

Universal swivel unit SRM

Product Training
for the market launch 2023



Hand in hand for tomorrow

Product training universal swivel unit SRM | **part 1, April 03, 2023**

- 1. Classification in the SCHUNK product portfolio**
- 2. Product presentation**
- 3. Customer benefits and USPs**

Classification in the SCHUNK product portfolio

Universal swivel unit SRM



Classification in the SCHUNK product portfolio

Rotary modules



Rotary actuators, pneumatic



Superior Clamping and Gripping

Feedback | Manual | Log in | Language

No. 1 Products | Media center | Tools | Across areas

>> Product news <<

Product status: Drive type: Drive concept:

Quick selection

Rotary actuators

SRM

SRU-mini

SRU-plus

SRU-plus-D

Product navigation

New products
Industries
Co-act Gripper
Digital Services

Rotary modules

Rotary actuators



→ powerful pneumatic double-piston drive

Vane swivel unit



→ rotary vane as a compact, powerful drive

Swivel finger



→ swivel finger for rotating gripped workpieces

Swivel heads



→ based on a rotary actuator

Rotary indexing Table



→ rotary indexing table for indexing and endless turning

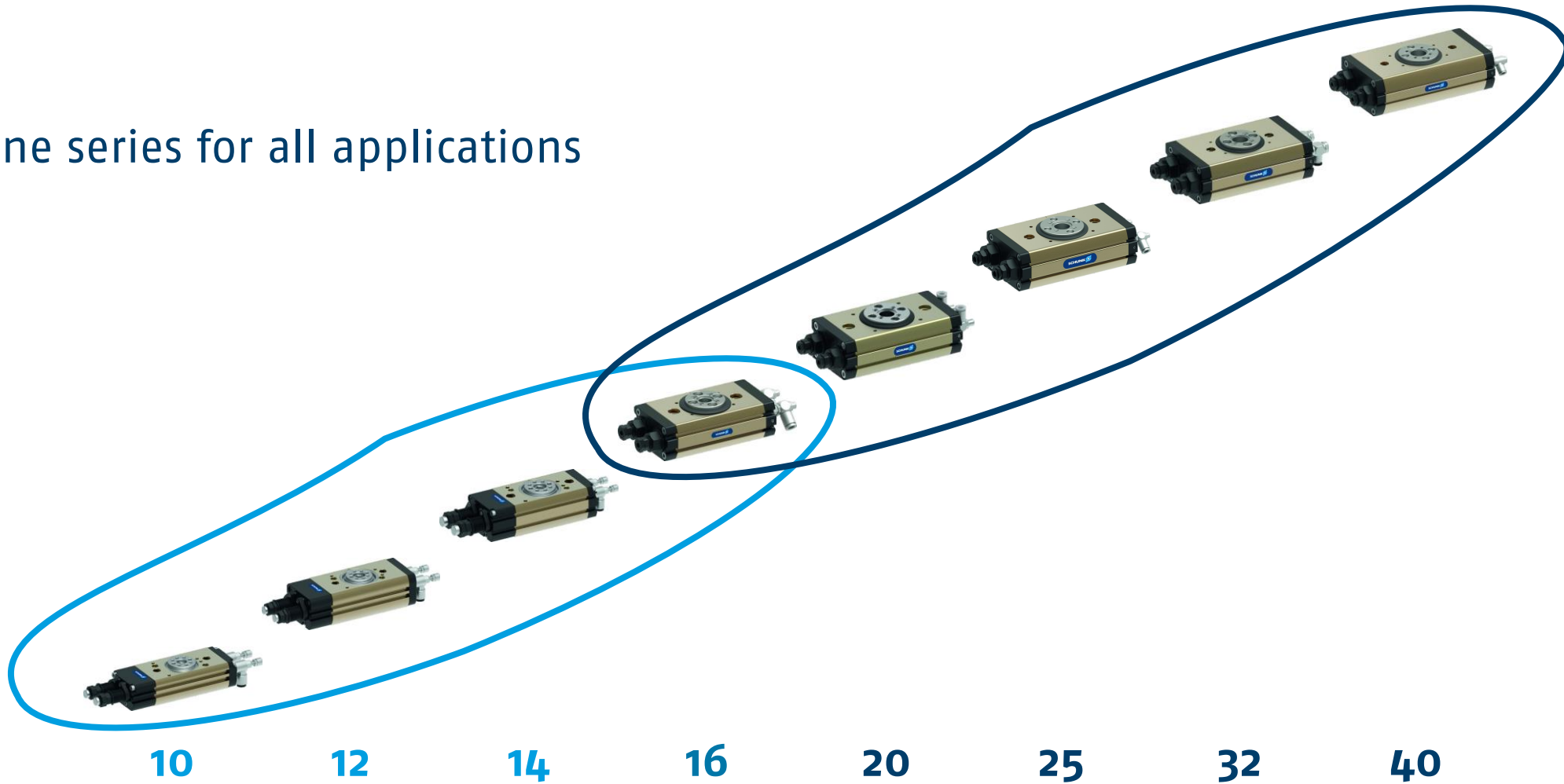
Product presentation

Universal swivel unit SRM



Overview of sizes

+ one series for all applications

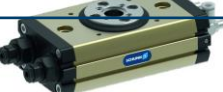
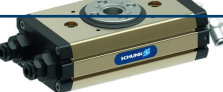


Sizes and versions

- ✓ 8 sizes
- ✓ different damper versions
 - hydraulic shock absorbers **H**
 - elastomer damper **E**
 - external damper **X**
 - speed damper **S**
- ✓ swivel angle up to **180°**
- ✓ large end position adjustability **ELE**
- ✓ pneumatic middle position **M**
- ✓ pneumatic media feed-through **MDF**
- ✓ electric rotary feed-through **EDF**
- ✓ detection via inductive proximity switches
 - adjustable switch cam **SI**
 - fixed switch cam **SF**
- ✓ detection via magnetic switches

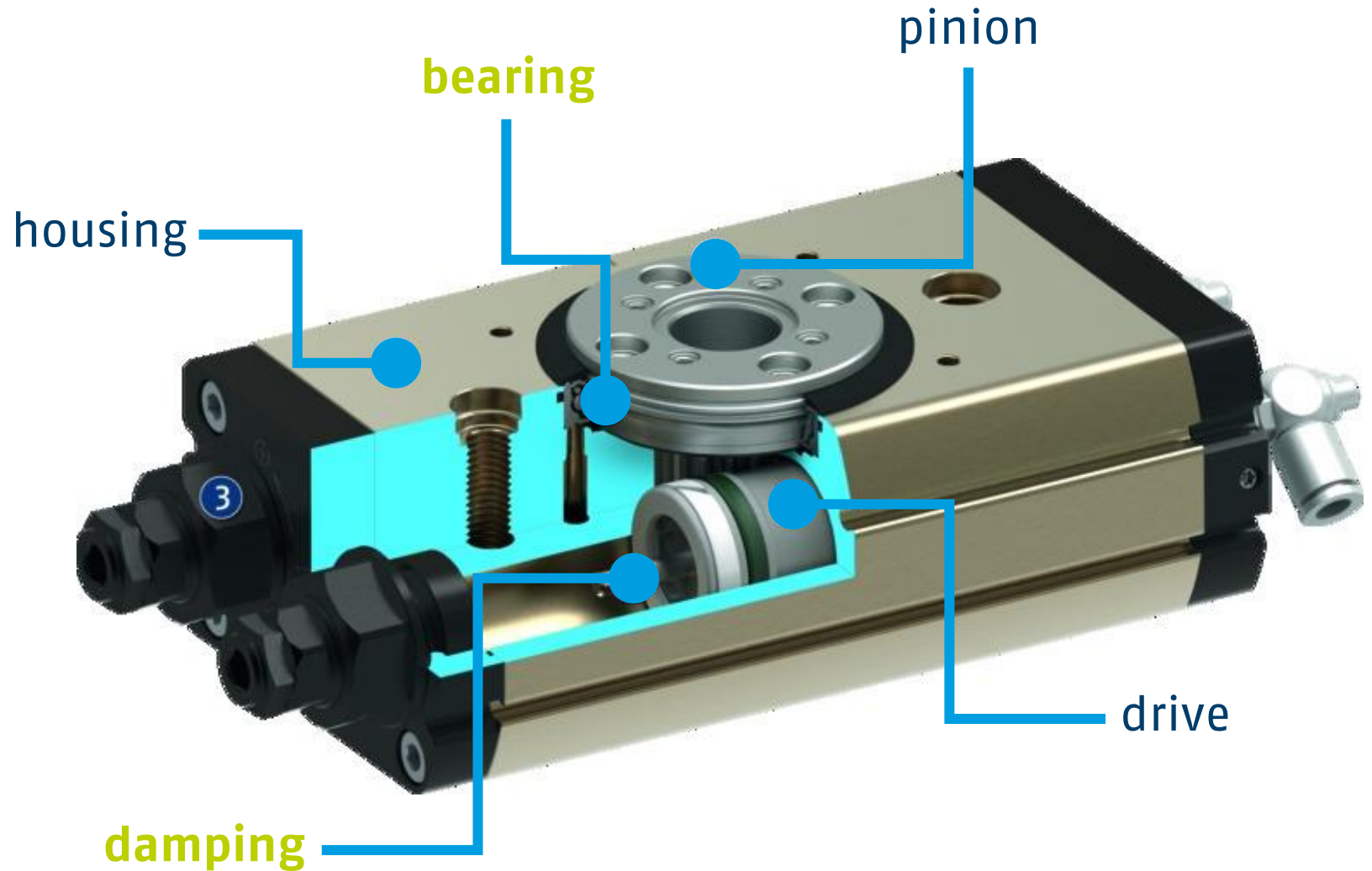
	SRM	25	-	H	-	180	-	3	-	M	-	4P	-	6E	-	SI
Description	SRM															
Size	10/12/14/16/20/25/32/40															
Type of damping method	H = hydraulic E = Elastomer (for sizes 10-14) X = external damping (for sizes 10-14) S = Speed damping (for size 12 and 14)															
Swivel angle	90°/180°															
End position adjustability	3 = ±3° 90 = +5°/-95° (for sizes 10 - 14) 90 = +3°/-93° (for sizes 16 - 40)															
Middle position	M = pneumatic center position															
Number of media feed-throughs	- = no 2P = 2 pneumatic feed-throughs (for size 10) 4P = 4 pneumatic feed-throughs (for sizes 12 - 40)															
Number of connectors for electric rotary feed-through	- = no 6E = 6 connectors per side (for sizes 16-32) 10E = 10 connectors per side (for size 40)															
Option for inductive proximity switches	- = no SI = with adjustable position (for sizes 16-40) SF = with fixed position (for sizes 16-40)															

Sizes and versions

		damper version				options						
size		H	E	X	S	ELE	M	MDF	EDF	MDF+EDF	SI/SF	MMS
	10				covered by "H"	included in basic version		bottom side				
	12					included in basic version		bottom side				
	14					included in basic version		bottom side				
	16							bottom side				
	20							top side				
	25							top side				
	32							top side				
	40							top side				

Functional description

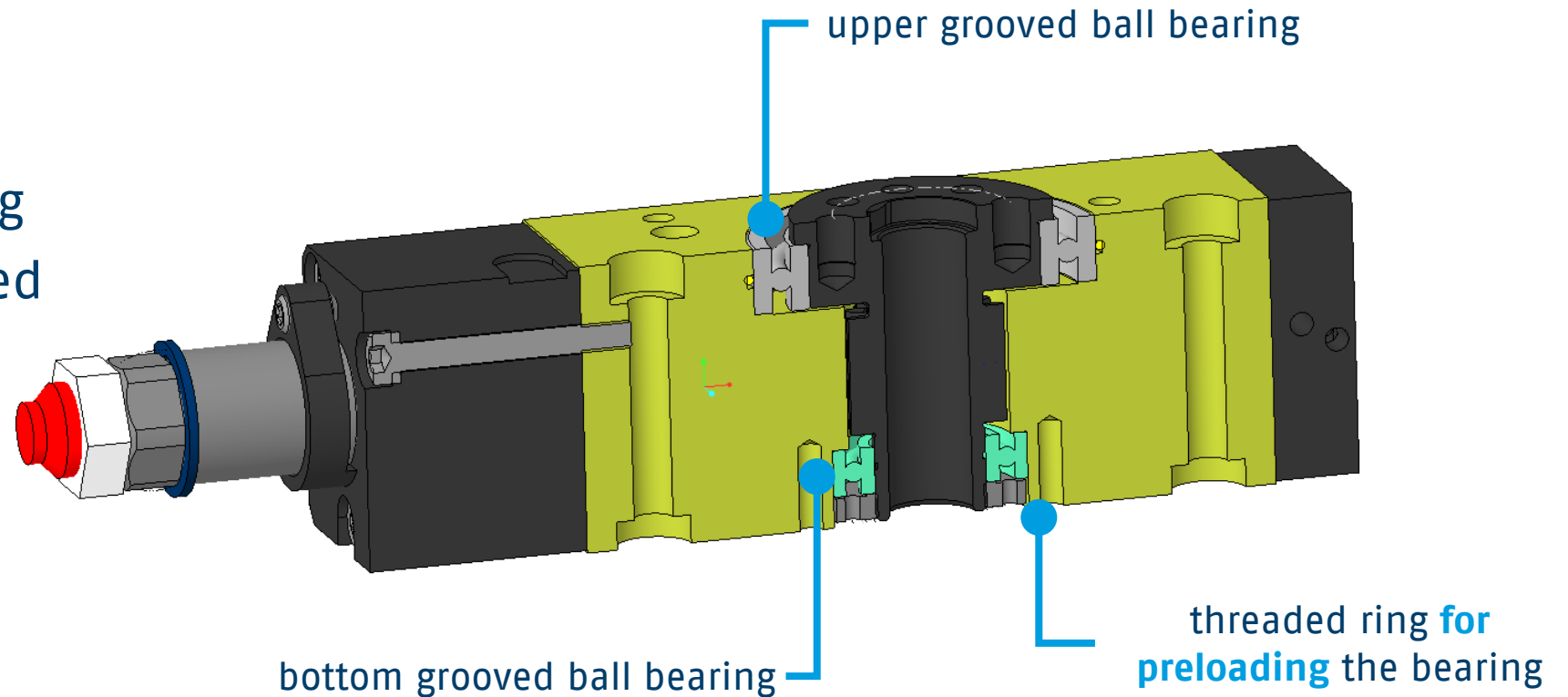
- + proven and familiar kinematics
- + **optimized damping and bearing of the pinion**



Bearing of the pinion [size 10 – 14]

NEW pinion bearing
for **size 10-14**

- grooved ball bearing
- **play-free** pre-loaded

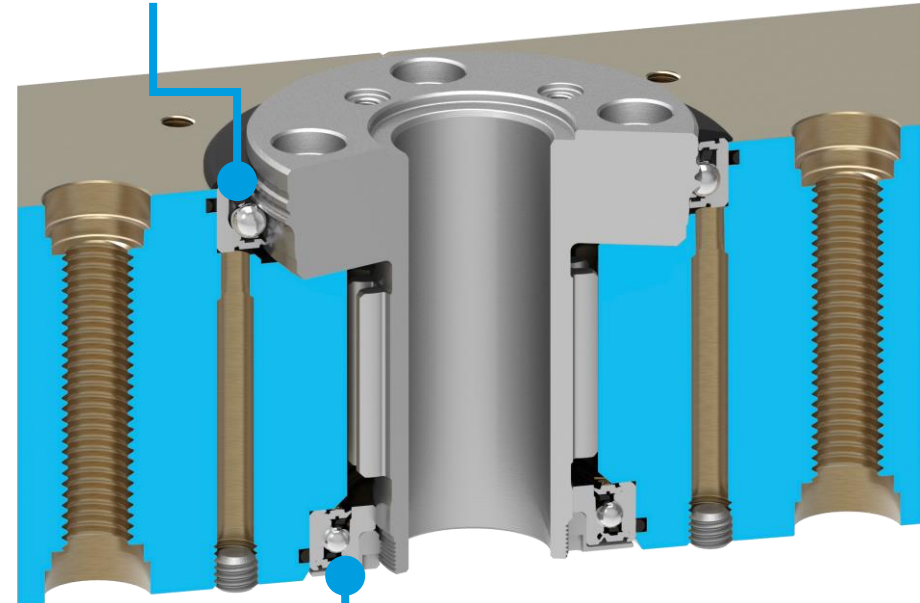


Bearing of the pinion [size 16 – 40]

NEW pinion bearing
for **size 16-40**

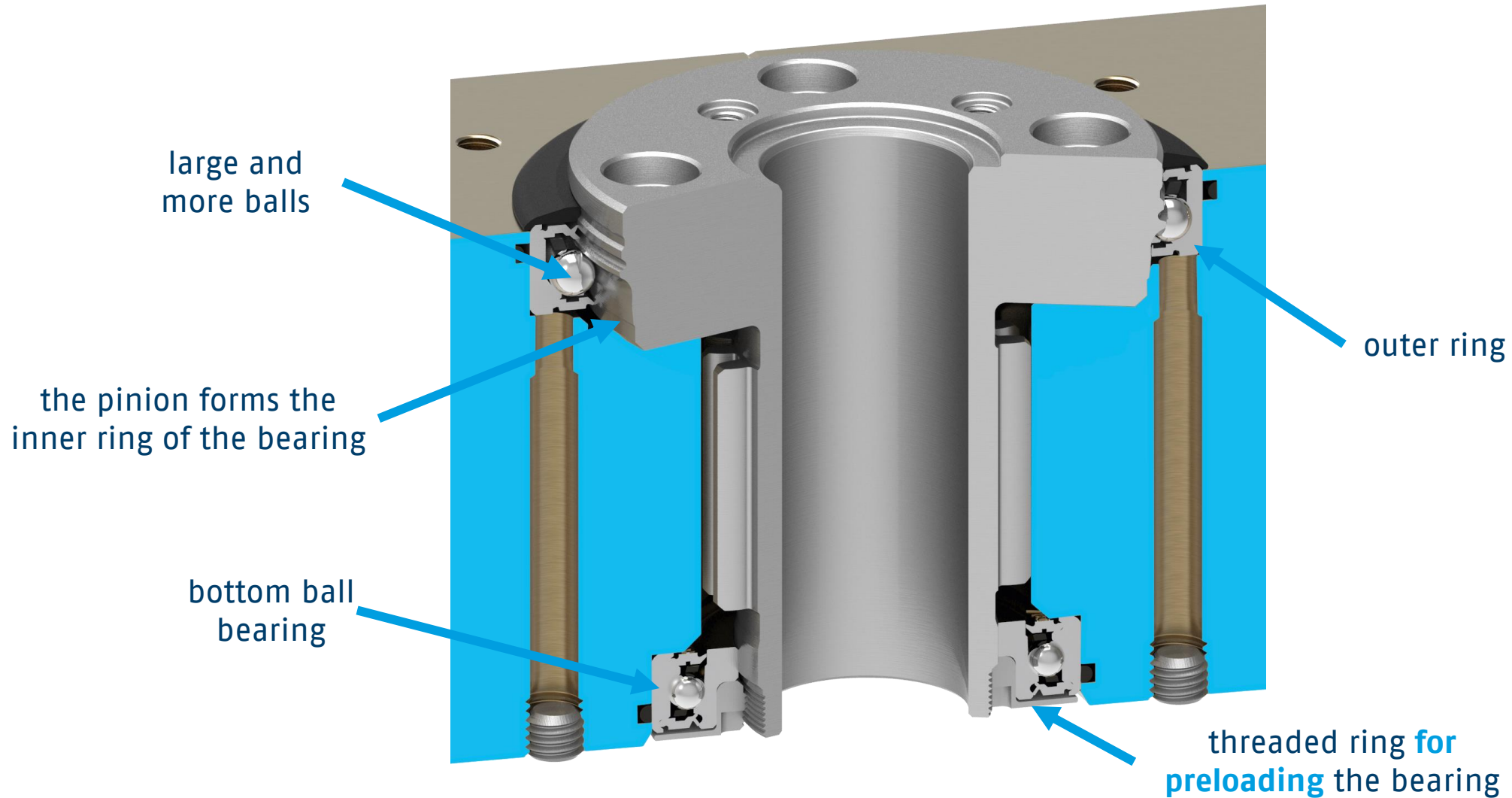
- **integrated** bearing in the pinion
- **play-free** pre-loaded

integrated bearing with
double lip seal



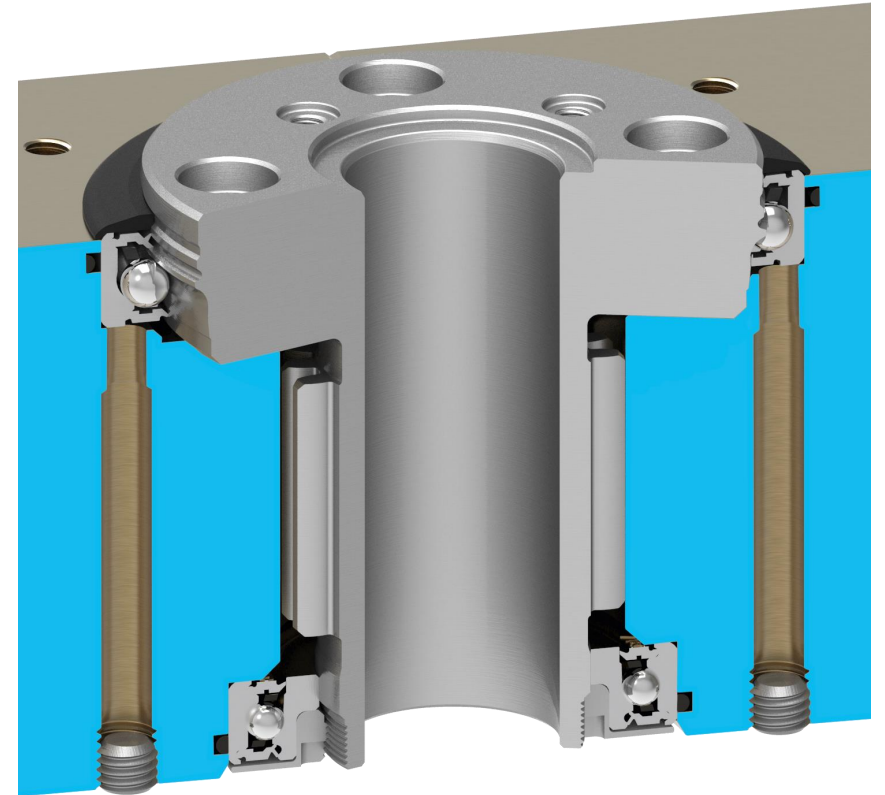
Pre-loaded bearing with
double lip seal

Bearing of the pinion [size 16 – 40]



Bearing of the pinion [size 16 – 40]

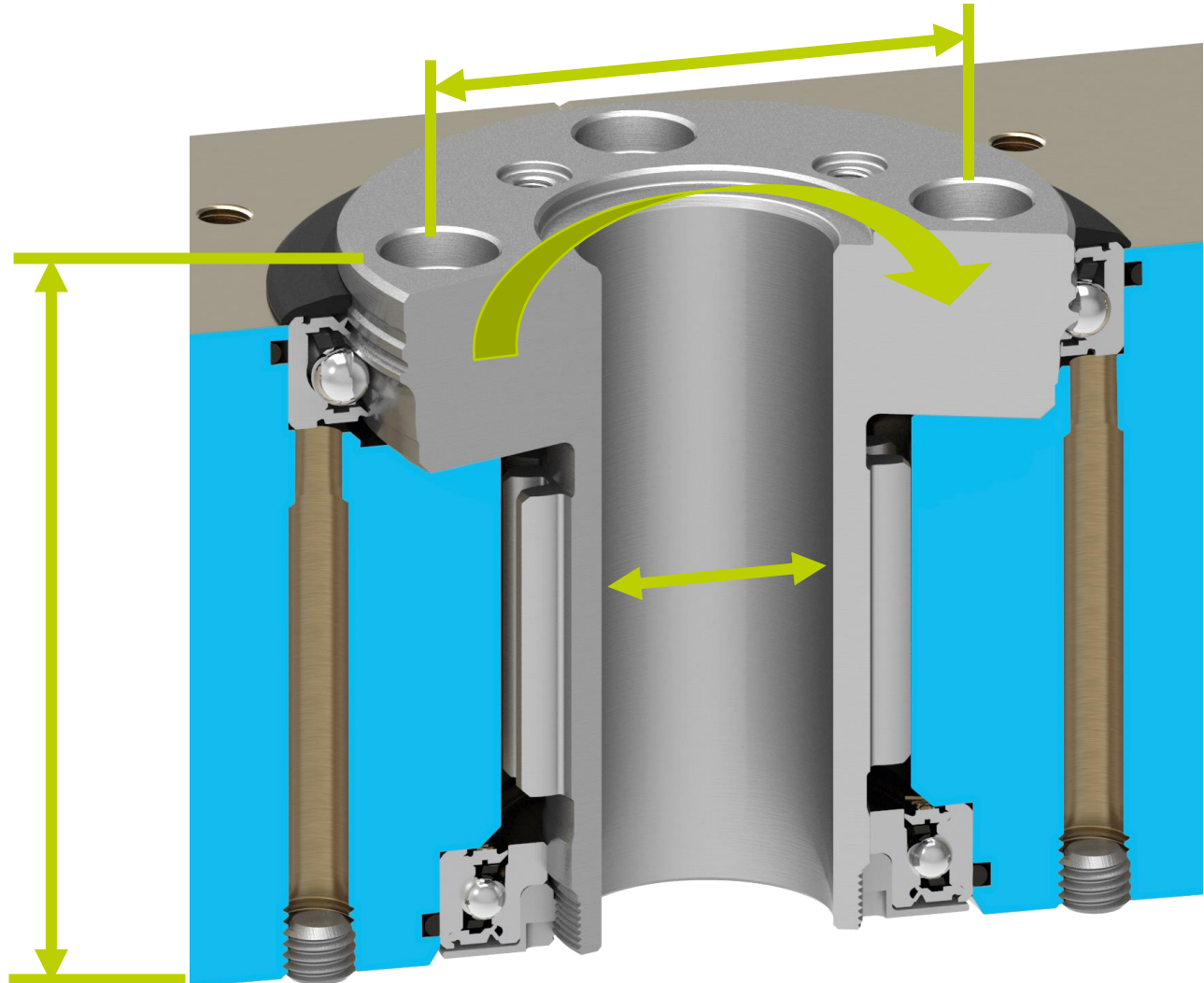
- inner ring of the bearing is integrated in the pinion
 - ✓ circumference becomes bigger, so larger and more balls can be used
 - ✓ higher load possible
- Assembly of pinion + upper ball bearing (outer ring and balls) is pressed into the housing
- bottom ball bearing is mounted and preloaded by the threaded ring with a defined torque
 - ✓ this way the system is preloaded without play



Bearing of the pinion [size 16 – 40]

the integrated bearing provides the following **customer benefits**:

- ✓ high load possible
- ✓ large center bore
- ✓ robust assembly
- ✓ minimum height
- ✓ high accuracy and bearing rigidity



Mechanical connection

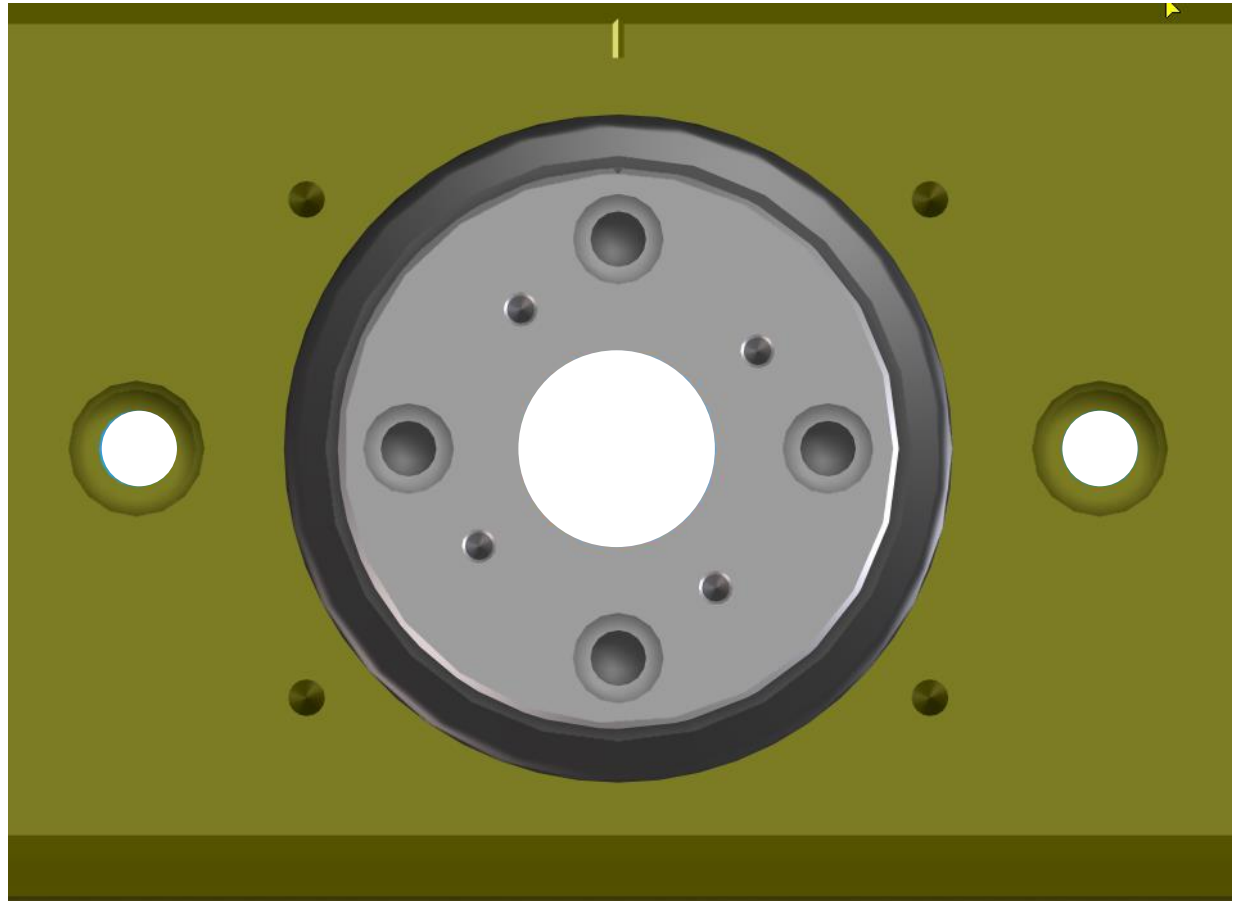
NEW pinion screw connection

→ no more holes for fitting screws

✓ 4x threads

✓ 4x fitting for centering sleeve

✓ swivel attachment can be rotated by 90°

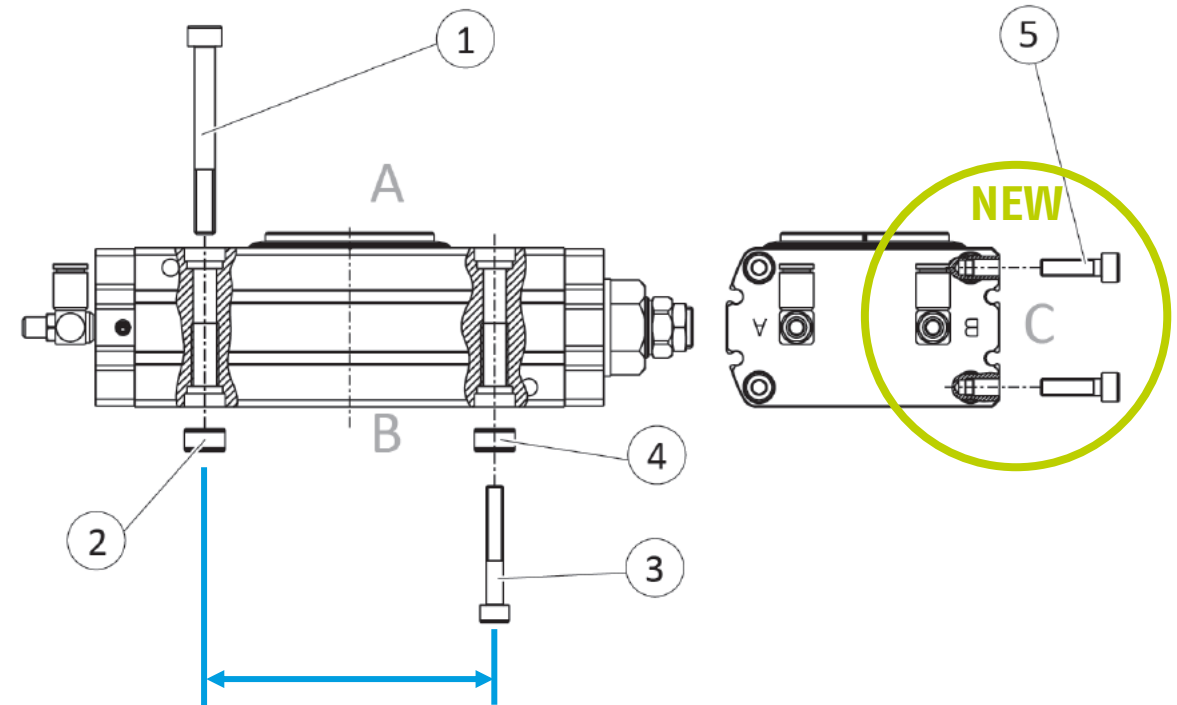


→ no more special units with rotated pinion necessary!

Mechanical connection

NEW Mounting from two sides

- side mounting is possible
 - larger distance between the screw connections
-
- ✓ mounting **from three directions**
 - ✓ increased robustness



Seals

NEW FKM seals as standard

✓ better resistance compared to NBR seals

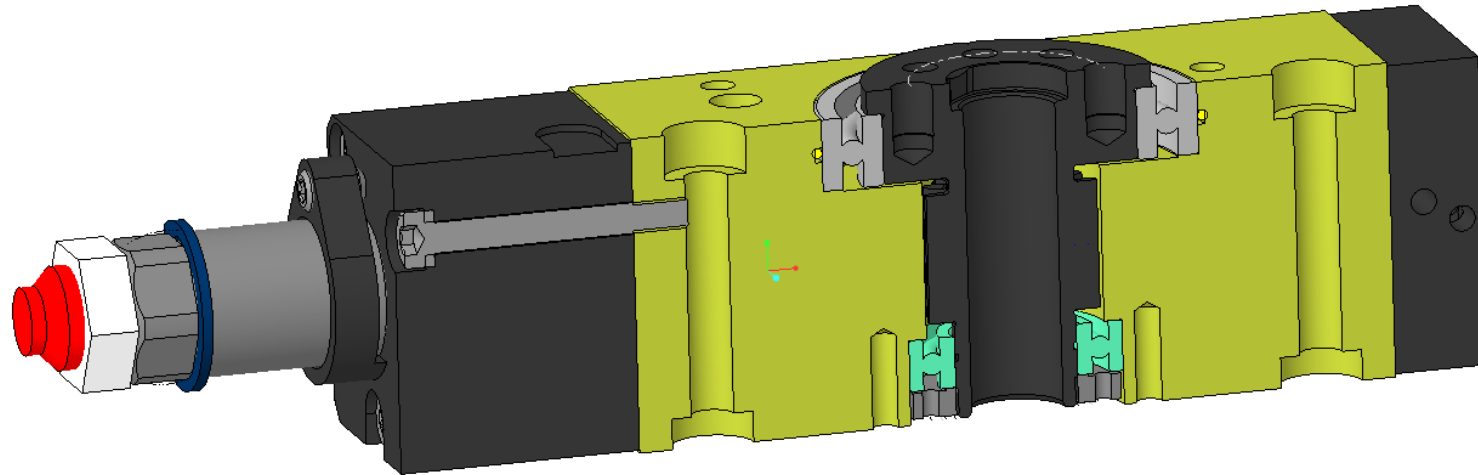
→ max. ambient temperature 60°C (due to damping)

→ no high temperature version possible

 the outer seals are made of FKM, the inner seals are still made of NBR

IP protection class [size 10 - 14]

IP40

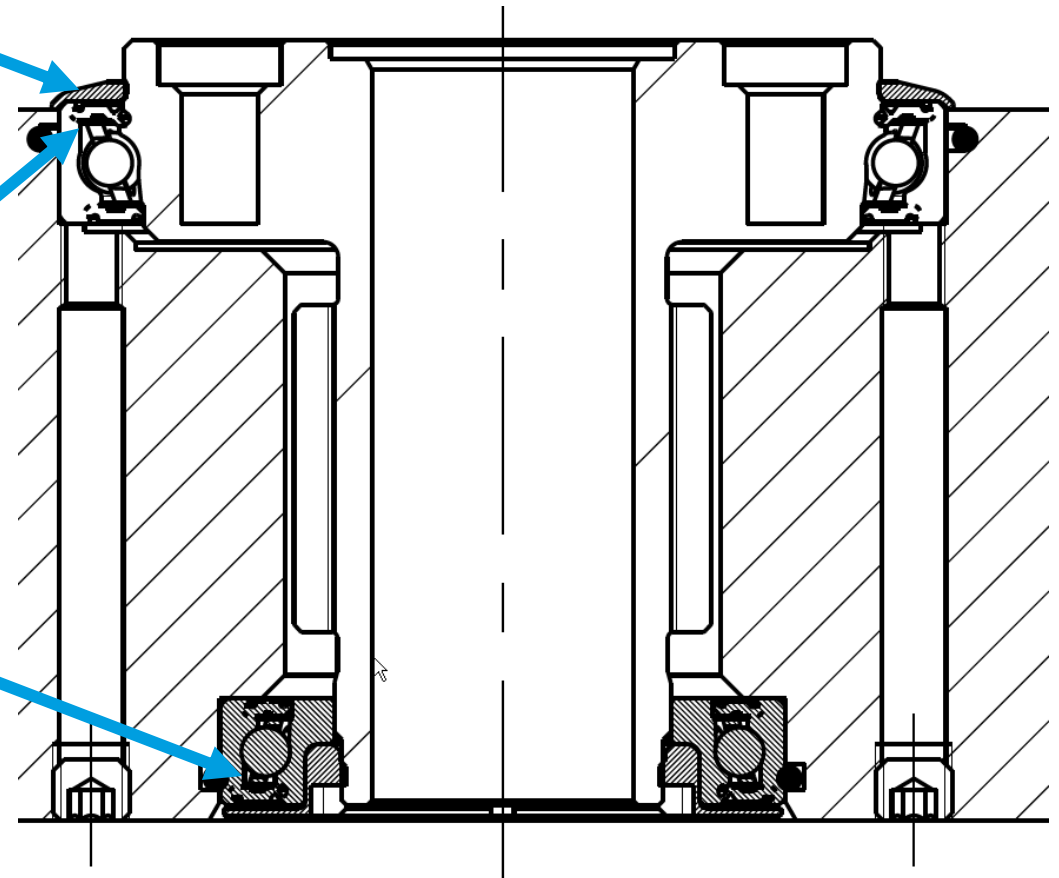


IP protection class [size 16 - 40]

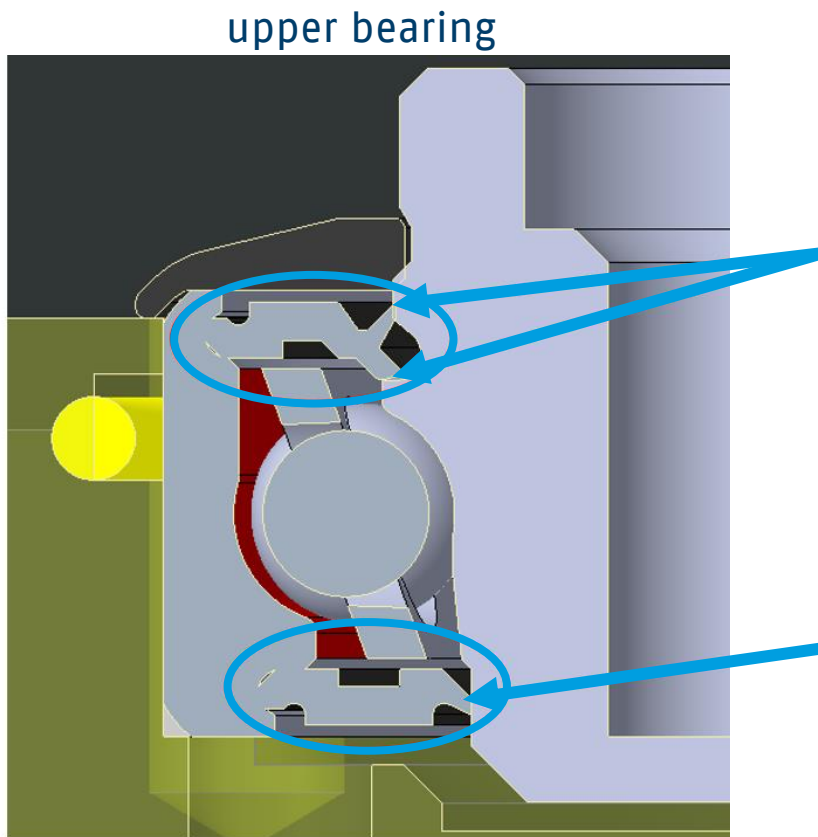
IP65

cover cap as protection
against abrasive dirt,
splash water and dust

FKM- double lip seal

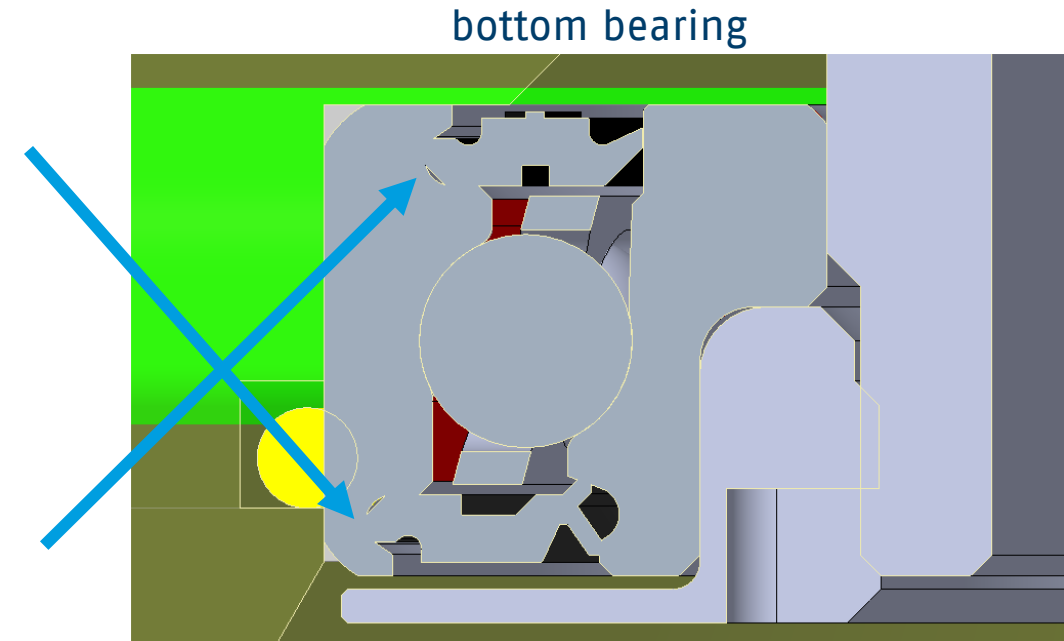


IP protection class [size 16 - 40]



outside in bearing
FKM- double lip seal

inside in bearing
NBR lip seal single



Cleanroom Certificate

certified...

- by the Fraunhofer IPA
- according to ISO 14644-1
- according to **air cleanliness class 5**

✓ SCHUNK Life Science



Fraunhofer

TESTED[®]
DEVICE

SCHUNK GmbH & Co. KG
Swivel unit SRM
Report No. SC 1910-1145

Product series
Particle Emission

Qualification Certificate

This is to certify that the product mentioned above, provided by

SCHUNK GmbH & Co. KG
Lauffen am Neckar, Germany

has been awarded a Fraunhofer certificate TESTED DEVICE
bearing the report number SC 1910-1145.

The series pneumatic universal swivel unit SRM was assessed
in compliance with ISO 14644-14. When operated under the
specified test conditions, it is suitable for use in cleanrooms
fulfilling the specifications of the following Air Cleanliness Class
according to ISO 14644-1:

Test parameter(s)	Air Cleanliness Class
Operating pressure: 6.0 bar Cycles per minute: 15.0 Payload: none	5
Overall result	5

Please note: Transport damages, incorrect installation, oil leakage,
aging behavior, corrosion etc. can influence the test result.

SC 1910-1145 Stuttgart, December 19, 2019

Report No. first document

Place, date of first document issued

Report No. current document

Place, current date

on behalf of

Dr.-Ing. Frank Bärger, Project Manager Fraunhofer IPA

 **Fraunhofer**
IPA

This document only
applies to the named
product in its original state
and is valid for a period of
5 years from the date the
first document was issued.
The document can be
verified under
www.tested-device.com.

Detailed information and
parameters of the test
environment can be found
in the Fraunhofer IPA test
report.

H1-grease

NEW H1-grease standardised

- all sizes and versions greased with H1 grease
- Exception: Shock absorbers with special high-performance oil are not possible in H1 for technical reasons

✓ SCHUNK Life Science

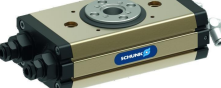


From 01.01.2023 all SRM will be greased with H1-grease.

Stocks of size >16 are successively converted to the H1 greased version through sales (already converted up to and including size 16).

Communication will not take place until 2024, so by then the stock will have been sold off once and everything will have been converted.

Damping

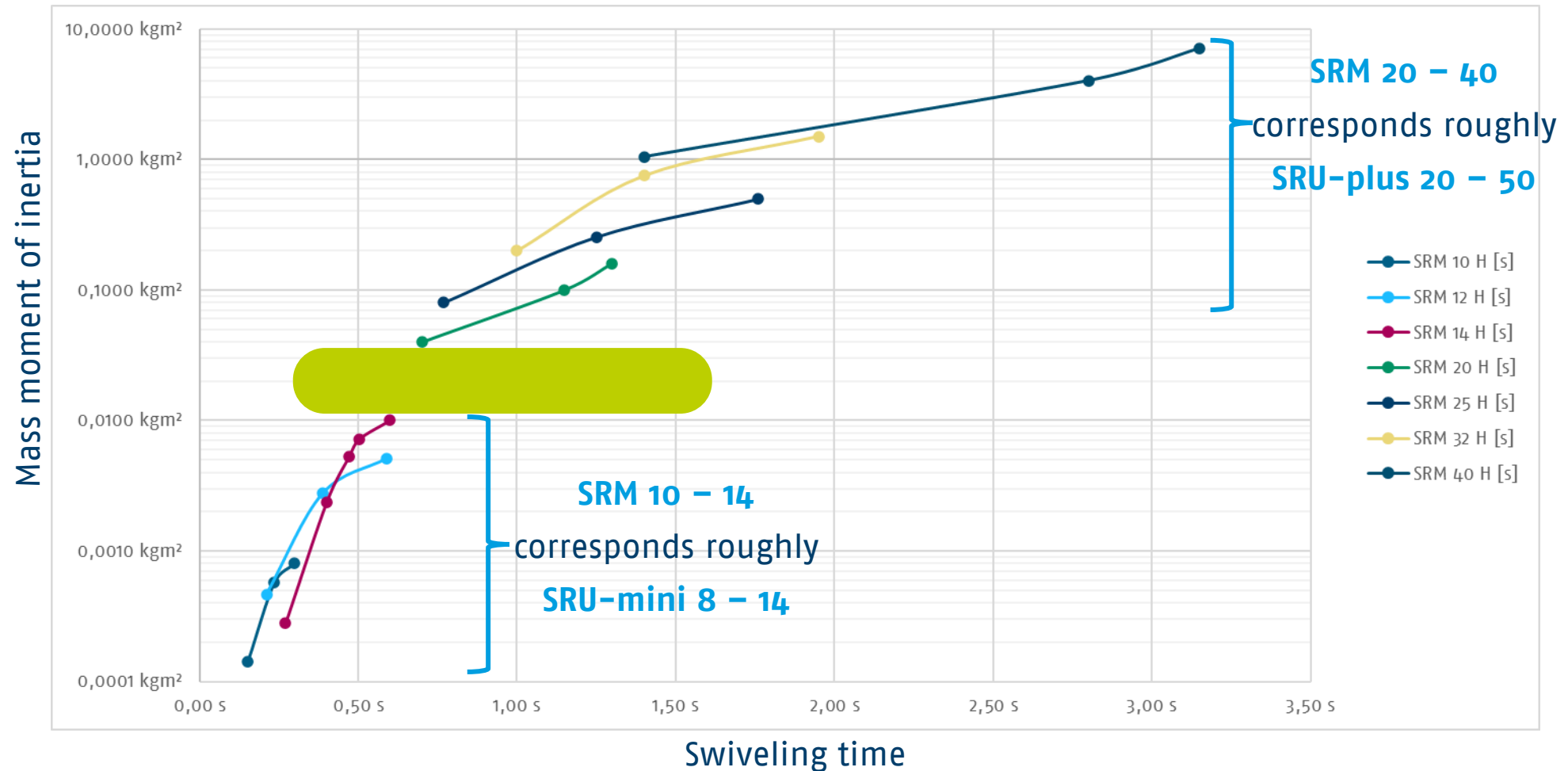
size		damper version			
		H	E	X	S
	10				covered by "H"
	12				
	14				
	16				
	20				
	25				
	32				
	40				

advantage SRM 16 – 40:

- ✓ 1 damper version covers a wide range of mass inertia
(⇔ compared to SRU-plus with –H and –W)
- ✓ makes the selection easier for the customer

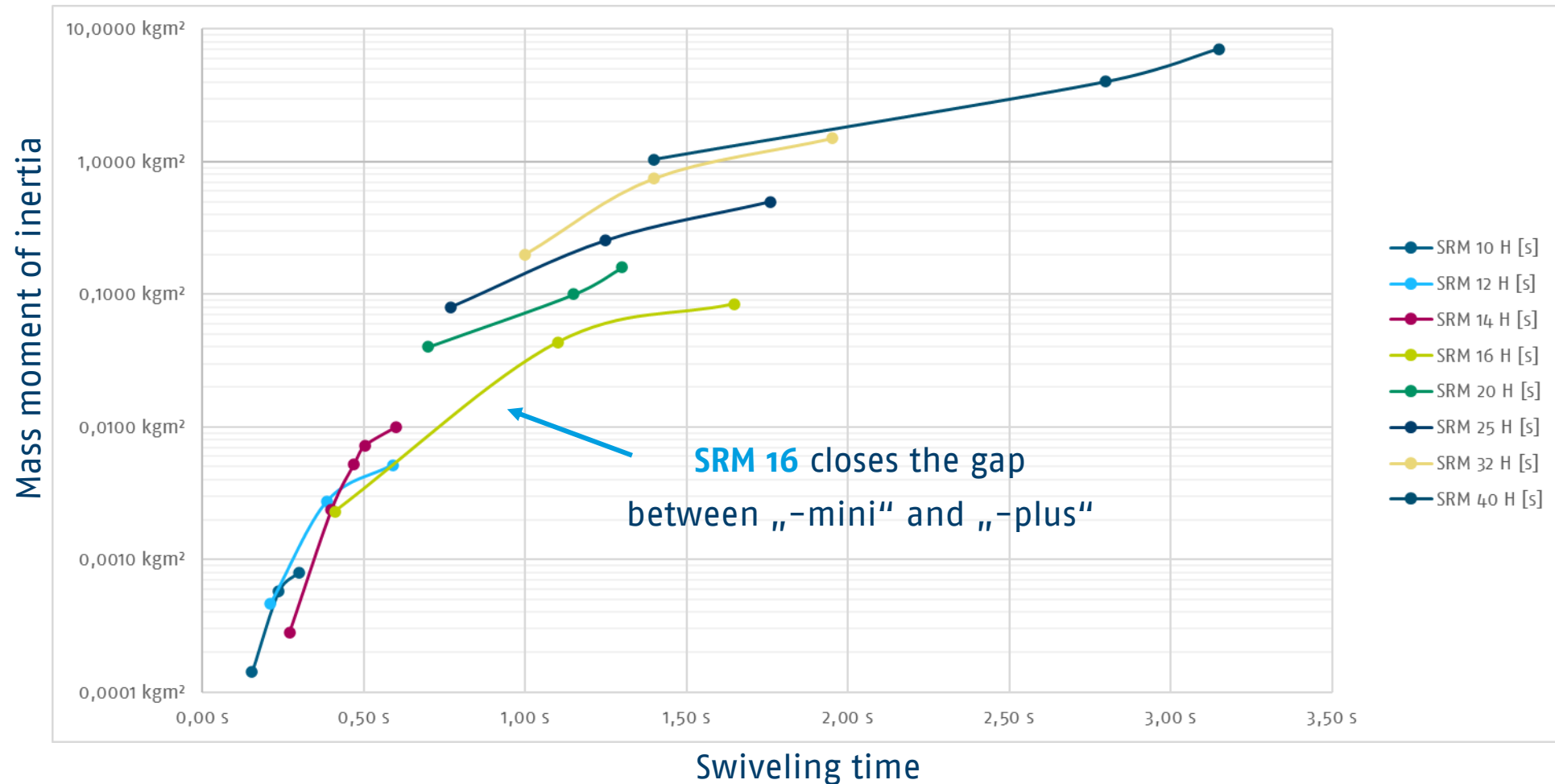
Damping

all sizes SRM ...-H (without SRM 16)



Damping

all sizes SRM ...-H



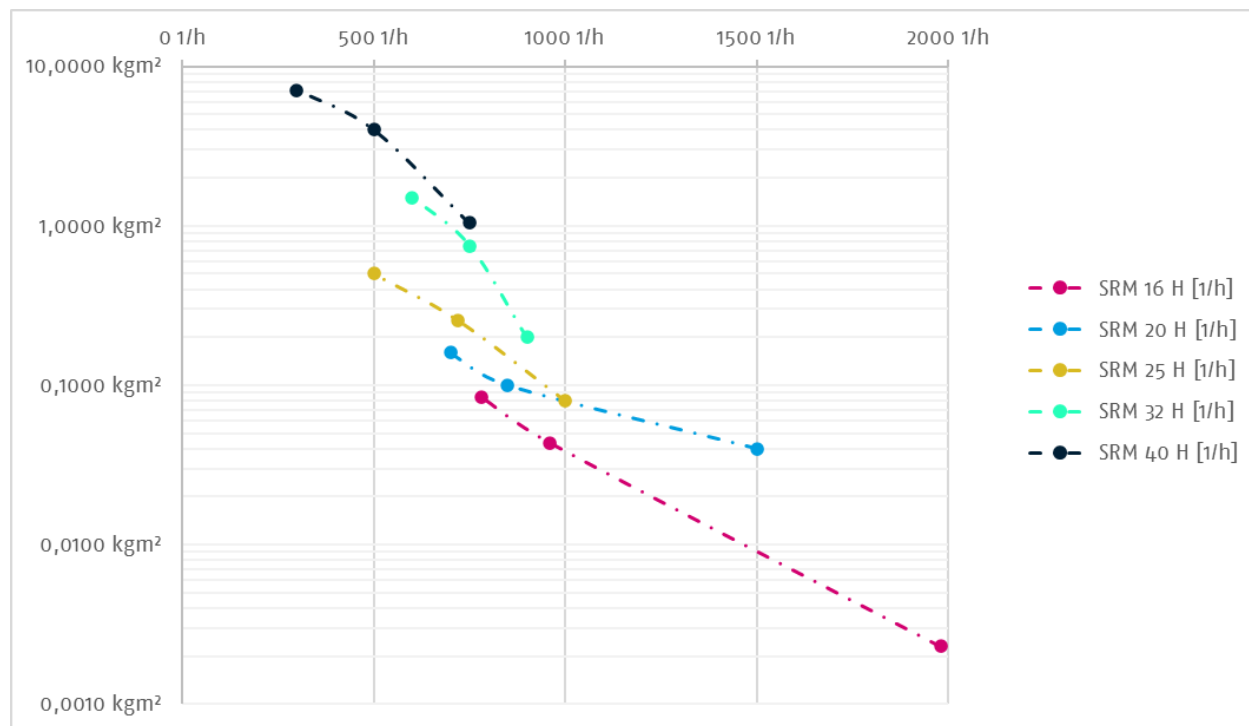
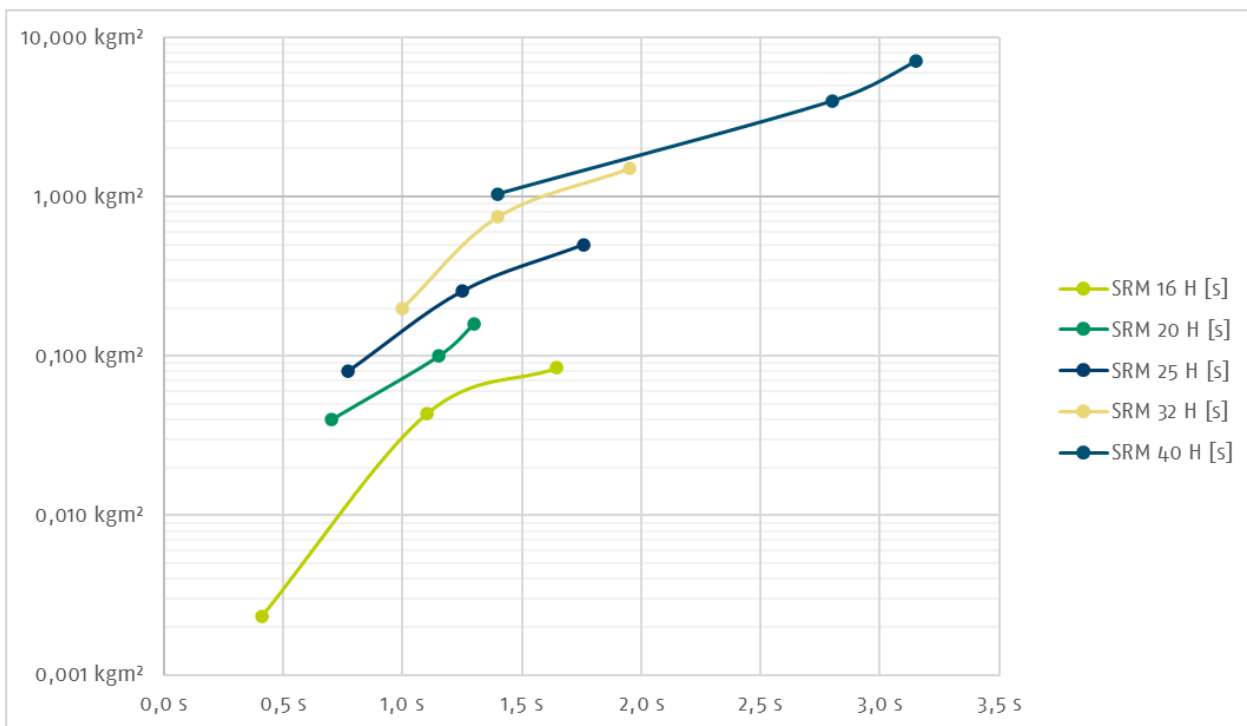
Damping [size 16 – 40]

Shock absorbers further optimised

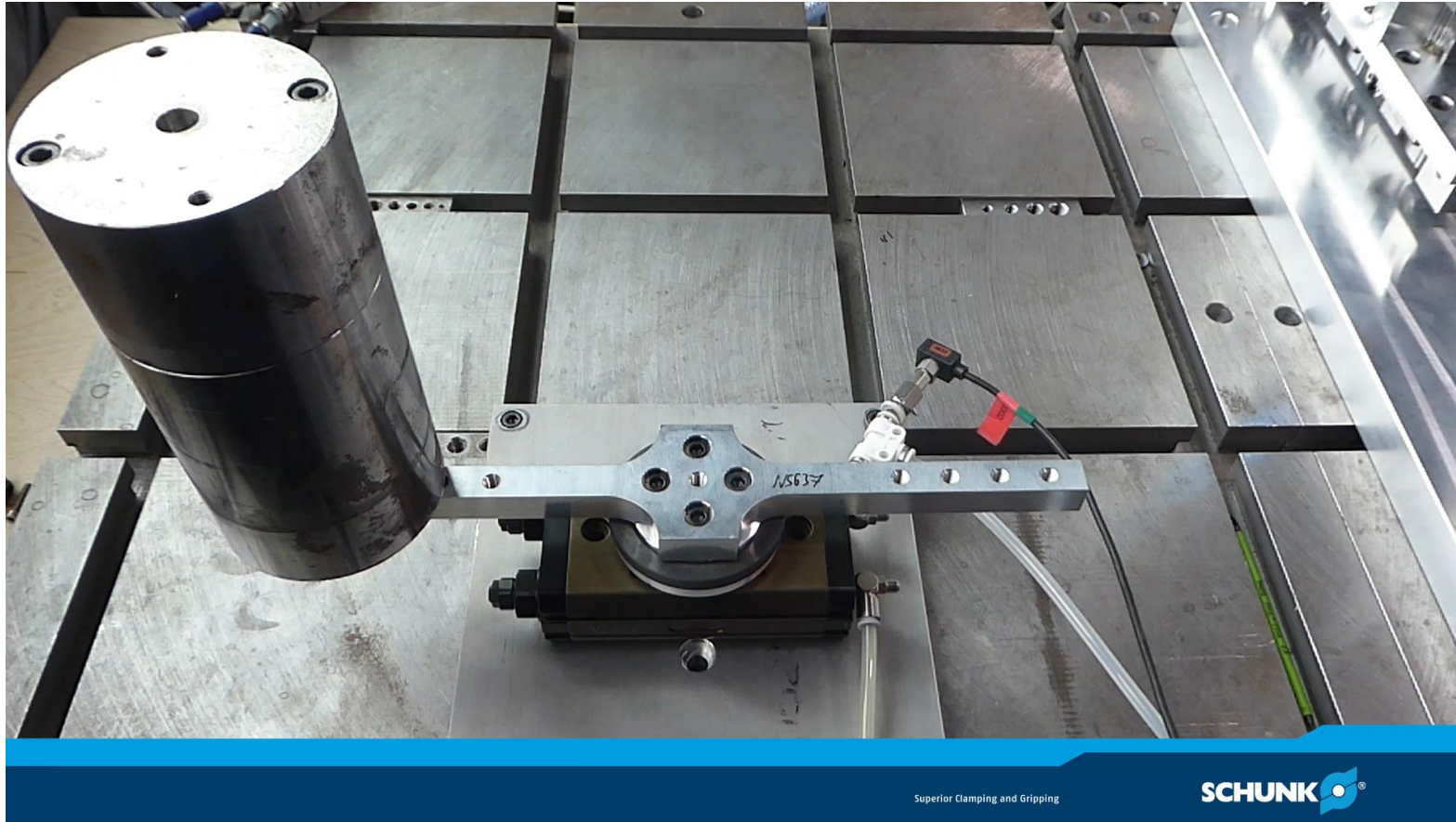
improved shock absorber parameter	benefit
larger oil capacity	durability
larger bearing	larger absorption of forces
high-performance oil, optimal for swivel applications	better shear resistance → durability
optimised position of the throttle holes in the shock absorber	higher durability of the pressure sleeve and better sliding properties of the damper piston
larger piston diameter	higher energy absorption

✓ **one shock absorber version per size is sufficient**

Damping [size 16 – 40]



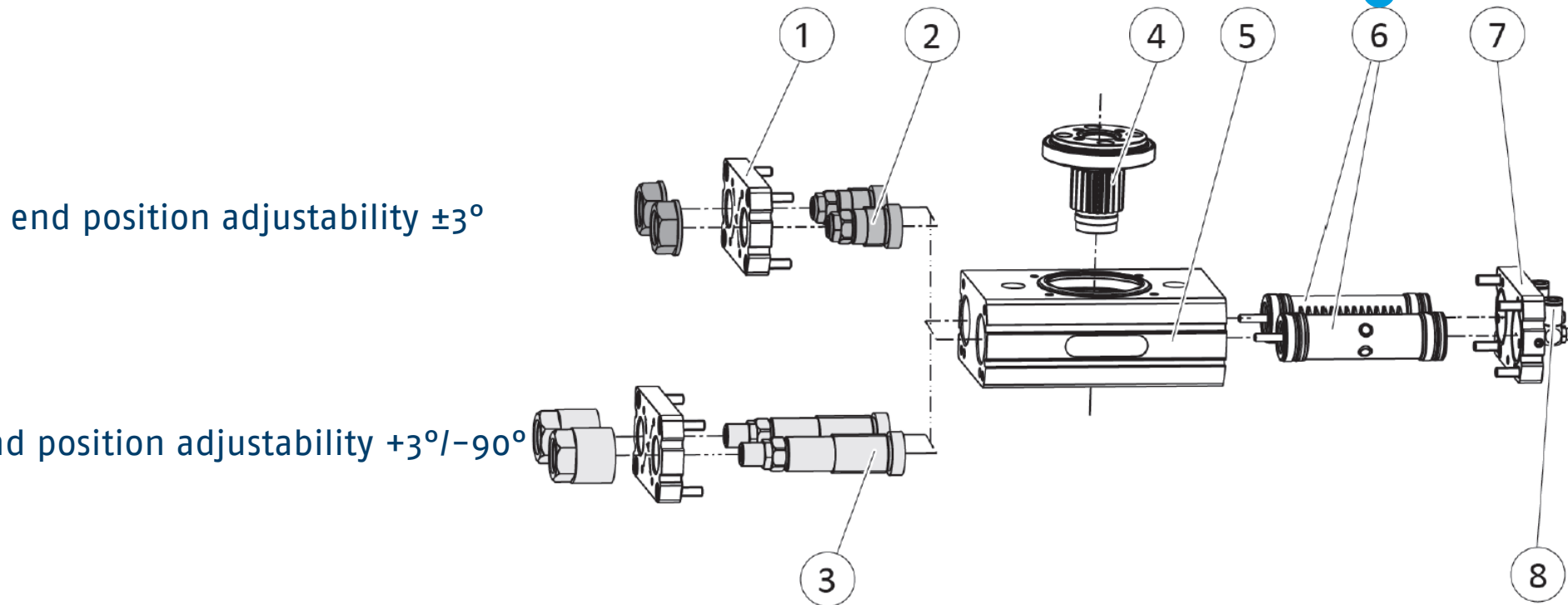
Damping [size 16 – 40]



SRM 20 – max. load

→ H = hydraulic shock absorbers

- hydraulic shock absorbers are integrated in the piston



Damping [size 16 – 40]

NEW redesigned damping adjustment

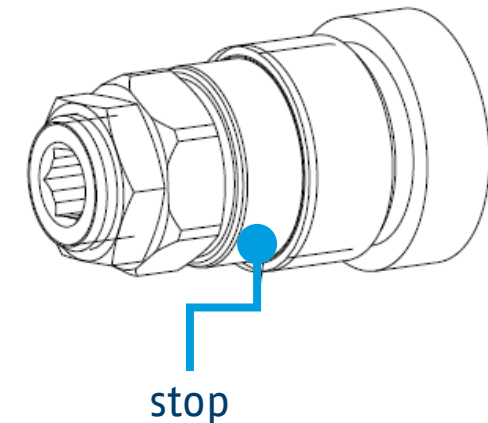
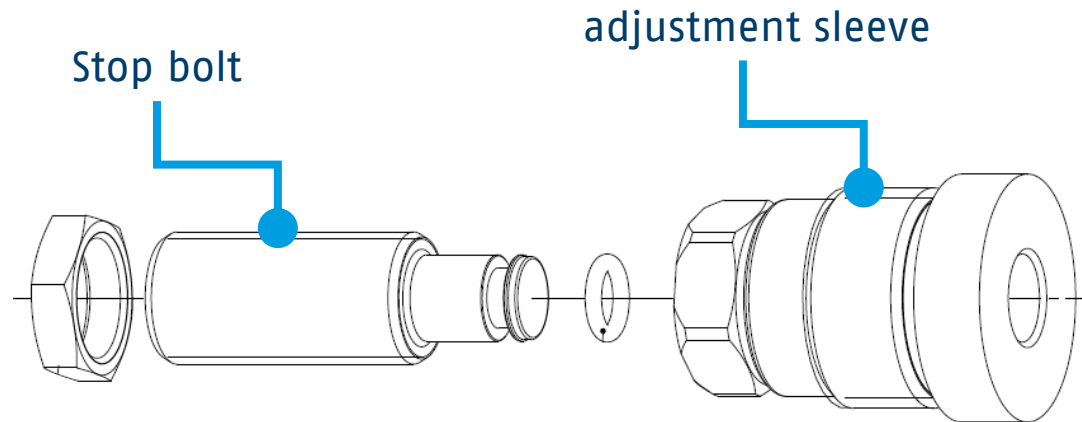
- preset damping
 - easy implementation
- easy shock absorber replacement
 - end position and shock absorber stroke setting do not change when shock absorber is replaced

Damping [size 16 – 40]

preset shock absorber stroke

stop bolt preset in adjustment sleeve

→ easy implementation



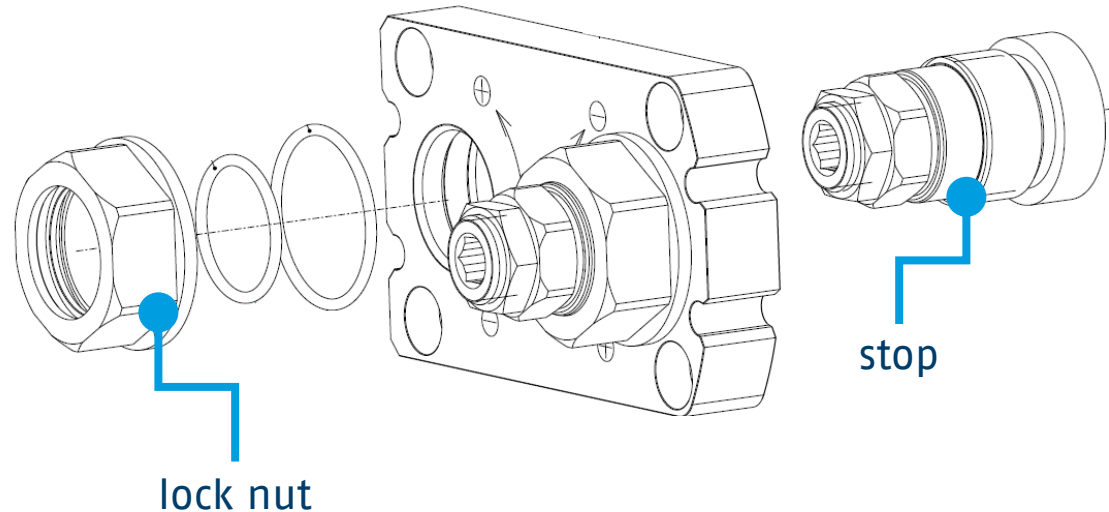
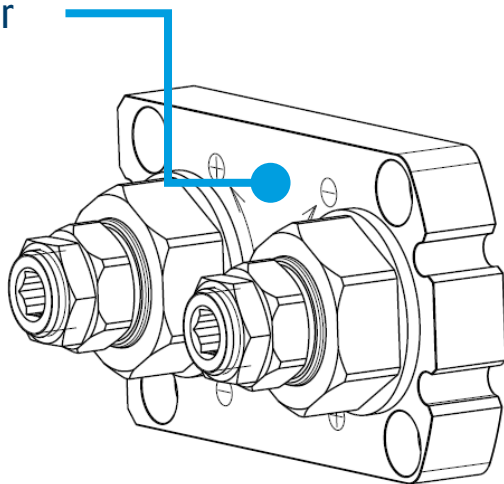
Damping [size 16 – 40]

preset shock absorber stroke

stop bolt preset in adjustment sleeve

→ easy implementation

stop cover

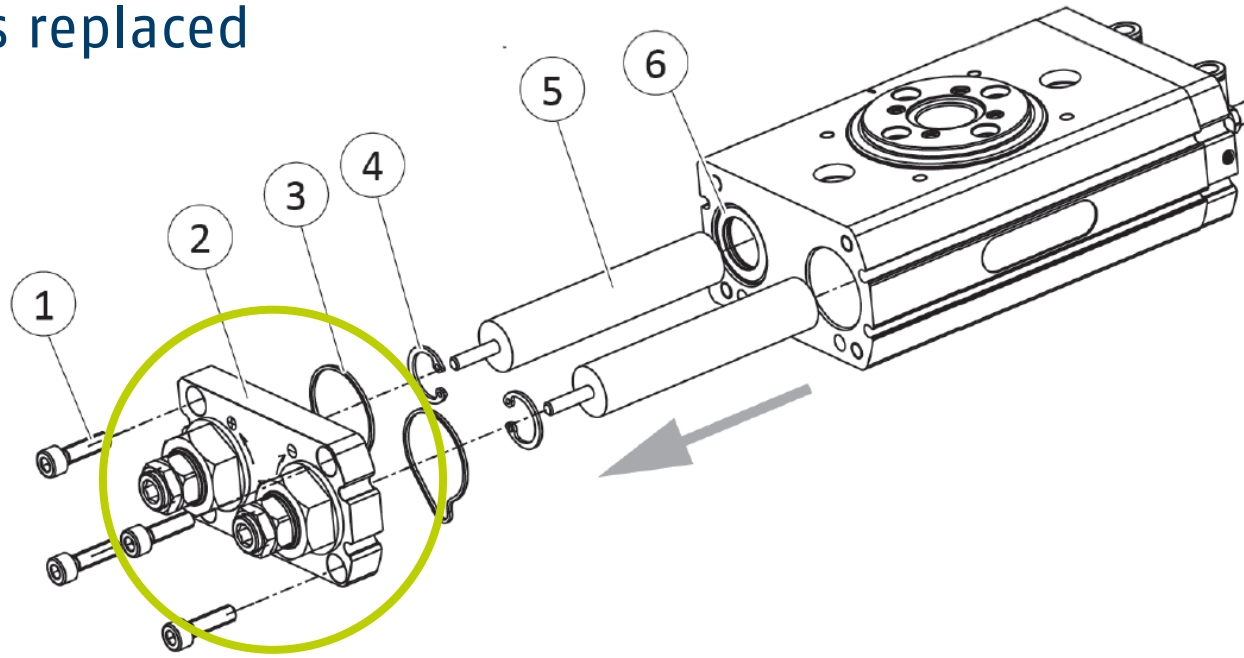


Damping [size 16 – 40]

easy shock absorber change

stop cover can be completely disassembled

→ end position and shock absorber stroke setting do not change when shock absorber is replaced



Damping [size 10 – 14]

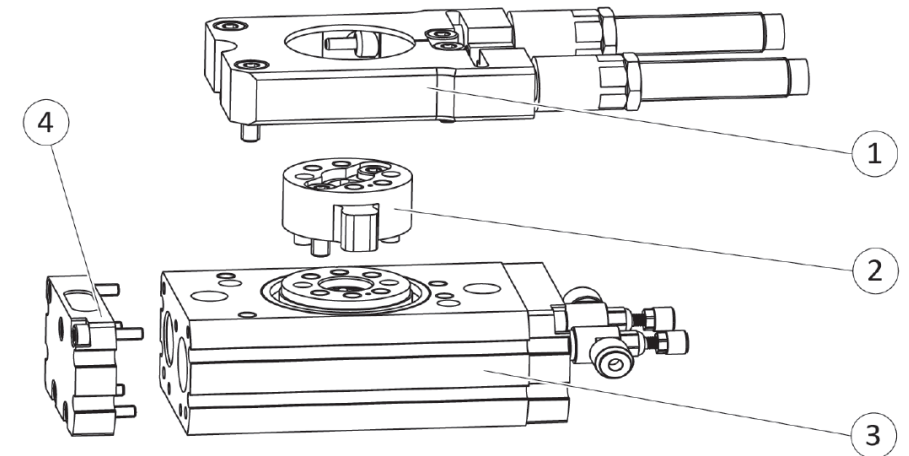
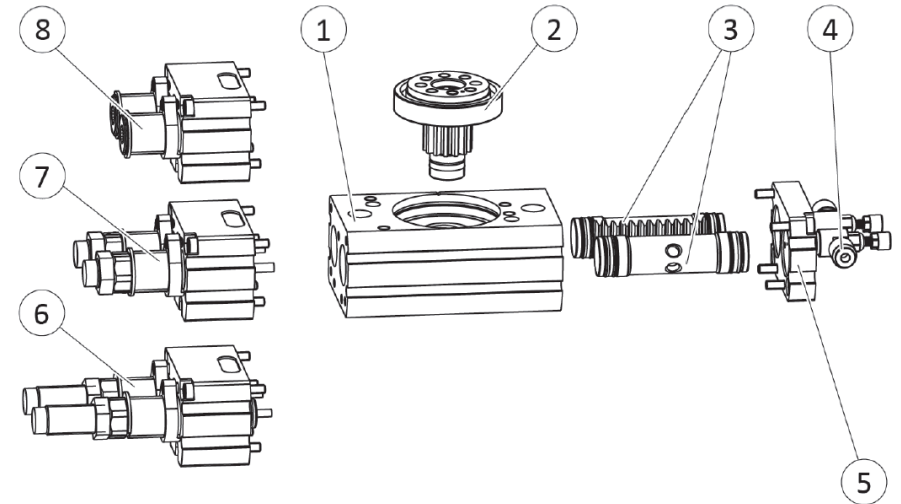
4 damper versions

→ E = elastomer damper

→ H = hydraulic shock absorber

→ S = speed damper

→ X = external damper

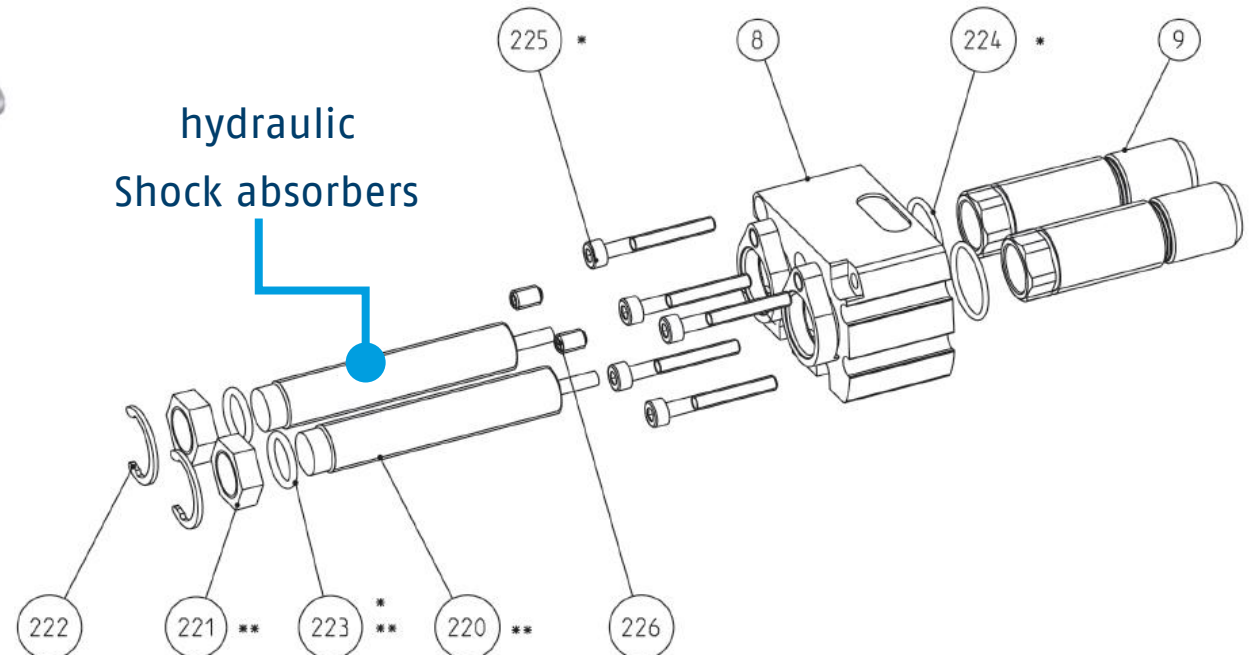


Comparison damper versions
available in the STB

Damping [size 10 – 14]

H = hydraulic shock absorbers

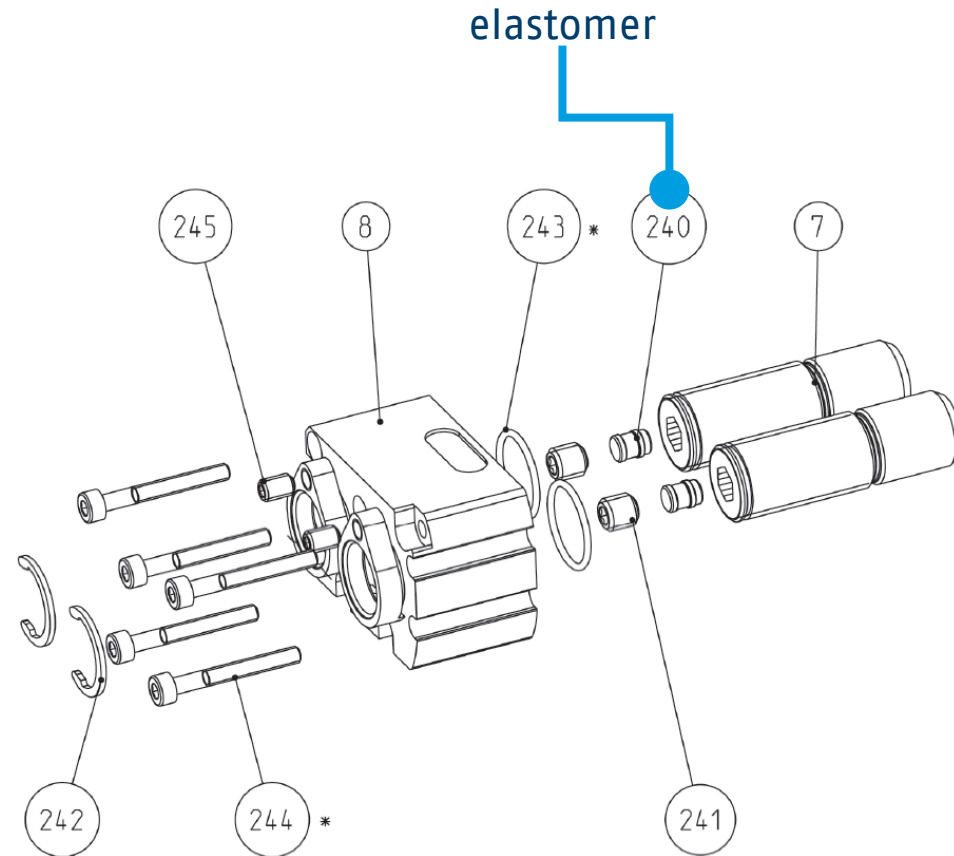
→ Shock absorbers, externally mounted



Damping [size 10 – 14]

E = elastomer damper

→ damper-elastomer

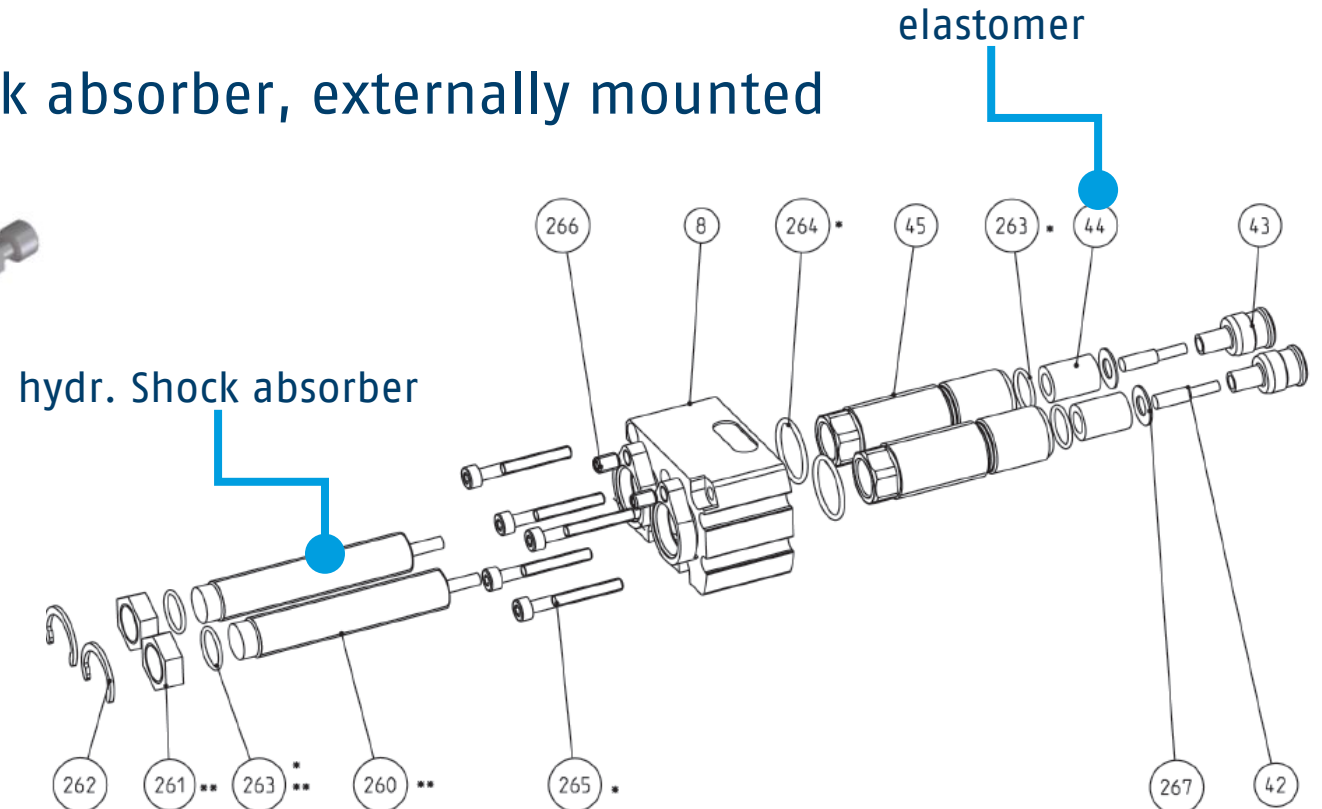


elastomer plugs are free of wear!

Damping [size 10 – 14]

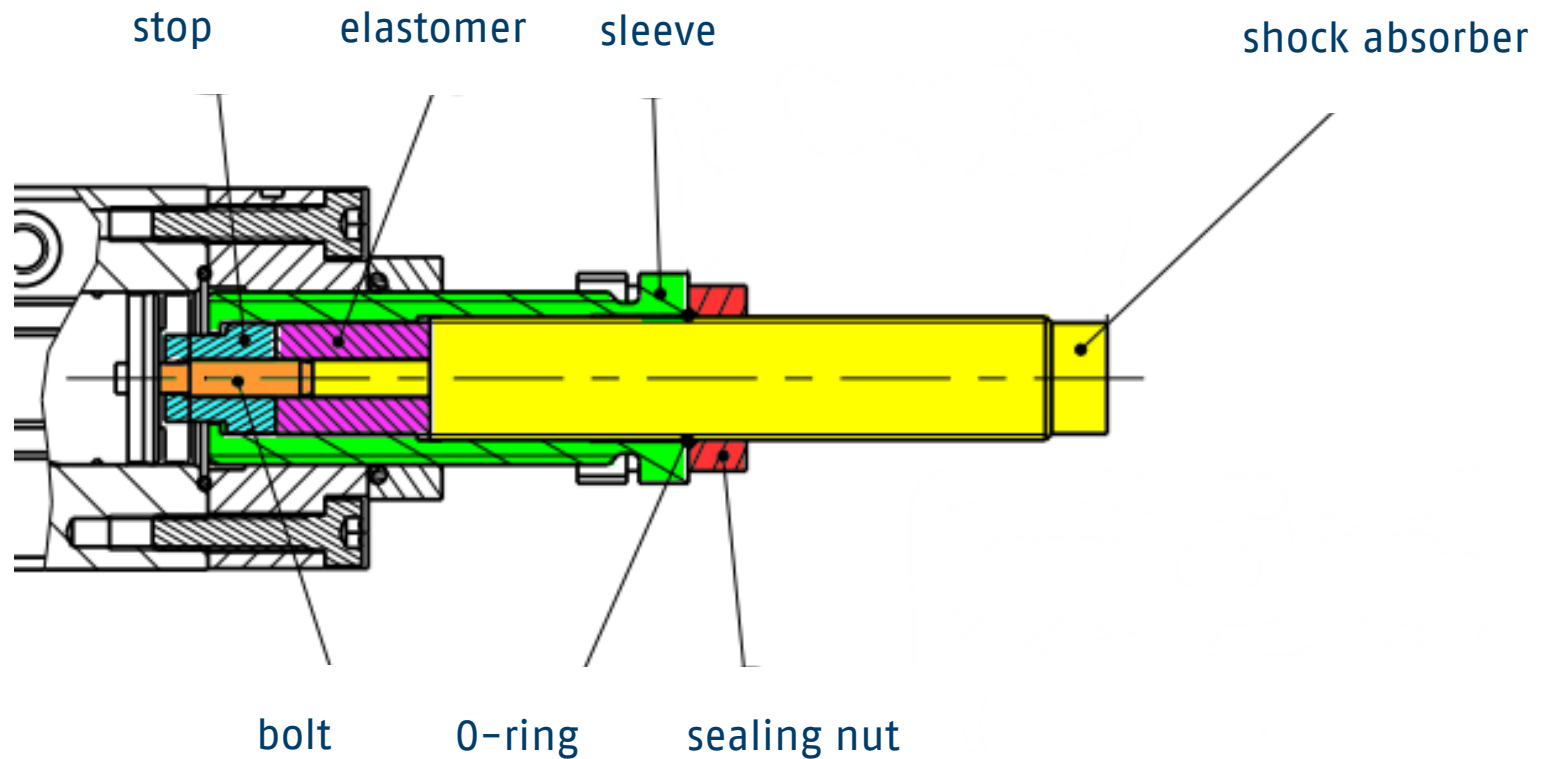
S = speed damping

→ combination of elastomer and shock absorber, externally mounted



Damping [size 10 – 14]

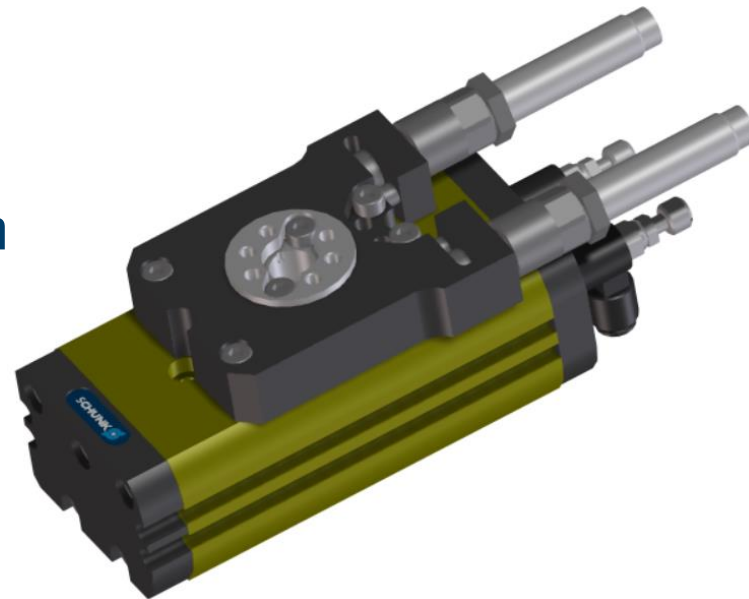
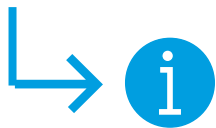
S = speed damping

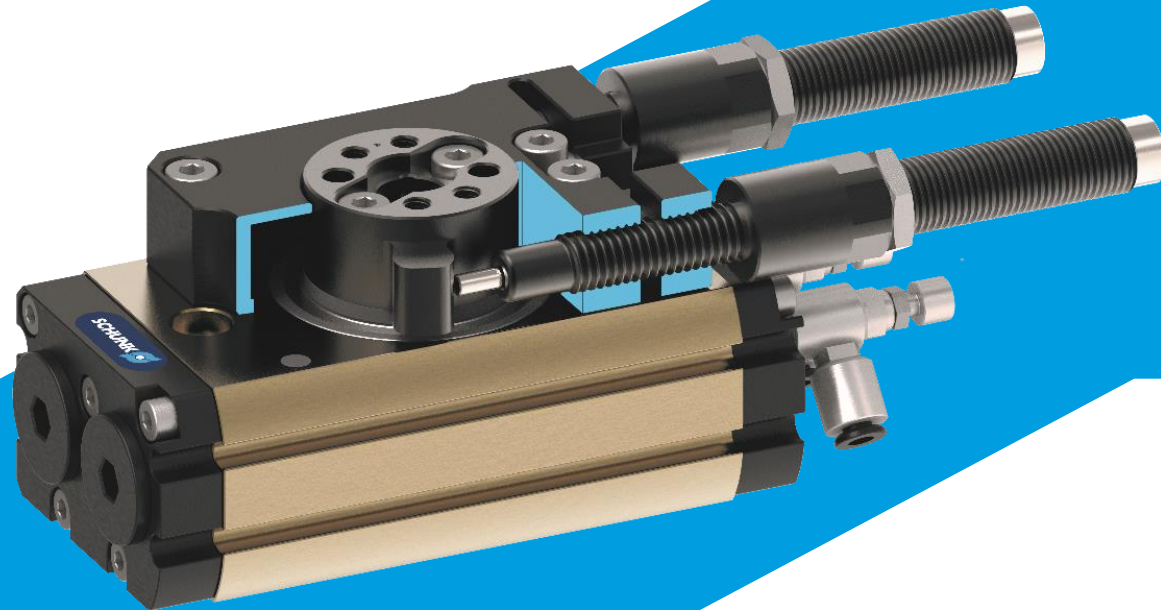


Damping [size 10 – 14]

NEW: X = external damping

- benefits
 - higher inertia
 - higher precision in the end position
 - full torque in the end position





**Detailed explanation:
Full torque in the end position
with external damping**

Damping [size 10 – 14]

X = external damping

full torque in the end position

Why is full torque achieved in the end position with external damping?

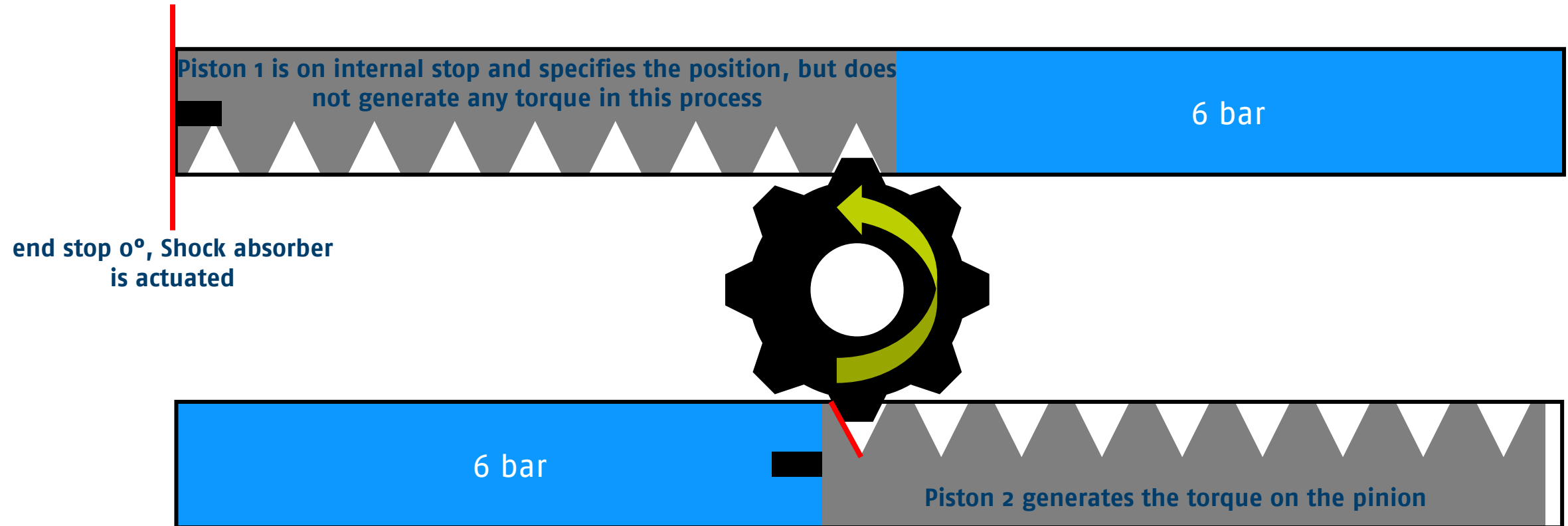
- ✓ the end position is specified via an external stop
- ✓ the drive pistons do not run to an internal stop
- ✓ both actuator pistons also generate a torque in the end position

End stop, internal (-H, -E, -S)



End stop, internal (-H, -S, -E)

air connection B = counterclockwise $\rightarrow 0^\circ$

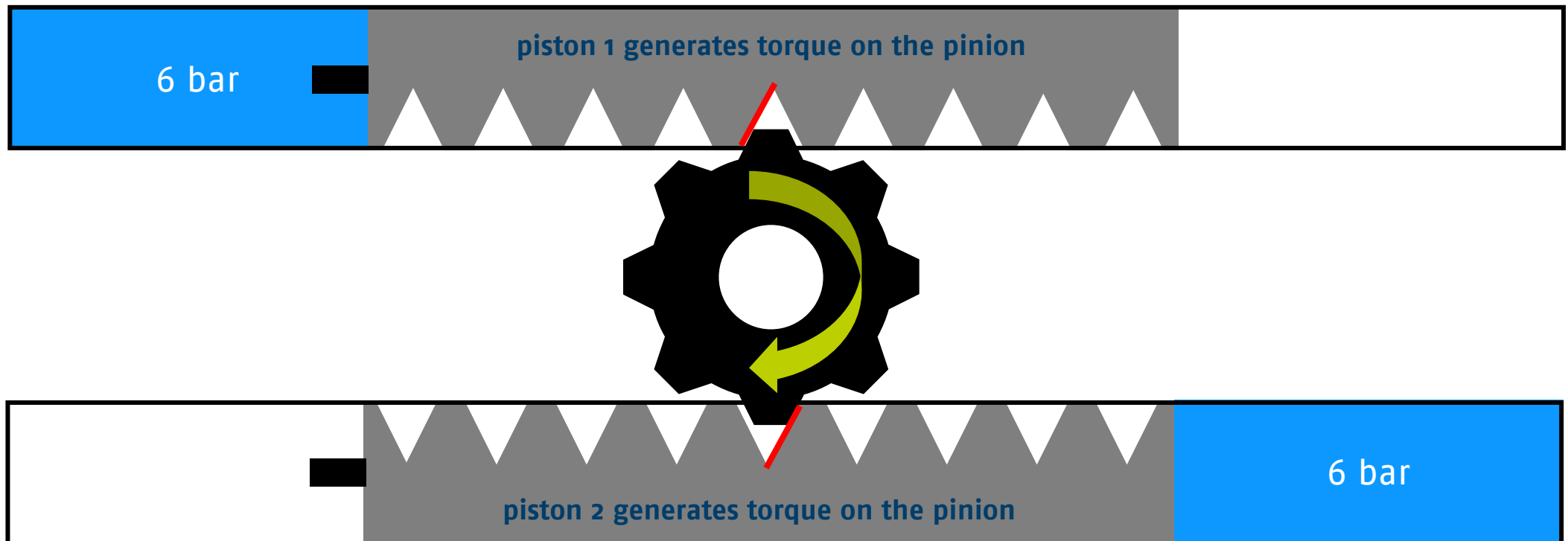


Due to the pinion clearance/tooth clearance, only one piston is engaged in the end position!

$\rightarrow$ only half of the torque is available

End stop, internal (-H, -S, -E)

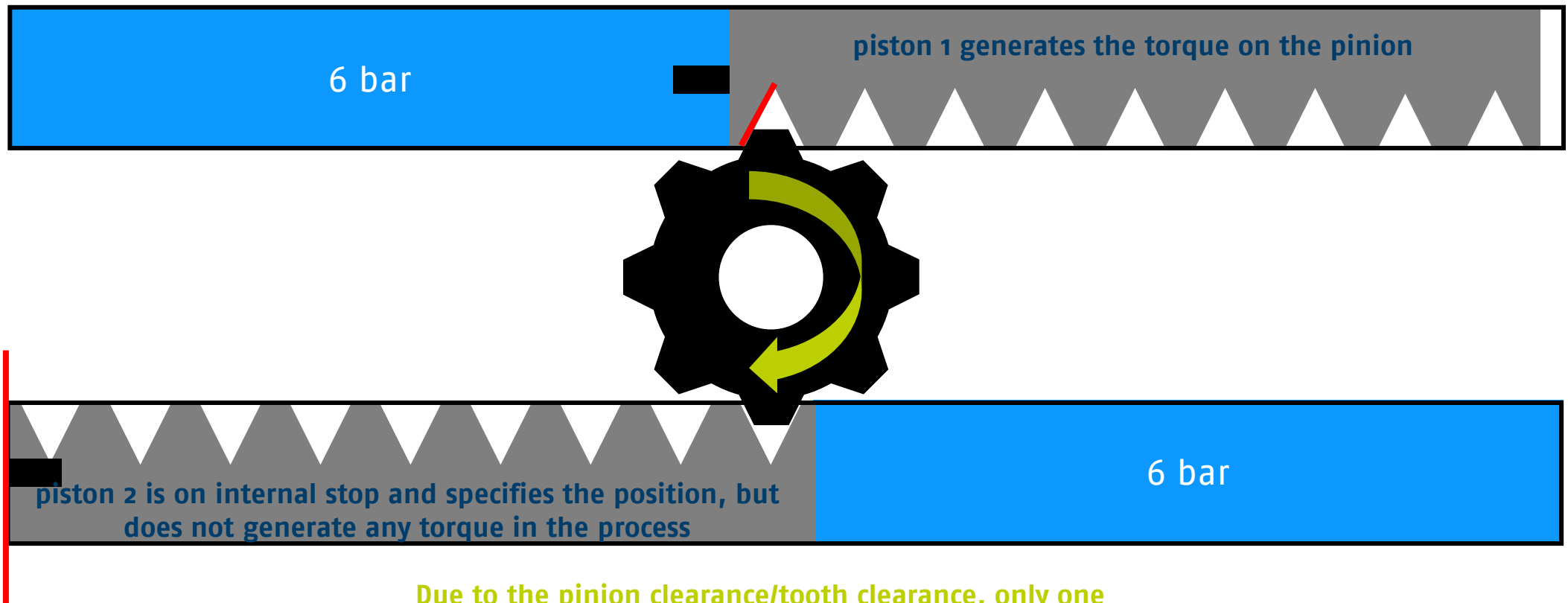
air connection A = clockwise



Both pistons are engaged, full torque
during movement!

End stop, internal (-H, -S, -E)

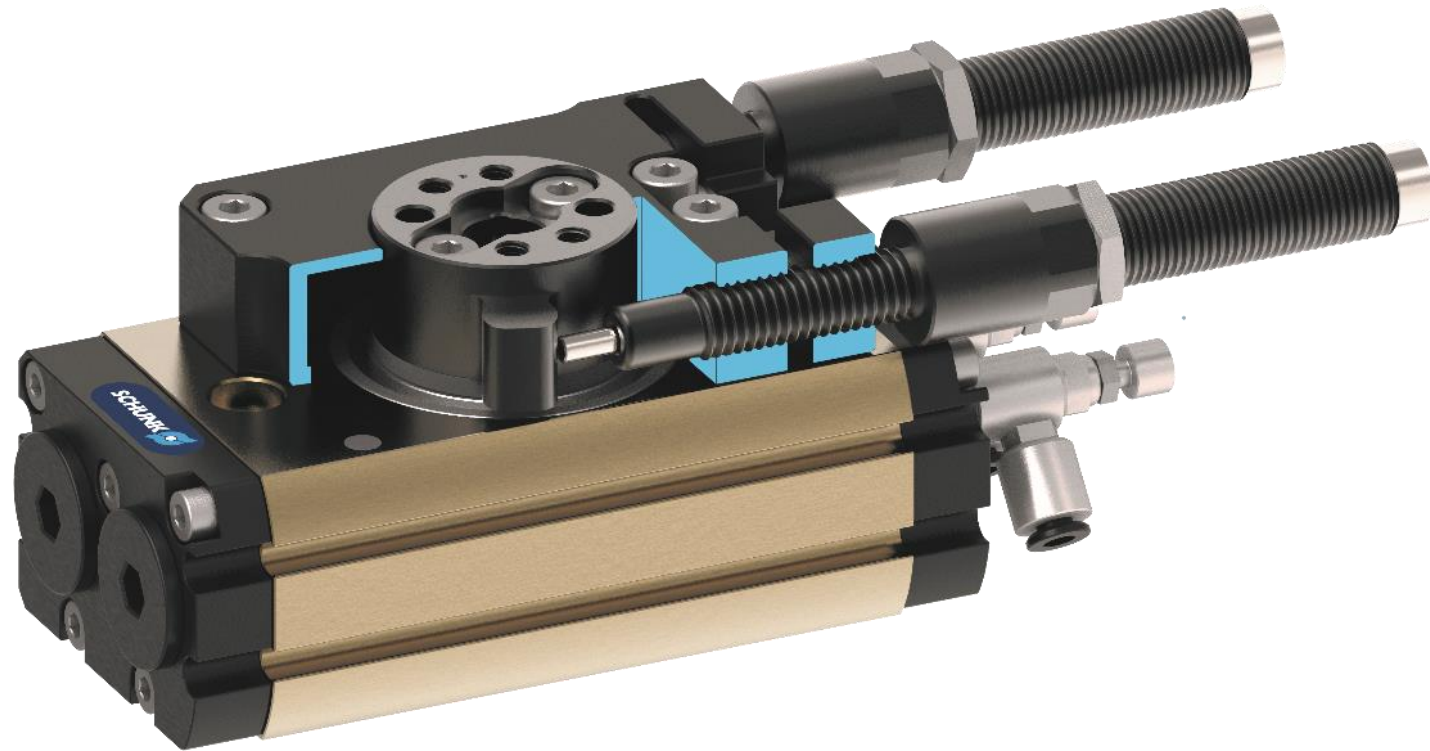
air connection A = clockwise $\rightarrow 180^\circ$



end stop 180°,
shock absorber is actuated

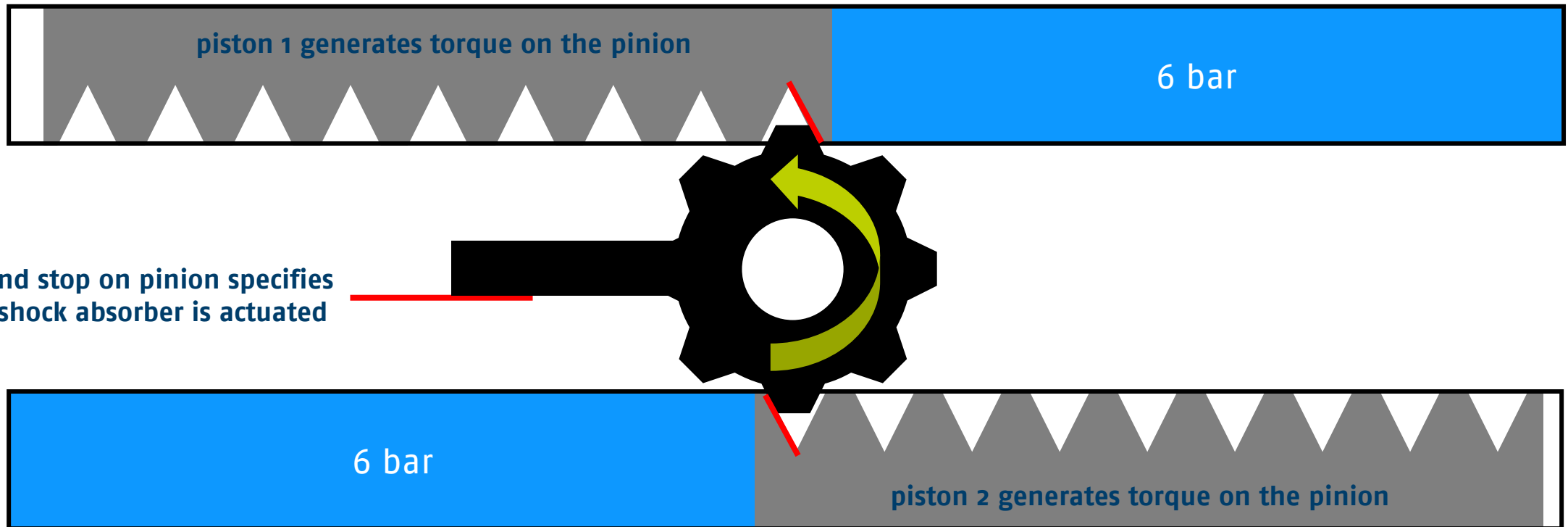
Due to the pinion clearance/tooth clearance, only one
piston is engaged in the end position!
 $\rightarrow$ only half of the torque is available

End stop, external (-X)



End stop, external (-X)

air connection B = counterclockwise $\rightarrow 0^\circ$

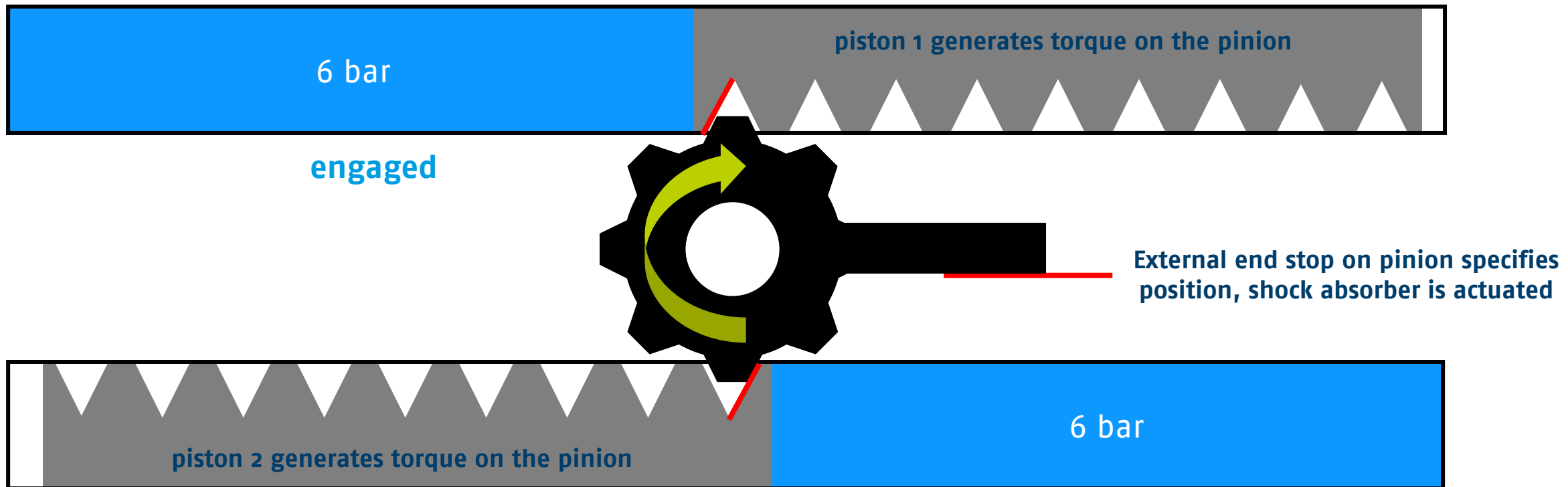


Both pistons are engaged in the end position!

$\rightarrow$ The full torque is available

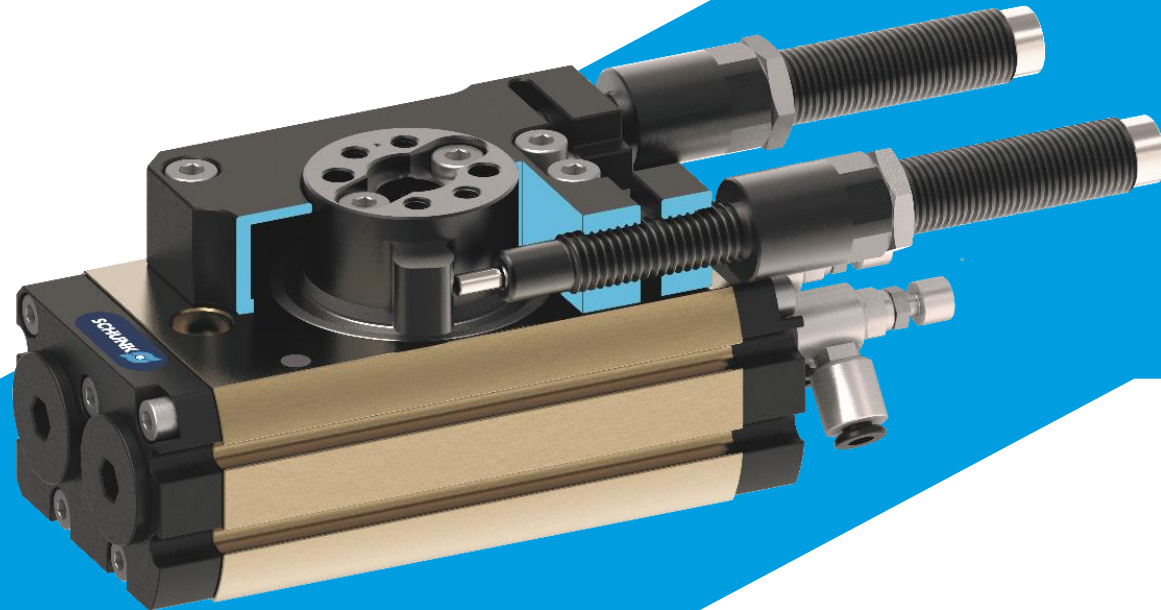
End stop, external (-X)

air connection A = clockwise $\rightarrow 180^\circ$



Both pistons are engaged in the end position!

$\rightarrow$ The full torque is available



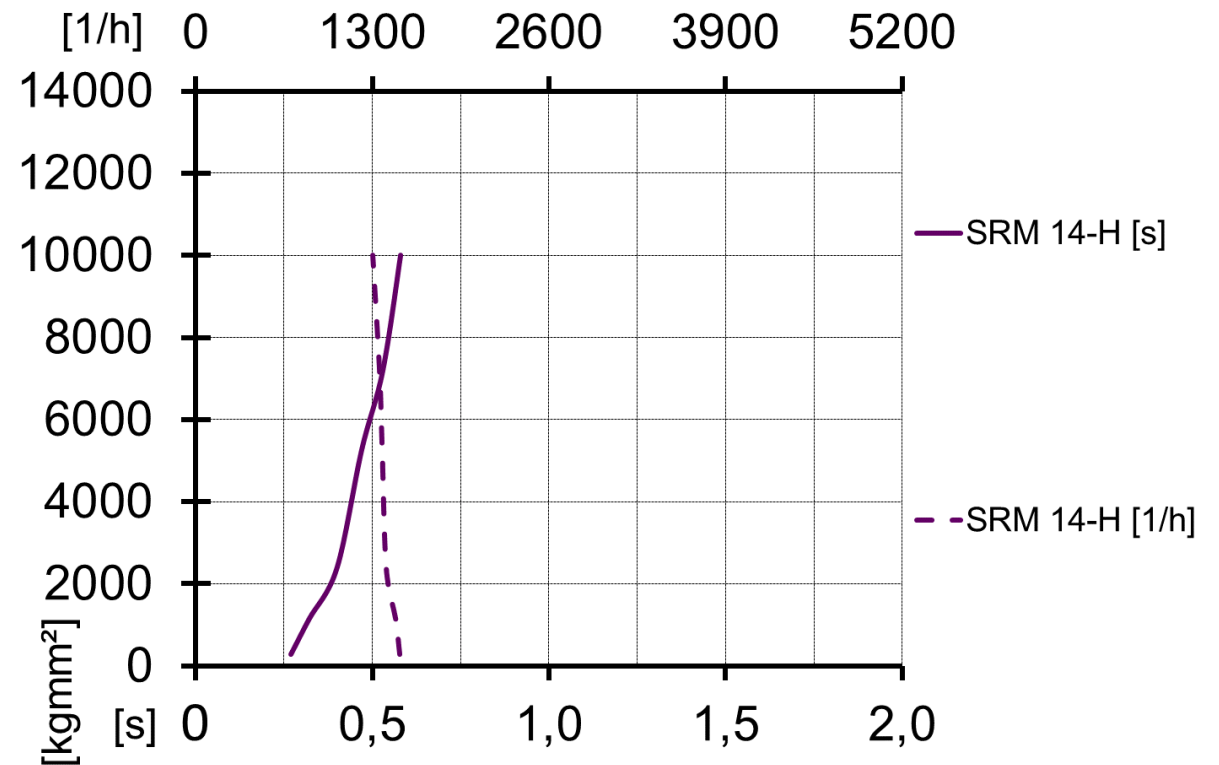
**Detailed explanation:
Full torque in the end position
with external damping**

Damping [size 10 – 14]

characteristics of the 4 damper versions

H = hydraulic shock absorbers

- ✓ quite fast swivel time
- ✓ **high moment of inertia**

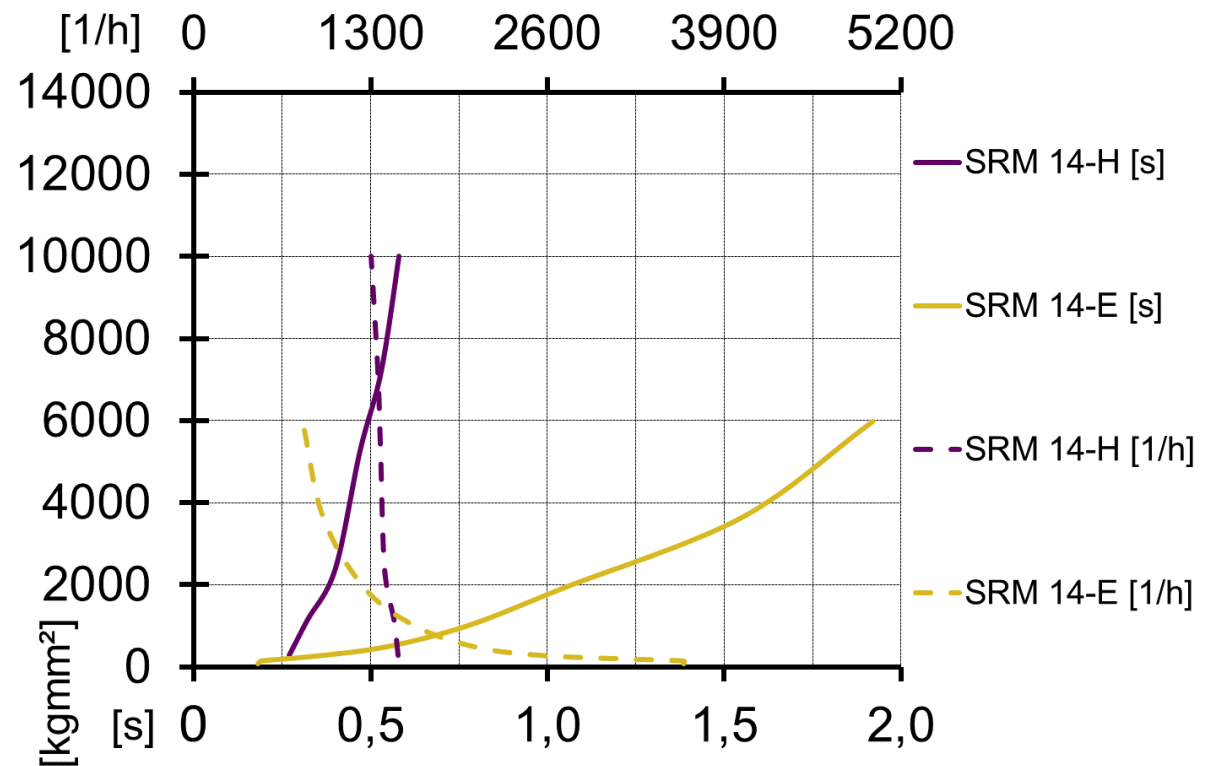


Damping [size 10 – 14]

characteristics of the 4 damper versions

→ E = elastomer damper

- ✓ fast swivel time, **at low load**
- ✓ quite high cycles/hour **at low load**
- ✓ **attractive price**

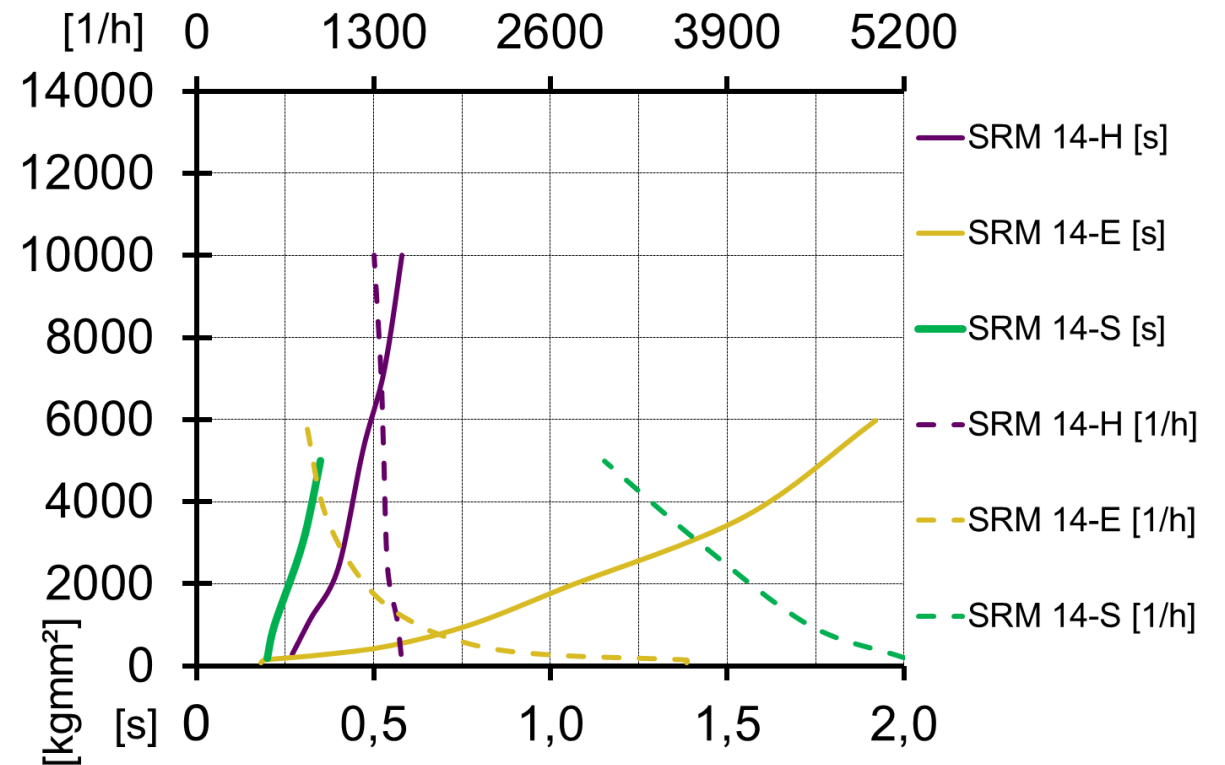


Damping [size 10 – 14]

characteristics of the 4 damper versions

→ S = speed-damping

- ✓ fast swivel time
- ✓ **very high cycles/hour**
- ✓ limited for mass moment of inertia



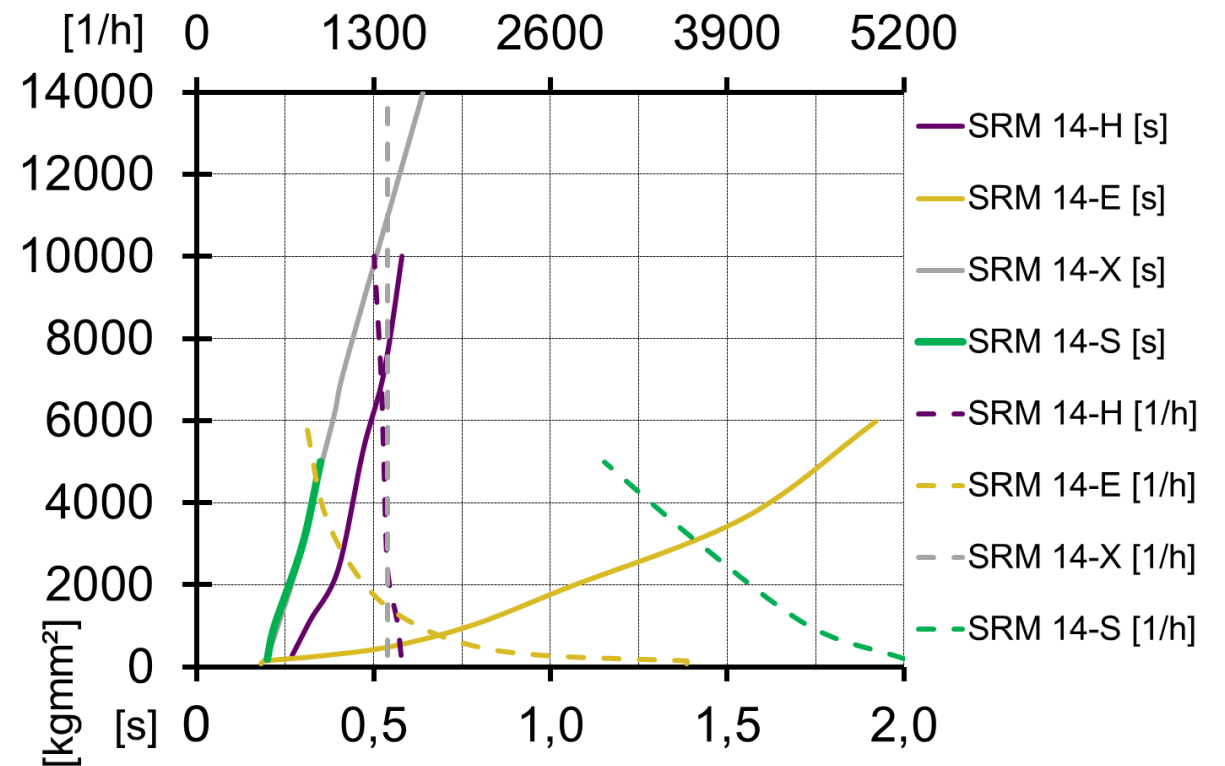
Damping [size 10 – 14]

characteristics of the 4 damper versions

→ X = external dampers

✓ fast swivel time

✓ **extremely high moment of inertia**



Damping [size 10 – 14]

Differences between the 4 damper versions

		SRM 12-H-180-90	SRM 12-E-180-90	SRM 12-S-180-90	SRM 12-X-180-3
swivel time	[s]	0,17 – 0,6	0,14 – 1,2	0,14 – 0,25	0,17 – 0,45
max. cycles per hour	[1/h]	2000	4500	6000	2200
inertia	[kgm ²]	0.005	0.0036	0.0025	0.0072
max. torque	[Nm]	0.8	0.8	0.8	0.8
max. torque in end position	[Nm]	0.4	0.4	0.4	0.8
maintenance interval	[Mio]	3	maintenance-free	3	3
compactness	[mm]	130.9 X 41 X 30.5	121.5 X 41 X 30.5	151 X 41 X 31	124.1 X 45 X 41.5

Damping [size 10 – 14]

Differences between the 4 damper versions

		H	E	S	X
swivel time	[s]	+	+	+	+
max. cycles per hour	[1/h]	+	+	+	+
inertia	[kgm ²]	+	+	+	+
max. torque	[Nm]	+	+	+	+
max. torque in end position	[Nm]	+	+	+	+
maintenance interval	[Mio]	+	+	+	+
compactness	[mm]	+	+	+	+

Damping [size 10 – 14]

typical applications for the 4 damping types

H	E	S	X
allrounder	fast swivel times with small centric loads and many cycles per hour compact design	many cycles per hour in combination with fast swivel time	high load with fast swivel time full torque in the end position



Swivel angle and adjustability

		options						
size		ELE	M	MDF	EDF	MDF+EDF	SI/SF	MMS
	10	included in basic version		bottom side				
	12	included in basic version		bottom side				
	14	included in basic version		bottom side				
	16			bottom side				
	20			top side				
	25			top side				
	32			top side				
	40			top side				

Swivel angle and adjustability

size 10-14

swivel angle

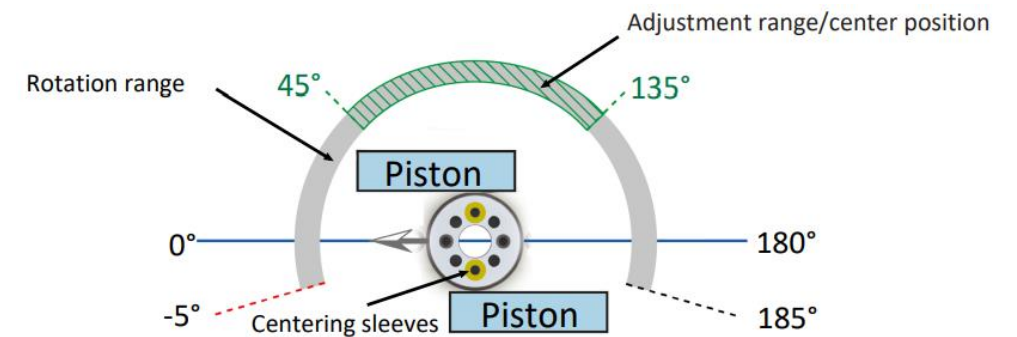
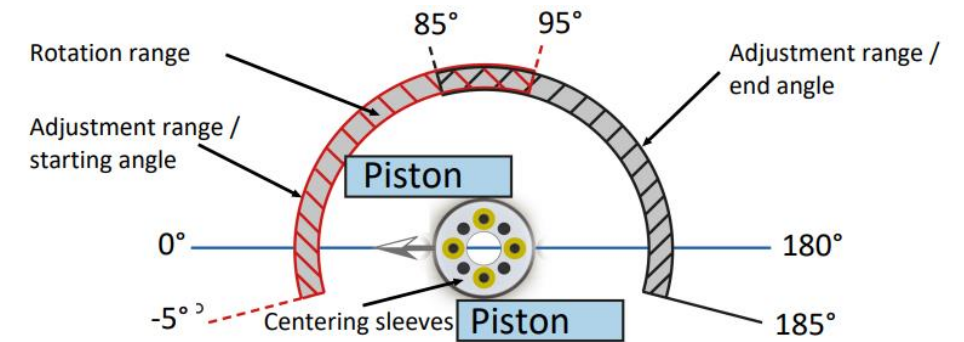
- 180°

end position adjustability

- $90 = +5/-95$ (standard for size 10-14)

Exception X-damping!

- $90^\circ/180^\circ$ swivel angle
- $+3^\circ/-3^\circ$ end position adjustability in each case



Swivel angle and adjustability

size 16-40

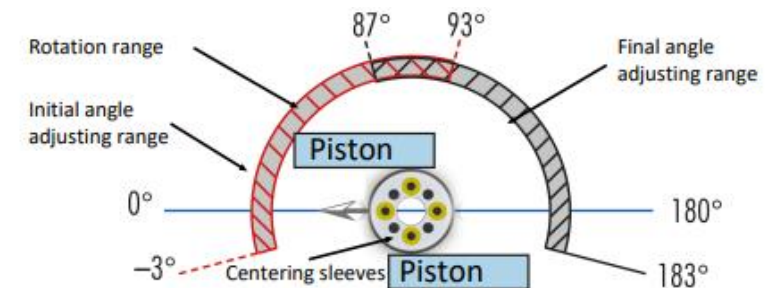
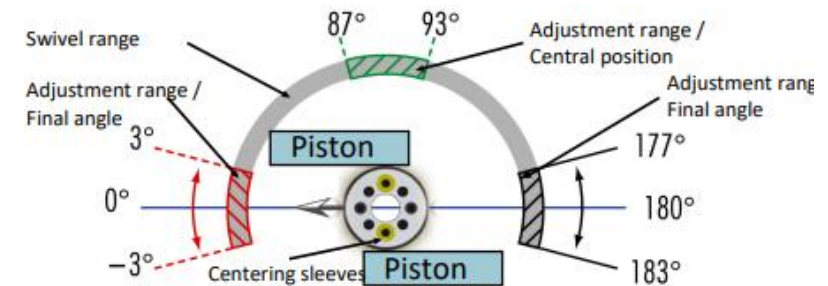
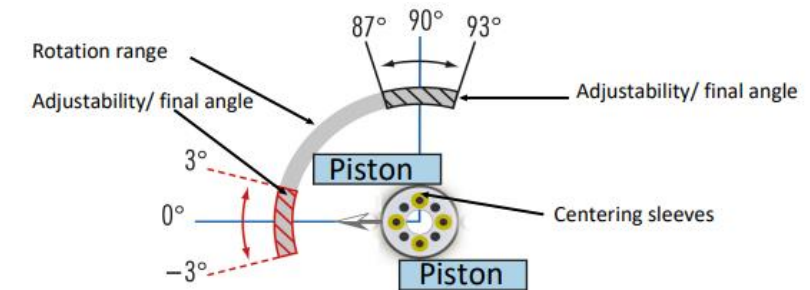
swivel angle

- 90°
- 180°

end position adjustability

- $3 = +3^\circ/-3^\circ$ (standard for size 16-40)
- $90 = -3/+93$ (option ELE at BG 16-40)

→ only with swivel angle 180° !



Pneumatic center position [-M]

		options						
size		ELE	M	MDF	EDF	MDF+EDF	SI/SF	MMS
	10	included in basic version		bottom side				
	12	included in basic version		bottom side				
	14	included in basic version		bottom side				
	16			bottom side				
	20			top side				
	25			top side				
	32			top side				
	40			top side				

SRM 10, 12, 14

middle position only for the damper versions -H and -E

Reason:

-S: makes no sense for the middle position, as the movement to the middle position is slower anyway

- X: in the middle position, the advantages of the X-version would be lost

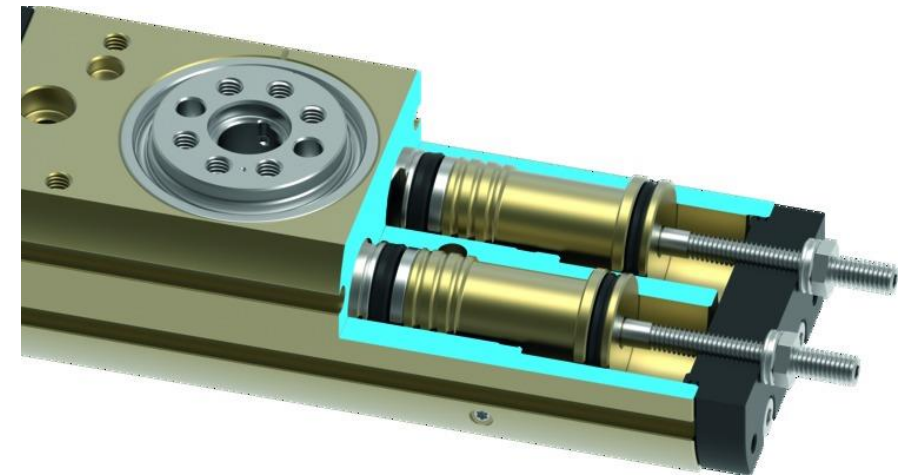
Pneumatic center position [-M]

Benefit

- the SRM swivel unit can optionally be equipped with pneumatic centre position
- this makes it possible to control a third position in addition to the two end positions

Example of application:

rejecting bad parts via the third position



Pneumatic center position [-M]

design

size 10-14

- **one-part** housing
- air connection **C** for the center position



size 16-40

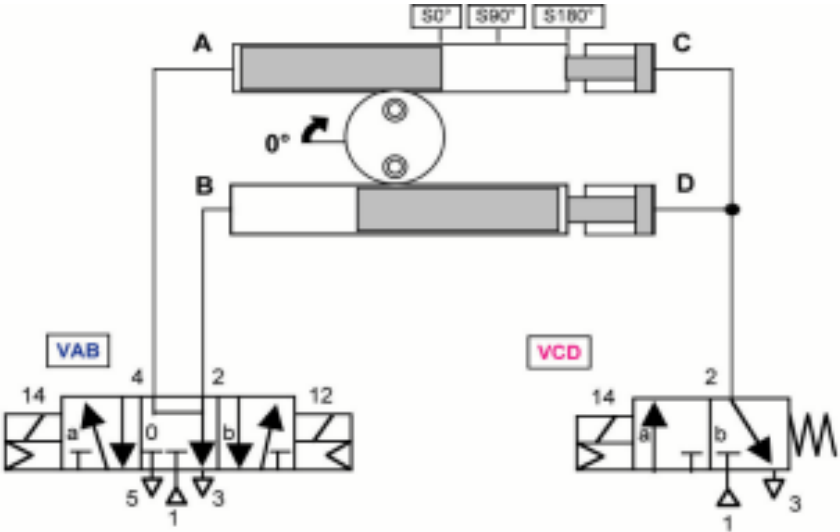
- **two-part** housing
- Air connections **C+D** for the center position



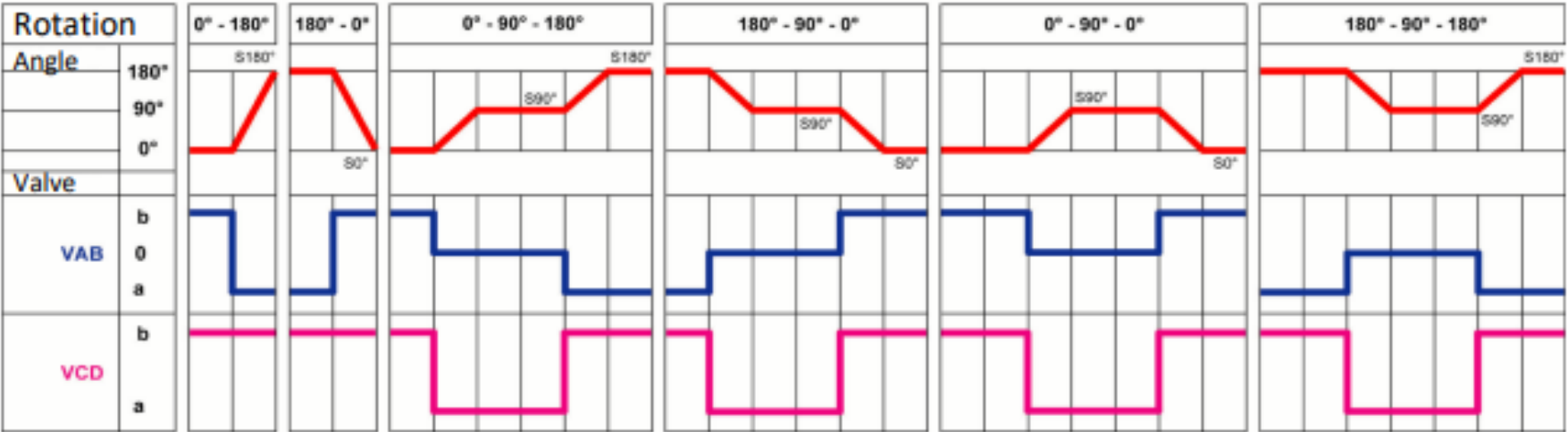
Pneumatic center position [-M]

Actuation

5/3 directional control valve



3/2 directional control valve



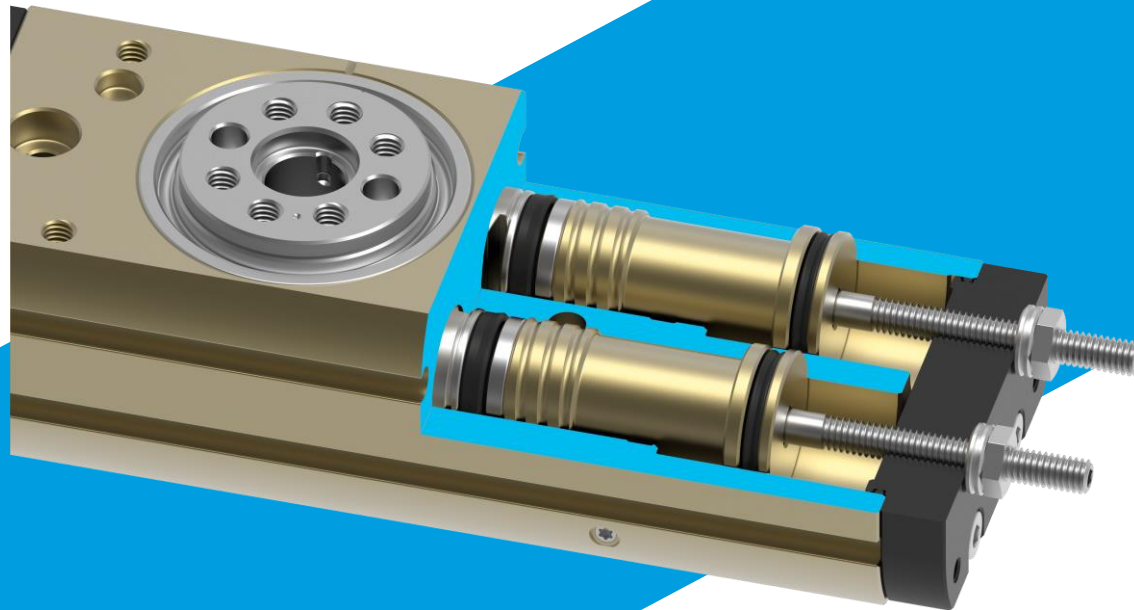
Pneumatic center position [-M]

Torque in the end positions: Please note that the final angular degrees (approx. 2°) before the end position can only be approached using the force of a single drive piston. For this reason, double actuated modules only have about half the rated torque available in this area.

Technical data SRM with center position

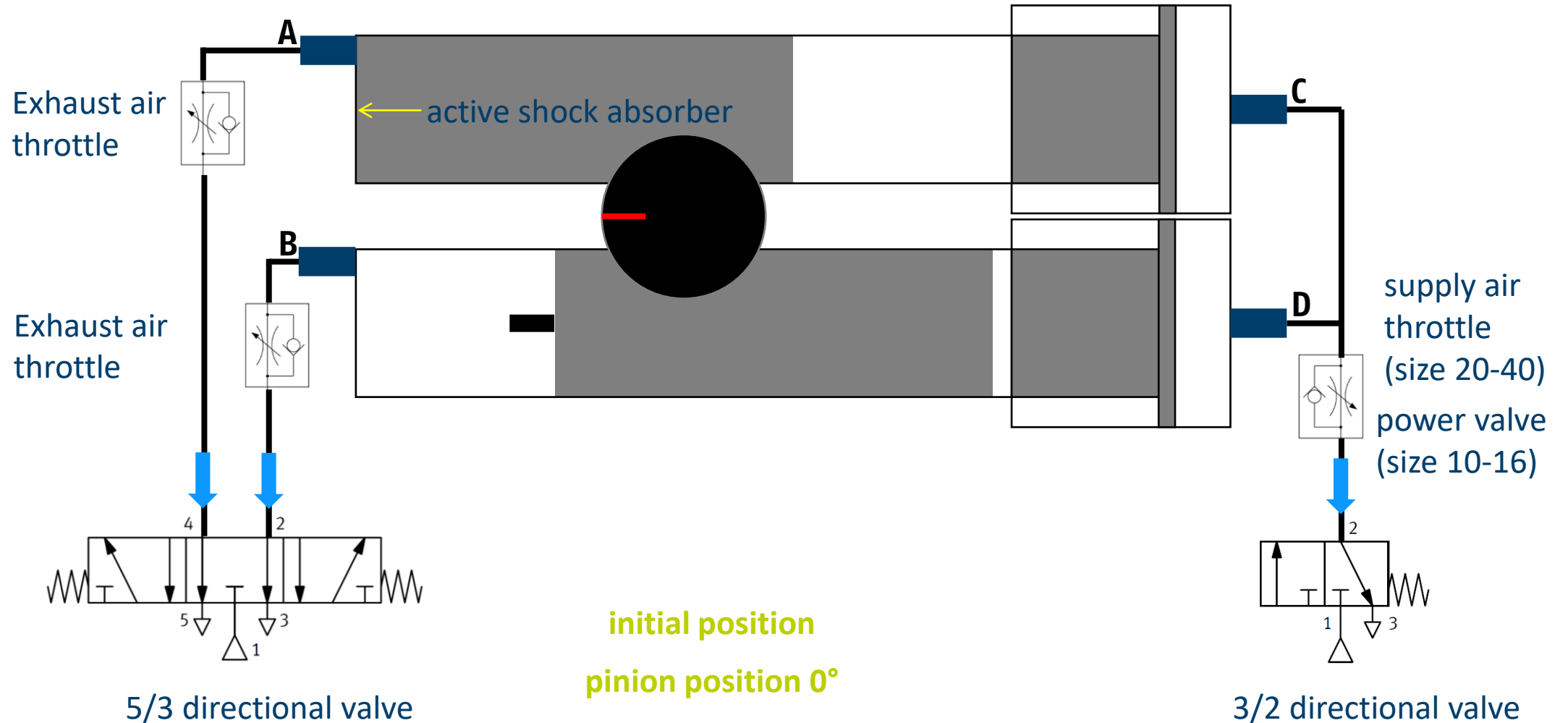
Description		SRM 20-H-180-3-M	SRM 20-H-180-90-M
ID		1490186	1490187
End position damping		hydr. damper	hydr. damper
Angle of rotation	[°]	180.0	180.0
End position adjustability	[°]	+3/-3	+3/-93
Torque	[Nm]	3.6	3.6
Torque center position	[Nm]	2.3	2.3
Number of intermediate positions		1 x M (pneumatic)	1 x M (pneumatic)
Adjustability of middle position	[°]	+3/-3	+3/-3
IP protection class		65	65
Weight	[kg]	1.50	1.65
Fluid consumption (2x nom. angle)	[cm³]	61.0	61.0
Min./nom./max. operating pressure	[bar]	4/6/6.5	4/6/6.5
Diameter of connecting hose		6 x 3.9 x 1.05	6 x 3.9 x 1.05
Diameter of connecting hose C/D		3 x 1.8 x 0.6	3 x 1.8 x 0.6
Min./max. ambient temperature	[°C]	5/60	5/60
Cleanroom class ISO 14644-1:2015		5	5
Repeat accuracy	[°]	0.05	0.05
Diameter of center bore	[mm]	14.1	14.1
Max. permissible mass moment of inertia	[kgm²]	0.054	0.054
Dimensions X x Y x Z	[mm]	220 x 68.5 x 44.5	220 x 68.5 x 44.5



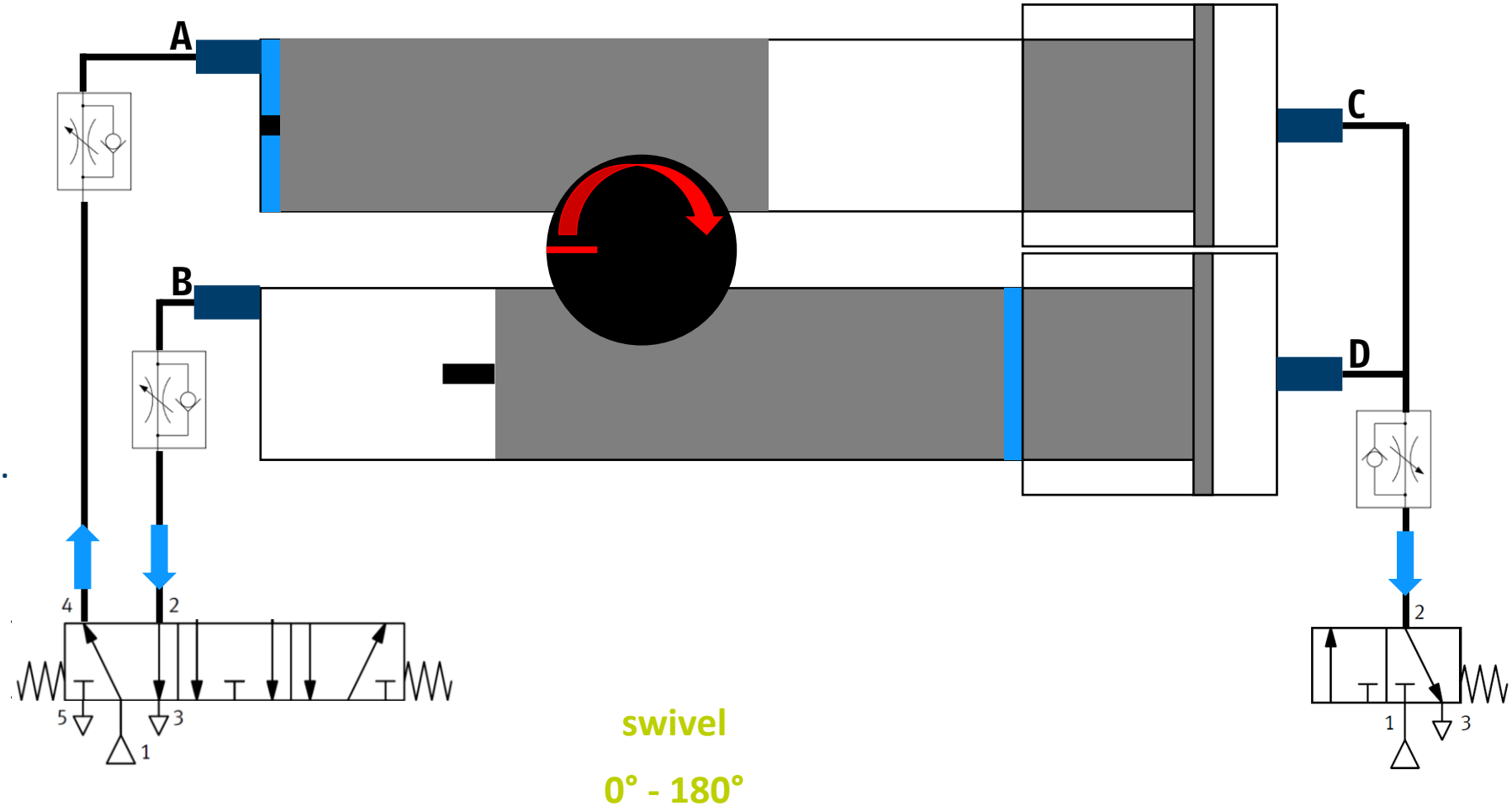


**Detailed explanation:
Different torque
specifications**

Pneumatic center position [-M]



Pneumatic center position [-M]

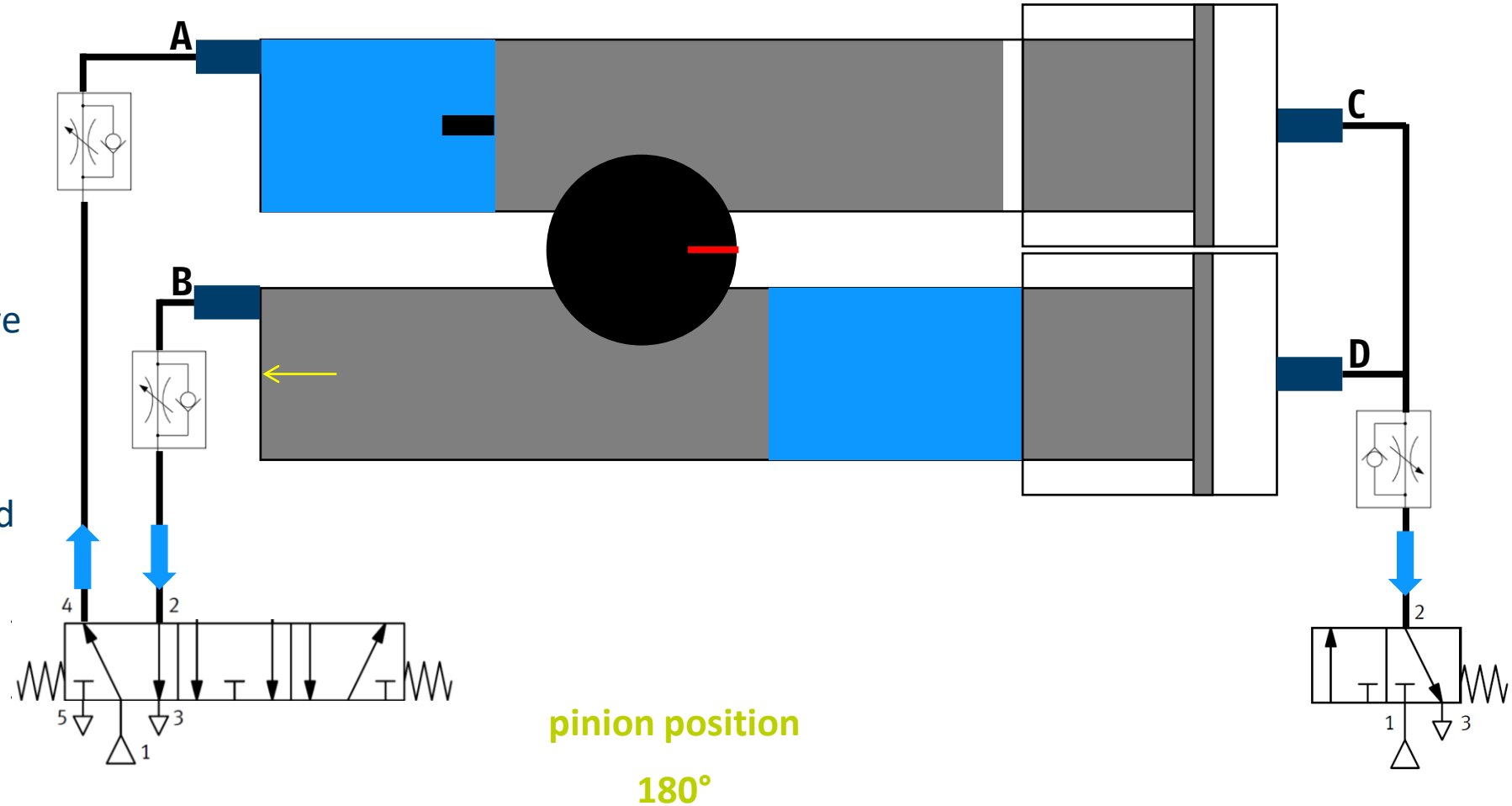


full torque when moving to the end position, both drive pistons are engaged ($2 \times 1,8 \text{ Nm} = 3,6 \text{ Nm}$).

Pneumatic center position [-M]



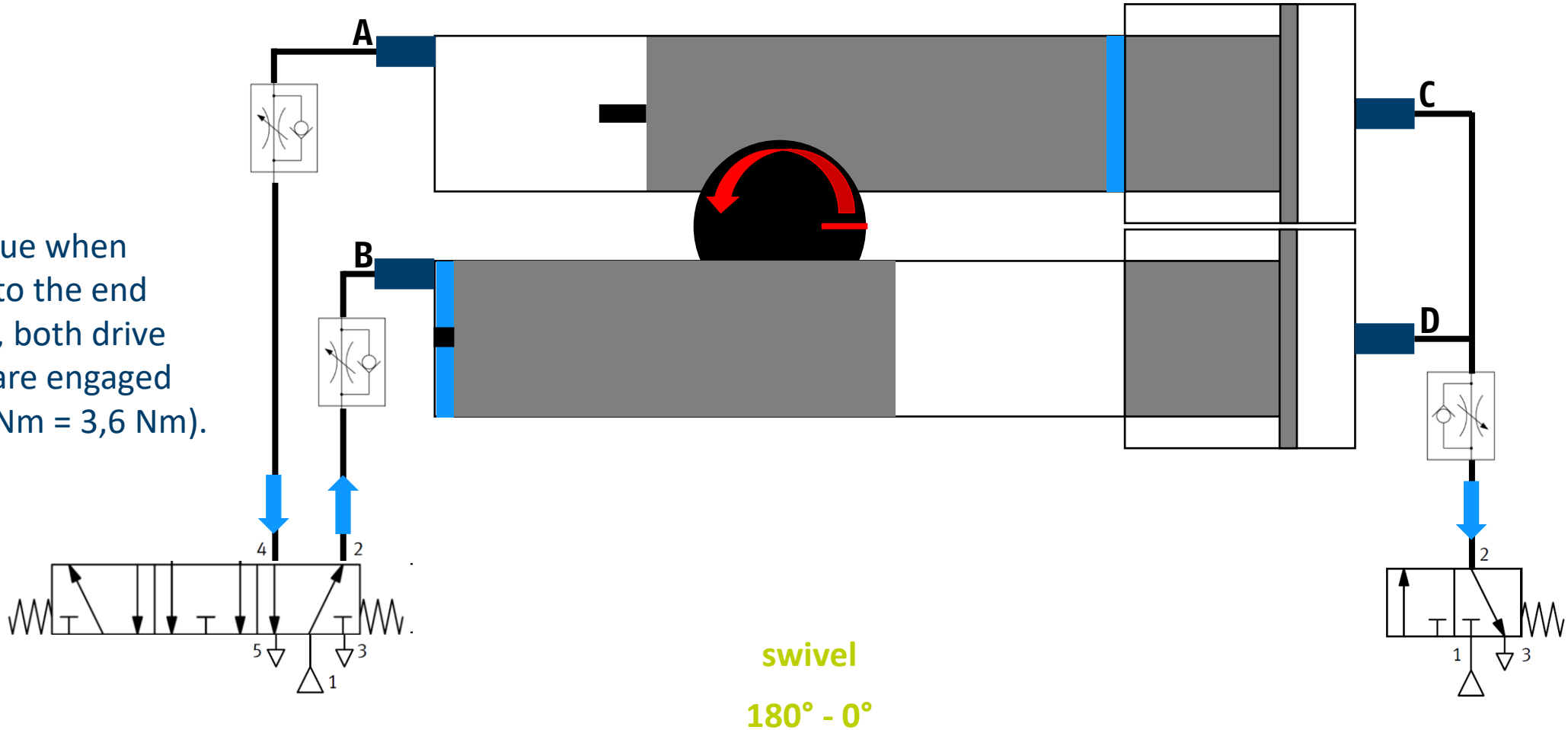
Half the torque in the end position, one drive piston brings the torque up to ($1 \times 1.8 \text{ Nm} = 1.8 \text{ Nm}$). The other one sets the end position.



Pneumatic center position [-M]



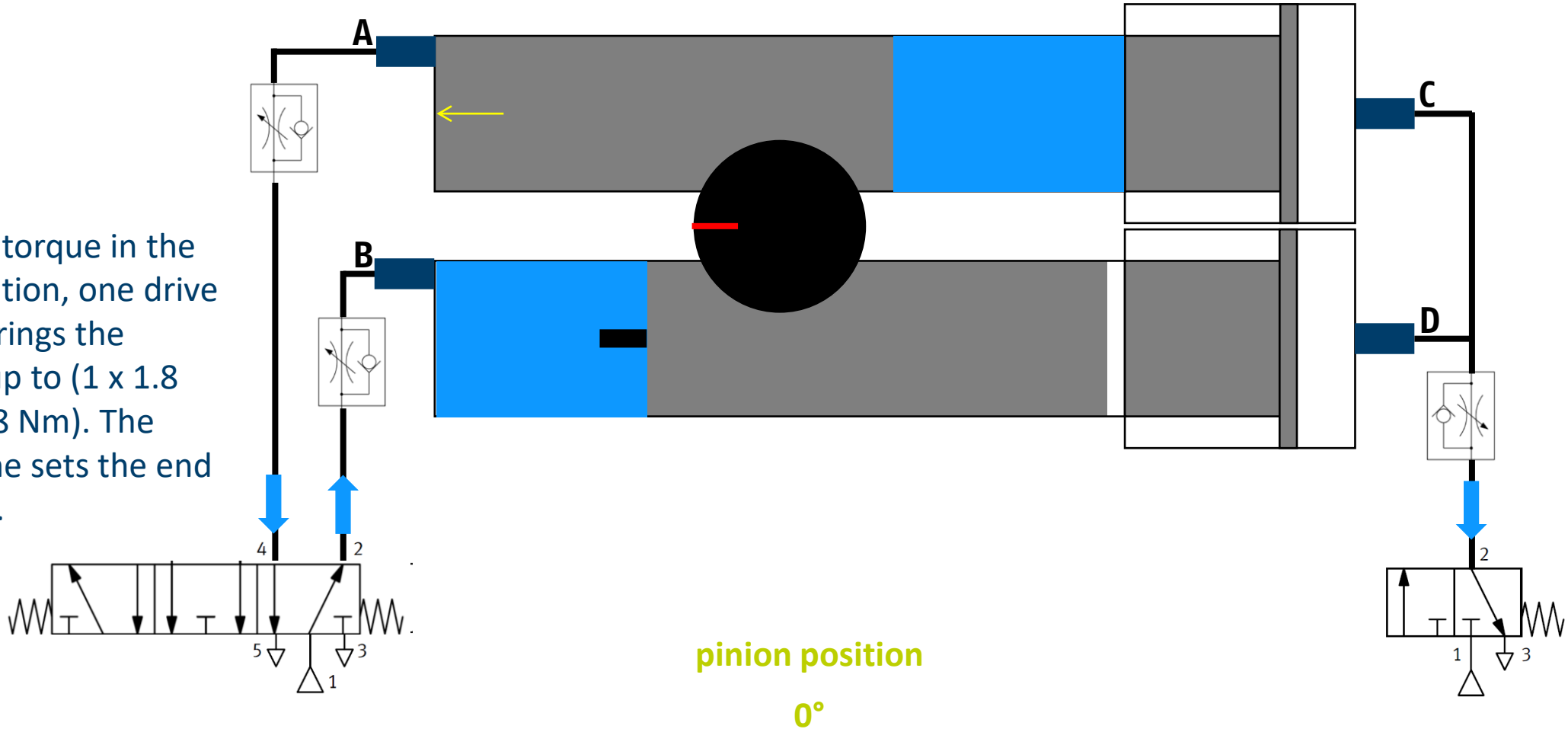
Full torque when moving to the end position, both drive pistons are engaged ($2 \times 1,8 \text{ Nm} = 3,6 \text{ Nm}$).



Pneumatic center position [-M]



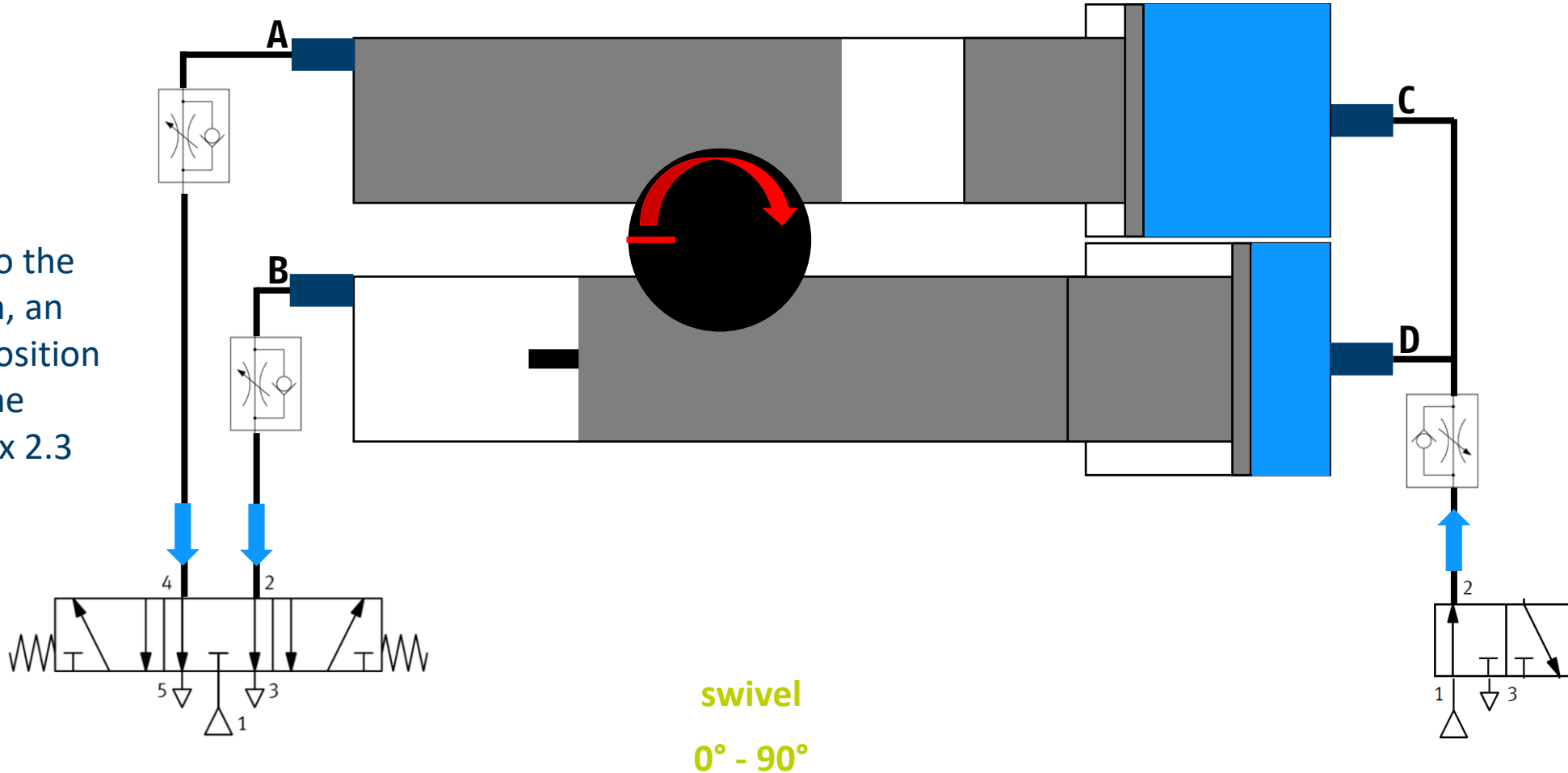
Half the torque in the end position, one drive piston brings the torque up to ($1 \times 1.8 \text{ Nm} = 1.8 \text{ Nm}$). The other one sets the end position.



Pneumatic center position [-M]



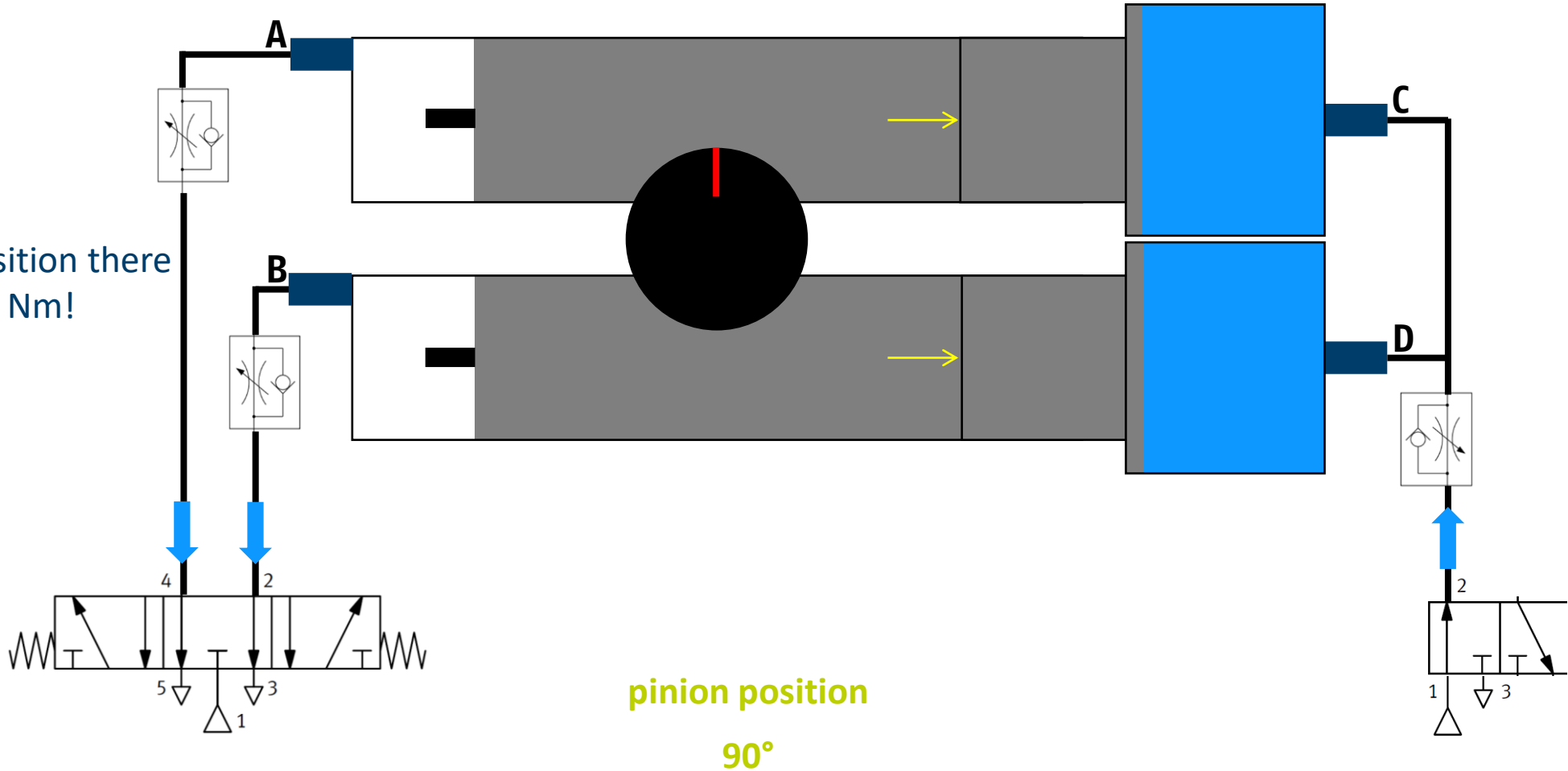
When driving to the middle position, an intermediate position piston brings the torque up to $(1 \times 2.3 \text{ Nm} = 2.3 \text{ Nm})$.



Pneumatic center position [-M]



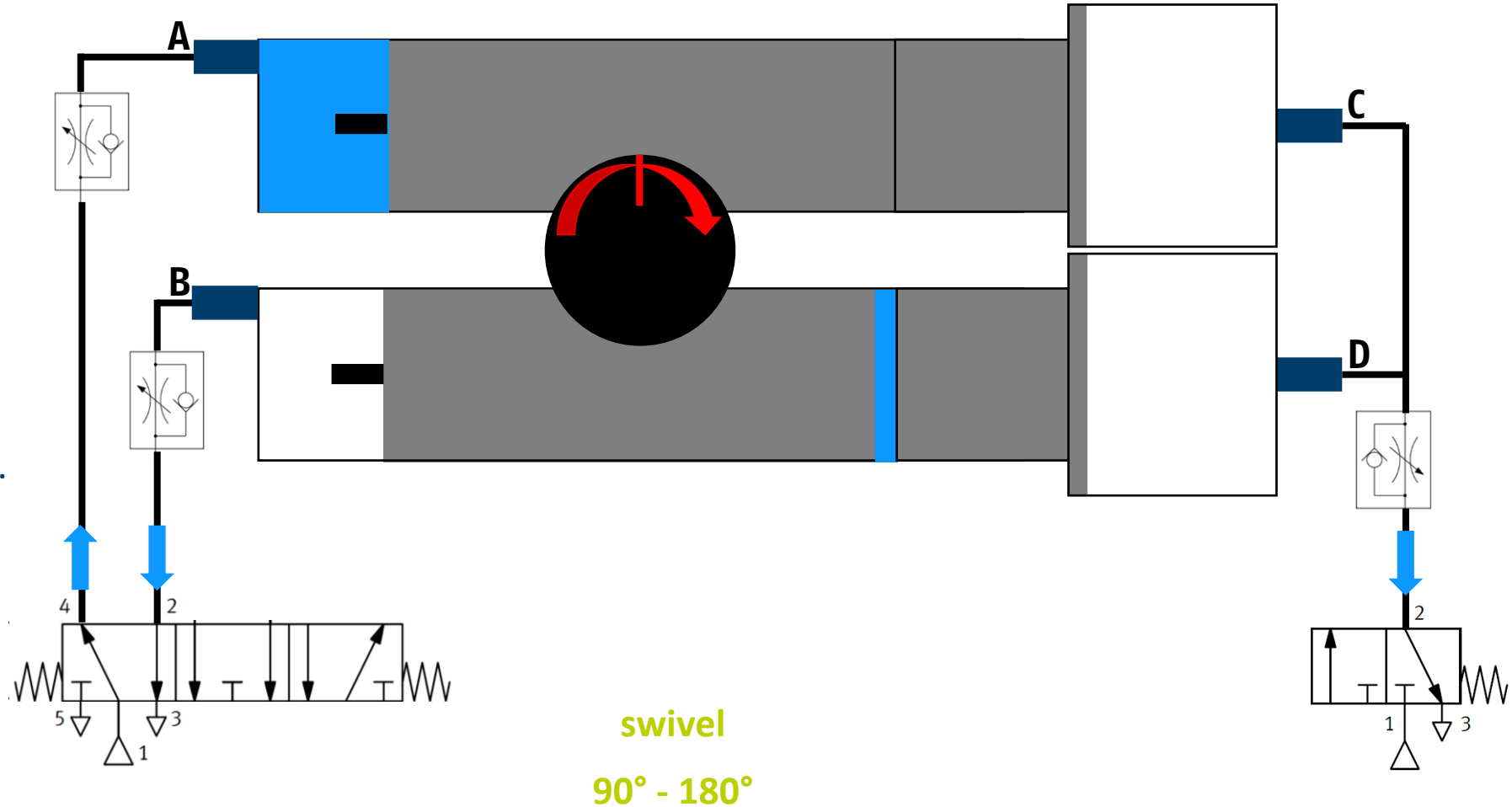
In the middle position there is a torque of 2.3 Nm!



Pneumatic center position [-M]



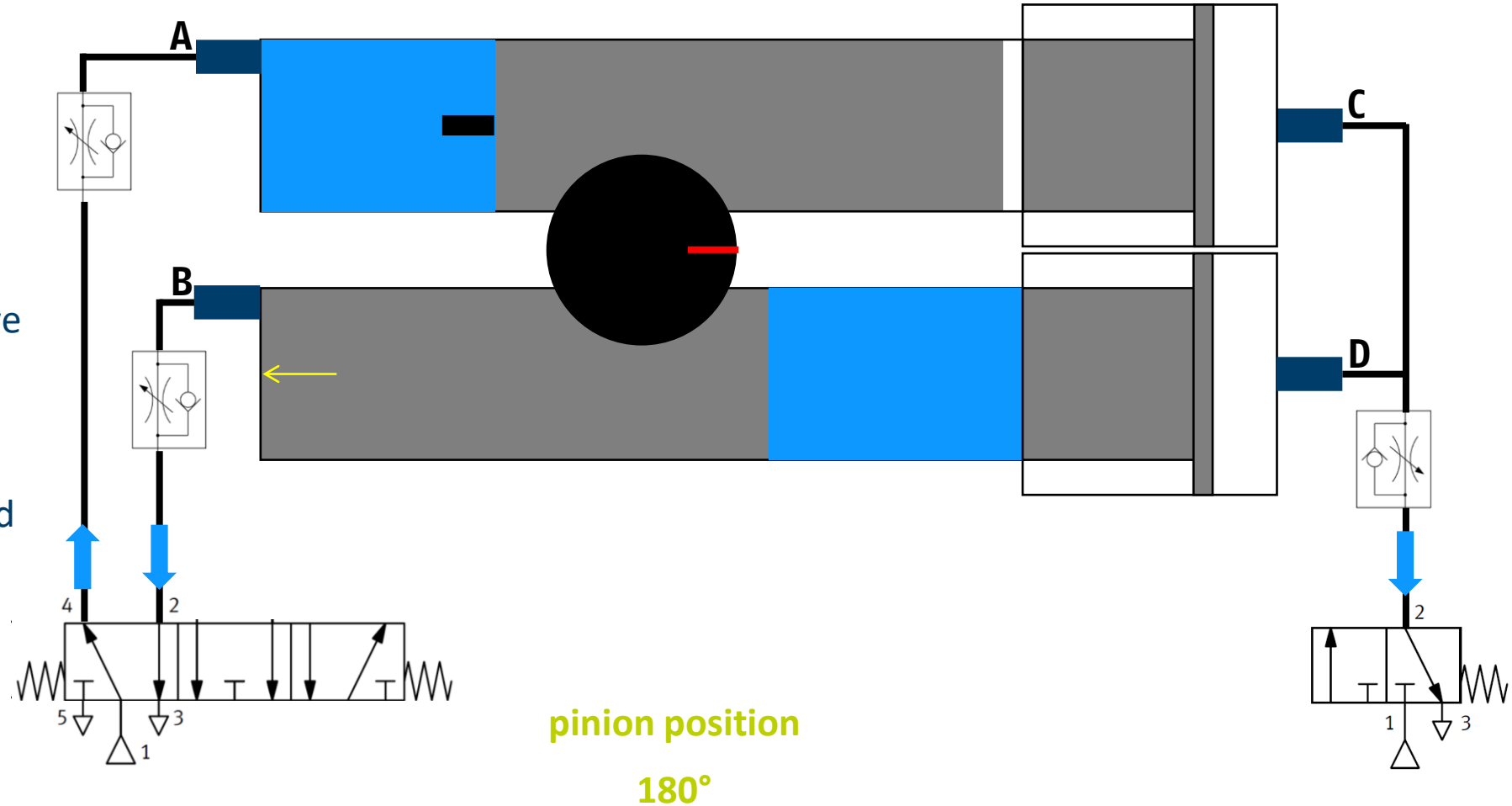
Full torque when moving to the end position, both drive pistons are engaged ($2 \times 1,8 \text{ Nm} = 3,6 \text{ Nm}$).

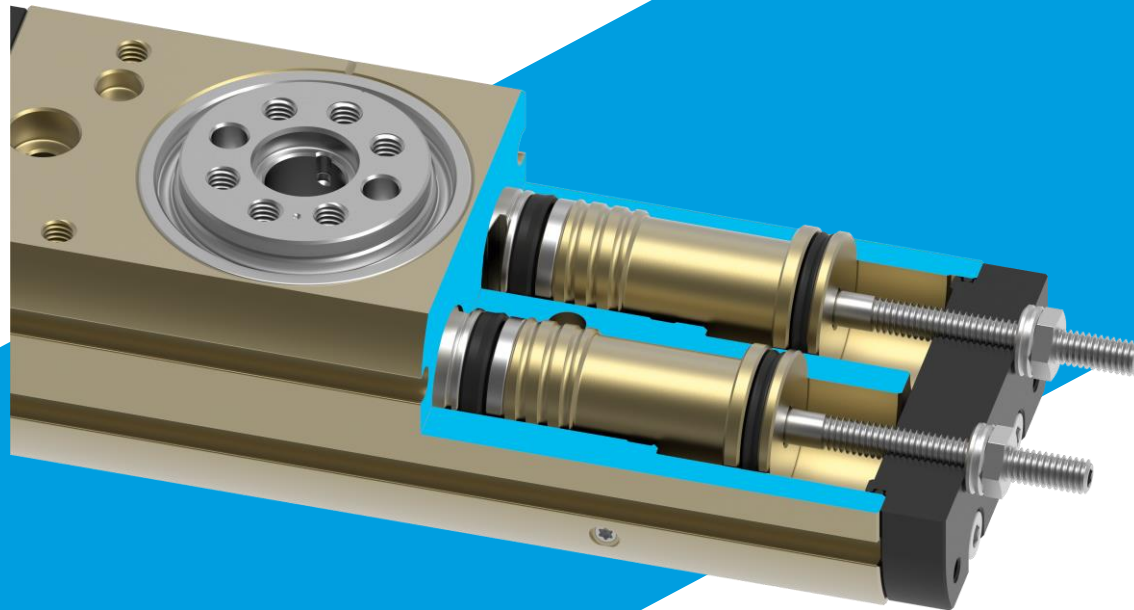


Pneumatic center position [-M]



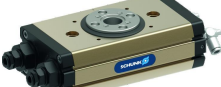
Half the torque in the end position, one drive piston brings the torque up to ($1 \times 1.8 \text{ Nm} = 1.8 \text{ Nm}$). The other one sets the end position.





**Detailed explanation:
Different torque
specifications**

Media feed through

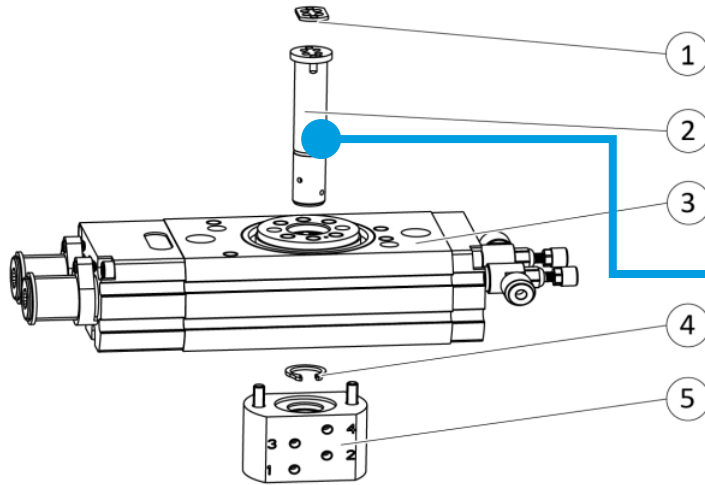
		options						
size		ELE	M	MDF	EDF	MDF+EDF	SI/SF	MMS
	10	included in basic version		bottom side				
	12	included in basic version		bottom side				
	14	included in basic version		bottom side				
	16			bottom side				
	20			top side				
	25			top side				
	32			top side				
	40			top side				

Media feed through

design

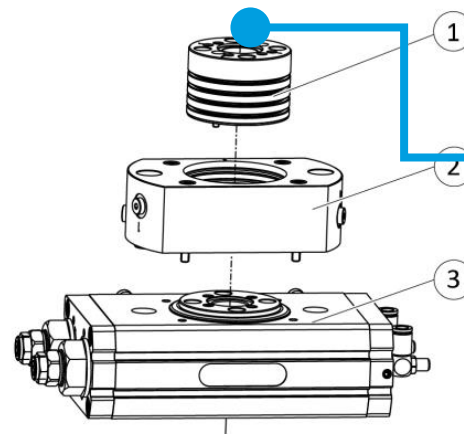
On sizes **10, 12, 14** and **16**, the media feed-through option is routed through the centre hole, concealing it.

For the sizes SRM **20, 25, 32** and **40**, the large centre bore is completely retained even with the media feed-through option.



size 10-16
→ „bottom side“

Centre bore not applicable



size 20-40
→ „top side“

Centre bore remains

Media feed through

Benefit

The SRM swivel unit can optionally be equipped with a media feed-through, which enables the process-safe feed-through of compressed air, gases or vacuum.

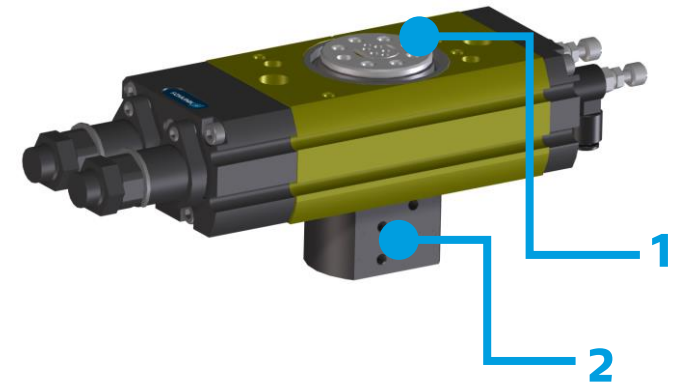
1 Connection for swivel assembly with fluid feedthroughs

2 Connection of fluid feedthroughs fixed part

2P = 2 pneumatic feed-throughs (for size 10)

4P = 4 pneumatic feed-throughs (for size 12-40)

size 10-16 → „bottom side“



size 20-40 → „top side“



electrical feed-through [16-40]

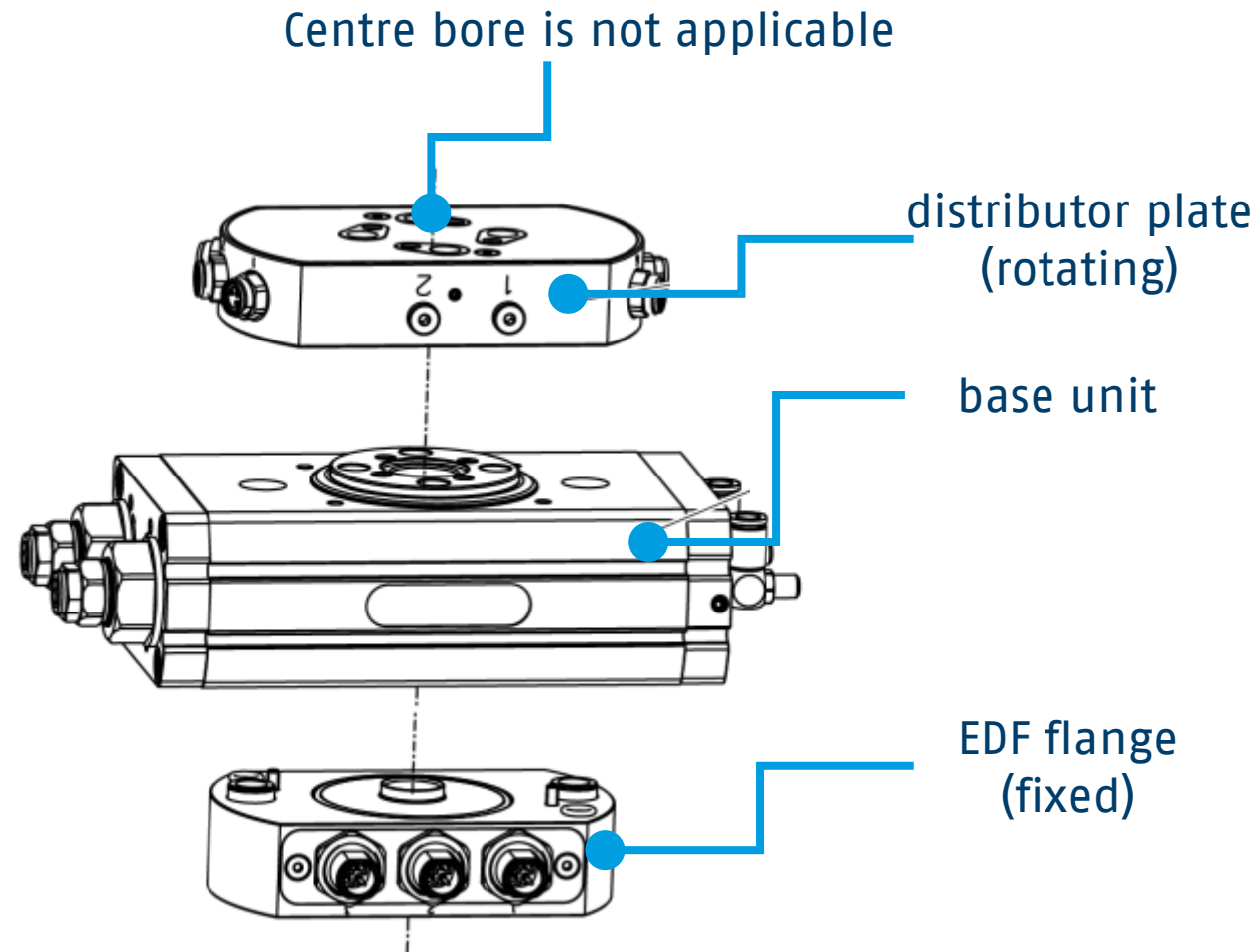
		options						
size		ELE	M	MDF	EDF	MDF+EDF	SI/SF	MMS
	10	included in basic version		bottom side				
	12	included in basic version		bottom side				
	14	included in basic version		bottom side				
	16			bottom side				
	20			top side				
	25			top side				
	32			top side				
	40			top side				

electrical feed-through [16-40]

design

reliable implementation of electrical signals

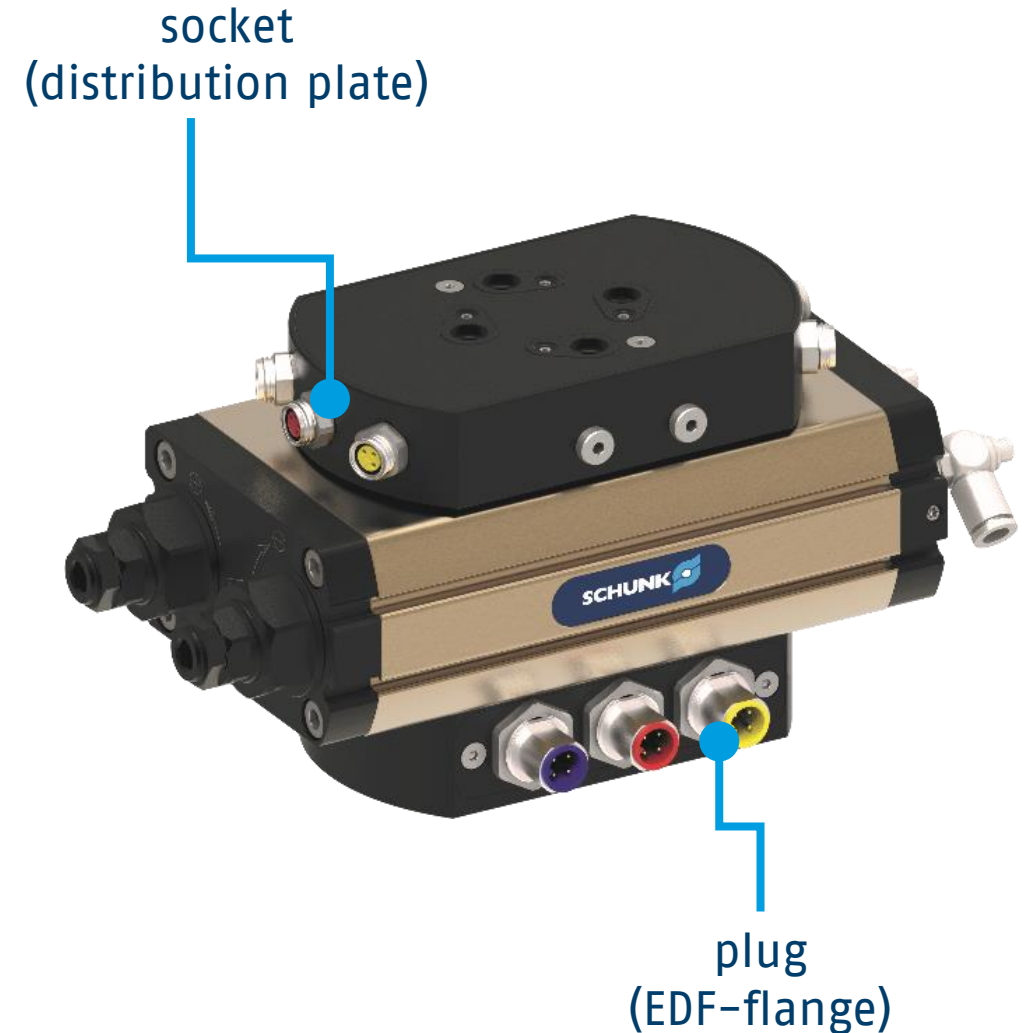
- **Wiring** of the electrical feed-through in the centre bore (no sliding contacts or similar).
- Therefore, the centre hole is not available with the EDF option.



electrical feed-through [16-40]

- ✓ standardised M8/M12 connectors
- ✓ 3-pole / 4-pole
- ✓ colour coded for simplified commissioning

size	number of plugs	socket (distribution plate)	plug (EDF-flange)	number of wires	number of signals
16	6E	4x M8/3-Pol 2x M8/4-Pol	4x M8/3-Pol 2x M8/4-Pol	20	8
20	6E	4x M8/3-Pol 2x M8/4-Pol	6x M12/4-Pol	20	8
25	6E	4x M8/3-Pol 2x M8/4-Pol	6x M12/4-Pol	20	8
32	6E	4x M8/3-Pol 2x M8/4-Pol	6x M12/4-Pol	20	8
40	10E	4x M8/3-Pol 2x M8/4-Pol 4x M12/4-Pol	10x M12/4-Pol	36	16



Kombination MDF+EDF

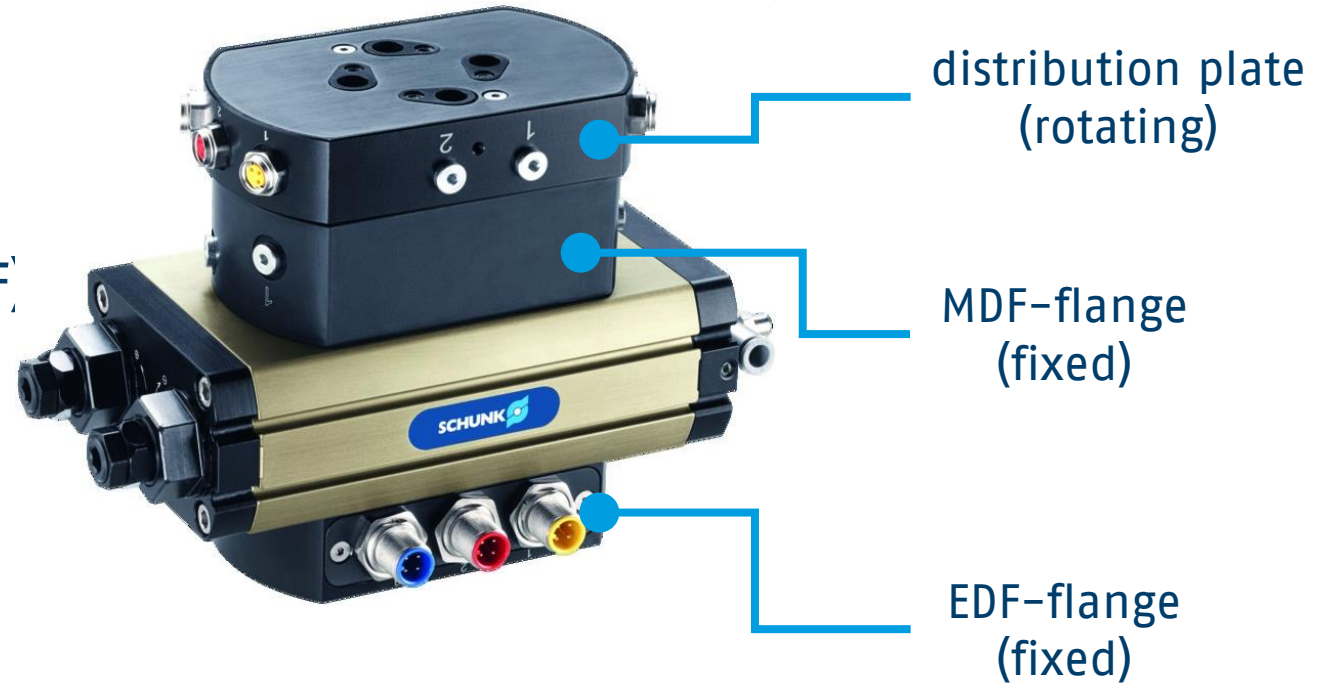
		options						
size		ELE	M	MDF	EDF	MDF+EDF	SI/SF	MMS
	10	included in basic version		bottom side				
	12	included in basic version		bottom side				
	14	included in basic version		bottom side				
	16			bottom side				
	20			top side				
	25			top side				
	32			top side				
	40			top side				

combination MDF+EDF [20-40]

Reliable implementation of

- Electrical signals (EDF) and
- Compressed air, gases or vacuum (MDF)

→ SRM 20-40 (not for SRM 16)



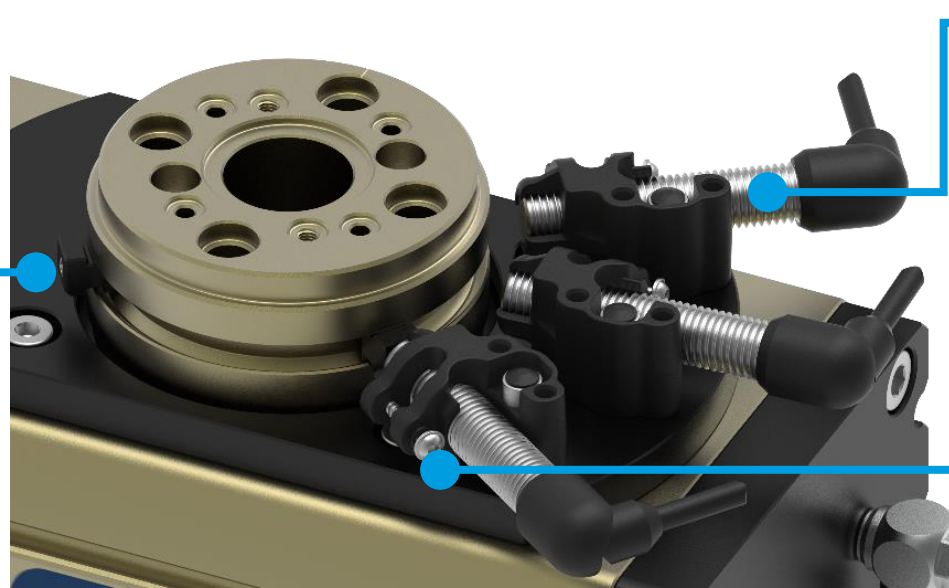
Inductive sensors

		options						
size		ELE	M	MDF	EDF	MDF+EDF	SI/SF	MMS
	10	included in basic version		bottom side				
	12	included in basic version		bottom side				
	14	included in basic version		bottom side				
	16			bottom side				
	20			top side				
	25			top side				
	32			top side				
	40			top side				

Inductive sensors

option SI

Monitoring via inductive proximity switches and **adjustable** switching cam

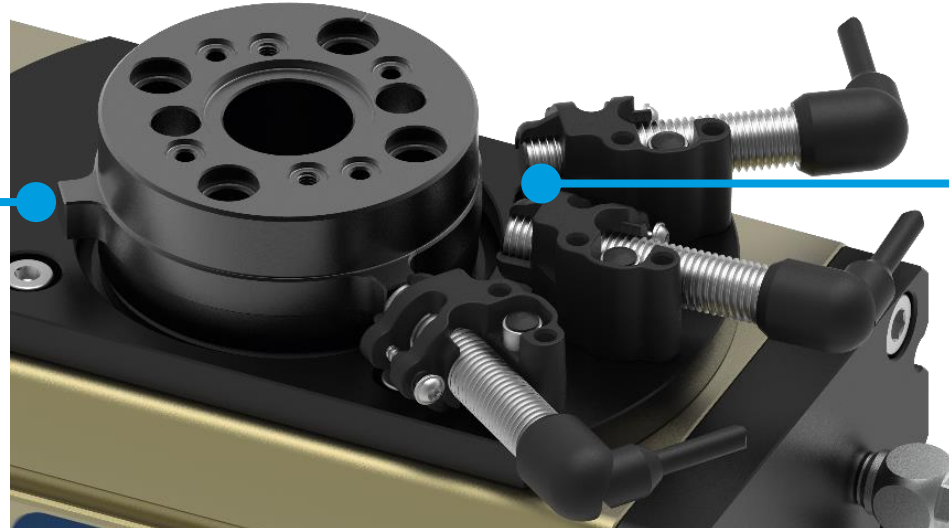


IN 80

Clamping of the sensors from the side, thus also **sensor exchange in installed state possible**

option SF

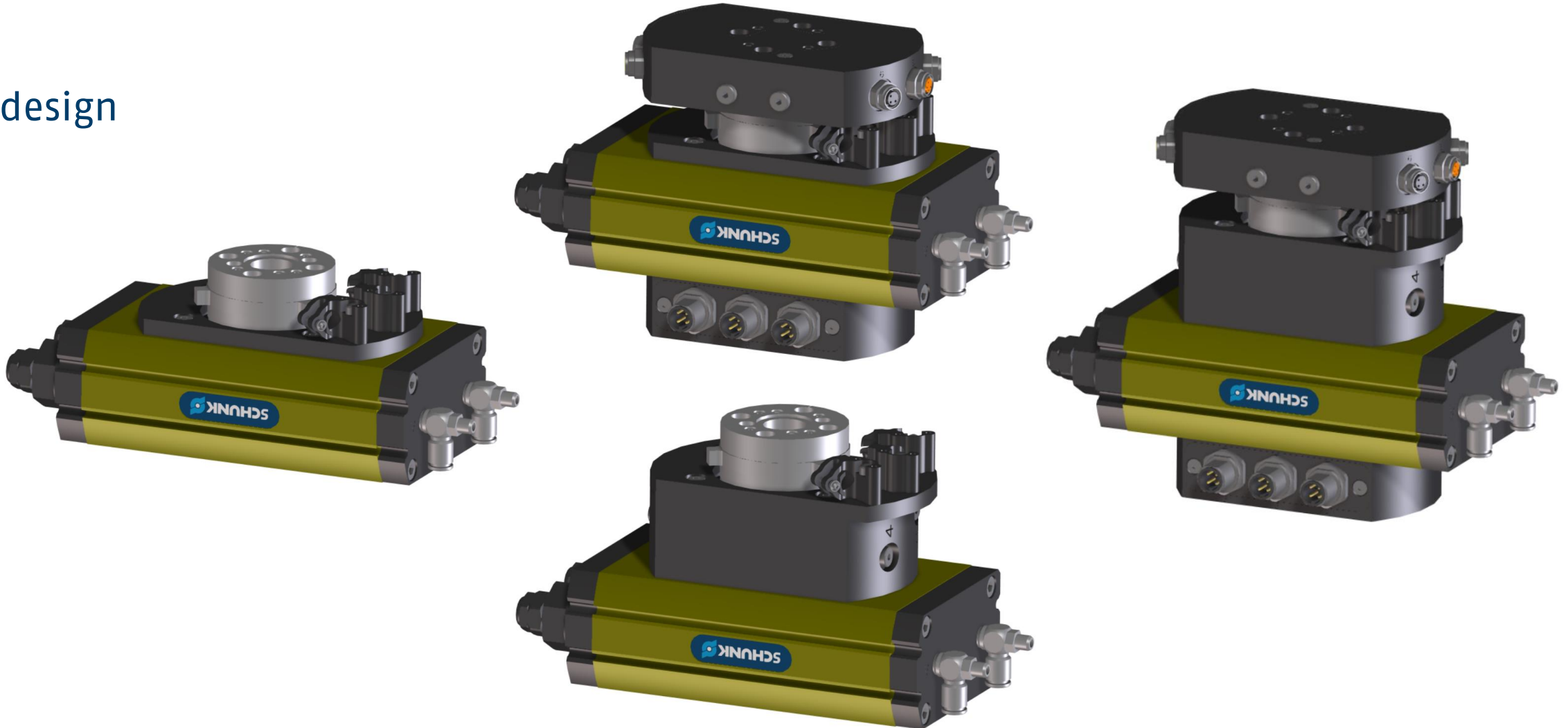
Monitoring via inductive proximity switches and **fixed** switching cam



Sensor is **pluggable to the stop**

Inductive sensors

design



Magnetic sensors

		options						
size		ELE	M	MDF	EDF	MDF+EDF	SI/SF	MMS
	10	included in basic version		bottom side				
	12	included in basic version		bottom side				
	14	included in basic version		bottom side				
	16			bottom side				
	20			top side				
	25			top side				
	32			top side				
	40			top side				

Magnetic sensors

MMS 22 (size 10-40)
MMS 22-Pl1 (size 16-40)

4 C-slots for mounting
magnetic sensors
(2 in front, 2 in the back)



Customer benefits and USPs

Universal swivel unit SRM



SRM – The benchmark



robust and durable

High load and torque absorption due to the backlash-free preloaded bearing of the pinion

Robust and large flange screw pattern for higher forces and torques with compact design



High-quality FKM seals with high resistance and durability

highest performance

high power density
with compact design
(torque/volume)

one series
from small to large



special shock absorbers
for higher mass moments
of inertia with shorter
swivel times

higher torque
due to larger pinion
pitch circle

easy setup/maintenance

shock absorber change
without adjustment of
the end position

large centre bore

for easy feed-through of
pneumatic supply lines and
standard electric cables

spare part kits

preset shock absorber stroke
for fast setup

coloured coding of the EDF
connectors simplifies signal
assignment



Life Science

low barrier to entry into
the fields of: MedDevices,
MedTech, Lab Automation
and Pharma





Hand in hand for tomorrow