

Narrow Motorized Translation Stages

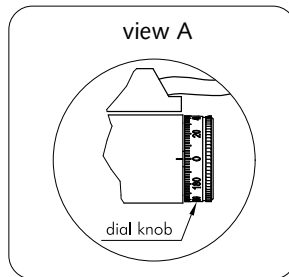
8MT173



8MT173-20-50

Motorized Stages of Higher Speed available on request

- Narrow (30 mm)
- Compact design
- High guide way accuracy
- Resolution
0.156 μm (1/8 step)
- Optional travel
5, 6, 8, 10, 25, 30 mm and other
- X-Y-Z configurations available



For quick XY assembly stages may be **stacked** using connecting cones **3CC4** ($\varnothing 7.1$ holes with fixing screws on the sides are provided)

Motorized Translation Stages 8MT173 are created on the basis of 7T173 translators.

A lead screw of the original design with tetrahedron coupling allows compact, but reliable leading gear design. Mechanical parameters of the motorised stages are identical to the parameters of manual translators **7T173**. Resolution, speed and load capacity all depend on parameters of motor, leading gear, as well as on the controller and driving mode a user chooses to use.

Each unit is accompanied by electrical parameters and wiring scheme of a motor.

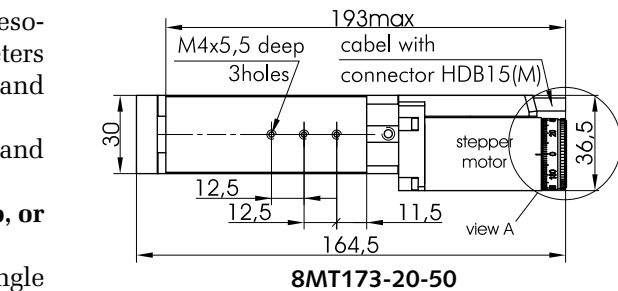
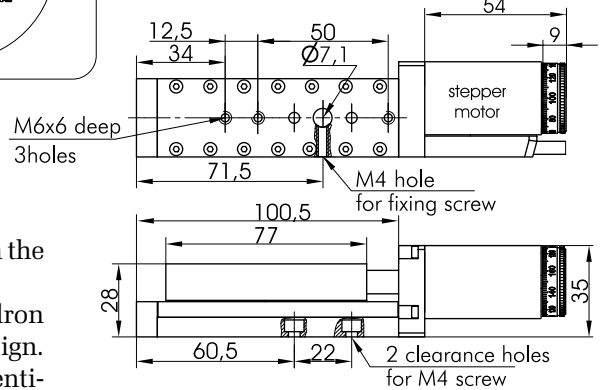
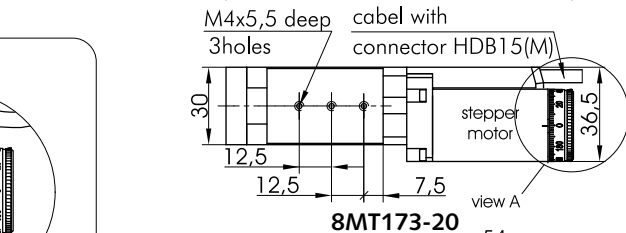
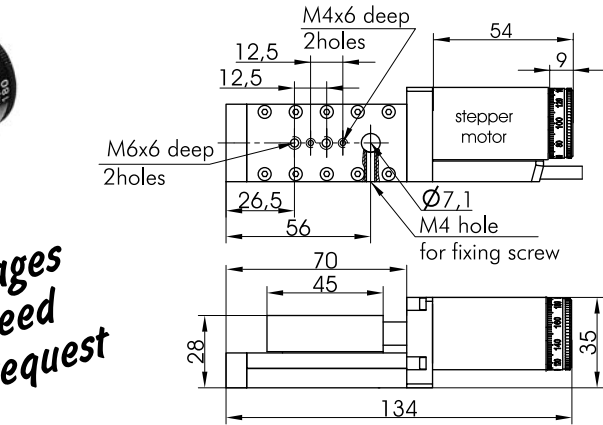
On request we install any types of stepping, servo, or DC motors of your choice.

Vertically a 8MT173 could be mounted on our angle brackets. Custom brackets are available.

The translation stages have two limit switches. They may be used to establish a reference position, but only roughly (within several motor steps).

Motor position can be visually established to a step by reading a dial knob on its axle.

Body and platform of the stages are made of black finished aluminum, functional parts are made of steel.



Motors of other types are available.

***Test condition:**

- Stepper motor: 2 phase bipolar wiring; phase resistance 6.8 Ω ; 200 steps per revolution; step angle – 1.8°; current – 0.67A;
- STANDA controllers;
- 36V.

SPECIFICATIONS	8MT173-10	8MT173-20	8MT173-25	8MT173-30	8MT173-20-50
Travel range, mm	10	20	25	30	50
Lead screw pitch, mm	0.25	0.25	0.25	0.25	0.25
Resolution in full step*, μm	1.25	1.25	1.25	1.25	1.25
Max. speed* mm/s	5	5	5	5	5
Load capacity:					
Horizontal, kg	5	5	5	5	5
Vertical, kg	2	2	2	2	2
Weight, kg	0.43	0.46	0.47	0.48	0.5
Assemblies:					
X-Y	2CP173-20	2CP173-20	2CP173-20	2CP173-20	2CP173-50-20
Z	2AB173-20	2AB173-20	2AB173-20	2AB173-20	2AB173-20-50

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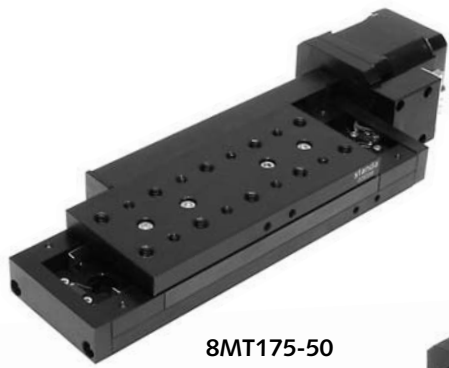
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Medium Width Motorized Translation Stages

8MT175

- Narrow (50 mm)
- Compact design

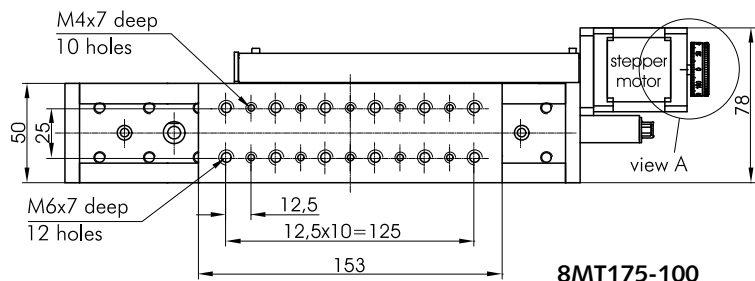
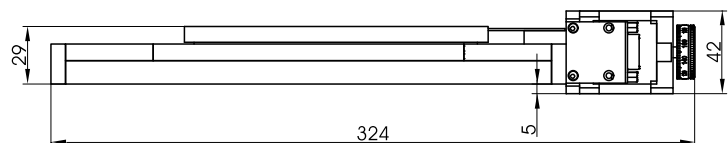
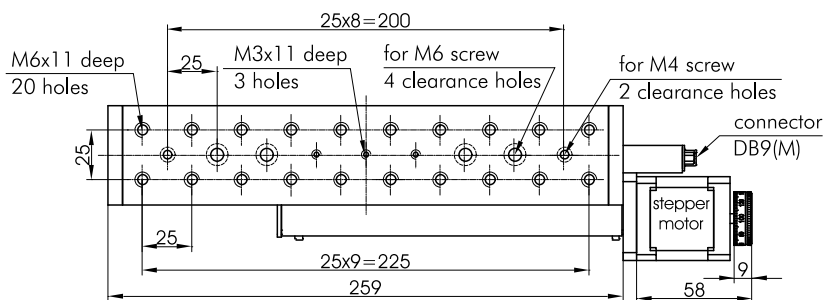
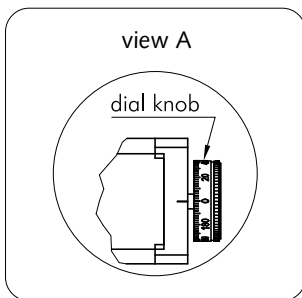
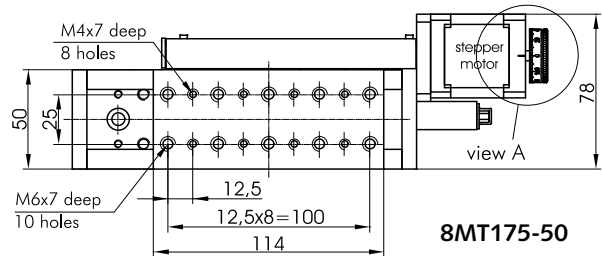
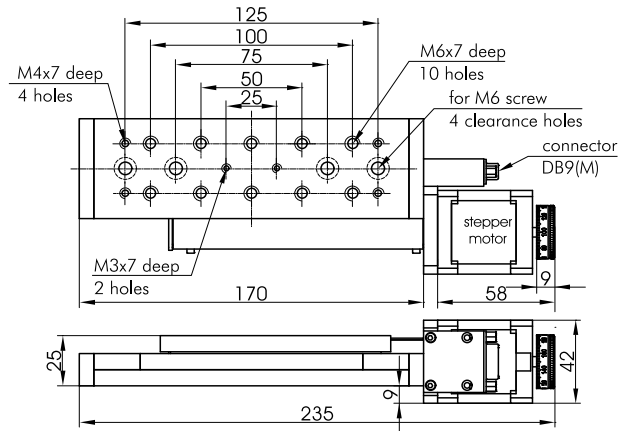
- High guide way accuracy
- Resolution 0.31 μm (1/8 step)
- Travel 50, 100, 150, 200 mm
- X-Y-Z configurations available



8MT175-50



8MT175-150



***Test condition:**

- Stepper motor: 2 phase bipolar wiring; phase resistance 3.2 Ω ; 200 steps per revolution; step angle - 1.8°; current - 1.2A;
- STANDA controllers;
- 36V.

Motors of other types are available.

SPECIFICATIONS	8MT175-50	8MT175-100	8MT175-150	8MT175-200
Travel range, mm	50	100	150	200
Lead screw pitch, mm	0.5	0.5	0.5	0.5
Resolution in full step*, μm	2.5	2.5	2.5	2.5
Max. speed*, mm/s	10	10	10	10
Load capacity				
Horizontal, kg	8	8	8	8
Vertical, kg	3	3	3	3
Weight, kg	1	1.5	1.5	1.6



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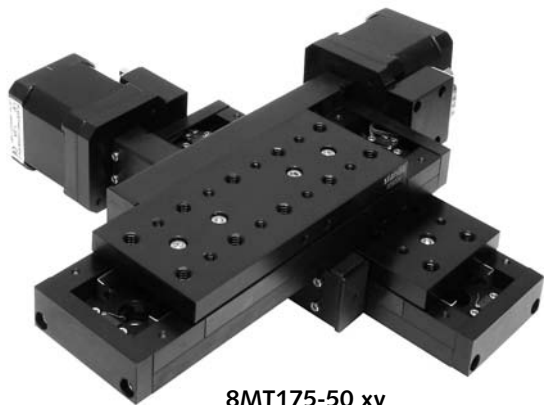
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- Optical Tables 1
- Brackets & Rails 2
- Base Mounts & Accessories 3
- Optical Mounts 4
- Optical Positioners 5
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- Light Test & Measurement Instruments 11



8MT175-50 xy

In X-Y configuration medium width stages are stacked directly using M4 screws. For X-Y-Z stacking optional brackets are available.



2AB175

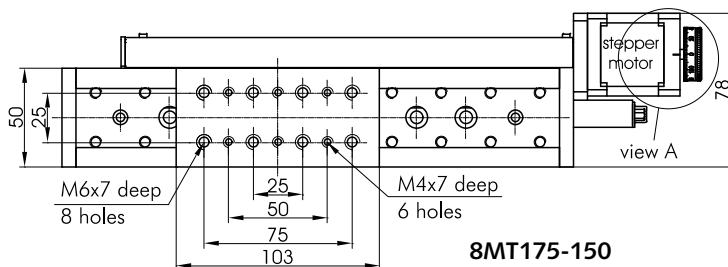
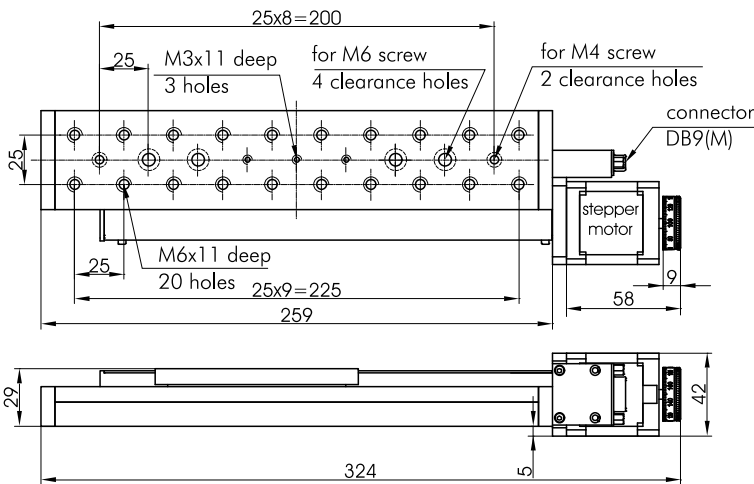
Angle Bracket 2AB175 is used to transform "horizontal" translators into vertical ones.



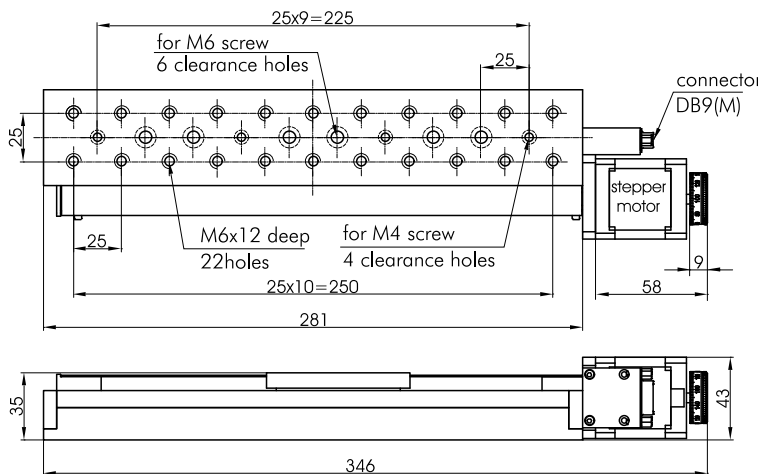
3BP175

Base Plate 3BP175 is designed for attaching translation stages 7T173, 7T175 and motorized translation stages 8MT173, 8MT175, 8MT193-100 to STANDA optical tables or to another stages.

Motorized medium width stages have a motor protruding from the **bottom**. To place such stages on flat surfaces you need a base plate 3BP175 (see 3-5 page).

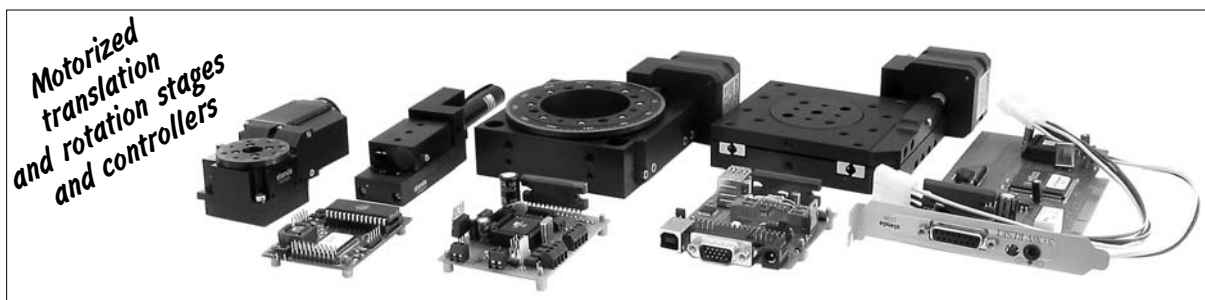


8MT175-150



8MT175-200

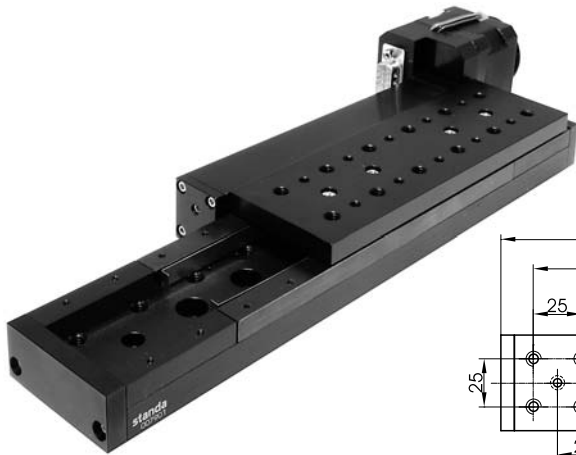
Motorized Stages of Higher Speed available on request



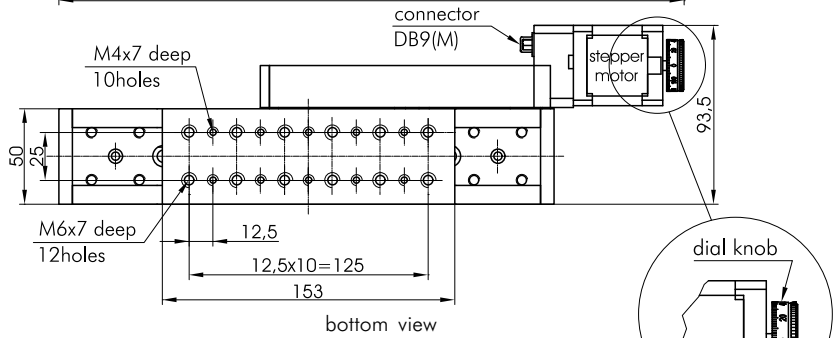
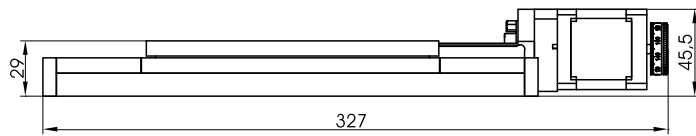
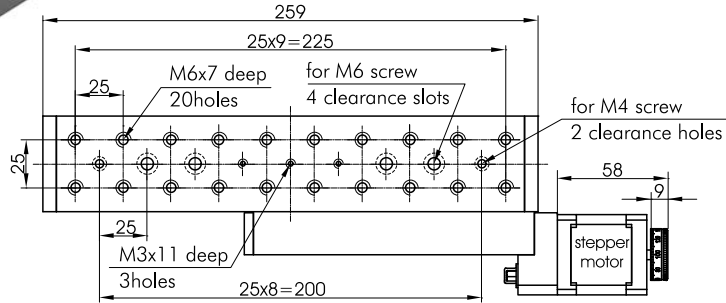
Motorized translation and rotation stages and controllers

Motorized Translation Stage

8MT177-100



- Narrow
- Compact design
- Resolution 0.125 μm (1/8 step)
- X-Y-Z configurations available
- Motors of other types are available



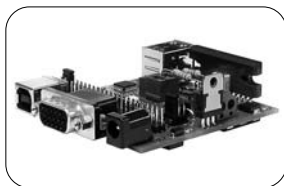
SPECIFICATIONS

Travel range	100 mm
Lead screw pitch	0.5 mm
Resolution	1 μm
in full step*	(1000 steps/mm)
Max. speed*	5 mm/s
Load capacity	
Horizontal	8 kg
Vertical	3 kg
Weight	1.5 kg

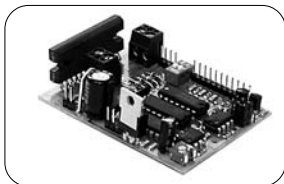
*Test condition:

- Stepper motor: 2 phase bipolar wiring; phase resistance 3.2 Ω ; 200 steps per revolution; step angle - 1.8 $^\circ$; current - 1.2A;
- STANDA controllers;
- 36V.

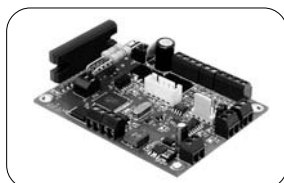
Related Controllers



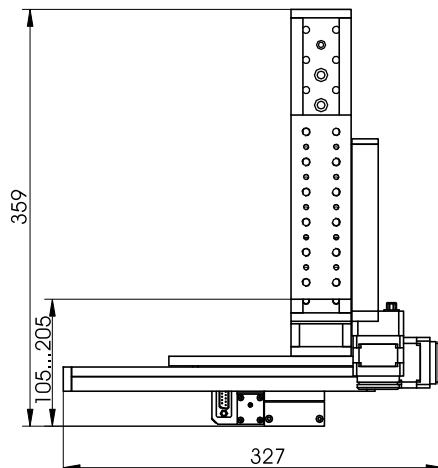
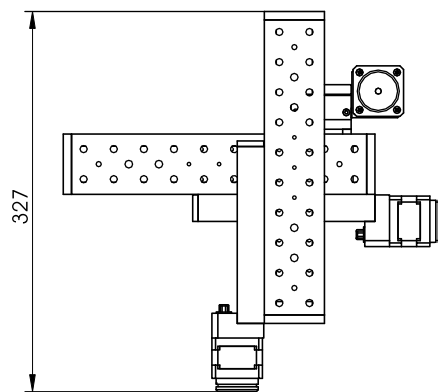
8SMC1-USBhF



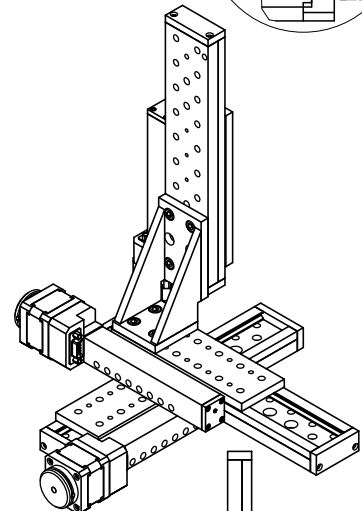
8SMC2



8SMC3-RS232



8MT177-100 xyz



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Motorized Delay Line

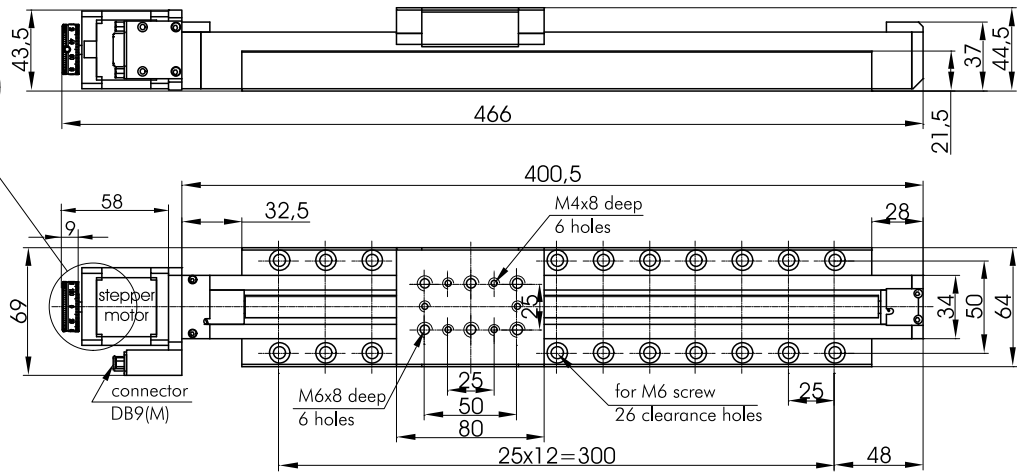
8MT160-300



- Travel range 300 mm
- Resolution in full step 2.5 μm (0.31 μm (1/8 step))
- Steel rail design. Stability and rigidity ensured
- Recirculating ball modules are incorporated in the platform
- Step motor with 200 steps per revolution
- Lead screw pitch 0.5 mm
- Max speed 8mm/s*
- Horizontal load capacity 10 kg
- Vertical load capacity 3 kg
- Supply voltage – 36V
- Weight 4.28 kg

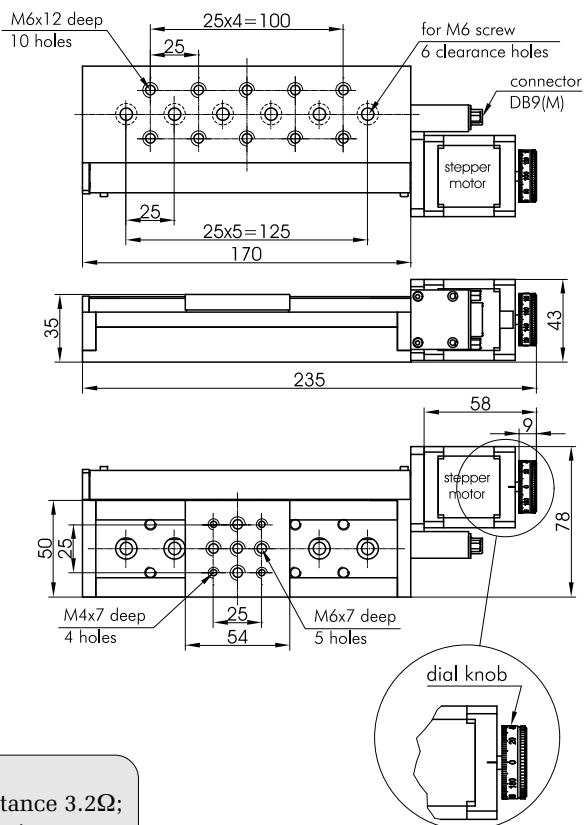
***Test condition:**

- Stepper motor: 2 phase bipolar wiring; phase resistance 3.2 Ω ; 200 steps per revolution; step angle – 1.8 $^\circ$; current – 1.2A;
- STANDA controllers;
- 36V.



Motorized Translation Stage

8MT193-100



SPECIFICATIONS

Travel range	100 mm
Lead screw pitch	0.5 mm
Resolution in full step*	2.5 μm
Resolution in 1/8 step*	0.31 μm
Max. speed*	10 mm/s
<i>on request we fit alternative motors</i>	
Load capacity	
Horizontal	8 kg
Vertical	3 kg
Weight	1.3 kg

***Test condition:**

- Stepper motor: 2 phase bipolar wiring; phase resistance 3.2 Ω ; 200 steps per revolution; step angle – 1.8 $^\circ$; current – 1.2A;
- STANDA controllers;
- 36V.

Motors of other types are available.

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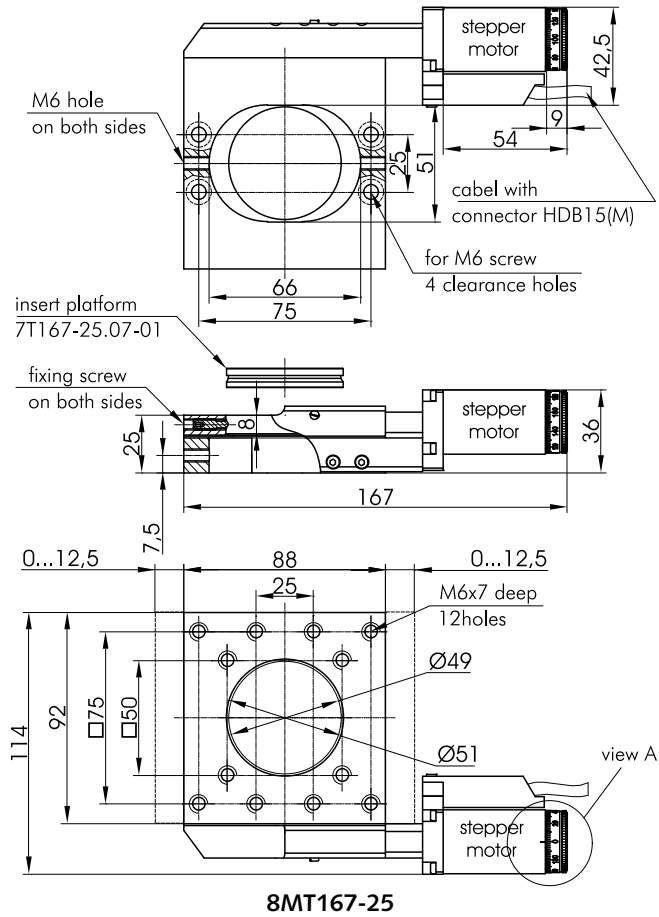
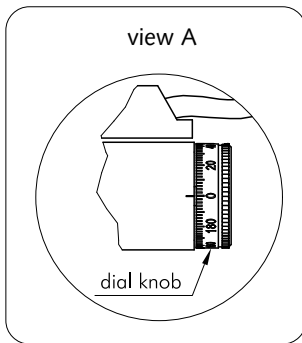
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Motorized Translation Stages

8MT167-25



8MT167-25



Motorized Translation Stages

8MT167-25BS1 8MT167-25LS

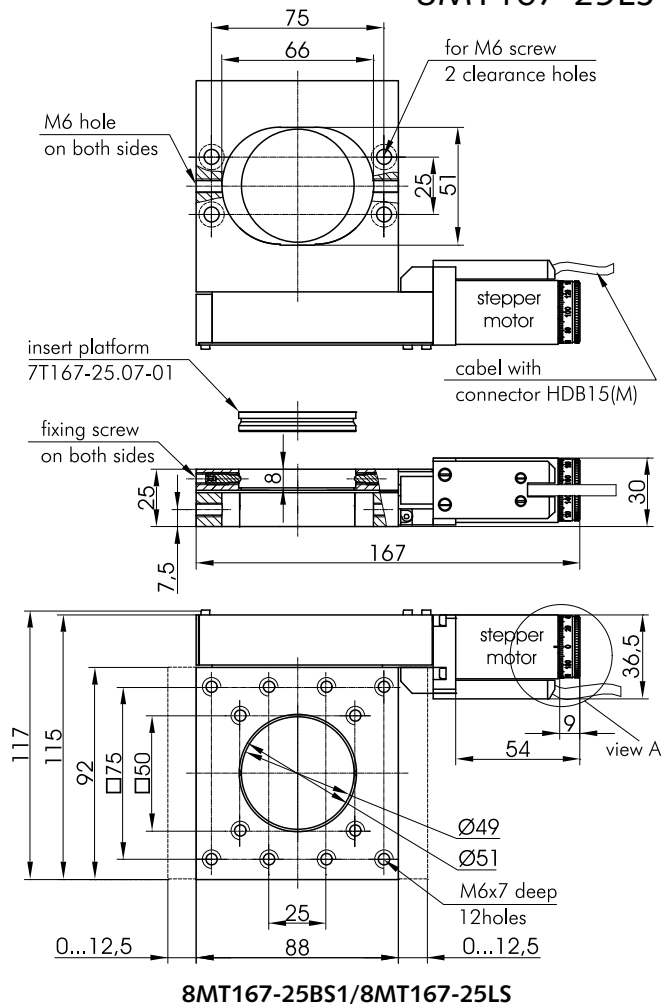


8MT167-25BS1/8MT167-25LS
with insert platform 7T167-25.07-01

8MT167-25BS1, unlike the 8MT167-25LS, is designed for **high-speed movement**. Used ball bearing lead screw makes movement fast and smooth.

The positioner also can be used with microscope on XY axes. As shown in the pictures, the upper plate has a removable insert in the center, the size of which is 2 inches, the base plate is made with slot size of 51 x 76 mm, on the same vertical.

NEW



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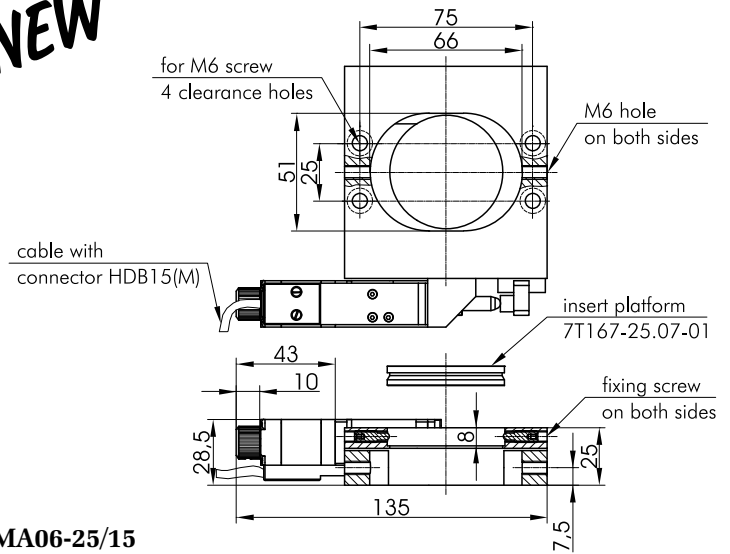
Motorized Translation Stage

8MT167CMA-25

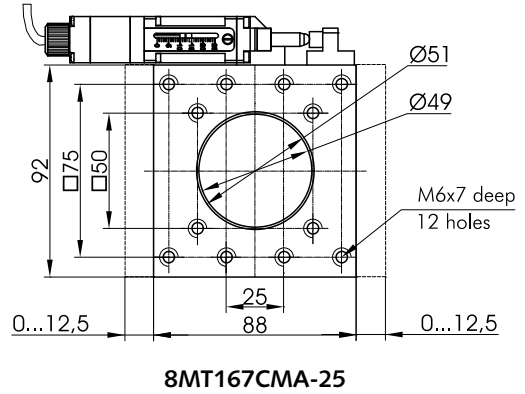
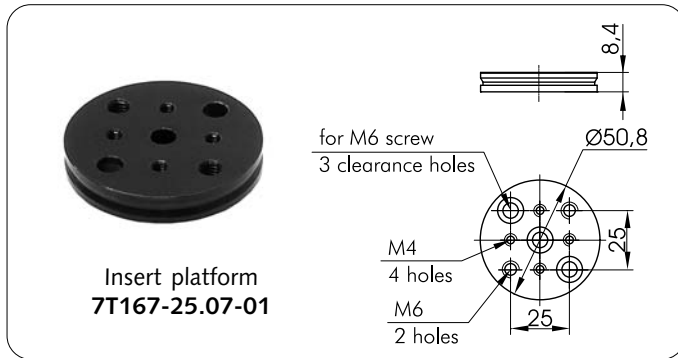


8MT167CMA-25

NEW



8MT167CMA-25 - 7T167-25 with actuator 8CMA06-25/15

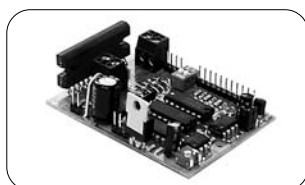


SPECIFICATIONS

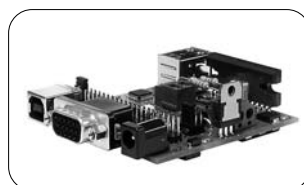
	8MT167-25	8MT167-25BS1	8MT167-25LS	8MT167CMA-25
Travel range, mm	25	25	25	25
Resolution in full step, μm	1.25	5	1.25	1.25
in 1/8 step, μm	0.156	0.625	0.156	0.156
Ball screw pitch, mm	-	1	-	-
Lead screw pitch, mm	0.25	-	0.25	0.25
Repeatability, μm	1	1.5	1	1
Maximum speed, mm/s	3	25	6	5
Maximum load capacity				
Horizontal, kg	7	30	30	6
Vertical, kg	2	7	7	0.5
Limit switches		2 pc mechanical		-
Type of actuator	-	-	-	8CMA06-25/15
Cable		1.6 m length		1.2m length
Motor connector		HDB15(M)		
Stepper motor		ST2818M1006		-
Weight, kg	0.8	0.8	0.8	0.6

Related Controllers

more info on www.standa.it



8SMMC2



8SMC1-USBhF



8SMC3-RS232

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Motorized Translation Stage

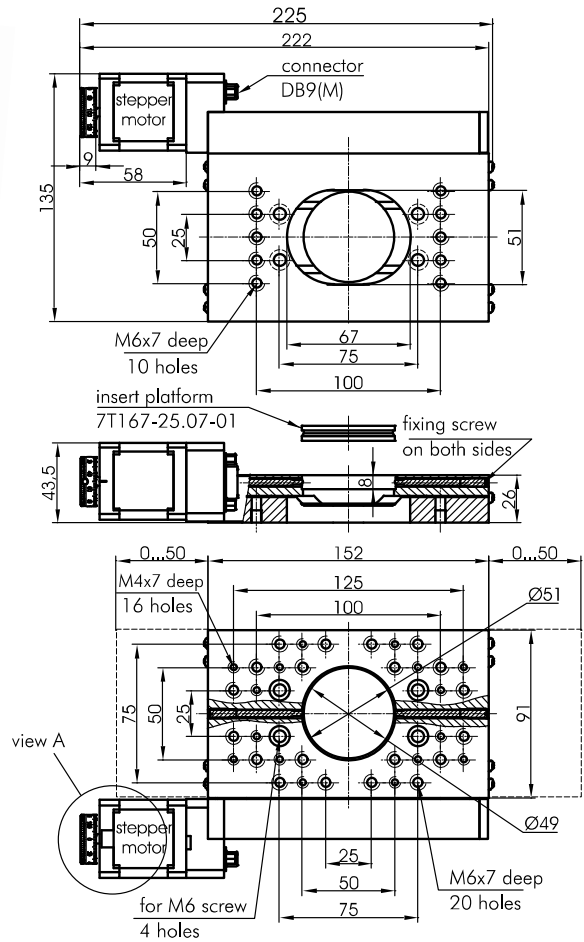
8MT167-100



8MT167-100
with insert platform 7T167-25.07-01

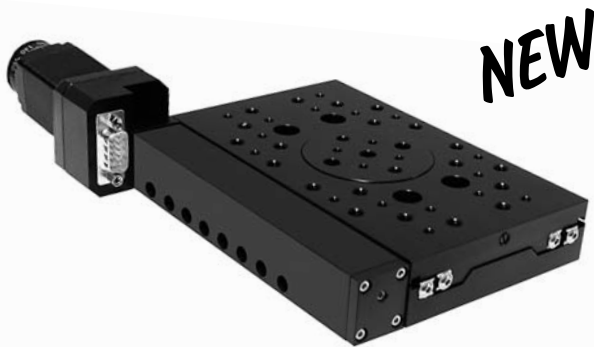
Motorized Translation Stage 8MT167-100 is designed on the basis of 7T167-50 translator. The movement is produced by a step motor through the reducing gear and a lead-screw. There are 1000 steps per millimeter. Individual units are accompanied by indication of electrical parameters and connection schemes of the motors. The motors have 200 steps per revolution. To drive the motor, we offer a range of controllers. Controllers can drive the motor in 1, 1/2, 1/4, 1/8 step division mode. There are microstepping controllers, available from other manufacturers, which divide a step into 10 parts. Mechanics of 8MT167-100 translation stage can be easily attached to any type of stepping motor or servo motor of your choice. Motorized translation stage motor or controller is available upon request.

Motorized Translation Stage 8MT167-100 with stepper motor FL42STH47-1204B.



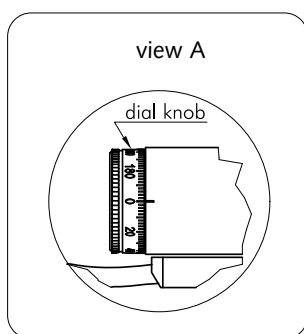
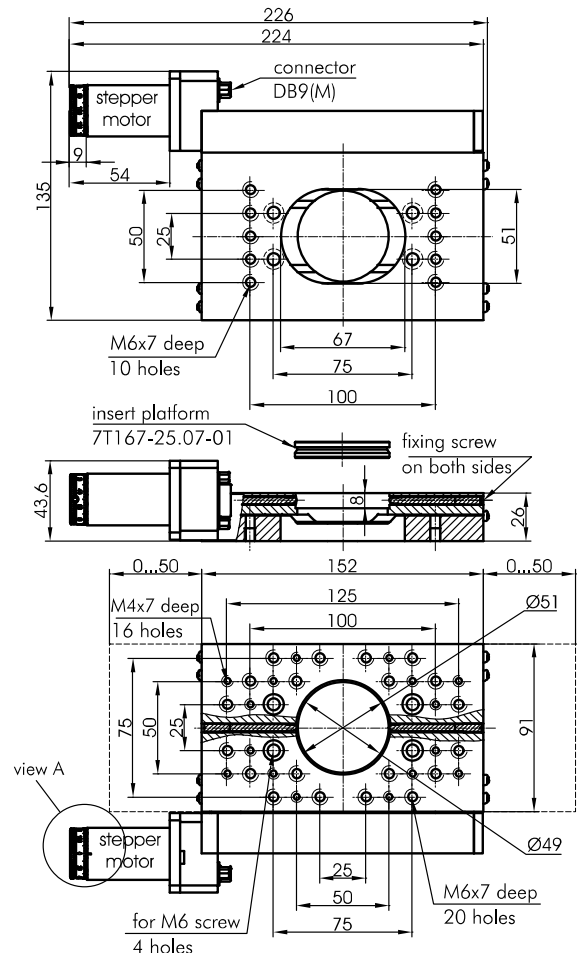
Motorized Translation Stage

8MT167-100C28



8MT167-100C28
with insert platform 7T167-25.07-01

Motorized Translation Stage 8MT167-100C28 with stepper motor ST2818M1006 with connector DB9(M) on motor itself.



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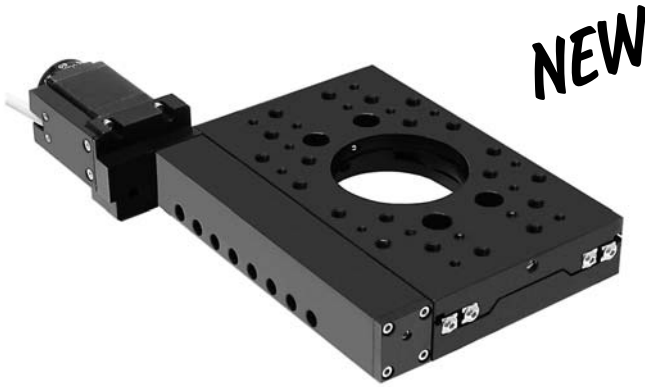
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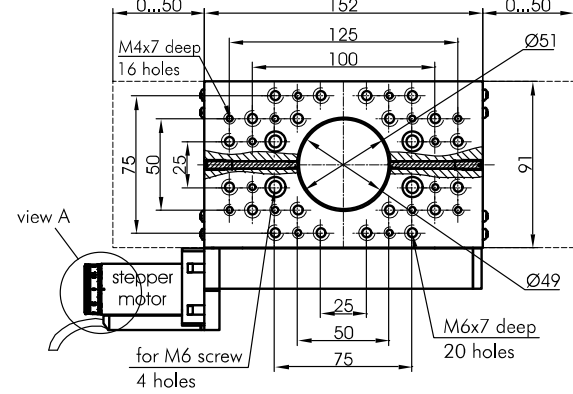
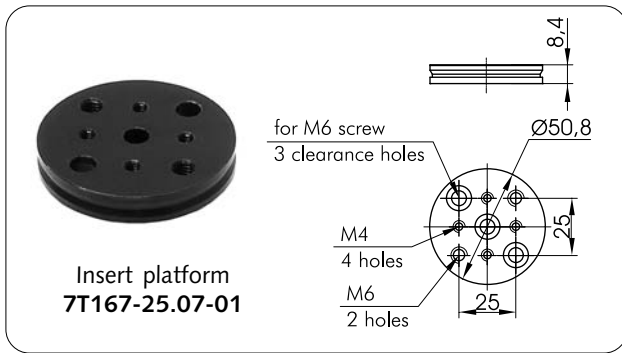
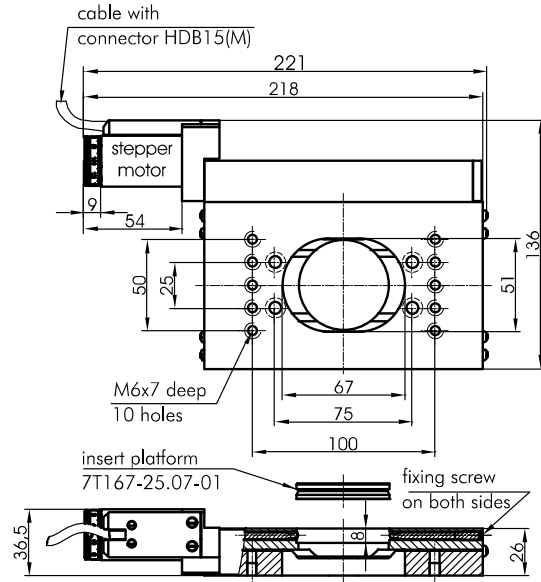
Motorized Translation Stage

8MT167-100-28



8MT167-100-28

Motorized Translation Stage 8MT167-100-28 with stepper motor ST2818M1006.



Motorized Translation Stage (DC motor)

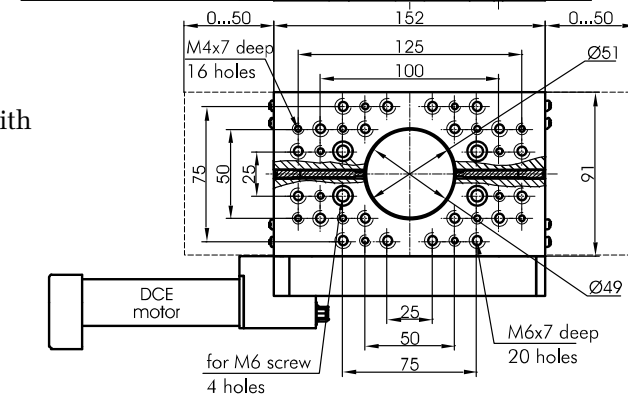
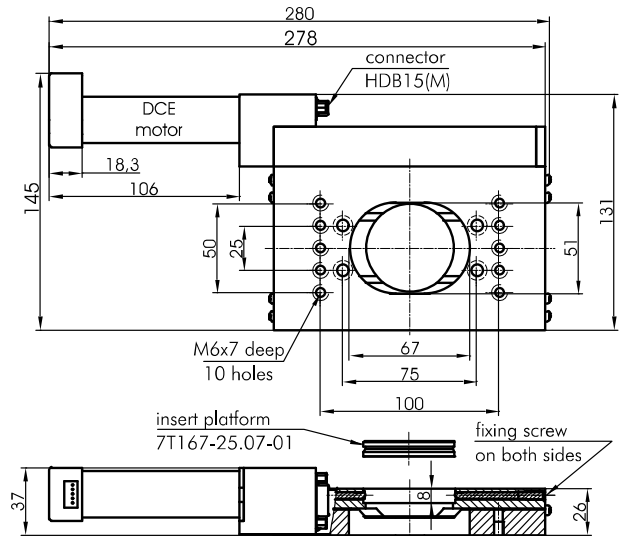
8MT167-100DCE



8MT167-100DCE

with insert platform 7T167-25.07-01

Motorized Translation Stage 8MT167-100DCE with DC motor 118772 and encoder 110511.



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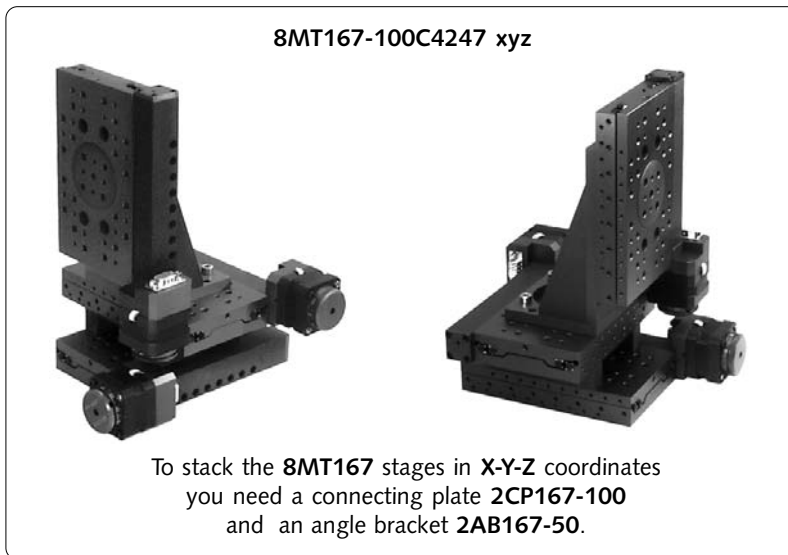
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SPECIFICATIONS	8MT167-100	8MT167-100C28	8MT167-100-28	8MT167-100DCE
Travel range, mm	100	100	100	100
Resolution in full step, μm	1	1	1	-
in 1/8 step, μm	0.125	0.125	0.125	-
Lead screw pitch, mm	0.5	0.5	0.5	0.5
Reduction motor/screw	2.5:1	2.5:1	2.5:1	9.5:1
Bi-direction repeatability*, μm	2	2	2	0.8
Minimal incremental motion, μm	-	-	-	0.026
Maximum speed, mm/s	5	5	5	5.5
Maximum load capacity				
Horizontal, kg	7	7	7	7
Vertical, kg	3	3	3	3
Limit switches		2 pc mechanical		
Cable		1.6 m length		
Motor connector	HDB15(M)	DB9(M)	DB9(M)	HDB15(M)
Stepper motor	FL42STH47-1204B	ST2818M1006	ST2818M1006	-
DCE motor	-	-	-	Maxon motor assembly**
Weight, kg	1.4	1.4	1.4	1.5

*After backlash compensation. Backlash compensation value provided with each actuator.
 **Maxon motor assembly: 118772 DC motor, 110511 encoder, 144026 gear.



Motorized Stages of Higher Speed available on request

Motors of other types are available

Related Controller for DC Motor

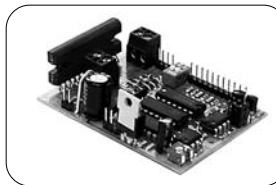


8DCMC3

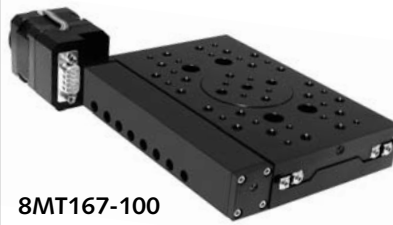


8MT167-100DCE

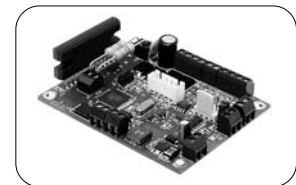
Related Controllers for Stepper Motor



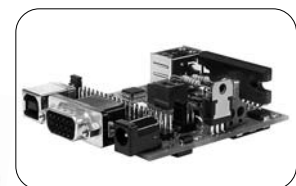
8SMMC2



8MT167-100



8SMC3-RS232



8SMC1-USBhF

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- Optical Tables 1
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- Base Mounts & Accessories 3
- Optical Mounts 4
- Optical Positioners 5
- Base Positioners 6
- Translation & Rotation Stages 7
- Motorised Positioners & Controllers 8
- Fine Adjustment Screws 9
- Opto-Mechanics & Sets 10
- Light Test & Measurement Instruments 11

Motorized Translation Stage

8MT200-100

NEW

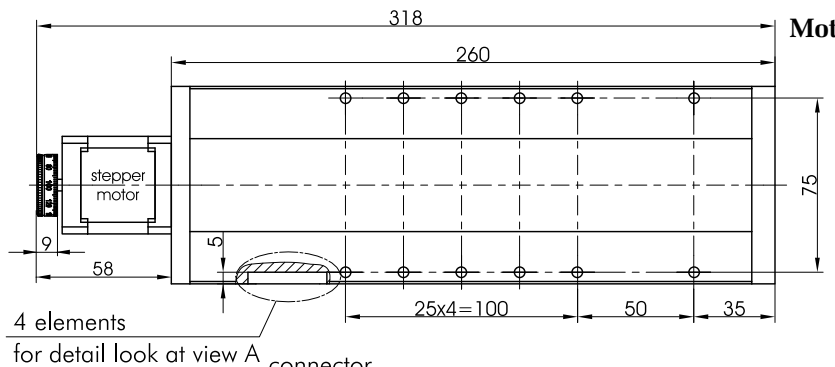


SPECIFICATIONS

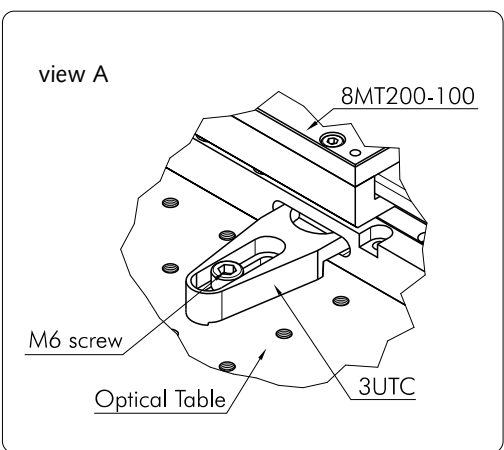
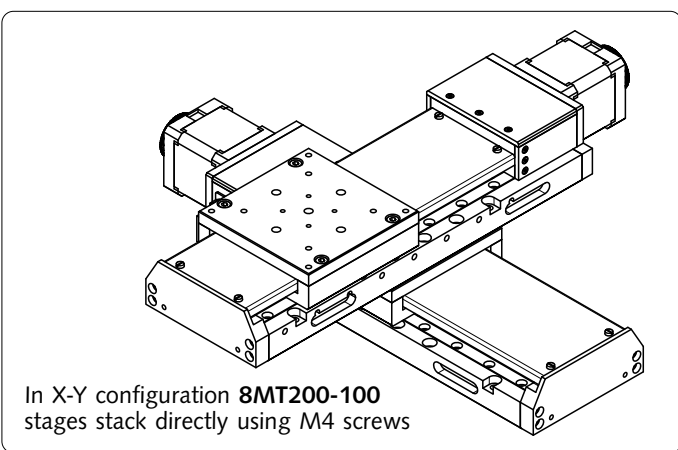
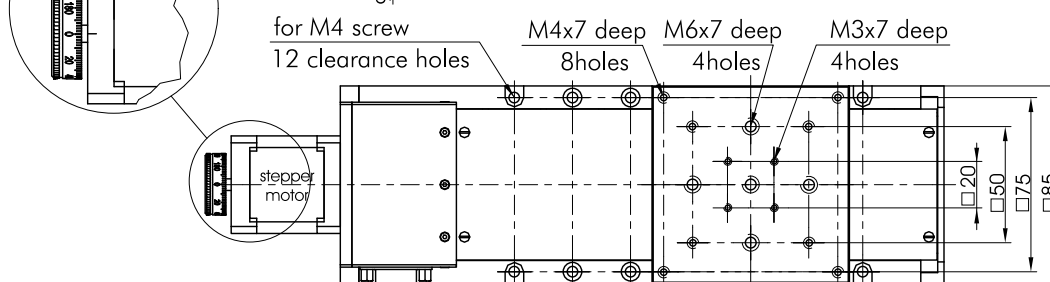
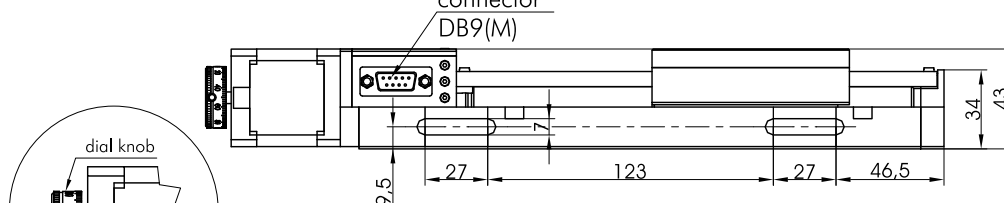
Travel range	100 mm
Lead screw pitch	0.5 mm
Resolution in full step*	2.5 μ m
in 1/8 step*	0.31 μ m
Max. speed*	10 mm/s
<i>on request we fit alternative motors</i>	
Load capacity	
Horizontal	40 kg
Vertical	6 kg
Weight	2.2 kg

*Test condition:

- Stepper motor: 2 phase bipolar wiring; phase resistance 3.2 Ω ; 200 steps per revolution; step angle – 1.8 $^\circ$; current – 1.2A;
- STANDA controllers;
- 36V.



Motors of other types are available

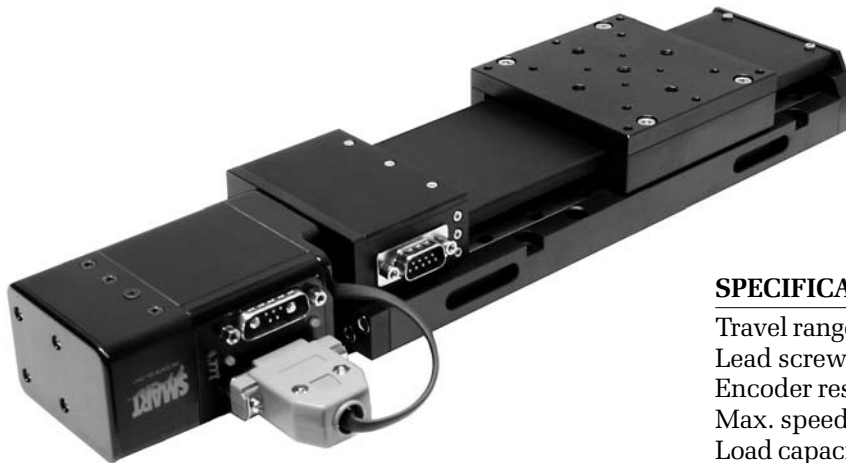


- 1 Optical Tables
- 2 Brackets & Rails
- 3 Base Mounts & Accessories
- 4 Optical Mounts
- 5 Optical Positioners
- 6 Base Positioners
- 7 Translation & Rotation Stages
- 8 Motorised Positioners & Controllers
- 9 Fine Adjustment Screws
- 10 Opto-Mechanics & Sets
- 11 Light Test & Measurement Instruments

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Motorized Translation Stage

8MT200-100SM



NEW

SPECIFICATIONS

Travel range	100 mm
Lead screw pitch	0.5 mm
Encoder resolution	2000
Max. speed	25 mm/s
Load capacity	
Horizontal	40 kg
Vertical	6 kg
Weight	2.5 kg

Motorized Translation Stage (DC motor)

8MT200-100DCE



NEW

SPECIFICATIONS

Travel range	100 mm
Lead screw pitch	0.5 mm
Minimal incremental motion	0.065 μ m
Max. speed	13 mm/s
Load capacity	
Horizontal	30 kg
Vertical	5 kg
Weight	2.2 kg

ORDERING INFORMATION

8MT200-100	Motorized Translation Stage with stepper motor FL42STH47-1204B
8MT200-100SM	Motorized Translation Stage with stepper motor and controller SM1720D-PLS2
8MT200-100DCE	Motorized Translation Stage with DC motor 118772 and encoder 110511



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Long - Travel Motorized Linear Stages

8MT195 series



8MT195-340-2.5

NEW

8MT195 series stages are designed to provide **high-speed** movement. Standard motors allow moving loads up to 40 kg. Load capacity can be increased using more powerful motors. This stage provides moderate resolution and accuracy. **8MT195** series stages are supplied equipped with **3P195** platform, **3BP195** bases plates (2 pc) and appropriate amount of **3SN195** inserts.

Resolution and **speed** of **8MT195** series stages can be varied choosing appropriate ball screw pitch. Several standard options are available and should be specified upon ordering.

For applications requiring travel over 500 mm we suggest using **8MT295** series stages (X) paired with **8MT195** series stages (Y) to make **XY** assemblies.

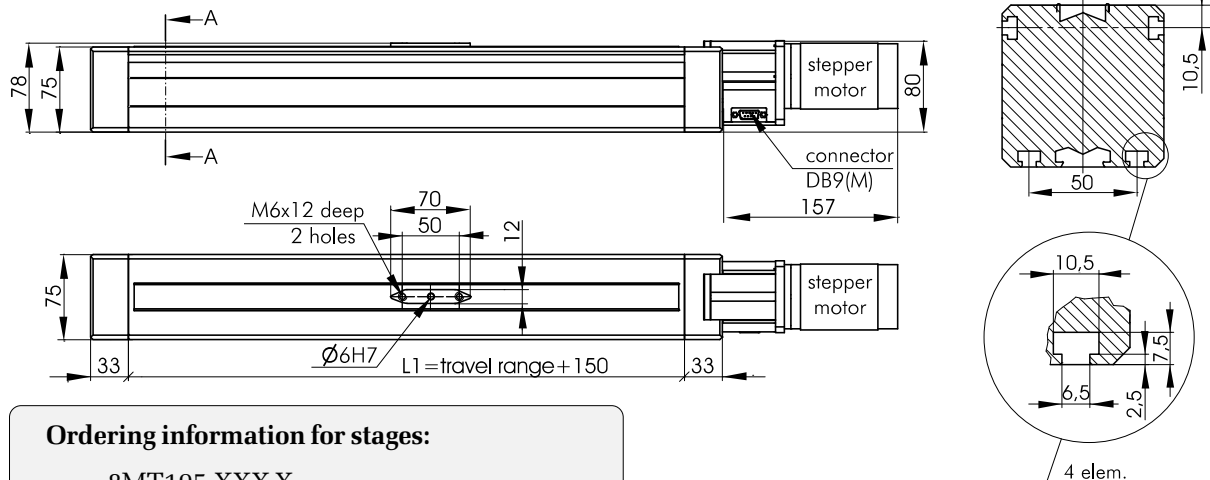
SPECIFICATIONS

Travel range	300...1000 mm
Lead screw pitch	2.5/4/5 mm
Resolution in full step*	12.5 μ m
in 1/8 step*	1.57 μ m
Max. speed*	40 mm/s
<i>on request we fit alternative motors</i>	
Load capacity	
Horizontal	40 kg
Vertical	10 kg

*Test condition:

- Lead screw pitch - 2.5mm
- Stepper motor: 2 phase bipolar wiring; phase resistance 2.4 Ω ; 200 steps per revolution; step angle - 1.8 $^\circ$; current - 1.2A;
- STANDA controllers;
- 36V.

Motors of other types are available



Ordering information for stages:

8MT195-XXX-X
 Travel range / Lead screw pitch
 300...1000mm / 2.5/4/5mm

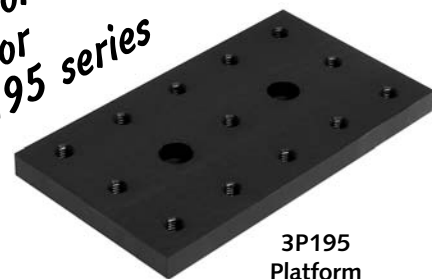
Examples of codes	travel range	lead screw pitch
8MT195-340-2.5	340 mm	2.5 mm
8MT195-590-4	590 mm	4 mm
8MT195-700-5	700 mm	5 mm

Ordering information for accessories*

- 3BP195 Base Plate
- 3P195 Platform
- 3SN195 Slide Nut

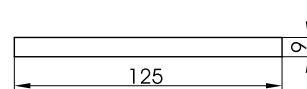
* - included in standard package and to be ordered only as extra units

Accessories for 8MT195 series

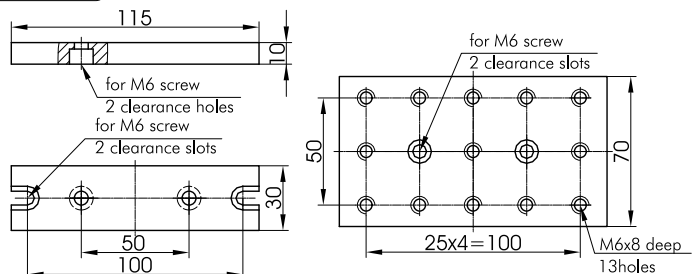


3P195 Platform

3BP195 Base Plate



3SN195 Slide Nut



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Long - Travel Motorized Linear Stages

8MT295 series



SPECIFICATIONS

Travel range	300...1000 mm
Lead screw pitch	2.5/4/5 mm
Resolution in full step*	12.5 μm
in 1/8 step*	1.57 μm
Max. speed*	40 mm/s
<i>on request we fit alternative motors</i>	
Load capacity	
Horizontal	60 kg
Vertical	10 kg

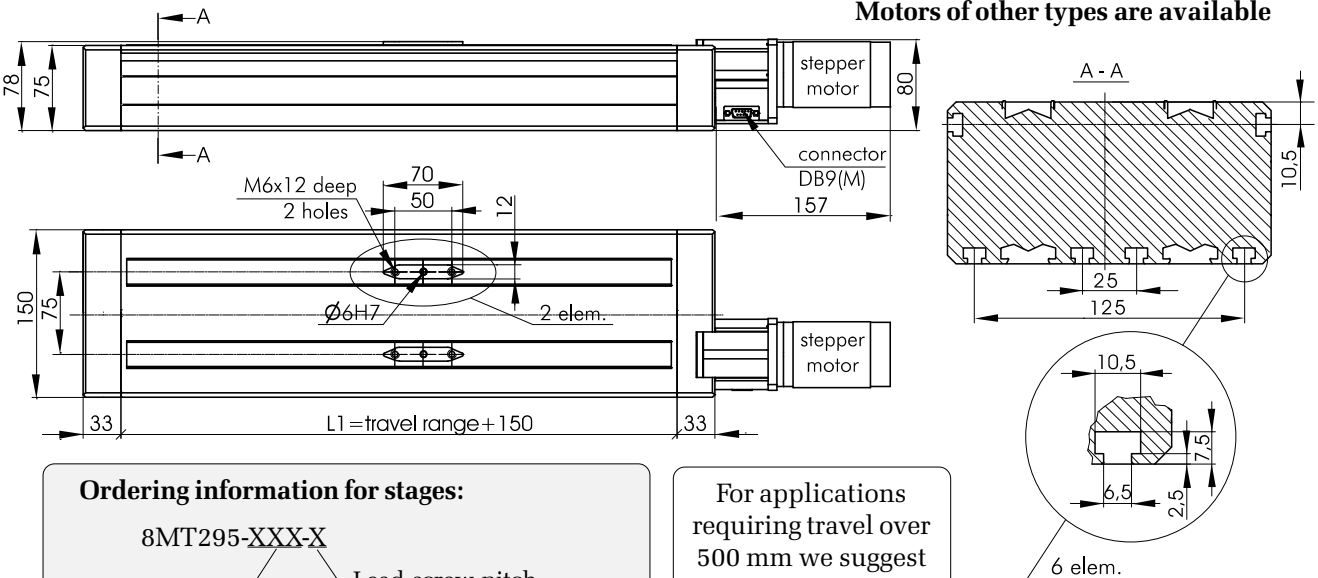
***Test condition:**

- Lead screw pitch - 2.5mm
- Stepper motor: 2 phase bipolar wiring; phase resistance 2.4Ω; 200 steps per revolution; step angle - 1.8°; current - 1.2A;
- STANDA controllers;
- 36V.

8MT295 series stages are designed to provide **high-speed** movement. Standard motors allow moving loads up to 40 kg. Load capacity can be increased using more powerful motors. This stage provides moderate resolution and accuracy. **8MT295 series** stages are supplied equipped with **3P295** platform, **3BP295** bases plates (2 pc) and appropriate amount of **3SN195** inserts.

Resolution and speed of **8MT295 series** stages can be varied choosing appropriate ball screw pitch. Several standard options are available and should be specified upon ordering.

Motors of other types are available



Ordering information for stages:

8MT295-XXX-X

Travel range	Lead screw pitch
300...1000mm	2.5/4/5mm

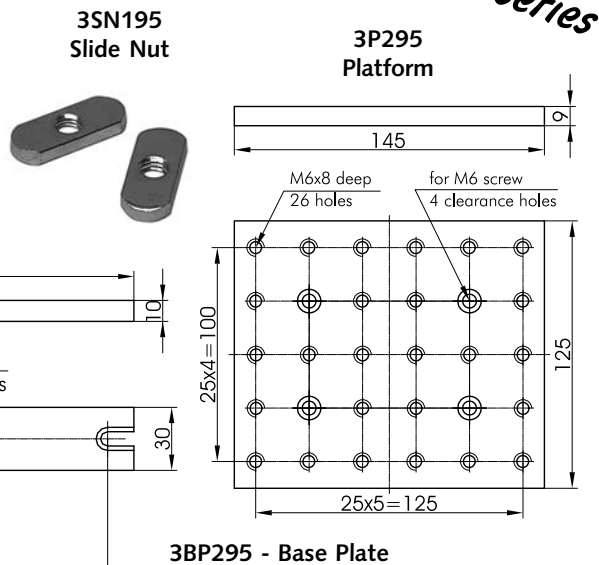
Examples of codes	travel range	lead screw pitch
8MT295-340-2.5	340 mm	2.5 mm
8MT295-590-4	590 mm	4 mm
8MT295-700-5	700 mm	5 mm

Ordering information for accessories*

- 3BP295 Base Plate
 - 3P295 Platform
 - 3SN195 Slide Nut
- * - included in standard package and to be ordered only as extra units

For applications requiring travel over 500 mm we suggest using **8MT295 series** stages (X) paired with **8MT195 series** stages (Y) to make **XY assemblies**.

Accessories for 8MT295 series



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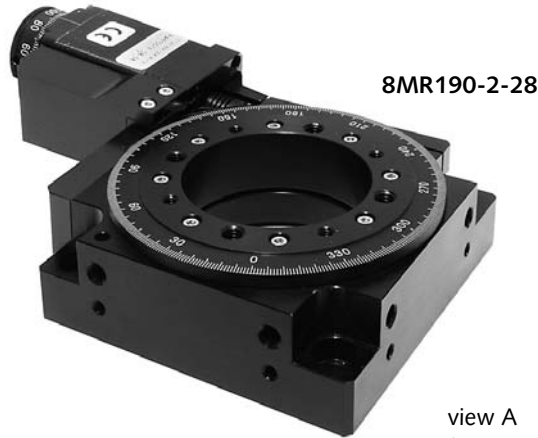
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- Light Test & Measurement Instruments 11

Motorized Rotation Stages

8MR190-2



- 360 degrees rotation graduated in 1°
- 50.8 mm (2 inch) aperture
- Resolution 4.5 arcsec in 1/8 step
- Zero backlash
- High stability
- Home/zero position limit switch
- Mounting modifications available on request

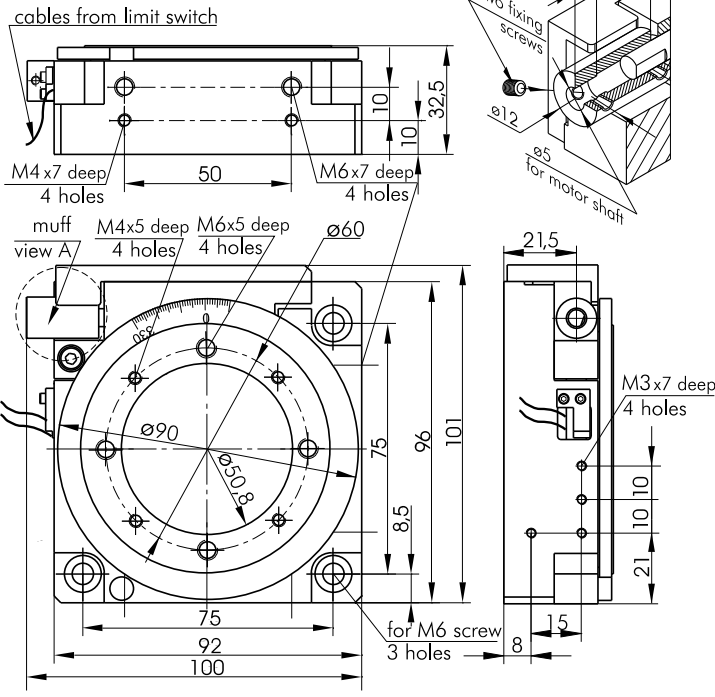
ORDERING INFORMATION

- 8MR190-2** – Rotation stage **8MR190-2** without motor
- 8MR190-2-4247*** – Rotation stage **8MR190-2** with stepper motor **FL42STH47-1204B** (1.2A, 200 steps)
- 8MR190-2-4233*** – Rotation stage **8MR190-2** with stepper motor **FL42STH33-0404B** (0.4A, 200 steps)
- 8MR190-2-28*** – Rotation stage **8MR190-2** with stepper motor **ST2818M1006** (0.67A, 200 steps)
- 8MR190-2-ZSS43** – Rotation stage **8MR190-2** with stepper motor **ZSS43.200.1.2** (0.6A, 200 steps)

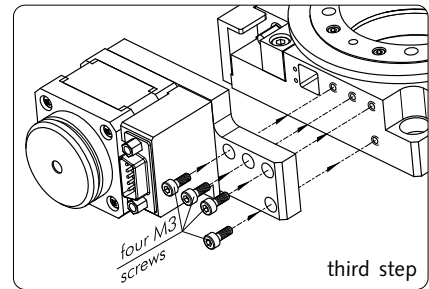
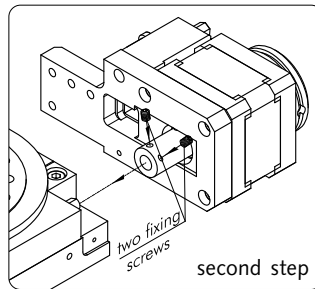
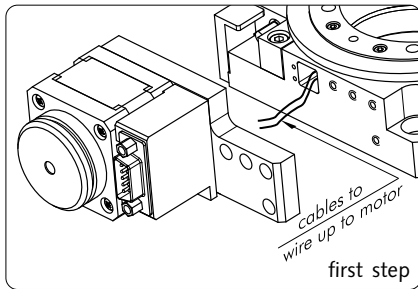
Motors specificaton – www.standa.it
 *Using a **dial knob** on the axle of a motor, you can read position **to each step** of the motor.
Controllers for the motorized stages are available separately.
Motors of other types are available.

We are able to equip our stage with any your provided motors

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Three steps of connection motor to rotation stage



SPECIFICATIONS

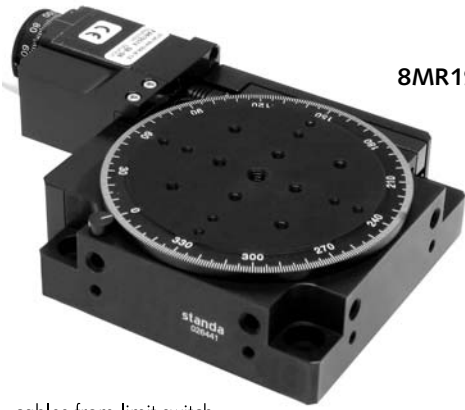
Rotation range	360°
Resolution in full step**	0.6 arcmin (0.01°)
Max.rotation speed**	8 turn/min
Backlash	0 μm
Wobble	0.5 arcmin
Eccentricity	10 μm
Load capacity	
Horizontal	10 kg
Radial	2 kg
Torque	1 Nm
Weight	
8MR190-2	0.65 kg

****Test condition:**
 • Stepper motor **FL42STH47-1204B**;
 • STANDA controllers;
 • 36V.



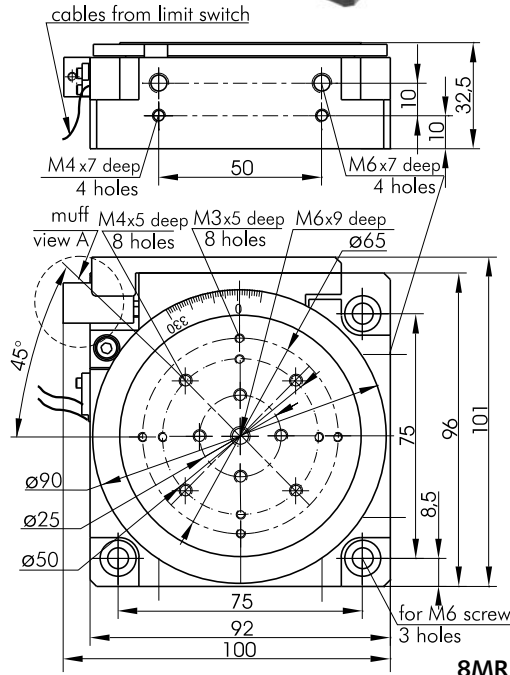
Motorized Rotation Stages

8MR191

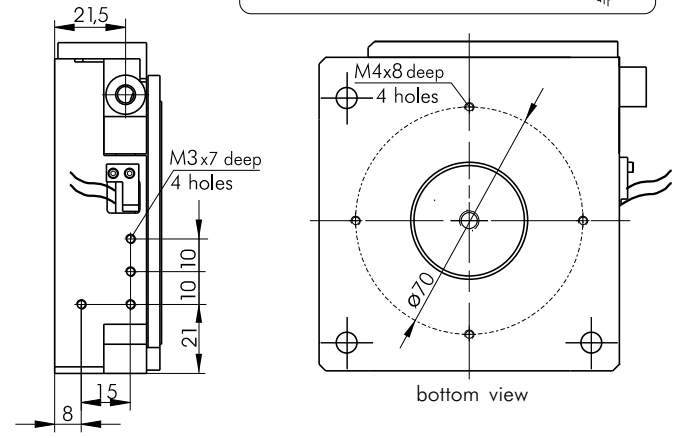
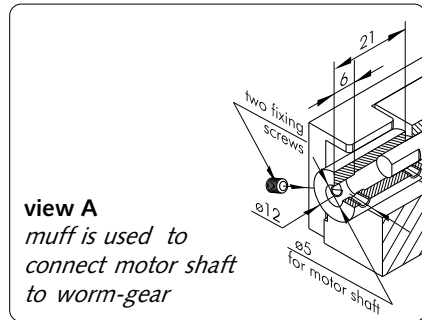


8MR191-28

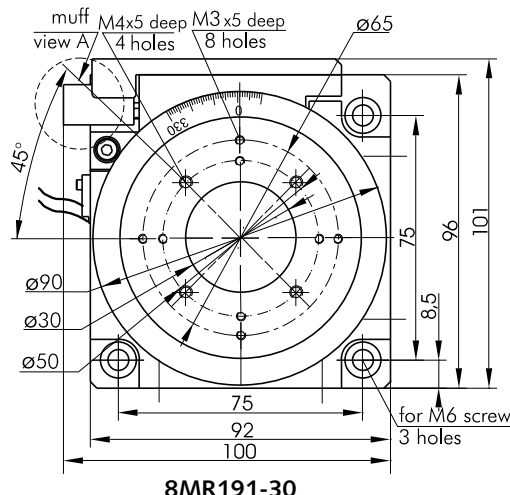
- 360 degrees rotation graduated in 1°
- Three types of platform
 - platform without big central hole;
 - M27×1 for 1" optics mounting (Ø23 mm clear aperture);
 - Ø30 mm aperture
- Resolution 4.5 arcsec in 1/8 step.



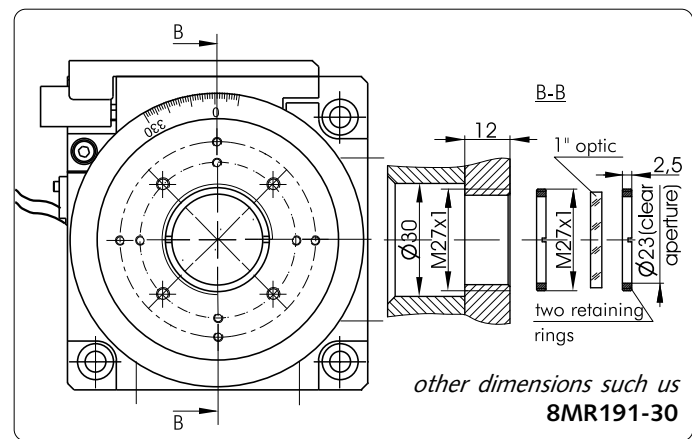
8MR191



bottom view



8MR191-30



8MR191-1

SPECIFICATIONS

Rotation range	360°	Eccentricity	10 µm
Resolution	0.6 arcmin	Load capacity	
in full step**	(0.01°)	Horizontal	10 kg
Max. rotation speed**	8 turn/min	Radial	2 kg
Wobble	0.5 arcmin	Torque	1 Nm
		Weight	
		8MR191	0.65 kg
		8MR191-1	0.65 kg
		8MR191-30	0.65 kg

****Test condition:**

- Stepper motor FL42STH47-1204B;
- STANDA controllers;
- 36V.

Controllers for motorized stages are available separately

8SMC3-RS232

8SMC1-USBhF

8SMC2

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Optical Positioners 5

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Fine Adjustment Screws 9

Opto-Mechanics & Sets 10

Light Test & Measurement Instruments 11



8MR191-30

ORDERING INFORMATION

Examples of codes for motorized rotation stages **8MR191**:

- 8MR191** – Rotation stage **8MR191** without motor
- 8MR191-1-4247*** – Rotation stage **8MR191-1** with stepper motor **FL42STH47-1204B** (1.2A, 200 steps)
- 8MR191-30-4233*** – Rotation stage **8MR191-30** with stepper motor **FL42STH33-0404B** (0.4A, 200 steps)
- 8MR191-28*** – Rotation stage **8MR191** with stepper motor **ST2818M1006** (0.67A, 200 steps)
- 8MR191-1-ZSS43** – Rotation stage **8MR191-1** with stepper motor **ZSS43.200.1.2** (0.6A, 200 steps)

Motors specification – www.standa.it

*Using a **dial knob** on the axle of a motor, you can read position **to each step** of the motor.

Motors of other types are available.

We are able to equip our stage with any your provided motors

Mini Motorized Rotation Stage

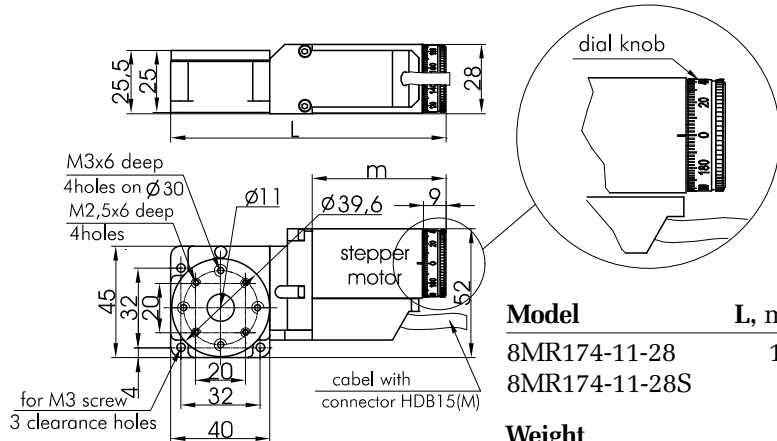
8MR174-11



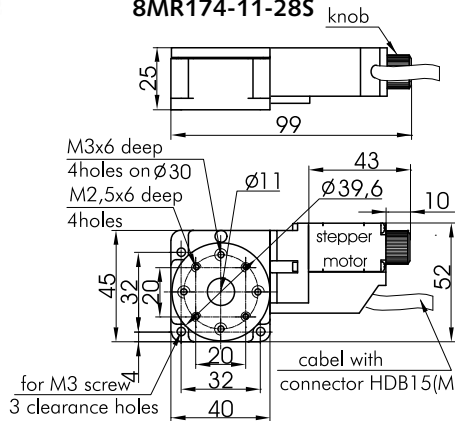
8MR174-11-28



8MR174-11-28,
7T184-13 (2 pieces)
and 7VT174-5 stacked



8MR174-11-28
8MR174-11-28S



8MR174-11-20

Model	L, mm
8MR174-11-28	111
8MR174-11-28S	98

Weight	
8MR174-11-20	0.3 kg
8MR174-11-28	0.4 kg
8MR174-11-28S	0.35 kg

SPECIFICATIONS

Rotation Range	360°
Resolution	0.9 arcmin
in full step	(0.015°)
Wobble	1 arcmin
Eccentricity	10 μm
Load capacity	
Horizontal	4 kg
Radial	1.5 kg
Torque	0.5 Nm
Motor cable	integrated
Length	2 meters
	(other lengths optional)
Connector	DB15 socket

8MR174-11-28:
Motor type – **ST2818M1006**
(200 steps; bipolar (4 leads); phase resistance 6.8 Ω; current – 0.67 A.)

8MR174-11-28S:
Motor type – **ST2818S1006**
(200 steps; bipolar (4 leads); phase resistance 5.6 Ω; current – 0.67 A.)

8MR174-11-20:
Motor type – **ST2018S0604**
(200 steps; bipolar (4 leads); phase resistance 6.5 Ω; current – 0.6 A.)



3UBP universal base plates for stacking the translation stages to STANDA optical tables or to another stages.

Page 3-4

Motorized Rotation Stages

8MR151

SPECIFICATIONS

Rotation Range	360°
Resolution in full step*	0.6 arcmin
in 1/8 step*	4.5 arcsec
Max. rotation speed*	50°/s
Wobble	0.6 arcmin
Eccentricity	10 μm
Load capacity	
Horizontal	6 kg
Radial	1.7 kg
Torque	0.5 Nm
Motor cable	integrated
Length	2 meters
Connector	DB15 socket
Weight	0.56 kg

***Test condition:**

- Stepper motor **ST2818M1006**
- STANDA controllers;
- 36 V.

Motor type:

ST2818M1006 (200 steps, bipolar (4 leads)). Motors of other types are available.

Ordering information:

8MR151-1 – M27×1 for 1" optics mounting (Ø23 mm clear aperture).

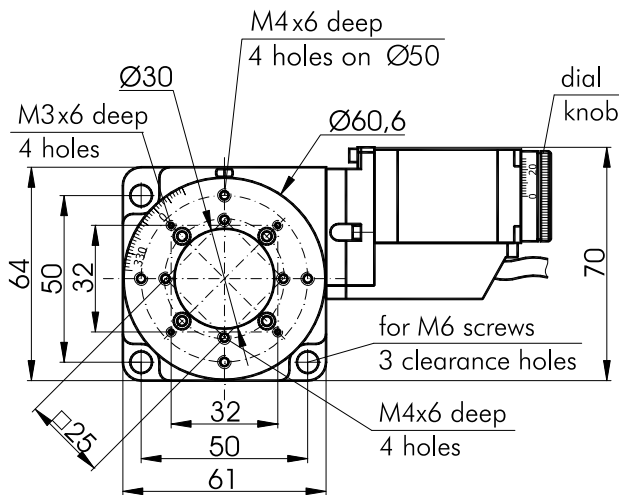
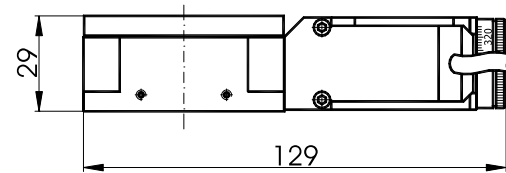
8MR151-30 – a Ø30 mm aperture.



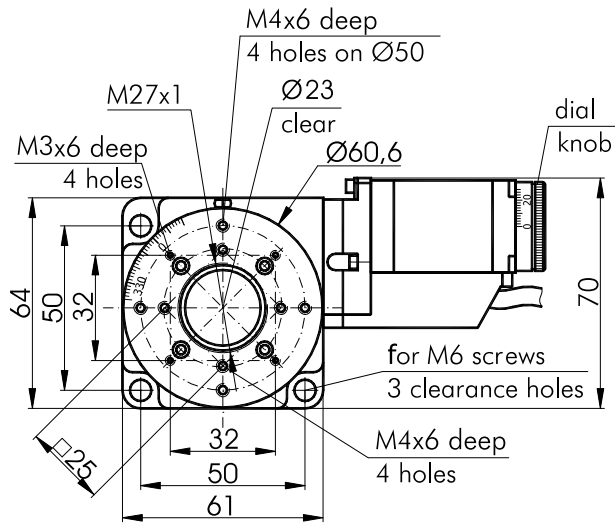
8MR151-1



8MR151-30



8MR151-30



8MR151-1

Related Controllers

more info on www.standa.it



8SMC2



8SMC1-USBhF



8SMC3-RS232



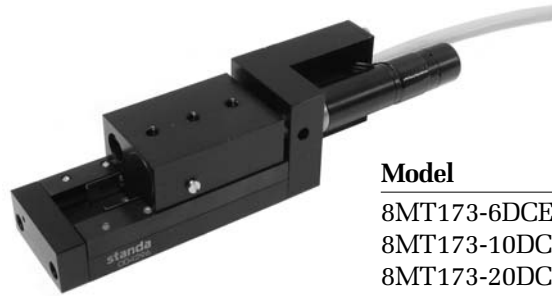
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Translation Stage with DC motor

8MT173-DCE; -DCJ



8MT173-20DCE

Model	Travel, mm
8MT173-6DCE (DCJ)	6
8MT173-10DCE (DCJ)	10
8MT173-20DCE (DCJ)	20
8MT173-25DCE (DCJ)	25
8MT173-30DCE (DCJ)	30

Weight for range of translation stages – 0.33 ÷ 0.38 kg

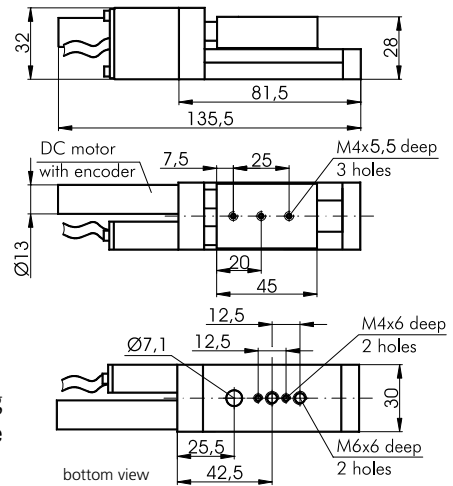
8MT173-DCE series stages are supplied with DC motor including encoder. The movement is controlled via a controller (for instance our 8DCMC3 controller).

8MT173-DCJ series stages are supplied with DC motor without encoder. The movement is controlled via a joystick (visual feedback).

SPECIFICATIONS

Motor Type "MAXON"	DC (3 Volt, 1.2 Watt nominal)
Encoder "MAXON"	Magnetic digital (2 channels)
Resolution	0.1 μm
Minimal incremental motion	0.014 μm
Bi-directional Repeatability*	0.4 μm
Limit Switches	fail-safe limit
Normal Load capacity	5 kg horizontal (varies with speed) 1.5 kg vertical (varies with speed)

*After backlash compensation. Backlash compensation value provided with each actuator.



8MT173-20DCE

Other stages have a different length of platform and translation.



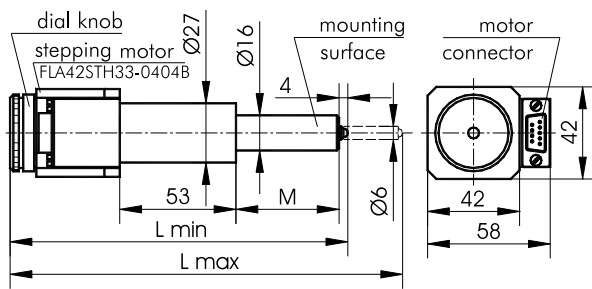
Joystick for **8MT173-DCJ**
Model **8JX.01** – 1 axis control
Model **8JXY.01** – 2 axis control

Motorized Screws

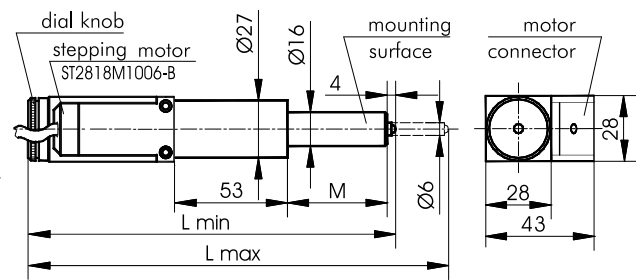
8MS00



- Manual drive with a dial knob
- Resolution 0.156 μm (1/8 step)
- Scale on the dial knob allows reading accuracy to a step
- Two limit switches
- Optional power supplies for higher voltages/speeds are available



8MS00-10, 8MS00-25



8MS00-10-28, 8MS00-25-28

Model	M, mm	L min, mm	L max, mm
8MS00-10	37	143.5	153.5
8MS00-25	47	153.5	178.5
8MS00-10-28	37	157.5	167.5
8MS00-25-28	47	167.5	192.5

SPECIFICATIONS

Travel range	8MS00-10 10 mm 8MS00-25 25 mm
Resolution in full step*	1.25 μm
Lead screw pitch	0.25 mm
Nominal force*	60-100 N depends on the motor
Limit switches	2
Weight	0.45 kg

*Parameters of the stepping motor are as follows:

- 2 phase bipolar wiring, phase resistance 33 Ω for 8MS00-10, 8MS00-25 and phase resistance 6.8 Ω for 8MS00-10-28, 8MS00-25-28;
- 200 steps per revolution;
- step angle – 1.8°.

Motors of other types are available.

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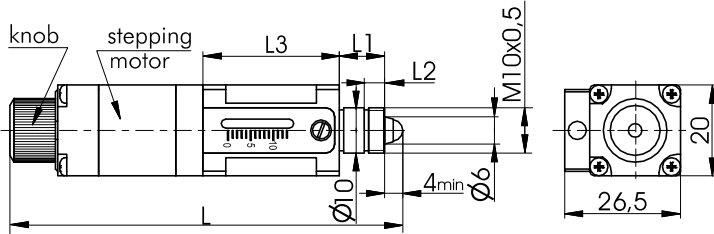
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Motorized Actuator

8CMA06



- Compact
- Manual drive with a knob
- Limit switch: optoelectronic couple
- Step motor controllers (USB, RS232, Manual) are offered separately
- Optional power supplies for higher voltages/speeds are available



SPECIFICATIONS

Travel range	8CMA06-13/15	13 mm
	8CMA06-25/15	25 mm
Resolution		1.25 µm
Lead screw pitch		0.25 mm
Nominal force		30 N
Weight	8CMA06-13/15	0.12 kg
	8CMA06-25/15	0.15 kg
Stepping motor		ST2018S0604

Model	L, mm	L1, mm	L2, mm	L3, mm
8CMA06-13/15	92...105	15	7	30
8CMA06-25/15	101...126	15	7	40
8CMA06-13/10*	87...100	10	4.5	30

* by request

nut **3N10X05** (M10x0.5) by request (look lower down the page)

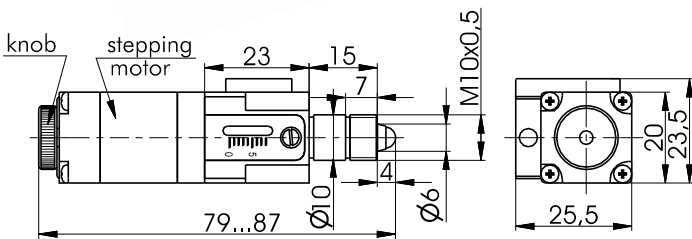
Compact Motorized Actuators

8CMA20



8CMA20-8/15

- Reduced size
- Manual drive with a knob
- Limit switch: optoelectronic couple
- Step motor controllers (USB, RS232, Manual) are offered separately
- Optional power supplies for higher voltages/speeds are available



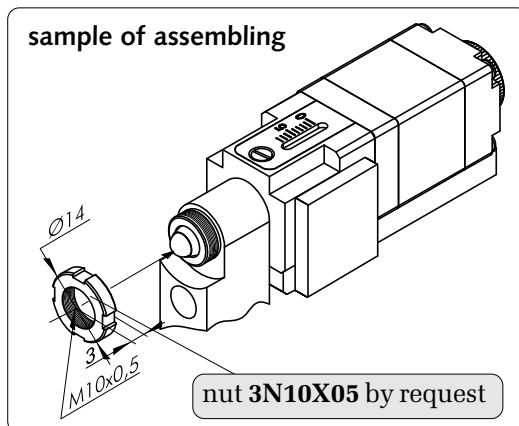
SPECIFICATIONS

Travel range	8CMA20-8/15	8 mm
Resolution		1.25 µm
Lead screw pitch		0.25 mm
Nominal force		30 N
Weight	8CMA20-8/15	0.10 kg
Stepping motor		ST2018S0604



8MBM24-1-2

modified kinematic mirror/beamsplitter mount **5MBM24-1-2** with motorized actuator **8CMA20-8/15** installed page 8-25



sample of assembling

nut **3N10X05** by request

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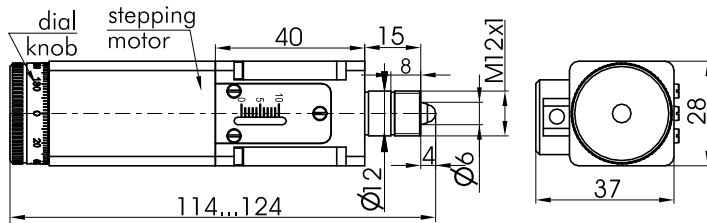
Optical Tables	1
Brackets & Rails	2
Base Mounts & Accessories	3
Optical Mounts	4
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Base Positioners	6
Translation & Rotation Stages	7
Motorised Positioners & Controllers	8
Fine Adjustment Screws	9
Opto-Mechanics & Sets	10
Light Test & Measurement Instruments	11

Motorized Actuator

8CMA28-10



- Compact
- Manual drive with a knob
- Two limit switches
- Step motor controllers (USB, RS232, Manual) are offered separately
- Optional power supplies for higher voltages/speeds are available



SPECIFICATIONS

Travel range	10 mm
Resolution	1.25 μ m
Lead screw pitch	0.25 mm
Nominal force	70 N
Weight	0.15 kg
Stepping motor	ST2818M1006-B

Related Controllers



8SMC1-USBhF



8SMMC2

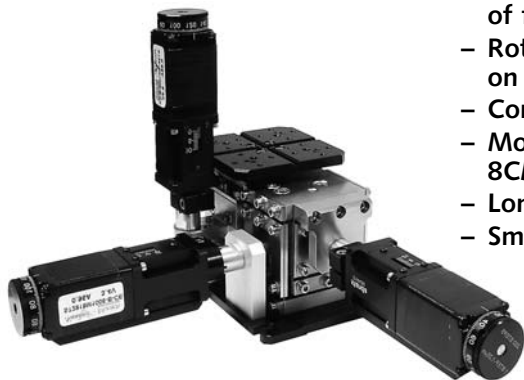


8SMC3-RS232

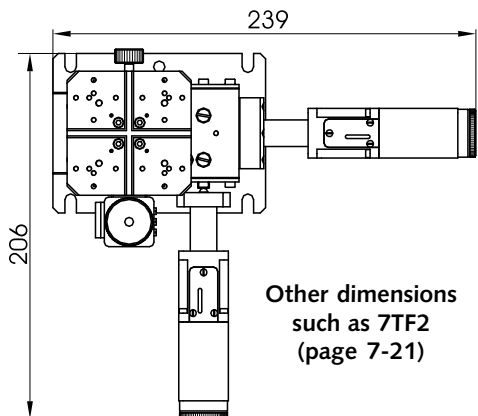
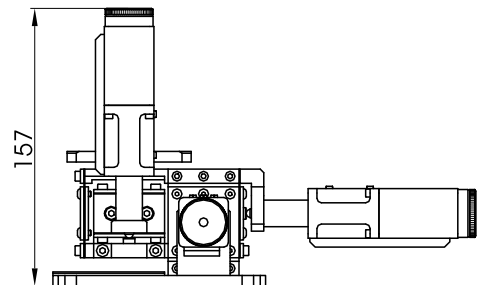
more info on www.standa.it

Motorized Fiber Coupling Stage

8MTF2



- Fiber coupling stage of flexure design
- Rotating platform on the top
- Compact block design
- Motorized Actuator 8CMA28-10
- Long-term stability
- Smooth motion



Other dimensions such as 7TF2 (page 7-21)

SPECIFICATIONS

Travel range in each XYZ direction	2 mm
Resolution	0.2 μ m
Cross-Talk	20 μ m/mm
Mechanical stability	flexure design with Stainless Steel Spring
Load capacity	1.5 kg
Weight	1.6 kg

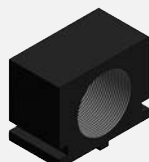
8SMC1-USBhF programming toolkit for Microsoft Windows Mobile 5.0 is now available!

Accessories for Fiber Coupling Stage

page 7-22



7FA1



7FA2



7FA3



7FA4



7FA5



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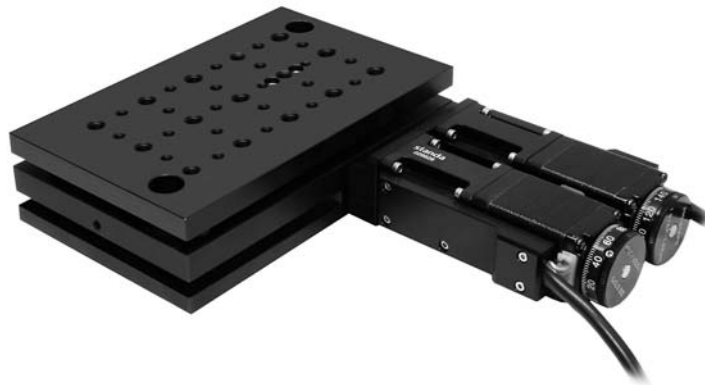


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Motorized YZ Translation Stage

8MTP116

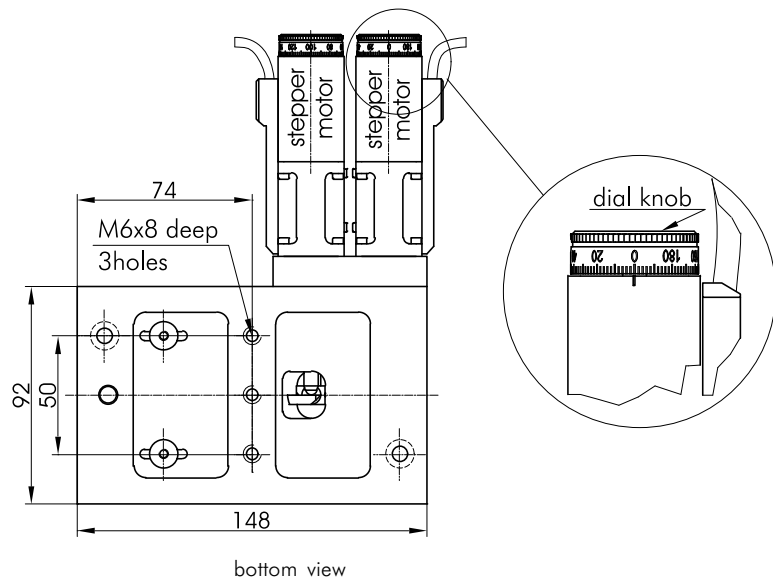
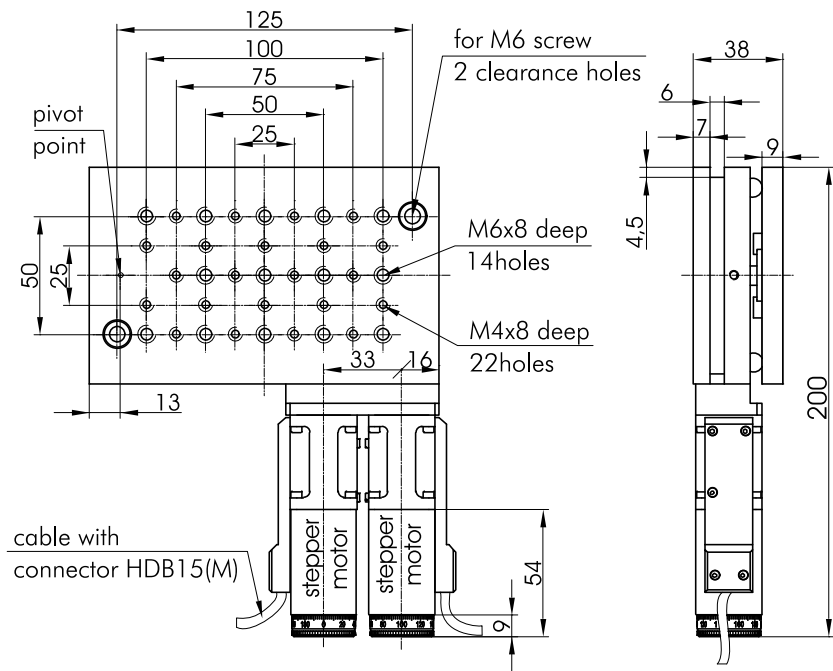


NEW

SPECIFICATIONS

Tilt y	$\pm 2^\circ$
Tilt z	$\pm 2,5^\circ$
Resolution	
in full step	1,25 μm
in 1/8 step	0,156 μm
Lead screw pitch	0.25 mm
Repeatability	1 μm
Maximum load capacity	15 kg
Type of actuator	8CMA28-10
Cable	1.2 m length cable included
Motor connector	DB15(M)
Weight	1,3 kg

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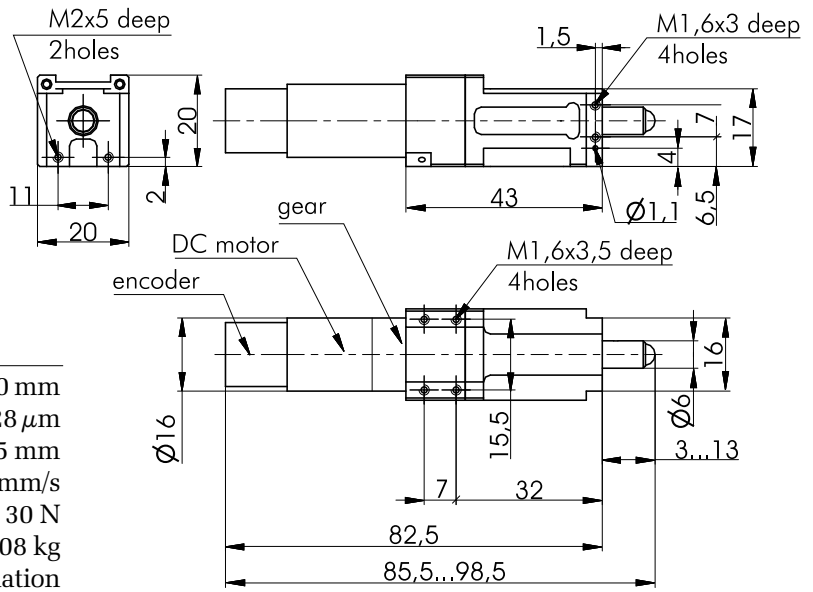


Optical Tables	1
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Ultra-High Resolution Compact Motorized Actuator (DC Motor)

8CMA16DC-10



SPECIFICATIONS

Travel range	10 mm
Minimum Incremental Motion	0.028 μ m
Lead screw pitch	0.25 mm
Max.speed	0.77mm/s
Nominal force	30 N
Weight	0.08 kg
Stepping motor	Tacho Combination 1841 Faulhaber

Mini USB controller for DC Motor is available



Modified Manual Stages with Motorized Actuator are available

8MBM57-6
(mirror/beamsplitter mount **5BM57-6** with motorized actuator **8CMA28-10**)



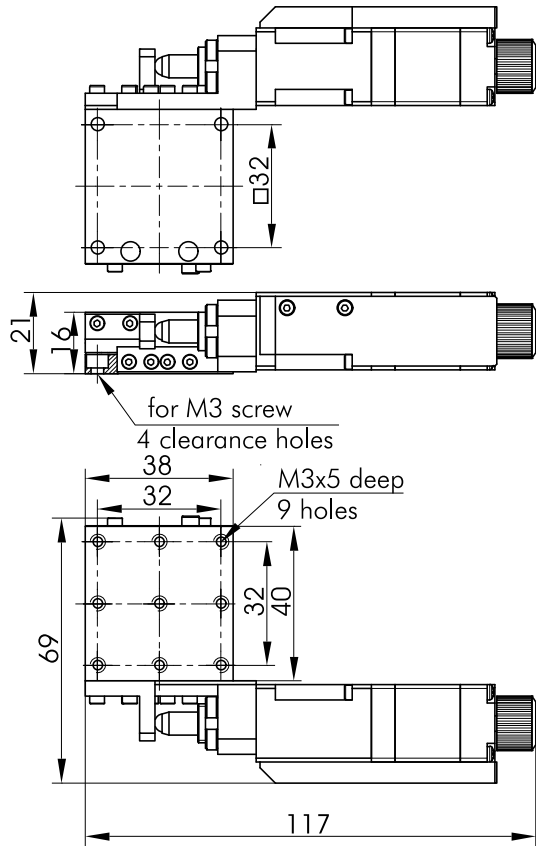
8MR128
(micro rotation stage **7R128** with motorized actuator **8CMA06-8/10**)



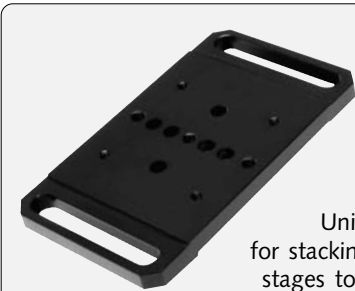
8MR170-190
(rotation stage **7R170-190** with motorized actuator **8CMA28-10**)

Motorized Translation Stage

8MT184-13



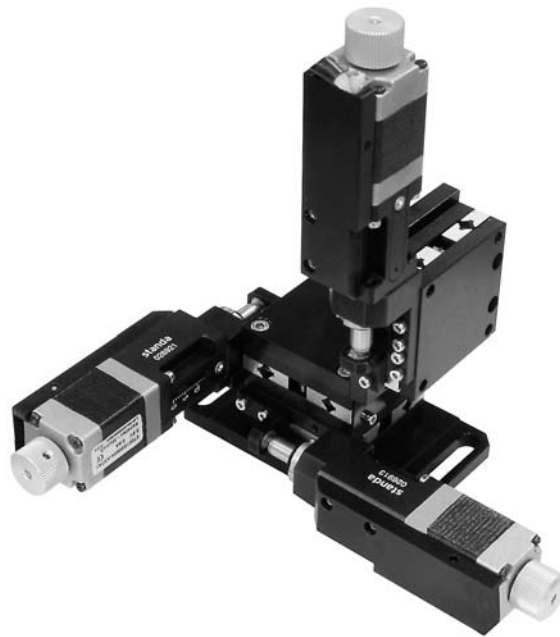
- Compact design
- Precise movement
- 13 mm travel range
- X-Y-Z direct stacking
- Stacks directly with stages of 174 series
- Motorized Actuator 8CMA06-13/15
- Lockable
- Black anodized aluminium



3UBP-01
Universal base plate for stacking the translation stages to STANDA optical tables or to another stages



2AB174
Angle bracket allow to stabilize stack the stages for YZ motion



8MT184-13 xyz



Aluminium Ball Bearing stage
7T184-13



Actuator for vacuum
8CMA06V-13/15



2 axis stepper motor controller for **USB** interface
8SMC1-USBHf-B2-2



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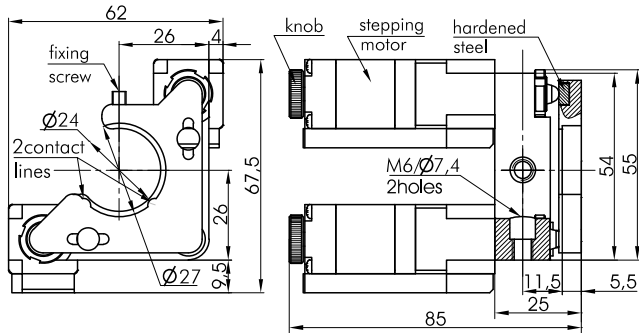
- Optical Tables 1
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Motorized Kinematic Mirror/Beamsplitter Mounts **8MBM24**



8MBM24-1-2

- 1" optics mounts
- Tilt range 9° (about two axes)
- Travel range 4 mm
- Mounting on either of 2 sides
- Two models – round and square aperture
- Kinematic
- Clear edge design
- A motorized actuator 8CMA20-8/15 pushes via seat of hardened stainless steel
- Black anodized aluminium
- 2", 3" models available 8MBM24-2, 8MBM24-3



Modified Optical Positioners with Motorized Actuator 8CMA20-8/15 are available

more info on www.standa.it

Motorized Two Axis Translation Optical Mount **8MTOM2-1**



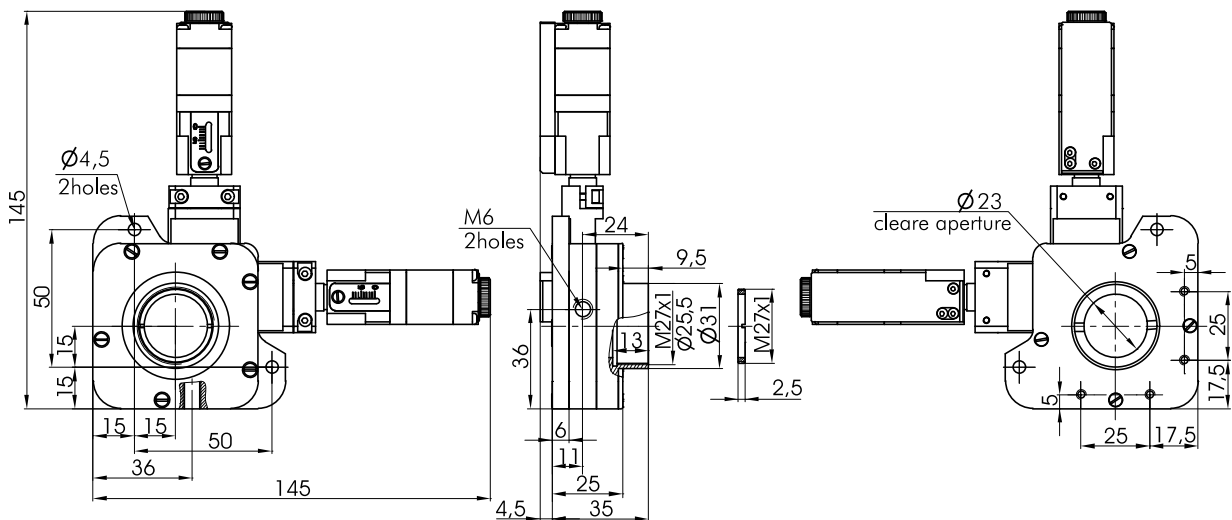
DESIGNED TO USE WITH MICROSCOPE

- 1" optics mounts
- Limit switch: optoelectronic couple
- Black anodized aluminium

The 8MTOM2-1 is made of 5TOM2-1 XY Translation Mount and 8CMA20-8/15 Compact Motorized Actuator.

SPECIFICATIONS

Resolution in full step	1.25 µm
Resolution in 1/8 step	0.156 µm
XY translation range	±2 mm
Lead screw pitch	0.25 mm
Weight	0.8 kg



Motorized Gimbal Mount

8MGM25T-1

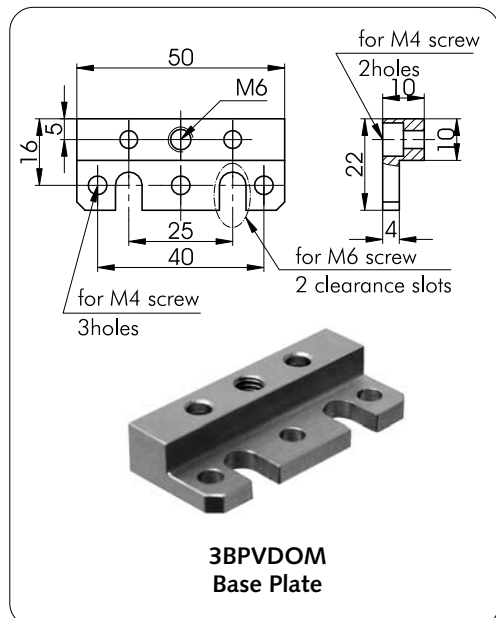
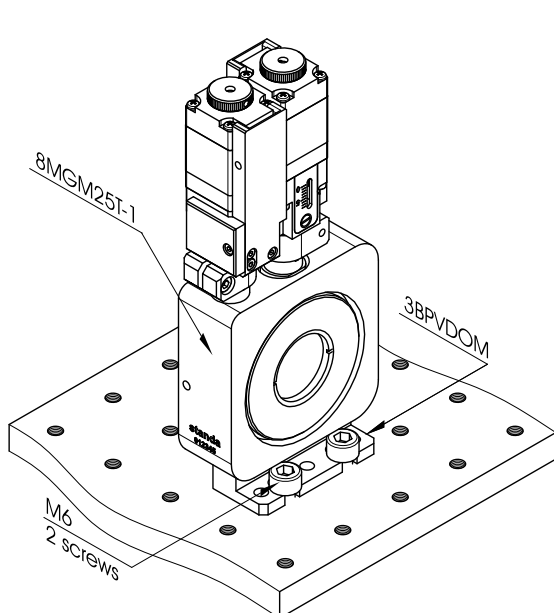
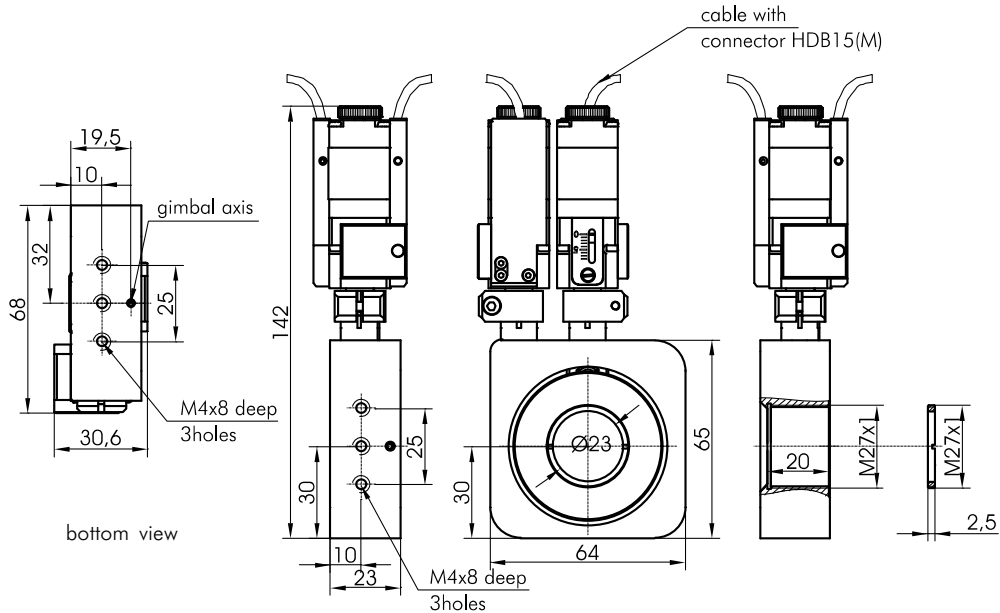
NEW



SPECIFICATIONS

Optics diameter	25,4 mm
Clear aperture	23 mm
Angular range	±2,5°
Type of actuator	8CMA20-8/15
Resolution*	
in full step	1,25 μm
in 1/8 step	0,156 μm
Lead screw pitch	0.25 mm
Repeatability	1 μm
Maximum speed	4 mm/s
Cable	1.2 m length cable included
Motor connector	HDB15(M)
Weight	0.7 kg

* Actuator`s movement dependance of horizontal position is not linear.



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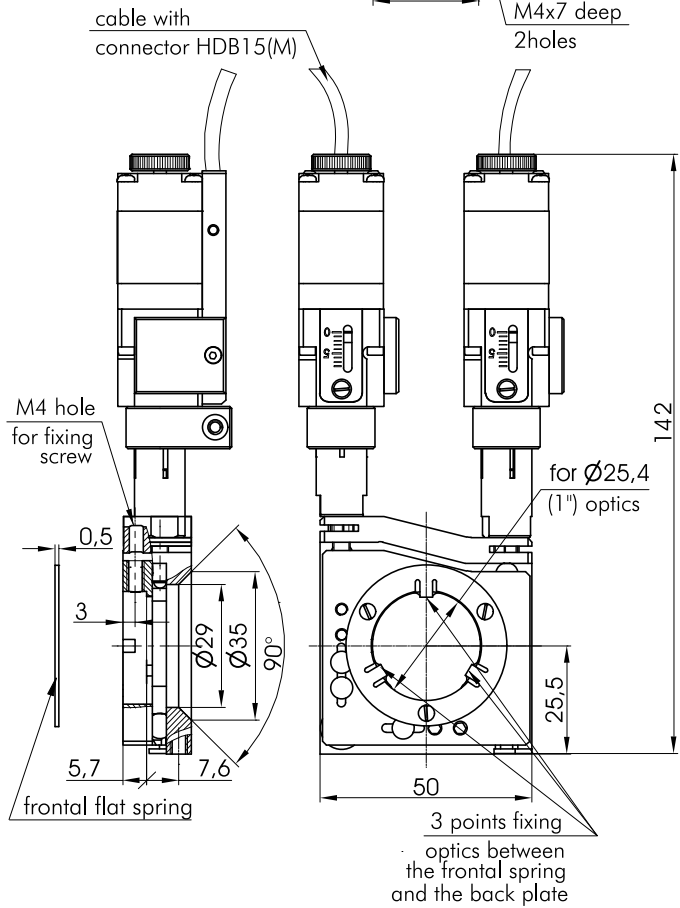
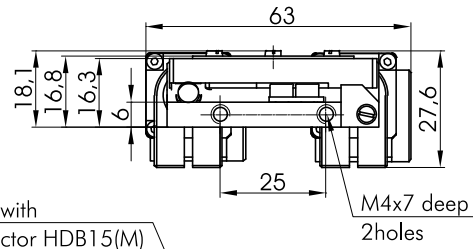
Motorized Vertical Drive Optical Mount

8MKVDM-1



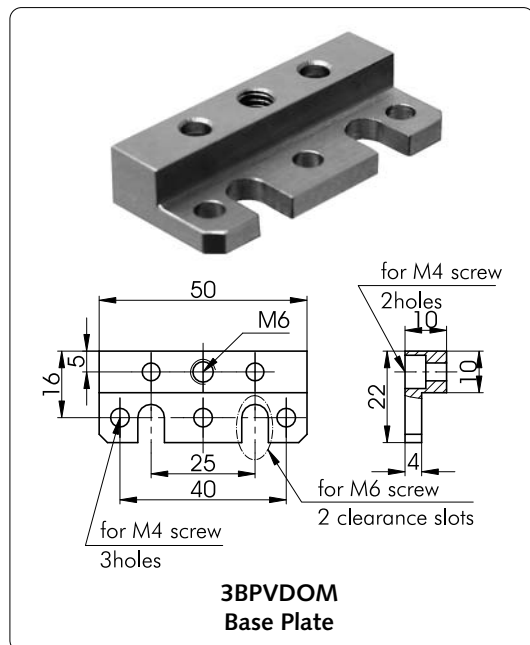
- Material of Optical Mount - Stainless steel
- Compact design
- Used actuator 8CMA20-8/15

NEW



SPECIFICATIONS

Optics diameter	25.4 mm
Clear aperture	23 mm
Angular range	±2,5°
Tilt/tip range	±2,5°
Sensitivity	
by horizontal	3,8 arcsec. in full step of actuator
by vertical	3,9 arcsec. in full step of actuator in the middle tilt of platform
Type of actuator	8CMA20-8/15
Travel range of actuator	6 mm
Resolution	
in full step	1.25 µm
in 1/8 step	0.156 µm
Lead screw pitch	0.25 mm
Repeatability	1 µm
Cable	1,2 m length cable included
Motor connector	HDB15(M)
Weight	0.5 kg



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Motorized Vertical Translation Stage

8MVT188-20



Motorized Vertical Translation Stage 8MVT188-20 boasts our unique design. Being very compact, it provides smooth and stable adjustment of height. It has a large travel range, and it supports large loads. While moving the platform stays parallel to the base.

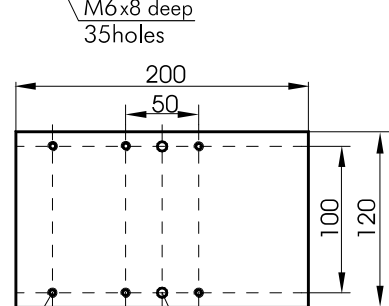
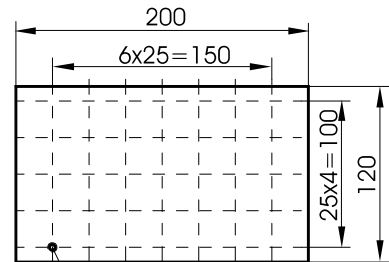
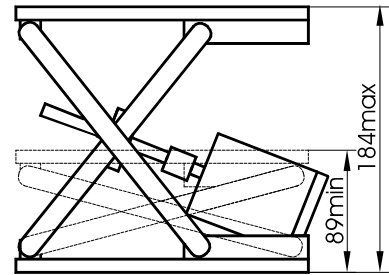
Examples of use: making up for height differences during the set up; automation of technological processes, like laser welding.

A stepper motor type – **Nanotec® SH5618C2908-A**, 200 steps. Customer can specify any other types of motors to install. Load capacity and speed all greatly depend on the motor. We can test and select an appropriate motor for your requirements.

The lead screw acts at a varying angle, so the resolution of the stage varies with position.

The platform has an array of **M6** holes spaced by **25 mm**. The base has **six M6** and **two Ø6.5** holes.

Material: black anodized aluminium.



- Pantograph design
- 16 ball bearings
- Stepping motor drive
- Precision lead screw
- 95 mm vertical travel
- Height: min 89 mm max 184 mm
- Top and bottom plates parallel to 1 mm
- Load capacity 8 kg (depending on motor and controller)
- Supply voltage – 36 V
- Weight: 4.3 kg

Motorized Mirror Mount

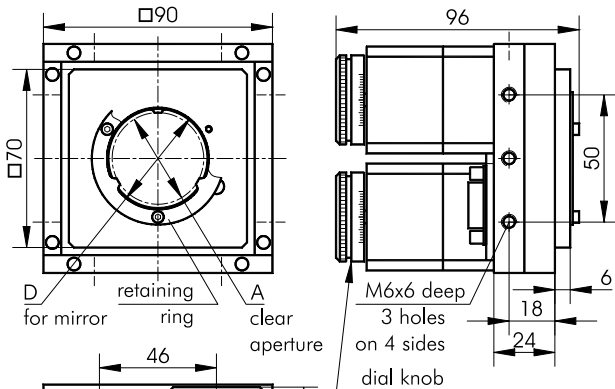
8MMA60



Motorized Mirror Mounts 8MMA60 are designed for precise angular alignment of optical elements. Platform is **tilted** about **two axes**. A **retaining ring** keeps optics in a non-through mounting opening of the platform.

The ring is fixed by 3 screws. It has **3 dents** with which it **clamps** optics against similar **3 rests** in the platform.

The **dents** are exactly opposite to the **rests** – this **minimizes deformation**.



Motor type: 200 steps, bipolar (4 leads), 33 Ω per phase. Motors of other types are available.

SPECIFICATIONS

Tilt range	5° both axes
Visual reading	dial knobs graduated in 200 steps per revolution
Resolution	0.0016° (0°00'06") per step
Optics accepted	(see the drawing)
diameter (D) , and clear aperture (A) :	
8MMA60-1	Ø25.4 mm (1"), A=21.4 mm
8MMA60-40	Ø40 mm, A=36 mm
8MMA60-2	Ø50.8 (2"), A=46.8 mm
	custom sizes available
Optics thickness	10 mm (retaining rings for custom thickness available)
Material	black anodized aluminium
Weight	1.08 kg

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Motorized Goniometers

8MG99 • 8MG00



8MG99-50

Goniometers rotate an object about an axis in space located **outside** the body of the unit (usually – above the platform), so the axis is not obscured by the unit itself.

Goniometers have small travel range and greater stability, compared to rotation stages.

Goniometers have to have different **heights of points of rotation**, so that, when you **stack** goniometers one on top of the other, they rotate an object about a common point in space.

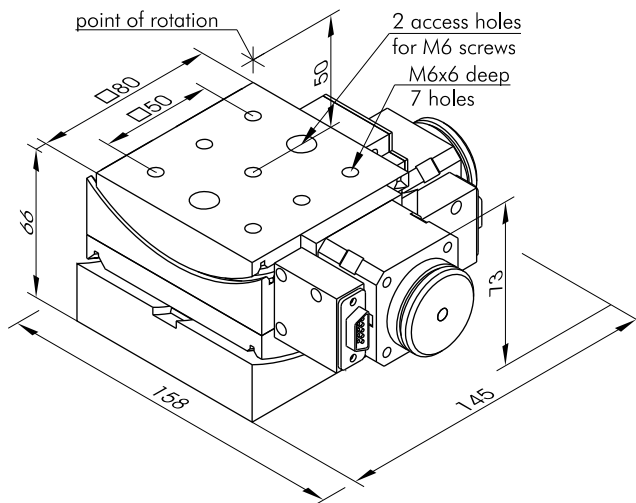
The mechanism rolls smoothly on ball bearings.

The **position** is read within one revolution on the **scale** engraved on the **dial knob** sitting on the axle of the motor. Position can be read to each step. Overall position accounting is up-to your computer.

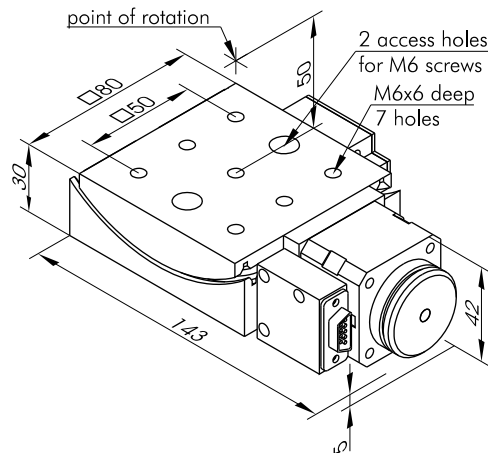
Goniometers have two **limit switches** to signal an “out of limits” error situation. The switches may also be used to **roughly** establish a zero reference.

The stage is driven by a **stepping motor**. A **dial knob** on its axle allows **manual drive**. As standard, we use stepping motors of these parameters: 200 steps, bipolar (4 leads), 33 Ω per phase. A customer can order motors of other types. We offer our Stepper Motor Controllers to control the motorized stages.

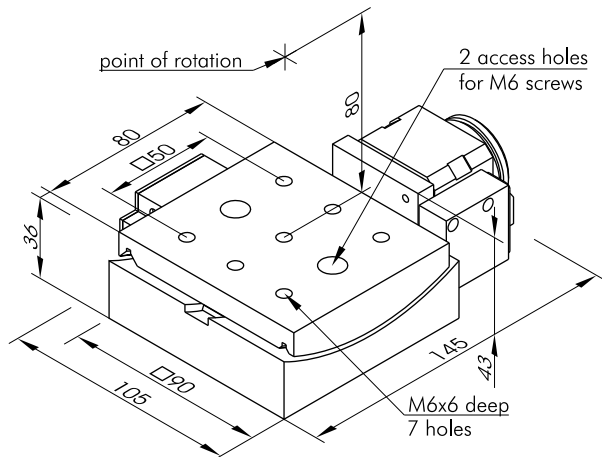
- Rotates an object without obscuring the optical path
- Smooth operation with ball bearings
- 1 or 2 axes of rotation (stackable)
- Superb stability
- Compact square body



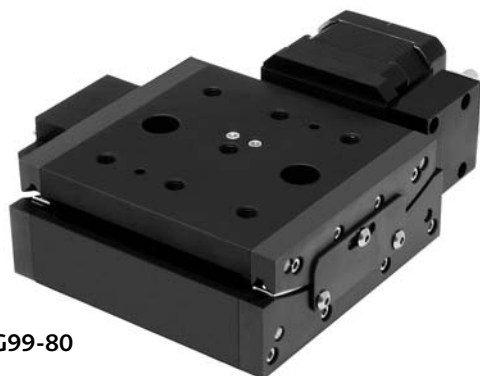
8MG00; 8MG99 stacked



8MG00-50; 8MG99-50



8MG00-80; 8MG99-80



8MG99-80

SPECIFICATIONS	8MG99	8MG00
Travel range	±2.5°	0.5°
Resolution		
8MGXX-50	16.12"	20.6"
8MGXX-80	10.96"	16.5"
Height of center of rotation		
8MGXX-50	50 mm	50 mm
8MGXX-80	80 mm	80 mm
Load capacity	2 kg	2 kg
Lifetime	-	20 million full steps
Weight	1.2 kg	1.2 kg

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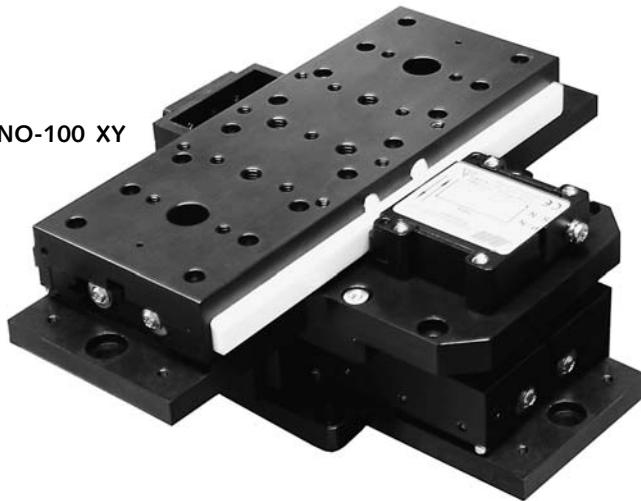
Fax: +370-5-2651483

Nano Positioners

8NANO-100

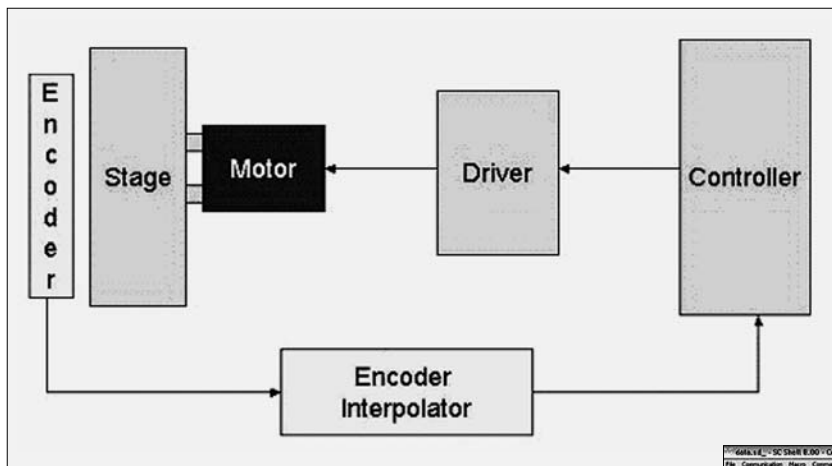
NEW

8NANO-100 XY



SPECIFICATIONS

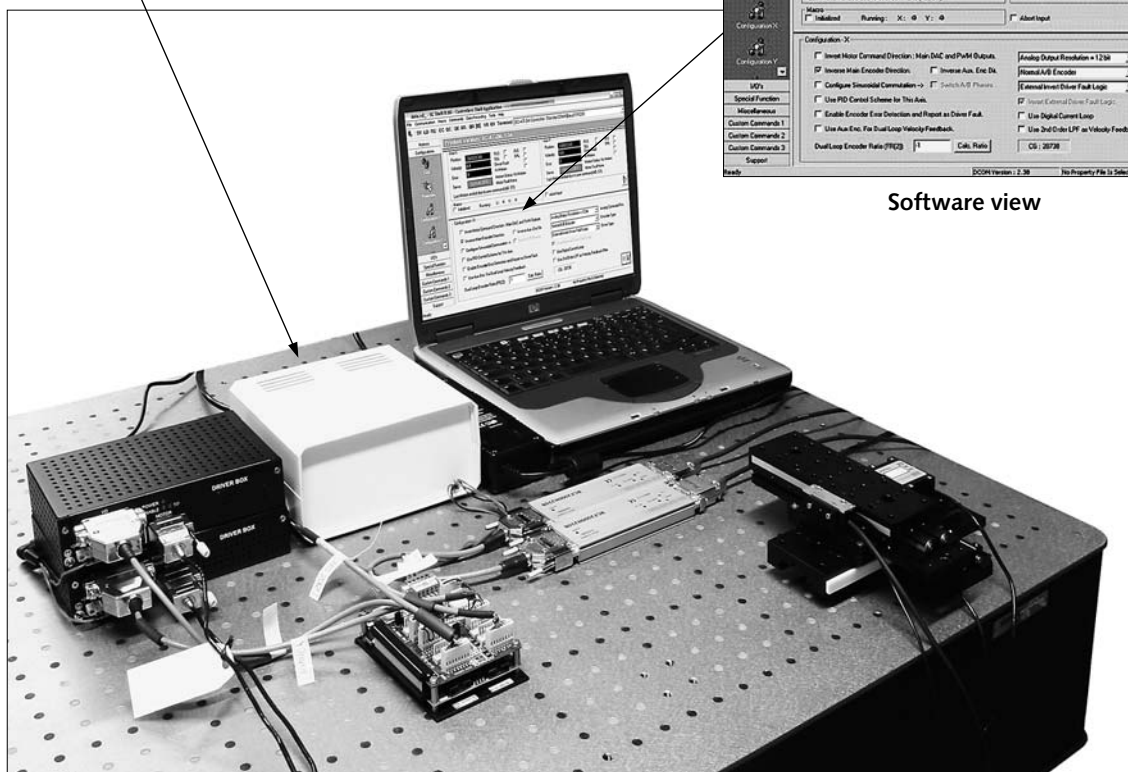
Travel range	100 mm
Low frictional force	
Straightness	5 μ
Backlash	0
Stiffness	100 N/ μ
Resolution	50 nm
Speed	0.001-150 mm/s
Repeatability	0.1 μ
Precision	0.5 μ
Load capacity	3 kg
Weight	1.3 kg



Block diagram of Nano Positioners



Software view



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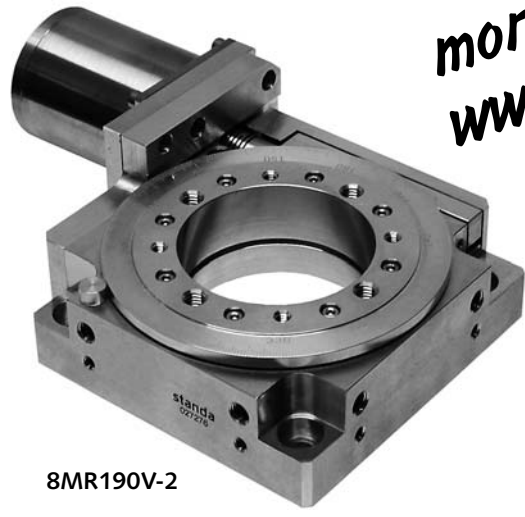


8MR174V-11



8CMA06V-13/15

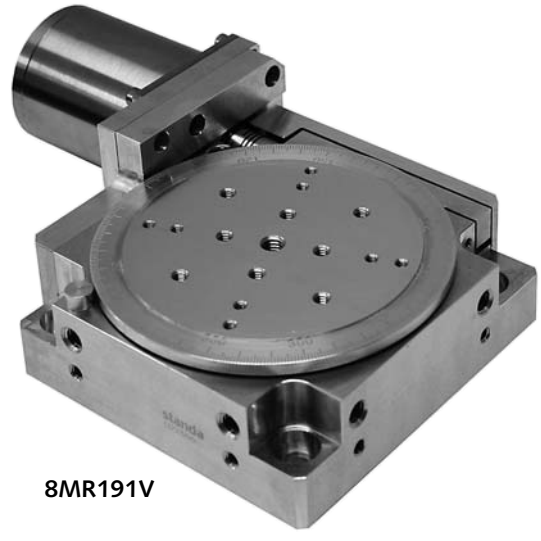
Available for vacuum!
more info on www.standa.it



8MR190V-2



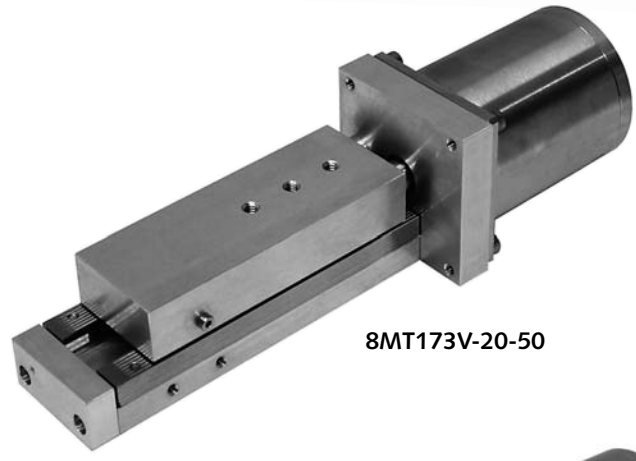
8MS00V-10



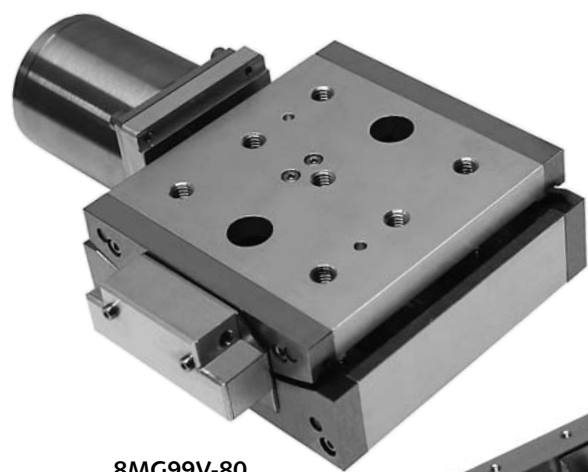
8MR191V



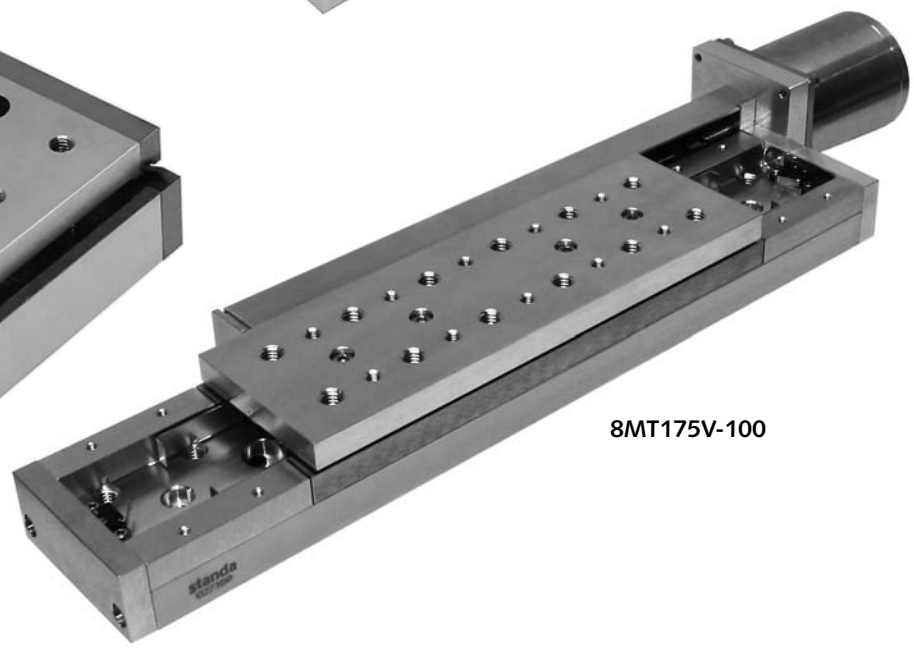
8MT173V-20



8MT173V-20-50



8MG99V-80



8MT175V-100

- 1 Optical Tables
- 2 Brackets & Rails
- 3 Base Mounts & Accessories
- 4 Optical Mounts
- 5 Optical Positioners
- 6 Base Positioners
- 7 Translation & Rotation Stages
- 8 Motorised Positioners & Controllers
- 9 Fine Adjustment Screws
- 10 Opto-Mechanics & Sets
- 11 Light Test & Measurement Instruments

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NEW



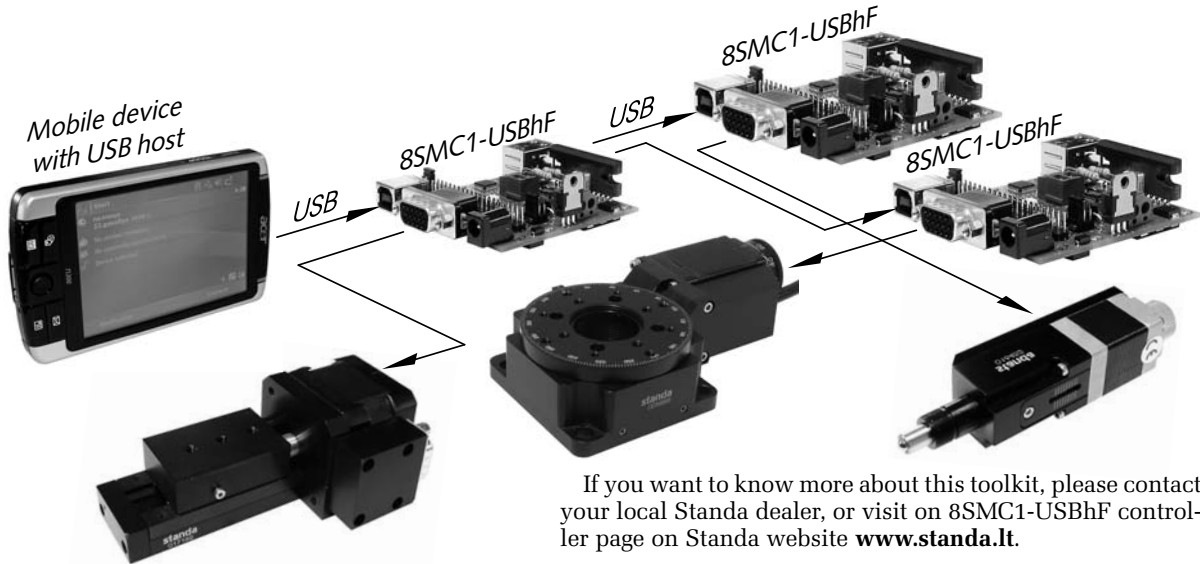
Standa is happy to introduce all new: 8SMC1-USBhF programming toolkit for Microsoft Windows Mobile 5.0!

- Do you want to control your experimental setup but don't have enough space for personal computer?
- Do you want to build custom cost effective graphical user interface with touch screen and make it user friendly?
- Do you want to use only common and well known developing tools for new platform?
- Do you want to use matchless possibilities of mobile devices wireless connections?

With new programming toolkit you can:

- Turn you handheld computer to a mobile control center.
- Enjoy the advantages of the touch screen display.
- Build your application with USMCDLL for

- Microsoft Windows Mobile 5.0 (which have the same functionality as USMCDLL for Microsoft Windows XP).
- Incorporate your hardware into local network using wireless Ethernet.



If you want to know more about this toolkit, please contact your local Standa dealer, or visit on 8SMC1-USBhF controller page on Standa website www.standa.it.

Custom Software Development Program

Ether a scientific experiment, a simple inspection or a manufacturing process – everything should be automated nowadays. It's not even an option – it's necessity. Automation helps to reduce costs and speed up the output. It really helps in hazardous or, on the contrary, clean environments where human presence is not welcome. But the most important it helps when reliability and repeatability is a must.

Any automated system consists of three basic parts: hardware (motors, stages, controllers), software (collecting/analysing data, controlling hardware) and human operator (preferably sitting in the office and receiving e-reports from the software). For the process to be success all three parts should interact as one entity. There should be no gaps between any two. And exactly the software plays the central role in the automation. Even the best hardware will not function without control and even the most experienced operator will not be able to effectively control the hardware without proper interface. So it's exactly the software that makes things work. It can take care of the hardware while giving the operator all the tools

to perform the required task without demanding from him the detailed knowledge of that very hardware (timing, signalling, triggering...).

Good software should posses at least three qualities 1) be reliable, 2) be able to solve one particular problem, 3) be user friendly. Here, at Standa, we understand how important all three are for you. That's why all applications we build are stable, help to solve exactly your problem and they have intuitive and user-friendly interface.

How we achieve it? Relatively simply. We just have the top-notch software and hardware engineers working hand to hand. We just have enormous amount of experience in development of software and hardware for automation purposes. And we just test, test and test our products to ensure 100% reliability.

So if you are a system integrator or end-user, if you require a small software tool or a full-scale multi-level application, if you need it to be cheap but reliable and you need it fast then Custom Software Development program is just for you.

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- Brackets & Rails 2
- Base Mounts & Accessories 3
- Optical Mounts 4
- Optical Positioners 5
- Base Positioners 6
- Translation & Rotation Stages 7
- Motorised Positioners & Controllers 8
- Fine Adjustment Screws 9
- Opto-Mechanics & Sets 10
- Light Test & Measurement Instruments 11

Stepper Motor Controllers with USB Interface

8SMC1-USBhF series



- PWM chopper type current control (up to 1.5 A per phase)
- Resolution: full step, 1/2, 1/4, 1/8
- Speed: up to 5000 steps/s
- Full featured control software with graphical user interface for Windows 2000/XP/Vista included
- Set of virtual instruments for NI LabView included
- RoHS compliant

SPECIFICATIONS

Electrical

- Targeted for bipolar, two phase stepper motors with current ratings of 0.25A to 1.5 A. The current limit value is set by the manufacturer
- Power supply voltage ranges from 12V to 36V
- Overcurrent, overvoltage and temperature protection
- Synchronization Input and Output
- Encoder Inputs for stall detection (shared with Synchronization Input)
- Revolutions counter input (shared with Synchronization Input)

USB Expansion

- Each **8SMC1-USBhf** controller card comes with an integrated USB hub to allow easy system expansion of additional single- or multi-axis controller cards
- Additional controllers can be connected directly to the computer in use or via any other controller card in the system. In either case the software will appropriately recognize the added controller card(s) and treat all connected controllers as a system
- Two USB expansion ports can be found on each controller card. Note when ordering encased cards that only the single-axis controller has access to the USB expansion outputs on the rear panel of the unit

Motion

- Resolution: full step, 1/2, 1/4, 1/8
- Speed: 2-5000 steps/s
- Programmable speed and trip points
- Programmable acceleration and deceleration ramps
- Soft start/stop mode

Control

- PC control via USB interface
- Optional handheld remote offers manual two button directional control
- Additional features include two programmable limit switches, an emergency limit switch, encoder, and revolution sensor for stall detection and input/output for synchronization

Programming

- Graphical user interface SMCView for Windows 2000/XP/Vista
- Drivers and dynamic link library for Windows 2000/XP/Vista/Mobile host programming
- Set of virtual instruments for National Instruments LabView
- Drivers for Linux

Mechanical

- Operating temperature range: 0 to 70°C
- Box size for 1-axis controller : 90 x 120 x 70 mm (B1)
- Box size for 2 and more axis controller : 180 x 120 x 90 mm (B2)



8SMC1-USBhF-B1-1



8SMC1-USBhF-B1-1MC



8SMC1-USBhF-B2-2MC



8SMC1-USBhF-B2-4

- 1 Optical Tables
- 2 Brackets & Rails
- 3 Base Mounts & Accessories
- 4 Optical Mounts
- 5 Optical Positioners
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- 9 Fine Adjustment Screws
- 10 Opto-Mechanics & Sets
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Manual control on 8SMC1-USBhF series

The **8SMC1-USBhF-B1-1MC** offers a handheld manual control option that allows for two button directional control of the unit in addition to the USB communication, the buttons are labeled “Forward” and “Backward”. The “Forward” button is intended for moving the positioner “Forward”. The “Backward” button is intended for moving the positioner “Backward”. Two LED’s indicate direction of movement. The LED of interest will flash to indicate rapid movement and will remain constantly illuminated upon reaching the limit switch.

The handheld remote is usually used for precise manual positioning of the stage during such processes as calibration. Another common application of is for the control of stepper motors when a computer is not easily accessible.



8SMC1-USBhF-B1-1MC

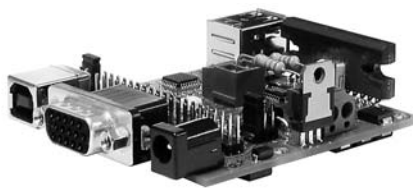


8SMC1-USBhF-B2-2MC

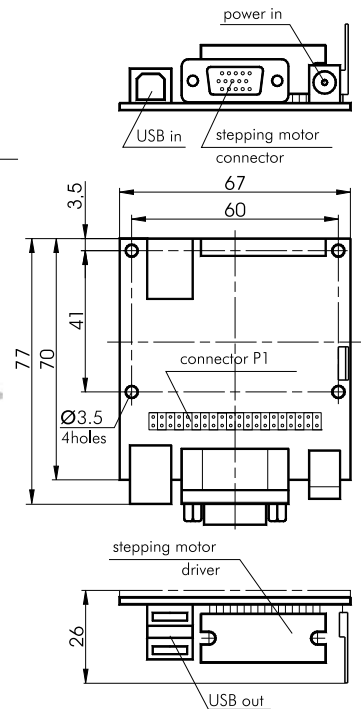
Front panel manual control is available as an option for the **8SMC1-USBhF-B2-2MC**. There are four buttons on this front panel: “Forward Axis1”, “Backward Axis1”, “Forward Axis2” and “Backward Axis2”. There are also four LED indicators to show the direction of movement along with limit switch indication.

Ordering of 8SMC1-USBhF series circuit card assemblies (CCA)

For added flexibility Standa offers the **8SMC1-USBhF** series controller in CCA form for ease of integration into custom systems. When ordering the CCA version of the controller the current limit values will still be set by the manufacturer before leaving the factory, but this limit can be changed by the user in the field. The CCA product will also include the USB hub IC and a heatsink for the motor driver IC. Warranty and support options may vary for the CCA version of controller.



8SMC1-USBhF



Software Options for 8SMC1-USBhF controller

The **8SMC1-USBhF** comes with a suite of advanced software tools that can be utilized to control and adjust your stepping motors. All software tools operate on Windows 2000/XP/Vista.

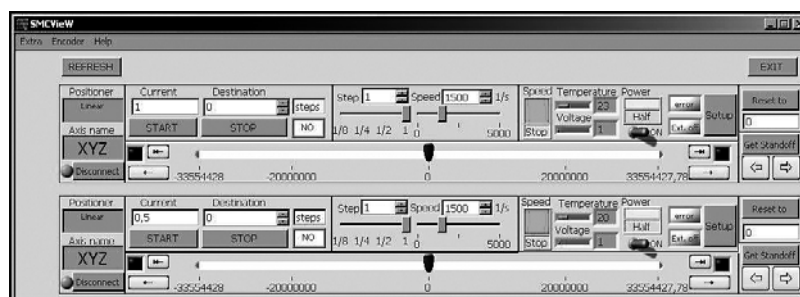
SMCView is a friendly, graphical user interface for controlling, monitoring and adjustment of your stepping motors. It can also be used for easy setup to save and load of all parameters for each stepping motor. This interface supports up to 30 drivers simultaneously.

SMC.dll is a dynamic link library for host programming in **C/C++**, **Visual Basic** and **other languages**. It includes all basic commands for stepping motor control. Some examples of these functions are also enclosed.

SMC.IIb is a set of virtual instruments (VI) for National Instruments LabView 7 programming language. Some examples of these VI's are also included.

Note

8SMC1-USBhF is a modified version of previous controller board **8SMC1-USBh** with replaced motor connector from **DB15(M)** to **DB15(F)**.



SMCView main screen. Two 8SMC1-USBhF drives found

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- Optical Positioners 5
- Base Positioners 6
- Translation & Rotation Stages 7
- Motorised Positioners & Controllers 8
- Fine Adjustment Screws 9
- Opto-Mechanics & Sets 10
- Light Test & Measurement Instruments 11



Power supply
PUP130-17B1

A 12V – 36V, 1.5A – 3.6 A power supply is required to operate the controller. You can use your own power supply or purchase the following STANDA power supplies:

- model “PSA18U-120” (12V; 1.5A)
- model “PSC30U-120” (12V; 2.5A)
- model “PUP130-17-B1” (36V; 3.6A).

Specifications of power supply see in page 8-40

Ordering information

Examples of codes for **8SMC1-USBhF** series controllers:

- | | |
|---------------------------|---|
| 8SMC1-USBhF | – Controller Board |
| 8SMC1-USBhF-B1-1 | – 1 axis Controller |
| 8SMC1-USBhF-B1-1MC | – 1 axis Controller with external wired remote control |
| 8SMC1-USBhF-B2-2 | – 2 axis Controller |
| 8SMC1-USBhF-B2-2MC | – 2 axis Controller with knobs for manual control on box front panel |
| 8SMC1-USBhF-B2-3 | – 3 axis Controller |
| 8SMC1-USBhF-B2-4 | – 4 axis Controller |
| USB Cable | – Cable to Computer |
| Cable 9(F) - 15(M) | – Cable from Controller to Standa actuator - standard length is 1.5 m, other lengths by request |

Stepper Motor Controllers with RS232 Interface

8SMC3-RS232 series

- PWM chopper type current control (up to 1.5 A per phase)
- Resolution: full step, 1/2, 1/4, 1/8
- Speed: up to 5000 steps/s
- Examples of control programs included
- Set of virtual instruments for National Instruments LabView included
- RoHS compliant

SPECIFICATIONS

Electrical

- Targeted for bipolar, two phase stepper motors with a current rating of 0.25A to 1.5 A. The current limit value is set by the manufacturer
- Power supply voltage ranges from 12V to 36V
- Synchronization Input and Output
- Galvanic isolation of Synchronization Input and Output

System Expansion

- Available only for circuit card assembly (CCA) version – refer to “Ordering of **8SMC3-RS232** series controllers PCB board” for additional information

Motion

- Resolution: full step, 1/2, 1/4, 1/8
- Speed: 2-5000 steps/s
- Programmable speed and trip points
- Programmable acceleration and deceleration ramps
- Soft start/stop mode



8SMC3-RS232-B1-1



8SMC3-RS232-B1-1MC



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8SMC3-RS232-B2-2

Control

- Control via RS232 interface
- 3 button “front panel” control. For more information refer to “Manual control of 8SMC3-RS232 series”
- Capable of connecting two programmable limit switches for every axis

Programming

- Serial communications command system for Windows, Linux and most other operating systems. Host is “master” and controllers are addressable “slaves”. Programming examples included
- Drivers and dynamic link library for Windows host programming
- Set of virtual instruments for National Instruments LabView

Mechanical

- Operating temperature range: 0 to 70°C
- Box size for 1-axis controller : 90 x 140 x 70 mm (B1)
- Box size for 2 and more axis controller : 180 x 185 x 90 mm (B2)

Manual control on 8SMC3-RS232 series

The 8SMC3-RS232-B1-1MC comes with a 3-button manual control panel. The three buttons are located on the top panel and are labeled “Step Forward”, “Step Backward” and “Enforce Rapid Movement”. Two LED indicators show direction of movement. The LED’s will also indicate when a limit switch has been tripped.

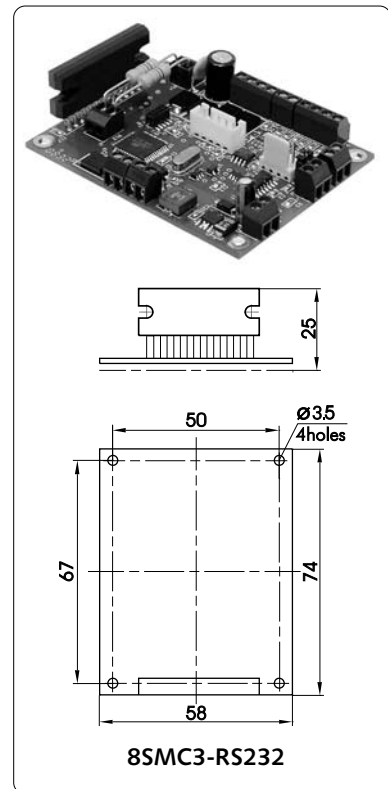
This manual control option is often used for calibration and stepper motor control when a computer is not easily accessed.



8SMC3-RS232-B1-1MC

Ordering of 8SMC3-RS232 series circuit card assemblies (CCA)

STANDA offers multiple configurations of the 8SMC3-RS232 circuit card assemblies for flexibility in building custom systems. Note that the current limit values are set by the manufacturer before the controller leaves the factory, but are user adjustable. Multiple CCA controllers can be serially connected to a single RS232 COM port for multi-axis systems. Each board will also come with a heatsink for the motor driver IC.



Ordering information

Examples of codes for 8SMC3-RS232 series controllers:

- 8SMC3-RS232 - Controller Board
- 8SMC3-RS232-B1-1 - 1 axis Controller
- 8SMC3-RS232-B1-1MC - 1 axis Controller with manual control option
- 8SMC3-RS232-B2-2 - 2 axis Controller
- 8SMC3-RS232-B2-3 - 3 axis Controller
- 8SMC3-RS232-B2-4 - 4 axis Controller
- RS232 Cable - Cable to Computer
- Cable 9(F) - 15(M) - Cable from Controller to Standa actuator - standard length is 1.5 m, other lengths by request

A 12V – 36V, 1.5A – 3.6 A power supply is required to operate the controller. You can use your own power supply or purchase the following STANDA power supplies:

- model “PSA18U-120” (12V; 1.5A)
- model “PSC30U-120” (12V; 2.5A)
- model “PUP130-17-B1” (36V; 3.6A).

Specifications of power supply see in page 8-40

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Stepper Motor Controllers with manual control

8SMMC2 series

- PWM chopper type current control (up to 1.5 A per phase)
- Resolution: full step, 1/2, 1/4, 1/8 – selectable by DIP switches
- Version with speed from 300 to 600 steps/s – tunable by trimmer
- Version with speed from 600 to 1200 steps/s – tunable by trimmer
- LED indicators of status
- RoHS compliant

SPECIFICATIONS

Electrical

- Targeted for bipolar, two phase stepper motors with current ratings of 0.25A to 1.5 A. Current limit value setting is done during controller manufacturing
- Power supply voltage rang from 12V to 36V

System Expansion

- Available only for PCB version – refer to “Ordering of 8SMMC2 series controllers PCB board” for additional information

Motion

- Resolution: full step, 1/2, 1/4, 1/8
- Speed: 300-600 steps/s
- Speed: 600-1200 steps/s

Control

- “Front panel” manual controls
- Capable of connecting two limit switches for every axis

Mechanical

- Operating temperature range: 0 to 70°C
- Box size for 1-axis controller : 80 x 130 x 65 mm (B1)
- Box size for 2 and more axis controller : 90 x 200 x 60 mm (B2)
- Box size with heatsinks outside for 2 and more axis controller : 120 x 200 x 60 mm (B2)

Ordering of 8SMMC2 series circuit card assemblies (CCA)

It is possible to order circuit card assemblies of the **8SMMC2** series controllers building custom systems. The current limit values are initially set by the manufacturer, but can be user adjustable.

Each circuit card assembly includes a heatsink for the motor driver IC.

Warranty and support options for CCA version may vary.



8SMMC2-B1-1



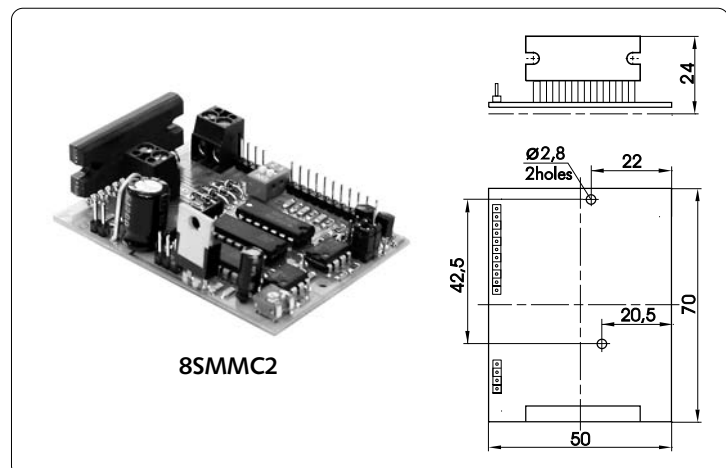
8SMMC2-B2-2



8SMMC2-B2-3



8SMMC2-B2-3-1.5



8SMMC2



1	Optical Tables
2	Brackets & Rails
3	Base Mounts & Accessories
4	Optical Mounts
5	Optical Positioners
6	Base Positioners
7	Translation & Rotation Stages
8	Motorised Positioners & Controllers
9	Fine Adjustment Screws
10	Opto-Mechanics & Sets
11	Light Test & Measurement Instruments

Ordering information

Examples of codes for **8SMMC2** series controllers:

- | | |
|------------------------|---|
| 8SMMC2 | - Circuit card assembly (CCA) |
| 8SMMC2-B1-1 | - 1 axis Controller - 0.67A max motor current setting |
| 8SMMC2-B2-2 | - 2 axis Controller - 0.67A max motor current setting |
| 8SMMC2-B2-3 | - 3 axis Controller - 0.67A max motor current setting |
| 8SMMC2-B1-1-1.5 | - 1 axis Controller - 1.5A max motor current setting |
| 8SMMC2-B2-2-1.5 | - 2 axis Controller - 1.5A max motor current setting |
| 8SMMC2-B2-3-1.5 | - 3 axis Controller - 1.5A max motor current setting |

A 12V – 36V, 1.5A – 3.6 A power supply is required to operate the controller. You can use your own power supply or purchase the following STANDA power supplies:

- model "PSA18U-120" (12V; 1.5A)
- model "PSC30U-120" (12V; 2.5A)
- model "PUP130-17-B1" (36V; 3.6A).

Specifications of power supply see in page 8-40

Brushed DC Motor Controllers with RS232 Interface

8DCMC3 series

- LMD18200 Motor Driver (3 A continuous current, 6 A for 200 mSec)
- LM629 Servo Controller for simultaneous control of position, velocity and acceleration, with programmable PID filtering
- Non-volatile (permanent) storage of servo parameter setups and user programs
- On-board control language with over 50 commands
- Operation from a single power supply, typically 12 volts
- RoHS compliant



8DCMC3-B2-2

SPECIFICATIONS

Electrical

- Targeted for brushed DC motors with current ratings of 0.05A to 3A and integrated incremental encoders
- Power supply voltage is 12V nominal

System Expansion

- Available only for PCB version – refer to "Ordering of 8DCMC3 series controllers PCB board" for additional information

Motion

- Closed loop control system with programmable parameters: speed, acceleration, direction, PID coefficients
- Programmable actions sequences

Control

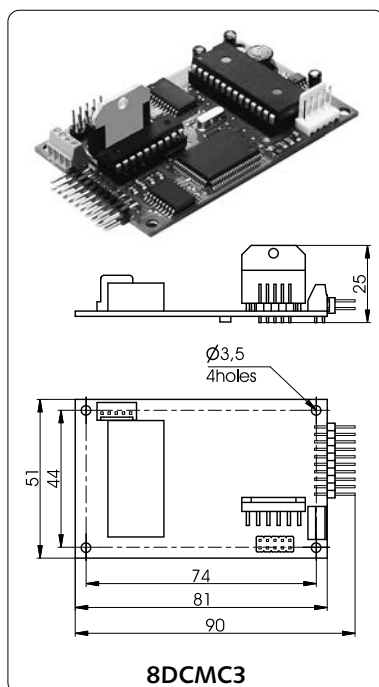
- Control via RS232 interface
- Capable of connecting two programmable limit switches for every axis

Programming

- Serial communications command system for Windows, Linux and most other operating systems. The host is "master" and controllers are addressable "slaves"
- Simple test programs include

Mechanical

- Operating temperature range: 0 to 70°C
- Box size for 1-axis controller : 90 x 110 x 70 mm (B1)
- Box size for 2 and more axis controller : 180 x 160 x 90 mm (B2)



8DCMC3

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Base Mounts & Accessories	3
Optical Mounts	4
Optical Positioners	5
Base Positioners	6
Translation & Rotation Stages	7
Motorised Positioners & Controllers	8
Fine Adjustment Screws	9
Opto-Mechanics & Sets	10
Light Test & Measurement Instruments	11

Ordering of 8DCMC3 series circuit card assemblies (CCA)

It is possible to order circuit card assemblies of the **8DCMC3** series controller in order to build custom systems. Multiple controllers can be serially connected to a single RS232 COM port for multi-axis systems.

Warranty and support options for the CCA version may vary.

Ordering information

Examples of codes for **8DCMC3** series controllers:

- 8DCMC3** – Controller Board
- 8DCMC3-B1-1** – 1 axis Controller
- 8DCMC3-B2-2** – 2 axis Controller
- 8DCMC3-B2-3** – 3 axis Controller
- 8DCMC3-B2-4** – 4 axis Controller
- RS232 Cable** – Cable to Computer

Cable to motor not included as the Standa actuators for DC motors already have an integrated cable.

A 12V – 36V, 1.5A – 3.6 A power supply is required to operate the controller. You can use your own power supply or purchase the following STANDA power supplies:

model “PSA18U-120” (12V; 1.5A).
Specifications of power supply see in page 8-40

Brushed DC Servo Motor Controllers with USB Interface

8DCMC1-USB series

- USB powered
- Compact
- Full featured Windows software included
- Virtual serial port communication using FTDI drivers for Windows and for other OS
- RoHS compliant

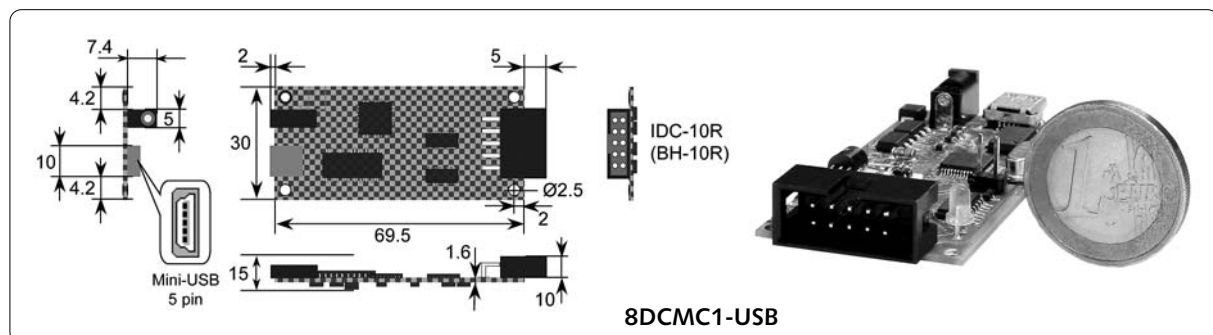
SPECIFICATIONS

Input Power	USB, external 12V DC up to 500mA
Motor Output Power	up to 12V/500mA, 6W
Operating Modes	position, velocity, tune-up, loft compensation
Control Algorithm	PID
Velocity Profile	trapezoidal
Position Count	32 Bit
Feedback	incremental encoder, potentiometer and limit switches
Feedback Bandwidth	200 kHz
Size of 1-axis box	35 x 80 x 20 mm



8DCMC1-USB-B1-1
box version controller

8DCMC1-USB is a compact, low cost USB powered controller for brushed DC servo motors. This controller is a great solution for almost all compact DC brushed motors up to 6W that are equipped with encoder or potentiometer feedback. Multiple units can be connected to a single PC via standard external USB hub for multi-axis motion control applications.



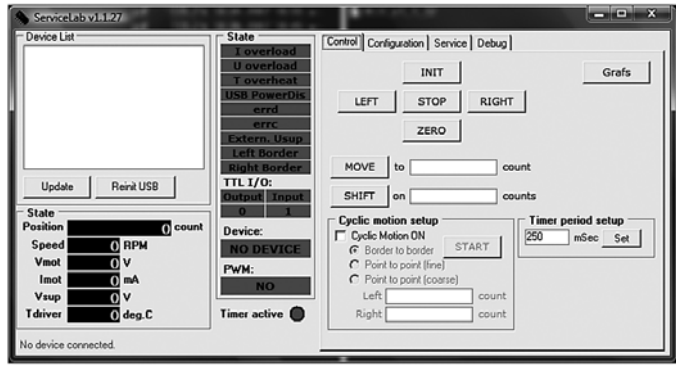
8DCMC1-USB

1 Optical Tables
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The **8DCMC1-USB** utilizes well known FTDI virtual COM-port technology and supports Windows Vista, Windows XP, Windows Server 2003, Windows 2000, Windows ME, Windows 98, Linux, Mac OS X, Mac OS 9, Mac OS 8, Windows CE.NET etc. Included control software provides a fully featured suite of tools for Windows that allows immediate and easy out-of-the-box configuration and use of the **8DCMC1-USB**. Using the software interface, you are able to select which controller in your system you want to control and then monitor the critical parameters.




For more information please visit www.standa.it


Ordering information

8DCMC1-USB-B1-1 - 1 axis Controller


Power Supplies for Standa Controllers



Power supply PSA18U-120
 12 V; 1.5 A
 98.5 x 55 x 31.5 mm
 200 g
 connector "2.1/5.5"



Power supply PSC30U-120
 12 V; 2.5 A
 98.5 x 55 x 31.5 mm
 250 g
 connector "2.1/5.5"



Power supply PUP130-17B1
 36 V; 3.6 A
 178 x 95 x 63.5 mm
 1000 g
 connector "2.1/5.5"

Standa stepper motors and DC motor controllers require properly matched power supplies for operation.

Current requirements for stepper motor controller power supplies:

During operation, current consumption will vary depending upon how the controller is being used. Before shipment, our controllers are calibrated to the rated current of the motors they are to be used with. If you do not specify a motor, the controllers will be calibrated to a factory default value. Due to Pulse Width Modulation (PWM) our controllers usually consume less current than the rated current of motors. However, to avoid problems during worst case scenarios, we recommend selecting a power supply with a max current not less than the rated current of motors that will be connected to the controller. In case of multi-axis controllers you will need to sum the current of all controllers connected to the power supply.

Requirements for stepper motor controllers power supply voltage:

Our stepper motor controllers are a "chopper drive" type. This means that in the initial phase of the motor step our controller will apply significantly higher voltage to motor winding than will occur in other drive types. This method allows stepper motors to be driven with higher torque at higher

speeds. It should also be noted that stepper motor parasitic resonant effect behavior ("bad" frequencies position, for example) depends on supply voltage. Minimal allowable DC voltage of our stepper motor controllers is 12V and maximum is 36V, both of which we keep in stock.

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- Base Positioners 6
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- Light Test & Measurement Instruments 11