

PIFOC® High- Load Objective Scanner

HIGH- DYNAMICS PIEZO Z SCANNER FOR HEAVY OBJECTIVES



P-726

- + High- dynamics positioning and scanning for large objectives
- + Resonant frequency 1120 Hz, 560 Hz with 210 g load
- + Typical Step- and- settle about 6 ms
- + Travel range 100 μm
- + Direct- metrology capacitive sensors for best linearity, stability and control dynamics
- + Resolution to 0.3 nm
- + Frictionless, high- precision flexure guiding system for better focus stability

Specifications

	P-726.1CD	Tolerance
Active axes	Z	
Motion and positioning		
Integrated sensor	Capacitive, direct metrology	
Closed- loop travel	100 μm	
Closed- loop resolution	0.4 nm	typ.
Open- loop resolution	0.3 nm	typ.
Closed- loop linearity error	0.02 %	typ.
Repeatability	± 3 nm	typ.
Angular runout θ_x, θ_y	± 5 μrad	typ.
Crosstalk X, Y	50 nm	typ.
Mechanical properties		
Stiffness in motion direction	3.4 N/ μm	± 20 %
Unloaded resonant frequency	1120 Hz	± 20 %
Resonant frequency under load	560 Hz (210 g)	± 20 %
Loaded resonant frequency	480 Hz (310 g)	± 20 %
Push / pull force capacity in motion direction	100 / 50 N	max.
Load capacity	20 N	max.
Drive properties		
Piezo ceramic type	PICMA® P-885	
Electrical capacitance	6 μF	± 20 %
Dynamic operating current coefficient	7.5 $\mu\text{A/ (Hz} \times \mu\text{m)}$	± 20 %
Miscellaneous		
Operating temperature range	-20 to 80°C	
Material	Aluminum, steel	
Dimensions	Diameter: 65 mm Height: 50.7 mm	
Objective diameter	M32	max.
Mass	575 g	± 5 %
Cable length	1.5 m	± 10 mm
Sensor / voltage connection	Sub- D Special	

Recommended controller / amplifier

Single- channel digital controller: E-753 (bench- top)
 Single- channel: E-625 servo controller, bench- top, E-665 powerful servo controller, bench- top
 E-500 modular piezo controller system with E-505 high- power amplifier module and E-509 servo controller

Ask about custom designs!

Order Information

P-726.1CD

High- Dynamics PIFOC® Piezo Nanofocusing Z Drive, 100 µm, Capacitive Sensor

Controllers / Drivers / Amplifiers

[E-753 Digital Piezo Controller](#)

[E-500 • E-501 Modular Piezo Controller](#)

[E-505 Piezo Amplifier Module](#)

[E-509 Signal Conditioner / Piezo Servo Module](#)

[E-625 Piezo Servo- Controller & Driver](#)

[E-665 Piezo Amplifier / Servo Controller](#)

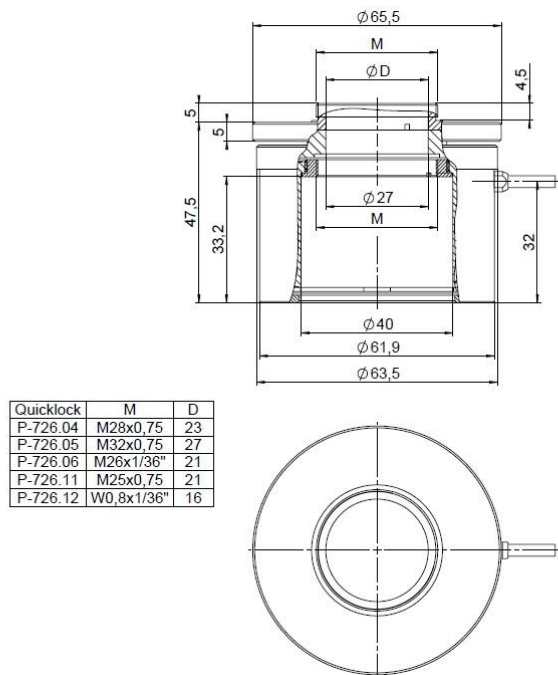
Accessories

[P-895.1DLC Adapter Cable, Sub- D 7W2 \(f\) to LEMO Connectors \(m\)](#)

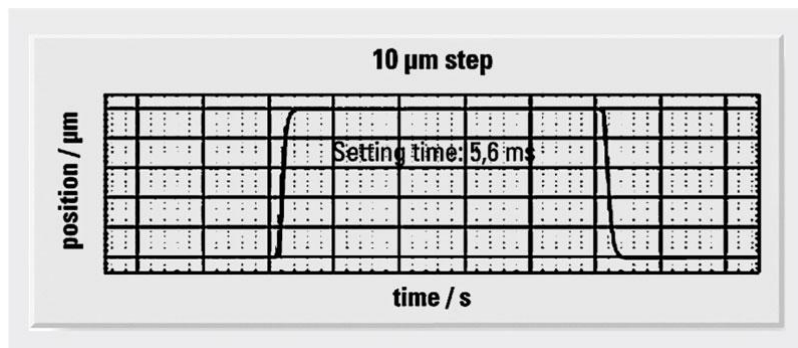
[P-895.1LDC Adapter Cable, Sub- D 7W2 \(f\) to LEMO Connectors \(m\)](#)

[P-726.xx QuickLock Thread Adapter](#)

Drawings / Images



P-726 dimensions in mm with P-726.05 M32 QuickLock adapter



P-726 settling time under load

Microscope Turret

P-726 QuickLock
thread adapter
exploded view with
P-726 PIFOC®
(mounting tools
included)



Knurled Ring



Turret Ring



PIFOC®



Objective Ring



Objective