

Brushless DC-Servomotors

2 Pole Technology

2,6 mNm
9,9 W

Series 1226 ... B

Values at 22°C and nominal voltage		1226 S	006 B	012 B	024 B	
1	Nominal voltage	U_N	6	12	24	V
2	Terminal resistance, phase-phase	R	2,2	5,45	18,1	Ω
3	Efficiency, max.	η_{max}	71	72	72	%
4	No-load speed	n_0	21 000	27 400	29 700	min^{-1}
5	No-load current, typ. (with shaft \varnothing 1,2 mm)	I_0	0,07	0,054	0,031	A
6	Stall torque	M_H	7,24	8,99	10,2	mNm
7	Friction torque, static	C_0	0,073	0,073	0,073	mNm
8	Friction torque, dynamic	C_V	$5,3 \cdot 10^{-6}$	$5,3 \cdot 10^{-6}$	$5,3 \cdot 10^{-6}$	$\text{mNm}/\text{min}^{-1}$
9	Speed constant	k_n	3 563	2 318	1 237	min^{-1}/V
10	Back-EMF constant	k_E	0,281	0,431	0,808	$\text{mV}/\text{min}^{-1}$
11	Torque constant	k_M	2,68	4,12	7,72	mNm/A
12	Current constant	k_I	0,373	0,243	0,13	A/mNm
13	Slope of n-M curve	$\Delta n / \Delta M$	2 925	3 066	2 902	$\text{min}^{-1}/\text{mNm}$
14	Terminal inductance, phase-phase	L	36	85	307	μH
15	Mechanical time constant	τ_m	4,4	4,7	4,6	ms
16	Rotor inertia	J	0,15	0,15	0,15	gcm^2
17	Angular acceleration	α_{max}	499	621	677	$\cdot 10^3 \text{rad}/\text{s}^2$
18	Thermal resistance	R_{th1} / R_{th2}	7,3 / 36,6			K/W
19	Thermal time constant	τ_{w1} / τ_{w2}	3,2 / 207			s
20	Operating temperature range:					
	– motor		-20 ... +100			$^{\circ}\text{C}$
	– winding, max. permissible		+125			$^{\circ}\text{C}$
21	Shaft bearings		ball bearings, preloaded			
22	Shaft load max.:					
	– with shaft diameter		1,2			mm
	– radial at 10 000 min^{-1} (4 mm from mounting flange)		5			N
	– axial at 10 000 min^{-1} (push only)		2,5			N
	– axial at standstill (push only)		11			N
23	Shaft play:					
	– radial	\leq	0,012			mm
	– axial	$=$	0			mm
24	Housing material		aluminium, black anodized			
25	Mass		13			g
26	Direction of rotation		electronically reversible			
27	Speed up to	n_{max}	79 000			min^{-1}
28	Number of pole pairs		1			
29	Hall sensors		digital			
30	Magnet material		NdFeB			
Rated values for continuous operation						
31	Rated torque	M_N	2,13	1,97	1,99	mNm
32	Rated current (thermal limit)	I_N	0,932	0,573	0,311	A
33	Rated speed	n_N	12 480	19 670	22 140	min^{-1}

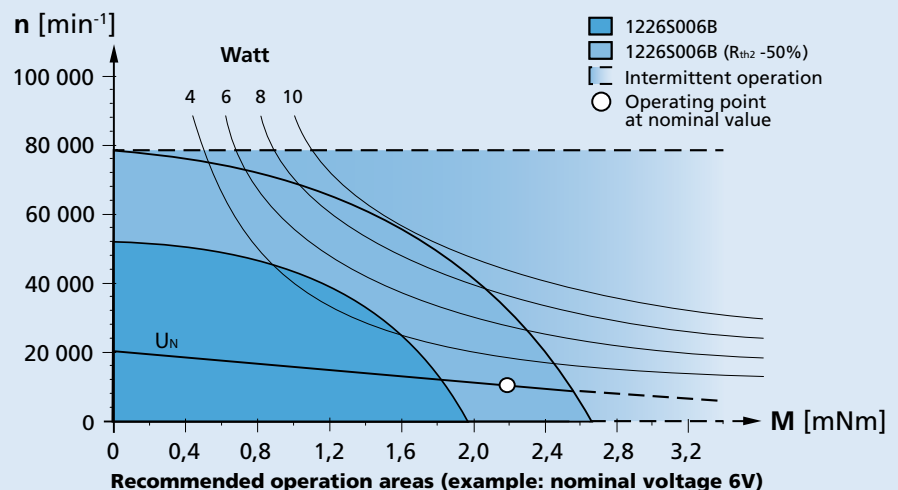
Note: Rated values are calculated with nominal voltage and at a 22°C ambient temperature. The R_{th2} value has been reduced by 25%.

Note:

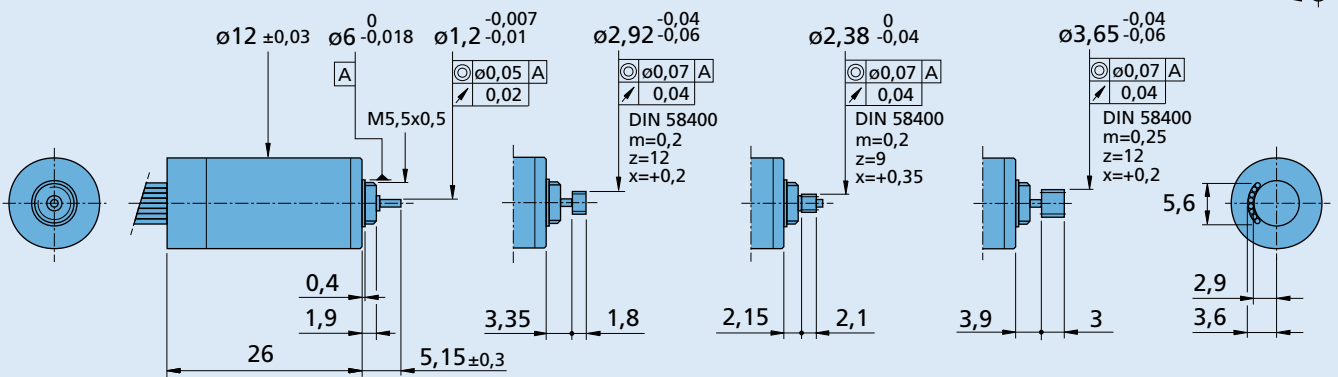
The diagram indicates the recommended speed in relation to the available torque at the output shaft for a given ambient temperature of 22°C.

The diagram shows the motor in a completely insulated as well as thermally coupled condition (R_{th2} 50% reduced).

The nominal voltage (U_N) curve shows the operating point at nominal voltage in the insulated and thermally coupled condition. Any points of operation above the curve at nominal voltage will require a higher operating voltage. Any points below the nominal voltage curve will require less voltage.



Dimensional drawing



1226 S ... B

1226 M ... B
for Gearheads 10/1

1226 E ... B
for Gearheads 12/3, 12/5

1226 A ... B
for Gearheads 12/4

Option, cable and connection information

Example product designation: **1226S006B-K1855**

Option	Type	Description	Connection	
			Function	Colour
K1855	Controller combination	Analog Hall sensors for combination with Speed Controller SC or Motion Controller MC	Phase C	yellow
K179	Bearing lubrication	For vacuum of 10^{-5} Pa @ 22°C	Phase B	orange
			Phase A	brown
			GND	black
			U _{DD} (+5V)	red
			Hall sensor C	grey
			Hall sensor B	blue
			Hall sensor A	green
			Standard cable	
			Single wires, material PTFE	
			8 conductors, AWG 30	
			Length: 80 mm ±3 mm	

Product combination

Precision Gearheads / Lead Screws	Encoders	Drive Electronics	Cables / Accessories
10/1 12/3 12/4 12/5 10L ... SL		SC 1801 P SC 1801 S SC 2402 P SC 2804 S MC 3001 B MC 3001 P MC 3603 S MC 5004 P	To view our large range of accessory parts, please refer to the "Accessories" chapter.