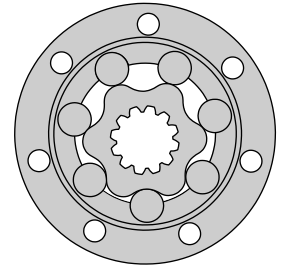


HYDRAULIC MOTORS HW



APPLICATION

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



CONTENTS

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 Permissible shaft Seal Pressure ... 38
 Dimensions and mounting 36
 Permissible shaft loads 38
 Shaft extensions 37
 Order code 39

OPTIONS

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

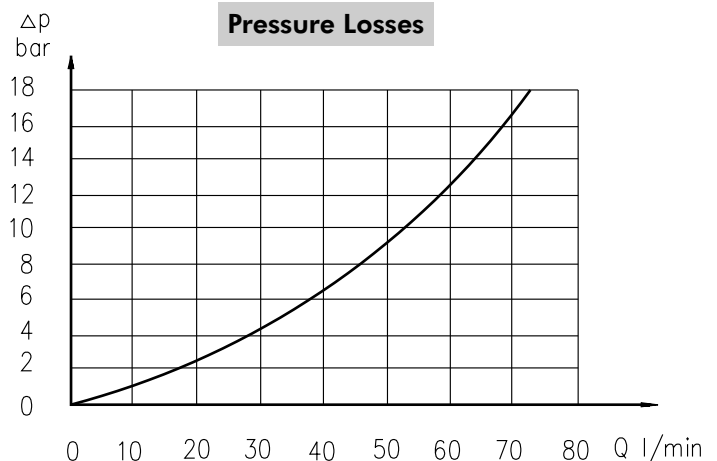
GENERAL

Displacement, [cm ³ /rev.]	126 ÷ 550
Max. Speed, [RPM]	136 ÷ 380
Max. Torque, [daNm]	35 ÷ 96
Max. Output, [kW]	9 ÷ 17,6
Max. Pressure Drop, [bar]	125 ÷ 205
Max. Oil Flow, [l/min]	45 ÷ 75
Min. Speed, [RPM]	10
Pressure fluid	Mineral based- HLP(DIN 51524) or HM(ISO 6743/4)
Temperature range, [°C]	-30 ÷ 90
Optimal Viscosity range, [mm ² /s]	20 ÷ 75
Filtration	ISO code 20/16 (Min. recommended fluid filtration of 25 micron)

Oil flow in drain line

Pressure drop (bar)	Viscosity (mm ² /s)	Oil flow in drain line (l/min)
100	20	2,5
	35	1,8
140	20	3,5
	35	2,8

Pressure Losses



SPECIFICATION DATA

Type	HW							
	125	160	200	235	250	300	315	
Displacement, [cm ³ /rev.]	126	157,8	201,3	235,3	252	300	314,9	
Max. Speed, [RPM]	cont.	357	380	348	298	298	250	238
	int.*	476	475	422	361	357	300	286
Max. Torque [daNm]	cont.	35	44	55	64,5	69	81	85
	int.*	38,5	48	60	70	75	89	93
Max. Output, [kW]	cont.	16,2	17,6	17,4	17	16,8	16,5	16,4
	int.*	19,8	21,6	19,6	19,2	18,7	18,7	18,7
Max. Pressure Drop, [bar]	cont.	205	205	205	205	205	205	205
	int.*	225	225	225	225	225	225	225
Max. Oil Flow [l/min]	cont.	45	60	70	70	75	75	75
	int.*	60	75	85	85	90	90	90
Max. Inlet Pressure, [bar]	cont.	210	210	210	210	210	210	210
	int.*	250	250	250	250	250	250	250
Max. Starting Pressure with Unloaded Shaft, [bar]		10	10	10	10	10	10	10
Min. Starting Torque [daNm]	at max. press. drop cont.	28,7	36	41,5	52,8	56,5	66,4	69,7
	at max. press. drop int.*	31,5	39,3	49,2	57,4	61,5	72,9	76,2
Min. Speed**, [RPM]		10	10	10	10	10	10	10
Weight, avg. [kg]		14,3	14,6	15,3	15,7	15,9	16,3	16,5

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

** For speeds of 10 RPM or lower, 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. Recommended 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 13 mm²/s at operating temperatures.
5. Recommended maximum system operating temperature - 82°C.
6. To assure optimum motor life fill with fluid prior to loading and run at moderate load and speed for 10-15 min.

SPECIFICATION DATA

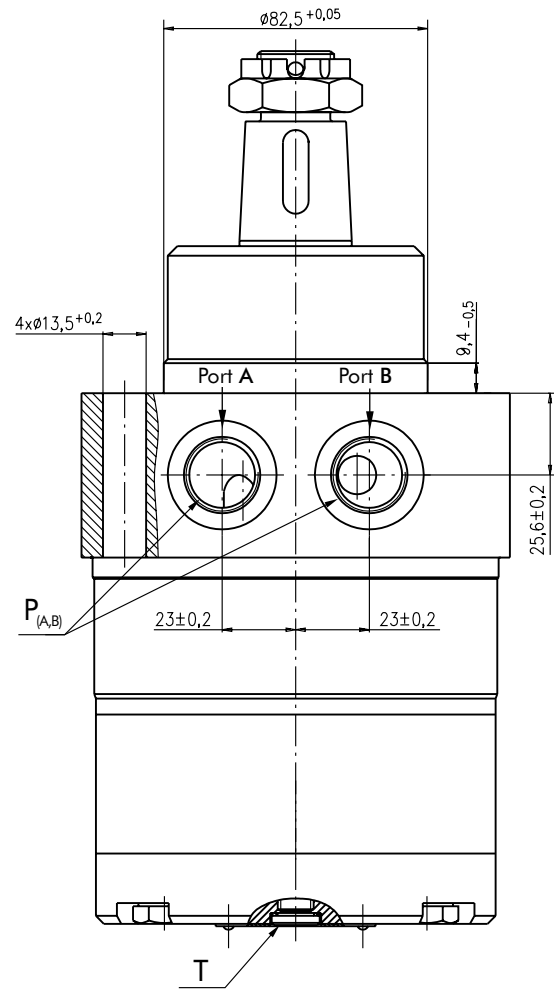
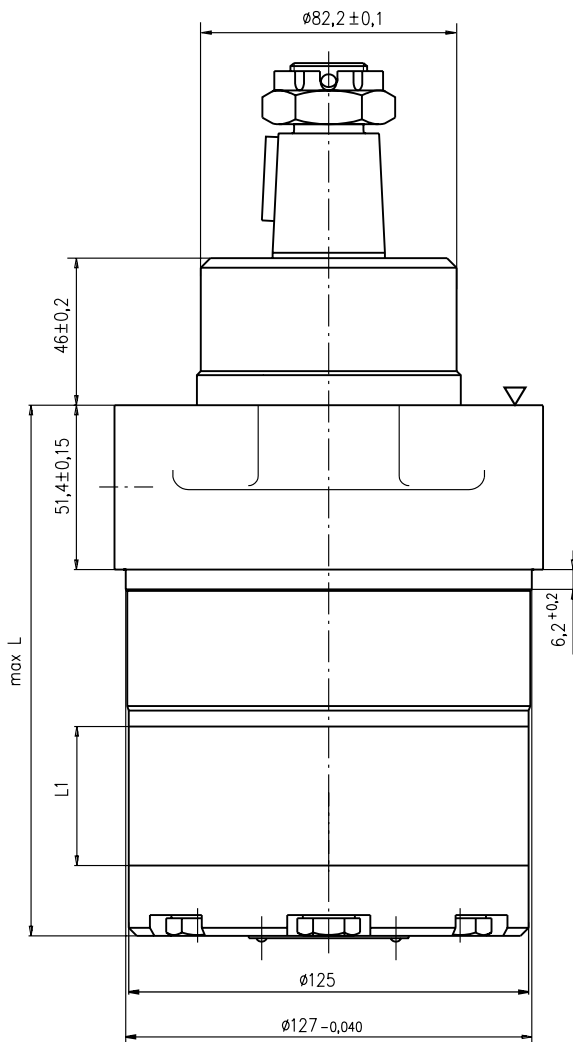
Type	HW							
	350	370	400	470	500	535	550	
Displacement, [cm ³ /rev.]	347,8	369,2	396,8	470,6	502,4	535	550	
Max. Speed, [RPM]	cont.	216	203	189	159	149	140	136
	int.*	259	244	227	191	179	168	164
Max. Torque [daNm]	cont.	94	96	96	92	91	90	89
	int.*	102	105	98	101	101	104	103
Max. Output, [kW]	cont.	16,5	13,2	12,5	10,6	10,8	9,4	9,0
	int.*	18,7	17,3	16,7	13,6	13,9	12,8	12,4
Max. Pressure Drop, [bar]	cont.	205	200	185	150	140	130	125
	int.*	225	225	190	165	155	150	145
Max. Oil Flow [l/min]	cont.	75	75	75	75	75	75	75
	int.*	90	90	90	90	90	90	90
Max. Inlet Pressure, [bar]	cont.	210	210	210	210	210	210	210
	int.*	250	250	250	250	250	250	250
Max. Starting Pressure with Unloaded Shaft, [bar]		10	10	10	10	10	10	10
Min. Starting Torque [daNm]	at max. press. drop cont.	77	79,5	78,7	75,4	74,6	73,8	72,9
	at max. press. drop int.*	83,6	86	80,3	82,8	82,8	85,2	84,4
Min. Speed**, [RPM]		8	8	8	8	8	5	5
Weight, avg. [kg]		16,9	17,1	17,5	18,3	18,6	19,0	19,1

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

** For speeds of 10 RPM or lower, 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. Recommended 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 13 mm²/s at operating temperatures.
5. Recommended maximum system operating temperature - 82°C.
6. To assure optimum motor life fill with fluid prior to loading and run at moderate load and speed for 10-15 min.

DIMENSIONS AND MOUNTING DATA



▽ - Motor Mounting Surface

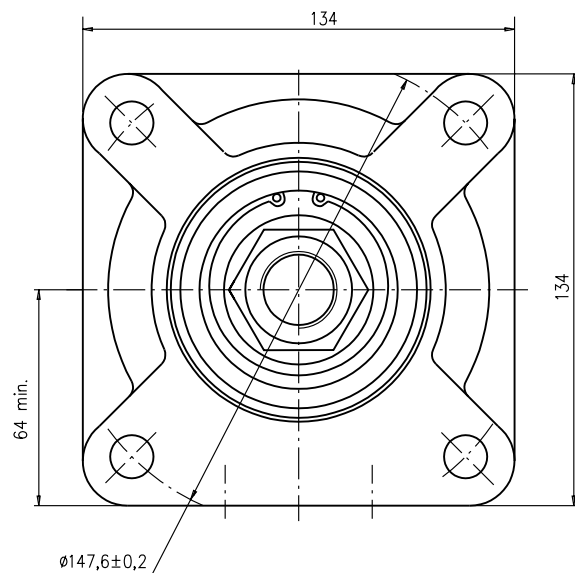
Standard Rotation

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

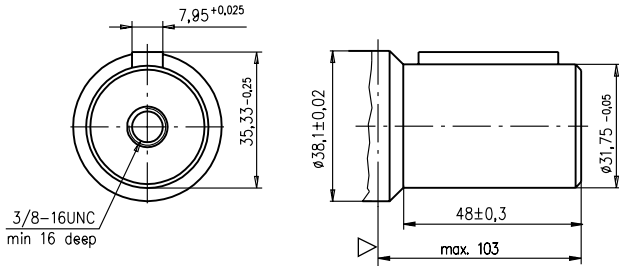
Type	L, mm	L ₁ , mm
HW 125	140,5	17,4
HW 160	145,0	21,8
HW 200	151,0	27,8
HW 235	155,5	32,5
HW 250	158,0	34,8
HW 300	164,5	41,4
HW 315	166,5	43,5
HW 350	171,0	48,0
HW 370	174,0	51,0
HW 400	178,0	54,8
HW 470	188,0	65,0
HW 500	192,5	69,4
HW 535	197,0	74,1
HW 550	199,0	76,0



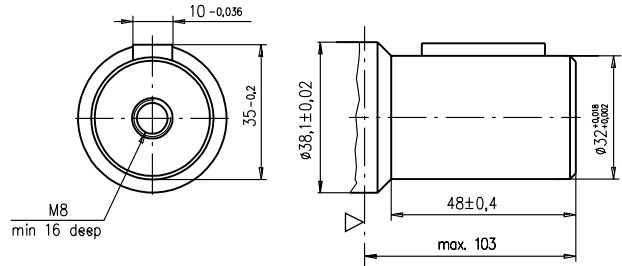
	Versions	
	2	4
P _(A,B)	2xG ¹ / ₂	2x ⁷ / ₈ -14UNF, O-ring
T	G ¹ / ₄	⁷ / ₁₆ -20UNF, O-ring

SHAFT EXTENSIONS

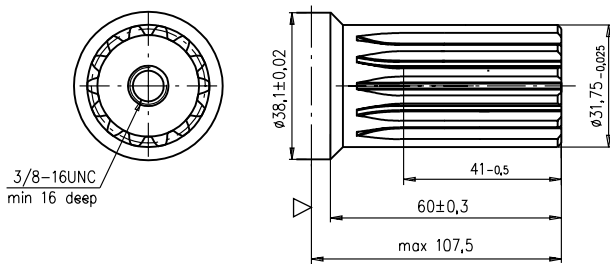
K - 1 1/4" straight, Parallel key 5/16"x5/16"x1 1/2" BS46
Max. Torque 77 daNm



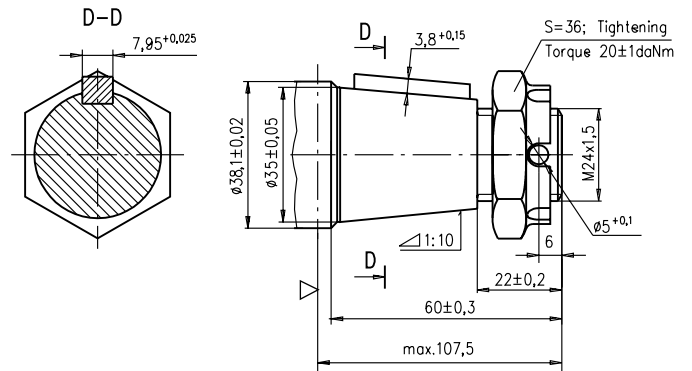
M - ø32 straight, Parallel key A10x8x32 DIN 6885
Max. Torque 77 daNm



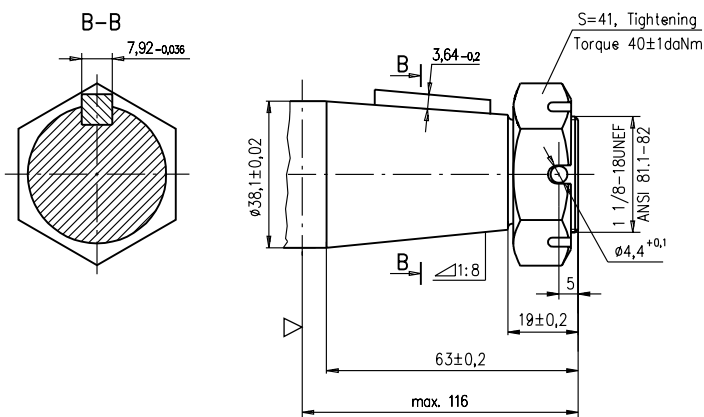
L - ø1 1/4" splined 14T, DP12/24 ANSI B92.1-1976 Norm
Max. Torque 77 daNm



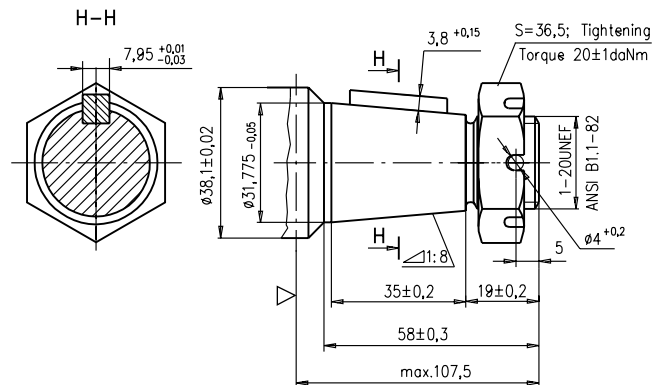
KB - ø35 tapered 1:10, Parallel key 5/16"x5/16"x1 1/4" BS46
Max. Torque 95 daNm



T - 1 1/2" tapered 1:8, Parallel key 5/16"x5/16"x1 1/4" BS46
Max. Torque 120 daNm

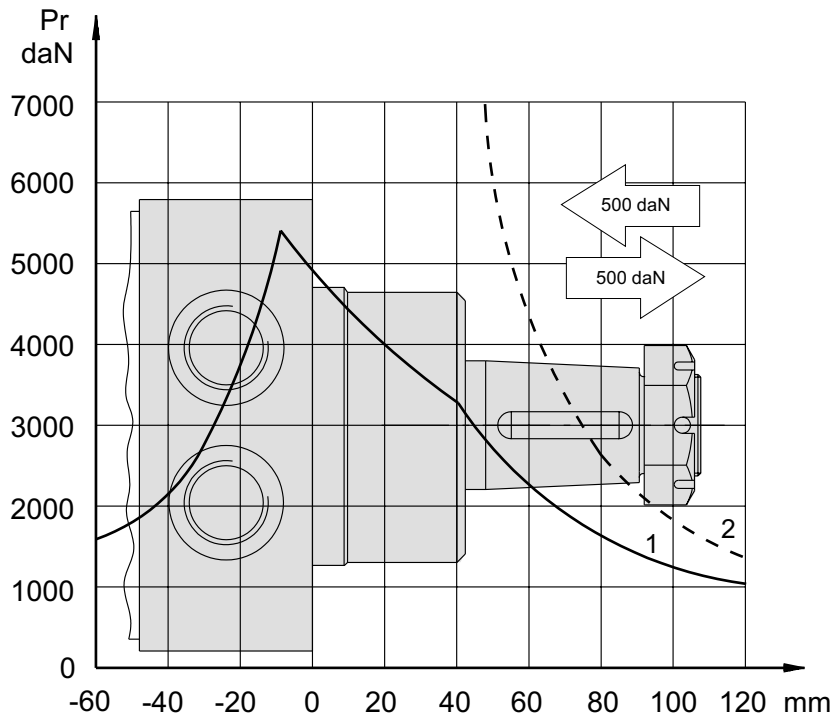


R - 1 1/4" tapered 1:8, Parallel key 5/16"x5/16"x1" BS46
Max. Torque 77 daNm



▽ - Motor Mounting Surface

PERMISSIBLE SHAFT LOADS

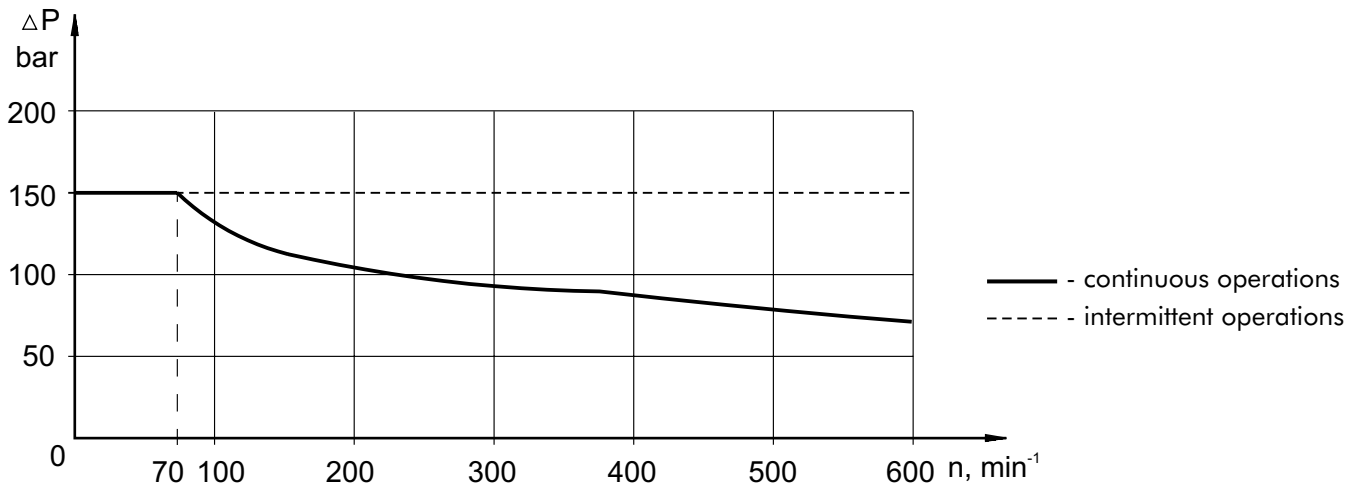
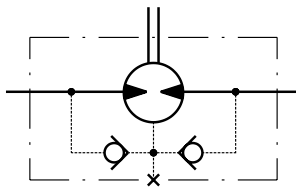


- 1 - Bearing curve: The curve applies to a B10 bearing life of 2000 hours at 100 RPM.
- 2 - Shaft curve: The curve represents Max. permissible radial shaft load with safety factor 3:1.

MAX. PERMISSIBLE SHAFT SEAL PRESSURE

HW... motors with drain connection:

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



ORDER CODE

	1	2	3	4	5
HW					

Pos. 1 - Displacement code

125	- 126,00 [cm ³ /rev]
160	- 158,00 [cm ³ /rev]
200	- 201,30 [cm ³ /rev]
235	- 235,00 [cm ³ /rev]
250	- 252,00 [cm ³ /rev]
300	- 300,00 [cm ³ /rev]
315	- 314,90 [cm ³ /rev]
350	- 347,80 [cm ³ /rev]
370	- 369,00 [cm ³ /rev]
400	- 396,80 [cm ³ /rev]
470	- 470,60 [cm ³ /rev]
500	- 502,40 [cm ³ /rev]
535	- 536,00 [cm ³ /rev]
550	- 550,00 [cm ³ /rev]

Pos. 3 - Ports

2	- BSPP (ISO 228)
4	- SAE (ANSI B1.1-1982)

Pos. 4 - Special Features [\(see page 53\)](#)

Pos. 5 - Design Series

omit - Factory specified

Pos. 2 - Shaft Extensions*

K	- 1 1/4"[31,75] straight, Parallel key $\frac{5}{16}$ "x $\frac{5}{16}$ "x1 1/2" BS46
KB	- \varnothing 35 tapered 1:10, Parallel key $\frac{5}{16}$ "x $\frac{5}{16}$ "x1 1/4" BS46
L	- 1 1/4"[31,75] splined 14T, ANSI B92.1-1976
M	- \varnothing 32 straight, Parallel key A10x8x32 DIN 6885
R	- 1 1/4"[31,75] Tapered 1:8, Parallel key $\frac{5}{16}$ "x $\frac{5}{16}$ "x1" BS46
T	- 1 1/2"[38,1] Tapered 1:8, Parallel key $\frac{5}{16}$ "x $\frac{5}{16}$ "x1 1/4" BS46

NOTE: * The permissible output torque for shafts must not be exceeded!

The hydraulic motors are mangano-phosphatized as standard.