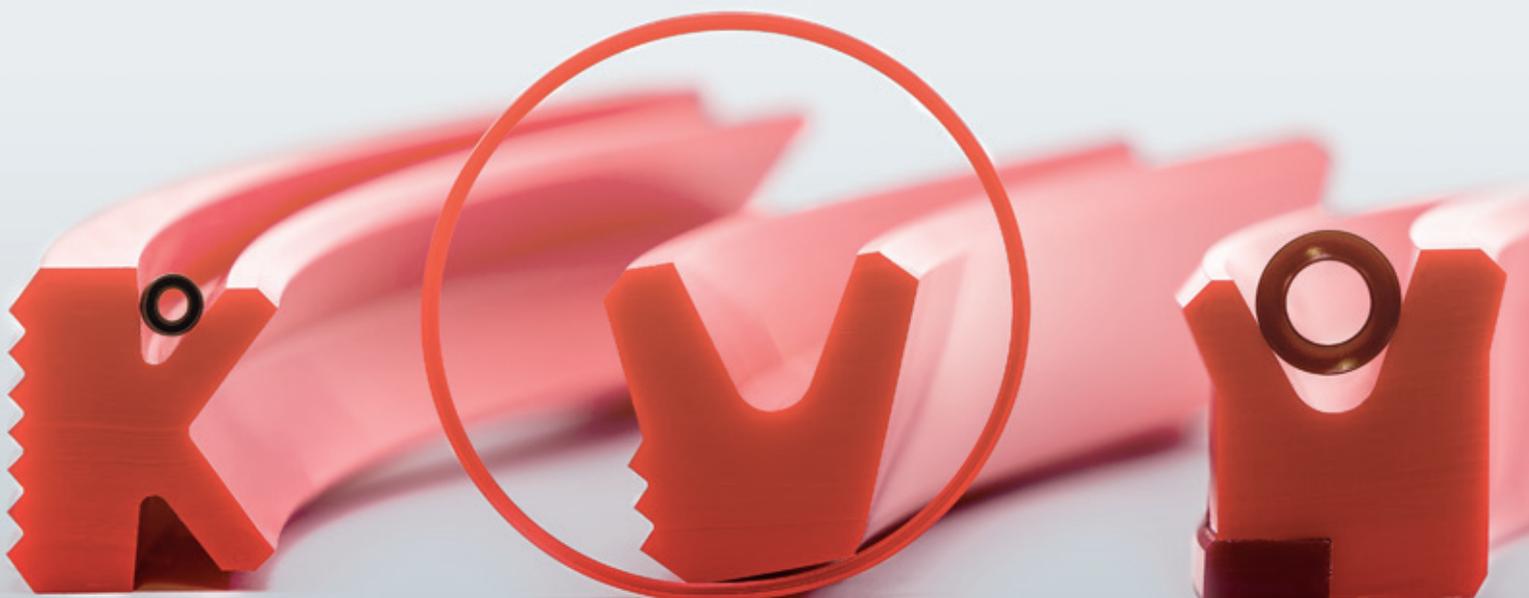


Seals

Profile, Application and Material overview



Trygonal Seals

- We are a sealing and plastic parts manufacturer
- We see ourselves as a partner to our customers
- We are independent, holistic and solution-oriented
- We are an international network company and we work world-wide
- We see our company culture like life: varied, complex and exciting
- We value greatly the individuality and the expertise of the staff
- We are committed to high professional ethics and integrity in all we do

All this creates a passionate, innovative and dynamic team to support your business.

We are an active international group of independent seal manufacturers and plastics processors. In our group, we produce all types of gaskets and plastic parts such as O-rings, moulded rubber parts, metal rubber compounds, foam moulded parts, semi-finished products and machines for machining seals. The latest production techniques are used.

We offer over 140 individual sealing profiles and solutions which can be manufactured on the latest CNC lathes. From a production lot size of 1 piece to several thousand units, starting with an inner diameter of 1 mm and up to 2000 mm for the outside diameter, we manufacture each sealing profile in any dimension and in a variety of high-quality sealing materials.

Our special manufacturing process also allows fast prototyping of seals, which can be, after functional testing and customer approval, manufactured in-house cost efficiently.

Sealing Profile Classes

- Hydraulic Pneumatic Seals (piston-/ rod seals)
- Static Seals
- Rotary Seals
- Gaskets
- High Pressure Seals
- Large Seals
- Miniature Seals
- Special Seals
- Guiding elements
- Back-up elements
- Wiper elements

Seal materials

- Elastomers (TPU, TPE) Polyurethane material for high mechanical stress in different hardness and in different material compounds available
- Rubber elastomers (NBR, H-NBR, FPM, MVQ, FVMQ, TFE, FFKM) for high temperatures and chemical stress
- Thermoplastics (PTFE, POM, PA, PEEK) for seals and sealing components

Approvals

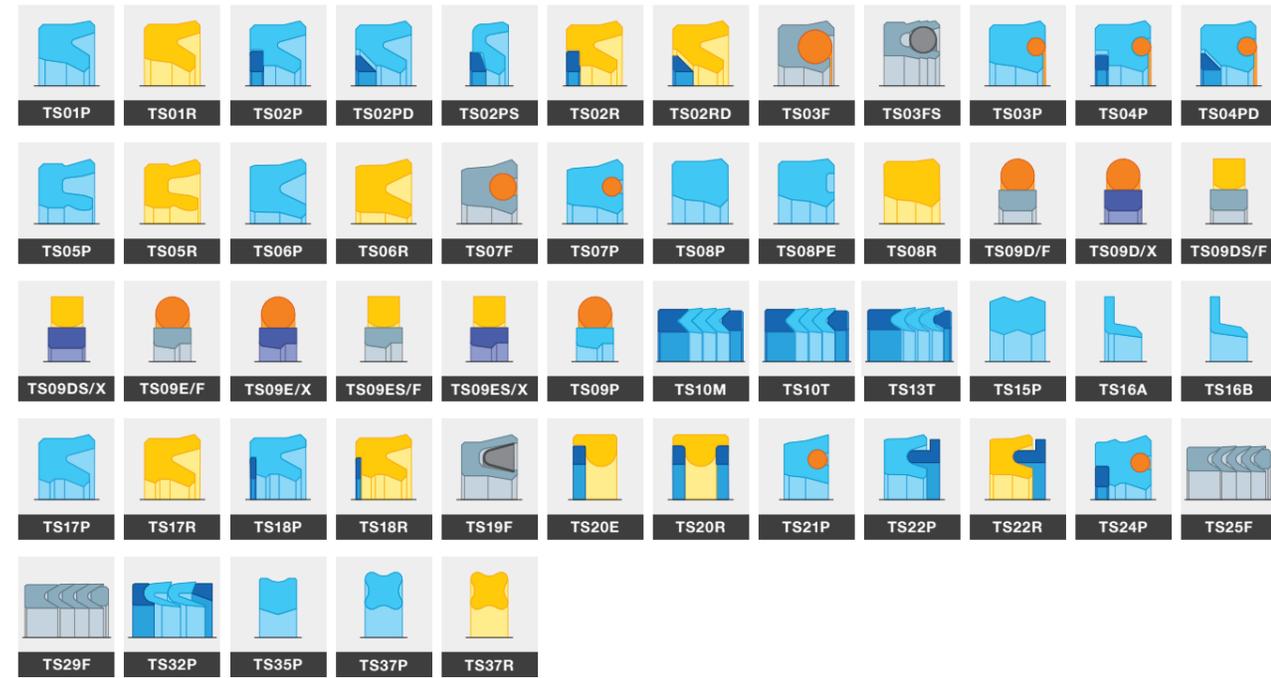
FDA, USP, W270, DVGW, UL, KTW, 3A-Sanitary

Applications

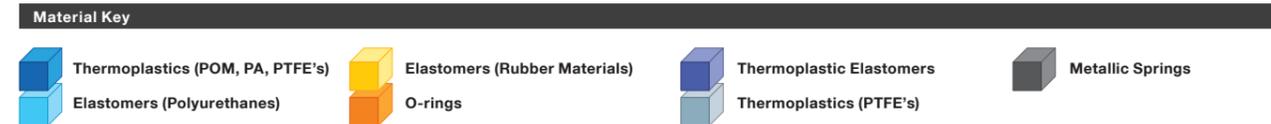
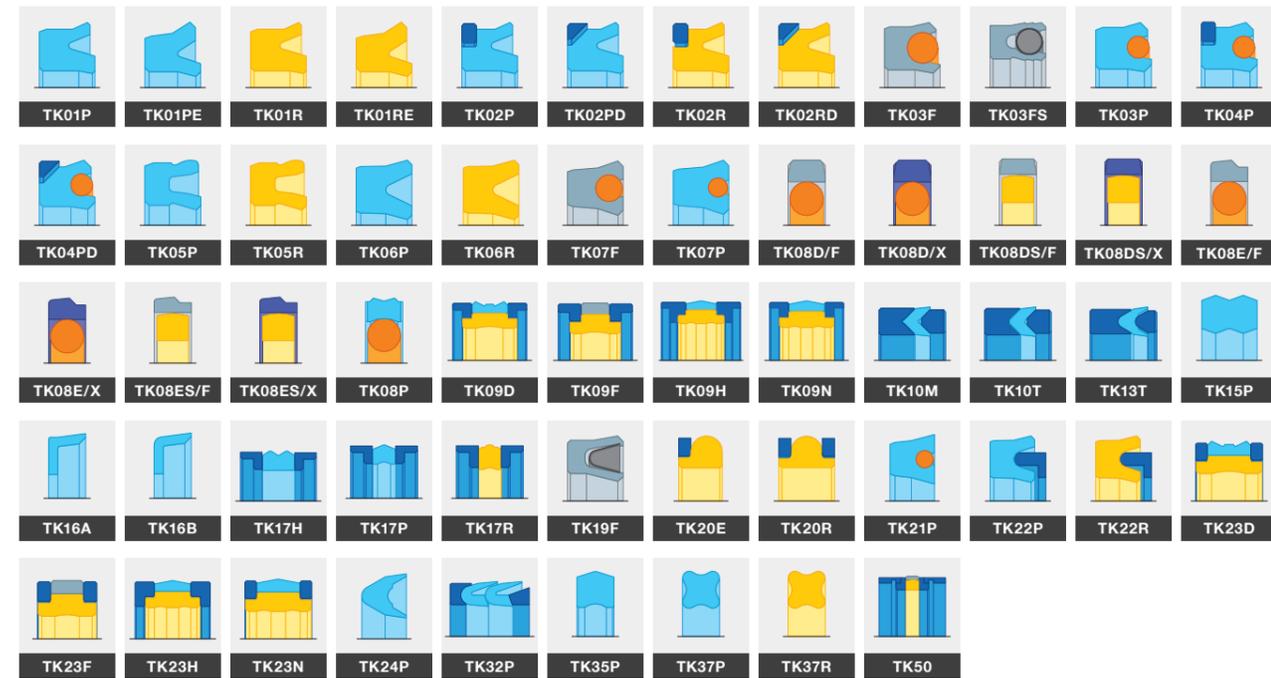
Automotive, construction, mining, railways, power generation, aerospace, semiconductor, power plant, solar and wind power, food & beverage, engineering, medical, mobile hydraulic, oil & gas, paper, pharmaceutical, steel works

Profile overview

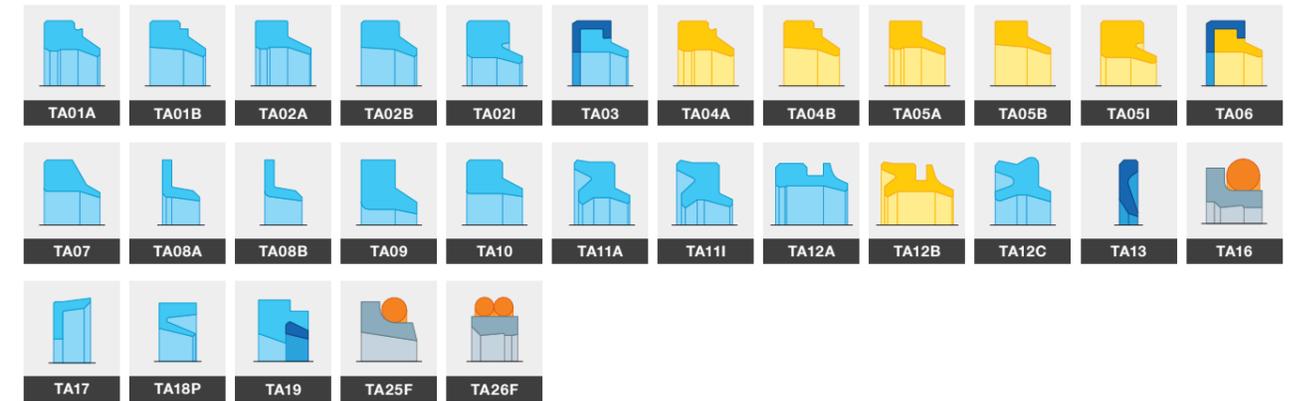
Rod Seals



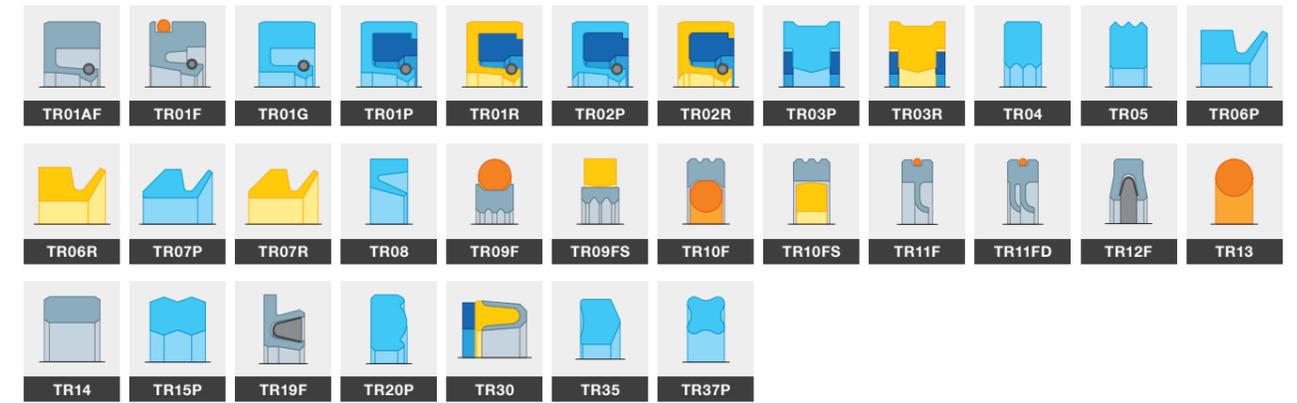
Piston Seals



Wiper Seals



Rotary Seals



Guide Rings



Backup Rings



Application overview

Designation	Application	Pressure bar, max.	Sliding speed m/s, max.	Working direction				
								
Rod Seals								
TS01P	Hydraulic, single acting	400	0,7	●	○	○		○
TS01R	Hydraulic, single acting	160	0,5	●	○	○		○
TS02P	Hydraulic, single acting	700	0,7	●	○	○		○
TS02PD	Hydraulic, single acting	700	0,7	●	○	○		○
TS02PS	Hydraulic, single acting	400	0,7	●	○	○		○
TS02R	Hydraulic, single acting	250	0,5	●	○	○		○
TS02RD	Hydraulic, single acting	250	0,5	●	○	○		○
TS03F	Food, pharmaceutical and chemical industries, single-acting	400	1,0	●	○			
TS03FS	Food, pharmaceutical and chemical industries, single-acting	400	1,0	●	○			
TS03P	Hydraulic, single acting	400	0,7	●	○			
TS04P	Hydraulic, single acting	700	0,7	●	○			
TS04PD	Hydraulic, single acting	700	0,7	●	○			
TS05P	Pneumatic, single-acting	25	2,0	●				
TS05R	Pneumatic, single-acting	25	1,0	●				
TS06P	Hydraulic, single acting	400	0,7	●	○			
TS06R	Hydraulic, single acting	160	0,5	●	○			
TS07F	Food, pharmaceutical and chemical industries, single-acting	400	1,0	●	○			
TS07P	Hydraulic, single acting	400	0,7	●	○			
TS08P	Hydraulic, single acting	400	0,4	●	○			
TS08PE	Hydraulic, single acting	400	0,4	●	○			
TS08R	Hydraulic, single acting	160	0,3	●	○			
TS09D/F	Hydraulic, double acting	600	10,0	●		○		
TS09D/X	Hydraulic, double acting	600	5,0	●		○		
TS09DS/F	Hydraulic, double acting	600	10,0	●		○		
TS09DS/X	Hydraulic, double acting	600	5,0	●		○		
TS09E/F	Hydraulic, single acting	600	10,0	●				
TS09E/X	Hydraulic, single acting	600	5,0	●				
TS09ES/F	Hydraulic, single acting	600	10,0	●				
TS09ES/X	Hydraulic, single acting	600	5,0	●				
TS09P	Hydraulic, single acting	250	1,4	●				
TS10M	Hydraulic, single acting	500	0,7	●	○	○		
TS10T	Hydraulic, single acting	500	0,7	●	○	○		
TS13T	Hydraulic, single acting	500	0,7	●	○	○		
TS15P	Hydraulic, double acting	400	-	○	●	○		○
TS16A	Hydraulic/pneumatic, single-acting	160	5,0	●	○	○		○
TS16B	Hydraulic/pneumatic, single-acting	160	5,0	●	○	○		○
TS17P	Hydraulic, single acting	400	0,7	●	○	○		○
TS17R	Hydraulic, single acting	160	0,5	●	○	○		○
TS18P	Hydraulic, single acting	600	0,7	●	○	○		○
TS18R	Hydraulic, single acting	250	0,5	●	○	○		○
TS19F	Food, pharmaceutical and chemical industries, single-acting	400	15,0	●	○	○		○
TS20E	Hydraulic, single acting	700	0,5	●	○	○		○
TS20R	Hydraulic, double acting	700	0,5	●	●	○		○
TS21P	Hydraulic, single acting	400	0,7	●	○	○		○
TS22P	Hydraulic, single acting	400	0,7	●	○	○		○
TS22R	Hydraulic, single acting	160	0,5	●	○	○		○
TS24P	Hydraulic, single acting	700	0,7	●	○			○
TS25F	Food, pharmaceutical and chemical industries, single-acting	100	1,5	●		○		●
TS29F	Food, pharmaceutical and chemical industries, single-acting	315	1,5	●		○		○
TS32P	Hydraulic, single acting	500	0,7	●	○			
TS35P	Hydraulic, double acting	400	0,5	●	●	○	○	○
TS37P	Hydraulic, double acting	50	-	○	●	○	○	○
TS37R	Hydraulic, double acting	50	-	○	●	○	○	○

- suitable
- partly suitable

Designation	Application	Pressure bar, max.	Sliding speed m/s, max.	Working direction				
								
Piston Seals								
TK01P	Hydraulic, single acting	400	0,7	●	○	○		○
TK01PE	Hydraulic, single acting	400	0,7	●	○	○		○
TK01R	Hydraulic, single acting	160	0,5	●	○	○		○
TK01RE	Hydraulic, single acting	160	0,5	●	○	○		○
TK02P	Hydraulic, single acting	700	0,7	●	○	○		○
TK02PD	Hydraulic, single acting	700	0,7	●	○	○		○
TK02R	Hydraulic, single acting	250	0,5	●	○	○		○
TK02RD	Hydraulic, single acting	250	0,5	●	○	○		○
TK03F	Food, pharmaceutical and chemical industries, single-acting	400	1,0	●	○			
TK03FS	Food, pharmaceutical and chemical industries, single-acting	400	1,0	●	○			
TK03P	Hydraulic, single acting	400	0,7	●	○			
TK04P	Hydraulic, single acting	700	0,7	●	○			
TK04PD	Hydraulic, single acting	700	0,7	●	○			
TK05P	Pneumatic, single-acting	25	2,0	●				
TK05R	Pneumatic, single-acting	25	1,0	●				
TK06P	Hydraulic, single acting	400	0,7	●	○			
TK06R	Hydraulic, single acting	160	0,5	●	○			
TK07F	Food, pharmaceutical and chemical industries, single-acting	400	1,0	●	○			
TK07P	Hydraulic, single acting	400	0,7	●	○			
TK08D/F	Hydraulic, double acting	600	10,0	●		○		
TK08D/X	Hydraulic, double acting	600	5,0	●		○		
TK08DS/F	Hydraulic, double acting	600	10,0	●		○		
TK08DS/X	Hydraulic, double acting	600	5,0	●		○		
TK08E/F	Hydraulic, single acting	600	10,0	●		○		
TK08E/X	Hydraulic, single acting	600	5,0	●		○		
TK08ES/F	Hydraulic, single acting	600	10,0	●		○		
TK08ES/X	Hydraulic, single acting	600	5,0	●		○		
TK08P	Hydraulic, double acting	250	1,4	●				
TK09D	Hydraulic, double acting	400	0,7	●	○			
TK09F	Hydraulic, double acting	400	1,5	●	○			
TK09H	Hydraulic, double acting	1500	0,3	●	○			
TK09N	Hydraulic, double acting	400	0,7	●	○			
TK10M	Hydraulic, single acting	500	0,7	●	○	○		
TK10T	Hydraulic, single acting	500	0,7	●	○	○		
TK13T	Hydraulic, single acting	600	0,7	●	○	○		
TK15P	Hydraulic, double acting	400	-	●	●	○		○
TK16A	Hydraulic/pneumatic, single-acting	160	5,0	●	○	○	○	○
TK16B	Hydraulic/pneumatic, single-acting	160	5,0	●	○	○	○	○
TK17H	Hydraulic, double acting	250	0,7	●	○			
TK17P	Hydraulic, double acting	250	0,7	●	○			
TK17R	Hydraulic, double acting	250	0,5	●	○			
TK19F	Food, pharmaceutical and chemical industries, single-acting	400	15,0	●	○	○	○	○
TK20E	Hydraulic, single acting	700	0,5	●	●	○		○
TK20R	Hydraulic, double acting	700	0,5	●	●	○		○
TK21P	Hydraulic, single acting	400	0,7	●	○	○		○
TK22P	Hydraulic, single acting	400	0,7	●	○	○		○
TK22R	Hydraulic, single acting	160	0,5	●	○	○		○
TK23D	Hydraulic, double acting	400	0,7	●	○			
TK23F	Hydraulic, double acting	400	1,5	●	○			
TK23H	Hydraulic, double acting	1500	0,4	●	○			
TK23N	Hydraulic, double acting	400	0,7	●	○			
TK24P	Hydraulic, single acting	500	0,7	●	○			
TK32P	Hydraulic, single acting	500	0,7	●	○			
TK35P	Hydraulic, double acting	400	0,5	●	○			
TK37P	Hydraulic, double acting	50	-	●	○			
TK37R	Hydraulic, double acting	50	-	●	○			
TK50	Hydraulic, double acting	360	1,0	●	○			

Please note that the above specifications for operating pressure and sliding speed are maximum values. In special cases, please contact our application engineers, who will adapt the product and design to your application. In principle, product tests are recommended for special applications in the limit range and no liability can be assumed.

Application overview

Designation	Application	Pressure bar, max.	Sliding speed m/s, max.	Working direction				
								
Wiper Seals								
TA01A	Hydraulic, single acting	-	5,0	●	○	○		○
TA01B	Hydraulic, single acting	-	5,0	●	○	○		○
TA02A	Hydraulic, single acting	-	5,0	●	○	○		○
TA02B	Hydraulic, single acting	-	5,0	●	○	○		○
TA02I	Hydraulic, single acting	-	5,0	●	○	○		○
TA03	Hydraulic, single acting	-	5,0	●	○	○		○
TA04A	Pneumatic, single-acting	-	5,0	●	○	○		○
TA04B	Pneumatic, single-acting	-	5,0	●	○	○		○
TA05A	Pneumatic, single-acting	-	5,0	●	○	○		○
TA05B	Pneumatic, single-acting	-	5,0	●	○	○		○
TA05I	Pneumatic, single-acting	-	5,0	●	○	○		○
TA06	Pneumatic, single-acting	-	5,0	●	○	○		○
TA07	Hydraulic, single acting	-	5,0	●	○	○		○
TA08A	Hydraulic/pneumatic, single-acting	-	5,0	●	○	○		○
TA08B	Hydraulic/pneumatic, single-acting	-	5,0	●	○	○		○
TA09	Hydraulic, single acting	-	5,0	●	○	○		○
TA10	Hydraulic, single acting	-	5,0	●	○	○		○
TA11A	Hydraulic/pneumatic, double-acting	-	5,0	●	○	○		○
TA11I	Hydraulic/pneumatic, double-acting	-	5,0	●	○	○		○
TA12A	Hydraulic, single acting	-	5,0	●	○	○		○
TA12B	Hydraulic, double acting	-	5,0	●	○	○		○
TA12C	Hydraulic/pneumatic, double-acting	-	1,0	●	●	○		○
TA13	Hydraulic/pneumatic, single-acting	-	5,0	●	○	○		○
TA16	Hydraulic/pneumatic, double-acting	-	-	●		○		
TA17	Hydraulic/pneumatic, single-acting	-	0,7	●	○	○	○	○
TA18P	Hydraulic/pneumatic, single-acting	-	5,0	●	○	●	●	●
TA19	Hydraulic/pneumatic, single-acting	-	5,0	●	○			
TA25F	Hydraulic/pneumatic, single-acting	-	10,0	●	○			
TA26F	Hydraulic/pneumatic, double-acting	-	10,0	●				○
Rotary Seals								
TR01AF	Hydraulic/pneumatic, rolling mills, shipbuilding, heavy hydraulics	0,5	10,0			●	●	
TR01F	Hydraulic/pneumatic, single-acting, general application	15	10,0			●	●	●
TR01G	Hydraulic/pneumatic, rolling mills, shipbuilding, heavy hydraulics	-	10,0			●	●	
TR01P	Hydraulic/pneumatic, single-acting, allgemeine Anwendung	0,5	5,0			●	●	
TR01R	Hydraulic/pneumatic, single-acting, allgemeine Anwendung	0,5	10,0			●	●	
TR02P	Hydraulic/pneumatic, single-acting, allgemeine Anwendung	0,5	5,0			●	●	
TR02R	Hydraulic/pneumatic, single-acting, allgemeine Anwendung	0,5	10,0			●	●	
TR03P	Hydraulics/pneumatic, mobile hydraulics, rotary distributors, double-acting	0,3	400,0			●	●	○
TR03R	Hydraulics/pneumatic, mobile hydraulics, rotary distributors, double-acting	250	0,2			●	●	○
TR04	Hydraulic, general application, double acting	160	0,3			●	●	○
TR05	Hydraulic, general application, double acting	160	0,3			●	●	○
TR06P	General application, axial acting	-	25,0			●	●	
TR06R	General application, axial acting	-	25,0			●	●	
TR07P	General application, axial acting	-	25,0			●	●	
TR07R	General application, axial acting	-	25,0			●	●	
TR08	General application, single acting	-	25,0			●	●	●
TR09F	Hydraulic/pneumatic, general application, double acting	350	0,4			●	●	○
TR09FS	Hydraulic, general application, double acting	350	0,4			●	●	○
TR10F	Hydraulic/pneumatic, general application, double acting	350	0,4			●	●	○
TR10FS	Hydraulic, general application, double acting	350	0,4			●	●	○
TR11F	General application, single acting	5	20,0			●	●	○
TR11FD	General application, single acting	5	20,0			●	●	○
TR12F	Food, pharmaceutical and chemical industries, single-acting	300	1,0			●	●	
TR13	Hydraulic/pneumatic, double-acting, general application	600	-	○	●			
TR14	General application	-	-		●			
TR15P	Hydraulic, double acting, general application	400	-		●			
TR19F	Food, pharmaceutical and chemical industries, single-acting	150	2,0			●	●	●
TR20P	Hydraulic/pneumatic, axial acting, general application	800	-		●			
TR30	Oil and offshore industry, single acting	1000	0,5	○	●			
TR35	Hydraulic/pneumatic, axial acting, general application	800	-		●	●		
TR37P	Hydraulic/pneumatic, double-acting, allgemeine Anwendung	80	-	○	●			

- suitable
- partly suitable

Designation	Application	Pressure bar, max.	Sliding speed m/s, max.	Working direction				
								
Guide Rings								
TF01	Hydraulic/pneumatic, general application	-	-	●		○		●
TF01G	Hydraulic/pneumatic, general application	-	-	●		○		●
TF02	Hydraulic/pneumatic, general application	-	-	●		○		●
TF02G	Hydraulic/pneumatic, general application	-	-	●		○		●
TF03	Hydraulic/pneumatic, general application	-	-	●		○		●
TF03G	Hydraulic/pneumatic, general application	-	-	●		○		●
TF04	Hydraulic/pneumatic, general application	-	-	●		○		●
TF04G	Hydraulic/pneumatic, general application	-	-	●		○		●
TF05	Hydraulic/pneumatic, general application	-	-	●		○		●
TF05G	Hydraulic/pneumatic, general application	-	-	●		○		●
TF06	Hydraulic/pneumatic, general application	-	-	●		○		●
TF06G	Hydraulic/pneumatic, general application	-	-	●		○		●
TF07	Hydraulic/pneumatic, general application	-	-	●		○		●
TF07G	Hydraulic/pneumatic, general application	-	-	●		○		●
TF08	Hydraulic/pneumatic, general application	-	-	●		○		●
TF08G	Hydraulic/pneumatic, general application	-	-	●		○		○
TF09	Hydraulic/pneumatic, general application	-	-	●		○		○
TF09G	Hydraulic/pneumatic, general application	-	-	●		○		○
TF10	Hydraulic/pneumatic, general application	-	-	●		○	●	●
TF10G	Hydraulic/pneumatic, general application	-	-	●		○	●	●
Backup Rings								
TB08	Hydraulic/pneumatic, general application	-	-	●		○		
TB08G	Hydraulic/pneumatic, general application	-	-	●		○		
TB09	Hydraulic/pneumatic, general application	-	-	●		○		
TB09G	Hydraulic/pneumatic, general application	-	-	●		○		
TB10	Hydraulic/pneumatic, general application	-	-	●		○		
TB10G	Hydraulic/pneumatic, general application	-	-	●		○		
TB11	Hydraulic/pneumatic, general application	-	-	●		○		
TB11G	Hydraulic/pneumatic, general application	-	-	●		○		
TB12	Hydraulic/pneumatic, general application	-	-	●		○		
TB12G	Hydraulic/pneumatic, general application	-	-	●		○		
TB13	Hydraulic/pneumatic, general application	-	-	●		○		
TB13G	Hydraulic/pneumatic, general application	-	-	●		○		

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Seals

 Customised and Large Sealing Solutions

 O-rings and Static Sealing Profiles

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 Rubber Parts and Membranes

 Rubber-Metal and Rubber-Plastic Components

 Vibration Technology and Gripper Rails

 Plastic Turned and Milled Parts,
 3D Printer Parts

 Form and Foam Parts

Germany

Trygonal Group GmbH

Neue Heimat 22
 D-74343 Sachsenheim-Ochsenbach

Phone: +49 (0) 7046-9610-0

Fax: +49 (0) 7046-9610-33

info@trygonal.com

Switzerland

Trygonal Schweiz AG

Joweid Zentrum 2
 CH-8630 Rüti ZH

Phone: +41 (0) 55 212 45 00

rueti@trygonal.com

Austria

Trygonal GmbH

Industriering 5
 A-9020 Klagenfurt

Phone: +43 (0) 463/310095

klagenfurt@trygonal.com

Spain

Trygonal Iberia SL

Polígono Borda Berri, nº 13 Módulo C4
 E-20140 Andoain (Gipuzkoa)

Phone: +34 (0) 943 303 900

iberia@trygonal.com

Trygonal

Kunststoffinnovationen GmbH

Tragösser Straße 53
 A-8600 Bruck an der Mur

Phone: +43 (0) 3862 27722-0

office@trygonal.com

France

Technical consulting & sales

Phone: +33 (0) 6 44 39 61 80

france@trygonal.com

Trygonal ATYP SERVICE

Beethoven Straße 1
 A-2231 Strasshof

Phone: +43 (0) 2287/22235

atyp@atyp.com

Your Contact