

## Continuous indexing. Strong. Robust. Ring Indexing Table RST-D

Ring indexing table for endlessly turning with a rotation angle up to 90° per cycle.

### Field of Application

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



### Advantages – Your benefit

**Right, left and alternating operation are possible via controll unit.** 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 bolts** 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°

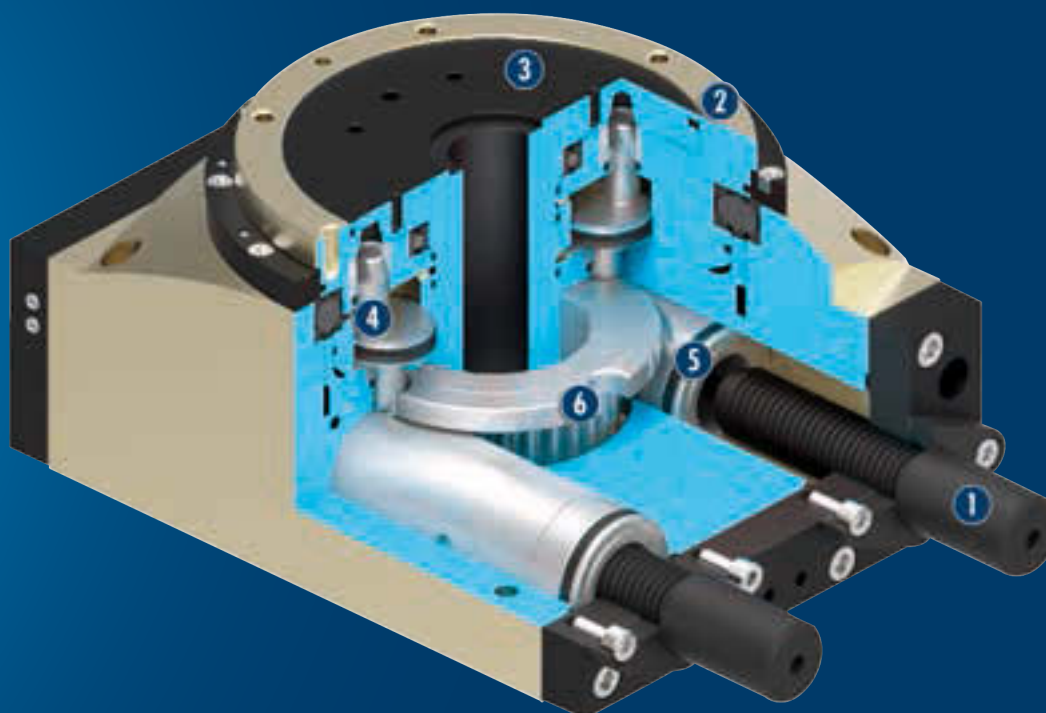


Angle of rotation  
22.5 .. 90°

## 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 **Drive 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 rotational movement from the pinion to the drive ring

## General Notes about the Series

**Housing material:** aluminum alloy, anodized

**Actuation:** pneumatic, with filtered compressed air as per DIN ISO 8573-1: 7 4 4

**Operating Principle:** rack and pinion principle for a reduced backlash transmission

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

**Warranty:** 24 months (details, general terms and conditions and operation manuals can be downloaded at [www.schunk.com](http://www.schunk.com))

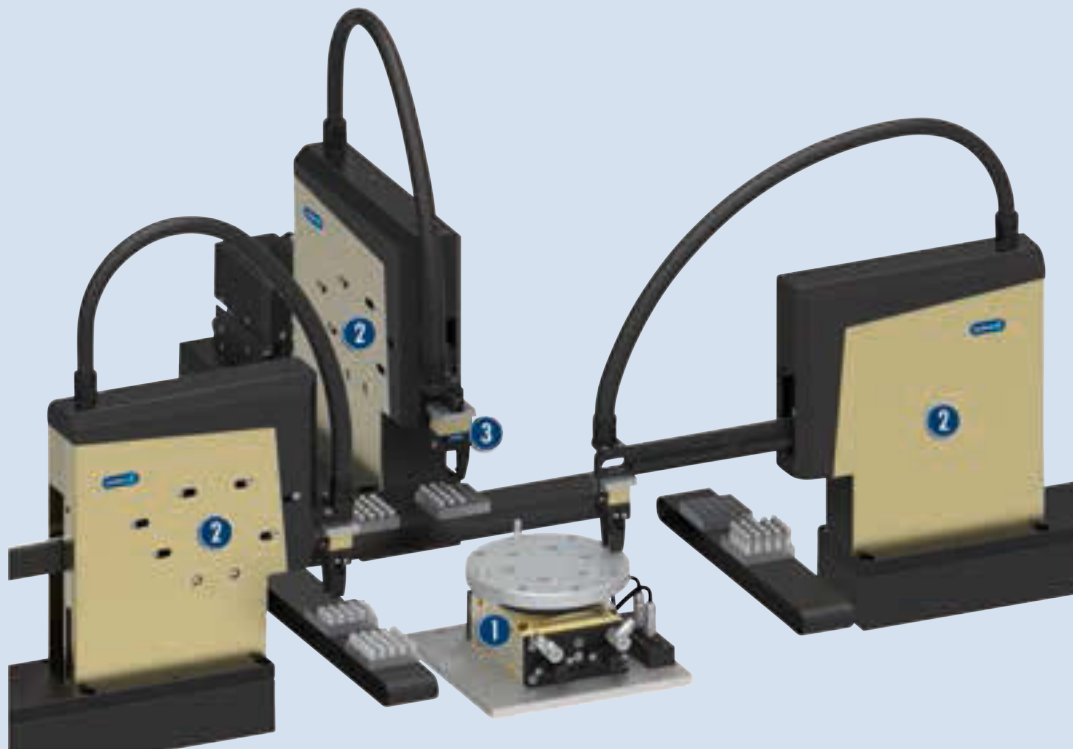
**Repeat accuracy:** is defined as the spread of the limit position after 100 consecutive strokes.

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

**Cycle time:** is the pure rotation time of the pinion / flange rotating about the nominal angle of rotation. Valve switching times, hose filling times, or PLC reaction times are not included, and have to be considered for determining the cycle times.

**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. Please contact us for calculations of other applications and further information.



## Application example

Pneumatically driven assembly 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 RST-D even more productive – the perfect complement for highest functionality, flexibility and process reliability.



Centering Sleeves



Fittings



Magnetic Switches



Inductive Proximity Switches



Sensor Distributor



Sensor Cables



Pressure Maintenance Valve

① Further information regarding the products can be found on the following product pages or at [www.schunk.com](http://www.schunk.com). Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

## Options and special Information

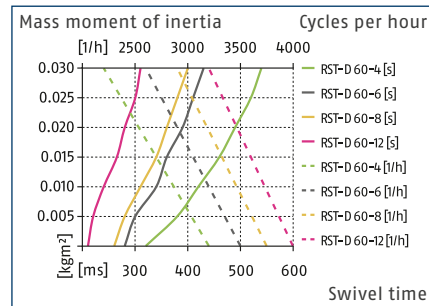
The unit is delivered from the factory preset to be able to rotate clockwise, counter-clockwise or in both directions. For applications where the unit will only rotate in one direction, the shock absorbers can be adjusted to optimize cycle time.

# RST-D 60

Pneumatic | Rotary Indexing Tables | Ring Indexing Table



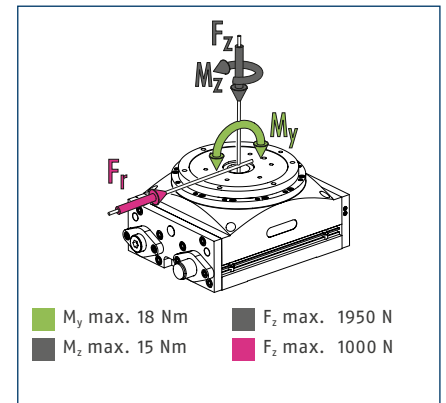
## Swivel time



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 need to be adjusted by using throttle valves, otherwise the life time could be reduced. Please contact us for calculations of other applications and further information.

- ① To calculate the complete cycle time, please refer to the operating manual.

## Indexing ring loading

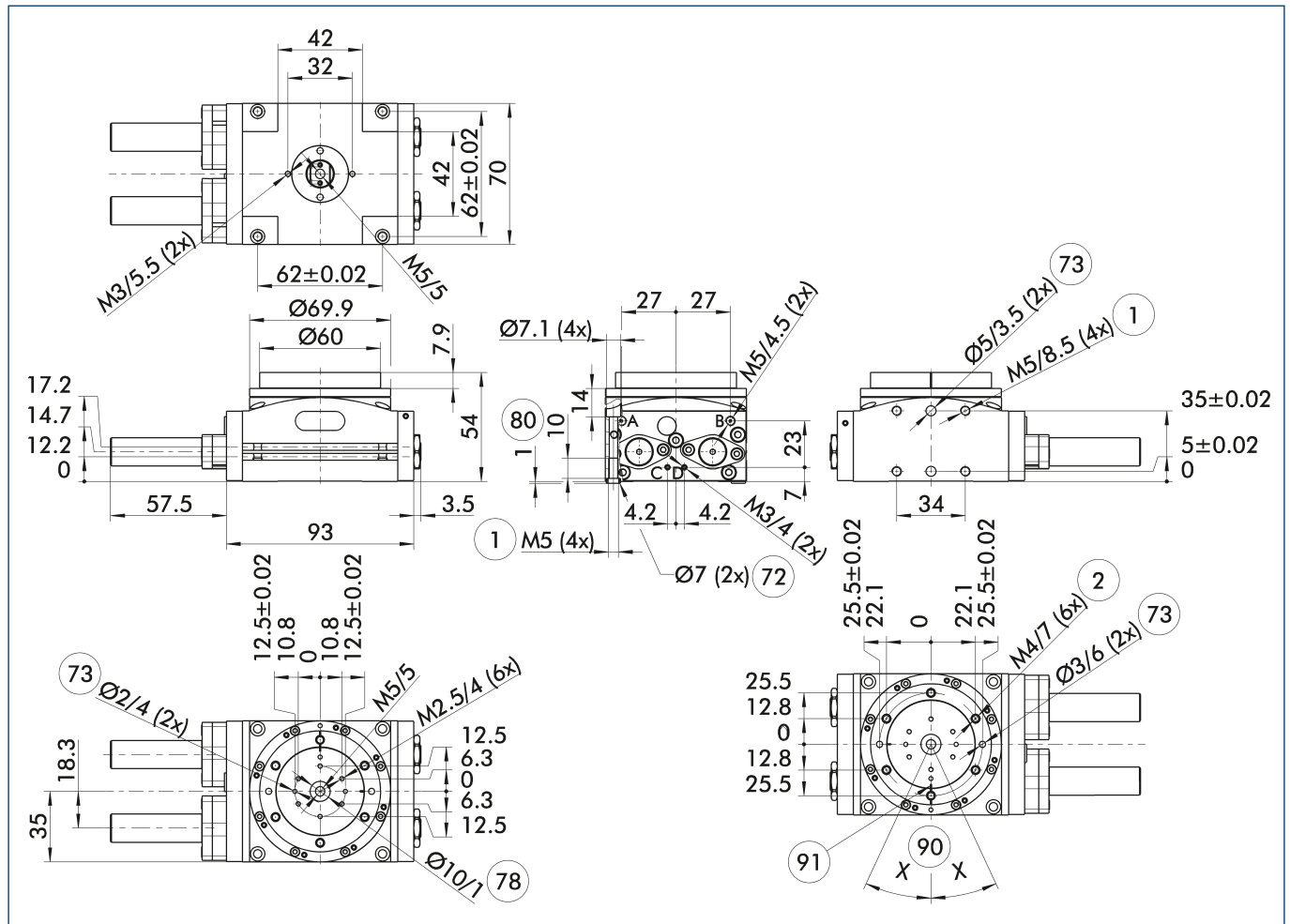


- ① The indicated moments and forces are static values and may occur simultaneously. Flow control valves must always be used to ensure that the swivel unit operates without impact or bouncing in the end positions, otherwise the service life could be reduced.

## Technical data

Description	Unit	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		reciprocating	reciprocating	reciprocating	reciprocating
Torque	[Nm]	3.1	3.1	3.1	3.1
Weight	[kg]	1	1	1	1
IP 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. / max. operating pressure	[bar]	4/8	4/8	4/8	4/8
Nominal operating pressure	[bar]	6	6	6	6
Fluid consumption per double stroke	[cm <sup>3</sup> ]	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 absorbers		2	2	2	2

## Main view



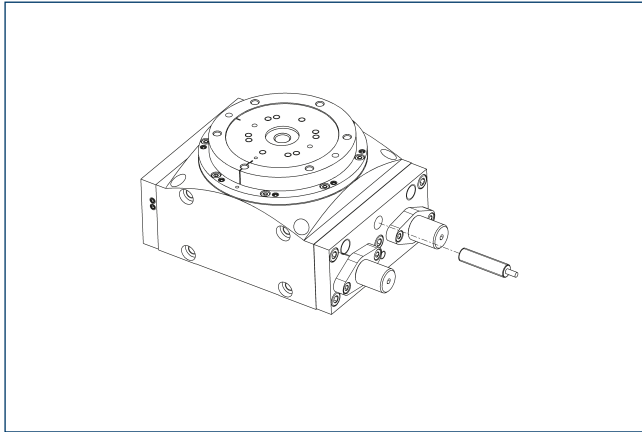
The drawing shows the unit in standard design, without considering any dimensions of the options described below.

- A, a Air connection ring indexing table, clockwise turning
- B, b Air connection ring indexing table, counter-clockwise turning
- C, c Air connection ring indexing table unlocked
- D, d Air connection ring indexing table locked
- ① Connection ring indexing table

- ② Attachment connection
- ⑦② Fitting for centering sleeve
- ⑦③ Fit for a centering pin
- ⑦⑧ Fitting for centering
- ⑧⑩ Depth of the centering sleeve hole in the mating part
- ⑨⑩ Rotation angle "X" see technical data
- ⑨① Zero position



## Inductive proximity switches

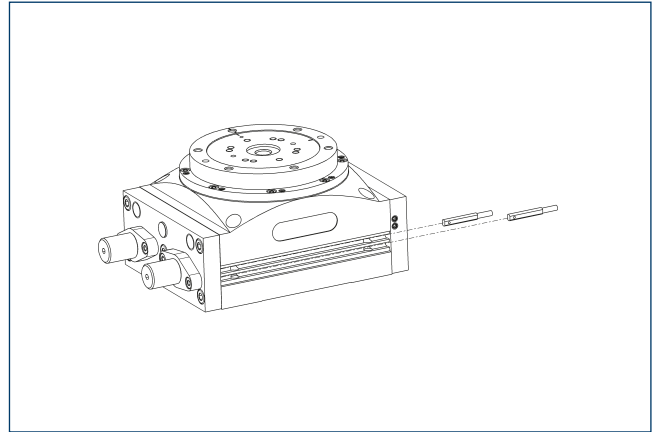


Reference sensor for monitoring the home position.

Description	ID	often combined
Inductive proximity switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
IN-C 80-S-M8	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	
Cable extensions		
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		
V 4-M12	0301747	
V 4-M8	0301746	
V 8-M12	0301752	
V 8-M8	0301751	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

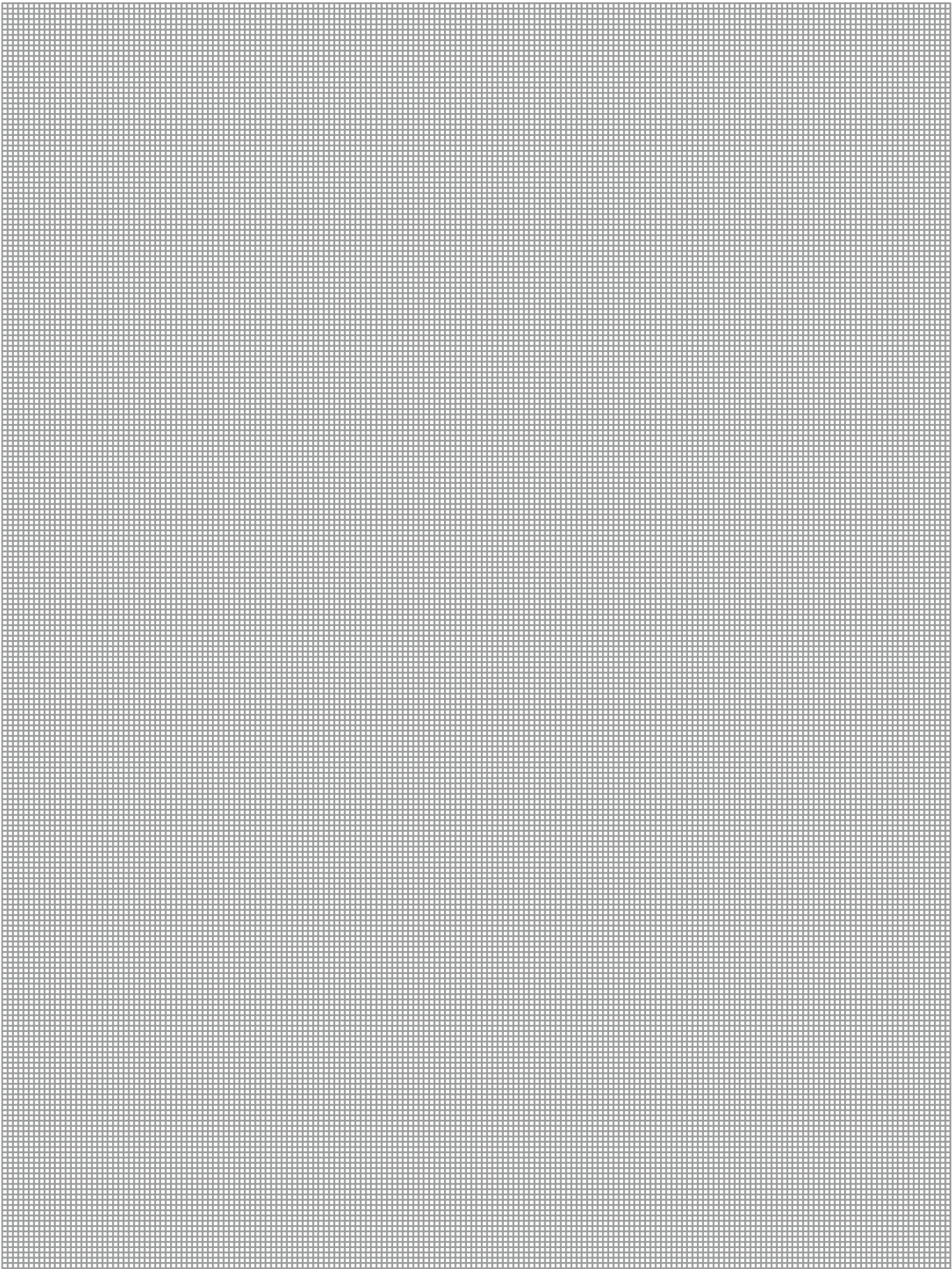
## Electronic magnetic switches MMS



End position monitoring for mounting in the C-slot

Description	ID	often combined
Electronic magnetic switches MMS		
MMS 22-S-M8-NPN	0301033	
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-NPN	0301035	
MMSK 22-S-PNP	0301034	
Electronic magnetic switches MMS with lateral cable outlet		
MMS 22-S-M8-NPN-SA	0301043	
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-NPN-SA	0301045	
MMSK 22-S-PNP-SA	0301044	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
Sensor Distributor		
V 4-M8	0301746	
V 8-M8	0301751	

① Two sensors (closer / NO) are required for each unit, plus extension cables as an option. Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



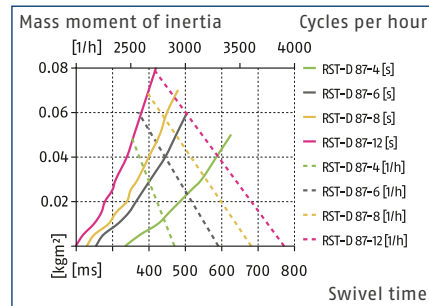


# RST-D 87

Pneumatic | Rotary Indexing Tables | Ring Indexing Table



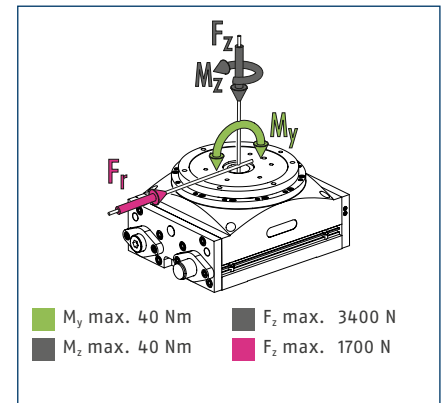
## Swivel time



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 need to be adjusted by using throttle valves, otherwise the life time could be reduced. Please contact us for calculations of other applications and further information.

- ① To calculate the complete cycle time, please refer to the operating manual.

## Indexing ring loading

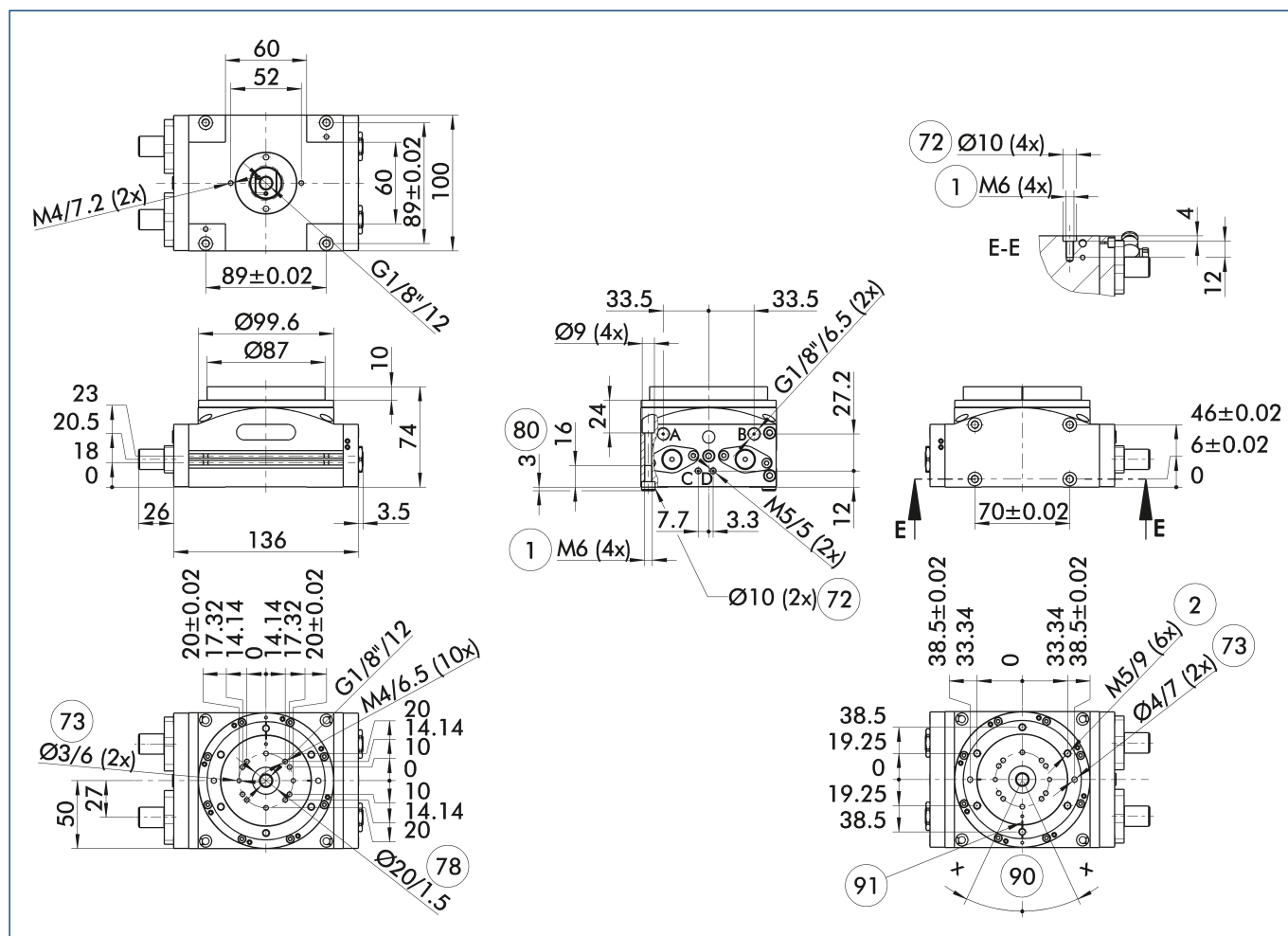


- ① The indicated moments and forces are static values and may occur simultaneously. Flow control valves must always be used to ensure that the swivel unit operates without impact or bouncing in the end positions, otherwise the service life could be reduced.

## Technical data

Description	Unit	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		reciprocating	reciprocating	reciprocating	reciprocating
Torque	[Nm]	7.9	7.9	7.9	7.9
Weight	[kg]	2.9	2.9	2.9	2.9
IP 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. / max. operating pressure	[bar]	4/8	4/8	4/8	4/8
Nominal operating pressure	[bar]	6	6	6	6
Fluid consumption 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 absorbers		2	2	2	2

## Main view



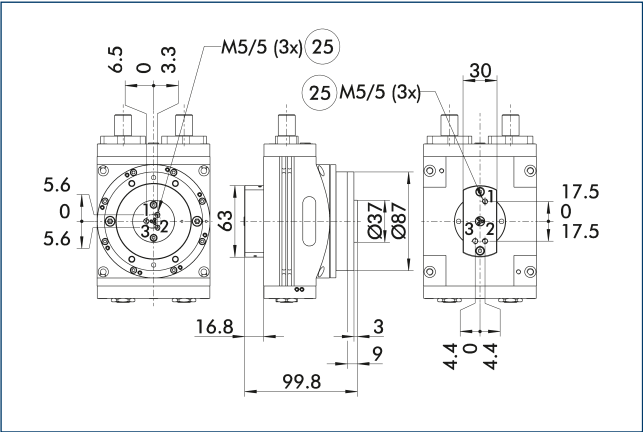
The drawing shows the unit in standard design, without considering any dimensions of the options described below.

- A, a Air connection ring indexing table, clockwise turning
- B, b Air connection ring indexing table, counter-clockwise turning
- C, c Air connection ring indexing table unlocked
- D, d Air connection ring indexing table locked
- ① Connection ring indexing table
- ② Attachment connection
- ⑦② Fitting for centering sleeve
- ⑦③ Fit for a centering pin
- ⑦⑧ Fitting for centering
- ⑧⑩ Depth of the centering hole in the mating part
- ⑨⑩ Rotation angle "X" see technical data
- ⑨① Zero position

# RST-D 87

Pneumatic | Rotary Indexing Tables | Ring Indexing Table

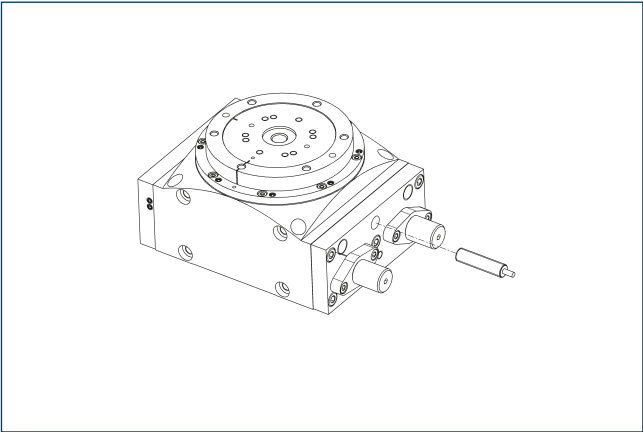
## Version with rotary feed-through



25 Fluid feed-through

Description	ID	
Mounting kit for rotary feed-through		
DDF RST 087	0315516	

## Inductive proximity switches

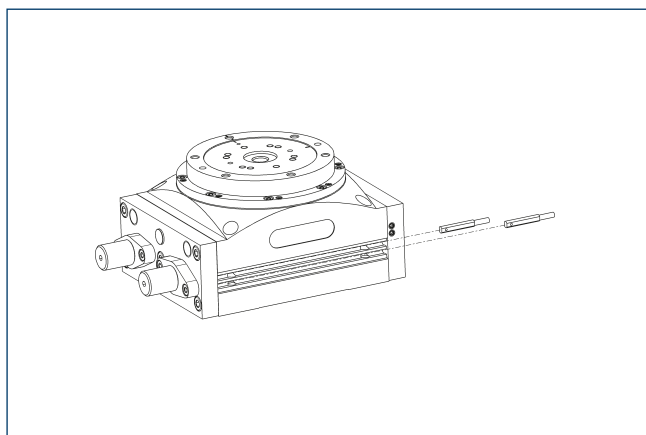


Reference sensor for monitoring the home position.

Description	ID	often combined
Inductive proximity switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
IN-C 80-S-M8	0301475	
INK 80-S	0301550	
INK 80-SL	0301579	
Cable extensions		
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	
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	
Sensor Distributor		
V4-M12	0301747	
V4-M8	0301746	
V8-M12	0301752	
V8-M8	0301751	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

## Electronic magnetic switches MMS



End position monitoring for mounting in the C-slot

Description	ID	often combined
Electronic magnetic switches MMS		
MMS 22-S-M8-NPN	0301033	
MMS 22-S-M8-PNP	0301032	•
MMSK 22-S-NPN	0301035	
MMSK 22-S-PNP	0301034	
Electronic magnetic switches MMS with lateral cable outlet		
MMS 22-S-M8-NPN-SA	0301043	
MMS 22-S-M8-PNP-SA	0301042	•
MMSK 22-S-NPN-SA	0301045	
MMSK 22-S-PNP-SA	0301044	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	•
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	•
Sensor Distributor		
V 4-M8	0301746	
V 8-M8	0301751	

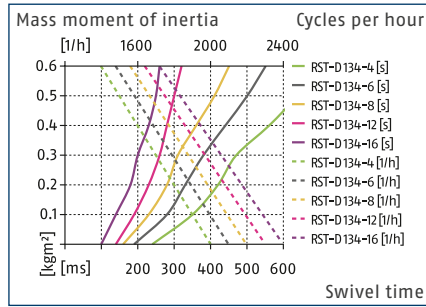
- ① Two sensors (closer / NO) are required for each unit, plus extension cables as an option. Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

# RST-D 134

Pneumatic | Rotary Indexing Tables | Ring Indexing Table



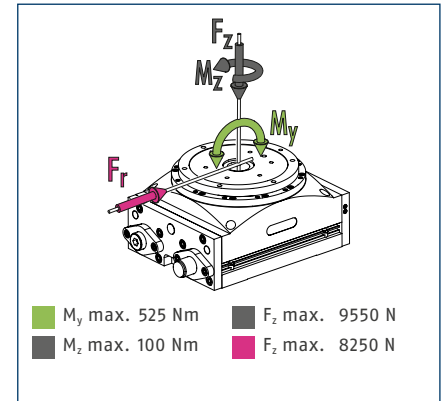
## Swivel time



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 need to be adjusted by using throttle valves, otherwise the life time could be reduced. Please contact us for calculations of other applications and further information.

- ① To calculate the complete cycle time, please refer to the operating manual.

## Indexing ring loading

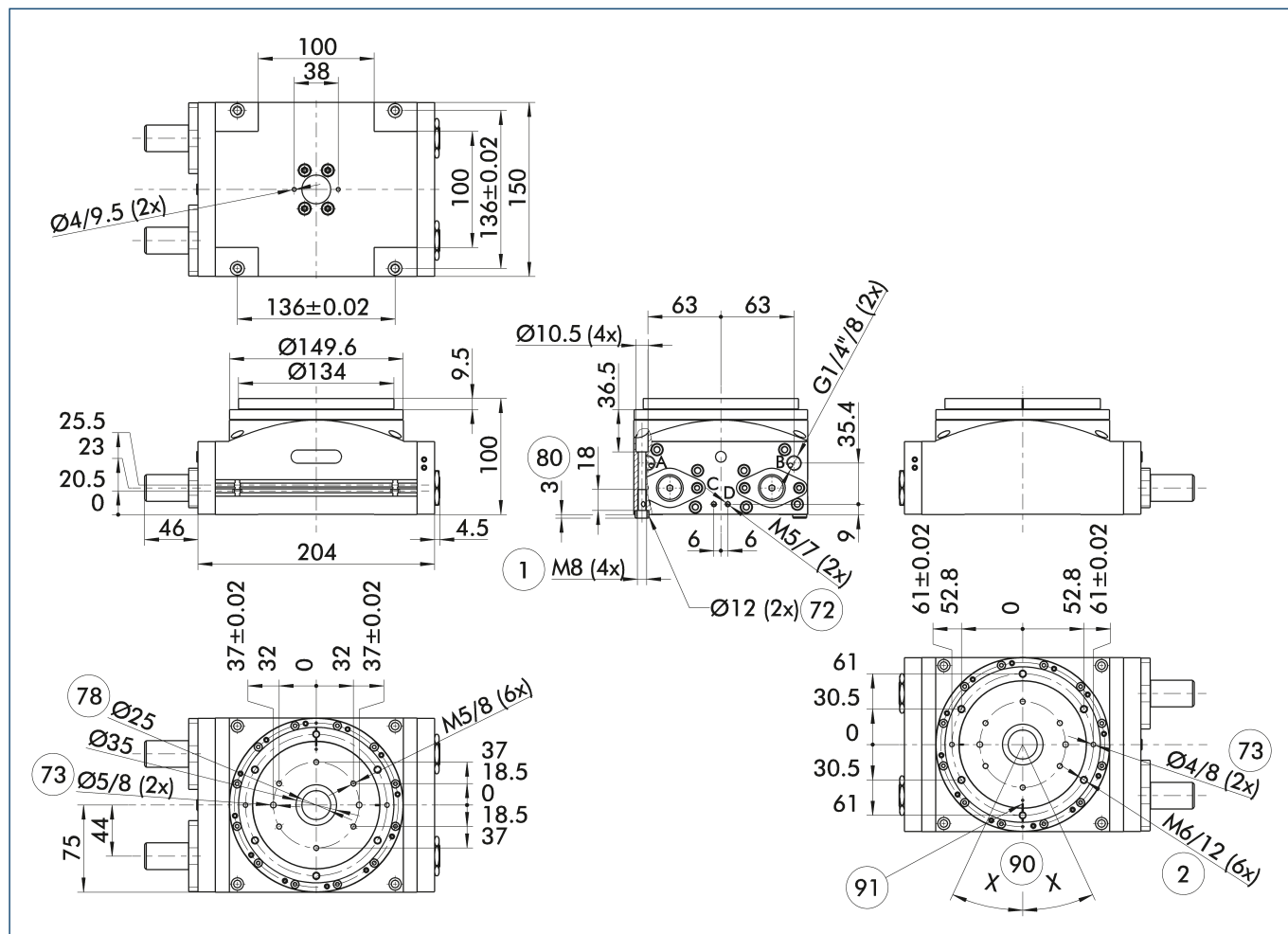


- ① The indicated moments and forces are static values and may occur simultaneously. Flow control valves must always be used to ensure that the swivel unit operates without impact or bouncing in the end positions, otherwise the service life could be reduced.

## Technical data

Description	Unit	RST-D 134-4	RST-D 134-6	RST-D 134-8	RST-D 134-12	RST-D134-16
ID		0315520	0315521	0315522	0315523	0315524
Angle of rotation	[°]	90	60	45	30	22.5
Pitch		4	6	8	12	16
Direction of rotation		reciprocating	reciprocating	reciprocating	reciprocating	reciprocating
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 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. / max. operating pressure	[bar]	4/8	4/8	4/8	4/8	4/8
Nominal operating pressure	[bar]	6	6	6	6	6
Fluid consumption 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 absorbers		2	2	2	2	2

## Main view

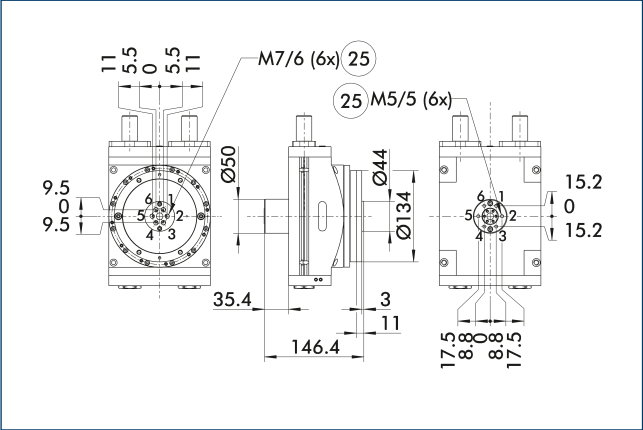


The drawing shows the unit in standard design, without considering any dimensions of the options described below.

- |  |  |
|--|--|
| A, a Air connection ring indexing table, clockwise turning         | ② Attachment connection                                  |
| B, b Air connection ring indexing table, counter-clockwise turning | ⑦② Fitting for centering sleeve                          |
| C, c Air connection ring indexing table unlocked                   | ⑦③ Fit for a centering pin                               |
| D, d Air connection ring indexing table locked                     | ⑦⑧ Fitting for centering                                 |
| ① Connection ring indexing table                                   | ⑧⑩ Depth of the centering sleeve hole in the mating part |
|  | ⑨⑩ Rotation angle "X" see technical data                 |
|  | ⑨① Zero position   |



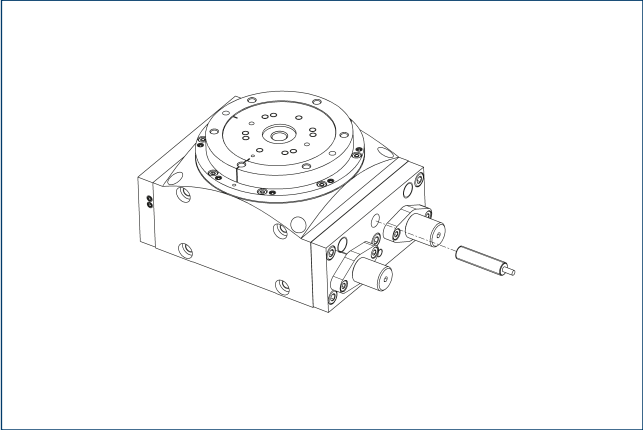
Version with rotary feed-through



(25) Fluid feed-through

Description	ID	
Mounting kit for rotary feed-through		
DDF RST 134	0315526	

Inductive proximity switches

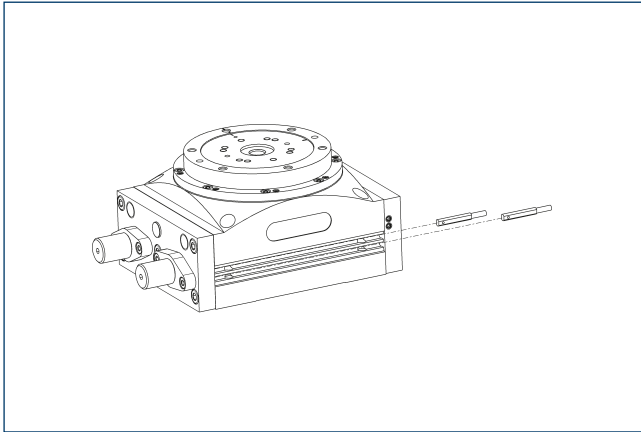


Reference sensor for monitoring the home position.

Description	ID	often combined
Inductive proximity switches		
NI 30-KT	0313429	●
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	
Cable extensions		
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		
V 4-M12	0301747	
V 4-M8	0301746	
V 8-M12	0301752	
V 8-M8	0301751	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

## Electronic magnetic switches MMS



End position monitoring for mounting in the C-slot

Description	ID	often combined
Electronic magnetic switches MMS		
MMS 22-S-M8-NPN	0301033	
MMS 22-S-M8-PNP	0301032	•
MMSK 22-S-NPN	0301035	
MMSK 22-S-PNP	0301034	
Electronic magnetic switches MMS with lateral cable outlet		
MMS 22-S-M8-NPN-SA	0301043	
MMS 22-S-M8-PNP-SA	0301042	•
MMSK 22-S-NPN-SA	0301045	
MMSK 22-S-PNP-SA	0301044	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	•
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	•
Sensor Distributor		
V 4-M8	0301746	
V 8-M8	0301751	

- ① Two sensors (closer / NO) are required for each unit, plus extension cables as an option. Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.