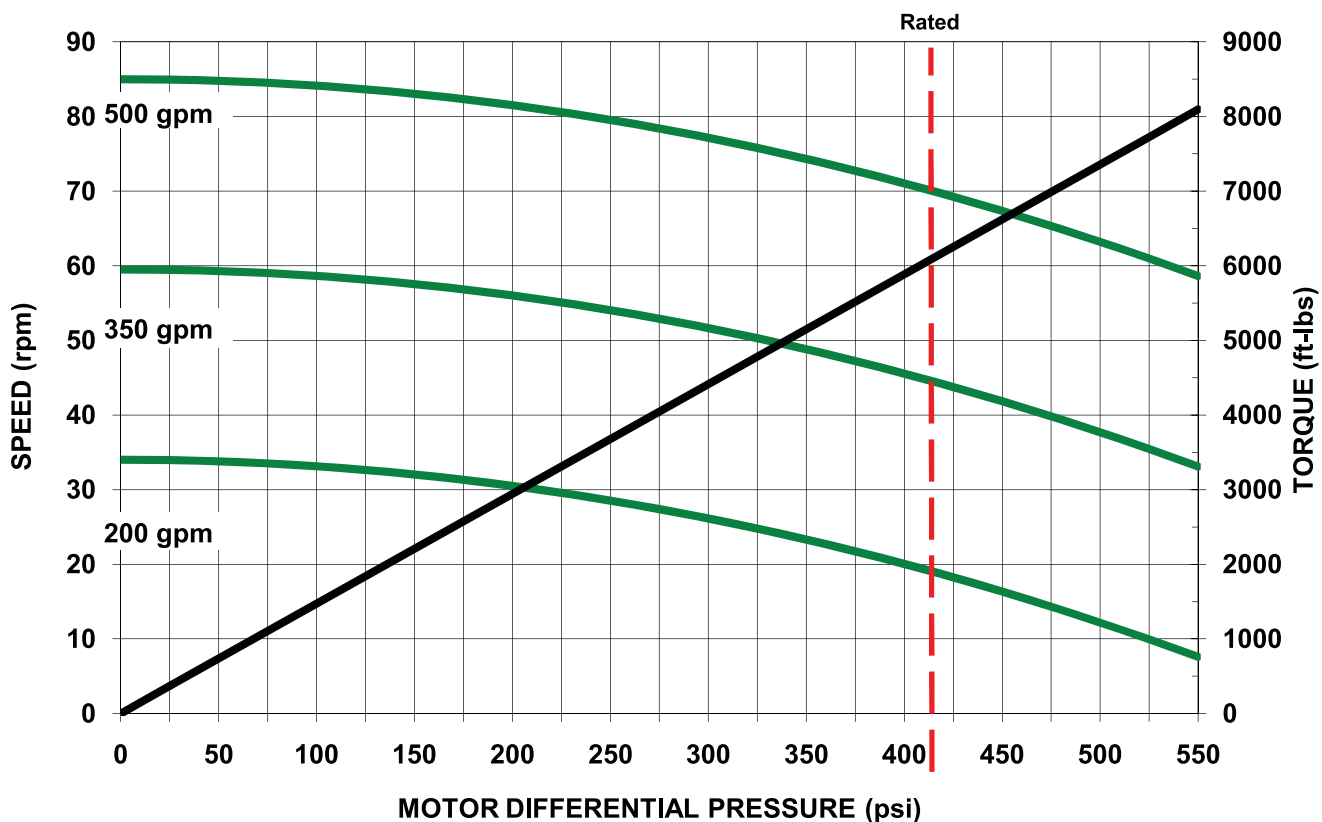
Operating Data			
Flow Range	gpm (lpm)		150 - 300 (568 - 1,136)
Motor Pressure	psi (bar)		1,185 (82)
Bit Speed	rpm		163 - 490
Displacement	rev/gal (rev/l)		1.632 (.431)
Torque	ft-lbs (Nm)		1,813 (2,458)
Power	HP (Kw)		169 (126)
Physical Dimensions			
Power Section Configuration		Stages	7.9
		Lobes	2/3
Bit to Stabilizer		in (mm)	25.69 (653)
Bit to Bend	Fixed	in (mm)	54.41 (1,382)
	Adj	in (mm)	66.70 (1,694)
Overall Motor Length	Fixed	ft (m)	25.1 (7.65)
	Adj	ft (m)	26.5 (8.08)
Weight		lbs (kg)	940 (425)
Connections		Box	3-1/2" IF Top and 3-1/2" Reg Bottom
Bit Size		in (mm)	5-3/4 to 6-3/4 (146.1 - 171.5)



## 6-1/4 P50 XL Motor Specifications

(6¼ Power Section on 6½ Lower End)

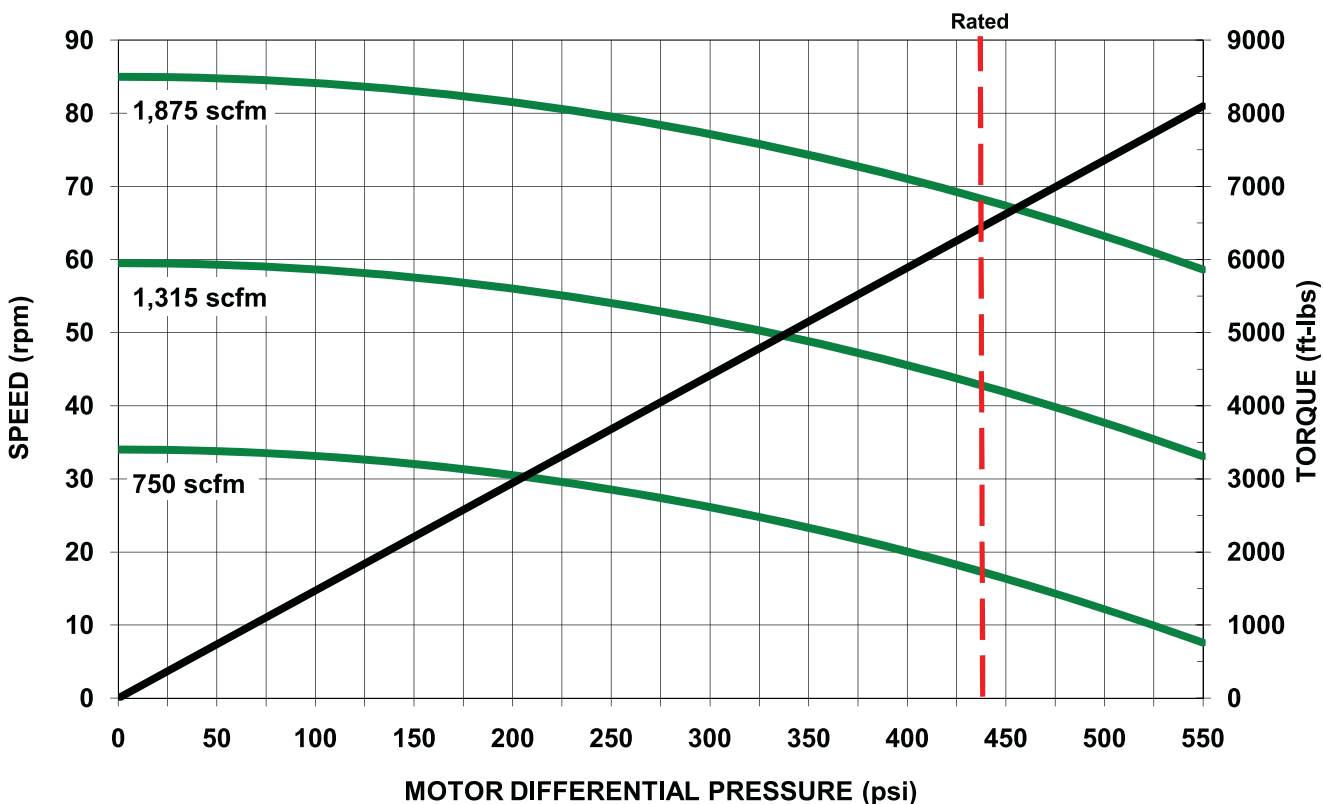
Operating Data			
Flow Range		gpm (lpm)	200 - 500 ( 760 - 1,890)
Motor Pressure		psi (bar)	440 (30)
Bit Speed		rpm	34 - 85
Displacement		rev/gal (rev/l)	.170 (.045)
Torque		ft-lbs (Nm)	6,470 (8,770)
Power		HP (Kw)	105 (78)
Physical Dimensions			
Power Section Configuration		Stages	2.9
		Lobes	7/8
Bit to Stabilizer		in (mm)	33.6 (853)
Bit to Bend	Fixed	in (mm)	83.3 (2,116)
	Adj	in (mm)	91.5 (2,324)
Overall Motor Length	Fixed	ft (m)	28.5 (8.7)
	Adj	ft (m)	30.0 (9.1)
Weight		lbs (kg)	2,010 (912)
Connections		Box	4-1/2" Reg, Top and Bottom
Bit Size		in (mm)	7-7/8 to 8-3/4 (200.0 - 222.3)



## 6-1/4 P50 XLAD Motor Specifications

(6¼ Power Section on 6½ Lower End)

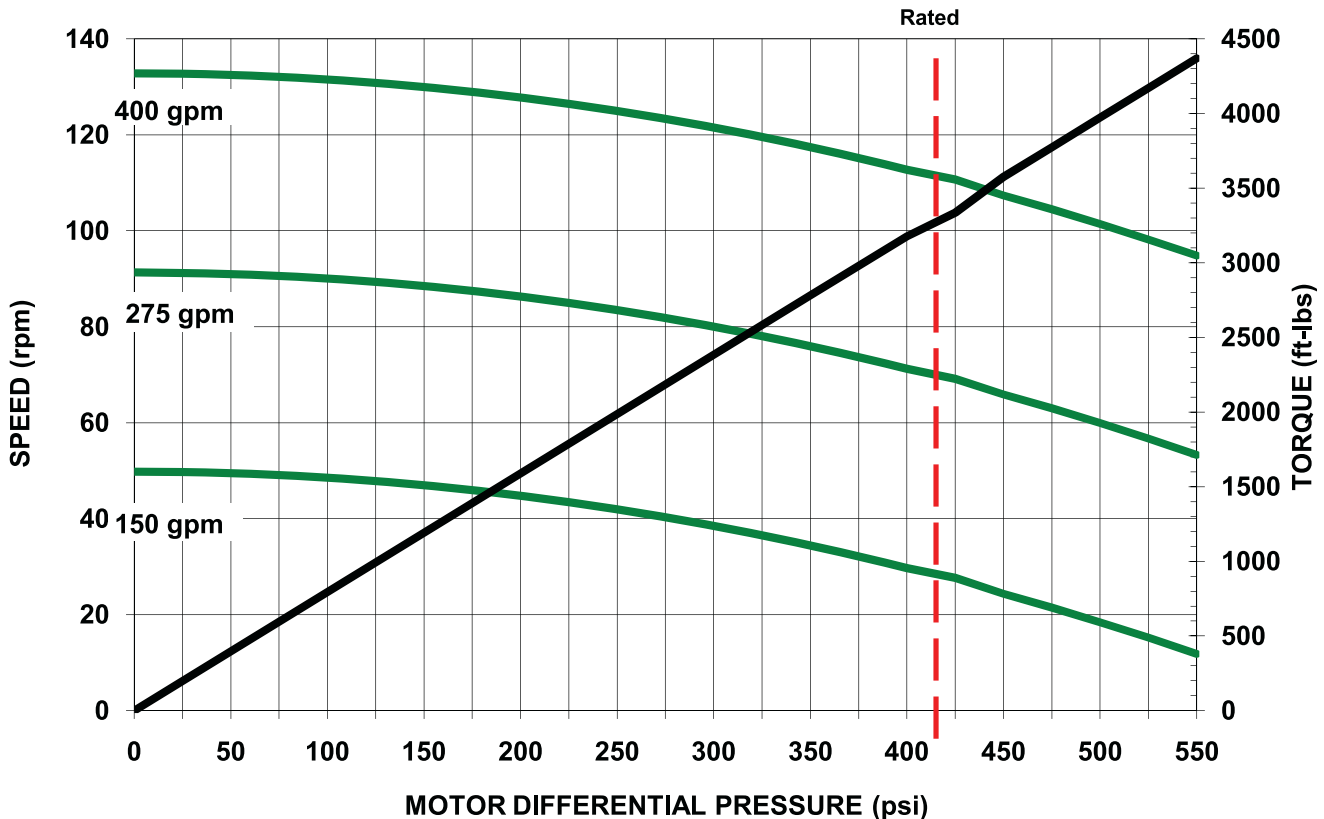
Operating Data			
Flow Range	scfm (m <sup>3</sup> /min)	750 - 1,875 (21.3 - 53.1)	
Motor Pressure	psi (bar)	440 (30)	
Bit Speed	rpm	34 - 85	
Displacement	rev/scfm (rev/m <sup>3</sup> /min)	.045 (1.598)	
Torque	ft-lbs (Nm)	6,470 (8,770)	
Power	HP (Kw)	105 (78)	
Physical Dimensions			
Power Section Configuration	Stages	2.9	
	Lobes	7/8	
Bit to Stabilizer	in (mm)	33.6 (853)	
Bit to Bend	Fixed	in (mm)	83.3 (2,116)
	Adj	in (mm)	91.5 (2,324)
Overall Motor Length	Fixed	ft (m)	28.5 (8.7)
	Adj	ft (m)	30.0 (9.1)
Weight	lbs (kg)	2,010 (912)	
Connections	Box	4-1/2" Reg, Top and Bottom	
Bit Size	in (mm)	7-7/8 to 8-3/4 (200.0 - 222.3)	



## 6-1/4 P100 Motor Specifications

(6¼ Power Section on 6½ Lower End)

Operating Data			
Flow Range	gpm (lpm)	150 - 400 ( 570 - 1,510)	
Motor Pressure	psi (bar)	420 (29)	
Bit Speed	rpm	50 - 132	
Displacement	rev/gal (rev/l)	.332 (.088)	
Torque	ft-lbs (Nm)	3,340 (4,530)	
Power	HP (Kw)	85 (63)	
Physical Dimensions			
Power Section Configuration	Stages	2.8	
	Lobes	7/8	
Bit to Stabilizer	in (mm)	33.6 (853)	
Bit to Bend	Fixed	in (mm)	83.3 (2,116)
	Adj	in (mm)	91.5 (2,324)
Overall Motor Length	Fixed	ft (m)	19.8 (6.0)
	Adj	ft (m)	21.2 (6.5)
Weight	lbs (kg)	1,730 (785)	
Connections	Box	4-1/2" Reg, Top and Bottom	
Bit Size	in (mm)	7-7/8 to 8-3/4 (200.0 - 222.3)	

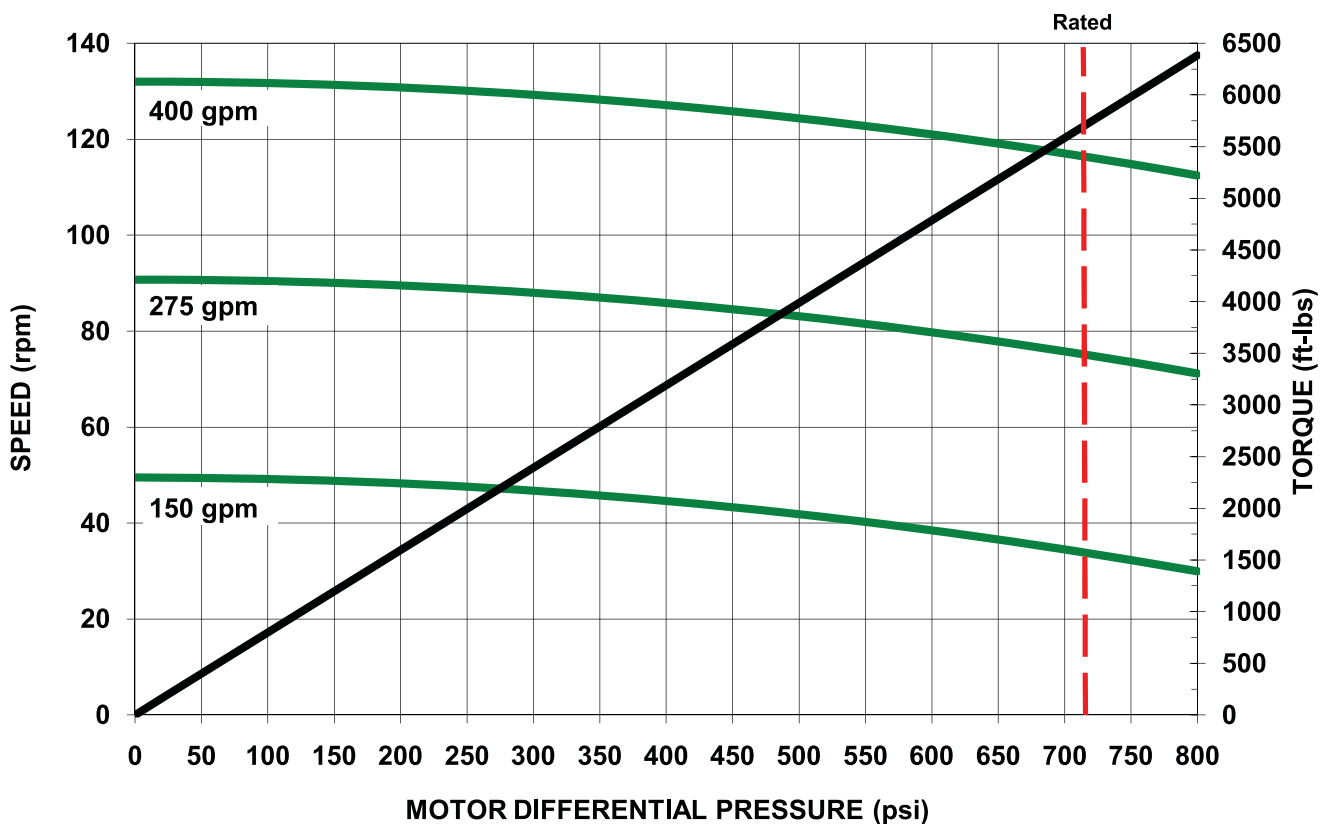




## 6-1/4 P100 XL Motor Specifications

(6¼ Power Section on 6½ Lower End)

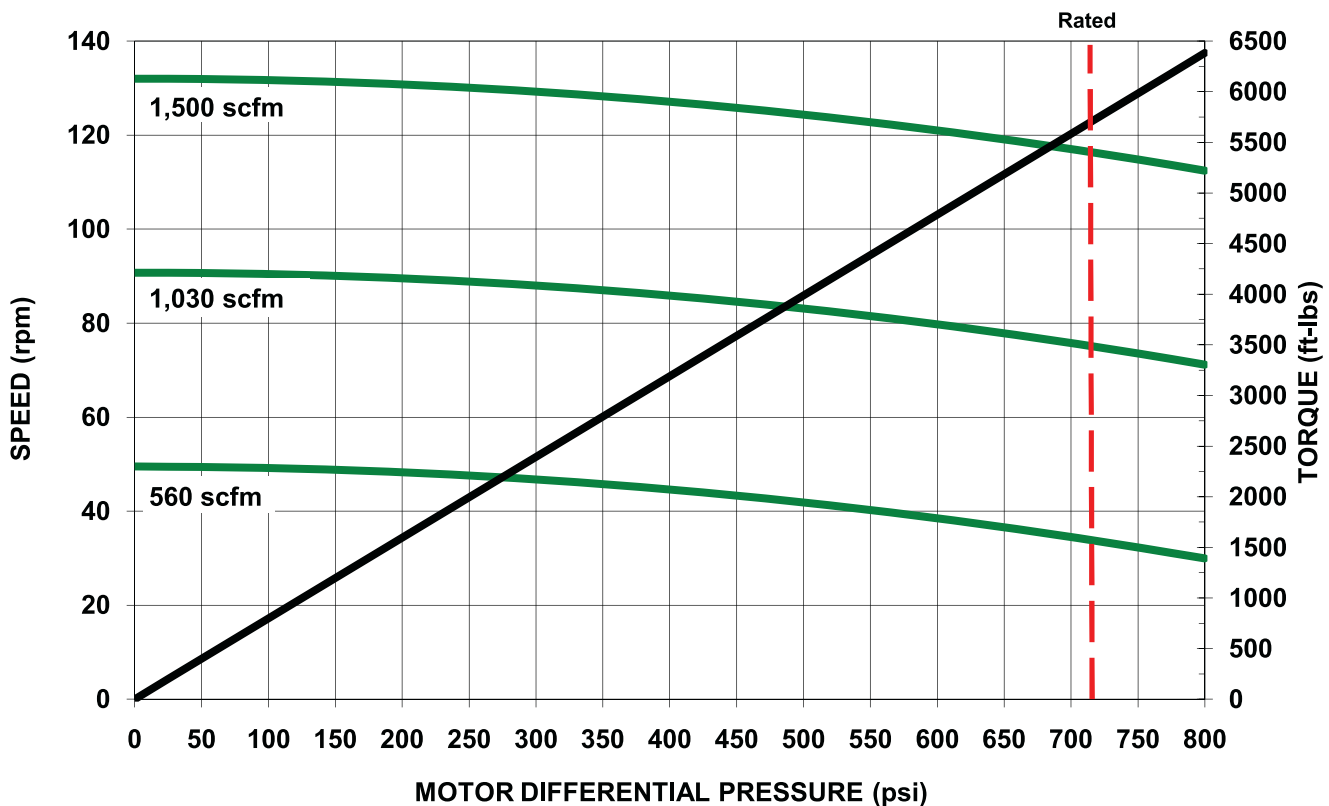
Operating Data			
Flow Range	gpm (lpm)	150 - 400 ( 570 - 1,510)	
Motor Pressure	psi (bar)	720 (50)	
Bit Speed	rpm	50 - 132	
Displacement	rev/gal (rev/l)	.330 (.087)	
Torque	ft-lbs (Nm)	5,740 (7,780)	
Power	HP (Kw)	144 (108)	
Physical Dimensions			
Power Section Configuration	Stages	4.8	
	Lobes	7/8	
Bit to Stabilizer	in (mm)	33.6 (853)	
Bit to Bend	Fixed	in (mm)	83.3 (2,116)
	Adj	in (mm)	91.5 (2,324)
Overall Motor Length	Fixed	ft (m)	26.4 (8.0)
	Adj	ft (m)	27.9 (8.5)
Weight	lbs (kg)	2,020 (916)	
Connections	Box	4-1/2" Reg, Top and Bottom	
Bit Size	in (mm)	7-7/8 to 8-3/4 (200.0 - 222.3)	



## 6-1/4 P100 XLAD Motor Specifications

(6¼ Power Section on 6½ Lower End)

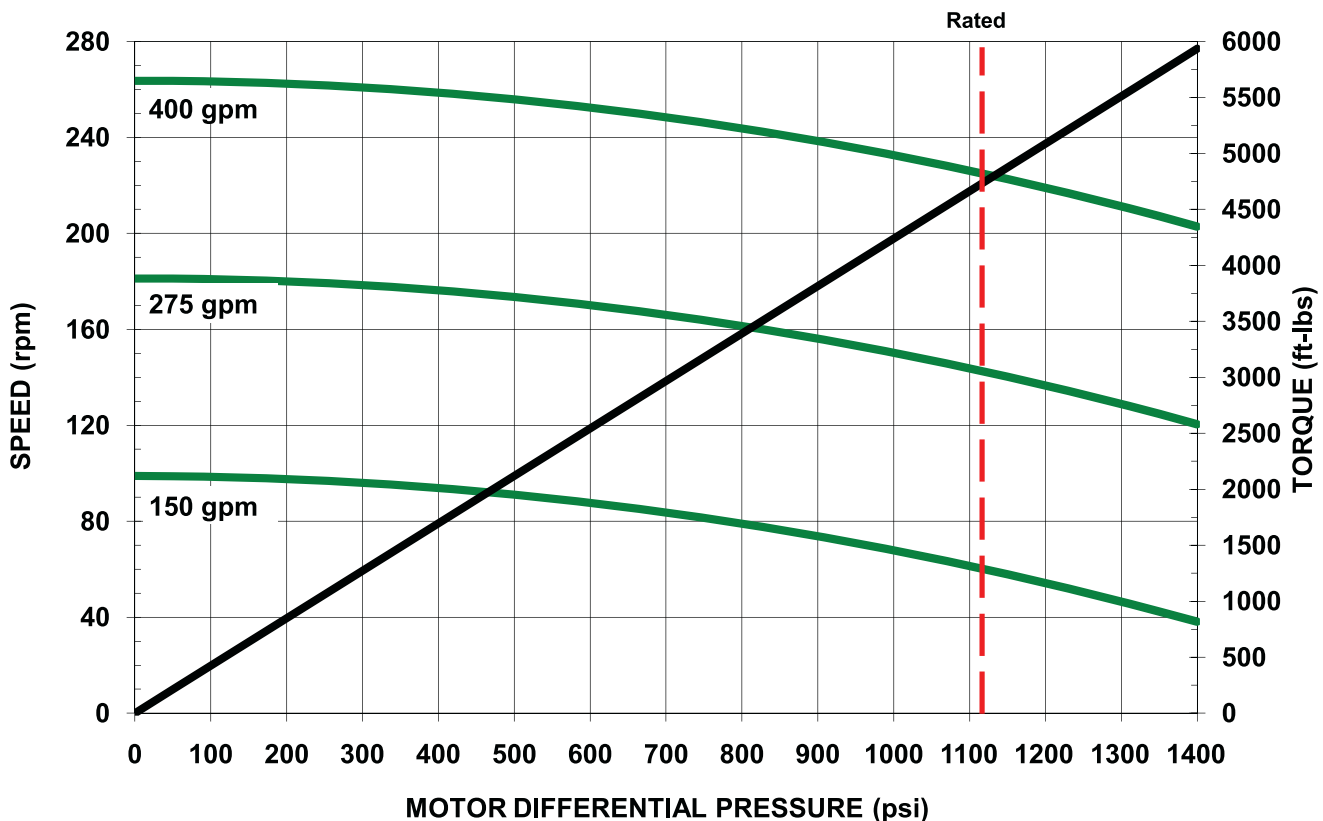
Operating Data			
Flow Range	scfm (m <sup>3</sup> /min)	560 - 1,500 (15.9 - 42.5)	
Motor Pressure	psi (bar)	720 (50)	
Bit Speed	rpm	50 - 132	
Displacement	rev/scfm (rev/m <sup>3</sup> /min)	.088 (3.135)	
Torque	ft-lbs (Nm)	5,740 (7,780)	
Power	HP (Kw)	144 (108)	
Physical Dimensions			
Power Section Configuration	Stages	4.8	
	Lobes	7/8	
Bit to Stabilizer	in (mm)	33.6 (853)	
Bit to Bend	Fixed	in (mm)	83.3 (2,116)
	Adj	in (mm)	91.5 (2,324)
Overall Motor Length	Fixed	ft (m)	26.4 (8.0)
	Adj	ft (m)	27.9 (8.5)
Weight	lbs (kg)	2,020 (916)	
Connections	Box	4-1/2" Reg, Top and Bottom	
Bit Size	in (mm)	7-7/8 to 8-3/4 (200.0 - 222.3)	



## 6-1/4 P150 XL Motor Specifications

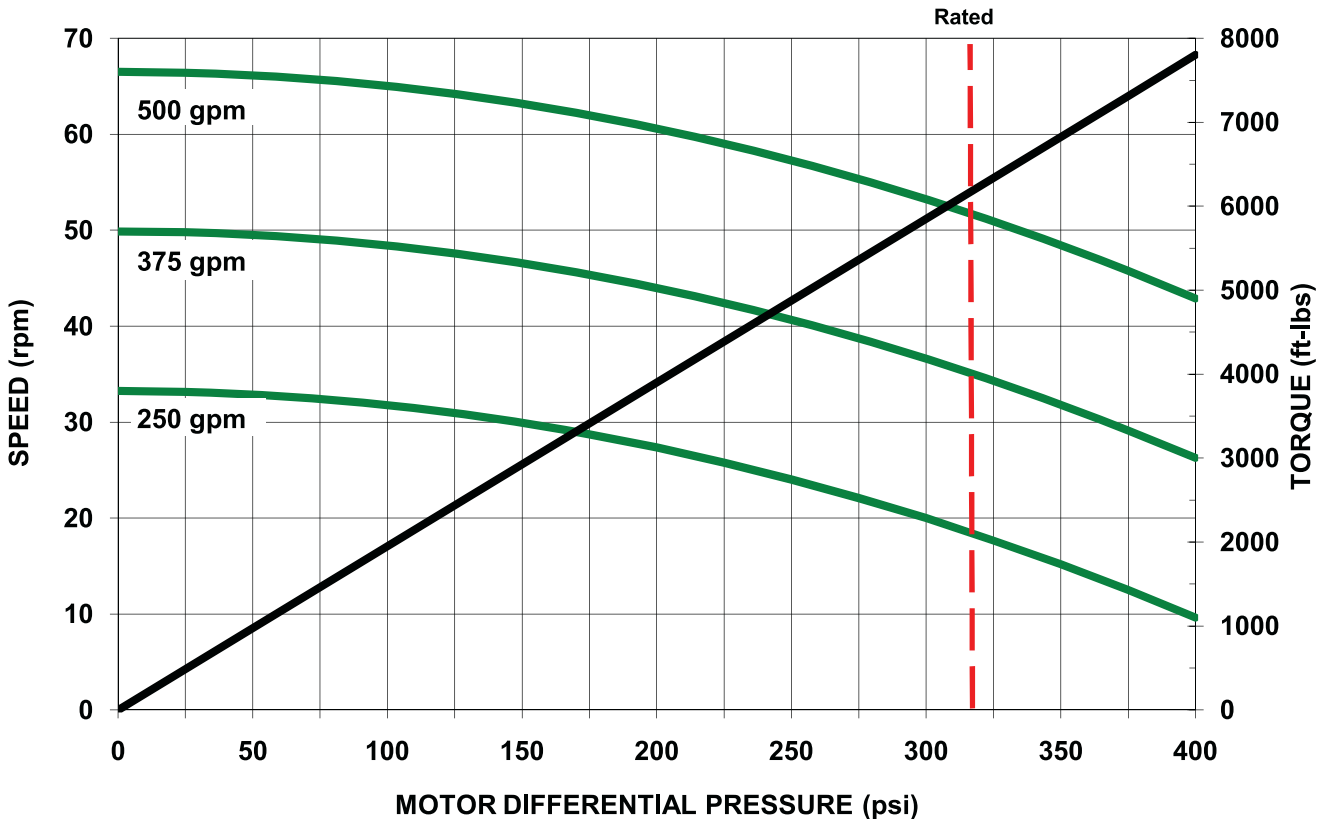
(6¼ Power Section on 6½ Lower End)

Operating Data			
Flow Range	gpm (lpm)	150 - 400 ( 570 - 1,510)	
Motor Pressure	psi (bar)	1,125 (78)	
Bit Speed	rpm	100 - 265	
Displacement	rev/gal (rev/l)	.659 (.174)	
Torque	ft-lbs (Nm)	4,770 (6,470)	
Power	HP (Kw)	240 (180)	
Physical Dimensions			
Power Section Configuration	Stages	7.5	
	Lobes	4/5	
Bit to Stabilizer	in (mm)	33.6 (853)	
Bit to Bend	Fixed	in (mm)	83.3 (2,116)
	Adj	in (mm)	91.5 (2,324)
Overall Motor Length	Fixed	ft (m)	26.4 (8.0)
	Adj	ft (m)	27.9 (8.5)
Weight	lbs (kg)	2,020 (916)	
Connections	Box	4-1/2" Reg, Top and Bottom	
Bit Size	in (mm)	7-7/8 to 8-3/4 (200.0 - 222.3)	



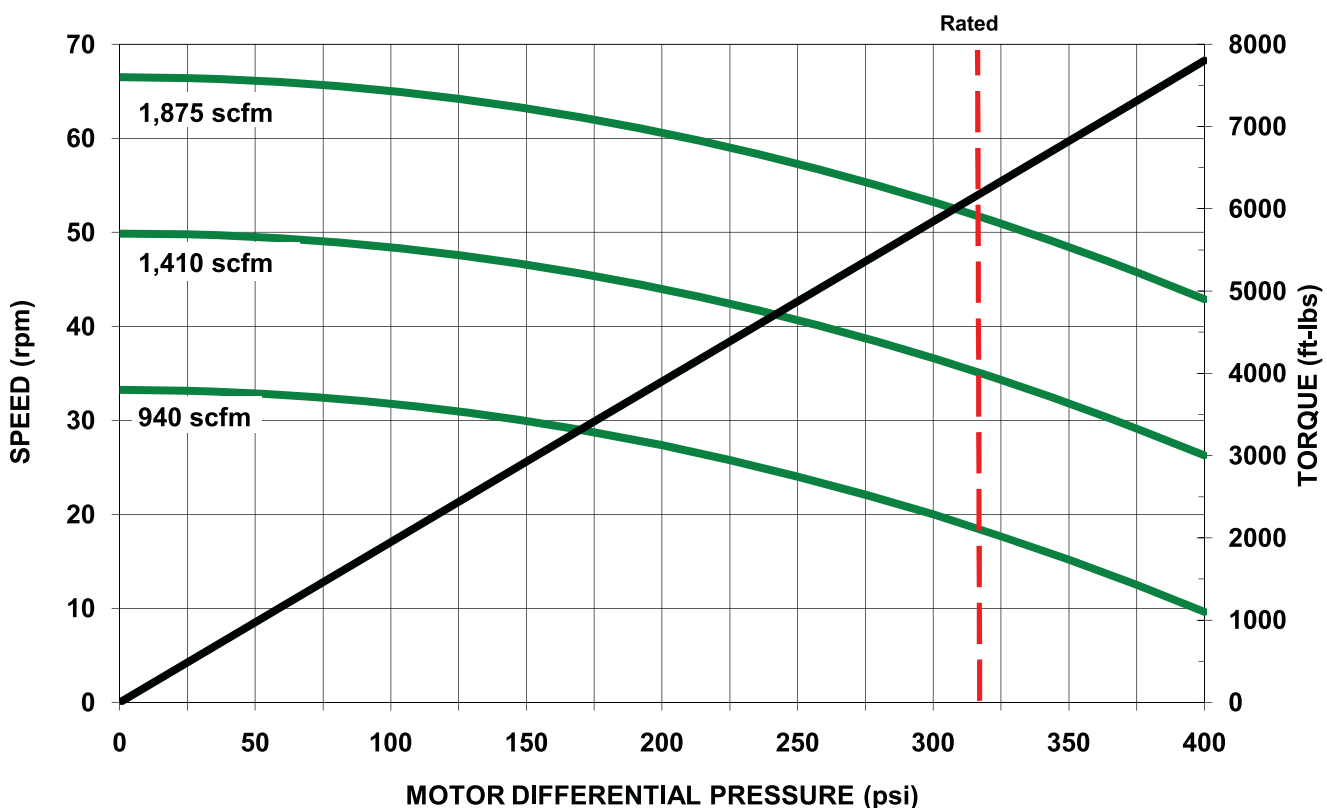
## 6-3/4 P50 XL Motor Specifications

Operating Data			
Flow Range	gpm (lpm)	250 - 500 ( 950 - 1,890)	
Motor Pressure	psi (bar)	320 (22)	
Bit Speed	rpm	33 - 67	
Displacement	rev/gal (rev/l)	.133 (.035)	
Torque	ft-lbs (Nm)	6,140 (8,325)	
Power	HP (Kw)	78 (58)	
Physical Dimensions			
Power Section Configuration	Stages	2.1	
	Lobes	7/8	
Bit to Stabilizer	in (mm)	33.6 (853)	
Bit to Bend	Fixed	in (mm)	83.3 (2,116)
	Adj	in (mm)	91.5 (2,324)
Overall Motor Length	Fixed	ft (m)	28.8 (8.8)
	Adj	ft (m)	30.3 (9.2)
Weight	lbs (kg)	1,765 (800)	
Connections	Box	4-1/2" Reg, Top and Bottom	
Bit Size	in (mm)	8-1/4 to 9-7/8 (209.6 - 250.8)	



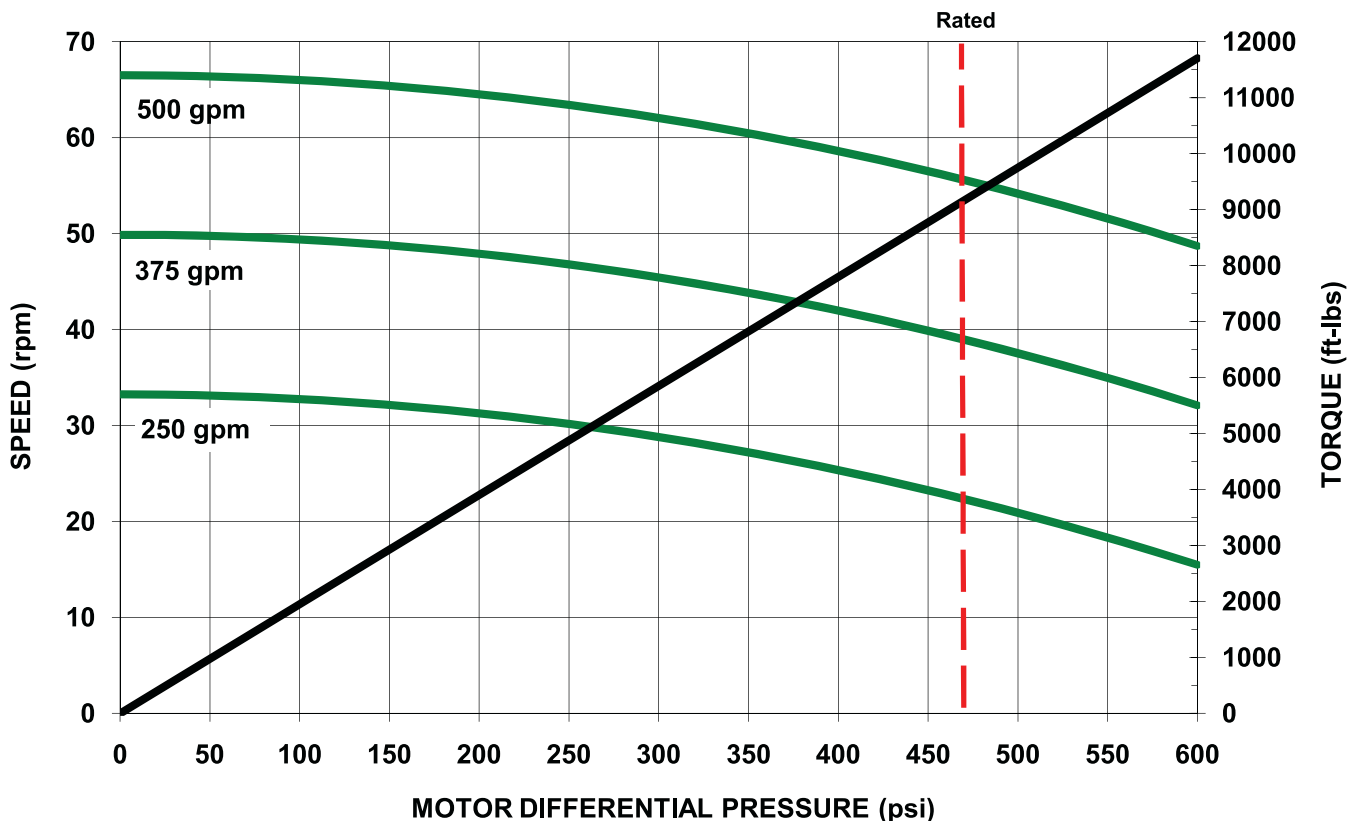
## 6-3/4 P50 XLAD Motor Specifications

Operating Data			
Flow Range	scfm (m <sup>3</sup> /min)	940 - 1,875 (26.6 - 53.1)	
Motor Pressure	psi (bar)	320 (22)	
Bit Speed	rpm	33 - 67	
Displacement	rev/scfm (rev/m <sup>3</sup> /min)	.035 (1.251)	
Torque	ft-lbs (Nm)	6,140 (8,325)	
Power	HP (Kw)	78 (58)	
Physical Dimensions			
Power Section Configuration	Stages	2.1	
	Lobes	7/8	
Bit to Stabilizer	in (mm)	33.6 (853)	
Bit to Bend	Fixed	in (mm)	83.3 (2,116)
	Adj	in (mm)	91.5 (2,324)
Overall Motor Length	Fixed	ft (m)	28.8 (8.8)
	Adj	ft (m)	30.3 (9.2)
Weight	lbs (kg)	1,765 (800)	
Connections	Box	4-1/2" Reg, Top and Bottom	
Bit Size	in (mm)	8-1/4 to 9-7/8 (209.6 - 250.8)	



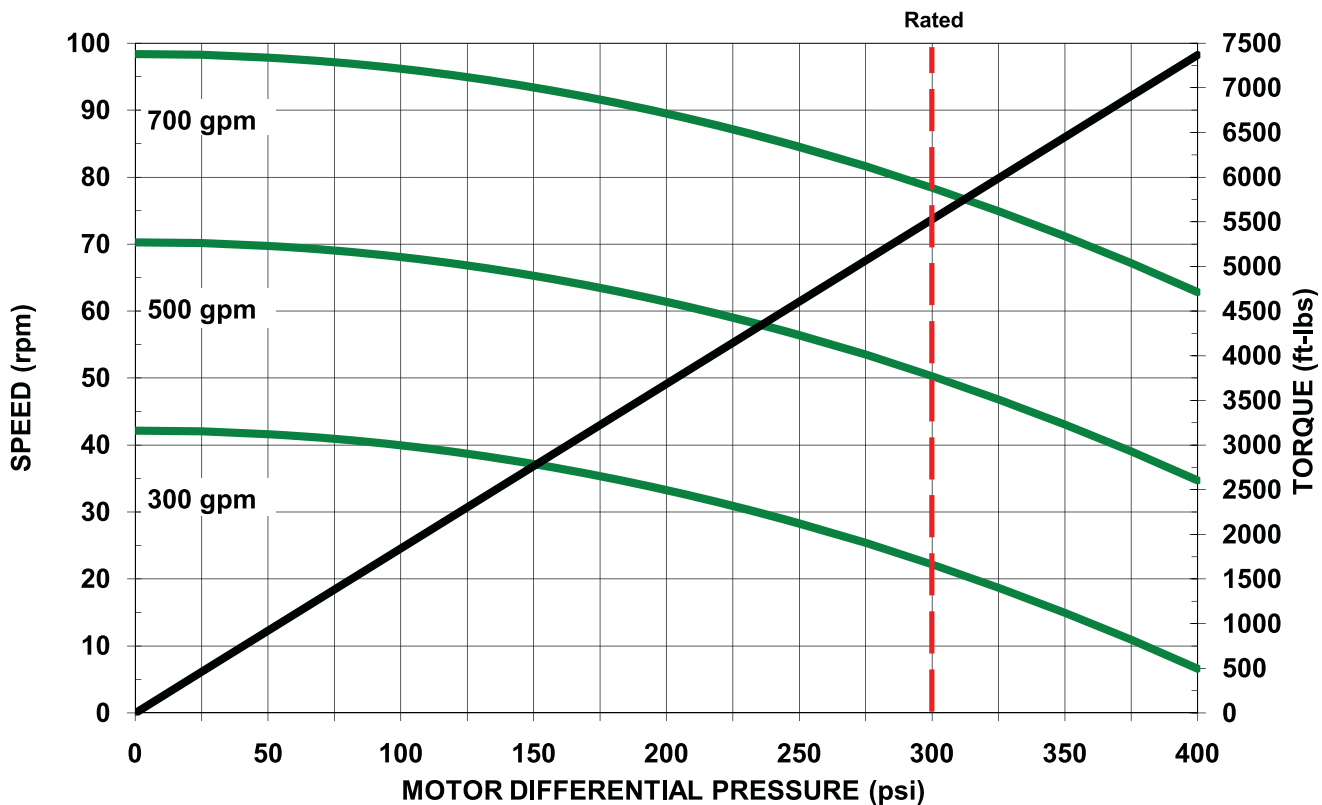
## 6-3/4 P50 XL-HR Motor Specifications

Operating Data			
Flow Range	gpm (lpm)		250 - 500 ( 950 - 1,890)
Motor Pressure	psi (bar)		470 (32)
Bit Speed	rpm		33 - 67
Displacement	rev/gal (rev/l)		.133 (.035)
Torque	ft-lbs (Nm)		9,210 (12,490)
Power	HP (Kw)		118 (88)
Physical Dimensions			
Power Section Configuration		Stages	2.1
		Lobes	7/8
Bit to Stabilizer		in (mm)	33.6 (853)
Bit to Bend	Fixed	in (mm)	83.3 (2,116)
	Adj	in (mm)	91.5 (2,324)
Overall Motor Length	Fixed	ft (m)	28.8 (8.8)
	Adj	ft (m)	30.3 (9.2)
Weight		lbs (kg)	1,765 (800)
Connections		Box	4-1/2" Reg, Top and Bottom
Bit Size		in (mm)	8-1/4 to 9-7/8 (209.6 - 250.8)



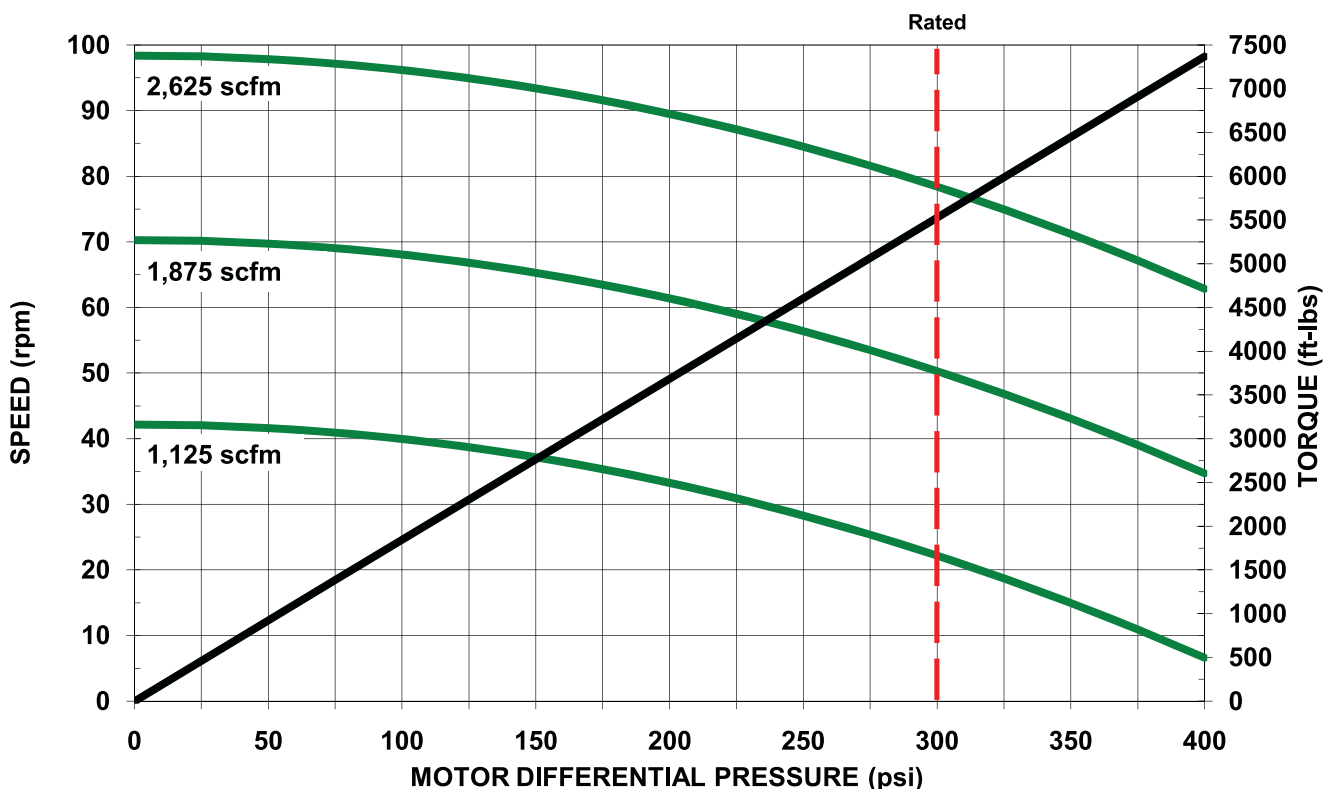
## 6-3/4 P75 Motor Specifications

Operating Data			
Flow Range	gpm (lpm)	300 - 700 (1,136 - 2,650)	
Motor Pressure	psi (bar)	300 (21)	
Bit Speed	rpm	42 - 98	
Displacement	rev/gal (rev/l)	.141 (.037)	
Torque	ft-lbs (Nm)	5,530 (7,500)	
Power	HP (Kw)	103 (77)	
Physical Dimensions			
Power Section Configuration	Stages	2.0	
	Lobes	7/8	
Bit to Stabilizer	in (mm)	33.6 (853)	
Bit to Bend	Fixed	in (mm)	83.3 (2,116)
	Adj	in (mm)	91.5 (2,324)
Overall Motor Length	Fixed	ft (m)	20.6 (6.3)
	Adj	ft (m)	22.0 (6.7)
Weight	lbs (kg)	1,725 (785)	
Connections	Box	4-1/2" Reg Top and Bottom	
Bit Size	in (mm)	7-7/8 to 9-7/8 (200.0 - 250.8)	



## 6-3/4 P75 AD Motor Specifications

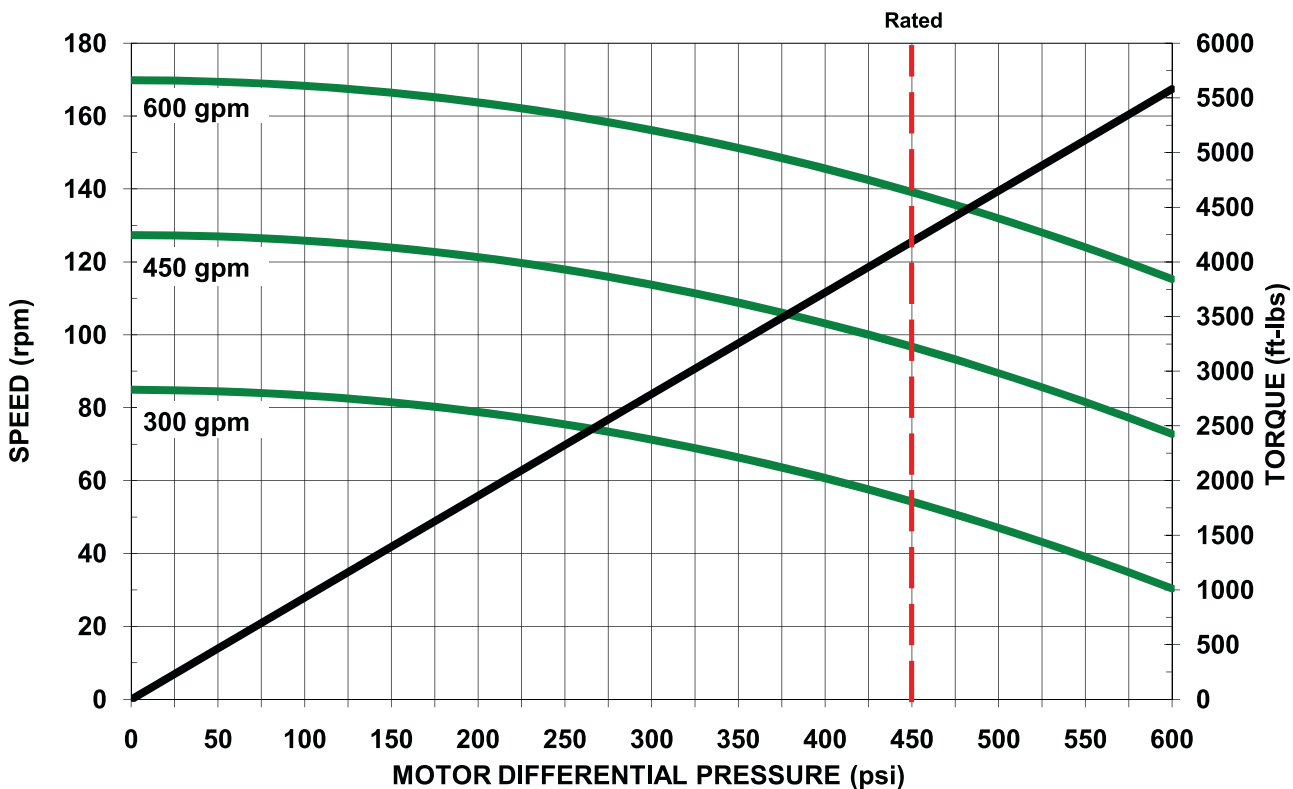
Operating Data			
Flow Range	scfm (m <sup>3</sup> /min)	1,125 - 2,625 (31.6 - 73.8)	
Motor Pressure	psi (bar)	300 (21)	
Bit Speed	rpm	42 - 98	
Displacement	rev/scfm (rev/m <sup>3</sup> /min)	.038 (1.351)	
Torque	ft-lbs (Nm)	5,530 (7,500)	
Power	HP (Kw)	103 (77)	
Physical Dimensions			
Power Section Configuration	Stages	2.0	
	Lobes	7/8	
Bit to Stabilizer	in (mm)	33.6 (853)	
Bit to Bend	Fixed	in (mm)	83.3 (2,116)
	Adj	in (mm)	91.5 (2,324)
Overall Motor Length	Fixed	ft (m)	20.6 (6.3)
	Adj	ft (m)	22.0 (6.7)
Weight	lbs (kg)	1,725 (785)	
Connections	Box	4-1/2" Reg Top and Bottom	
Bit Size	in (mm)	7-7/8 to 9-7/8 (200.0 - 250.8)	





## 6-3/4 P100 Motor Specifications

Operating Data			
Flow Range	gpm (lpm)	300 - 600 (1,136 - 2,270)	
Motor Pressure	psi (bar)	450 (31)	
Bit Speed	rpm	85 - 170	
Displacement	rev/gal (rev/l)	.283 (.075)	
Torque	ft-lbs (Nm)	4,185 (5,675)	
Power	HP (Kw)	135 (101)	
Physical Dimensions			
Power Section Configuration	Stages	3.0	
	Lobes	7/8	
Bit to Stabilizer	in (mm)	33.6 (853)	
Bit to Bend	Fixed	in (mm)	83.3 (2,116)
	Adj	in (mm)	91.5 (2,324)
Overall Motor Length	Fixed	ft (m)	19.3 (5.9)
	Adj	ft (m)	20.8 (6.3)
Weight	lbs (kg)	1,730 (785)	
Connections	Box	4-1/2" Reg Top and Bottom	
Bit Size	in (mm)	7-7/8 to 9-7/8 (200.0 - 250.8)	

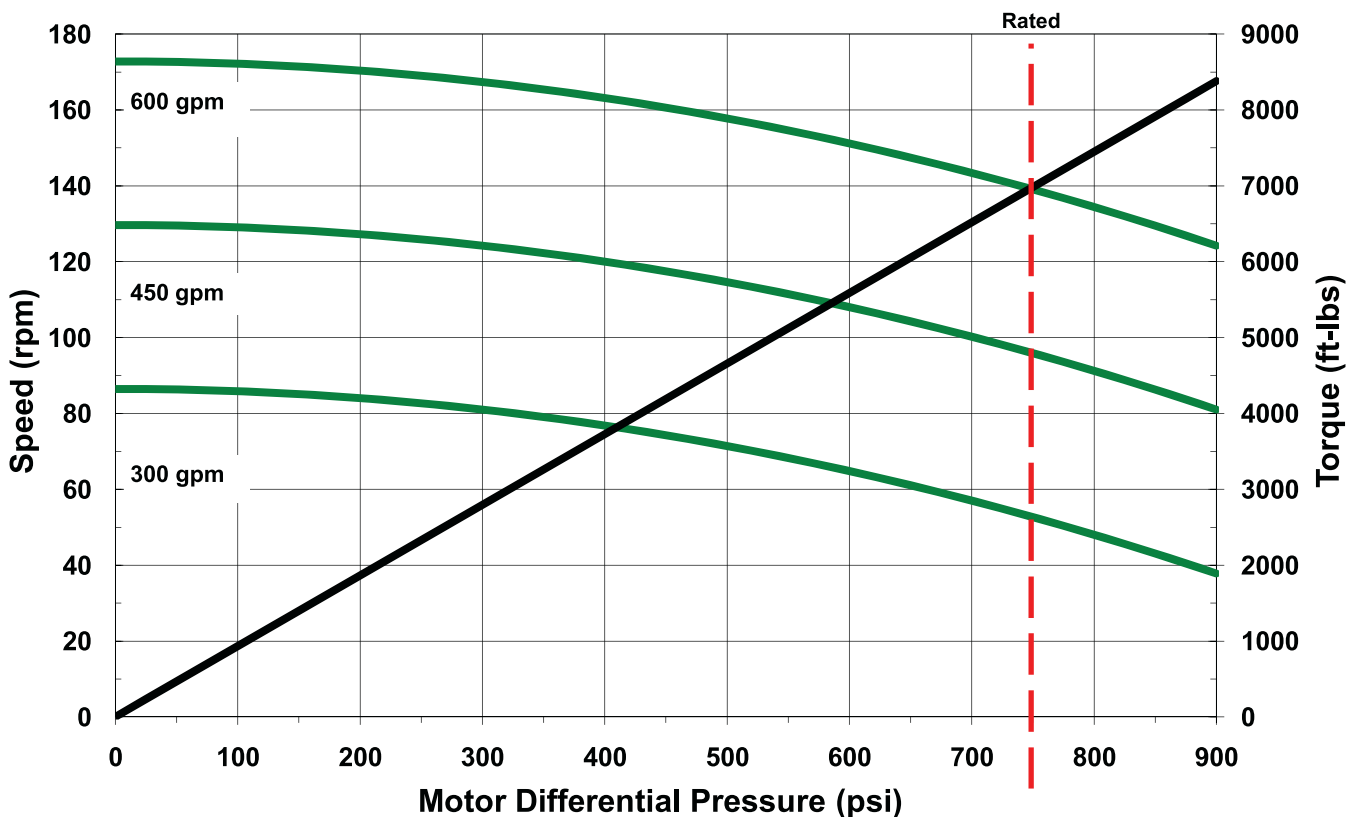


# Tartan

energy group

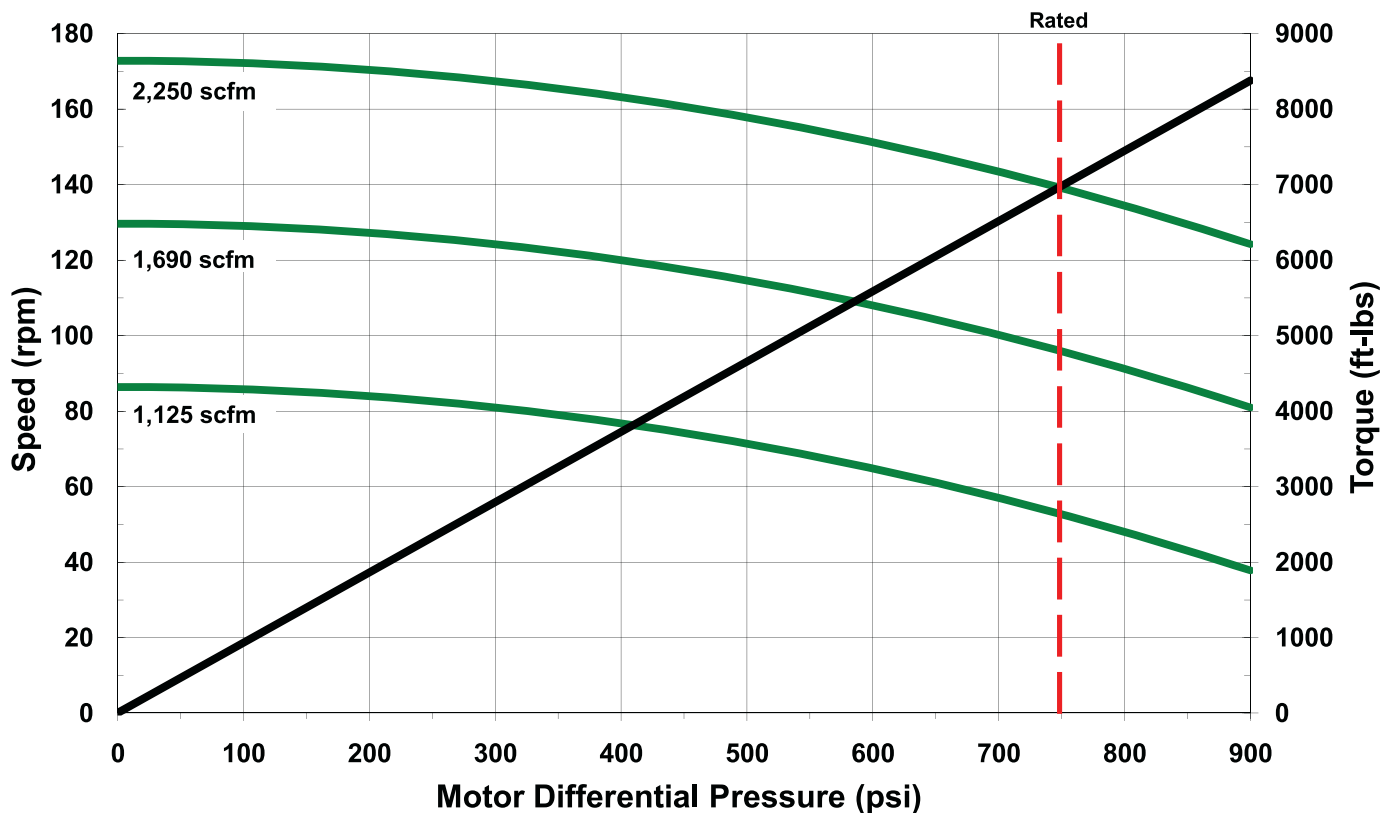
## 6-3/4 P100 XL Motor Specifications

Operating Data			
Flow Range		gpm (lpm)	300 - 600 (1,136 - 2,270)
Motor Pressure		psi (bar)	750 (52)
Bit Speed		rpm	86 - 173
Displacement		rev/gal (rev/l)	.288 (.076)
Torque		ft-lbs (Nm)	6,980 (9,464)
Power		HP (Kw)	230 (172)
Physical Dimensions			
Power Section Configuration		Stages	5.0
		Lobes	7/8
Bit to Stabilizer		in (mm)	33.6 (853)
Bit to Bend	Fixed	in (mm)	83.3 (2,116)
	Adj	in (mm)	91.5 (2,324)
Overall Motor Length	Fixed	ft (m)	25.1 (7.7)
	Adj	ft (m)	26.6 (8.1)
Weight		lbs (kg)	2,285 (785)
Connections		Box	4-1/2 Reg, Top and Bottom
Bit Size		in (mm)	8-1/4 to 9-7/8 (209.6 - 250.8)



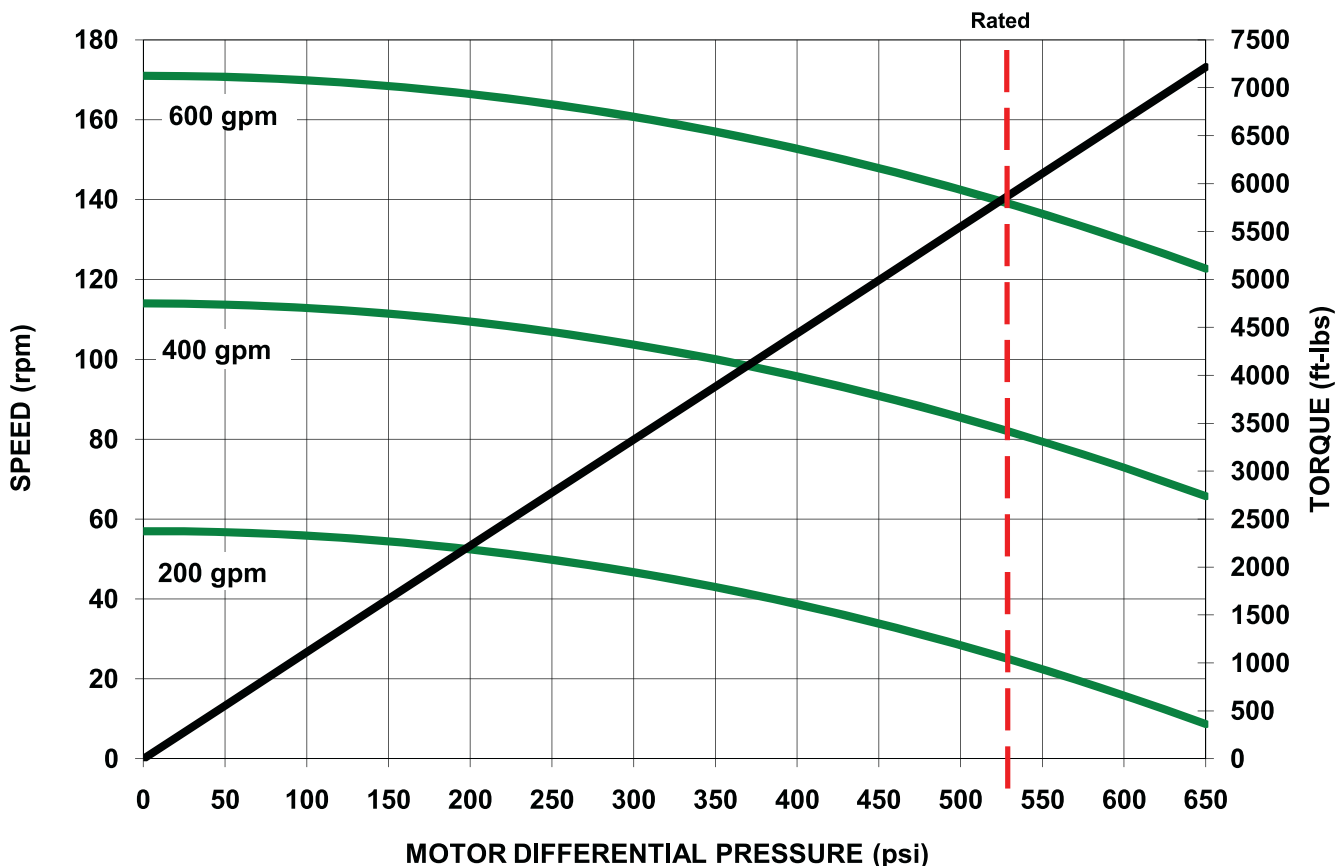
## 6-3/4 P100 XLAD Motor Specifications

Operating Data			
Flow Range		scfm (m <sup>3</sup> /min)	1,125 - 2,250 (31.6 - 63.7)
Motor Pressure		psi (bar)	750 (52)
Bit Speed		rpm	86 - 173
Displacement		rev/scfm (rev/m <sup>3</sup> /min)	.077 (2.706)
Torque		ft-lbs (Nm)	6,980 (9,464)
Power		HP (Kw)	230 (172)
Physical Dimensions			
Power Section Configuration		Stages	5.0
		Lobes	7/8
Bit to Stabilizer		in (mm)	33.6 (853)
Bit to Bend	Fixed	in (mm)	83.3 (2,116)
	Adj	in (mm)	91.5 (2,324)
Overall Motor Length	Fixed	ft (m)	25.1 (7.7)
	Adj	ft (m)	26.6 (8.1)
Weight		lbs (kg)	2,285 (785)
Connections		Box	4-1/2 Reg, Top and Bottom
Bit Size		in (mm)	8-1/4 to 9-7/8 (209.6 - 250.8)



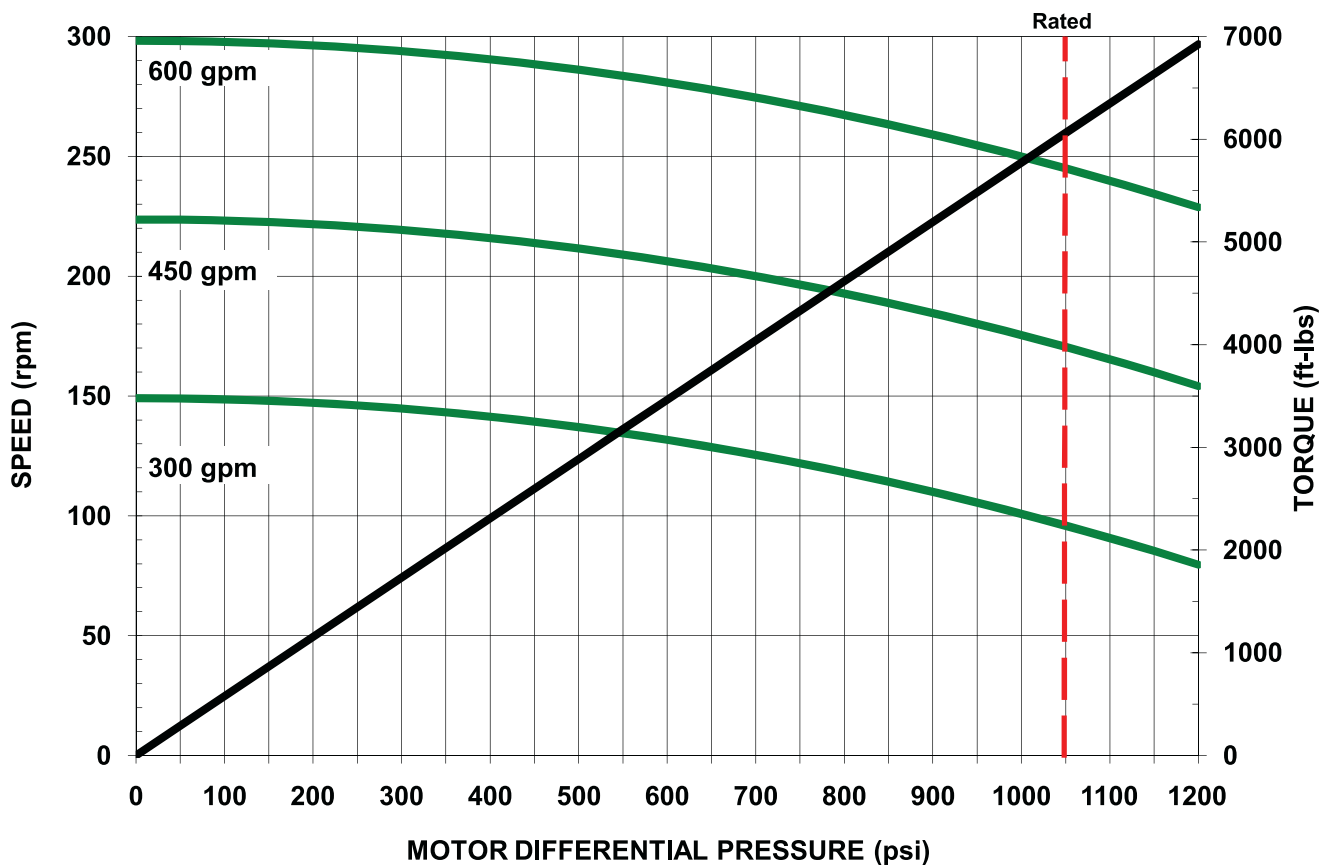
## 6-3/4 P110 Motor Specifications

Operating Data			
Flow Range	gpm (lpm)		200 - 600 (760 - 2,270)
Motor Pressure	psi (bar)		540 (37)
Bit Speed	rpm		57 - 171
Displacement	rev/gal (rev/l)		.285 (.076)
Torque	ft-lbs (Nm)		5,990 (8,121)
Power	HP (Kw)		195 (145)
Physical Dimensions			
Power Section Configuration	Stages		3.6
	Lobes		6/7
Bit to Stabilizer	in (mm)		33.6 (853)
Bit to Bend	Fixed	in (mm)	83.3 (2,116)
	Adj	in (mm)	91.5 (2,324)
Overall Motor Length	Fixed	ft (m)	21.0 (6.4)
	Adj	ft (m)	22.5 (6.9)
Weight	lbs (kg)		1,765 (800)
Connections	Box		4-1/2" Reg, Top and Bottom
Bit Size	in (mm)		8-1/4 to 9-7/8 (209.6 - 250.8)



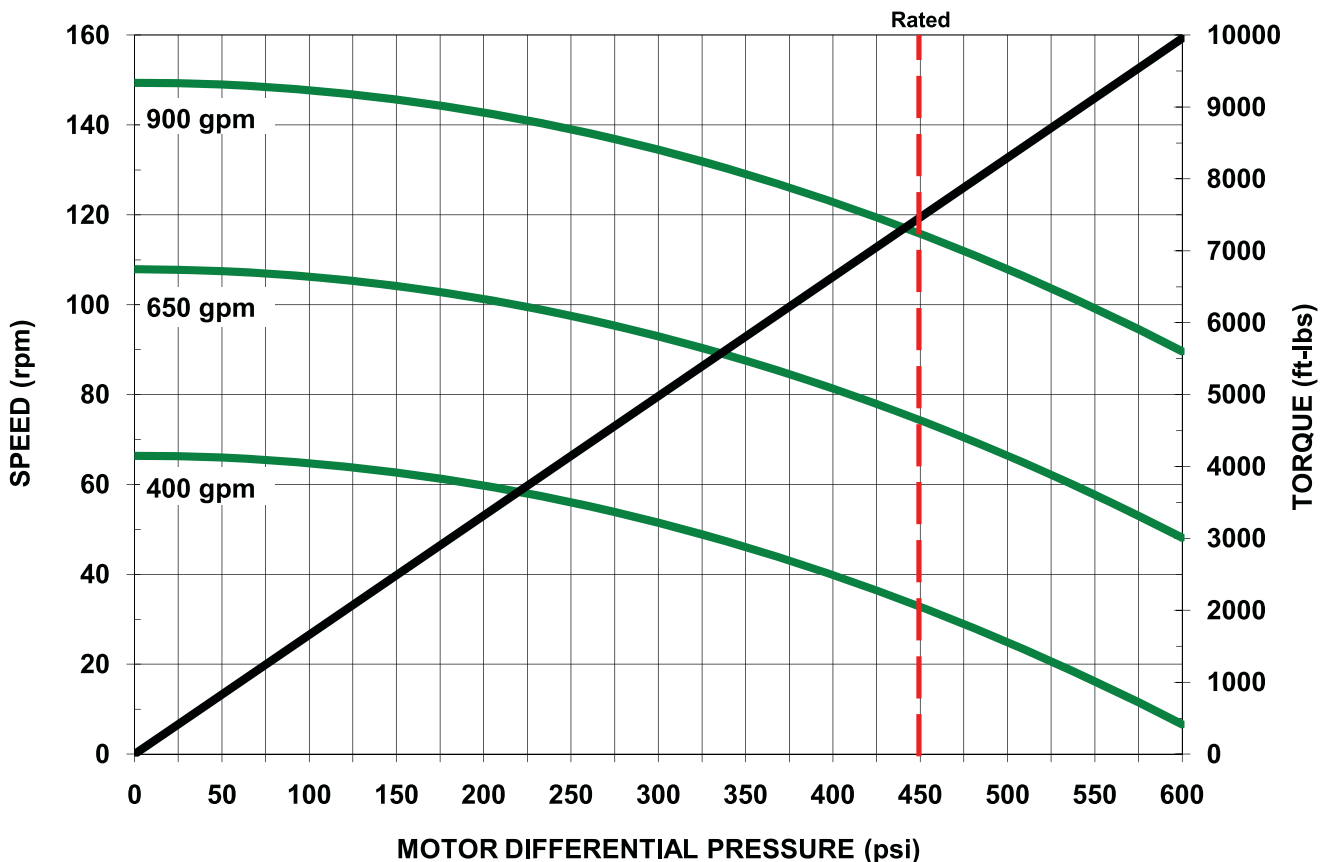
## 6-3/4 P150 XL Motor Specifications

Operating Data			
Flow Range	gpm (lpm)		300 - 600 (1,136 - 2,270)
Motor Pressure	psi (bar)		1,050 (72)
Bit Speed	rpm		150 - 300
Displacement	rev/gal (rev/l)		.497 (.131)
Torque	ft-lbs (Nm)		6,060 (8,216)
Power	HP (Kw)		346 (258)
Physical Dimensions			
Power Section Configuration		Stages	7.0
		Lobes	4/5
Bit to Stabilizer		in (mm)	33.6 (853)
Bit to Bend	Fixed	in (mm)	83.3 (2,116)
	Adj	in (mm)	91.5 (2,324)
Overall Motor Length	Fixed	ft (m)	26.4 (8.1)
	Adj	ft (m)	27.9 (8.5)
Weight		lbs (kg)	2,180 (988)
Connections		Box	4-1/2" Reg, Top and Bottom
Bit Size		in (mm)	8-1/4 to 9-7/8 (209.6 - 250.8)



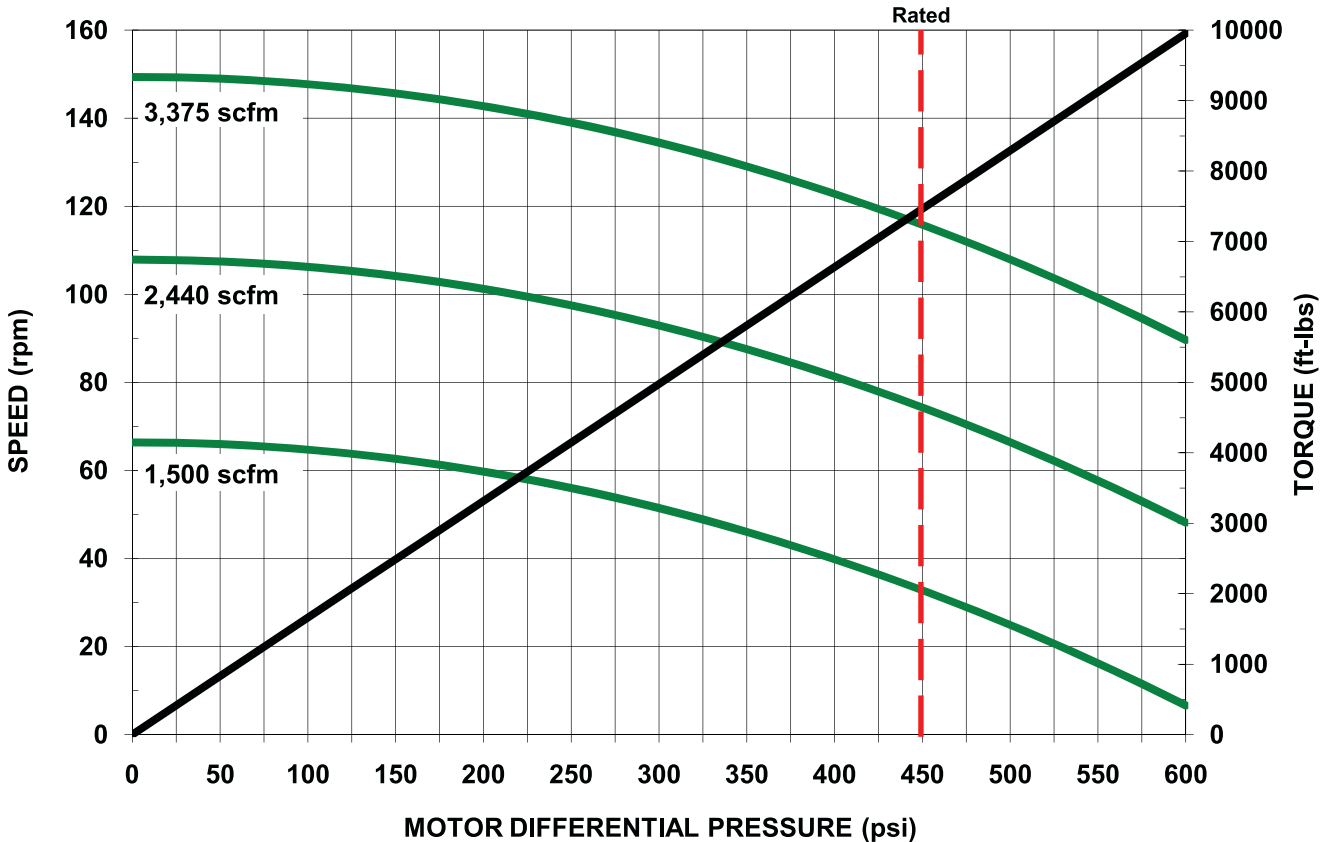
## 8 P100 Motor Specifications

Operating Data			
Flow Range	gpm (lpm)		400 - 900 (1,515 - 3,410)
Motor Pressure	psi (bar)		450 (31)
Bit Speed	rpm		66 - 149
Displacement	rev/gal (rev/l)		.166 (.044)
Torque	ft-lbs (Nm)		7,465 (10,120)
Power	HP (Kw)		212 (158)
Physical Dimensions			
Power Section Configuration	Stages		3.0
	Lobes		7/8
Bit to Stabilizer	in (mm)		30.7 (780)
Bit to Bend	Fixed	in (mm)	95.2 (2,418)
	Adj	in (mm)	105 (2,667)
Overall Motor Length	Fixed	ft (m)	23.2 (7.1)
	Adj	ft (m)	24.7 (7.5)
Weight	lbs (kg)		2,810 (1,275)
Connections	Box		6-5/8" Reg, Top and Bottom
Bit Size	in (mm)		9-1/2 to 12-1/4 (241.3 - 311.2)



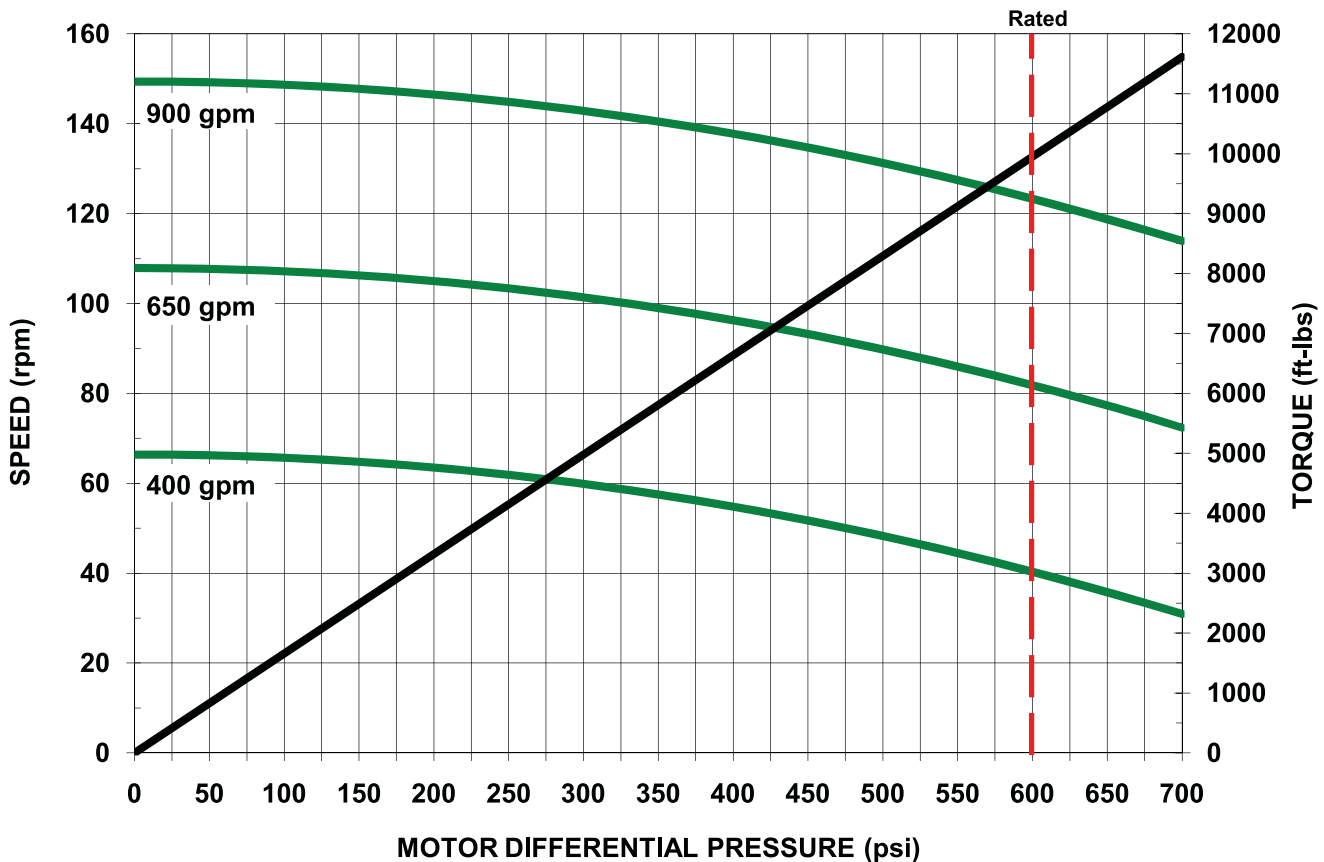
## 8 P100 AD Motor Specifications

Operating Data			
Flow Range	scfm (m <sup>3</sup> /min)	1,500 - 3,375 (42.5 - 95.6)	
Motor Pressure	psi (bar)	450 (31)	
Bit Speed	rpm	66 - 149	
Displacement	rev/scfm (rev/m <sup>3</sup> /min)	.044 (1.556)	
Torque	ft-lbs (Nm)	7,465 (10,120)	
Power	HP (Kw)	212 (158)	
Physical Dimensions			
Power Section Configuration	Stages	3.0	
	Lobes	7/8	
Bit to Stabilizer	in (mm)	30.7 (780)	
Bit to Bend	Fixed	in (mm)	95.2 (2,418)
	Adj	in (mm)	105 (2,667)
Overall Motor Length	Fixed	ft (m)	23.2 (7.1)
	Adj	ft (m)	24.7 (7.5)
Weight	lbs (kg)	2,810 (1,275)	
Connections	Box	6-5/8" Reg, Top and Bottom	
Bit Size	in (mm)	9-1/2 to 12-1/4 (241.3 - 311.2)	



## 8 P100 XL Motor Specifications

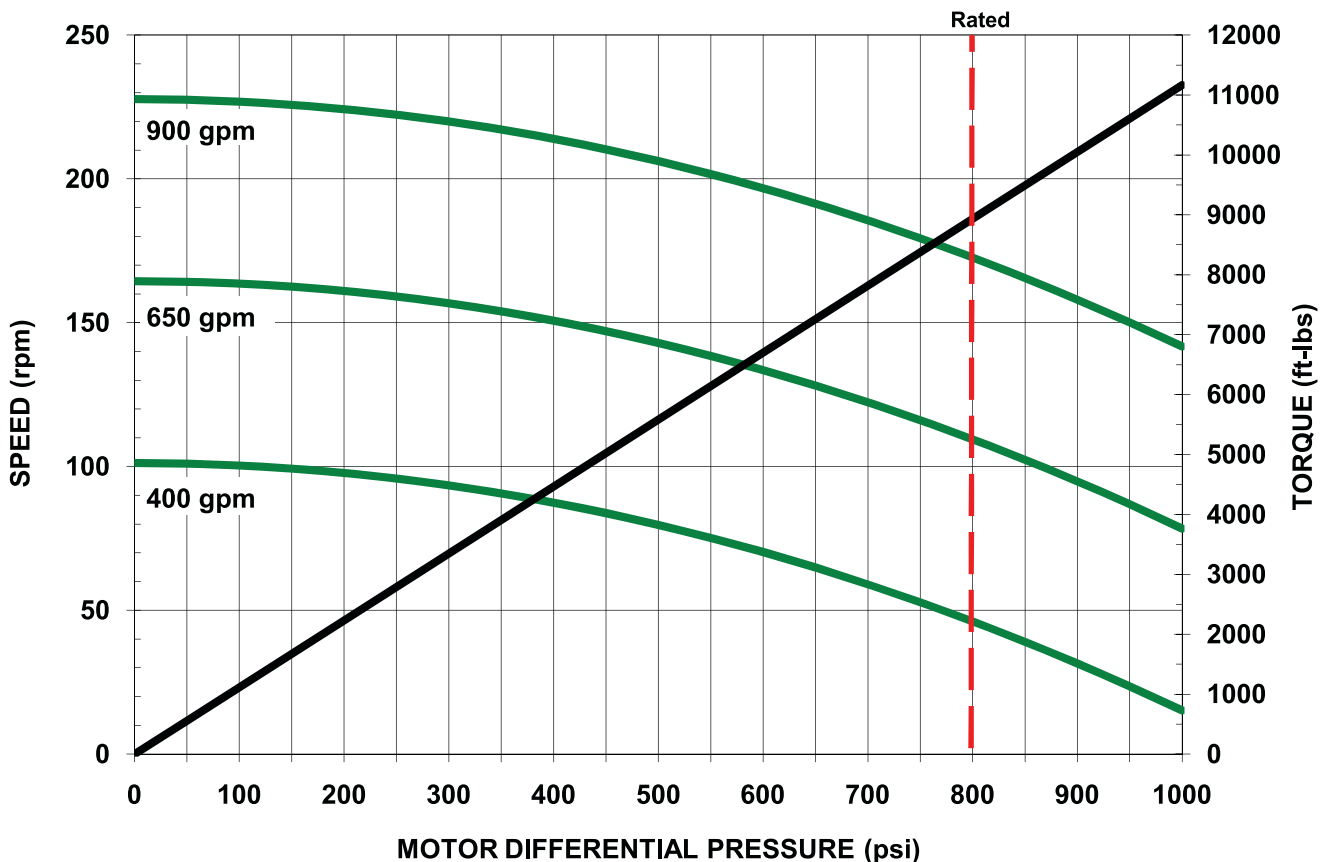
Operating Data			
Flow Range	gpm (lpm)		400 - 900 (1,515 - 3,410)
Motor Pressure	psi (bar)		600 (41)
Bit Speed	rpm		66 - 149
Displacement	rev/gal (rev/l)		.166 (.044)
Torque	ft-lbs (Nm)		9,953 (13,490)
Power	HP (Kw)		282 (210)
Physical Dimensions			
Power Section Configuration	Stages		4.0
	Lobes		7/8
Bit to Stabilizer		in (mm)	30.7 (780)
Bit to Bend	Fixed	in (mm)	95.2 (2,420)
	Adj	in (mm)	105 (2,667)
Overall Motor Length	Fixed	ft (m)	26.8 (8.2)
	Adj	ft (m)	28.3 (8.6)
Weight		lbs (kg)	3,450 (1,565)
Connections		Box	6-5/8" Reg, Top and Bottom
Bit Size		in (mm)	9-1/2 to 12-1/4 (241.3 - 311.2)





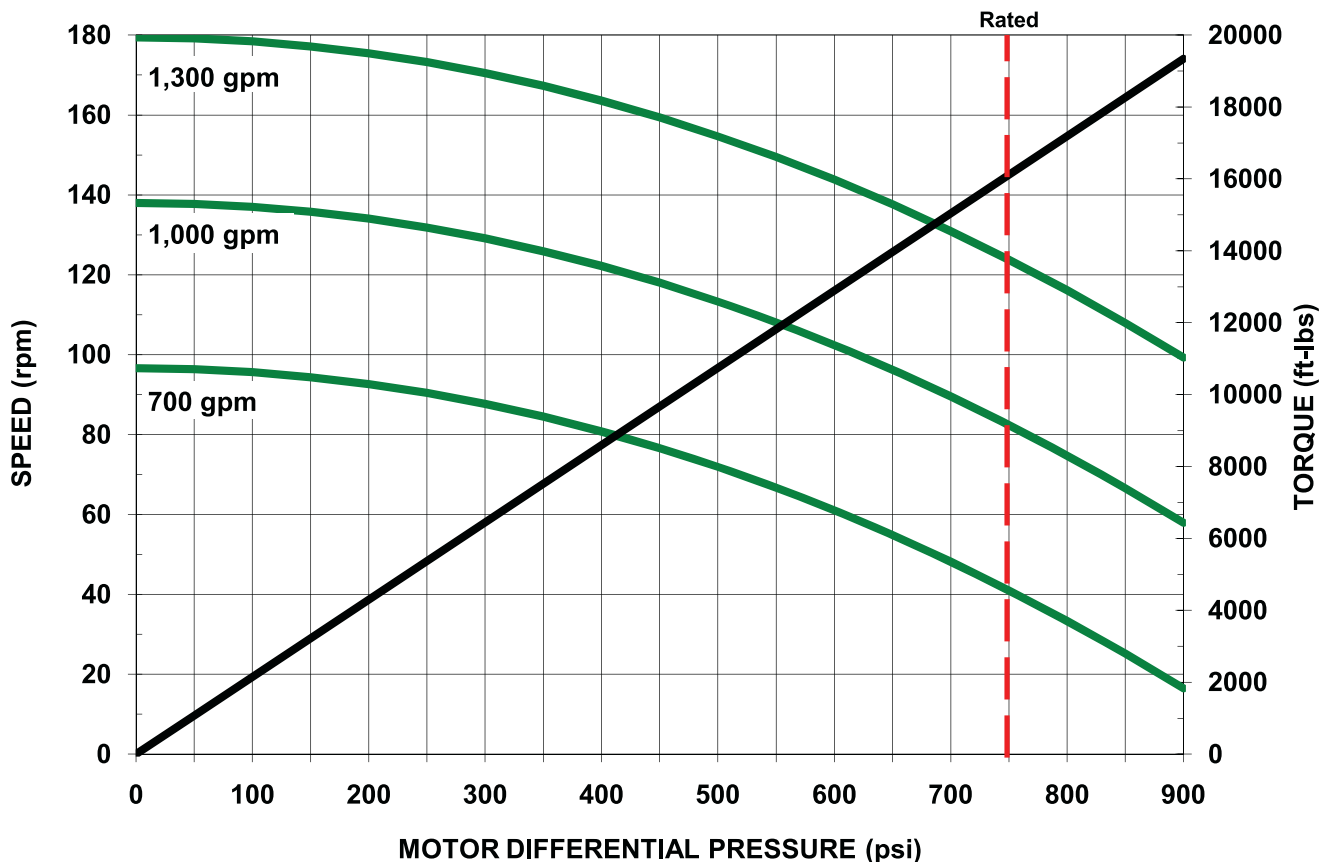
## 8 P150 XL Motor Specifications

Operating Data			
Flow Range	gpm (lpm)		400 - 900 (1,515 - 3,410)
Motor Pressure	psi (bar)		800 (55)
Bit Speed	rpm		101 - 228
Displacement	rev/gal (rev/l)		.253 (.067)
Torque	ft-lbs (Nm)		8,930 (12,110)
Power	HP (Kw)		388 (289)
Physical Dimensions			
Power Section Configuration	Stages		5.3
	Lobes		4/5
Bit to Stabilizer	in (mm)		30.7 (780)
Bit to Bend	Fixed	in (mm)	95.2 (2,420)
	Adj	in (mm)	105 (2,667)
Overall Motor Length	Fixed	ft (m)	28.9 (8.8)
	Adj	ft (m)	30.4 (9.3)
Weight	lbs (kg)		3,450 (1,565)
Connections	Box		6-5/8" Reg, Top and Bottom
Bit Size	in (mm)		9-1/2 to 12-1/4 (241.3 - 311.2)



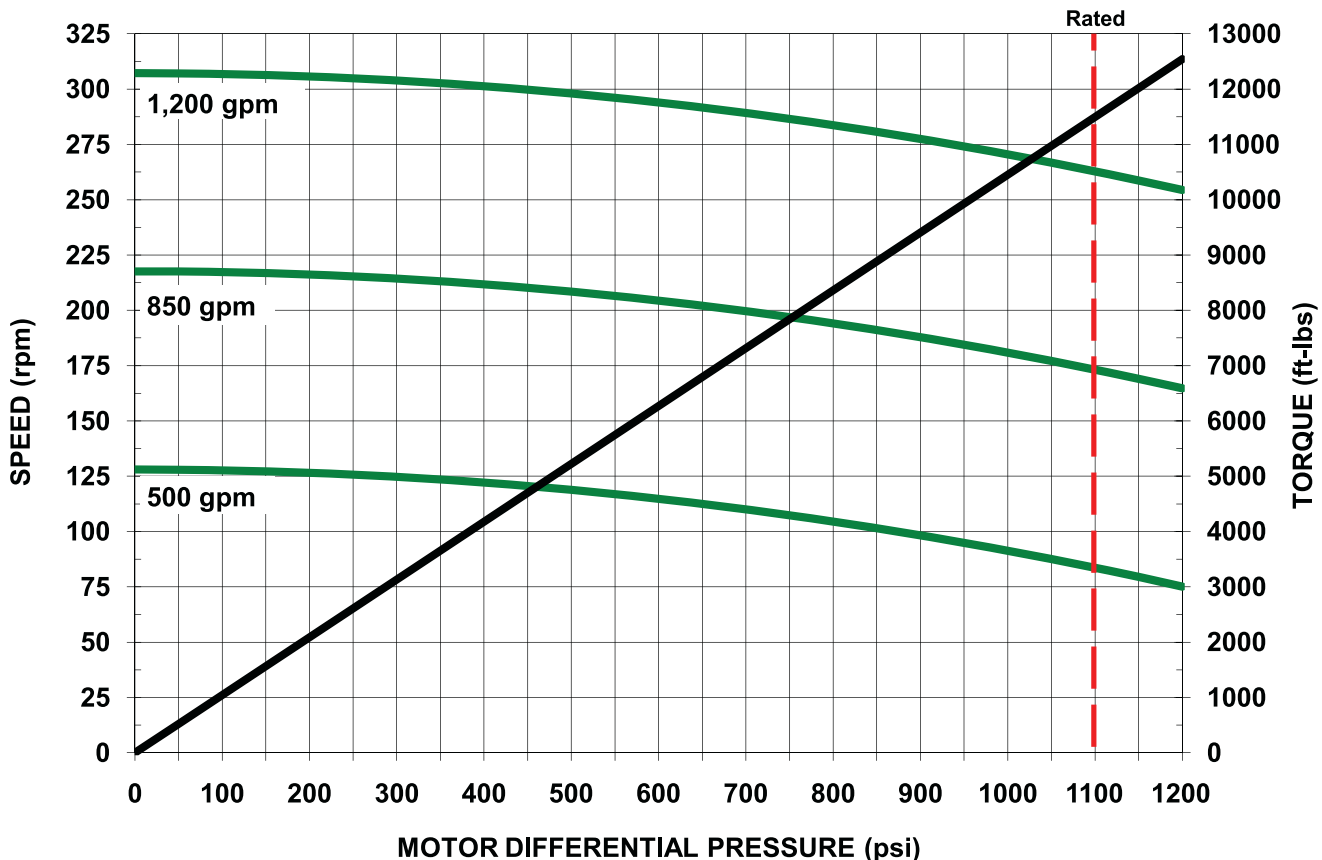
## 9-5/8 P100 XL Motor Specifications

Operating Data			
Flow Range	gpm (lpm)	700 - 1,300 (2,650 - 4,921)	
Motor Pressure	psi (bar)	750 (52)	
Bit Speed	rpm	97 - 179	
Displacement	rev/gal (rev/l)	.138 (.036)	
Torque	ft-lbs (Nm)	16,115 (21,850)	
Power	HP (Kw)	550 (410)	
Physical Dimensions			
Power Section Configuration	Stages	5.0	
	Lobes	5/6	
Bit to Stabilizer	in (mm)	31.1 (790)	
Bit to Bend	Fixed	in (mm)	101.5 (2,578)
	Adj	in (mm)	114.3 (2,904)
Overall Motor Length	Fixed	ft (m)	30.2 (9.2)
	Adj	ft (m)	32.4 (9.9)
Weight	lbs (kg)	4,900 (2,220)	
Connections	Box	7-5/8" Reg, Top and Bottom	
Bit Size	in (mm)	11-1/4 to 26 (285.8 - 660.4)	



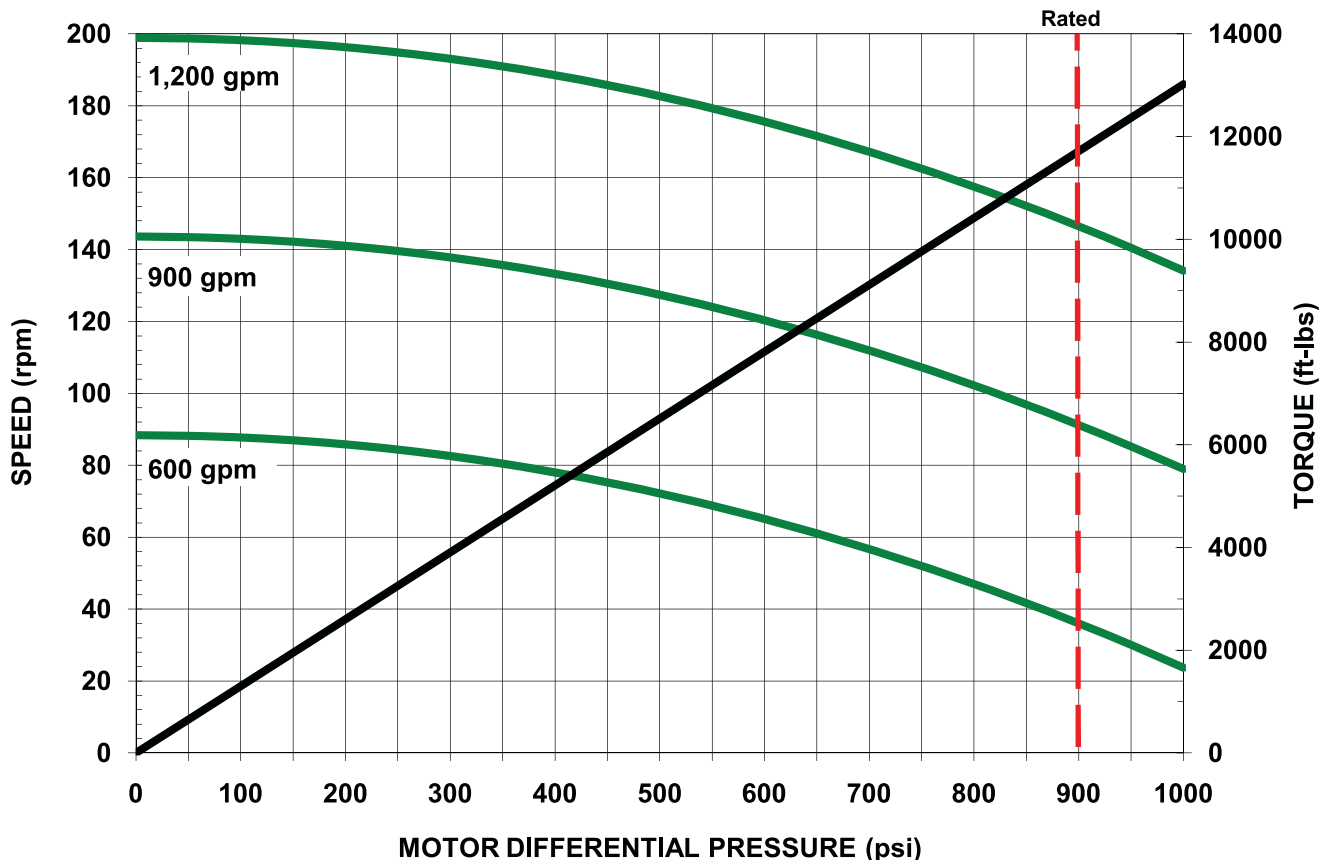
## 9-5/8 P150 XL Motor Specifications

Operating Data			
Flow Range	gpm (lpm)		500 - 1,200 (1,890 - 4,540)
Motor Pressure	psi (bar)		1,100 (76)
Bit Speed	rpm		128 - 307
Displacement	rev/gal (rev/l)		.256 (.068)
Torque	ft-lbs (Nm)		11,495 (15,585)
Power	HP (Kw)		672 (501)
Physical Dimensions			
Power Section Configuration	Stages		7.2
	Lobes		4/5
Bit to Stabilizer	in (mm)		31.1 (790)
Bit to Bend	Fixed	in (mm)	101.5 (2,578)
	Adj	in (mm)	114.3 (2,904)
Overall Motor Length	Fixed	ft (m)	27.7 (8.5)
	Adj	ft (m)	29.9 (9.1)
Weight	lbs (kg)		4,900 (2,220)
Connections	Box		7-5/8" Reg, Top and Bottom
Bit Size	in (mm)		11-1/4 to 26 (285.8 - 660.4)



## 9-5/8 P180 XL Motor Specifications

Operating Data			
Flow Range		gpm (lpm)	600 - 1,200 (2,270 - 4,540)
Motor Pressure		psi (bar)	900 (62)
Bit Speed		rpm	88 - 199
Displacement		rev/gal (rev/l)	.221 (.058)
Torque		ft-lbs (Nm)	11,715 (15,885)
Power		HP (Kw)	444 (330)
Physical Dimensions			
Power Section Configuration		Stages	6.0
		Lobes	3/4
Bit to Stabilizer		in (mm)	31.1 (790)
Bit to Bend	Fixed	in (mm)	101.5 (2,578)
	Adj	in (mm)	114.3 (2,904)
Overall Motor Length	Fixed	ft (m)	29.9 (9.1)
	Adj	ft (m)	32.1 (9.8)
Weight		lbs (kg)	4,900 (2,220)
Connections		Box	7-5/8" Reg, Top and Bottom
Bit Size		in (mm)	11-1/4 to 26 (285.8 - 660.4)



## 11-1/4 P150 Motor Specifications

Operating Data			
Flow Range	gpm (lpm)		1,000 - 1,500 (3,785 - 5,680)
Motor Pressure	psi (bar)		540 (37)
Bit Speed	rpm		116 - 174
Displacement	rev/gal (rev/l)		.116 (.031)
Torque	ft-lbs (Nm)		13,395 (18,150)
Power	HP (Kw)		444 (330)
Physical Dimensions			
Power Section Configuration	Stages		3.6
	Lobes		3/4
Bit to Stabilizer	in (mm)		39.6 (1,005)
Bit to Bend	Fixed	in (mm)	N/A
	Adj	in (mm)	115.6 (2,936)
Overall Motor Length	Fixed	ft (m)	27.6 (8.4)
	Adj	ft (m)	29.9 (9.1)
Weight	lbs (kg)		6,650 (3,015)
Connections	Box		7-5/8" Reg, Top and Bottom
Bit Size	in (mm)		14-3/4 to 26 (374.7 - 660.4)

