

Solution details for 2250S024BX4 + 22F 4:1

Your comments

Your Requirements

Motor and Gearhead Preselection (optional)

Motor series	All
Gear series	All

Global settings

Ambient temperature	22	°C
Available diameter	100	mm
Available length	400	mm
Available supply voltage	24	V

Advanced settings

Available current	5	A
Efficiency, min.	10	%
RTH2 Reduction		%

Your entries

Load transmission	Direct rotational
Required load speed	1.000 1/min
Required load torque	10 mNm

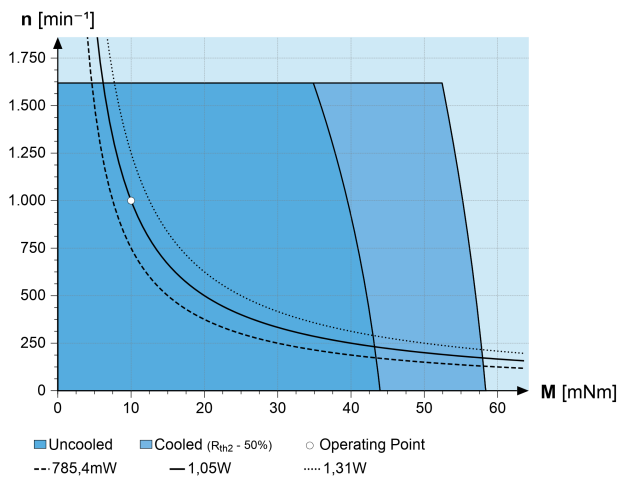
Results of the Load Calculation

Load current	207,5	mA
Load voltage	15,65	V
Motor winding temperature	32,89	°C
Motor housing temperature	31,97	°C
Required motor torque	5,92	mNm
Required motor speed	3.705,88	1/min
Output power	1,05	W
Efficiency (over all)	32,24	%

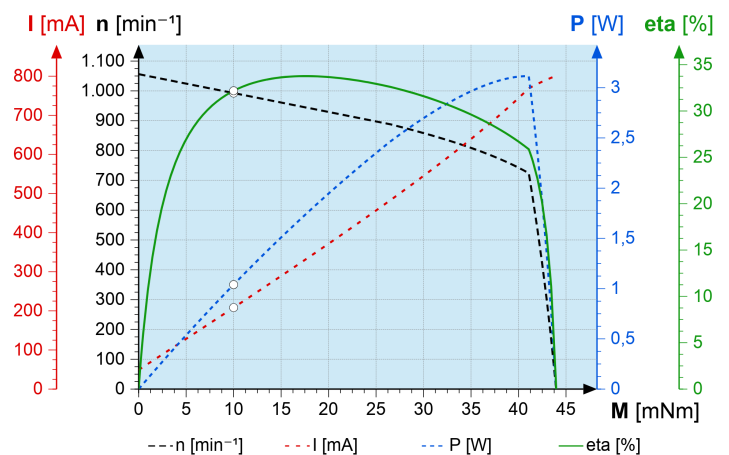
Overall Dimensions

Diameter	22	mm
Length	78,4	mm
Mass	146	g

Operating Area



Characteristic curves



Motor Characteristic Data

Nominal voltage	U_N	24	V
Terminal resistance	R	5,9	Ω
Torque constant	k_M	37,5	mNm/A
No load speed	n_0	6.200	1/min
Stall torque	M_H	151	mNm
Speed constant	k_n	255	1/min/V
Rotor inductance	L	0,25	mH
Slope of n-M curve	$\Delta n/\Delta M$	40,3	1/min/mNm
Rotor inertia	J	10	gcm ²
Mechanical time constant	τ	4,2	ms
RTH2 Reduction		30	%
Efficiency max.	η_{max}	77	%

Gearhead Characteristic Data

Housing material	steel		
Geartrain material	metal		
Backlash at no load	3,5		°
Bearings on output shaft	ball bearings		
Shaft load, max. radial	70		N
Shaft load, max. axial	100		N
Shaft press fit force, max.	100		N
Number of gear stages	1		
Reduction ratio	4		:1
Calculated reduction	3.7058823529412		:1
Continuous torque	400		mNm
Mass	41		g
Efficiency, max.	80		%
Gearshaft diameter	4		mm
Gearhead diameter	22		mm

Contact

Do you have any questions regarding FAULHABER Products, our Services, or other Drive System related issues?
Please contact your local representative or fill out our contact form.
<https://www.faulhaber.com/contact/>

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