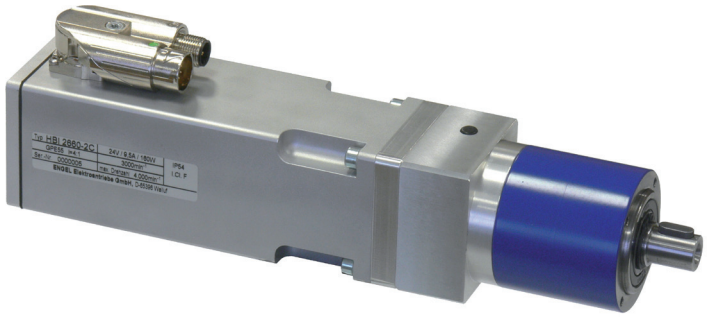
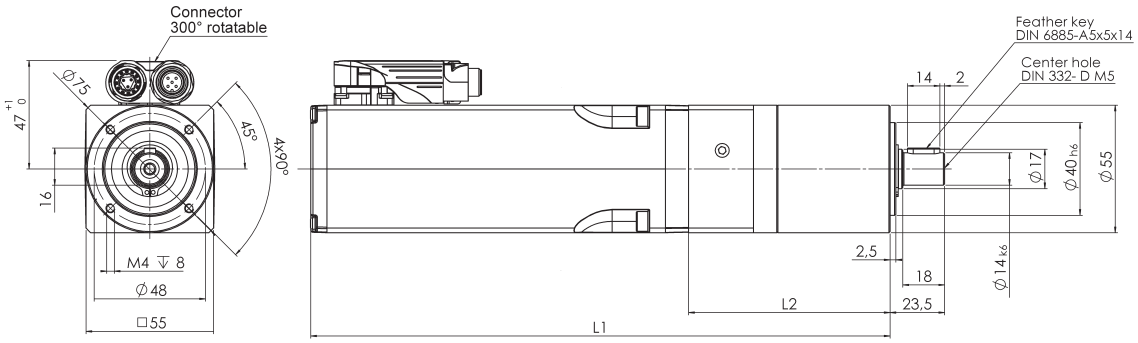
HBI 26 - GPK 55



Integrated Synchronous Servo Drive
with planetary gear

positioning capability
with linear hall sensor system
with or without parking brake

Planetary gear series GPK 55
up to 50 Nm peak torque



Type	Gear Ratio	Dimension L1 *) **)	Dimension L2 **)
HBI2630-GPK55	4 :1 - 9:1(1-stage)	220	87
HBI2630-GPK55	16 :1 - 49:1(1-stage)	239	106
HBI2660-GPK55	4 :1 - 9:1(1-stage)	250	87
HBI2660-GPK55	16 :1 - 49:1(2-stage)	269	106

*) Designs with parking brake respectively 30 mm longer.
**) Shorter designs with teethed motorshaft on request.

type	HBI 26 - GPK 55
series	-
operation acc. to standards VDE 0530	S1
isolation acc. to standards VDE 0530	F
protection acc. to standards VDE 0530	IP 54
kind of connection	flange connector
rotating direction	reversible
bearing (motor and gear box)	ball bearing
gear box	not self-locking
for detailed motor data please refer to data sheet HBI 26	

Motor design:

The HBI 26 - GPK 55 are composed of brushless synchronous servo motors with concentrated winding systems and integrated electronics and a flange-mounted planetary gear. These compact and powerful drives are well suited for peripheral applications in single or multi axes systems operating at selective 24VDC or 48VDC.

The HBI's are operated either by analogue/digital signals or via the CAN interface.

The rotor position is evaluated through a linear hall sensor system. The sinusoidal motor current feed leads to smooth and constant torque development.

The drive's configuration is done via RS232 and a clear and simple to use PC-Software „DserV".

Other gear ratios and special designs on request.

Gearbox design:

The planetary gear GPK 55 splits the torque to be transmitted into three symmetrical parts. In conjunction with the one-piece gear housing and with the combination of output bearing and centring flange it leads to a very compact design.

The connection to the motor shaft is done via a clamping hub and offers easy possibilities of interchanging.

All toothing parts are made of heat-treated high-strength steel.

The gearbox has a synthetic grease lifetime lubrication.

The planet wheels are equipped with needle bearings.

The output shaft is double-supported by roller bearing which leads to high axial and radial load capabilities.

Through the very robust construction the gearboxes series GPK 55 are well suited for industrial applications.

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ENGEL Elektroantriebe GmbH · Am Klingenweg 10 · D-65396 Walluf
Telefon +49 6123 9942-0 · Telefax +49 6123 9942-50 · info@engelantriebe.de · www.engelantriebe.de

HBI 26 - GPK 55

1 nominal voltage	2 nominal speed	3 nominal torque [2]	4 starting torque	5 nominal power [2]	6 nominal current [1]	7 power gear box input	8 nominal speed gear box input	9 ratio gear box	10 efficiency gear box	load limitations gear box			14 max. backlash	15 moment of inertia gear box [3]	16 total weight motor + gear box	17 F_R (allow. radial shaft load) [4]	18 F_A (allow. axial shaft load)
										11 max. power	12 max. continuous torque	13 max. starting torque					
VDC	rpm	Nm	Nm	W	ADC	W	rpm	i	%	W	Nm	Nm	◁ min	kgm²	kg	N	N
HBI 2630 - GPK 55																	
24	750	1,1	1,7	85	5,4	90	3000	4 :1	95	1100	14	25	25	$0{,}00448 \times 10^{-3}$	2,30	800	300
48					2,8												
24	429	1,9	2,9	85	5,4	90	3000	7 :1	95	630	14	25	25	$0{,}00368 \times 10^{-3}$	2,30	800	300
48					2,8												
24	333	2,4	3,8	85	5,4	90	3000	9 :1	95	350	10	15	25	$0{,}00352 \times 10^{-3}$	2,30	800	300
48					2,8												
24	188	4,0	6,7	80	5,4	90	3000	16 :1	90	550	28	50	30	$0{,}00418 \times 10^{-3}$	2,60	800	300
48					2,8												
24	107	7,1	12	80	5,4	90	3000	28 :1	90	315	28	50	30	$0{,}00413 \times 10^{-3}$	2,60	800	300
48					2,8												
24	61	12	21	80	5,4	90	3000	49 :1	90	160	25	50	30	$0{,}00356 \times 10^{-3}$	2,60	800	300
48					2,8												
HBI 2660 - GPK 55																	
24	750	1,9	3,1	150	9,5	160	3000	4 :1	95	1100	14	25	25	$0{,}00448 \times 10^{-3}$	2,65	800	300
48					4,8												
24	429	3,4	5,4	150	9,5	160	3000	7 :1	95	630	14	25	25	$0{,}00368 \times 10^{-3}$	2,65	800	300
48					4,8												
24	333	4,4	6,9	150	9,5	160	3000	9 :1	95	350	10	15	25	$0{,}00352 \times 10^{-3}$	2,65	800	300
48					4,8												
24	188	7,3	12	145	9,5	160	3000	16 :1	90	550	28	50	30	$0{,}00418 \times 10^{-3}$	2,95	800	300
48					4,8												
24	107	13	21	145	9,5	160	3000	28 :1	90	315	28	50	30	$0{,}00413 \times 10^{-3}$	2,95	800	300
48					4,8												
24	61	22	37	145	9,5	160	3000	49 :1	90	160	25	50	30	$0{,}00356 \times 10^{-3}$	2,95	800	300
48					4,8												

Tolerances +/- 10 %.

Columns 3 and 10
Values are valid at operating temperature after run-in period.

Columns 3 and 6
To avoid gearbox overload, it is necessary to limit the motor torque by adjusting the motor current in the integrated electronics (at higher gear ratios).

Columns 4
Values are valid assuming that the drive is loaded with peak torque. For higher ratios it is necessary to limit the peak current in the integrated electronics.

Columns 11, 12 and 13
To avoid gearbox overload do not exceed the mentioned values. For oscillating operation the mentioned limitations must be multiplied by 0,75.

[1] input DC-current

[2] Values are for motor-assembling on a locating face of aluminium of at least 0,15 m² at a thickness of 10 mm or similar metal face.

[3] Values are reduced to motor shaft.

[4] Middle of the shaft-extension.

[5] Motor current must be limited in the integrated electronics to avoid excess of the mentioned value.