



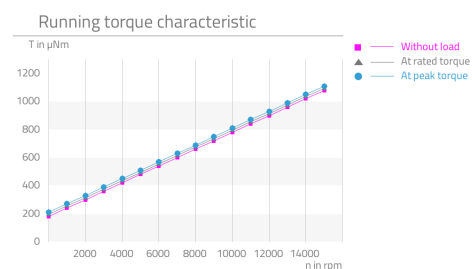
## > MaalonDrive® Space 8mm - Type 1

### Attributes

Highlights	Description
<ul style="list-style-type: none"><li>▪ <b>High repeatability</b></li><li>▪ <b>Suitable in wide temperature range</b></li><li>▪ <b>Zero backlash with optimised fit between speed and transmission ratio</b></li><li>▪ <b>Dry lubrication due to coatings</b></li><li>▪ <b>Preloaded ball bearing</b></li></ul>	<p>The MaalonDrive® Space 8mm - type 1 micro gearbox combines precision with reliability and extremely low weight. It is the ideal solution for applications in extreme environmental conditions and tight space conditions. Because ball bearings and gear component set are dry-lubricated, it can be used both in ultra-high-vacuum environments as well as at particularly low temperatures. 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 with a reduction ratio of 160:1 forms the core of the gearbox.</p>

## Technical parameter

P-029



Nr.	Parameter	Symbol	Value	Hint
P-001	Vacuum suitable		HV	
P-003	Ratio	i	160 : 1	
P-004	Self-locking		yes	
P-006	Hollow shaft		1	
P-008	Repeatability unidirectional		22.5 arcsec	
P-009	Repeatability bidirectional		30 arcmin	
P-010	Accuracy		14 arcmin	
P-011	Transmission accuracy		28 arcmin	
P-013	Torsional stiffness		2.29 $\frac{\text{Nm}}{\text{rad}}$	
P-014	Lost motion		22.5 arcmin	
P-015	Backlash		0 arcmin	
P-016	Rated torque	T	3 mNm	
P-017	Peak torque	T	6 mNm	
P-018	Momentary peak torque	T	20 mNm	
P-021	Rated input speed	n	1000 rpm	
P-022	Maximum input speed	n	1000 rpm	
P-023	Rated output speed	n	6.25 rpm	
P-024	Maximum output speed	n	6.25 rpm	
P-026	No-load starting torque	T	270 µNm	
P-027	No-load running torque	T	180 µNm	
P-028	Rated running torque	T	870 µNm	
P-034	Lifetime for rated operation		500 h	
P-035	Radial backlash output shaft		0 µm	
P-036	Axial backlash output shaft		0 µm	

# Technical Supply Specifications: MaalonDrive® Space 8mm - Type 1



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Nr.	Parameter	Symbol	Value	Hint
P-037	Radial stiffness	c	0.87 N/μm	
P-038	Axial stiffness	c	18.5 N/μm	
P-039	Max. radial load on output shaft (non-operating, constant load)	F	20 N	
P-040	Max. radial load on output shaft (non-operating, impulsive load)	F	6 N	
P-041	Max. radial load on output shaft (operating, constant load)	F	3 N	
P-042	Max. radial load on output shaft (operating, impulsive load)	F	3 N	
P-043	Max. axial load on output shaft (non-operating, constant load)	F	64 N	
P-044	Max. axial load on output shaft (non-operating, impulsive load)	F	20 N	
P-045	Max. axial load on output shaft (operating, constant load)	F	185 N	
P-046	Max. axial load on output shaft (operating, impulsive load)	F	66 N	
P-047	Max. radial load on input shaft (non-operating, constant load)	F	25 N	
P-048	Max. radial load on input shaft (non-operating, impulsive load)	F	8 N	
P-049	Max. radial load on input shaft (operating, constant load)	F	11 N	
P-050	Max. radial load on input shaft (operating, impulsive load)	F	8 N	
P-051	Max. axial load on input shaft (non-operating, constant load)	F	49 N	
P-052	Max. axial load on input shaft (non-operating, impulsive load)	F	15 N	
P-053	Max. axial load on input shaft (operating, constant load)	F	147.5 N	
P-054	Max. axial load on input shaft (operating, impulsive load)	F	61 N	
P-055	Moment of inertia	I	28 * 10 <sup>-4</sup> gcm <sup>2</sup>	
P-056	Weight	m	4 g	
P-057	Min. permissible ambient temperature (non-operating)	T	-80 °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	

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## Material information

Nr.	Parameter	Symbol	Value	Hint
P-900	RoHS compliant		yes	
P-901	Lubrication of output bearing gearbox		FomblinGRM60	
P-902	Lubrication of input bearing gearbox		FomblinGRM60	
P-903	Lubrication of gear component set		FomblinGRM60	
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	
P-912	Material of gearbox output side		1.4305 DIN EN	
P-913	Material of gearbox input side		1.4305 DIN EN	

