Technical Supply Specifications:
CoograDrive® ToolFit 10mm - Type 4

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Attributes

Highlights	Description
▪ **Lifetime lubrication** ▪ **High speed** ▪ **High radial load capacity** ▪ **Integrated tool fitting** ▪ **Connecting flange**	The CoograDrive® ToolFit 10mm - type 4 micro positioning system is the ideal solution for highly dynamic applications in which a workpiece is to be gripped via a vacuum. The robust bearing of the output shaft and the ability to use a gripper tool with vacuum directly in the input shaft characterise this micro actuator solution. At the heart of this micro positioning system is a low-backlash CoograDrive® gear with a reduction ratio of 40:1. The flange on the housing allows the micro actuator to be integrated in the existing design easily and in a space-saving manner.

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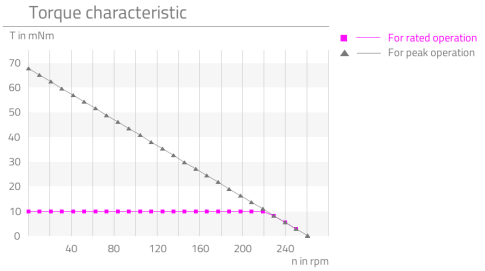
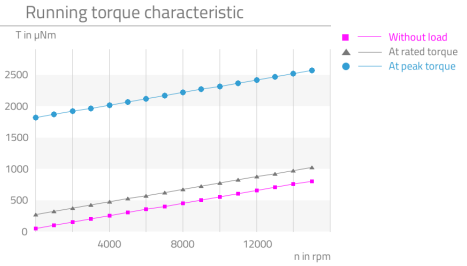
Technical parameter

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



P-029



Nr.	Parameter	Symbol	Value	Hint
P-003	Ratio	i	40 : 1	
P-004	Self-locking		yes	
P-008	Repeatability unidirectional		3 arcmin	
P-009	Repeatability bidirectional		30 arcmin	
P-010	Accuracy		30 arcmin	
P-011	Transmission accuracy		60 arcmin	
P-013	Torsional stiffness		2.50 $^{Nm}/_{rad}$	
P-014	Lost motion		30 arcmin	
P-015	Backlash		20 arcmin	
P-016	Rated torque	T	10 mNm	
P-017	Peak torque	T	80 mNm	
P-018	Momentary peak torque	T	100 mNm	
P-021	Rated input speed	n	10000 rpm	
P-022	Maximum input speed	n	14000 rpm	
P-023	Rated output speed	n	250 rpm	
P-024	Maximum output speed	n	350 rpm	
P-026	No-load starting torque	T	82.5 µNm	
P-027	No-load running torque	T	55 µNm	
P-028	Rated running torque	T	705 µNm	

Nr.	Parameter	Symbol	Value	Hint
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-037	Radial stiffness	c	11.64 N/µm	
P-038	Axial stiffness	c	40 N/µm	
P-039	Max. radial load on output shaft (non-operating, constant load)	F	140 N	
P-040	Max. radial load on output shaft (non-operating, impulsive load)	F	45 N	
P-041	Max. radial load on output shaft (operating, constant load)	F	34 N	
P-042	Max. radial load on output shaft (operating, impulsive load)	F	34 N	
P-043	Max. axial load on output shaft (non-operating, constant	F	150 N	
P-044	Max. axial load on output shaft (non-operating, impulsive load)	F	50 N	
P-045	Max. axial load on output shaft (operating, constant load)	F	380 N	
P-046	Max. axial load on output shaft (operating, impulsive load)	F	127 N	
P-055	Moment of inertia	I	1148.03 * 10^{-4} gcm^2	
P-056	Weight	m	17 g	
P-057	Min. permissible ambient temperature (non-operating)	T	-20 °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	65 °C	
P-061	Tool fitting		Ø3.17G6 – 8 deep	

Motor data: DC-Motor RE 10 12V 1.5W

(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-102	Maximum speed of motor	n	14000 rpm	
P-104	Speed constant of motor	Kn	1060 $^{rpm}/_{V}$	
P-106	Stall torque of motor	T	3.24 mNm	

Nr.	Parameter	Symbol	Value	Hint
P-107	Torque constant of motor	Km	9 $^{mNm}/_{A}$	
P-108	No-load current of motor	I	5.5 mA	
P-110	Max. continuous current of motor	I	176 mA	
P-111	Rated voltage of motor	U	12 V	
P-112	Phase resistance of motor	R	33.3 ohm	
P-113	Inductance of motor	L	0.299 mH	
P-114	Amplitude BEMF of motor	U	0.943 mV/rpm	
P-118	Max. coil temperature of motor	T	85 °C	
P-119	Thermal resistance of motor between coil and housing	R_{th1}	9 $^{K}/_{W}$	
P-120	Thermal resistance of motor between housing and air	R_{th2}	37.5 $^{K}/_{W}$	
P-121	Thermal time constant of the coil of the motor	τ_{w1}	2220 ms	
P-122	Thermal time constant of the housing of the motor	τ_{w2}	135000 ms	

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-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	

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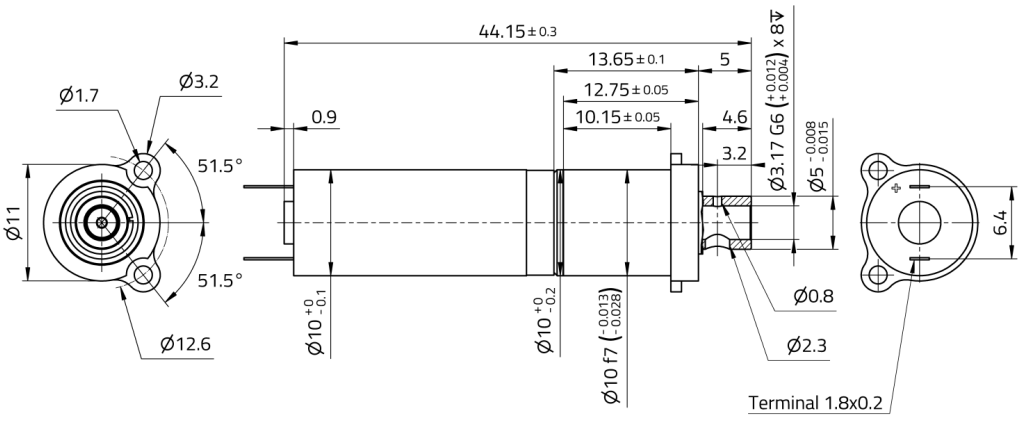
Technical drawing



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