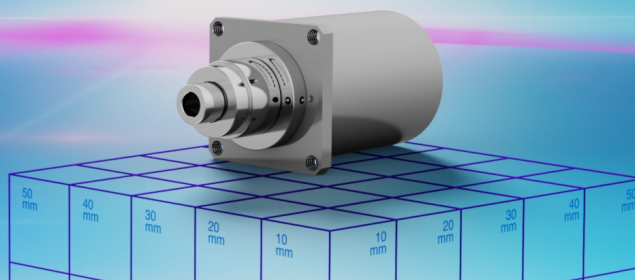


> MaalonDrive® UHV 19mm - Type 3



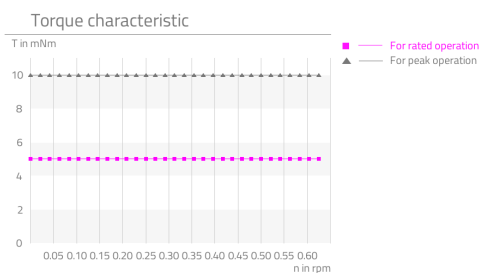
Attributes

Highlights	Description
▪ High repeatability ▪ Dry lubrication due to coatings ▪ Suitable in wide temperature range ▪ Zero backlash with optimised fit between speed and transmission ratio ▪ Preloaded ball bearing	Thanks to the dry lubrication and the materials that are used, the compact MaalonDrive® UHV 10mm - type 5 is especially well suited for applications in extreme environmental conditions. The stepper motor with 200 steps per rotation allows the system to be operated in an open loop control. The zero-backlash MaalonDrive® gear with a reduction ratio of 160:1 is directly connected to the motor and is equipped with a preloaded ball bearing on the output side to which the application can be directly connected.

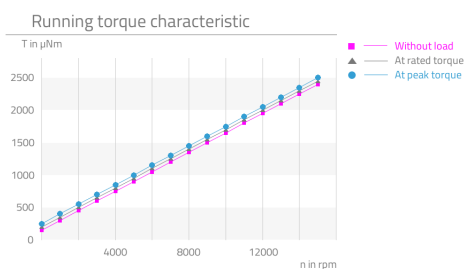
Technical parameter

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: MaalonDrive® UHV 19mm - Type 3



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Nr.	Parameter	Symbol	Value	Hint
P-001	Vacuum suitable		UHV	
P-003	Ratio	i	160 : 1	
P-004	Self-locking		yes	
P-008	Repeatability unidirectional		34.05 arcsec	
P-009	Repeatability bidirectional		40.135 arcmin	
P-010	Accuracy		12.135 arcmin	
P-011	Transmission accuracy		24.27 arcmin	
P-012	Resolution		0.01125 °	
P-013	Torsional stiffness		8.25 $\frac{\text{Nm}}{\text{rad}}$	
P-014	Lost motion		24 arcmin	
P-015	Backlash		0 arcmin	
P-016	Rated torque	T	5 mNm	
P-017	Peak torque	T	10 mNm	
P-018	Momentary peak torque	T	23 mNm	
P-021	Rated input speed	n	100 rpm	
P-022	Maximum input speed	n	100 rpm	
P-023	Rated output speed	n	0.625 rpm	
P-024	Maximum output speed	n	0.625 rpm	
P-026	No-load starting torque	T	225 μNm	
P-027	No-load running torque	T	150 μNm	
P-028	Rated running torque	T	1800 μNm	
P-034	Lifetime for rated operation		200 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	900023 * 10 ⁻⁴ gcm ²	
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	-20 °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 19.200.0,3-UHV-4LP-2g5 dry lubrication
(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	300 mA	
P-111	Rated voltage of motor	U	42 V	
P-112	Phase resistance of motor	R	6 ohm	
P-113	Inductance of motor	L	2.2 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		MoS ₂ (drylubrication)	

Technical Supply Specifications: MaalonDrive® UHV 19mm - Type 3



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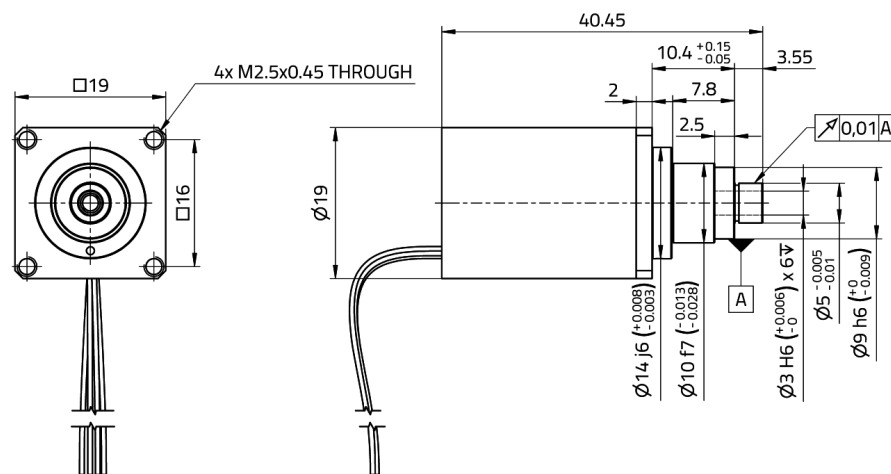
Nr.	Parameter	Symbol	Value	Hint
P-903	Lubrication of gear component set		DICRONITE®/ MoS2	
P-904	Lubrication of bearing motor		dry coated	
P-908	Material of gear component set		NiFe	
P-909	Material of output bearing gearbox		1.4108 DIN EN	
P-911	Material of bearing motor		Stainless steel	
P-912	Material of gearbox output side		1.4305 DIN EN	
P-914	Material of motor housing		Stainless steel	

Technical Supply Specifications: MaalonDrive® UHV 19mm - Type 3



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Technical drawing



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

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



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