

M-037

Rotation Stages with Worm Gear Drive

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- Ultra-High Resolution
- Compact Design
- Continuous Rotation Range
- Preloaded Worm Drive for Zero Backlash
- ActiveDrive™ DC-Motor, Stepper Motor and Manual Versions
- Compatible with Leading Industrial Motion Controllers
- 20 mm ø Clear Aperture

M-037 rotation stages are equipped with ultra-precise worm gear drives allowing unlimited rotation in either direction. An integrated spring preload eliminates backlash. The worm gear ratio is 180:1, corresponding to a turntable rotation of 2 degrees per revolution of the drive shaft. Coarse position can be read from an adjustable scale ring on the outer edge of the turntable graduated in 2 degree increments and a drive shaft mounted indicator with 0.1 degree graduations.

ActiveDrive™

The top model, M-037.PD, is equipped with a 30 Watt ActiveDrive™ DC motor providing 26 μrad minimum incremental motion and velocity to 45 deg/sec. The novel ActiveDrive™ concept features an integrated, high-efficiency servo-amplifier increasing dynamic performance and reliability while reducing cost of ownership, because no external driver is required.



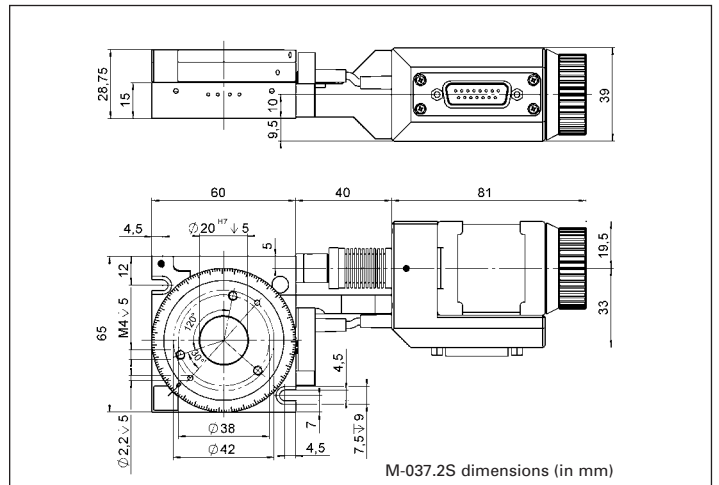
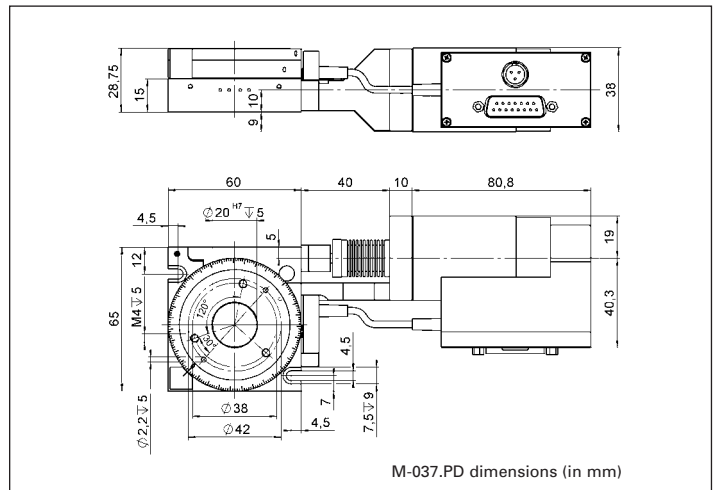
Each M-037 stage is individually broken in before delivery to achieve the exceptional mechanical precision.

Notes

See "Accessories", page 7-92 ff. for adapters, brackets, etc.

Ordering Information

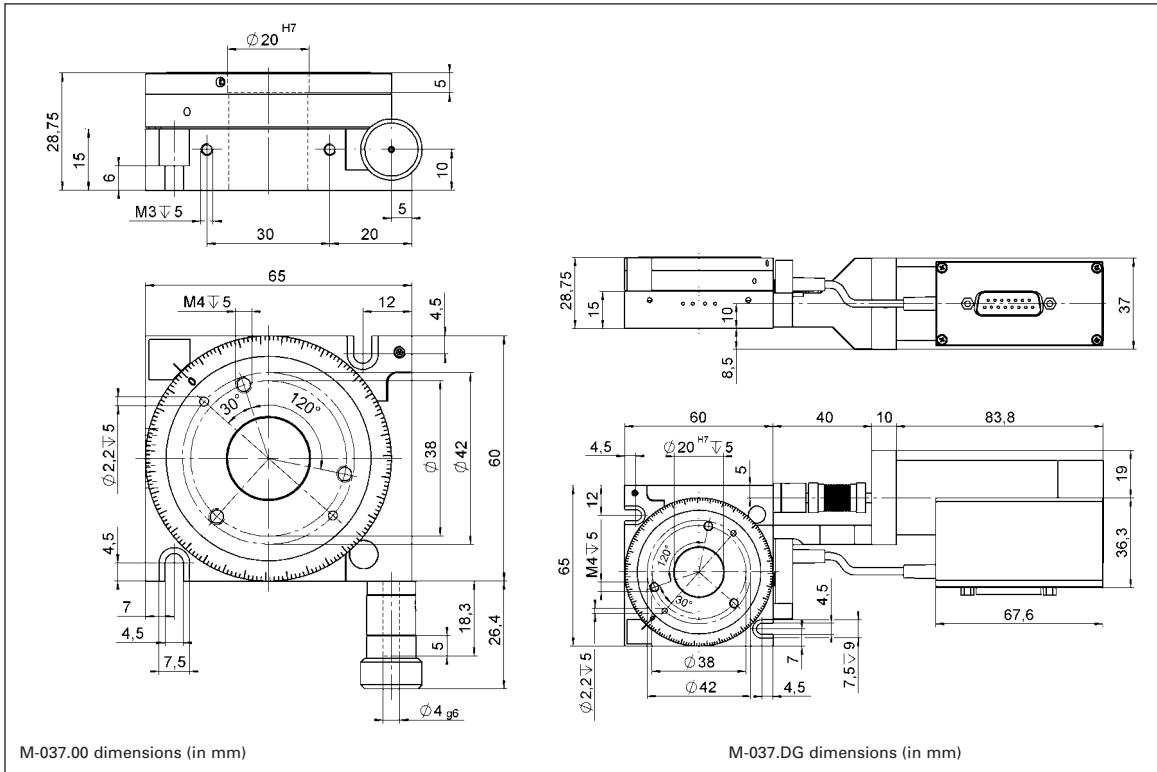
- M-037.00**
Rotation Stage, ø 60 mm, >360°, Manual Drive
 - M-037.DG**
Rotation Stage, ø 60 mm, >360°, Closed-Loop DC Motor / Gearhead Drive
 - M-037.PD**
Rotation Stage, ø 60 mm, >360°, ActiveDrive™ DC Motor (Includes Power Supply)
 - M-037.2S**
Rotation Stage, ø 60 mm, >360°, 2-Phase Stepper Motor Drive
- Ask about custom designs!



DC-Motor and Stepper Motor Drives

Model M-037.DG features a 3 Watt DC motor with 29.6:1 backlash free gearhead and a 2000 counts/revolution encoder, mounted on the motor shaft. Model M-037.2S is equipped with a 2-phase stepper motor providing 20,000 micro-steps/revolution. 5-phase stepper motors are available on request.

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Index

Technical Data

Models	M-037.00	M-037.DG	M-037.PD	M-037.2S	Units	Notes see page 7-106
Rotation range	continuous	continuous	continuous	continuous		
Design resolution	-	0.59 (34 x 10 ⁻⁶)	8.75 (0.0005)	1.75 (0.0001)	μrad (deg)	A3
Min. incremental motion	-	3.5	26	21	μrad	A4
Unidirectional repeatability	-	30	30	30	μrad	
Backlash	-	200	200	200	μrad	
Max. velocity	-	6	45	10	°/s	
Wobble	<150	<150	<150	<150	μrad	
Maximum axial force	±300	±300	±300	±300	N	
Maximum torque (θ _x , θ _y)	±3	±3	±3	±3	Nm	
Maximum torque CW**	1	1	1	1	Nm	
Maximum torque CCW**	0.5	0.5	0.5	0.5	Nm	
Encoder resolution	-	2000	4000	-	counts/rev.	
Motor resolution	-	-	-	20,000*	steps/rev.	
Gear ratio	-	(28/12) ⁴ :1 ≈29.6:1	-	-		
Worm Gear ratio	180:1	180:1	180:1	180:1		
Nominal motor power	-	3	30 ***	- *	W	
Motor voltage	-	12	24	24 *	V	
Weight	0.3	0.65	0.62	0.64	kg	
Body material	Al	Al	Al	Al		L
Recommended motor controller	-	C-843, C-848, C-862	C-843, C-848, C-862	C-600, C-630		D2

C-815.38 motor cable included: 3 m, sub-D, 15/15 pin (m/f).

* 2-phase stepper, 24 V chopper voltage, max. 0.8 A / phase, 20,000 microsteps with C-600, C-630 controllers;

** CW: clockwise; CCW: counter-clockwise;

*** ActiveDrive™ (integrated PWM servo amplifier)