

> RasuunDrive®

BallScrew 10mm - Type 28

Attributes

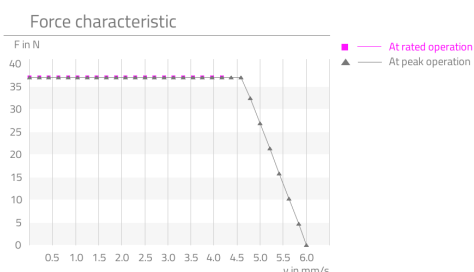
Highlights	Description
<ul style="list-style-type: none">▪ Flexible integration▪ Vacuum suitable lubrication▪ Ball screw▪ High adjustment speed▪ Easy controllability	<p>The RasuunDrive® BallScrew 10mm - type 28 provides an impressive travelrange of up to 15 mm. This is possible thanks to the combination of a DC Motor and with a sturdy, low backlash CoograDrive® gear and a ball screw. The CoograDrive® gear comes with a reduction ratio of 40:1, directly integrated in the bearing of the gear output shaft is the ball screw with a pitch of 1 mm. The output bearing consists of two ball bearings, which are axially preloaded by springs with 21 N and are located between mechanical stops. Additional agreed parameters: Runout spindle nut 10 µm; Runout spindle end 18 µm; Motor current with built-in spindle nut 1,2 %; Burn-in ball screw 1000 cycles.</p>

Technical parameter

The stated values are based on calculations and measurements by Micromotion GmbH, carried out according to the current state of the art. You can find our definitions at www.micromotion-drives.com.

For further information please contact sales@micromotion.de.

P-019



Nr.	Parameter	Symbol	Value	Hint
P-003	Ratio	i	40 : 1	
P-004	Self-locking		yes	
P-005	Travel range	s	15 mm	
P-008	Repeatability unidirectional		0.3 µm	
P-009	Repeatability bidirectional		0.5 µm	
P-014	Lost motion		2.1 µm	
P-015	Backlash		0.926 µm	
P-016	Rated force	F	50 N	
P-017	Peak force	F	50 N	
P-018	Momentary peak force	F	50 N	
P-021	Rated input speed	n	10000 rpm	
P-022	Maximum input speed	n	15000 rpm	
P-023	Rated speed	v	4.16667 $\frac{\text{mm}}{\text{s}}$	
P-024	Maximum speed	v	6.25 $\frac{\text{mm}}{\text{s}}$	
P-034	Lifetime for rated operation		500 h	
P-035	Radial backlash output shaft		0 µm	
P-036	Axial backlash output shaft		0 µm	
P-044	Max. axial load on output shaft (non-operating, impulsive load)	F	50 N	

Technical Supply Specifications: RasunDrive® BallScrew 10mm - Type 28



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Nr.	Parameter	Symbol	Value	Hint
P-055	Moment of inertia	I	1138.14 * 10 ⁻⁴ gcm ²	
P-056	Weight	m	18 g	
P-057	Min. permissible ambient temperature (non-operating)	T	-30 °C	
P-058	Min. permissible ambient temperature (operating)	T	-10 °C	
P-059	Max. permissible ambient temperature (non-operating)	T	85 °C	
P-060	Max. permissible ambient temperature (operating)	T	85 °C	1)

Motor data: DC-Motor 1024 012S K2567 Ball bearing front

(Data are provided by the manufacturer or are based on the data sheets of the manufacturer)

Nr.	Parameter	Symbol	Value	Hint
P-100	Motortype		DC	
P-101	Rated speed of motor	n	7780 rpm	
P-102	Maximum speed of motor	n	15000 rpm	
P-104	Speed constant of motor	Kn	1078 rpm/V	
P-106	Stall torque of motor	T	4.45 mNm	
P-107	Torque constant of motor	Km	8.86 mNm/A	
P-108	No-load current of motor	I	4 mA	
P-110	Max. continuous current of motor	I	180 mA	
P-111	Rated voltage of motor	U	12 V	
P-112	Phase resistance of motor	R	23.7 ohm	
P-113	Inductance of motor	L	0.218 mH	
P-114	Amplitude BEMF of motor	U	0.928 mV/rpm	
P-118	Max. coil temperature of motor	T	85 °C	1)
P-119	Thermal resistance of motor between coil and housing	R _{th1}	16 K/W	
P-120	Thermal resistance of motor between housing and air	R _{th2}	51 K/W	
P-121	Thermal time constant of the coil of the motor	τ _{w1}	6100 ms	
P-122	Thermal time constant of the housing of the motor	τ _{w2}	251000 ms	
P-127	current of motor with built-in spindle nut	I	1.2 %	

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Spindle data: BallScrew – 3mm diameter, 1mm pitch, 15mm stroke, backlash free
(Data are provided by the manufacturer or are based on the data sheets of the manufacturer)

Nr.	Parameter	Symbol	Value	Hint
P-402	Pitch	R	1 mm	
P-407	Burn-in of spindle		1000 cycles	

Material information

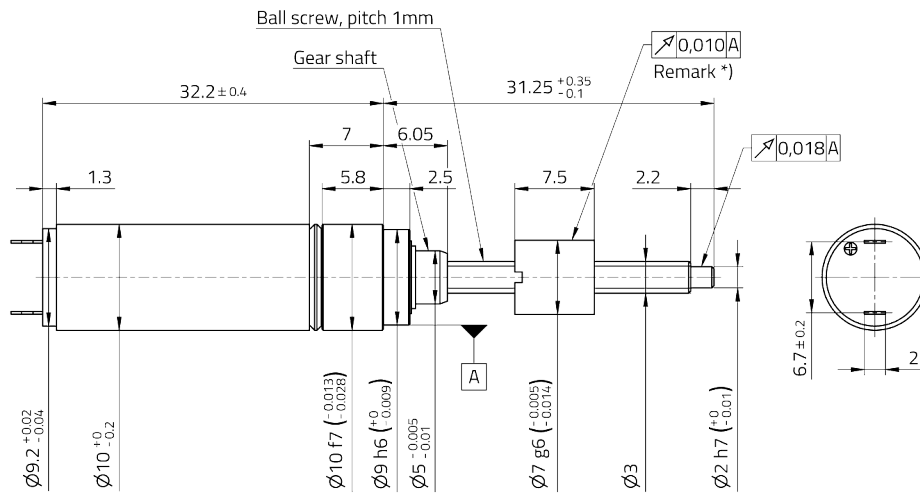
Nr.	Parameter	Symbol	Value	Hint
P-900	RoHS compliant		yes	
P-901	Lubrication of output bearing gearbox		Braycote601EF	
P-903	Lubrication of gear component set		Braycote601EF	
P-905	Lubrication of spindel-nut-system		NSK LGU	
P-908	Material of gear component set		NiFe	
P-909	Material of output bearing gearbox		1.4037 DIN EN	
P-911	Material of bearing motor		stainless steel	
P-912	Material of gearbox output side		1.4305 DIN EN	
P-914	Material of motor housing		Steel, nickel plated	
P-917	Material of spindle		1.4034	

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Technical drawing



*) Runout valid only for the first 1.5 mm of stroke max., starting at end of gear shaft.



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