



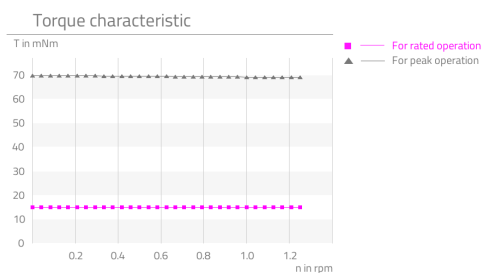
## Attributes

Highlights	Description
<ul style="list-style-type: none"> <li>▪ Vacuum suitable lubrication</li> <li>▪ High torque capacity</li> <li>▪ Use of high quality materials</li> <li>▪ Robust control without feedback system</li> <li>▪ Simple integration to the application</li> </ul>	<p>The CoograDrive® UHV 19mm - type 3 micro positioning system, designed for use in 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 80:1 is directly connected to the motor and equipped with a preloaded ball bearing on the output side.</p>

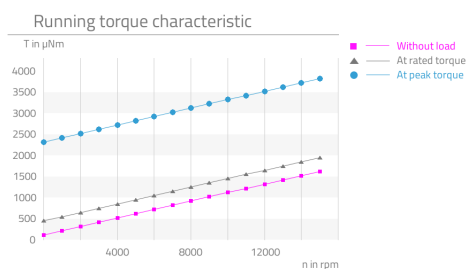
## Technical parameter

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](http://www.micromotion-drives.com). For further information please contact [sales@micromotion.de](mailto:sales@micromotion.de).

P-019



P-029



# Technical Supply Specifications: CoograDrive® UHV 19mm - Type 3



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

Nr.	Parameter	Symbol	Value	Hint
P-001	Vacuum suitable		HV	
P-003	Ratio	i	80 : 1	
P-004	Self-locking		yes	
P-008	Repeatability unidirectional		4.635 arcmin	
P-009	Repeatability bidirectional		45.2025 arcmin	
P-010	Accuracy		30.27 arcmin	
P-011	Transmission accuracy		60.54 arcmin	
P-012	Resolution		0.0225 °	
P-013	Torsional stiffness		3.80 <sup>Nm</sup> / <sub>rad</sub>	
P-014	Lost motion		45 arcmin	
P-015	Backlash		20 arcmin	
P-016	Rated torque	T	15 mNm	
P-017	Peak torque	T	100 mNm	
P-018	Momentary peak torque	T	120 mNm	
P-021	Rated input speed	n	100 rpm	
P-022	Maximum input speed	n	100 rpm	
P-023	Rated output speed	n	1.25 rpm	
P-024	Maximum output speed	n	1.25 rpm	
P-026	No-load starting torque	T	180 µNm	
P-027	No-load running torque	T	120 µNm	
P-028	Rated running torque	T	1570 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	2.31 N/µm	
P-038	Axial stiffness	c	40 N/µm	
P-039	Max. radial load on output shaft (non-operating, constant load)	F	55 N	
P-040	Max. radial load on output shaft (non-operating, impulsive load)	F	20 N	
P-041	Max. radial load on output shaft (operating, constant load)	F	7 N	
P-042	Max. radial load on output shaft (operating, impulsive load)	F	7 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	900038 * 10 <sup>-4</sup> gcm <sup>2</sup>	
P-056	Weight	m	56 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-UHV-4LP-2g5 dry lubrication and reduced magnetic fields (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	100 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	

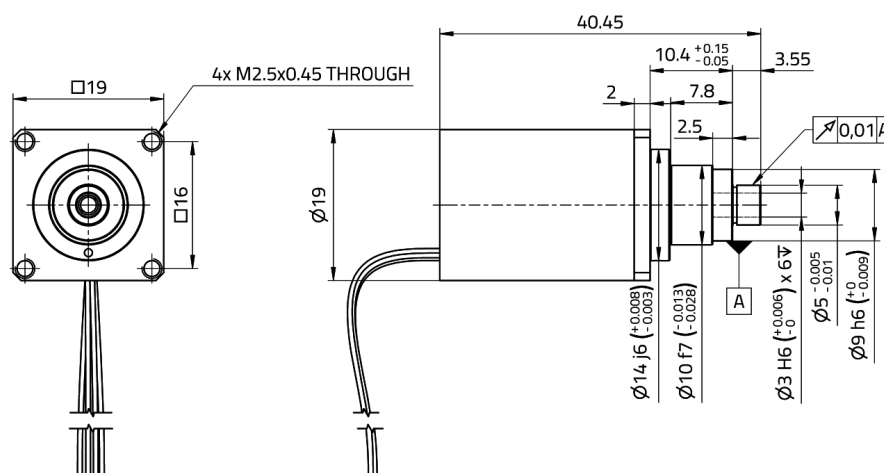
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Nr.	Parameter	Symbol	Value	Hint
P-904	Lubrication of bearing motor		FomblinGRM60	
P-908	Material of gear component set		NiFe	
P-909	Material of output bearing gearbox		1.4108 DIN EN	
P-911	Material of bearing motor		Stainless steel	
P-912	Material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

