

Electro-pneumatic Rotary Modules

Rotary Actuators



ROTARY ACTUATORS

Series	Size	Page
Universal Rotary Actuators		
SRU-MD		214
SRU-MD	40	218





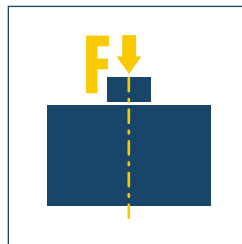
Sizes
40



Weight
6 kg .. 8.05 kg



Torque
12.2 Nm .. 13 Nm



Axial force
2900 N



Bending moment
68 Nm

Application example



Automatic workloading equipment

- 1 Electro-pneumatic Rotary Actuator
- 2 AGE-XY-50 Compensation Unit

- 3 3-Finger Concentric Gripper LGZ 32

Masterdrive

Flat-swivel-unit with hybrid, electro-pneumatic transmission-concept for heavy superstructure. Arbitrary intermediate position can be approached.

Area of application

Inset in applications, which require despite heavy swivel-superstructures short cycle times.

Your advantages and benefits

Drive design Masterdrive

for flexible response characteristic

Independent movement improvement

The SRU-Masterdrive evaluates the earlier swivel-motions and adapts the regulation-parameter adequate. After a few swivel-motions optimized sequence of movements will be operated.

High drive and deceleration moments

for heavy superstructures and anyhow short cycle times

Arbitrary position selectable

for flexible process sequences

Simple homing

by the adapted drive-electronic MD-SE

Interface CAN-Bus

to versatile approach and easy integration in existing control concept

Electric rotary transmission leadthrough

for the steady reliable realization of sensor-, actuator- and bus-signals

Fluid feed-through can be used for gases, fluids and vacuum

dispensing with troublesome hoses



Information about the series

Working principle

Hybrider drive consisting of a pneumatic double piston and an electrical motor with spindle which produce a rotation over the rack-pinion-principle

Housing material

Aluminum press-drawn section

Actuation

Pneumatic, with filtered compressed air (10 µm): Dry, lubricated or non-lubricated
Pressure medium: Required quality class of compressed air according to DIN ISO 8573-1: Quality class 4

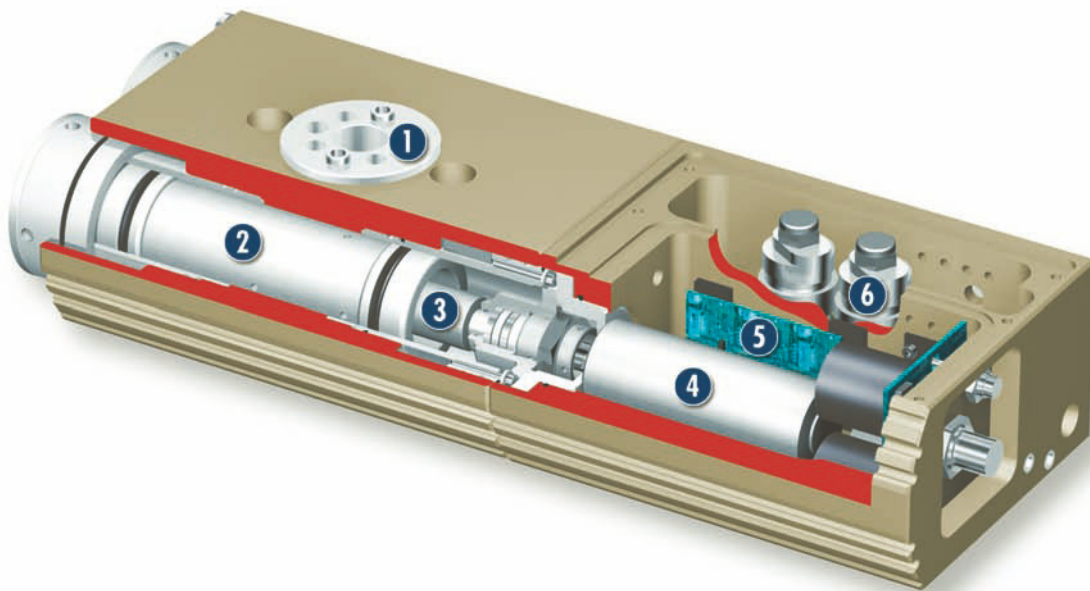
Warranty

24 months

Scope of delivery

center sleeves, assembly instructions and instruction book with producer explanation

Sectional diagram



1 Pinion
stable pinion, optionally with
medium-feed-through

2 Piston with spindle nut

3 Spindle

4 Electric motor

5 Electronics

6 Microvalve

Function description

Pneumatic and electrical drive complete each other. The pneumatic makes the high power density available, the electricity the short response times, the free positioning bar and smooth controllability. The electricity integrated into the SRU-masterdrive appoints the both drives in that way that they can insert their power in the suitable moment.

The extremely short cycle times are reached by two effects. The servo-motor of the SRU-masterdrive tightens immediately after the starting signal of the SPS, without time delay as with purely pneumatic units. Pneumatic and electrical drive combined have a higher torque that they could accelerate more strongly.

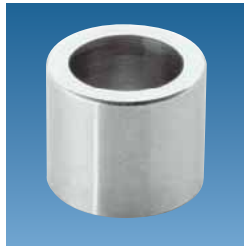
Options and special information

The SRU-Masterdrive reports upcoming maintenance work autonomous and in due time to the superior control.

Accessories

Accessories from SCHUNK — the suitable complement for the highest level of functionality, reliability and controlled production of all automation components.

Centering sleeves



- ① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the „Accessories“ catalog section.

General information on the series

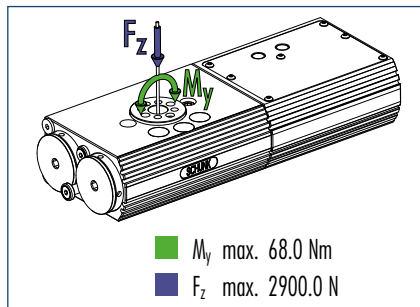
Repeat accuracy

Repeat accuracy is defined as the spread of the limit position after 100 consecutive swiveling cycles.

Pinion position

The position of the pinion is always shown in the drawing in the left-hand end position. From here, the pinion rotates clockwise. The direction of rotation is indicated by the arrow.

Pinion load



① Moments and forces may occur simultaneously. When using heavy attachments or ones with high mass moments of inertia, the speed must be restricted to ensure that the rotary movement occurs without any hitting or bouncing.

Technical data

Description		SRU 40.1-180-MD	SRU 40.1-180-8-MD	SRU 40.1-180-8-EDF M5-MD	SRU 40.1-180-8-EDF M8-MD	SRU 40.1-180-8-EDF M12-MD
	ID	0357980	0357982	0357983	0357984	0357985
Drive design		pneumatic / servo-electric	pneumatic / servo-electric	pneumatic / servo-electric	pneumatic / servo-electric	pneumatic / servo-electric
Torque	[Nm]	13	12.2	12.2	12.2	12.2
Rotating angle	[°]	180	180	180	180	180
Positioning accuracy	[°]	0.03	0.03	0.03	0.03	0.03
No. of fluid feed-throughs		8	8	8	8	
IP class		63	63	63	63	63
Weight	[kg]	6	6.7	8.05	8.05	8.05
Swiveling time with middle attached load	[s]	0.8	0.8	0.8	0.8	0.8
Nominal pressure	[bar]	6	6.7	8	8	8
Minimum pressure	[bar]	5.5	5.5	5.5	5.5	5.5
Maximum pressure	[bar]	6.5	6.5	6.5	6.5	6.5
Max. pressure in fluid feed-through	[bar]	8	8	8	8	
Diameter of connecting hose	[mm]	8	8	8	8	8
Min. ambient temperature	[° C]	5	5	5	5	5
Max. ambient temperature	[° C]	55	55	55	55	55
Max. permitted operating temperature	[° C]	85	85	85	85	85
Motortype		brush engine	brush engine	brush engine	brush engine	brush engine
Kind of tension		DC	DC	DC	DC	DC
Nominal voltage	[V]	24	24	24	24	24
Minimum voltage	[V]	23.5	23.5	23.5	23.5	23.5
Maximum voltage	[V]	24.5	24.5	24.5	24.5	24.5
Current input	[A]	4	4	4	4	4
Maximum electrical power input	[W]	100	100	100	100	100
Communications interface		CAN	CAN	CAN	CAN	CAN
Guaranteed reload number	[Mio.]	6	6	6	6	6
Number of EDF-fittings on the output end				8	8	8
Size of the EDF-connections on the output end				M5	M8	M12
Number of cores				10	10	10
Maximum voltage by EDF	[V]			24	24	24
Max. current per wire (EDF)	[A]			1	1	1
Max. current EDF complete	[A]			1	1	1

Technical drawing of the 1000 series hydraulic cylinder, showing four views: front, side, end, and top. The drawing includes detailed dimensions and callouts for various components.

Front View (Top Left): Shows the cylinder body with dimensions: $\varnothing 15/11$, $\varnothing 8.5$, 25, 4, M10, $\varnothing 14$ (2x), and 1.

Side View (Top Right): Shows the cylinder body with dimensions: 121, $\varnothing 51.8^{+0.05}_{-0.10}$, 2, $\varnothing 8$ (2x), 7.6, 2.5, 3, 50.9, 7.6, 69, and 1.

End View (Bottom Left): Shows the cylinder head with dimensions: 48.4, 32.4, 91, 15.5, 1.5, 45, 14.1, $\varnothing 8$ (19), and 90. A callout 'X' points to the head.

Top View (Bottom Right): Shows the cylinder body with dimensions: 338, 151, 171, 70 ± 0.02 , 16, 16, and 0° . A callout 'X' points to the head.

Other Callouts: $\varnothing 6^{+0.025}_{-0.015}$ (2x) and M8/8 (4x) are also indicated.

- ① Connection of rotary actuator
- ② Attachment connection
- ⑬ Air connection
- ⑨⑩ Interface control unit (CAN/MD-SE)
- ⑨⑪ RS 232 interface (only for SCHUNK-service)

Technical drawing of a 6-hole circular plate. The drawing includes three views: a top view, a side view, and an isometric view.

- Top View:** Shows a circular plate with 6 holes. The outer diameter is 32 ± 0.02 . The distance between the centers of two adjacent holes is 21.5 ± 0.1 . The diameter of each hole is $\varnothing 8_{0}^{+0.025}$. The thickness of the plate is 3 ± 0.02 . The drawing also shows a 0° angle and a force vector E .
- Side View:** Shows the profile of the plate. The thickness is 3 ± 0.02 . The distance between the centers of two adjacent holes is 21.5 ± 0.1 . The diameter of each hole is $\varnothing 8_{0}^{+0.025}$. The drawing also shows a force vector E .
- Isometric View:** Shows the plate from an isometric perspective. The thickness is 3 ± 0.02 . The distance between the centers of two adjacent holes is 21.5 ± 0.1 . The diameter of each hole is $\varnothing 8_{0}^{+0.025}$. The drawing also shows a force vector E .

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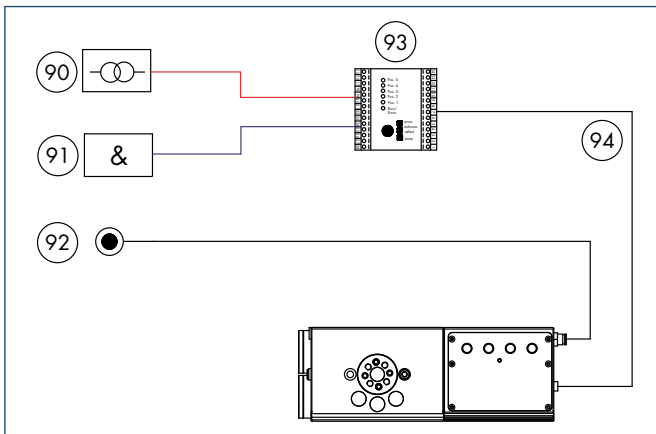
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① Connection of rotary actuator	⑦③ Connection BUS-throughs
② Attachment connection	⑨① Interface control unit (CAN/MD-SE)
①⑨ Air connection	⑨① RS 232 interface (only for SCHUNK-service)
②⑤ Fluid feed-through	⑨③ Change Bus-/Sensor feed-through
③⑤ Flange socket for NHS-connection	
⑥⑨ Connection for electric feed-through	

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Description	ID
MD-SE	0359125

Connection scheme SRU-MD by MD-SE



- ⑨⑩ 24VDC voltage supply provided by customer
- ⑨① Control system provided by the customer
- ⑨② Supply of compressed air
- ⑨③ External Navigation-electronics MD-SE (ID 0359125)
- ⑨④ Interconnecting cable control unit / turning swivel unit (5 m cable are included in delivery – mounted to the turning swivel unit)

