



The **RUFLEX® torque limiter** is an overload system which operates as frictionally engaged connection. It protects the following components in the drive lane against destruction.

General Hints

Please read through these mounting instructions carefully before you set the torque limiter into operation. Please pay special attention to the safety instructions!
The mounting instructions are part of your product. Please keep them carefully and close to the torque limiter.
The copyright for these mounting instructions remains with **KTR Kupplungstechnik GmbH**.

Safety and Advice Hints



DANGER! Danger of injury to persons.



CAUTION! Damages on the machine possible.



ATTENTION! Pointing to important items.

General Hints to Danger



DANGER!
With assembly, operation and maintenance of the torque limiter it has to be made sure that the entire drive train is secured against unintentional engagement. You can be seriously hurt by rotating parts. Please make absolutely sure to read through and observe the following safety instructions.

- All operations on and with the torque limiter have to be performed taking into account "safety first".
- Please make sure to disengage the drive unit and the power packs in service before you perform your work.
- Secure the drive unit against unintentional engagement, e. g. by providing hints at the place of engagement or removing the fuse for current supply.
- Do not touch the operation area of the torque limiter as long as it is in operation.
- Please secure the torque limiter against unintentional touch. Please arrange for the corresponding protection devices and caps.

Proper Use

You may only assemble, operate and maintain the torque limiter if you

- carefully read through the mounting instructions and understood them
- had technical training
- are authorized to do so by your company

The torque limiter may only be used in accordance with the technical data (see **RUFLEX®**- catalogue). Unauthorized modifications on the torque limiter design are not admissible. We do not take any warranty for resulting damages. To further develop the product we reserve the right for technical modifications.

The **RUFLEX®** described in here corresponds to the technical status at the time of printing of these mounting instructions.

Schutzvermerk ISO 16016 beachten.	Gezeichnet: 24.05.11 Pz/Koh	Ersatz für: KTR-N vom 25.08.09
	Geprüft: 24.05.11 Pz	Ersetzt durch:

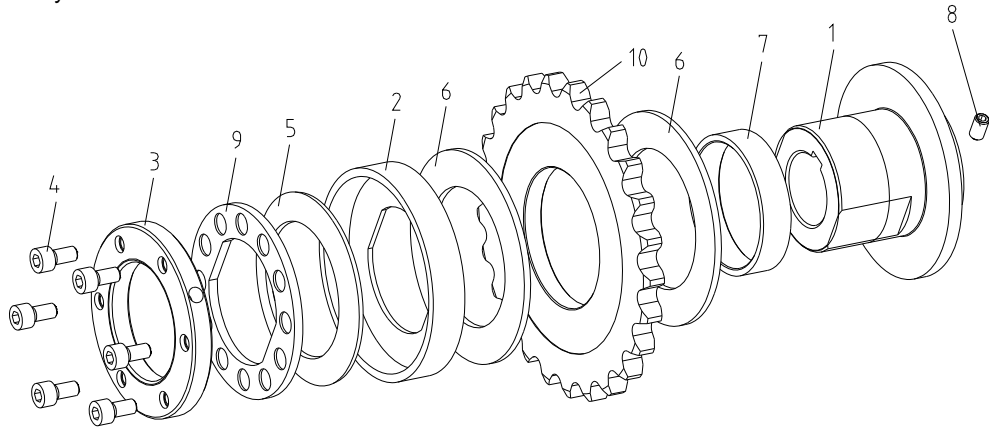


The RUFLEX® torque limiter is delivered in assembled condition.

Components RUFLEX® Torque Limiter Size 00 - 5

Component	Quantity	Designation	Component	Quantity	Designation
1	1	Hub	6	2	Friction lining
2	1	Pressure ring	7	1	Slide bush
3	1	Setting nut	8	1	Set screw
4	6*	Torque adjusting screws	9	1	Safety disk
5	see table 3	Disk spring	10	1	Driving component (e. g. sprocket)

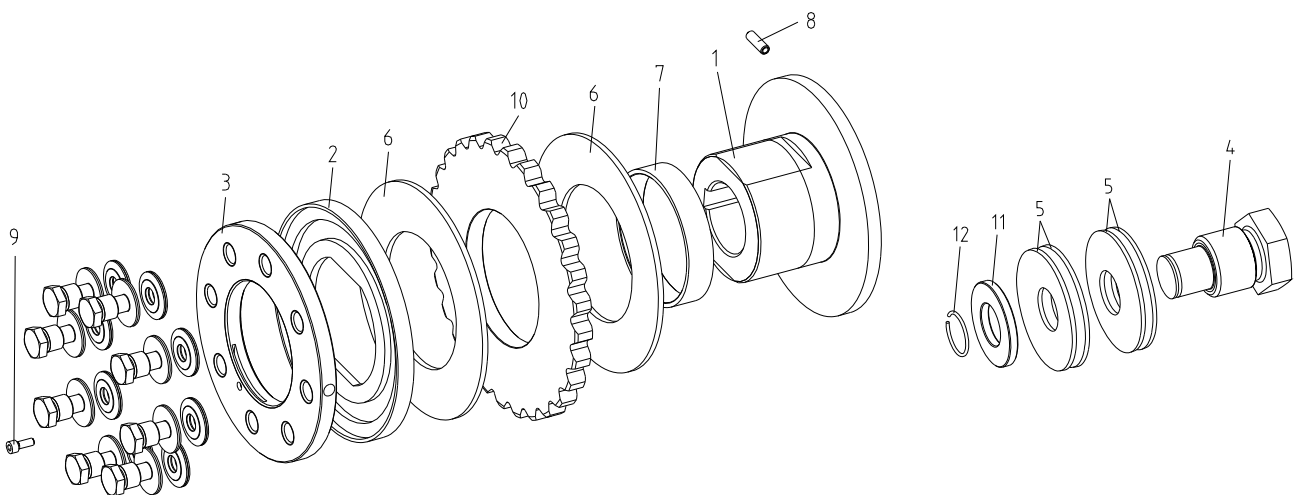
* with size 00 quantity = 3



picture 1: RUFLEX® size 00 - 5

Components RUFLEX® Torque Limiter Size 6 - 8

Component	Quantity	Designation	Component	Quantity	Designation
1	1	Hub	7	1	Slide bush
2	1	Pressure ring	8	1	Set screw
3	1	Setting nut	9	1	Cap screw DIN EN ISO 4762
4	see table 1	Disk spring adjusting screws	10	1	Driving component (e. g. sprocket)
5	see table 3	Disk spring	11	see table 1	Disk DIN 1440
6	2	Friction lining	12	see table 1	Spring ring DIN 7993



picture 2: RUFLEX® size 6 - 8

Table 1:

RUFLEX® size	6	7	8
Number of disk spring adjusting screws	8	12	16
Number of disks	8	12	16
Number of spring rings	8	12	16

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General Hints of Assembly

- Please make sure that the **RUFLEX® torque limiter** is in a technically excellent condition.
- Clean the sliding surfaces of the hub, the driving component, the pressure disk and the friction linings concerning dirt, oil and grease.
- Protect the torque limiter against any axial displacement on the shaft by a grub screw DIN EN ISO 4029 with toothed cup point or end disk.



CAUTION!

Dirty sliding surfaces affect the function of the torque limiter.

Centering Slide Bush

- Check the width of the centering slide bush.

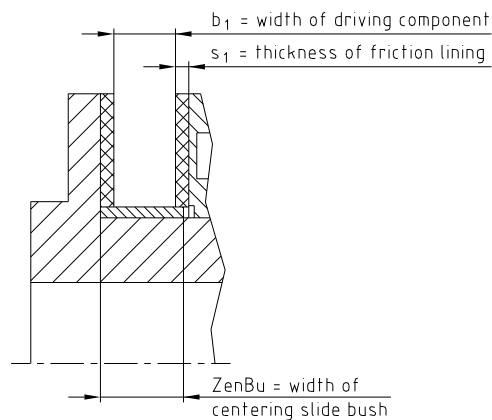
$$\text{ZenBu} = 1,5 \times s_1 + b_1$$

Example:

RUFLEX® torque limiter size 1
Width of driving component e. g. $b_1 = 8 \text{ mm}$
Width of friction lining $s_1 = 3 \text{ mm}$

$$1,5 \times 3 + 8 = \underline{12,5 \text{ mm}}$$

ZenBu = If you do not indicate the width of the driving component when placing your order, the centering slide bush is delivered in max. length.



picture 3: centering slide bush



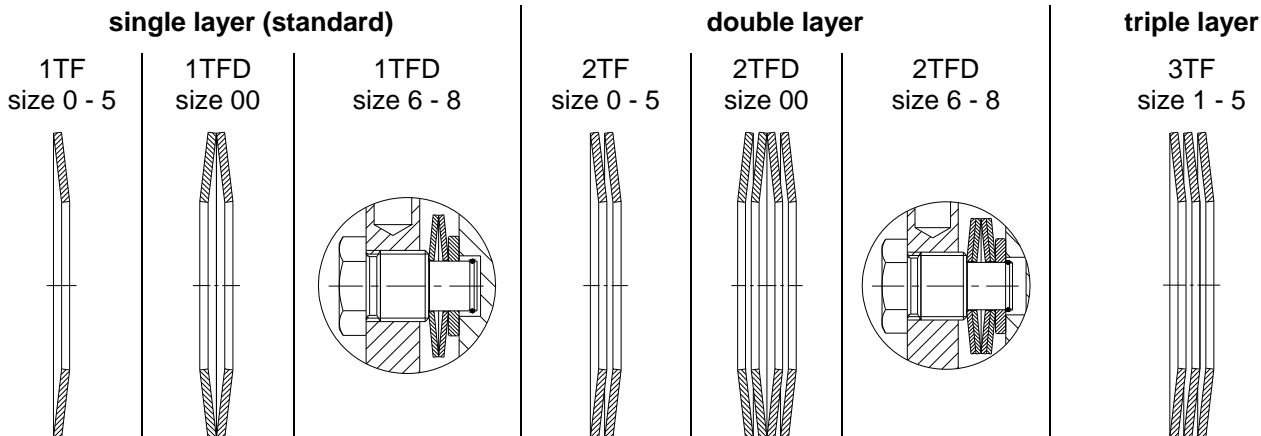
CAUTION!

If you do not observe the stipulated width of the centering slide bush, the function of the torque limiter is not guaranteed.

Table 2:

RUFLEX® size	00	0	01	1	2	3	4	5	6	7	8
Max. width of the centering slide bush	4,2	10	13	15	17	21,5	24,5	28	31	33	33

Disk Spring Layer



picture 4: disk spring layers

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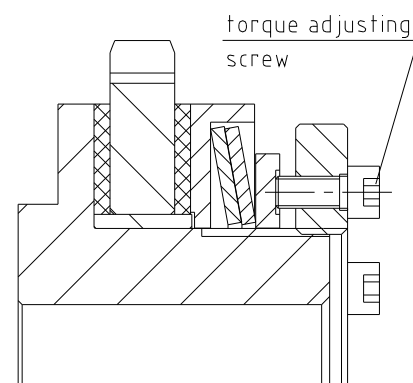


Disk Spring Layer

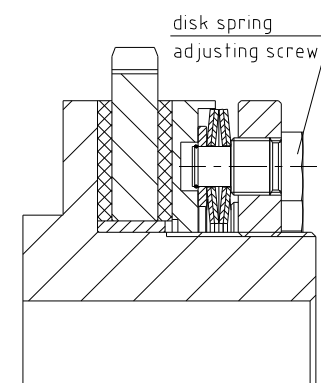
Table 3:

RUFLEX® size	00	0	01	1	2	3	4	5	6	7	8
Number of disk springs											
1TF	-	1	1	1	1	1	1	1	-	-	-
1TFD	2	-	-	-	-	-	-	-	16	24	32
2TF	-	2	2	2	2	2	2	2	-	-	-
2TFD	4	-	-	-	-	-	-	-	32	48	64
3TF	-	-	-	3	3	3	3	3	-	-	-

Torque Adjustment



picture 5: torque adjustment



RUFLEX® size 00 - 5

1. Turn back the adjusting screws (until the complete shaft of the screw is in the setting nut).
2. Manually tighten the setting nut until the stop.
3. Now screw in the adjusting screws completely for max. torque setting.
4. For a lower torque setting, please unscrew the setting nut before step 3 acc. to the diagrams of adjustment (see diagrams 1 to 8) by the indicated setting angle. Afterwards, screw in the adjusting screws completely (tightening torque T_A see table 4).

RUFLEX® size 6 - 8

1. Turn back the adjusting screws until the disk springs are situated at the internal side of the nut.
2. Manually tighten the setting nut until the stop.
3. Now screw in the adjusting screws completely for max. torque setting.
4. For a lower torque setting, please unscrew the setting nut before step 3 acc. to the diagrams of adjustment (see diagrams 9 - 11) by the indicated setting angle. Afterwards, screw in the adjusting screws completely (tightening torque T_A see table 4).



CAUTION!

The torque settings indicated in the diagrams refer to the drive parts of steel or cast iron!

The height of the slipping torque set depends on several factors and may vary considerably. That is why we would recommend to inspect the slipping torque of the coupling set by means of suitable devices.

During the running-in period (adaptation to the friction partner) and subject to environmental influences, operating conditions or wear, higher deviations may arise during the operation.



Diagrams of Adjustment

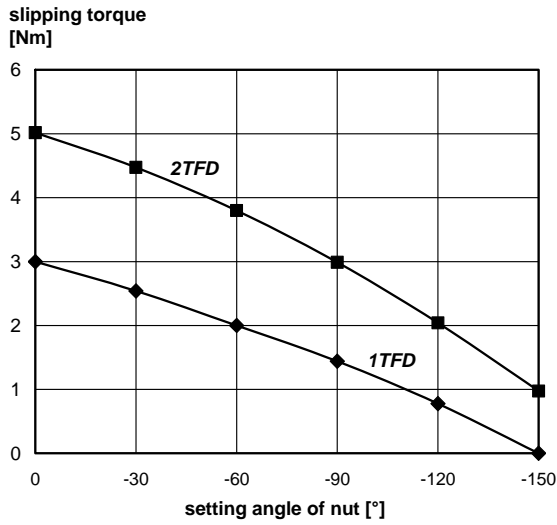


diagram 1: RUFLEX® size 00

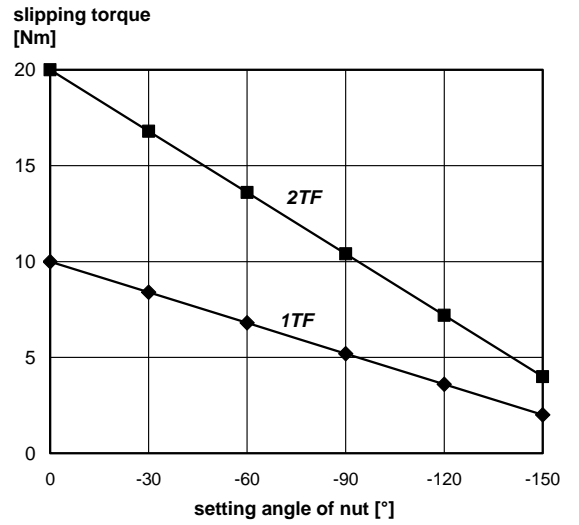


diagram 2: RUFLEX® size 0

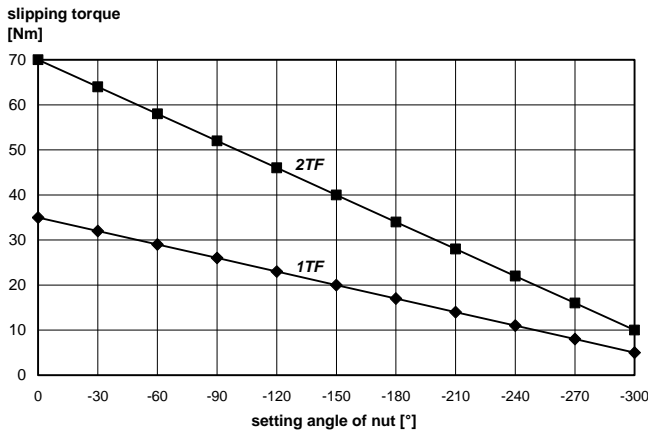


diagram 3: RUFLEX® size 01

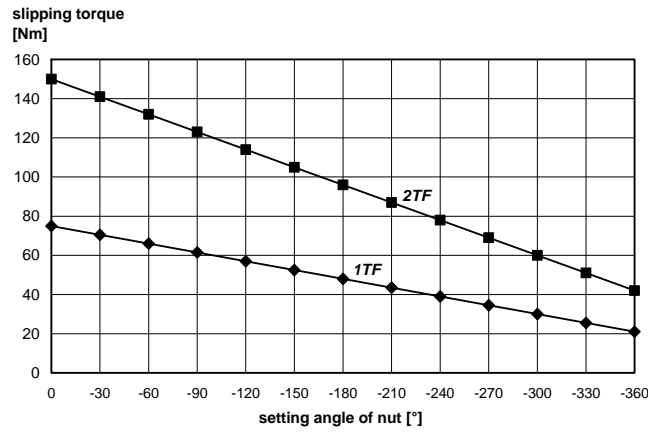


diagram 4: RUFLEX® size 1

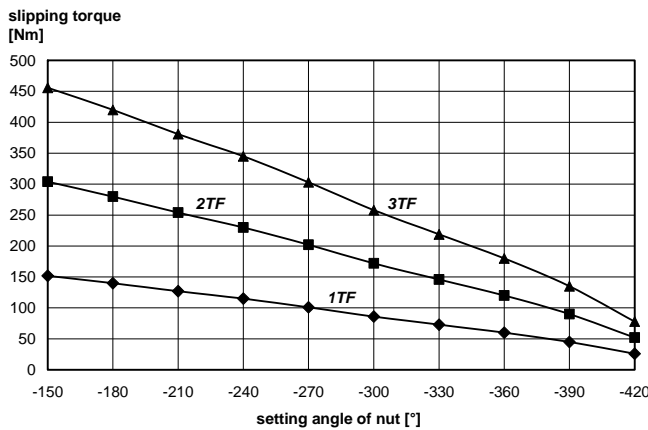


diagram 5: RUFLEX® size 2

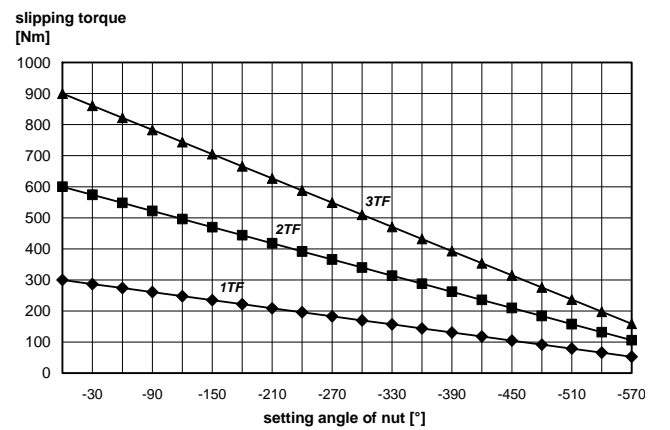


diagram 6: RUFLEX® size 3



Diagrams of Adjustment

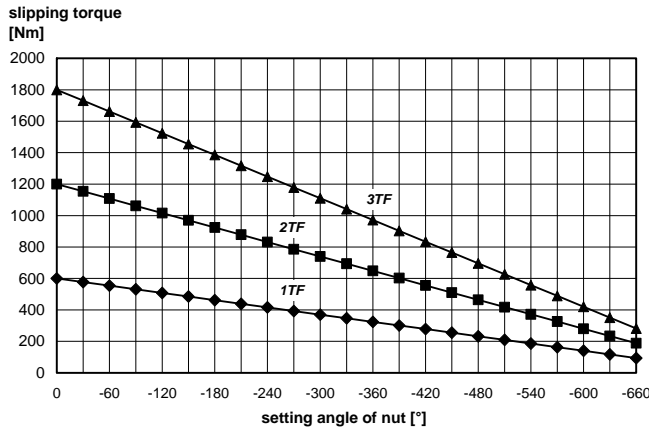


diagram 7: RUFLEX® size 4

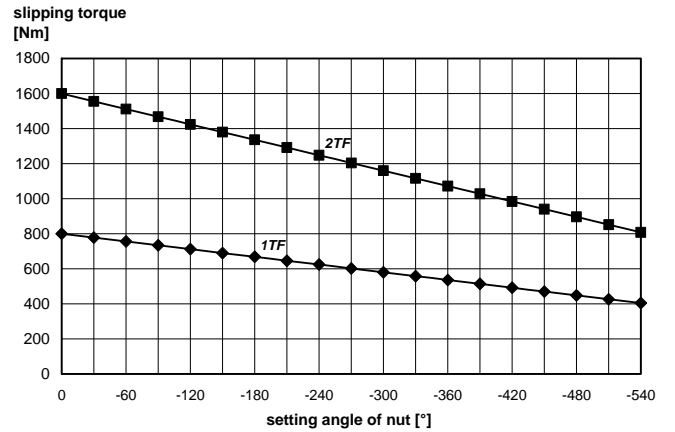


diagram 8: RUFLEX® size 5

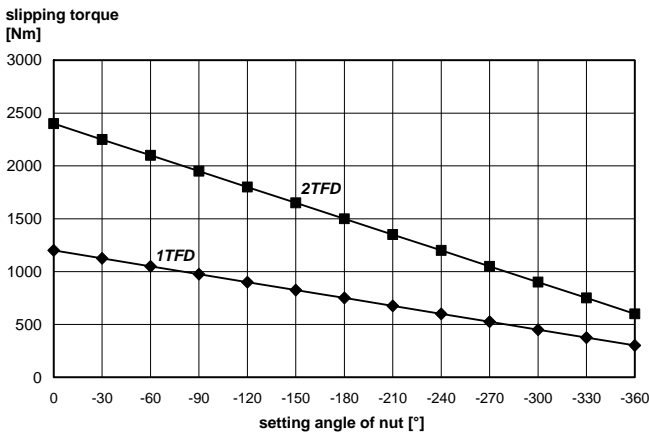


diagram 9: RUFLEX® size 6

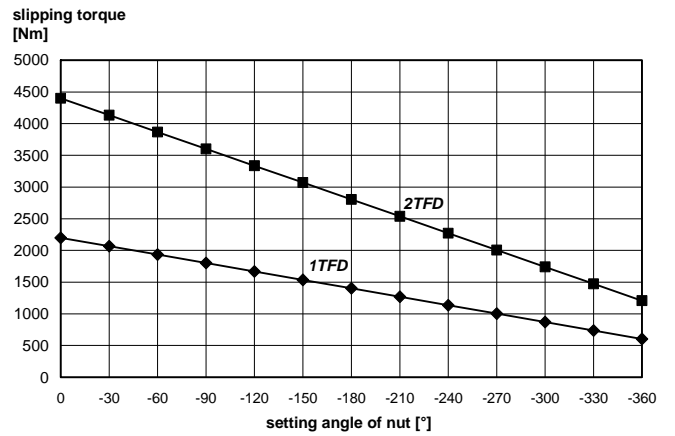


diagram 10: RUFLEX® size 7

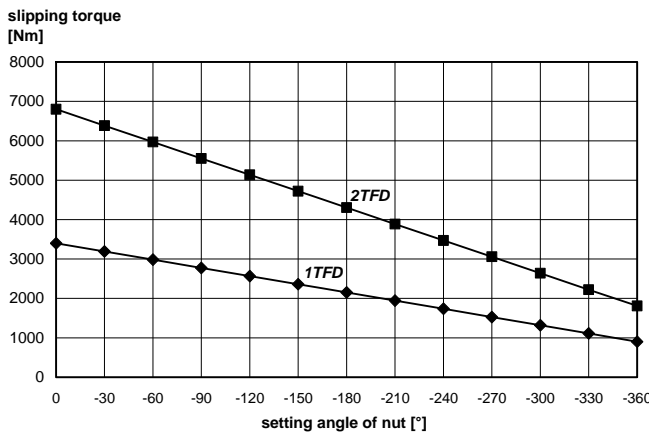
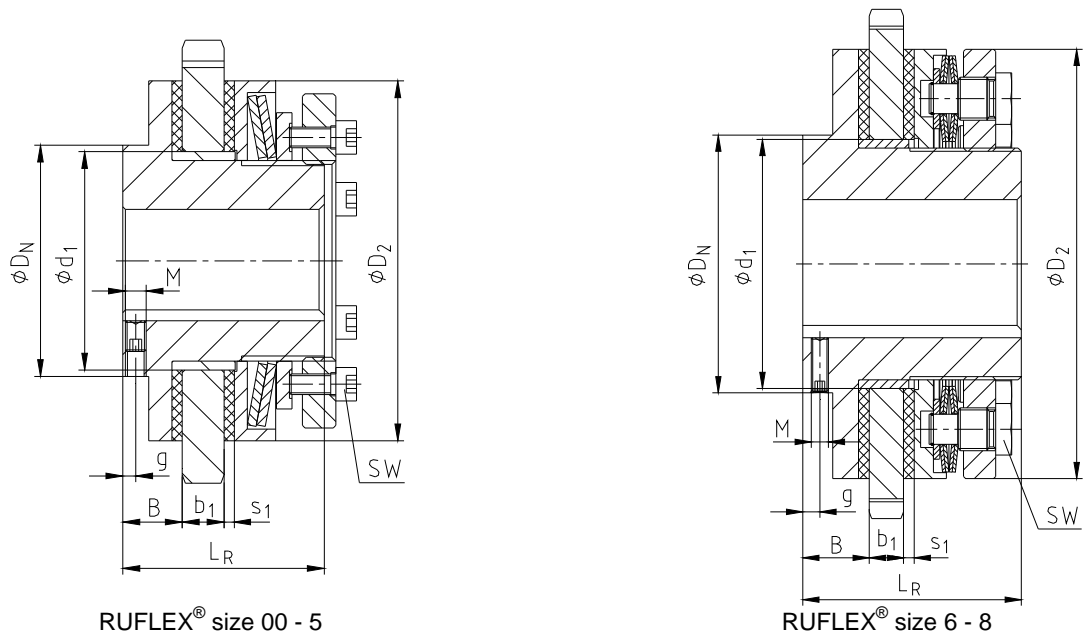


diagram 11: RUFLEX® size 8



Technical Data



picture 6: dimensions

Table 4:

RUFLEX® size		00	0	01	1	2	3	4	5	6	7	8
Dimensions												
Dimension b ₁	min.	2	2	3	3	4	5	6	8	8	8	8
	max.	6	6	8	10	12	15	18	20	23	25	25
Dimension B		9	8,5	16	17	19	21	23	29	31	33	35
Dimension d ₁		21 ¹⁾	35 ¹⁾	40 ¹⁾	44 ¹⁾	58 ¹⁾	72 ¹⁾	85 ¹⁾	98 ²⁾	116 ¹⁾	144 ²⁾	170 ²⁾
Dimension D ₂		30	45	58	68	88	115	140	170	200	240	285
Dimension D _N		30	45	40	45	58	75	90	102	120	150	180
Dimension L _R		31	33	45	52	57	68	78	92	102	113	115
Dimension s ₁		2,5	2,5	3	3	3	4	4	5	5	5	5
Technical data of the adjusting screws												
SW		3	3	3	4	5	6	6	6	24	24	24
T _A [Nm]		2,5	2,5	2,5	5	8,5	21	21	21	200	200	200
Threads for setscrews												
Dimension M		M4	M4	M5	M5	M6	M6	M8	M8	M8	M10	M10
Dimension g		3	3	4	6	6	6	6	8	8	8	8

- 1) d₁ dimensions manufactured with fit F8
- 2) d₁ dimensions manufactured with fit H8