

# Precision Rotation Stage

Unlimited Travel Range



## M-060 • M-061 • M-062

- Unlimited travel range
- Very high resolution
- Max. velocity 90°/s
- Backlash-compensated worm drive
- ActiveDrive, DC motor or manual drive
- Direction-sensing reference point switch

### Fields of application

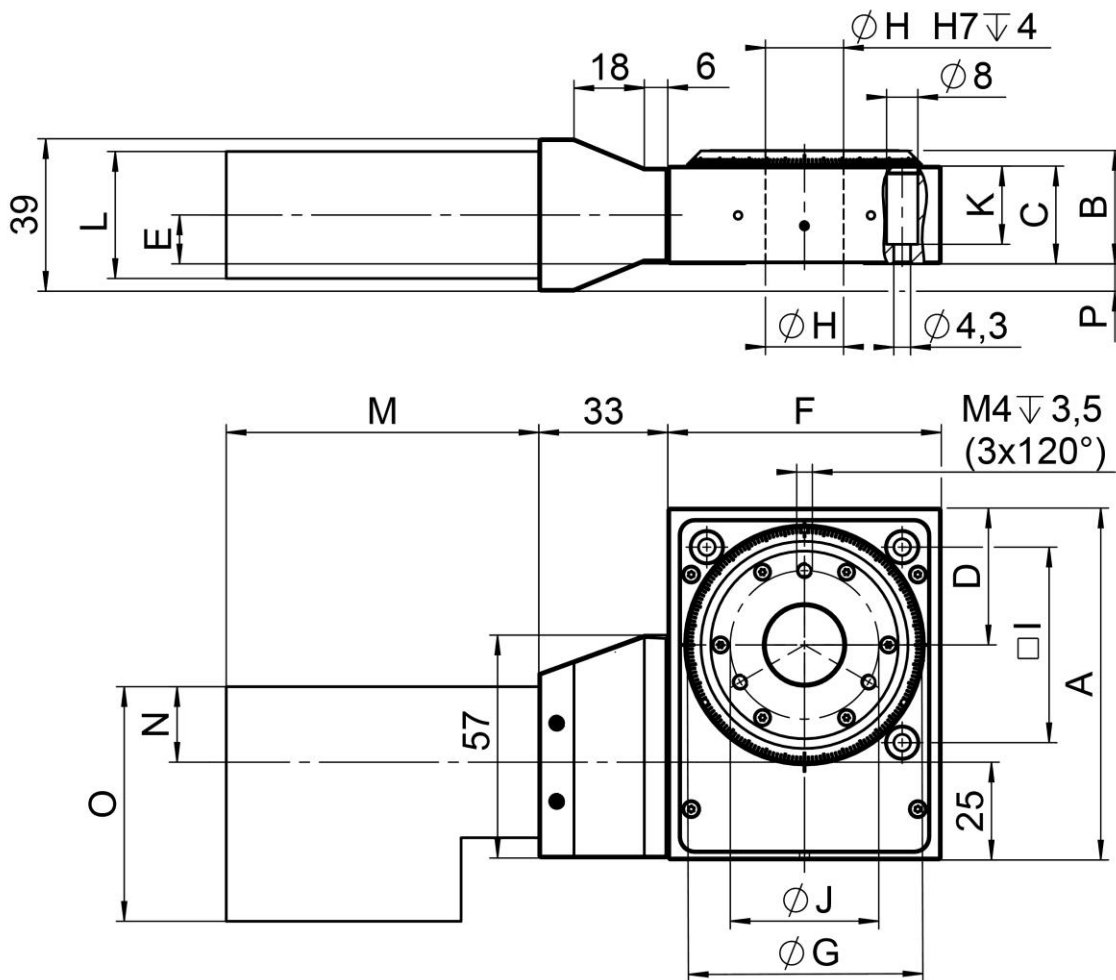
Measuring technology, alignment.

### Specifications

	M-060.PD / M-061.PD / M-062.PD	M-060.DG / M-061.DG / M-062.DG	Unit	Tolerance
Active axes	Rotation	Rotation		
<b>Motion and positioning</b>				
Rotation range	>360	>360	°	
Integrated sensor	Rotary encoder	Rotary encoder		
Sensor resolution	4000	2000	cts./rev.	
Design resolution	32 (0.0018) / 17.5 (0.001) / 15 (0.0008)	2.1 (0.00012) / 1.2 (6.9 × 10 <sup>-5</sup> ) / 0.96 (5.5 × 10 <sup>-5</sup> )	μrad (°)	
Minimum incremental motion	32 / 17.5 / 15	6.3 / 6 / 5	μrad	
Backlash	200 / 200 / 240	200 / 200 / 240	μrad	
Unidirectional repeatability	50 / 50 / 60	50 / 50 / 60	μrad	
Velocity	90	16 / 9 / 7.5	°/s	max.
<b>Mechanical properties</b>				
Worm gear ratio	50:1 / 90:1 / 110:1	50:1 / 90:1 / 110:1		

Gear ratio	–	$(28/12)^4:1$		
Load capacity / axial force	±500 / ±550 / ±650	±500 / ±550 / ±650	N	
Max. torque $\theta_x, \theta_y$	±6 / ±6 / ±7	±6 / ±6 / ±7	Nm	max.
Max. torque $\theta_z$	±4 / ±6 / ±8	±4 / ±6 / ±8	Nm	max.
<b>Drive properties</b>				
Motor Type	DC motor, ActiveDrive	DC gear motor		
Operating voltage	24	0 to ±12	V	
Motor power	30	3	W	
Reference point switch	Hall effect	Hall effect		
<b>Miscellaneous</b>				
Operating temperature range	-10 to 40	-10 to 40	°C	
Material	Aluminum	Aluminum		
Mass	0.94 / 1.88 / 2.76	0.94 / 1.88 / 2.76	kg	
Recommended controllers/drivers	C-863 (single axis) C-884 (up to 6 axes)	C-863 (single axis) C-884 (up to 6 axes)		

## Drawings and Images



DIMENSIONS	M-060.PD	M-060.DG	M-061.PD	M-061.DG	M-062.PD	M-062.DG
A	90	90	130	130	150	150
B	29	29	34	34	42	42
C	25	25	30	30	38	38
D	35	35	55	55	65	65
E	12,5	12,5	15	15	21,5	21,5
F	70	70	110	110	130	130
G	60	60	100	100	120	120
H	20	20	35	35	45	45
I	50	50	90	90	110	110
J	38	38	50	50	60	60
K	20	20	20	20	28	25
L	39	34	39	34	39	34
M	80,8	83,8	80,8	83,8	80,8	83,8
N	19	15	19	15	19	15
O	59,3	51	59,3	51	59,3	51
P	7	7	4,5	4,5	-	-

M-06x, dimensions in mm

## Ordering Information

### **M-060.PD**

Precision rotation stage, Ø 60 mm, 360°, ActiveDrive DC motor

### **M-060.DG**

Precision rotation stage, Ø 60 mm, 360°, closed-loop DC gear motor

### **M-061.PD**

Precision rotation stage, Ø 100 mm, 360°, ActiveDrive DC motor

### **M-061.DG**

Precision rotation stage, Ø 100 mm, 360°, closed-loop DC gear motor

### **M-062.PD**

Precision rotation stage, Ø 120 mm, 360°, ActiveDrive DC motor

### **M-062.DG**

Precision rotation stage, Ø 120 mm, 360°, closed-loop DC gear motor

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