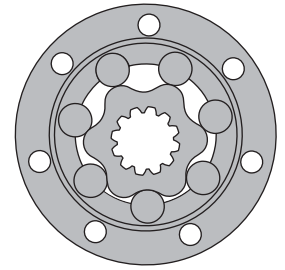


HYDRAULIC MOTORS HW



APPLICATION

- » Conveyors
- » Feeding mechanism of robots and manipulators
- » Metal working machines
- » Textile machines
- » Agricultural machines
- » Food industries
- » Grass cutting machinery etc.



CONTENTS

Specification data 86+87
 Function diagrams 88+94
 Dimensions and mounting 95+97
 Permissible shaft Seal Pressure ... 97
 Shaft extensions 98+99
 Permissible shaft loads 99
 Order code 100

OPTIONS

- » Model - Spool valve, roll-gerotor
- » Wheel and flange mount
- » Shafts - straight, splined and tapered
- » SAE and BSPP ports
- » Other special features

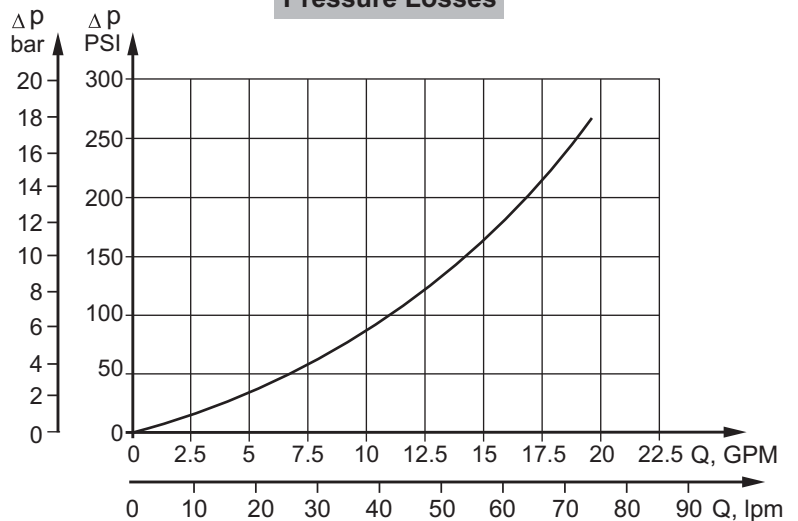
GENERAL

Max. Displacement, in ³ /rev [cm ³ /rev]	33.55 [550]
Max. Speed, [RPM]	497
Max. Torque, lb-in [daNm]	cont.: 8500 [96] int.: 9293 [105]
Max. Output, HP [kW]	31 [23,1]
Max. Pressure Drop, PSI [bar]	cont.: 3000 [205] int.: 3260 [225]
Max. Oil Flow, GPM [lpm]	30.4 [115]
Min. Speed, [RPM]	10
Pressure fluid	Mineral based- HLP(DIN 51524) or HM(ISO 6743/4)
Temperature range, °F [°C]	-40÷284 [-40÷140]
Optimal Viscosity range, SUS [mm ² /s]	98÷347 [20÷75]
Filtration	ISO code 20/16 (Min. recommended fluid filtration of 25 microns)

Oil flow in drain line

Pressure drop PSI [bar]	Viscosity SUS [mm ² /s]	Oil flow in drain line GPM [lpm]
1450 [100]	98 [20]	.660 [2,5]
	164 [35]	.476 [1,8]
2030 [140]	98 [20]	.925 [3,5]
	164 [35]	.740 [2,8]

Pressure Losses



SPECIFICATION DATA

Type		HW 125	HW 160	HW 200	HW 235	HW 250	HW 300	HW 315
Displacement, in³/rev [cm³/rev]		7.69 [126]	9.64 [157,8]	12.28 [201,3]	14.33 [235,3]	15.37 [252]	18.3 [300]	19.21 [314,9]
Max. Speed, [RPM]	cont.	357	380	373	319	298	250	238
	int.*	476	475	497	425	397	333	318
Max. Torque lb-in [daNm]	cont.	3098 [35]	3894 [44]	4868 [55]	5710 [64,5]	6107 [69]	7170 [81]	7523 [85]
	int.*	3408 [38,5]	4248 [48]	5310 [60]	6196 [70]	6638 [75]	7877 [89]	8230 [93]
Max. Output, HP [kW]	cont.	21.7 [16,2]	23.6 [17,6]	24.9 [18,6]	24.4 [18,2]	22.5 [16,8]	22 [16,5]	21.9 [16,4]
	int.*	26.6 [19,8]	29 [21,6]	31 [23,1]	30.3 [22,6]	27.9 [20,8]	27.9 [20,8]	27.9 [20,8]
Max. Pressure Drop, PSI [bar]	cont.	2970 [205]	2970 [205]	2970 [205]	2970 [205]	2970 [205]	2970 [205]	2970 [205]
	int.*	3260 [225]	3260 [225]	3260 [225]	3260 [225]	3260 [225]	3260 [225]	3260 [225]
Max. Oil Flow GPM [lpm]	cont.	12 [45]	16 [60]	20 [75]	20 [75]	20 [75]	20 [75]	20 [75]
	int.*	16 [60]	20 [75]	26.4 [100]	26.4 [100]	26.4 [100]	26.4 [100]	26.4 [100]
Max. Inlet Pressure, PSI [bar]	cont.	3050 [210]	3050 [210]	3050 [210]	3050 [210]	3050 [210]	3050 [210]	3050 [210]
	int.*	3625 [250]	3625 [250]	3625 [250]	3625 [250]	3625 [250]	3625 [250]	3625 [250]
Max. Starting Pressure with Unloaded Shaft, PSI [bar]		145 [10]	145 [10]	145 [10]	145 [10]	145 [10]	145 [10]	145 [10]
Min. Starting Torque lb-in [daNm]	at max. press. drop cont.	2540 [28,7]	3186 [36]	3991 [45,1]	4673 [52,8]	5000 [56,5]	5877 [66,4]	6169 [69,7]
	at max. press. drop int.*	2788 [31,5]	3478 [39,3]	4355 [49,2]	5080 [57,4]	5443 [61,5]	6452 [72,9]	6744 [76,2]
Min. Speed**, [RPM]		10	10	10	10	10	10	10
Weight, avg. lb [kg]	HW	31.5 [14,3]	32.2 [14,6]	33.3 [15,1]	34.2 [15,5]	34.6 [15,7]	35.5 [16,1]	35.9 [16,3]
	HWF	28.2 [12,8]	28.9 [13,1]	30 [13,6]	30.9 [14,0]	31.3 [14,2]	32.2 [14,6]	32.6 [14,8]
	HWFR	32.6 [14,8]	33.3 [15,1]	34.4 [15,6]	35.3 [16]	35.7 [16,2]	36.6 [16,6]	37 [16,8]
	HWS	30.9 [14]	31.5 [14,3]	32.6 [14,8]	33.5 [15,2]	34 [15,4]	34.8 [15,8]	35.3 [16]
	HWSR	35.3 [16]	35.9 [16,3]	37 [16,8]	37.9 [17,2]	38.4 [17,4]	39.2 [17,8]	39.7 [18]
	HWD	31.8 [14,4]	32.4 [14,7]	33.5 [15,2]	34.4 [15,6]	34.8 [15,8]	35.7 [16,2]	36.2 [16,4]

* Intermittent operation: the permissible values may occur for max. 10% of every minute.

** For speeds lower than given, consult factory or your regional manager.

- Intermittent speed and intermittent pressure drop must not occur simultaneously.
- Recommended filtration is per ISO cleanliness code 20/16. A nominal filtration of 25 micron or better.
- Recommend using a premium quality, anti-wear type mineral based hydraulic oil HLP(DIN51524) or HM (ISO 6743/4).
If using synthetic fluids consult the factory for alternative seal materials.
- Recommended minimum oil viscosity 70 SUS [13 mm²/s] at 122°F [50°C].
- Recommended maximum system operating temperature is 180°F [82°C].
- To assure optimum motor life fill with fluid prior to loading and run at moderate load and speed for 10-15 minutes.

SPECIFICATION DATA

Type		HW 350	HW 370	HW 400	HW 470	HW 500	HW 535	HW 550
Displacement, in³/rev [cm³/rev]		21.21 [347,8]	22.51 [369,2]	24.2 [396,8]	28.71 [470,6]	30.65 [502,4]	32.7 [535]	33.55 [550]
Max. Speed, [RPM]	cont.	216	203	189	159	149	140	136
	int.*	288	271	252	244	229	215	209
Max. Torque lb-in [daNm]	cont.	8320 [94]	8497 [96]	8497 [96]	8143 [92]	8054 [91]	7966 [90]	7877 [89]
	int.*	9028 [102]	9293 [105]	8674 [98]	8939 [101]	8939 [101]	9205 [104]	9293 [105]
Max. Output, HP [kW]	cont.	22 [16,5]	17.7 [13,2]	16.8 [12,5]	14.2 [10,6]	14.5 [10,8]	12.6 [9,4]	12 [9]
	int.*	27.9 [20,8]	25.7 [19,2]	24.8 [18,5]	23.3 [17,4]	23.9 [17,8]	22 [16,4]	21.2 [15,8]
Max. Pressure Drop, PSI [bar]	cont.	2970 [205]	2970 [205]	2680 [185]	2180 [150]	2030 [140]	1885 [130]	1815 [125]
	int.*	3260 [225]	3260 [225]	2760 [190]	2390 [165]	2250 [155]	2180 [150]	2105 [145]
Max. Oil Flow GPM [lpm]	cont.	20 [75]	20 [75]	20 [75]	20 [75]	20 [75]	20 [75]	20 [75]
	int.*	26.4 [100]	26.4 [100]	26.4 [100]	30.4 [115]	30.4 [115]	30.4 [115]	30.4 [115]
Max. Inlet Pressure, PSI [bar]	cont.	3050 [210]	3050 [210]	3050 [210]	3050 [210]	3050 [210]	3050 [210]	3050 [210]
	int.*	3625 [250]	3625 [250]	3625 [250]	3625 [250]	3625 [250]	3625 [250]	3625 [250]
Max. Starting Pressure with Unloaded Shaft, PSI [bar]		145 [10]	145 [10]	145 [10]	145 [10]	145 [10]	145 [10]	145 [10]
Min. Starting Torque lb-in [daNm]	at max. press. drop cont.	6815 [77]	7036 [79,5]	6966 [78,7]	6674 [75,4]	6603 [74,6]	6532 [73,8]	6452 [72,9]
	at max. press. drop int.*	7400 [83,6]	7612 [86]	7107 [80,3]	7328 [82,8]	7328 [82,8]	7540 [85,2]	7470 [84,4]
Min. Speed**, [RPM]		8	8	8	8	8	5	5
Weight, avg. lb [kg]	HW	36.8 [16,7]	37.3 [16,9]	38.1 [17,3]	39.9 [18,1]	40.6 [18,4]	41.5 [18,8]	41.7 [18,9]
	HWF	33.5 [15,2]	34 [15,4]	34.8 [15,8]	36.6 [16,6]	37.3 [16,9]	38.1 [17,3]	38.3 [17,4]
	HWFR	37.9 [17,2]	38.4 [17,4]	39.2 [17,8]	41 [18,6]	41.7 [18,9]	42.5 [19,3]	42.8 [19,4]
	HWS	36.2 [16,4]	36.6 [16,6]	37.5 [17]	39.2 [17,8]	39.9 [18,1]	40.8 [18,5]	41 [18,6]
	HWSR	40.6 [18,4]	41 [18,6]	41.9 [19]	43.7 [19,8]	44.3 [20,1]	45.2 [20,5]	45.4 [20,6]
	HWD	37 [16,8]	37.5 [17]	38.4 [17,4]	40.1 [18,2]	40.8 [18,5]	41.7 [18,9]	41.9 [19]

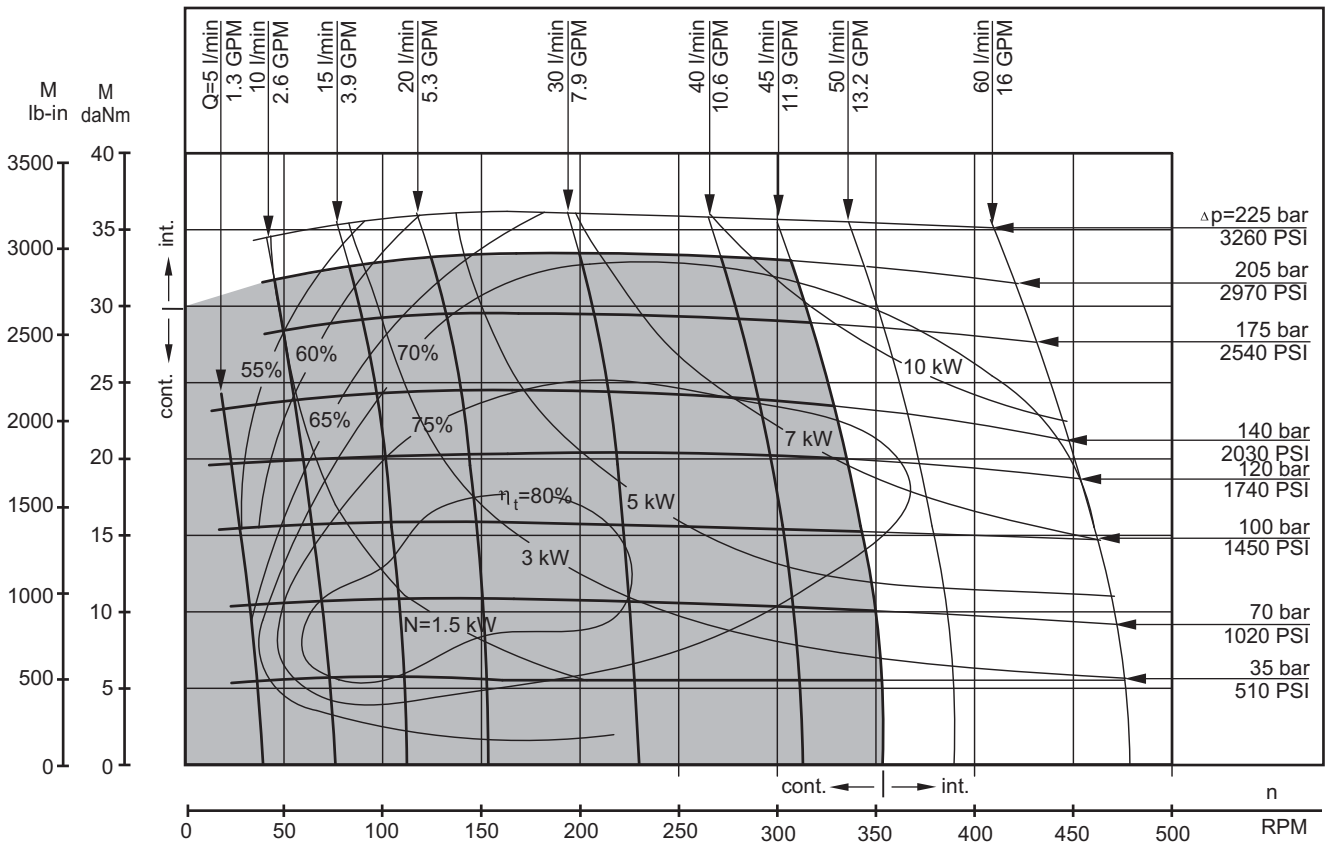
* Intermittent operation: the permissible values may occur for max. 10% of every minute.

** For speeds lower than given, consult factory or your regional manager.

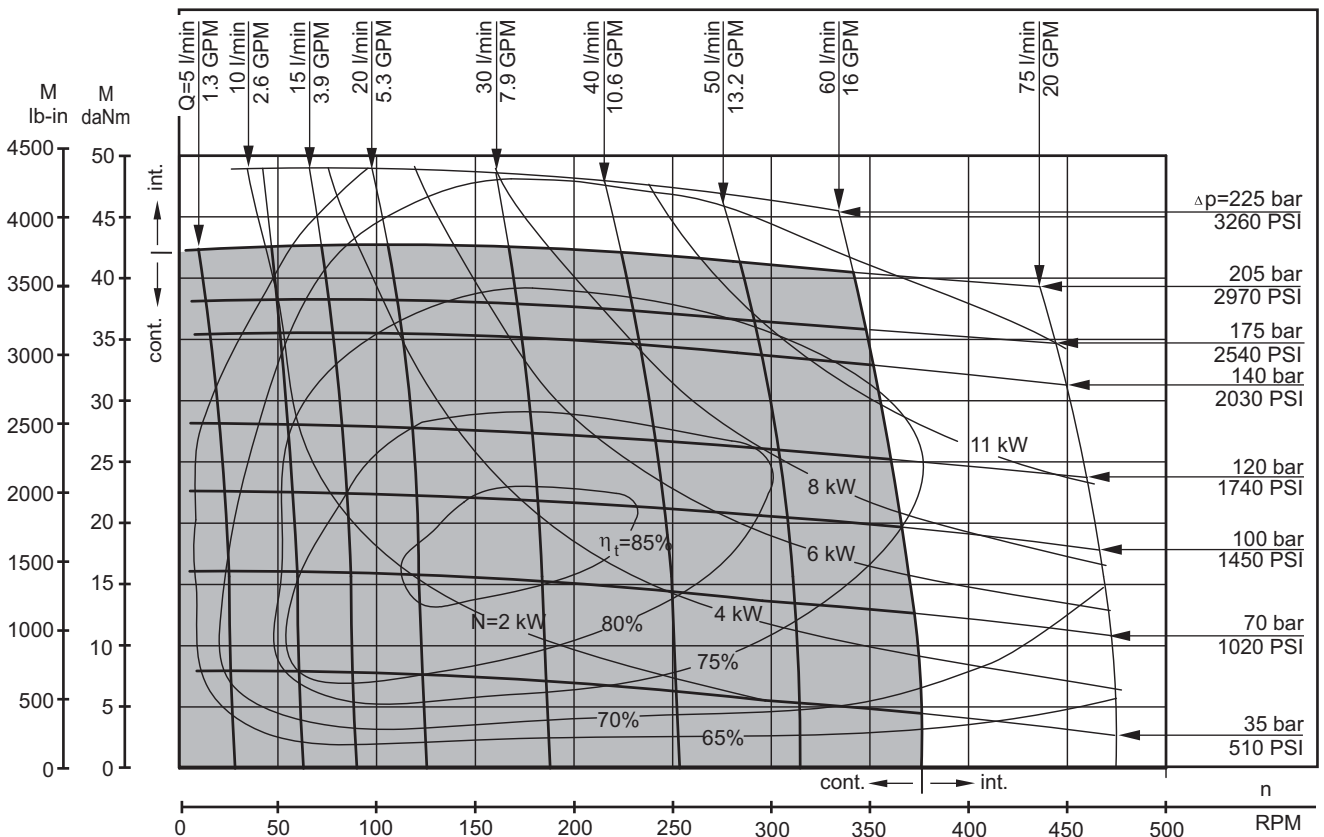
1. Intermittent speed and intermittent pressure drop must not occur simultaneously.
2. Recommended filtration is per ISO cleanliness code 20/16. A nominal filtration of 25 micron or better.
3. Recommend using a premium quality, anti-wear type mineral based hydraulic oil HLP(DIN51524) or HM (ISO 6743/4).
If using synthetic fluids consult the factory for alternative seal materials.
4. Recommended minimum oil viscosity 70 SUS [13 mm²/s] at 122°F [50°C].
5. Recommended maximum system operating temperature is 180°F [82°C].
6. To assure optimum motor life fill with fluid prior to loading and run at moderate load and speed for 10-15 minutes.

FUNCTION DIAGRAMS

HW 125



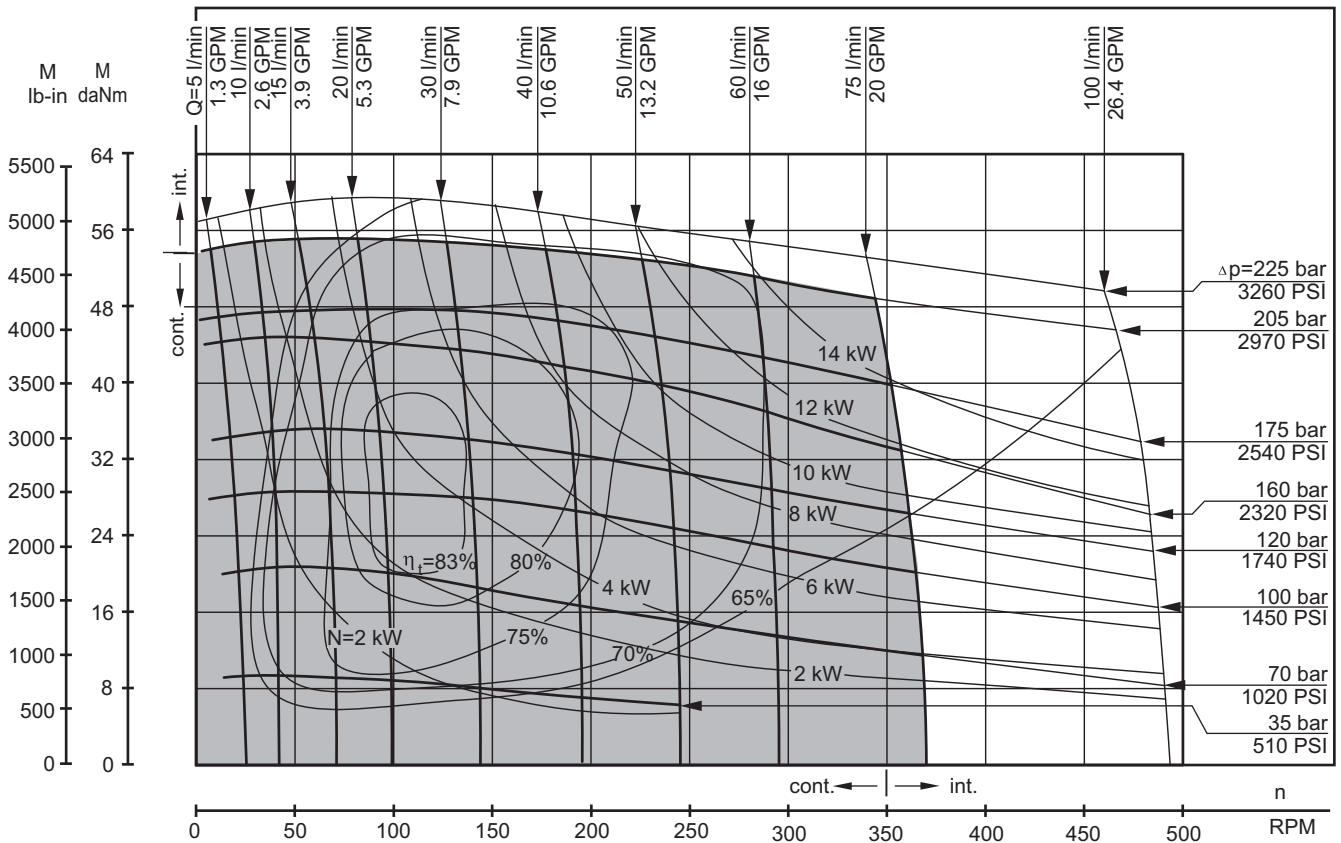
HW 160



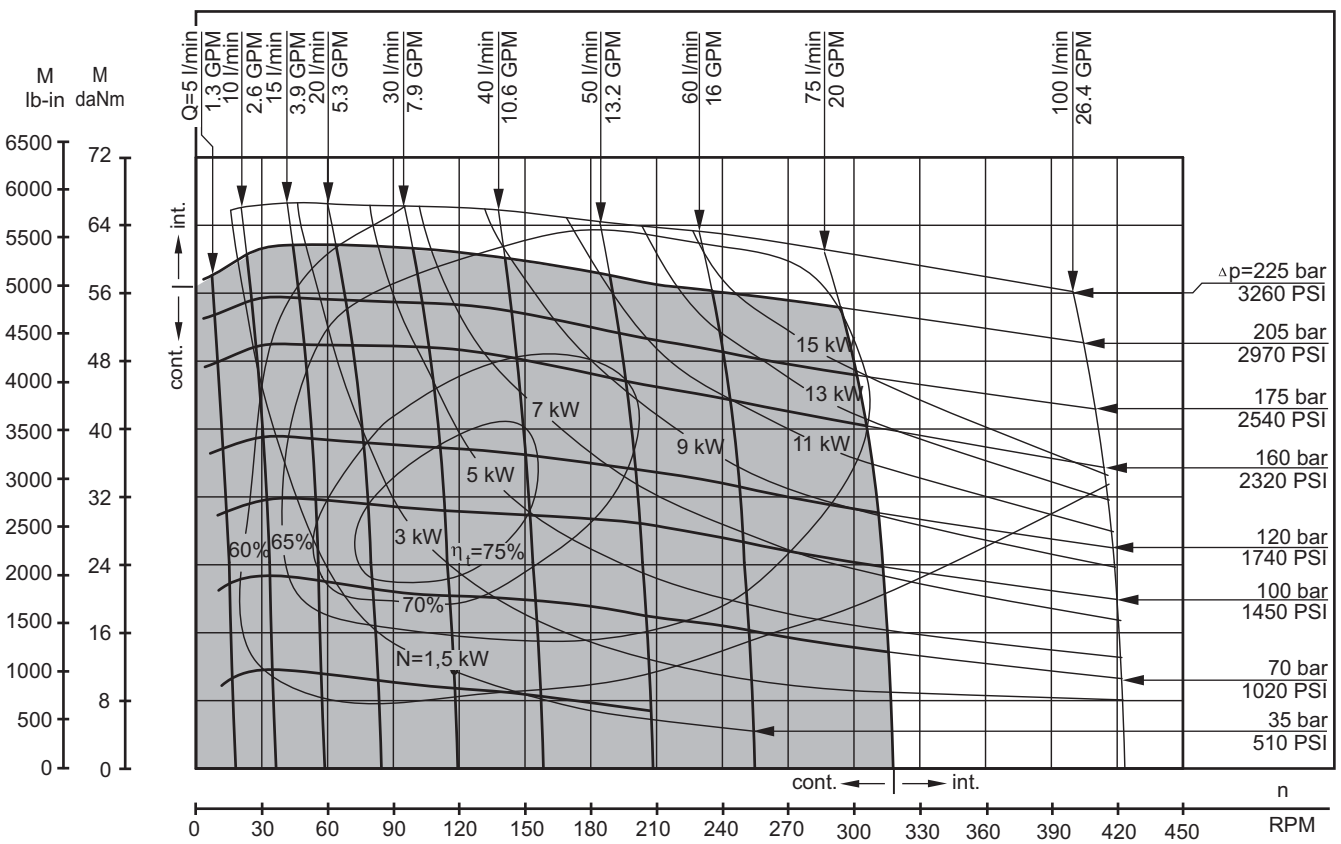
The function diagrams data is for average performance of randomly selected motors at back pressure 72.5÷145 PSI [5÷10 bar] and oil with viscosity of 150 SUS [32 mm²/s] at 122°F [50°C].

FUNCTION DIAGRAMS

HW 200



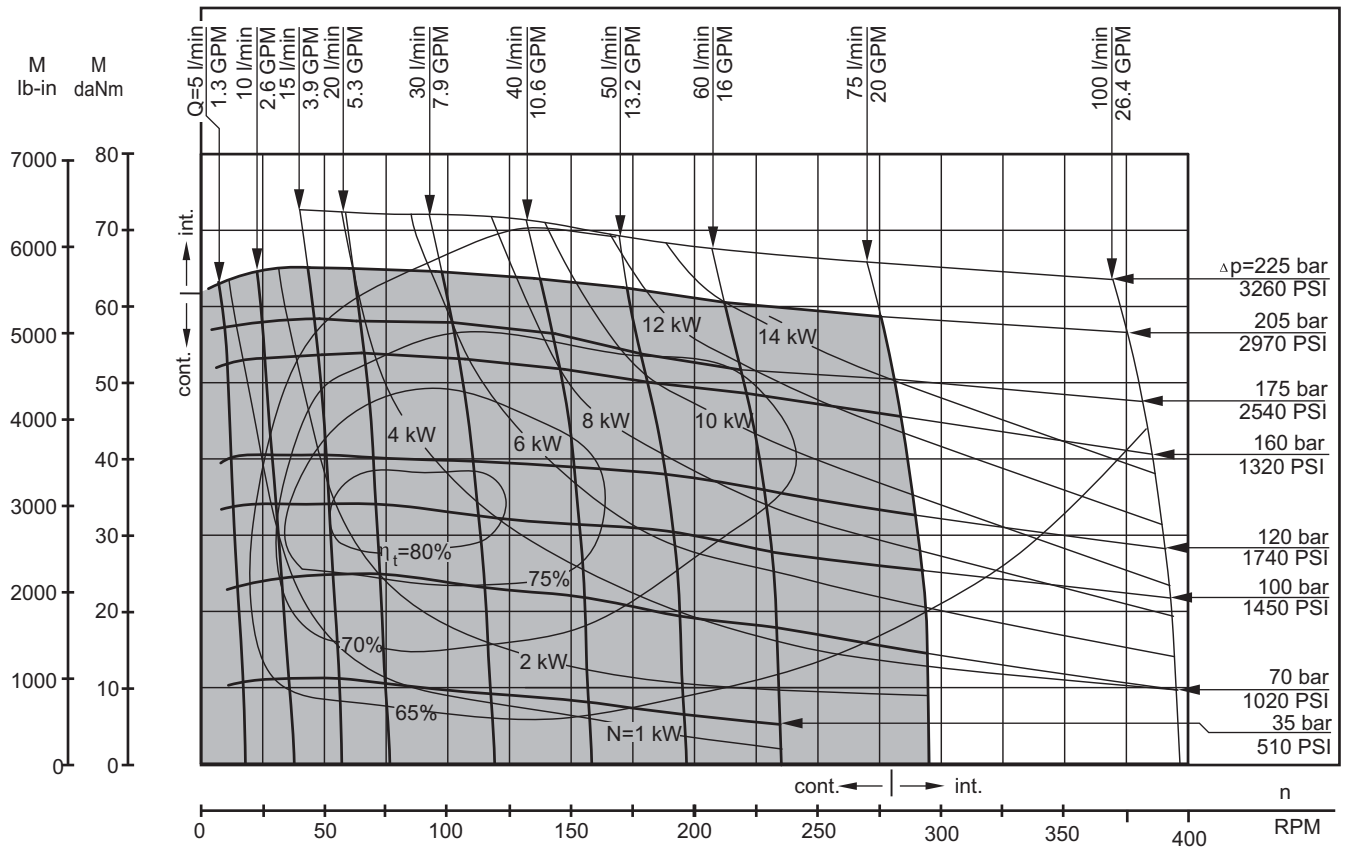
HW 235



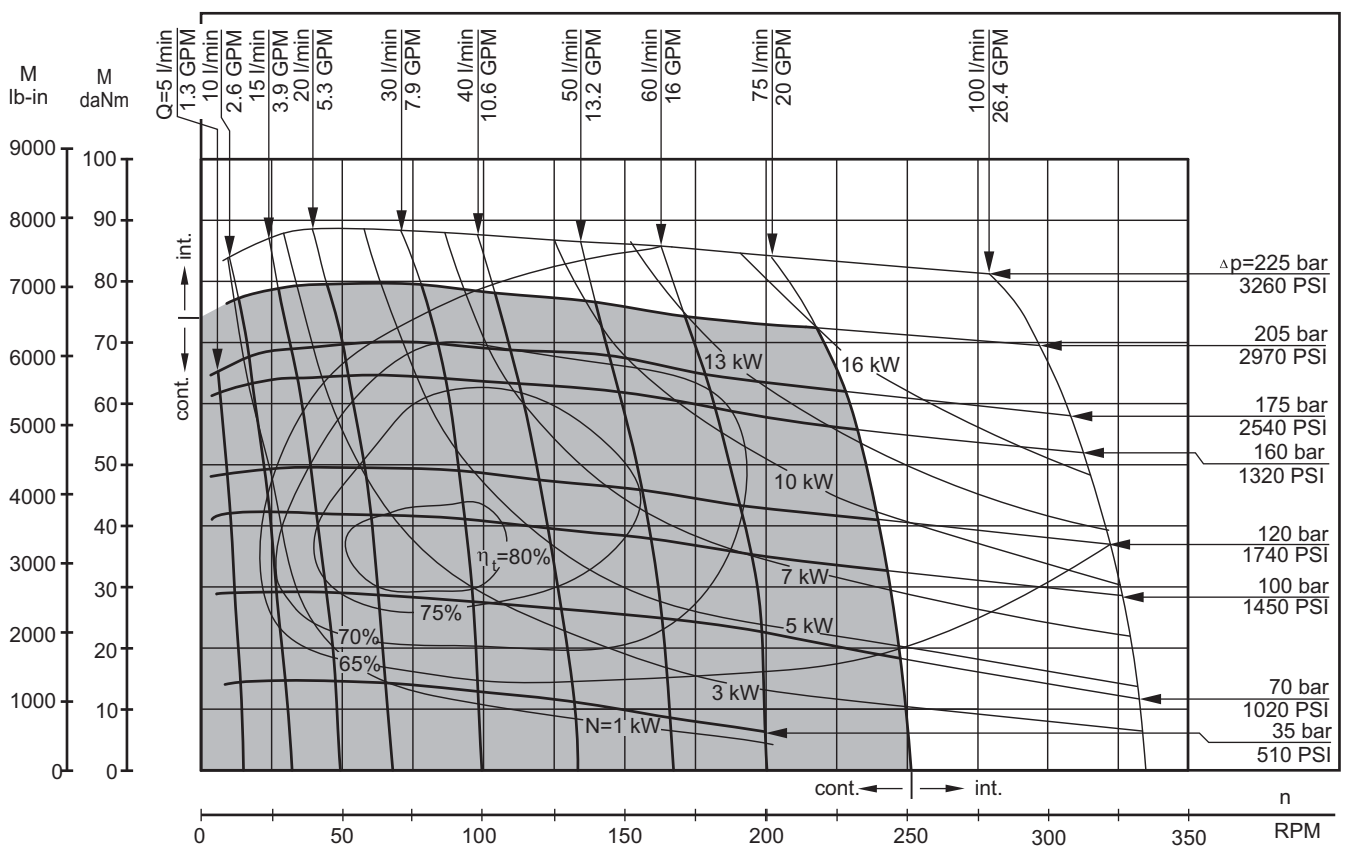
The function diagrams data is for average performance of randomly selected motors at back pressure 72.5÷145 PSI [5÷10 bar] and oil with viscosity of 150 SUS [32 mm²/s] at 122°F [50°C].

FUNCTION DIAGRAMS

HW 250



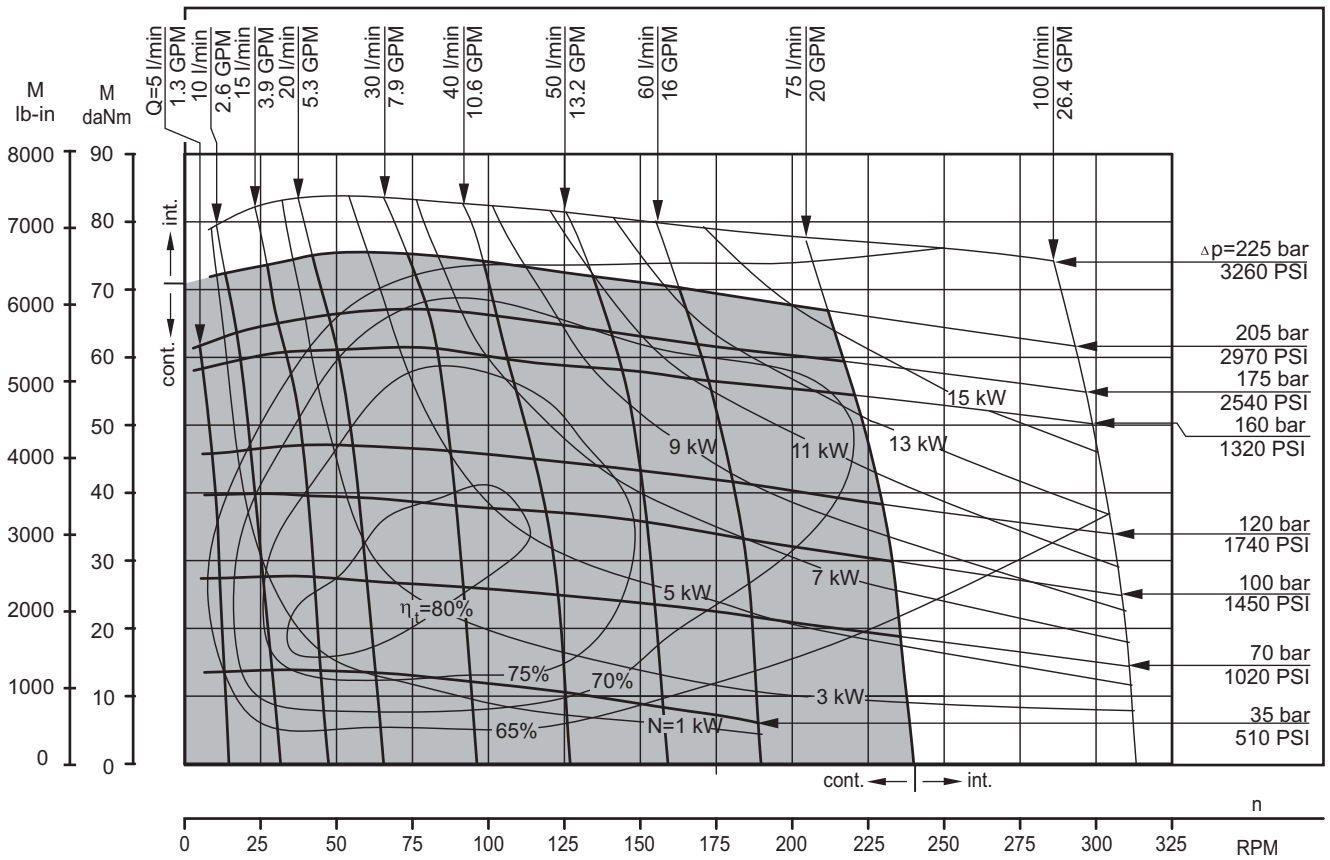
HW 300



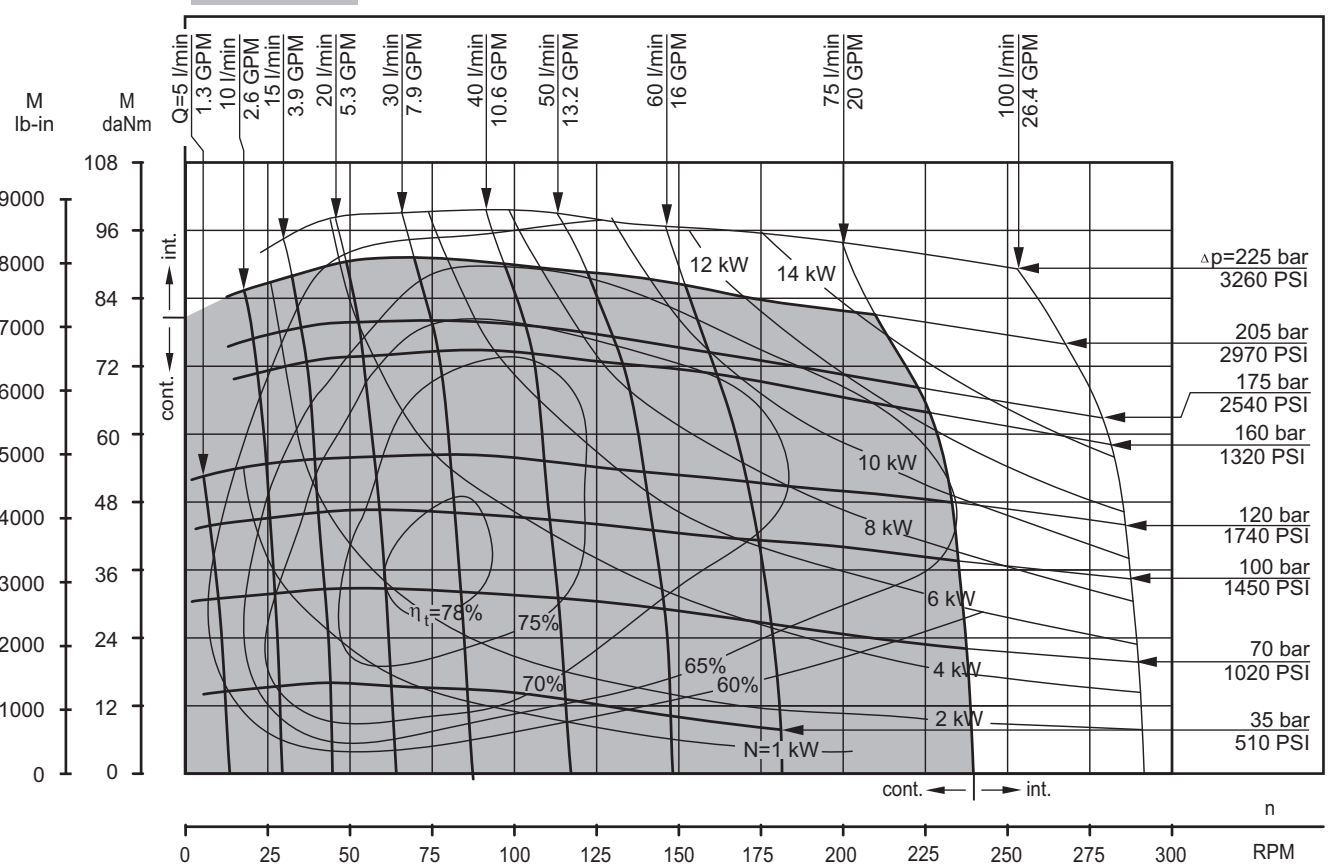
The function diagrams data is for average performance of randomly selected motors at back pressure 72.5÷145 PSI [5÷10 bar] and oil with viscosity of 150 SUS [32 mm²/s] at 122°F [50°C].

FUNCTION DIAGRAMS

HW 315



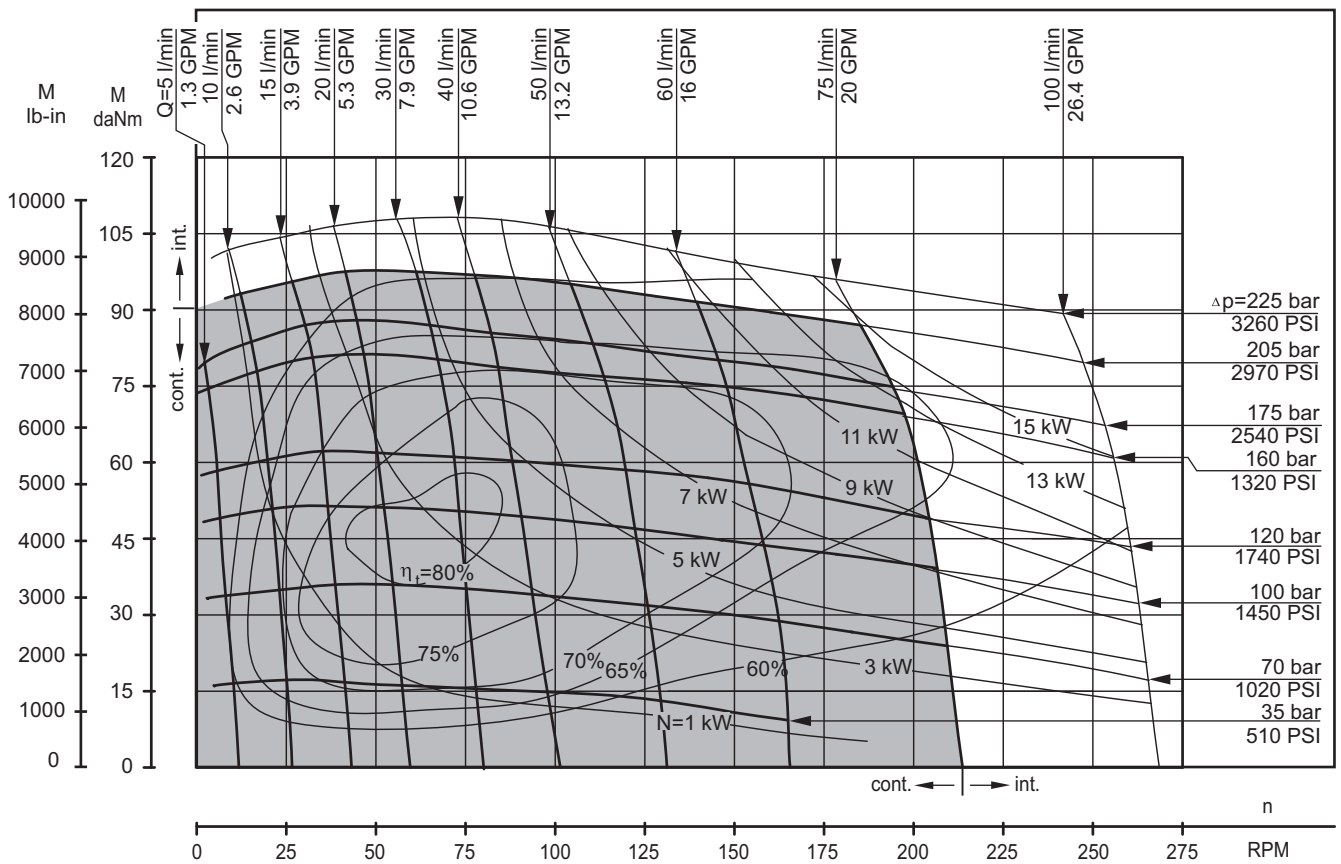
HW 350



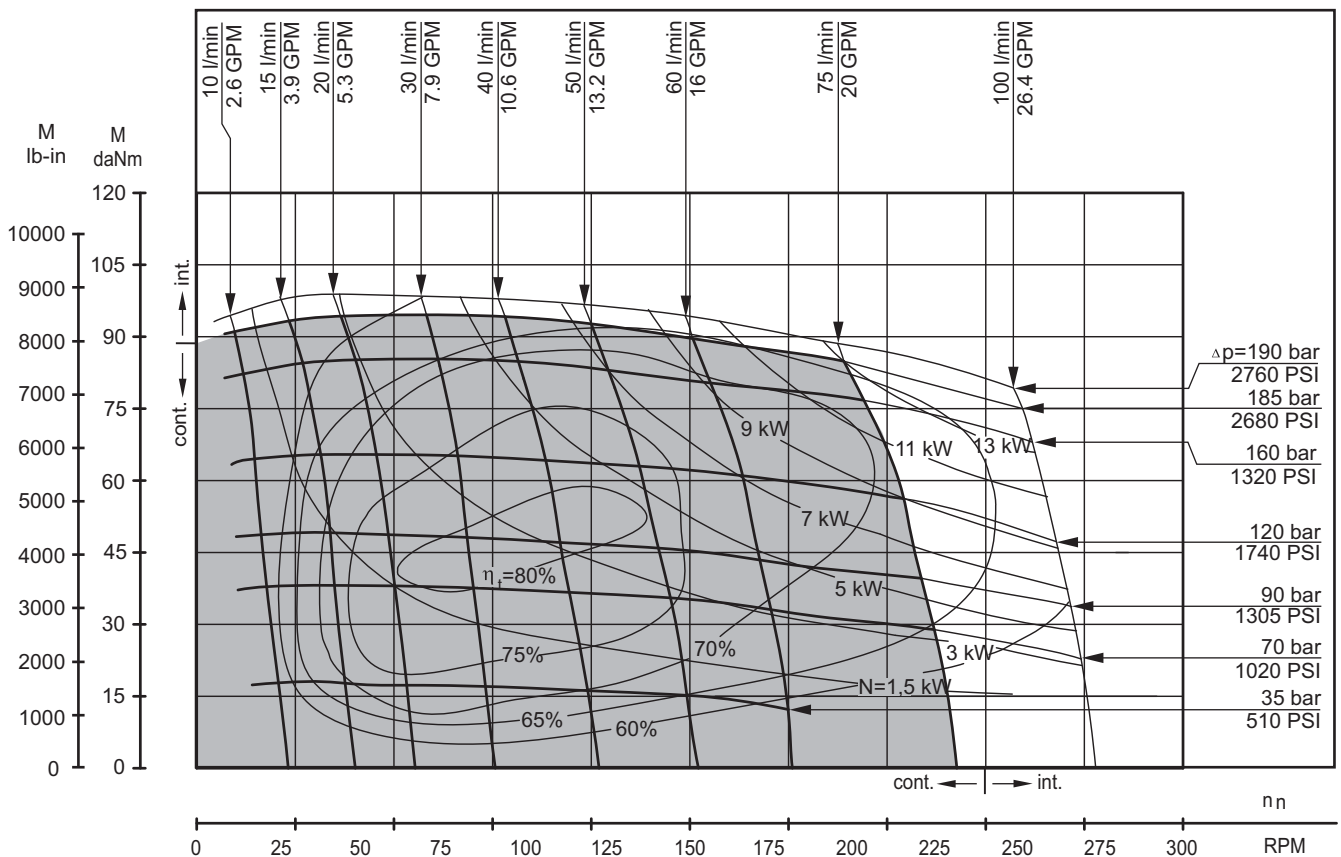
The function diagrams data is for average performance of randomly selected motors at back pressure 72.5÷145 PSI [5÷10 bar] and oil with viscosity of 150 SUS [32 mm²/s] at 122°F [50°C].

FUNCTION DIAGRAMS

HW 370



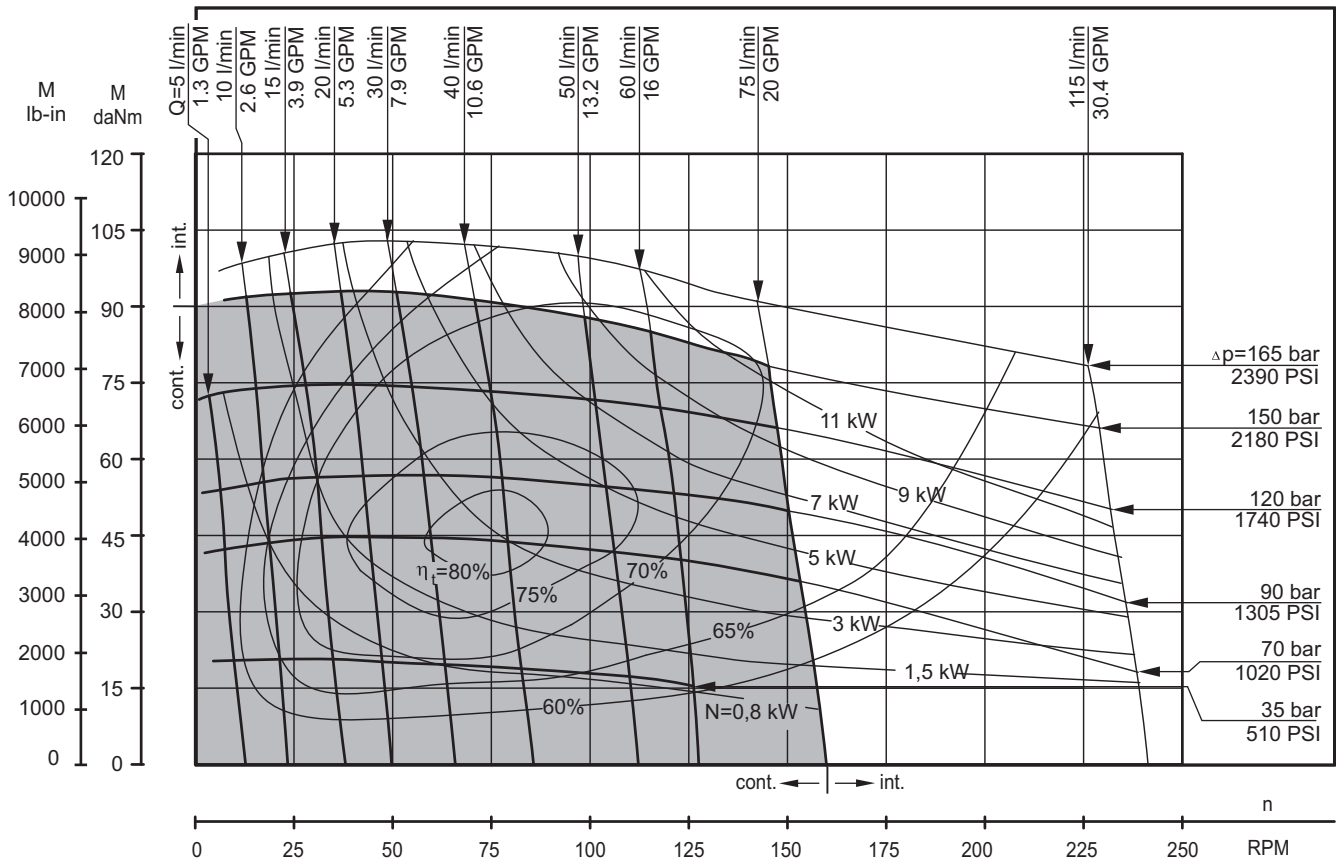
HW 400



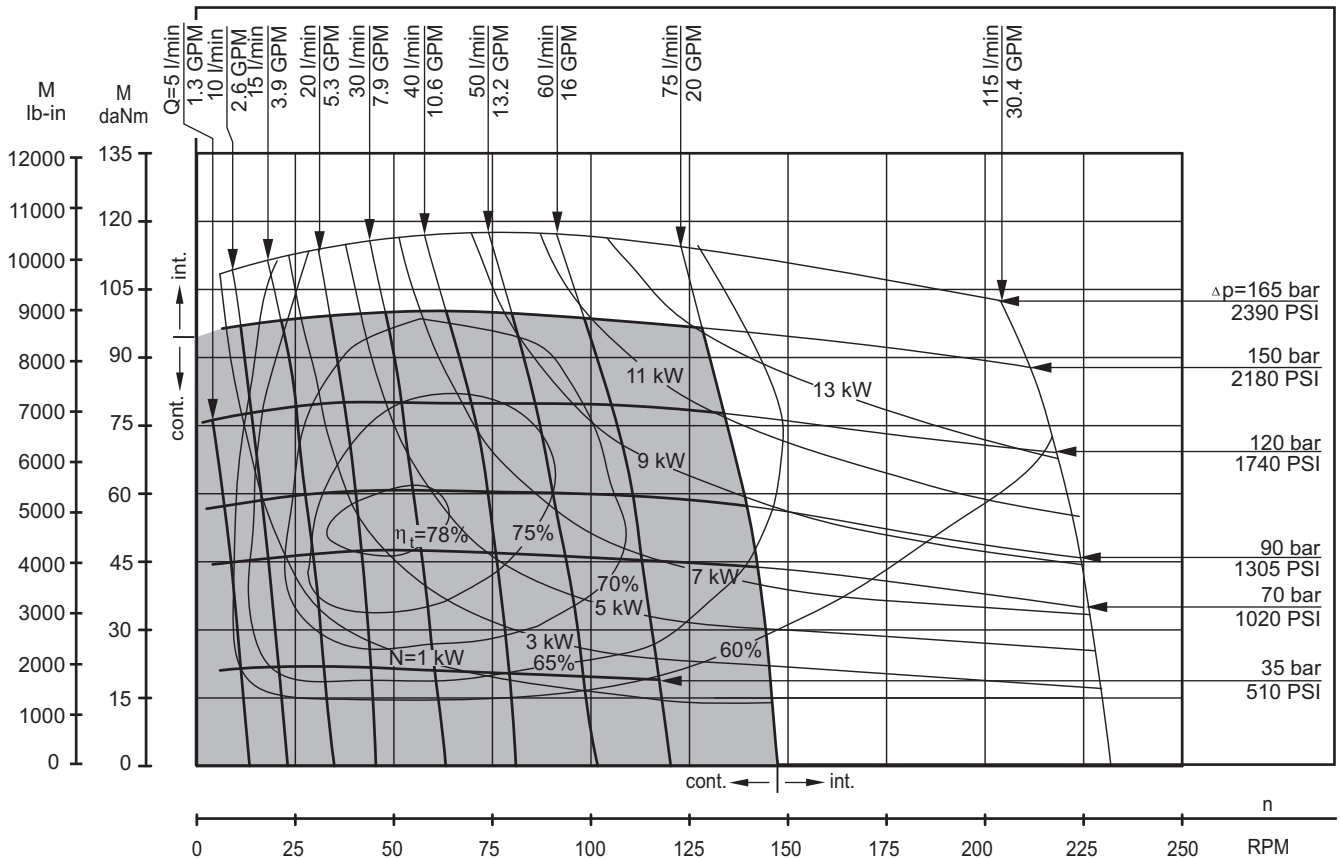
The function diagrams data is for average performance of randomly selected motors at back pressure 72.5÷145 PSI [5÷10 bar] and oil with viscosity of 150 SUS [32 mm²/s] at 122°F [50°C].

FUNCTION DIAGRAMS

HW 470



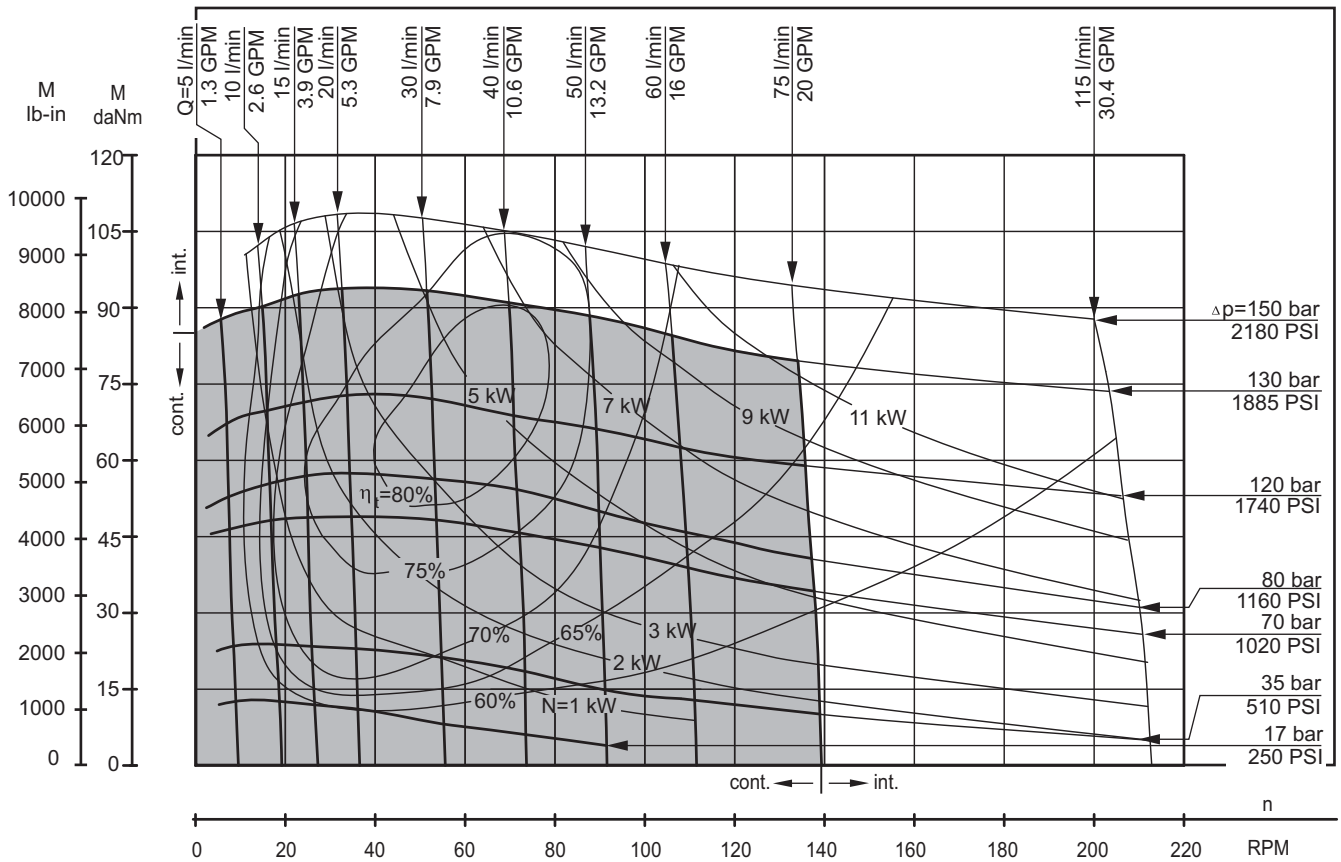
HW 500



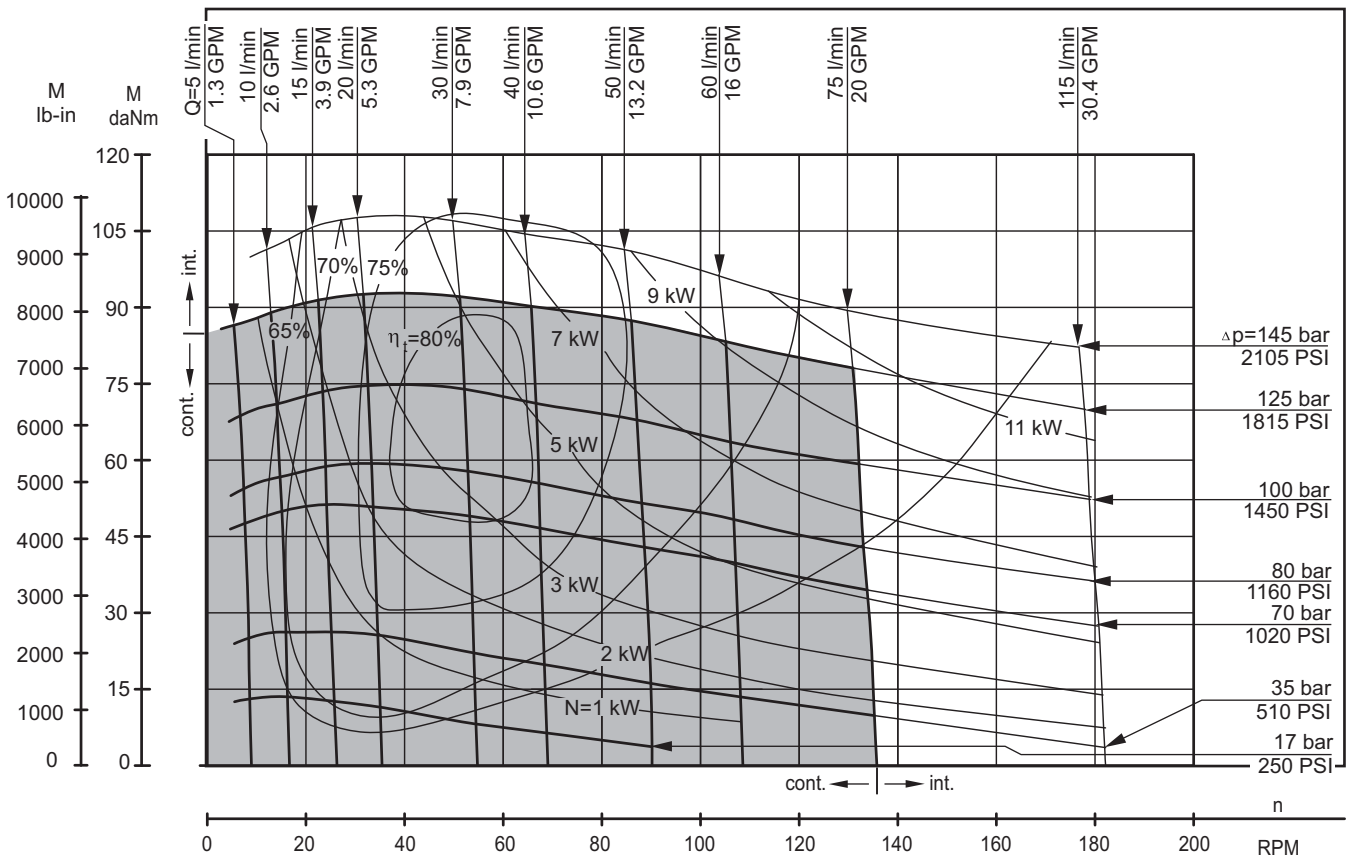
The function diagrams data is for average performance of randomly selected motors at back pressure 72.5÷145 PSI [5÷10 bar] and oil with viscosity of 150 SUS [32 mm²/s] at 122°F [50°C].

FUNCTION DIAGRAMS

HW 535



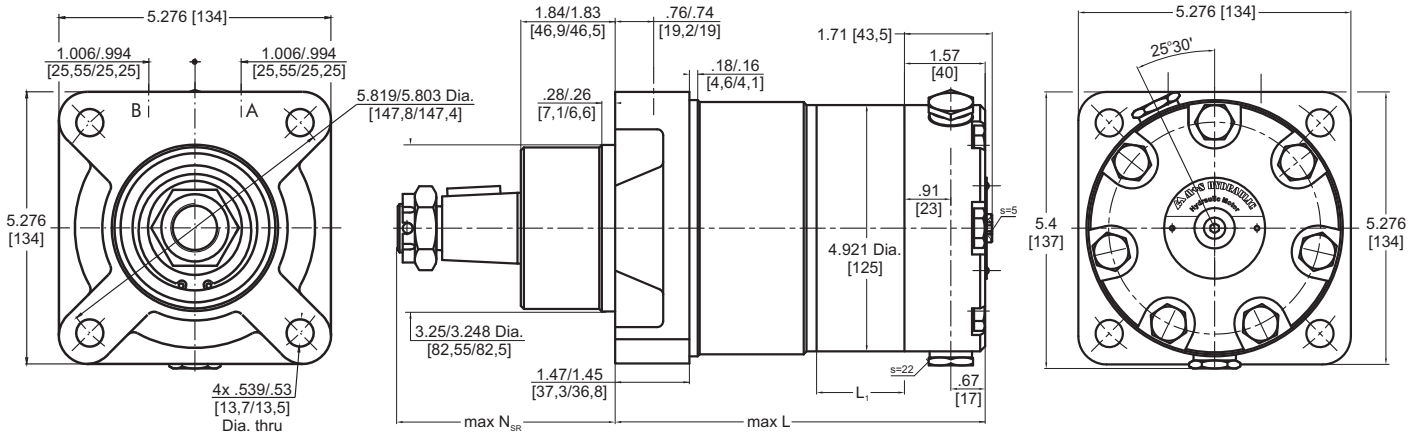
HW 550



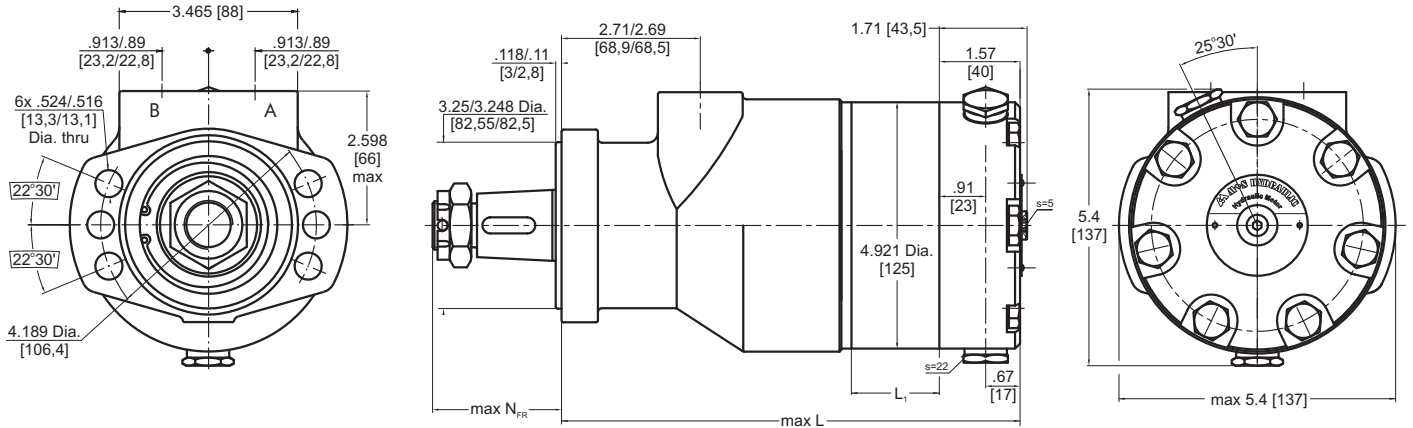
The function diagrams data is for average performance of randomly selected motors at back pressure 72.5÷145 PSI [5÷10 bar] and oil with viscosity of 150 SUS [32 mm²/s] at 122°F [50°C].

DIMENSIONS AND MOUNTING DATA

HWSR - Wheel mount, relief valves



HWFR - Wheel mount, six holes, relief valves



Note: For N_{FR} and N_{SR} see pages 99+100.

▽ - Motor Mounting Surface

Standard Rotation
Viewed from Shaft End
Port **A** Pressurized - **CW**
Port **B** Pressurized - **CCW**

Reverse Rotation
Viewed from Shaft End
Port **A** Pressurized - **CCW**
Port **B** Pressurized - **CW**

Versions		
	2	4
$P_{(A,B)}$	2xG $\frac{1}{2}$	2x $\frac{7}{8}$ -14UNF, O-ring

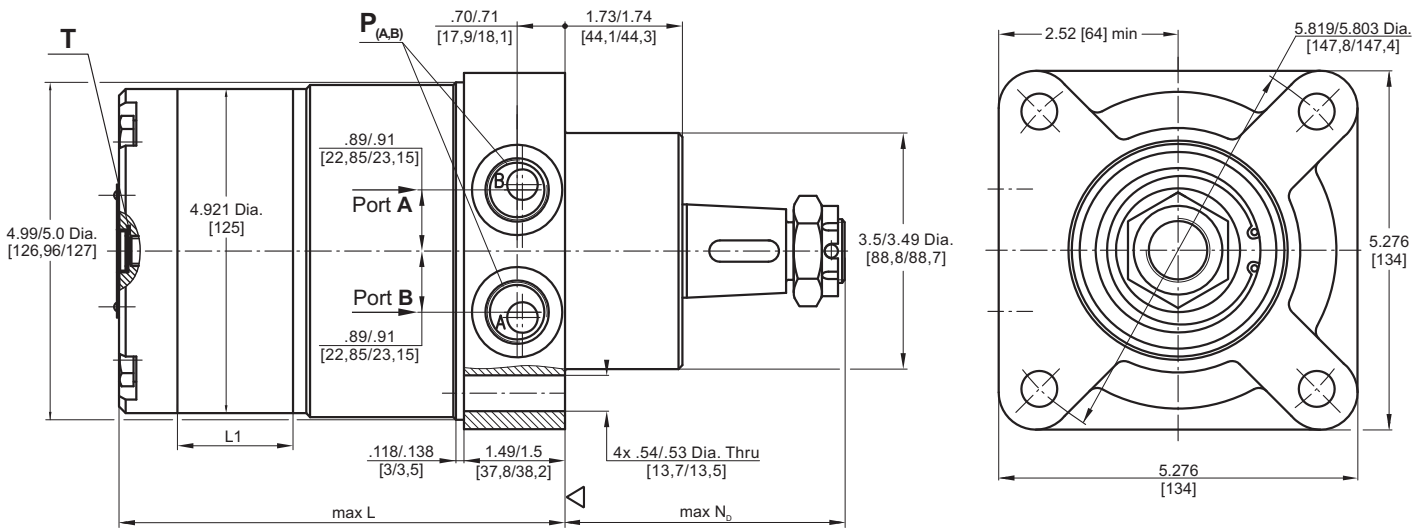


Type	L*max,in [mm]		L ₁ ,in [mm]
	HWSR	HWFR	
HW... 125	6.24 [158,5]	7.95 [202,0]	.68 [17,4]
HW... 160	6.42 [163,0]	8.13 [206,5]	.86 [21,8]
HW... 200	6.65 [169,0]	8.37 [212,5]	1.09 [27,8]
HW... 235	6.83 [173,5]	8.54 [217,0]	1.28 [32,5]
HW... 250	6.93 [176,0]	8.64 [219,5]	1.37 [34,8]
HW... 300	7.19 [182,5]	8.89 [226,0]	1.63 [41,4]
HW... 315	7.26 [184,5]	8.98 [228,0]	1.71 [43,5]
HW... 350	7.44 [189,0]	9.15 [232,5]	1.89 [48,0]
HW... 370	7.56 [192,0]	9.27 [235,5]	2.01 [51,0]
HW... 400	7.72 [196,0]	9.43 [239,5]	2.16 [54,8]
HW... 470	8.11 [206,0]	9.82 [249,5]	2.56 [65,0]
HW... 500	8.29 [210,5]	10.00 [254,0]	2.73 [69,4]
HW... 535	8.46 [215,0]	10.19 [258,8]	2.92 [74,1]
HW... 550	8.54 [217,0]	10.26 [260,5]	2.99 [76,0]

* For LSV option the dimension L is .118 in [3 mm] greater.

DIMENSIONS AND MOUNTING DATA

HWD Wheel Mount



Versions		
	2	4
P_(A,B)	2xG½	2x7/8-14UNF, O-ring
T	G ¼	7/16-20UNF, O-ring

* For LSV option the dimension L is .118 in [3 mm] greater.

Type	*L, in [mm]		L ₁ , in [mm]
	HWD	HWV	
HW... 125	5.59 [142,0]	5.53 [140,5]	.68 [17,4]
HW... 160	5.79 [147,0]	5.71 [145,0]	.86 [21,8]
HW... 200	6.02 [153,0]	5.94 [151,0]	1.09 [27,8]
HW... 235	6.22 [158,0]	6.12 [155,5]	1.28 [32,5]
HW... 250	6.30 [160,0]	6.22 [158,0]	1.37 [34,8]
HW... 300	6.56 [166,5]	6.46 [164,5]	1.63 [41,4]
HW... 315	6.65 [169,0]	6.56 [166,5]	1.71 [43,5]
HW... 350	6.83 [173,5]	6.73 [171,0]	1.89 [48,0]
HW... 370	6.95 [176,5]	6.85 [174,0]	2.01 [51,0]
HW... 400	7.09 [180,0]	7.01 [178,0]	2.16 [54,8]
HW... 470	7.50 [190,5]	7.40 [188,0]	2.56 [65,0]
HW... 500	7.66 [194,5]	7.58 [192,5]	2.73 [69,4]
HW... 535	7.85 [199,5]	7.76 [197,0]	2.92 [74,1]
HW... 550	7.93 [201,5]	7.83 [199,0]	2.99 [76,0]

Note: For N_D and N_V see pages 99÷100.

▽ - Motor Mounting Surface



Standard Rotation

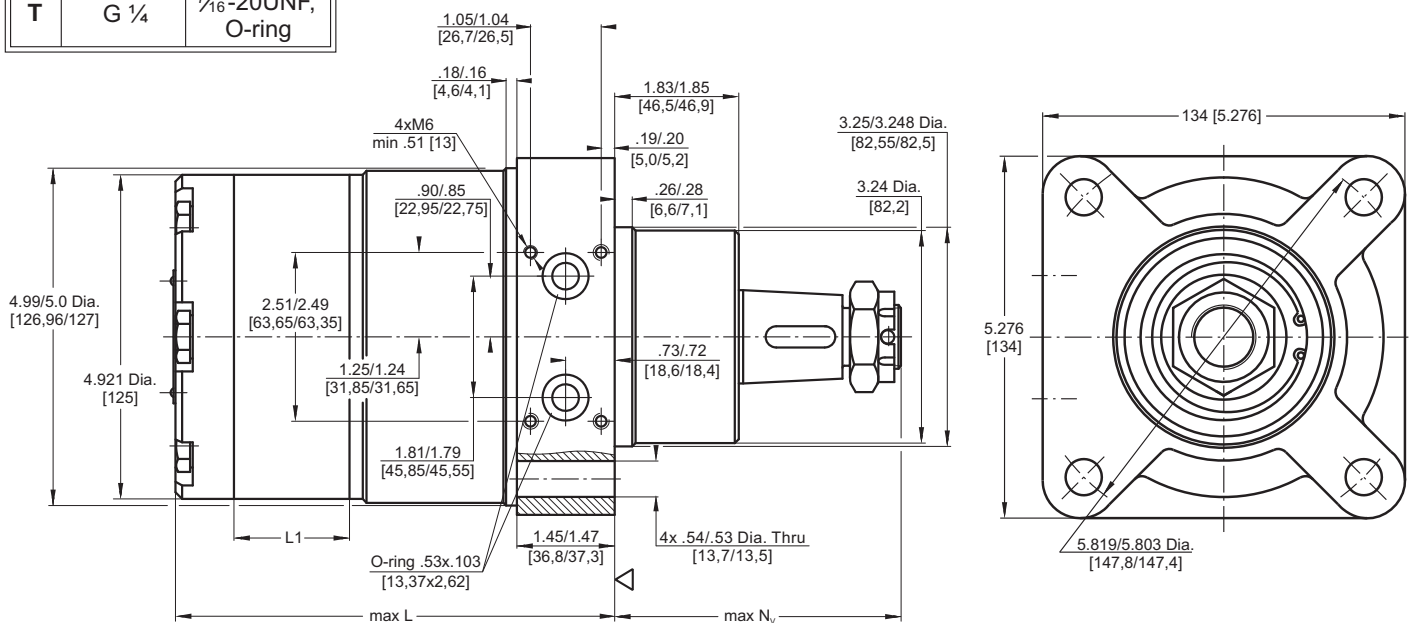
Viewed from Shaft End
Port A Pressurized - CW
Port B Pressurized - CCW

Reverse Rotation

Viewed from Shaft End
Port A Pressurized - CCW
Port B Pressurized - CW

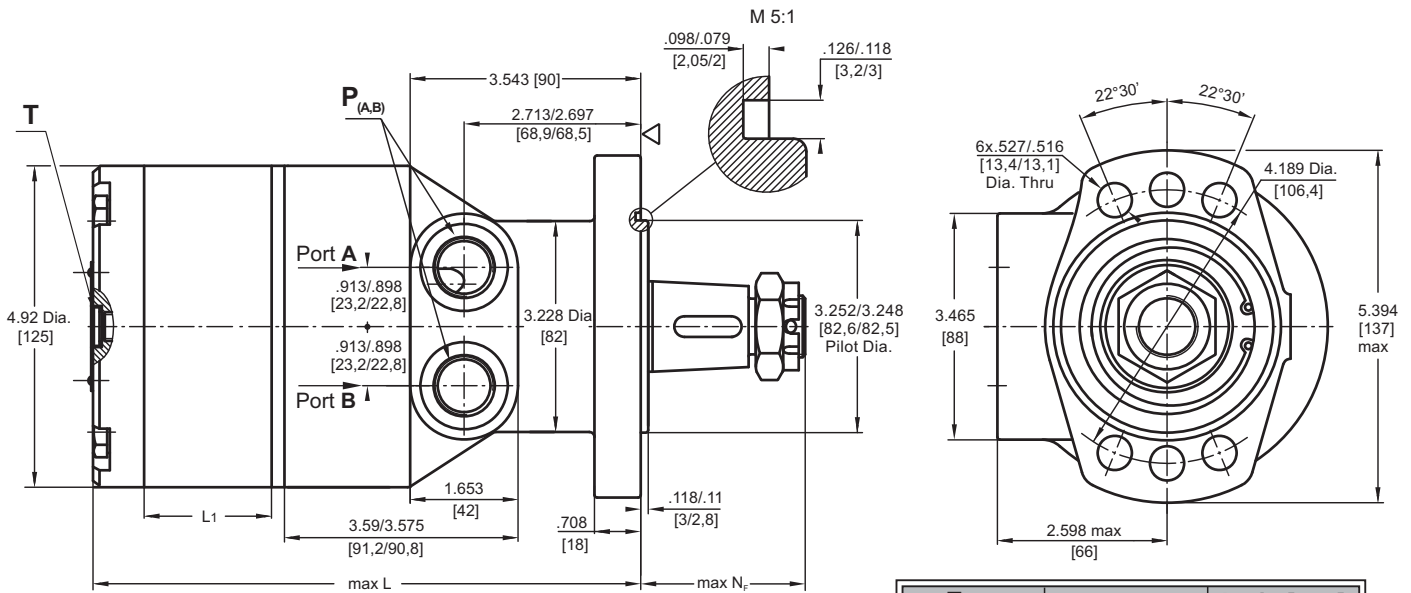
Versions		
	2	4
T	G ¼	7/16-20UNF, O-ring

HWV Wheel Mount



DIMENSIONS AND MOUNTING DATA

HWF - Magneto Mount



Note: For N_f see pages 99÷100.

▽ - Motor Mounting Surface

Standard Rotation

Viewed from Shaft End
Port A Pressurized - **CW**
Port B Pressurized - **CCW**

Reverse Rotation

Viewed from Shaft End
Port A Pressurized - **CCW**
Port B Pressurized - **CW**

	Versions	
	2	4
$P_{(A,B)}$	2xG $\frac{1}{2}$	2x $\frac{7}{8}$ -14UNF, O-ring
T	G $\frac{1}{4}$	$\frac{7}{16}$ -20UNF, O-ring



Type	*L, in [mm]	L1, in [mm]
HWF 125	7.24 [184,0]	.68 [17,4]
HWF 160	7.42 [188,5]	.86 [21,8]
HWF 200	7.66 [194,5]	1.09 [27,8]
HWF 235	7.84 [199,0]	1.28 [32,5]
HWF 250	7.93 [201,5]	1.37 [34,8]
HWF 300	8.20 [208,0]	1.63 [41,4]
HWF 315	8.27 [210,0]	1.71 [43,5]
HWF 350	8.45 [214,5]	1.89 [48,0]
HWF 370	8.56 [217,5]	2.01 [51,0]
HWF 400	8.72 [221,5]	2.16 [54,8]
HWF 470	9.11 [231,5]	2.56 [65,0]
HWF 500	9.29 [236,0]	2.73 [69,4]
HWF 535	9.47 [240,5]	2.92 [74,1]
HWF 550	9.55 [242,5]	2.99 [76,0]

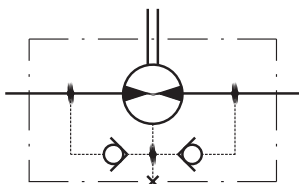
* For LSV option the dimension L is .118 in [3 mm] greater.

MAX. PERMISSIBLE SHAFT SEAL PRESSURE

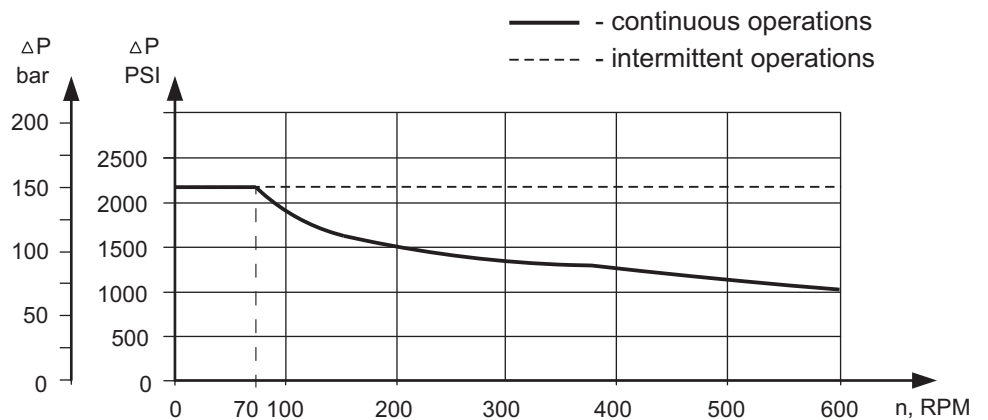
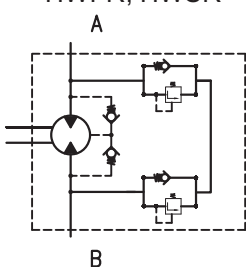
HW, HWF, HWS, HWD, HWV

HW... motors with drain connection:

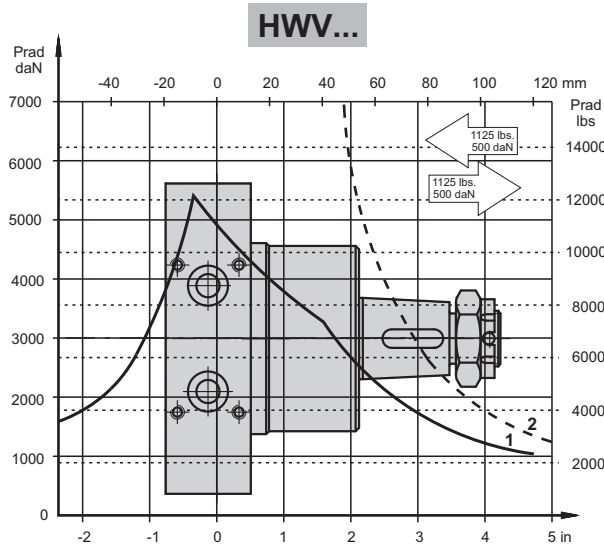
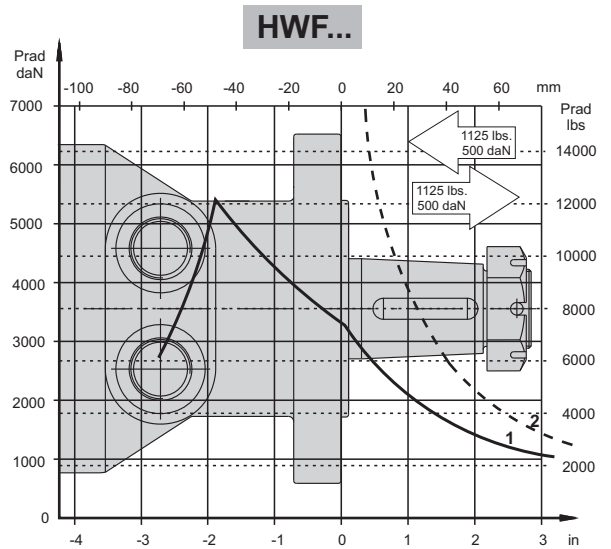
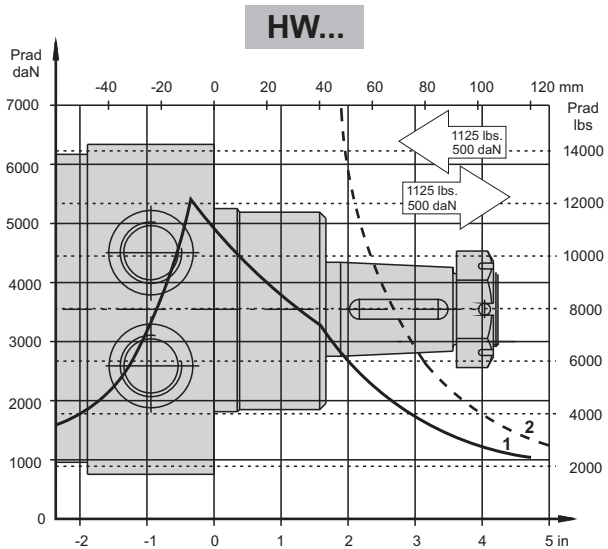
The shaft seal pressure equals the pressure in the drain line.



HWFR, HWSR



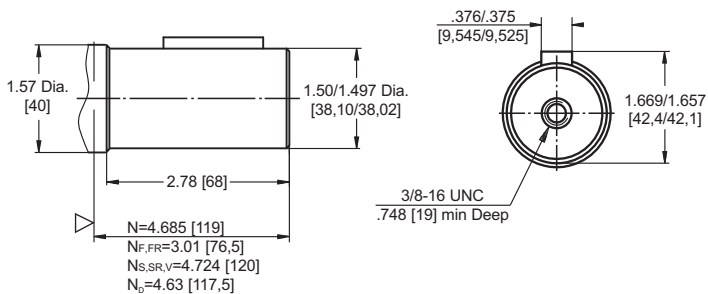
PERMISSIBLE SHAFT LOADS



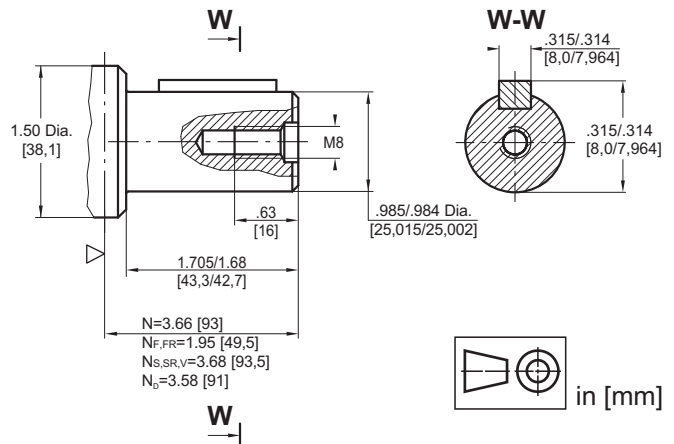
- 1 - Bearing curve: The curve applies to a B10 bearing life of 2000 hours at 100 RPM.
- 2 - Shaft curve: The curve represents Max. permissible radial shaft load with safety factor 3:1.

SHAFT EXTENSIONS

C - 1½"[38,1] straight, Parallel key 3/8"x 3/8"x 1/2" BS46
Max. Torque 10630 lb-in [120 daNm]



CO - ø25, straight, Parallel key A8x7x32 DIN 6885
Max. Torque 3540 lb-in [40 daNm]

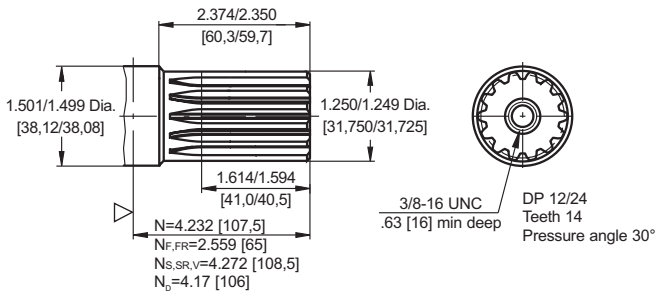


- N - for standard flange
- N_F - for F flange
- N_{FR} - for FR flange
- N_S - for S flange
- N_{SR} - for SR flange
- N_D - for D flange
- N_V - for V flange

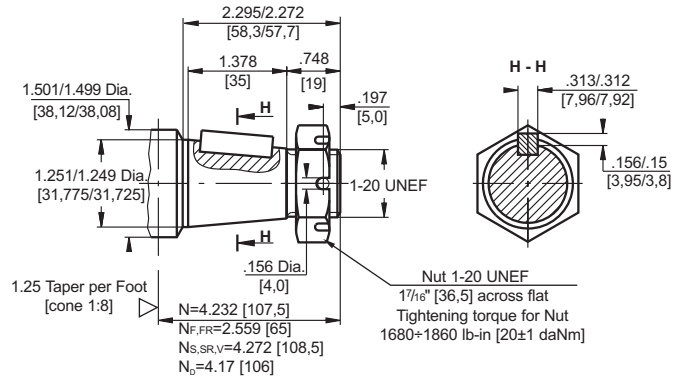
▽ - Motor Mounting Surface

SHAFT EXTENSIONS [continued]

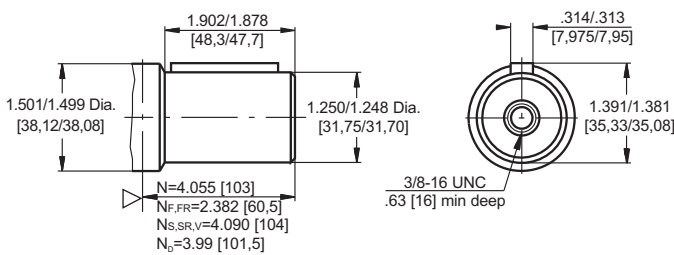
L - 1 1/4" [31,75] splined 14T, ANSI B92.1-1976
Max. Torque 8410 lb-in [95 daNm]



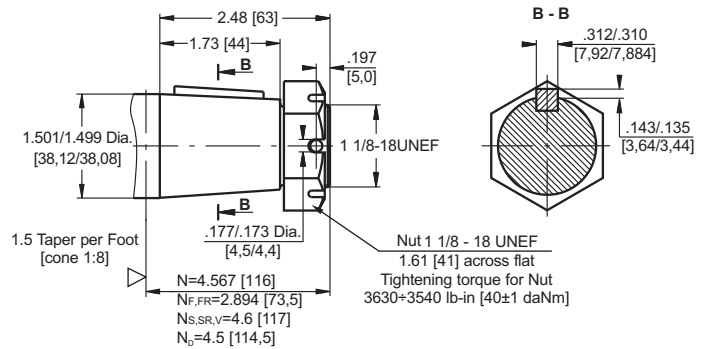
R - 1 1/4" [31,75] SAE J501 Tapered, Parallel key 5/16"x5/16"x1" BS46
Max. Torque 6815 lb-in [77 daNm]



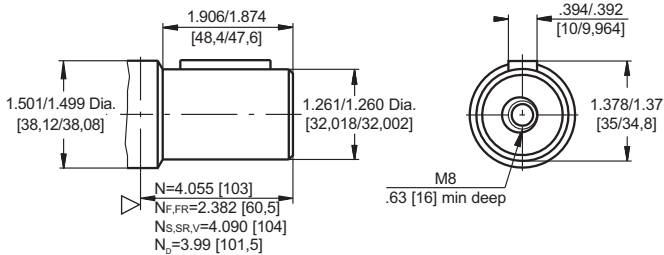
K - 1 1/4" [31,75] straight, Parallel key 5/16"x5/16"x1 1/2" BS46
Max. Torque 6815 lb-in [77 daNm]



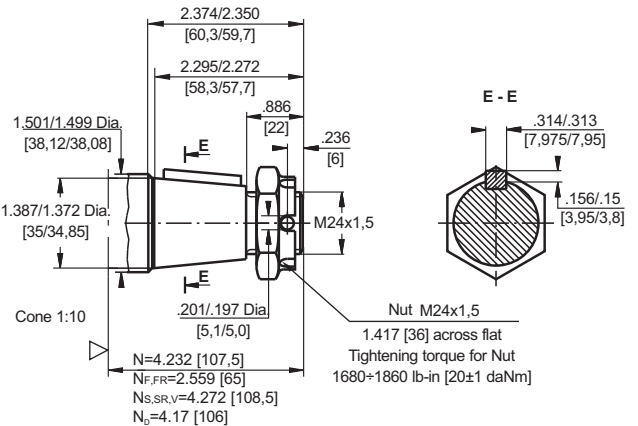
T - 1 1/2" [38,1] Tapered, Parallel key 5/16"x5/16"x1 1/4" BS46
Max. Torque 10630 lb-in [120 daNm]



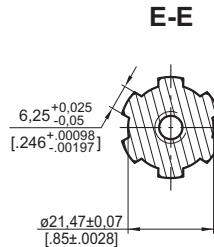
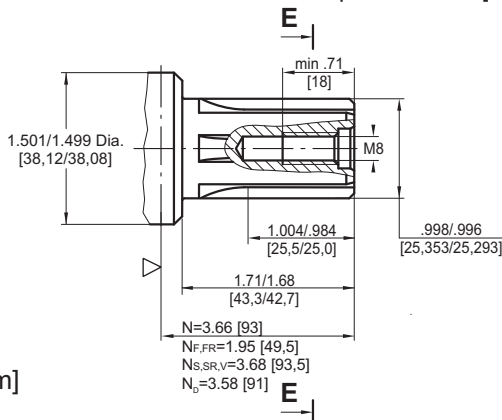
M - ø32 straight, Parallel key A10x8x32 DIN 6885
Max. Torque 6815 lb-in [77 daNm]



KB - ø35 tapered 1:10, Parallel key 5/16"x5/16"x1 1/4" BS46
Max. Torque 8410 lb-in [95 daNm]



SH - ø 1 1/4" splined BS 2059, SAE 6B
Max. Torque 40 daNm [3540 lb-in]



▽ - Motor Mounting Surface

- N - for standard flange
- N_F - for F flange
- N_{FR} - for FR flange
- N_S - for S flange
- N_{SR} - for SR flange
- N_D - for D flange
- N_V - for V flange

ORDER CODE

	1	2	3	4	5	6	7
HW						/	

Pos.1 - Mounting Flange

- omit - Wheel mount, four holes
- F** - Oval mount, six holes
- FR** - Oval mount, six holes, relief valves
- S** - Wheel mount, four holes
- SR** - Wheel mount, four holes, relief valves
- D** - Wheel mount, four holes; mounting on 3.5 [ø88,8]
- V*** - Wheel mount, four holes, valves

Pos.2 - Displacement code

- | | |
|------------|---|
| 125 | - 7.69 in ³ /rev [126,0 cm ³ /rev] |
| 160 | - 9.64 in ³ /rev [158,0 cm ³ /rev] |
| 200 | - 12.28 in ³ /rev [201,3 cm ³ /rev] |
| 235 | - 14.33 in ³ /rev [235,0 cm ³ /rev] |
| 250 | - 15.37 in ³ /rev [252,0 cm ³ /rev] |
| 300 | - 18.30 in ³ /rev [300,0 cm ³ /rev] |
| 315 | - 19.21 in ³ /rev [314,9 cm ³ /rev] |
| 350 | - 21.21 in ³ /rev [347,8 cm ³ /rev] |
| 370 | - 22.51 in ³ /rev [369,0 cm ³ /rev] |
| 400 | - 24.20 in ³ /rev [396,8 cm ³ /rev] |
| 470 | - 28.71 in ³ /rev [470,6 cm ³ /rev] |
| 500 | - 30.65 in ³ /rev [502,4 cm ³ /rev] |
| 535 | - 32.70 in ³ /rev [536,0 cm ³ /rev] |
| 550 | - 33.55 in ³ /rev [550,0 cm ³ /rev] |

Pos.3 - Shaft Extensions**

- | | |
|-----------|---|
| K | - 1 1/4" [31,75] straight, Parallel key ⁵ / ₁₆ "x ⁵ / ₁₆ "x1 1/2" BS46 |
| KB | - ø35 tapered 1:10, Parallel key ⁵ / ₁₆ "x ⁵ / ₁₆ "x1 1/4" BS46 |
| L | - 1 1/4" [31,75] splined 14T, ANSI B92.1-1976 |
| M | - ø32 straight, Parallel key A10x8x32 DIN 6885 |
| R | - 1 1/4" [31,75] Tapered 1:8, Parallel key ⁵ / ₁₆ "x ⁵ / ₁₆ "x1 1/2" BS46 |
| T | - 1 1/2" [38,1] Tapered 1:8, Parallel key ⁵ / ₁₆ "x ⁵ / ₁₆ "x1 1/4" BS46 |
| C | - 1.57" [40] straight, Parallel key ³ / ₈ "x ³ / ₈ "x1 1/2" BS46 |
| CO | - ø25, straight, Parallel key A8x7x32 DIN 6885 |
| SH | - ø1 1/4" splined BS 2059, SAE 6B |

Pos.4 - Ports

- | | |
|----------|---|
| 2 | - side ports, 2xG1/2, G1/4, BSP thread, ISO 228 |
| 4 | - side ports, 2x7/8-14 UNF, O-ring, 7/16-20 UNF |

Pos.5 - Special Features*** [see page 102]

Pos.6 - Valves Pressure Range, bar****

- | | |
|---|--------------------------|
| / | - 70, 100, 140, 170, 210 |
|---|--------------------------|

Pos.7 - Design Series

- omit - Factory specified

NOTES:

- * Flange **V** is for versions 2 and 4 - drainage only!
- ** The permissible output torque for shafts must not be exceeded!
- *** If the code on pos.5 is not specified in the order, it will be considered as LL-option.
- **** For **SR** and **FR** only!

The hydraulic motors are mangano-phosphatized as standard.