Heidrive

An Allient Company



HMP - Servo motors with planetary gears

HeiMotion Premium

Introduction

As additional extension to the HeiMotion servo range the HeiMotion Premium series is now supplemented by compact directly mounted gears with diameters from 40 mm to 100 mm. The modular flanges allow besides the standard combinations even to combine different motor and gear sizes to realize special requirements such as high radial loads or various mounting types on the machine.
In terms of design requirements, the main focus was on reducing overall length and keeping noise to a minimum. The elimination of the clamp coupling and the more precise connection of the sun gear allowed the noise level to be reduced by up to 6 dB.The 1-stage gear unit is available in gear ratios of 1 to 10, and the dual-stage model is available in gear ratios from 9 to 64. Other advantages of direct mounting include the low mass moment of inertia and the light weight.

The HeiMotion Premium motors are available in five standard frame sizes:

- ☐ 40 mm - HMP04
- ☐ 60 mm - HMP06
- ☐ 80 mm - HMP08
- ☐ 100 mm - HMP10
- ☐ 130 mm - HMP13

...and can be combined with the following gear unit sizes:

- ☐ E04 / P05
- ☐ E06 / E07 / P07 / H06 / F06 / V06
- ☐ E06 / E07 / E08 / E09 / P07 / P09 / H06 / H08 / F06 / F09 / V06 / V09
- ☐ E08 / E09 / E10 / P09 / H08 / F09 / V09 / V10
- ☐ E10 / V10

The features of the gear unit at a glance:

- Low backlash
- High output torques
- High efficiency
- Low noise
- The highest standards for quality
- Flexible mounting position
- Lifetime lubrication
- Same rotating direction of gear unit and motor
- Modular design with additional options available upon request

Advantages of the HMP motor-gear unit combination:

- Short length
- Low mass moment of inertia
- Lightweight
- Low noise
- High efficiency

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Drives (motor-gear-combinations)



Motors with **E**-gears (Economy series) from p. 12

Economical gear for standard applications
Highest variance
E07, E09 with square mounting flange
E04, E06, E08 with round mounting flange



Motors with **P**-gears (Powerful economy) from p. 36

Economical gear
Higher radial and axial forces



Motors with **H**-gears (Heavy duty) from p. 46

Highest radial and axial forces



Motors with **F**-gears (Flange output) from p. 54

Economical flange-gear
Output flange according to DIN ISO 9409
High tilting rigidity



Motors mit **V**-gears (Vehicle optimized) from p. 62

Economical gear with flange output
Compact design
Optimized for use in mobile robots (AMR's, AGV's, etc...)
High tilting rigidity

Overview output shaft and feather key	p. 76
Optional angular gearbox with direct mounting	p. 77

Order code

HMP08-028-320-30-BPH2MW23E0616

Frame/flange size

40 mm → 04
60 mm → 06
80 mm → 08
100 mm → 10
130 mm → 13

Stall torque

0.2 Nm → 002
0.4 Nm → 004
0.7 Nm → 007
1.5 Nm → 015
2.8 Nm → 028
3.5 Nm → 035
5.6 Nm → 056
7.5 Nm → 075
5.5 Nm → 055
9.1 Nm → 091
12.3 Nm → 123
18.5 Nm → 185

DC bus voltage

48 V → 048
320 V → 320
560 V → 560

Rated speed

2,000 min^{-1} → 20
3,000 min^{-1} → 30
3,600 min^{-1} → 36
5,000 min^{-1} → 50
5,500 min^{-1} → 55
6,000 min^{-1} → 60
9,000 min^{-1} → 90

Gear type (p. 3)

Economy series → E[1)]
Powerful economy → P
Heavy duty → H
Flange output → F
Vehicle optimized → V

Gear size

40 mm → 04
50 mm → 05
60 mm → 06
60/70 mm → 07
80 mm → 08
80/90 mm → 09
100 mm → 10

Ratio

i=3 → 03
i=4 → 04
i=5 → 05
i=7 → 07
i=8 → 08
i=10 → 10
i=9 → 09
i=12 → 12
i=15 → 15
i=16 → 16
i=20 → 20
i=25 → 25
i=32 → 32
i=40 → 40
i=64 → 64

Options

Without brake	0XXXXXXX
With brake	BXXXXXXX
Without feather key (Gear)	X0XXXXXX[2)]
With feather key (Gear)	XPXXXXXX[2)]
Resolver	XXR1PXXX
Resolver safely mounted	XXRAPXXX
HES 1 (1,0 V_{pp})	XXM2SXXX
HEM 1 (1,0 V_{pp} without battery)	XXM1MXXX
HEM 1 (1,0 V_{pp} without battery)	XXM2MXXX
HES 3	XXM1IXXX
HS 16	XXS1SXXX
HM 16	XXB1MXXX
ECI 1118	XXE1SXXX
EQI 1131	XXE1MXXX
SEK 37	XXH1SXXX
SEL 37	XXH1MXXX
SKS 36	XXH2SXXX
SKS 36S safely mounted	XXHBSXXX
SKM 36	XXH2MXXX
SKM 36S safely mounted	XXHBMXXX
SRS 50	XXH3SXXX
SRM 50	XXH3MXXX
EES 37	XXD1SXXX
EES 37-2 safely mounted	XXDASXXX
EEM 37	XXD1MXXX
EEM 37-2 safely mounted	XXDAMXXX
EKS 36	XXD2SXXX
EKS 36-2 safely mounted	XXDBSXXX
EKM 36	XXD2MXXX
EKM 36-2 safely mounted	XXDBMXXX
CKS 36	XXI1SXXX
M23 angled	XXXXXW23
Y-Tec	XXXXXY17
I-Tec	XXXXXI17
M 23 H-Tec	XXXXXI23
Cable outlet 1.5 m[3)]	XXXXXK15
Cable outlet 5 m[3)]	XXXXXK50

1) E06, E08, E10 with round mounting flange / E07 and E09 with square mounting flange (see also explanations on page 3).
2) Feather key option only available for E, P and H gear units. Details and definitions see page 76.
3) Only on request.

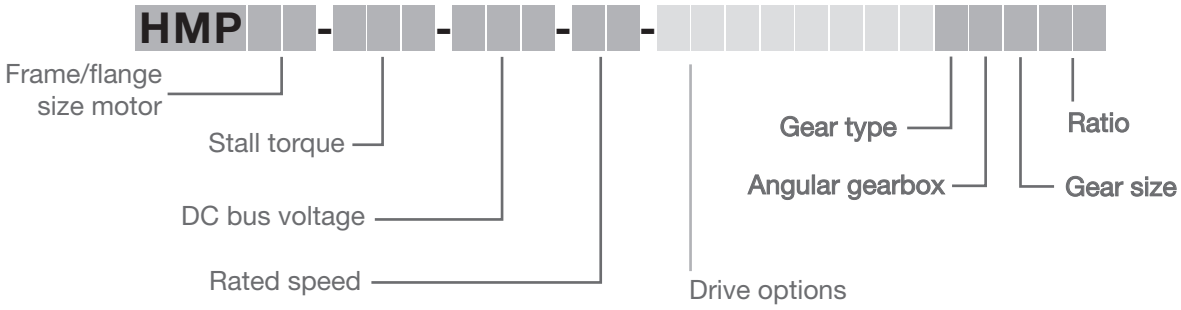
Example: HMP08-028-320-30-BPH2MW23[1)]E0616

Frame/flange size motor 80 mm
Stall torque 2.8 Nm
DC bus voltage 320 V
Rated speed 3,000 rpm

Options:
with brake
with feather key (Gear)
Encoder SKM36
Angled connector M23

Gear data:
Type - Economy
Size - 60 mm
Ratio - 16

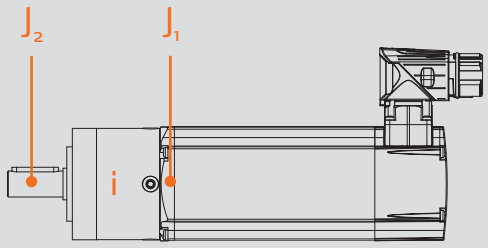
1) For the exact motor data, please refer to our main catalog "HeiMotion Premium - Servo drive systems".



Angular gear option see from page 77

General Information

Calculation of the moments of inertia



Formula: $J_2 = J_1 \cdot i^2$

- The moments of inertia specified in this catalog refer to the motor shaft or the geared drive (J_1)
- Indicated is the total moment of inertia of the motor, the gear and (if mounted) the brake
- Designation moment of inertia: J_1, unit: kg-cm^2
- Calculation of the moment of inertia of the drive side (J_2), see formula

Abbreviations and definitions

Abbr.	Unit	Explanation
n_n	[rpm]	Rated speed of the motor
n_{out}	[rpm]	Output shaft speed at the gear unit
M_0	[Nm]	Stall torque of the motor-gear-unit, taking into account the gear ratio and the gear efficiency (see ambient conditions and technical characteristics)
M_n	[Nm]	Rated torque of the motor-gear-unit, taking into account the gear ratio and the gear efficiency (see ambient conditions and technical characteristics) as a function of the rated speed of the motor
M_{max}	[Nm]	Maximum torque of the motor-gear-unit, taking into account the gear ratio and the gear efficiency (see ambient conditions and technical characteristics)
$M_{G, n}$	[Nm]	Permissible rated torque of the gear
$M_{G, max}$	[Nm]	Permissible maximum torque of the gear for 30,000 rotations of the output shaft
J_1	[kg-cm^2]	Mass moment of inertia incl. gear unit and motor, as well as brake (if mounted)
i	[-]	Gear ratio
L	[mm]	Complete length of the motor-gear-unit
m	[kg]	Complete weight of the motor-gear-unit

Ambient conditions and technical characteristics

Service life at the rated operating conditions	20,000 h *
Minimum operating temperature	- 10 °C
Maximum operating temperature	40 °C
Maximum gear temperature	90 °C *
Lubrication	Lifetime lubrication
Coating motor and gear	Black top coat, RAL 9005
Protection class motor / gear (E, P, F)	IP65 / IP54
Protection class motor / gear (H, V)	IP65 / IP65

* Depending on application and environmental conditions

Drive selection

You can find overview diagrams to help you select your individualized drive on the following pages of the catalog. There are two different ways of selecting a motor and/or gear unit.

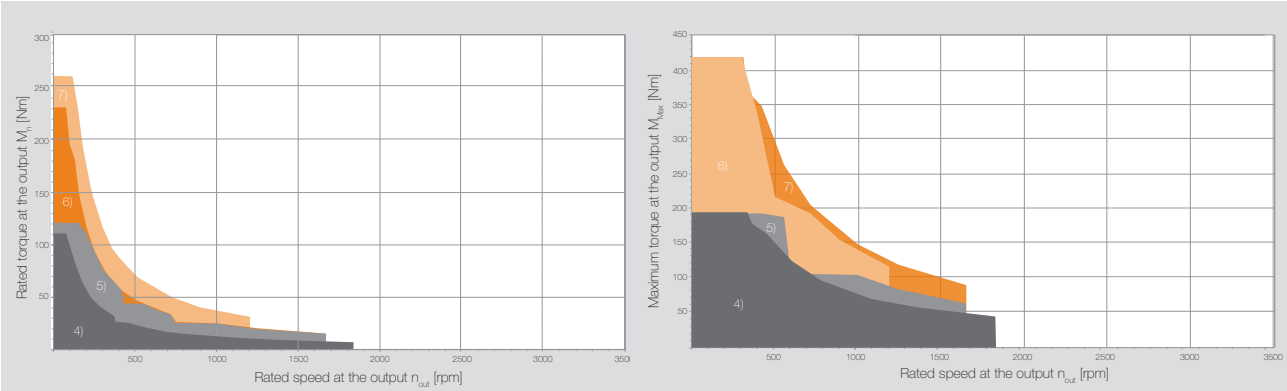
1. Drive selection by radial / axial forces (F_r , F_a)

Motor types	F_r [N]	F_a [N]
HMP04 E04	200	200
HMP06 E06 / HMP08 E06	400	500
HMP08 E08 / HMP10 E08	750	1.000
HMP10 E10 / HMP13 E10	1.200	2.100
...	...	...

Permissible values and design conditions for each gear unit can be found on page 11. Here yi will also find information on backlash and torsional stiffness.

2. Drive selection by torque

2.1 Rough selection of the necessary size using the graphical preselection diagrams (see p. 8 / 9)



a. By rated torque

b. By peak torque

2.2 Detailed selection on the relevant pages about drives using size-specific selection tables to find the exact stall, rated and peak torques needed. The maximum torque of each gear unit is also shown in this section.

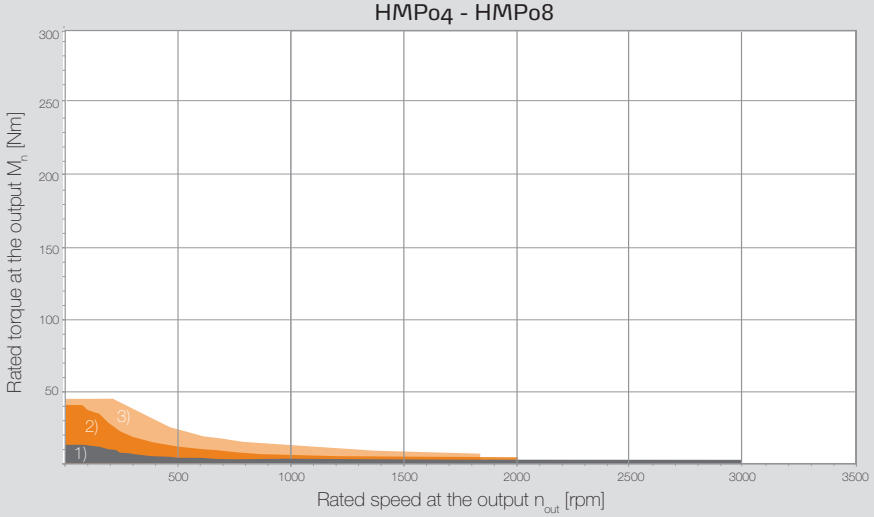
The gear unit efficiency and gear unit ratio are already taken into account in the diagrams. For the diagrams, the torques of the motor and the gear unit were compared and the maximum achievable values were used.

2.3 Determining the motor options such as connectors, brakes, etc. using the „HMP- servo drive systems“ catalog.

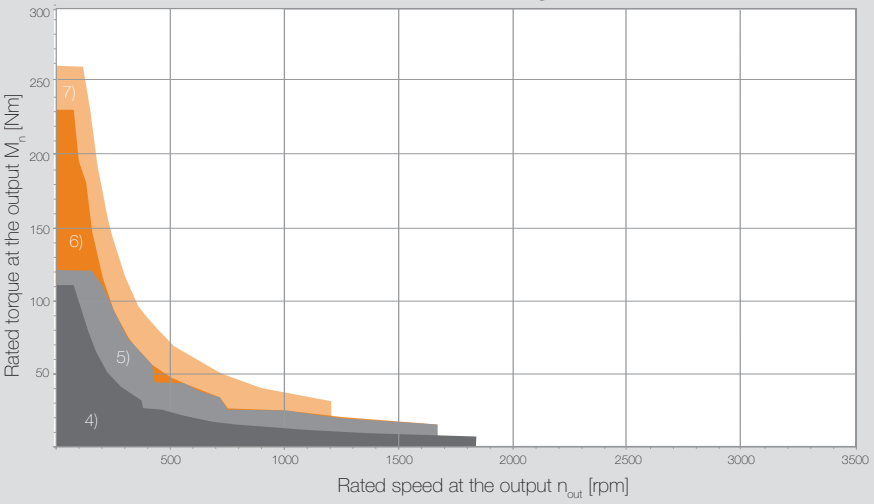
Graphical preselection diagrams

Rated torque M_n HMP04 - HMP13

HMP04 - HMP08



HMP08 - HMP13



1)	HMP**04** E04	p. 12
	HMP**04** P05	p. 36
2)	HMP**06** E06	p. 14
	HMP**06** E07	p. 16
	HMP**06** P07	p. 38
	HMP**06** H06	p. 46
	HMP**06** F06	p. 54
	HMP**06** V06	p. 62
3)	HMP**08** E06	p. 18
	HMP**08** E07	p. 20
	HMP**08** P07	p. 40
	HMP**08** H06	p. 48
	HMP**08** F06	p. 56
	HMP**08** V06	p. 64
4)	HMP**08** E08	p. 22
	HMP**08** E09	p. 24
	HMP**08** P09	p. 42
	HMP**08** H08	p. 50
	HMP**08** F09	p. 58
	HMP**08** V09	p. 66
5)	HMP**10** E08	p. 26
	HMP**10** E09	p. 28
	HMP**10** P09	p. 44
	HMP**10** H08	p. 52
	HMP**10** F09	p. 60
	HMP**10** V09	p. 68
6)	HMP**10** E10	p. 30
	HMP**10** V10	p. 70
7)	HMP**13** E10	p. 32
	HMP**13** V10	p. 72

Gear types



E-gear
(Economy series)



P-gear
(Powerful economy)



H-gear
(Heavy duty)



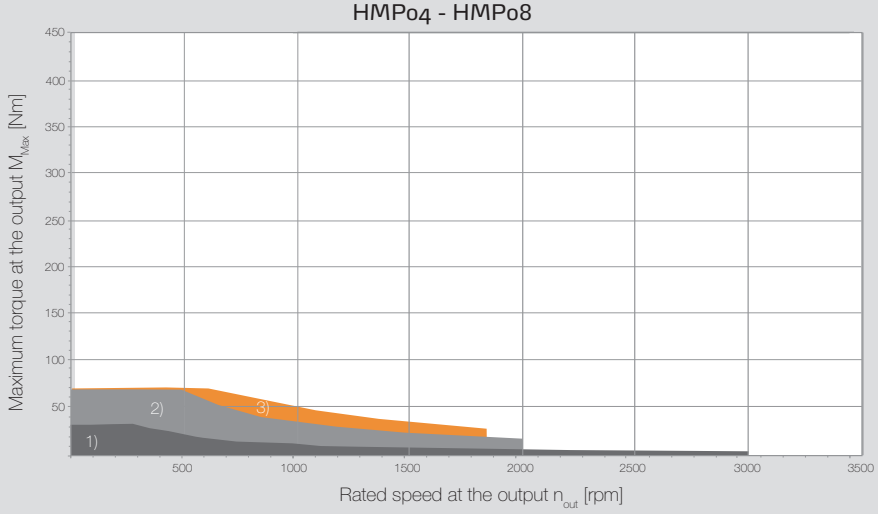
F-Getriebe
(Flange output)



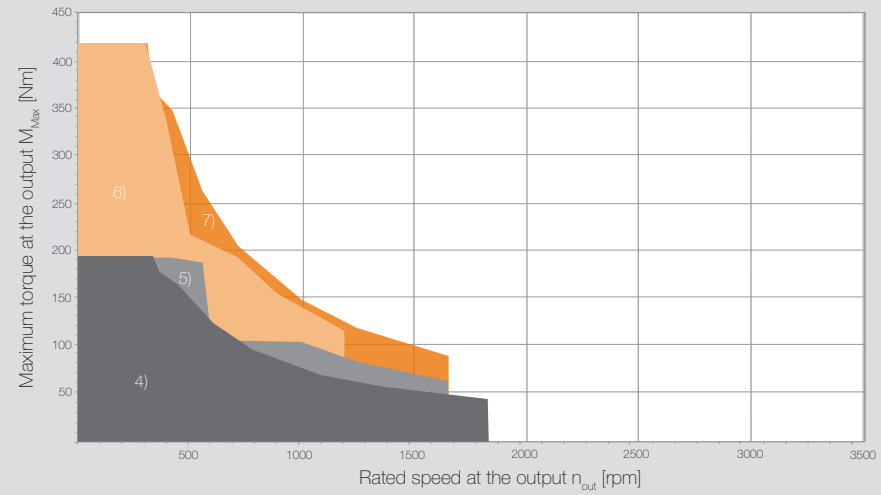
V-gear
(Vehicle optimized)

Maximum torque M_{max} HMP04 - HMP13

HMP04 - HMP08



HMP08 - HMP13



1)	HMP04 E04	p. 12
	HMP04 P05	p. 36
2)	HMP06 E06	p. 14
	HMP06 E07	p. 16
	HMP06 P07	p. 38
	HMP06 H06	p. 46
	HMP06 F06	p. 54
	HMP06 V06	p. 62
3)	HMP08 E06	p. 18
	HMP08 E07	p. 20
	HMP08 P07	p. 40
	HMP08 H06	p. 48
	HMP08 F06	p. 56
	HMP08 V06	p. 64
4)	HMP08 E08	p. 22
	HMP08 E09	p. 24
	HMP08 P09	p. 42
	HMP08 H08	p. 50
	HMP08 F09	p. 58
	HMP08 V09	p. 66
5)	HMP10 E08	p. 26
	HMP10 E09	p. 28
	HMP10 P09	p. 44
	HMP10 H08	p. 52
	HMP10 F09	p. 60
	HMP10 V09	p. 68
6)	HMP10 E10	p. 30
	HMP10 V10	p. 70
7)	HMP13 E10	p. 32
	HMP13 V10	p. 72

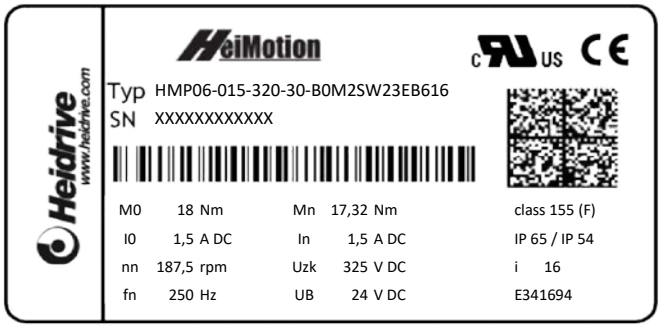
Technical data and additional information

Technical data motors

Motor description	Rated speed [rpm]	Stall torque [Nm]	Nominal torque [Nm]	Peak torque [Nm]
HMP04-002-...	3000	0.18	0.16	0.7
	6000	0.18	0.14	0.7
	9000	0.18	0.12	0.7
HMP04-004-...	3000	0.35	0.32	1.3
	6000	0.35	0.28	1.3
	9000	0.35	0.21	1.3
HMP06-007-...	3000	0.7	0.6	2.8
	6000	0.7	0.5	2.8
HMP06-015-...	3000	1.5	1.2	6
	6000	1.5	0.9	6
HMP08-028-...	3000	2.8	2.4	11.2
	5500	2.8	1.7	11.2
HMP08-035-...	3000	3.5	3.2	14
	5500	3.5	2.1	14
HMP10-056-...	3000	5.6	4.8	22.4
	5000	5.6	3.4	22.4
HMP10-075-...	3000	7.5	6.4	30
	5000	7.5	4.8	30
HMP13-055-...	2000	5.5	4.8	22
	3600	5.5	4	22
HMP13-091-...	2000	9.1	7.2	36.4
	3600	9.1	6	36.4
HMP13-123-...	2000	12.3	9.6	49.2
	3600	12.3	8	49.2
HMP13-185-...	2000	18.5	14.4	74
	3600	18.5	10	74

Type plate information

The torques and numbers on the type plate are calculated from the motor data, taking into account the gear ratio and the efficiency of the gear stages. If the permissible torques of the gear units are exceeded, the controller must derate the currents for the standstill and nominal torque to the specified value. There may be deviating values for the standstill torque or the rated torque for slowly rotating coils between the catalog and the type plate for versions with angular steps, since the catalog makes a more detailed distinction with regard to speed-dependent limit values for this option. The speed indicated on the type plate results from the rated motor speed and the gear ratio. It should be noted that the thermally permissible limit speed may differ in some cases. In addition, for 24/48 motors, attention must be paid to a possible reduction in rated torque and standstill torque due to UL certification (see footnotes on the pages for the motor types).



Technical data gears

Gear type	Max. radial force [N][3]	Max. axial force [N][3]	Gear backlash [arcmin] at the output		Torsional stiffness [Nm /arcmin] [3]		Average thermal operating speed [rpm] [4]
			1-stage	2-stage	1-stage	2-stage	
…E04[1]	200	200	< 15	< 19	0,75 - 0,95	0,75 - 0,95	5000
…E06[1]	400	500	< 10	< 12	2,2 - 2,7	2,3 - 2,6	4500
…E07[1]	900	1000	< 10	< 12	3,1 - 4,1	3,3 - 3,9	4500
…E08[1]	750	1000	< 7	< 9	8,2 - 10,0	7,9 - 9,8	4000
…E09[1]	2050	2500	< 7	< 9	9,8 - 12,6	10,1 - 13,4	4000
…E10[1]	1200	2100	< 7	< 9	16,7 - 20,5	17,5 - 20,5	3500
…P05[1]	800	1000	< 15	< 19	0,8 - 1,05	0,8 - 1,0	5000
…P07[1]	1050	1350	< 10	< 12	4,1 - 6,4	4,6 - 5,8	4500
…P09[1]	1900	2000	< 7	< 9	11,6 - 15,6	11,0 - 15,1	4000
…H06[1]	3200	4400	< 10	< 12	3,3 - 4,5	3,5 - 4,2	4500
…H08[1]	5500	6400	< 7	< 9	10,0 - 12,7	9,5 - 12,4	4000
…F06[2]	550	1200	< 10	< 12	6,4 - 14,9	7,5 - 12,0	4500
…F09[2]	1400	3000	< 7	< 9	22,0 - 44,0	20,0 - 40,5	4000
…V06[2]	2300	2850	-	< 12	-	7,3 - 11,6	4500
…V09[2]	4100	5450	-	< 9	-	19,5 - 39,5	4000
…V10[2]	5150	6450	-	< 9	-	52,0 - 97,0	3500

1) Forces referred to the center of the output shaft.
2) Forces referred to end face of output shaft contour.
3) Palues dependent on transmission ratio.
4) Permissible for S1 operation and rated torque, exept listed gear ratios in the following table.

Deviation from average thermal operating speed

Transmission	i = 3	i = 4	i = 5	i = 7	i = 9	i = 12	i = 15	i = 16
…E04	-	-	-	-	-	-	-	-
…E06	-	-	-	-	-	-	-	-
…E07	4200	4300	-	-	-	-	-	-
…E08	2700	2500	3000	-	3050	3750	-	-
…E09	2400	2350	2800	-	2950	3650	-	-
…E10	2550	2500	2500	-	2650	2600	3200	3100
…P05	-	-	-	-	-	-	-	-
…P07	3600	4100	-	-	-	-	-	-
…P09	2300	2600	3200	-	3400	-	-	-
…H06	2450	2800	3300	-	4100	-	-	-
…H08	1900	1950	2400	3900	2800	3500	-	-
…F06	3200	3400	3900	-	4400	-	-	-
…F09	2100	2100	2550	-	2800	3450	-	-
…V06	-	-	-	-	-	-	-	-
…V09	-	-	-	-	3400	-	-	-
…V10	-	-	-	-	2500	2900	-	-

Motor type HMP04-002 /-004
Gear E04



Stall, rated and peak torque - M [Nm]

					HMP04-002-...E04[1]					Gear E04[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,6000\ rpm}$[3]	$n_{out,9000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,6000\ rpm}$	$M_{n,9000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	2000	3000	0.5	0.4	0.4	0.5	2.1	6	9.5
	4	750	1500	2250	0.6	0.5	0.5	0.7	2.7	8	12.5
	5	600	1200	1800	0.8	0.7	0.6	0.9	3.4	10	16
	7	429	857	1286	1.1	1.0	0.8	1.2	4.8	8.5	13.5
	8	375	750	1125	1.2	1.1	0.9	1.4	5.4	6	10
	10	300	600	900	1.5	1.3	1.1	1.7	6.7	5	8
2-stage	9	333	667	1000	1.4	1.2	1.0	1.6	6.1	16.5	26
	12	250	500	750	1.8	1.6	1.4	2.1	8.1	20	32
	15	200	400	600	2.3	2.0	1.7	2.6	10.1	18	29
	16	188	375	563	2.5	2.2	1.8	2.8	10.8	20	32
	20	150	300	450	3.1	2.7	2.3	3.5	13.4	20	32
	25	120	240	360	3.8	3.3	2.9	4.3	16.6	18	29
	32	94	188	281	4.9	4.3	3.6	5.5	21.3	20	32
	40	75	150	225	6.0	5.3	4.5	6.8	26.3	18	29
	64	47	94	141	8.8	7.7	6.6	9.9	38.5	7.5	12

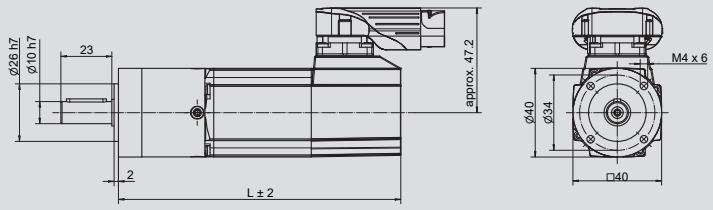
Stall, rated and peak torque - M [Nm]

					HMP04-004-...E04[1]					Gear E04[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,6000\ rpm}$[3]	$n_{out,9000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,6000\ rpm}$	$M_{n,9000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	2000	3000	0.9	0.8	0.6	1.0	3.8	6	9.5
	4	750	1500	2250	1.3	1.1	0.8	1.4	5.1	8	12.5
	5	600	1200	1800	1.6	1.4	1.0	1.7	6.4	10	16
	7	429	857	1286	2.2	1.9	1.4	2.4	8.8	8.5	13.5
	8	375	750	1125	2.5	2.2	1.6	2.7	10.0	6	10
	10	300	600	900	3.0	2.7	2.0	3.3	12.4	5	8
2-stage	9	333	667	1000	2.8	2.4	1.8	3.1	11.3	16.5	26
	12	250	500	750	3.7	3.2	2.4	4.0	15.0	20	32
	15	200	400	600	4.6	4.0	3.0	5.0	18.7	18	29
	16	188	375	563	4.9	4.3	3.2	5.4	20.0	20	32
	20	150	300	450	6.1	5.4	4.0	6.7	25.0	20	32
	25	120	240	360	7.6	6.7	5.0	8.3	30.9	18	29
	32	94	188	281	9.7	8.5	6.4	10.6	39.5	20	32
	40	75	150	225	12.0	10.5	7.9	13.2	48.9	18	29
	64	47	94	141	-	-	-	-	-	7.5	12

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP04-002-…E04	without brake	1-stage	127.4	0.75	2-stage	140.4	0.85
	with brake		162.9	0.90		175.9	1.00
HMP04-004-…E04	without brake		152.4	0.95		165.4	1.05
	with brake		187.9	1.10		200.9	1.20

Moment of inertia [4] - J_1 [kg-cm²]

		HMP04-002-…E04		HMP04-004-…E04	
	i	without brake	with brake	without brake	with brake
1-stage	3	4.30E-02	+2.50E-02	6.70E-02	+2.50E-02
	4	3.60E-02		6.00E-02	
	5	3.40E-02		5.80E-02	
	7	3.20E-02		5.60E-02	
	8	3.10E-02		5.50E-02	
	10	3.10E-02		5.50E-02	
2-stage	9	4.20E-02		6.60E-02	
	12	4.20E-02		6.60E-02	
	15	4.10E-02		6.50E-02	
	16	3.50E-02		5.90E-02	
	20	3.30E-02		5.70E-02	
	25	3.30E-02		5.70E-02	
	32	3.10E-02		5.50E-02	
	40	3.10E-02		5.50E-02	
	64	3.10E-02		5.50E-02	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gear rated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode with purely pulsating load.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP06-007 /-015
Gear E06



Stall, rated and peak torque - M [Nm]

				HMP06-007-...E06[1]				Gear E06[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,6000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,6000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	2000	1.8	1.5	2.1	8.2	17	27.5
	4	750	1500	2.4	2.0	2.7	11.0	23	37
	5	600	1200	2.9	2.5	3.4	13.7	29	46
	7	429	857	4.1	3.4	4.8	19.0	25	40
	8	375	750	4.7	3.9	5.4	21.7	18	29
	10	300	600	5.8	4.8	6.7	26.9	15	24
2-stage	9	333	667	5.2	4.4	6.1	24.4	44	70
	12	250	500	6.9	5.8	8.1	32.3	44	70
	15	200	400	8.6	7.2	10.1	40.3	44	70
	16	188	375	9.2	7.7	10.8	43.0	44	70
	20	150	300	11.5	9.6	13.4	53.8	44	70
	25	120	240	14.3	11.9	16.6	66.5	40	64
	32	94	188	18.2	15.2	21.3	85.1	44	70
	40	75	150	22.6	18.8	26.3	105.3	40	64
	64	47	94	33.4	27.8	39.0	155.9	18	29

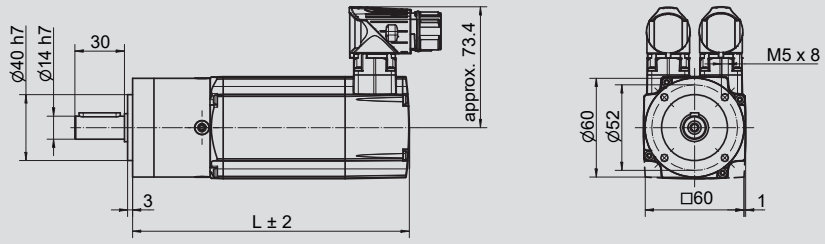
Stall, rated and peak torque - M [Nm]

				HMP06-015-...E06[1]				Gear E06[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,6000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,6000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	2000	3.5	2.6	4.4	17.6	17	27.5
	4	750	1500	4.7	3.5	5.9	23.5	23	37
	5	600	1200	5.9	4.4	7.4	29.4	29	46
	7	429	857	8.1	6.1	10.2	40.7	25	40
	8	375	750	9.3	7.0	11.6	46.6	18	29
	10	300	600	11.5	8.6	14.4	57.6	15	24
2-stage	9	333	667	10.5	7.9	13.1	52.4	44	70
	12	250	500	13.8	10.4	17.3	69.1	44	70
	15	200	400	17.3	13.0	21.6	86.4	44	70
	16	188	375	18.4	13.8	23.0	92.2	44	70
	20	150	300	23.0	17.3	28.8	115.2	44	70
	25	120	240	28.5	21.4	35.6	142.5	40	64
	32	94	188	36.5	27.4	45.6	182.4	44	70
	40	75	150	45.1	33.8	56.4	225.6	40	64
	64	47	94	-	-	-	-	18	29

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP06-007-…E06	without brake	1-stage	168.0	2.05	2-stage	180.5	2.25
	with brake		202.0	2.40		214.5	2.60
HMP06-015-…E06	without brake		198.0	2.60		210.5	2.80
	with brake		232.0	2.95		244.5	3.15

Moment of inertia [4] - J_1 [kg-cm²]

		HMP06-007-…E06		HMP06-015-…E06	
	i	without brake	with brake	without brake	with brake
1-stage	3	2.87E-01	+9.90E-02	4.80E-01	+9.90E-02
	4	2.51E-01		4.44E-01	
	5	2.39E-01		4.32E-01	
	7	2.28E-01		4.21E-01	
	8	2.27E-01		4.20E-01	
	10	2.24E-01		4.17E-01	
2-stage	9	2.80E-01		4.73E-01	
	12	2.77E-01		4.70E-01	
	15	2.35E-01		4.28E-01	
	16	2.44E-01		4.37E-01	
	20	2.35E-01		4.28E-01	
	25	2.34E-01		4.27E-01	
	32	2.25E-01		4.18E-01	
	40	2.25E-01		4.18E-01	
	64	2.25E-01		4.18E-01	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gear rated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode with purely pulsating load.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP06-007 /-015
Gear E07



Stall, rated and peak torque - M [Nm]

				HMP06-007-...E07[1]				Gear E07[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,6000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,6000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	2000	1.8	1.5	2.1	8.2	17	27.5
	4	750	1500	2.4	2.0	2.7	11.0	23	37
	5	600	1200	2.9	2.5	3.4	13.7	29	46
	7	429	857	4.1	3.4	4.8	19.0	25	40
	8	375	750	4.7	3.9	5.4	21.7	18	29
	10	300	600	5.8	4.8	6.7	26.9	15	24
2-stage	9	333	667	5.2	4.4	6.1	24.4	44	70
	12	250	500	6.9	5.8	8.1	32.3	44	70
	15	200	400	8.6	7.2	10.1	40.3	44	70
	16	188	375	9.2	7.7	10.8	43.0	44	70
	20	150	300	11.5	9.6	13.4	53.8	44	70
	25	120	240	14.3	11.9	16.6	66.5	40	64
	32	94	188	18.2	15.2	21.3	85.1	44	70
	40	75	150	22.6	18.8	26.3	105.3	40	64
	64	47	94	33.4	27.8	39.0	155.9	18	29

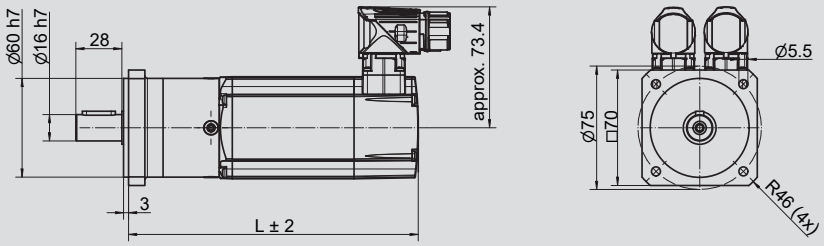
Stall, rated and peak torque - M [Nm]

				HMP06-015-...E07[1]				Gear E07[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,6000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,6000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	2000	3.5	2.6	4.4	17.6	17	27.5
	4	750	1500	4.7	3.5	5.9	23.5	23	37
	5	600	1200	5.9	4.4	7.4	29.4	29	46
	7	429	857	8.1	6.1	10.2	40.7	25	40
	8	375	750	9.3	7.0	11.6	46.6	18	29
	10	300	600	11.5	8.6	14.4	57.6	15	24
2-stage	9	333	667	10.5	7.9	13.1	52.4	44	70
	12	250	500	13.8	10.4	17.3	69.1	44	70
	15	200	400	17.3	13.0	21.6	86.4	44	70
	16	188	375	18.4	13.8	23.0	92.2	44	70
	20	150	300	23.0	17.3	28.8	115.2	44	70
	25	120	240	28.5	21.4	35.6	142.5	40	64
	32	94	188	36.5	27.4	45.6	182.4	44	70
	40	75	150	45.1	33.8	56.4	225.6	40	64
	64	47	94	-	-	-	-	18	29

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP06-007-…E07	without brake	1-stage	176.0	2.25	2-stage	188.5	2.45
	with brake		210.0	2.60		222.5	2.80
HMP06-015-…E07	without brake		206.0	2.80		218.5	3.00
	with brake		240.0	3.15		252.5	3.35

Moment of inertia [4] - J_1 [kg-cm²]

		HMP06-007-…E07		HMP06-015-…E07	
	i	without brake	with brake	without brake	with brake
1-stage	3	3.01E-01	+9.90E-02	4.94E-01	+9.90E-02
	4	2.59E-01		4.52E-01	
	5	2.44E-01		4.37E-01	
	7	2.31E-01		4.24E-01	
	8	2.29E-01		4.22E-01	
	10	2.25E-01		4.18E-01	
2-stage	9	2.82E-01		4.75E-01	
	12	2.78E-01		4.71E-01	
	15	2.36E-01		4.29E-01	
	16	2.45E-01		4.38E-01	
	20	2.35E-01		4.28E-01	
	25	2.34E-01		4.27E-01	
	32	2.26E-01		4.19E-01	
	40	2.25E-01		4.18E-01	
	64	2.25E-01		4.18E-01	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gear rated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode with purely pulsating load.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP08-028 /-035
Gear E06



Stall, rated and peak torque - M [Nm]

				HMP08-028-...E06[1]				Gear E06[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5500\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5500\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1833	7.1	5.0	8.2	32.9	17	27.5
	4	750	1375	9.4	6.7	11.0	43.9	23	37
	5	600	1100	11.8	8.3	13.7	54.9	29	46
	7	429	786	16.3	11.5	19.0	76.0	25	40
	8	375	688	18.6	13.2	21.7	86.9	18	29
	10	300	550	-	16.3	26.9	107.5	15	24
2-stage	9	333	611	21.0	14.8	24.4	97.8	44	70
	12	250	458	27.6	19.6	32.3	129.0	44	70
	15	200	367	34.6	24.5	40.3	161.3	44	70
	16	188	344	36.9	26.1	43.0	172.0	44	70
	20	150	275	46.1	32.6	53.8	215.0	44	70
	25	120	220	57.0	40.4	66.5	266.0	40	64
	32	94	172	-	51.7	85.1	340.5	44	70
	40	75	138	-	-	-	-	40	64
	64	47	86	-	-	-	-	18	29

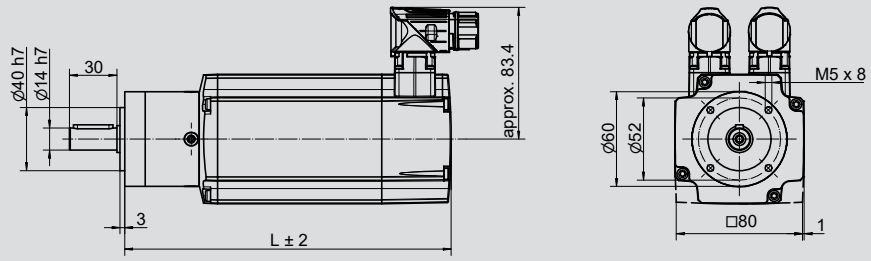
Stall, rated and peak torque - M [Nm]

				HMP08-035-...E06[1]				Gear E06[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5500\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5500\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1833	9.4	6.2	10.3	41.2	17	27.5
	4	750	1375	12.5	8.2	13.7	54.9	23	37
	5	600	1100	15.7	10.3	17.2	68.6	29	46
	7	429	786	21.7	14.3	23.8	95.1	25	40
	8	375	688	24.8	16.3	27.2	108.6	18	29
	10	300	550	-	20.2	33.6	134.4	15	24
2-stage	9	333	611	27.9	18.3	30.6	122.2	44	70
	12	250	458	36.9	24.2	40.3	161.3	44	70
	15	200	367	46.1	30.2	50.4	201.6	44	70
	16	188	344	49.2	32.3	53.8	215.0	44	70
	20	150	275	61.4	40.3	67.2	268.8	44	70
	25	120	220	-	49.9	83.1	332.5	40	64
	32	94	172	-	63.8	106.4	425.6	44	70
	40	75	138	-	-	-	-	40	64
	64	47	86	-	-	-	-	18	29

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP08-028-…E06	without brake	1-stage	206.8	3.80	2-stage	219.3	4.00
	with brake		248.8	4.45		261.3	4.65
HMP08-035-…E06	without brake		226.8	4.45		239.3	4.65
	with brake		268.8	5.10		281.3	5.30

Moment of inertia [4] - J_1 [kg-cm²]

		HMP08-028-…E06		HMP08-035-…E06	
	i	without brake	with brake	without brake	with brake
1-stage	3	1.47E+00	+2.80E-01	2.00E+00	+2.80E-01
	4	1.43E+00		1.96E+00	
	5	1.42E+00		1.95E+00	
	7	1.41E+00		1.94E+00	
	8	1.41E+00		1.94E+00	
	10	1.40E+00		1.93E+00	
2-stage	9	1.46E+00		1.99E+00	
	12	1.46E+00		1.99E+00	
	15	1.42E+00		1.95E+00	
	16	1.42E+00		1.95E+00	
	20	1.42E+00		1.95E+00	
	25	1.41E+00		1.94E+00	
	32	1.41E+00		1.94E+00	
	40	1.41E+00		1.94E+00	
	64	1.41E+00		1.94E+00	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gear rated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode with purely pulsating load.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP08-028 /-035
Gear E07



Stall, rated and peak torque - M [Nm]

				HMP08-028-...E07[1]				Gear E07[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5500\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5500\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1833	7.1	5.0	8.2	32.9	17	27.5
	4	750	1375	9.4	6.7	11.0	43.9	23	37
	5	600	1100	11.8	8.3	13.7	54.9	29	46
	7	429	786	16.3	11.5	19.0	76.0	25	40
	8	375	688	18.6	13.2	21.7	86.9	18	29
	10	300	550	-	16.3	26.9	107.5	15	24
2-stage	9	333	611	21.0	14.8	24.4	97.8	44	70
	12	250	458	27.6	19.6	32.3	129.0	44	70
	15	200	367	34.6	24.5	40.3	161.3	44	70
	16	188	344	36.9	26.1	43.0	172.0	44	70
	20	150	275	46.1	32.6	53.8	215.0	44	70
	25	120	220	57.0	40.4	66.5	266.0	40	64
	32	94	172	-	51.7	85.1	340.5	44	70
	40	75	138	-	-	-	-	40	64
	64	47	86	-	-	-	-	18	29

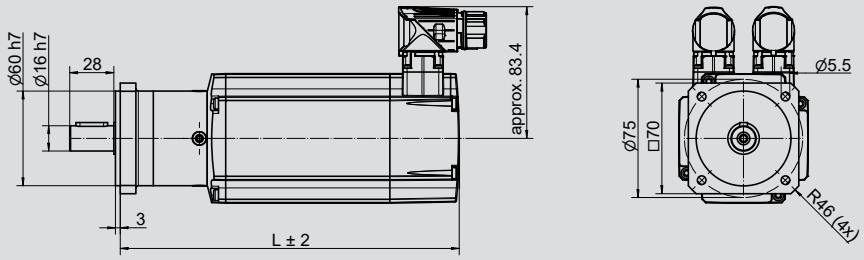
Stall, rated and peak torque - M [Nm]

				HMP08-035-...E07[1]				Gear E07[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5500\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5500\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1833	9.4	6.2	10.3	41.2	17	27.5
	4	750	1375	12.5	8.2	13.7	54.9	23	37
	5	600	1100	15.7	10.3	17.2	68.6	29	46
	7	429	786	21.7	14.3	23.8	95.1	25	40
	8	375	688	24.8	16.3	27.2	108.6	18	29
	10	300	550	-	20.2	33.6	134.4	15	24
2-stage	9	333	611	27.9	18.3	30.6	122.2	44	70
	12	250	458	36.9	24.2	40.3	161.3	44	70
	15	200	367	46.1	30.2	50.4	201.6	44	70
	16	188	344	49.2	32.3	53.8	215.0	44	70
	20	150	275	61.4	40.3	67.2	268.8	44	70
	25	120	220	-	49.9	83.1	332.5	40	64
	32	94	172	-	63.8	106.4	425.6	44	70
	40	75	138	-	-	-	-	40	64
	64	47	86	-	-	-	-	18	29

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP08-028-…E07	without brake	1-stage	214.8	4.00	2-stage	227.3	4.20
	with brake		256.8	4.65		269.3	4.85
HMP08-035-…E07	without brake		234.8	4.65		247.3	4.85
	with brake		276.8	5.30		289.3	5.50

Moment of inertia [4] - J_1 [kg-cm²]

		HMP08-028-…E07		HMP08-035-…E07	
	i	without brake	with brake	without brake	with brake
1-stage	3	1.48E+00	+2.80E-01	2.01E+00	+2.80E-01
	4	1.44E+00		1.97E+00	
	5	1.42E+00		1.95E+00	
	7	1.41E+00		1.94E+00	
	8	1.41E+00		1.94E+00	
	10	1.41E+00		1.94E+00	
2-stage	9	1.46E+00		1.99E+00	
	12	1.46E+00		1.99E+00	
	15	1.42E+00		1.95E+00	
	16	1.43E+00		1.96E+00	
	20	1.42E+00		1.95E+00	
	25	1.41E+00		1.94E+00	
	32	1.41E+00		1.94E+00	
	40	1.41E+00		1.94E+00	
	64	1.41E+00		1.94E+00	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gear rated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode with purely pulsating load.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP08-028 /-035
Gear Eo8



Stall, rated and peak torque - M [Nm]

				HMP08-028-...Eo8[1]				Gear Eo8[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5500\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5500\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1833	7.1	5.0	8.2	32.9	39	62
	4	750	1375	9.4	6.7	11.0	43.9	52	83
	5	600	1100	11.8	8.3	13.7	54.9	65	104
	7	429	786	16.3	11.5	19.0	76.0	65	104
	8	375	688	18.6	13.2	21.7	86.9	50	80
	10	300	550	23.0	16.3	26.9	107.5	38	61
2-stage	9	333	611	21.0	14.8	24.4	97.8	117	187
	12	250	458	27.9	19.8	32.6	130.4	120	192
	15	200	367	34.6	24.5	40.3	161.3	110	176
	16	188	344	36.9	26.1	43.0	172.0	120	192
	20	150	275	46.1	32.6	53.8	215.0	120	192
	25	120	220	57.0	40.4	66.5	266.0	110	176
	32	94	172	73.0	51.7	85.1	340.5	120	192
	40	75	138	90.2	63.9	105.3	421.1	110	176
	64	47	86	136.7	96.8	159.5	638.0	50	80

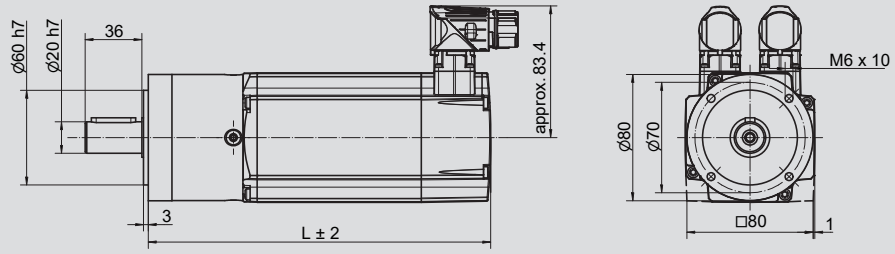
Stall, rated and peak torque - M [Nm]

				HMP08-035-...Eo8[1]				Gear Eo8[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5500\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5500\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1833	9.4	6.2	10.3	41.2	39	62
	4	750	1375	12.5	8.2	13.7	54.9	52	83
	5	600	1100	15.7	10.3	17.2	68.6	65	104
	7	429	786	21.7	14.3	23.8	95.1	65	104
	8	375	688	24.8	16.3	27.2	108.6	50	80
	10	300	550	30.7	20.2	33.6	134.4	38	61
2-stage	9	333	611	27.9	18.3	30.6	122.2	117	187
	12	250	458	37.2	24.4	40.7	163.0	120	192
	15	200	367	46.1	30.2	50.4	201.6	110	176
	16	188	344	49.2	32.3	53.8	215.0	120	192
	20	150	275	61.4	40.3	67.2	268.8	120	192
	25	120	220	76.0	49.9	83.1	332.5	110	176
	32	94	172	97.3	63.8	106.4	425.6	120	192
	40	75	138	120.3	79.0	131.6	526.4	110	176
	64	47	86	-	-	-	-	50	80

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP08-028-…E08	without brake	1-stage	217.0	4.60	2-stage	234.5	5.10
	with brake		259.0	5.25		276.5	5.75
HMP08-035-…E08	without brake		237.0	5.25		254.5	5.75
	with brake		279.0	5.90		296.5	6.40

Moment of inertia [4] - J_1 [kg-cm²]

		HMP08-028-…E08		HMP08-035-…E08	
	i	without brake	with brake	without brake	with brake
1-stage	3	1.71E+00	+2.80E-01	2.24E+00	+2.80E-01
	4	1.51E+00		2.04E+00	
	5	1.48E+00		2.01E+00	
	7	1.44E+00		1.97E+00	
	8	1.43E+00		1.96E+00	
	10	1.42E+00		1.95E+00	
2-stage	9	1.67E+00		2.20E+00	
	12	1.65E+00		2.18E+00	
	15	1.64E+00		2.17E+00	
	16	1.50E+00		2.03E+00	
	20	1.46E+00		1.99E+00	
	25	1.46E+00		1.99E+00	
	32	1.42E+00		1.95E+00	
	40	1.42E+00		1.95E+00	
	64	1.42E+00		1.95E+00	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gear rated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode with purely pulsating load.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP08-028 /-035
Gear E09



Stall, rated and peak torque - M [Nm]

				HMP08-028-...E09[1]				Gear E09[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5500\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5500\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1833	7.1	5.0	8.2	32.9	39	62
	4	750	1375	9.4	6.7	11.0	43.9	52	83
	5	600	1100	11.8	8.3	13.7	54.9	65	104
	7	429	786	16.3	11.5	19.0	76.0	65	104
	8	375	688	18.6	13.2	21.7	86.9	50	80
	10	300	550	23.0	16.3	26.9	107.5	38	61
2-stage	9	333	611	21.0	14.8	24.4	97.8	117	187
	12	250	458	27.6	19.6	32.3	129.0	120	192
	15	200	367	34.6	24.5	40.3	161.3	110	176
	16	188	344	36.9	26.1	43.0	172.0	120	192
	20	150	275	46.1	32.6	53.8	215.0	120	192
	25	120	220	57.0	40.4	66.5	266.0	110	176
	32	94	172	73.0	51.7	85.1	340.5	120	192
	40	75	138	90.2	63.9	105.3	421.1	110	176
	64	47	86	136.7	96.8	159.5	638.0	50	80

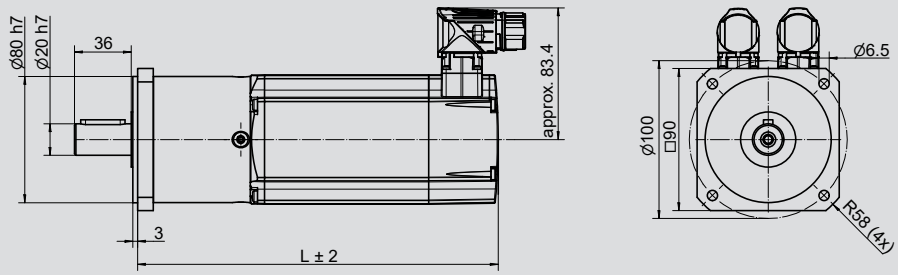
Stall, rated and peak torque - M [Nm]

				HMP08-035-...E09[1]				Gear E09[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5500\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5500\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1833	9.4	6.2	10.3	41.2	39	62
	4	750	1375	12.5	8.2	13.7	54.9	52	83
	5	600	1100	15.7	10.3	17.2	68.6	65	104
	7	429	786	21.7	14.3	23.8	95.1	65	104
	8	375	688	24.8	16.3	27.2	108.6	50	80
	10	300	550	30.7	20.2	33.6	134.4	38	61
2-stage	9	333	611	27.9	18.3	30.6	122.2	117	187
	12	250	458	36.9	24.2	40.3	161.3	120	192
	15	200	367	46.1	30.2	50.4	201.6	110	176
	16	188	344	49.2	32.3	53.8	215.0	120	192
	20	150	275	61.4	40.3	67.2	268.8	120	192
	25	120	220	76.0	49.9	83.1	332.5	110	176
	32	94	172	97.3	63.8	106.4	425.6	120	192
	40	75	138	120.3	79.0	131.6	526.4	110	176
	64	47	86	-	-	-	-	50	80

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP08-028-…E09	without brake	1-stage	228.5	5.40	2-stage	246.0	5.85
	with brake		270.5	6.05		288.0	6.50
HMP08-035-…E09	without brake		248.5	6.05		266.0	6.50
	with brake		290.5	6.70		308.0	7.15

Moment of inertia [4] - J_1 [kg-cm²]

		HMP08-028-…E09		HMP08-035-…E09	
	i	without brake	with brake	without brake	with brake
1-stage	3	1.84E+00	+2.80E-01	2.37E+00	+2.80E-01
	4	1.61E+00		2.14E+00	
	5	1.53E+00		2.06E+00	
	7	1.46E+00		1.99E+00	
	8	1.45E+00		1.98E+00	
	10	1.43E+00		1.96E+00	
2-stage	9	1.68E+00		2.21E+00	
	12	1.66E+00		2.19E+00	
	15	1.65E+00		2.18E+00	
	16	1.51E+00		2.04E+00	
	20	1.47E+00		2.00E+00	
	25	1.46E+00		1.99E+00	
	32	1.43E+00		1.96E+00	
	40	1.42E+00		1.95E+00	
	64	1.42E+00		1.95E+00	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gear rated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode with purely pulsating load.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP10-056 /-075
Gear E08



Stall, rated and peak torque - M [Nm]

				HMP10-056-...E08[1]				Gear E08[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1667	14.1	10.0	16.5	65.9	39	62
	4	750	1250	18.8	13.3	22.0	87.8	52	83
	5	600	1000	23.5	16.7	27.4	109.8	65	104
	7	429	714	32.6	23.1	38.0	152.1	65	104
	8	375	625	37.2	26.4	43.5	173.8	50	80
	10	300	500	46.1	32.6	53.8	215.0	38	61
2-stage	9	333	556	41.9	29.7	48.9	195.6	117	187
	12	250	417	55.9	39.6	65.2	260.7	120	192
	15	200	333	69.1	49.0	80.6	322.6	110	176
	16	188	313	73.7	52.2	86.0	344.1	120	192
	20	150	250	92.2	65.3	107.5	430.1	120	192
	25	120	200	114.0	80.8	133.0	532.0	110	176
	32	94	156	145.9	103.4	170.2	681.0	120	192
	40	75	125	-	127.8	210.6	842.2	110	176
	64	47	78	-	-	-	-	50	80

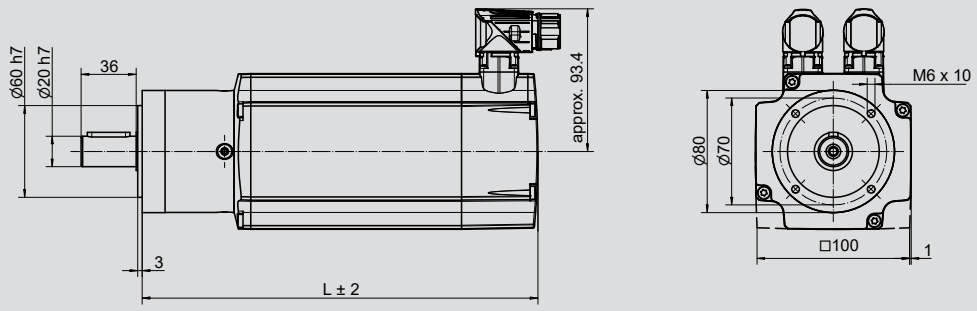
Stall, rated and peak torque - M [Nm]

				HMP10-075-...E08[1]				Gear E08[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1667	18.8	14.1	22.1	88.2	39	62
	4	750	1250	25.1	18.8	29.4	117.6	52	83
	5	600	1000	31.4	23.5	36.8	147.0	65	104
	7	429	714	43.5	32.6	50.9	203.7	65	104
	8	375	625	49.7	37.2	58.2	232.8	50	80
	10	300	500	-	46.1	72.0	288.0	38	61
2-stage	9	333	556	55.9	41.9	65.5	261.9	117	187
	12	250	417	74.5	55.9	87.3	349.2	120	192
	15	200	333	92.2	69.1	108.0	432.0	110	176
	16	188	313	98.3	73.7	115.2	460.8	120	192
	20	150	250	122.9	92.2	144.0	576.0	120	192
	25	120	200	152.0	114.0	178.1	712.5	110	176
	32	94	156	-	145.9	228.0	912.0	120	192
	40	75	125	-	-	-	-	110	176
	64	47	78	-	-	-	-	50	80

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP10-056-…E08	without brake	1-stage	259.2	7.80	2-stage	276.7	8.30
	with brake		300.7	8.80		318.2	9.30
HMP10-075-…E08	without brake		284.2	9.15		301.7	9.65
	with brake		325.7	10.15		343.2	10.65

Moment of inertia [4] - J_1 [kg-cm²]

		HMP10-056-…E08		HMP10-075-…E08	
	i	without brake	with brake	without brake	with brake
1-stage	3	5.15E+00	+7.90E-01	6.72E+00	+7.90E-01
	4	4.95E+00		6.52E+00	
	5	4.92E+00		6.49E+00	
	7	4.88E+00		6.45E+00	
	8	4.87E+00		6.44E+00	
	10	4.86E+00		6.43E+00	
2-stage	9	5.11E+00		6.68E+00	
	12	5.09E+00		6.66E+00	
	15	5.08E+00		6.65E+00	
	16	4.94E+00		6.51E+00	
	20	4.90E+00		6.47E+00	
	25	4.90E+00		6.47E+00	
	32	4.86E+00		6.43E+00	
	40	4.86E+00		6.43E+00	
	64	4.86E+00		6.43E+00	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gear rated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode with purely pulsating load.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP10-056 /-075
Gear E09



Stall, rated and peak torque - M [Nm]

				HMP10-056-...E09[1]				Gear E09[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1667	14.1	10.0	16.5	65.9	39	62
	4	750	1250	18.8	13.3	22.0	87.8	52	83
	5	600	1000	23.5	16.7	27.4	109.8	65	104
	7	429	714	32.6	23.1	38.0	152.1	65	104
	8	375	625	37.2	26.4	43.5	173.8	50	80
	10	300	500	46.1	32.6	53.8	215.0	38	61
2-stage	9	333	556	41.9	29.7	48.9	195.6	117	187
	12	250	417	55.3	39.2	64.5	258.0	120	192
	15	200	333	69.1	49.0	80.6	322.6	110	176
	16	188	313	73.7	52.2	86.0	344.1	120	192
	20	150	250	92.2	65.3	107.5	430.1	120	192
	25	120	200	114.0	80.8	133.0	532.0	110	176
	32	94	156	145.9	103.4	170.2	681.0	120	192
	40	75	125	-	127.8	210.6	842.2	110	176
	64	47	78	-	-	-	-	50	80

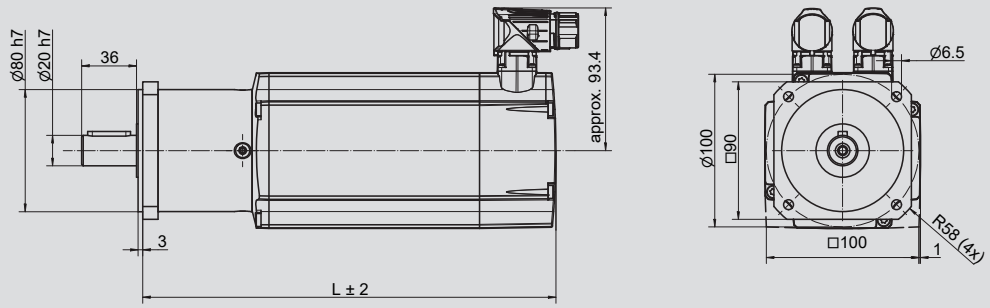
Stall, rated and peak torque - M [Nm]

				HMP10-075-...E09[1]				Gear E09[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1667	18.8	14.1	22.1	88.2	39	62
	4	750	1250	25.1	18.8	29.4	117.6	52	83
	5	600	1000	31.4	23.5	36.8	147.0	65	104
	7	429	714	43.5	32.6	50.9	203.7	65	104
	8	375	625	49.7	37.2	58.2	232.8	50	80
	10	300	500	-	46.1	72.0	288.0	38	61
2-stage	9	333	556	55.9	41.9	65.5	261.9	117	187
	12	250	417	73.7	55.3	86.4	345.6	120	192
	15	200	333	92.2	69.1	108.0	432.0	110	176
	16	188	313	98.3	73.7	115.2	460.8	120	192
	20	150	250	122.9	92.2	144.0	576.0	120	192
	25	120	200	152.0	114.0	178.1	712.5	110	176
	32	94	156	-	145.9	228.0	912.0	120	192
	40	75	125	-	-	-	-	110	176
	64	47	78	-	-	-	-	50	80

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP10-056-…E09	without brake	1-stage	270.7	8.60	2-stage	288.2	9.05
	with brake		312.2	9.60		329.7	10.05
HMP10-075-…E09	without brake		295.7	9.95		313.2	10.40
	with brake		337.2	10.95		354.7	11.40

Moment of inertia [4] - J_1 [kg-cm²]

		HMP10-056-…E09		HMP10-075-…E09	
	i	without brake	with brake	without brake	with brake
1-stage	3	5.28E+00	+7.90E-01	6.85E+00	+7.90E-01
	4	5.05E+00		6.62E+00	
	5	4.97E+00		6.54E+00	
	7	4.90E+00		6.47E+00	
	8	4.89E+00		6.46E+00	
	10	4.87E+00		6.44E+00	
2-stage	9	5.12E+00		6.69E+00	
	12	5.10E+00		6.67E+00	
	15	5.09E+00		6.66E+00	
	16	4.95E+00		6.52E+00	
	20	4.91E+00		6.48E+00	
	25	4.90E+00		6.47E+00	
	32	4.87E+00		6.44E+00	
	40	4.86E+00		6.43E+00	
	64	4.86E+00		6.43E+00	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gear rated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode with purely pulsating load.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP10-056 /-075
Gear E10



Stall, rated and peak torque - M [Nm]

				HMP10-056-...E10[1]				Gear E10[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1667	14.1	10.0	16.5	65.9	72	115
	4	750	1250	18.8	13.3	22.0	87.8	96	153,5
	5	600	1000	23.5	16.7	27.4	109.8	120	192
	7	429	714	32.6	23.1	38.0	152.1	135	216
	8	375	625	37.2	26.4	43.5	173.8	120	192
	10	300	500	46.6	33.0	54.3	217.3	95	152
2-stage	9	333	556	41.9	29.7	48.9	195.6	210	336
	12	250	417	55.3	39.2	64.5	258.0	260	416
	15	200	333	69.1	49.0	80.6	322.6	230	368
	16	188	313	73.7	52.2	86.0	344.1	260	416
	20	150	250	92.2	65.3	107.5	430.1	260	416
	25	120	200	114.0	80.8	133.0	532.0	230	368
	32	94	156	145.9	103.4	170.2	681.0	260	416
	40	75	125	180.5	127.8	210.6	842.2	230	368
	64	47	78	273.4	193.7	319.0	1275.9	120	192

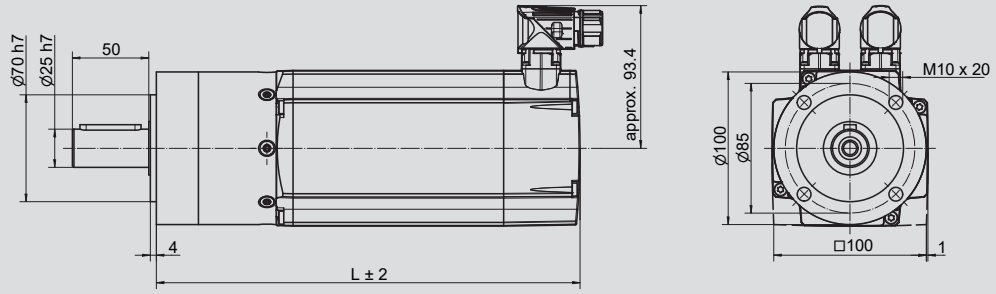
Stall, rated and peak torque - M [Nm]

				HMP10-075-...E10[1]				Gear E10[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1667	18.8	14.1	22.1	88.2	72	115
	4	750	1250	25.1	18.8	29.4	117.6	96	153,5
	5	600	1000	31.4	23.5	36.8	147.0	120	192
	7	429	714	43.5	32.6	50.9	203.7	135	216
	8	375	625	49.7	37.2	58.2	232.8	120	192
	10	300	500	62.1	46.6	72.8	291.0	95	152
2-stage	9	333	556	55.9	41.9	65.5	261.9	210	336
	12	250	417	73.7	55.3	86.4	345.6	260	416
	15	200	333	92.2	69.1	108.0	432.0	230	368
	16	188	313	98.3	73.7	115.2	460.8	260	416
	20	150	250	122.9	92.2	144.0	576.0	260	416
	25	120	200	152.0	114.0	178.1	712.5	230	368
	32	94	156	194.6	145.9	228.0	912.0	260	416
	40	75	125	240.6	180.5	282.0	1128.0	230	368
	64	47	78	-	-	-	-	120	192

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP10-056-…E10	without brake	1-stage	277.5	9.20	2-stage	305.5	10.60
	with brake		319.0	10.20		347.0	11.60
HMP10-075-…E10	without brake		302.5	10.55		330.5	11.95
	with brake		344.0	11.55		372.0	12.95

Moment of inertia [4] - J_1 [kg-cm²]

		HMP10-056-…E10		HMP10-075-…E10	
	i	without brake	with brake	without brake	with brake
1-stage	3	5.88E+00	+7.90E-01	7.45E+00	+7.90E-01
	4	5.35E+00		6.92E+00	
	5	5.15E+00		6.72E+00	
	7	4.98E+00		6.55E+00	
	8	4.95E+00		6.52E+00	
	10	4.89E+00		6.46E+00	
2-stage	9	5.80E+00		7.37E+00	
	12	5.74E+00		7.31E+00	
	15	5.72E+00		7.29E+00	
	16	5.20E+00		6.77E+00	
	20	5.09E+00		6.66E+00	
	25	5.08E+00		6.65E+00	
	32	4.94E+00		6.51E+00	
	40	4.93E+00		6.50E+00	
	64	4.93E+00		6.50E+00	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gear rated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode with purely pulsating load.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP13-055 /-091
Gear E10



Stall, rated and peak torque - M [Nm]

				HMP13-055-...E10[1]				Gear E10[2]	
	i	$n_{out,2000\ rpm}$[3]	$n_{out,3600\ rpm}$[3]	$M_{n,2000\ rpm}$	$M_{n,3600\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	667	1200	14.1	11.8	16.2	64.7	72	115
	4	500	900	18.8	15.7	21.6	86.2	96	153,5
	5	400	720	23.5	19.6	27.0	107.8	120	192
	7	286	514	32.6	27.2	37.3	149.4	135	216
	8	250	450	37.2	31.0	42.7	170.7	120	192
	10	200	360	46.6	38.8	53.4	213.4	95	152
2-stage	9	222	400	41.9	34.9	48.0	192.1	210	336
	12	167	300	55.3	46.1	63.4	253.4	260	416
	15	133	240	69.1	57.6	79.2	316.8	230	368
	16	125	225	73.7	61.4	84.5	337.9	260	416
	20	100	180	92.2	76.8	105.6	422.4	260	416
	25	80	144	114.0	95.0	130.6	522.5	230	368
	32	63	113	145.9	121.6	167.2	668.8	260	416
	40	50	90	180.5	150.4	206.8	827.2	230	368
	64	31	56	-	-	-	-	120	192

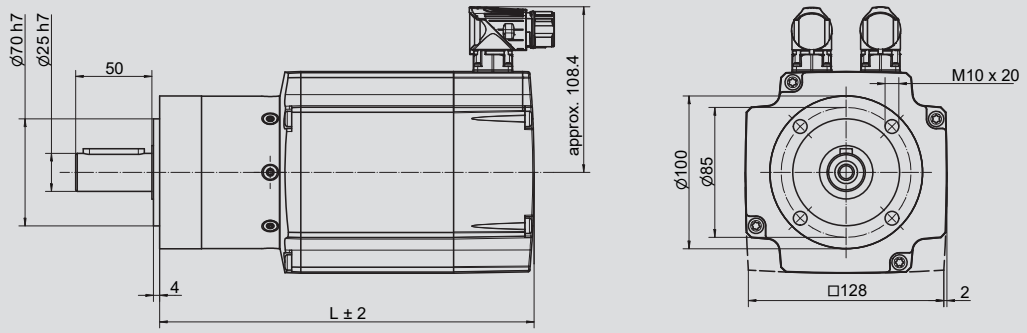
Stall, rated and peak torque - M [Nm]

				HMP13-091-...E10[1]				Gear E10[2]	
	i	$n_{out,2000\ rpm}$[3]	$n_{out,3600\ rpm}$[3]	$M_{n,2000\ rpm}$	$M_{n,3600\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	667	1200	21.2	17.6	26.8	107.0	72	115
	4	500	900	28.2	23.5	35.7	142.7	96	153,5
	5	400	720	35.3	29.4	44.6	178.4	120	192
	7	286	514	48.9	40.7	61.8	247.2	135	216
	8	250	450	55.9	46.6	70.6	282.5	120	192
	10	200	360	69.8	58.2	88.3	353.1	95	152
2-stage	9	222	400	62.9	52.4	79.4	317.8	210	336
	12	167	300	82.9	69.1	104.8	419.3	260	416
	15	133	240	103.7	86.4	131.0	524.2	230	368
	16	125	225	110.6	92.2	139.8	559.1	260	416
	20	100	180	138.2	115.2	174.7	698.9	260	416
	25	80	144	171.0	142.5	216.1	864.5	230	368
	32	63	113	218.9	182.4	276.6	1106.6	260	416
	40	50	90	270.7	225.6	342.2	1368.6	230	368
	64	31	56	-	-	-	-	120	192

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP13-055-…E10	without brake	1-stage	245.3	9.80	2-stage	273.3	11.20
	with brake		275.3	10.80		303.3	12.20
HMP13-091-…E10	without brake		260.3	11.40		288.3	12.80
	with brake		290.3	12.20		318.3	13.60

Moment of inertia [4] - J_1 [kg-cm²]

		HMP13-055-…E10		HMP13-091-…E10	
	i	without brake	with brake	without brake	with brake
1-stage	3	1.09E+01	+8.00E-01	1.50E+01	+8.00E-01
	4	1.03E+01		1.45E+01	
	5	1.01E+01		1.43E+01	
	7	9.96E+00		1.41E+01	
	8	9.93E+00		1.41E+01	
	10	9.87E+00		1.41E+01	
2-stage	9	1.08E+01		1.50E+01	
	12	1.07E+01		1.49E+01	
	15	1.07E+01		1.49E+01	
	16	1.02E+01		1.44E+01	
	20	1.01E+01		1.42E+01	
	25	1.01E+01		1.42E+01	
	32	9.92E+00		1.41E+01	
	40	9.91E+00		1.41E+01	
	64	9.91E+00		1.41E+01	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gear rated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode with purely pulsating load.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP13-123 /-185
Gear E10



Stall, rated and peak torque - M [Nm]

				HMP13-123-...E10[1]				Gear E10[2]	
	i	$n_{out,\ 2000\ rpm}$[3]	$n_{out,\ 3600\ rpm}$[3]	$M_{n,\ 2000\ rpm}$	$M_{n,\ 3600\ rpm}$	M_o	M_{max}	$M_{G,\ n}$	$M_{G,\ max}$
1-stage	3	667	1200	28.2	23.5	36.2	144.6	72	115
	4	500	900	37.6	31.4	48.2	192.9	96	153,5
	5	400	720	47.0	39.2	60.3	241.1	120	192
	7	286	514	65.2	54.3	83.5	334.1	135	216
	8	250	450	74.5	62.1	95.4	381.8	120	192
	10	200	360	93.1	77.6	119.3	477.2	95	152
2-stage	9	222	400	83.8	69.8	107.4	429.5	210	336
	12	167	300	110.6	92.2	141.7	566.8	260	416
	15	133	240	138.2	115.2	177.1	708.5	230	368
	16	125	225	147.5	122.9	188.9	755.7	260	416
	20	100	180	184.3	153.6	236.2	944.6	260	416
	25	80	144	228.0	190.0	292.1	1168.5	230	368
	32	63	113	291.8	243.2	373.9	1495.7	260	416
	40	50	90	-	300.8	462.5	1849.9	230	368
	64	31	56	-	-	-	-	120	192

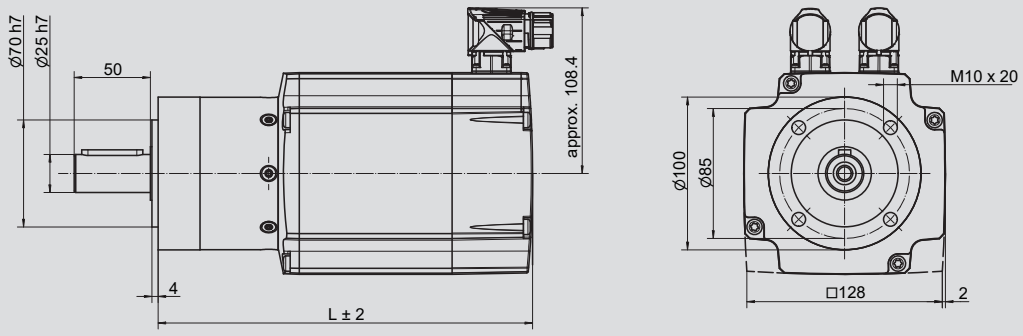
Stall, rated and peak torque - M [Nm]

				HMP13-185-...E10[1]				Gear E10[2]	
	i	$n_{out,\ 2000\ rpm}$[3]	$n_{out,\ 3600\ rpm}$[3]	$M_{n,\ 2000\ rpm}$	$M_{n,\ 3600\ rpm}$	M_o	M_{max}	$M_{G,\ n}$	$M_{G,\ max}$
1-stage	3	667	1200	42.3	29.4	54.4	217.6	72	115
	4	500	900	56.4	39.2	72.5	290.1	96	153,5
	5	400	720	70.6	49.0	90.7	362.6	120	192
	7	286	514	97.8	67.9	125.6	502.5	135	216
	8	250	450	111.7	77.6	143.6	574.2	120	192
	10	200	360	139.7	97.0	179.5	717.8	95	152
2-stage	9	222	400	125.7	87.3	161.5	646.0	210	336
	12	167	300	165.9	115.2	213.1	852.5	260	416
	15	133	240	207.4	144.0	266.4	1065.6	230	368
	16	125	225	221.2	153.6	284.2	1136.6	260	416
	20	100	180	276.5	192.0	355.2	1420.8	260	416
	25	80	144	342.0	237.5	439.4	1757.5	230	368
	32	63	113	-	304.0	562.4	2249.6	260	416
	40	50	90	-	-	-	-	230	368
	64	31	56	-	-	-	-	120	192

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP13-123-…E10	without brake	1-stage	285.3	13.50	2-stage	313.3	14.90
	with brake		320.5	15.00		348.5	16.40
HMP13-185-…E10	without brake		330.3	17.60		358.3	19.00
	with brake		365.5	19.20		393.5	20.60

Moment of inertia [4] - J_1 [kg-cm²]

		HMP13-123-…E10		HMP13-185-…E10	
	i	without brake	with brake	without brake	with brake
1-stage	3	2.21E+01	+2.00E+00	3.48E+01	+2.00E+00
	4	2.16E+01		3.43E+01	
	5	2.14E+01		3.41E+01	
	7	2.12E+01		3.39E+01	
	8	2.12E+01		3.39E+01	
	10	2.12E+01		3.39E+01	
2-stage	9	2.21E+01		3.48E+01	
	12	2.20E+01		3.47E+01	
	15	2.20E+01		3.47E+01	
	16	2.15E+01		3.42E+01	
	20	2.13E+01		3.40E+01	
	25	2.13E+01		3.40E+01	
	32	2.12E+01		3.39E+01	
	40	2.12E+01		3.39E+01	
	64	2.12E+01		3.39E+01	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gear rated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode with purely pulsating load.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP04-002 /-004
Gear P05



Stall, rated and peak torque - M [Nm]

					HMP04-002-...P05[1]					Gear P05[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,6000\ rpm}$[3]	$n_{out,9000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,6000\ rpm}$	$M_{n,9000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	2000	3000	0.5	0.4	0.4	0.5	2.1	6	9,5
	4	750	1500	2250	0.6	0.5	0.5	0.7	2.7	8	12,5
	5	600	1200	1800	0.8	0.7	0.6	0.9	3.4	10	16
	7	429	857	1286	1.1	1.0	0.8	1.2	4.8	8,5	13,5
	8	375	750	1125	1.2	1.1	0.9	1.4	5.4	6	9,5
	10	300	600	900	1.5	1.3	1.1	1.7	6.7	5	8
2-stage	9	333	667	1000	1.4	1.2	1.0	1.6	6.0	12	19
	12	250	500	750	1.8	1.6	1.4	2.1	8.1	15	24
	15	200	400	600	2.3	2.0	1.7	2.6	10.0	13	21
	16	188	375	563	2.4	2.1	1.8	2.7	10.6	15	24
	20	150	300	450	3.0	2.7	2.3	3.4	13.3	15	24
	25	120	240	360	3.8	3.3	2.8	4.2	16.5	13	21
	32	94	188	281	4.8	4.2	3.6	5.4	21.1	15	24
	40	75	150	225	5.9	5.2	4.4	6.6	25.8	13	21
	64	47	94	141	8.8	7.7	6.6	9.9	38.5	7,5	12

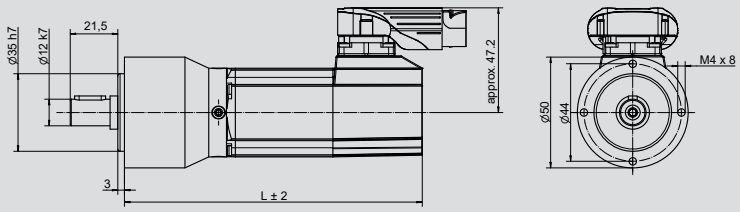
Stall, rated and peak torque - M [Nm]

					HMP04-004-...P05[1]					Gear P05[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,6000\ rpm}$[3]	$n_{out,9000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,6000\ rpm}$	$M_{n,9000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	2000	3000	0.9	0.8	0.6	1.0	3.8	6	9,5
	4	750	1500	2250	1.3	1.1	0.8	1.4	5.1	8	12,5
	5	600	1200	1800	1.6	1.4	1.0	1.7	6.4	10	16
	7	429	857	1286	2.2	1.9	1.4	2.4	8.8	8,5	13,5
	8	375	750	1125	2.5	2.2	1.6	2.7	10.0	6	9,5
	10	300	600	900	3.0	2.7	2.0	3.3	12.4	5	8
2-stage	9	333	667	1000	2.8	2.4	1.8	3.0	11.2	12	19
	12	250	500	750	3.7	3.2	2.4	4.0	15.0	15	24
	15	200	400	600	4.6	4.0	3.0	5.0	18.5	13	21
	16	188	375	563	4.9	4.3	3.2	5.3	19.8	15	24
	20	150	300	450	6.1	5.3	4.0	6.7	24.7	15	24
	25	120	240	360	7.5	6.6	4.9	8.2	30.6	13	21
	32	94	188	281	9.6	8.4	6.3	10.5	39.1	15	24
	40	75	150	225	11.8	10.3	7.7	12.9	47.8	13	21
	64	47	94	141	-	-	-	-	-	7,5	12

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP04-002-…P05	without brake	1-stage	134.4	1.00	2-stage	146.9	1.30
	with brake		169.9	1.15		182.4	1.45
HMP04-004-…P05	without brake		159.4	1.20		171.9	1.50
	with brake		194.9	1.35		207.4	1.65

Moment of inertia [4] - J_1 [kg-cm²]

		HMP04-002-…P05		HMP04-004-…P05	
	i	without brake	with brake	without brake	with brake
1-stage	3	4.50E-02	+2.50E-02	6.90E-02	+2.50E-02
	4	3.70E-02		6.10E-02	
	5	3.50E-02		5.90E-02	
	7	3.20E-02		5.60E-02	
	8	3.20E-02		5.60E-02	
	10	3.10E-02		5.50E-02	
2-stage	9	4.20E-02		6.60E-02	
	12	4.10E-02		6.50E-02	
	15	4.10E-02		6.50E-02	
	16	3.40E-02		5.80E-02	
	20	3.30E-02		5.70E-02	
	25	3.30E-02		5.70E-02	
	32	3.10E-02		5.50E-02	
	40	3.10E-02		5.50E-02	
	64	3.10E-02		5.50E-02	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gear rated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode with purely pulsating load.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP06-007 /-015
Gear P07



Stall, rated and peak torque - M [Nm]

				HMP06-007-...P07[1]				Gear P07[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,6000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,6000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	2000	1.8	1.5	2.1	8.2	17	27,5
	4	750	1500	2.4	2.0	2.7	11.0	23	37
	5	600	1200	2.9	2.4	3.4	13.6	29	46
	7	429	857	4.1	3.4	4.8	19.0	25	40
	8	375	750	4.6	3.8	5.4	21.5	18	29
	10	300	600	5.7	4.8	6.7	26.6	15	24
2-stage	9	333	667	5.2	4.3	6.0	24.2	33	53
	12	250	500	6.9	5.8	8.1	32.3	33	53
	15	200	400	8.6	7.1	10.0	39.9	33	53
	16	188	375	9.1	7.6	10.6	42.6	33	53
	20	150	300	11.4	9.5	13.3	53.2	33	53
	25	120	240	14.1	11.8	16.5	65.8	30	48
	32	94	188	18.0	15.0	21.1	84.2	33	53
	40	75	150	22.3	18.6	26.0	104.2	30	48
	64	47	94	33.0	27.5	38.5	154.1	18	29

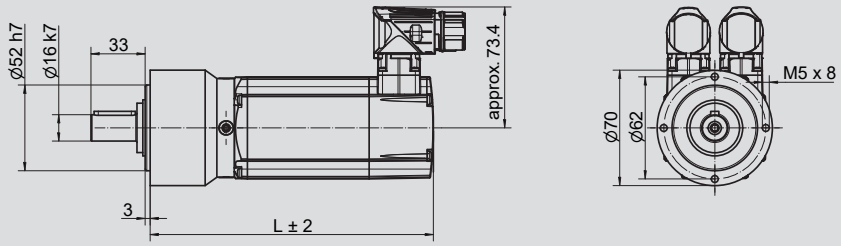
Stall, rated and peak torque - M [Nm]

				HMP06-015-...P07[1]				Gear P07[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,6000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,6000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	2000	3.5	2.6	4.4	17.6	17	27,5
	4	750	1500	4.7	3.5	5.9	23.5	23	37
	5	600	1200	5.8	4.4	7.3	29.1	29	46
	7	429	857	8.1	6.1	10.2	40.7	25	40
	8	375	750	9.2	6.9	11.5	46.1	18	29
	10	300	600	11.4	8.6	14.3	57.0	15	24
2-stage	9	333	667	10.4	7.8	13.0	51.8	33	53
	12	250	500	13.8	10.4	17.3	69.1	33	53
	15	200	400	17.1	12.8	21.4	85.5	33	53
	16	188	375	18.2	13.7	22.8	91.2	33	53
	20	150	300	22.8	17.1	28.5	114.0	33	53
	25	120	240	28.2	21.2	35.3	141.0	30	48
	32	94	188	36.1	27.1	45.1	180.5	33	53
	40	75	150	44.6	33.5	55.8	223.2	30	48
	64	47	94	-	-	-	-	18	29

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP06-007-…P07	without brake	1-stage	172.0	2.65	2-stage	185.0	2.95
	with brake		206.0	3.00		219.0	3.30
HMP06-015-…P07	without brake		202.0	3.20		215.0	3.50
	with brake		236.0	3.55		249.0	3.85

Moment of inertia [4] - J_1 [kg-cm²]

		HMP06-007-…P07		HMP06-015-…P07	
	i	without brake	with brake	without brake	with brake
1-stage	3	3.33E-01	+9.90E-02	5.26E-01	+9.90E-02
	4	2.76E-01		4.69E-01	
	5	2.55E-01		4.48E-01	
	7	2.37E-01		4.30E-01	
	8	2.33E-01		4.26E-01	
	10	2.28E-01		4.21E-01	
2-stage	9	2.85E-01		4.78E-01	
	12	2.80E-01		4.73E-01	
	15	2.37E-01		4.30E-01	
	16	2.46E-01		4.39E-01	
	20	2.36E-01		4.29E-01	
	25	2.34E-01		4.27E-01	
	32	2.26E-01		4.19E-01	
	40	2.26E-01		4.19E-01	
	64	2.25E-01		4.18E-01	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gear rated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode with purely pulsating load.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP08-028 /-035
Gear P07



Stall, rated and peak torque - M [Nm]

				HMP08-028-...P07[1]				Gear P07[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5500\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5500\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1833	7.1	5.0	8.2	32.9	17	27,5
	4	750	1375	9.4	6.7	11.0	43.9	23	37
	5	600	1100	11.6	8.2	13.6	54.3	29	46
	7	429	786	16.3	11.5	19.0	76.0	25	40
	8	375	688	18.4	13.1	21.5	86.0	18	29
	10	300	550	-	16.2	26.6	106.4	15	24
2-stage	9	333	611	20.7	14.7	24.2	96.8	33	53
	12	250	458	27.6	19.6	32.3	129.0	33	53
	15	200	367	34.2	24.2	39.9	159.6	33	53
	16	188	344	36.5	25.8	42.6	170.2	33	53
	20	150	275	45.6	32.3	53.2	212.8	33	53
	25	120	220	-	40.0	65.8	263.2	30	48
	32	94	172	-	-	-	-	33	53
	40	75	138	-	-	-	-	30	48
	64	47	86	-	-	-	-	18	29

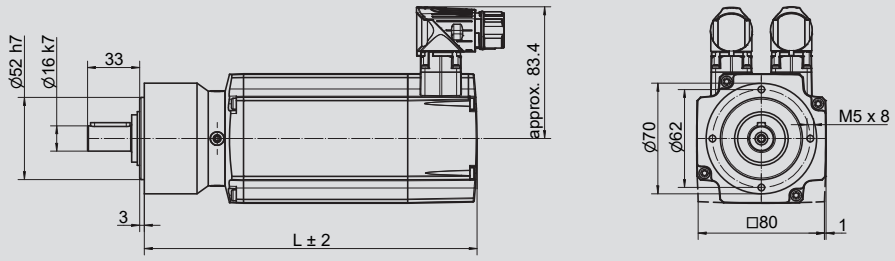
Stall, rated and peak torque - M [Nm]

				HMP08-035-...P07[1]				Gear P07[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5500\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5500\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1833	9.4	6.2	10.3	41.2	17	27,5
	4	750	1375	12.5	8.2	13.7	54.9	23	37
	5	600	1100	15.5	10.2	17.0	67.9	29	46
	7	429	786	21.7	14.3	23.8	95.1	25	40
	8	375	688	24.6	16.1	26.9	107.5	18	29
	10	300	550	-	20.0	33.3	133.0	15	24
2-stage	9	333	611	27.6	18.1	30.2	121.0	33	53
	12	250	458	36.9	24.2	40.3	161.3	33	53
	15	200	367	45.6	29.9	49.9	199.5	33	53
	16	188	344	48.6	31.9	53.2	212.8	33	53
	20	150	275	-	39.9	66.5	266.0	33	53
	25	120	220	-	-	-	-	30	48
	32	94	172	-	-	-	-	33	53
	40	75	138	-	-	-	-	30	48
	64	47	86	-	-	-	-	18	29

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP08-028-…P07	without brake	1-stage	210.8	4.40	2-stage	223.8	4.70
	with brake		252.8	5.05		265.8	5.35
HMP08-035-…P07	without brake		230.8	5.05		243.8	5.35
	with brake		272.8	5.70		285.8	6.00

Moment of inertia [4] - J_1 [kg-cm²]

		HMP08-028-…P07		HMP08-035-…P07	
	i	without brake	with brake	without brake	with brake
1-stage	3	1.51E+00	+2.80E-01	2.04E+00	+2.80E-01
	4	1.46E+00		1.99E+00	
	5	1.44E+00		1.97E+00	
	7	1.42E+00		1.95E+00	
	8	1.41E+00		1.94E+00	
	10	1.41E+00		1.94E+00	
2-stage	9	1.47E+00		2.00E+00	
	12	1.46E+00		1.99E+00	
	15	1.42E+00		1.95E+00	
	16	1.43E+00		1.96E+00	
	20	1.42E+00		1.95E+00	
	25	1.41E+00		1.94E+00	
	32	1.41E+00		1.94E+00	
	40	1.41E+00		1.94E+00	
	64	1.41E+00		1.94E+00	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gear rated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode with purely pulsating load.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP08-028 /-035
Gear P09



Stall, rated and peak torque - M [Nm]

				HMP08-028-...P09[1]				Gear P09[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5500\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5500\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1833	7.1	5.0	8.2	32.9	39	62
	4	750	1375	9.4	6.7	11.0	43.9	52	83
	5	600	1100	11.8	8.3	13.7	54.9	65	104
	7	429	786	16.3	11.5	19.0	76.0	65	104
	8	375	688	18.6	13.2	21.7	86.9	50	80
	10	300	550	23.0	16.3	26.9	107.5	38	61
2-stage	9	333	611	21.0	14.8	24.4	97.8	97	155
	12	250	458	27.6	19.6	32.3	129.0	90	144
	15	200	367	34.6	24.5	40.3	161.3	82	131
	16	188	344	36.9	26.1	43.0	172.0	90	144
	20	150	275	45.6	32.3	53.2	212.8	90	144
	25	120	220	57.0	40.4	66.5	266.0	82	131
	32	94	172	72.2	51.1	84.2	336.9	90	144
	40	75	138	90.2	63.9	105.3	421.1	82	131
	64	47	86	136.7	96.8	159.5	638.0	50	80

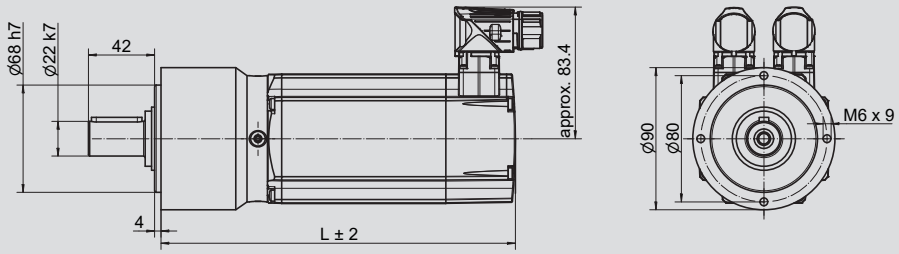
Stall, rated and peak torque - M [Nm]

				HMP08-035-...P09[1]				Gear P09[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5500\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5500\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1833	9.4	6.2	10.3	41.2	39	62
	4	750	1375	12.5	8.2	13.7	54.9	52	83
	5	600	1100	15.7	10.3	17.2	68.6	65	104
	7	429	786	21.7	14.3	23.8	95.1	65	104
	8	375	688	24.8	16.3	27.2	108.6	50	80
	10	300	550	30.7	20.2	33.6	134.4	38	61
2-stage	9	333	611	27.9	18.3	30.6	122.2	97	155
	12	250	458	36.9	24.2	40.3	161.3	90	144
	15	200	367	46.1	30.2	50.4	201.6	82	131
	16	188	344	49.2	32.3	53.8	215.0	90	144
	20	150	275	60.8	39.9	66.5	266.0	90	144
	25	120	220	76.0	49.9	83.1	332.5	82	131
	32	94	172	96.3	63.2	105.3	421.1	90	144
	40	75	138	120.3	79.0	131.6	526.4	82	131
	64	47	86	-	-	-	-	50	80

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP08-028-…P09	without brake	1-stage	224.5	5.80	2-stage	242.5	6.40
	with brake		266.5	6.45		284.5	7.05
HMP08-035-…P09	without brake		244.5	6.45		262.5	7.05
	with brake		286.5	7.10		304.5	7.70

Moment of inertia [4] - J_1 [kg-cm²]

		HMP08-028-…P09		HMP08-035-…P09	
	i	without brake	with brake	without brake	with brake
1-stage	3	1.85E+00	+2.80E-01	2.38E+00	+2.80E-01
	4	1.61E+00		2.14E+00	
	5	1.53E+00		2.06E+00	
	7	1.47E+00		2.00E+00	
	8	1.45E+00		1.98E+00	
	10	1.43E+00		1.96E+00	
2-stage	9	1.68E+00		2.21E+00	
	12	1.66E+00		2.19E+00	
	15	1.65E+00		2.18E+00	
	16	1.51E+00		2.04E+00	
	20	1.47E+00		2.00E+00	
	25	1.46E+00		1.99E+00	
	32	1.43E+00		1.96E+00	
	40	1.42E+00		1.95E+00	
	64	1.42E+00		1.95E+00	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gear rated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode with purely pulsating load.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP10-056 /-075
Gear P09



Stall, rated and peak torque - M [Nm]

				HMP10-056-...P09[1]				Gear P09[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1667	14.1	10.0	16.5	65.9	39	62
	4	750	1250	18.8	13.3	22.0	87.8	52	83
	5	600	1000	23.5	16.7	27.4	109.8	65	104
	7	429	714	32.6	23.1	38.0	152.1	65	104
	8	375	625	37.2	26.4	43.5	173.8	50	80
	10	300	500	46.1	32.6	53.8	215.0	38	61
2-stage	9	333	556	41.9	29.7	48.9	195.6	97	155
	12	250	417	55.3	39.2	64.5	258.0	90	144
	15	200	333	69.1	49.0	80.6	322.6	82	131
	16	188	313	73.7	52.2	86.0	344.1	90	144
	20	150	250	91.2	64.6	106.4	425.6	90	144
	25	120	200	114.0	80.8	133.0	532.0	82	131
	32	94	156	-	102.3	168.4	673.8	90	144
	40	75	125	-	-	-	-	82	131
	64	47	78	-	-	-	-	50	80

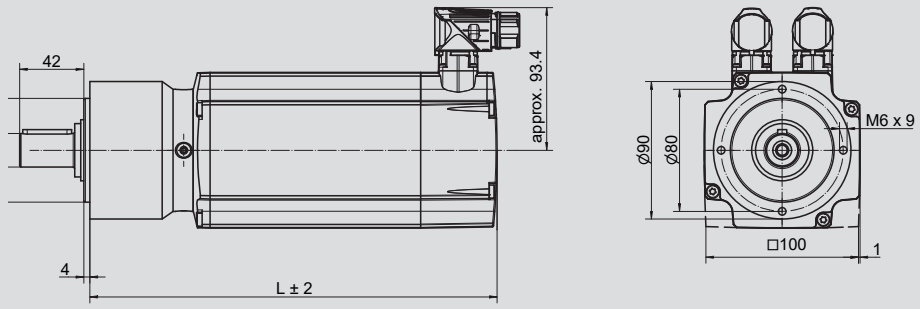
Stall, rated and peak torque - M [Nm]

				HMP10-075-...P09[1]				Gear P09[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1667	18.8	14.1	22.1	88.2	39	62
	4	750	1250	25.1	18.8	29.4	117.6	52	83
	5	600	1000	31.4	23.5	36.8	147.0	65	104
	7	429	714	43.5	32.6	50.9	203.7	65	104
	8	375	625	49.7	37.2	58.2	232.8	50	80
	10	300	500	-	46.1	72.0	288.0	38	61
2-stage	9	333	556	55.9	41.9	65.5	261.9	97	155
	12	250	417	73.7	55.3	86.4	345.6	90	144
	15	200	333	92.2	69.1	108.0	432.0	82	131
	16	188	313	98.3	73.7	115.2	460.8	90	144
	20	150	250	121.6	91.2	142.5	570.0	90	144
	25	120	200	-	114.0	178.1	712.5	82	131
	32	94	156	-	-	-	-	90	144
	40	75	125	-	-	-	-	82	131
	64	47	78	-	-	-	-	50	80

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP10-056-…P09	without brake	1-stage	266.7	9.00	2-stage	284.7	9.60
	with brake		308.2	10.00		326.2	10.60
HMP10-075-…P09	without brake		291.7	10.35		309.7	10.95
	with brake		333.2	11.35		351.2	11.95

Moment of inertia [4] - J_1 [kg-cm²]

		HMP10-056-…P09		HMP10-075-…P09	
	i	without brake	with brake	without brake	with brake
1-stage	3	5.29E+00	+7.90E-01	6.86E+00	+7.90E-01
	4	5.05E+00		6.62E+00	
	5	4.97E+00		6.54E+00	
	7	4.91E+00		6.48E+00	
	8	4.89E+00		6.46E+00	
	10	4.87E+00		6.44E+00	
2-stage	9	5.12E+00		6.69E+00	
	12	5.10E+00		6.67E+00	
	15	5.09E+00		6.66E+00	
	16	4.95E+00		6.52E+00	
	20	4.91E+00		6.48E+00	
	25	4.90E+00		6.47E+00	
	32	4.87E+00		6.44E+00	
	40	4.86E+00		6.43E+00	
	64	4.86E+00		6.43E+00	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gear rated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode with purely pulsating load.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP06-007 /-015
Gear H06



Stall, rated and peak torque - M [Nm]

				HMP06-007-...H06[1]				Gear H06[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,6000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,6000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	2000	1.7	1.4	2.0	8.1	17	27,5
	4	750	1500	2.3	1.9	2.7	10.9	23	37
	5	600	1200	2.9	2.4	3.4	13.6	29	46
	7	429	857	4.0	3.3	4.7	18.6	25	40
	8	375	750	4.5	3.8	5.3	21.1	18	29
	10	300	600	5.5	4.6	6.4	25.8	15	24
2-stage	9	333	667	5.2	4.3	6.0	24.2	44	70
	12	250	500	6.8	5.7	8.0	31.9	44	70
	15	200	400	8.6	7.1	10.0	39.9	44	70
	16	188	375	9.1	7.6	10.6	42.6	44	70
	20	150	300	11.4	9.5	13.3	53.2	44	70
	25	120	240	14.1	11.8	16.5	65.8	40	64
	32	94	188	18.0	15.0	21.1	84.2	44	70
	40	75	150	22.3	18.6	26.0	104.2	40	64
	64	47	94	32.6	27.2	38.1	152.3	18	29

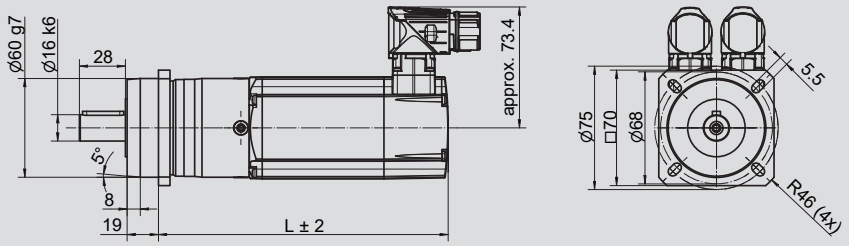
Stall, rated and peak torque - M [Nm]

				HMP06-015-...H06[1]				Gear H06[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,6000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,6000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	2000	3.5	2.6	4.3	17.3	17	27,5
	4	750	1500	4.7	3.5	5.8	23.3	23	37
	5	600	1200	5.8	4.4	7.3	29.1	29	46
	7	429	857	8.0	6.0	10.0	39.9	25	40
	8	375	750	9.0	6.8	11.3	45.1	18	29
	10	300	600	11.0	8.3	13.8	55.2	15	24
2-stage	9	333	667	10.4	7.8	13.0	51.8	44	70
	12	250	500	13.7	10.3	17.1	68.4	44	70
	15	200	400	17.1	12.8	21.4	85.5	44	70
	16	188	375	18.2	13.7	22.8	91.2	44	70
	20	150	300	22.8	17.1	28.5	114.0	44	70
	25	120	240	28.2	21.2	35.3	141.0	40	64
	32	94	188	36.1	27.1	45.1	180.5	44	70
	40	75	150	44.6	33.5	55.8	223.2	40	64
	64	47	94	-	-	-	-	18	29

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP06-007-…H06	without brake	1-stage	176.0	2.75	2-stage	188.5	2.95
	with brake		210.0	3.10		222.5	3.30
HMP06-015-…H06	without brake		206.0	3.30		218.5	3.50
	with brake		240.0	3.65		252.5	3.85

Moment of inertia [4] - J_1 [kg-cm²]

		HMP06-007-…H06		HMP06-015-…H06	
	i	without brake	with brake	without brake	with brake
1-stage	3	3.37E-01	+9.90E-02	5.30E-01	+9.90E-02
	4	2.79E-01		4.72E-01	
	5	2.57E-01		4.50E-01	
	7	2.37E-01		4.30E-01	
	8	2.34E-01		4.27E-01	
	10	2.28E-01		4.21E-01	
2-stage	9	2.94E-01		4.87E-01	
	12	2.88E-01		4.81E-01	
	15	2.40E-01		4.33E-01	
	16	2.51E-01		4.44E-01	
	20	2.39E-01		4.32E-01	
	25	2.38E-01		4.31E-01	
	32	2.27E-01		4.20E-01	
	40	2.27E-01		4.20E-01	
	64	2.27E-01		4.20E-01	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gear rated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode with purely pulsating load.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP08-028 /-035
Gear H06



Stall, rated and peak torque - M [Nm]

				HMP08-028-...H06[1]				Gear H06[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5500\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5500\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1833	6.9	4.9	8.1	32.3	17	27,5
	4	750	1375	9.3	6.6	10.9	43.5	23	37
	5	600	1100	11.6	8.2	13.6	54.3	29	46
	7	429	786	16.0	11.3	18.6	74.5	25	40
	8	375	688	18.0	12.8	21.1	84.2	18	29
	10	300	550	22.1	15.6	25.8	103.0	15	24
2-stage	9	333	611	20.7	14.7	24.2	96.8	44	70
	12	250	458	27.4	19.4	31.9	127.7	44	70
	15	200	367	34.2	24.2	39.9	159.6	44	70
	16	188	344	36.5	25.8	42.6	170.2	44	70
	20	150	275	45.6	32.3	53.2	212.8	44	70
	25	120	220	56.4	40.0	65.8	263.2	40	64
	32	94	172	-	51.1	84.2	336.9	44	70
	40	75	138	-	-	-	-	40	64
	64	47	86	-	-	-	-	18	29

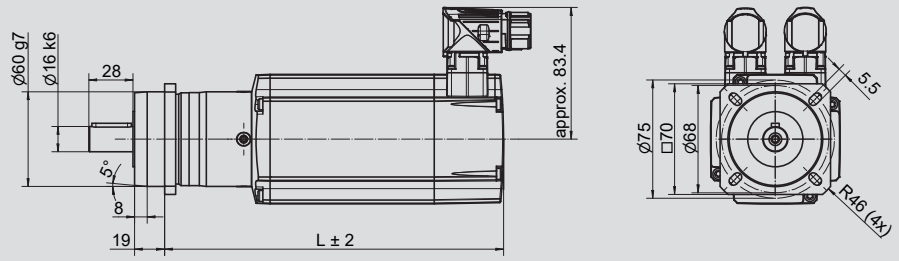
Stall, rated and peak torque - M [Nm]

				HMP08-035-...H06[1]				Gear H06[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5500\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5500\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1833	9.2	6.0	10.1	40.3	17	27,5
	4	750	1375	12.4	8.1	13.6	54.3	23	37
	5	600	1100	15.5	10.2	17.0	67.9	29	46
	7	429	786	21.3	14.0	23.3	93.1	25	40
	8	375	688	24.1	15.8	26.3	105.3	18	29
	10	300	550	-	19.3	32.2	128.8	15	24
2-stage	9	333	611	27.6	18.1	30.2	121.0	44	70
	12	250	458	36.5	23.9	39.9	159.6	44	70
	15	200	367	45.6	29.9	49.9	199.5	44	70
	16	188	344	48.6	31.9	53.2	212.8	44	70
	20	150	275	60.8	39.9	66.5	266.0	44	70
	25	120	220	-	49.4	82.3	329.0	40	64
	32	94	172	-	63.2	105.3	421.1	44	70
	40	75	138	-	-	-	-	40	64
	64	47	86	-	-	-	-	18	29

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP08-028-…H06	without brake	1-stage	214.8	4.50	2-stage	227.3	4.70
	with brake		256.8	5.15		269.3	5.35
HMP08-035-…H06	without brake		234.8	5.15		247.3	5.35
	with brake		276.8	5.80		289.3	6.00

Moment of inertia [4] - J_1 [kg-cm²]

		HMP08-028-…H06		HMP08-035-…H06	
	i	without brake	with brake	without brake	with brake
1-stage	3	1.52E+00	+2.80E-01	2.05E+00	+2.80E-01
	4	1.46E+00		1.99E+00	
	5	1.44E+00		1.97E+00	
	7	1.42E+00		1.95E+00	
	8	1.41E+00		1.94E+00	
	10	1.41E+00		1.94E+00	
2-stage	9	1.47E+00		2.00E+00	
	12	1.47E+00		2.00E+00	
	15	1.42E+00		1.95E+00	
	16	1.43E+00		1.96E+00	
	20	1.42E+00		1.95E+00	
	25	1.42E+00		1.95E+00	
	32	1.41E+00		1.94E+00	
	40	1.41E+00		1.94E+00	
	64	1.41E+00		1.94E+00	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gear rated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode with purely pulsating load.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP08-028 /-035
Gear Ho8



Stall, rated and peak torque - M [Nm]

				HMP08-028-...Ho8[1]				Gear Ho8[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5500\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5500\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1833	7.0	4.9	8.1	32.6	39	62
	4	750	1375	9.3	6.6	10.9	43.5	52	83
	5	600	1100	11.6	8.2	13.6	54.3	65	104
	7	429	786	16.1	11.4	18.8	75.3	65	104
	8	375	688	18.4	13.1	21.5	86.0	50	80
	10	300	550	22.6	16.0	26.3	105.3	38	61
2-stage	9	333	611	20.7	14.7	24.2	96.8	117	187
	12	250	458	27.6	19.6	32.3	129.0	120	192
	15	200	367	34.2	24.2	39.9	159.6	110	176
	16	188	344	36.9	26.1	43.0	172.0	120	192
	20	150	275	45.6	32.3	53.2	212.8	120	192
	25	120	220	57.0	40.4	66.5	266.0	110	176
	32	94	172	73.0	51.7	85.1	340.5	120	192
	40	75	138	90.2	63.9	105.3	421.1	110	176
	64	47	86	135.2	95.7	157.7	630.8	50	80

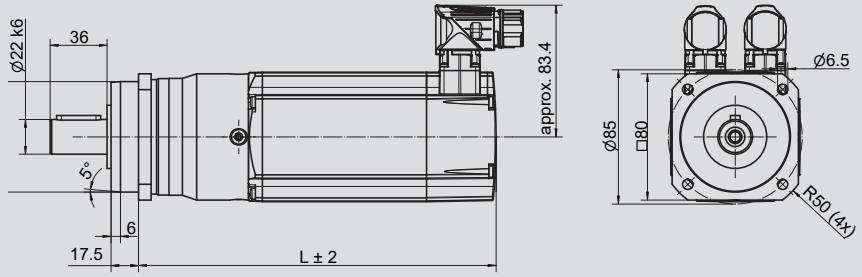
Stall, rated and peak torque - M [Nm]

				HMP08-035-...Ho8[1]				Gear Ho8[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5500\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5500\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1833	9.3	6.1	10.2	40.7	39	62
	4	750	1375	12.4	8.1	13.6	54.3	52	83
	5	600	1100	15.5	10.2	17.0	67.9	65	104
	7	429	786	21.5	14.1	23.5	94.1	65	104
	8	375	688	24.6	16.1	26.9	107.5	50	80
	10	300	550	30.1	19.7	32.9	131.6	38	61
2-stage	9	333	611	27.6	18.1	30.2	121.0	117	187
	12	250	458	36.9	24.2	40.3	161.3	120	192
	15	200	367	45.6	29.9	49.9	199.5	110	176
	16	188	344	49.2	32.3	53.8	215.0	120	192
	20	150	275	60.8	39.9	66.5	266.0	120	192
	25	120	220	76.0	49.9	83.1	332.5	110	176
	32	94	172	97.3	63.8	106.4	425.6	120	192
	40	75	138	120.3	79.0	131.6	526.4	110	176
	64	47	86	-	-	-	-	50	80

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP08-028-…H08	without brake	1-stage	226.5	5.50	2-stage	244.5	6.00
	with brake		268.5	6.15		286.5	6.65
HMP08-035-…H08	without brake		246.5	6.15		264.5	6.65
	with brake		288.5	6.80		306.5	7.30

Moment of inertia [4] - J_1 [kg-cm²]

		HMP08-028-…H08		HMP08-035-…H08	
	i	without brake	with brake	without brake	with brake
1-stage	3	1.83E+00	+2.80E-01	2.36E+00	+2.80E-01
	4	1.60E+00		2.13E+00	
	5	1.52E+00		2.05E+00	
	7	1.46E+00		1.99E+00	
	8	1.44E+00		1.97E+00	
	10	1.43E+00		1.96E+00	
2-stage	9	1.70E+00		2.23E+00	
	12	1.67E+00		2.20E+00	
	15	1.57E+00		2.10E+00	
	16	1.52E+00		2.05E+00	
	20	1.47E+00		2.00E+00	
	25	1.47E+00		2.00E+00	
	32	1.43E+00		1.96E+00	
	40	1.43E+00		1.96E+00	
	64	1.43E+00		1.96E+00	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gear rated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode with purely pulsating load.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP10-056 /-075
Gear Ho8



Stall, rated and peak torque - M [Nm]

				HMP10-056-...Ho8[1]				Gear Ho8[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1667	14.0	9.9	16.3	65.2	39	62
	4	750	1250	18.6	13.2	21.7	86.9	52	83
	5	600	1000	23.3	16.5	27.2	108.6	65	104
	7	429	714	32.3	22.8	37.6	150.5	65	104
	8	375	625	36.9	26.1	43.0	172.0	50	80
	10	300	500	45.1	32.0	52.6	210.6	38	61
2-stage	9	333	556	41.5	29.4	48.4	193.5	117	187
	12	250	417	55.3	39.2	64.5	258.0	120	192
	15	200	333	68.4	48.5	79.8	319.2	110	176
	16	188	313	73.7	52.2	86.0	344.1	120	192
	20	150	250	91.2	64.6	106.4	425.6	120	192
	25	120	200	114.0	80.8	133.0	532.0	110	176
	32	94	156	145.9	103.4	170.2	681.0	120	192
	40	75	125	-	127.8	210.6	842.2	110	176
	64	47	78	-	-	-	-	50	80

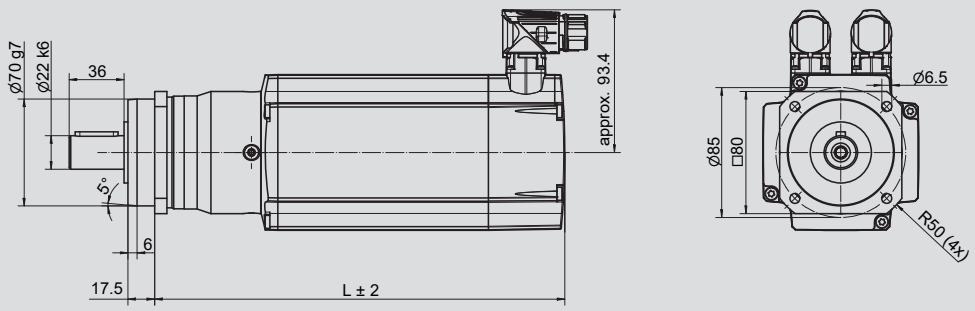
Stall, rated and peak torque - M [Nm]

				HMP10-075-...Ho8[1]				Gear Ho8[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1667	18.6	14.0	21.8	87.3	39	62
	4	750	1250	24.8	18.6	29.1	116.4	52	83
	5	600	1000	31.0	23.3	36.4	145.5	65	104
	7	429	714	43.0	32.3	50.4	201.6	65	104
	8	375	625	49.2	36.9	57.6	230.4	50	80
	10	300	500	-	45.1	70.5	282.0	38	61
2-stage	9	333	556	55.3	41.5	64.8	259.2	117	187
	12	250	417	73.7	55.3	86.4	345.6	120	192
	15	200	333	91.2	68.4	106.9	427.5	110	176
	16	188	313	98.3	73.7	115.2	460.8	120	192
	20	150	250	121.6	91.2	142.5	570.0	120	192
	25	120	200	152.0	114.0	178.1	712.5	110	176
	32	94	156	-	145.9	228.0	912.0	120	192
	40	75	125	-	-	-	-	110	176
	64	47	78	-	-	-	-	50	80

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP10-056-…H08	without brake	1-stage	268.7	8.70	2-stage	286.7	9.20
	with brake		310.2	9.70		328.2	10.20
HMP10-075-…H08	without brake		293.7	10.05		311.7	10.55
	with brake		335.2	11.05		353.2	11.55

Moment of inertia [4] - J_1 [kg-cm²]

		HMP10-056-…H08		HMP10-075-…H08	
	i	without brake	with brake	without brake	with brake
1-stage	3	5.27E+00	+7.90E-01	6.84E+00	+7.90E-01
	4	5.04E+00		6.61E+00	
	5	4.96E+00		6.53E+00	
	7	4.90E+00		6.47E+00	
	8	4.88E+00		6.45E+00	
	10	4.87E+00		6.44E+00	
2-stage	9	5.14E+00		6.71E+00	
	12	5.11E+00		6.68E+00	
	15	5.01E+00		6.58E+00	
	16	4.96E+00		6.53E+00	
	20	4.91E+00		6.48E+00	
	25	4.91E+00		6.48E+00	
	32	4.87E+00		6.44E+00	
	40	4.87E+00		6.44E+00	
	64	4.87E+00		6.44E+00	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gear rated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode with purely pulsating load.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP06-007 /-015
Gear F06



Stall, rated and peak torque - M [Nm]

				HMP06-007-...F06[1]				Gear F06[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,6000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,6000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	2000	1.7	1.5	2.0	8.1	17	27,5
	4	750	1500	2.3	1.9	2.7	10.9	23	37
	5	600	1200	2.9	2.4	3.4	13.6	29	46
	7	429	857	4.0	3.4	4.7	18.8	25	40
	8	375	750	4.6	3.8	5.3	21.3	18	29
	10	300	600	5.6	4.7	6.6	26.3	15	24
2-stage	9	333	667	5.2	4.3	6.0	24.2	44	70
	12	250	500	6.9	5.8	8.1	32.3	44	70
	15	200	400	8.6	7.2	10.1	40.3	44	70
	16	188	375	9.1	7.6	10.6	42.6	44	70
	20	150	300	11.4	9.5	13.3	53.2	44	70
	25	120	240	14.3	11.9	16.6	66.5	40	64
	32	94	188	18.0	15.0	21.1	84.2	44	70
	40	75	150	22.3	18.6	26.0	104.2	40	64
	64	47	94	33.0	27.5	38.5	154.1	18	29

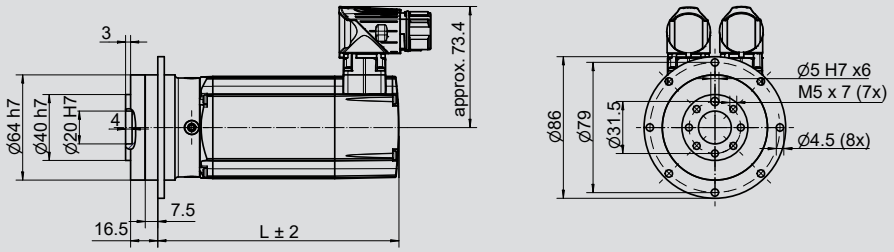
Stall, rated and peak torque - M [Nm]

				HMP06-015-...F06[1]				Gear F06[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,6000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,6000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	2000	3.5	2.6	4.4	17.5	17	27,5
	4	750	1500	4.7	3.5	5.8	23.3	23	37
	5	600	1200	5.8	4.4	7.3	29.1	29	46
	7	429	857	8.1	6.0	10.1	40.3	25	40
	8	375	750	9.1	6.8	11.4	45.6	18	29
	10	300	600	11.3	8.5	14.1	56.4	15	24
2-stage	9	333	667	10.4	7.8	13.0	51.8	44	70
	12	250	500	13.8	10.4	17.3	69.1	44	70
	15	200	400	17.3	13.0	21.6	86.4	44	70
	16	188	375	18.2	13.7	22.8	91.2	44	70
	20	150	300	22.8	17.1	28.5	114.0	44	70
	25	120	240	28.5	21.4	35.6	142.5	40	64
	32	94	188	36.1	27.1	45.1	180.5	44	70
	40	75	150	44.6	33.5	55.8	223.2	40	64
	64	47	94	-	-	-	-	18	29

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP06-007-…F06	without brake	1-stage	146.5	2.25	2-stage	159.0	2.65
	with brake		180.5	2.60		193.0	3.00
HMP06-015-…F06	without brake		176.5	2.80		189.0	3.20
	with brake		210.5	3.15		223.0	3.55

Moment of inertia [4] - J_1 [kg-cm²]

		HMP06-007-…F06		HMP06-015-…F06	
	i	without brake	with brake	without brake	with brake
1-stage	3	3.69E-01	+9.90E-02	5.62E-01	+9.90E-02
	4	2.97E-01		4.90E-01	
	5	2.68E-01		4.61E-01	
	7	2.44E-01		4.37E-01	
	8	2.38E-01		4.31E-01	
	10	2.31E-01		4.24E-01	
2-stage	9	2.89E-01		4.82E-01	
	12	2.82E-01		4.75E-01	
	15	2.39E-01		4.32E-01	
	16	2.47E-01		4.40E-01	
	20	2.36E-01		4.29E-01	
	25	2.35E-01		4.28E-01	
	32	2.26E-01		4.19E-01	
	40	2.26E-01		4.19E-01	
	64	2.25E-01		4.18E-01	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gearrated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP08-028 /-035
Gear Fo6



Stall, rated and peak torque - M [Nm]

				HMP08-028-...Fo6[1]				Gear Fo6[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5500\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5500\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1833	7.0	4.9	8.1	32.6	17	27,5
	4	750	1375	9.3	6.6	10.9	43.5	23	37
	5	600	1100	11.6	8.2	13.6	54.3	29	46
	7	429	786	16.1	11.4	18.8	75.3	25	40
	8	375	688	18.2	12.9	21.3	85.1	18	29
	10	300	550	-	16.0	26.3	105.3	15	24
2-stage	9	333	611	20.7	14.7	24.2	96.8	44	70
	12	250	458	27.6	19.6	32.3	129.0	44	70
	15	200	367	34.6	24.5	40.3	161.3	44	70
	16	188	344	36.5	25.8	42.6	170.2	44	70
	20	150	275	45.6	32.3	53.2	212.8	44	70
	25	120	220	57.0	40.4	66.5	266.0	40	64
	32	94	172	-	51.1	84.2	336.9	44	70
	40	75	138	-	-	-	-	40	64
	64	47	86	-	-	-	-	18	29

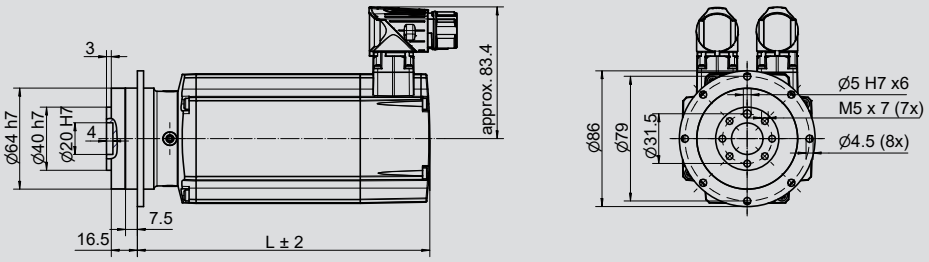
Stall, rated and peak torque - M [Nm]

				HMP08-035-...Fo6[1]				Gear Fo6[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5500\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5500\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1833	9.3	6.1	10.2	40.7	17	27,5
	4	750	1375	12.4	8.1	13.6	54.3	23	37
	5	600	1100	15.5	10.2	17.0	67.9	29	46
	7	429	786	21.5	14.1	23.5	94.1	25	40
	8	375	688	24.3	16.0	26.6	106.4	18	29
	10	300	550	-	19.7	32.9	131.6	15	24
2-stage	9	333	611	27.6	18.1	30.2	121.0	44	70
	12	250	458	36.9	24.2	40.3	161.3	44	70
	15	200	367	46.1	30.2	50.4	201.6	44	70
	16	188	344	48.6	31.9	53.2	212.8	44	70
	20	150	275	60.8	39.9	66.5	266.0	44	70
	25	120	220	-	49.9	83.1	332.5	40	64
	32	94	172	-	63.2	105.3	421.1	44	70
	40	75	138	-	-	-	-	40	64
	64	47	86	-	-	-	-	18	29

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP08-028-…F06	without brake	1-stage	185.3	4.00	2-stage	197.8	4.40
	with brake		227.3	4.65		239.8	5.05
HMP08-035-…F06	without brake		205.3	4.65		217.8	5.05
	with brake		247.3	5.30		259.8	5.70

Moment of inertia [4] - J_1 [kg-cm²]

		HMP08-028-…F06		HMP08-035-…F06	
	i	without brake	with brake	without brake	with brake
1-stage	3	1.55E+00	+2.80E-01	2.08E+00	+2.80E-01
	4	1.48E+00		2.01E+00	
	5	1.45E+00		1.98E+00	
	7	1.42E+00		1.95E+00	
	8	1.42E+00		1.95E+00	
	10	1.41E+00		1.94E+00	
2-stage	9	1.47E+00		2.00E+00	
	12	1.46E+00		1.99E+00	
	15	1.42E+00		1.95E+00	
	16	1.43E+00		1.96E+00	
	20	1.42E+00		1.95E+00	
	25	1.42E+00		1.95E+00	
	32	1.41E+00		1.94E+00	
	40	1.41E+00		1.94E+00	
	64	1.41E+00		1.94E+00	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gearrated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP08-028 /-035
Gear Fo9



Stall, rated and peak torque - M [Nm]

				HMP08-028-...Fo9[1]				Gear Fo9[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5500\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5500\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1833	7.1	5.0	8.2	32.9	39	62
	4	750	1375	9.4	6.7	11.0	43.9	52	83
	5	600	1100	11.8	8.3	13.7	54.9	65	104
	7	429	786	16.3	11.5	19.0	76.0	65	104
	8	375	688	18.4	13.1	21.5	86.0	50	80
	10	300	550	22.8	16.2	26.6	106.4	38	61
2-stage	9	333	611	21.0	14.8	24.4	97.8	117	187
	12	250	458	27.6	19.6	32.3	129.0	120	192
	15	200	367	34.6	24.5	40.3	161.3	110	176
	16	188	344	36.9	26.1	43.0	172.0	120	192
	20	150	275	46.1	32.6	53.8	215.0	120	192
	25	120	220	57.0	40.4	66.5	266.0	110	176
	32	94	172	73.0	51.7	85.1	340.5	120	192
	40	75	138	90.2	63.9	105.3	421.1	110	176
	64	47	86	135.2	95.7	157.7	630.8	50	80

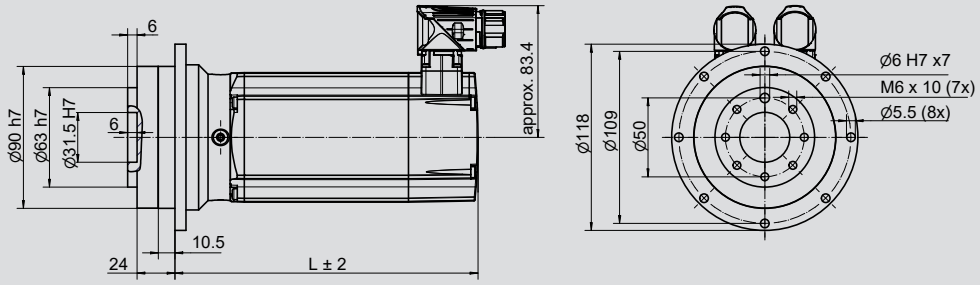
Stall, rated and peak torque - M [Nm]

				HMP08-035-...Fo9[1]				Gear Fo9[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5500\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5500\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1833	9.4	6.2	10.3	41.2	39	62
	4	750	1375	12.5	8.2	13.7	54.9	52	83
	5	600	1100	15.7	10.3	17.2	68.6	65	104
	7	429	786	21.7	14.3	23.8	95.1	65	104
	8	375	688	24.6	16.1	26.9	107.5	50	80
	10	300	550	30.4	20.0	33.3	133.0	38	61
2-stage	9	333	611	27.9	18.3	30.6	122.2	117	187
	12	250	458	36.9	24.2	40.3	161.3	120	192
	15	200	367	46.1	30.2	50.4	201.6	110	176
	16	188	344	49.2	32.3	53.8	215.0	120	192
	20	150	275	61.4	40.3	67.2	268.8	120	192
	25	120	220	76.0	49.9	83.1	332.5	110	176
	32	94	172	97.3	63.8	106.4	425.6	120	192
	40	75	138	120.3	79.0	131.6	526.4	110	176
	64	47	86	-	-	-	-	50	80

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP08-028-…F09	without brake	1-stage	192.0	5.50	2-stage	209.5	6.00
	with brake		234.0	6.15		251.5	6.65
HMP08-035-…F09	without brake		212.0	6.15		229.5	6.65
	with brake		254.0	6.80		271.5	7.30

Moment of inertia [4] - J_1 [kg-cm²]

		HMP08-028-…F09		HMP08-035-…F09	
	i	without brake	with brake	without brake	with brake
1-stage	3	2.22E+00	+2.80E-01	2.75E+00	+2.80E-01
	4	1.82E+00		2.35E+00	
	5	1.67E+00		2.20E+00	
	7	1.53E+00		2.06E+00	
	8	1.50E+00		2.03E+00	
	10	1.46E+00		1.99E+00	
2-stage	9	1.72E+00		2.25E+00	
	12	1.68E+00		2.21E+00	
	15	1.66E+00		2.19E+00	
	16	1.52E+00		2.05E+00	
	20	1.48E+00		2.01E+00	
	25	1.47E+00		2.00E+00	
	32	1.43E+00		1.96E+00	
	40	1.43E+00		1.96E+00	
	64	1.43E+00		1.96E+00	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gearrated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP10-056 /-075
Gear Fo9



Stall, rated and peak torque - M [Nm]

				HMP10-056-...Fo9[1]				Gear Fo9[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1667	14.1	10.0	16.5	65.9	39	62
	4	750	1250	18.8	13.3	22.0	87.8	52	83
	5	600	1000	23.5	16.7	27.4	109.8	65	104
	7	429	714	32.6	23.1	38.0	152.1	65	104
	8	375	625	36.9	26.1	43.0	172.0	50	80
	10	300	500	45.6	32.3	53.2	212.8	38	61
2-stage	9	333	556	41.9	29.7	48.9	195.6	117	187
	12	250	417	55.3	39.2	64.5	258.0	120	192
	15	200	333	69.1	49.0	80.6	322.6	110	176
	16	188	313	73.7	52.2	86.0	344.1	120	192
	20	150	250	92.2	65.3	107.5	430.1	120	192
	25	120	200	114.0	80.8	133.0	532.0	110	176
	32	94	156	145.9	103.4	170.2	681.0	120	192
	40	75	125	-	127.8	210.6	842.2	110	176
	64	47	78	-	-	-	-	50	80

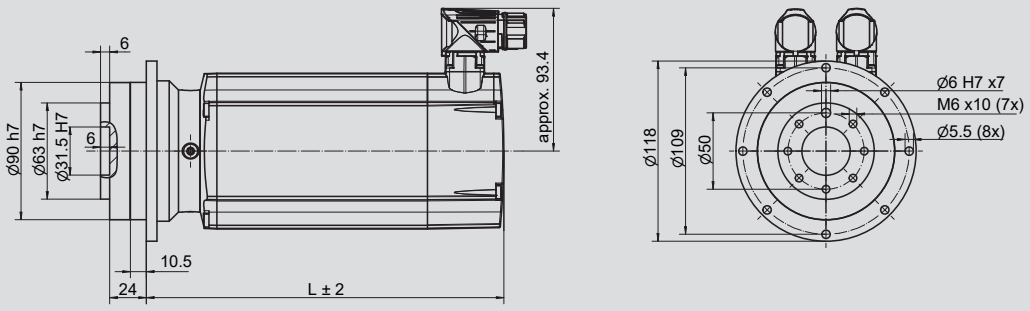
Stall, rated and peak torque - M [Nm]

				HMP10-075-...Fo9[1]				Gear Fo9[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	3	1000	1667	18.8	14.1	22.1	88.2	39	62
	4	750	1250	25.1	18.8	29.4	117.6	52	83
	5	600	1000	31.4	23.5	36.8	147.0	65	104
	7	429	714	43.5	32.6	50.9	203.7	65	104
	8	375	625	49.2	36.9	57.6	230.4	50	80
	10	300	500	-	45.6	71.3	285.0	38	61
2-stage	9	333	556	55.9	41.9	65.5	261.9	117	187
	12	250	417	73.7	55.3	86.4	345.6	120	192
	15	200	333	92.2	69.1	108.0	432.0	110	176
	16	188	313	98.3	73.7	115.2	460.8	120	192
	20	150	250	122.9	92.2	144.0	576.0	120	192
	25	120	200	152.0	114.0	178.1	712.5	110	176
	32	94	156	-	145.9	228.0	912.0	120	192
	40	75	125	-	-	-	-	110	176
	64	47	78	-	-	-	-	50	80

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP10-056-…F09	without brake	1-stage	234.2	8.70	2-stage	251.7	9.20
	with brake		275.7	9.70		293.2	10.20
HMP10-075-…F09	without brake		259.2	10.05		276.7	10.55
	with brake		300.7	11.05		318.2	11.55

Moment of inertia [4] - J_1 [kg-cm²]

		HMP10-056-…F09		HMP10-075-…F09	
	i	without brake	with brake	without brake	with brake
1-stage	3	5.66E+00	+7.90E-01	7.23E+00	+7.90E-01
	4	5.26E+00		6.83E+00	
	5	5.11E+00		6.68E+00	
	7	4.97E+00		6.54E+00	
	8	4.94E+00		6.51E+00	
	10	4.90E+00		6.47E+00	
2-stage	9	5.16E+00		6.73E+00	
	12	5.12E+00		6.69E+00	
	15	5.10E+00		6.67E+00	
	16	4.96E+00		6.53E+00	
	20	4.92E+00		6.49E+00	
	25	4.91E+00		6.48E+00	
	32	4.87E+00		6.44E+00	
	40	4.87E+00		6.44E+00	
	64	4.87E+00		6.44E+00	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gearrated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP06-007 /-015
Gear V06



Stall, rated and peak torque - M [Nm]

				HMP06-007-...V06[1]				Gear V06[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,6000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,6000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
2-stage	9	333	667	5.2	4.3	6.0	24.2	44	70
	12	250	500	6.9	5.8	8.1	32.3	44	70
	15	200	400	8.6	7.2	10.1	40.3	44	70
	16	188	375	9.1	7.6	10.6	42.6	44	70
	20	150	300	11.4	9.5	13.3	53.2	44	70
	25	120	240	14.3	11.9	16.6	66.5	40	64
	32	94	188	18.2	15.2	21.3	85.1	44	70
	40	75	150	22.8	19.0	26.6	106.4	40	64
	64	47	94	34.9	29.1	40.8	163.1	18	29

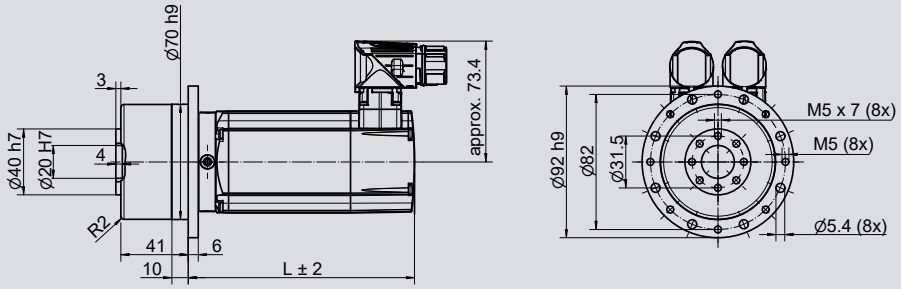
Stall, rated and peak torque - M [Nm]

				HMP06-015-...V06[1]				Gear V06[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,6000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,6000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
2-stage	9	333	667	10.4	7.8	13.0	51.8	44	70
	12	250	500	13.8	10.4	17.3	69.1	44	70
	15	200	400	17.3	13.0	21.6	86.4	44	70
	16	188	375	18.2	13.7	22.8	91.2	44	70
	20	150	300	22.8	17.1	28.5	114.0	44	70
	25	120	240	28.5	21.4	35.6	142.5	40	64
	32	94	188	36.5	27.4	45.6	182.4	44	70
	40	75	150	45.6	34.2	57.0	228.0	40	64
	64	47	94	-	-	-	-	18	29

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP06-007-…V06	without brake	1-stage	-	-	2-stage	137.5	2.65
	with brake		-	-		171.5	3.00
HMP06-015-…V06	without brake		-	-		167.5	3.20
	with brake		-	-		201.5	3.55

Moment of inertia [4] - J_1 [kg-cm²]

		HMP06-007-…V06		HMP06-015-…V06	
	i	without brake	with brake	without brake	with brake
1-stage	-	-	+9.90E-02	-	+9.90E-02
	-	-		-	
	-	-		-	
	-	-		-	
	-	-		-	
	-	-		-	
2-stage	9	2.91E-01		4.84E-01	
	12	2.83E-01		4.76E-01	
	15	2.40E-01		4.33E-01	
	16	2.48E-01		4.41E-01	
	20	2.37E-01		4.30E-01	
	25	2.36E-01		4.29E-01	
	32	2.26E-01		4.19E-01	
	40	2.26E-01		4.19E-01	
	64	2.25E-01		4.18E-01	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gearrated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP08-028 /-035
Gear V06



Stall, rated and peak torque - M [Nm]

				HMP08-028-...V06[1]				Gear V06[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5500\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5500\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
2-stage	9	333	611	20.7	14.7	24.2	96.8	44	70
	12	250	458	27.6	19.6	32.3	129.0	44	70
	15	200	367	34.6	24.5	40.3	161.3	44	70
	16	188	344	36.5	25.8	42.6	170.2	44	70
	20	150	275	45.6	32.3	53.2	212.8	44	70
	25	120	220	57.0	40.4	66.5	266.0	40	64
	32	94	172	-	51.7	85.1	340.5	44	70
	40	75	138	-	-	-	-	40	64
	64	47	86	-	-	-	-	18	29

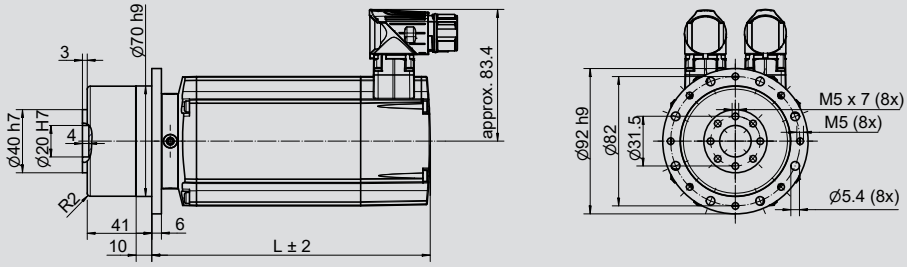
Stall, rated and peak torque - M [Nm]

				HMP08-035-...V06[1]				Gear V06[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5500\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5500\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
2-stage	9	333	611	27.6	18.1	30.2	121.0	44	70
	12	250	458	36.9	24.2	40.3	161.3	44	70
	15	200	367	46.1	30.2	50.4	201.6	44	70
	16	188	344	48.6	31.9	53.2	212.8	44	70
	20	150	275	60.8	39.9	66.5	266.0	44	70
	25	120	220	-	49.9	83.1	332.5	40	64
	32	94	172	-	63.8	106.4	425.6	44	70
	40	75	138	-	-	-	-	40	64
	64	47	86	-	-	-	-	18	29

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP08-028-…V06	without brake	1-stage	-	-	2-stage	176.3	4.40
	with brake		-	-		218.3	5.05
HMP08-035-…V06	without brake		-	-		196.3	5.05
	with brake		-	-		238.3	5.70

Moment of inertia [4] - J_1 [kg-cm²]

		HMP08-028-…V06		HMP08-035-…V06	
	i	without brake	with brake	without brake	with brake
1-stage	-	-	+2.80E-01	-	+2.80E-01
	-	-		-	
	-	-		-	
	-	-		-	
	-	-		-	
	-	-		-	
2-stage	9	1.47E+00		2.00E+00	
	12	1.46E+00		1.99E+00	
	15	1.42E+00		1.95E+00	
	16	1.43E+00		1.96E+00	
	20	1.42E+00		1.95E+00	
	25	1.42E+00		1.95E+00	
	32	1.41E+00		1.94E+00	
	40	1.41E+00		1.94E+00	
	64	1.41E+00		1.94E+00	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gearrated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP08-028 /-035
Gear Vog



Stall, rated and peak torque - M [Nm]

				HMP08-028-...Vog[1]				Gear Vog[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5500\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5500\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
2-stage	9	333	611	21.0	14.8	24.4	97.8	117	187
	12	250	458	27.6	19.6	32.3	129.0	120	192
	15	200	367	34.6	24.5	40.3	161.3	110	176
	16	188	344	36.9	26.1	43.0	172.0	120	192
	20	150	275	46.1	32.6	53.8	215.0	120	192
	25	120	220	57.6	40.8	67.2	268.8	110	176
	32	94	172	73.7	52.2	86.0	344.1	120	192
	40	75	138	91.2	64.6	106.4	425.6	110	176
	64	47	86	142.8	101.2	166.7	666.6	50	80

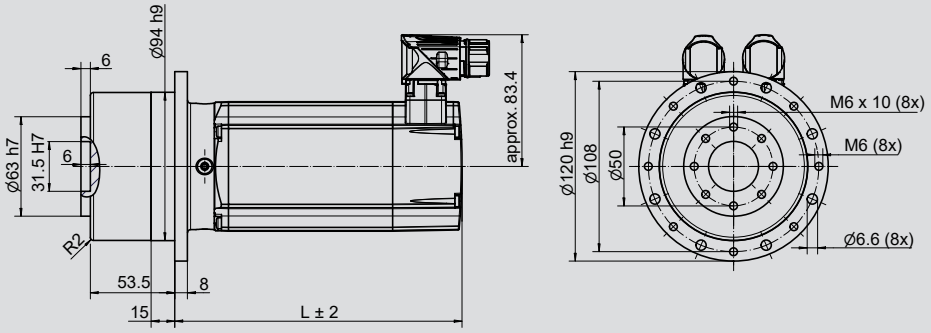
Stall, rated and peak torque - M [Nm]

				HMP08-035-...Vog[1]				Gear Vog[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5500\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5500\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
2-stage	9	333	611	27.9	18.3	30.6	122.2	117	187
	12	250	458	36.9	24.2	40.3	161.3	120	192
	15	200	367	46.1	30.2	50.4	201.6	110	176
	16	188	344	49.2	32.3	53.8	215.0	120	192
	20	150	275	61.4	40.3	67.2	268.8	120	192
	25	120	220	76.8	50.4	84.0	336.0	110	176
	32	94	172	98.3	64.5	107.5	430.1	120	192
	40	75	138	121.6	79.8	133.0	532.0	110	176
	64	47	86	-	-	-	-	50	80

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP08-028-…V09	without brake	1-stage	-	-	2-stage	182.0	6.00
	with brake		-	-		224.0	6.65
HMP08-035-…V09	without brake		-	-		202.0	6.65
	with brake		-	-		244.0	7.30

Moment of inertia [4] - J_1 [kg-cm²]

		HMP08-028-…V09		HMP08-035-…V09	
	i	without brake	with brake	without brake	with brake
1-stage	-	-	+2.80E-01	-	+2.80E-01
	-	-		-	
	-	-		-	
	-	-		-	
	-	-		-	
	-	-		-	
2-stage	9	1.73E+00		2.26E+00	
	12	1.69E+00		2.22E+00	
	15	1.67E+00		2.20E+00	
	16	1.53E+00		2.06E+00	
	20	1.48E+00		2.01E+00	
	25	1.47E+00		2.00E+00	
	32	1.43E+00		1.96E+00	
	40	1.43E+00		1.96E+00	
	64	1.43E+00		1.96E+00	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gearrated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP10-056 /-075
Gear V09



Stall, rated and peak torque - M [Nm]

				HMP10-056-...V09[1]				Gear V09[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
2-stage	9	333	556	41.9	29.7	48.9	195.6	117	187
	12	250	417	55.3	39.2	64.5	258.0	120	192
	15	200	333	69.1	49.0	80.6	322.6	110	176
	16	188	313	73.7	52.2	86.0	344.1	120	192
	20	150	250	92.2	65.3	107.5	430.1	120	192
	25	120	200	115.2	81.6	134.4	537.6	110	176
	32	94	156	147.5	104.4	172.0	688.1	120	192
	40	75	125	-	129.2	212.8	851.2	110	176
	64	47	78	-	-	-	-	50	80

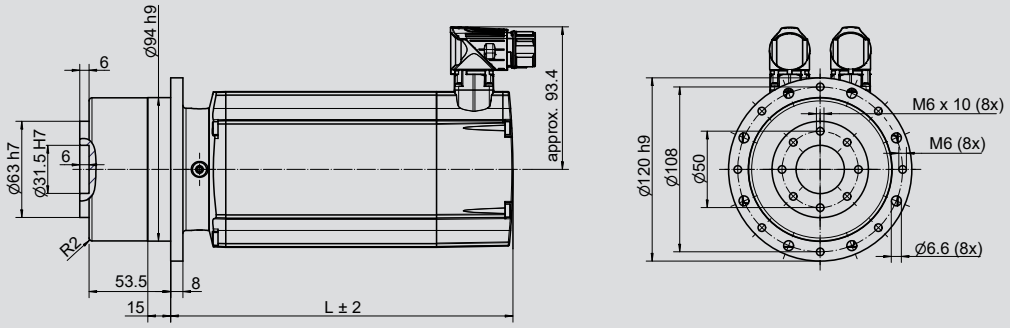
Stall, rated and peak torque - M [Nm]

				HMP10-075-...V09[1]				Gear V09[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
2-stage	9	333	556	55.9	41.9	65.5	261.9	117	187
	12	250	417	73.7	55.3	86.4	345.6	120	192
	15	200	333	92.2	69.1	108.0	432.0	110	176
	16	188	313	98.3	73.7	115.2	460.8	120	192
	20	150	250	122.9	92.2	144.0	576.0	120	192
	25	120	200	153.6	115.2	180.0	720.0	110	176
	32	94	156	-	147.5	230.4	921.6	120	192
	40	75	125	-	-	-	-	110	176
	64	47	78	-	-	-	-	50	80

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP10-056-…V09	without brake	1-stage	-	-	2-stage	224.2	9.20
	with brake		-	-		265.7	10.20
HMP10-075-…V09	without brake		-	-		249.2	10.55
	with brake		-	-		290.7	11.55

Moment of inertia [4] - J_1 [kg-cm²]

		HMP10-056-…V09		HMP10-075-…V09	
	i	without brake	with brake	without brake	with brake
1-stage	-	-	+7.90E-01	-	+7.90E-01
	-	-		-	
	-	-		-	
	-	-		-	
	-	-		-	
	-	-		-	
2-stage	9	5.17E+00		6.74E+00	
	12	5.13E+00		6.70E+00	
	15	5.11E+00		6.68E+00	
	16	4.97E+00		6.54E+00	
	20	4.92E+00		6.49E+00	
	25	4.91E+00		6.48E+00	
	32	4.87E+00		6.44E+00	
	40	4.87E+00		6.44E+00	
	64	4.87E+00		6.44E+00	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gearrated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP10-056 /-075
Gear V10



Stall, rated and peak torque - M [Nm]

				HMP10-056-...V10[1]				Gear V10[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
2-stage	9	333	556	41.9	29.7	48.9	195.6	210	336
	12	250	417	55.3	39.2	64.5	258.0	260	416
	15	200	333	69.1	49.0	80.6	322.6	230	368
	16	188	313	73.7	52.2	86.0	344.1	260	416
	20	150	250	92.2	65.3	107.5	430.1	260	416
	25	120	200	115.2	81.6	134.4	537.6	230	368
	32	94	156	147.5	104.4	172.0	688.1	260	416
	40	75	125	184.3	130.6	215.0	860.2	230	368
	64	47	78	291.8	206.7	340.5	1361.9	120	192

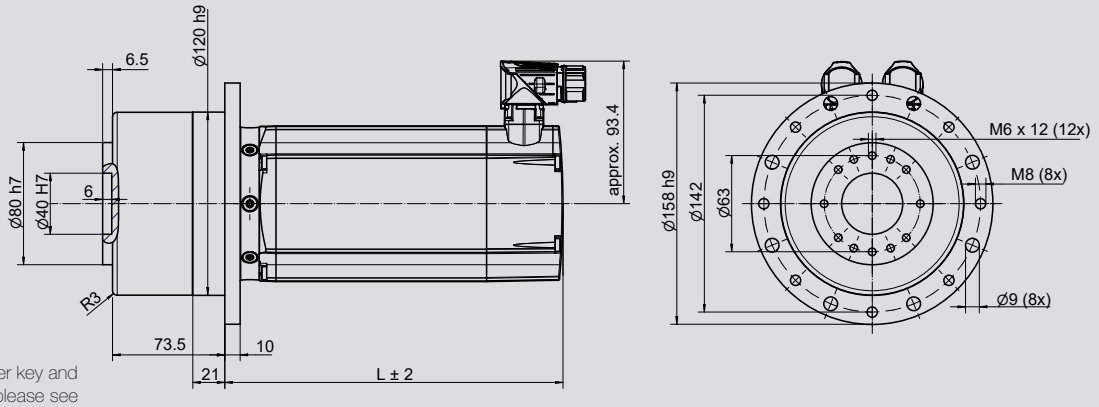
Stall, rated and peak torque - M [Nm]

				HMP10-075-...V10[1]				Gear V10[2]	
	i	$n_{out,3000\ rpm}$[3]	$n_{out,5000\ rpm}$[3]	$M_{n,3000\ rpm}$	$M_{n,5000\ rpm}$	M_o	M_{max}	$M_{G,n}$	$M_{G,max}$
1-stage	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
2-stage	9	333	556	55.9	41.9	65.5	261.9	210	336
	12	250	417	73.7	55.3	86.4	345.6	260	416
	15	200	333	92.2	69.1	108.0	432.0	230	368
	16	188	313	98.3	73.7	115.2	460.8	260	416
	20	150	250	122.9	92.2	144.0	576.0	260	416
	25	120	200	153.6	115.2	180.0	720.0	230	368
	32	94	156	196.6	147.5	230.4	921.6	260	416
	40	75	125	245.8	184.3	288.0	1152.0	230	368
	64	47	78	-	-	-	-	120	192

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP10-056-…V10	without brake	1-stage	-	-	2-stage	221.5	13.40
	with brake		-	-		263.0	14.40
HMP10-075-…V10	without brake		-	-		246.5	14.75
	with brake		-	-		288.0	15.75

Moment of inertia [4] - J_1 [kg-cm²]

		HMP10-056-…V10		HMP10-075-…V10	
	i	without brake	with brake	without brake	with brake
1-stage	-	-	+7.90E-01	-	+7.90E-01
	-	-		-	
	-	-		-	
	-	-		-	
	-	-		-	
	-	-		-	
2-stage	9	5.96E+00		7.53E+00	
	12	5.83E+00		7.40E+00	
	15	5.78E+00		7.35E+00	
	16	5.32E+00		6.89E+00	
	20	5.13E+00		6.70E+00	
	25	5.11E+00		6.68E+00	
	32	4.95E+00		6.52E+00	
	40	4.94E+00		6.51E+00	
	64	4.93E+00		6.50E+00	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gearrated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP13-055 /-091
Gear V10



Stall, rated and peak torque - M [Nm]

				HMP13-055-...V10[1]				Gear V10[2]	
	i	$n_{out,\ 2000\ rpm}$[3]	$n_{out,\ 3600\ rpm}$[3]	$M_{n,\ 2000\ rpm}$	$M_{n,\ 3600\ rpm}$	M_o	M_{max}	$M_{G,\ n}$	$M_{G,\ max}$
1-stage	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
2-stage	9	222	400	41.9	34.9	48.0	192.1	210	336
	12	167	300	55.3	46.1	63.4	253.4	260	416
	15	133	240	69.1	57.6	79.2	316.8	230	368
	16	125	225	73.7	61.4	84.5	337.9	260	416
	20	100	180	92.2	76.8	105.6	422.4	260	416
	25	80	144	115.2	96.0	132.0	528.0	230	368
	32	63	113	147.5	122.9	169.0	675.8	260	416
	40	50	90	184.3	153.6	211.2	844.8	230	368
	64	31	56	-	-	-	-	120	192

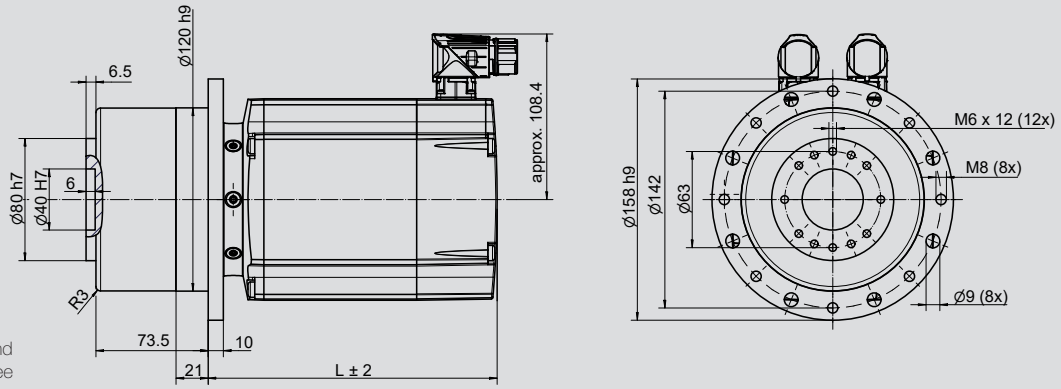
Stall, rated and peak torque - M [Nm]

				HMP13-091-...V10[1]				Gear V10[2]	
	i	$n_{out,\ 2000\ rpm}$[3]	$n_{out,\ 3600\ rpm}$[3]	$M_{n,\ 2000\ rpm}$	$M_{n,\ 3600\ rpm}$	M_o	M_{max}	$M_{G,\ n}$	$M_{G,\ max}$
1-stage	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
2-stage	9	222	400	62.9	52.4	79.4	317.8	210	336
	12	167	300	82.9	69.1	104.8	419.3	260	416
	15	133	240	103.7	86.4	131.0	524.2	230	368
	16	125	225	110.6	92.2	139.8	559.1	260	416
	20	100	180	138.2	115.2	174.7	698.9	260	416
	25	80	144	172.8	144.0	218.4	873.6	230	368
	32	63	113	221.2	184.3	279.6	1118.2	260	416
	40	50	90	276.5	230.4	349.4	1397.8	230	368
	64	31	56	-	-	-	-	120	192

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP13-055-…V10	without brake	1-stage	-	-	2-stage	189.3	14.00
	with brake		-	-		219.3	15.00
HMP13-091-…V10	without brake		-	-		204.3	15.60
	with brake		-	-		234.3	16.40

Moment of inertia [4] - J_1 [kg-cm²]

		HMP13-055-…V10		HMP13-091-…V10	
	i	without brake	with brake	without brake	with brake
1-stage	-	-	+8.00E-01	-	+8.00E-01
	-	-		-	
	-	-		-	
	-	-		-	
	-	-		-	
	-	-		-	
2-stage	9	1.09E+01		1.51E+01	
	12	1.08E+01		1.50E+01	
	15	1.08E+01		1.49E+01	
	16	1.03E+01		1.45E+01	
	20	1.01E+01		1.43E+01	
	25	1.01E+01		1.43E+01	
	32	9.93E+00		1.41E+01	
	40	9.92E+00		1.41E+01	
	64	9.91E+00		1.41E+01	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gearrated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Motor type HMP13-123 /-185
Gear V10



Stall, rated and peak torque - M [Nm]

				HMP13-123-...V10[1]				Gear V10[2]	
	i	$n_{out,\ 2000\ rpm}$[3]	$n_{out,\ 3600\ rpm}$[3]	$M_{n,\ 2000\ rpm}$	$M_{n,\ 3600\ rpm}$	M_o	M_{max}	$M_{G,\ n}$	$M_{G,\ max}$
1-stage	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
2-stage	9	222	400	83.8	69.8	107.4	429.5	210	336
	12	167	300	110.6	92.2	141.7	566.8	260	416
	15	133	240	138.2	115.2	177.1	708.5	230	368
	16	125	225	147.5	122.9	188.9	755.7	260	416
	20	100	180	184.3	153.6	236.2	944.6	260	416
	25	80	144	230.4	192.0	295.2	1180.8	230	368
	32	63	113	294.9	245.8	377.9	1511.4	260	416
	40	50	90	-	307.2	472.3	1889.3	230	368
	64	31	56	-	-	-	-	120	192

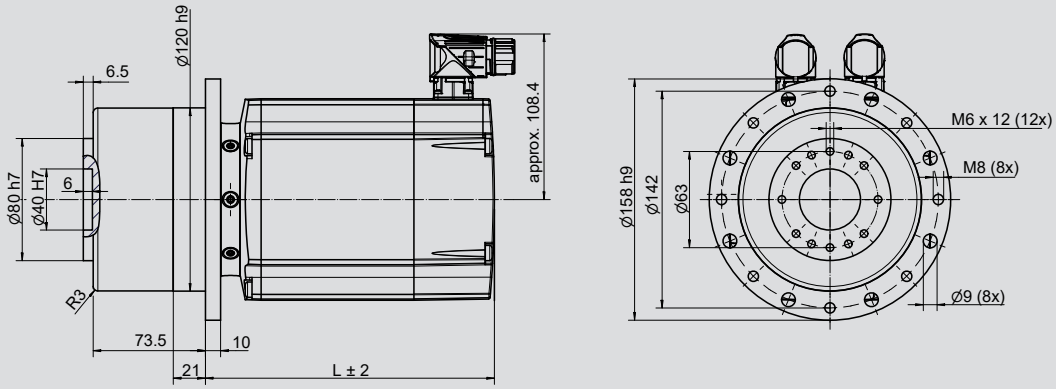
Stall, rated and peak torque - M [Nm]

				HMP13-185-...V10[1]				Gear V10[2]	
	i	$n_{out,\ 2000\ rpm}$[3]	$n_{out,\ 3600\ rpm}$[3]	$M_{n,\ 2000\ rpm}$	$M_{n,\ 3600\ rpm}$	M_o	M_{max}	$M_{G,\ n}$	$M_{G,\ max}$
1-stage	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
2-stage	9	222	400	125.7	87.3	161.5	646.0	210	336
	12	167	300	165.9	115.2	213.1	852.5	260	416
	15	133	240	207.4	144.0	266.4	1065.6	230	368
	16	125	225	221.2	153.6	284.2	1136.6	260	416
	20	100	180	276.5	192.0	355.2	1420.8	260	416
	25	80	144	-	240.0	444.0	1776.0	230	368
	32	63	113	-	307.2	568.3	2273.3	260	416
	40	50	90	-	-	-	-	230	368
	64	31	56	-	-	-	-	120	192

We refer to pages 4 and 5 to compile the type code correctly.

When selecting the drive, please note that your required application torques must not exceed the corresponding values of either the motor-gear combination or the gear alone listed in the table. The respective lower value of combination or gear unit alone is the limiting value.

Dimensions



Details feather key and center hole please see page 76

Motor type		Stage	L [mm]	m [kg]	Stage	L [mm]	m [kg]
HMP13-123-…V10	without brake	1-stage	-	-	2-stage	229.3	17.70
	with brake		-	-		264.5	19.20
HMP13-185-…V10	without brake		-	-		274.3	21.80
	with brake		-	-		309.5	23.40

Moment of inertia [4] - J_1 [kg-cm²]

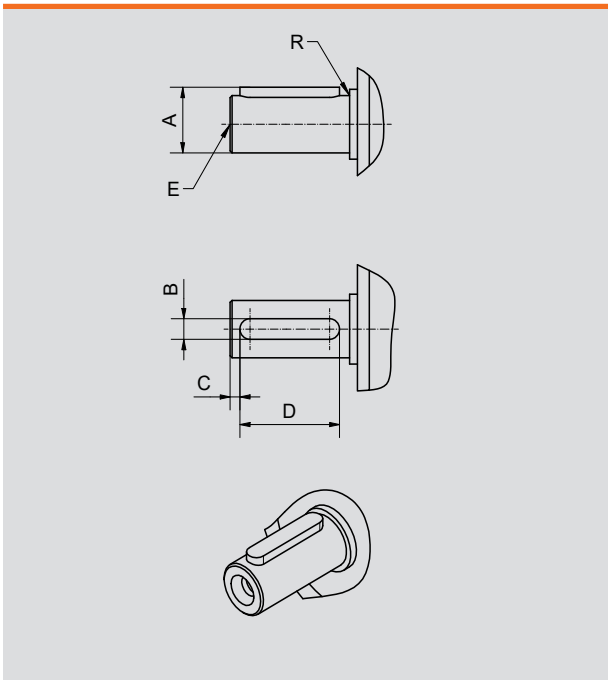
		HMP13-123-…V10		HMP13-185-…V10	
	i	without brake	with brake	without brake	with brake
1-stage	-	-	+2.00E-00	-	+2.00E-00
	-	-		-	
	-	-		-	
	-	-		-	
	-	-		-	
	-	-		-	
2-stage	9	2.22E+01		3.49E+01	
	12	2.21E+01		3.48E+01	
	15	2.20E+01		3.47E+01	
	16	2.16E+01		3.43E+01	
	20	2.14E+01		3.41E+01	
	25	2.14E+01		3.41E+01	
	32	2.12E+01		3.39E+01	
	40	2.12E+01		3.39E+01	
	64	2.12E+01		3.39E+01	

1) Data calculated with a gear efficiency grade defined at n_n=1000 rpm and the gearrated torque and a reference temperature of 70°C.
2) Data refer to an output shaft speed of n_{out}=100 rpm and an application factor Ka=1 as well as S1 operating mode.
3) Observe the notes on the average thermal input speed of the gear in chapter „Technical data and additional information“. Permissible for S1 operation and rated torque, exept listed gear ratios in the following table. Application-specific design is required.
4) Mass moments of inertia incl. gear and motor refer to the motor output shaft (additionally with brake by summation of the specified value).

Overview output shaft and feather key

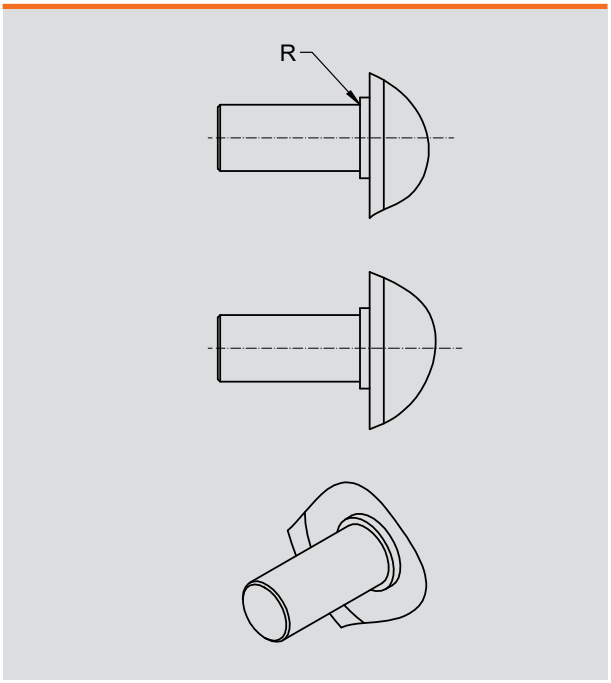
Option drive - with feather key

Feather keys according to DIN6885, Form A + Centering hole according to DIN332, Form DR



Option drive - without feather key

Design with smooth shaft and without centering hole



Gear type	Feather key				E (center hole according to DIN 332, form DR)	Max. Radius R
	A	B	C	D		
E04	11.2	3h9	2.5	18	M3 x 9	0.5
E06	16	5h9	2.5	25	M5 x 12.5	0.6
E07	18	5h9	4	20	M5 x 12.5	1.0
E08	22.5	6h9	4	28	M6 x 16	1.0
E09	22.5	6h9	4	28	M6 x 16	1.2
E10	28	8h9	5	40	M10 x 22	1.2
P05	13.5	4h9	2	14	M4 x 10	0.5
P07	18	5h9	2	25	M5 x 12.5	1.0
P09	24.5	6h9	2	32	M8 x 19	1.2
H06	18	5h9	2	25	M5 x 12.5	1.0
H08	24.5	6h9	4	28	M8 x 19	1.0

Option angular gearbox with direct mounting



Angular gearbox stage for HeiMotion Servo modular system

The angular gear stage is available in two transmission ratios (i=1 and i=2). These can be combined with the Heidrive planetary gears from the HMPG and HMDG series in any order, resulting in up to 120 different combinations.

Due to the ratio i=2 in the angle, a reduction to a 1-stage planetary gear at the output can be achieved in many applications, which lowers the costs and space requirements significantly.

The angle gearbox is made of a lightweight die-cast aluminum body and stands out with its thermally optimized and compact design. In addition to its efficiency-optimized bevel gears with low noise emission, it also offers a reduced torsional backlash. The gear units are maintenance-free due to a lifetime lubrication with grease.
The specifications of the bevel gear may differ from those of the gearmotors.



Option Angular gear with direct mounting

Order code

Order designation: HMP06-015-320-30-BPR1PY17ED616

Gear type*

Economy series	→ E
Powerful economy	→ P
Heavy duty	→ H
Flange output	→ F[1)]
Vehicle optimized	→ V[1),2)]

Mounting variant Angular gear

V1(i=1)	A
V1(i=2)	B
V2(i=1)	C
V2(i=2)	D
V3(i=1)	E
V3(i=2)	F
V4(i=1)	G
V4(i=2)	H

Gear size*

40 mm	→ 4
50 mm	→ 5
60 mm	→ 6
60/70 mm	→ 7
80 mm	→ 8
80/90 mm	→ 9

Complete ratio

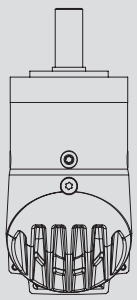
i_{ges}	Winkel i=1 (Variante A,C,E,G)	Winkel i=2 (Variante B,D,F,H)
03	x[3)]	-
04	x[3)]	-
05	x[3)]	-
06	-	x[3)]
07	x[3)]	-
08	-	x[3)]
09	x	-
10	-	x[3)]
12	x	-
14	-	x[3)]
15	x	-
16	x	x[3)]
18	-	x
20	x	x[3)]
24	-	x
25	x	-
30	-	x
32	-	x
40	-	x
50	-	x
64	-	x
80	-	x

Possible combinations

Motor size	Angle size	Planetary gear size
40	40	40
60	60	60
80	60	60
80	80	80
100	80	80

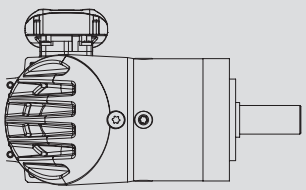
*See also catalog HMXG
1) Combinations of motor size 80 with angle 60 and motor size 100 with angle 80 not possible for technical technical reasons.
2) Mounting variants V1 not possible for mounting reasons.
3) Total gear ratio not possible for gear unit type V, as single-stage V gear units are not available.

Explanation of the order key



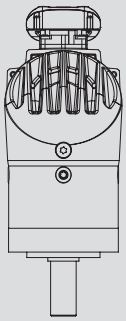
Mounting variant V1 Encryption:

A i=1 Angular toothing
B i=2 Angular toothing



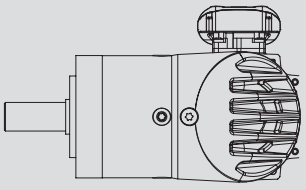
Mounting variant V2 Encryption:

C i=1 Angular toothing
D i=2 Angular toothing



Mounting variant V3 Encryption:

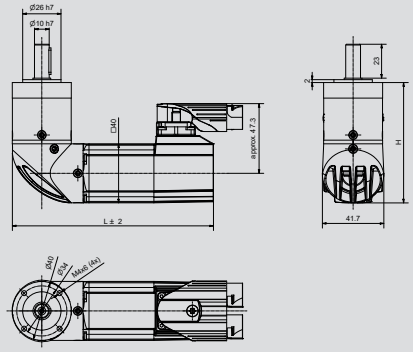
E i=1 Angular toothing
F i=2 Angular toothing



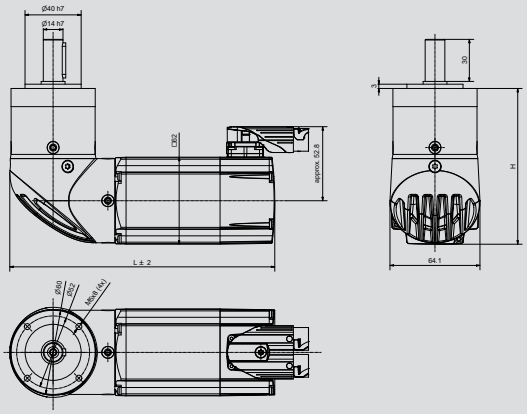
Mounting variant V4 Encryption:

G i=1 Angular toothing
H i=2 Angular toothing

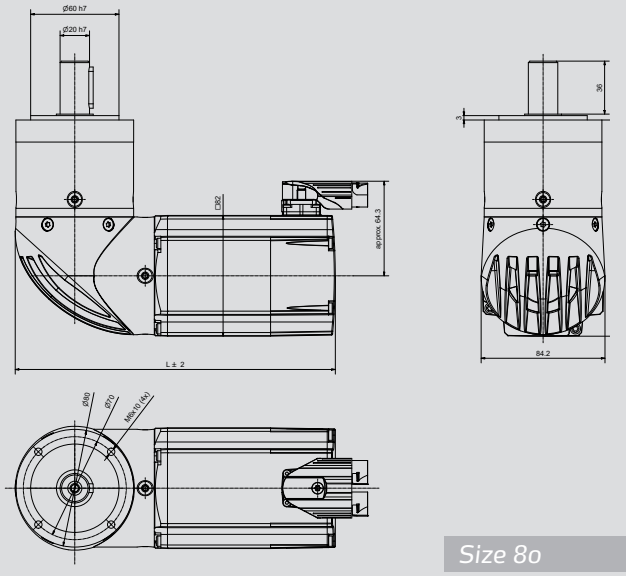
Dimensions - Example of Economy series Gearbox from the HMPG modular system



Size 40



Size 60



Size 80

Motor type		L [mm]		H [mm]
HMP04-002	without brake with brake	136.0 172.0	1-stage: 2-stage:	81.6 94.6
HMP04-004	without brake with brake	161.0 197.0		
HMP06-007	without brake with brake	195.9 229.9	1-stage: 2-stage:	111.0 123.5
HMP06-015	without brake with brake	225.9 259.9		
HMP08-028	without brake with brake	251.5 293.5	1-stage: 2-stage:	146.9 164.4
HMP08-035	without brake with brake	271.5 313.5		

Technical data subject to change! Last changes 09/2026

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