



## Attributes

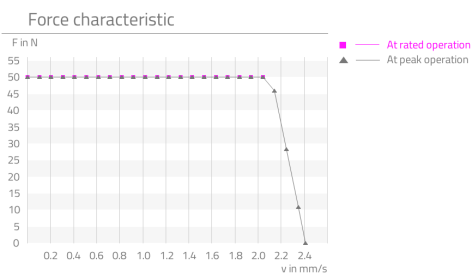
Highlights	Description
<ul style="list-style-type: none"> <li>▪ <b>Flexible integration</b></li> <li>▪ <b>Preloaded ball bearing</b></li> <li>▪ <b>Easy controllability</b></li> <li>▪ <b>Ball screw</b></li> <li>▪ <b>Transmission ratio optimized to torque</b></li> </ul>	<p>The RasuunDrive® BallScrew 10mm - type 7 provides an impressive travelrange of up to 10 mm. This is possible thanks to the combination of a DC Motor, an encoder with 256 Impulses per revolution and with a sturdy, low backlash CoograDrive® gear and a ball screw. The CoograDrive® gear comes with a reduction ratio of 80:1, directly integrated in the bearing of the gear output shaft is the ball screw with a pitch of 1 mm.</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](http://www.micromotion-drives.com).

For further information please contact [sales@micromotion.de](mailto:sales@micromotion.de).

P-019



# Technical Supply Specifications: RasunDrive® BallScrew 10mm - Type 7



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Nr.	Parameter	Symbol	Value	Hint
P-003	Ratio	i	80 : 1	
P-004	Self-locking		yes	
P-005	Travel range	s	10 mm	
P-008	Repeatability unidirectional		0.5 µm	
P-009	Repeatability bidirectional		2 µm	
P-010	Accuracy		20 µm	
P-012	Resolution		0.04883 µm	
P-014	Lost motion		10 µm	
P-015	Backlash		5 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	17000 rpm	
P-023	Rated speed	v	2.08333 mm/s	
P-024	Maximum speed	v	3.54167 mm/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	
P-055	Moment of inertia	I	1438.04 * 10 <sup>-6</sup> gcm <sup>2</sup>	
P-056	Weight	m	23 g	
P-057	Min. permissible ambient temperature (non-operating)	T	-30 °C	
P-058	Min. permissible ambient temperature (operating)	T	-20 °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 1024K 012SR plain bearing

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

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Nr.	Parameter	Symbol	Value	Hint
P-100	Motortype		DC	
P-102	Maximum speed of motor	n	17000 rpm	
P-104	Speed constant of motor	$K_n$	1240 $\frac{\text{rpm}}{\text{V}}$	
P-106	Stall torque of motor	T	2.89 mNm	
P-107	Torque constant of motor	$K_m$	7.7 $\frac{\text{mNm}}{\text{A}}$	
P-108	No-load current of motor	I	4 mA	
P-110	Max. continuous current of motor	I	170 mA	
P-111	Rated voltage of motor	U	12 V	
P-112	Phase resistance of motor	R	31.6 ohm	
P-113	Inductance of motor	L	0.344 mH	
P-114	Amplitude BEMF of motor	U	0.806 mV/rpm	
P-118	Max. coil temperature of motor	T	85 °C	1)
P-119	Thermal resistance of motor between coil and housing	$R_{th1}$	14 $\frac{\text{K}}{\text{W}}$	
P-120	Thermal resistance of motor between housing and air	$R_{th2}$	41 $\frac{\text{K}}{\text{W}}$	
P-121	Thermal time constant of the coil of the motor	$\tau_{w1}$	5000 ms	
P-122	Thermal time constant of the housing of the motor	$\tau_{w2}$	289000 ms	

## Encoder data

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

Nr.	Parameter	Symbol	Value	Hint
P-201	Impulses per revolution of encoder		256	
P-202	Channels of encoder		A, B, I	
P-203	Frequency range of encoder	f	128 kHz	
P-204	Operating voltage of encoder	U	3.3 ±0.3 V	
P-205	Rated current consumption of encoder	I	16 mA	
P-206	Output current of encoder	I	2 mA	
P-207	Signal/phase shifting of encoder		90±45 °	
P-208	Signal build-up/decay time of encoder	t	0.1/0.1	

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Spindle data: Ball screw – 10 mm travel range pitch 1 mm 1112. /1.3.25.34R P5\*  
(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	

## Material information

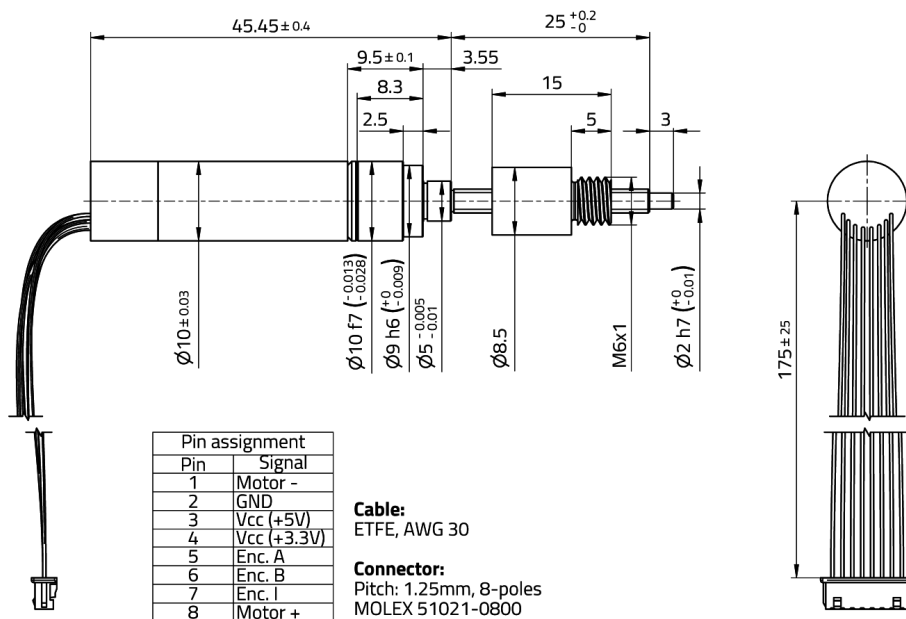
Nr.	Parameter	Symbol	Value	Hint
P-900	RoHS compliant		yes	
P-901	Lubrication of output bearing gearbox		Longtime PD2	
P-903	Lubrication of gear component set		Molykote BR 2 plus	
P-905	Lubrication of spindel-nut-system		Isoflex NBU 15	
P-908	Material of gear component set		NiFe	
P-909	Material of output bearing gearbox		1.4108 DIN EN	
P-911	Material of bearing motor		Sintered bronze	
P-912	Material of gearbox output side		1.4305 DIN EN	
P-914	Material of motor housing		Steel, black-coated	
P-917	Material of spindle		1.4034	

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## Technical drawing



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