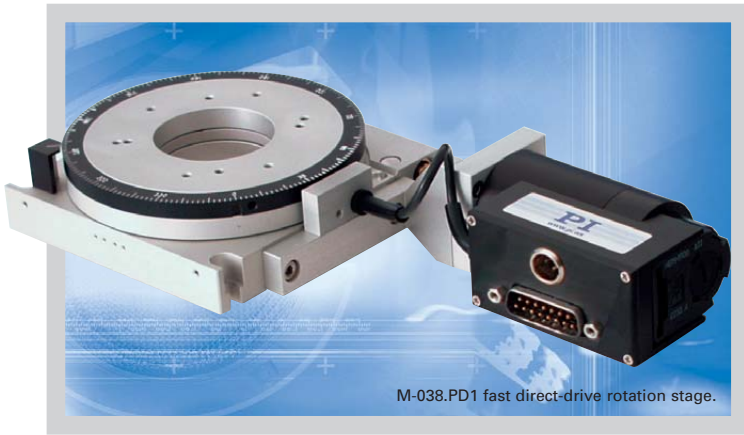


M-038

Rotation Stages with Worm Gear Drive

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M-038.PD1 fast direct-drive rotation stage.

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

M-038 rotation stages are equipped with ultra-precise worm gear drives allowing unlimited rotation in either direction. An integrated spring preload eliminates backlash. Coarse position can be read from an adjustable scale ring on the outer edge of the turntable.

DC-Motor and Stepper-Motor Drives

The M-038.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. The M-038.2S is equipped with a 2-phase stepper motor providing 20,000 micro-steps/revolution. 5-phase stepper motors are available on request.

ActiveDrive™

The top model, the M-038.PD1, is equipped with a 30-watt ActiveDrive™ DC motor pro-

Ordering Information

M-038.00
Rotation Stage, ϕ 100 mm, >360°, Manual Drive

M-038.PD1
Rotation Stage, ϕ 100 mm, >360°, ActiveDrive™ DC Motor (Includes Power Supply)

M-038.DG
Rotation Stage, ϕ 100 mm, >360°, Closed-Loop DC Motor/Gearhead Drive

M-038.2S
Rotation Stage, ϕ 100 mm, >360°, 2-Phase Stepper-Motor Drive

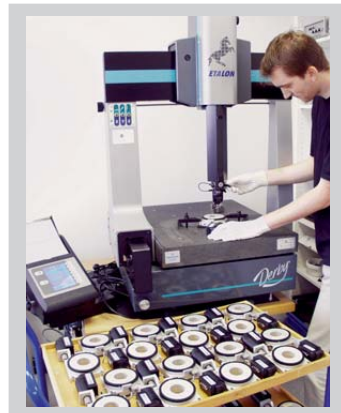
Ask about custom designs!

viding a velocity to 90 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.

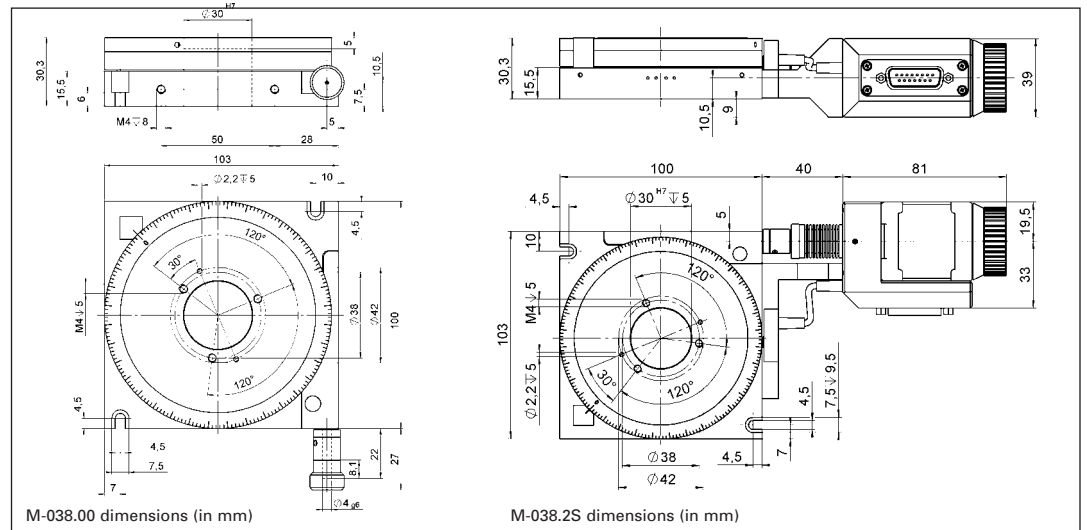
Each M-038 stage is individually broken-in before delivery to achieve the exceptional mechanical precision.

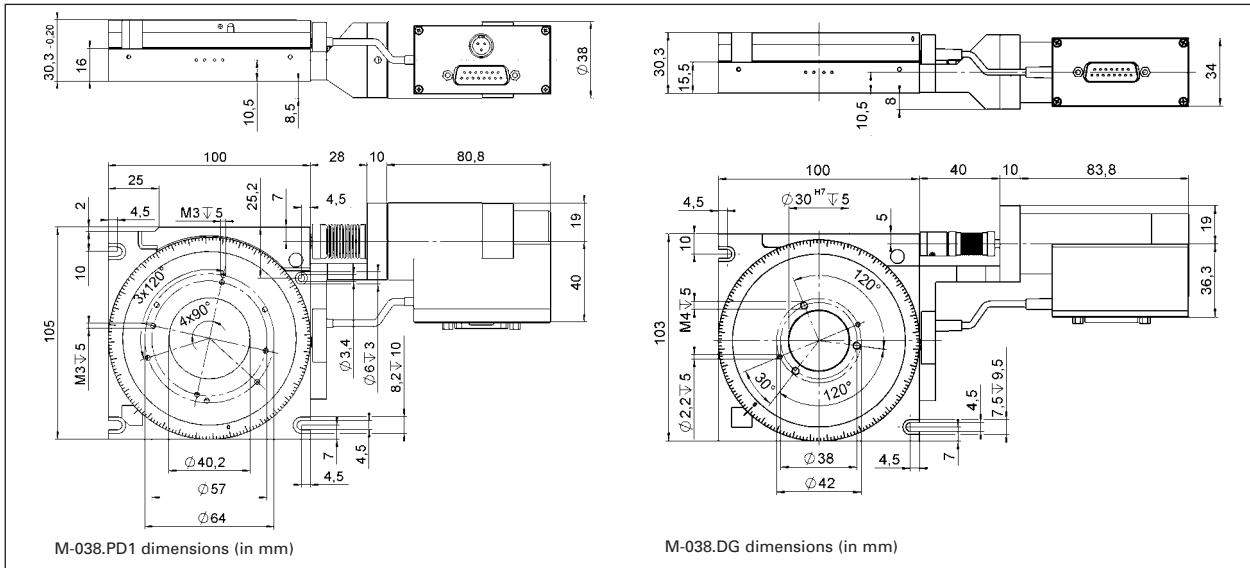
Notes

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



Custom M-038 stages at the coordinate measuring machine.





Technical Data

Models	M-038.00	M-038.DG	M-038.PD1	M-038.2S	Units	Notes see p. 7-106
Rotation range	continuous	continuous	continuous	continuous		
Design resolution	-	0.59 (34 x 10 ⁻⁶)	9 (0.0005)	1.75 (0.0001)	μrad (°)	A3
Min. incremental motion	-	3.5	27	21	μrad	A4
Unidirectional repeatability	-	20	20	20	μrad	
Backlash	-	200	100	200	μrad	
Max. velocity	-	6	90	10	°/s	
Wobble	<75	<75	<75	<75	μrad	
Maximum axial force	±400	±400	±400	±400	N	
Maximum torque (θ _x , θ _y)	±6	±6	±6	±6	Nm	
Maximum torque CW**	2	2	2	2	Nm	
Maximum torque CCW**	0.8	0.8	0.8	0.8	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	176:1	180:1		
Nominal motor power	-	3	30 ***	- *	W	
Motor voltage	-	12	24	24 *	V	
Weight	0.9	1.25	1.35	1.25	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)

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