

SAURER.



Gentle and smooth.

Temco Guide Rollers

Guide Rollers FR series.

The extremely smooth-running Temco Guide Rollers are suitable for all processes, where low-tension forces and gentle yarn guidance are required.

The portfolio of guide rollers guarantees smooth running for thread and tape guidance in textile and technical applications.

Range of application

The most important applications of the guide rollers are in high-speed processes like the spin draw texturing process BCF as well as the FDY or SDY process for the technical yarn area.

Variations

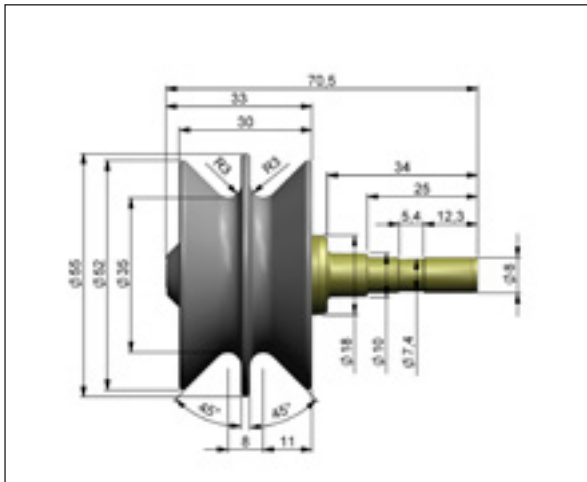
All guide rollers are supplied with yarn-friendly and highly wear resistant ceramic coating. Multi-thread versions are also possible and on customer request, the mounting shaft can be adapted accordingly.



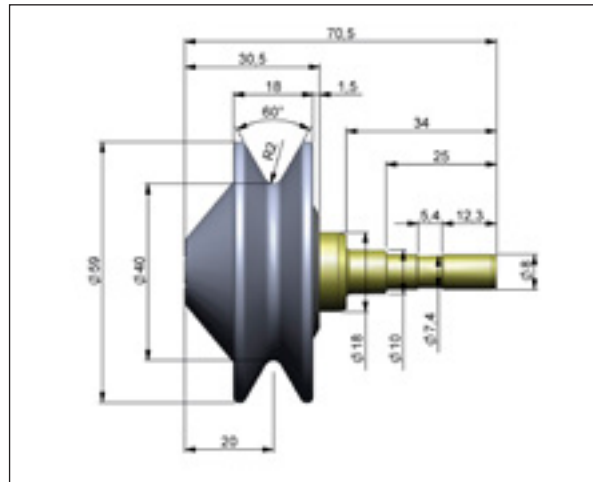
Features and benefits

- Applicable up to 5 000 m/min without any restriction
- Very smooth running due to the integrated bearing construction
- Considerably longer service life due to the modified bearing construction and wear resistant ceramic coating
- Previous types are interchangeable due to the similar connection geometry

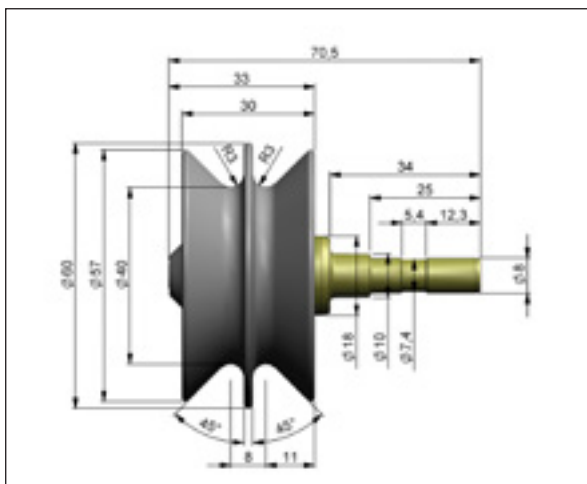
Types



FR3530-02



FR4018-01



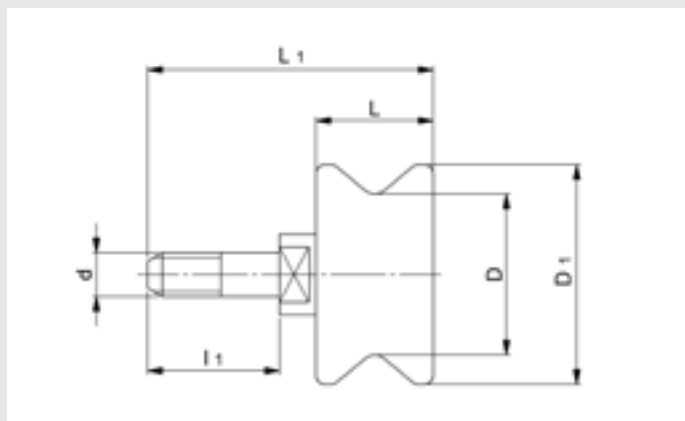
FR4030

Operational data

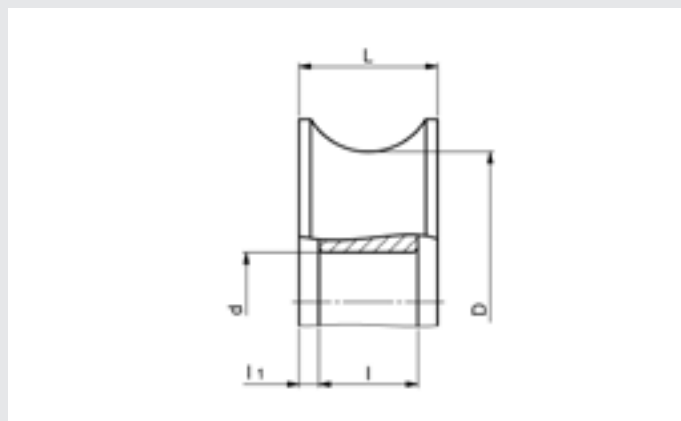
Type	Max. yarn speed [m/min]	Max. yarn temp. [°C]	Dyn. load rating C per bearing [kN]	Mounting specification d × l [mm]	Surface	D [mm]	L [mm]	Groove (distance)
FR3530-02	4 400	70	0.98	∅ 8 × 25	ceramic	∅ 35	30	2 (8)
FR4018-01	5 000	70	0.98	∅ 8 × 25	ceramic	∅ 40	18	1
FR4030	5 000	70	0.98	∅ 8 × 25	ceramic	∅ 40	30	2 (8)

Guide rollers FR series

Guide rollers figures



Mounting type 1



Mounting type 2

Overview

Type	Max. yarn speed [m/min]	Max. yarn temp. [°C]	Max. radial load [N]	Mounting type	Dimensions [mm]				Mounting specification d x l ₁ [mm]	Surface	Groove (distance)	
					D (∅)	L	D ₁	L ₁				
FR1507-01**	1000	70	55	2	15.2	7.0			5	∅5×1	Steel	1
FR1930	1000	80	80	1	19.0	30.0	32	46.00		M6×16	Ceramic	1
FR2016	1200	70	50	1	20.0	15.0	40	23.80		∅5.4×8	Ceramic	1
FR2016-02	630	70	14	1	20.0	16.0	24	31.00		∅11×16	HC	4 (3)
FR2330	600	70	120	1	23.0	30.0	41	55.85		M8×16	Ceramic	1
FR2330-01	600	70	120	1	23.0	30.0	41	61.70		M5×25	Ceramic	1
FR3530-02**	4400	70	45	1	35.0	30.0	55	70.50		∅8×25	Ceramic	2 (8)
FR4018-01**	5000	70	45	1	40.0	18.0	59	70.50		∅8×25	Ceramic	1
FR4030	5000	70	45	1	40.0	30.0	60	70.50		∅8×25	Ceramic	2 (8)

** = Standard

SAURER.

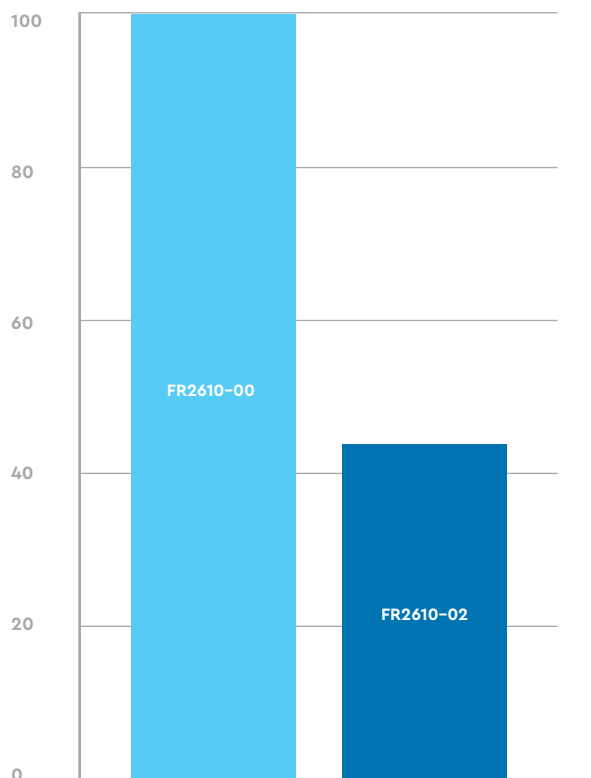


Smooth running.

The specialist: Temco Guide Rollers FR26

Bearing friction torque

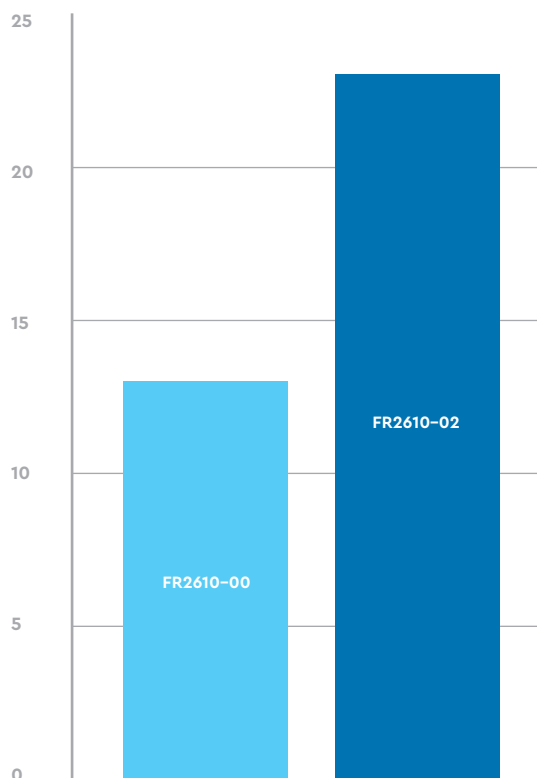
in %



Mathematical consideration of both FR2610-0X types

Rundown-time

in seconds



Comparison of the rundown-times of both types yarn guide roller generations

Temco Guide Rollers FR26 Series

The latest generation of the smooth-running guide rollers FR26 Series are a milestone in the field of easy running guiding elements. Bearing friction is reduced by 50 %, therefore the driving force is reduced by the same extend enabling guidance of e.g. Lycra at a very low tension level.

Easy running

The bearing friction torque and the necessary yarn tension, which is particularly important, are reduced by more than 50% compared to our well-established yarn guide rollers.

Comparison of rundown-times

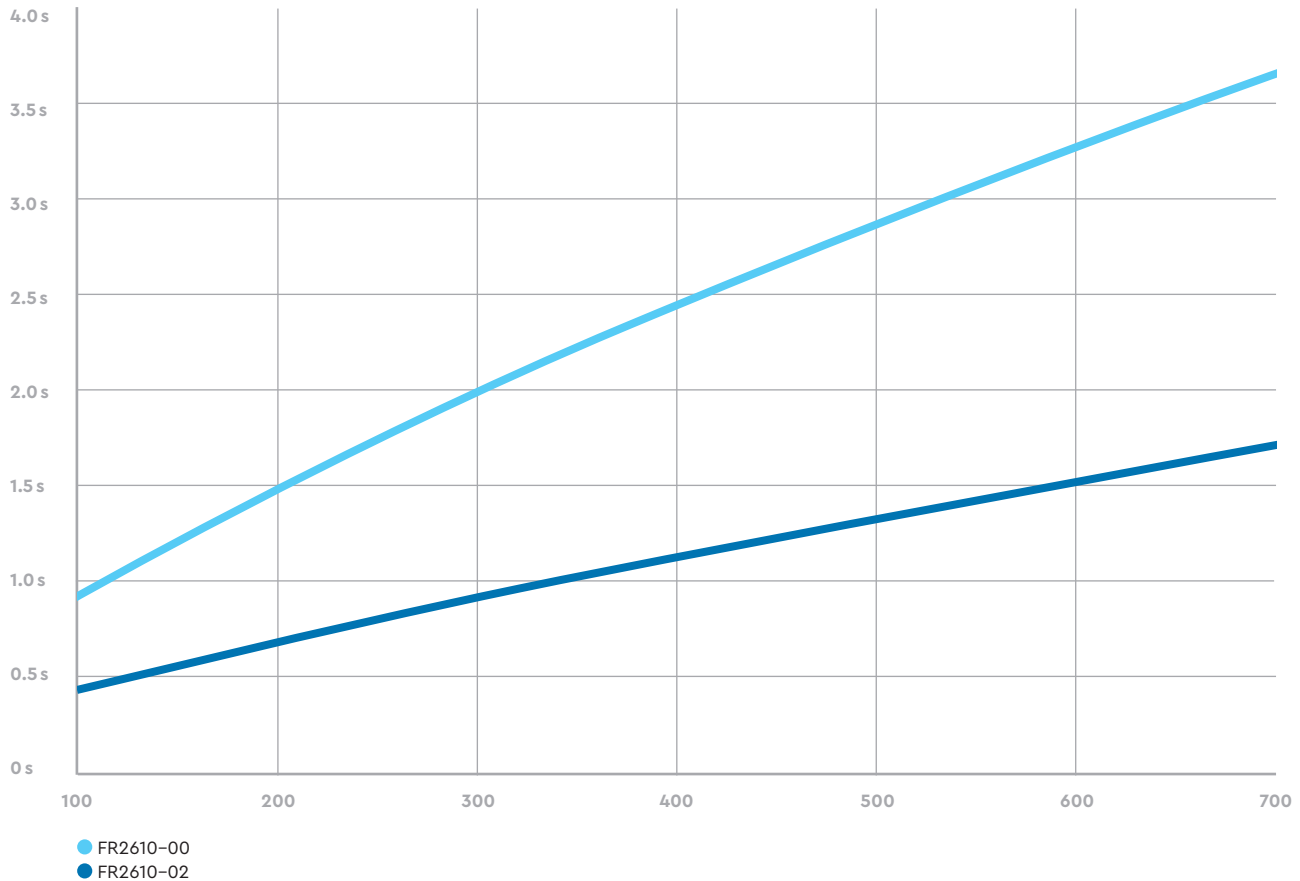
As there is no practical method to measure the driving torque during the movement of the bearing, we accelerated the yarn guide roller to a speed of 900 m/min and made a comparison measurement of the rundown-time. In this measurement a 2-fold rundown-time was determined, which suggests friction torque is significantly reduced.

Conclusion

Compared to the previous yarn guide rollers, a halving of the friction torque was verified.

Yarn tension force in comparison

in m/min



Reduction of yarn tension

Based on the 50 % lower bearing friction, the necessary drive force is also reduced to the same extent, which allows a deflection of Lycra threads at a very low tension level. Compared with the previous Temco Yarn Guide Rollers already established on the market, the yarn tension level could be halved again.

Smooth running

By means of precise production processes paired with respective monitoring, high position uniformity can be ensured, which means the drive forces of adjacent yarn guide rollers lie within the smallest possible bandwidth.

Ready for immediate use

The new generation of yarn guide rollers are already subject to a bearing run-in at Saurer, which means that by bringing it into service their yarn tension level during operation is only marginally reduced. Excessive tension associated with bearings without initial run-in can be avoided, resulting in higher quality production for example in the elastic waistband of a diaper.

Low moment of inertia

Running shells with a reduced mass facilitate the fast acceleration of the yarn guider roller from standstill with minimal increase in yarn tension.

Long lifetime

Accurate manufacturing and consistently process monitoring as the basis for a long lifetime.

Different running shell forms

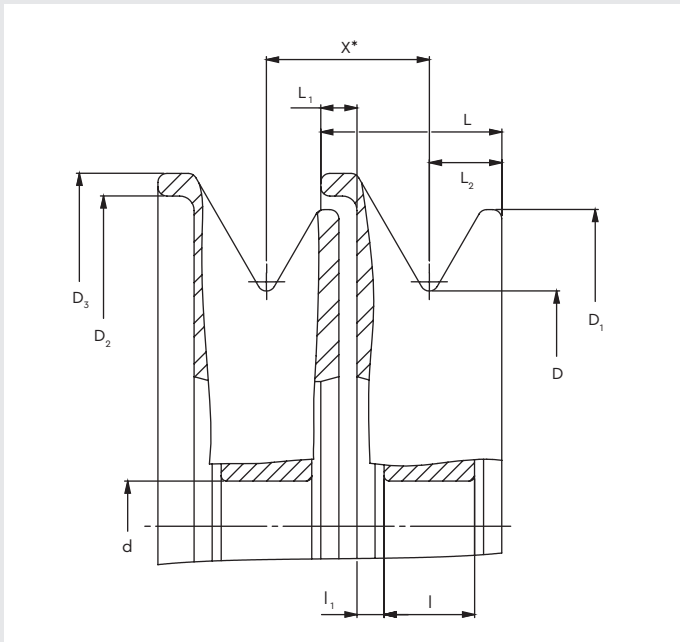
In addition to the standard forms, intermediate sizes and customized solutions are available.

Surfaces

- Anodized coating (available in different colors)
- Hard chrome coating
- Plasma layer (non-stick coating)

Guide rollers FR26 series

Guide rollers figure



Overview

Type	*Max. yarn speed [m/min]	*Max. yarn temp. [°C]	*Max. radial load [N]	Dimensions [mm]											X	Bearing	Surface	Groove
				D	D ₁	D ₂	D ₃	d	L	L ₁	L ₂	I	I ₁					
FR2608-01**	700	70	60	26.0	35.0	36.5	39.0	5.0	8.0	2.0	3.0	5.0	0.5	7.0	Standard	Anodized black	1	
FR2608-02	700	70	60	26.0	35.0	36.5	39.0	5.0	8.0	2.0	3.0	5.0	0.5	7.0	Standard	Anodized blue	1	
FR2608-03	700	70	60	26.0	35.0	36.5	39.0	5.0	8.0	2.0	3.0	5.0	0.5	7.0	Standard	Anodized grey	1	
FR2608-04	700	70	60	26.0	35.0	36.5	39.0	5.0	8.0	2.0	3.0	5.0	0.5	7.0	Standard	Anodized red	1	
FR2608-05	700	70	20	26.0	35.0	36.5	39.0	5.0	8.0	2.0	3.0	5.0	0.5	7.0	easy-running	Hardcoat	1	
FR2608-06	700	70	20	26.0	35.0	36.5	39.0	5.0	8.0	2.0	3.0	5.0	0.5	7.0	easy-running	PC915S	1	
FR2610-00**	700	70	60	26.0	35.0	36.5	39.0	5.0	10.0	2.0	4.0	5.0	1.5	9.0	Standard	Hardcoat	1	
FR2610-01	700	70	60	26.0	35.0	36.5	39.0	5.0	10.0	2.0	4.0	5.0	1.5	9.0	Standard	PC915S	1	
FR2610-02**	700	70	20	26.0	35.0	36.5	39.0	5.0	10.0	2.0	4.0	5.0	1.5	9.0	easy-running	Hardcoat	1	
FR2610-03	700	70	20	26.0	35.0	36.5	39.0	5.0	10.0	2.0	4.0	5.0	1.5	9.0	easy-running	PC915S	1	
FR2614-01**	700	70	60	26.0	35.0	36.5	39.0	5.0	14.0	8.0	3.0	5.0	0.5	12.8	Standard	Anodized black	1	
FR2614-02	700	70	60	26.0	35.0	36.5	39.0	5.0	14.0	8.0	3.0	5.0	0.5	12.8	Standard	Anodized blue	1	
FR2614-03	700	70	60	26.0	35.0	36.5	39.0	5.0	14.0	8.0	3.0	5.0	0.5	12.8	Standard	Anodized grey	1	
FR2614-04	700	70	60	26.0	35.0	36.5	39.0	5.0	14.0	8.0	3.0	5.0	0.5	12.8	Standard	Anodized red	1	
FR2614-05**	700	70	20	26.0	35.0	36.5	39.0	5.0	14.0	6.0	4.0	5.0	1.5	13.0	easy-running	Hardcoat	1	

* = Minimum yarn distance [mm]

** = Standard types

Saurer Technologies GmbH & Co. KG
Engineered Bearing Solutions
Fuldaer Str. 19
97762 Hammelburg
Germany
T +49 9732 87 0
F +49 9732 87 310
sales.bearings@saurer.com

Saurer (JiangSu) Textile Machinery
Company Limited
Shanghai Branch Company
36F, Tower B, The HQ
No. 100 Zunyi Road
Shanghai 200051
P.R. China
T +86 21 22262500
F +86 21 22262512
saurer.com