



> MaalonDrive®

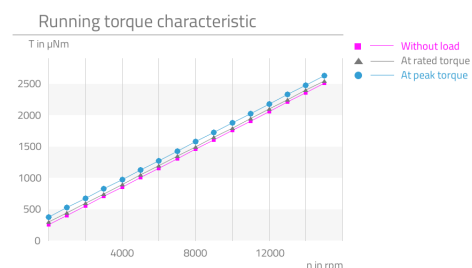
UHV 10mm - Type 1

Attributes

Highlights	Description
<ul style="list-style-type: none"> ▪ High repeatability ▪ Zero backlash with high transmission ratio ▪ Dry lubrication due to coatings ▪ Suitable in wide temperature range ▪ Preloaded ball bearing 	<p>The MaalonDrive® UHV 10mm - type 1 micro gearbox is a robust and reliable solution for applications in extreme environmental conditions. It is specially designed for use in ultra-high-vacuum environments and uses dry lubrication in the ball bearings and in the gear component set. Both the input shaft as well as the output shaft are precisely guided by preloaded ball bearings and thereby allow the application to be directly connected. A zero-backlash MaalonDrive® gear component set with a reduction ratio of 500:1 forms the heart of this precise and high-reduction gear.</p>

Technical parameter

P-029



Technical Supply Specifications: MaalonDrive® UHV 10mm - Type 1



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

Nr.	Parameter	Symbol	Value	Hint
P-001	Vacuum suitable		UHV	
P-003	Ratio	i	500 : 1	
P-004	Self-locking		yes	
P-008	Repeatability unidirectional		20 arcsec	
P-009	Repeatability bidirectional		40 arcmin	
P-010	Accuracy		15 arcmin	
P-011	Transmission accuracy		30 arcmin	
P-013	Torsional stiffness		6.13 $\frac{\text{Nm}}{\text{rad}}$	
P-014	Lost motion		40 arcmin	
P-015	Backlash		0 arcmin	
P-016	Rated torque	T	4 mNm	
P-017	Peak torque	T	12 mNm	
P-018	Momentary peak torque	T	16 mNm	
P-023	Rated output speed	n	0 rpm	
P-024	Maximum output speed	n	0 rpm	
P-026	No-load starting torque	T	382.5 μNm	
P-027	No-load running torque	T	255 μNm	
P-028	Rated running torque	T	1995 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	2.3 $\text{N}/\mu\text{m}$	
P-038	Axial stiffness	c	40 $\frac{\text{N}}{\text{m}}$	
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	18 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 load)	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	

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Nr.	Parameter	Symbol	Value	Hint
P-046	Max. axial load on output shaft (operating, impulsive load)	F	127 N	
P-047	Max. radial load on input shaft (non-operating, constant load)	F	20 N	
P-048	Max. radial load on input shaft (non-operating, impulsive load)	F	6 N	
P-049	Max. radial load on input shaft (operating, constant load)	F	5 N	
P-050	Max. radial load on input shaft (operating, impulsive load)	F	5 N	
P-051	Max. axial load on input shaft (non-operating, constant load)	F	64 N	
P-052	Max. axial load on input shaft (non-operating, impulsive load)	F	20 N	
P-053	Max. axial load on input shaft (operating, constant load)	F	185 N	
P-054	Max. axial load on input shaft (operating, impulsive load)	F	66 N	
P-055	Moment of inertia	I	$59 * 10^{-4} \text{ gcm}^2$	
P-056	Weight	m	6 g	
P-057	Min. permissible ambient temperature (non-operating)	T	-250 °C	
P-058	Min. permissible ambient temperature (operating)	T	-200 °C	
P-059	Max. permissible ambient temperature (non-operating)	T	150 °C	
P-060	Max. permissible ambient temperature (operating)	T	120 °C	

Material information

Nr.	Parameter	Symbol	Value	Hint
P-900	RoHS compliant		yes	
P-901	Lubrication of output bearing gearbox		MoS ₂ (drylubrication)	
P-902	Lubrication of input bearing gearbox		MoS ₂ (drylubrication)	
P-903	Lubrication of gear component set		DICRONITE®/MoS ₂ (drylubrication)	
P-908	Material of gear component set		NiFe coated with DICRONITE®	
P-909	Material of output bearing gearbox		1.4108 DIN EN	
P-910	Material of input bearing gearbox		1.4108 DIN EN	

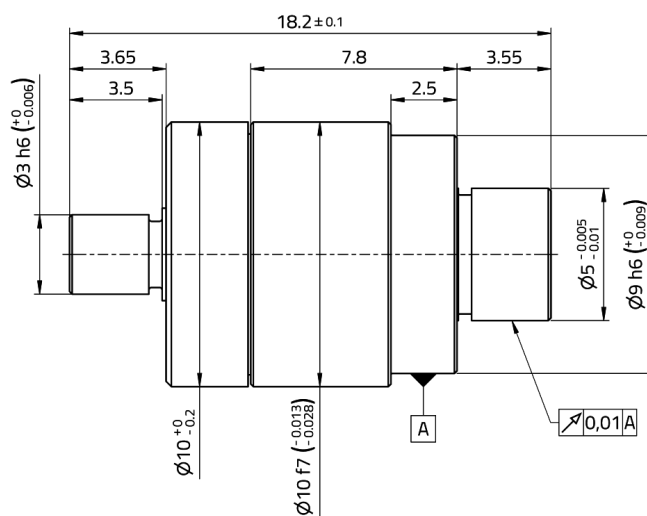
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Nr.	Parameter	Symbol	Value	Hint
P-912	Material of gearbox output side		1.4305 DIN EN	
P-913	Material of gearbox input side		1.4305 DIN EN	

Technical drawing



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