

XRZ Series Linear Module

- High precision,low friction
- Anti-creep cross roller guide rail
- Voice coil motor
- Air balanced design
- High precision optical encoder

EN-24.7.1

Introduction

The XRZ series module is the horizontal Z-axis of the cylinder counterweight. The module mounting surface is horizontal and the voice coil motor drives the entire table surface up and down in the Z direction. Balance the load gravity through the cylinder to reduce the required motor output. Equipped with a high-precision optical encoder to improve the accuracy parameters of the module.

Continuous Force Fcn = 17.96N ~ 45.26N

Peak Force Fpk = 98.8N ~ 192.02N

Features

- Anti-creep cross roller guide for Z-direction motion.
- Voice coil motor drive. High frequency of movement in short stroke.
- The cylinder gravity balance design uses low friction cylinders.
- High precision optical encoder.

Applications

The XRZ module can be used as the Z-axis applications or can be stacked with the XRL series module or the XRS module.

Applications in various industries such as automation equipment which requires point-to-point high-speed positioning, Z-axis optical focusing, optical detection platform, lens alignment, leveling mechanism, fiber alignment, etc.

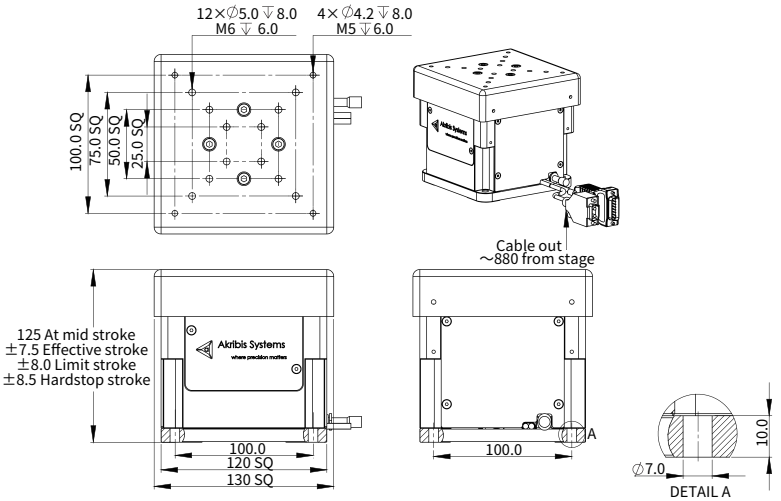
Linear Module Series	Voice coil motor Series	Continuous Force (Fcn) ■ Peak Force (Fpk) Unit: N 40 80 120 160 200 240	Stroke (mm)	Repeatability (μm)	Page
 XRZ120-15	AVM35-HF-15	17.96 98.8	15	±0.2	3
 XRZ170-25	AVM60-25	26.35 119	25		3
 XRZ190-30	AVM75-38-C39	45.26 192.02	30		4

XRZ120-15

Specifications	Unit	Value
Motor	-	AVM35-HF-15
Continuous Force	N	17.96
Peak Force	N	98.8
Force Constant±10%	N/Arms	24.7
Back EMF Constant ±10%	Vpeak/(m/s)	24.7
Mechanical Specifications	**Unit**	**Value**
Stroke	mm	15
Resolution	μm	SINCOS(4096X)
Repeatability	μm	±0.2
Horizontal Straightnes	μm	±0.5
Vertical Straightness	μm	±0.75
Pitch	arcsec	10.0
Yaw	arcsec	10.0
Rated Payload	kg	5.0
No-load Moving Mass	kg	1.3
No-load Total Mass	kg	3.3
Material	-	Black Anodized Aluminum
Max. Allowable Roll Moment	Nm	1.5
Max. Allowable Pitch Moment	Nm	1.5
Max. Allowable Yaw Moment	Nm	1.5

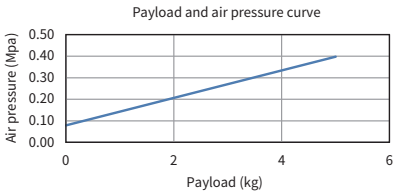
★All values are measured based on module fully mounted on a 5μm granite table.
Values are measured according to Akribis measuring standard.

Dimensional Drawing



Note:
1.Home index near the center of stroke
2.To maintain accuracy,mounting surface must be flat within 5um over stage entire footprint

Payload - Air pressure Curve

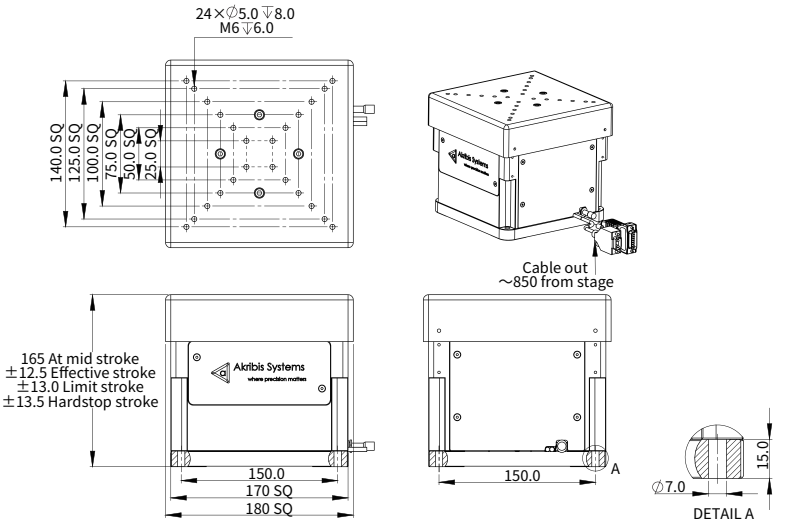


XRZ170-25

Specifications	Unit	Value
Motor	-	AVM60-25
Continuous Force	N	26.35
Peak Force	N	119.0
Force Constant±10%	N/Arms	17.0
Back EMF Constant ±10%	Vpeak/(m/s)	17.0
Mechanical Specifications	**Unit**	**Value**
Stroke	mm	25
Resolution	μm	SINCOS(4096X)
Repeatability	μm	±0.2
Horizontal Straightnes	μm	±0.75
Vertical Straightness	μm	±1.0
Pitch	arcsec	10.0
Yaw	arcsec	10.0
Rated Payload	kg	15.0
No-load Moving Mass	kg	3.6
No-load Total Mass	kg	9.8
Material	-	Black Anodized Aluminum
Max. Allowable Roll Moment	Nm	8.0
Max. Allowable Pitch Moment	Nm	7.5
Max. Allowable Yaw Moment	Nm	7.5

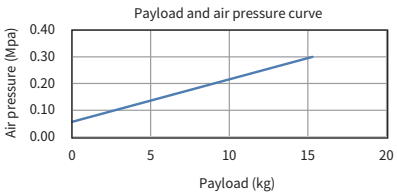
★All values are measured based on module fully mounted on a 5μm granite table.
Values are measured according to Akribis measuring standard.

Dimensional Drawing



Note:
1.Home index near the center of stroke
2.To maintain accuracy,mounting surface must be flat within 5um over stage entire footprint

Payload - Air pressure Curve

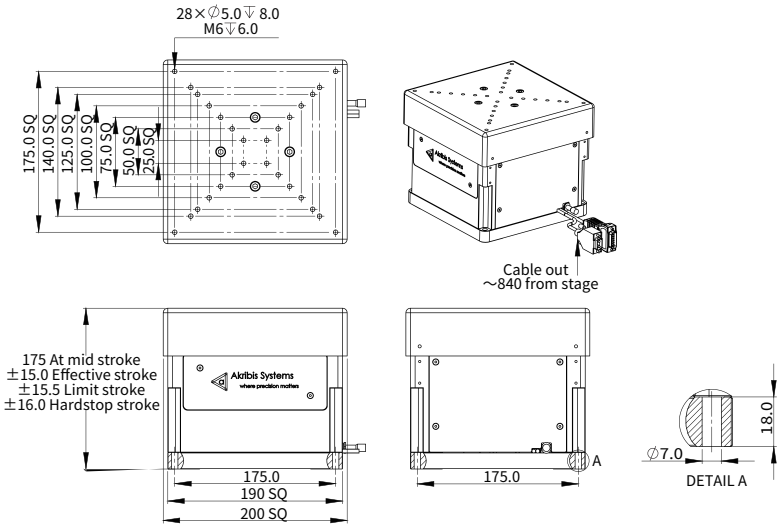


XRZ190-30

Specifications	Unit	Value
Motor	-	AVM75-38-C39
Continuous Force	N	45.26
Peak Force	N	192.02
Force Constant±10%	N/Arms	13.72
Back EMF Constant ±10%	Vpeak/(m/s)	13.72
Mechanical Specifications	**Unit**	**Value**
Stroke	mm	30
Resolution	µm	SINCOS(4096X)
Repeatability	µm	±0.2
Horizontal Straightnes	µm	±0.75
Vertical Straightness	µm	±1.0
Pitch	arcsec	10.0
Yaw	arcsec	10.0
Rated Payload	kg	20.0
No-load Moving Mass	kg	4.8
No-load Total Mass	kg	12.6
Material	-	Black Anodized Aluminum
Max. Allowable Roll Moment	Nm	8.0
Max. Allowable Pitch Moment	Nm	7.5
Max. Allowable Yaw Moment	Nm	7.5

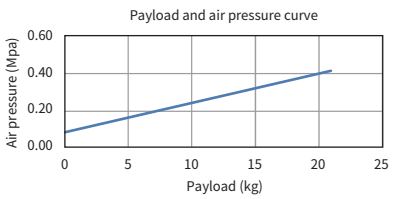
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Values are measured according to Akribis measuring standard.

Dimensional Drawing



Note:
1.Home index near the center of stroke
2.To maintain accuracy,mounting surface must be flat within 5um over stage entire footprint

Payload - Air pressure Curve



Ordering Part Number (OPN)

XRZ120-15-

Model: XRZ120

Country of Origin: Blank/SG[1]

Stroke: 15: 15mm

XRZ170-25-

Model: XRZ170

Country of Origin: Blank/SG[1]

Stroke: 25: 25mm

XRZ190-30-

Model: XRZ190

Country of Origin: Blank/SG[1]

Stroke: 30: 30mm

[1]Blank=Default
SG=Singapore