

Solution details for 2224R003SR + 22/2 308:1

Your comments

Your Requirements

Motor-, Gearhead- or Encoder preselection (optional)

| | |
|----------------|-----------------|
| Motor series | 2224R003SR |
| Gear series | 22/2 308:1 |
| Encoder series | Without encoder |

Global settings

| | | |
|--------------------------------|-----|----|
| Ambient temperature | 22 | °C |
| Available diameter, max. | 30 | mm |
| Available length, max. | 100 | mm |
| Available supply voltage, max. | 24 | V |

Advanced settings

| | | |
|-------------------------------------|-----------------------------|---|
| Available current, max. | 5 | A |
| Efficiency, min. | 10 | % |
| RTH2 Reduction | Default of motor. See info. | % |
| Encoder: Steps per revolution, min. | 16 | i |

Your entries

| | |
|----------------------|-------------------|
| Load transmission | Direct rotational |
| Required load speed | 10 1/min |
| Required load torque | 0,04 Nm |

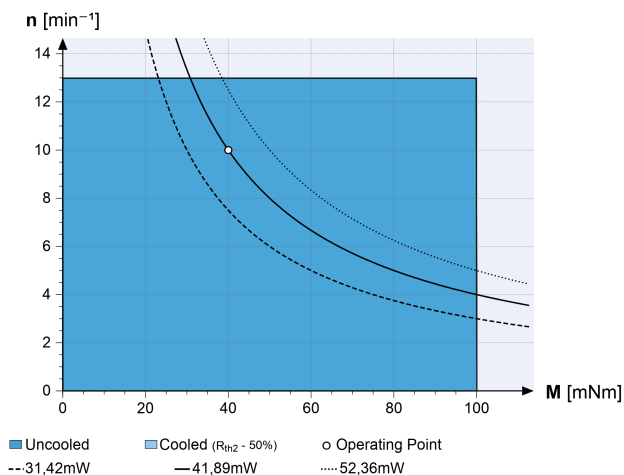
Results of the Load Calculation

| | | |
|---------------------------|----------|-------|
| Load current | 131,5 | mA |
| Load voltage | 1,2 | V |
| Motor winding temperature | 23,73 | °C |
| Motor housing temperature | 23,68 | °C |
| Required motor torque | 0,23 | mNm |
| Required motor speed | 3.079,54 | 1/min |
| Output power | 41,89 | mW |
| Efficiency (over all) | 26,6 | % |

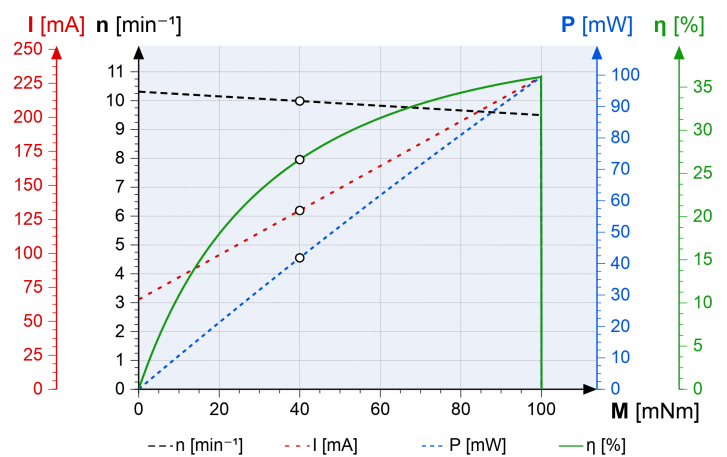
Overall Dimensions

| | | |
|----------|------|----|
| Diameter | 23,8 | mm |
| Length | 59,4 | mm |
| Mass | 128 | g |

Operating Area



Characteristic curves



Motor Characteristic Data

| | | | |
|--------------------------|---------------------|-------|------------------|
| Nominal voltage | U_N | 3 | V |
| Terminal resistance | R | 560 | m Ω |
| Torque constant | k_M | 3,49 | mNm/A |
| No load speed | n_0 | 8.100 | 1/min |
| Stall torque | M_H | 18,5 | mNm |
| Speed constant | k_n | 2.730 | 1/min/V |
| Rotor inductance | L | 11 | μ H |
| Slope of n-M curve | $\Delta n/\Delta M$ | 438 | 1/min/mNm |
| Rotor inertia | J | 2,4 | gcm ² |
| Mechanical time constant | τ | 11 | ms |
| Efficiency max. | η_{max} | 80 | % |

Gearhead Characteristic Data

| | | | |
|-----------------------------|--|--|-----|
| Housing material | metal | | |
| Geartrain material | metal | | |
| Backlash at no load | 3 | | ° |
| Bearings on output shaft | sintered bearings, ball bearings, preloaded | | |
| Shaft load, max. radial | 3 | | N |
| Shaft load, max. axial | 5 | | N |
| Shaft press fit force, max. | 50 | | N |
| Number of gear stages | 6 | | |
| Reduction ratio | 308 | | :1 |
| Calculated reduction | 307.95375192901 | | :1 |
| Continuous torque | 100 | | mNm |
| Mass | 82 | | g |
| Efficiency, max. | 66 | | % |
| Gearshaft diameter | 4 | | mm |
| Gearhead diameter | 23,8 | | 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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