

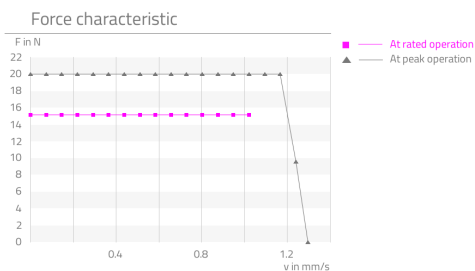


Attributes

Highlights	Description
<ul style="list-style-type: none">▪ Ball screw▪ Integrated limit switches▪ Compact build up▪ Custom designed housing▪ Robust control without feedback system	<p>The RasuunDrive® HighTemp 8mm - type 1 micro linear actuator system is a system with extremely short design that is made possible thanks to a parallel arrangement of linear roller table and gear-spindle motor. As a result, a travel range of 10 mm can be realised with a minimal axial length of 45 mm. The system is driven by a stepper motor with 20 steps per rotation in an open loop control. At the core of the actuator is a zero-backlash MaalonDrive® gear with a reduction ratio of 160:1 that is directly connected to the motor and drives a ball screw with a pitch of 1 mm. Two inductive limit sensors monitor the end positions.</p>

Technical parameter

P-019 Curve measured with 5x nominal voltage and load inertia $6 \cdot 10E-9$ kg/m² in $\frac{1}{4}$ micro steps.



Nr.	Parameter	Symbol	Value	Hint
P-003	Ratio	i	160 : 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		23 µm	
P-012	Resolution		0.3125 µm	
P-014	Lost motion		5 µm	
P-015	Backlash		0 µm	
P-016	Rated force	F	15.1516 N	
P-017	Peak force	F	20 N	
P-018	Momentary peak force	F	20 N	
P-021	Rated input speed	n	10000 rpm	
P-022	Maximum input speed	n	21000 rpm	
P-023	Rated speed	v	1.04167 ^{mm} / _s	
P-024	Maximum speed	v	2.1875 ^{mm} / _s	
P-034	Lifetime for rated operation		1000 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	20 N	
P-055	Moment of inertia	I	282 * 10 ⁻⁴ gcm ²	
P-056	Weight	m	50 g	

Technical Supply Specifications: RasuunDrive® HighTemp 8mm - Type 1



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Nr.	Parameter	Symbol	Value	Hint
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	130 °C	
P-060	Max. permissible ambient temperature (operating)	T	70 °C	

Additional technical data:

- Proximity sensor Pepperl+Fuchs NBB0,6-3M22-E2 sensor cable 2m and motor ribbon cable, AG28, 4 leads, 2m cable outlet axial

Motor data: Stepper AM 0820-2R-A0.225

Nr.	Parameter	Symbol	Value	Hint
P-100	Motortype		Stepper	
P-102	Maximum speed of motor	n	21000 rpm	
P-103	Resonance frequency of motor	f	170 Hz	
P-105	Holding torque of motor (unpowered)	T	0.17 mNm	
P-109	Rated current of motor	I	0.225 mA	
P-111	Rated voltage of motor	U	2 V	
P-112	Phase resistance of motor	R	7.3 ohm	
P-113	Inductance of motor	L	1.4 mH	
P-114	Amplitude BEMF of motor	U	0.267 mV/rpm	
P-115	Full step angle of motor		18 °	
P-116	Angular accuracy of step of motor		±1.8 °	
P-117	Electrical time constant of motor	t	0.21 ms	
P-118	Max. coil temperature of motor	T	130 °C	
P-119	Thermal resistance of motor between coil and housing	R _{th1}	4.1 ^K /W	
P-120	Thermal resistance of motor between housing and air	R _{th2}	65.3 ^K /W	
P-121	Thermal time constant of the coil of the motor	T _{w1}	3500 ms	
P-122	Thermal time constant of the housing of the motor	T _{w2}	160000 ms	
P-123	Insulation voltage of motor	U	200 V	

Data limit switch

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Nr.	Parameter	Symbol	Value	Hint
P-302	Configuration Limit switches		n.c.	

Spindle data: Ball screw MLP-8-SPM0052 – 10 mm travel range

Nr.	Parameter	Symbol	Value	Hint
P-402	Pitch	R	1 mm	

Material information

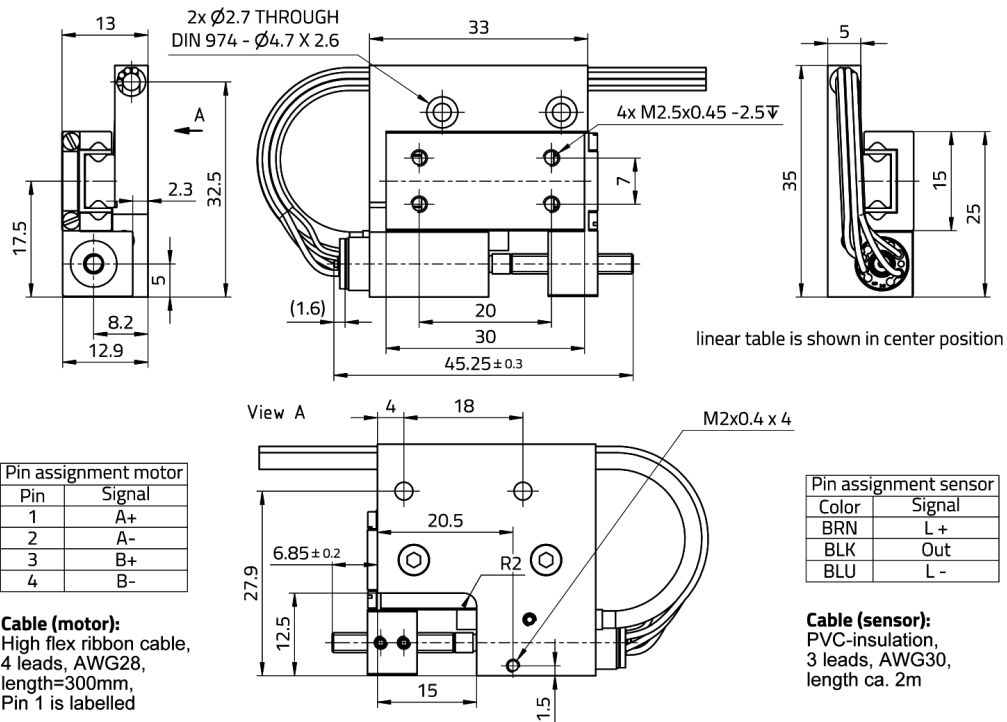
Nr.	Parameter	Symbol	Value	Hint
P-900	RoHS compliant		yes	
P-901	Lubrication of output bearing gearbox		Longtime PD2	
P-903	Lubrication of gear component set		Molykote BR 2 plus	
P-904	Lubrication of bearing motor		Synthetic light ester oil	
P-905	Lubrication of spindel-nut-system		Fomblin GRM60	
P-908	Material of gear component set		NiFe	
P-909	Material of output bearing gearbox		1.4108 DIN EN	
P-911	Material of bearing motor		Stainless steel	
P-912	Material of gearbox output side		1.4305 DIN EN	
P-914	Material of motor housing		Anodized aluminum	
P-917	Material of spindle		100Cr6	

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Technical drawing



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