

Superior Clamping and Gripping



Product data sheet

Ring indexing table RST-D

RST-D

Ring indexing table

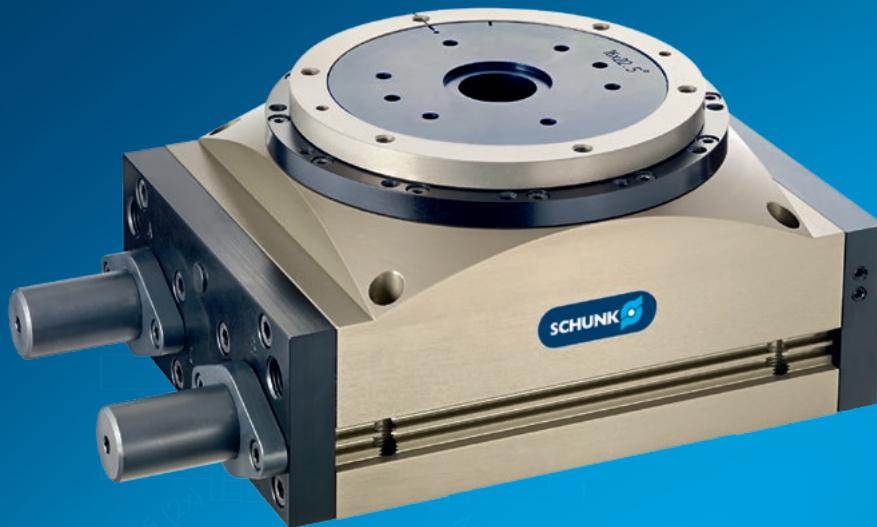
Endlessly turning. Strong. Robust.

Ring indexing unit RST-D

Ring indexing unit for endlessly turning with an angle of rotation up to 90° per cycle.

Field of application

Can be used in clean to slightly dirty environments such as assembly or packaging areas, or wherever fast movement cycles are required.



Advantages – Your benefits

Right, left, and alternating operation are possible with this actuator total flexibility for your application

High damper performance due to the use of hydraulic shock absorbers suitable for the use of large rotary tables

Large, fixed center part for simple addition of further components

Two locking pins therefore the locking of the drive ring has no backlash

All adjustments and air connections are located on one side for easy commissioning

Center bore for media feed-through for supply of additional components



Sizes
Quantity: 3



Pitch
4 .. 16



Torque
3.1 .. 29.3 Nm



Repeat accuracy
0.04 .. 0.09°



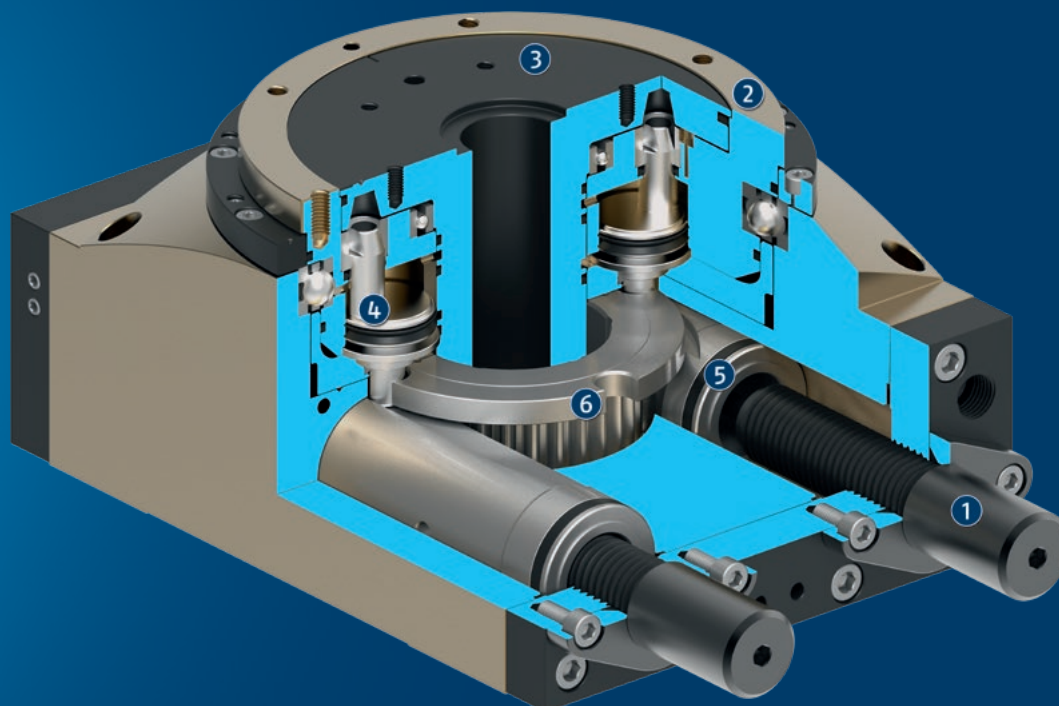
Angle of rotation
22.5 .. 90°

Functional description

After pressure actuation of the faces, the driving piston linearly moves into the bore, and turns the cycle ring via a laterally attached gear.

After actuation of the locking piston it is indexed, and

releases the driving piston for return stroke.



- ① **Damping**
to increase the damping performance
- ② **cycle ring**
high-precision seated for a high axial run-out accuracy
- ③ **Fixed center part with center bore**
Large center part for simple attachment of further components
- ④ **Locking mechanism**
two pneumatic pistons for scope-free locking in the end positions
- ⑤ **Drive**
Pneumatic, powerful double piston drive
- ⑥ **driver**
Gearing for transmission of the rotary movement from the pinion to the drive ring

RST-D

Ring indexing table

General notes about the series

Housing material: Aluminum alloy, anodized

Actuation: pneumatic, with filtered compressed air as per ISO 8573-1:2010 [7:4:4].

Operating principle: Rack and pinion principle with back stroke freewheel

Scope of delivery: Centering elements, assembly, and operating instruction with manufacturer's declaration.

Warranty: 24 months

Service life characteristics: on request

Repeat accuracy: is defined as a distribution of the end Position for 100 consecutive strokes.

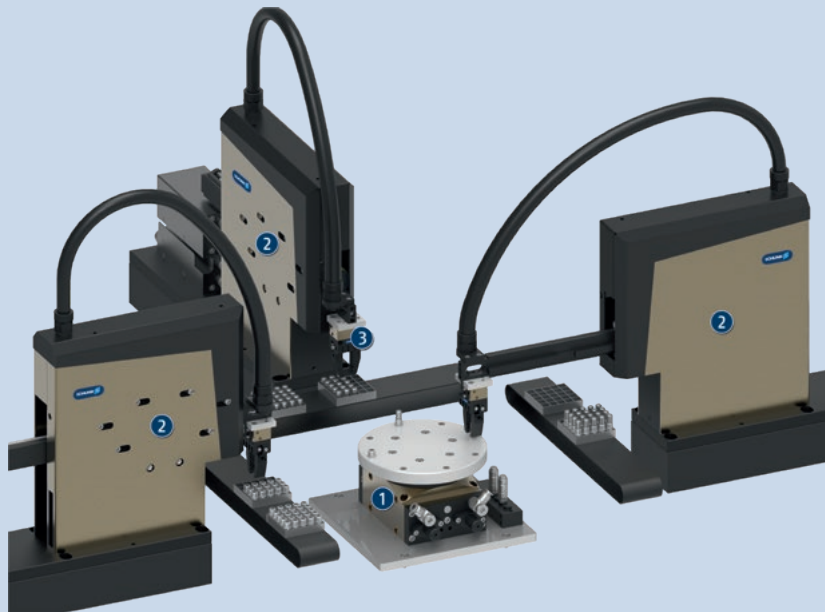
Drive ring: The position of the drive ring is always drawn in basic position. From here, the ring turns clockwise or anti-clockwise.

Swiveling time: is the rotation time of pinion/flange around the nominal rotation angle. Valve switching times, hose filling times, or PLC reaction times are not included and are to be considered when cycle times are calculated.

Reference sensor: For monitoring the basic position, an inductive sensor can be attached, which will be actuated every 360°. It can be used for reference run or for checking if the control unit has counted correctly.

Swivel time depends on the payload: The shown diagrams are valid for nominal rotation angles, for the use with vertical swivel axis, or for central payloads with horizontal swivel axes, and at an operating pressure of 6 bar. The diagrams show the expected swivel time, and allows cycle per hour depending on the mass moments of inertia. The swiveling times need to be adjusted by using throttle valves, otherwise the life time could be reduced. We will be happy to help you designing other applications.

Total cycle time: The total cycle time consists of the swiveling time per cycle together with other required time intervals. See the operating manual for the exact calculation of the total cycle time.



Application example

Pneumatically driven placement machine for small components

- ① Ring indexing unit RST-D
- ② Pick & Place Unit PPU-P

- ③ 2-finger parallel gripper MPG-plus

SCHUNK offers more ...

The following components make the product even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



Gripper for small components



Linear module



Pick & Place Unit



Pressure maintenance valve



Inductive proximity switch



Magnetic switches

① For more information on these products can be found on the following product pages or at [schunk.com](https://www.schunk.com).

Options and special information

The unit is delivered preset at the factory to be able to rotate clockwise, counter-clockwise or in both directions. For applications where the unit will only rotate in one direction, the shock absorbers can be adjusted to optimize cycle time.

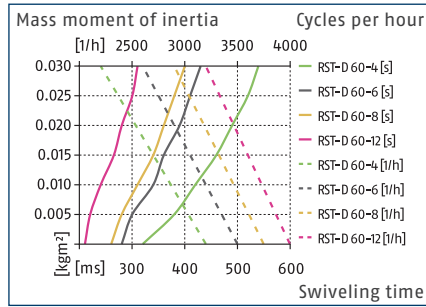
Food-grade lubrication: The product contains food-compliant lubricants as standard. The requirements of standard EN 1672-2:2020 are not fully met. The relevant NSF certificates are available at <https://info.nsf.org/USDA/Listings.asp> using the lubricant information in the operating manual. Components such as rolling bearings, linear guides, or shock absorbers are not provided with food-compliant lubricants.

RST-D 60

Ring indexing table

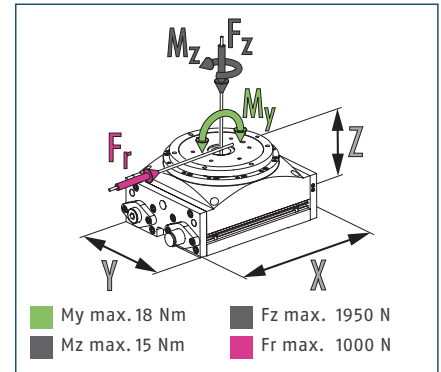


Swiveling time



① The diagrams are valid for applications with vertical rotary axis or for absolutely centric loads with horizontal rotary axis and with a pneumatic working pressure of 6 bars. The swiveling times per throttling have to be observed, otherwise the life time may reduce. Operation with a horizontal swivel axis is only permitted with a centric load. We will be happy to help you designing other applications.

Dimensions and maximum loads

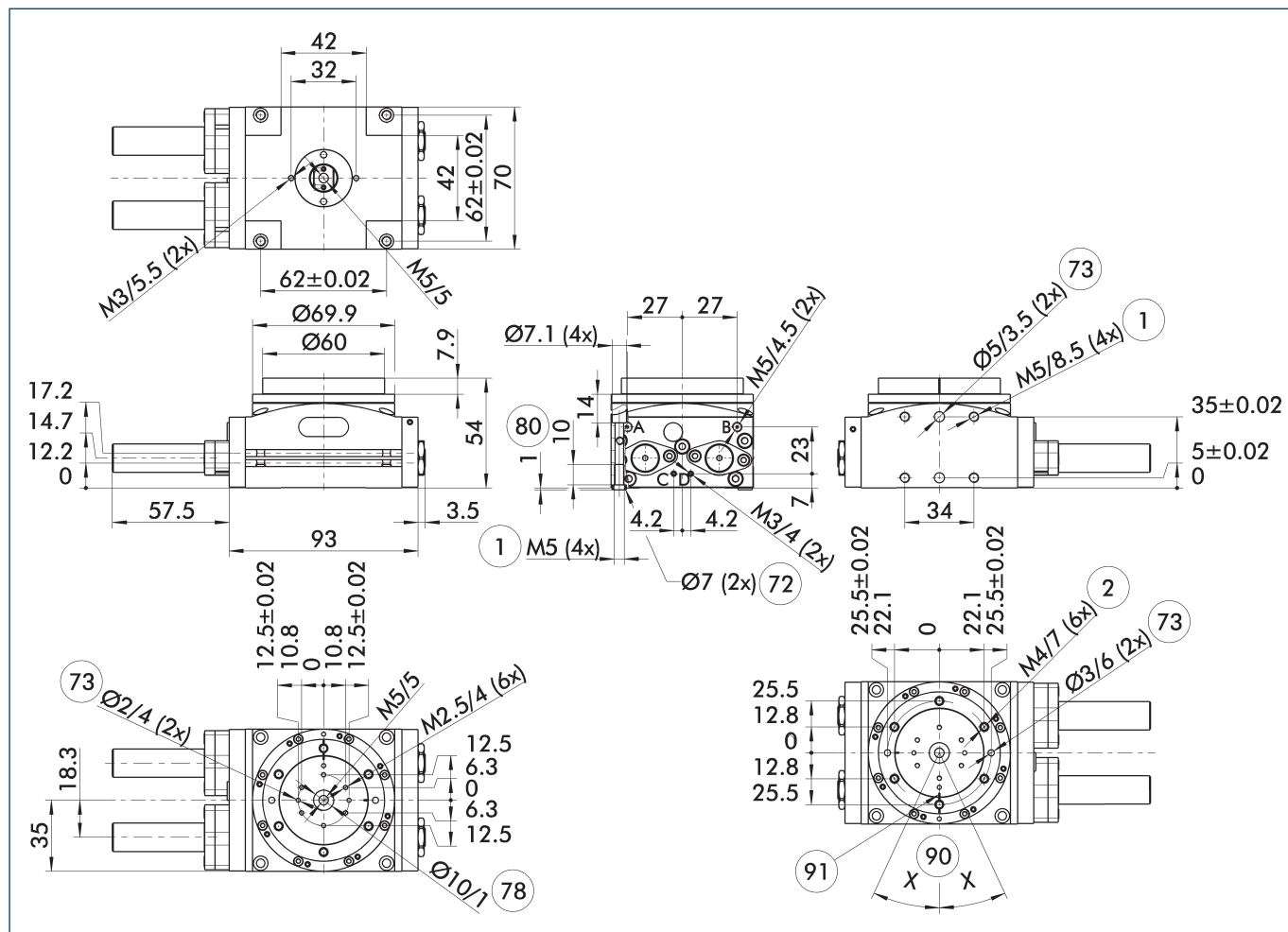


① The indicated moments and forces are static values and may appear simultaneously. Throttling has to be done for ensuring that the rotary movement takes place without impact or bouncing. Otherwise the service life reduces.

Technical data

Description		RST-D 60-4	RST-D 60-6	RST-D 60-8	RST-D 60-12
ID		0315500	0315501	0315502	0315503
Angle of rotation	[°]	90	60	45	30
Pitch		4	6	8	12
Direction of rotation		on both sides	on both sides	on both sides	on both sides
Torque	[Nm]	3.1	3.1	3.1	3.1
Weight	[kg]	1	1	1	1
IP protection class		50	50	50	50
Locking time	[s]	0.1	0.1	0.1	0.1
Unlocking time	[s]	0.1	0.1	0.1	0.1
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60
Min./nom./max. operating pressure	[bar]	4/6/8	4/6/8	4/6/8	4/6/8
Cylinder volume per double stroke	[cm ³]	21	14	11	7.5
Repeat accuracy	[°]	0.09	0.09	0.09	0.09
Run-out cycle ring	[mm]	0.02	0.02	0.02	0.02
Axial run-out cycle ring	[mm]	0.02	0.02	0.02	0.02
Parallelism cycle ring	[mm]	0.04	0.04	0.04	0.04
Number of hydraulic shock absorber		2	2	2	2
Dimensions X x Y x Z	[mm]	93 x 70 x 54	93 x 70 x 54	93 x 70 x 54	93 x 70 x 54

Main view



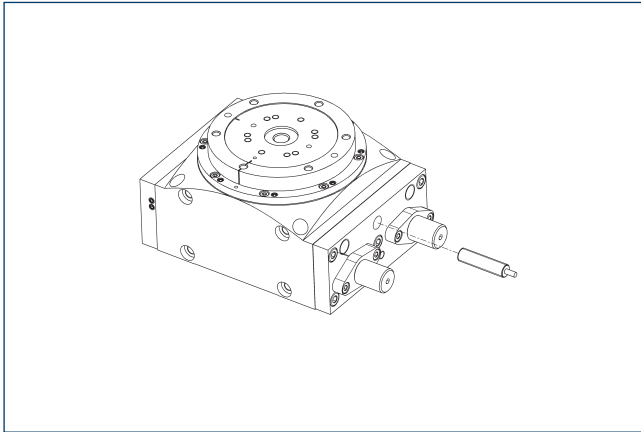
The drawing shows the unit in standard design, without considering any dimensions of the options described below.

- | | |
|---|--|
| A, a Air connection ring indexing table, clockwise turning | ② Attachment connection |
| B, b Air connection ring indexing table, anti-clockwise turning | ⑦② Fit for centering sleeves |
| C, c Air connection ring indexing table unlocking | ⑦③ Fit for centering pins |
| D, d Air connection ring indexing table locking | ⑦⑧ Fit for centering |
| ① Connection ring indexing table | ⑧⑩ Depth of the centering hole in the counter part |
| | ⑨⑩ For rotation angle "X" see technical data |
| | ⑨① Zero position |

RST-D 60

Ring indexing table

Inductive proximity switches

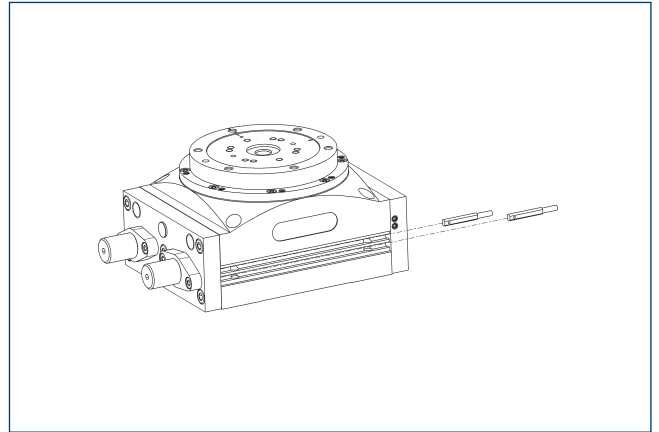


Reference sensor for monitoring the basic position.

Description	ID	Often combined
Inductive proximity switch		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
IN-C 80-S-M8-PNP	0301475	
INK 80-S	0301550	
INK 80-SL	0301579	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Clip for connector/socket		
CLI-M12	0301464	
CLI-M8	0301463	
Cable extension		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
Sensor distributor		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

① For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

Electronic magnetic switch MMS



End position monitoring for mounting in the C-slot.

Description	ID	Often combined
Electronic magnetic switch		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Clip for connector/socket		
CLI-M8	0301463	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
Sensor distributor		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

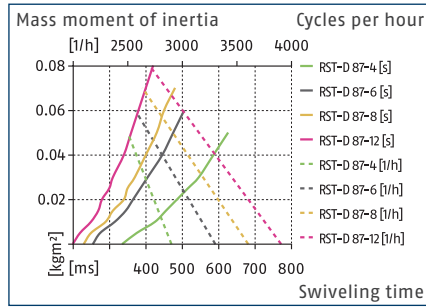
① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

RST-D 87

Ring indexing table

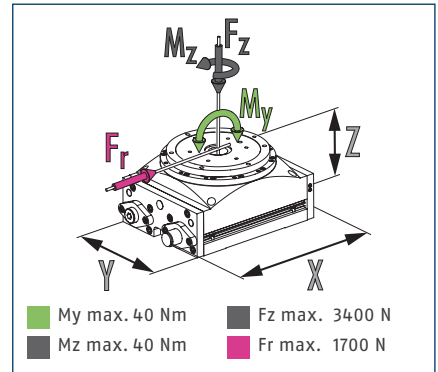


Swiveling time



① The diagrams are valid for applications with vertical rotary axis or for absolutely centric loads with horizontal rotary axis and with a pneumatic working pressure of 6 bars. The swiveling times per throttling have to be observed, otherwise the life time may reduce. Operation with a horizontal swivel axis is only permitted with a centric load. We will be happy to help you designing other applications.

Dimensions and maximum loads

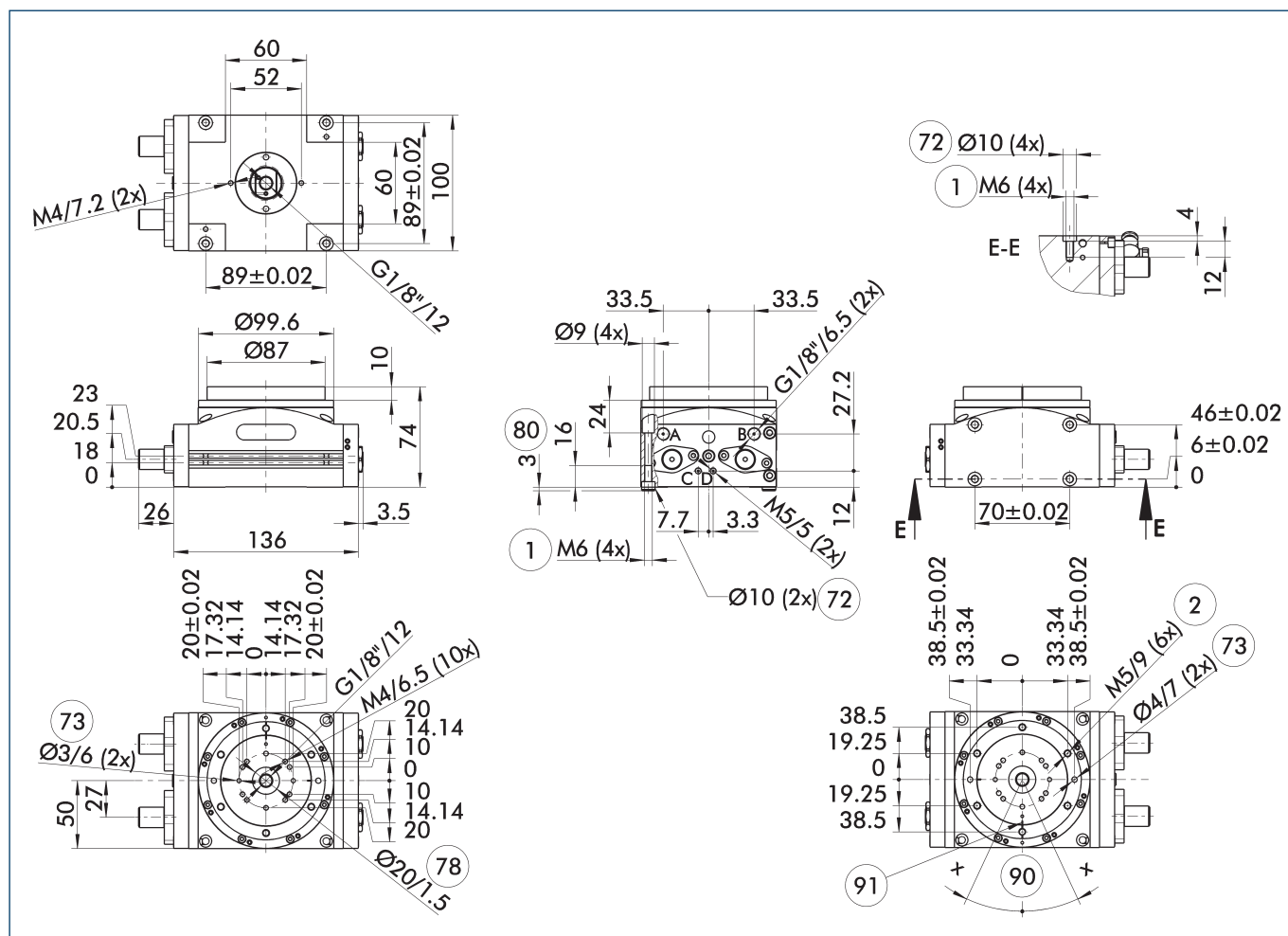


① The indicated moments and forces are static values and may appear simultaneously. Throttling has to be done for ensuring that the rotary movement takes place without impact or bouncing. Otherwise the service life reduces.

Technical data

Description		RST-D 87-4	RST-D 87-6	RST-D 87-8	RST-D 87-12
ID		0315510	0315511	0315512	0315513
Angle of rotation	[°]	90	60	45	30
Pitch		4	6	8	12
Direction of rotation		on both sides	on both sides	on both sides	on both sides
Torque	[Nm]	7.9	7.9	7.9	7.9
Weight	[kg]	2.9	2.9	2.9	2.9
IP protection class		50	50	50	50
Locking time	[s]	0.1	0.1	0.1	0.1
Unlocking time	[s]	0.1	0.1	0.1	0.1
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60
Min./nom./max. operating pressure	[bar]	4/6/8	4/6/8	4/6/8	4/6/8
Cylinder volume per double stroke	[cm³]	53	36	27.5	19
Repeat accuracy	[°]	0.06	0.06	0.06	0.06
Run-out cycle ring	[mm]	0.02	0.02	0.02	0.02
Axial run-out cycle ring	[mm]	0.02	0.02	0.02	0.02
Parallelism cycle ring	[mm]	0.04	0.04	0.04	0.04
Number of hydraulic shock absorber		2	2	2	2
Dimensions X x Y x Z	[mm]	136 x 100 x 74	136 x 100 x 74	136 x 100 x 74	136 x 100 x 74

Main view



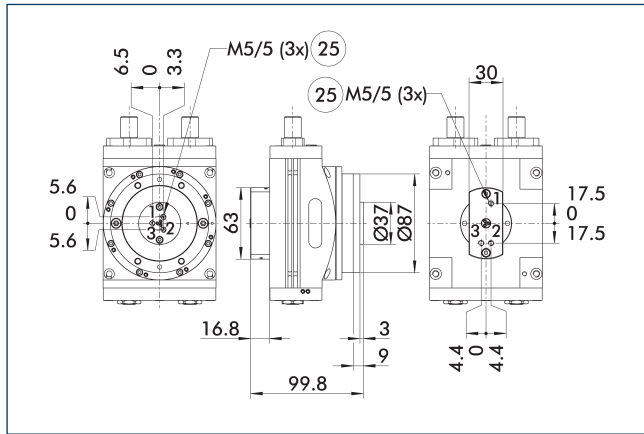
The drawing shows the unit in standard design, without considering any dimensions of the options described below.

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| B, b Air connection ring indexing table, anti-clockwise turning | ⑦② Fit for centering sleeves |
| C, c Air connection ring indexing table unlocking | ⑦③ Fit for centering pins |
| D, d Air connection ring indexing table locking | ⑦⑧ Fit for centering |
| ① Connection ring indexing table | ⑧⑩ Depth of the centering hole in the counter part |
| | ⑨⑩ For rotation angle "X" see technical data |
| | ⑨① Zero position |

RST-D 87

Ring indexing table

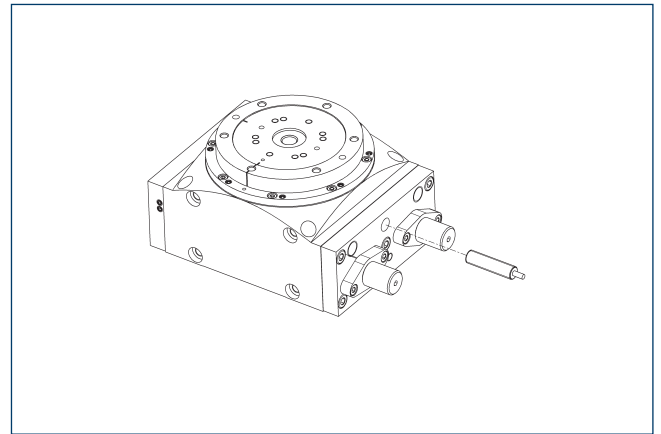
Version with media feed-through



25 Fluid feed-through

Description	ID	
Attachment kit for media feed-through		
DDF RST 087	0315516	

Inductive proximity switches

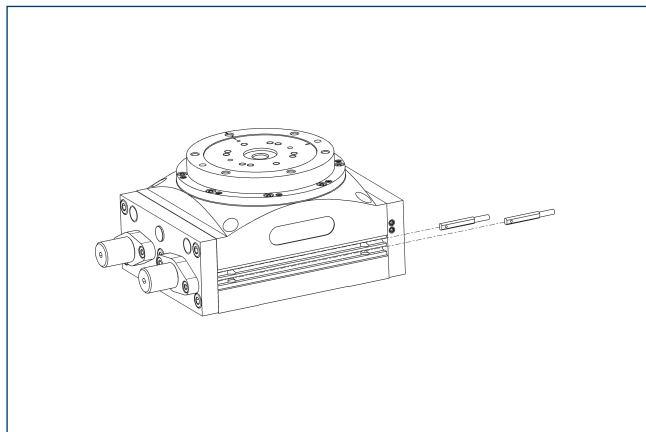


Reference sensor for monitoring the basic position.

Description	ID	Often combined
Inductive proximity switch		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
IN-C 80-S-M8-PNP	0301475	
INK 80-S	0301550	
INK 80-SL	0301579	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Clip for connector/socket		
CLI-M12	0301464	
CLI-M8	0301463	
Cable extension		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
Sensor distributor		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

① For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

Electronic magnetic switch MMS



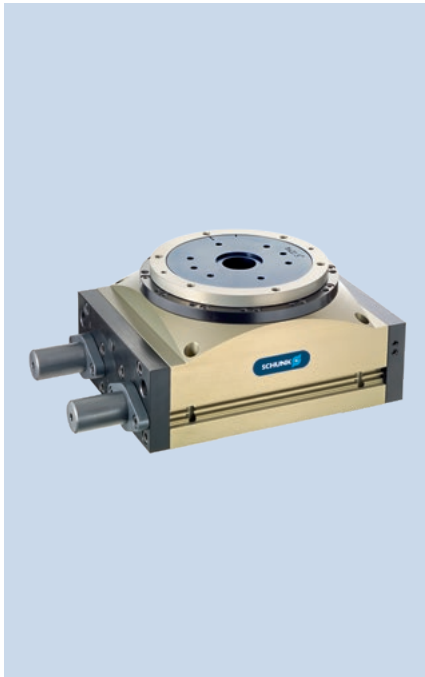
End position monitoring for mounting in the C-slot.

Description	ID	Often combined
Electronic magnetic switch		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Clip for connector/socket		
CLI-M8	0301463	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
Sensor distributor		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

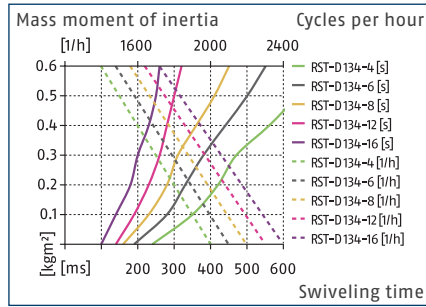
- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

RST-D 134

Ring indexing table

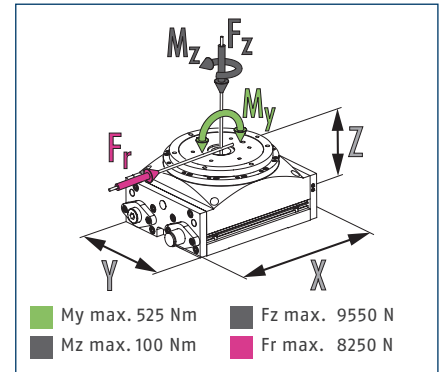


Swiveling time



① The diagrams are valid for applications with vertical rotary axis or for absolutely centric loads with horizontal rotary axis and with a pneumatic working pressure of 6 bars. The swiveling times per throttling have to be observed, otherwise the life time may reduce. Operation with a horizontal swivel axis is only permitted with a centric load. We will be happy to help you designing other applications.

Dimensions and maximum loads



① The indicated moments and forces are static values and may appear simultaneously. Throttling has to be done for ensuring that the rotary movement takes place without impact or bouncing. Otherwise the service life reduces.

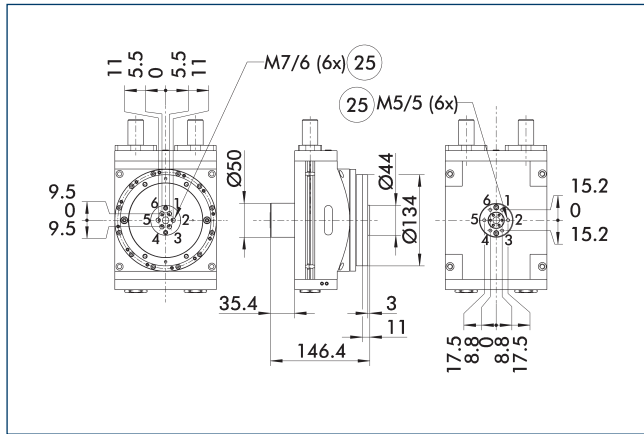
Technical data

Description		RST-D 134-4	RST-D 134-6	RST-D 134-8	RST-D 134-12	RST-D 134-16
ID		0315520	0315521	0315522	0315523	0315524
Angle of rotation	[°]	90	60	45	30	22.5
Pitch		4	6	8	12	16
Direction of rotation		on both sides	on both sides	on both sides	on both sides	on both sides
Torque	[Nm]	29.3	29.3	29.3	29.3	29.3
Weight	[kg]	8.3	8.3	8.3	8.3	8.3
IP protection class		50	50	50	50	50
Locking time	[s]	0.1	0.1	0.1	0.1	0.1
Unlocking time	[s]	0.1	0.1	0.1	0.1	0.1
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60	5/60
Min./nom./max. operating pressure	[bar]	4/6/8	4/6/8	4/6/8	4/6/8	4/6/8
Cylinder volume per double stroke	[cm³]	198	135	103	71	55
Repeat accuracy	[°]	0.04	0.04	0.04	0.04	0.04
Run-out cycle ring	[mm]	0.02	0.02	0.02	0.02	0.02
Axial run-out cycle ring	[mm]	0.02	0.02	0.02	0.02	0.02
Parallelism cycle ring	[mm]	0.03	0.03	0.03	0.03	0.03
Number of hydraulic shock absorber		2	2	2	2	2
Dimensions X x Y x Z	[mm]	204 x 150 x 100	204 x 150 x 100	204 x 150 x 100	204 x 150 x 100	204 x 150 x 100

RST-D 134

Ring indexing table

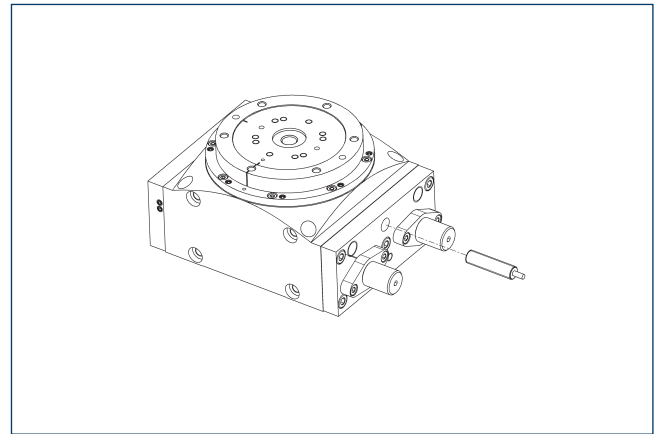
Version with media feed-through



25 Fluid feed-through

Description	ID	
Attachment kit for media feed-through		
DDF RST 134	0315526	

Inductive proximity switches

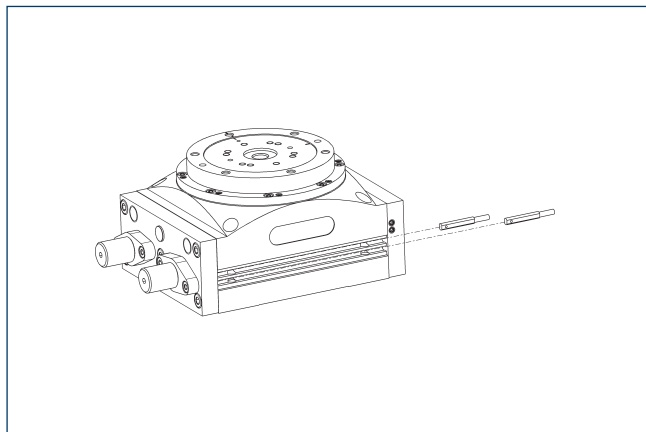


Reference sensor for monitoring the basic position.

Description	ID	Often combined
Inductive proximity switch		
NI 30-KT	0313429	●
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●

① For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

Electronic magnetic switch MMS



End position monitoring for mounting in the C-slot.

Description	ID	Often combined
Electronic magnetic switch		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Clip for connector/socket		
CLI-M8	0301463	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
Sensor distributor		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.



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