



whitedriveproducts



SERIES

255 -

256 -



LIGHT DUTY
Hydraulic Motor

WR

WR (All Series)

For Light Duty Applications

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OVERVIEW

The WR Series motor incorporates the latest advances for smooth performance, efficiency and durability. It features an optimized Roller Stator[®] geometry with seven precision rollers to eliminate sliding friction and provide rolling contact between the rotor and stator. This increases motor efficiency. A three-zone spool valve, integral check valves and a provision for a case drain reduce pressure on internal seals to improve product life. A wide variety of mounting, shaft, motor displacement and porting options are available to meet all application needs.

TYPICAL APPLICATIONS

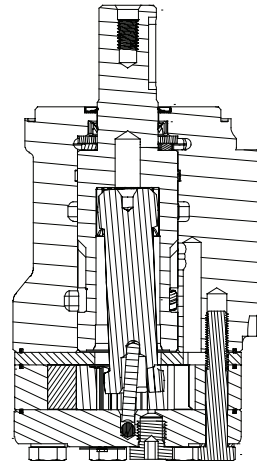
conveyors, carwashes, positioners, light-duty wheel drives, sweepers, food processing, grain augers, spreaders, feed rollers, screw drives, brush drives and more

SERIES DESCRIPTIONS

255/256 - Hydraulic Motor
Standard

FEATURES / BENEFITS

- A variety of mounts and shafts provides flexibility in application design.
- A high pressure shaft seal offers superior seal life and performance.
- The spool valve design gives superior performance and smooth operation over a wide speed and torque range.
- Built-in check valves (not shown) in the housing offer versatility and increased seal life.
- Optimized Roller Stator[®] geometry provides a smooth running high efficient product.



SPECIFICATIONS

CODE	Displacement cm ³ [in ³ /rev]	Max. Speed rpm		Max. Flow lpm [gpm]		Max. Torque Nm [lb-in]		Max. Pressure bar [psi]		
		cont.	inter.	cont.	inter.	cont.	inter.	cont.	inter.	peak
040	40 [2.5]	1116	1515	45 [12]	61 [16]	93 [823]	123 [1088]	155 [2250]	207 [3000]	224 [3250]
050	50 [3.1]	1058	1220	53 [14]	61 [16]	111 [982]	149 [1319]	155 [2250]	207 [3000]	224 [3250]
060	59 [3.6]	890	1142	53 [14]	68 [18]	138 [1221]	172 [1522]	155 [2250]	207 [3000]	224 [3250]
070	71 [4.3]	865	1078	61 [16]	76 [20]	176 [1558]	207 [1832]	172 [2500]	207 [3000]	241 [3500]
080	79 [4.9]	759	957	61 [16]	76 [20]	202 [1788]	243 [2150]	172 [2500]	207 [3000]	241 [3500]
090	88 [5.4]	691	864	61 [16]	76 [20]	222 [1965]	263 [2327]	172 [2500]	207 [3000]	241 [3500]
100	100 [6.1]	610	760	61 [16]	76 [20]	246 [2177]	289 [2558]	172 [2500]	207 [3000]	241 [3500]
115	113 [6.9]	539	672	61 [16]	76 [20]	284 [2513]	327 [2894]	172 [2500]	207 [3000]	241 [3500]
130	129 [7.9]	472	588	61 [16]	76 [20]	316 [2797]	375 [3319]	172 [2500]	207 [3000]	241 [3500]
160	160 [9.8]	379	469	61 [16]	76 [20]	400 [3540]	454 [4018]	172 [2500]	207 [3000]	241 [3500]
200	198 [12.1]	308	384	61 [16]	76 [20]	462 [4088]	544 [4814]	172 [2500]	207 [3000]	241 [3500]
240	236 [14.4]	249	315	61 [16]	76 [20]	548 [4850]	642 [5682]	172 [2500]	207 [3000]	224 [3250]
250	250 [15.3]	250	300	61 [16]	76 [20]	561 [4965]	624 [5522]	172 [2500]	207 [3000]	224 [3250]
290	291 [17.8]	210	256	61 [16]	76 [20]	526 [4655]	664 [5876]	138 [2000]	190 [2750]	207 [3000]
320	322 [19.6]	188	235	61 [16]	76 [20]	518 [4584]	690 [6106]	121 [1750]	172 [2500]	190 [2750]
400	400 [24.4]	152	190	61 [16]	76 [20]	551 [4873]	698 [6177]	104 [1500]	138 [2000]	155 [2250]

► Performance data is typical. Performance of production units varies slightly from one motor to another. Running at intermittent ratings should not exceed 10% of every minute of operation.



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WR (All Series)
For Light Duty Applications

DISPLACEMENT PERFORMANCE

040

Pressure - bar [psi]										Max. Cont.	Max. Inter.	
17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	155 [2250]	172 [2500]	207 [3000]		

40 cm³ [2.5 in³] / rev

Intermittent Ratings - 10% of Operation

Flow - lpm [gpm]	2 [0.5]
	4 [1]
	8 [2]
	15 [4]
	23 [6]
	30 [8]
	38 [10]
	45 [12]
	53 [14]
	61 [16]

Torque - Nm [lb-in], Speed rpm											
9 [80]	20 [177]	32 [283]	40 [354]	37 [327]							
43	40	35	29	24							
10 [88]	21 [186]	30 [265]	42 [372]	52 [460]	62 [549]						
95	91	82	73	62	51						
9 [90]	19 [168]	28 [248]	41 [363]	51 [451]	64 [566]	72 [637]	79 [699]	89 [788]	99 [876]		
7 [62]	18 [159]	27 [239]	40 [354]	49 [434]	62 [549]	73 [646]	83 [735]	93 [823]	102 [903]	121 [1071]	
365	355	343	324	312	295	293	275	257	237	198	
6 [53]	17 [150]	26 [230]	39 [345]	48 [425]	61 [540]	70 [619]	82 [726]	90 [796]	101 [894]	122 [1080]	
560	548	532	515	502	485	471	451	432	444	398	
6 [53]	16 [142]	25 [221]	37 [327]	47 [416]	59 [522]	68 [602]	78 [717]	88 [779]	99 [876]	123 [1088]	
728	716	706	684	667	648	634	629	618	601	545	
5 [44]	14 [124]	22 [195]	35 [310]	45 [398]	57 [504]	68 [602]	78 [690]	86 [718]	97 [858]	118 [1044]	
942	936	927	918	904	890	874	852	835	812	743	
3 [27]	13 [115]	21 [186]	34 [301]	43 [381]	55 [487]	67 [593]	77 [681]	84 [743]	95 [841]	116 [1027]	
1116	1113	1100	1082	1056	1028	1004	976	952	916	870	
	10 [88]	20 [177]	31 [274]	39 [345]	52 [460]	63 [558]	75 [664]	82 [726]	93 [823]	115 [1018]	
	1316	1301	1278	1253	1230	1206	1184	1154	1116	1078	
	8 [71]	19 [168]	29 [257]	38 [336]	49 [434]	60 [531]	74 [655]	80 [708]	90 [796]	113 [1000]	
	1515	1497	1469	1442	1415	1399	1378	1355	1330	1298	

Theoretical rpm	50
	100
	199
	373
	572
	746
	945
	1119
	1318
	1517

Rotor Width

8.1 [317]

mm [in]

Overall Efficiency - 70 - 100% 40 - 69% 0 - 39%

Theoretical Torque - Nm [lb-in]

11 [97]	22 [195]	34 [301]	45 [398]	56 [496]	67 [593]	78 [690]	90 [796]	101 [894]	112 [991]	132 [1167]
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Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]

050

Pressure - bar [psi]										Max. Cont.	Max. Inter.	
17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	155 [2250]	172 [2500]	207 [3000]		

50 cm³ [3.1 in³] / rev

Intermittent Ratings - 10% of Operation

Flow - lpm [gpm]	4 [1]
	8 [2]
	15 [4]
	23 [6]
	30 [8]
	38 [10]
	45 [12]
	53 [14]
	61 [16]

Torque - Nm [lb-in], Speed rpm											
11 [97]	24 [212]	37 [327]	49 [434]	61 [540]	74 [655]	82 [726]	91 [805]				
77	75	74	69	63	52	41	36				
11 [97]	24 [212]	36 [319]	49 [434]	62 [548]	75 [664]	88 [779]	99 [876]	107 [947]			
155	152	150	142	132	124	107	91	82			
9 [90]	23 [204]	36 [319]	49 [434]	62 [548]	75 [664]	88 [779]	99 [876]	110 [973]	123 [1088]	147 [1301]	
295	291	283	272	267	248	231	215	199	182	164	
7 [62]	22 [195]	35 [310]	47 [416]	61 [540]	74 [655]	87 [770]	99 [876]	111 [982]	124 [1097]	149 [1319]	
452	447	434	430	416	402	385	368	346	324	300	
5 [44]	21 [186]	34 [301]	45 [398]	60 [531]	74 [655]	86 [761]	99 [876]	111 [982]	125 [1106]	148 [1310]	
594	589	577	566	546	528	509	489	468	448	426	
3 [27]	19 [168]	32 [283]	45 [398]	57 [504]	70 [619]	82 [726]	95 [841]	107 [947]	120 [1062]	142 [1257]	
754	749	736	728	716	699	680	664	644	624	600	
2 [18]	17 [150]	30 [265]	43 [381]	55 [487]	68 [602]	80 [708]	92 [814]	105 [929]	116 [1027]	138 [1221]	
896	892	875	873	861	843	827	812	794	776	752	
	14 [124]	27 [239]	39 [345]	51 [451]	64 [566]	76 [673]	88 [779]	100 [885]	112 [991]	134 [1186]	
	1058	1055	1052	1036	998	988	960	972	904	860	
	11 [97]	24 [212]	35 [310]	47 [416]	60 [531]	72 [637]	84 [743]	96 [850]	108 [956]	130 [1150]	
	1220	1216	1212	1210	1198	1160	1130	1112	1080	1032	

Theoretical rpm	80
	160
	300
	460
	600
	760
	900
	1060
	1220

Rotor Width

9.9 [389]

mm [in]

Overall Efficiency - 70 - 100% 40 - 69% 0 - 39%

Theoretical Torque - Nm [lb-in]

14 [122]	27 [195]	41 [301]	55 [398]	69 [496]	82 [593]	96 [690]	110 [796]	124 [894]	137 [1215]	165 [1458]
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Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]

► Performance data is typical. Performance of production units varies slightly from one motor to another.

WR (All Series)
For Light Duty Applications

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DISPLACEMENT PERFORMANCE

		Pressure - bar [psi]										Max. Cont.	Max. Inter.			
		17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	155 [2250]	172 [2500]	207 [3000]				
060		59 cm ³ [3.6 in ³] / rev														
		Torque - Nm [lb-in], Speed rpm										Intermittent Ratings - 10% of Operation				
Flow - lpm [gpm]	2 [0.5]	12 [106]	26 [230]	34 [301]	45 [398]											34
	4 [1]	13 [115]	29 [257]	42 [372]	56 [496]	62 [549]	68 [602]									67
	8 [2]	14 [124]	31 [274]	46 [407]	58 [513]	74 [655]	94 [832]	110 [974]	121 [1071]	137 [1212]	148 [1310]	168 [1487]				135
	15 [4]	14 [124]	30 [266]	45 [398]	60 [531]	75 [664]	95 [841]	108 [956]	122 [1080]	138 [1221]	150 [1328]	170 [1505]				253
	23 [6]	11 [97]	30 [266]	44 [389]	59 [522]	74 [655]	93 [823]	106 [938]	124 [1097]	138 [1221]	152 [1345]	172 [1522]				387
	30 [8]	10 [89]	29 [257]	43 [371]	58 [513]	72 [637]	92 [814]	104 [920]	123 [1089]	135 [1195]	148 [1310]	170 [1505]				505
	38 [10]	9 [80]	28 [248]	42 [372]	55 [487]	70 [620]	90 [797]	102 [903]	121 [1071]	133 [1177]	146 [1292]	168 [1487]				640
	45 [12]	8 [71]	24 [212]	39 [345]	52 [460]	69 [611]	87 [770]	100 [885]	118 [1044]	130 [1151]	145 [1283]	164 [1451]				758
	53 [14]	6 [53]	23 [204]	38 [336]	48 [425]	65 [575]	84 [743]	98 [867]	114 [1009]	127 [1124]	138 [1221]	162 [1434]				892
	61 [16]		17 [150]	29 [257]	44 [389]	62 [549]	78 [690]	90 [797]	106 [938]	121 [1071]	141 [1244]	160 [1416]				1026
68 [18]		10 [89]	26 [230]	40 [354]	57 [504]	73 [646]	86 [761]	102 [903]	115 [1018]	130 [1151]	158 [1398]				1145	
		Overall Efficiency - 70 - 100% <input type="checkbox"/> 40 - 69% <input type="checkbox"/> 0 - 39% <input type="checkbox"/>														
		Theoretical Torque - Nm [lb-in]														
		16 [142]	33 [292]	49 [434]	65 [575]	81 [717]	98 [867]	114 [1009]	131 [1150]	147 [1292]	164 [1442]	179 [1584]				
		Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]														
Max. Cont.	11.8 [463]															
Max. Inter.	mm [in]															

		Pressure - bar [psi]										Max. Cont.	Max. Inter.			
		17 [250]	35 [500]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	155 [2250]	172 [2500]	190 [2750]	207 [3000]				
070		71 cm ³ [4.3 in ³] / rev														
		Torque - Nm [lb-in], Speed rpm										Intermittent Ratings - 10% of Operation				
Flow - lpm [gpm]	2 [0.5]	13 [115]	30 [266]												28	
	4 [1]	14 [124]	32 [283]	66 [584]	73 [646]										57	
	8 [2]	16 [142]	34 [301]	70 [620]	88 [779]	104 [920]	120 [1062]	134 [1186]	149 [1319]						113	
	15 [4]	15 [133]	33 [292]	71 [628]	87 [770]	107 [947]	123 [1089]	139 [1230]	158 [1398]	171 [1513]	196 [1735]	211 [1867]			213	
	23 [6]	14 [124]	31 [274]	66 [584]	83 [735]	104 [920]	124 [1097]	138 [1221]	157 [1389]	176 [1558]	192 [1699]	207 [1832]			326	
	30 [8]	13 [115]	30 [266]	67 [593]	84 [743]	104 [920]	123 [1089]	137 [1212]	159 [1407]	174 [1540]	193 [1708]	203 [1797]			426	
	38 [10]	10 [89]	29 [257]	65 [575]	82 [726]	103 [903]	115 [1018]	135 [1195]	152 [1345]	172 [1522]	186 [1646]	204 [1805]			539	
	45 [12]	7 [62]	25 [221]	63 [558]	82 [726]	98 [867]	117 [1035]	132 [1168]	152 [1345]	169 [1496]	189 [1673]	199 [1761]			638	
	53 [14]	5 [44]	21 [186]	58 [513]	75 [664]	94 [832]	115 [1018]	131 [1159]	147 [1301]	167 [1478]	187 [1655]	204 [1805]			752	
	61 [16]		17 [150]	54 [478]	73 [646]	91 [805]	107 [947]	128 [1133]	143 [1266]	160 [1416]	177 [1566]	194 [1717]			865	
68 [18]		16 [142]	48 [425]	70 [620]	88 [779]	106 [938]	122 [1080]	139 [1230]	156 [1381]	173 [1531]	191 [1690]			965		
76 [20]		12 [106]	47 [416]	65 [575]	81 [717]	100 [885]	118 [1044]	138 [1221]	152 [1345]	173 [1531]	189 [1673]			1078		
		Overall Efficiency - 70 - 100% <input type="checkbox"/> 40 - 69% <input type="checkbox"/> 0 - 39% <input type="checkbox"/>														
		Theoretical Torque - Nm [lb-in]														
		19 [169]	39 [348]	77 [685]	97 [854]	117 [1033]	136 [1202]	155 [1371]	174 [1540]	194 [1719]	213 [1888]	232 [2056]				
		Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]														
Max. Cont.	13.8 [542]															
Max. Inter.	mm [in]															

► Performance data is typical. Performance of production units varies slightly from one motor to another.



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For Light Duty Applications

DISPLACEMENT PERFORMANCE

		Pressure - bar [psi]										Max. Cont.	Max. Inter.									
		17 [250]	35 [500]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	155 [2250]	172 [2500]	190 [2750]	207 [3000]										
080		79 cm ³ [4.9 in ³] / rev											Intermittent Ratings - 10% of Operation									
		Torque - Nm [lb-in], Speed rpm																				
Flow - lpm [gpm]	4 [1]	18 [159]	38 [336]	77 [681]	94 [832]											50						
	8 [2]	49	46	41	40											100						
	15 [4]	18 [159]	39 [345]	76 [673]	98 [867]	120 [1062]	141 [1248]	159 [1407]	174 [1540]							190						
	23 [6]	189	98	89	83	161	151	144	131	122	112	100				291						
	30 [8]	17 [150]	37 [327]	79 [690]	97 [858]	119 [1053]	140 [1239]	160 [1416]	182 [1611]	202 [1788]	222 [1965]	243 [2150]				380						
	38 [10]	290	286	274	268	259	250	240	227	214	200	185				481						
	45 [12]	14 [124]	35 [310]	75 [664]	96 [850]	117 [1035]	138 [1221]	159 [1407]	181 [1602]	200 [1770]	220 [1947]	241 [2133]				570						
	53 [14]	374	368	357	349	339	330	321	307	296	284	268				671						
	61 [16]	11 [97]	34 [301]	73 [646]	94 [832]	116 [1027]	138 [1221]	158 [1398]	177 [1566]	199 [1761]	218 [1929]	238 [2106]				772						
	68 [18]	8 [71]	31 [274]	72 [637]	93 [823]	114 [1009]	135 [1195]	155 [1372]	176 [1558]	196 [1735]	215 [1903]	235 [2080]				861						
Max. Inter.	76 [20]	568	562	548	543	532	525	515	501	486	472	458				962						
		668	663	649	642	632	624	620	600	585	570	554										
		Overall Efficiency - 70 - 100% <input type="checkbox"/> 40 - 69% <input type="checkbox"/> 0 - 39% <input type="checkbox"/>																				
		Theoretical Torque - Nm [lb-in]																				
		22 [192]											43 [384]	87 [768]	108 [960]	130 [1152]	152 [1344]	174 [1536]	195 [1728]	217 [1920]	239 [2112]	260 [2304]
		mm [in]																				
		Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]																				

		Pressure - bar [psi]										Max. Cont.	Max. Inter.									
		17 [250]	35 [500]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	155 [2250]	172 [2500]	190 [2750]	207 [3000]										
090		88 cm ³ [5.4 in ³] / rev											Intermittent Ratings - 10% of Operation									
		Torque - Nm [lb-in], Speed rpm																				
Flow - lpm [gpm]	2 [0.5]	18 [159]	40 [354]	75 [664]												23						
	4 [1]	23	22	17												45						
	8 [2]	20 [177]	44 [389]	88 [779]	112 [991]	118 [1044]	128 [1133]									91						
	15 [4]	45	42	35	31	27	21									170						
	23 [6]	22 [195]	44 [389]	87 [770]	114 [1009]	134 [1186]	158 [1398]	175 [1549]	198 [1752]	216 [1912]						260						
	30 [8]	91	88	81	77	72	68	60	52	42	242 [2142]	262 [2319]				340						
	38 [10]	20 [177]	44 [389]	88 [779]	112 [991]	134 [1186]	154 [1363]	182 [1611]	204 [1805]	222 [1965]	242 [2142]	263 [2327]				430						
	45 [12]	19 [168]	40 [354]	86 [761]	110 [974]	131 [1159]	152 [1345]	176 [1558]	196 [1735]	218 [1929]	242 [2142]	263 [2327]				510						
	53 [14]	260	257	250	245	238	232	225	215	205	193	186				601						
	61 [16]	17 [150]	38 [336]	83 [735]	108 [956]	126 [1115]	150 [1327]	173 [1531]	194 [1717]	216 [1912]	238 [2106]	258 [2283]				692						
Max. Inter.	76 [20]	430	429	426	424	417	411	402	393	380	366	354				772						
		510	508	504	500	496	488	480	472	462	448	434				864						
		Overall Efficiency - 70 - 100% <input type="checkbox"/> 40 - 69% <input type="checkbox"/> 0 - 39% <input type="checkbox"/>																				
		Theoretical Torque - Nm [lb-in]																				
		24 [215]											49 [429]	97 [859]	121 [1073]	146 [1288]	170 [1502]	194 [1717]	218 [1932]	243 [2146]	267 [2361]	291 [2576]
		mm [in]																				
		Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]																				

► Performance data is typical. Performance of production units varies slightly from one motor to another.

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For Light Duty Applications

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DISPLACEMENT PERFORMANCE

		Pressure - bar [psi]										Max. Cont.	Max. Inter.	
100		17 [250]	35 [500]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	155 [2250]	172 [2500]	190 [2750]	207 [3000]		
100 cm ³ [6.1 in ³] / rev		Intermittent Ratings - 10% of Operation												
		Torque - Nm [lb-in], Speed rpm												
Flow - lpm [gpm]	2 [0.5]	18 [159] 17	37 [327] 13	77 [681] 12	91 [805] 11									20
	4 [1]	26 [230] 38	49 [434] 37	84 [743] 33	106 [938] 31	120 [1062] 29	140 [1239] 15	160 [1416] 7						40
	8 [2]	25 [221] 80	50 [442] 78	98 [867] 75	125 [1106] 70	150 [1327] 68	175 [1549] 65	199 [1761] 61	189 [1673] 20					80
	15 [4]	26 [230] 150	46 [407] 148	97 [858] 142	124 [1097] 139	148 [1310] 136	175 [1549] 131	198 [1752] 129	224 [1982] 122	245 [2168] 118	267 [2363] 111	289 [2558] 85		150
	23 [6]	23 [203] 229	48 [425] 226	96 [850] 221	123 [1088] 218	148 [1310] 215	173 [1531] 212	200 [1770] 208	223 [1973] 201	246 [2177] 197	269 [2381] 189	286 [2531] 162		230
	30 [8]	21 [186] 296	45 [398] 292	93 [823] 285	121 [1071] 282	146 [1292] 280	168 [1487] 280	195 [1726] 274	221 [1956] 270	244 [2159] 265	265 [2345] 255	284 [2513] 208		300
	38 [10]	17 [150] 378	41 [363] 375	91 [805] 367	115 [1018] 370	141 [1248] 367	165 [1460] 364	189 [1673] 363	215 [1903] 361	238 [2106] 353	264 [2346] 338	282 [2496] 310		380
	45 [12]	14 [123] 450	36 [319] 448	89 [787] 442	116 [1027] 438	140 [1239] 433	162 [1434] 426	188 [1664] 420	210 [1858] 412	234 [2071] 404	258 [2283] 390	280 [2478] 355		450
	53 [14]	12 [106] 528	34 [301] 526	83 [735] 520	109 [965] 518	134 [1186] 514	158 [1389] 508	181 [1602] 500	205 [1814] 490	228 [2017] 480	256 [2265] 468	278 [2460] 440		530
	61 [16]	10 [88] 610	28 [248] 608	79 [690] 600	103 [912] 596	129 [1142] 590	152 [1345] 582	172 [1522] 576	198 [1752] 568	223 [1973] 556	254 [2248] 542	276 [2443] 525		610
	68 [18]	6 [53] 680	21 [186] 677	71 [628] 666	94 [832] 660	121 [1071] 653	146 [1292] 645	169 [1496] 635	192 [1699] 624	215 [1903] 610	251 [2221] 594	272 [2407] 574		680
	76 [20]		15 [133] 760	63 [558] 754	85 [752] 750	112 [991] 742	133 [1177] 730	160 [1416] 715	185 [1637] 702	202 [1788] 688	248 [2195] 666	267 [2363] 636		760
Overall Efficiency - 70 - 100% <input type="checkbox"/> 40 - 69% <input type="checkbox"/> 0 - 39% <input type="checkbox"/>														
Rotor Width		Theoretical Torque - Nm [lb-in]												
19.7 [.777]		27 [239]	56 [496]	110 [974]	137 [1212]	166 [1469]	193 [1708]	220 [1947]	247 [2186]	275 [2434]	303 [2682]	330 [2921]		
mm [in]		Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]												

		Pressure - bar [psi]										Max. Cont.	Max. Inter.	
115		17 [250]	35 [500]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	155 [2250]	172 [2500]	190 [2750]	207 [3000]		
113 cm ³ [6.9 in ³] / rev		Intermittent Ratings - 10% of Operation												
		Torque - Nm [lb-in], Speed rpm												
Flow - lpm [gpm]	2 [0.5]	23 [204] 17	53 [469] 12											18
	4 [1]	25 [221] 35	56 [496] 34	95 [841] 30	118 [1044] 19									35
	8 [2]	25 [221] 70	59 [522] 69	117 [1035] 65	144 [1274] 62	172 [1522] 60	202 [1788] 56							71
	15 [4]	24 [212] 130	58 [513] 129	112 [991] 127	144 [1274] 125	173 [1531] 122	202 [1788] 117	225 [1991] 114	251 [2221] 108					133
	23 [6]	22 [195] 200	51 [451] 199	111 [982] 197	140 [1239] 194	171 [1513] 191	201 [1779] 186	224 [1982] 183	251 [2221] 176	284 [2513] 170	307 [2717] 153			204
	30 [8]	21 [186] 264	53 [469] 262	108 [956] 258	134 [1186] 256	167 [1478] 254	196 [1735] 251	222 [1965] 248	251 [2221] 240	278 [2460] 232	305 [2699] 226	327 [2894] 210		265
	38 [10]	16 [142] 336	46 [407] 334	105 [929] 330	131 [1159] 326	164 [1451] 323	191 [1690] 318	217 [1920] 312	247 [2186] 306	271 [2398] 300	299 [2646] 292	327 [2894] 281		336
	45 [12]	12 [106] 397	43 [381] 396	101 [894] 390	132 [1168] 387	161 [1425] 382	187 [1655] 379	218 [1929] 371	239 [2115] 363	269 [2381] 355	290 [2566] 344	319 [2823] 339		398
	53 [14]	6 [53] 468	35 [310] 464	97 [858] 456	125 [1106] 452	157 [1389] 448	179 [1584] 444	207 [1832] 442	237 [2097] 436	259 [2292] 430	289 [2558] 422	315 [2788] 415		469
	61 [16]		34 [301] 539	90 [796] 534	118 [1044] 531	149 [1319] 524	174 [1540] 521	200 [1770] 518	233 [2062] 506	254 [2248] 498	285 [2522] 485	314 [2779] 479		540
	68 [18]		29 [257] 601	84 [743] 596	114 [1009] 594	140 [1239] 589	172 [1522] 583	202 [1788] 572	221 [1956] 566	253 [2239] 557	282 [2496] 547	299 [2646] 544		602
	76 [20]		17 [150] 672	73 [646] 668	103 [912] 664	132 [1168] 658	161 [1425] 655	186 [1646] 648	214 [1894] 638	240 [2124] 627	266 [2354] 621	293 [2593] 607		673
Overall Efficiency - 70 - 100% <input type="checkbox"/> 40 - 69% <input type="checkbox"/> 0 - 39% <input type="checkbox"/>														
Rotor Width		Theoretical Torque - Nm [lb-in]												
22.1 [.872]		31 [274]	62 [549]	124 [1097]	155 [1372]	186 [1646]	217 [1920]	248 [2195]	279 [2469]	310 [2743]	341 [3018]	372 [3292]		
mm [in]		Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]												

► Performance data is typical. Performance of production units varies slightly from one motor to another.



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		Pressure - bar [psi]										Max. Cont.	Max. Inter.			
		17 [250]	35 [500]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	155 [2250]	172 [2500]	190 [2750]	207 [3000]				
130		129 cm ³ [7.9 in ³] / rev											Intermittent Ratings - 10% of Operation			
		Torque - Nm [lb-in], Speed rpm														
Flow - lpm [gpm]	2 [0.5]	34 [301]	60 [531]													15
	4 [1]	32 [283]	64 [566]	124 [1097]	140 [1239]	185 [1637]										30
	8 [2]	31 [274]	65 [575]	126 [1115]	144 [1274]	198 [1752]	223 [1974]	248 [2195]								59
	15 [4]	31 [274]	66 [584]	130 [1151]	164 [1451]	195 [1726]	221 [1956]	255 [2257]	285 [2522]	312 [2761]	345 [3053]					118
	23 [6]	30 [266]	65 [575]	130 [1151]	162 [1434]	196 [1735]	230 [2036]	265 [2345]	289 [2558]	316 [2797]	352 [3115]	375 [3319]				177
	30 [8]	28 [248]	64 [566]	128 [1133]	157 [1389]	192 [1699]	223 [1974]	259 [2292]	284 [2513]	313 [2770]	343 [3036]	374 [3310]				235
	38 [10]	20 [177]	60 [531]	125 [1106]	157 [1389]	188 [1664]	222 [1965]	254 [2248]	282 [2496]	313 [2770]	349 [3089]	370 [3275]				294
	45 [12]	15 [133]	55 [487]	120 [1062]	152 [1345]	186 [1646]	216 [1912]	244 [2159]	281 [2467]	307 [2717]	341 [3018]	369 [3266]				353
	53 [14]	13 [115]	47 [416]	117 [1035]	150 [1328]	181 [1602]	212 [1876]	247 [2186]	273 [2416]	310 [2744]	335 [2965]	363 [3213]				411
	61 [16]	7 [62]	42 [372]	106 [938]	140 [1239]	170 [1505]	207 [1832]	239 [2115]	265 [2345]	296 [2620]	328 [2903]	361 [3195]				472
68 [18]		36 [319]	102 [903]	132 [1168]	166 [1469]	198 [1752]	224 [1982]	262 [2319]	292 [2584]	323 [2859]	351 [3106]				529	
76 [20]		32 [283]	94 [832]	123 [1089]	158 [1398]	190 [1682]	219 [1938]	254 [2248]	282 [2496]	308 [2726]	347 [3071]				588	
		Overall Efficiency - 70 - 100% <input type="checkbox"/> 40 - 69% <input type="checkbox"/> 0 - 39% <input type="checkbox"/>														
		Theoretical Torque - Nm [lb-in]														
		35 [310]	71 [628]	142 [1257]	177 [1566]	212 [1876]	248 [2195]	283 [2504]	318 [2814]	354 [3133]	389 [3442]	425 [3761]				
		Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]														
Max. Cont.																
Max. Inter.																
		Rotor Width														
		25.4 [1.002]														
		mm [in]														

		Pressure - bar [psi]										Max. Cont.	Max. Inter.			
		17 [250]	35 [500]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	155 [2250]	172 [2500]	190 [2750]	207 [3000]				
160		160 cm ³ [9.8 in ³] / rev											Intermittent Ratings - 10% of Operation			
		Torque - Nm [lb-in], Speed rpm														
Flow - lpm [gpm]	2 [0.5]	30 [266]	66 [584]	109 [965]												13
	4 [1]	32 [283]	70 [620]	136 [1204]	164 [1451]	182 [1611]	250 [2213]									25
	8 [2]	38 [336]	76 [673]	157 [1389]	181 [1602]	202 [1788]	265 [2345]	290 [2567]								50
	15 [4]	39 [345]	78 [690]	166 [1469]	205 [1814]	242 [2142]	275 [2434]	317 [2805]	358 [3169]	400 [3540]						94
	23 [6]	40 [354]	79 [699]	160 [1416]	203 [1797]	246 [2177]	290 [2567]	320 [2832]	354 [3133]	396 [3505]	404 [3575]	440 [3894]				144
	30 [8]	34 [301]	73 [646]	164 [1451]	200 [1770]	245 [2168]	288 [2549]	316 [2797]	350 [3098]	388 [3434]	428 [3788]	448 [3965]				188
	38 [10]	32 [283]	72 [637]	156 [1381]	196 [1735]	240 [2124]	282 [2496]	312 [2761]	347 [3071]	389 [3443]	422 [3735]	454 [4018]				238
	45 [12]	24 [212]	70 [620]	151 [1336]	192 [1699]	236 [2089]	278 [2460]	310 [2744]	344 [3044]	382 [3381]	419 [3708]	450 [3983]				281
	53 [14]	20 [177]	60 [531]	144 [1274]	186 [1646]	232 [2053]	266 [2354]	306 [2708]	338 [2991]	374 [3310]	420 [3717]	448 [3965]				331
	61 [16]	12 [106]	52 [460]	134 [1186]	178 [1575]	218 [1929]	254 [2248]	297 [2628]	334 [2956]	371 [3283]	401 [3549]	442 [3912]				381
68 [18]		46 [407]	130 [1151]	171 [1513]	215 [1903]	248 [2195]	291 [2575]	326 [2885]	361 [3195]	393 [3478]	428 [3788]				425	
76 [20]		38 [336]	120 [1062]	162 [1434]	199 [1760]	240 [2124]	278 [2460]	324 [2867]	357 [3159]	390 [3452]	425 [3761]				475	
		Overall Efficiency - 70 - 100% <input type="checkbox"/> 40 - 69% <input type="checkbox"/> 0 - 39% <input type="checkbox"/>														
		Theoretical Torque - Nm [lb-in]														
		43 [383]	89 [789]	176 [1556]	219 [1939]	265 [2345]	308 [2728]	352 [3111]	395 [3495]	441 [3901]	484 [4284]	527 [4667]				
		Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]														
Max. Cont.																
Max. Inter.																
		Rotor Width														
		31.8 [1.252]														
		mm [in]														

► Performance data is typical. Performance of production units varies slightly from one motor to another.

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DISPLACEMENT PERFORMANCE

		Pressure - bar [psi]								Max. Cont.	Max. Inter.			
		17 [250]	35 [500]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	155 [2250]	172 [2500]	190 [2750]	207 [3000]		
		198 cm ³ [12.1 in ³] / rev												
		Torque - Nm [lb-in], Speed rpm										Intermittent Ratings - 10% of Operation		
Flow - lpm [gpm]	2 [0.5]	38 [336] 10	87 [770] 8	172 [1522] 6	201 [1779] 5								10	
	4 [1]	47 [416] 20	103 [912] 19	164 [1451] 14	201 [1779] 12	244 [2159] 9	295 [2611] 6	328 [2903] 3					20	
	8 [2]	46 [407] 39	96 [850] 38	192 [1699] 36	241 [2133] 35	286 [2531] 34	330 [2920] 28	372 [3292] 25	417 [3690] 22	428 [3788] 17			40	
	15 [4]	44 [389] 75	95 [841] 73	194 [1717] 70	241 [2133] 68	286 [2531] 65	333 [2947] 63	376 [3319] 59	419 [3708] 57	461 [4080] 52	498 [4407] 50	544 [4814] 40	76	
	23 [6]	40 [354] 113	92 [814] 111	192 [1699] 109	240 [2124] 106	288 [2549] 103	333 [2920] 99	375 [3319] 96	421 [3726] 94	461 [4080] 89	505 [4489] 84	544 [4814] 78	116	
	30 [8]	33 [292] 150	87 [770] 147	187 [1655] 142	236 [2088] 140	284 [2513] 135	330 [2920] 131	374 [3327] 126	421 [3726] 124	462 [4088] 117	504 [4460] 112	542 [4796] 106	152	
	38 [10]	23 [204] 192	80 [708] 190	180 [1593] 185	230 [2035] 182	278 [2460] 177	325 [2876] 172	371 [3283] 167	415 [3673] 160	459 [4062] 154	498 [4407] 146	540 [4779] 140	192	
	45 [12]	21 [186] 227	73 [646] 226	173 [1531] 221	223 [1973] 219	271 [2398] 212	318 [2814] 207	364 [3221] 201	409 [3619] 194	453 [4009] 186	491 [4345] 179	533 [4717] 174	227	
	53 [14]	10 [88] 268	64 [566] 266	165 [1460] 221	214 [1894] 219	262 [2319] 212	309 [2735] 207	356 [3150] 201	400 [3540] 194	444 [3929] 186	483 [4274] 179	525 [4646] 174	268	
	61 [16]		55 [487] 308	155 [1372] 300	204 [1805] 298	253 [2239] 291	300 [2655] 286	346 [3062] 279	391 [3460] 271	434 [3841] 264	472 [4177] 255	514 [4549] 248	308	
68 [18]		46 [407] 343	143 [1265] 332	191 [1690] 330	240 [2124] 322	287 [2540] 316	332 [2938] 310	377 [3336] 302	420 [3717] 296	457 [4044] 286	484 [4283] 276	343		
76 [20]		30 [265] 384	130 [1150] 374	179 [1584] 367	227 [2009] 363	275 [2434] 355	321 [2841] 349	365 [3230] 343	409 [3619] 333	430 [3805] 324	468 [4142] 314	384		

Overall Efficiency - 70 - 100% 40 - 69% 0 - 39%

Rotor Width

39.4 [1.553]

Theoretical Torque - Nm [lb-in]

54 [481]	109 [963]	218 [1929]	272 [2407]	326 [2888]	381 [3369]	435 [3850]	489 [4332]	544 [4813]	598 [5294]	653 [5776]
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Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]

		Pressure - bar [psi]								Max. Cont.	Max. Inter.			
		17 [250]	35 [500]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	155 [2250]	172 [2500]	190 [2750]	207 [3000]		
		236 cm ³ [14.4 in ³] / rev												
		Torque - Nm [lb-in], Speed rpm										Intermittent Ratings - 10% of Operation		
Flow - lpm [gpm]	2 [0.5]	47 [416] 7	98 [867] 6	197 [1743] 3	247 [2186] 3								8	
	4 [1]	50 [443] 14	105 [929] 13	210 [1859] 11	260 [2301] 9	310 [2717] 7	354 [3133] 4	404 [3575] 4					16	
	8 [2]	53 [469] 29	111 [982] 28	224 [1982] 26	277 [2451] 24	329 [2894] 21	377 [3336] 19	424 [3752] 16	469 [4151] 11	511 [4522] 8	582 [5151] 8	638 [5646] 28	32	
	15 [4]	52 [460] 60	114 [1000] 59	236 [2062] 56	290 [2575] 53	346 [3062] 50	399 [3531] 47	449 [3974] 44	496 [4390] 40	541 [4788] 36	598 [5292] 33	638 [5646] 28	63	
	23 [6]	47 [416] 93	109 [956] 91	227 [2009] 88	285 [2522] 85	342 [3027] 81	397 [3513] 77	449 [3974] 71	500 [4425] 66	548 [4850] 60	595 [5266] 55	642 [5682] 52	95	
	30 [8]	42 [372] 125	104 [903] 123	221 [1956] 119	280 [2469] 116	336 [2974] 111	391 [3460] 106	445 [3938] 100	497 [4398] 93	547 [4841] 87	592 [5248] 79	640 [5664] 73	126	
	38 [10]	35 [310] 158	95 [832] 155	213 [1885] 150	272 [2398] 147	328 [2903] 142	384 [3398] 137	437 [3867] 131	489 [4328] 123	541 [4788] 115	587 [5195] 106	635 [5620] 99	158	
	45 [12]	23 [204] 189	85 [752] 186	203 [1797] 182	262 [2319] 178	319 [2823] 174	375 [3319] 168	428 [3788] 160	480 [4248] 153	531 [4699] 145	575 [5089] 134	623 [5514] 125	189	
	53 [14]		75 [655] 218	192 [1699] 214	250 [2213] 210	308 [2726] 205	365 [3310] 201	418 [3699] 191	470 [4160] 183	520 [4602] 174	564 [4991] 164	611 [5407] 154	220	
	61 [16]		68 [593] 249	180 [1593] 245	238 [2106] 242	295 [2611] 236	350 [3106] 230	405 [3584] 222	458 [4053] 215	510 [4496] 205	551 [4876] 195	600 [5310] 184	252	
68 [18]		56 [487] 279	165 [1460] 273	221 [1956] 270	281 [2469] 267	335 [2965] 260	388 [3434] 251	440 [3894] 241	490 [4337] 231	545 [4797] 221	590 [5222] 208	283		
76 [20]		40 [354] 315	154 [1345] 307	210 [1841] 303	264 [2336] 295	320 [2832] 290	376 [3310] 282	428 [3770] 272	480 [4221] 261	530 [4691] 250	580 [5133] 238	315		

Overall Efficiency - 70 - 100% 40 - 69% 0 - 39%

Rotor Width

47.4 [1.865]

Theoretical Torque - Nm [lb-in]

66 [584]	132 [1168]	265 [2345]	331 [2929]	397 [3513]	463 [4097]	529 [4681]	595 [5265]	661 [5850]	728 [6442]	794 [7027]
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Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]

► Performance data is typical. Performance of production units varies slightly from one motor to another.



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WR (All Series)
For Light Duty Applications

DISPLACEMENT PERFORMANCE

		Pressure - bar [psi]										Max. Cont.		Max. Inter.			
250		17 [250]	35 [500]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	155 [2250]	172 [2500]	190 [2750]	207 [3000]					
250 cm ³ [15.3 in ³] / rev																	
		Torque - Nm [lb-in], Speed rpm										Intermittent Ratings - 10% of Operation					
Flow - lpm [gpm]	8 [2]	49 [434]	112 [991]														32
	15 [4]	49 [434]	115 [1018]	237 [2097]	295 [2611]	356 [3150]											60
	23 [6]	45 [398]	112 [991]	233 [2062]	301 [2664]	360 [3186]	418 [3699]	471 [4168]	521 [4611]	561 [4965]							92
	30 [8]	41 [363]	107 [947]	235 [2080]	285 [2522]	352 [3115]	399 [3531]	441 [3903]	511 [4522]	559 [4947]	598 [5292]	624 [5522]					120
	38 [10]	33 [292]	97 [858]	219 [1938]	273 [2416]	330 [2920]	390 [3451]	434 [3841]	484 [4283]	529 [4681]	578 [5115]	618 [5469]					152
	45 [12]	22 [195]	81 [717]	198 [1752]	254 [2248]	312 [2761]	368 [3257]	410 [3628]	474 [4195]	500 [4425]	588 [5204]	605 [5354]					180
	53 [14]	14 [124]	75 [664]	196 [1735]	249 [2204]	307 [2717]	357 [3159]	414 [3664]	467 [4133]	512 [4531]	561 [4965]	610 [5398]					212
	61 [16]		62 [549]	178 [1575]	235 [2080]	292 [2584]	347 [3071]	400 [3540]	454 [4020]	501 [4434]	543 [4805]	602 [5327]					244
	68 [18]		50 [442]	160 [1416]	223 [1973]	276 [2442]	335 [2965]	386 [3416]	442 [3912]	490 [4336]	530 [4690]	590 [5221]					272
	76 [20]		38 [336]	142 [1257]	210 [1858]	260 [2301]	324 [2867]	372 [3292]	430 [3805]	478 [4230]	514 [4549]	580 [5133]					304
		250	241	234	231	223	214	211	201	193	185						
Overall Efficiency - 70 - 100% <input type="checkbox"/> 40 - 69% <input type="checkbox"/> 0 - 39% <input type="checkbox"/>																	
Rotor Width		Theoretical Torque - Nm [lb-in]															
49.2 [1.938]		69 [608]	137 [1215]	275 [2431]	343 [3039]	412 [3646]	481 [4254]	549 [4862]	618 [5469]	687 [6077]	755 [6685]	824 [7292]					
mm [in]		Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]															

		Pressure - bar [psi]										Max. Cont.		Max. Inter.			
290		17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	155 [2250]	172 [2500]	190 [2750]					
291 cm ³ [17.8 in ³] / rev																	
		Torque - Nm [lb-in], Speed rpm										Intermittent Ratings - 10% of Operation					
Flow - lpm [gpm]	2 [0.5]	60 [531]	115 [1018]	185 [1637]	260 [2301]	292 [2584]											7
	4 [1]	62 [549]	122 [1080]	187 [1655]	265 [2345]	304 [2690]	365 [2330]										14
	8 [2]	60 [531]	128 [1133]	190 [1682]	272 [2407]	325 [2876]	372 [3292]	456 [4036]	512 [4531]	570 [5045]	630 [5576]	664 [5876]					27
	15 [4]	58 [513]	133 [1177]	195 [1726]	270 [2390]	328 [2903]	376 [3328]	458 [4053]	522 [4620]	574 [5080]	630 [5576]	664 [5876]					52
	23 [6]	56 [496]	124 [1097]	200 [1770]	268 [2372]	331 [2929]	396 [3505]	462 [4089]	525 [4646]	566 [5009]	625 [5531]	660 [5841]					79
	30 [8]	50 [442]	120 [1062]	197 [1743]	264 [2336]	326 [2885]	394 [3487]	465 [4115]	526 [4655]	568 [5027]	620 [5487]	655 [5797]					103
	38 [10]	45 [398]	114 [1009]	190 [1682]	258 [2283]	320 [2832]	392 [3469]	460 [4071]	521 [4611]	559 [4947]	615 [5443]	645 [5708]					130
	45 [12]	38 [336]	104 [920]	180 [1593]	252 [2230]	314 [2779]	390 [3452]	458 [4053]	511 [4522]	550 [4868]	610 [5399]	636 [5629]					155
	53 [14]	25 [221]	93 [823]	170 [1505]	236 [2089]	306 [2708]	382 [3381]	452 [4000]	500 [4425]	542 [4797]	606 [5363]	625 [5531]					182
	61 [16]	12 [106]	82 [726]	155 [1372]	225 [1991]	294 [2602]	375 [3319]	445 [3938]	488 [4319]	535 [4735]	595 [5266]	615 [5443]					210
68 [18]		66 [581]	140 [1239]	218 [1929]	280 [2478]	365 [3230]	435 [3850]	479 [4239]	526 [4655]	588 [5204]	604 [5345]					234	
76 [20]		55 [487]	128 [1133]	198 [1752]	270 [2390]	350 [3098]	426 [3770]	468 [4142]	514 [4549]	574 [5080]	588 [5204]					261	
		290	286	277	271	266	261	256	251	246	241						
Overall Efficiency - 70 - 100% <input type="checkbox"/> 40 - 69% <input type="checkbox"/> 0 - 39% <input type="checkbox"/>																	
Rotor Width		Theoretical Torque - Nm [lb-in]															
57.2 [2.252]		80 [707]	160 [1415]	240 [2122]	320 [2829]	400 [3537]	480 [4244]	560 [4952]	639 [5659]	719 [6366]	799 [7074]	879 [7781]					
mm [in]		Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]															

► Performance data is typical. Performance of production units varies slightly from one motor to another.

WR (All Series)
For Light Duty Applications

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DISPLACEMENT PERFORMANCE

320	Pressure - bar [psi]					Max. Cont.		Max. Inter.	
	17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	155 [2250]

322 cm³ [19.6 in³] / rev

Torque - Nm [lb-in], Speed rpm

Intermittent Ratings - 10% of Operation

Flow - lpm [gpm]	2 [0.5]	60 [531]	134 [1186]	189 [1673]	238 [2106]							Theoretical rpm
	4 [1]	70 [619]	140 [1239]	239 [2115]	276 [2442]	324 [2867]	393 [3478]	403 [3566]				
Max. Cont.	8 [2]	73 [646]	154 [1363]	233 [2062]	291 [2575]	333 [2947]	425 [3761]	487 [4310]	545 [4823]	621 [5496]	659 [5832]	12
	15 [4]	79 [699]	152 [1345]	235 [2080]	311 [2752]	385 [3407]	452 [4000]	518 [4584]	555 [4912]	641 [5673]	690 [6106]	25
Max. Inter.	23 [6]	68 [602]	150 [1328]	227 [2009]	295 [2611]	378 [3345]	443 [3920]	512 [4531]	578 [5115]	621 [5496]	686 [6071]	47
	30 [8]	56 [496]	145 [1283]	218 [1929]	286 [2531]	356 [3150]	436 [3858]	506 [4478]	560 [4956]	614 [5434]	665 [5885]	71
Max. Cont.	38 [10]	54 [478]	140 [1239]	202 [1788]	273 [2416]	348 [3080]	427 [3779]	501 [4434]	557 [4929]	604 [5345]	664 [5877]	93
	45 [12]	38 [336]	134 [1186]	192 [1681]	260 [2301]	336 [2973]	409 [3619]	476 [4212]	542 [4796]	601 [5319]	642 [5681]	118
Max. Inter.	53 [14]	22 [195]	122 [1080]	173 [1531]	255 [2257]	323 [2858]	391 [3460]	451 [3991]	521 [4611]	582 [5150]	630 [5575]	140
	61 [16]	11 [97]	105 [930]	157 [1389]	229 [2027]	298 [2637]	376 [3327]	440 [3894]	503 [4451]	557 [4929]	618 [5469]	165
Max. Inter.	68 [18]		88 [779]	144 [1274]	220 [1947]	285 [2522]	356 [3150]	424 [3752]	487 [4310]	549 [4858]	602 [5327]	189
	76 [20]		70 [620]	126 [1062]	190 [1681]	262 [2319]	335 [2965]	410 [3628]	463 [4097]	528 [4673]	586 [5186]	211
			210	208	204	197	190	181	173	165	156	236
			235	233	230	226	218	209	202	193	185	

Overall Efficiency - 70 - 100% 40 - 69% 0 - 39%

Theoretical Torque - Nm [lb-in]

Rotor Width	63.5 [2.502]	87 [770]	177 [1566]	267 [2362]	354 [3132]	441 [3903]	533 [4717]	620 [5487]	708 [6265]	795 [7035]	887 [7850]
	mm [in]	Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]									

400	Pressure - bar [psi]					Max. Cont.		Max. Inter.	
	17 [250]	35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	

400 cm³ [24.4 in³] / rev

Torque - Nm [lb-in], Speed rpm

Intermittent Ratings - 10% of Operation

Flow - lpm [gpm]	2 [0.5]	82 [723]	165 [1459]	250 [2213]	329 [2912]	418 [3699]						Theoretical rpm
	4 [1]	86 [761]	175 [1549]	262 [2317]	345 [3053]	427 [3779]	497 [4398]	577 [5106]	660 [5841]			
Max. Cont.	8 [2]	89 [791]	191 [1690]	284 [2513]	364 [3219]	448 [3962]	502 [4443]	606 [5363]	682 [6036]			10
	15 [4]	87 [771]	189 [1673]	277 [2451]	378 [3346]	467 [4135]	529 [4679]	629 [5569]	698 [6177]			20
Max. Inter.	23 [6]	79 [703]	185 [1637]	271 [2398]	373 [3305]	464 [4110]	551 [4873]	631 [5584]	696 [6159]			38
	30 [8]	70 [620]	176 [1558]	260 [2301]	364 [3217]	455 [4025]	550 [4868]	623 [5515]	676 [5982]			58
Max. Cont.	38 [10]	59 [523]	159 [1407]	239 [2115]	351 [3106]	442 [3913]	541 [4787]	611 [5410]	663 [5864]			75
	45 [12]	52 [460]	145 [1283]	233 [2062]	335 [2968]	430 [3806]	529 [4684]	595 [5269]	645 [5705]			95
Max. Inter.	53 [14]	46 [404]	138 [1221]	215 [1903]	318 [2813]	409 [3622]	513 [4543]	578 [5115]	624 [5522]			113
	61 [16]		113 [1000]	191 [1679]	298 [2641]	390 [3448]	496 [4393]	560 [4959]	606 [5364]			153
Max. Inter.	68 [18]		96 [850]	170 [152]	263 [2328]	365 [3230]	478 [4228]	517 [4572]	580 [5133]			170
	76 [20]		74 [655]	150 [1327]	240 [2122]	342 [3027]	436 [3855]	493 [4365]	560 [4956]			190
			190	185	180	174	165	160	156			

Overall Efficiency - 70 - 100% 40 - 69% 0 - 39%

Theoretical Torque - Nm [lb-in]

Rotor Width	78.9 [3.106]	112 [992]	224 [1984]	336 [2976]	448 [3968]	560 [4960]	673 [5952]	785 [6944]	897 [7935]
	mm [in]	Displacement tested at 54°C [129°F] with an oil viscosity of 46cSt [213 SUS]							

► Performance data is typical. Performance of production units varies slightly from one motor to another.

FLOWFIT® TECHNICAL DATA SHEET



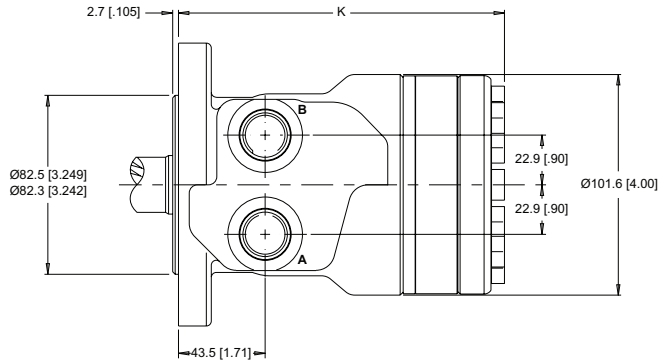
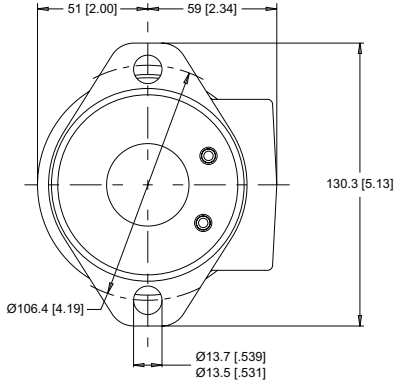
WR (255/256 Series) Light Duty Hydraulic Motor

HOUSINGS

► Dimensions shown are without paint. Paint thickness can be up to 0.13 [.005].

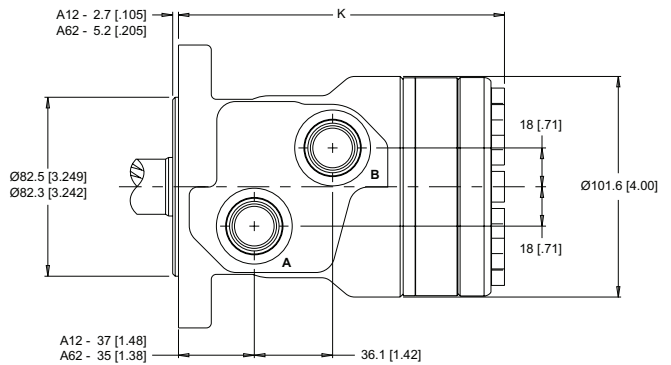
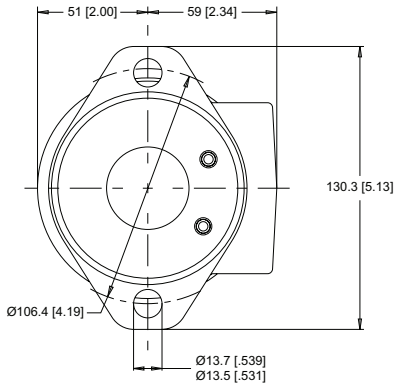
2-HOLE, SAE A MOUNT, ALIGNED PORTS

A10 1/2-14 NPT **A11** 7/8-14 UNF



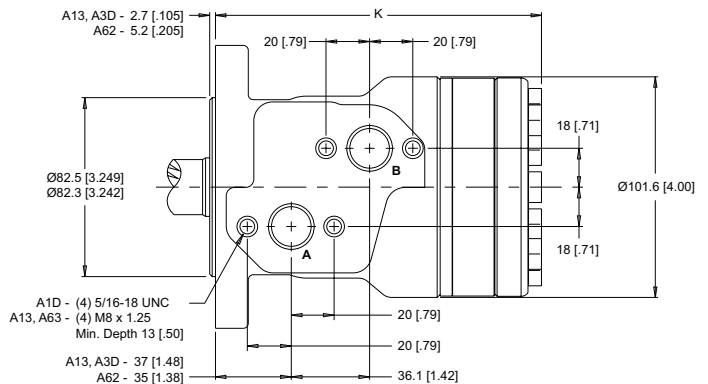
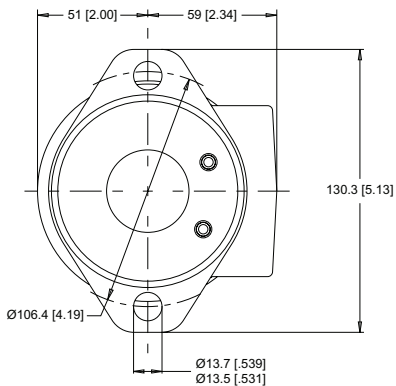
2-HOLE, SAE A MOUNT, OFFSET PORTS

A12 G 1/2 **A62** G 1/2 (TP)



2-HOLE, SAE A MOUNT, OFFSET MANIFOLD PORTS

A13 G 1/2 **A1D** 7/8-14 UNF **A63** G 1/2 (TP)



► Dimension K is charted on page 15. ► (TP) - Taller Pilot Height. Refer to detailed drawing for dimensional differences.

WR (255/256 Series) Light Duty Hydraulic Motor

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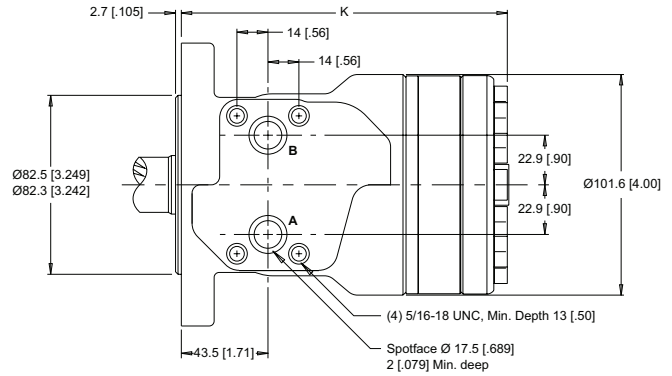
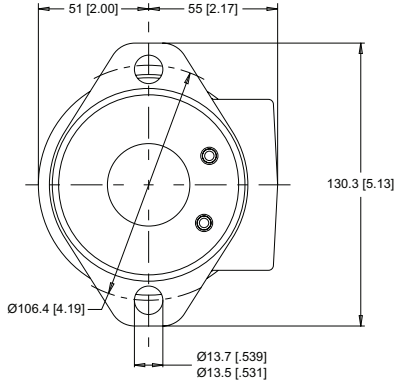


HOUSINGS

► Dimensions shown are without paint. Paint thickness can be up to 0.13 [0.005].

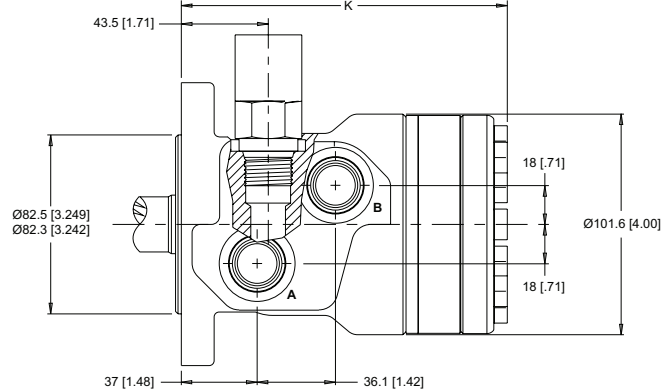
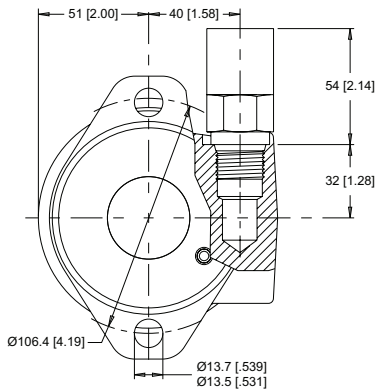
2-HOLE, SAE A MOUNT, ALIGNED MANIFOLD PORTS

A17 1/2" Drilled



2-HOLE, SAE A MOUNT, OFFSET PORTS, VALVE CAVITY

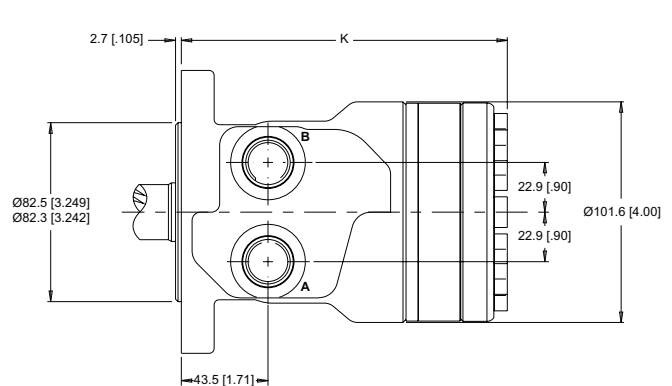
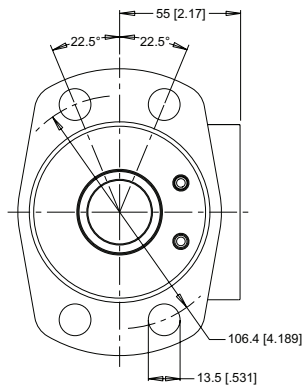
A19 7/8-14 UNF



4-HOLE, MAGNETO MOUNT, ALIGNED PORTS

A30 1/2-14 NPT

A31 7/8-14 UNF



► Dimension K is charted on page 15. ► (TP) - Taller Pilot Height. Refer to detailed drawing for dimensional differences.

FLOWFIT® TECHNICAL DATA SHEET



WR (255/256 Series)
Light Duty Hydraulic Motor

HOUSINGS

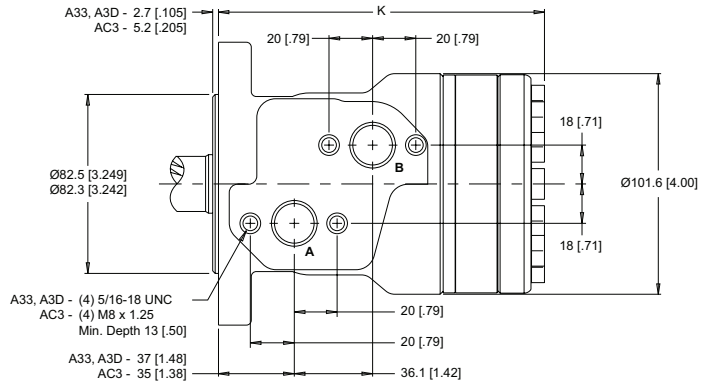
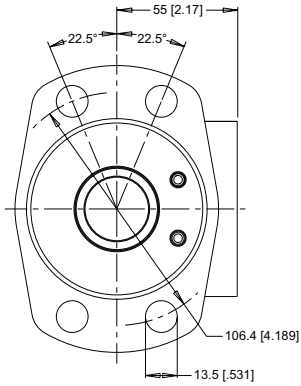
► Dimensions shown are without paint. Paint thickness can be up to 0.13 [.005].

4-HOLE, MAGNETO MOUNT, OFFSET MANIFOLD PORTS

A33 G 1/2

A3D 7/8-14 UNF

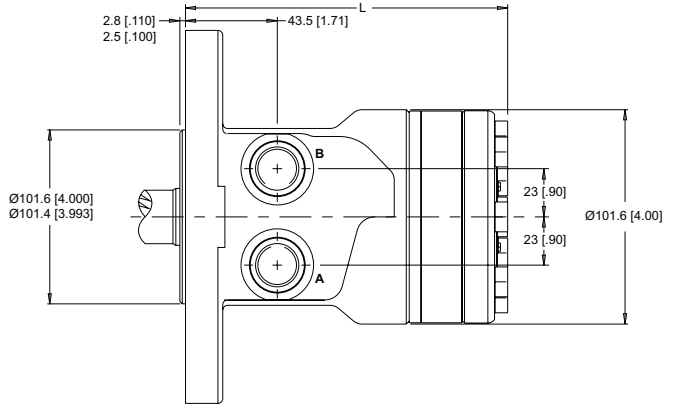
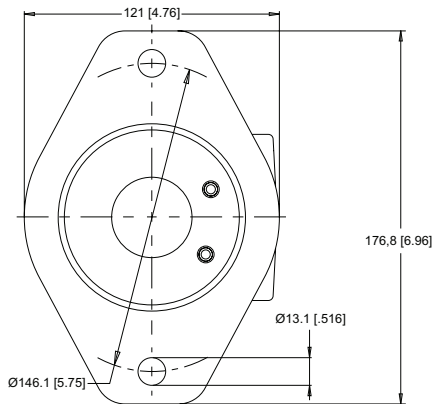
AC3 G 1/2 (TP)



2-HOLE, SAE B MOUNT, ALIGNED PORTS

B11 7/8-14 UNF

B18 G 1/2



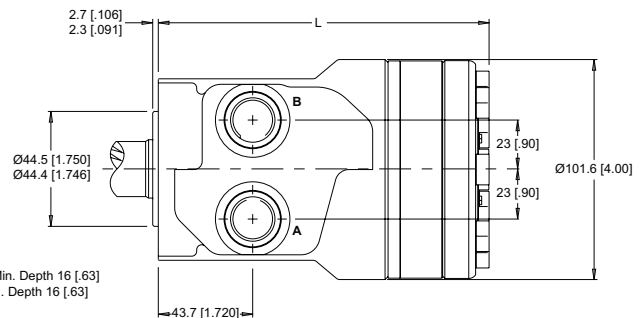
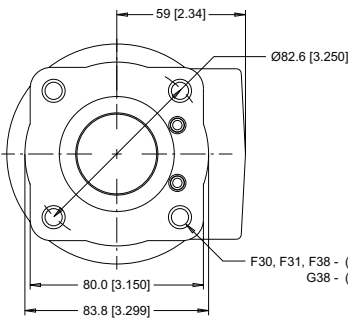
4-HOLE, SQUARE MOUNT, ALIGNED PORTS

F30 1/2-14 NPT

F31 7/8-14 UNF

F38 G 1/2

G38 G 1/2



► Dimensions K & L are charted on page 15. ► (TP) - Taller Pilot Height. Refer to detailed drawing for dimensional differences.

WR (255/256 Series) Light Duty Hydraulic Motor

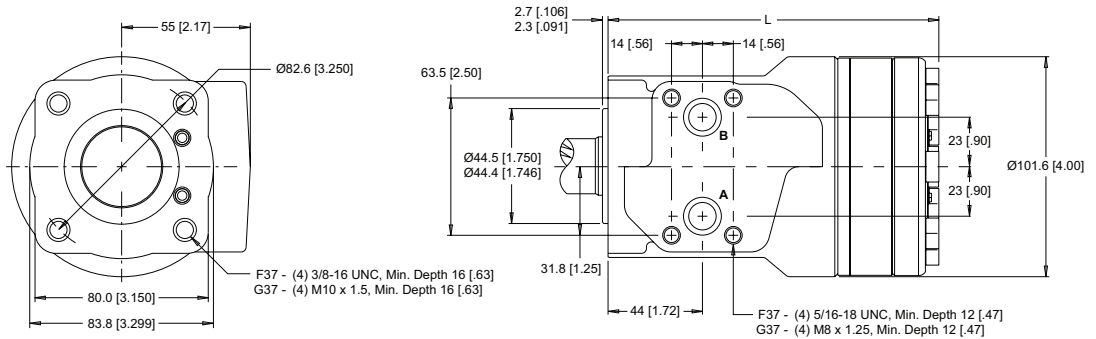
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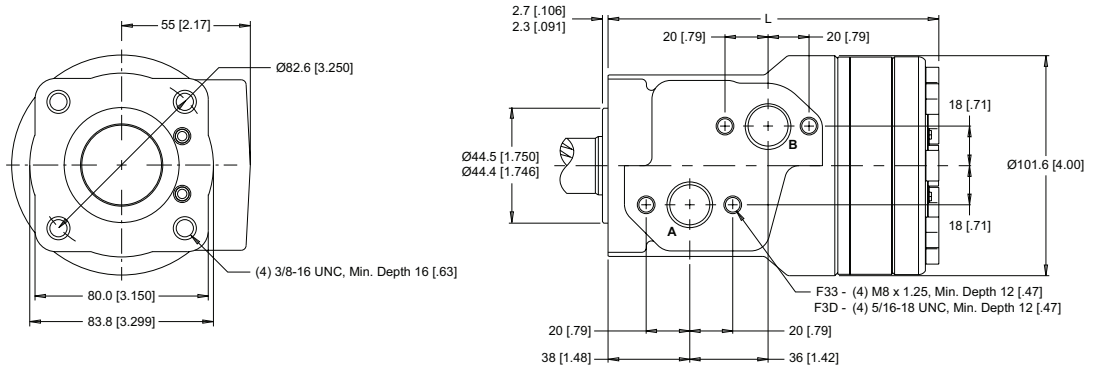
HOUSINGS

► Dimensions shown are without paint. Paint thickness can be up to 0.13 [0.05].

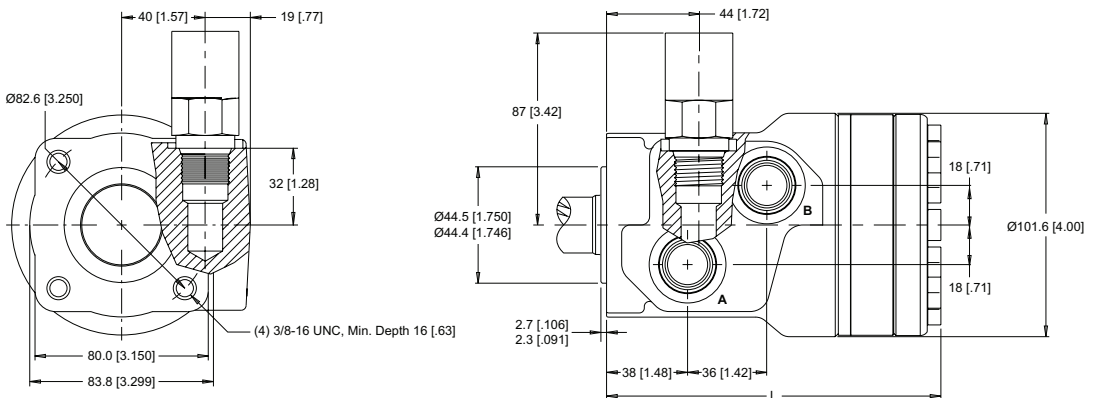
4-HOLE, SQUARE MOUNT, ALIGNED MANIFOLD PORTS **F37** 1/2" Drilled **G37** 1/2" Drilled



4-HOLE, SQUARE MOUNT, OFFSET MANIFOLD PORTS **F33** G 1/2 **F3D** 7/8-14 UNF



4-HOLE, SQUARE MOUNT, OFFSET PORTS, VALVE CAVITY **F39** 7/8-14 UNF



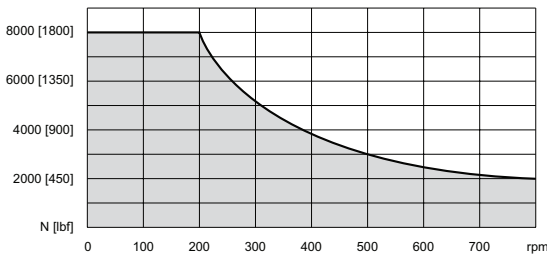
► Dimension L is charted on page 15.



TECHNICAL INFORMATION

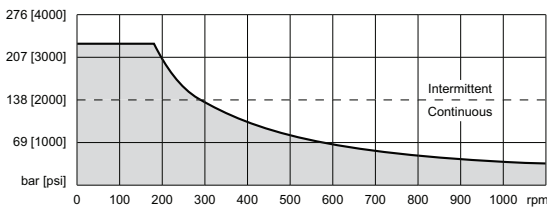
ALLOWABLE SHAFT LOAD / BEARING CURVE

The bearing curve below represents the side load capacity of the motor at the centerline of the key for various motor speeds. Operating conditions within the shaded area will maintain acceptable oil film lubrication with recommended fluids. Operating conditions outside the shaded area are susceptible to motor failure due to oil starvation and/or excessive heat generation. Fluids with low lubricity or low viscosity may require the maximum load and speed ratings to be derated to provide acceptable motor life and performance.



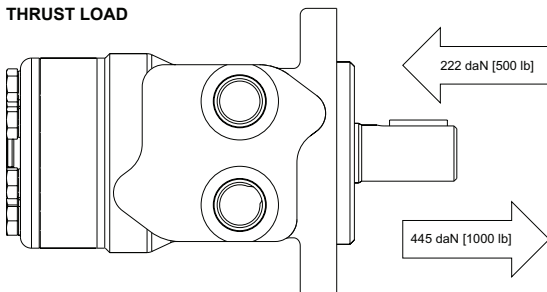
PERMISSIBLE SHAFT SEAL PRESSURE

The curve below represents allowable seal pressure at various speeds. Operation in the gray area results in maintaining the rated life of the shaft seal. Actual shaft seal pressure depends on motor configuration.



▶ With check valves and drain connection, the shaft seal pressure equals pressure in the drain line. With check valves and no drain connection, shaft seal pressure is identical to output pressure. No check valves and no drain connection, the shaft seal pressure is identical to the average value of input and output pressure.

THRUST LOAD



LENGTH & WEIGHT CHARTS

Dimension K is the overall motor length from the rear of the motor to the mounting flange surface and is referenced on detailed housing drawings listed on pages 11-13.

K	3mm Pilot		8mm Pilot		Weight	
	#	mm [in]	mm [in]	mm [in]	kg [lb]	kg [lb]
040	142	[5.60]	140	[5.50]	6.6	[14.5]
050	144	[5.67]	142	[5.57]	6.6	[14.5]
060	146	[5.74]	144	[5.64]	6.7	[14.7]
070	147	[5.80]	145	[5.70]	6.7	[14.7]
080	150	[5.91]	148	[5.81]	6.8	[15.0]
090	151	[5.96]	149	[5.86]	6.8	[15.0]
100	154	[6.06]	152	[5.96]	6.9	[15.2]
115	156	[6.15]	154	[6.05]	7.1	[15.6]
130	160	[6.28]	158	[6.18]	7.3	[16.0]
160	166	[6.53]	164	[6.43]	7.5	[16.5]
200	173	[6.83]	171	[6.73]	8.0	[17.6]
240	182	[7.15]	180	[7.05]	8.5	[18.7]
250	183	[7.20]	181	[7.10]	8.5	[18.7]
290	192	[7.56]	190	[7.46]	8.8	[19.4]
320	198	[7.78]	196	[7.68]	9.0	[19.8]
400	213	[8.39]	211	[8.29]	9.8	[21.6]

Dimension L is the overall motor length from the rear of the motor to the mounting flange surface and is referenced on detailed housing drawings listed on pages 13-14.

L	Square & B Mounts		B Mount Weight		Sq. Mount Weight	
	#	mm [in]	kg [lb]	mm [in]	kg [lb]	kg [lb]
040	142	[5.60]	7.8	[17.2]	5.3	[11.8]
050	144	[5.67]	7.8	[17.2]	5.3	[11.9]
060	146	[5.74]	7.9	[17.4]	5.4	[11.9]
070	147	[5.80]	7.9	[17.4]	5.4	[11.9]
080	150	[5.91]	8.0	[17.6]	5.5	[12.1]
090	151	[5.96]	8.0	[17.6]	5.5	[12.1]
100	154	[6.06]	8.1	[17.8]	5.6	[12.3]
115	156	[6.15]	8.3	[18.3]	5.8	[12.8]
130	160	[6.28]	8.5	[18.7]	6.0	[13.2]
160	166	[6.53]	8.7	[19.1]	6.2	[13.7]
200	173	[6.83]	9.2	[20.2]	6.7	[14.8]
240	182	[7.15]	9.7	[21.3]	7.2	[15.9]
250	183	[7.20]	9.7	[21.3]	7.2	[15.9]
290	192	[7.56]	10.0	[22.0]	7.5	[16.5]
320	198	[7.78]	10.2	[22.4]	7.7	[17.0]
400	213	[8.39]	11.0	[24.2]	8.5	[18.7]

▶ 255 & 256 series motor weights can vary ± 0.5 kg [1 lb] depending on model configurations such as housing, shaft, endcover, options etc.

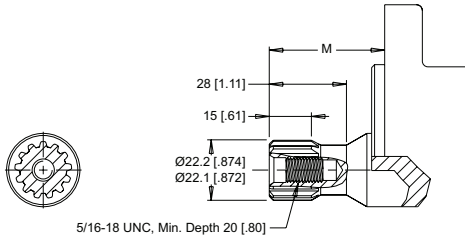
WR (255/256 Series) Light Duty Hydraulic Motor

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SHAFTS

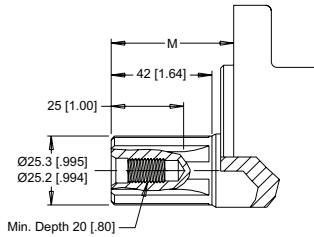
01 7/8" 13 Tooth Spline



Max. Torque: 170 Nm [1500 lb-in]

02 1" 6B Spline, 5/16-18 Tap

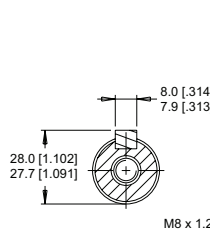
6B Spline
SAE J499 Standard



Max. Torque: 678 Nm [6000 lb-in]

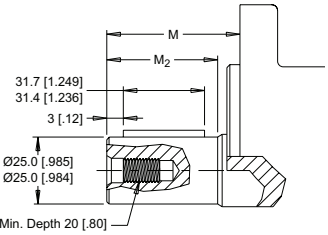
04 1" 6B Spline, M8x1.25 Tap

12 25mm Straight

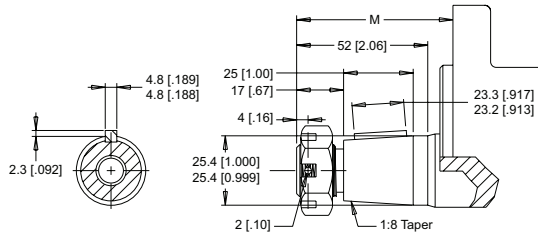


Max. Torque: 678 Nm [6000 lb-in]

16 25mm Straight Extended



13 1" Tapered



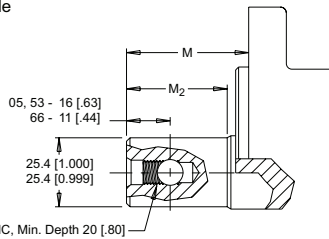
Max. Torque: 655 Nm [5800 lb-in]

► A slotted hex nut is standard on this shaft.

05 1" - 9.5 [.375] Pinhole

53 1" - 10.3 [.406] Pinhole

66 1" - 8.0 [.315] Pinhole

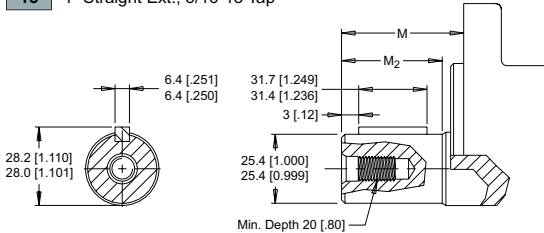


Max. Torque: 678 Nm [6000 lb-in]

10 1" Straight, 5/16-18 Tap

11 1" Straight, M8x1.25 Tap

15 1" Straight Ext., 5/16-18 Tap



Max. Torque: 655 Nm [5800 lb-in]

MOUNTING / SHAFT LENGTH CHART

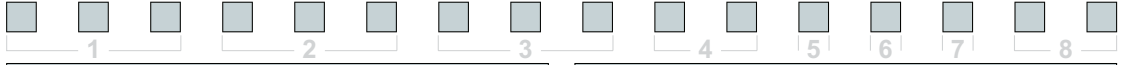
Dimension M is the overall distance from the motor mounting surface to the end of the shaft.

Additional shaft length information, if necessary, is noted as M₂ and does not increase or decrease the listed M dimensions in this chart. The overall shaft lengths are already factored into the overall distance from the mounting surface to the end of the shaft.

#	M		M ₂
	3mm Pilot	8mm Pilot	
	mm [in]	mm [in]	mm [in]
01	40 [1.59]	43 [1.69]	N/A
02	48 [1.88]	51 [1.98]	N/A
04	48 [1.88]	51 [1.98]	N/A
05	48 [1.88]	51 [1.98]	42 [1.64]
10	48 [1.88]	51 [1.98]	42 [1.64]
12	53 [2.08]	56 [2.18]	43 [1.69]
13	58 [2.29]	61 [2.39]	N/A
15	64 [2.52]	67 [2.62]	58 [2.28]
16	64 [2.52]	67 [2.62]	59 [2.34]
53	48 [1.88]	51 [1.98]	42 [1.64]
66	54 [2.13]	57 [2.23]	48 [1.89]

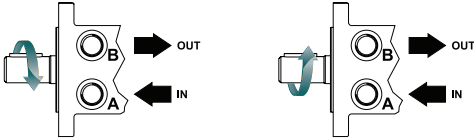


ORDERING INFORMATION



1. CHOOSE SERIES DESIGNATION

- 255** Clockwise Rotation **256** Counterclockwise Rotation



► The 255 & 256 series are bi-directional. Reversing the inlet hose will reverse shaft rotation.

2. SELECT A DISPLACEMENT OPTION

040	40 cm ³ /rev [2.5 in ³ /rev]	130	129 cm ³ /rev [7.9 in ³ /rev]
050	50 cm ³ /rev [3.1 in ³ /rev]	160	160 cm ³ /rev [9.8 in ³ /rev]
060	59 cm ³ /rev [3.6 in ³ /rev]	200	198 cm ³ /rev [12.1 in ³ /rev]
070	71 cm ³ /rev [4.3 in ³ /rev]	240	236 cm ³ /rev [14.4 in ³ /rev]
080	79 cm ³ /rev [4.9 in ³ /rev]	250	250 cm ³ /rev [15.3 in ³ /rev]
090	88 cm ³ /rev [5.4 in ³ /rev]	290	291 cm ³ /rev [17.8 in ³ /rev]
100	100 cm ³ /rev [6.1 in ³ /rev]	320	322 cm ³ /rev [19.6 in ³ /rev]
115	113 cm ³ /rev [6.9 in ³ /rev]	400	400 cm ³ /rev [24.4 in ³ /rev]

3. SELECT A MOUNT & PORT OPTION

A10	2-Hole, SAE A Mount, Aligned Ports, 1/2-14 NPT
A11	2-Hole, SAE A Mount, Aligned Ports, 7/8-14 UNF
A12	2-Hole, SAE A Mount, Offset Ports, G 1/2
A13	2-Hole, SAE A Mount, Offset Manifold Ports, G 1/2
A1D	2-Hole, SAE A Mount, Offset Manifold Ports, 7/8-14 UNF
A19	2-Hole, SAE A Mount, Offset Ports, Valve Cavity 7/8-14 UNF
A30	4-Hole, Magneto Mount, Aligned Ports, 1/2-14 NPT
A31	4-Hole, Magneto Mount, Aligned Ports, 7/8-14 UNF
A33	4-Hole, Magneto Mount, Offset Manifold Ports, G 1/2
A3D	4-Hole, Magneto Mount, Offset Manifold Ports, 7/8-14 UNF
A62	2-Hole, SAE A Mount, Offset Ports, G 1/2 (TP)
A63	2-Hole, SAE A Mount, Offset Manifold Ports, G 1/2 (TP)
AC3	4-Hole, Magneto Mount, Offset Manifold Ports, G 1/2 (TP)
B11	2-Hole, SAE B Mount, Aligned Ports, 7/8-14 UNF
B18	2-Hole, SAE B Mount, Aligned Ports, G 1/2
F30	4-Hole, Square Mount, Aligned Ports, 1/2-14 NPT
F31	4-Hole, Square Mount, Aligned Ports, 7/8-14 UNF
F33	4-Hole, Square Mount, Offset Manifold Ports, G 1/2
F37	4-Hole, Square Mount, Aligned Manifold Ports, 1/2" Drilled

► (TP) - Tall pilot. Speed sensor option is not available on tall pilot housings.

3. SELECT A MOUNT & PORT OPTION

F38	4-Hole, Square Mount, Aligned Ports, G 1/2
F39	4-Hole, Square Mount, Offset Ports, Valve Cavity 7/8-14 UNF
F3D	4-Hole, Square Mount, Offset Manifold Ports, 7/8-14 UNF
G37	4-Hole, Square Mount, Aligned Manifold Ports, 1/2" Drilled
G38	4-Hole, Square Mount, Aligned Ports, G 1/2

4. SELECT A SHAFT OPTION

01	7/8" 13 Tooth Spline	12	25mm Straight
02	1" 6B Spline, 5/16-18 Tap	13	1" Tapered
04	1" 6B Spline, M8x1.25 Tap	15	1" Straight Extended
05	1" - 9.5 [.375] Pinhole	16	25mm Straight Extended
10	1" Straight 5/16-18 Tap	53	1" - 10.3 [.406] Pinhole
11	1" Straight M8x1.25 Tap	66	1" - 8.0 [.315] Pinhole

► The 15 & 16 extended shafts are designed for use with one of the speed sensor options listed in STEP 7.

5. SELECT A PAINT OPTION

A	Black
B	Black, Unpainted Mounting Surface

6. SELECT A VALVE CAVITY / CARTRIDGE OPTION

A	None	F	121 bar [1750 psi] Relief
B	Valve Cavity Only	G	138 bar [2000 psi] Relief
C	69 bar [1000 psi] Relief	J	173 bar [2500 psi] Relief
D	86 bar [1250 psi] Relief	L	207 bar [3000 psi] Relief
E	104 bar [1500 psi] Relief		

► Valve cavity is only available on the A19 & F39 housings.

7. SELECT AN ADD-ON OPTION

A	Standard
B	Lock Nut
C	Solid Hex Nut
W	Speed Sensor, Dual, 4-Pin Male Weatherpack Connector
X	Speed Sensor, Dual, 4-Pin M12 Male Connector
Y	Speed Sensor, Single, 3-Pin Male Weatherpack Connector
Z	Speed Sensor, Single, 4-Pin M12 Male Connector

8. SELECT A MISCELLANEOUS OPTION

AA	None
EG	Viton Shaft Seal