



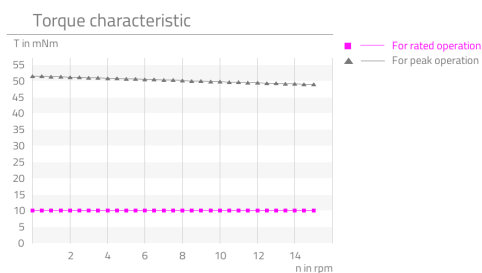
Attributes

Highlights	Description
<ul style="list-style-type: none"> ▪ Vacuum suitable lubrication ▪ Transmission ratio optimized to speed ▪ Robust control without feedback system ▪ Simple integration to the application ▪ Use of high quality materials 	<p>The CoograDrive® UHV 19mm - type 4 micro positioning system, designed for use in ultra high-vacuum environments and lubricated with Fomblin, is characterised by its torque capacity. The positioning system can easily be operated in an open loop control, as it is driven by a stepper motor with 200 steps per rotation. The low-backlash CoograDrive® gear with a reduction ratio of 40:1 is directly connected to the motor and equipped with a preloaded ball bearing on the output side.</p>

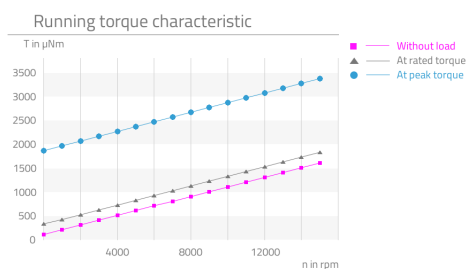
Technical parameter

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



P-029



Technical Supply Specifications: CoograDrive® UHV 19mm - Type 4



Micromotion GmbH, Phone: +49 (0) 6431 – 569 18 – 25, E-mail: sales@micromotion.de

Nr.	Parameter	Symbol	Value	Hint
P-001	Vacuum suitable		ultra high vacuum	
P-003	Ratio	i	40 : 1	
P-004	Self-locking		yes	
P-008	Repeatability unidirectional		4.77 arcmin	
P-009	Repeatability bidirectional		45.405 arcmin	
P-010	Accuracy		30.54 arcmin	
P-011	Transmission accuracy		61.08 arcmin	
P-012	Resolution		0.045 °	
P-013	Torsional stiffness		2.50 ^{Nm} / _{rad}	
P-014	Lost motion		45 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	1000 rpm	
P-022	Maximum input speed	n	1000 rpm	
P-023	Rated output speed	n	25 rpm	
P-024	Maximum output speed	n	25 rpm	
P-026	No-load starting torque	T	165 µNm	
P-027	No-load running torque	T	110 µNm	
P-028	Rated running torque	T	1410 µNm	
P-034	Lifetime for rated operation		300 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	

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Nr.	Parameter	Symbol	Value	Hint
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	$717 * 10^{-4} \text{ gcm}^2$	
P-056	Weight	m	60 g	
P-057	Min. permissible ambient temperature (non-operating)	T	-20 °C	
P-058	Min. permissible ambient temperature (operating)	T	-10 °C	
P-059	Max. permissible ambient temperature (non-operating)	T	150 °C	
P-060	Max. permissible ambient temperature (operating)	T	120 °C	

Motor data: Stepper VSS 19.200.0,6-UHVG-2g5-BC-R

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

Nr.	Parameter	Symbol	Value	Hint
P-100	Motortype		Stepper	
P-102	Maximum speed of motor	n	1000 rpm	
P-105	Holding torque of motor (unpowered)	T	0.9 mNm	
P-109	Rated current of motor	I	600 mA	
P-111	Rated voltage of motor	U	42 V	
P-112	Phase resistance of motor	R	2.1 ohm	
P-113	Inductance of motor	L	0.85 mH	
P-115	Full step angle of motor		1.8 °	
P-116	Angular accuracy of step of motor		±0.09 °	
P-117	Electrical time constant of motor	t	0.367 ms	
P-118	Max. coil temperature of motor	T	300 °C	1)

Material information

Nr.	Parameter	Symbol	Value	Hint
P-900	RoHS compliant		yes	
P-901	Lubrication of output bearing gearbox		FomblinGRM60	
P-903	Lubrication of gear component set		FomblinGRM60	

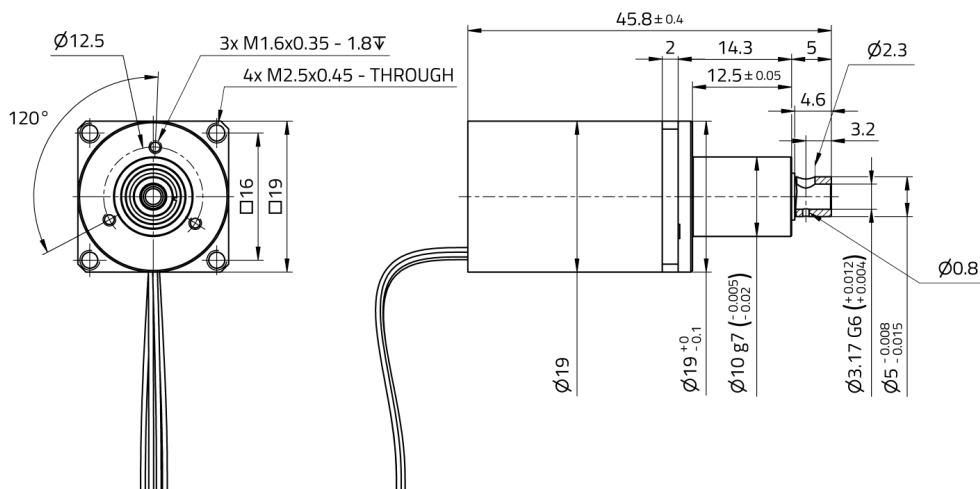
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Nr.	Parameter	Symbol	Value	Hint
P-904	Lubrication of bearing motor		FomblinGRM60	
P-908	Material of gear component set		NiFe	
P-909	Material of output bearing gearbox		1.4108 DIN EN	
P-911	Material of bearing motor		Stainless steel	
P-912	Material of gearbox output side		1.4305 DIN EN	
P-914	Material of motor housing		Stainless steel	

Technical drawing



Pin assignment	
Color	Signal
YEL	A+
RED	A-
BLU	B+
GRE	B-

Cable:
Individual lead wires,
Kapton-insulating, AWG 28,
length=300mm

