



Guarnizioni per Idraulica
Seals for Hydraulics



Questo catalogo contiene tutte le informazioni necessarie alla ricerca delle più appropriate soluzioni di tenuta. E' importante prendere in considerazione tutti i parametri prima di procedere alla scelta dei profili e materiali. Il presente catalogo contiene tutta la gamma standard; tuttavia per misure non riportate nelle tabelle o per condizioni di impiego particolari, Vi preghiamo consultarci. Le informazioni tecniche riportate non possono costituire garanzia assoluta a causa delle molteplici variabili che influenzano le condizioni di impiego.

GUARNITEC si riserva il diritto di modificare disegni, specifiche e profili senza alcun preavviso.

The information contained in this catalogue is intended for general reference purposes helping customers select the appropriate sealing solution. The advanced level of sealing technology applied in Guarnitec has led to numerous new sealing profiles and compounds. Here within this catalogue you will find profile, material and working condition parameters to guide you in your choice of the perfect seal.

It is important that all parameters are taken into consideration before choosing profile and material selection.

GUARNITEC offers an extensive product range. This catalogue lists our standard range of products; for information regarding any series not indicated in the present catalogue please contact us.

GUARNITEC reserves the right to modify product profiles, designs and or specifications at any given time without notice.



GROUP

GUARNITEC

Catalogo Tecnico

Technical **Catalogue**



Guarnitec è azienda leader a livello internazionale nella progettazione, produzione e distribuzione di guarnizioni di tenuta per applicazioni idrauliche. Fondata nel 1969 con il marchio Tecnotex, la società è cresciuta in modo esponenziale negli ultimi 40 anni.

Grazie ad una gamma di prodotti sempre più ampia ed aggiornata all'aumento della capacità produttiva, oggi **Guarnitec** è diventata società di riferimento nella produzione di guarnizioni in gomma, gomma/tela e soprattutto in poliuretano oggi commercializzato con il marchio Tecnolan. Il gruppo vanta un centro logistico che ha permesso negli ultimi dieci anni un sostanziale *aumento della qualità e del servizio al cliente con una significativa riduzione dei tempi di consegna ed un consolidamento dell'immagine aziendale.*

*Founded in 1969 **Guarnitec**, with the trademark Tecnotex, is recognized as a world leader in the design, production and distribution of seals specifically for hydraulics and offers an extensive product range to hydraulic equipment manufacturers.*

*Supporting customers with our personal know-how **Guarnitec** is a reference point for customers offering development, prototyping and in-house tooling allowing us to effectively fulfill any requirement.*

***Guarnitec** uses only the best choice of top quality raw material selections for the production of seals in rubber, rubber/fabric and polyurethane under the trademark Tecnolan covering applications such as agricultural, earth moving, industrial, lift, telescopic and the mining industries.*

We aim to supply you with the very best customer service, technical support, delivery and after sales service for standard and non standard seals.

I'Azienda

the Company

Made in Italy

È conosciuto ed affermato in tutto il mondo che **Guarnitec** produce tutti i suoi prodotti solo ed esclusivamente in Italia con materiali di prima scelta di origine comunitaria. Il Made in Italy diventa così parte integrante del prodotto il cui pregio lo rende unico e correttamente apprezzato dal consumatore finale.

*Known and valued World Wide for our genuine "Made in Italy" product range **Guarnitec** produces the entire product range exclusively in Italy with first choice raw materials of EC origin. "Made in Italy" expresses excellence of quality and craftsmanship. We guarantee to all our customers that the articles they purchase are truly of Italian Preferential Origin.*

Azienda Certificata nr. 0413123

Guarnitec è azienda certificata UNI EN ISO 9001:2008.

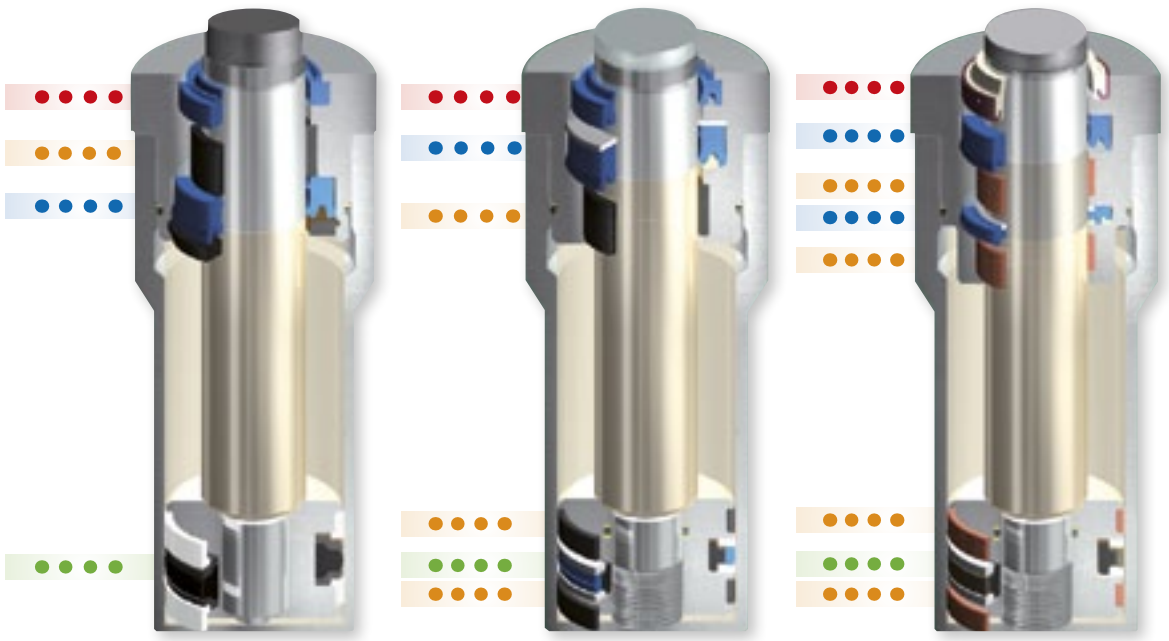
Il conseguimento della Certificazione di Qualità costituisce uno strumento essenziale per la guida, il controllo e la gestione dell'azienda. Pianificare il percorso della Qualità e condividerlo con tutto lo staff aziendale è parte integrante della filosofia di **Guarnitec** di consolidamento e sviluppo la cui essenza primaria risiede nella soddisfazione del cliente.

Guarnitec facilities are all UNI EN ISO 9001:2008 certified.

*Attaining the Quality certification is a solid tool essential in guiding, controlling and managing company operations. The entire staff at **Guarnitec** utilizes this certification as an integral part of their daily routine in setting our number one goal of effectively and efficiently satisfying customers.*

TM

Intertek



serie LEGGERA
LIGHT application

serie MEDIA
MEDIUM application

serie PESANTE
HEAVY application

soluzioni di tenuta

sealing solutions

Le caratteristiche e la qualità dei materiali impiegati per la realizzazione delle guarnizioni per idraulica hanno un'importanza determinante per il corretto funzionamento e la durata.

Oggi **Guarnitec** offre un'ampia scelta di materiali appropriati a seconda dell'applicazione. I principali fattori da tenere in considerazione nella scelta di una soluzione di tenuta sono:

- Compression set (minima deformazione permanente)
- Durezza
- Massima resistenza all'abrasione
- Ottima resistenza meccanica

*The difference between correct and in correct sealing, overall life of the seal, applications and limitations are all significantly linked to the choice of material used in the hydraulic system. **Guarnitec** offers an extensive range of standard and "tailor made" compounds that meet the demands of today's increasingly complex market. There are several important factors to keep in mind when choosing the correct sealing solution:*

- *Compression Set*
- *Hardness*
- *Ultimate Tensile Strength*
- *Ultimate Elongation*
- *Resilience*

Once these parameters are set then you are ready to proceed in checking chemical compatibility, temperature range limits and storage & handling of materials. The following Material Specifications assist the user in proceeding to identify the correct material.

materiali

materials

materials and fluid compatibility

		NBR	HNBR	FKM	Polyurethane PB501	Polyurethane PN522	PA66	POM	PTFE
Temperature Range °C		+110 -30	+130 -30	+200 -20	+100 -35	+110 -45	+180 -20	+130 -40	+260 -200
Mineral Oil based Fluids	Motor Oils	●	●	●	◆	◆	●	●	●
	Automatic transmission Fluids	●	●	●	●	●	●	●	●
	Family H hydraulic oils (HL, HM, HV)	●	●	●	●	●	●	●	●
Greases	Mineral Oil based Greases	●	●	●	●	●	●	●	●
	Silicone based Greases	●	●	●	●	●	●	●	●
Fuels	Diesel Fuel	◆	◆	●	◆	◆	●	●	●
	Normal Grade Fuel	◆	◆	●	◆	◆	●	●	●
	Premium Grade Fuel	◆	◆	●	◆	◆	●	●	●
Fire Resistant Fluids	HFA Fluids oil in water	●	●	▲	◆	◆	◆	●	●
	HFB Fluids water in oil	▲	▲	▲	◆	◆	◆	●	●
	HFC Fluids water - glycol	●	●	●	▲	▲	◆	●	●
	HFDR Fluids Phosphate Esters	▲	▲	◆	▲	▲	●	●	●
	HFDU Fluids High Performance Bio Oil	●	●	●	▲	▲	●	●	●
Bio Based Hydraulic Oils	HETG Vegetable Oil based Hydraulic Fluids	●	●	●	●	●	●	●	●
	HEES Synthetic ester based Hydraulic Fluids	●	●	●	●	●	●	●	●
	HEPG Synthetic Polyglycol based Hydraulic Fluids	●	●	●	●	●	●	●	●
Other Fluids	Water	●	●	●	◆	◆	●	●	●
	Air	●	●	●	●	●	●	●	●
	Brake Fluid	▲	▲	▲	▲	▲	●	●	●

- COMPATIBILE / SUITABLE
- ◆ LIMITATO / LIMITED APPLICATION
- ▲ NON COMPATIBILE / NOT SUITABLE

Le informazioni in tabella sono generali e variabili in relazione alle temperature di esercizio.
Information contained in this table is general and variable depending on working temperatures.

■ Polyurethane EU/AU

■ Name	TECNOLAN PB501	TECNOLAN PB508	TECNOLAN PN522	TECNOLAN PB546
■ Hardness	92° ShA	94° ShA	95° ShA	58° ShD
■ Temperature Range	-35°C +100°C	-35°C +100°C	-45°C +110°C	-35°C +100°C

Mescola con ottima resistenza meccanica, elevato allungamento a rottura ed eccellente resistenza all'abrasione. Adatto in presenza di oli minerali, derivati del petrolio e idrocarburi. Non resistente a fluidi per freni, idrocarburi clorati e soluzioni alcaline.

Polyurethane is a commonly used material for hydraulic seals as it posses excellent elastic properties. Good mechanical strength, abrasion resistance and flexibility make this an optimal material for applications where grease, mineral oils, water oil mixtures and aliphatic hydrocarbons are present. Polyurethane is not resistant to polar solvents, brake fluids, acids or alkalis.

■ Nitrile Butadiene Rubber NBR

■ Name	TECNOLGO TDS101	TECNOLGO TDS108
■ Hardness	77° ShA	70° ShA
■ Temperature Range	-30°C +110°C	-50°C +110°C

Mescola con buona resistenza alla deformazione permanente, abrasione ed invecchiamento. Adatto in presenza di oli minerali, animali e vegetali, acqua, grassi ed idrocarburi in genere. Non compatibile con fluidi freni non minerali.

Superior to most Elastomers NBR is the standard material for hydraulics. Characteristics such as good abrasion resistance, good resistance to compression set and high tensile strength make this an excellent material choice. Resistant to oils (both mineral and vegetable), hydraulic fluids, water fuels, gases, NBR is resistant to a wide variety of chemicals but not suitable for use in brake fluids or fuels in general with a high content of aromatics.

■ Fluoroelastomer FKM

■ Name	TECNOTEX TDS104
■ Hardness	75° ShA
■ Temperature Range	-20°C +200°C

Mescola con ottima resistenza all'invecchiamento, adatto in presente di elevate temperature. Eccellente compatibilità con oli minerali ed idrocarburi ed agenti chimici.

Commonly used where wide temperature ranges are present combined with highly corrosive fluids and hydrocarbons FKM shows excellent resistance to high temperatures, oxygen, ozone and natural weathering. Not suitable for use where ethers and ketones are present.

■ Nitrile Butadiene Reinforced Cotton Fabric RCF

■ Name	TECNOTEX TDS301
■ Hardness	
■ Temperature Range	-30°C +120°C

Buona resistenza alla deformazione permanente, abrasione ed invecchiamento. Adatto in presenza di oli minerali, animali e vegetali, acqua, grassi ed idrocarburi in genere. Non compatibile con fluidi freni non minerali.

Reinforced Cotton Fabric with Nitrile Elastomer (layers of cotton impregnated with nitrile elastomer) offer permanent deformation, abrasion and natural weathering. Produced with the highest quality material grades it is compatible with mineral, vegetable and animal oils, , water, grease and hydrocarbons in general. Not suitable for brake fluids. Guarnitec offers are wide range of material choices for this specific profile.

■ Reinforced Cotton Fluoroelastomer RCF FKM

■ Name	TECNOTEX TDS304
■ Hardness	
■ Temperature Range	-20°C +200°C

Ottima resistenza all'invecchiamento, adatto in presenza di elevate temperature. Eccellente compatibilità con oli minerali ed idrocarburi ed agenti chimici.

Reinforced Cotton Fabric with Fluoroelastomer (layers of cotton impregnated with FKM). Excellent material choice for applications with high temperature ranges and use of corrosive fluids.

■ Polyoxymethylene-Polyacetal POM

■ Name	TECNOTEX TDS401	TECNOTEX TDS410
■ Hardness		
■ Temperature Range	-40°C +130°C	-40°C +130°C

Resina con ottima resistenza alla trazione e all'urto, basso coefficiente di attrito ed elevato modulo elastico. Eccellente compatibilità con la maggior parte degli oli lubrificanti e fluidi in genere.

Offering excellent physical and chemical properties POM satisfies a wide range of precision parts. Low coefficient of friction, low water absorption, high stiffness and excellent dimensional stability are the main characteristics. Compatible with gasoline, moisture and neutral lubricants and chemicals in general. Sensitive to acid hydrolysis and oxidations such as Seral acids and chlorine.

■ Polyamide PA66

■ Name	TECNOTEX TDS404
■ Hardness	
■ Temperature Range	-20°C +180°C

Polimero con ottime proprietà di scorrimento ed usura, insensibile alle impurità. Ottima compatibilità con la maggior parte dei solventi, idrocarburi ed oli lubrificanti in genere.

Polyamide (Nylon) offers excellent abrasion resistance, rigidity and thermostability. A preferred material for parts subject to mechanical and thermal stress. Compatible with most all solvents and hydraulic fluids in general.

■ Thermoplastic Polyester Elastomer TPE

■ Name	TECNOTEX TDS409
■ Hardness	55° ShD
■ Temperature Range	-40°C +140°C

Elevata resistenza all'abrasione ed all'invecchiamento con ottima flessibilità alle basse temperature. Eccellente compatibilità con solventi, idrocarburi ed oli lubrificanti in genere.

Excellent weather resistance, ozone resistance and chemical resistance. Wide range of fluid compatibility with greases, acids and bases in general.

■ Polytetrafluoroethylene PTFE

■ Name	TEF-RING TDS703	TEF-RING TDS704 Bronze Filled	TEF-RING TDS705 Glass Filled
■ Hardness			
■ Temperature Range	-180°C +240°C	-200°C +260°C	-150°C +260°C

Polimero con coefficiente di attrito molto basso, ottima resistenza all'invecchiamento e alle sollecitazioni statiche e dinamiche. Ottima resistenza agli agenti chimici in generale.

Highly saturated fluorocarbon polymer with properties such as low static coefficient of friction, high chemical resistance and a wide range of operating temperatures. Resistant to almost all media it can be sensitive to alkali and fluorine compounds only at high temperatures.

■ Phenol-Formaldehyde PF

■ Name	TEXILAN TDS701
■ Hardness	
■ Temperature Range	-30°C +120°C

Resina con elevato modulo elastico, eccellente resistenza ai carichi, alla trazione, all'abrasione e all'usura. Basso coefficiente di attrito.












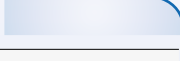

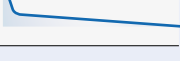

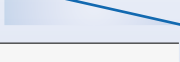


PF material characteristics are good compression set, heat distortion, hardness and good self lubricating properties. Resistant to flame retardant agents, weak acids, non polar solvents and alkalis and organic solvents.

Finitura delle superfici

Il grado di rugosità di una superficie è definito dal massimo valore di R_a tra quelli rilevati in punti diversi della superficie. La durata e la tenuta di una guarnizione sono strettamente legate alla qualità della superficie dell'area di contatto. È importante prestare attenzione all'intera superficie di contatto soprattutto laddove la guarnizione scorre dinamicamente. È necessario accertare l'assenza di graffi, particelle abrasive e segni di lavorazione di utensile sulla superficie.

Surface Roughness

The roughness of the surface finish is defined by the maximum value of R_a which is taken from different points of the surface. The life expectancy of the sealing elements are to a great extent linked to the quality of the surface finish and so higher demands during production should be considered. The dynamic surfaces, those of importance when considering direct contact between seal and mating surface to be sealed, should be free of scratches, machining marks and abrasive particles.

Surface Properties Surface Profile	Pt	$R_{z\ max}$	R_z	R_a	R_p	Mr1	Mr2	Bearing Capacity graph (Abbott graph)
	-	-	-	μm	-	C0,25	C0,25	
	1	1	1	0,25	0,2	75%	75%	
	1	1	1	0,25	0,8	15%	15%	
	1	1	1	0,2	0,2	85%	85%	
	1	1	1	0,2	0,8	20%	20%	
	1	1	0,4	0,08	0,15	88%	88%	
	1	1	0,4	0,08	0,85	7%	7%	
	1	1	1	0,2	0,5	25%	25%	
	1	1	1	0,3	0,3	38%	38%	
	1	0,5	0,4	0,1	0,2	85%	17%	

TOLLERANZE-Tolerances													
dimensioni nominali nominal dimensions ø mm		albero base- rod (0.001 mm)								foro base- bore (0.001 mm)			
from	to	e9	f7	f8	f9	h8	h9	h10	h11	H8	H9	H10	H11
1.6	3	-14	-6	-6	-6	0	0	0	0	+14	+25	+40	+60
		-39	-16	-20	-31	-14	-25	-40	-60	0	0	0	0
3	6	-20	-10	-10	-10	0	0	0	0	+18	+30	+48	+75
		-50	-22	-28	-40	-18	-30	-48	-75	0	0	0	0
6	10	-25	-13	-13	-13	0	0	0	0	+22	+36	+58	+90
		-61	-28	-35	-49	-22	-36	-58	-90	0	0	0	0
10	18	-32	-16	-16	-16	0	0	0	0	+27	+43	+70	+110
		-75	-34	-43	-59	-27	-43	-70	-110	0	0	0	0
18	30	-40	-20	-20	-20	0	0	0	0	+33	+52	+84	+130
		-92	-41	-53	-72	-33	-52	-84	-130	0	0	0	0
30	50	-50	-25	-25	-25	0	0	0	0	+39	+62	+100	+160
		-112	-50	-64	-87	-39	-62	-100	-160	0	0	0	0
50	80	-60	-30	-30	-30	0	0	0	0	+46	+74	+120	+190
		-134	-60	-76	-104	-46	-74	-120	-190	0	0	0	0
80	120	-72	-36	-36	-36	0	0	0	0	+54	+87	+140	+220
		-159	-71	-90	-123	-54	-87	-140	-220	0	0	0	0
120	180	-85	-43	-43	-43	0	0	0	0	+63	+100	+160	+250
		-185	-83	-106	-143	-63	-100	-160	-250	0	0	0	0
180	250	-100	-50	-50	-50	0	0	0	0	+72	+115	+185	+290
		-215	-96	-122	-165	-72	-115	-185	-290	0	0	0	0
250	315	-110	-56	-56	-56	0	0	0	0	+81	+130	+210	+320
		-240	-108	-137	-186	-81	-130	-210	-320	0	0	0	0
315	400	-125	-62	-62	-62	0	0	0	0	+89	+140	+230	+360
		-265	-119	-151	-212	-89	-140	-230	-360	0	0	0	0

dimensioni e tolleranze

dimensions and tolerances

Stoccaggio

Durante lo stoccaggio, i prodotti in gomma ed i materiali plastici possono essere soggetti ad invecchiamento con conseguente alterazione delle caratteristiche meccaniche tale da renderli inutilizzabili. Questa alterazione può essere dovuta a diversi fattori invecchianti quali agenti ossidanti, ozono, luce solare diretta, calore eccessivo, raggi ultravioletti, umidità, polvere e agenti chimici incompatibili. In presenza di condizioni ottimali, invece, le guarnizioni in gomma ed i materiali plastici non subiscono variazioni anche nel lungo periodo. Il metodo di confezionamento utilizzato da Guarnitec - sacchetti AUV e scatole di cartone - consente, unitamente alla presenza di condizioni ottimali, una lunga conservazione.

- La temperatura ottimale per lo stoccaggio di materiali deve essere compresa tra 5° e 25°C con tasso di umidità massimo del 60%. Temperature inferiori non alterano le caratteristiche del materiale; si consiglia tuttavia di stabilizzare il prodotto alla temperatura di 20-25°C prima di procedere al montaggio. Si consiglia inoltre di schermare eventuali fonti dirette di calore (termoventilatore, pannelli radianti e termosifoni).
- Ossigeno ed ozono sono agenti ossidanti ed è pertanto opportuno proteggere le guarnizioni e le parti plastiche dalla circolazione d'aria ponendoli in sacchetti di polietene o contenitori opachi chiusi. Essendo l'esposizione all'ozono particolarmente dannosa, si raccomanda di non immagazzinare i prodotti in locali ove siano presenti macchine o installazioni elettriche potenti.
- Si consiglia di immagazzinare i prodotti in gomma ed i materiali plastici in appositi contenitori opachi per assicurare una protezione da luce solare diretta, raggi ultravioletti e da lampade fluorescenti. È preferibile schermare le finestre con vernici rosse o arancioni per assicurare una totale protezione dalla luce solare.
- La polvere può alterare le caratteristiche meccaniche del prodotto. Si consiglia di accertare la totale assenza di polvere prima di procedere al montaggio.
- Al fine di evitare qualsiasi tipo di deformazione nello stoccaggio è opportuno accertarsi dell'assenza di condizioni di tensione o di carichi sovrapposti. Lo stato di tensione accelera l'alterazione delle caratteristiche meccaniche e la sensibilità ai fenomeni d'invecchiamento. Si raccomanda di non immagazzinare per lungo tempo guarnizioni premontate. Se si è in presenza di tali condizioni o di ambienti esposti alla luce solare, la vita utile degli articoli può essere di soli pochi giorni.
- Se non permesso dal produttore, è preferibile evitare il contatto con solventi, oli o grassi lubrificanti durante lo stoccaggio. Alcuni metalli, come Rame e Manganese, possono deteriorare alcuni tipi di gomma. Si consiglia quindi di evitare il contatto diretto degli articoli in gomma o plastica con questi metalli e leghe.

Storage Guidelines

With a few simple precautions the overall life of Guarnitec products can be considerably lengthened. Seals, often stored as spare parts for prolonged periods of time can lose their physical and mechanical properties ultimately becoming unusable. These changes may be the result of a combination of factors such as deformation, oxygen, ozone, light, heat, humidity and solvents in general. A combination of Guarnitec standard packaging (AUV bags and cardboard boxes) along with proper storage facilities assure long seal life. The following recommendations for storage are as follows:

- *Storage Temperature should be from 5°C to 25°C. We recommend that the seals be stabilized at room temperature before assembling.*
- *Oxygen and Ozone are both oxidating agents therefore we recommend protecting seals in AUV bags or in airtight containers. Equipment producing high levels of ozone such as electrical motors, halogen lighting and similar devices should not be placed in the storage area.*
- *Artificial lighting with UV rays or direct sunlight is harmful to all rubber and plastic products. Seals should ideally be stored in the dark or bulbs are preferred over neon lighting.*
- *In order to avoid deformation it is important to store seals free from tension or subject them to permanent weight. Strain conditions alter mechanical properties and sensitivity to ageing phenomena. Do not store pre-assembled seals for long periods of time with the presence of similar conditions.*
- *During storage care should be taken that the seals do not come into contact with solvents, lubricants, oils or any other semi-solid material. Some metals like brass and copper can have damaging effects on different rubber compounds therefore should not be stored in direct contact with such material or their alloys.*



Guarnizioni per STELO
ROD seals

16÷111



Guarnizioni per PISTONE
PISTON seals

114÷217



ANELLI di guida
guide **RINGS**

220÷239



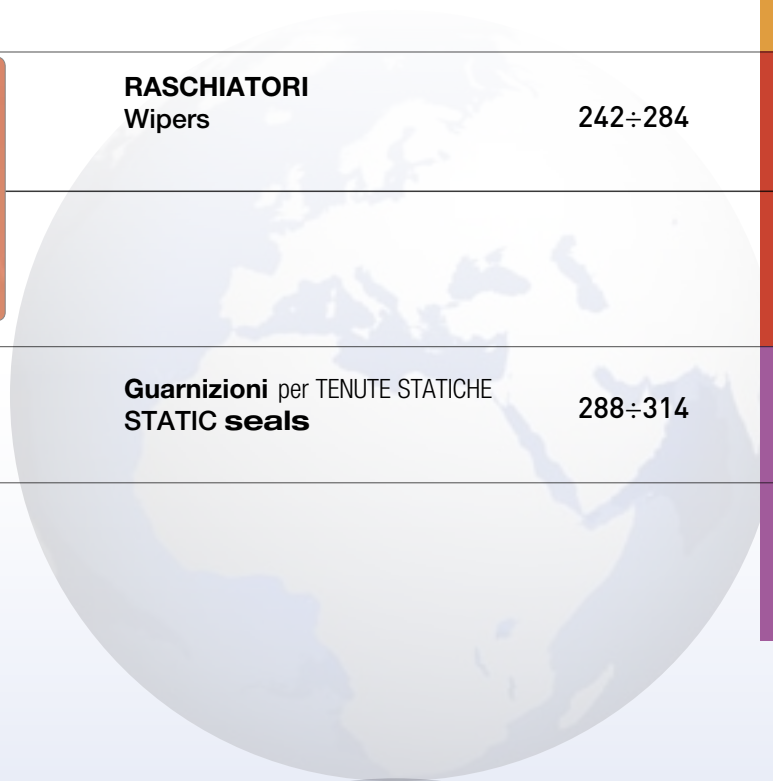
RASCHIATORI
Wipers





















242÷284



Guarnizioni per TENUTE STATICHE
STATIC seals

288÷314



PROFILO PROFILE	TIPO SEAL TYPE	valori • technical data			MATERIALE MATERIAL	 light  medium  heavy			pagina page
		MPa	speed m/s	temp. °C					
	TSE	25	0,5	-30 +110	NBR + Tessuto NBR + Fabric	•	• •		16÷24
	TSE/Al	40	0,5	-30 +110	NBR + Tessuto + POM NBR + Fabric + POM	•	• • •	• • •	16÷24
	TGO	25	0,5	-30 +110	NBR + Tessuto NBR + Fabric	•	• •		26÷29
	GT/5	40	0,5	-30 +110	NBR + Tessuto NBR + Fabric		• • •	• • •	30÷39
	GT/7	40	0,5	-30 +110	NBR + Tessuto NBR + Fabric		• • •	• • •	30÷39
	PSE PSE/K	70	0,5	-30 +110	NBR + Tessuto + POM NBR + Fabric + POM		• • •	• • •	40÷45
	TTS	40	0,5	-35 +100	Poliuretano Polyurethane	•	• •		46÷58
	TTS/L	40	0,5	-35 +100	Poliuretano Polyurethane	•	• •		46÷58
	TTI	40	0,5	-35 +100	Poliuretano Polyurethane	•	• •		60÷77
	TTV/L	40	0,5	-35 +100	Poliuretano Polyurethane	•	• • •	• • •	60÷77
	TTH/Al	40	0,5	-35 +100	Poliuretano + POM Polyurethane + POM		• • •	• • •	78÷81
	TTX TTX+S	40 50	1,0	-35 +100	Poliuretano Polyurethane		• • •	• • •	82÷86
	GIP	25	0,5	-35 +100	Poliuretano + NBR Polyurethane + NBR	•	• •		88÷90
	TLI	50	1,0	-30 +110	NBR + Tessuto NBR + Fabric		• • •	• • •	92÷95
	GUA-RING 02	50	12	-30 +100	PTFE + NBR PTFE + NBR		• • •	• • •	96÷100
	GUA-RING GIR	50	15	-30 +100	PTFE + NBR PTFE + NBR		• • •	• • •	102÷106
	BUFFER	40	0,8	-35 +100	Poliuretano + POM Polyurethane + POM		• • •	• • •	108÷110



guarnizioni per STELO

ROD seals



TSE TSE/AI

**Guarnizioni per STELO
ROD seals**

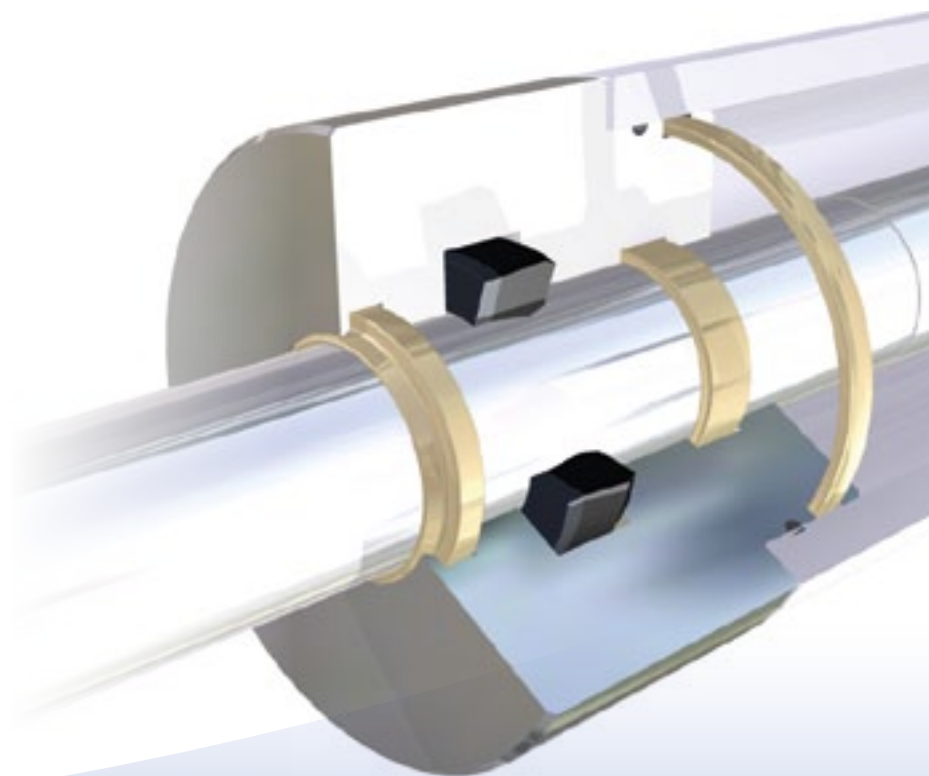
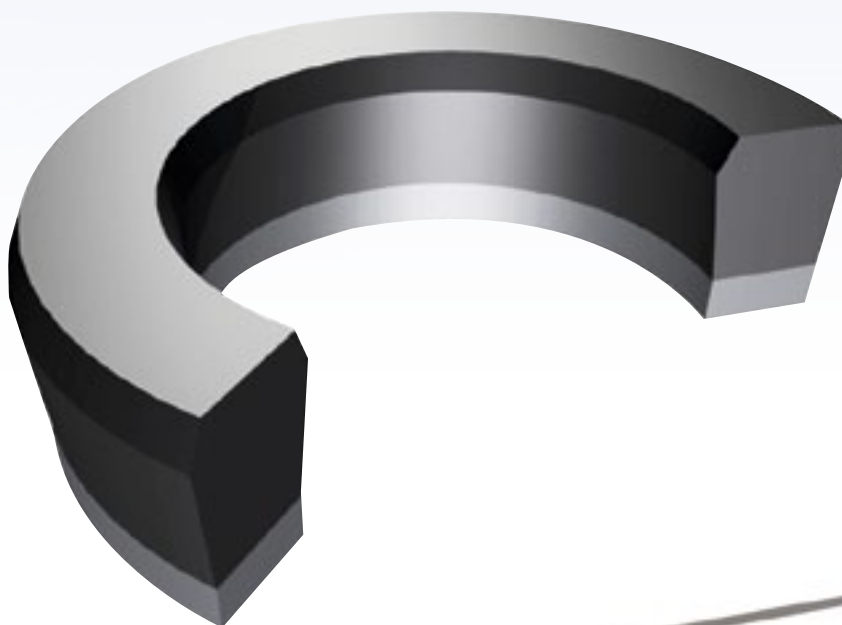
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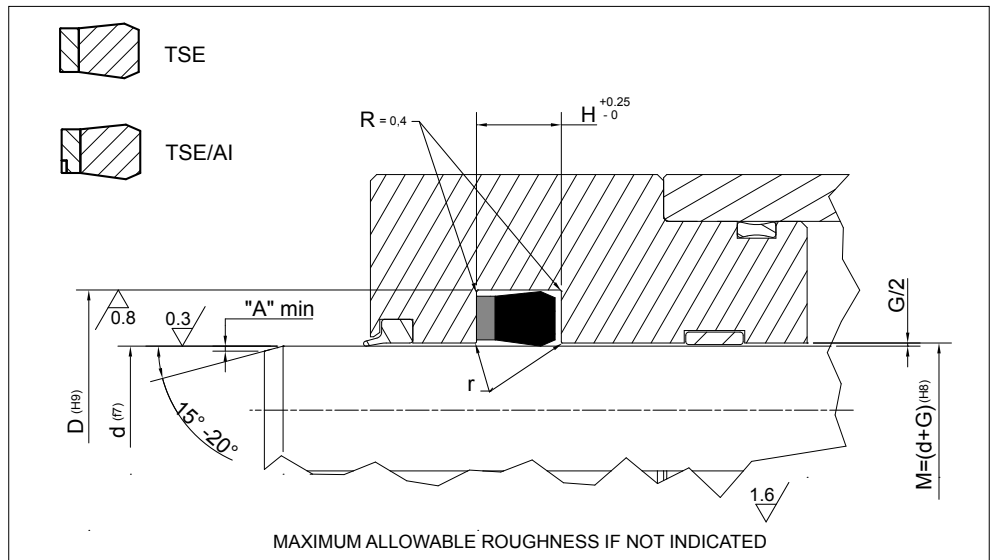


Versione standard		Standard version	
TSE	Gommatela	TSE	NBR/Cotton Fabric
TSE/AI	Gommatela+POM	TSE/AI	NBR/Cotton Fabric+POM
Versioni Alternative		Alternative Versions	
TSE FKM	Gommatela FKM	TSE FKM	NBR/Cotton Fabric FKM
TSE/AI FKM	Gommatela FKM+POM	TSE/AI FKM	NBR /Cotton Fabric FKM+POM
Pressione fino a / Pressure up to			
25 MPa TSE		40 MPa TSE/AI	
Velocità fino a / Speed up to			
0.5 m/s			
Temperatura / Temperature			
-30° +110°C		-20°C +200°C FKM	
Applicazioni		Applications	
Cilindri idraulici Presse idrauliche Montacarichi		Standard hydraulic cylinders Presses Lifts	

TSE • TSE/AI

16÷24





Rod Seal design guidelines

	0mm < d ≤ 50mm	50mm < d ≤ 100mm	100mm < d ≤ 150mm	d ≥ 150mm
r	remove sharp edges			
A	1 mm	2 mm	3 mm	3 mm < A ≤ 5 mm

Operating pressure to determinate Maximum Gap Allowance: G/2

G	Profile Dimension	> 16 MPa	> 26 MPa	> 32 MPa	> 40 MPa
	≤ 5		0.50 mm	0.40 mm	0.35 mm
> 5.0 - 7.5		0.55 mm	0.45 mm	0.40 mm	0.35 mm
> 7.5 - 12.5		0.60 mm	0.50 mm	0.45 mm	0.40 mm
15		0.65 mm	0.55 mm	0.45 mm	0.40 mm

PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TSE 2001	047019/A	5,00	12,00	6,50
TSE 2002	051023/A	6,00	13,00	6,50
TSE 2003	059031/A	8,00	15,00	6,50
TSE 2003/1	070039/1	10,00	18,00	6,00
TSE 2004	075047/A	12,00	19,00	6,50
TSE 2005	086055/A	14,00	22,00	6,50
TSE 2006	086055	14,00	22,00	6,50
TSE 2006/1	087062	15,87	22,22	5,25
TSE 2006/3	090047	12,00	23,00	7,50
TSE 2006/2	090055	14,00	23,00	7,00
TSE 2007	090059	15,00	23,00	6,30
TSE 2007/1	090063	16,00	23,00	7,00
TSE 2008	094063/1	16,00	24,00	6,40
TSE 2009	094063	16,00	24,00	7,00
TSE 2010	102070/A	18,00	26,00	6,50
TSE 2011	102070	18,00	26,00	7,00
TSE 2012	106059	15,00	27,00	7,00
TSE 2013	106078	20,00	27,00	6,50
TSE 2014	110070	18,00	28,00	6,30
TSE 2014/2	110070/1	18,00	28,00	9,50
TSE 2014/1	118070	18,00	30,00	7,50
TSE 2015	110078/1	20,00	28,00	6,30
TSE 2016	110078	20,00	28,00	7,00
TSE 2017	118078	20,00	30,00	8,50
TSE 2018	118086/A	22,00	30,00	6,50
TSE 2019	118086	22,00	30,00	7,00
TSE 2019/3	124098	25,00	32,00	7,00

PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TSE 2019/2	125087	22,09	31,75	9,20
TSE 2019/1	125094	24,00	32,00	7,50
TSE 2020	129098	25,00	33,00	6,40
TSE 2021	133086	22,00	34,00	9,50
TSE 2022	134094	24,00	34,00	6,50
TSE 2023	137078	20,00	35,00	11,50
TSE 2024	137086	22,00	35,00	10,00
TSE 2025	137098	25,00	35,00	9,00
TSE 2025/2	137100	25,40	34,90	6,35
TSE 2026	137106	27,00	35,00	6,50
TSE 2027	141110	28,00	36,00	6,40
TSE 2027/1	143093	23,81	36,51	10,00
TSE 2028	147118	30,00	37,50	6,50
TSE 2029	149098	25,00	38,00	10,00
TSE 2030	149110/1	28,00	38,00	8,00
TSE 2031	149118	30,00	38,00	6,40
TSE 2031/1	150100	25,40	38,10	10,00
TSE 2031/2	157078	20,00	40,00	9,50
TSE 2032	157102/1	26,00	40,00	10,00
TSE 2033	157110	28,00	40,00	9,50
TSE 2033/1	156111	28,19	39,68	8,00
TSE 2034	157118	30,00	40,00	7,50
TSE 2035	157125/A	32,00	40,00	6,40
TSE 2036	157125	32,00	40,00	9,00
TSE 2037	161110	28,00	41,00	10,00
TSE 2037/1	162112	28,57	41,27	10,00
TSE 2037/2	165125	32,00	42,00	9,70
TSE 2038	169137	35,00	43,00	6,50
TSE 2038/1	169137/1	35,00	43,00	8,00
TSE 2039	169141	36,00	43,00	6,50
TSE 2040	173098	25,00	44,00	12,50
TSE 2041	173125	32,00	44,00	11,50
TSE 2042	173141/1	36,00	44,00	6,50
TSE 2042/1	177102	26,00	45,00	6,50
TSE 2043	177118/1	30,00	45,00	9,00
TSE 2044	177125	32,00	45,00	10,00
TSE 2045	177137/2	35,00	45,00	13,50
TSE 2045/1	177137/3	35,00	45,00	10,50
TSE 2046	177137/5	35,00	45,00	8,00
TSE 2047	181141	36,00	46,00	8,50
TSE 2048	188141	36,00	48,00	9,50
TSE 2048/1	188141/1	36,00	48,00	11,00
TSE 2049	188157	40,00	48,00	6,50
TSE 2049/1	188157/1	40,00	48,00	9,00
TSE 2050	196118	30,00	50,00	14,50
TSE 2051	196137	35,00	50,00	11,50
TSE 2052	196149	38,00	50,00	9,50
TSE 2053	196157/3	40,00	50,00	8,00
TSE 2054	196157/1	40,00	50,00	10,00
TSE 2055	196157	40,00	50,00	11,00
TSE 2056	196157/2	40,00	50,00	13,50
TSE 2056/1	204157	40,00	52,00	11,50

TECNOTEX

Guarnizioni per STELO
ROD seals

TSE
TSE/AI





PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TSE 2057	196165	42,00	50,00	6,50
TSE 2057/1	224165	42,00	57,00	10,50
TSE 2058	200137/2	34,92	50,80	11,60
TSE 2059	200148	37,72	50,80	9,00
TSE 2060	204177	45,00	52,00	10,50
TSE 2061	208169	43,00	53,00	9,00
TSE 2062	208177	45,00	53,00	6,50
TSE 2062/1	208177/1	45,00	53,00	11,00
TSE 2063	216157	40,00	55,00	7,50
TSE 2064	216157/1	40,00	55,00	11,00
TSE 2064/1	216157/2	40,00	55,00	10,50
TSE 2065	216177	45,00	55,00	8,00
TSE 2066	216177/1	45,00	55,00	11,00
TSE 2067	212181	46,00	54,00	8,00
TSE 2068	220181	46,00	56,00	8,00
TSE 2069	228196	50,00	58,00	12,50
TSE 2069/1	228195/1	50,00	58,00	8,50
TSE 2070	236157	40,00	60,00	14,50
TSE 2071	236177	45,00	60,00	10,50
TSE 2072	236188	48,00	60,00	7,00
TSE 2073	236196	50,00	60,00	8,00
TSE 2074	236196/1	50,00	60,00	10,00
TSE 2075	237175	44,45	60,32	11,60
TSE 2076	244196/1	50,00	62,00	9,50
TSE 2077	248177	45,00	63,00	11,00
TSE 2078	250212	53,92	63,50	7,00
TSE 2079	255177	45,00	65,00	14,50
TSE 2080	255196	50,00	65,00	11,00
TSE 2080/1	255196/1	50,00	65,00	13,00
TSE 2081	255216	55,00	65,00	11,00
TSE 2082	255216/1	55,00	65,00	8,00
TSE 2083	259212	54,00	66,00	9,50
TSE 2084	259220	56,00	66,00	8,00
TSE 2085	262200	50,80	66,67	11,50
TSE 2086	263224	57,00	67,00	8,00
TSE 2087	267236	60,00	68,00	12,50
TSE 2088	271240	61,00	69,00	8,50
TSE 2089	273236	60,00	69,50	7,00
TSE 2090	275225	57,15	69,85	10,00
TSE 2091	275196	50,00	70,00	14,50
TSE 2092	275216	55,00	70,00	10,50
TSE 2093	275236	60,00	70,00	8,00
TSE 2093/1	275236/1	60,00	70,00	10,00
TSE 2094	275236/2	60,00	70,00	13,00
TSE 2094/1	275236/3	60,00	70,00	11,00
TSE 2095	279220	56,00	71,00	11,50
TSE 2095/1	279220/1	56,00	71,00	12,50
TSE 2096	283236	60,00	72,00	10,00
TSE 2097	295216	55,00	75,00	14,50
TSE 2098	295236	60,00	75,00	13,00
TSE 2099	295248	63,00	75,00	11,00
TSE 2100	295255	65,00	75,00	13,50

PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TSE 2100/1	295255/1	65,00	75,00	8,50
TSE 2101	299220	56,00	76,00	14,50
TSE 2101/1	300225	57,15	76,20	10,00
TSE 2102	303255	65,00	77,00	9,60
TSE 2103	314236	60,00	80,00	14,00
TSE 2104	314255	65,00	80,00	11,50
TSE 2105	314255/2	65,00	80,00	12,50
TSE 2105/1	337262	66,67	85,72	14,80
TSE 2106	312267	68,00	79,40	10,00
TSE 2107	314275	70,00	80,00	13,00
TSE 2108	314275/1	70,00	80,00	8,00
TSE 2109	322275/1	70,00	82,00	9,60
TSE 2110	326248	63,00	83,00	14,50
TSE 2111	330275	70,00	84,00	12,50
TSE 2112	330283	72,00	84,00	6,00
TSE 2113	330299	76,00	84,00	8,50
TSE 2114	334255	65,00	85,00	14,50
TSE 2115	334275/1	70,00	85,00	12,00
TSE 2116	334295/1	75,00	85,00	8,00
TSE 2117	334295/2	75,00	85,00	11,00
TSE 2118	342295	75,00	87,00	10,00
TSE 2119	342303	77,00	87,00	8,00
TSE 2120	354275	70,00	90,00	14,50
TSE 2121	354295	75,00	90,00	11,50
TSE 2121/1	356295	75,50	90,00	14,00
TSE 2122	354307	78,00	90,00	12,00
TSE 2123	354314	80,00	90,00	8,00
TSE 2124	354314/1	80,00	90,00	11,00
TSE 2125	354314/2	80,00	90,00	13,00
TSE 2125/1	358314	80,00	91,00	10,50
TSE 2126	362314	80,00	92,00	9,60
TSE 2127	370330	84,00	94,00	8,00
TSE 2127/1	374314	80,00	95,00	12,00
TSE 2128	374295	75,00	95,00	14,50
TSE 2129	374334	85,00	95,00	8,00
TSE 2130	377314	80,00	96,00	10,50
TSE 2131	381334	85,00	97,00	9,60
TSE 2132	389358	91,00	99,00	8,50
TSE 2133	393314/1	80,00	100,00	12,00
TSE 2134	393314	80,00	100,00	14,50
TSE 2135	393334	85,00	100,00	12,00
TSE 2136	393354	90,00	100,00	10,50
TSE 2137	401354	90,00	102,00	9,60
TSE 2138	412337	85,72	104,77	14,80
TSE 2138/1	413334/1	85,00	105,00	14,00
TSE 2139	413334	85,00	105,00	14,80
TSE 2140	413377	96,00	105,00	11,50
TSE 2141	413354	90,00	105,00	9,50
TSE 2142	413354/1	90,00	105,00	12,50
TSE 2142/1	413354/2	90,50	105,00	14,00
TSE 2143	413374	95,00	105,00	11,00
TSE 2144	418354	90,00	106,20	10,80

TECNOTEX

Guarnizioni per STELO
ROD seals

TSE
TSE/AI





PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TSE 2145	421374	95,00	107,00	12,50
TSE 2146	423385	98,00	107,50	7,00
TSE 2147	425350	88,90	107,95	12,70
TSE 2148	433354	90,00	110,00	12,50
TSE 2149	433354/1	90,00	110,00	14,50
TSE 2149/2	433374	95,00	110,00	13,00
TSE 2149/1	441374	95,00	112,00	12,00
TSE 2150	444393	100,00	113,00	13,50
TSE 2151	450350/2	88,90	114,30	19,50
TSE 2152	450375	95,25	114,30	13,50
TSE 2153	452393/1	100,00	115,00	11,50
TSE 2153/1	452393	100,00	115,00	12,50
TSE 2154	452413	105,00	115,00	11,00
TSE 2154/1	452413/1	105,00	115,00	8,00
TSE 2155	472393/1	100,00	120,00	12,00
TSE 2156	472393	100,00	120,00	14,50
TSE 2157	472409	104,00	120,00	11,20
TSE 2158	472413	105,00	120,00	12,00
TSE 2159	492413	105,00	125,00	12,50
TSE 2159/1	492413/1	105,00	125,00	14,50
TSE 2159/2	457417	106,00	116,00	8,00
TSE 2160	492433	110,00	125,00	12,00
TSE 2161	492393	100,00	125,00	13,30
TSE 2162	492452	115,00	125,00	8,00
TSE 2163	511433	110,00	130,00	12,50
TSE 2164	511433/1	110,00	130,00	14,50
TSE 2164/1	522433	110,00	132,00	14,00
TSE 2165	511452	115,00	130,00	12,50
TSE 2166	511464	118,00	130,00	12,50
TSE 2167	522472	120,00	132,70	10,00
TSE 2168	525425	107,95	133,35	19,50
TSE 2169	531433	110,00	135,00	15,50
TSE 2169/1	551433	110,00	140,00	15,50
TSE 2170	531472	120,00	135,00	12,50
TSE 2170/1	535496	126,00	136,00	8,00
TSE 2171	550450	114,30	139,70	19,50
TSE 2172	551472	120,00	140,00	12,50
TSE 2173	551472/1	120,00	140,00	14,50
TSE 2174	551492	125,00	140,00	12,50
TSE 2175	551511	130,00	140,00	8,00
TSE 2175/1	570472/1	120,00	145,00	12,00
TSE 2176	570472	120,00	145,00	18,80
TSE 2177	570492	125,00	145,00	16,00
TSE 2177/1	535496	126,00	136,00	8,00
TSE 2178	570511	130,00	145,00	15,00
TSE 2178/1	570511/1	130,00	145,00	12,50
TSE 2179	590492	125,00	150,00	14,50
TSE 2180	590511	130,00	150,00	16,00
TSE 2181	590511/1	130,00	150,00	14,50
TSE 2182	590551	140,00	150,00	11,00
TSE 2183	610511	130,00	155,00	18,80
TSE 2184	610551	140,00	155,00	13,00

PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TSE 2185	620570	145,00	157,70	10,00
TSE 2186	629551	140,00	160,00	12,50
TSE 2187	629551/A	140,00	160,00	16,00
TSE 2188	629551/1	140,00	160,00	14,50
TSE 2189	649590	150,00	165,00	13,00
TSE 2190	669590	150,00	170,00	14,50
TSE 2190/1	700624	158,50	178,00	13,00
TSE 2191	669590/A	150,00	170,00	16,00
TSE 2192	669610	155,00	170,00	9,50
TSE 2193	688590	150,00	175,00	18,00
TSE 2194	688629	160,00	175,00	16,00
TSE 2195	700650	165,10	177,80	10,00
TSE 2196	708590	150,00	180,00	14,00
TSE 2197	708629	160,00	180,00	14,00
TSE 2197/1	708629/1	160,00	180,00	13,50
TSE 2198	708629/2	160,00	180,00	16,00
TSE 2198/1	767649	165,00	195,00	20,00
TSE 2199	719669	170,00	182,70	10,00
TSE 2199/1	729629	160,00	185,00	16,00
TSE 2200	787669	170,00	200,00	23,50
TSE 2201	787708	180,00	200,00	14,50
TSE 2202	787708/1	180,00	200,00	16,00
TSE 2202/1	800740	188,00	203,00	12,20
TSE 2203	800740	188,00	203,00	13,00
TSE 2204	800700	177,80	203,20	22,70
TSE 2205	819779	198,00	208,00	12,00
TSE 2205/1	821771	196,00	208,70	10,50
TSE 2206	826708/1	180,00	210,00	20,50
TSE 2207	826748	190,00	210,00	14,50
TSE 2208	850725	184,15	215,90	25,80
TSE 2208/1	846768	195,00	215,00	14,50
TSE 2209	866787	200,00	220,00	14,50
TSE 2210	866787/A	200,00	220,00	16,00
TSE 2211	900775	196,85	228,60	25,80
TSE 2212	901842	214,00	229,00	13,00
TSE 2213	905787	200,00	230,00	20,50
TSE 2213/1	931881	224,00	236,70	9,50
TSE 2214	944826	210,00	240,00	22,50
TSE 2215	984866	220,00	250,00	20,50
TSE 2216	1003885	225,00	255,00	22,50
TSE 2217	1015937	238,00	258,00	15,50
TSE 2217/1	1100975	247,65	279,40	25,80
TSE 2218	1024905	230,00	260,00	19,50
TSE 2219	1054937	238,00	268,00	21,00
TSE 2220	1122984	250,00	285,00	16,50
TSE 2221	1141984	250,00	290,00	25,50
TSE 2222	11411024	260,00	290,00	20,00
TSE 2223	12201141	290,00	310,00	15,00
TSE 2224	12591102	280,00	320,00	22,50
TSE 2225	12591141	290,00	320,00	20,50
TSE 2225/1	12751150	292,10	323,85	25,80
TSE 2226	12991220	310,00	330,00	16,50

TECNOTEX

Guarnizioni per STELO
ROD seals

TSE
TSE/AI







TGO

**Guarnizioni per STELO
ROD seals**

TECNOTEX

Versione standard	Standard version
Gommatela	<i>NBR/Cotton Fabric</i>
Versioni Alternative	Alternative Versions
Gommatela FKM	<i>NBR/Cotton Fabric FKM</i>
Pressione fino a / Pressure up to	
25 MPa	
Velocità fino a / Speed up to	
0.5 m/s	
Temperatura / Temperature	
-30°C +110°C	-20°C +200°C FKM
Applicazioni	Applications
Cilindri idraulici per agricoltura Cilindri per industria leggera	<i>Agricultural cylinders Light duty Industrial cylinders</i>

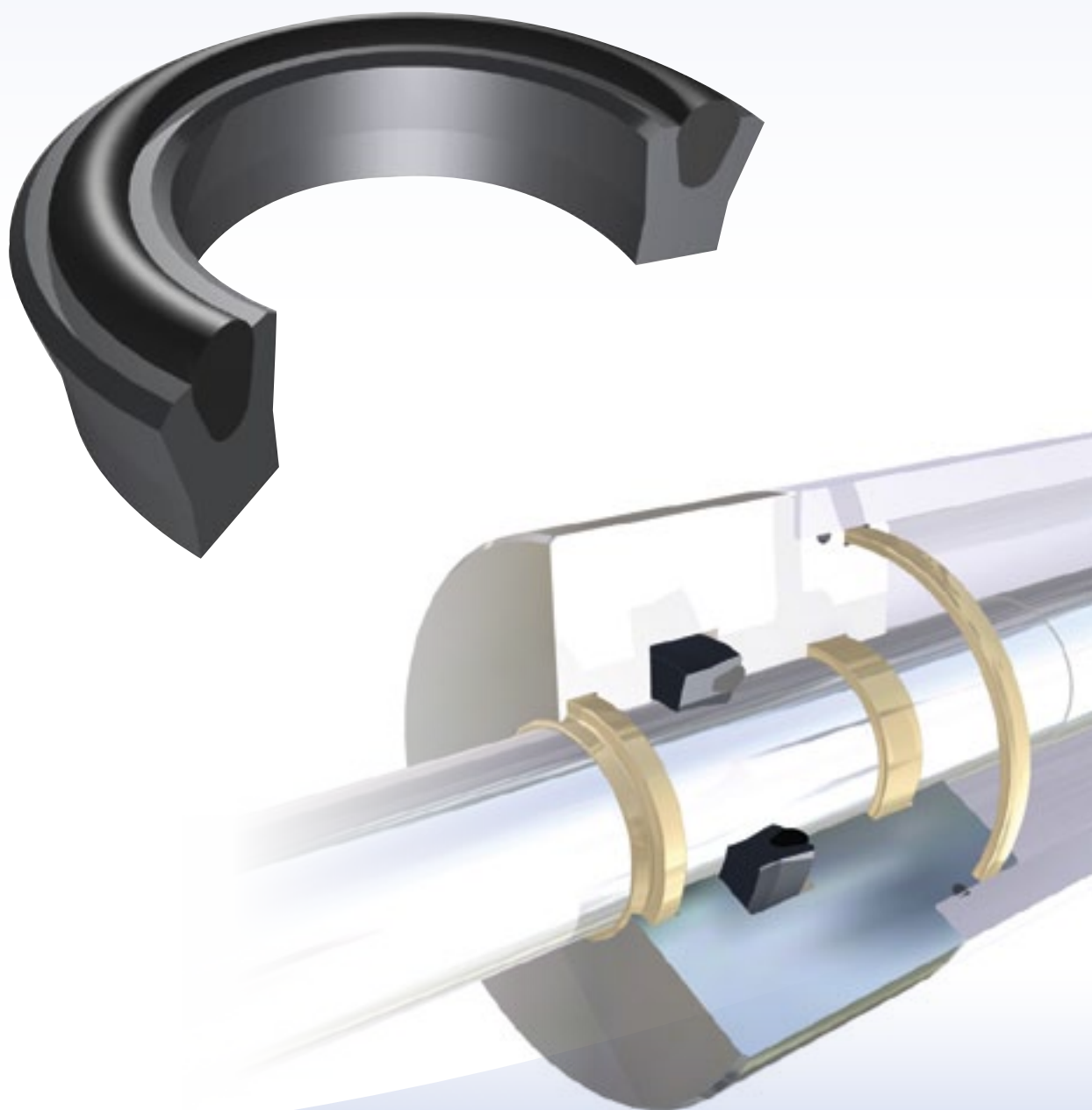


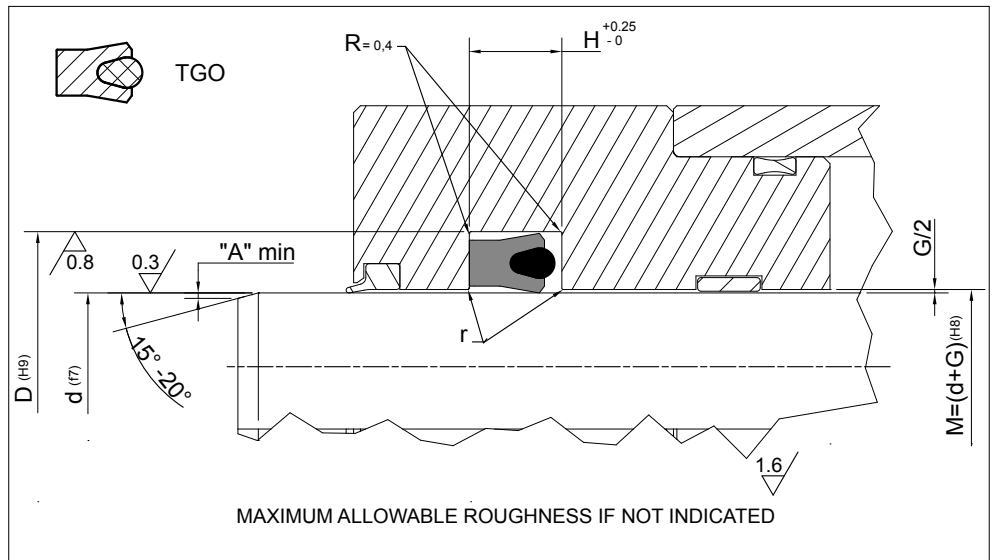
GUARNITEC

Guarnizioni per STELO
ROD seals

TGO

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Rod Seal design guidelines

	0mm < d ≤ 50mm	50mm < d ≤ 100mm	100mm < d ≤ 150mm	d ≥ 150mm
r	remove sharp edges			
A	1 mm	2 mm	3 mm	3 mm < A ≤ 5 mm

Operating pressure to determinate Maximum Gap Allowance: G/2

G	Profile Dimension	> 16 MPa	> 25 MPa
	≤ 5	0.50 mm	0.40 mm
> 5.0 – 7.5	0.55 mm	0.45 mm	
> 7.5 – 12.5	0.60 mm	0.50 mm	
15	0.65 mm	0.55 mm	

PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TGO 2501	047019	5,00	12,00	6,40
TGO 2502	051023	6,00	13,00	6,40
TGO 2503	059031	8,00	15,00	6,40
TGO 2504	066039	10,00	17,00	6,40
TGO 2504/1	066039/S1	10,00	18,00	6,50
TGO 2504/2	066039/S2	10,00	18,00	8,50
TGO 2505	074047	12,00	19,00	6,40
TGO 2506	086055	14,00	22,00	6,40
TGO 2507	090059	15,00	23,00	6,40
TGO 2508	094063	16,00	24,00	6,40
TGO 2509	102070	18,00	26,00	6,40
TGO 2510	110078	20,00	28,00	6,40
TGO 2511	118086	22,00	30,00	6,40
TGO 2511/1	125094	24,00	32,00	5,00
TGO 2512	129098	25,00	33,00	6,40
TGO 2513	141110	28,00	36,00	6,40
TGO 2514	149118	30,00	38,00	6,40
TGO 2515	157125	32,00	40,00	6,40
TGO 2516	169137	35,00	43,00	6,40
TGO 2516/1	169137/S1	35,00	43,00	8,50
TGO 2517	173141	36,00	44,00	6,40
TGO 2518	188157	40,00	48,00	6,40
TGO 2519	196165	42,00	50,00	6,40
TGO 2519/1	208177	45,00	53,00	8,50
TGO 2520	216177	45,00	55,00	8,00
TGO 2521	236196	50,00	60,00	8,00
TGO 2521/1	244196	50,00	62,00	9,60



GT/5 GT/7

**Guarnizioni per STELO
ROD seals**

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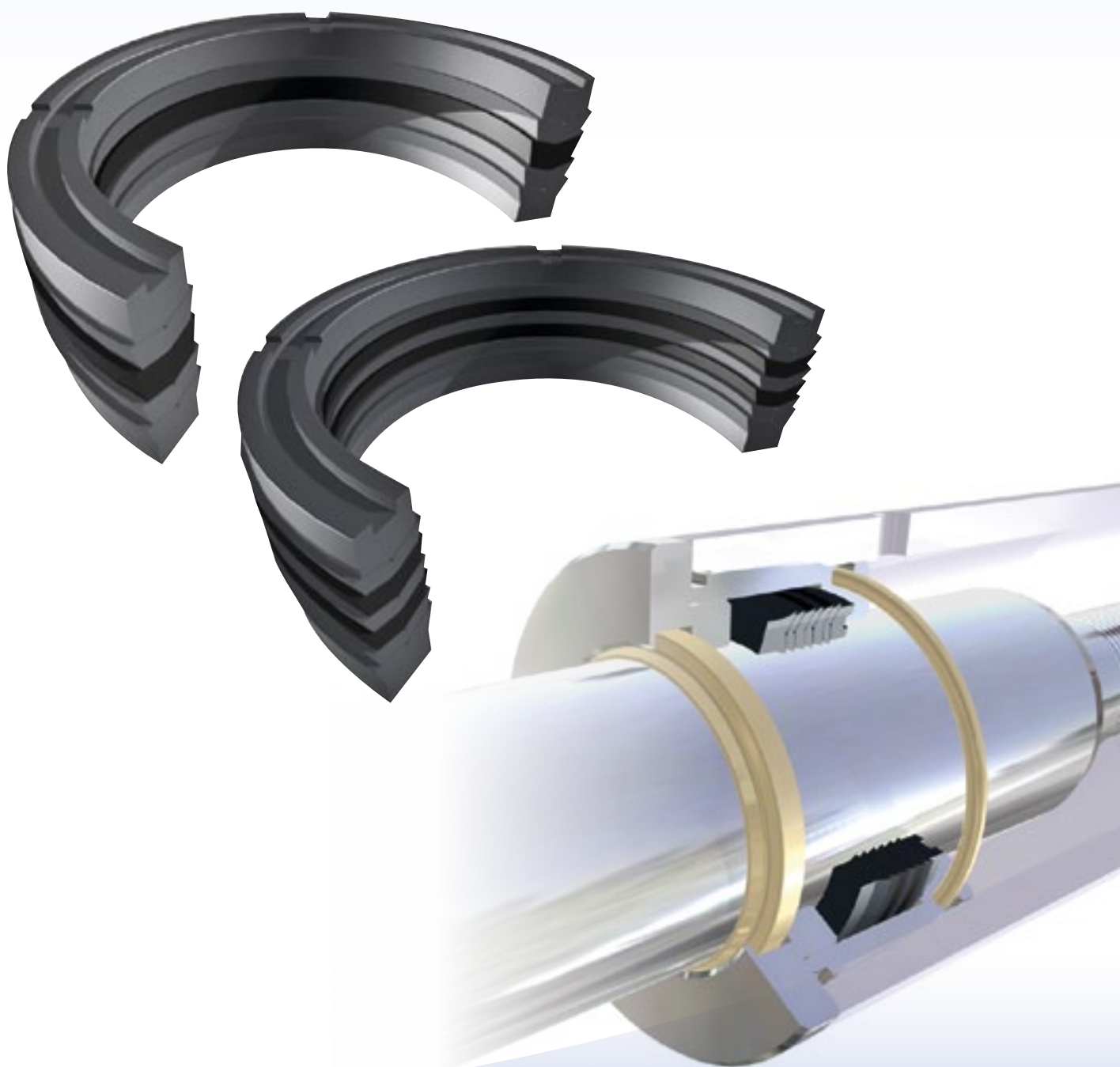
Versione standard	Standard version
Base TPE V-Ring NBR + V-Ring Gommatela Anello di testa POM	Base Ring TPE V-Ring NBR + V-Ring NBR/Cotton Fabric Header Ring POM
Versioni Alternative	Alternative Versions
GT FKM GT Base Al GT Tutta Tela	GT FKM GT Base Ring Al All Cotton Fabric GT
Pressione fino a / Pressure up to	
40 MPa GT	60 MPa GT/Al
Velocità fino a / Speed up to	
0.5 m/s	
Temperatura / Temperature	
-30°C +110°C	-20°C +200°C FKM
Applicazioni	Applications
Presse Siderurgia Acciairie Cesoie Idrauliche	Presses Steel Mills Continuous Casting Scrape Shears



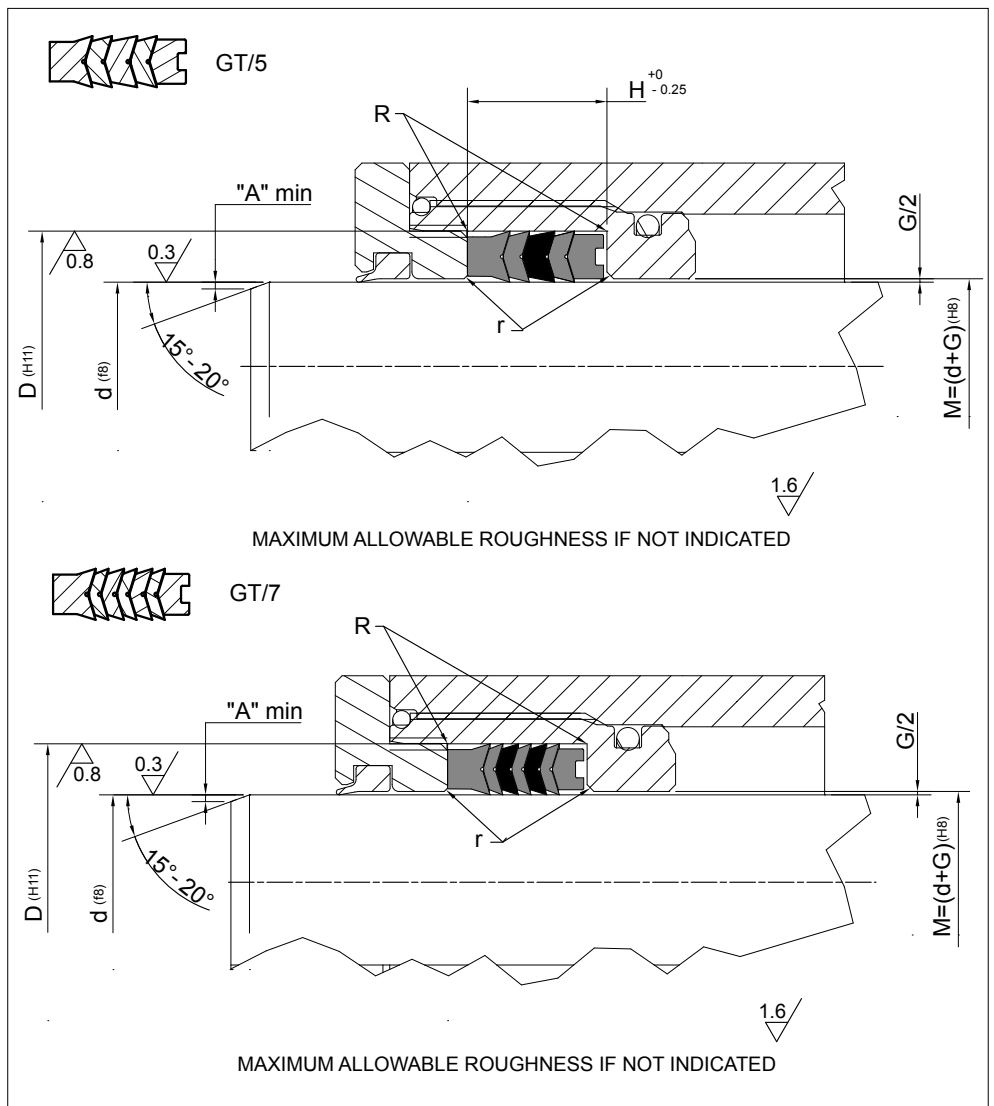
Guarnizioni per STELO
ROD seals

GT/5 • GT/7

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GT/5 GT/7



Rod Seal design guidelines

	0mm < d ≤ 50mm	50mm < d ≤ 150mm
R	max 0.40 mm	max 0.80 mm
r	remove sharp edges	
A	1 mm	2 mm

Operating pressure to determinate Maximum Gap Allowance: G/2

G	Profile Dimension	> 16 MPa	> 26 MPa	> 32 MPa	> 40 MPa
	≤ 5		0.50 mm	0.40 mm	0.35 mm
> 5.0 - 7.5		0.55 mm	0.45 mm	0.40 mm	0.35 mm
> 7.5 - 12.5		0.60 mm	0.50 mm	0.45 mm	0.40 mm
15		0.65 mm	0.55 mm	0.45 mm	0.40 mm

PART NR GT5	PART NR GT7		DIMENSIONI SEDI / Housing dimensions		
			D	d	H
	7001	070031	18,00	8,00	18,50
5003		078039	20,00	10,00	11,00
	7002	078039	20,00	10,00	18,50
	7003	086047	22,00	12,00	18,50
	7004	094055	24,00	14,00	18,50
5004		098047	25,00	12,00	14,35
	7005	098059	25,00	14,00	18,50
	7006	102062	26,00	16,00	18,50
	7007	110070	28,00	18,00	18,50
5006		114062	29,00	16,00	14,35
	7008	118078	30,00	20,00	18,50
5007		118078	30,00	20,00	21,50

PART NR GT5	PART NR GT7		DIMENSIONI SEDI / Housing dimensions		
			D	d	H
5008		122070	31,00	18,00	14,32
5009		124078	31,50	20,00	17,50
5009/2		125070	32,00	18,00	22,50
5009/1		125078	32,00	20,00	17,50
	7009	125078	32,00	20,00	22,50
5010		125086	32,00	22,00	18,15
	7010	125086	32,00	22,00	18,50
5011		129078	33,00	20,00	14,35
	7011	133086	34,00	22,00	22,50
5012		137098	35,00	25,00	17,30
5013		141078	36,00	20,00	24,00
	7012	145098	37,00	25,00	22,50
5014		149086/Al	38,00	22,00	26,00
5015		157098	40,00	25,00	19,85
5016		157118	40,00	30,00	21,80
	7013	157098	40,00	25,00	22,50
5016/1		157110	40,00	28,00	17,00
	7014	157110	40,00	28,00	22,50
	7015	165118	42,00	30,00	22,50
5017		165098	42,00	25,00	25,40
5017/1		165118	42,00	30,00	20,00
5018		165125	42,00	32,00	17,30
	7016	169110	43,00	28,00	22,50
5019		173110	44,00	28,00	17,65
	7017	173125	44,00	32,00	22,50
5019/1		177098	45,00	25,00	25,40
5020		177137	45,00	35,00	21,78
5020/1		177118	45,00	30,00	22,20
	7018	177118	45,00	30,00	22,50
5021		177102	45,00	26,00	29,40
5022		184137	47,00	35,00	17,50
	7019	184125	47,00	32,00	22,50
	7020	184137	47,00	35,00	22,50
	7021	188141	48,00	36,00	22,50
5023		196157	50,00	40,00	17,30
5024		196137	50,00	35,00	22,50
5025		196118	50,00	30,00	29,37
5025/1		200137	50,80	34,92	24,21
	7022	200141	51,00	36,00	22,50
5026		204141	52,00	36,00	17,60
	7023	204157	52,00	40,00	22,50
	7024	212165	54,00	42,00	22,50
5027		216177	55,00	45,00	17,50
	7025	216157	55,00	40,00	22,50
5028		216157	55,00	40,00	22,60
5029		216153	55,00	39,00	25,40
5030		216157	55,00	40,00	26,20
5031		216149	55,00	38,00	28,00
5032		220157	56,00	40,00	17,63
	7026	224165	57,00	42,00	22,50
5033		236157	60,00	40,00	30,00
	7027	236177	60,00	45,00	22,50

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Guarnizioni per STELO
ROD seals

GT/5
GT/7





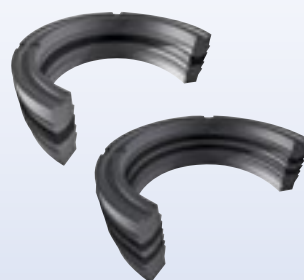
PART NR GT5	PART NR GT7		DIMENSIONI SEDI / Housing dimensions		
			D	d	H
5034		236177	60,00	45,00	22,20
5035		236188	60,00	48,00	25,00
5035/1		240177	61,00	45,00	29,00
5036		244188	62,00	48,00	22,22
5037		255196	65,00	50,00	24,60
	7028	255196	65,00	50,00	22,50
	7028/1	255196	65,00	50,00	29,00
	7029	255177	65,00	45,00	27,50
5039		255177	65,00	45,00	28,00
5040		255157	65,00	40,00	35,75
5040/1		255196	65,00	50,00	24,60
5041		263216	67,00	55,00	25,00
5042		271200	69,00	51,00	28,00
5043		275196/B	70,00	50,00	21,95
5044		275216	70,00	55,00	26,50
	7030	275216	70,00	55,00	22,50
5045		275196	70,00	50,00	30,00
	7031	275196	70,00	50,00	30,00
	7032	279220	71,00	56,00	22,50
5045/1		283204	72,00	52,00	38,50
	7033	295216	75,00	55,00	30,00
5046		295216	75,00	55,00	38,50
5046/1		295236	75,00	60,00	19,00
	7034	295236	75,00	60,00	22,50
5047		299220	76,00	56,00	21,94
5047/1		299200	76,00	51,00	17,50
	7035	299220	76,00	56,00	37,00
5048		299236	76,00	60,00	29,00
	7035/1	303255	77,00	65,00	22,50
5049		303255	77,00	65,00	21,00
5050		303236	77,00	60,00	27,00
	7036	307248	78,00	63,00	22,50
	7036/1	314255/Al	80,00	65,00	29,00
	7037	314255	80,00	65,00	22,50
5050/1		314255/Al	80,00	65,00	26,00
5051		314251	80,00	64,00	25,80
5051/1		314236/Al	80,00	60,00	22,00
5052		314251	80,00	63,50	28,00
5053		314236	80,00	60,00	32,15
5053/1		314236	80,00	60,00	32,15
5053/2		326248	83,00	63,00	21,94
	7037/1	314236	80,00	60,00	37,00
	7038	326248	83,00	63,00	37,00
5055		334248	85,00	63,00	32,00
5056		334255	85,00	65,00	29,00
5056/1		334255/Al	85,00	65,00	32,00
	7039	334255	85,00	65,00	41,00
	7040	334275	85,00	70,00	22,50
5057		334275	85,00	70,00	28,00
5059		354275/B	90,00	70,00	22,00
5060		354275	90,00	70,00	30,00
	7041	354275	90,00	70,00	41,00

PART NR GT5	PART NR GT7		DIMENSIONI SEDI / Housing dimensions		
			D	d	H
	7042	354295	90,00	75,00	22,50
5061		354295	90,00	75,00	22,50
5062		374295	95,00	75,00	30,00
	7043	374295	95,00	75,00	41,00
5063		374314	95,00	80,00	17,50
	7044	374314	95,00	80,00	22,50
5064		393295	100,00	75,00	37,50
5065		393314	100,00	80,00	30,00
	7045	393314	100,00	80,00	41,00
	7046	393334	100,00	85,00	22,50
5066		413314	105,00	80,00	27,40
5067		413334	105,00	85,00	30,00
	7047	413334	105,00	85,00	41,00
	7048	413354	105,00	90,00	22,50
5068		413354	105,00	90,00	31,75
5069		433354/1	110,00	90,00	25,00
5069/1		433354/2	110,00	90,00	26,90
5069/2		433354/3	110,00	90,00	30,00
	7049	433354	110,00	90,00	41,00
5070		433374	110,00	95,00	24,00
	7049/1	433374	110,00	95,00	36,50
5070/1		452334	115,00	85,00	40,00
5071		452354	115,00	90,00	27,41
5071/1		452374	115,00	95,00	32,15
5072		452393	115,00	100,00	25,30
	7050	452393	115,00	100,00	30,00
5072/1		472354	120,00	90,00	42,00
5073		472393	120,00	100,00	28,00
	7051	472393	120,00	100,00	41,00
5074		472413	120,00	105,00	25,00
5074/1		492374	125,00	95,00	40,00
5075		492393/B	125,00	100,00	27,40
5076		492393	125,00	100,00	36,90
5077		492413	125,00	105,00	29,76
	7052	492433	125,00	110,00	30,00
5078		511409	130,00	104,00	37,00
5078/1		511433	130,00	110,00	30,00
	7053	511433	130,00	110,00	41,00
5079		511448	130,00	114,00	25,80
	7054	511452	130,00	115,00	30,00
5080		519433	132,00	110,00	36,50
5080/1		523492	133,00	125,00	17,50
5080/2		531433	135,00	110,00	41,50
	7055	551452	140,00	115,00	46,00
5082		551452	140,00	115,00	37,12
5083		551472	140,00	120,00	30,00
	7056	551492	140,00	125,00	34,00
5083/2		570472	145,00	120,00	39,50
5083/1		570492	145,00	125,00	29,60
5083/3		570511	145,00	130,00	30,00
5084		590472	150,00	120,00	44,00
5085		590492	150,00	125,00	27,40

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Guarnizioni per STELO
ROD seals

GT/5
GT/7





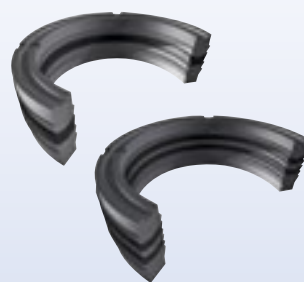
PART NR GT5	PART NR GT7		DIMENSIONI SEDI / Housing dimensions		
			D	d	H
	7057	590492	150,00	125,00	46,00
5086		590511	150,00	130,00	29,76
5086/1		610492	155,00	125,00	41,00
5086/2		610511	155,00	130,00	40,00
5087		610531	155,00	135,00	30,55
	7058	610551	155,00	140,00	34,00
5088		629551	160,00	140,00	28,50
5088/1		629511	160,00	130,00	41,50
5089		649551	165,00	140,00	41,95
	7059	649551	165,00	140,00	46,00
5090		669551	170,00	140,00	39,00
5091		669570	170,00	145,00	38,10
5092		669590	170,00	150,00	30,55
	7060	669590	170,00	150,00	41,00
5092/1		681622	173,00	158,00	25,00
5093		681649	173,00	165,00	22,50
5093/1		688606	175,00	154,00	29,44
5093/2		688610	175,00	155,00	30,00
5093/3		688629	175,00	160,00	26,00
5094		708590	180,00	150,00	40,00
	7061	708590	180,00	150,00	60,00
5094/4		708599	180,00	152,30	45,00
5094/2		708614	180,00	156,00	60,00
5094/1		708629	180,00	160,00	30,00
	7062	708629	180,00	160,00	40,00
5094/3		708649	180,00	165,00	35,00
5095		716618	182,00	157,00	30,25
5095/1		728602	185,00	153,00	35,50
5095/3		728610	185,00	155,00	47,00
5095/2		728629	185,00	160,00	40,00
5096		748629	190,00	160,00	33,00
	7063	748629	190,00	160,00	60,00
5096/1		748649	190,00	165,00	34,00
5096/2		767649	195,00	165,00	40,46
5097		767669	195,00	170,00	37,50
	7064	787669	200,00	170,00	60,00
5098		787688	200,00	175,00	42,00
5098/1		787708	200,00	180,00	30,00
	7065	787708/1	200,00	180,00	41,00
5098/2		787737	200,00	187,13	21,74
5098/3		799759	203,00	193,00	23,00
5098/4		807728	205,00	185,00	28,00
5099		826708	210,00	180,00	33,00
	7066	826708	210,00	180,00	60,00
5099/1		826728	210,00	185,00	24,00
5099/2		846728	215,00	185,00	42,50
5099/3		846748	215,00	190,00	36,00
	7067	866748	220,00	190,00	60,00
	7068	866787	220,00	200,00	41,00
5100		866787	220,00	200,00	30,00
5100/1		885767	225,00	195,00	49,00
5101		885807	225,00	205,00	19,50

PART NR GT5	PART NR GT7		DIMENSIONI SEDI / Housing dimensions		
			D	d	H
5102		905787	230,00	200,00	32,97
	7069	905787	230,00	200,00	60,00
5102/1		944787	240,00	200,00	60,00
5102/2		925800	234,95	203,20	57,20
5103		944826	240,00	210,00	42,10
5103/1		944866	240,00	220,00	30,00
5103/2		964846	245,00	215,00	45,00
	7070	984866	250,00	220,00	60,00
5103/3		984866	250,00	220,00	52,00
5104		1000881	254,00	224,00	32,97
5104/1		1000900	254,00	228,60	38,10
5104/2		1003846	255,00	215,00	50,00
5104/3		1003885	255,00	225,00	45,00
5104/4		1024866	260,00	220,00	60,00
5104/5		1024905	260,00	230,00	45,00
	7070/1	1024905	260,00	230,00	60,00
5104/6		1024944	260,00	240,00	45,00
5104/7		1062905	270,00	230,00	60,00
5105		1062944	270,00	240,00	45,00
	7071	1062944	270,00	240,00	64,00
	7071/1	1043925	265,00	235,00	65,00
5105/1		1062984	270,00	250,00	27,00
5105/2		1082964	275,00	245,00	46,00
5105/3		10821003	275,00	255,00	30,00
5105/4		1102944	280,00	240,00	60,00
5105/5		1102984/1	280,00	250,00	43,00
5106		1102984	280,00	250,00	33,00
	7071/2	1102984	280,00	250,00	60,00
5106/1		11021023	280,00	260,00	40,00
5106/2		11221003	285,00	255,00	44,00
5106/3		11221043	285,00	265,00	29,00
5106/4		1141984	290,00	250,00	60,00
5106/5		11411024	290,00	260,00	40,50
5106/6		11411043	290,00	265,00	37,50
5106/7		11611043	295,00	265,00	40,00
5106/8		11811024	300,00	260,00	54,00
5106/9		11811062	300,00	270,00	46,00
5106/10		12001082	305,00	275,00	46,00
5106/14		12121137	307,97	288,92	28,57
5106/11		12201062	310,00	270,00	60,00
5106/12		12201102	310,00	280,00	50,50
	7072	12201102/1	310,00	280,00	60,00
5107		12401102	315,00	280,00	38,45
5107/1		12401122	315,00	285,00	40,00
5107/2		12591102	320,00	280,00	57,00
5108		12591141	320,00	290,00	50,80
5108/1		12591181	320,00	300,00	32,00
5108/2		12791122	325,00	285,00	60,00
5108/3		12791161	325,00	295,00	46,00
5108/4		12991141	330,00	290,00	54,00
5108/5		12991181	330,00	300,00	44,00
5109		12991220	330,00	310,00	30,00

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Guarnizioni per STELO
ROD seals

GT/5
GT/7





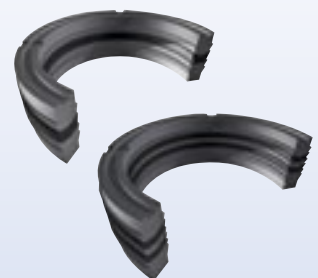
PART NR GT5	PART NR GT7		DIMENSIONI SEDI / Housing dimensions		
			D	d	H
5109/1		13381181	340,00	300,00	54,00
5109/2		13381220	340,00	310,00	46,00
5109/3		13581240	345,00	315,00	52,00
5109/4		13771220	350,00	310,00	60,00
5109/5		13771232	350,00	313,00	46,00
5110		13771240	350,00	315,00	38,45
5110/1		13771248	350,00	317,00	46,00
5110/2		13771259	350,00	320,00	50,80
5110/3		13971240	355,00	315,00	50,00
5110/4		13971279	355,00	325,00	46,00
5110/5		14171259	360,00	320,00	54,00
5111		14371259	365,00	320,00	55,00
5111/1		14371279	365,00	325,00	56,00
5111/2		14561299	370,00	330,00	60,00
5111/3		14561338	370,00	340,00	46,00
5112		14961338	380,00	340,00	60,00
5112/1		14961377	380,00	350,00	46,00
5112/2		15001397	381,00	355,00	42,00
5113		15351377	390,00	350,00	60,00
5113/1		15311269	390,00	360,00	50,80
5113/A		15741417	400,00	360,00	60,00
5114		15741452	400,00	369,00	45,00
5114/1		15941476	405,00	375,00	46,00
5114/2		16531496	420,00	380,00	60,00
5114/3		16531511	420,00	384,00	51,00
5114/4		16531531	420,00	390,00	50,00
5114/5		16921531	430,00	390,00	60,00
5114/6		16921574	430,00	400,00	48,00
5114/7		17321496	440,00	380,00	85,00
5115		17321574	440,00	400,00	54,00
5115/1		17711574	450,00	400,00	75,00
5115/2		17711614	450,00	410,00	60,00
5116		17711637	450,00	416,00	50,00
5116/1		17711653	450,00	420,00	46,00
5116/2		18111653	460,00	420,00	52,00
5116/3		18111653/1	460,00	420,00	65,00
5116/4		18261692	464,00	430,00	49,00
5116/5		18301673	465,00	425,00	60,00
5116/6		18701751	475,00	445,00	46,00
5116/7		18891732	480,00	440,00	59,00
5116/8		19091755	485,00	446,00	50,00
5116/9		19291771	490,00	450,00	60,00
5116/10		19371811	492,00	460,00	50,00
5116/11		19681771	500,00	450,00	75,00
5116/12		19681822	500,00	460,00	60,00
5117		19681822	500,00	463,00	55,00
5117/1		19681850	500,00	470,00	46,00
5117/2		19801858	503,00	472,00	45,00
5117/3		20071811	510,00	460,00	75,00
5117/4		20071889	510,00	480,00	46,00
5117/5		20471889	520,00	480,00	60,00
5117/6		20861929	530,00	490,00	60,00

PART NR GT5	PART NR GT7		DIMENSIONI SEDI / Housing dimensions		
			D	d	H
5117/7		21251968	540,00	500,00	60,00
5117/8		21252000	540,00	508,00	47,00
5118		21451988	545,00	505,00	60,00
5118/1		21651968	550,00	500,00	75,00
5118/2		21652047	550,00	520,00	46,00
5118/3		22042007	560,00	510,00	75,00
5118/4		22042047	560,00	520,00	60,00
5118/5		22382086	568,50	530,00	60,00
5118/6		22442047	570,00	520,00	75,00
5118/7		23222165	590,00	550,00	60,00
5118/8		23302153	592,00	547,00	66,00
5118/9		23422224	595,00	565,00	43,00
5118/10		23622204	600,00	560,00	57,00
5118/11		24212263	615,00	575,00	60,00
5118/12		24402283	620,00	580,00	60,00
5118/13		24802283	630,00	580,00	64,00
5118/14		24802322	630,00	590,00	60,00
5118/15		25192362	640,00	600,00	60,00
5118/16		25482400	647,20	609,60	53,50
5118/17		25592362	650,00	600,00	75,00
5118/18		25592401	650,00	610,00	60,00
5118/19		25592480	650,00	620,00	44,00
5118/20		26372480	670,00	630,00	60,00
5118/21		26772480	680,00	630,00	173,00
5119		27542598	700,00	660,00	60,00
5119/1		27752618	705,00	665,00	60,00
5119/2		28342637	720,00	670,00	75,00
5119/3		28342677	720,00	680,00	60,00
5119/4		29052754	738,00	700,00	64,00
5119/5		29132754	740,00	700,00	60,00
5119/6		29212740	742,00	696,00	78,00
5119/7		29212754	742,00	700,00	60,00
5119/8		29402744	747,00	697,00	75,00
5120		29532756	750,00	700,00	75,00
5120/1		29722748	755,00	698,00	75,00
5120/2		31572996	802,00	761,00	70,00
5121		33063148	840,00	800,00	60,00
5121/1		33463149	850,00	800,00	75,00
5121/2		34253228	870,00	820,00	75,00
5121/3		35113346	892,00	850,00	62,00
5121/4		35433385	900,00	860,00	60,00
5121/5		35823385	910,00	860,00	75,00
5122		37383542	950,00	900,00	75,00
5123		38973700	990,00	940,00	70,00
5123/1		39373738	1000,00	950,00	75,00
5124		40003822	1016,00	971,00	54,00
5125		40153818	1020,00	970,00	75,00

TECNOTEX

Guarnizioni per STELO
ROD seals

GT/5
GT/7





PSE PSE/K

**Guarnizioni per STELO
ROD seals**

TECNOTEX

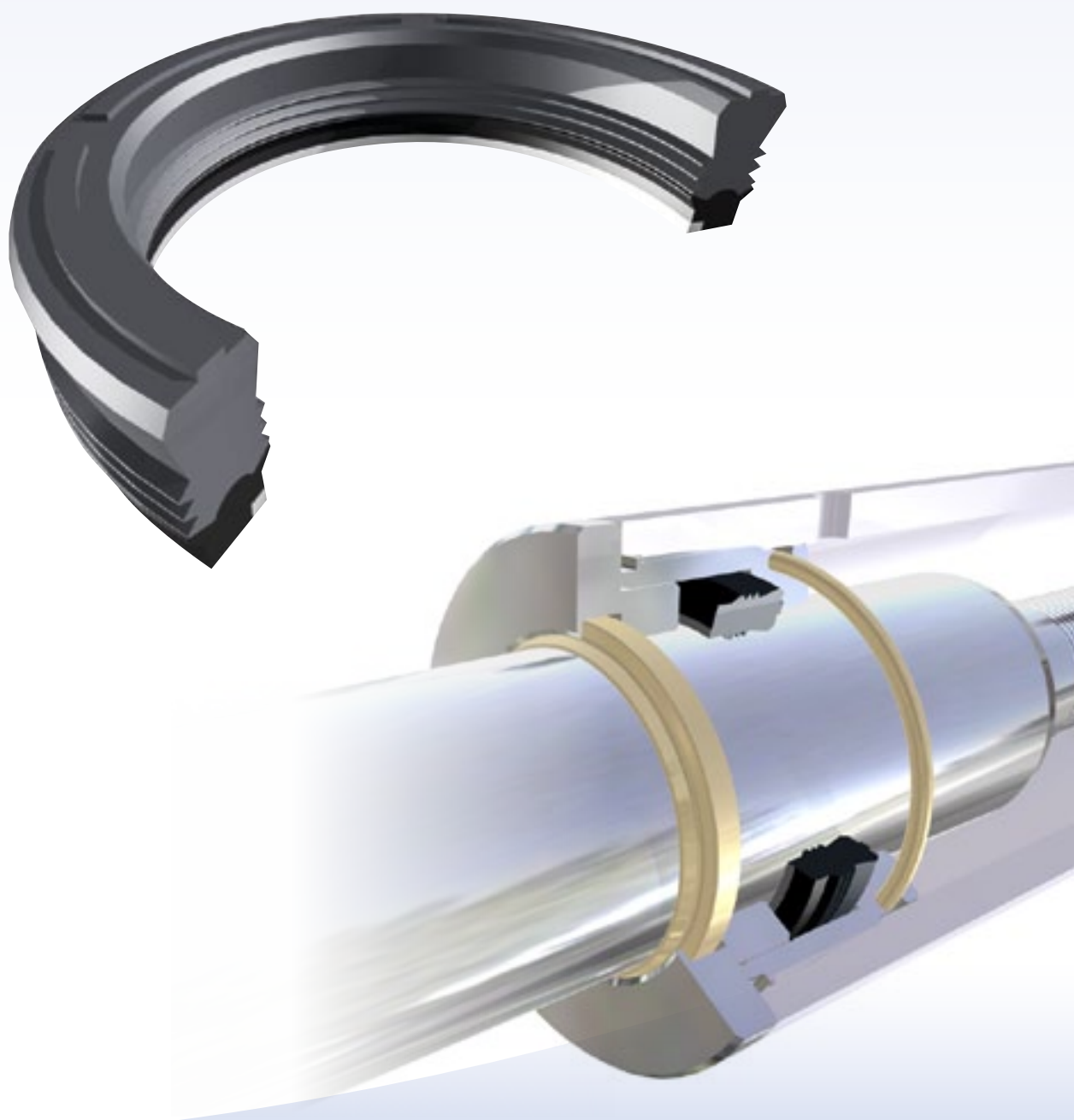
Versione standard		Standard version	
Elemento di tenuta	NBR	Sealing Ring	NBR
Base	Gommatela	Support Ring	NBR/Cotton Fabric
Rondella Al	POM	Anti-extrusion Ring	POM
Versioni Alternative		Alternative Versions	
Base	TPE	Support Ring	TPE
Base	Gommatela FKM	Support Ring	Cotton Fabric FKM
Elemento di Tenuta	NBR FKM	Sealing Ring	NBR FKM
Elemento di Tenuta	NBR Basse Temp.	Sealing Ring	NBR Low Temp.
Pressione fino a / Pressure up to			
70 MPa			
Velocità fino a / Speed up to			
0.5 m/s			
Temperatura / Temperature			
-30°C +110°C		-20°C +200°C FKM	-50°C +110°C TDS 108
Applicazioni		Applications	
Cilindri idraulici		Hydraulic cylinders	
Cilindri per miniere		Mining Cyinders	
Macchine movimento terra		Earth moving machinery	
Cilindri per piattaforme aeree		Hydraulic scissor lifts	
		Lift platforms	

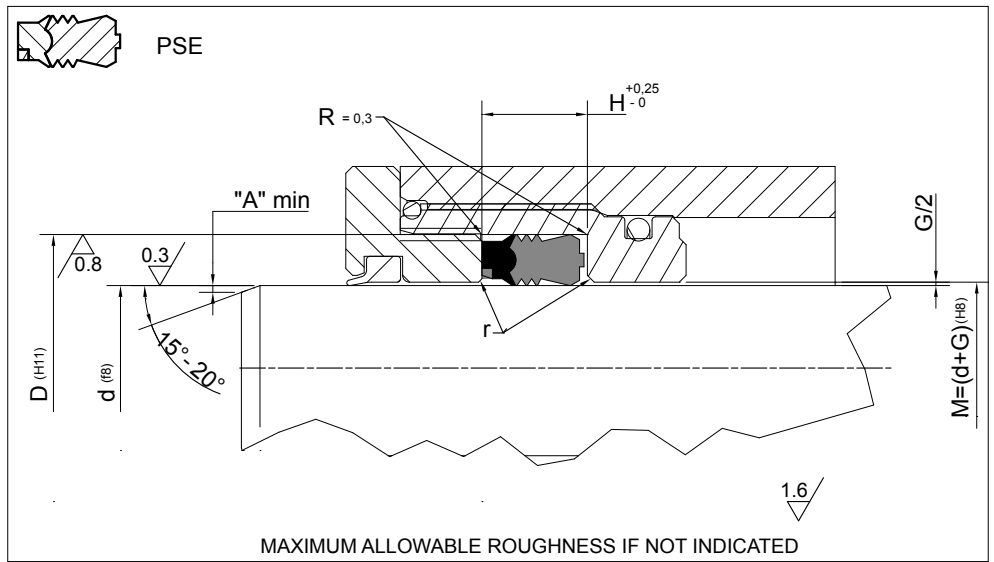


Guarnizioni per STELO
ROD seals

PSE • PSE/K

40÷45





Rod Seal design guidelines

	0mm < d ≤ 50mm	50mm < d ≤ 100mm	100mm < d ≤ 150mm	d ≥ 150mm
r	remove sharp edges			
A	1 mm	2 mm	3 mm	3 mm < A ≤ 5 mm

Operating pressure to determinate Maximum Gap Allowance: G/2

G	Profile Dimension	> 16 MPa	> 26 MPa	> 32 MPa	> 40 MPa
	≤ 5		0.50 mm	0.40 mm	0.35 mm
> 5.0 - 7.5		0.55 mm	0.45 mm	0.40 mm	0.35 mm
> 7.5 - 12.5		0.60 mm	0.50 mm	0.45 mm	0.40 mm
15		0.65 mm	0.55 mm	0.45 mm	0.40 mm

PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
PSE 701	106059/1	15,00	27,00	20,00
PSE 702	129078/1	20,00	33,00	20,00
PSE 703	137086/1	22,00	35,00	20,00
PSE 704	149098/1	25,00	38,00	20,00
PSE 705	161110/1	28,00	41,00	20,00
PSE 706	169118/1	30,00	43,00	20,00
PSE 707	185125/1	32,00	47,00	22,50
PSE 708	177137/1	35,00	45,00	25,59
PSE 709	185137/1	35,00	47,00	22,50
PSE 710	196137/1	35,00	50,00	22,50
PSE 711	196157/1	40,00	50,00	17,50
PSE 712	200141/1	36,00	51,00	22,50
PSE 713	204157/1	40,00	52,00	22,50
PSE 714	216157/1	40,00	55,00	22,62
PSE 715	236157/1	40,00	60,00	30,00
PSE 716	236177/1	45,00	60,00	22,50
PSE 717	255177/1	45,00	65,00	28,00
PSE 718	248196/1	50,00	63,00	20,00
PSE 719	255196/1A	50,00	65,00	24,50
PSE 720	255196/1C	50,00	65,00	22,50
PSE 721	275196/1B	50,00	70,00	30,00
PSE 722	275196/1A	50,00	70,00	31,90
PSE 723	275216/1	55,00	70,00	25,00
PSE 724	275216/2	55,00	70,00	22,50
PSE 725	295216/1	55,00	75,00	32,00
PSE 726	295216/2	55,00	75,00	30,00
PSE 726/1	279220	56,00	71,00	22,50

PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
PSE 727	279220/1	56,00	71,00	25,00
PSE 728	299220/1	56,00	76,00	28,00
PSE 729	295236/1	60,00	75,00	25,00
PSE 730	295236/2	60,00	75,00	22,50
PSE 731	303236/1	60,00	77,00	27,00
PSE 731/1	314236/1E	60,00	80,00	27,00
PSE 731/2	314236/1	60,00	80,00	30,00
PSE 732	314236/1A	60,00	80,00	34,90
PSE 733	314236/1B	60,00	80,00	32,00
PSE 734	326248	63,00	83,00	30,00
PSE 735	326248/1A	63,00	83,00	29,00
PSE 736	326248/1E	63,00	83,00	27,00
PSE 737	334255/1	65,00	85,00	29,00
PSE 738	334275/1	70,00	85,00	22,50
PSE 739	334275/1B	70,00	85,00	25,00
PSE 739/1	354275/1	70,00	90,00	30,00
PSE 740	354275/2	70,00	90,00	31,90
PSE 741	374295/2A	75,00	95,00	28,00
PSE 742	374295/2C	75,00	95,00	30,00
PSE 743	379301/1	76,50	96,50	32,50
PSE 744	393314/1	80,00	100,00	30,00
PSE 744/1	413334	85,00	105,00	22,00
PSE 745	413334/1	85,00	105,00	30,00
PSE 745/1	413354	90,00	105,00	22,50
PSE 746	413354/1A	90,00	105,00	25,00
PSE 747	413354/1B	90,00	105,00	33,53
PSE 748	433354/1A	90,00	110,00	30,00
PSE 749	433354/2B	90,00	110,00	32,50
PSE 750	452374/1	95,00	115,00	28,00
PSE 751	450393/1	100,00	114,30	24,21
PSE 752	472393/1	100,00	120,00	30,00
PSE 753	464413/1	105,00	118,00	25,00
PSE 754	472413/1	105,00	120,00	34,00
PSE 755	492413/1	105,00	125,00	30,00
PSE 756	511433/1	110,00	130,00	32,50
PSE 756/1	519433/1	110,00	132,00	36,50
PSE 757	511452/1	115,00	130,00	30,00
PSE 758	551472/1	120,00	140,00	30,00
PSE 759	570492/1	125,00	145,00	29,62
PSE 760	590511/1	130,00	150,00	28,00
PSE 761	610531/1	135,00	155,00	28,00
PSE 761/1	629551	140,00	160,00	19,00
PSE 762	629551/1	140,00	160,00	28,00
PSE 763	629551/2	140,00	160,00	30,00
PSE 764	669590/1	150,00	170,00	28,00
PSE 765	688610/1	155,00	175,00	28,00
PSE 766	708629/1	160,00	180,00	28,00
PSE 767	729649/1	165,00	185,00	30,00
PSE 768	767669/1	170,00	195,00	35,00
PSE 768/1	787688/1	175,00	200,00	35,00
PSE 769	807708/1	180,00	205,00	35,00
PSE 770	826728/1	185,00	210,00	35,00

TECNOTEX

Guarnizioni per STELO
ROD seals

PSE





PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
PSE 771	846748/1	190,00	215,00	35,00
PSE 771/1	866767/1	195,00	220,00	35,00
PSE 772	885787/1	200,00	225,00	35,00
PSE 772/1	925728	210,00	235,00	30,00
PSE 773	944846/1	215,00	240,00	35,00
PSE 774	964866/1	220,00	245,00	35,00
PSE 775	984886/1	225,00	250,00	35,00
PSE 776	1003905/1	230,00	255,00	35,00
PSE 777	1043945/1	240,00	265,00	35,00
PSE 778	1082984/1	250,00	275,00	35,00
PSE 778/1	11021024	260,00	280,00	30,00
PSE 779	11411043/1	265,00	290,00	35,00
PSE 780	11811082/1	275,00	300,00	35,00
PSE 781	12011102/1	280,00	305,00	35,00
PSE 782	12791181/1	300,00	325,00	35,00
PSE 783	14171318/1	335,00	360,00	35,00

PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
PSE-K 901	118071	18,00	30,00	22,50
PSE-K 902	146093	25,00	37,00	22,50
PSE-K 903	334275	70,00	85,00	22,50
PSE-K 904	366307	78,00	93,00	19,00
PSE-K 905	374314	80,00	95,00	22,50
PSE-K 906	386326	83,00	98,00	22,50
PSE-K 907	393334	85,00	100,00	22,50
PSE-K 908	393346	88,00	100,00	20,00
PSE-K 908/1	413354	90,00	105,00	22,50
PSE-K 909	433374	95,00	110,00	22,50
PSE-K 909/1	452393	100,00	115,00	22,50
PSE-K 910	492433	110,00	125,00	22,50
PSE-K 911	511452	115,00	130,00	22,50
PSE-K 912	523464	118,00	133,00	22,50
PSE-K 912/1	543464	118,00	138,00	22,50
PSE-K 913	531472	120,00	135,00	22,50
PSE-K 914	539480	122,00	137,00	22,50
PSE-K 915	551492	125,00	140,00	22,50
PSE-K 915/1	554500	127,00	142,00	22,50
PSE-K 916	567519	132,00	144,00	20,00
PSE-K 917	590531	135,00	150,00	22,50
PSE-K 918	610551	140,00	155,00	22,50
PSE-K 919	529551	140,00	160,00	22,50
PSE-K 919/1	629570	145,00	160,00	28,50
PSE-K 920	649570	145,00	165,00	22,50
PSE-K 921	649590	150,00	165,00	22,50
PSE-K 922	657593	152,00	167,00	22,50
PSE-K 923	688610	155,00	175,00	22,50
PSE-K 924	708624	158,50	180,00	28,00
PSE-K 925	728669	170,00	185,00	22,50
PSE-K 926	756677	172,00	192,00	22,50
PSE-K 927	767688	175,00	195,00	22,50
PSE-K 928	767688/1	175,00	195,00	30,00

TTS TTS/L TTS/L-AI

Guarnizioni per STELO
ROD seals

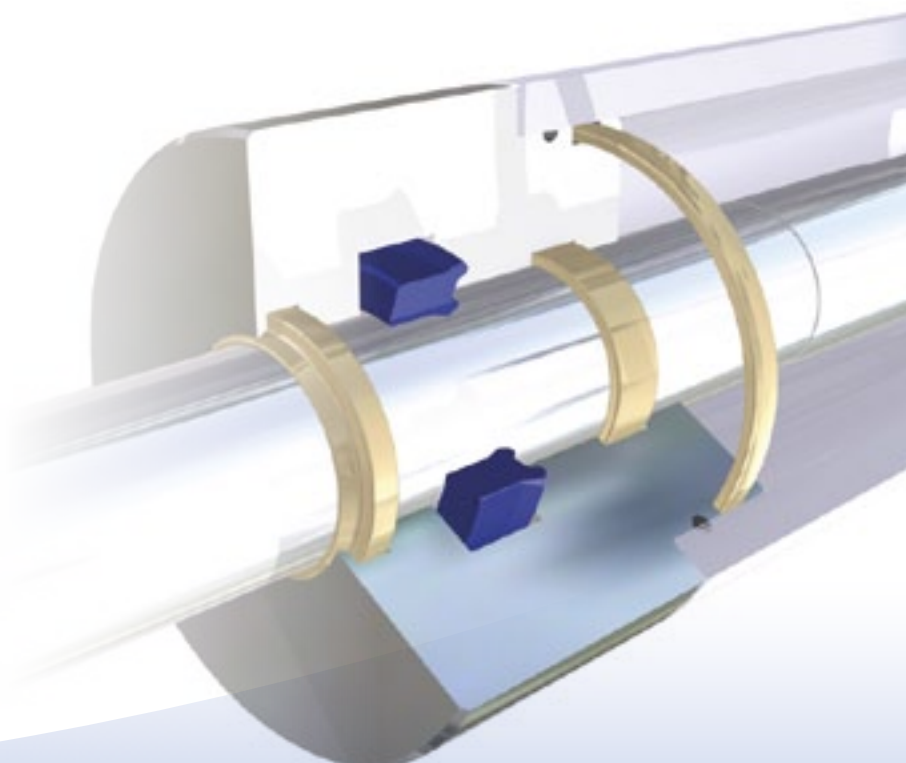
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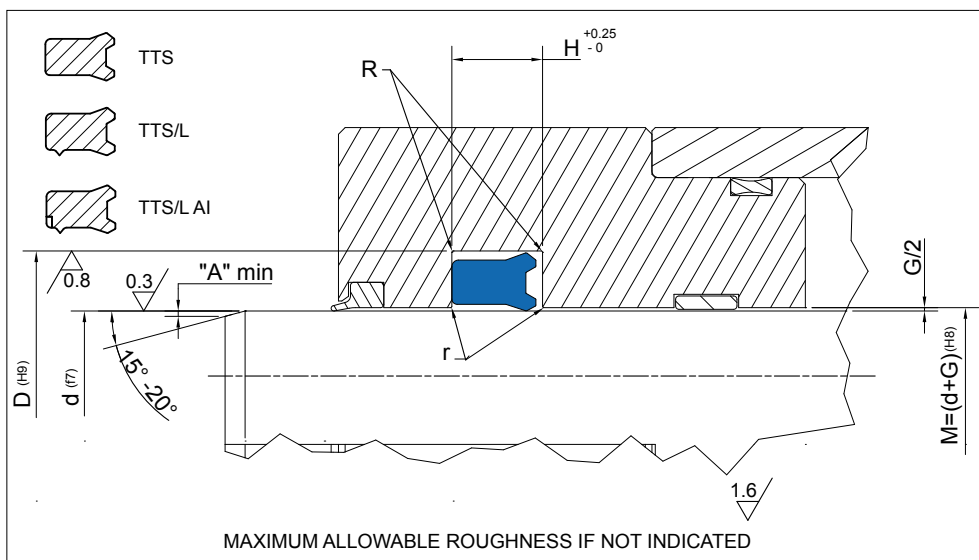
Versione standard			Standard version		
TTS	TTS/L	Poliuretano	TTS	TTS/L	Polyurethane
TTS/AI	TTS/L AI	Poliuretano +POM	TTS/AI	TTS/L AI	Polyurethane+POM
Versioni Alternative			Alternative Versions		
Poliuretano Basse Temperature			Low Temperature Polyurethane		
Pressione fino a / Pressure up to					
40 MPa					
Velocità fino a / Speed up to					
0.5 m/s					
Temperatura / Temperature					
-35°C +100°C			-45°C +110°C PN 522		
Applicazioni			Applications		
Cilindri Idraulici			Hydraulic Cylinders		
Cilindri Telescopici			Telescopic Cylinders		
Cilindri per Gru			Truck crane Cylinders		
Sponde Idrauliche			Tail Lifts		
Cilindri per Agricoltura			Agricultural Cylinders		
Presse ad iniezione			Injection moulding machines		

TTS • TTS/L • TTS/L-AI

46÷58



TTS TTS/L TTS/L-AI



Rod Seal design guidelines

	0mm < d ≤ 50mm	50mm < d ≤ 100mm	100mm < d ≤ 150mm	d ≥ 150mm
r	remove sharp edges			
A	1 mm	2 mm	3 mm	3 mm < A ≤ 5 mm

Operating pressure to determinate Maximum Gap Allowance: G/2

G	Profile Dimension	> 16 MPa	> 26 MPa	> 32 MPa	> 40 MPa
	≤ 5		0.50 mm	0.40 mm	0.35 mm
> 5.0 – 7.5		0.55 mm	0.45 mm	0.40 mm	0.35 mm
> 7.5 – 12.5		0.60 mm	0.50 mm	0.45 mm	0.40 mm
15		0.65 mm	0.55 mm	0.45 mm	0.40 mm

PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TTS 501	6-14-5,8/L	6,00	14,00	6,30
TTS 502	6,35-14,3-6/L	6,35	14,30	7,00
TTS 502/3	7-14-7,2	7,00	14,00	8,00
TTS 502/4	7-14-6,2	7,00	14,00	7,00
TTS 502/1	8-14-5,5/L	8,00	14,00	6,00
TTS 502/2	8-15-5,8/L	8,00	15,00	6,30
TTS 503	8-16-5,8/L	8,00	16,00	6,30
TTS 503/1	10-15-3	10,00	15,00	3,60
TTS 504	10-16-4,8/L	10,00	16,00	5,40
TTS 505	10-18-5,8/L	10,00	18,00	6,30
TTS 506	12-18-4,5	12,00	18,00	5,00
TTS 507	12-19-5,7/L	12,00	19,00	6,30
TTS 508	12-20-5,8	12,00	20,00	6,30
TTS 509	12-20-5,8/L	12,00	20,00	6,30
TTS 510	12-23-6,5/L	12,00	23,00	7,50
TTS 510/1	13-24-6/L	13,00	24,00	7,00
TTS 510/2	14-20-3	14,00	20,00	3,60
TTS 511	14-20-4,8/L	14,00	20,00	5,30
TTS 512	14-22-5,8/L	14,00	22,00	6,30
TTS 512/1	14-23-5,6/L	14,00	23,00	6,00
TTS 512/2	14-23-5,8/L	14,00	23,00	6,30
TTS 512/3	14,5-20-3,5	14,50	20,00	4,00
TTS 512/4	15-20-3,2	15,00	20,00	3,80
TTS 513	15-21,5-4,2	15,00	21,50	5,00
TTS 514	15,4-25,5-6,5/L	15,40	25,50	7,40
TTS 515	16-22-4	16,00	22,00	4,50
TTS 515/1	16-23-5,8/L	16,00	23,00	6,30

PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TTS 515/2	16-23-5,6/L	16,00	23,00	6,00
TTS 516	16-24-5,8/L	16,00	24,00	6,30
TTS 516/1	16-24-5,8	16,00	24,00	6,30
TTS 517	16-24-6	16,00	24,00	7,00
TTS 518	18-25-5	18,00	25,00	5,70
TTS 519	18-26-5,8/L	18,00	26,00	6,30
TTS 520	18-26-6	18,00	26,00	7,00
TTS 521	18-26-6/L	18,00	26,00	7,00
TTS 522	18-26-8/L	18,00	26,00	9,00
TTS 523	18-28-5,8	18,00	28,00	6,30
TTS 524	18-28-5,8/L	18,00	28,00	6,30
TTS 525	18-28-7	18,00	28,00	8,00
TTS 526	19,5-27,5-8/L	19,50	27,50	9,00
TTS 526/1	20-25-2,2	20,00	25,00	3,00
TTS 527	20-25-3	20,00	25,00	3,50
TTS 528	20-25-3,7	20,00	25,00	4,50
TTS 529	20-26-5/L	20,00	26,00	5,50
TTS 530	20-26-5,2	20,00	26,00	6,00
TTS 531	20-26-5,2/L	20,00	26,00	6,00
TTS 532	20-27-5,8	20,00	27,00	6,30
TTS 533	20-28-5,8	20,00	28,00	6,30
TTS 534	20-28-5,8/L	20,00	28,00	6,30
TTS 535	20-28-6,3/L	20,00	28,00	7,00
TTS 536	20-28-7/L	20,00	28,00	8,00
TTS 537	20-30-7,2	20,00	30,00	8,00
TTS 538	20-30-7/L	20,00	30,00	8,00
TTS 539	20-30-8/L	20,00	30,00	9,00
TTS 540	20-30-10	20,00	30,00	11,00
TTS 541	21-27-4,5	21,00	27,00	5,00
TTS 542	22-28-4,5	22,00	28,00	5,50
TTS 543	22-30-5,8/L	22,00	30,00	6,30
TTS 544	22-30-6	22,00	30,00	7,00
TTS 545	22-30-6,3/L	22,00	30,00	7,00
TTS 546	22-30-7	22,00	30,00	8,00
TTS 546/1	22-30-7/L	22,00	30,00	8,00
TTS 546/2	22-30-8	22,00	30,00	9,00
TTS 547	22-32-7	22,00	32,00	8,00
TTS 548	22-32-8	22,00	32,00	9,00
TTS 549	24-30-4,5	24,00	30,00	5,00
TTS 549/1	24-32-5,8	24,00	32,00	6,30
TTS 550	24-34-5,7	24,00	34,00	6,50
TTS 551	25-31-3	25,00	31,00	3,50
TTS 551/1	25-31-4,5	25,00	31,00	5,00
TTS 552	25-32-4	25,00	32,00	5,00
TTS 553	25-32-5,8	25,00	32,00	6,50
TTS 554	25-33-5,8	25,00	33,00	6,30
TTS 555	25-33-5,8/L	25,00	33,00	6,30
TTS 556	25-33-6,5/L	25,00	33,00	7,50
TTS 557	25-33-7/L	25,00	33,00	8,00
TTS 558	25-33-8	25,00	33,00	9,00
TTS 558/1	25-33-8/L	25,00	33,00	9,00
TTS 559	25-35-5	25,00	35,00	6,00

TECNOLAN

Guarnizioni per STELO
ROD seals

TTS
TTS/L
TTS/L-AI



TTS TTS/L TTS/L-AI



PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TTS 560	25-35-5,8/L	25,00	35,00	6,30
TTS 561	25-35-7	25,00	35,00	8,00
TTS 562	25-35-7/L	25,00	35,00	8,00
TTS 563	25-35-8	25,00	35,00	9,00
TTS 564	25-35-8/L	25,00	35,00	9,00
TTS 565	25-35-9	25,00	35,00	10,00
TTS 566	25-35-10	25,00	35,00	11,00
TTS 566/1	25-35-10/L	25,00	35,00	11,00
TTS 567	25-36-5	25,00	36,00	6,00
TTS 568	25-36-5/AI	25,00	36,00	6,00
TTS 569	25-38-10	25,00	38,00	11,00
TTS 569/1	27-35-6	27,00	35,00	6,50
TTS 570	28-34,2-5,2/L	28,00	34,20	6,00
TTS 571	28-36-5,8	28,00	36,00	6,30
TTS 572	28-36-5,8/L	28,00	36,00	6,30
TTS 573	28-36-8	28,00	36,00	9,00
TTS 574	28-38-5,8/L	28,00	38,00	6,30
TTS 575	28-38-7	28,00	38,00	8,00
TTS 576	28-38-7/L	28,00	38,00	8,00
TTS 576/1	28,5-36,5-8	28,50	36,50	9,00
TTS 577	30-36-3	30,00	36,00	3,50
TTS 578	30-38-5,8	30,00	38,00	6,30
TTS 579	30-38-5,8/L	30,00	38,00	6,30
TTS 580	30-38-5,8/AI	30,00	38,00	6,30
TTS 580/1	30-38-7/L	30,00	38,00	8,00
TTS 581	30-38-8	30,00	38,00	9,00
TTS 581/1	30-38-8/L	30,00	38,00	9,00
TTS 582	30-40-6,5/L	30,00	40,00	7,50
TTS 582/2	30-40-7	30,00	40,00	8,00
TTS 583	30-40-7/L	30,00	40,00	8,00
TTS 584	30-40-10	30,00	40,00	11,00
TTS 585	30-40-10-L	30,00	40,00	11,00
TTS 586	32-40-5,8	32,00	40,00	6,30
TTS 587	32-40-5,8/L	32,00	40,00	6,30
TTS 588	32-40-6,7/L	32,00	40,00	7,70
TTS 588/1	32-40-7/L	32,00	40,00	8,00
TTS 589	32-40-8	32,00	40,00	9,00
TTS 590	32-40-8/L	32,00	40,00	9,00
TTS 590/1	32-41,5-7,9/L	32,00	41,50	8,90
TTS 591	32-42-7/L	32,00	42,00	8,00
TTS 592	32-42-8/L	32,00	42,00	9,00
TTS 593	32-42-10/L	32,00	42,00	11,00
TTS 594	32-42,5-8/L	32,00	42,50	9,00
TTS 595	32-45-9,5/L-AI	32,00	45,00	10,50
TTS 595/1	32-45-10L	32,00	45,00	11,00
TTS 595/2	35-41-4,5	35,00	41,00	5,00
TTS 596	35-43-5,8/L	35,00	43,00	6,30
TTS 597	35-43-6	35,00	43,00	7,00
TTS 598	35-43-6/L	35,00	43,00	7,00
TTS 599	35-43-8/L	35,00	43,00	9,00
TTS 600	35-45-7/L	35,00	45,00	8,00
TTS 601	35-45-10/L	35,00	45,00	11,00

PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TTS 602	35-45-12,5/L	35,00	45,00	13,50
TTS 603	35-50-10/L	35,00	50,00	11,00
TTS 604	36-44-5,8/L	36,00	44,00	6,30
TTS 605	36-44-6	36,00	44,00	7,00
TTS 606	36-44-8	36,00	44,00	9,00
TTS 607	36-46-7	36,00	46,00	8,00
TTS 607/1	36-46-7-AI	36,00	46,00	8,00
TTS 607/2	36-46-7/L	36,00	46,00	8,00
TTS 608	36-46-7/L-AI	36,00	46,00	8,00
TTS 609	36-46-10	36,00	46,00	11,00
TTS 610	36-57-5/AI	36,00	57,00	6,00
TTS 611	38-45-6	38,00	45,00	7,00
TTS 612	38-50-8,5/L	38,00	50,00	9,50
TTS 613	40-48-5,8	40,00	48,00	6,30
TTS 614	40-48-5,8/L	40,00	48,00	6,30
TTS 614/1	40-48-6/L	40,00	48,00	7,00
TTS 615	40-48-8	40,00	48,00	9,00
TTS 616	40-48-8/L	40,00	48,00	9,00
TTS 617	40-48-8/L-AI	40,00	48,00	9,00
TTS 618	40-49,5-9,5/L	40,00	49,50	10,50
TTS 619	40-50-6/L	40,00	50,00	7,00
TTS 620	40-50-7	40,00	50,00	8,00
TTS 621	40-50-7/L	40,00	50,00	8,00
TTS 622	40-50-10	40,00	50,00	11,00
TTS 623	40-50-10/L	40,00	50,00	11,00
TTS 624	40-50-10/L-AI	40,00	50,00	11,00
TTS 625	40-52-10/L-AI	40,00	52,00	11,00
TTS 626	40-52-17/L-AI	40,00	52,00	18,00
TTS 627	40-55-7,5/L-AI	40,00	55,00	8,50
TTS 628	40-55-10/L	40,00	55,00	11,00
TTS 629	40-55-10/L-AI	40,00	55,00	11,00
TTS 630	40-60-10/L	40,00	60,00	11,00
TTS 631	42-50-6/L	42,00	50,00	7,00
TTS 632	42-52-8/L	42,00	52,00	9,00
TTS 633	42-53-9	42,00	53,00	10,00
TTS 633/1	45-52-12/L	45,00	52,00	13,00
TTS 633/2	45-51-4,5	45,00	51,00	5,00
TTS 634	45-53-5,8/L	45,00	53,00	6,30
TTS 635	45-53-6	45,00	53,00	7,00
TTS 635/1	45-53-7/L	45,00	53,00	8,00
TTS 636	45-53-8	45,00	53,00	9,00
TTS 637	45-53-8/L	45,00	53,00	9,00
TTS 638	45-53-10	45,00	53,00	11,00
TTS 638/1	45-53-12	45,00	53,00	13,00
TTS 639	45-53-12/L	45,00	53,00	13,00
TTS 639/1	45-54,3-8/L	45,00	54,30	8,70
TTS 639/2	45-55-5,7/L	45,00	55,00	6,50
TTS 640	45-55-7	45,00	55,00	8,00
TTS 641	45-55-7/L	45,00	55,00	8,00
TTS 642	45-55-10	45,00	55,00	11,00
TTS 643	45-55-10/L	45,00	55,00	11,00
TTS 644	45-55-10/L-AI	45,00	55,00	11,00

TECNOLAN

Guarnizioni per STELO
ROD seals

TTS
TTS/L
TTS/L-AI



TTS TTS/L TTS/L-AI



PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TTS 645	45-57,7-9,5/L	45,00	57,70	10,50
TTS 646	45-60-10/L	45,00	60,00	11,00
TTS 647	46-54-8	46,00	54,00	9,00
TTS 648	46-54-8/L	46,00	54,00	9,00
TTS 649	48-60-6/L	48,00	60,00	7,00
TTS 650	49,5-65,3-10/L	49,50	65,30	11,00
TTS 651	50-58-8/L	50,00	58,00	9,00
TTS 651/1	50-58-8	50,00	58,00	9,00
TTS 652	50-60-7	50,00	60,00	8,00
TTS 653	50-60-7/L	50,00	60,00	8,00
TTS 653/1	50-60-7/L-AI	50,00	60,00	8,00
TTS 654	50-60-9/L	50,00	60,00	10,00
TTS 655	50-60-10	50,00	60,00	11,00
TTS 656	50-60-10/L	50,00	60,00	11,00
TTS 657	50-60-10/L-AI	50,00	60,00	11,00
TTS 658	50-62-8	50,00	62,00	9,00
TTS 659	50-62-8,6/L-AI	50,00	62,00	9,60
TTS 660	50-62-10	50,00	62,00	11,00
TTS 661	50-62,7-9,5/L	50,00	62,70	10,50
TTS 662	50-65-10	50,00	65,00	11,00
TTS 663	50-65-10/L	50,00	65,00	11,00
TTS 664	50-65-10/L-AI	50,00	65,00	11,00
TTS 664/1	50-65-15/AI	50,00	65,00	16,00
TTS 665	50-70-12/L-AI	50,00	70,00	13,00
TTS 666	50-70-13,5/L	50,00	70,00	14,50
TTS 667	55-63-8	55,00	63,00	9,00
TTS 667/1	55-63-8/L	55,00	63,00	9,00
TTS 668	55-65-7,2	55,00	65,00	8,00
TTS 668/1	55-65-7,2/L	55,00	65,00	8,00
TTS 669	55-65-10	55,00	65,00	11,00
TTS 670	55-65-10/L	55,00	65,00	11,00
TTS 671	55-65-10/AI	55,00	65,00	11,00
TTS 672	55-65-12	55,00	65,00	13,00
TTS 673	55-65-12/L	55,00	65,00	13,00
TTS 674	56-66-10	56,00	66,00	11,00
TTS 675	56-71-11,5/L	56,00	71,00	12,50
TTS 675/2	56-71-11,5/L-AI	56,00	71,00	12,50
TTS 675/1	56-71-9,5/L	56,00	71,00	10,50
TTS 676	56-71-9,5/L-AI	56,00	71,00	10,50
TTS 677	57,1-66,7-9,5/L	57,10	66,70	10,50
TTS 678	57,1-69,8-9,5/L	57,10	69,80	10,50
TTS 678/1	60-68-7/L	60,00	68,00	8,00
TTS 678/2	58-64-4,5	58,00	64,00	5,00
TTS 679	60-68-8	60,00	68,00	9,00
TTS 680	60-68-8/L	60,00	68,00	9,00
TTS 681	60-68-13/L	60,00	68,00	14,00
TTS 681/1	60-69,3-8/L	60,00	69,30	8,70
TTS 682	60-70-7,2	60,00	70,00	8,00
TTS 682/2	60-70-7,2/L	60,00	70,00	8,00
TTS 682/1	60-70-10	60,00	70,00	11,00
TTS 683	60-70-10/L	60,00	70,00	11,00
TTS 684	60-70-11,5/L	60,00	70,00	12,50

PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TTS 685	60-70-12/L	60,00	70,00	13,00
TTS 686	60-70-12	60,00	70,00	13,00
TTS 686/1	60-70-12/AI	60,00	70,00	13,00
TTS 687	60-70-12/L-AI	60,00	70,00	13,00
TTS 688	60-71-8/L	60,00	71,00	9,00
TTS 689	60-72-9	60,00	72,00	10,00
TTS 690	60-72-9/L	60,00	72,00	10,00
TTS 691	60-75-10/L	60,00	75,00	11,00
TTS 692	60-75-12/L-AI	60,00	75,00	13,00
TTS 692/1	60-75-12/L	60,00	75,00	13,00
TTS 693	60-80-12/L-AI	60,00	80,00	13,00
TTS 694	61-69-8	61,00	69,00	9,00
TTS 695	61-69-8/L	61,00	69,00	9,00
TTS 695/1	61-69,7-8/L	61,00	69,70	9,00
TTS 696	63-71-8	63,00	71,00	9,00
TTS 696/1	63-72,5-11,5/L	63,00	72,50	12,50
TTS 697	63-75-8,6/L-AI	63,00	75,00	9,50
TTS 698	63-75-10	63,00	75,00	11,00
TTS 699	63-75-12/L-AI	63,00	75,00	13,00
TTS 699/1	63-78-10/L-AI	63,00	78,00	11,00
TTS 699/2	63-78-11/L-AI	63,00	78,00	12,00
TTS 700	63-78-11,5/L-AI	63,00	78,00	12,50
TTS 700/1	63-78-11,5/L	63,00	78,00	12,50
TTS 701	63-78-12,5-L/AI	63,00	78,00	13,50
TTS 702	63-83-12/L-AI	63,00	83,00	13,00
TTS 703	63-83-13,5/L-AI	63,00	83,00	14,50
TTS 704	63,5-76,2-9,5/L	63,50	76,20	10,50
TTS 704/3	65-73-8/L	65,00	73,00	9,00
TTS 704/1	65-75-5,5	65,00	75,00	6,50
TTS 704/2	65-75-7	65,00	75,00	8,00
TTS 704/4	65-75-10	65,00	75,00	11,00
TTS 705	65-75-12	65,00	75,00	13,00
TTS 706	65-75-12/L	65,00	75,00	13,00
TTS 706/1	65-75-12/L-AI	65,00	75,00	13,00
TTS 707	65-75-12,5/L	65,00	75,00	13,50
TTS 708	65-77,7-9,5/L	65,00	77,70	10,50
TTS 709	65-79,2-11,5/L	65,00	79,20	12,50
TTS 709/1	65-80-11	65,00	80,00	12,00
TTS 710	65-80-11,5/L-AI	65,00	80,00	12,50
TTS 711	66-80-10	66,00	80,00	11,00
TTS 712	66,7-76,2-9,5/L	66,70	76,20	10,50
TTS 713	68-76-8	68,00	76,00	9,00
TTS 714	68-76-8/L	68,00	76,00	9,00
TTS 714/1	69-78,3-8/L	69,00	78,30	8,70
TTS 715	69,8-82,5-9,5/L	69,80	82,50	10,50
TTS 715/1	70-78-8	70,00	78,00	9,00
TTS 715/2	70-78-8/L	70,00	78,00	9,00
TTS 716	70-80-7	70,00	80,00	8,00
TTS 716/1	70-80-7/AI	70,00	80,00	8,00
TTS 717	70-80-10	70,00	80,00	11,00
TTS 718	70-80-12	70,00	80,00	13,00
TTS 719	70-80-12/AI	70,00	80,00	13,00

TECNOLAN

Guarnizioni per STELO
ROD seals

TTS
TTS/L
TTS/L-AI



TTS TTS/L TTS/L-AI



PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TTS 720	70-82-9	70,00	82,00	10,00
TTS 721	70-85-11,5/L	70,00	85,00	12,50
TTS 722	70-85-12/L-AI	70,00	85,00	13,00
TTS 723	70-90-12/L-AI	70,00	90,00	13,00
TTS 724	70-90-13,5/L-AI	70,00	90,00	14,50
TTS 725	72-78-6	72,00	78,00	7,00
TTS 725/1	72-80-8/L	72,00	80,00	8,70
TTS 726	73-82,4-7/L	73,00	82,40	8,00
TTS 726/1	75-83-5,8/L	75,00	83,00	6,30
TTS 726/2	75-83-7/L	75,00	83,00	8,00
TTS 727	75-83-8/L	75,00	83,00	9,00
TTS 727/1	75-83-11,5/L	75,00	83,00	12,50
TTS 728	75-85-7,2	75,00	85,00	8,00
TTS 729	75-85-7/L	75,00	85,00	8,00
TTS 729/1	75-85-7/AI	75,00	85,00	8,00
TTS 730	75-85-12	75,00	85,00	13,00
TTS 731	75-85-12/L	75,00	85,00	13,00
TTS 732	75-85-12/L-AI	75,00	85,00	13,00
TTS 732/1	75-88-13/L-AI	75,00	88,00	14,00
TTS 733	75-90-10,5/L	75,00	90,00	11,50
TTS 734	75-90-12/L-AI	75,00	90,00	13,00
TTS 735	75-95-13,5/L-AI	75,00	95,00	14,50
TTS 736	76-84-8	76,00	84,00	9,00
TTS 737	76-84-8/L	76,00	84,00	9,00
TTS 737/1	76-85,3-8/L	76,00	85,30	8,70
TTS 738	76,2-88,9-9,5/L	76,20	88,90	10,50
TTS 739	76,2-91,2-12/L	76,20	91,20	13,00
TTS 740	78-86-13/L	78,00	86,00	14,00
TTS 741	78-93-10,5	78,00	93,00	11,50
TTS 741/1	79-87,7-8/L	79,00	87,70	9,00
TTS 742	79,4-88,9-9,5/L	79,40	88,90	10,50
TTS 742/1	80-88-8/L	80,00	88,00	9,00
TTS 743	80-88-9/L-AI	80,00	88,00	10,00
TTS 743/1	80-88-11,5/L	80,00	88,00	12,50
TTS 743/2	80-89,5-11,5/L	80,00	89,50	12,50
TTS 744	80-90-7,2	80,00	90,00	8,00
TTS 744/1	80-90-7,2/L	80,00	90,00	8,00
TTS 745	80-90-12	80,00	90,00	13,00
TTS 746	80-90-12/L	80,00	90,00	13,00
TTS 747	80-90-14	80,00	90,00	15,00
TTS 748	80-92-9/L	80,00	92,00	9,60
TTS 748/1	80-93-13/L-AI	80,00	93,00	14,00
TTS 748/2	80-92-9	80,00	92,00	9,60
TTS 749	80-95-11/L	80,00	95,00	12,00
TTS 750	80-95-11,5/L	80,00	95,00	12,50
TTS 751	80-95-11,5/L-AI	80,00	95,00	12,50
TTS 752	80-96-9,5/L	80,00	96,00	10,50
TTS 753	80-96-9,5/L-AI	80,00	96,00	10,50
TTS 754	80-100-11,5/L-AI	80,00	100,00	12,50
TTS 754/1	80-100-12/L	80,00	100,00	13,00
TTS 755	80-100-13,5/L	80,00	100,00	14,50
TTS 755/1	80-100-13,5/L-AI	80,00	100,00	14,50

PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TTS 756	82,5-97,5-12/L	82,50	97,50	13,00
TTS 756/1	83-98-12/L	83,00	98,00	13,00
TTS 756/2	85-93-8	85,00	93,00	9,00
TTS 757	85-95-7	85,00	95,00	8,00
TTS 757/2	85-95-7/AI	85,00	95,00	8,00
TTS 757/1	85-95-12/L	85,00	95,00	13,00
TTS 758	85-97-8,5	85,00	97,00	9,50
TTS 758/1	85-100-13/L-AI	85,00	100,00	14,00
TTS 759	85-105-12/L-AI	85,00	105,00	13,00
TTS 759/1	85-105-12/L	85,00	105,00	13,00
TTS 760	85-105-13,5/L	85,00	105,00	14,50
TTS 760/1	85,5-97,5-12/L	85,50	97,50	13,00
TTS 760/2	85,7-111,1-14	85,70	111,10	15,00
TTS 761	86-92-6	86,00	92,00	7,00
TTS 762	86-101-12/L	86,00	101,00	13,00
TTS 763	88-96-8	88,00	96,00	9,00
TTS 764	88-96-8/L	88,00	96,00	9,00
TTS 764/1	88-97,3-8/L	88,00	97,30	8,70
TTS 765	88,9-101,6-9,5/L	88,90	101,60	10,50
TTS 766	90-96-4,8	90,00	96,00	5,50
TTS 766/1	90-98-5,8	90,00	98,00	6,30
TTS 766/2	90-98-8/L	90,00	98,00	9,00
TTS 766/4	90-98-7/L	90,00	98,00	8,00
TTS 766/5	90-100-6,5	90,00	100,00	7,50
TTS 766/3	90-100-12/L	90,00	100,00	13,00
TTS 766/6	90-100-12	90,00	100,00	13,00
TTS 767/1	90-100-14/L-AI	90,00	100,00	15,00
TTS 767	90-102-9/L	90,00	102,00	10,00
TTS 768	90-105-8,5/L-AI	90,00	105,00	9,50
TTS 769	90-105-11,5/L	90,00	105,00	12,50
TTS 769/1	90-105-13/L-AI	90,00	105,00	14,00
TTS 770	90-105-12/L-AI	90,00	105,00	13,00
TTS 771	90-110-11,5/L-AI	90,00	110,00	12,50
TTS 772	90-110-12/L-AI	90,00	110,00	13,00
TTS 773	90-110-14/L	90,00	110,00	15,00
TTS 774	91-99-8	91,00	99,00	9,00
TTS 775	91-99-8/L	91,00	99,00	9,00
TTS 775/1	92-101,3-8/L	92,00	101,30	8,70
TTS 776	95-103-11,5/L	95,00	103,00	12,50
TTS 776/1	95-110-13/L-AI	95,00	110,00	14,00
TTS 777	95-112-11,5	95,00	112,00	12,50
TTS 778	95-115-13,5/L-AI	95,00	115,00	14,50
TTS 779	97-105-13/L	97,00	105,00	14,00
TTS 779/1	98-106,7-8/L	98,00	106,70	9,00
TTS 779/2	98-107,5-11,5/L	98,00	107,50	12,50
TTS 779/3	100-108-8/L	100,00	108,00	8,50
TTS 779/4	100-108-11,5	100,00	108,00	12,50
TTS 779/5	100-110-11,5/L	100,00	110,00	12,50
TTS 780	100-110-12,5/L-AI	100,00	110,00	13,50
TTS 780/2	100-110-12/L	100,00	110,00	13,00
TTS 780/1	100-112-14/L	100,00	112,00	15,00
TTS 781	100-113-12,5/L-AI	100,00	113,00	13,50

TECNOLAN

Guarnizioni per STELO
ROD seals

TTS
TTS/L
TTS/L-AI



TTS TTS/L TTS/L-AI



PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TTS 782	100-115-12/L	100,00	115,00	13,00
TTS 782/1	100-120-11,5/L	100,00	120,00	12,50
TTS 782/3	101,6-114,3-9,5/L	101,60	114,30	10,50
TTS 782/2	105-113-7/L	105,00	113,00	8,00
TTS 783	100-120-13,5/L-AI	100,00	120,00	14,50
TTS 783/1	105-113-5,8	105,00	113,00	6,30
TTS 783/2	105-113-8/L	105,00	113,00	9,00
TTS 783/3	105-120-11	105,00	120,00	12,00
TTS 783/4	105-120-11/L	105,00	120,00	12,00
TTS 784	105-125-12/L-AI	105,00	125,00	13,00
TTS 785	107-115-8	107,00	115,00	9,00
TTS 786	107-115-8/L	107,00	115,00	9,00
TTS 786/1	107-116,3-8/L	107,00	116,30	8,70
TTS 787	108-116-8/L	108,00	116,00	9,00
TTS 787/1	108-117-8/L	108,00	117,00	8,70
TTS 787/2	108-123-12/L	108,00	123,00	13,00
TTS 787/3	110-118-8/L	110,00	118,00	9,00
TTS 788	110-120-13,5/L-AI	110,00	120,00	14,50
TTS 789	110-120-11,5/L	110,00	120,00	12,50
TTS 790	110-125-11,3/L	110,00	125,00	12,00
TTS 791	110-130-12/L-AI	110,00	130,00	13,00
TTS 792	112-127-12/L	112,00	127,00	13,00
TTS 792/1	114-130-20/L-AI	114,00	130,00	21,00
TTS 792/2	114,3-127-9,5/L	114,30	127,90	10,50
TTS 793	115-123-11,5/L	115,00	123,00	12,50
TTS 793/1	115-130-11	115,00	130,00	12,00
TTS 793/3	115-130-11/L-AI	115,00	130,00	12,00
TTS 793/2	115-130-15/L-AI	115,00	130,00	16,00
TTS 794	115-130-16/L-AI	115,00	130,00	17,00
TTS 794/1	116-124,7-8/L	116,00	124,70	9,00
TTS 794/2	116-125,5-11,5/L	116,00	125,50	12,50
TTS 795	118-126-13/L	118,00	126,00	14,00
TTS 795/1	120-128-5,8	120,00	128,00	6,30
TTS 795/2	120-128-8/L	120,00	128,00	9,00
TTS 795/3	120-128-7/L	120,00	128,00	8,00
TTS 796	120-135-15	120,00	135,00	16,00
TTS 797	120-140-11,5/L-AI	120,00	140,00	12,50
TTS 797/1	125-133-11,5	125,00	133,00	12,50
TTS 797/2	125-133-6,5/L	125,00	133,00	7,50
TTS 798	126-134-8	126,00	134,00	9,00
TTS 799	126-134-8/L	126,00	134,00	9,00
TTS 799/1	126-135,3-8/L	126,00	135,30	8,70
TTS 799/2	127-152,4-14	127,00	152,40	15,00
TTS 800	127-140-12,5/L-AI	127,00	140,00	13,50
TTS 800/3	129-137-8/L	129,00	137,00	9,00
TTS 800/1	130-140-7/AI	130,00	140,00	8,00
TTS 800/2	130-145-11	130,00	145,00	12,00
TTS 801	130-145-15/L	130,00	145,00	16,00
TTS 801/1	130-150-15	130,00	150,00	16,00
TTS 801/2	130-150-15/L	130,00	150,00	16,00
TTS 802	130-155-15/L	130,00	155,00	16,00
TTS 802/1	135-143,7-8/L	135,00	143,70	9,00

PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TTS 802/2	135-143-11,5/L	135,00	143,00	12,50
TTS 802/3	135-144,5-11,5/L	135,00	144,50	12,50
TTS 802/4	135-150-11	135,00	150,00	12,00
TTS 803	137-152-12/L	137,00	152,00	13,00
TTS 803/2	140-148-7/L	140,00	148,00	8,00
TTS 803/1	140-155-11	140,00	155,00	12,00
TTS 804	140-155,5-5,8	140,00	155,50	6,30
TTS 805	140-160-14/L-AI	140,00	160,00	15,00
TTS 805/1	140-160-14/L	140,00	160,00	15,00
TTS 806	140-165-18/L-AI	140,00	165,00	19,00
TTS 807	143-151-13/L	143,00	151,00	14,00
TTS 808	145-153-8	145,00	153,00	9,00
TTS 809	145-153-8/L	145,00	153,00	9,00
TTS 809/1	145-154,3-8/L	145,00	154,30	8,70
TTS 809/2	145-157,7-9/AI	145,00	157,70	10,00
TTS 809/3	145-160-15/L-AI	145,00	160,00	16,00
TTS 810	146-156-10/L	146,00	156,00	11,00
TTS 810/9	150-158-11,5	150,00	158,00	12,50
TTS 810/10	150-160-12,5/L	150,00	160,00	13,50
TTS 810/1	150-170-13,5/AI	150,00	170,00	14,50
TTS 810/11	151-159-8/L	151,00	159,00	9,00
TTS 810/7	152,4-177,8-14	152,40	177,80	15,00
TTS 810/6	152,4-188,8-14	152,40	188,80	15,00
TTS 810/2	154-162,7-8/L	154,00	162,70	9,00
TTS 810/8	154,5-164-11,5/L	154,50	164,00	12,50
TTS 810/3	155-163-11,5/L	155,00	163,00	12,50
TTS 810/4	155-170-11	155,00	170,00	12,00
TTS 810/5	160-180-15	160,00	180,00	16,00
TTS 811	160-185-18/L-AI	160,00	185,00	19,00
TTS 812	163-178-12/L	163,00	178,00	13,00
TTS 812/1	165-174,3-8/L	165,00	174,30	8,70
TTS 813/1	165-180-11	165,00	180,00	12,00
TTS 813/2	165-173-11,5/L	165,00	173,00	12,50
TTS 813	165-173-22	165,00	173,00	23,00
TTS 814	165,5-173-9/L	165,50	173,00	10,00
TTS 814/2	166-174-11/L	166,00	174,00	12,00
TTS 814/1	167-176,3-8	167,00	176,30	8,70
TTS 815	170-180-10/L	170,00	180,00	11,00
TTS 815/4	170-182,7-9/L	170,00	182,70	10,00
TTS 815/1	174-182,7-8/L	174,00	182,70	9,00
TTS 815/5	175-184,5-11,5/L	175,00	184,50	12,50
TTS 815/2	175-185-12/L	175,00	184,50	13,00
TTS 815/6	180-188-11,5	180,00	188,00	12,50
TTS 815/7	180-190-12,5/L	180,00	190,00	13,50
TTS 815/3	187-196,3-8/L	187,00	196,30	8,70
TTS 816/2	187-196,5-11,5/L	187,00	196,50	12,50
TTS 816	188-203-12/L	188,00	203,00	13,00
TTS 816/3	195-210-15/L-AI	195,00	210,00	16,00
TTS 816/5	195-201-15/L-AI	195,00	201,00	16,00
TTS 816/1	196-204,7-8/L	196,00	204,70	9,00
TTS 816/4	197-206,5-11,5/L	197,00	206,50	12,50
TTS 817	197-209-12/L	197,00	209,00	13,00

TECNOLAN

Guarnizioni per STELO
ROD seals

TTS
TTS/L
TTS/L-AI







TTI TTI/L TTI/L-AI

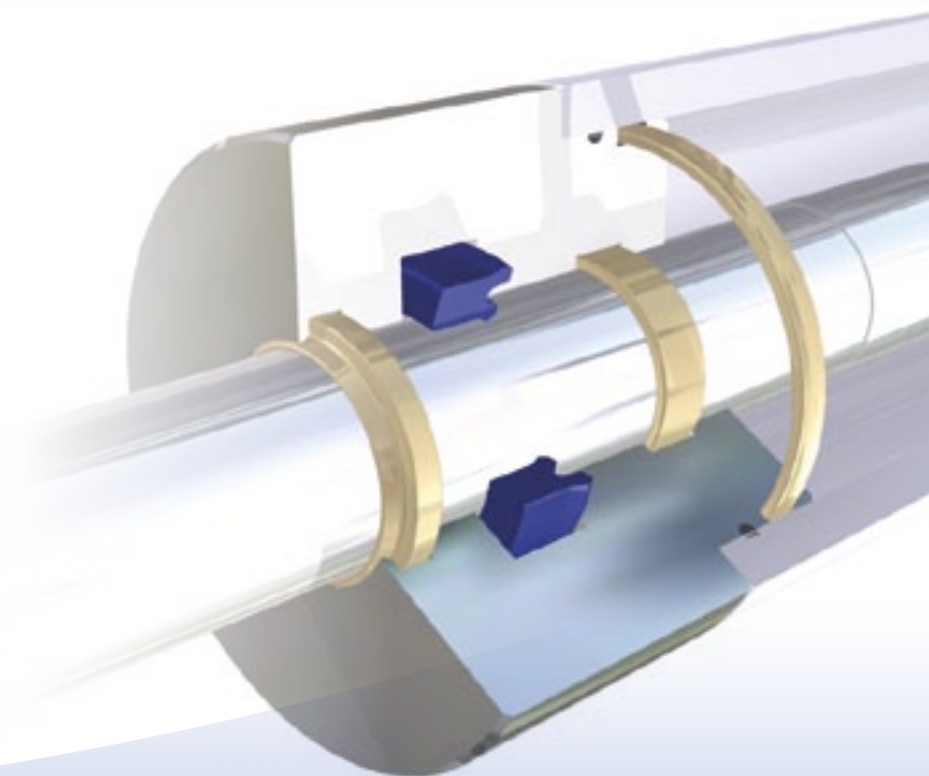
**Guarnizioni per STELO
ROD seals**

TECNOLAN

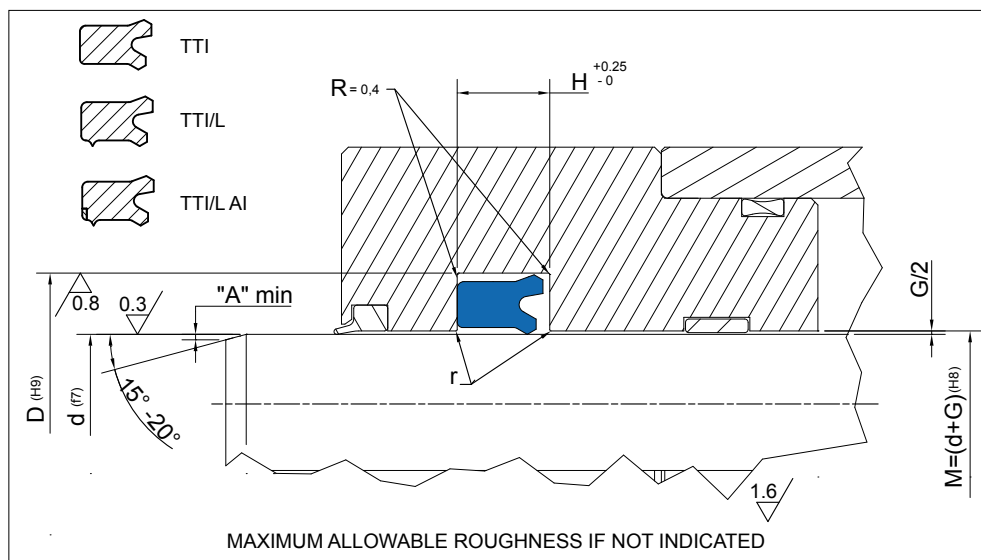
Versione standard			Standard version		
TTI	TTI/L	Poliuretano	TTI	TTI/L	Polyurethane
TTI/AI	TTI/L AI	Poliuretano +POM	TTI/AI	TTI/L AI	Polyurethane+POM
Versioni Alternative			Alternative Versions		
Poliuretano Basse Temperature			Low Temperature Polyurethane		
Pressione fino a / Pressure up to					
40 MPa					
Velocità fino a / Speed up to					
0.5 m/s					
Temperatura / Temperature					
-35°C +100°C			-45°C +110°C PN 522		
Applicazioni			Applications		
Cilindri Idraulici			Hydraulic Cylinders		
Cilindri Telescopici			Telescopic Cylinders		
Cilindri per Gru			Truck crane Cylinders		
Sponde Idrauliche			Tail Lifts		
Cilindri per Agricoltura			Agricultural Cylinders		
Presse ad iniezione			Injection moulding machines		

TTI • TTI/L • TTI/L-AI

60÷77



TTI TTI/L TTI/L-AI



Rod Seal design guidelines

	0mm < d ≤ 50mm	50mm < d ≤ 100mm	100mm < d ≤ 150mm	d ≥ 150mm
r	remove sharp edges			
A	1 mm	2 mm	3 mm	3 mm < A ≤ 5 mm

Operating pressure to determinate Maximum Gap Allowance: G/2

G	Profile Dimension	> 16 MPa	> 26 MPa	> 32 MPa	> 40 MPa
	≤ 5		0.50 mm	0.40 mm	0.35 mm
> 5.0 - 7.5		0.55 mm	0.45 mm	0.40 mm	0.35 mm
> 7.5 - 12.5		0.60 mm	0.50 mm	0.45 mm	0.40 mm
15		0.65 mm	0.55 mm	0.45 mm	0.40 mm

PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TTI 1501	6-12/1	6,00	12,00	5,80
TTI 1502	6-14	6,00	14,00	6,30
TTI 1503	8-14,4/1	8,00	14,40	10,50
TTI 1504	8-14	8,00	14,00	3,20
TTI 1504/1	8-14/L	8,00	14,00	6,00
TTI 1504/2	8-16/1	8,00	16,00	5,00
TTI 1505	8-16/L	8,00	16,00	6,30
TTI 1506	8-18/1	8,00	18,00	9,00
TTI 1507	10-18	10,00	18,00	6,30
TTI 1508	10-20	10,00	20,00	8,00
TTI 1509	10-20/1	10,00	20,00	9,00
TTI 1509/3	11-16	11,00	16,00	4,00
TTI 1509/2	12-17/L	12,00	17,00	4,50
TTI 1509/1	12-18	12,00	18,00	4,50
TTI 1510	12-20	12,00	20,00	6,40
TTI 1510/1	12-22/2	12,00	22,00	5,00
TTI 1511	12-22	12,00	22,00	8,00
TTI 1512	12-22/1	12,00	22,00	9,00
TTI 1512/1	14-21	14,00	21,00	5,80
TTI 1512/2	14,5-20	14,50	20,00	4,00
TTI 1513	14-22	14,00	22,00	6,30
TTI 1514	14-24	14,00	24,00	8,00
TTI 1514/1	14-24/1	14,00	24,00	6,30
TTI 1515	14-24/L	14,00	24,00	8,00
TTI 1516	14-24/2	14,00	24,00	9,00
TTI 1516/1	15-23/L	15,00	23,00	6,30
TTI 1517	15-23	15,00	23,00	6,30

PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TTI 1517/1	15-23/1	15,00	23,00	5,00
TTI 1518	15-25/1	15,00	25,00	9,00
TTI 1519	15-26/L	15,00	26,00	8,00
TTI 1520	15,4-25,5/L	15,40	25,50	7,40
TTI 1521	16-20,6	16,00	20,60	3,60
TTI 1521/1	16-22	16,00	22,00	6,00
TTI 1521/2	16-22/1	16,00	22,00	4,00
TTI 1522	16-24	16,00	24,00	6,30
TTI 1522/1	16-24/L	16,00	24,00	6,30
TTI 1523	16-24/1	16,00	24,00	7,00
TTI 1523/1	16-24/1-L	16,00	24,00	7,00
TTI 1524	16-26	16,00	26,00	8,00
TTI 1525	16-26/1	16,00	26,00	9,00
TTI 1526	16-26/2	16,00	26,00	10,00
TTI 1527	18-24	18,00	24,00	5,20
TTI 1527/1	18-25/L	18,00	25,00	6,00
TTI 1527/2	18-26	18,00	26,00	5,70
TTI 1528	18-26/2	18,00	26,00	6,30
TTI 1529	18-26/1-L	18,00	26,00	7,00
TTI 1530	18-26/1	18,00	26,00	9,00
TTI 1531	18-26/2-L	18,00	26,00	9,00
TTI 1532	18-28	18,00	28,00	8,00
TTI 1533	18-28/1	18,00	28,00	9,00
TTI 1533/1	19,5-25,4	19,50	25,40	6,30
TTI 1534	19,5-27,5/L	19,50	27,50	9,00
TTI 1534/1	20-25/L	20,00	25,00	3,50
TTI 1535	20-26/1	20,00	26,00	5,50
TTI 1535/1	20-26/L	20,00	26,00	5,50
TTI 1536	20-28	20,00	28,00	6,30
TTI 1537	20-28/1	20,00	28,00	7,00
TTI 1537/1	20-28/AI	20,00	28,00	6,30
TTI 1537/2	20-28/L	20,00	28,00	7,00
TTI 1537/3	20-28/1-AI	20,00	28,00	8,00
TTI 1538	20-28/2	20,00	28,00	8,00
TTI 1539	20-30	20,00	30,00	8,00
TTI 1539/1	20-30-L	20,00	30,00	8,00
TTI 1540	20-30/2	20,00	30,00	9,00
TTI 1540/1	20-30/3-L	20,00	30,00	9,00
TTI 1541	20-30/1	20,00	30,00	11,00
TTI 1542	20-35	20,00	35,00	11,00
TTI 1542/1	20,5-30	20,50	30,00	5,70
TTI 1543	22-30	22,00	30,00	6,30
TTI 1544	22-30/L	22,00	30,00	6,30
TTI 1544/1	22-32	22,00	32,00	6,00
TTS 1544/2	22-32/1	22,00	32,00	7,50
TTI 1545	22-32/4	22,00	32,00	8,00
TTI 1546	22-32/2	22,00	32,00	9,00
TTI 1546/1	22-32/L	22,00	32,00	9,00
TTI 1547	22-32/3	22,00	32,00	11,00
TTI 1547/1	22-32/3-L	22,00	32,00	11,00
TTI 1548	24-34	24,00	34,00	8,00
TTI 1549	24-34/1	24,00	34,00	9,50

TECNOLAN

Guarnizioni per STELO
ROD seals

TTI
TTI/L
TTI/L-AI



TTI TTI/L TTI/L-AI



PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TTI 1549/1	25-32/L	25,00	32,00	7,00
TTI 1549/2	25-31,4/L	25,00	31,40	9,00
TTI 1550	25-33	25,00	33,00	6,30
TTI 1550/1	25-33/L	25,00	33,00	6,30
TTI 1551	25-33/3	25,00	33,00	7,00
TTI 1552	25-33/3-L	25,00	33,00	7,00
TTI 1553	25-33/1-L	25,00	33,00	7,50
TTI 1553/1	25-33/1	25,00	33,00	7,50
TTI 1554	25-33/5	25,00	33,00	8,00
TTI 1555	25-33/5-L	25,00	33,00	8,00
TTI 1555/1	25-33/4-L	25,00	33,00	9,00
TTI 1555/2	25-33/4	25,00	33,00	9,00
TTI 1556	25-33/2	25,00	33,00	11,00
TTI 1556/1	25-33/2-L	25,00	33,00	11,00
TTI 1557	25-35	25,00	35,00	8,00
TTI 1557/2	25-35/1-L	25,00	35,00	8,00
TTI 1557/1	25-35/L	25,00	35,00	9,00
TTI 1558	25-35/2	25,00	35,00	9,00
TTI 1558/1	25-35/3-L	25,00	35,00	11,00
TTI 1559	25-35/1	25,00	35,00	11,00
TTI 1560	25-38/1	25,00	38,00	10,00
TTI 1561	25-40	25,00	40,00	11,00
TTI 1561/1	26-33,5	26,00	33,50	5,00
TTI 1562	28-36	28,00	36,00	6,30
TTI 1563	28-38	28,00	38,00	8,00
TTI 1563/1	28-38/L	28,00	38,00	8,00
TTI 1564	28-38/1-L	28,00	38,00	8,50
TTI 1565	28-38/1	28,00	38,00	9,00
TTI 1566	28-38/2	28,00	38,00	11,00
TTI 1567	28-40	28,00	40,00	9,50
TTI 1568	28-43	28,00	43,00	12,50
TTI 1568/1	28,57-36,50/L	28,57	36,50	7,50
TTI 1569	30-38	30,00	38,00	6,30
TTI 1569/1	30-38/L	30,00	38,00	6,30
TTI 1569/2	30-38/1-L	30,00	38,00	9,00
TTI 1570	30-38/1	30,00	38,00	9,00
TTI 1570/1	30-38/2	30,00	38,00	7,00
TTI 1570/2	30-38/2-AI	30,00	38,00	7,00
TTI 1570/3	30-38/3	30,00	38,00	8,00
TTI 1571	30-40/3	30,00	40,00	6,30
TTI 1571/1	30-40/2-L	30,00	40,00	7,00
TTI 1572	30-40/1-L	30,00	40,00	7,50
TTI 1572/1	30-40/AI	30,00	40,00	7,50
TTI 1573	30-40	30,00	40,00	8,00
TTI 1573/1	30-40	30,00	40,00	9,00
TTI 1573/1	30-40/5	30,00	40,00	9,00
TTI 1574	30-40/L	30,00	40,00	8,00
TTI 1574/1	30-40/5-L	30,00	40,00	9,00
TTI 1575	30-40/2	30,00	40,00	10,50
TTI 1576	30-40/1	30,00	40,00	11,00
TTI 1576/1	30-40/3-L	30,00	40,00	11,00
TTI 1577	30-43	30,00	43,00	10,00

PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TTI 1578	30-45/1	30,00	45,00	9,00
TTI 1579	30-45	30,00	45,00	11,00
TTI 1579/1	30-45/2-L	30,00	45,00	11,00
TTI 1579/2	31,75-41,27/L	31,75	41,27	7,50
TTI 1580	32-40	32,00	40,00	6,30
TTI 1580/1	32-40/2	32,00	40,00	5,00
TTI 1580/2	32-40/2-L	32,00	40,00	8,00
TTI 1581	32-40/L	32,00	40,00	7,70
TTI 1581/1	32-40/1-L	32,00	40,00	8,00
TTI 1582	32-40/1	32,00	40,00	9,00
TTI 1583	32-41,5/L	32,00	41,50	8,00
TTI 1584	32-42	32,00	42,00	8,00
TTI 1585	32-42/1	32,00	42,00	11,00
TTI 1586	32-42,5/1	32,00	42,53	9,00
TTI 1587	32-45/1	32,00	45,00	10,50
TTI 1588	32-47/1	32,00	47,00	11,00
TTI 1589	33-43	33,00	43,00	11,00
TTI 1590	35-43	35,00	43,00	6,30
TTI 1591	35-43/L	35,00	43,00	8,00
TTI 1592	35-43/1	35,00	43,00	9,00
TTI 1592/1	35-43/2	35,00	43,00	7,00
TTI 1592/2	35-43/3	35,00	43,00	11,00
TTI 1592/3	35-43/L	35,00	43,00	7,00
TTI 1593	35-45	35,00	45,00	8,00
TTI 1593/1	35-45/L	35,00	45,00	8,00
TTI 1593/2	35-45/4-L	35,00	45,00	7,00
TTI 1593/3	35-45/3	35,00	45,00	9,00
TTI 1594	35-45/1	35,00	45,00	11,00
TTI 1594/1	35-45/1-L	35,00	45,00	11,00
TTI 1595	35-45/2	35,00	45,00	13,50
TTI 1596	35-46	35,00	46,00	9,00
TTI 1597	35-46/1	35,00	46,00	10,00
TTI 1597/1	35-47	35,00	47,00	7,00
TTI 1597/2	35-47/1	35,00	47,00	8,00
TTI 1597/3	35-50/L	35,00	50,00	10,00
TTI 1598	35-50	35,00	50,00	11,00
TTI 1598/1	35-51	35,00	51,00	10,00
TTI 1598/2	35-51/L	35,00	51,00	11,00
TTI 1599	35-55	35,00	55,00	13,00
TTI 1599/1	36-44/1	36,00	44,00	7,00
TTI 1600	36-44/1-L	36,00	44,00	7,00
TTI 1600/1	36-44	36,00	44,00	6,30
TTI 1600/2	36-44/2-L	36,00	44,00	9,00
TTI 1601	36-46	36,00	46,00	8,00
TTI 1601/1	36-46/AI	36,00	46,00	8,00
TTI 1601/2	36-46/2-L	36,00	46,00	8,00
TTI 1602	36-46/L	36,00	46,00	8,50
TTI 1603	36-46/1-L	36,00	46,00	11,00
TTI 1604	36-48	36,00	48,00	9,00
TTI 1605	36-51	36,00	51,00	11,00
TTI 1606	36-51/1	36,00	51,00	12,50
TTI 1607	37-45	37,00	45,00	6,30

TECNOLAN

Guarnizioni per STELO
ROD seals

TTI
TTI/L
TTI/L-AI



TTI TTI/L TTI/L-AI



PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TTI 1607/1	37-45/L	37,00	45,00	6,30
TTI 1607/2	37-47/L	37,00	47,00	9,00
TTI 1608	38-45	38,00	45,00	5,50
TTI 1609	38-45/1	38,00	45,00	7,00
TTI 1609/1	38-48/L	38,00	48,00	10,00
TTI 1609/2	38-48	38,00	48,00	9,00
TTI 1609/4	38,10-47,62/L	38,10	47,62	7,50
TTI 1609/3	40-44,8	40,00	44,80	4,00
TTI 1610	40-48	40,00	48,00	6,30
TTI 1610/1	40-48/1	40,00	48,00	9,00
TTI 1610/2	40-48/AI	40,00	48,00	9,00
TTI 1610/3	40-48/L	40,00	48,00	6,30
TTI 1611	40-49,5/1	40,00	49,52	10,50
TTI 1612	40-49,5/L	40,00	49,52	10,50
TTI 1613	40-50	40,00	50,00	8,00
TTI 1613/1	40-50/AI	40,00	50,00	8,00
TTI 1614	40-50/L	40,00	50,00	8,00
TTI 1614/1	40-50/3-L	40,00	50,00	7,00
TTI 1614/2	40-50/4	40,00	50,00	9,00
TTI 1615	40-50/1	40,00	50,00	11,00
TTI 1615/1	40-50/1-L	40,00	50,00	11,00
TTI 1616	40-50/2	40,00	50,00	13,50
TTI 1617	40-52	40,00	52,00	9,00
TTI 1618	40-55	40,00	55,00	11,00
TTI 1619	40-55/L	40,00	55,00	11,00
TTI 1619/1	40-55/2-L	40,00	55,00	10,00
TTI 1620	40-55/L-AI	40,00	55,00	11,00
TTI 1621	40-55/1	40,00	55,00	12,50
TTI 1622	40-60	40,00	60,00	13,00
TTI 1622/1	40-60/L	40,00	60,00	13,00
TTI 1623	42-50/L	42,00	50,00	12,50
TTI 1624	42-51/L-AI	42,00	51,00	11,00
TTI 1624/1	42-52	42,00	52,00	8,00
TTI 1625	42-53/L	42,00	53,00	10,00
TTI 1626	42-62/1	42,00	62,00	11,00
TTI 1627	42-62	42,00	62,00	13,00
TTI 1627/1	44,45-53,97/L	44,45	53,97	7,50
TTI 1627/4	44,45-53,97/1-L	44,45	53,97	10,50
TTI 1627/3	44,45-57,15/L	44,45	57,15	9,52
TTI 1627/2	45-50/L	45,00	50,00	6,00
TTI 1628	45-52/L-AI	45,00	52,00	14,00
TTI 1629	45-53	45,00	53,00	6,30
TTI 1629/1	45-53/L	45,00	53,00	6,30
TTI 1629/2	45-53/4	45,00	53,00	8,00
TTI 1630	45-53/3	45,00	53,00	9,00
TTI 1631	45-53/2	45,00	53,00	11,00
TTI 1632	45-53/5-L	45,00	53,00	12,50
TTI 1632/1	45-53/5	45,00	53,00	12,50
TTI 1633	45-53/1	45,00	53,00	13,00
TTI 1633/1	45-55	45,00	55,00	6,50
TTI 1634	45-55/2	45,00	55,00	8,00
TTI 1634/1	45-55/2-L	45,00	55,00	8,00

PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TTI 1634/2	45-55/4-L	45,00	55,00	7,00
TTI 1635	45-55/1	45,00	55,00	11,00
TTI 1635/1	45-55/1-L	45,00	55,00	11,00
TTI 1636	45-55/3-L	45,00	55,00	12,00
TTI 1636/1	45-55/L-AI	45,00	55,00	9,00
TTI 1637	45-57,7	45,00	57,70	10,50
TTI 1638	45-57,7/L	45,00	57,70	10,50
TTI 1639	45-58/1	45,00	58,00	10,00
TTI 1639/1	45-60	45,00	60,00	11,00
TTI 1640	45-60/1	45,00	60,00	12,50
TTI 1640/1	45-60/L	45,00	60,00	12,50
TTI 1641	45-65/2	45,00	65,00	11,00
TTI 1642	45-65	45,00	65,00	13,00
TTI 1643	45-65/1	45,00	65,00	14,50
TTI 1644	46-56	46,00	56,00	8,00
TTI 1644/2	46-56/1	46,00	56,00	9,00
TTI 1644/1	47-56,3	47,00	56,30	10,00
TTI 1645	48-56/1-L	48,00	56,00	12,50
TTI 1646	48-56/L	48,00	56,00	13,00
TTI 1647	50-57/L	50,00	57,00	11,00
TTI 1648	50-58/L	50,00	58,00	12,50
TTI 1649	50-59/L-AI	50,00	59,00	11,00
TTI 1649/4	50-59/1L-AI	50,00	59,00	10,50
TTI 1649/1	50-60/3	50,00	60,00	7,00
TTI 1649/3	50-60/3-L	50,00	60,00	7,00
TTI 1649/2	50-60/4	50,00	60,00	9,00
TTI 1650	50-60	50,00	60,00	8,00
TTI 1650/1	50-60/L	50,00	60,00	8,00
TTI 1651	50-60/L-AI	50,00	60,00	8,00
TTI 1651/1	50-60/5-L	50,00	60,00	7,50
TTI 1652	50-60/1	50,00	60,00	11,00
TTI 1652/1	50-60/1-L	50,00	60,00	11,00
TTI 1652/2	50-60/L-AI	50,00	60,00	11,00
TTI 1653	50-60/AI	50,00	60,00	11,00
TTI 1654	50-60/2	50,00	60,00	13,00
TTI 1655	50-62	50,00	62,00	9,00
TTI 1655/1	50-62/AI	50,00	62,00	9,00
TTI 1656	50-62,7	50,00	62,70	10,50
TTI 1657	50-62,7/L	50,00	62,70	10,50
TTI 1657/1	50-63	50,00	63,00	10,00
TTI 1658	50-65	50,00	65,00	11,00
TTI 1658/1	50-65/L	50,00	65,00	10,50
TTI 1659	50-65/1-L	50,00	65,00	11,00
TTI 1660	50-65/AI	50,00	65,00	11,00
TTI 1661	50-65/L-AI	50,00	65,00	11,00
TTI 1662	50-65/1	50,00	65,00	12,50
TTI 1663	50-65	50,00	65,00	16,50
TTI 1664	50-68	50,00	68,00	10,00
TTI 1665	50-70/1	50,00	70,00	11,00
TTI 1666	50-70	50,00	70,00	13,00
TTI 1666/1	50-70/L	50,00	70,00	13,00
TTI 1667	50-70/L-AI	50,00	70,00	13,00

TECNOLAN

Guarnizioni per STELO
ROD seals

TTI
TTI/L
TTI/L-AI



TTI TTI/L TTI/L-AI



PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TTI 1668	50-70/2	50,00	70,00	14,50
TTI 1669	50-70/3-L	50,00	70,00	15,00
TTI 1669/1	53-63	53,00	63,00	6,00
TTI 1669/2	50,80-60,32/L	50,80	60,32	8,00
TTI 1670	55-62,5/L	55,00	62,50	10,00
TTI 1671	55-63/2-L	55,00	63,00	12,50
TTI 1671/1	55-63/L	55,00	63,00	9,00
TTI 1671/2	55-63	55,00	63,00	9,00
TTI 1671/3	55-63/2	55,00	63,00	12,50
TTI 1672	55-63/1	55,00	63,00	13,00
TTI 1672/1	55-63,6	55,00	63,60	6,30
TTI 1672/2	55-65/L	55,00	65,00	8,00
TTI 1673	55-65	55,00	65,00	8,00
TTI 1673/1	55-65/4	55,00	65,00	6,00
TTI 1673/2	55-65/5-L	55,00	65,00	7,00
TTI 1674	55-65/6-L	55,00	65,00	9,50
TTI 1675	55-65/1	55,00	65,00	11,00
TTI 1676	55-65/1-L	55,00	65,00	11,00
TTI 1677	55-65/AI	55,00	65,00	11,00
TTI 1678	55-65/2	55,00	65,00	13,00
TTI 1678/1	55-65/2-L	55,00	65,00	13,00
TTI 1678/2	55-65/L-AI	55,00	65,00	13,00
TTI 1679	55-65/3	55,00	65,00	14,50
TTI 1680	55-67/1	55,00	67,00	11,00
TTI 1681	55-70	55,00	70,00	11,00
TTI 1681/1	55-70/2	55,00	70,00	12,00
TTI 1681/2	55-70/L	55,00	70,00	12,50
TTI 1682	55-70/1	55,00	70,00	13,00
TTI 1683	55-75	55,00	75,00	13,00
TTI 1684	55-75/1	55,00	75,00	14,50
TTI 1684/1	56-66	56,00	66,00	8,00
TTI 1685	56-66/1	56,00	66,00	11,00
TTI 1686	56-71	56,00	71,00	11,00
TTI 1686/1	56-71/2	56,00	71,00	9,50
TTI 1687	56-71/1	56,00	71,00	12,50
TTI 1687/1	56-71/1-L	56,00	71,00	12,50
TTI 1687/2	56-76	56,00	76,00	8,00
TTI 1688	56-76/3	56,00	76,00	13,00
TTI 1689	56-76/1	56,00	76,00	14,50
TTI 1690	56-76/2	56,00	76,00	16,00
TTI 1691	57,1-66,7/L	57,10	66,70	10,50
TTI 1692	57,1-69,8/L	57,10	69,80	10,50
TTI 1692/1	60-65/L	60,00	65,00	6,50
TTI 1693	60-68/L	60,00	68,00	12,50
TTI 1694	60-68/L-AI	60,00	68,00	14,00
TTI 1695	60-69/L-AI	60,00	69,00	11,00
TTI 1695/1	60-69,5	60,00	69,50	7,00
TTI 1696	60-70	60,00	70,00	8,00
TTI 1696/1	60-70/L	60,00	70,00	8,00
TTI 1696/2	60-70/AI	60,00	70,00	8,50
TTI 1696/3	60-70/3-L	60,00	70,00	7,00
TTI 1697	60-70/2	60,00	70,00	11,00

PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TTI 1698	60-70/4-L	60,00	70,00	12,50
TTI 1699	60-70/1	60,00	70,00	13,00
TTI 1700	60-70/1-L	60,00	70,00	13,00
TTI 1700/1	60-70/5	60,00	70,00	16,00
TTI 1700/2	60-71/L	60,00	71,00	8,00
TTI 1701	60-72	60,00	72,00	9,00
TTI 1701/1	60-72/L	60,00	72,00	10,00
TTI 1702	60-72/1	60,00	72,00	10,00
TTI 1702/1	60-72/L-AI	60,00	72,00	12,50
TTI 1702/2	60-75/2	60,00	75,00	10,00
TTI 1703	60-75	60,00	75,00	11,00
TTI 1704	60-75/L	60,00	75,00	11,00
TTI 1704/1	60-75/3-L	60,00	75,00	12,50
TTI 1705	60-75/1	60,00	75,00	13,00
TTI 1705/1	60-75/1-L	60,00	75,00	13,00
TTI 1706	60-75/4-L	60,00	75,00	16,50
TTI 1707	60-77	60,00	77,00	12,00
TTI 1708	60-80	60,00	80,00	13,00
TTI 1709	60-80/L-AI	60,00	80,00	13,00
TTI 1709/1	60-80/2-L	60,00	80,00	13,00
TTI 1710	60-80/1	60,00	80,00	14,50
TTI 1711	61-69	61,00	69,00	8,50
TTI 1712	62-74/1	62,00	74,00	14,00
TTI 1713	63-73/1	63,00	73,00	11,00
TTI 1714	63-73/2	63,00	73,00	13,00
TTI 1714/1	63-73/2-L	63,00	73,00	13,00
TTI 1714/2	63-73/L	63,00	73,00	7,00
TTI 1715	63-75/L	63,00	75,00	11,00
TTI 1716	63-78	63,00	78,00	11,00
TTI 1716/1	63-78/1-L	63,00	78,00	12,50
TTI 1716/2	63-78/L-AI	63,00	78,00	12,50
TTI 1717	63-78/2	63,00	78,00	12,50
TTI 1718	63-78/1	63,00	78,00	13,00
TTI 1719	63-83	63,00	83,00	13,00
TTI 1720	63-83/L	63,00	83,00	13,00
TTI 1721	63-83/L-AI	63,00	83,00	13,00
TTI 1722	63-83/1	63,00	83,00	14,50
TTI 1723	63-83/1-L	63,00	83,00	14,50
TTI 1724	63-83/2	63,00	83,00	16,00
TTI 1725	63,5-76,2/L	63,50	76,20	10,50
TTI 1726	65-73/L	65,00	73,00	12,50
TTI 1726/1	65-73/L-AI	65,00	73,00	12,50
TTI 1727	65-75/L	65,00	75,00	9,00
TTI 1727/1	65-75/4-L	65,00	75,00	7,00
TTI 1728	65-75/3	65,00	75,00	11,00
TTI 1729	65-75/3-L	65,00	75,00	11,00
TTI 1729/1	65-75/2-L	65,00	75,00	12,50
TTI 1730	65-75/1-L	65,00	75,00	13,00
TTI 1731	65-75/2	65,00	75,00	14,50
TTI 1732	65-77/1	65,00	77,00	10,00
TTI 1733	65-77,7/L	65,00	77,70	10,50
TTI 1733/1	65-80/2	65,00	80,00	10,00

TECNOLAN

Guarnizioni per STELO
ROD seals

TTI
TTI/L
TTI/L-AI



TTI TTI/L TTI/L-AI



PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TTI 1734	65-80	65,00	80,00	11,00
TTI 1735	65-80/1	65,00	80,00	13,00
TTI 1735/1	65-80/3-L	65,00	80,00	12,50
TTI 1736	65-85	65,00	85,00	13,00
TTI 1737	65-85/1	65,00	85,00	14,50
TTI 1738	66-80/L	66,00	80,00	11,00
TTI 1739	67-75/L	67,00	75,00	12,50
TTI 1739/1	68-80	68,00	80,00	11,00
TTI 1740	69,8-82,5/L	69,80	82,50	10,50
TTI 1741	70-77,5	70,00	77,50	10,00
TTI 1742	70-78/L	70,00	78,00	12,50
TTI 1743	70-79/L	70,00	79,00	14,00
TTI 1744	70-80/3	70,00	80,00	6,50
TTI 1745	70-80	70,00	80,00	8,00
TTI 1745/2	70-80/L	70,00	80,00	8,00
TTI 1745/1	70-80/4	70,00	80,00	6,00
TTI 1745/3	70-80/5-L	70,00	80,00	7,00
TTI 1746	70-80/L-AI	70,00	80,00	8,00
TTI 1746/1	70-80/3-L	70,00	80,00	9,00
TTI 1747	70-80/2	70,00	80,00	11,00
TTI 1748	70-80/6-L	70,00	80,00	12,50
TTI 1749	70-80/1	70,00	80,00	13,00
TTI 1750	70-80/1-L	70,00	80,00	13,00
TTI 1751	70-85	70,00	85,00	11,00
TTI 1751/1	70-85/3	70,00	85,00	12,00
TTI 1752	70-85/2	70,00	85,00	12,50
TTI 1753	70-85/L	70,00	85,00	12,50
TTI 1754	70-85/L-AI	70,00	85,00	12,50
TTI 1755	70-85/1	70,00	85,00	13,00
TTI 1756	70-90	70,00	90,00	13,00
TTI 1757	70-90/L	70,00	90,00	13,00
TTI 1758	70-90/1	70,00	90,00	14,50
TTI 1758/1	70-90/3	70,00	90,00	15,00
TTI 1759	70-90/2	70,00	90,00	16,00
TTI 1760	73-82,4/L	73,00	82,40	7,80
TTI 1761	73-82,5	73,00	82,50	8,00
TTI 1761/2	73-85	73,00	85,00	11,00
TTI 1761/1	75-80/L	75,00	80,00	6,50
TTI 1762	75-83/L	75,00	83,00	12,50
TTI 1763	75-85	75,00	85,00	8,00
TTI 1763/1	75-85/L	75,00	85,00	8,00
TTI 1764	75-85/1-L	75,00	85,00	9,50
TTI 1765	75-85/2-L	75,00	85,00	11,00
TTI 1766	75-85/L	75,00	85,00	12,50
TTI 1767	75-85/1	75,00	85,00	13,00
TTI 1767/2	75-85/1-L	75,00	85,00	13,00
TTI 1767/3	75-85/L-AI	75,00	85,00	13,00
TTI 1767/1	75-87	75,00	87,00	9,60
TTI 1768	75-90	75,00	90,00	11,00
TTI 1768/1	75-90/L	75,00	90,00	12,50
TTI 1769	75-90/1	75,00	90,00	13,00
TTI 1770	75-95	75,00	95,00	13,00

PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TTI 1771	75-95/1	75,00	95,00	14,50
TTI 1772	76-84/1	76,00	84,00	8,50
TTI 1773	76,2-88,9/L	76,20	88,90	10,50
TTI 1774	77-86/L	77,00	86,00	15,00
TTI 1775	78-86/1-L	78,00	86,00	12,50
TTI 1776	78-86/L-AI	78,00	86,00	14,00
TTI 1777	78-86/L	78,00	86,00	14,50
TTI 1778	78-88/L	78,00	88,00	13,00
TTI 1778/1	78-88/1-L	78,00	88,00	15,00
TTI 1779	78-90/L	78,00	90,00	13,00
TTI 1780	79,4-88,9/L	79,40	88,90	10,50
TTI 1781	80-88/L	80,00	88,00	12,50
TTI 1782	80-90	80,00	90,00	8,00
TTI 1783	80-90/2	80,00	90,00	13,00
TTI 1783/2	80-90/AI	80,00	90,00	13,00
TTI 1783/1	80-90/L	80,00	90,00	13,50
TTI 1783/3	80-90/3-L	80,00	90,00	12,50
TTI 1783/4	80-90/4-L	80,00	90,00	13,00
TTI 1784	80-90/1	80,00	90,00	15,00
TTI 1785	80-95	80,00	95,00	11,00
TTI 1785/1	80-95/L-AI	80,00	95,00	12,00
TTI 1786	80-95/1	80,00	95,00	12,50
TTI 1787	80-95/L	80,00	95,00	12,50
TTI 1788	80-95/2	80,00	95,00	13,00
TTI 1788/1	80-95/2-L	80,00	95,00	13,00
TTI 1789	80-100	80,00	100,00	13,00
TTI 1789/1	80-100/L	80,00	100,00	13,00
TTI 1790	80-100/1	80,00	100,00	14,50
TTI 1791	80-100/2	80,00	100,00	16,00
TTI 1792	82,5-97,5/L	82,50	97,50	13,00
TTI 1793	85-92,5/L	85,00	92,50	12,00
TTI 1794	85-93/L	85,00	93,00	12,50
TTI 1794/1	85-93	85,00	93,00	12,50
TTI 1795	85-95	85,00	95,00	8,00
TTI 1795/2	85-95/2-L	85,00	95,00	12,00
TTI 1795/1	85-95/2	85,00	95,00	12,00
TTI 1795/3	85-95/3-L	85,00	95,00	12,50
TTI 1796	85-95/1	85,00	95,00	13,00
TTI 1796/1	85-95/1-L	85,00	95,00	13,00
TTI 1796/3	85-100/L	85,00	100,00	10,00
TTI 1796/2	85-100	85,00	100,00	16,00
TTI 1797	85-100/1	85,00	100,00	12,00
TTI 1797/1	85-100/1-L	85,00	100,00	12,00
TTI 1798	85-100/3	85,00	100,00	12,50
TTI 1798/1	85-100/3-L	85,00	100,00	12,50
TTI 1799	85-100/2	85,00	100,00	13,00
TTI 1800	85-105	85,00	105,00	13,00
TTI 1800/1	85-105/2	85,00	105,00	15,00
TTI 1801	85-105/1	85,00	105,00	14,50
TTI 1801/1	88,5-96,5	88,50	96,50	12,50
TTI 1801/2	88,5-96,5/L	88,50	96,50	12,50
TTI 1802	88,9-101,6/L	88,90	101,60	10,50

TECNOLAN

Guarnizioni per STELO
ROD seals

TTI
TTI/L
TTI/L-AI



TTI TTI/L TTI/L-AI



PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TTI 1803	90-98/L	90,00	98,00	12,50
TTI 1803/1	90-100/L	90,00	100,00	8,00
TTI 1804	90-100/1	90,00	100,00	12,50
TTI 1805	90-100/1-L	90,00	100,00	12,50
TTI 1805/1	90-100/2	90,00	100,00	6,00
TTI 1805/2	90-100/3-L	90,00	100,00	12,00
TTI 1806	90-105/2	90,00	105,00	9,50
TTI 1806/1	90-105/2-L	90,00	105,00	9,50
TTI 1806/2	90-105/L	90,00	105,00	10,00
TTI 1807	90-105/4	90,00	105,00	10,50
TTI 1808	90-105/3	90,00	105,00	12,50
TTI 1809	90-105/3-L	90,00	105,00	12,50
TTI 1810	90-105/1	90,00	105,00	13,00
TTI 1810/1	90-105/1-L	90,00	105,00	13,00
TTI 1811	90-110	90,00	110,00	13,00
TTI 1812	90-110/L	90,00	110,00	13,00
TTI 1813	90-110/1	90,00	110,00	16,00
TTI 1814	91-99/1	91,00	99,00	8,50
TTI 1814/2	91-101/L	91,00	101,00	15,00
TTI 1814/1	92-102/L	92,00	102,00	12,50
TTI 1815	93-104/1	93,00	104,00	11,00
TTI 1816	95-103/L	95,00	103,00	12,50
TTI 1816/1	95-103/1-L	95,00	103,00	13,00
TTI 1817	95-105/1-L	95,00	105,00	9,50
TTI 1818	95-105/1	95,00	105,00	11,00
TTI 1819	95-105/L	95,00	105,00	13,00
TTI 1819/1	95-105/L-AI	95,00	105,00	13,00
TTI 1820	95-115	95,00	115,00	13,00
TTI 1821	97-105/1-L	97,00	105,00	12,50
TTI 1822	97-105/L-AI	97,00	105,00	14,00
TTI 1823	97-105/L	97,00	105,00	14,50
TTI 1824	97-106	97,00	106,00	15,00
TTI 1825	99-109/L	99,00	109,00	13,00
TTI 1825/2	99-109/1-L	99,00	109,00	15,00
TTI 1825/1	99,5-109,5/L	99,50	109,50	10,00
TTI 1826	100-108/L	100,00	108,00	12,50
TTI 1827	100-110/1-L	100,00	110,00	11,00
TTI 1828	100-110/L	100,00	110,00	12,50
TTI 1829	100-110/1	100,00	110,00	15,00
TTI 1829/1	100-112/L	100,00	112,00	15,00
TTI 1830	100-113/1	100,00	113,00	13,50
TTI 1830/1	100-115/L	100,00	115,00	10,00
TTI 1830/2	100-115/1	100,00	115,00	10,00
TTI 1831	100-115/2	100,00	115,00	11,50
TTI 1832	100-115/1	100,00	115,00	13,00
TTI 1832/1	100-115/3-L	100,00	115,00	12,00
TTI 1833	100-120	100,00	120,00	13,00
TTI 1833/1	100-120/L	100,00	120,00	13,00
TTI 1834	100-120/1	100,00	120,00	14,50
TTI 1835	100-120/L-AI	100,00	120,00	14,50
TTI 1835/1	100-120/3	100,00	120,00	15,00
TTI 1836	100-120/2	100,00	120,00	16,00

PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TTI 1836/1	100-120/4-L	100,00	120,00	16,00
TTI 1837	100-125	100,00	125,00	19,00
TTI 1838	105-113/1-L	105,00	113,00	12,50
TTI 1839	105-113/L	105,00	113,00	14,50
TTI 1840	105-115/1	105,00	115,00	11,00
TTI 1841	105-115/2	105,00	115,00	12,50
TTI 1842	105-115/2-L	105,00	115,00	12,50
TTI 1843	105-115/3	105,00	115,00	14,50
TTI 1843/1	105-120	105,00	120,00	11,00
TTI 1843/2	105-120/L	105,00	120,00	10,00
TTI 1843/3	105-120/1-L	105,00	120,00	10,00
TTI 1844	105-125	105,00	125,00	13,00
TTI 1844/1	105-125/1	105,00	125,00	15,00
TTI 1844/2	105-125/P	105,00	125,00	16,00
TTI 1844/3	107-122	107,00	122,00	11,00
TTI 1844/4	108,5-116,5/L	108,50	116,50	12,50
TTI 1845	110-118/L	110,00	118,00	12,50
TTI 1845/1	110-125	110,00	125,00	10,60
TTI 1845/2	110-120/L	110,00	120,00	15,00
TTI 1845/3	110-120/1-L	110,00	120,00	12,00
TTI 1846	110-125/1	110,00	125,00	12,00
TTI 1846/1	110-125/L	110,00	125,00	12,00
TTI 1847	110-125/2	110,00	125,00	16,00
TTI 1847/1	110-125/2-L	110,00	125,00	16,00
TTI 1848	110-130	110,00	130,00	13,00
TTI 1848/1	110-130/L	110,00	130,00	13,00
TTI 1849	110-130/1	110,00	130,00	16,00
TTI 1849/1	110-130/P	110,00	130,00	16,00
TTI 1849/2	110-130/2-L	110,00	130,00	16,00
TTI 1850	110-135	110,00	135,00	20,00
TTI 1850/1	111-121/L	111,00	121,00	12,50
TTI 1851	112-122/L	112,00	122,00	11,00
TTI 1852	113-123/1-L	113,00	123,00	9,50
TTI 1852/1	113-135	113,00	135,00	16,00
TTI 1853	115-123/L	115,00	123,00	12,50
TTI 1853/1	115-125	115,00	125,00	11,00
TTI 1854	115-125/1	115,00	125,00	13,00
TTI 1854/1	115-125/1-L	115,00	125,00	13,00
TTI 1854/2	115-125/L-AI	115,00	125,00	13,00
TTI 1855	115-125/L	115,00	125,00	15,00
TTI 1856	115-130/L	115,00	130,00	11,00
TTI 1857	115-135	115,00	135,00	13,00
TTI 1858	117-126/L	117,00	126,00	15,00
TTI 1859	118-126/L	118,00	126,00	12,50
TTI 1859/1	118-126/L-AI	118,00	126,00	12,50
TTI 1860	118-126/1-L-AI	118,00	126,00	14,00
TTI 1861	118-126/2-L	118,00	126,00	14,50
TTI 1861/1	119,5-129,5/L	119,50	129,50	10,00
TTI 1862	120-128/L	120,00	128,00	12,50
TTI 1863	120-130/1	120,00	130,00	8,00
TTI 1864	120-130/2	120,00	130,00	12,50
TTI 1865	120-130/L	120,00	130,00	12,50

TECNOLAN

Guarnizioni per STELO
ROD seals

TTI
TTI/L
TTI/L-AI



TTI
TTI/L
TTI/L-AI



PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TTI 1866	120-130/1-L	120,00	130,00	13,00
TTI 1866/1	120-130/2-L	120,00	130,00	15,00
TTI 1867	120-132/L	120,00	132,00	11,00
TTI 1867/1	120-135/L-AI	120,00	135,00	12,50
TTI 1868	120-135/1	120,00	135,00	12,50
TTI 1869	120-135/2	120,00	135,00	16,00
TTI 1869/1	120-135/L	120,00	135,00	16,00
TTI 1870	120-140	120,00	140,00	13,00
TTI 1871	120-140/L	120,00	140,00	13,00
TTI 1872	120-140/1	120,00	140,00	16,00
TTI 1873	121-135/L	121,00	135,00	10,00
TTI 1874	125-133/L	125,00	133,00	12,50
TTI 1875	125-135/L	125,00	135,00	11,00
TTI 1875/3	125-137/L	125,00	137,00	15,00
TTI 1875/1	125-140/L-AI	125,00	140,00	12,50
TTI 1875/2	125-140/L	125,00	140,00	12,50
TTI 1876	125-145	125,00	145,00	13,00
TTI 1876/1	125-145/P	125,00	145,00	16,00
TTI 1877	125-145/1	125,00	145,00	16,00
TTI 1877/1	125-145/L	125,00	145,00	16,00
TTI 1878	125-150	125,00	150,00	15,00
TTI 1879	125-150/1	125,00	150,00	20,00
TTI 1880	125-155	125,00	155,00	19,00
TTI 1880/1	125,05-140,5	125,05	140,50	10,50
TTI 1881	127-140/L	127,00	140,00	12,50
TTI 1881/1	127-150	127,00	150,00	16,00
TTI 1882	128-136/L	128,00	136,00	12,50
TTI 1882/1	128,5-136,5	128,50	136,50	12,50
TTI 1882/2	128,5-136,5/L	128,50	136,50	12,50
TTI 1882/3	129-139/L	129,00	139,00	15,00
TTI 1883	130-138/L	130,00	138,00	12,50
TTI 1883/1	130-138	130,00	138,00	12,50
TTI 1884	130-140	130,00	140,00	8,00
TTI 1884/1	130-140/1-L	130,00	140,00	12,50
TTI 1884/2	130-145/L	130,00	145,00	13,00
TTI 1885	130-145/2	130,00	145,00	15,00
TTI 1886	130-145/1	130,00	145,00	16,00
TTI 1887	130-150	130,00	150,00	13,00
TTI 1888	130-150/1	130,00	150,00	16,00
TTI 1889	131-150/L	131,00	150,00	14,00
TTI 1889/1	132-140/L	132,00	140,00	12,50
TTI 1889/2	132-140/1-L	132,00	140,00	12,00
TTI 1890	132-142/L	132,00	142,00	9,50
TTI 1890/1	132-142/1-L	132,00	142,00	12,00
TTI 1891	135-143/L	135,00	143,00	12,50
TTI 1891/1	135-145/L	135,00	145,00	13,00
TTI 1891/2	135-145/L-AI	135,00	145,00	13,00
TTI 1892	135-150/L	135,00	150,00	12,50
TTI 1893	135-150/1-L	135,00	150,00	16,00
TTI 1894	137-146/L	137,00	146,00	15,00
TTI 1894/1	137-152/L	137,00	152,00	13,00
TTI 1894/2	138-148/L	138,00	148,00	15,00

PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TTI 1894/3	139,5-149,5/L	139,50	149,50	10,00
TTI 1895	140-148/L	140,00	148,00	12,50
TTI 1896	140-150/1	140,00	150,00	12,50
TTI 1897	140-150/1-L	140,00	150,00	12,50
TTI 1898	140-155/1	140,00	155,00	13,00
TTI 1898/1	140-155,5/AI	140,00	155,50	6,30
TTI 1898/2	140-155/AI	140,00	155,00	16,00
TTI 1899	140-160	140,00	160,00	13,00
TTI 1900	140-160/2	140,00	160,00	16,00
TTI 1901	140-165	140,00	165,00	20,00
TTI 1902	141-151/L	141,00	151,00	13,00
TTI 1902/1	141-151/1-L	141,00	151,00	15,00
TTI 1903	143-151/1-L	143,00	151,00	12,50
TTI 1904	143-151/L-AI	143,00	151,00	14,00
TTI 1905	143-151/L	143,00	151,00	14,50
TTI 1905/1	145-153/L	145,00	153,00	12,50
TTI 1906	145-155/L	145,00	155,00	13,00
TTI 1907	145-157,7/1	145,00	157,70	10,00
TTI 1908	145-160/L	145,00	160,00	13,00
TTI 1908/1	145-165	145,00	165,00	16,00
TTI 1908/2	146-156/L	146,00	156,00	11,00
TTI 1909	147-160/1	147,00	160,00	13,00
TTI 1909/1	147-170/G	147,00	170,00	16,00
TTI 1910	148-160	148,00	160,00	13,00
TTI 1910/1	148,5-156,5/L	148,50	156,50	12,50
TTI 1910/5	149-159/L	149,00	159,00	15,00
TTI 1910/3	150-158/L	150,00	158,00	12,50
TTI 1910/2	150-160/L	150,00	160,00	12,50
TTI 1910/4	150-162/L	150,00	162,00	12,50
TTI 1911	150-170	150,00	170,00	13,00
TTI 1911/1	150-170/L	150,00	170,00	14,00
TTI 1912	150-170/1	150,00	170,00	14,50
TTI 1913	150-170/2	150,00	170,00	16,00
TTI 1913/1	150-170/3	150,00	170,00	14,00
TTI 1913/2	150-170/2-L	150,00	170,00	16,00
TTI 1914	152-160/L	152,00	160,00	12,50
TTI 1915	152-162/L	152,00	162,00	11,00
TTI 1915/1	152-162/1-L	152,00	162,00	12,50
TTI 1916	152-171/L	152,00	171,00	12,50
TTI 1917	152,5-160,5/L	152,50	160,50	15,00
TTI 1918	155-163/L	155,00	163,00	12,50
TTI 1919	160-168/L	160,00	168,00	12,50
TTI 1920	160-170/L	160,00	170,00	12,50
TTI 1920/1	160-170/1-L	160,00	170,00	13,00
TTI 1920/3	160-170/L-AI	160,00	170,00	13,00
TTI 1920/4	160-170/2-L	160,00	170,00	14,00
TTI 1920/2	160-175/L	160,00	175,00	12,00
TTI 1921	160-180	160,00	180,00	13,00
TTI 1922	160-180/1	160,00	180,00	16,00
TTI 1923	160-185	160,00	185,00	20,00
TTI 1924	162-172/L	162,00	172,00	13,00
TTI 1924/4	162-172/1-L	162,00	172,00	15,00

TECNOLAN

Guarnizioni per STELO
ROD seals

TTI
TTI/L
TTI/L-AI



TTI
TTI/L
TTI/L-AI



PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TTI 1924/2	163,5-178/L	163,50	178,00	13,00
TTI 1924/3	163,5-187,0	163,50	187,00	16,00
TTI 1924/1	165-177/L	165,00	177,00	9,00
TTI 1925	165-184/L	165,00	184,00	14,00
TTI 1925/1	165,1-184,1	165,10	184,10	13,50
TTI 1926	165-195	165,00	195,00	21,00
TTI 1926/1	166-176/L	166,00	176,00	15,00
TTI 1926/2	167-175	167,00	175,00	9,00
TTI 1927	170-178/L	170,00	178,00	12,50
TTI 1927/1	170-180/1-L	170,00	180,00	12,50
TTI 1928	170-180/L	170,00	180,00	13,00
TTI 1928/1	170-182,7	170,00	182,70	10,00
TTI 1929	170-190	170,00	190,00	13,00
TTI 1930	170-190/1	170,00	190,00	16,00
TTI 1931	171-179/L	171,00	179,00	12,50
TTI 1932	171-179/1-L	171,00	179,00	14,00
TTI 1932/2	171-179/L-AI	171,00	179,00	14,00
TTI 1932/1	171,5-179,5/L	171,50	179,50	12,50
TTI 1932/3	172-182/L	172,00	182,00	12,00
TTI 1932/4	175-183/L	175,00	183,00	12,50
TTI 1933	175-185/L	175,00	185,00	13,00
TTI 1934	177-205/L	177,00	205,00	20,00
TTI 1935	180-188/L	180,00	188,00	14,50
TTI 1936	180-190/L	180,00	190,00	11,00
TTI 1936/1	180-190/L	180,00	190,00	12,50
TTI 1937	180-195/L	180,00	195,00	13,50
TTI 1937/2	180-195/L-AI	180,00	195,00	12,50
TTI 1937/1	180-196/L	180,00	196,00	19,00
TTI 1938	180-200	180,00	200,00	13,00
TTI 1939	180-200/1	180,00	200,00	16,00
TTI 1940	180-200/2	180,00	200,00	20,00
TTI 1940/1	180-200/L-AI	180,00	200,00	20,00
TTI 1940/2	183-193/L	183,00	193,00	15,00
TTI 1941	185-193/L	185,00	193,00	12,50
TTI 1941/2	185-195/L	185,00	195,00	13,00
TTI 1941/3	185-195/L-AI	185,00	195,00	13,00
TTI 1941/1	185-210/L-AI	185,00	210,00	20,00
TTI 1942	190-210	190,00	210,00	13,00
TTI 1942/1	190-210/L-AI	190,00	210,00	16,00
TTI 1943	190-210/1	190,00	210,00	16,00
TTI 1943/1	194,5-202,5/L	194,50	202,50	12,50
TTI 1944	198-207,6	198,00	207,60	7,50
TTI 1945	200-208/L	200,00	208,00	12,50
TTI 1945/1	200-210/L	200,00	210,00	13,00
TTI 1946	200-212/1	200,00	212,00	16,00
TTI 1947	200-220	200,00	220,00	13,00
TTI 1947/1	200-220	200,00	220,00	12,00
TTI 1948	200-220/1	200,00	220,00	16,00
TTI 1949	200-225	200,00	225,00	20,00
TTI 1950	205-220/L	205,00	220,00	13,50
TTI 1950/3	207-217/1-L	207,00	217,00	15,00
TTI 1950/2	207-217/L	207,00	217,00	16,00

PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TTI 1950/1	208-216/L	208,00	216,00	9,00
TTI 1951	209-228/L	209,00	228,00	14,00
TTI 1951/1	210-219,5/L	210,00	219,50	12,50
TTI 1952	210-230	210,00	230,00	13,00
TTI 1953	210-230/2	210,00	230,00	16,00
TTI 1954	210-235/1	210,00	235,00	26,00
TTI 1954/1	210-235/L-AI	210,00	235,00	20,00
TTI 1955	212-220/L	212,00	220,00	14,50
TTI 1955/2	215-225/L	215,00	225,00	13,00
TTI 1955/3	215-225/L-AI	215,00	225,00	13,00
TTI 1955/1	220-235/L-AI	220,00	235,00	16,00
TTI 1956	220-240	220,00	240,00	13,00
TTI 1957	220-240/1	220,00	240,00	16,00
TTI 1958	220-250	220,00	250,00	19,00
TTI 1959	230-250	230,00	250,00	13,00
TTI 1959/1	231-241/L	231,00	241,00	15,00
TTI 1960	232-246/L	232,00	246,00	13,00
TTI 1961	240-260	240,00	260,00	13,00
TTI 1962	240-260/1	240,00	260,00	16,00
TTI 1963	240-270	240,00	270,00	19,00
TTI 1963/1	245-270/L-AI	245,00	270,00	20,00
TTI 1964	250-270	250,00	270,00	13,00
TTI 1965	250-270/1	250,00	270,00	16,00
TTI 1966	250-280	250,00	280,00	23,00
TTI 1966/1	260-270/L	260,00	270,00	15,00
TTI 1967/1	270-300/L-AI	270,00	300,00	19,00
TTI 1968	280-305/1	280,00	305,00	16,00
TTI 1968/1	280-310/1	280,00	310,00	19,00
TTI 1969	280-310	280,00	310,00	25,00
TTI 1969/1	290-310	290,00	310,00	15,00
TTI 1969/2	290-315/L-AI	290,00	315,00	20,00
TTI 1970	305-330/L-AI	305,00	330,00	20,00

TECNOLAN

Guarnizioni per STELO
ROD seals

**TTI
TTI/L
TTI/L-AI**





TTH

Guarnizioni per STELO
ROD seals

TECNOLAN

Versione standard	Standard version
Poliuretano PB508 +POM	<i>Polyurethane PB508+POM</i>
Pressione fino a / Pressure up to	
40 MPa	
Velocità fino a / Speed up to	
0.5 m/s	
Temperatura / Temperature	
-35°C +100°C	
Applicazioni	Applications
Macchine movimento terra Presse per Stampaggio Cilindri per Gru	<i>Earth moving Machinery Presses Crane Cylinders</i>

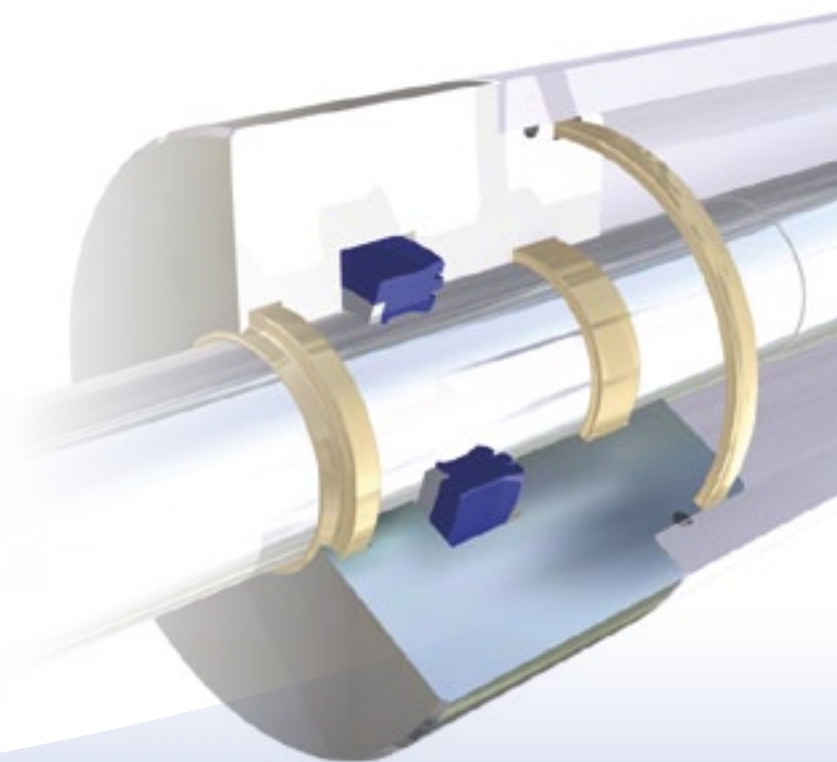


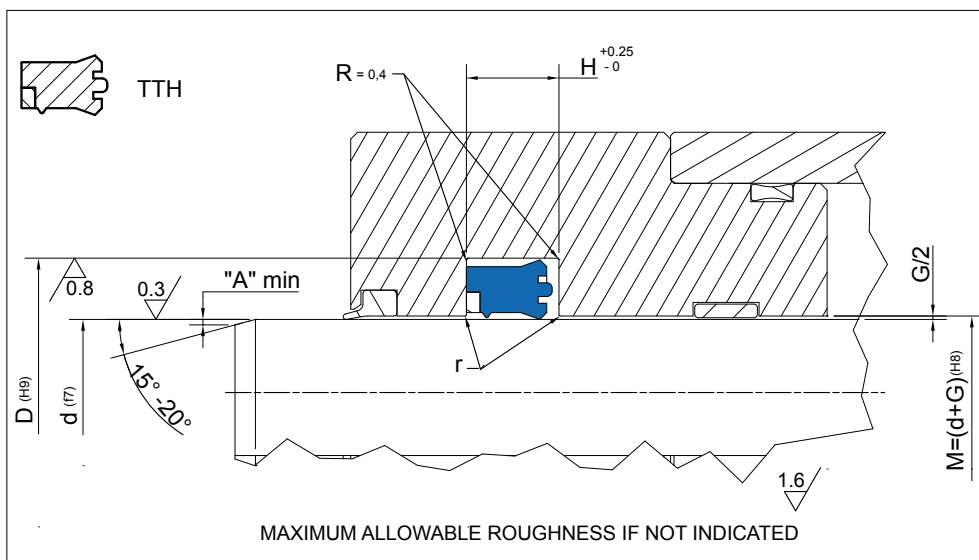
GUARNITEC

Guarnizioni per STELO
ROD seals

TTH

78÷81





Rod Seal design guidelines

	0mm < d ≤ 50mm	50mm < d ≤ 100mm	100mm < d ≤ 150mm	d ≥ 150mm
r	remove sharp edges			
A	1 mm	2 mm	3 mm	3 mm < A ≤ 5 mm

Operating pressure to determinate Maximum Gap Allowance: G/2

G	Profile Dimension	> 16 MPa	> 26 MPa	> 32 MPa	> 40 MPa
	≤ 5		0.50 mm	0.40 mm	0.35 mm
> 5.0 – 7.5		0.55 mm	0.45 mm	0.40 mm	0.35 mm
> 7.5 – 12.5		0.60 mm	0.50 mm	0.45 mm	0.40 mm
15		0.65 mm	0.55 mm	0.45 mm	0.40 mm

PART NR	DIMENSIONI SEDI / Housing dimensions		
	d	D	H
TTH 900	32,00	42,00	8,00
TTH 901	40,00	50,00	8,00
TTH 902	45,00	55,00	8,00
TTH 903	50,00	65,00	12,50
TTH 903/2	50,00	65,00	11,00
TTH 903/1	56,00	66,00	10,00
TTH 904	56,00	71,00	12,50
TTH 905	60,00	75,00	13,00
TTH 905/1	60,00	80,00	13,00
TTH 906	63,00	78,00	6,30
TTH 907	63,00	78,00	12,50
TTH 908	65,00	80,00	13,00
TTH 909	70,00	85,00	12,50
TTH 909/1	70,00	90,00	13,00
TTH 910	75,00	90,50	6,30
TTH 911	75,00	90,00	13,00
TTH 911/1	75,00	90,00	12,50
TTH 912	80,00	95,00	12,50
TTH 913	80,00	95,00	6,30
TTH 914	82,55	98,20	13,00
TTH 915	85,00	100,00	13,00
TTH 915/1	85,00	100,00	12,50
TTH 916	85,00	100,50	6,30
TTH 917	90,00	105,00	6,30
TTH 918	90,00	105,00	13,00
TTH 918/1	90,00	105,00	12,50
TTH 919	95,00	110,00	13,00



TTX TTX+S

**Guarnizioni per STELO
ROD seals**

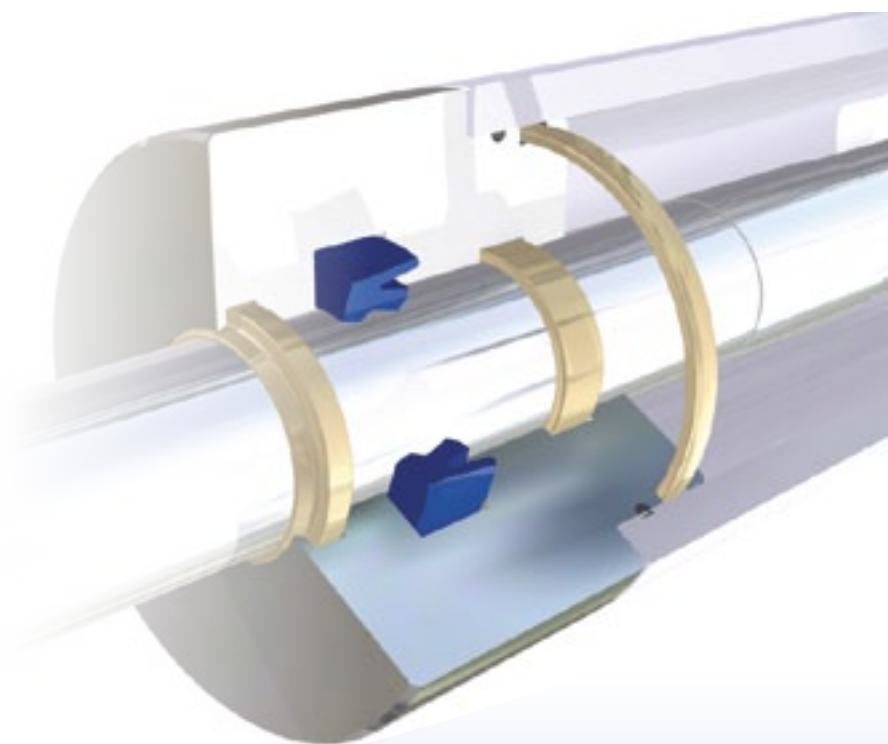
TECNOLAN

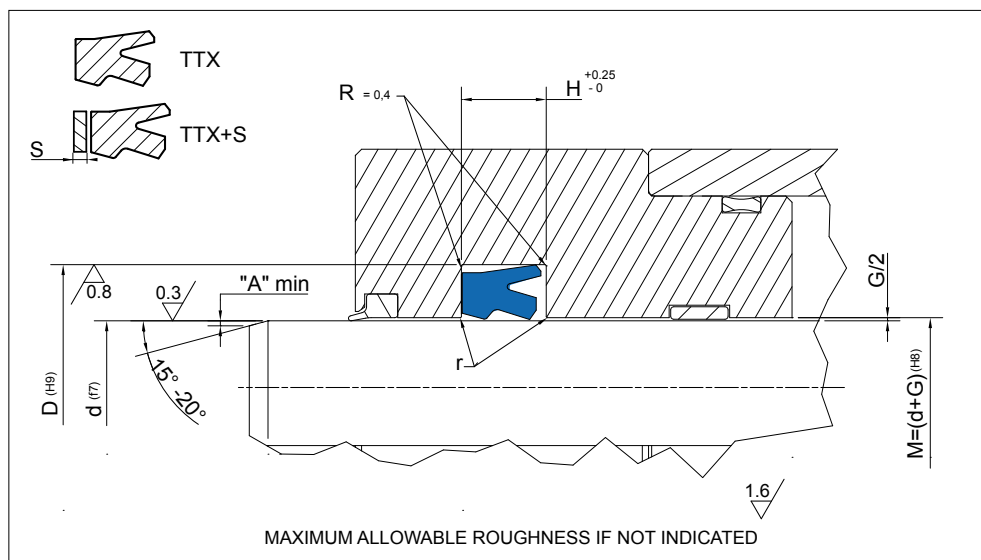


Versione standard		Standard version	
TTX	Poliuretano	TTX	Polyurethane
TTX+S	Poliuretano+POM	TTX+S	Polyurethane+POM
Pressione fino a / Pressure up to			
TTX 40MPa		TTX+S 50MPa	
Velocità fino a / Speed up to			
1.0 m/s			
Temperatura / Temperature			
-35°C +100°C			
Applicazioni		Applications	
Cilindri Idraulici		Hydraulic Cylinders	
Cilindri Telescopici		Telescopic Cylinders	
Carrelli Elevatori		Fork Lifts	
Cilindri per Gru		Truck Crane Cylinders	
Escavatori		Excavators	

TTX • TTX+S

82÷86





Rod Seal design guidelines

	0mm < d ≤ 50mm	50mm < d ≤ 100mm	100mm < d ≤ 150mm	d ≥ 150mm
r	remove sharp edges			
A	1 mm	2 mm	3 mm	3 mm < A ≤ 5 mm

Operating pressure to determinate Maximum Gap Allowance: G/2

G	Profile Dimension	> 16 MPa	> 26 MPa	> 32 MPa	> 40 MPa
	≤ 5		0.50 mm	0.40 mm	0.35 mm
> 5.0 - 7.5		0.55 mm	0.45 mm	0.40 mm	0.35 mm
> 7.5 - 12.5		0.60 mm	0.50 mm	0.45 mm	0.40 mm
15		0.65 mm	0.55 mm	0.45 mm	0.40 mm

PART NR		DIMENSIONI SEDI / Housing dimensions			
		d	D	H	H+S
TTX 1300	18-26-5,8	18,00	26,00	6,30	7,50
TTX 1300/1	20-28-5,8	20,00	28,00	6,30	7,50
TTX 1300/3	20-28-5	20,00	28,00	6,00	7,50
TTX 1300/2	22-32-7,5	22,00	32,00	8,00	9,70
TTX 1300/4	22,4-30-5	22,40	30,00	6,00	7,50
TTX 1301	25-33-5,8	25,00	33,00	6,30	7,50
TTX 1301/1	25-33-5	25,00	33,00	6,00	7,50
TTX 1301/2	25-33-6,3	25,00	33,00	7,00	8,70
TTX 1302	25-35-7,2	25,00	35,00	8,00	9,70
TTX 1302/1	28-36-5,8	28,00	36,00	6,30	7,50
TTX 1302/5	28-38-7,2	28,00	38,00	8,00	9,70
TTX 1302/2	30-38-5,8	30,00	38,00	6,30	7,50
TTX 1302/3	30-38-6,2	30,00	38,00	7,00	8,70
TTX 1302/4	30-38-8,2	30,00	38,00	9,00	10,70
TTX 1303	30-40-7,2	30,00	40,00	8,00	9,70
TTX 1303/1	30-40-6	30,00	40,00	7,00	8,70
TTX 1304	32-42-7,2	32,00	42,00	8,00	9,70
TTX 1304/1	32-40-7,2	32,00	40,00	8,00	9,70
TTX 1305/2	35-45-6	35,00	45,00	7,00	8,70
TTX 1305	35-45-7,2	35,00	45,00	8,00	9,70
TTX 1305/1	35-43-5,8	35,00	43,00	6,30	7,50
TTX 1306	36-44-5,8	36,00	44,00	6,30	7,50
TTX 1307	36-46-7,2	36,00	46,00	8,00	9,70
TTX 1307/1	40-48-5,8	40,00	48,00	6,30	7,50
TTX 1307/3	40-48-6,3	40,00	48,00	7,00	8,70
TTX 1307/2	40-50-6	40,00	50,00	7,00	8,70
TTX 1308	40-50-7,2	40,00	50,00	8,00	9,70

PART NR		DIMENSIONI SEDI / Housing dimensions			
		d	D	H	H+S
TTX 1308/1	45-53-7,2	45,00	53,00	8,00	9,70
TTX 1309	45-55-7,2	45,00	55,00	8,00	9,70
TTX 1309/1	45-55-6	45,00	55,00	7,00	8,70
TTX 1310	50-60-7,2	50,00	60,00	8,00	9,70
TTX 1310/1	50-60-6	50,00	60,00	7,00	8,70
TTX 1311	50-65-9,5	50,00	65,00	10,50	12,50
TTX 1311/1	50-65-10,2	50,00	65,00	11,00	14,00
TTX 1312	50-65-11,7	50,00	65,00	12,50	15,50
TTX 1312/3	53-63-6	53,00	63,00	7,00	8,70
TTX 1312/1	55-63-8,2	55,00	63,00	9,00	10,70
TTX 1312/2	55-65-7,2	55,00	65,00	8,00	9,70
TTX 1313	55-70-8,7	55,00	70,00	9,50	12,50
TTX 1313/1	56-71-11,7	56,00	71,00	12,50	15,50
TTX 1314	56-66-7,2	56,00	66,00	8,00	9,70
TTX 1314/1	60-68-7,2	60,00	68,00	8,00	9,70
TTX 1314/3	60-70-6	60,00	70,00	7,00	8,70
TTX 1314/2	60-70-7,2	60,00	70,00	8,00	9,70
TTX 1315	60-75-8,7	60,00	75,00	9,50	12,50
TTX 1316	60-75-11,7	60,00	75,00	12,50	15,50
TTX 1316/1	61-69-7,2	61,00	69,00	8,00	9,70
TTX 1317	63-78-8,7	63,00	78,00	9,50	12,50
TTX 1317/1	63-78-10,2	63,00	78,00	11,00	14,00
TTX 1318	63-78-11,7	63,00	78,00	12,50	15,50
TTX 1318/1	65-73-8,2	65,00	73,00	9,00	10,70
TTX 1318/2	65-77-8,7	65,00	77,00	9,50	12,50
TTX 1319	65-80-8,7	65,00	80,00	9,50	12,50
TTX 1320	65-80-11,7	65,00	80,00	12,50	15,50
TTX 1321	65-85-11,7	65,00	85,00	12,50	16,00
TTX 1321/1	68-76-7,2	68,00	76,00	8,00	9,70
TTX 1321/2	70-80-6	70,00	80,00	7,00	8,70
TTX 1322	70-80-7,2	70,00	80,00	8,00	9,70
TTX 1322/1	70-82-8,7	70,00	82,00	9,50	12,50
TTX 1323	70-85-8,7	70,00	85,00	9,50	12,50
TTX 1324	70-85-11,7	70,00	85,00	12,50	15,50
TTX 1325	70-90-11,7	70,00	90,00	12,50	16,00
TTX 1325/1	75-83-7,2	75,00	83,00	8,00	9,70
TTX 1325/3	75-85-6	75,00	85,00	7,00	8,70
TTX 1325/2	75-87-8,7	75,00	87,00	9,50	12,50
TTX 1326	75-90-8,7	75,00	90,00	9,50	12,50
TTX 1327	75-90-11,7	75,00	90,00	12,50	15,50
TTX 1328	75-95-11,7	75,00	95,00	12,50	16,00
TTX 1328/1	80-90-6	80,00	90,00	7,00	8,70
TTX 1329	80-90-7,2	80,00	90,00	8,00	9,70
TTX 1329/1	80-92-8,7	80,00	92,00	9,50	12,50
TTX 1330	80-95-8,7	80,00	95,00	9,50	12,50
TTX 1331	80-95-11,7	80,00	95,00	12,50	15,50
TTX 1332/1	85-93-8,2	85,00	93,00	9,00	10,70
TTX 1332	85-95-8,7	85,00	95,00	9,50	12,50
TTX 1332/2	85-97-8,7	85,00	97,00	9,50	12,50
TTX 1333	85-100-8,7	85,00	100,00	9,50	12,50
TTX 1334	85-100-11,7	85,00	100,00	12,50	15,50
TTX 1335	85-105-11,7	85,00	105,00	12,50	16,00

TECNOLAN

Guarnizioni per STELO
ROD seals

TTX
TTX+S





PART NR		DIMENSIONI SEDI / Housing dimensions			
		d	D	H	H+S
TTX 1335/2	90-98-7,2	90,00	98,00	8,00	9,70
TTX 1335/1	90-102-8,7	90,00	102,00	9,50	12,50
TTX 1336	90-105-8,7	90,00	105,00	9,50	12,50
TTX 1337	90-105-11,7	90,00	105,00	12,50	15,50
TTX 1338	90-110-11,7	90,00	110,00	12,50	16,00
TTX 1339	95-110-11,7	95,00	110,00	12,50	15,50
TTX 1340	95-115-11,7	95,00	115,00	12,50	16,00
TTX 1341	100-115-8,7	100,00	115,00	9,50	12,50
TTX 1341/1	100-115-11,3	100,00	115,00	12,50	15,50
TTX 1341/2	100-120-15,2	100,00	120,00	16,00	19,50
TTX 1342	100-120-11,7	100,00	120,00	12,50	16,00
TTX 1342/1	105-113-7,2	105,00	113,00	8,00	9,70
TTX 1342/2	105-113-8,2	105,00	113,00	9,00	10,70
TTX 1343	105-125-11,7	105,00	125,00	12,50	16,00
TTX 1344	105-125-15,2	105,00	125,00	16,00	19,50
TTX 1344/1	107-115-8	107,00	115,00	9,00	10,70
TTX 1344/2	110-120-10,2	110,00	120,00	11,00	14,00
TTX 1345	110-125-8,7	110,00	125,00	9,50	12,50
TTX 1345/1	110-125-11,3	110,00	125,00	12,50	15,50
TTX 1346	110-130-11,7	110,00	130,00	12,50	16,00
TTX 1347	110-130-15,2	110,00	130,00	16,00	19,50
TTX 1347/2	112-125-9	112,00	125,00	10,00	11,70
TTX 1347/1	120-128-7,2	120,00	128,00	8,00	9,70
TTX 1348	120-140-11,7	120,00	140,00	12,50	16,00
TTX 1348/1	120-140-15,2	120,00	140,00	16,00	19,50
TTX 1348/2	125-133-8,2	125,00	133,00	9,00	10,70
TTX 1348/3	125-145-15,2	125,00	145,00	16,00	19,50
TTX 1349	130-150-11,7	130,00	150,00	12,50	16,00
TTX 1350	130-150-15,2	130,00	150,00	16,00	19,50
TTX 1350/A	135-143-8,2	135,00	143,00	9,00	10,70
TTX 1350/6	136-150-9	136,00	150,00	10,00	11,70
TTX 1350/1	140-148-7,2	140,00	148,00	8,00	9,70
TTX 1350/2	140-160-15,2	140,00	160,00	16,00	19,50
TTX 1350/8	150-170-15,2	150,00	170,00	16,00	19,50
TTX 1350/3	160-180-15,2	160,00	180,00	16,00	19,50
TTX 1350/4	170-180-10	170,00	180,00	11,00	14,00
TTX 1350/7	180-200-15,2	180,00	200,00	16,00	19,50
TTX 1350/5	190-215-15	190,00	215,00	16,00	19,50
TTX 1351	200-220-11,7	200,00	220,00	12,50	16,00
TTX 1351/1	200-220-15,2	200,00	220,00	16,00	19,50
TTX 1352	280-300-11,7	280,00	300,00	12,50	16,00





GIP

**Guarnizioni per STELO
ROD seals**

TECNOLAN

Versione standard	Standard version
Poliuretano +OR NBR	Polyurethane+OR NBR
Versioni Alternative	Alternative Versions
Poliuretano basse temp.+OR NBR Basse temp.	Polyurethane Low temp.+OR NBR Low temp
Pressione fino a / Pressure up to	
25 MPa	
Velocità fino a / Speed up to	
0.5 m/s	
Temperatura / Temperature	
-35°C +100°C	-45°C +110°C PN 522
Cilindri per applicazioni pesanti / Heavy duty applications	
-35°C +100°C PB 546	
Applicazioni	Applications
Cilindri speciali Cilindri per leggera e medie applicazioni	Special Cylinders Cylinders for Light and Medium duty applications

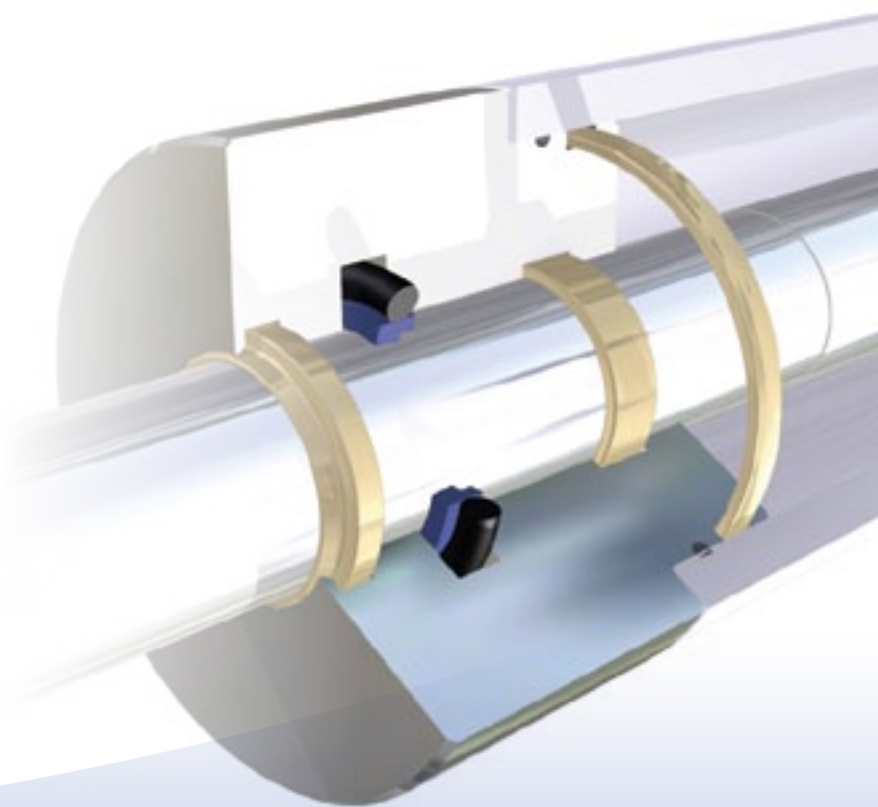
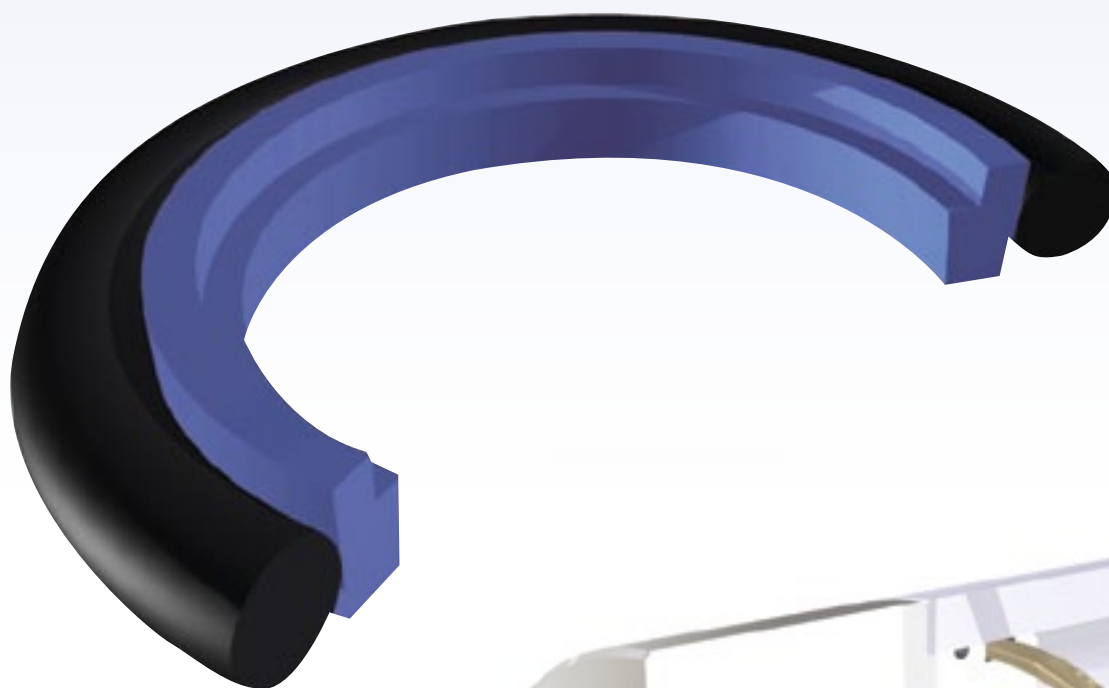


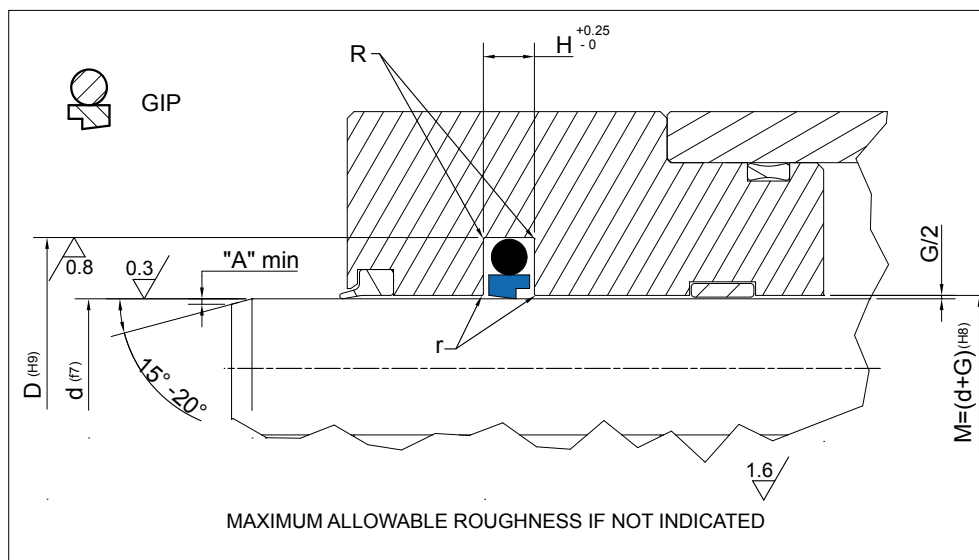
GUARNITEC

Guarnizioni per STELO
ROD seals

GIP

88÷90





Rod Seal design guidelines

R	0mm < d ≤ 50mm	50mm < d ≤ 100mm	100mm < d ≤ 150mm	d ≥ 150mm
	max 0.30 mm	max 0.60 mm	max 0.80 mm	max 1 mm
r	remove sharp edges			
A	1 mm	2 mm	3 mm	3 mm < A ≤ 5 mm

Operating pressure to determinate Maximum Gap Allowance

G	Profile Dimension	> 16 MPa	> 26 MPa
	≤ 5		0.50 mm
> 5.0 – 7.5		0.55 mm	0.45 mm
> 7.5 – 12.5		0.60 mm	0.50 mm
15		0.65 mm	0.55 mm

PART NR	DIMENSIONI SEDI / Housing dimensions			
	d	D	H	OR
GIP 0400	40,00	55,10	6,30	328
GIP 0450	45,00	60,10	6,30	329
GIP 0500	50,00	65,10	6,30	331
GIP 0550	55,00	70,10	6,30	332
GIP 0600	60,00	75,10	6,30	334
GIP 0630	63,00	78,00	6,30	335
GIP 0650	65,00	80,10	6,30	335
GIP 0700	70,00	85,10	6,30	337
GIP 0750	75,00	90,10	6,30	339
GIP 0800	80,00	95,10	6,30	340
GIP 0850	85,00	100,10	6,30	342
GIP 0900	90,00	105,10	6,30	343
GIP 0950	95,00	110,10	6,30	345
GIP 1000	100,00	115,10	6,30	346
GIP 1100	110,00	125,10	6,30	350
GIP 1200	120,00	135,10	6,30	353
GIP 1250	125,00	140,10	6,30	354
GIP 1300	130,00	145,10	6,30	356
GIP 1400	140,00	155,10	6,30	359
GIP 1500	150,00	165,10	6,30	361
GIP 1600	160,00	175,10	6,30	363
GIP 1700	170,00	185,10	6,30	365
GIP 1800	180,00	195,10	6,30	366
GIP 1900	190,00	205,10	6,30	368
GIP 2000	200,00	220,50	8,10	445



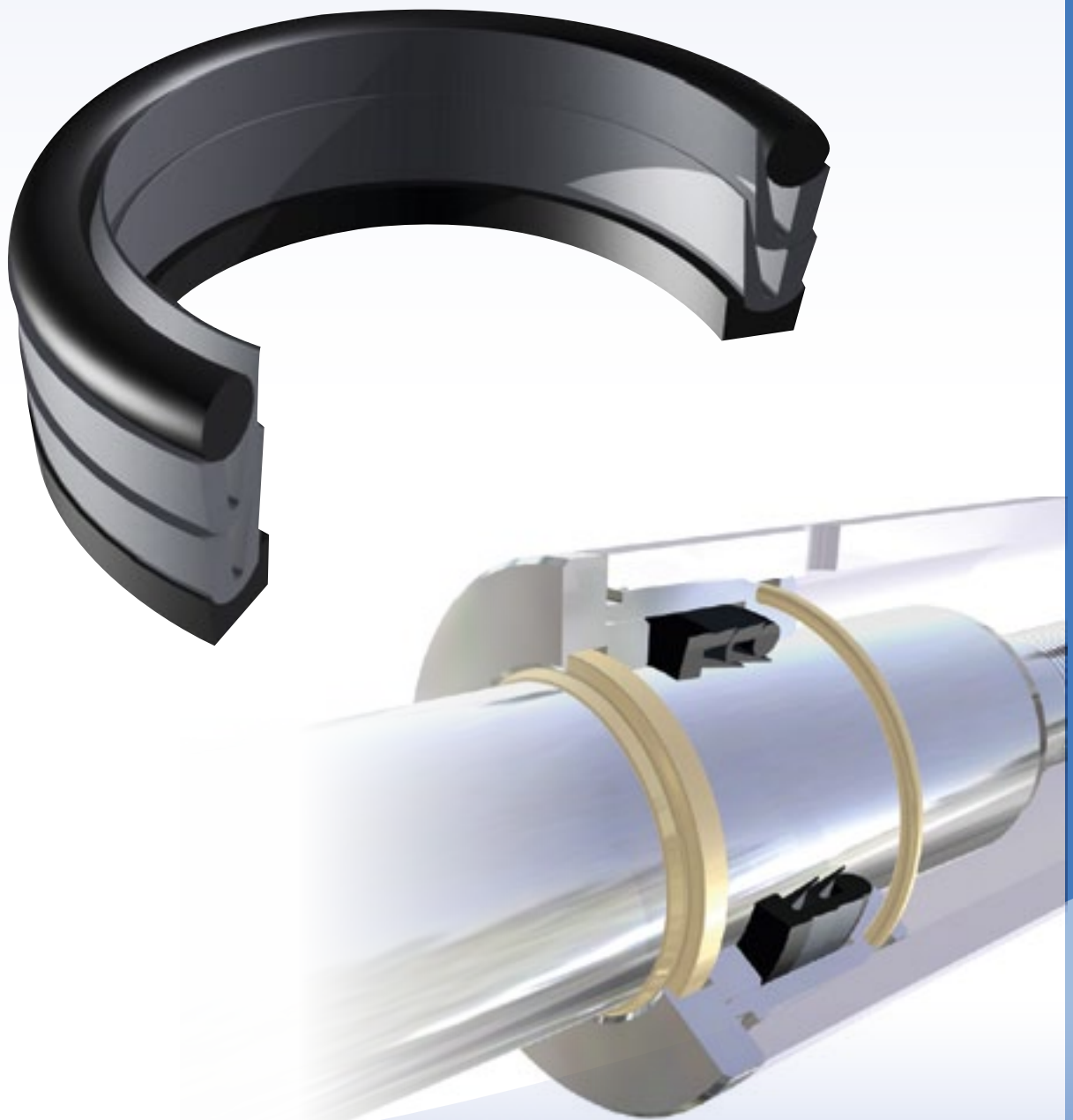


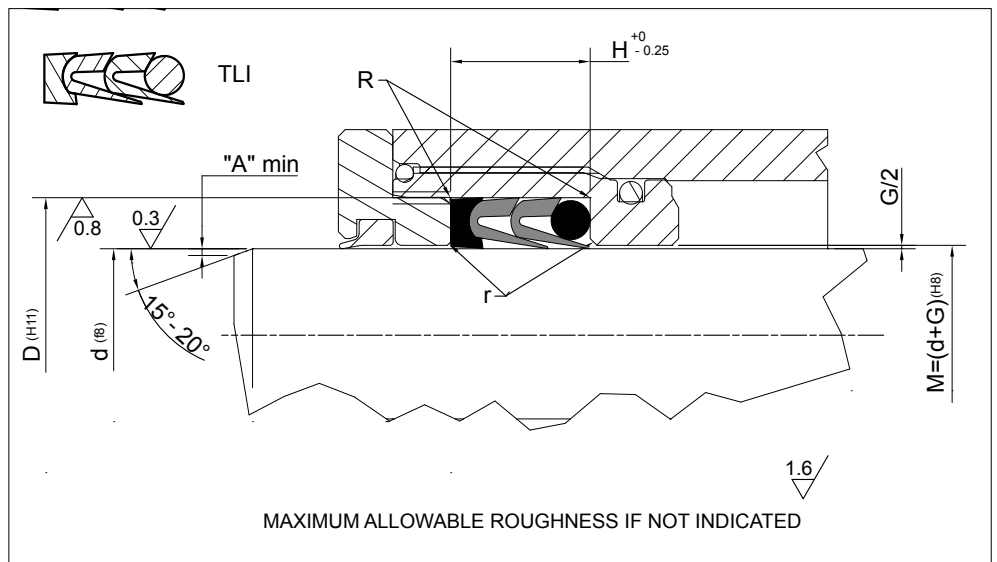
TLI

Guarnizioni per STELO
ROD seals

TECNOTEX

Versione standard	Standard version
Gommatela	NBR/Cotton Fabric
Versioni Alternative	Alternative Versions
Gommatela FKM	NBR/Cotton Fabric FKM
Pressione fino a / Pressure up to	
50 MPa	
Velocità fino a / Speed up to	
1 m/s	
Temperatura / Temperature	
-30°C +110°C	-20°C +200°C FKM
Applicazioni	Applications
Presse Siderurgia Acciaerie Cesoie Idrauliche	Presses Steel Mills Continuous casting Hydraulic Scrap shears





Rod Seal design guidelines

R	0mm < d ≤ 50mm	50mm < d ≤ 100mm	100mm < d ≤ 150mm	d ≥ 150mm
	max 0.30 mm	max 0.60 mm	max 0.80 mm	max 1 mm
r	remove sharp edges			
A	1 mm	2 mm	3 mm	3 mm < A ≤ 5 mm

Operating pressure to determinate Maximum Gap Allowance: G/2

G	Profile Dimension	> 16 MPa	> 26 MPa	> 32 MPa	> 40 MPa
	≤ 5		0.50 mm	0.40 mm	0.35 mm
> 5.0 - 7.5		0.55 mm	0.45 mm	0.40 mm	0.35 mm
> 7.5 - 12.5		0.60 mm	0.50 mm	0.45 mm	0.40 mm
15		0.65 mm	0.55 mm	0.45 mm	0.40 mm

PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TLI 6001	078031	8,00	20,00	23,50
TLI 6002	086039	10,00	22,00	23,50
TLI 6003	094047	12,00	24,00	23,50
TLI 6004	102055	14,00	26,00	23,50
TLI 6005	106059	15,00	27,00	23,50
TLI 6006	110052	16,00	28,00	23,50
TLI 6007	118070	18,00	30,00	23,50
TLI 6008	125078	20,00	32,00	23,50
TLI 6009	133096	22,00	34,00	23,50
TLI 6010	157098	25,00	40,00	28,40
TLI 6011	169110	28,00	43,00	28,40
TLI 6012	177118	30,00	45,00	28,40
TLI 6013	165125	32,00	47,00	28,40
TLI 6014	196137	35,00	50,00	28,40
TLI 6015	200141	36,00	51,00	28,40
TLI 6016	216157	40,00	55,00	28,40
TLI 6017	224165	42,00	57,00	28,40
TLI 6018	255177	45,00	65,00	37,50
TLI 6019	275195	50,00	70,00	37,50
TLI 6020	295216	55,00	75,00	37,50
TLI 6021	299220	56,00	76,00	37,50
TLI 6022	314236	60,00	80,00	37,50
TLI 6023	326248	63,00	83,00	37,50
TLI 6024	334255	65,00	85,00	37,50
TLI 6025	354275	70,00	90,00	37,50
TLI 6026	374295	75,00	95,00	37,50
TLI 6027	393314	80,00	100,00	37,50



GUA-RING 02

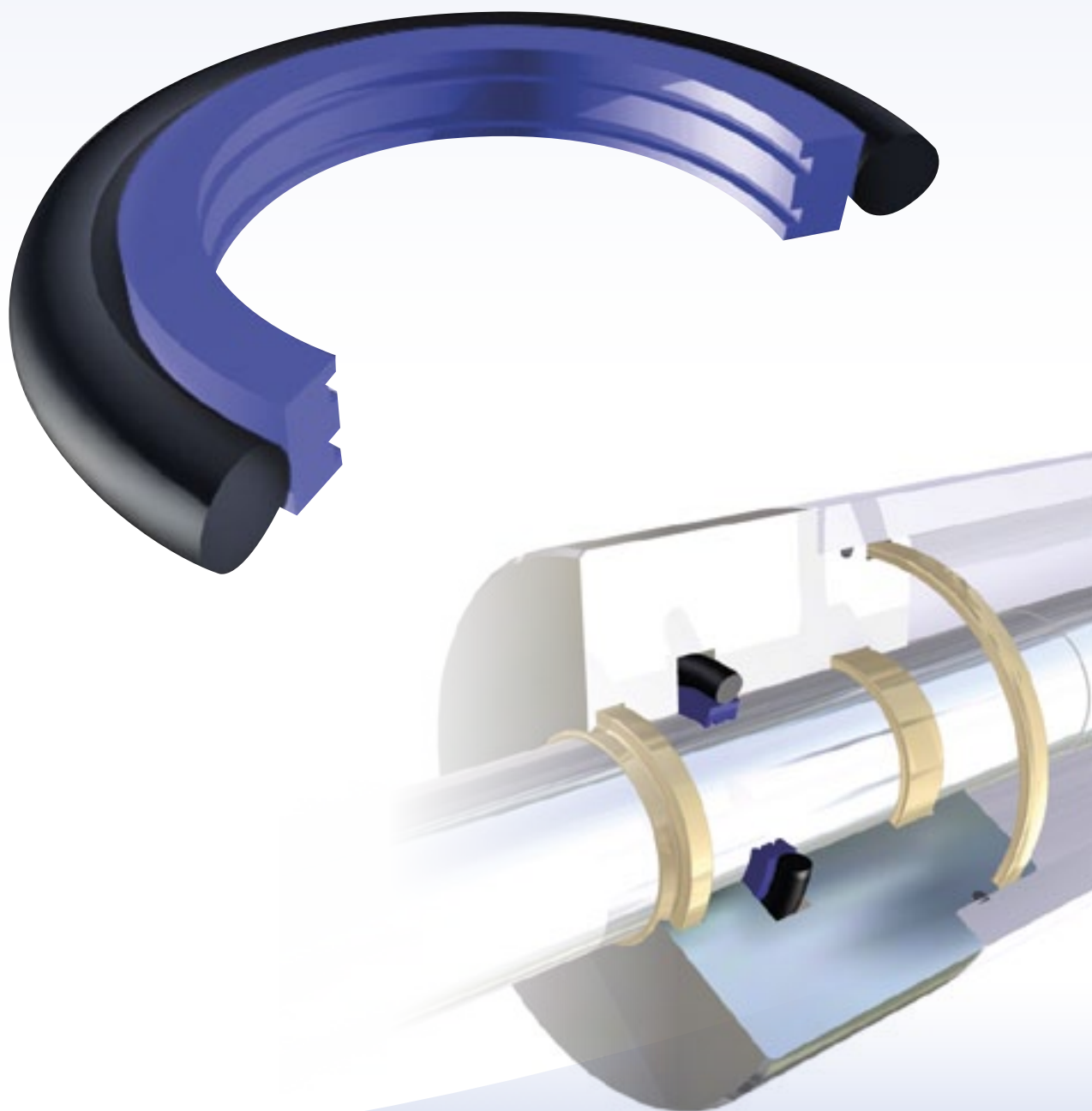
Guarnizioni per STELO
ROD seals

TEF-RING

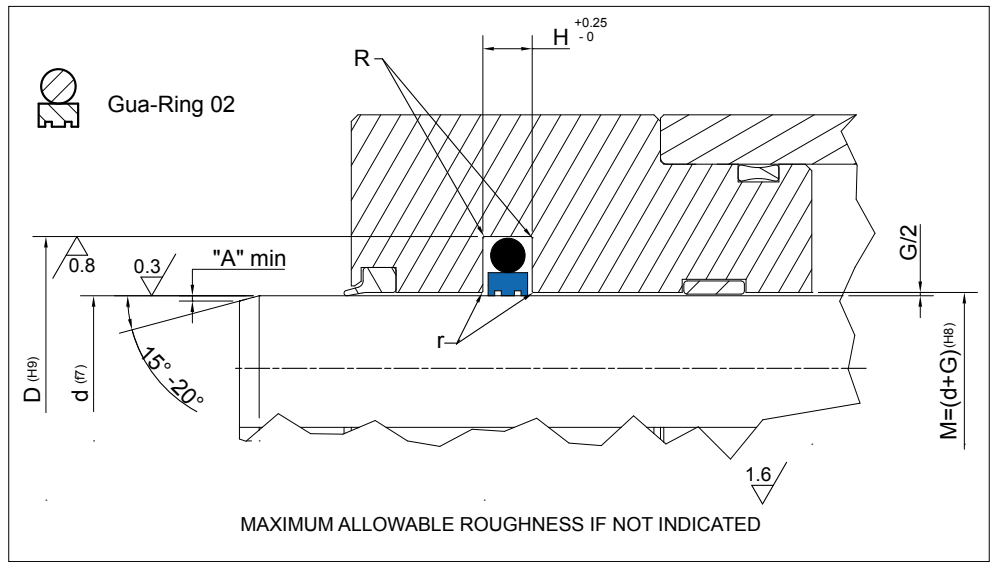
Versione standard	Standard version
PTFE caricato vetro + OR NBR	<i>Glass filled PTFE + OR NBR</i>
Versioni Alternative	Alternative Versions
PTFE caricato vetro + OR FKM	<i>Glass filled PTFE + OR FKM</i>
Pressione fino a / Pressure up to	
50 MPa	
Velocità fino a / Speed up to	
12 m/s	
Temperatura / Temperature	
-30°C +100°C	-10°C +200°C FKM
Applicazioni	Applications
Presse Cilindri Idraulici Accumulatori Idraulici	<i>Presses Hydraulic Cylinders Hydraulic Accumulators</i>

GUA-RING 02

96÷100



GUA-RING 02



Rod Seal design guidelines

	0mm < d ≤ 50mm	50mm < d ≤ 100mm	100mm < d ≤ 150mm	d ≥ 150mm
R	max 0.30 mm	max 0.60 mm	max 0.80 mm	max 1 mm
r	remove sharp edges			
A	1 mm	2 mm	3 mm	3 mm < A ≤ 5 mm

Operating pressure to determinate Maximum Gap Allowance: G/2

G	Profile Dimension	> 16 MPa	> 26 MPa	> 32 MPa	> 40 MPa
	≤ 5		0.50 mm	0.40 mm	0.35 mm
> 5.0 – 7.5		0.55 mm	0.45 mm	0.40 mm	0.35 mm
> 7.5 – 12.5		0.60 mm	0.50 mm	0.45 mm	0.40 mm
15		0.65 mm	0.55 mm	0.45 mm	0.40 mm

PART NR	DIMENSIONI SEDI / Housing dimensions			
	d	D	A	OR
02.007	7,00	11,00	1,95	011
02.008	8,00	12,00	1,95	012
02.010	10,00	14,00	1,95	013
02.012	12,00	16,00	1,95	014
02.014	14,00	18,00	1,95	016
02.015	15,00	19,00	1,95	016
02.016	16,00	20,00	2,80	115
02.018	18,00	24,00	2,80	116
02.020	20,00	26,00	2,80	118
02.022	22,00	28,00	2,80	119
02.025	25,00	31,00	2,80	121
02.028	28,00	36,00	3,75	217
02.030	30,00	38,00	3,75	218
02.032	32,00	40,00	3,75	220
02.033	33,00	41,00	3,75	220
02.035	35,00	43,00	3,75	221
02.036	36,00	44,00	3,75	222
02.038	38,00	46,00	3,75	223
02.040	40,00	48,00	3,75	223
02.042	42,00	50,00	3,75	224
02.045	45,00	53,00	3,75	225
02.048	48,00	54,00	3,75	226
02.050	50,00	62,50	5,50	330
02.052	52,00	64,50	5,50	330
02.055	55,00	67,50	5,50	331
02.058	58,00	70,50	5,50	332
02.060	60,00	72,50	5,50	333

GUA- RING 02

PART NR	DIMENSIONI SEDI / Housing dimensions			
	d	D	A	OR
02.063	63,00	75,50	5,50	334
02.065	65,00	77,50	5,50	334
02.068	68,00	80,50	5,50	335
02.070	70,00	82,50	5,50	336
02.072	72,00	84,50	5,50	337
02.075	75,00	87,50	5,50	338
02.078	78,00	90,50	5,50	339
02.080	80,00	92,50	5,50	339
02.085	85,00	97,50	5,50	341
02.090	90,00	102,50	5,50	342
02.092	92,00	104,50	5,50	343
02.095	95,00	107,50	5,50	344
02.100	100,00	112,50	5,50	345
02.104	104,00	116,50	5,50	347
02.105	105,00	117,50	5,50	347
02.108	108,00	120,50	5,50	348
02.110	110,00	122,50	5,50	349
02.115	115,00	127,50	7,45	427
02.120	120,00	132,50	7,45	428
02.125	125,00	137,50	7,45	430
02.130	130,00	145,80	7,45	431
02.135	135,00	150,80	7,45	433
02.140	140,00	155,80	7,45	434
02.145	145,00	160,80	7,45	436
02.150	150,00	165,80	7,45	437
02.155	155,00	170,80	7,45	438
02.160	160,00	175,80	7,45	439
02.165	165,00	180,80	7,45	440
02.170	170,00	185,80	7,45	440
02.180	180,00	195,80	7,45	442
02.185	185,00	200,80	7,45	443
02.190	190,00	205,80	7,45	443
02.200	200,00	215,80	7,45	445
02.210	210,00	225,80	7,45	446
02.212	212,00	227,80	7,45	446
02.215	215,00	230,80	7,45	676
02.220	220,00	235,80	7,45	676
02.222	222,00	237,80	7,45	447
02.225	225,00	240,80	7,45	447
02.230	230,00	245,80	7,45	678
02.240	240,00	255,80	7,45	680
02.250	250,00	265,80	7,45	449
02.260	260,00	275,80	7,45	450
02.262	262,00	277,80	7,45	450
02.270	270,00	285,80	7,45	684
02.280	280,00	295,80	7,45	686
02.285	285,00	300,80	7,45	452
02.290	290,00	305,80	7,45	452
02.295	295,00	310,80	7,45	688
02.300	300,00	315,80	7,45	453
02.320	320,00	335,80	7,45	454
02.330	330,00	345,80	7,45	455





GUA-RING GIR



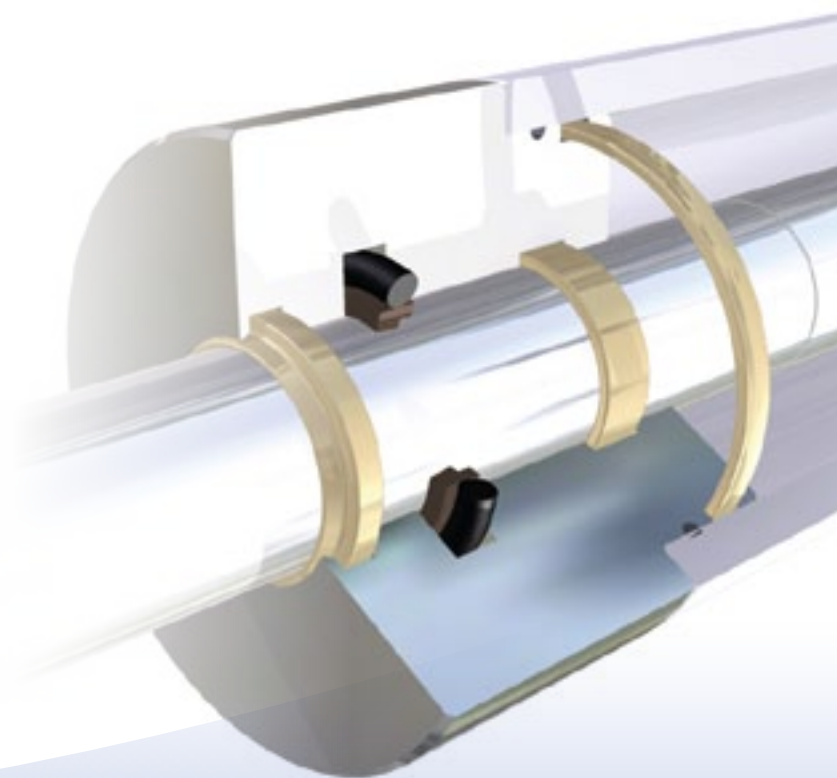
Guarnizioni per STELO
ROD seals

TEF-RING

Versione standard		Standard version	
PTFE caricato bronzo+OR NBR		Bronze filled PTFE+OR NBR	
Versioni Alternative		Alternative Versions	
PTFE caricato bronzo+OR FKM PTFE caricato bronzo+OR NBR basse temp.		Bronze filled PTFE+OR FKM Bronze filled PTFE+OR NBR low temp.	
Pressione fino a / Pressure up to			
50 MPa			
Velocità fino a / Speed up to			
15 m/s			
Temperatura / Temperature			
-30°C +100°C	-10°C +200°C FKM	-50°C +100°C TDS 108	
Applicazioni		Applications	
Cilindri speciali Idraulica Mobile Macchine movimento terra Presse Macchine stampaggio iniezione		Special Cylinders Mobile Hydraulics Earth moving machinery Presses Injection moulding machines	

GUA-RING GIR

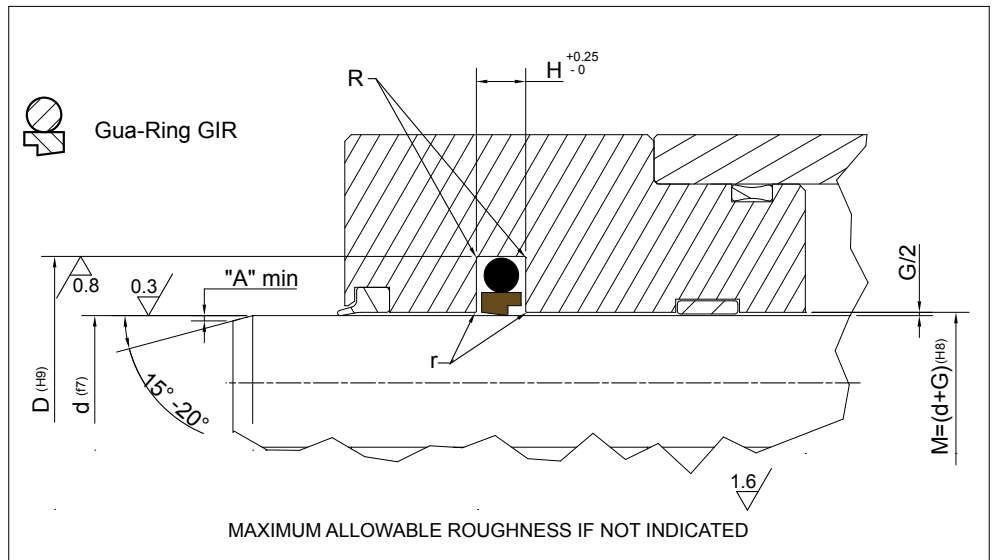
102÷106



TEF-RING

Guarnizioni per STELO
ROD seals

GUA-RING GIR



Rod Seal design guidelines

	0mm < d ≤ 50mm	50mm < d ≤ 100mm	100mm < d ≤ 190mm
R	max 0.80 mm	max 1.20 mm	max 2.00 mm
r	remove sharp edges		
A	1 mm	2 mm	3 mm < A ≤ 5 mm

Operating pressure to determinate Maximum Gap Allowance: G/2

G	Profile Dimension	> 16 MPa	> 26 MPa	> 32 MPa	> 40 MPa
	≤ 5		0.50 mm	0.40 mm	0.35 mm
> 5.0 – 7.5		0.55 mm	0.45 mm	0.40 mm	0.35 mm
> 7.5 – 12.5		0.60 mm	0.50 mm	0.45 mm	0.40 mm
15		0.65 mm	0.55 mm	0.45 mm	0.40 mm

PART NR	DIMENSIONI SEDI / Housing dimensions			
	d	D	H	OR
GIR 0040	4,00	8,90	2,20	010
GIR 0050	5,00	9,90	2,20	010
GIR 0070	7,00	11,90	2,20	012
GIR 0080	8,00	15,30	3,20	111
GIR 0100	10,00	17,30	3,20	112
GIR 0120	12,00	19,30	3,20	114
GIR 0140	14,00	21,30	3,20	115
GIR 0150	15,00	22,30	3,20	116
GIR 0160	16,00	23,30	3,20	116
GIR 0180	18,00	25,30	3,20	117
GIR 0200	20,00	30,70	4,20	214
GIR 0220	22,00	32,70	4,20	215
GIR 0240	24,00	34,70	4,20	216
GIR 0250	25,00	35,70	4,20	217
GIR 0260	26,00	36,70	4,20	218
GIR 0280	28,00	38,70	4,20	219
GIR 0300	30,00	40,70	4,20	220
GIR 0320	32,00	42,70	4,20	221
GIR 0350	35,00	45,70	4,20	222
GIR 0360	36,00	46,70	4,20	223
GIR 0370	37,00	47,70	4,20	223
GIR 0380	38,00	53,10	6,30	327
GIR 0400	40,00	55,10	6,30	328
GIR 0420	42,00	57,10	6,30	328
GIR 0450	45,00	60,10	6,30	329
GIR 0480	48,00	63,10	6,30	330
GIR 0500	50,00	65,10	6,30	331

PART NR	DIMENSIONI SEDI / Housing dimensions			
	d	D	H	OR
GIR 0520	52,00	67,10	6,30	331
GIR 0550	55,00	70,10	6,30	332
GIR 0560	56,00	71,50	6,30	333
GIR 0600	60,00	75,10	6,30	334
GIR 0630	63,00	78,10	6,30	335
GIR 0650	65,00	80,10	6,30	335
GIR 0700	70,00	85,10	6,30	337
GIR 0750	75,00	90,10	6,30	339
GIR 0800	80,00	95,10	6,30	340
GIR 0850	85,00	100,10	6,30	342
GIR 0900	90,00	105,10	6,30	343
GIR 0950	95,00	110,10	6,30	345
GIR 1000	100,00	115,10	6,30	346
GIR 1100	110,00	125,10	6,30	350
GIR 1200	120,00	135,10	6,30	353
GIR 1250	125,00	140,10	6,30	354
GIR 1300	130,00	145,10	6,30	356
GIR 1400	140,00	155,10	6,30	359
GIR 1500	150,00	165,10	6,30	361
GIR 1550	155,00	170,10	6,30	362
GIR 1600	160,00	175,10	6,30	363
GIR 1700	170,00	185,10	6,30	365
GIR 1750	175,00	190,10	6,30	365
GIR 1800	180,00	195,10	6,30	366
GIR 1850	185,00	200,10	6,30	367
GIR 1900	190,00	205,10	6,30	368
GIR 1950	195,00	210,10	6,30	368
GIR 2000	200,00	220,50	8,10	445
GIR 2100	210,00	230,50	8,10	446
GIR 2200	220,00	240,50	8,10	447
GIR 2250	225,00	245,50	8,10	447
GIR 2300	230,00	250,50	8,10	448
GIR 2400	240,00	260,50	8,10	448
GIR 2500	250,00	270,50	8,10	449
GIR 2600	260,00	284,00	8,10	450
GIR 2700	270,00	294,00	8,10	451
GIR 2800	280,00	304,00	8,10	452
GIR 2900	290,00	314,00	8,10	453
GIR 3000	300,00	324,00	8,10	454
GIR 3100	310,00	334,00	8,10	454
GIR 3200	320,00	344,00	8,10	455
GIR 3300	330,00	354,00	8,10	456
GIR 3400	340,00	364,00	8,10	457
GIR 3500	350,00	374,00	8,10	458
GIR 3600	360,00	384,00	8,10	458
GIR 3700	370,00	394,00	8,10	459
GIR 3800	380,00	404,00	8,10	460
GIR 3900	390,00	414,00	8,10	461
GIR 4000	400,00	424,00	8,10	462
GIR 4200	420,00	444,00	8,10	463
GIR 4400	440,00	464,00	8,10	464
GIR 4500	450,00	474,00	8,10	465

TEF-RING

Guarnizioni per STELO
ROD seals

GUA- RING GIR







BUFFER

Guarnizioni per STELO
ROD seals

TECNOLAN

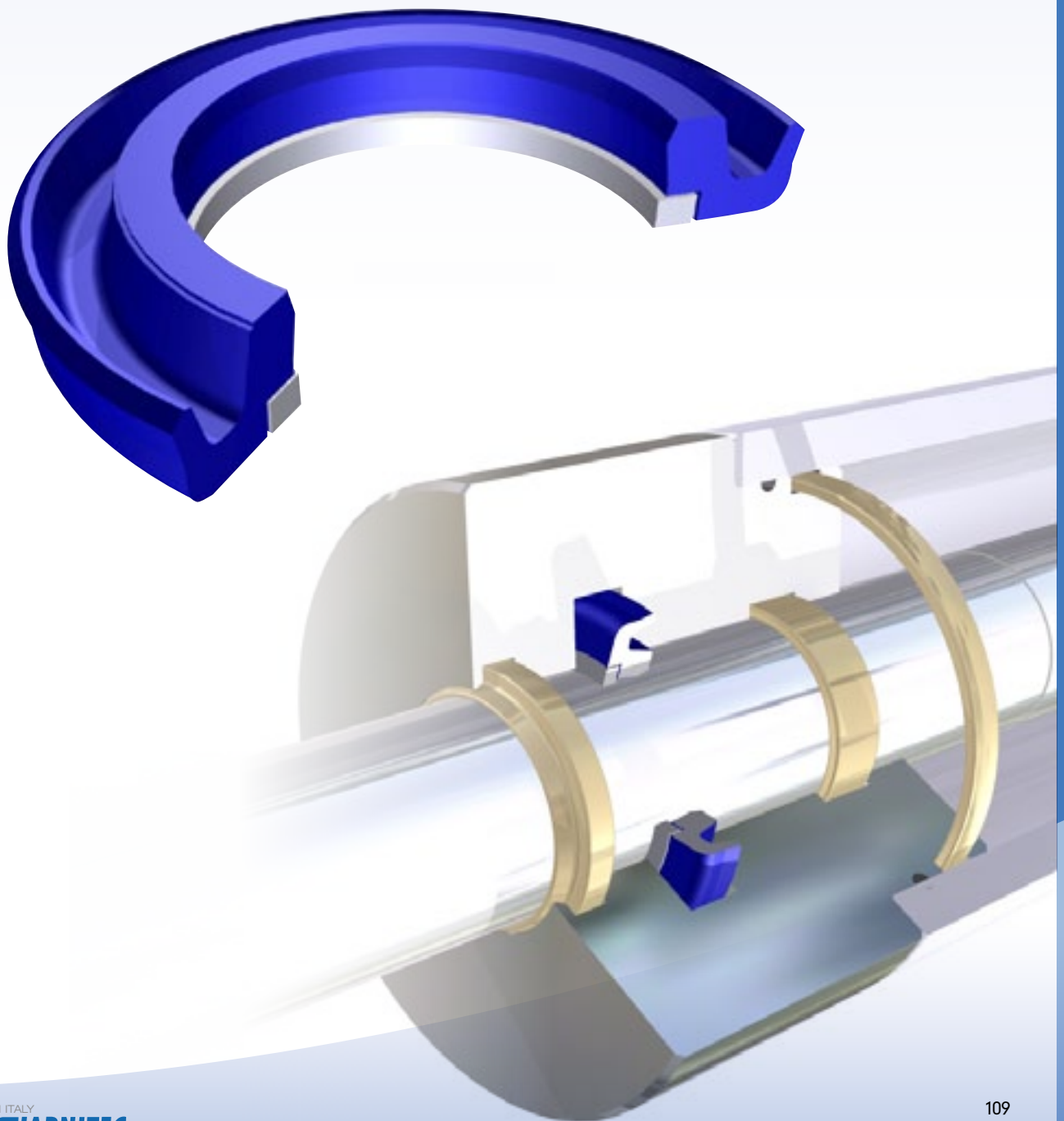
Versione standard	Standard version
Poliuretano+POM	<i>Polyurethane+POM</i>
Versioni Alternative	Alternative Versions
Poliuretano Basse Temp.+POM	<i>Low Temp. Polyurethane+POM</i>
Pressione fino a / Pressure up to	
40 MPa	
Velocità fino a / Speed up to	
0.8 m/s	
Temperatura / Temperature	
-35°C +100°C	-45°C +110°C PN 522
Applicazioni	Applications
Sponde Idrauliche Idrauliche Mobile Macchine movimento terra Cilindri per applicazioni Medie e Pesanti	<i>Tail Lifts Mobile Hydraulics Earthmoving Machinery Medium and Heavy duty applications</i>

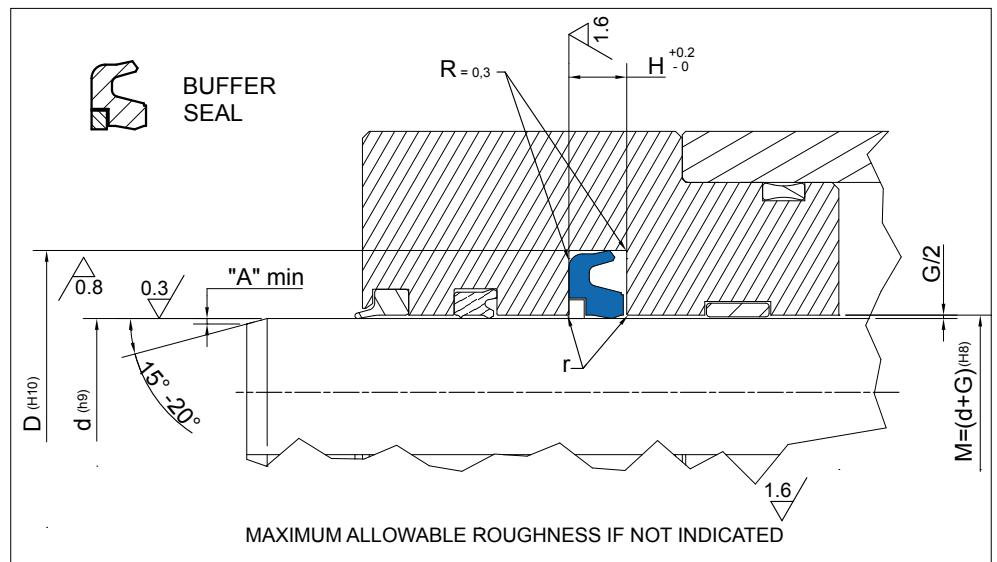


Guarnizioni per STELO
ROD seals

BUFFER

108÷110



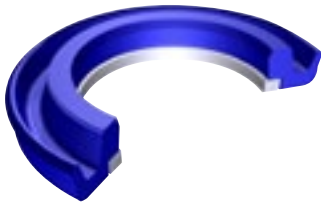


Rod Seal design guidelines

	0mm < d ≤ 50mm	50mm < d ≤ 100mm	100mm < d ≤ 150mm	d ≥ 150mm
r	remove sharp edges			
A	1 mm	2 mm	3 mm	3 mm < A ≤ 5 mm

Operating pressure to determinate Maximum Gap Allowance: G/2



























G	Profile Dimension	> 16 MPa	> 26 MPa	> 32 MPa	> 40 MPa
	≤ 5		0.50 mm	0.40 mm	0.35 mm
> 5.0 - 7.5		0.55 mm	0.45 mm	0.40 mm	0.35 mm
> 7.5 - 12.5		0.60 mm	0.50 mm	0.45 mm	0.40 mm
15		0.65 mm	0.55 mm	0.45 mm	0.40 mm

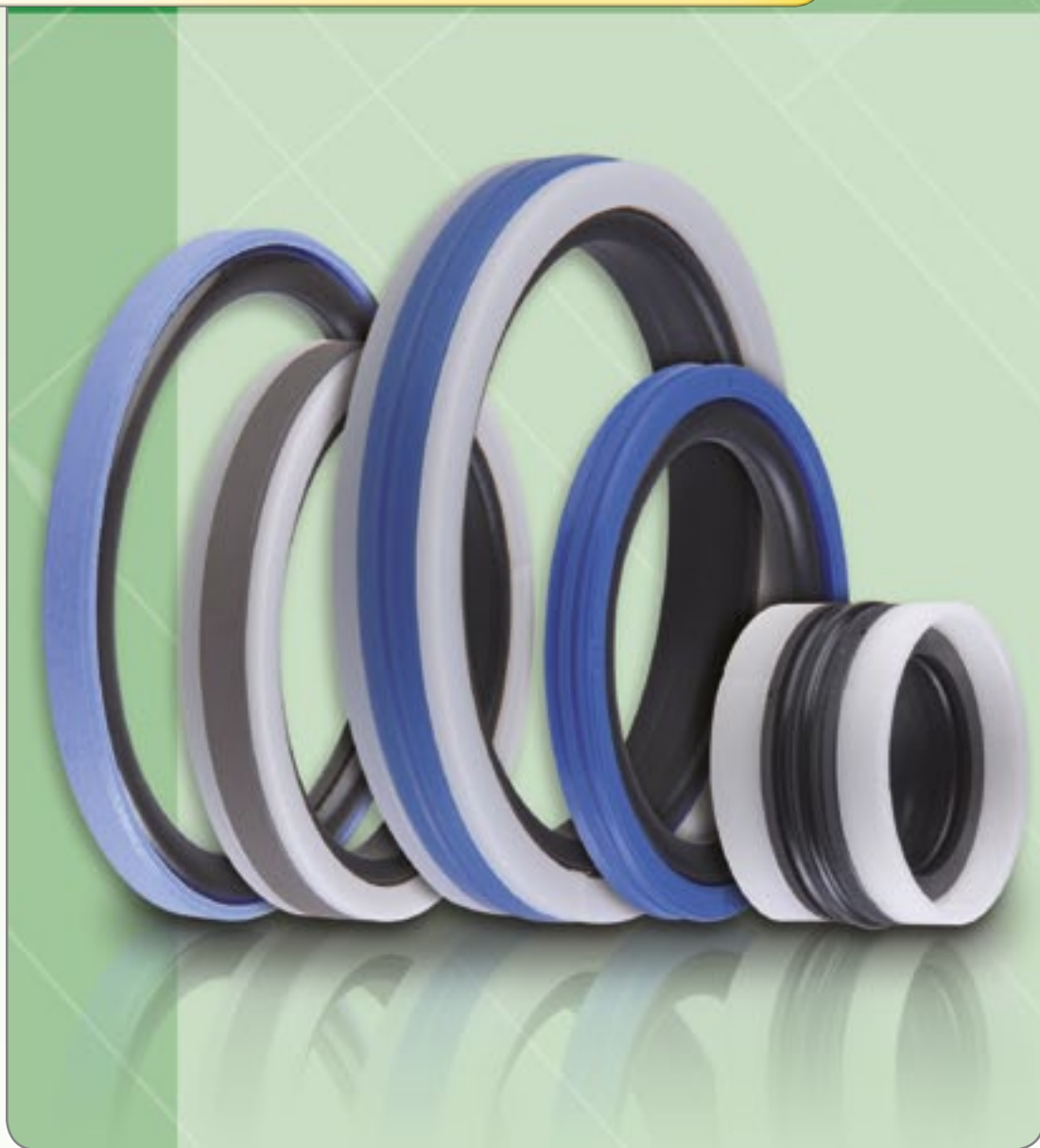


PART NR	DIMENSIONI SEDI / Housing dimensions		
	d	D	H
BUF 40	40,00	55,50	6,30
BUF 45	45,00	60,50	6,30
BUF 50	50,00	65,50	6,30
BUF 55	55,00	70,50	6,30
BUF 56	56,00	71,50	6,30
BUF 60	60,00	75,50	6,30
BUF 63	63,00	78,50	6,30
BUF 65	65,00	80,40	6,30
BUF 70	70,00	85,50	6,30
BUF 75	75,00	90,50	6,30
BUF 80	80,00	95,50	6,30
BUF 85	85,00	100,50	6,30
BUF 90	90,00	105,50	6,30
BUF 95	95,00	110,50	6,30
BUF 100	100,00	115,50	6,30
BUF 106	106,00	121,50	6,30
BUF 110	110,00	125,50	6,30
BUF 115	115,00	130,50	6,30
BUF 120	120,00	135,50	6,30
BUF 125	125,00	140,50	6,30
BUF 140	140,00	155,50	6,30
BUF 150	150,00	165,50	6,30
BUF 170	170,00	185,50	6,30
BUF 180	180,00	195,50	6,30
BUF 200	200,00	220,50	8,10



GUARNITEC

PROFILO PROFILE	TIPO SEAL TYPE	valori • technical data			MATERIALE MATERIAL	 light  medium  heavy			pagina page
		MPa	speed m/s	temp. °C					
	TPM TPM/P	35	0,5	-30 +110	NBR + POM + TPE NBR + POM + TPE	●	● ●		114÷118
	TPM/E	35	0,5	-30 +110	NBR + POM + TPE NBR + POM + TPE	●	● ●		120÷124
	TPL	35	0,5	-30 +110	NBR + POM + TPE NBR + POM + TPE	●	● ●		126÷129
	TPS/T	40	0,8	-30 +110	NBR + Tessuto + POM NBR + Fabric + POM		● ● ●	● ● ●	130÷133
	TPS/G	35	0,5	-30 +110	NBR + POM + TPE NBR + POM + TPE	●	● ●		130÷133
	TDE	50	0,5	-30 +110	NBR + Tessuto + POM NBR + Fabric + POM	●	● ● ●	● ● ●	134÷137
	GT/3	40	0,5	-30 +110	NBR + Tessuto NBR + Fabric		● ● ●	● ● ●	138÷141
	PDE	70	0,5	-30 +110	NBR + Tessuto + POM NBR + Fabric + POM		● ● ●	● ● ●	142÷145
	PDH	60	1,5	-30 +110	NBR + PTFE + POM NBR + PTFE + POM		● ● ●	● ● ●	146÷149
	PDP	40	0,5	-30 +110	NBR + Poliuretano + POM NBR + Polyurethane + POM	●	● ●		146÷149
	TGU	70	0,5	-30 +110	NBR + Tessuto + POM NBR + Fabric + POM		● ●		150÷153
	TTD	20	0,5	-35 +100	Poliuretano + POM Polyurethane + POM	●	● ●		154÷156
	TTW	40	0,5	-35 +100	Poliuretano + POM Polyurethane + POM		● ● ●	● ● ●	158÷161
	TRU	30	0,5	-30 +110	NBR + Tessuto NBR + Fabric		● ● ●	● ● ●	162÷165
	TTU	40	0,5	-35 +100	Poliuretano Polyurethane	●	● ●		166÷178
	TTE	35	0,5	-35 +100	Poliuretano Polyurethane	●	● ●		180÷186
	TTE/W	50	0,5	-35 +100	Poliuretano + POM Polyurethane + POM	●	● ●		188÷195
	TTO PB501 TTO PB546	25 40	0,5	-35 +100	Poliuretano + NBR Polyurethane + NBR	●	● ●		192÷195
	TTQ	40	0,5	-35 +100	Poliuretano + NBR Polyurethane + NBR	●	● ● ●	● ● ●	196÷199
	TTR	40	0,5	-35 +100	Poliuretano + NBR Polyurethane + NBR		● ● ●	● ● ●	200÷203
	TUT	50	1,0	-30 +110	NBR + PA66 NBR + PA66		● ● ●		204÷207
	GUA-RING 01	50	12	-30 +100	PTFE + NBR PTFE + NBR		● ● ●	● ● ●	208÷212
	GUA-RING GER	60	15	-30 +100	PTFE + NBR PTFE + NBR		● ● ●	● ● ●	214÷217



guarnizioni per PISTONE

PISTON seals



TPM TPM/P

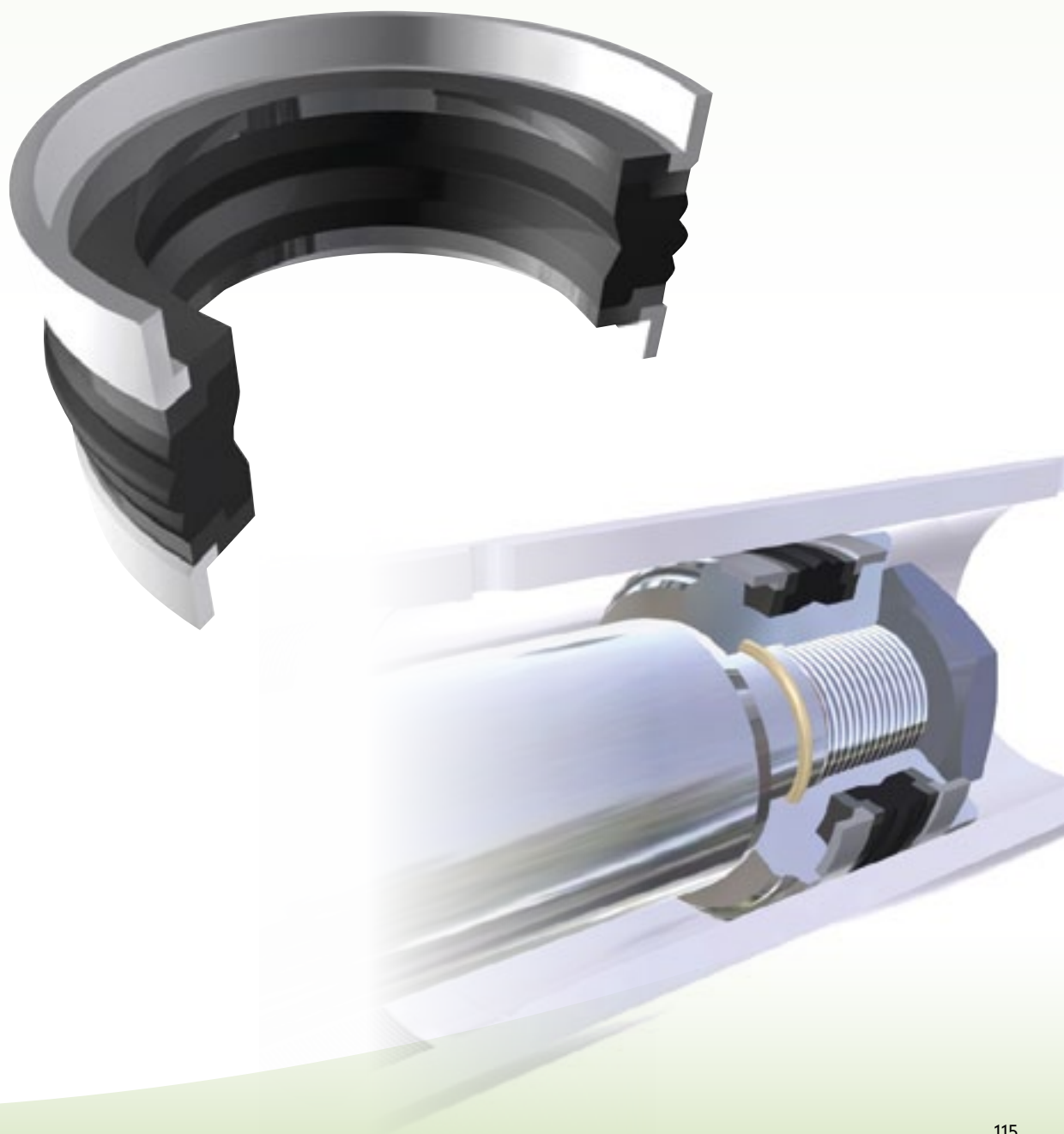
Guarnizioni per PISTONE
PISTON seals

TECNOTEX

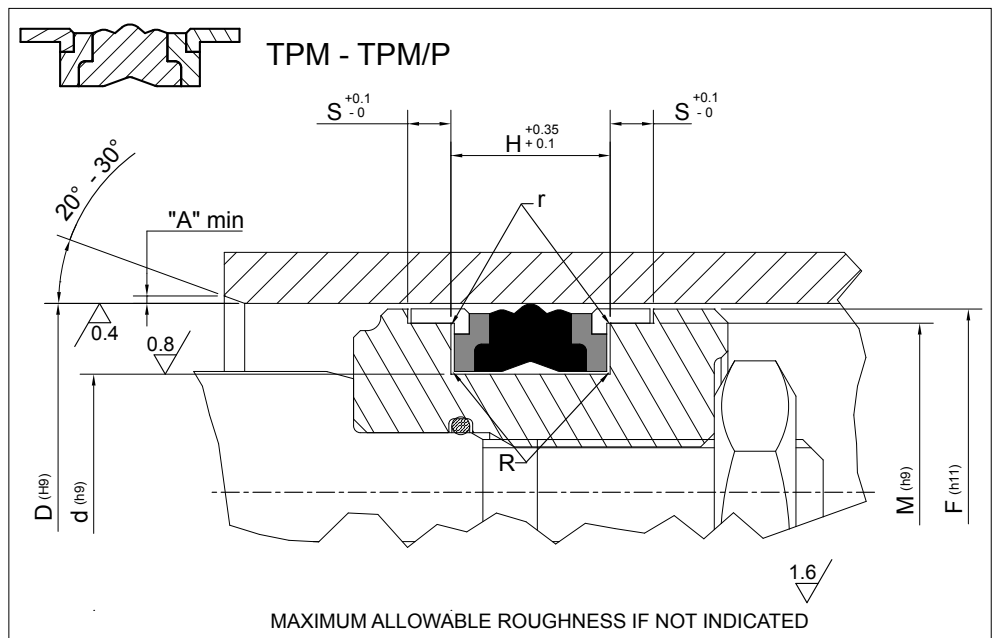
Versione standard		Standard version	
Elemento di tenuta	NBR	Sealing Ring	NBR
Anelli di Supporto	TPE	Support Ring	TPE
Anelli di Guida	POM	Guide Ring	POM
Versioni Alternative		Alternative Versions	
Elemento di tenuta	NBR FKM	Sealing Ring	NBR FKM
Elemento di tenuta	NBR basse temp.	Sealing Ring	Low temp. NBR
Pressione fino a / Pressure up to			
35 MPa			
Velocità fino a / Speed up to			
0.5 m/s			
Temperatura / Temperature			
-30°C +110°C	-20°C +200°C FKM	-50°C +110°C TDS 108	
Applicazioni		Applications	
Cilindri Idraulici Cilindri per Gru Cilindri per Agricoltura Carrelli Elevatori		Hydraulic Cylinders Truck crane Cylinders Agricultural Cylinders Fork Lifts	

TPM • TPM/P

114÷118



**TPM
TPM/P**



Piston Seal design guidelines

R	d ≤ 100mm		d > 100mm	
	max 0.40 mm		max 0.80 mm	
r	0.2 mm			
A	1 mm	2 mm	3 mm	3 mm < A ≤ 5 mm

PART NR		DIMENSIONI SEDI / Housing dimensions					
		D	d	H	S	M	F
TPM 9000	098059	25,00	15,00	12,50	4,00	22,00	24,00
TPM 9000/1	098059	25,00	15,00	12,40	4,00	21,00	24,00
TPM 9001	098059	25,00	15,00	16,40	6,35	21,45	23,50
TPM 9002	098066	25,00	17,00	10,00	4,00	22,00	24,00
TPM 9003	118066	30,00	17,00	15,40	6,35	26,50	28,50
TPM 9004	125086	32,00	22,00	12,50	4,00	29,00	31,00
TPM 9005	125086	32,00	22,00	16,40	6,35	28,50	30,50
TPM 9006	125094	32,00	24,00	10,00	4,00	29,00	31,00
TPM 9007	137098	35,00	25,00	16,40	6,35	31,40	33,50
TPM 9008	157118	40,00	30,00	16,40	6,35	35,40	38,50
TPM 9009	157118	40,00	30,00	12,50	4,00	37,00	39,00
TPM 9010	157118	40,00	30,00	12,50	4,00	36,00	39,00
TPM 9011	157125	40,00	32,00	10,00	4,00	37,00	39,00
TPM 9012	157094	40,00	24,00	18,40	6,35	35,40	38,70
TPM 9013	177114	45,00	29,00	18,40	6,35	40,40	43,70
TPM 9014	177137	45,00	35,00	16,40	6,35	40,40	43,50
TPM 9015	196133	50,00	34,00	18,40	6,35	45,41	48,70
TPM 9016	196137	50,00	35,00	20,00	5,00	46,00	48,50
TPM 9017	196157	50,00	40,00	12,50	4,00	47,00	49,00
TPM 9017/1	196157/1	50,00	40,00	11,30	4,00	46,00	49,00
TPM 9018	216153	55,00	39,00	18,40	6,35	50,37	53,65
TPM 9019	216177	55,00	45,00	12,50	4,00	52,00	54,00
TPM 9020	236173	60,00	44,00	18,40	6,35	55,39	58,65
TPM 9020/1	236173/1	60,00	44,00	19,40	6,35	55,39	58,65
TPM 9021	248185	63,00	47,00	18,40	6,35	58,39	61,63
TPM 9021/1	248185/1	63,00	47,00	19,40	6,35	58,39	61,63
TPM 9022	248188	63,00	48,00	20,00	5,00	59,00	61,50

PART NR		DIMENSIONI SEDI / Housing dimensions					
		D	d	H	S	M	F
TPM 9023	248208	63,00	53,00	12,50	4,00	60,00	62,00
TPM 9024	255196	65,00	50,00	18,40	6,35	60,41	63,64
TPM 9025	275196	70,00	50,00	22,40	6,35	64,18	68,34
TPM 9026	275216	70,00	55,00	20,00	5,00	66,00	68,50
TPM 9027	295216	75,00	55,00	22,40	6,35	69,18	73,32
TPM 9028	314236	80,00	60,00	22,40	6,35	74,16	78,34
TPM 9029	314236	80,00	60,00	25,00	6,35	75,00	78,00
TPM 9030	314255	80,00	65,00	20,00	5,00	76,00	78,50
TPM 9031	334255	85,00	65,00	22,40	6,35	79,16	83,34
TPM 9032	334295	85,00	75,00	20,00	4,00	81,00	83,34
TPM 9032/1	338255	86,00	65,00	22,40	6,35	82,00	84,34
TPM 9033	354275	90,00	70,00	22,40	6,35	84,15	88,31
TPM 9033/1	354275/1	90,00	70,00	21,00	6,35	84,15	88,31
TPM 9034	354295	90,00	75,00	20,00	5,00	86,00	88,50
TPM 9035	374295	95,00	75,00	22,40	6,35	89,15	93,31
TPM 9036	393295	100,00	75,00	22,40	6,35	93,14	98,05
TPM 9037	393314	100,00	80,00	25,00	6,35	95,00	98,00
TPM 9038	393334	100,00	85,00	20,00	5,00	96,00	98,50
TPM 9039	393338	100,00	86,00	20,00	5,00	96,00	98,50
TPM 9040	413314	105,00	80,00	22,40	6,35	98,09	103,03
TPM 9040/1	417314	105,80	80,00	22,40	6,35	99,09	104,03
TPM 9041	433334	110,00	85,00	22,40	6,35	103,10	108,00
TPM 9042	433334/1	110,00	85,00	25,40	6,35	103,10	108,00
TPM 9043	433354	110,00	90,00	25,30	6,40	104,10	108,30
TPM 9044	433374	110,00	95,00	20,00	5,00	105,00	108,00
TPM 9045	452354	115,00	90,00	22,40	6,35	108,10	113,02
TPM 9046	472374	120,00	95,00	22,40	6,35	113,10	118,02
TPM 9046/1	480374	122,00	95,00	22,40	6,35	115,10	120,02
TPM 9047	492393	125,00	100,00	25,40	6,35	118,08	122,96
TPM 9048	492393	125,00	100,00	32,00	10,00	119,00	123,00
TPM 9049	492413	125,00	105,00	25,40	6,35	119,10	123,30
TPM 9050	511413	130,00	105,00	25,40	9,52	122,60	127,50
TPM 9051	492413	125,00	105,00	25,00	6,35	120,00	123,00
TPM 9052	511413	130,00	105,00	25,30	6,35	123,10	128,00
TPM 9052/1	511433	130,00	110,00	25,40	6,35	125,00	128,00
TPM 9053	531433	135,00	110,00	25,40	9,52	127,60	132,50
TPM 9053/1	531433/1	135,00	110,00	25,40	6,35	128,10	133,00
TPM 9054	551452	140,00	115,00	25,40	9,52	132,60	137,50
TPM 9055	551452/1	140,00	115,00	25,40	6,35	133,00	138,00
TPM 9056	551472	140,00	120,00	25,00	6,35	135,00	138,00
TPM 9057	570472	145,00	120,00	25,40	9,52	137,60	142,50
TPM 9057/3	570472	145,00	120,00	25,40	6,35	137,60	142,50
TPM 9057/1	578480	147,00	122,00	25,40	9,52	139,60	144,50
TPM 9057/2	582484	148,00	123,00	25,40	9,52	140,60	145,50
TPM 9058	590492	150,00	125,00	25,40	9,52	142,60	147,50
TPM 9058/1	590492/1	150,00	125,00	25,40	6,35	143,00	148,00
TPM 9059	590511	150,00	130,00	25,40	6,35	144,10	148,30
TPM 9060	610511	155,00	130,00	25,40	9,52	147,60	152,50
TPM 9060/1	610511/1	155,00	130,00	25,40	6,35	148,00	153,00
TPM 9061	629531	160,00	135,00	25,40	9,52	152,60	157,50
TPM 9061/1	629531/1	160,00	135,00	25,40	6,35	153,00	157,50
TPM 9061/2	629531/2	160,00	135,00	32,00	10,00	154,00	157,50

TPM TPM/P



TPM
TPM/P



PART NR		DIMENSIONI SEDI / Housing dimensions					
		D	d	H	S	M	F
TPM 9062	629511/2	160,00	130,00	32,00	10,00	154,00	158,00
TPM 9063	629551	160,00	140,00	25,00	6,35	155,00	158,00
TPM 9064	629511	160,00	130,00	25,40	9,52	152,60	157,50
TPM 9065	629511/1	160,00	130,00	25,40	6,35	153,00	157,50
TPM 9066	649551	165,00	140,00	25,40	9,52	157,60	162,50
TPM 9066/1	669551	170,00	140,00	25,40	12,70	161,72	167,00
TPM 9067	669570	170,00	145,00	25,40	12,70	161,72	167,00
TPM 9068	688590	175,00	150,00	25,40	12,70	166,72	172,00
TPM 9069	708610	180,00	155,00	25,40	12,70	171,72	177,00
TPM 9070	708590	180,00	150,00	35,40	6,35	172,95	177,00
TPM 9070/1	708590	180,00	150,00	36,00	12,50	172,95	177,00
TPM 9071	728629	185,00	160,00	25,40	12,70	176,72	182,00
TPM 9072	748649	190,00	165,00	25,40	12,70	181,72	187,00
TPM 9073	768669	195,00	170,00	25,40	12,70	186,72	192,00
TPM 9074	787669	200,00	170,00	35,40	6,35	193,00	198,00
TPM 9075	787669/1	200,00	170,00	36,00	12,50	192,00	197,00
TPM 9076	787688	200,00	175,00	25,40	12,70	191,62	197,00
TPM 9077	826728	210,00	185,00	25,40	12,70	201,62	207,00
TPM 9078	866748	220,00	190,00	35,40	6,35	212,70	217,00
TPM 9079	866767	220,00	195,00	25,40	12,70	211,62	217,00
TPM 9080	886787	225,00	200,00	25,40	12,70	216,62	222,00
TPM 9081	905807	230,00	205,00	25,40	12,70	221,62	227,00
TPM 9082	944846	240,00	215,00	25,40	12,70	231,62	237,00
TPM 9083	984886	250,00	225,00	25,40	12,70	241,62	247,00
TPM 9084	984866	250,00	220,00	35,40	6,35	242,90	247,00
TPM 9085	984866/1	250,00	220,00	36,00	12,50	242,00	247,00
TPM 9085/1	1000882	254,00	224,00	35,40	12,70	246,00	251,00
TPM 9086	1024925	260,00	235,00	35,10	12,70	252,90	257,00
TPM 9086/1	1024925/1	260,00	235,00	25,40	12,70	252,90	257,00
TPM 9086/2	1062965	270,00	245,00	35,40	12,70	252,90	257,00
TPM 9087	1102984	280,00	250,00	35,40	9,52	272,90	277,00
TPM 9088	12591141	320,00	290,00	35,40	9,52	312,40	317,00
TPM 9089	12591141/1	320,00	290,00	36,00	12,70	312,00	317,00

TPM/P 9600	1500-1125	38,10	28,57	11,10	3,81	33,63	36,80
TPM/P 9601	1750-1125	44,45	28,57	19,05	6,35	39,87	43,12
TPM/P 9602	2000-1375	50,80	34,92	19,05	6,35	46,23	49,50
TPM/P 9603	2000-1625	50,80	41,27	11,10	3,81	46,27	49,20
TPM/P 9604	2125-1500	53,97	38,10	19,05	6,35	49,40	52,70
TPM/P 9605	2375-1750	60,33	44,45	19,05	6,35	55,73	58,98
TPM/P 9606	2500-1875	63,50	47,62	19,05	6,35	58,90	62,12
TPM/P 9607	2500-2000	63,50	50,80	14,90	6,35	58,90	62,12
TPM/P 9608	2500-2125	63,50	53,97	11,10	3,81	58,90	62,12
TPM/P 9609	2625-2000	66,67	50,80	19,05	6,35	62,10	65,27
TPM/P 9610	3000-2250	76,20	57,15	23,79	6,35	70,40	74,50
TPM/P 9611	3500-2750	88,90	69,85	23,79	6,35	83,08	87,22
TPM/P 9612	4000-3250	101,60	82,55	23,79	6,35	95,78	99,90
TPM/P 9612/1	4500-3500	114,30	88,90	31,75	6,35	107,40	112,40
TPM/P 9613	5000-4000	127,00	101,60	32,15	6,35	120,09	124,98
TPM/P 9614	6000-5000	152,40	127,00	32,15	6,35	145,44	150,35
TPM/P 9615	7000-6000	177,80	152,40	32,15	6,35	170,80	175,75





TPM/E

Guarnizioni per PISTONE
PISTON seals

TECNOTEX

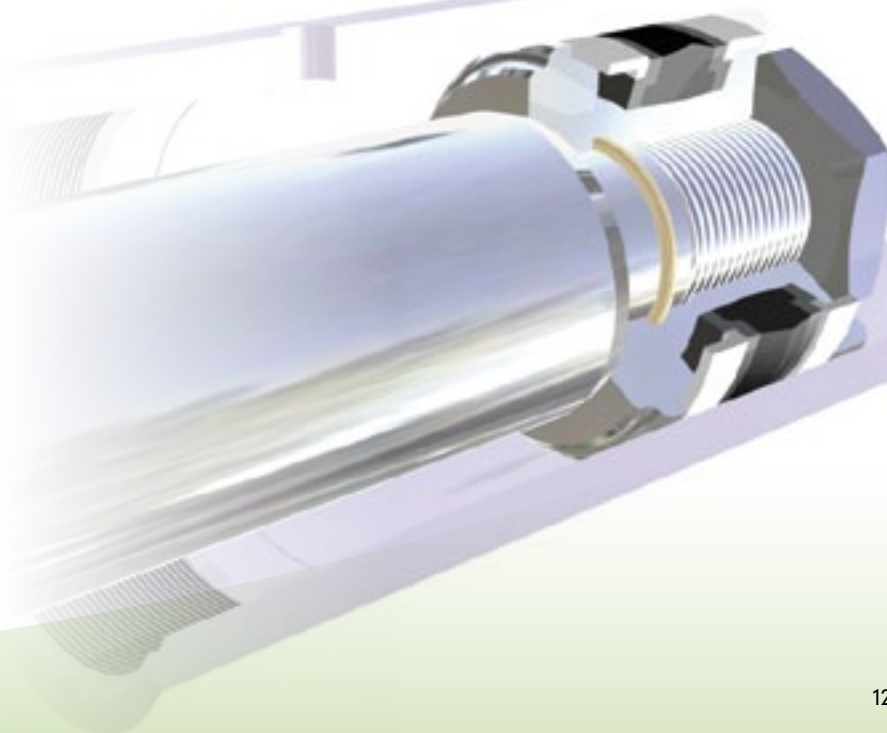
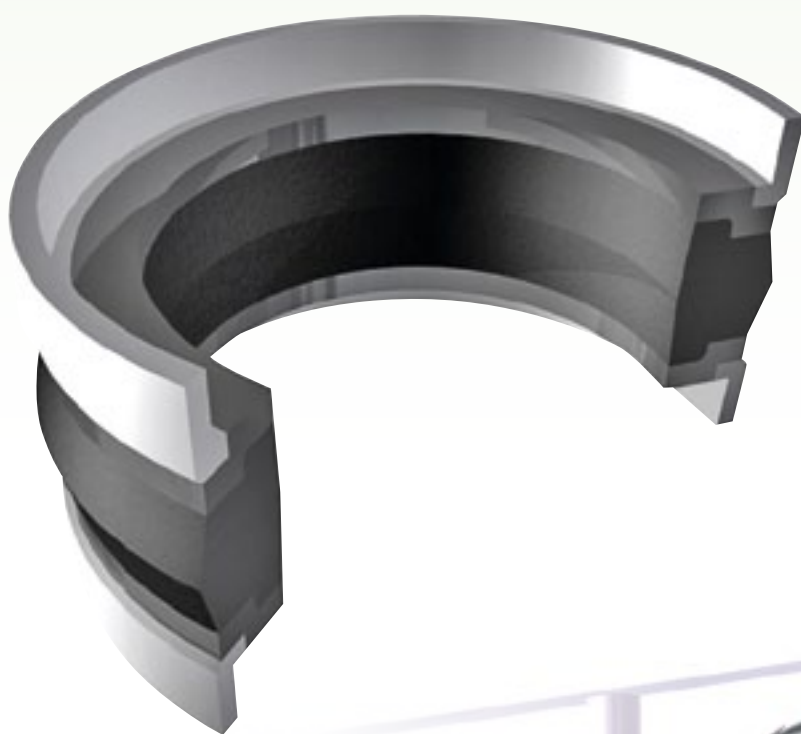
Versione standard		Standard version	
Elemento di tenuta	NBR	Sealing Ring	NBR
Anelli di Supporto	TPE	Support Ring	TPE
Anelli di Guida	POM	Guide Ring	POM
Versioni Alternative		Alternative Versions	
Elemento di tenuta	NBR FKM	Sealing Ring	NBR FKM
Elemento di tenuta	NBR basse temp.	Sealing Ring	Low temp. NBR
Pressione fino a / Pressure up to			
35 MPa			
Velocità fino a / Speed up to			
0.5 m/s			
Temperatura / Temperature			
-30°C +110°C	-20°C +200°C FKM	-50°C +110°C TDS 108	
Applicazioni		Applications	
Cilindri Idraulici Cilindri per Gru Cilindri per Agricoltura Carrelli Elevatori		Hydraulic Cylinders Truck crane Cylinders Agricultural Cylinders Fork Lifts	

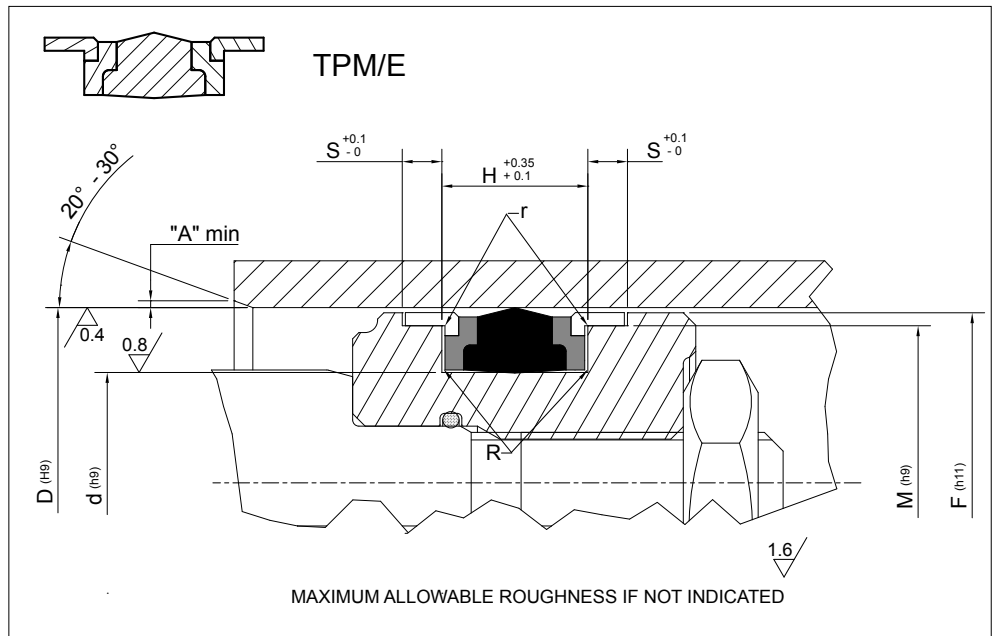


Guarnizioni per PISTONE
PISTON seals

TPM/E

120÷124





Piston Seal design guidelines

R	$d \leq 100\text{mm}$		$d > 100\text{mm}$	
	max 0.40 mm		max 0.80 mm	
r	0.2 mm			
A	1 mm	2 mm	3 mm	3 mm < A ≤ 5 mm

PART NR		DIMENSIONI SEDI / Housing dimensions					
		D	d	H	S	M	F
TPM/E 9000	098059	25,00	15,00	12,50	4,00	22,00	24,00
TPM/E 9000/1	098059	25,00	15,00	12,40	4,00	21,00	24,00
TPM/E 9001	098059	25,00	15,00	16,40	6,35	21,45	23,50
TPM/E 9002	098066	25,00	17,00	10,00	4,00	22,00	24,00
TPM/E 9003	118066	30,00	17,00	15,40	6,35	26,50	28,50
TPM/E 9004	125086	32,00	22,00	12,50	4,00	29,00	31,00
TPM/E 9005	125086	32,00	22,00	16,40	6,35	28,50	30,50
TPM/E 9006	125094	32,00	24,00	10,00	4,00	29,00	31,00
TPM/E 9007	137098	35,00	25,00	16,40	6,35	31,40	33,50
TPM/E 9008	157118	40,00	30,00	16,40	6,35	35,40	38,50
TPM/E 9009	157118	40,00	30,00	12,50	4,00	37,00	39,00
TPM/E 9010	157118	40,00	30,00	12,50	4,00	36,00	39,00
TPM/E 9011	157125	40,00	32,00	10,00	4,00	37,00	39,00
TPM/E 9012	157094	40,00	24,00	18,40	6,35	35,40	38,70
TPM/E 9013	177114	45,00	29,00	18,40	6,35	40,40	43,70
TPM/E 9014	177137	45,00	35,00	16,40	6,35	40,40	43,50
TPM/E 9015	196133	50,00	34,00	18,40	6,35	45,41	48,70
TPM/E 9016	196137	50,00	35,00	20,00	5,00	46,00	48,50
TPM/E 9017	196157	50,00	40,00	12,50	4,00	47,00	49,00
TPM/E 9018	216153	55,00	39,00	18,40	6,35	50,37	53,65
TPM/E 9019	216177	55,00	45,00	12,50	4,00	52,00	54,00
TPM/E 9020	236173	60,00	44,00	18,40	6,35	55,39	58,65
TPM/E 9020/1	236173/1	60,00	44,00	19,40	6,35	55,39	58,65
TPM/E 9021	248185	63,00	47,00	18,40	6,35	58,39	61,63
TPM/E 9021/1	248185/1	63,00	47,00	19,40	6,35	58,39	61,63
TPM/E 9022	248188	63,00	48,00	20,00	5,00	59,00	61,50
TPM/E 9023	248208	63,00	53,00	12,50	4,00	60,00	62,00

PART NR		DIMENSIONI SEDI / Housing dimensions					
		D	d	H	S	M	F
TPM/E 9024	255196	65,00	50,00	18,40	6,35	60,41	63,64
TPM/E 9025	275196	70,00	50,00	22,40	6,35	64,18	68,34
TPM/E 9026	275216	70,00	55,00	20,00	5,00	66,00	68,50
TPM/E 9027	295216	75,00	55,00	22,40	6,35	69,18	73,32
TPM/E 9028	314236	80,00	60,00	22,40	6,35	74,16	78,34
TPM/E 9029	314236	80,00	60,00	25,00	6,35	75,00	78,00
TPM/E 9030	314255	80,00	65,00	20,00	5,00	76,00	78,50
TPM/E 9031	334255	85,00	65,00	22,40	6,35	79,16	83,34
TPM/E 9032	334295	85,00	75,00	20,00	4,00	81,00	83,34
TPM/E 9032/1	338255	86,00	65,00	22,40	6,35	82,00	84,34
TPM/E 9033	354275	90,00	70,00	22,40	6,35	84,15	88,31
TPM/E 9033/1	354275/1	90,00	70,00	21,00	6,35	84,15	88,31
TPM/E 9034	354295	90,00	75,00	20,00	5,00	86,00	88,50
TPM/E 9034/1	354323	92,00	82,00	12,50	6,35	88,00	90,50
TPM/E 9035	374295	95,00	75,00	22,40	6,35	89,15	93,31
TPM/E 9036	393295	100,00	75,00	22,40	6,35	93,14	98,05
TPM/E 9037	393314	100,00	80,00	25,00	6,35	95,00	98,00
TPM/E 9038	393334	100,00	85,00	20,00	5,00	96,00	98,50
TPM/E 9039	393338	100,00	86,00	20,00	5,00	96,00	98,50
TPM/E 9040	413314	105,00	80,00	22,40	6,35	98,09	103,03
TPM/E 9040/1	413364	105,00	92,50	14,00	5,50	99,00	103,03
TPM/E 9040/2	417314	106,00	80,00	22,40	6,35	99,09	104,03
TPM/E 9041	433334	110,00	85,00	22,40	6,35	103,10	108,00
TPM/E 9042	433334/1	110,00	85,00	25,40	6,35	103,10	108,00
TPM/E 9043	433354	110,00	90,00	25,30	6,40	104,10	108,30
TPM/E 9044	433374	110,00	95,00	20,00	5,00	105,00	108,00
TPM/E 9045	452354	115,00	90,00	22,40	6,35	108,10	113,02
TPM/E 9046	472374	120,00	95,00	22,40	6,35	113,10	118,02
TPM/E 9046/1	480374	122,00	95,00	22,40	6,35	115,10	120,02
TPM/E 9047	492393	125,00	100,00	25,40	6,35	118,08	122,96
TPM/E 9048	492393	125,00	100,00	32,00	10,00	119,00	123,00
TPM/E 9049	492413	125,00	105,00	25,40	6,35	119,10	123,30
TPM/E 9050	511413	130,00	105,00	25,40	9,52	122,60	127,50
TPM/E 9051	492413	125,00	105,00	25,00	6,35	120,00	123,00
TPM/E 9052	511413	130,00	105,00	25,30	6,35	123,10	128,00
TPM/E 9052/1	511433	130,00	110,00	25,30	6,40	124,10	128,30
TPM/E 9053	531433	135,00	110,00	25,40	9,52	127,60	132,50
TPM/E 9054	551452	140,00	115,00	25,40	9,52	132,60	137,50
TPM/E 9055	551452/1	140,00	115,00	25,40	6,35	133,00	138,00
TPM/E 9056	551472	140,00	120,00	25,00	6,35	135,00	138,00
TPM/E 9057	570472	145,00	120,00	25,40	9,52	137,60	142,50
TPM/E 9057/1	578469	147,00	119,00	25,40	9,52	139,60	144,50
TPM/E 9057/2	582484	148,00	123,00	25,40	9,52	140,60	145,50
TPM/E 9058	590492	150,00	125,00	25,40	9,52	142,60	147,50
TPM/E 9058/1	590492/1	150,00	125,00	25,40	6,50	143,00	148,00
TPM/E 9059	590511	150,00	130,00	25,40	6,35	144,10	148,30
TPM/E 9060	610511	155,00	130,00	25,40	9,52	147,60	152,50
TPM/E 9061	629531	160,00	135,00	25,40	9,52	152,60	157,50
TPM/E 9062	629511/2	160,00	130,00	32,00	10,00	154,00	158,00
TPM/E 9063	629551	160,00	140,00	25,00	6,35	155,00	158,00
TPM/E 9064	629511	160,00	130,00	25,40	9,52	152,60	157,50
TPM/E 9065	629511/1	160,00	130,00	25,40	6,35	153,00	157,50



TPM/E

PART NR		DIMENSIONI SEDI / Housing dimensions					
		D	d	H	S	M	F
TPM/E 9066	649551	165,00	140,00	25,40	9,52	157,60	162,50
TPM/E 9066/1	669551	170,00	140,00	25,40	12,70	161,72	167,00
TPM/E 9067	669570	170,00	145,00	25,40	12,70	161,72	167,00
TPM/E 9068	688590	175,00	150,00	25,40	12,70	166,72	172,00
TPM/E 9069	708610	180,00	155,00	25,40	12,70	171,72	177,00
TPM/E 9070	708590	180,00	150,00	35,40	6,35	172,95	177,00
TPM/E 9071	728629	185,00	160,00	25,40	12,70	176,72	182,00
TPM/E 9072	748649	190,00	165,00	25,40	12,70	181,72	187,00
TPM/E 9073	767699	195,00	170,00	25,40	12,70	186,72	192,00
TPM/E 9074	787669	200,00	170,00	35,40	6,35	193,00	198,00
TPM/E 9075	787669/1	200,00	170,00	36,00	12,50	192,00	197,00
TPM/E 9076	787688	200,00	175,00	25,40	12,70	191,62	197,00
TPM/E 9077	826728	210,00	185,00	25,40	12,70	201,62	207,00
TPM/E 9078	866748	220,00	190,00	35,40	6,35	212,70	217,00
TPM/E 9079	866767	220,00	195,00	25,40	12,70	211,62	217,00
TPM/E 9080	886787	225,00	200,00	25,40	12,70	216,62	222,00
TPM/E 9081	905807	230,00	205,00	25,40	12,70	221,62	227,00
TPM/E 9082	944846	240,00	215,00	25,40	12,70	231,62	237,00
TPM/E 9083	984886	250,00	225,00	25,40	12,70	241,62	247,00
TPM/E 9084	984866	250,00	220,00	35,40	6,35	242,90	247,00
TPM/E 9085	984866/1	250,00	220,00	36,00	12,50	242,00	247,00
TPM/E 9085/1	1000882	254,00	224,00	35,40	12,70	246,00	251,00
TPM/E 9086	1024925	260,00	235,00	35,40	12,70	252,90	257,00
TPM/E 9087	1102984	280,00	250,00	35,40	9,52	272,90	277,00
TPM/E 9088	12591141	320,00	290,00	35,40	9,52	312,40	317,00
TPM/E 9089	12591141/1	320,00	290,00	36,00	12,70	312,00	317,00



GUARNITEC



TPL

Guarnizioni per PISTONE
PISTON seals

TECNOTEX

Versione standard		Standard version	
Elemento di tenuta	NBR	Sealing Ring	NBR
Anelli di Supporto	TPE	Support Ring	TPE
Anelli di Guida	POM	Guide Ring	POM
Versioni Alternative		Alternative Versions	
Elemento di tenuta	NBR FKM	Sealing Ring	NBR FKM
Elemento di tenuta	NBR basse temp.	Sealing Ring	Low temp. NBR
Pressione fino a / Pressure up to			
35 MPa			
Velocità fino a / Speed up to			
0.5 m/s			
Temperatura / Temperature			
-30°C +110°C	-20°C +200°C FKM	-50°C +110°C TDS 108	
Applicazioni		Applications	
Cilindri Idraulici Cilindri per Gru Cilindri per Agricoltura Carrelli Elevatori		Hydraulic Cylinders Truck crane Cylinders Agricultural Cylinders Fork Lifts	

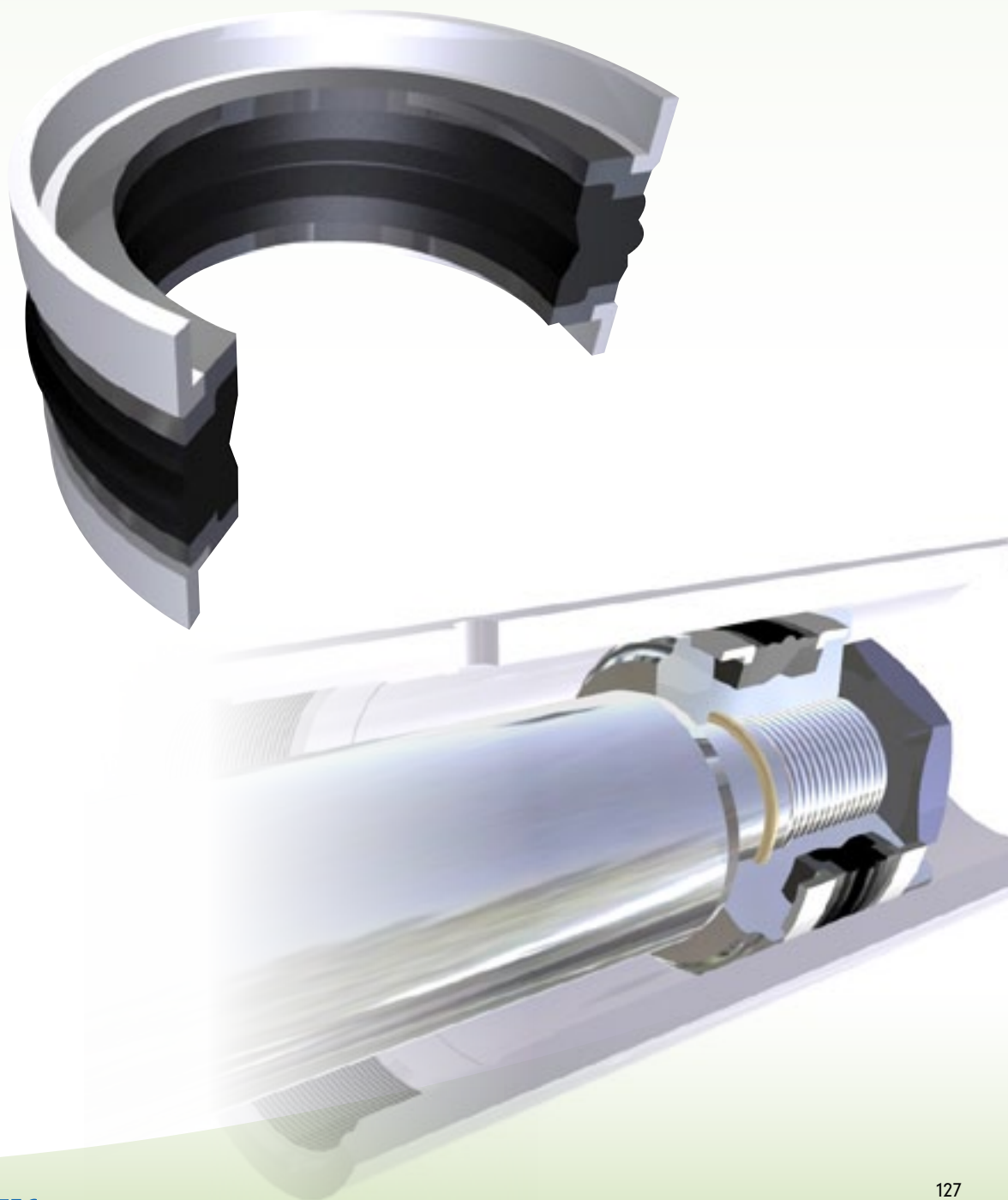


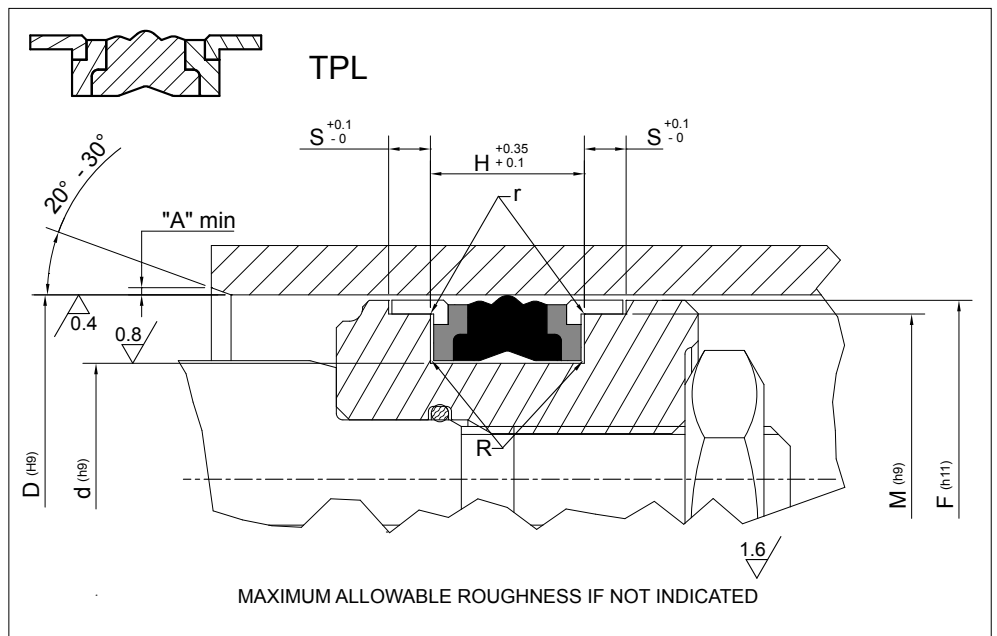
GUARNITEC

Guarnizioni per PISTONE
PISTON seals

TPL

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Piston Seal design guidelines

R	$d \leq 100\text{mm}$		$d > 100\text{mm}$	
	max 0.40 mm		max 0.80 mm	
r	0.2 mm			
A	1 mm	2 mm	3 mm	$3\text{ mm} < A \leq 5\text{ mm}$

PART NR		DIMENSIONI SEDI / Housing dimensions					
		D	d	H	S	M	F
TPL 9301	078043	20,00	11,00	13,50	2,10	17,00	19,00
TPL 9302	086051	22,00	13,00	13,50	2,10	19,00	21,00
TPL 9303	098062	25,00	16,00	13,50	2,10	22,00	24,00
TPL 9304	110075	28,00	19,00	13,50	2,10	25,00	27,00
TPL 9305	118078	30,00	21,00	13,50	2,10	27,00	29,00
TPL 9306	125086	32,00	22,00	15,50	2,60	28,00	31,00
TPL 9307	137098	35,00	25,00	15,50	2,60	31,00	34,00
TPL 9308	141102	36,00	26,00	15,50	2,60	32,00	35,00
TPL 9309	157102	40,00	26,00	15,50	2,60	36,00	39,00
TPL 9310	165110	42,00	28,00	15,50	2,60	38,00	41,00
TPL 9311	177122	45,00	31,00	15,50	2,60	41,00	44,00
TPL 9312	196133	50,00	34,00	20,50	3,10	46,00	49,00
TPL 9313	216153	55,00	39,00	20,50	3,10	51,00	54,00
TPL 9314	220157	56,00	40,00	20,50	3,10	52,00	55,00
TPL 9315	236173	60,00	44,00	20,50	3,10	56,00	59,00
TPL 9316	244188	63,00	47,00	20,50	3,10	59,00	62,00
TPL 9316/1	255192	65,00	49,00	20,50	3,10	61,00	64,00
TPL 9317	275212	70,00	54,00	20,50	3,10	66,00	69,00
TPL 9317/1	295169	75,00	59,00	20,50	3,10	71,00	74,00
TPL 9318	314244	80,00	62,00	22,50	3,60	76,00	79,00
TPL 9319	354283	90,00	72,00	22,50	3,60	86,00	89,00
TPL 9320	393322	100,00	82,00	22,50	3,60	96,00	99,00
TPL 9321	433362	110,00	92,00	22,50	3,60	106,00	109,00
TPL 9322	452381	115,00	97,00	22,50	3,60	111,00	114,00
TPL 9323	492405	125,00	103,00	26,50	5,10	121,00	124,00
TPL 9324	551464	140,00	118,00	26,50	5,10	136,00	139,00
TPL 9325	590504	150,00	128,00	26,50	5,10	146,00	149,00



TPS/T

Guarnizioni per PISTONE
PISTON seals

TECNOTEX

Versione standard		Standard version	
Elemento di tenuta	NBR	Sealing Ring	NBR
Anelli di Supporto	TPE	Support Ring	TPE
Anelli di Guida	POM	Guide Ring	POM
Versioni Alternative		Alternative Versions	
Elemento di tenuta	NBR FKM	Sealing Ring	NBR FKM
Elemento di tenuta	NBR basse temp.	Sealing Ring	Low temp. NBR
Pressione fino a / Pressure up to		Velocità fino a / Speed up to	
40 MPa		0.8 m/s	
Temperatura / Temperature			
-30°C +110°C		-20°C +200°C FKM	
-50°C +110°C TDS 108			
Applicazioni		Applications	
Cilindri per Miniera Presse Siderurgia		Mining Cylinders Presses Steel Mills	



TPS/G

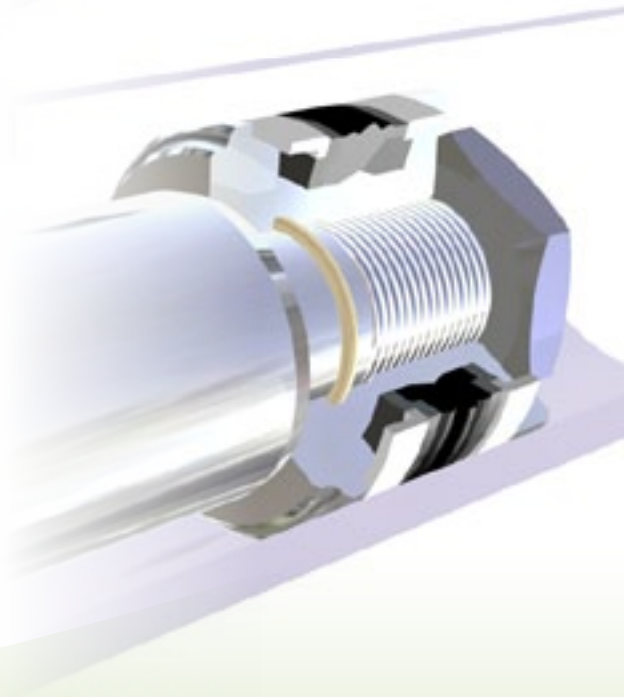
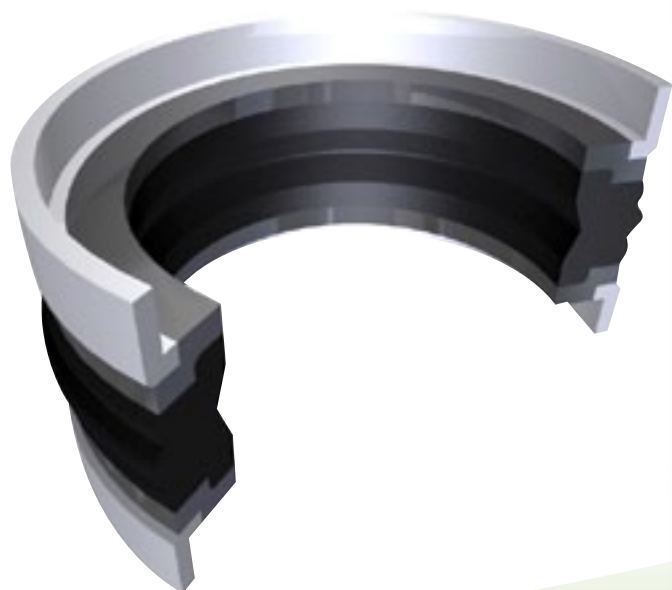
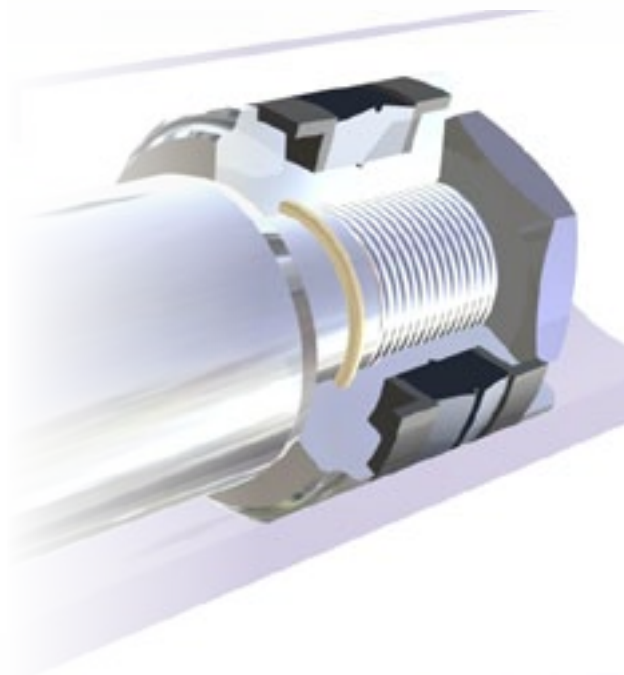
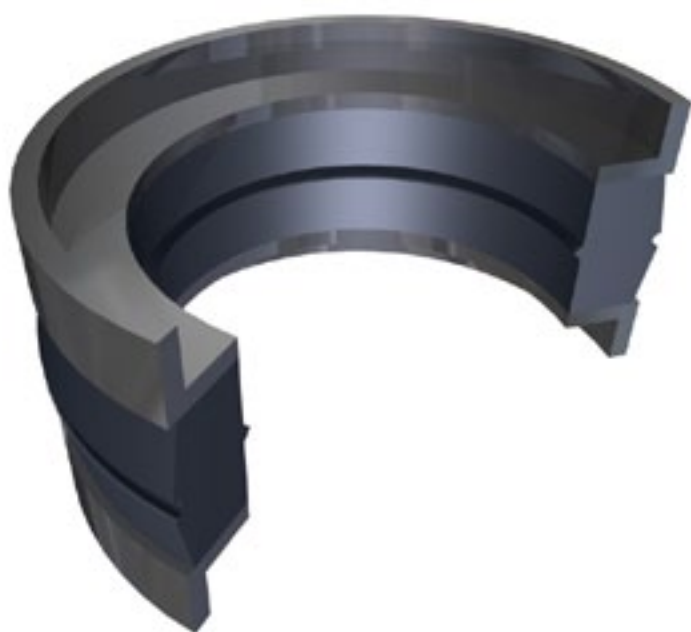
Guarnizioni per PISTONE
PISTON seals

TECNOTEX

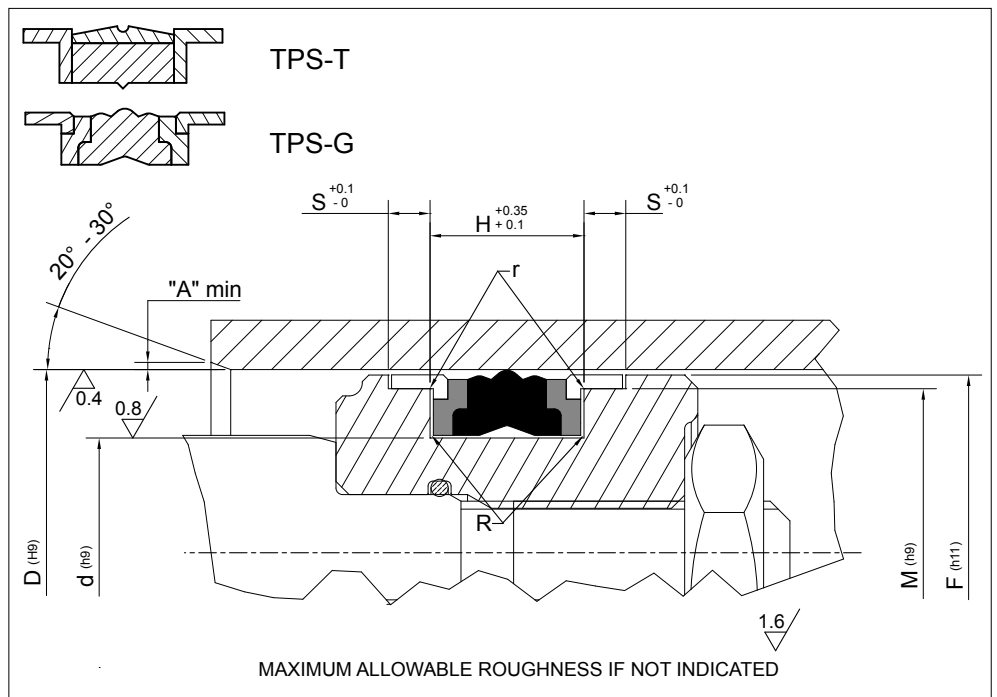
Versione standard		Standard version	
Elemento di tenuta	NBR	Sealing Ring	NBR
Anelli di Supporto	TPE	Support Ring	TPE
Anelli di Guida	POM	Guide Ring	POM
Versioni Alternative		Alternative Versions	
Elemento di tenuta	NBR FKM	Sealing Ring	NBR FKM
Elemento di tenuta	NBR basse temp.	Sealing Ring	Low temp. NBR
Pressione fino a / Pressure up to		Velocità fino a / Speed up to	
35 MPa		0.5 m/s	
Temperatura / Temperature			
-30°C +110°C		-20°C +200°C FKM	
-50°C +110°C TDS 108			
Applicazioni		Applications	
Cilindri Idraulici Cilindri per Gru Cilindri per Agricoltura Carrelli Elevatori		Hydraulic Cylinders Truck crane Cylinders Agricultural Cylinders Fork Lifts	

TPS/T • TPS/G

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TPS/T TPS/G



Piston Seal design guidelines

R	$d \leq 100\text{mm}$		$d > 100\text{mm}$	
	max 0.40 mm		max 0.80 mm	
r	0.2 mm			
A	1 mm	2 mm	3 mm	3 mm < A ≤ 5 mm

PART NR		DIMENSIONI SEDI / Housing dimensions					
		D	d	H	S	M	F
TPS 9501	098066	25,00	17,00	13,50	3,20	21,00	24,40
TPS 9501/1	098055	25,00	14,00	13,50	3,20	21,00	24,40
TPS 9502	118086	30,00	22,00	13,50	3,20	26,00	29,40
TPS 9502/1	118075	30,00	19,00	13,50	3,20	26,00	29,40
TPS 9503	125094	32,00	24,00	15,50	3,20	28,00	31,40
TPS 9503/1	125083	32,00	21,00	15,50	3,20	28,00	31,40
TPS 9504	137106	35,00	27,00	15,50	3,20	31,00	34,40
TPS 9504/1	137094	35,00	24,00	15,50	3,20	31,00	34,40
TPS 9505	157125	40,00	32,00	15,50	3,20	36,00	39,40
TPS 9505/1	157114	40,00	29,00	15,50	3,20	36,00	39,40
TPS 9506	177145	45,00	37,00	15,50	3,20	41,00	44,40
TPS 9507	196149	50,00	38,00	20,50	4,20	46,00	49,40
TPS 9507/1	216175	55,00	43,00	20,50	4,20	51,00	54,90
TPS 9508	236188	60,00	48,00	20,50	4,20	56,00	59,40
TPS 9509	248200	63,00	51,00	20,50	4,20	59,00	62,40
TPS 9509/1	255208	65,00	53,00	20,50	4,20	61,00	64,40
TPS 9510	275228	70,00	58,00	20,50	4,20	66,00	69,40
TPS 9510/1	295248	75,00	63,00	20,50	4,20	71,00	74,40
TPS 9511	314259	80,00	66,00	22,50	5,20	76,00	79,40
TPS 9511/1	334279	85,00	71,00	22,50	5,20	81,00	84,40
TPS 9512	354299	90,00	76,00	22,50	5,20	86,00	89,40
TPS 9513	393338	100,00	86,00	22,50	5,20	96,00	99,40
TPS 9514	433377	110,00	96,00	22,50	5,20	106,00	109,40
TPS 9515	472417	120,00	106,00	22,50	5,20	116,00	119,40
TPS 9516	492425	125,00	108,00	26,50	7,20	121,00	124,40
TPS 9516/1	511445	130,00	113,00	26,50	7,20	126,00	129,40
TPS 9516/2	531464	135,00	118,00	26,50	7,20	131,00	134,40

TDE

Guarnizioni per PISTONE
PISTON seals

TECNOTEX



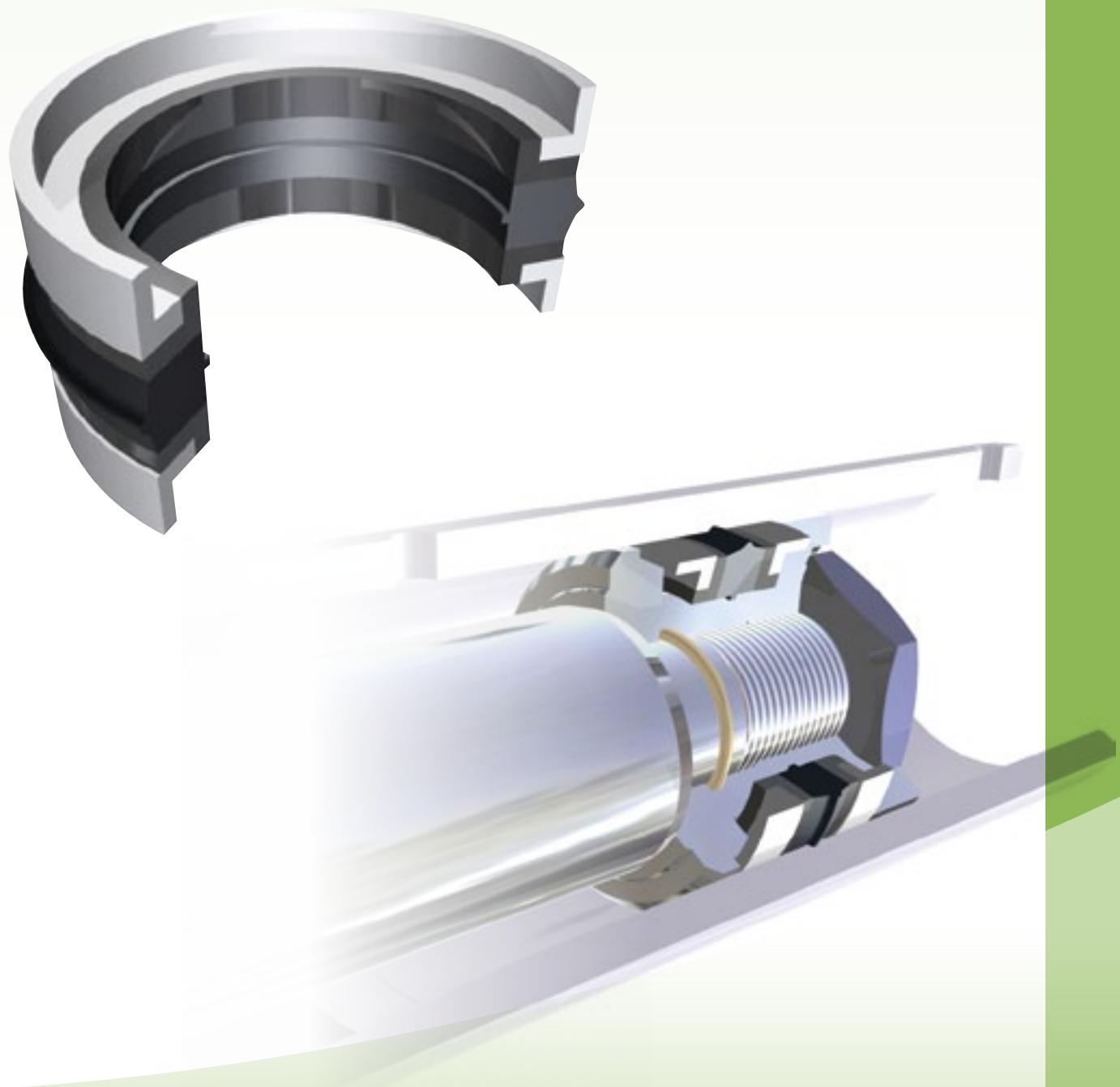
Versione standard		Standard version	
Elemento di tenuta Anelli di Guida	Gommatela POM	Sealing Ring Guide Ring	NBR+Cotton Fabric POM
Versioni Alternative		Alternative Versions	
Elemento di tenuta Anelli di Guida	Gommatela FKM POM	Sealing Ring Guide ring	NBR+Cotton Fabric FKM POM
Pressione fino a / Pressure up to			
50 MPa			
Velocità fino a / Speed up to			
0.5 m/s			
Temperatura / Temperature			
-30°C +110°C		-20°C +200°C FKM	
Applicazioni		Applications	
Cilindri per Miniera Presse Siderurgia Cilindri per applicazioni Pesanti		Mining Cylinders Presses Steel Mills Heavy duty applications	

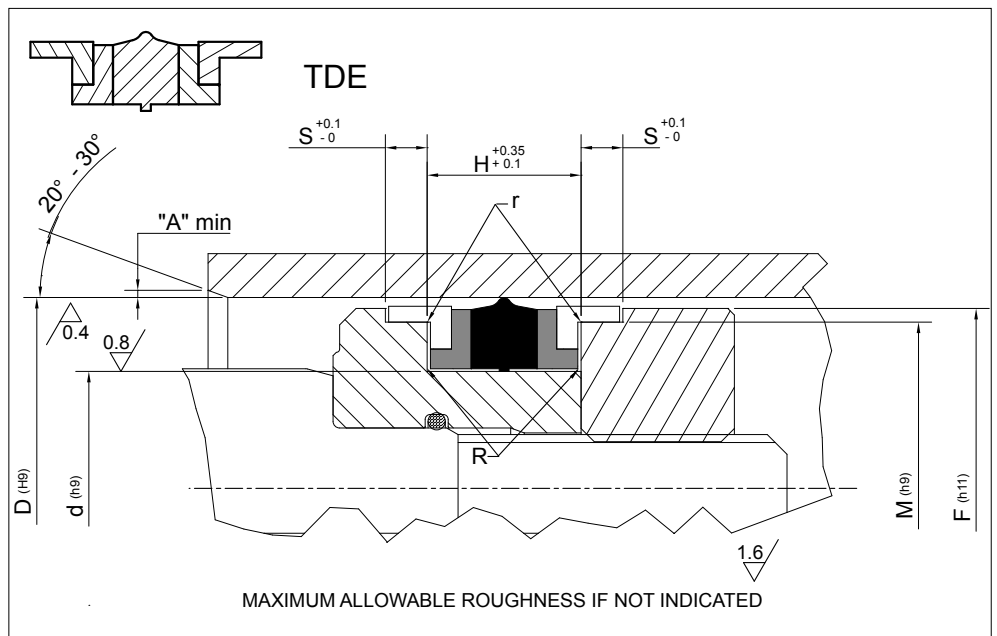


Guarnizioni per PISTONE
PISTON seals

TDE

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Piston Seal design guidelines

R	$d \leq 100\text{mm}$		$d > 100\text{mm}$	
	max 0.40 mm		max 0.80 mm	
r	0,2 mm			
A	1 mm	2 mm	3 mm	$3\text{ mm} < A \leq 5\text{ mm}$

PART NR		DIMENSIONI SEDI / Housing dimensions					
		D	d	H	S	M	F
TDE 1000	098047	25,00	12,00	12,40	6,35	21,45	24,00
TDE 1001	118066	30,00	17,00	15,40	6,35	26,50	29,00
TDE 1002	137086	35,00	22,00	15,40	6,35	31,40	33,70
TDE 1003	157094	40,00	24,00	18,40	6,35	35,40	38,70
TDE 1004	177114	45,00	29,00	18,40	6,35	40,40	43,70
TDE 1004/1	196118	50,00	30,00	25,40	6,35	44,30	48,30
TDE 1005	196133	50,00	34,00	18,40	6,35	45,40	48,70
TDE 1006	216153	55,00	39,00	18,40	6,35	50,40	53,70
TDE 1007	236173/1	60,00	44,00	18,50	6,35	55,40	58,70
TDE 1007/1	236173/2	60,00	44,00	20,00	6,35	55,40	58,70
TDE 1008	248185	63,00	47,00	19,40	6,35	58,40	61,65
TDE 1009	255196	65,00	50,00	18,40	6,35	60,40	63,70
TDE 1010	275196	70,00	50,00	22,40	6,35	64,20	68,30
TDE 1011	295216	75,00	55,00	22,40	6,35	69,20	73,30
TDE 1012	295220	75,00	56,00	24,40	6,35	69,20	73,30
TDE 1012/1	300225	76,20	57,15	22,40	6,35	70,50	74,50
TDE 1013	314236	80,00	60,00	22,40	6,35	74,20	78,30
TDE 1014	326248	83,00	63,00	22,40	6,35	76,16	81,30
TDE 1015	334255	85,00	65,00	22,40	6,35	79,20	83,35
TDE 1016	354275	90,00	70,00	22,40	6,35	84,15	88,30
TDE 1016/1	354275/1	90,00	70,00	25,40	6,35	84,15	88,30
TDE 1017	374295	95,00	75,00	22,40	6,35	89,15	93,30
TDE 1018	393295	100,00	75,00	22,40	6,35	93,15	98,05
TDE 1019	393314	100,00	80,00	25,40	6,35	94,15	98,31
TDE 1019/1	400325	101,60	82,55	24,21	6,35	95,78	99,90
TDE 1020	413314	105,00	80,00	22,40	6,35	98,10	103,00
TDE 1021	433334/1	110,00	85,00	22,40	6,35	103,10	108,00



GT/3

Guarnizioni per PISTONE
PISTON seals

TECNOTEX



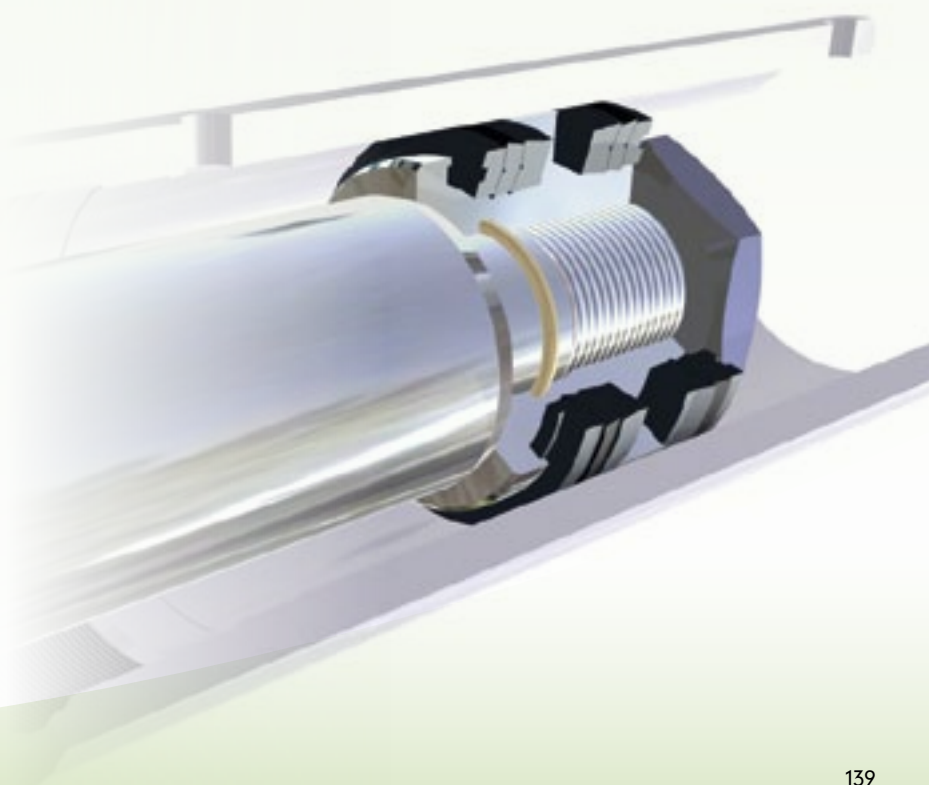
Versione standard	Standard version
Base TPE V-Ring NBR + V-Ring Gommata Anello di testa POM	Base Ring TPE V-Ring NBR + V-Ring NBR/Cotton Fabric Header Ring POM
Versioni Alternative	Alternative Versions
GT FKM GT Tutta Tela	GT FKM All Cotton Fabric GT
Pressione fino a / Pressure up to	
40 MPa	
Velocità fino a / Speed up to	
0.5 m/s	
Temperatura / Temperature	
-30°C +110°C	-20°C +200°C FKM
Applicazioni	Applications
Presse Siderurgia Escavatori Macchine ad iniezione	Presses Steel Mills Excavators Injection moulding machines

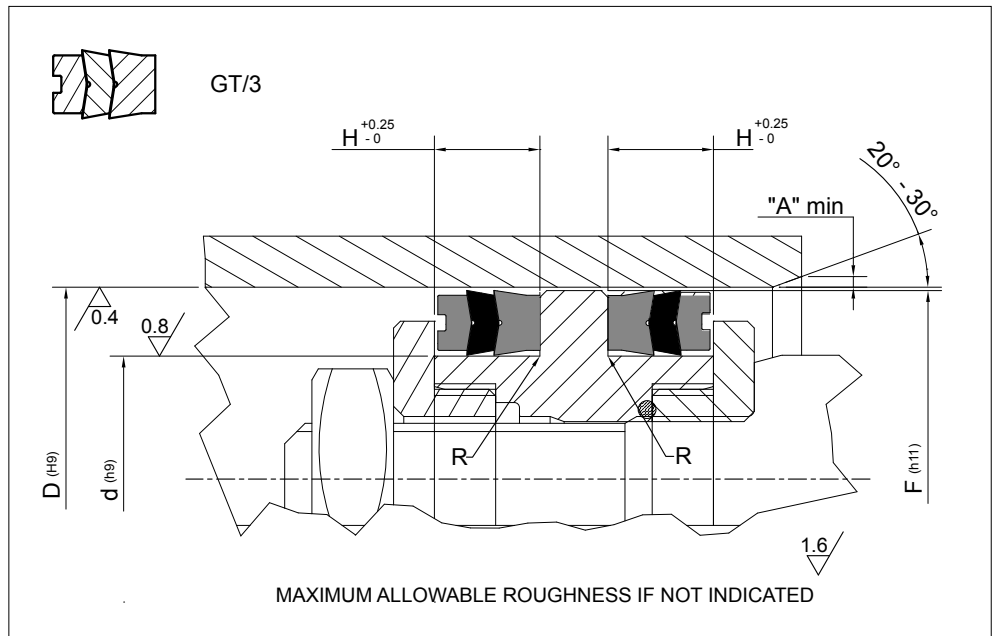


Guarnizioni per PISTONE
PISTON seals

GT/3

138÷141





Piston Seal design guidelines

R	d ≤ 100mm		d > 100mm	
	max 0.40 mm		max 0.80 mm	
A	1 mm	2 mm	3 mm	3 mm < A ≤ 5 mm

PART NR		DIMENSIONI SEDI / Housing dimensions			
		D	d	H	F
GT3-20	078039	20,00	10,00	9,30	19,50
GT3-22	086047	22,00	12,00	9,30	21,50
GT3-25	098059	25,00	15,00	9,30	24,50
GT3-28	110070	28,00	18,00	9,30	27,50
GT3-30	118078	30,00	20,00	9,30	29,50
GT3-32	125078	32,00	20,00	10,90	31,00
GT3-35	137090	35,00	23,00	10,90	34,00
GT3-36	141094	36,00	24,00	10,90	35,00
GT3-40	157098	40,00	25,00	11,50	39,00
GT3-42	165106	42,00	27,00	11,50	41,00
GT3-45	177118	45,00	30,00	11,50	44,00
GT3-50	196137	50,00	35,00	11,50	49,00
GT3-55	216157	55,00	40,00	11,50	54,00
GT3-56	220161	56,00	41,00	11,50	55,00
GT3-60	236177	60,00	45,00	11,50	59,00
GT3-63	248188	63,00	48,00	13,00	62,00
GT3-70	275196	70,00	50,00	15,20	69,00
GT3-80	314236	80,00	60,00	15,20	79,00
GT3-90	354275	90,00	70,00	21,20	89,00
GT3-100	393314	100,00	80,00	21,20	99,00
GT3-110	433354	110,00	90,00	21,20	109,00
GT3-115	452374	115,00	95,00	21,20	114,00
GT3-125	492393	125,00	100,00	25,80	124,00
GT3-140	551452	140,00	115,00	25,80	139,00
GT3-150	590472	150,00	120,00	29,00	148,50
GT3-155	610492	155,00	125,00	34,00	153,50
GT3-160	629511	160,00	130,00	29,00	158,50



PDE

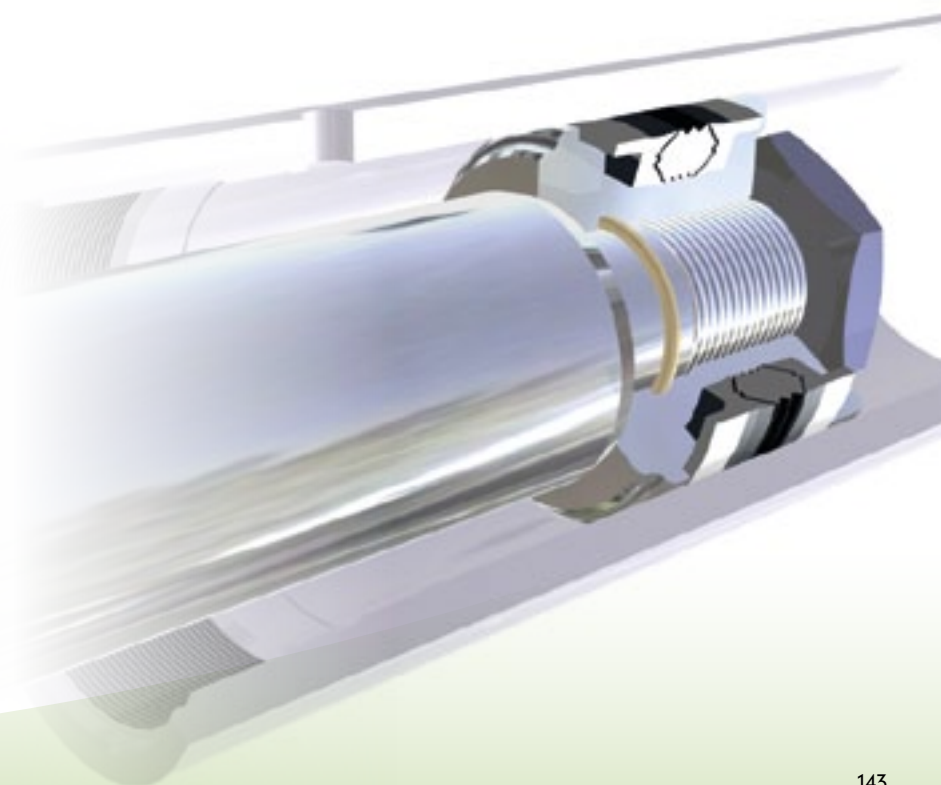
Guarnizioni per PISTONE
PISTON seals

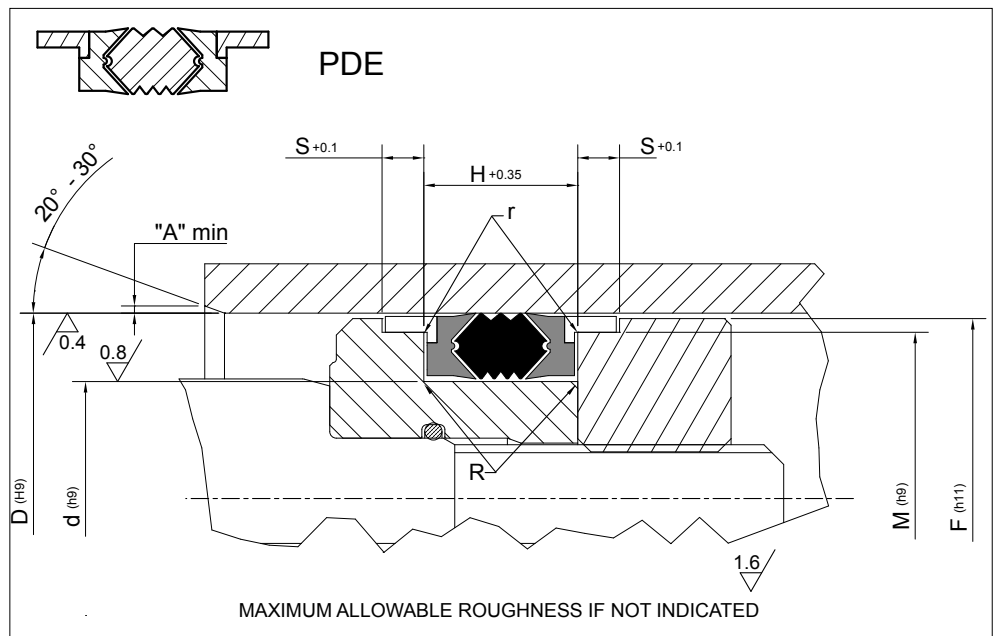
TECNOTEX

Versione standard		Standard version	
Elemento di tenuta	NBR	Sealing Ring	NBR
Base	TPE	Support Ring	TPE
Anelli di Guida	POM	Guide Ring	POM
Versioni Alternative		Alternative Versions	
Base	Gommatela	Support Ring	NBR/Cotton Fabric
Base	Gommatela FKM	Support Ring	NBR/Cotton Fabric FKM
Elemento di Tenuta	NBR FKM	Sealing Ring	NBR FKM
Elemento di Tenuta	NBR Basse Temp.	Sealing Ring	NBR Low Temp.
Disponibile tagliato per pistone monoblocco		Available split for one piece pistons	
Pressione fino a / Pressure up to			
70 MPa			
Velocità fino a / Speed up to			
0.5 m/s			
Temperatura / Temperature			
-30°C +110°C		-20°C +200°C FKM	-50°C +110°C TDS 108
Applicazioni		Applications	
Escavatori		Excavators	
Siderurgia		Steel Mills	
Cilindri per Miniera		Mining Cyinders	
Cilindri per piattaforme aeree		Hydraulic Lift platforms	
Presse		Presses	

PDE

14÷23





Piston Seal design guidelines

R	d ≤ 100mm		d > 100mm	
	max 0.40 mm		max 0.80 mm	
A	1 mm	2 mm	3 mm	3 mm < A ≤ 5 mm

PART NR		DIMENSIONI SEDI / Housing dimensions					
		D	d	H	S	M	F
PDE 801	177114/1	45,00	29,00	32,00	6,35	38,80	42,85
PDE 802	196133/1	50,00	34,00	32,00	6,35	43,77	47,85
PDE 803	216157/1	55,00	40,00	32,00	6,35	48,77	52,85
PDE 804	236173/1	60,00	44,00	32,00	6,35	53,80	57,80
PDE 805	248185/1	63,00	47,00	32,00	6,35	56,74	60,81
PDE 806	255192/1	65,00	49,00	32,00	6,35	58,70	62,80
PDE 807	275196/1	70,00	50,00	35,00	9,52	62,62	67,54
PDE 808	295216/1	75,00	55,00	35,00	9,52	67,70	72,54
PDE 809	314236/1	80,00	60,00	35,00	9,52	72,62	77,52
PDE 810	314251/1	80,00	64,00	32,00	9,52	72,62	77,52
PDE 811	334255/1	85,00	65,00	35,00	9,52	77,62	82,54
PDE 812	354275/1	90,00	70,00	35,00	9,52	82,58	87,79
PDE 813	354291/1	90,00	74,00	32,00	9,52	82,87	87,79
PDE 814	374295/1	95,00	75,00	35,00	9,52	87,60	92,50
PDE 815	393314/1	100,00	80,00	35,00	9,52	92,60	97,50
PDE 816	433334/1	110,00	85,00	45,00	12,70	101,82	107,33
PDE 817	433354/1	110,00	90,00	35,00	9,52	102,70	107,51
PDE 818	452354/1	115,00	90,00	45,00	12,70	106,82	112,33
PDE 819	472374/1	120,00	95,00	45,00	12,70	111,82	117,33
PDE 820	472393/1	120,00	100,00	35,00	9,52	112,80	117,51
PDE 821	492393/1	125,00	100,00	45,00	12,70	116,82	122,33
PDE 822	511413/1	130,00	105,00	45,00	12,70	121,82	127,33
PDE 822/1	511433/1	130,00	110,00	35,00	9,52	122,70	127,33
PDE 823	531433/1	135,00	110,00	45,00	12,70	126,82	132,33
PDE 824	551452/1	140,00	115,00	45,00	12,70	131,72	137,30
PDE 825	551472/1	140,00	120,00	35,00	9,52	132,70	137,30
PDE 826	570472/1	145,00	120,00	45,00	12,70	136,72	142,30



PDP

Guarnizioni per PISTONE
PISTON seals

TECNOLAN

Versione standard		Standard version	
Elemento di tenuta	NBR	Sealing Ring	NBR
Anello esterno	Poliuretano	Outer Sealing Ring	Polyurethane
Rondelle	POM	Back up Rings	POM
Versioni Alternative		Alternative Versions	
Elemento di tenuta	NBR basse temp.	Sealing Ring	NBR low temp.
Pressione fino a / Pressure up to			
40 MPa			
Velocità fino a / Speed up to			
0.5 m/s			
Temperatura / Temperature			
-30°C +110°C		-50°C +110°C TDS 108	
Applicazioni		Applications	
Escavatori		Excavators	
Idraulica Mobile		Mobile Hydraulics	
Cilindri per applicazioni medie		Medium duty hydraulic cylinders	



PDH

Guarnizioni per PISTONE
PISTON seals

TECNOTEX

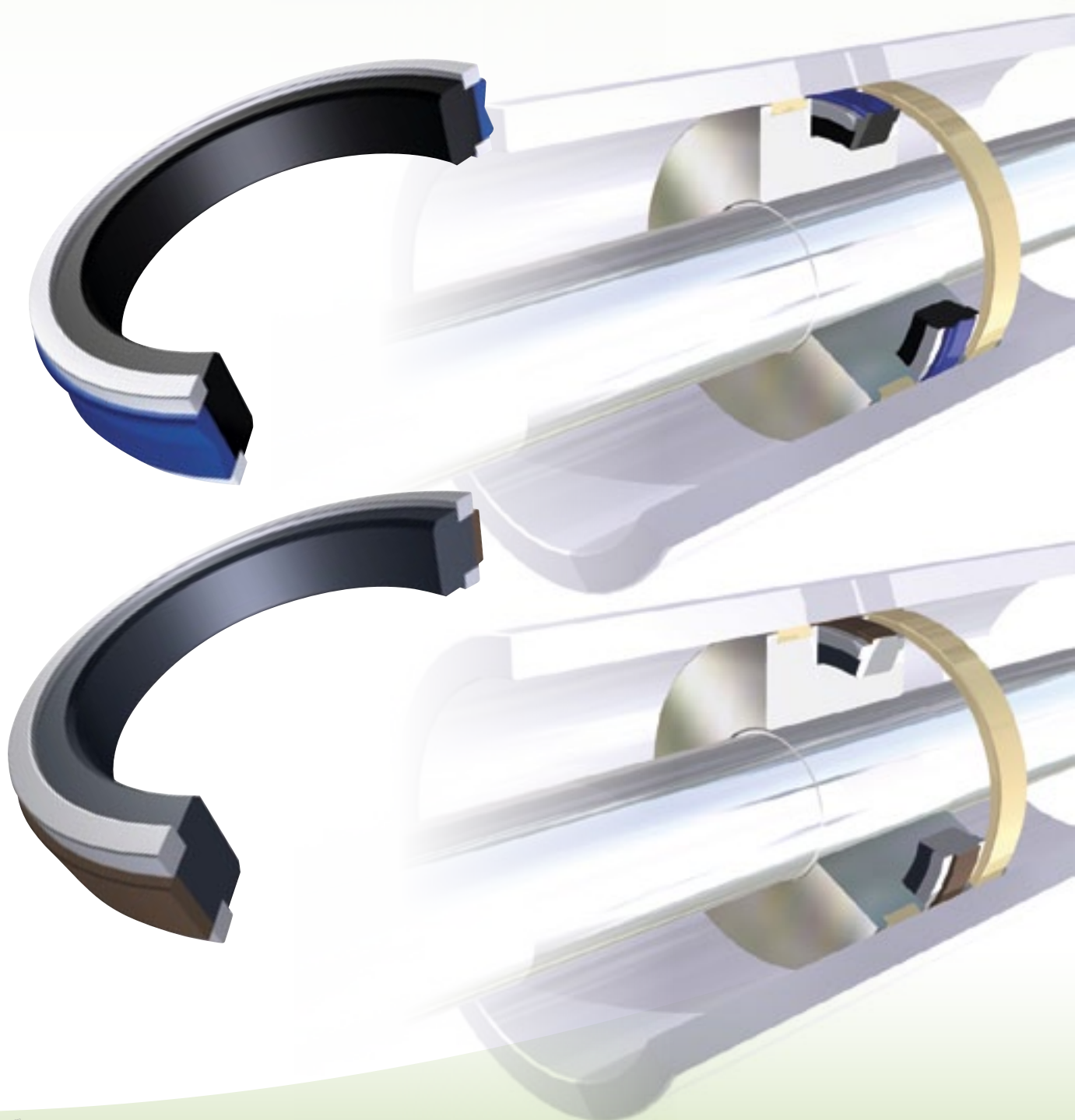
Versione standard		Standard version	
Elemento di tenuta	NBR	Sealing Ring	NBR
Anello esterno	PTFE caricato	Outer Sealing Ring	PTFE
Rondelle	POM	Back up Rings	POM
Versioni Alternative		Alternative Versions	
Elemento di tenuta	NBR basse temp.	Sealing Ring	NBR low temp.
Elemento di tenuta	NBR FKM	Sealing Ring	NBR FKM
Rondelle	PTFE	Back up Rings	PTFE
Pressione fino a / Pressure up to			
60 MPa			
Velocità fino a / Speed up to			
1.5 m/s			
Temperatura / Temperature			
-30°C +110°C	-20°C +200°C FKM	-50°C +110°C TDS 108	
Applicazioni		Applications	
Idraulica Mobile		Mobile Hydraulics	
Excavators		Excavators	
Cilindri per applicazioni gravose		Heavy duty hydraulic applications	

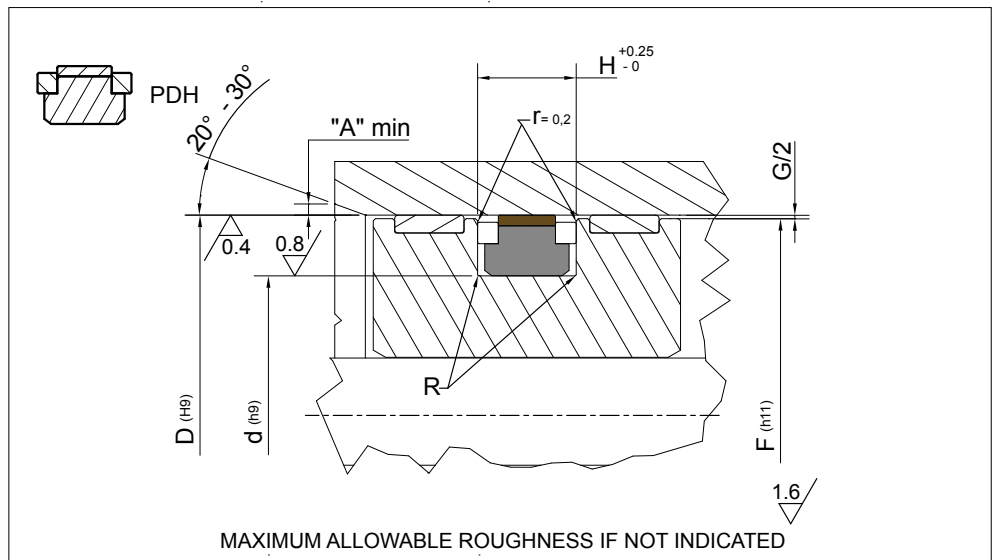
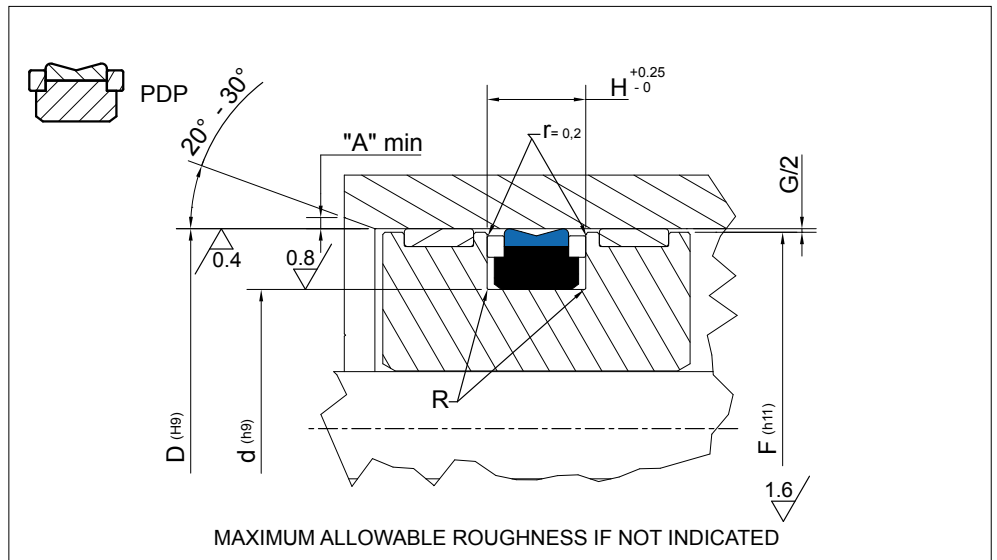


Guarnizioni per PISTONE
PISTON seals

PDP • PDH

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Piston Seal design guidelines

R	d ≤ 100mm max 0.30 mm		d > 100mm max 0.60 mm	
	A	1 mm	2 mm	3 mm
G	Pressure up to 35 MPa 1.00		Pressure from 35 MPa up to 60 MPa peak 0.60	

PART NR		DIMENSIONI SEDI / Housing dimensions				
		D	d	H	S	F
PDP/PDH	101	40,00	30,00	8,00	5,00	39,30
PDP/PDH	102	50,00	36,00	9,00	5,00	49,30
PDP/PDH	103	50,00	40,00	8,00	5,00	49,30
PDP/PDH	104	55,00	41,00	9,00	5,00	54,30
PDP/PDH	105	60,00	46,00	9,00	5,00	59,30
PDP/PDH	106	60,00	50,00	8,00	5,00	59,30
PDP/PDH	107	63,00	48,00	11,00	5,00	62,30
PDP/PDH	108	63,00	53,00	8,00	5,00	62,30
PDP/PDH	109	65,00	50,00	11,00	5,00	64,30
PDP/PDH	110	70,00	55,00	11,00	5,00	69,30
PDP/PDH	111	70,00	60,00	8,00	5,00	69,30
PDP/PDH	112	75,00	60,00	11,00	5,00	74,30
PDP/PDH	113	80,00	65,00	11,00	5,00	79,00
PDP/PDH	114	80,00	65,00	12,50	5,00	79,00
PDP/PDH	115	85,00	70,00	11,00	5,00	84,00



TGU

Guarnizioni per PISTONE
PISTON seals

TECNOTEX

Versione standard		Standard version	
Elemento di tenuta	Gommatela	Sealing Ring	NBR/Cotton Fabric
Anello di pressione	NBR	Pressure Ring	NBR
Anello Antiestrusione	POM	Back up Ring	POM

Pressione fino a / Pressure up to

70 MPa

Velocità fino a / Speed up to

0.5 m/s

Temperatura / Temperature

-30°C +110°C

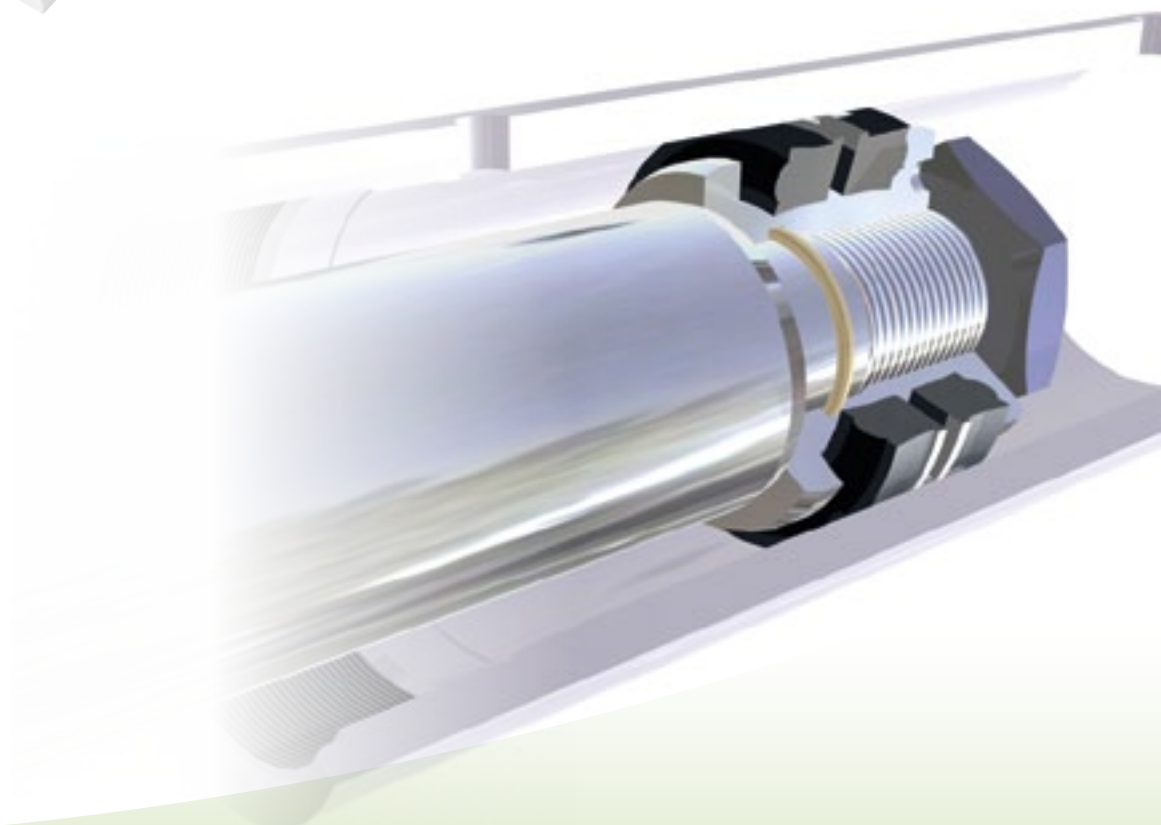
Applicazioni	Applications
Cilindri Idraulici	Hydraulic Cylinders
Presse	Presses
Cilindri per applicazioni medie e leggere	Light and medium applications

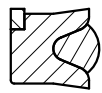


Guarnizioni per PISTONE
PISTON seals

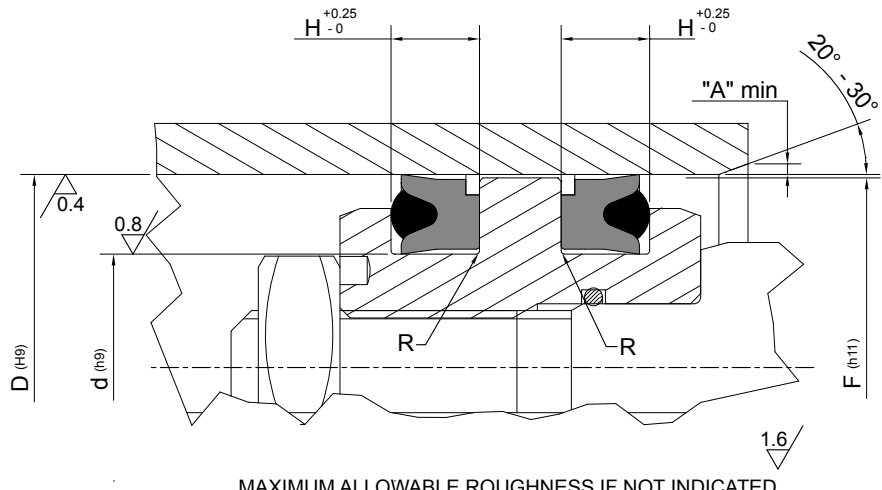
TGU

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TGU



MAXIMUM ALLOWABLE ROUGHNESS IF NOT INDICATED



Piston Seal design guidelines

R	d ≤ 100mm		d > 100mm	
	max 0.40 mm		max 0.80 mm	
A	1 mm	2 mm	3 mm	3 mm < A ≤ 5 mm

PART NR		DIMENSIONI SEDI / Housing dimensions			
		D	d	H	F
TGU 4000	094047	24,00	12,00	7,80	22,50
TGU 4000/1	110062	28,00	16,00	7,80	26,50
TGU 4000/2	118070	30,00	18,00	7,80	28,50
TGU 4001	157098	40,00	25,00	10,00	38,50
TGU 4001/1	177118	45,00	30,00	10,00	43,50
TGU 4002	196137	50,00	35,00	10,00	48,50
TGU 4002/2	200141	51,00	36,00	9,50	49,50
TGU 4002/1	216137	55,00	35,00	10,50	53,50
TGU 4003	216157	55,00	40,00	12,00	53,50
TGU 4003/1	224165	57,00	42,00	9,50	55,50
TGU 4004	236157	60,00	40,00	12,20	58,50
TGU 4004/1	236177	60,00	45,00	10,00	58,50
TGU 4005	248177	63,00	45,00	14,40	61,50
TGU 4006	244188	63,00	48,00	10,00	61,50
TGU 4007	255177	65,00	45,00	14,40	63,50
TGU 4007/1	275196/1	70,00	50,00	12,50	68,50
TGU 4008	275196	70,00	50,00	14,40	68,50
TGU 4009	295216	75,00	55,00	14,40	73,50
TGU 4009/1	299220	76,00	56,00	12,50	74,50
TGU 4010	314236	80,00	60,00	14,60	78,50
TGU 4010/1	314236/1	80,00	60,00	12,50	78,50
TGU 4011	334255	85,00	65,00	14,60	83,50
TGU 4012	354275	90,00	70,00	14,60	88,50
TGU 4013	374295	95,00	75,00	14,60	93,50
TGU 4013/1	393314/1	100,00	80,00	12,50	98,50
TGU 4014	393314	100,00	80,00	14,60	98,50
TGU 4015	413334	105,00	85,00	14,60	103,50



TTD

Guarnizioni per PISTONE
PISTON seals

TECNOLAN

Versione standard		Standard version	
Elemento di tenuta Anelli di guida	Polyurethane POM	Sealing Ring Guide Rings	Polyurethane POM
Pressione fino a / Pressure up to			
20 MPa			
Velocità fino a / Speed up to			
0.5 m/s			
Temperatura / Temperature			
-35°C +100°C			
Applicazioni		Applications	
Cilindri Idraulici Cilindri per macchine agricole		Hydraulic Cylinders Agricultural Cylinders	

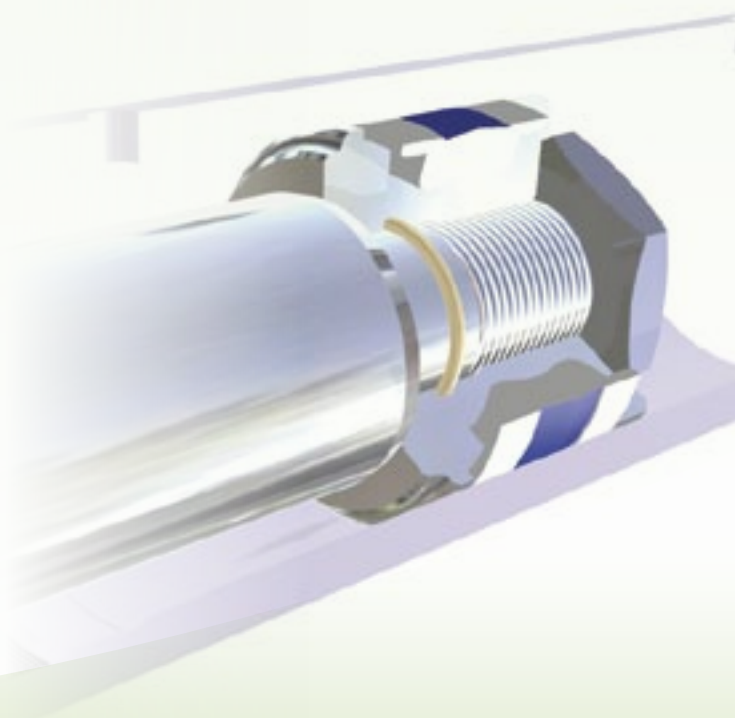
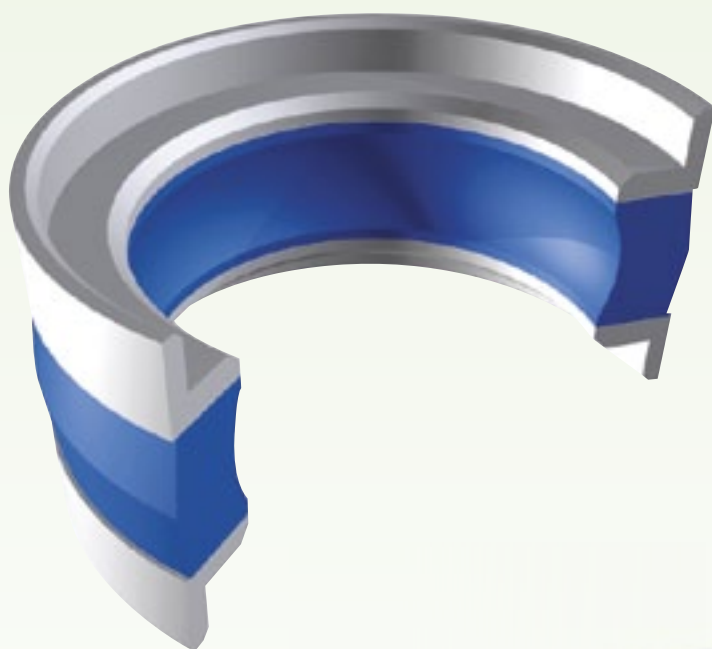


GUARNITEC

Guarnizioni per PISTONE
PISTON seals

TTD

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GUARNITEC



TTW

Guarnizioni per PISTONE
PISTON seals

TECNOLAN

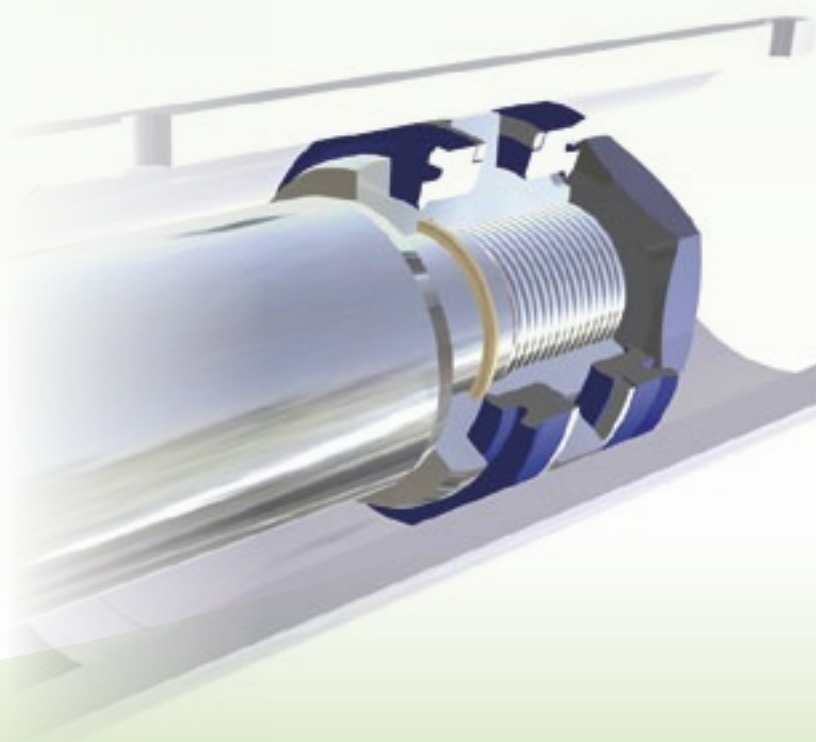
Versione standard		Standard version	
Elemento di tenuta Anelli di guida	Polyurethane POM	Sealing Ring Guide Rings	Polyurethane POM
Pressione fino a / Pressure up to			
40 MPa			
Velocità fino a / Speed up to			
0.5 m/s			
Temperatura / Temperature			
-35°C +100°C			
Applicazioni		Applications	
Cilindri Idraulici Macchine movimento terra		Marine Cylinders Earth moving machinery	

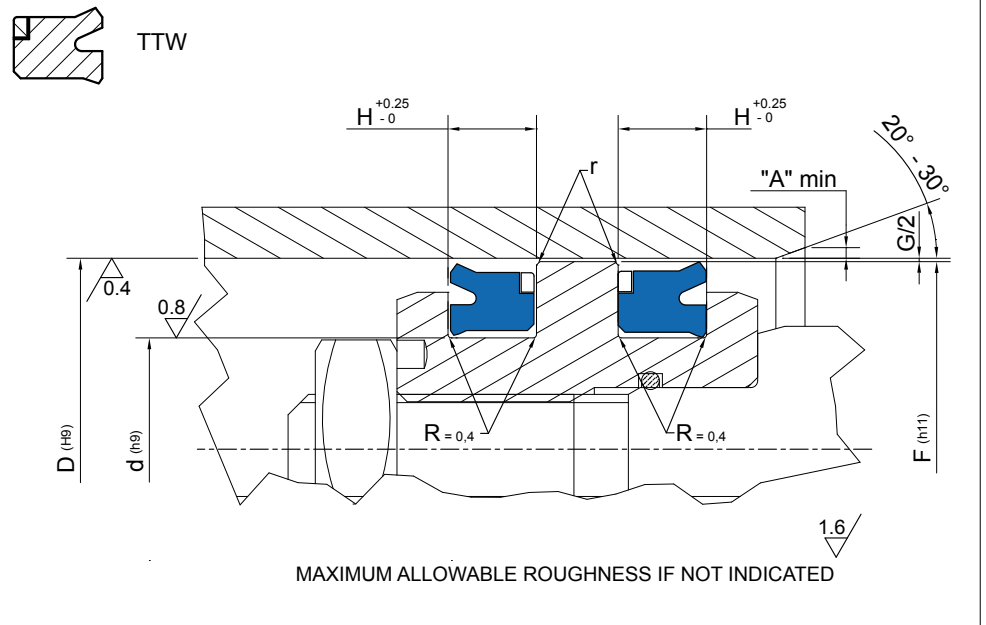


Guarnizioni per PISTONE
PISTON seals

TTW

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Piston Seal design guidelines

	0mm < d ≤ 50mm	50mm < d ≤ 100mm	100mm < d ≤ 150mm	d ≥ 150mm
r	remove sharp edges: r ≤ 0.3mm			
A	1 mm	2 mm	3 mm	3 mm < A ≤ 5 mm

Operating pressure to determinate Maximum Gap Allowance: G/2

G	Profile Dimension	> 16 MPa	> 26 MPa	> 32 MPa	> 40 MPa
	7.5	0.80 mm	0.70 mm	0.50 mm	0.50 mm
> 7.5		1.05 mm	0.90 mm	0.85 mm	0.80 mm

PART NR	DIMENSIONI SEDI / Housing dimensions			
	D	d	H	F
TTW 50	50,00	35,00	9,50	45,00
TTW 60	60,00	45,00	9,50	55,00
TTW 63	63,00	48,00	9,50	58,00
TTW 65	65,00	50,00	9,50	60,00
TTW 70	70,00	50,00	12,50	64,00
TTW 70/1	70,00	50,00	13,00	64,00
TTW 80	80,00	60,00	12,50	74,00
TTW 80/1	80,00	60,00	13,00	74,00
TTW 80/2	80,00	65,00	9,50	75,00
TTW 90	90,00	70,00	12,50	84,00
TTW 90/1	90,00	70,00	13,00	84,00
TTW 100	100,00	80,00	12,50	94,00
TTW 100/1	100,00	80,00	13,00	94,00
TTW 100/2	100,00	85,00	9,50	95,00
TTW 110	110,00	90,00	12,50	104,00
TTW 115	115,00	95,00	13,00	109,00
TTW 120	120,00	105,00	9,50	115,00
TTW 125	125,00	100,00	15,50	117,00
TTW 125/1	125,00	105,00	12,50	119,00
TTW 140	140,00	120,00	12,50	134,00
TTW 150	150,00	130,00	12,50	144,00
TTW 160	160,00	130,00	19,00	150,00
TTW 160/1	160,00	140,00	12,50	154,00
TTW 170	170,00	150,00	12,50	164,00
TTW 180	180,00	160,00	12,50	174,00
TTW 200	200,00	170,00	20,00	190,00
TTW 200/1	200,00	175,00	16,00	193,00



TRU

Guarnizioni per PISTONE
PISTON seals

TECNOTEX

Versione standard	Standard version
Gommatela	NBR/Cotton Fabric
Versioni Alternative	Alternative Versions
Gommatela FKM	NBR/Cotton Fabric FKM
Pressione fino a / Pressure up to	
30 MPa	
Velocità fino a / Speed up to	
0.5 m/s	
Temperatura / Temperature	
-30°C +110°C	-20°C +200°C FKM
Applicazioni	Applications
Cilindri Idraulici Presse Cilindri per applicazioni medie e leggere	Hydraulic Cylinders Presses Light and medium applications

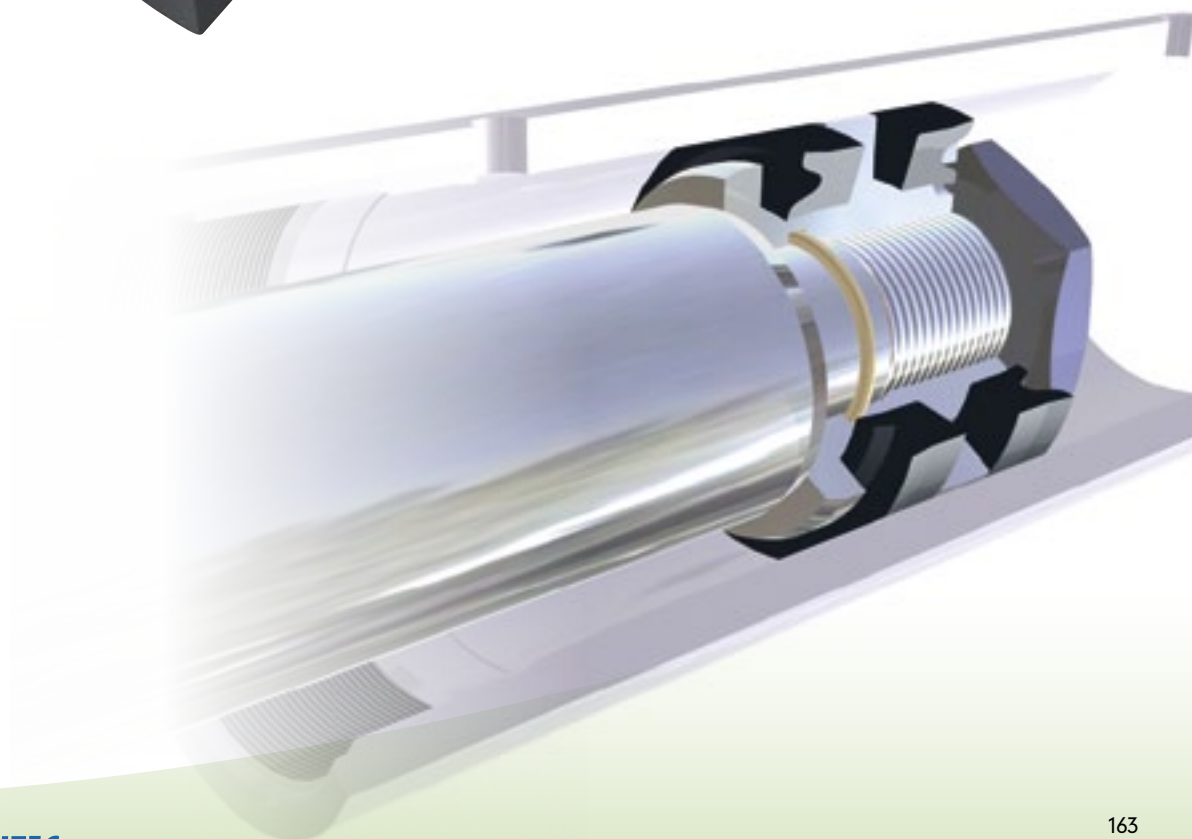


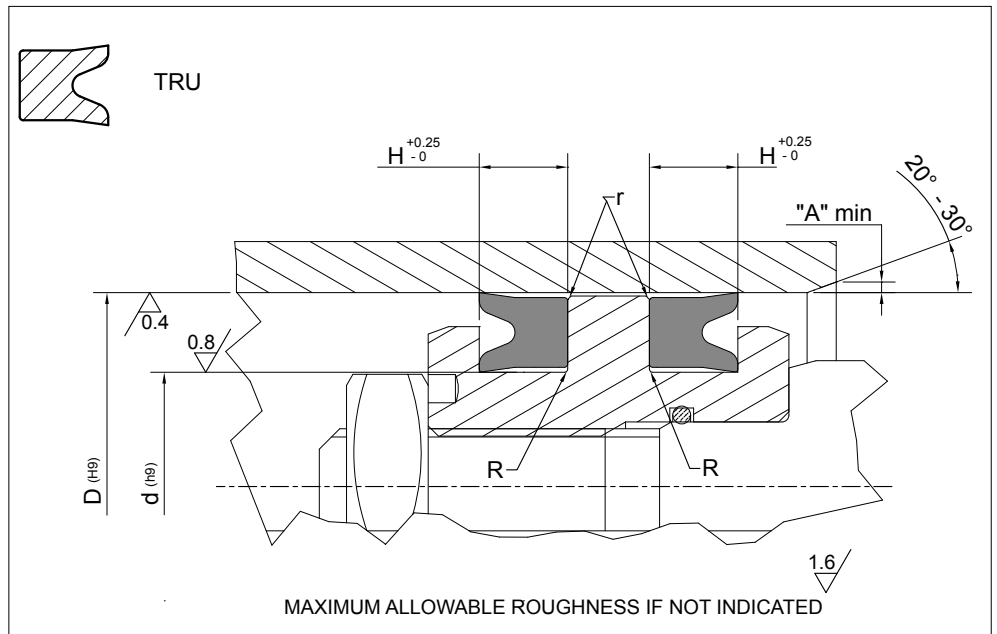
GUARNITEC

Guarnizioni per PISTONE
PISTON seals

TRU

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Piston Seal design guidelines

R	$d \leq 100\text{mm}$	$d > 100\text{mm}$		
		max 0.40 mm	max 0.80 mm	
r	remove sharp edges			
A	1 mm	2 mm	3 mm	$3\text{ mm} < A \leq 5\text{ mm}$

PART NR		DIMENSIONI SEDI / Housing dimensions		
		D	d	H
TRU 3000	081043	20,63	11,11	7,00
TRU 3000/1	110062	28,00	16,00	8,00
TRU 3000/2	157078	40,00	20,00	10,00
TRU 3000/4	165087	42,00	22,00	10,00
TRU 3000/3	177118	45,00	30,00	13,00
TRU 3000/5	181118	46,04	30,16	10,50
TRU 3001	196118	50,00	30,00	12,50
TRU 3002	196137	50,00	35,00	10,00
TRU 3002/1	216157	55,00	40,00	10,00
TRU 3003	236157	60,00	40,00	12,50
TRU 3003/1	250187	63,50	47,63	10,50
TRU 3004	255177	65,00	45,00	12,50
TRU 3004/1	255196	65,00	50,00	10,00
TRU 3004/2	262187	66,67	47,63	10,00
TRU 3004/3	275200	69,85	50,80	12,00
TRU 3005	275196	70,00	50,00	12,50
TRU 3006	275216	70,00	55,00	10,00
TRU 3007	295216	75,00	55,00	12,50
TRU 3007/1	300237	76,20	60,20	10,00
TRU 3007/2	312237	79,38	60,33	12,00
TRU 3008	314236/A	80,00	60,00	12,50
TRU 3009	314236/B	80,00	60,00	12,50
TRU 3009/1	320253	81,26	64,20	11,00
TRU 3010	325250	82,55	63,50	12,00
TRU 3011	334216	85,00	55,00	14,80
TRU 3012	334255/A	85,00	65,00	12,50
TRU 3013	336262	85,33	66,67	12,00

PART NR		DIMENSIONI SEDI / Housing dimensions		
		D	d	H
TRU 3014	354275	90,00	70,00	12,50
TRU 3015	374255	95,00	65,00	14,50
TRU 3016	374295	95,00	75,00	12,50
TRU 3016/1	375300	95,25	76,00	12,00
TRU 3017	393295	100,00	75,00	12,50
TRU 3018	393314	100,00	80,00	12,50
TRU 3019	393314/A	100,00	80,00	12,50
TRU 3019/1	393334	100,00	76,20	10,00
TRU 3019/2	413334	105,00	85,00	12,50
TRU 3020	433314/1A	110,00	80,00	17,50
TRU 3021	433354	110,00	90,00	12,50
TRU 3022	450350	114,30	88,90	15,00
TRU 3023	452374	115,00	95,00	12,50
TRU 3023/1	472374	120,00	95,00	14,50
TRU 3024	472393	120,00	100,00	12,50
TRU 3024/1	475375	120,65	95,25	15,00
TRU 3025	492393	125,00	100,00	14,50
TRU 3026	500400	127,00	101,60	15,00
TRU 3026/1	511393	130,00	100,00	17,50
TRU 3026/2	511433	130,00	110,00	17,50
TRU 3026/3	525425	133,35	107,95	15,00
TRU 3026/4	531433	135,00	110,00	14,50
TRU 3027	551433	140,00	110,00	18,50
TRU 3027/1	551452	140,00	115,00	16,00
TRU 3028	551472	140,00	120,00	12,50
TRU 3028/1	551488	140,00	124,00	10,00
TRU 3028/2	571452	145,00	115,00	19,00
TRU 3029	590472	150,00	120,00	17,50
TRU 3030	600500/1	152,40	127,00	15,50
TRU 3030/1	625525	158,75	133,35	15,00
TRU 3031	629511	160,00	130,00	17,50
TRU 3031/1	669551	170,00	140,00	17,50
TRU 3031/2	700600	177,80	152,40	15,00
TRU 3032	708590	180,00	150,00	17,50
TRU 3033	748629	190,00	160,00	21,50
TRU 3034	787629	200,00	160,00	26,50
TRU 3034/1	800675	203,20	171,45	18,50
TRU 3035	866748	220,00	190,00	22,50
TRU 3036	905787	230,00	200,00	17,50
TRU 3036/1	1067944	271,00	240,00	30,00
TRU 3036/2	13461189	342,00	303,00	20,00
TRU 3037	13771259	350,00	320,00	27,50
TRU 3037/1	15551398	390,00	355,00	20,00
TRU 3037/2	17321574	440,00	400,00	40,00
TRU 3038	17711614	450,00	410,00	24,50
TRU 3038/1	17711653	450,00	420,00	40,00
TRU 3038/2	19291811	490,00	460,00	37,00
TRU 3038/3	19681822	500,00	450,00	25,00
TRU 3038/4	21261929	540,00	490,00	25,00
TRU 3039	21251968	540,00	500,00	40,00
TRU 3040	22832125	580,00	540,00	37,50

TECNOTEX

Guarnizioni per PISTONE
PISTON seals

TRU





TTU

Guarnizioni per PISTONE
PISTON seals

TECNOLAN

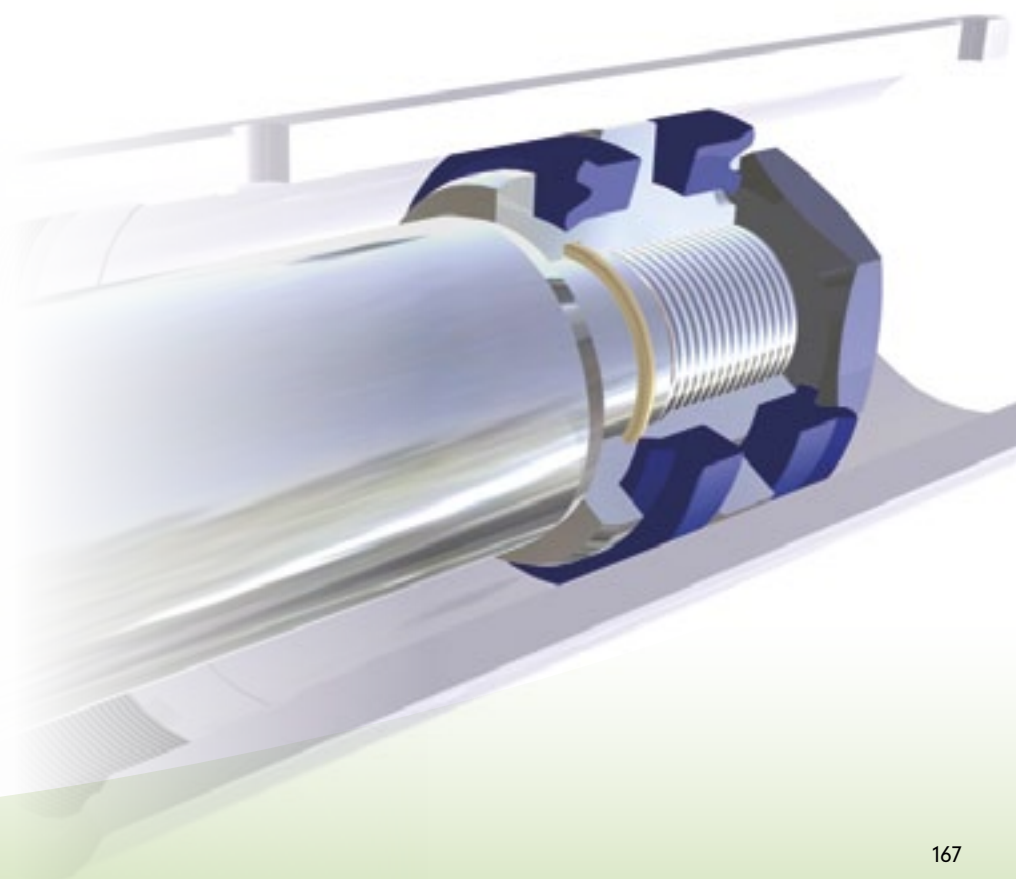
Versione standard	Standard version
Poliuretano	<i>Polyurethane</i>
Versioni Alternative	Alternative Versions
Poliuretano Basse Temperature	<i>Low Temperature Polyurethane</i>
Pressione fino a / Pressure up to	
40 MPa	
Velocità fino a / Speed up to	
0.5 m/s	
Temperatura / Temperature	
-35°C +100°C	-50°C +110°C PN 522
Applicazioni	Applications
Cilindri Idraulici Presse Cilindri per agricoltura Presse ad iniezione	<i>Hydraulic Cylinders Presses Agricultural Cylinders Injection mulding machines</i>

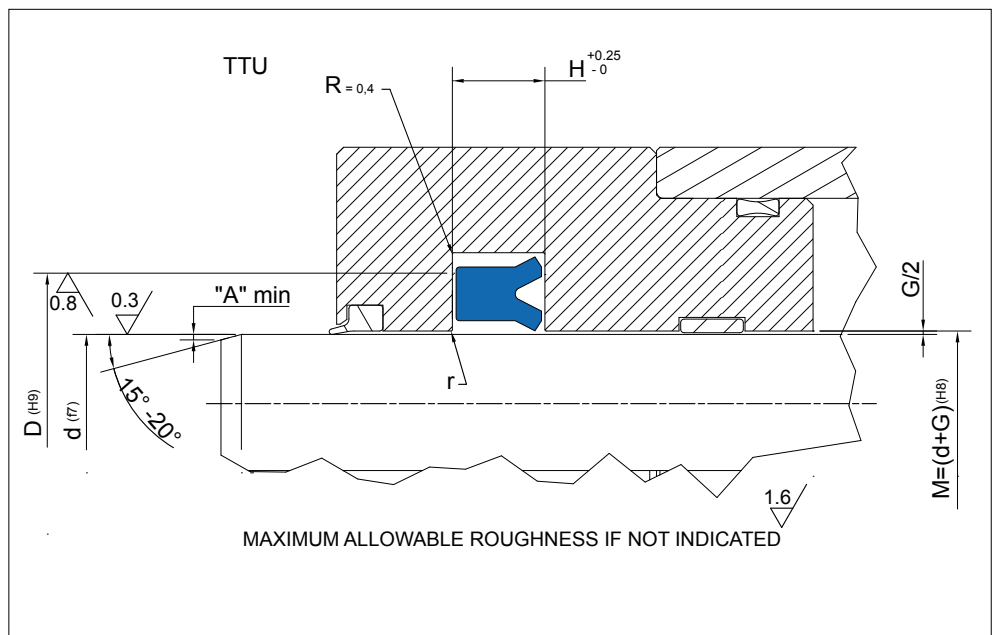
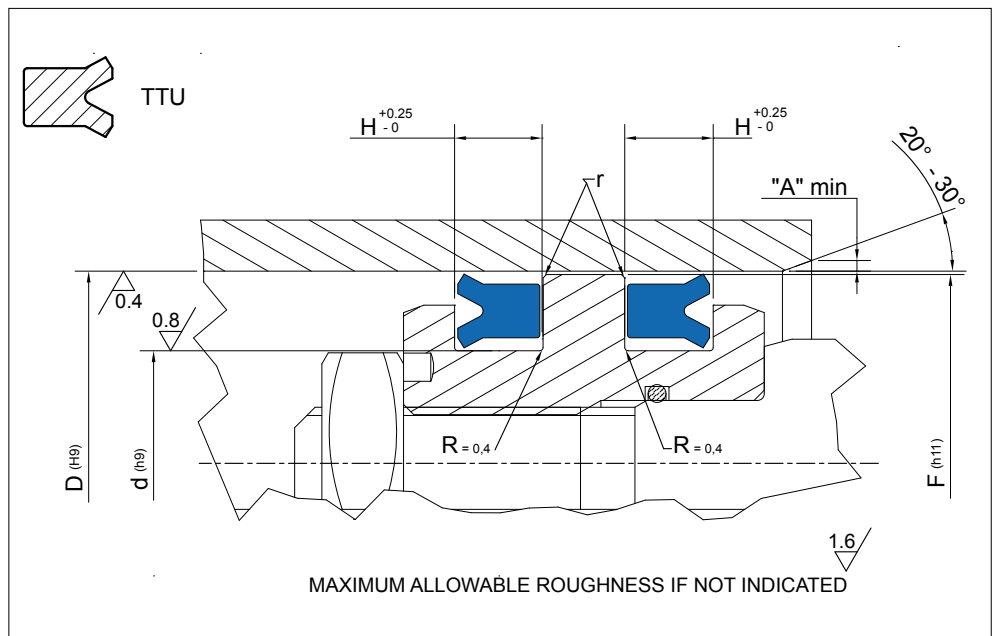


Guarnizioni per PISTONE
PISTON seals

TTU

166÷178





Piston Seal design guidelines

	< d ≤ 100mm		d ≥ 100mm	
r	remove sharp edges: r ≤ 0.3mm			
A	1 mm	2 mm	3 mm	3 mm < A ≤ 5 mm

Operating pressure to determinate Maximum Gap Allowance: G/2

G	Profile Dimension	> 16 MPa	> 26 MPa	> 32 MPa	> 40 MPa
	≤ 5		0.50 mm	0.40 mm	0.35 mm
> 5.0 - 7.5		0.55 mm	0.45 mm	0.40 mm	0.35 mm
> 7.5 - 12.5		0.60 mm	0.50 mm	0.45 mm	0.40 mm
15		0.65 mm	0.55 mm	0.45 mm	0.40 mm

PART NR		DIMENSIONI SEDI / Housing dimensions		
		D	d	H
TTU 1601	3-9	9,00	3,00	5,00
TTU 1601/1	6-9	9,00	6,00	3,00
TTU 1601/2	6-9/1	9,00	6,00	2,50
TTU 1602	4-10/1	10,00	4,00	4,50
TTU 1603	4-10	10,00	4,00	5,00
TTU 1604	4,5-11	11,00	4,50	5,50
TTU 1604/1	4-12	12,00	4,00	5,20
TTU 1605	5-12/1	12,00	5,00	5,50

PART NR		DIMENSIONI SEDI / Housing dimensions		
		D	d	H
TTU 1606	5-12	12,00	5,00	6,30
TTU 1607	5-12/2	12,00	5,00	6,50
TTU 1607/1	5,5-12	12,00	5,50	8,50
TTU 1608	6-12/1	12,00	6,00	4,50
TTU 1609	6-12/2	12,00	6,00	6,00
TTU 1610	6-12	12,00	6,00	6,50
TTU 1611	8-12	12,00	8,00	3,50
TTU 1612	4,5-12,5	12,50	4,50	5,00
TTU 1613	5,0-12,7	12,70	5,00	9,00
TTU 1614	6,0-12,7	12,70	6,00	6,50
TTU 1615	7-14	14,00	7,00	4,20
TTU 1616	8-14	14,00	8,00	7,00
TTU 1616/1	7,0-14,5	14,50	7,00	3,80
TTU 1617	6-15	15,00	6,00	9,00
TTU 1618	7-15	15,00	7,00	8,00
TTU 1619	8-15	15,00	8,00	6,30
TTU 1620	8-15/1	15,00	8,00	9,00
TTU 1621	9-15	15,00	9,00	9,00
TTU 1621/1	8-16/A	16,00	8,00	6,00
TTU 1622	8-16	16,00	8,00	6,30
TTU 1622/1	10-16/1	16,00	10,00	5,00
TTU 1623	10-16	16,00	10,00	6,50
TTU 1623/1	6,32-16,3	16,30	6,32	9,00
TTU 1624	5-17	17,00	5,00	10,00
TTU 1625	11-17	17,00	11,00	5,00
TTU 1625/1	7,10-17,10	17,10	7,10	9,00
TTU 1625/2	8-18/1	18,00	8,00	9,00
TTU 1626	8-18	18,00	8,00	10,00
TTU 1627	10-18/1	18,00	10,00	6,00
TTU 1628	10-18/2	18,00	10,00	7,00
TTU 1628/1	10-18/3	18,00	10,00	8,00
TTU 1629	10-18	18,00	10,00	9,00
TTU 1629/1	10-18/4	18,00	10,00	4,50
TTU 1630	12-18/1	18,00	12,00	5,50
TTU 1631	12-18	18,00	12,00	7,00
TTU 1631/1	11,6-18,5	18,50	11,60	3,80
TTU 1632	9-19	19,00	9,00	7,00
TTU 1632/2	9-19/1	19,00	9,00	9,00
TTU 1632/1	12,6-19,5	19,50	12,60	3,80
TTU 1633	10-20	20,00	10,00	9,00
TTU 1633/1	12-20/2	20,00	12,00	4,50
TTU 1634	12-20/1	20,00	12,00	8,00
TTU 1635	12-20	20,00	12,00	9,00
TTU 1636	14-20	20,00	14,00	5,30
TTU 1637	11,0-20,5	20,50	11,00	7,00
TTU 1637/1	11,2-21,2	21,20	11,20	9,00
TTU 1638	8-22	22,00	8,00	9,00
TTU 1639	10-22	22,00	10,00	7,00
TTU 1640	10-22/1	22,00	10,00	9,00
TTU 1641	12-22/1	22,00	12,00	6,00
TTU 1642	12-22	22,00	12,00	8,00
TTU 1643	12-22/2	22,00	12,00	9,00





PART NR		DIMENSIONI SEDI / Housing dimensions		
		D	d	H
TTU 1644	14-22/3	22,00	14,00	5,00
TTU 1644/1	14-22/4	22,00	14,00	6,00
TTU 1645	14-22	22,00	14,00	7,00
TTU 1646	14-22/1	22,00	14,00	9,00
TTU 1647	14-22/2	22,00	14,00	12,00
TTU 1648	16-22/1	22,00	16,00	4,50
TTU 1649	16-22	22,00	16,00	5,00
TTU 1649/1	16-22	22,00	16,00	6,00
TTU 1649/2	12,5-22,5	22,50	12,50	9,00
TTU 1650	12-24	24,00	12,00	9,00
TTU 1651	12-24/1	24,00	12,00	10,00
TTU 1652	14-24	24,00	14,00	9,00
TTU 1652/1	16-24/2	24,00	16,00	4,50
TTU 1653	16-24/1	24,00	16,00	6,00
TTU 1654	16-24	24,00	16,00	10,00
TTU 1655	12-25	25,00	12,00	9,00
TTU 1656	12-25/1	25,00	12,00	11,00
TTU 1657	15-25	25,00	15,00	9,00
TTU 1658	17-25	25,00	17,00	11,00
TTU 1658/1	17-25/1	25,00	17,00	4,50
TTU 1659	18-25/1	25,00	18,00	7,00
TTU 1660	18-25	25,00	18,00	5,50
TTU 1661	19-25	25,00	19,00	7,00
TTU 1662	16-26	26,00	16,00	6,00
TTU 1663	16-26/1	26,00	16,00	9,00
TTU 1664	16-26/2	26,00	16,00	11,00
TTU 1664/1	18-26/3	26,00	18,00	4,50
TTU 1664/2	18-26/4	26,00	18,00	6,00
TTU 1665	18-26/1	26,00	18,00	7,50
TTU 1666	18-26/2	26,00	18,00	9,00
TTU 1667	18-26	26,00	18,00	9,50
TTU 1667/1	20-26	26,00	20,00	5,50
TTU 1667/2	20-26/1	26,00	20,00	4,00
TTU 1668	15-27	27,00	15,00	7,00
TTU 1669	15-28	28,00	15,00	11,00
TTU 1670	16-28	28,00	16,00	7,00
TTU 1671	18-28	28,00	18,00	9,00
TTU 1672	20-28	28,00	20,00	5,00
TTU 1672/1	20-28/2	28,00	20,00	6,00
TTU 1673	20-28/1	28,00	20,00	9,00
TTU 1674	22-28	28,00	22,00	9,00
TTU 1675	20-29	29,00	20,00	5,50
TTU 1676	18-30	30,00	18,00	9,00
TTU 1677	20-30	30,00	20,00	9,00
TTU 1678	20-30/1	30,00	20,00	11,00
TTU 1678/3	20-30/2	30,00	20,50	6,00
TTU 1678/1	22-30/2	30,00	22,00	4,50
TTU 1678/2	22-30/3	30,00	22,00	6,00
TTU 1679	22-30	30,00	22,00	7,00
TTU 1680	22-30/1	30,00	22,00	11,00
TTU 1680/4	22,4-30	30,00	22,40	6,00
TTU 1680/1	25-31	31,00	25,00	4,00

PART NR		DIMENSIONI SEDI / Housing dimensions		
		D	d	H
TTU 1680/3	23,5-31,5	31,50	23,50	6,00
TTU 1680/2	24-31,75	31,75	24,00	8,00
TTU 1681	16-32	32,00	16,00	9,00
TTU 1682	20-32	32,00	20,00	8,50
TTU 1683	22-32	32,00	22,00	9,00
TTU 1684	22-32/1	32,00	22,00	11,00
TTU 1684/1	24-32/1	32,00	24,00	5,00
TTU 1685	24-32	32,00	24,00	8,00
TTU 1685/4	22,4-32,4	32,40	22,40	9,00
TTU 1685/1	25-33	33,00	25,00	5,00
TTU 1685/5	25-33/2	33,00	25,00	6,00
TTU 1685/3	25-33/1	33,00	25,00	7,50
TTU 1685/2	28-34	34,00	28,00	4,00
TTU 1686	20-35	35,00	20,00	13,00
TTU 1687	22-35	35,00	22,00	11,00
TTU 1688	25-35	35,00	25,00	5,50
TTU 1689	25-35/2	35,00	25,00	9,00
TTU 1690	25-35/1	35,00	25,00	11,00
TTU 1690/1	27-35	35,00	27,00	4,50
TTU 1691	28-35	35,00	28,00	5,50
TTU 1691/2	28-35,5	35,50	28,00	6,00
TTU 1691/1	28-36/1	36,00	28,00	4,50
TTU 1692	28-36	36,00	28,00	7,50
TTU 1692/1	30-36	36,00	30,00	4,00
TTU 1692/2	23,8-36,5	36,50	23,80	7,00
TTU 1693	25-38	38,00	25,00	11,00
TTU 1694	28-38	38,00	28,00	9,00
TTU 1695	30-38	38,00	30,00	6,50
TTU 1695/1	32-38	38,00	32,00	4,00
TTU 1696	20-39	39,00	20,00	11,00
TTU 1697	20-40	40,00	20,00	11,00
TTU 1698	20-40/1	40,00	20,00	13,00
TTU 1699	24-40	40,00	24,00	9,00
TTU 1700	25-40	40,00	25,00	11,00
TTU 1701	28-40	40,00	28,00	11,00
TTU 1702	30-40/1	40,00	30,00	5,50
TTU 1702/1	30-40/2	40,00	30,00	7,00
TTU 1703	30-40	40,00	30,00	11,00
TTU 1703/1	32-40/2	40,00	32,00	5,00
TTU 1704	32-40	40,00	32,00	6,00
TTU 1704/1	32-40/3	40,00	32,00	7,00
TTU 1705	32-40/1	40,00	32,00	9,00
TTU 1705/1	34-40	40,00	34,00	6,00
TTU 1705/2	31,5-41,5	41,50	31,50	7,00
TTU 1706	30-42/1	42,00	30,00	10,00
TTU 1707	30-42	42,00	30,00	11,00
TTU 1707/1	32-42/1	42,00	32,00	7,00
TTU 1707/2	32-42/2	42,00	32,00	6,00
TTU 1708	32-42	42,00	32,00	11,00
TTU 1708/2	28-43	43,00	28,00	11,00
TTU 1708/3	32-44	44,00	32,00	6,50
TTU 1708/1	36-44	44,00	36,00	5,00





PART NR		DIMENSIONI SEDI / Housing dimensions		
		D	d	H
TTU 1709	30-45	45,00	30,00	11,00
TTU 1710	32-45	45,00	32,00	11,00
TTU 1711	34-45	45,00	34,00	8,00
TTU 1712	34-45/1	45,00	34,00	10,00
TTU 1712/1	35-45/2	45,00	35,00	7,00
TTU 1713	35-45/1	45,00	35,00	9,00
TTU 1714	35-45	45,00	35,00	11,00
TTU 1714/2	35,5-45	45,00	35,50	7,00
TTU 1714/1	37-45	45,00	37,00	5,00
TTU 1715	38-45	45,00	38,00	5,50
TTU 1716	36-46	46,00	36,00	8,00
TTU 1716/1	36-46	46,00	36,00	7,00
TTU 1717	38-46	46,00	38,00	7,50
TTU 1717/1	31,5-46,5	46,50	31,50	11,00
TTU 1718	35-48	48,00	35,00	11,00
TTU 1718/1	38-48	48,00	38,00	7,00
TTU 1719	40-48/1	48,00	40,00	9,00
TTU 1720	40-48	48,00	40,00	12,00
TTU 1721	30-50/1	50,00	30,00	11,00
TTU 1722	30-50	50,00	30,00	13,00
TTU 1723	32-50	50,00	32,00	13,00
TTU 1724	34-50	50,00	34,00	15,00
TTU 1725	35-50	50,00	35,00	11,00
TTU 1726	38-50	50,00	38,00	10,00
TTU 1726/1	40-50/3	50,00	40,00	6,00
TTU 1726/2	40-50/4	50,00	40,00	7,00
TTU 1727	40-50/1	50,00	40,00	7,50
TTU 1728	40-50/2	50,00	40,00	9,00
TTU 1729	40-50	50,00	40,00	11,00
TTU 1730	42-50	50,00	42,00	9,00
TTU 1730/1	35,5-50,5	50,50	35,50	11,00
TTU 1730/2	42-52/1	52,00	42,00	7,00
TTU 1731	42-52	52,00	42,00	10,00
TTU 1731/1	38,10-53,97	53,97	38,10	11,00
TTU 1732	35-55/1	55,00	35,00	11,00
TTU 1733	35-55	55,00	35,00	13,00
TTU 1734	38-55	55,00	38,00	11,00
TTU 1735	40-55	55,00	40,00	11,00
TTU 1736	45-55/1	55,00	45,00	7,50
TTU 1736/1	45-55/2	55,00	45,00	6,00
TTU 1736/2	45-55/3	55,00	45,00	7,00
TTU 1737	45-55	55,00	45,00	11,00
TTU 1737/1	45-56	56,00	45,00	8,00
TTU 1738	40-56	56,00	40,00	11,00
TTU 1739	38-58	58,00	38,00	11,00
TTU 1739/1	46-58	58,00	46,00	6,50
TTU 1740	48-58	58,00	48,00	11,00
TTU 1741	40-60/1	60,00	40,00	11,00
TTU 1742	40-60	60,00	40,00	14,00
TTU 1743	40-60/2	60,00	40,00	19,00
TTU 1744	45-60	60,00	45,00	11,00
TTU 1744/1	50-60/3	60,00	50,00	6,00

PART NR		DIMENSIONI SEDI / Housing dimensions		
		D	d	H
TTU 1744/2	50-60/4	60,00	50,00	7,00
TTU 1745	50-60/2	60,00	50,00	8,00
TTU 1746	50-60	60,00	50,00	11,00
TTU 1747	50-60/1	60,00	50,00	12,00
TTU 1748	42-62	62,00	42,00	13,00
TTU 1749	50-62	62,00	50,00	10,00
TTU 1750	52-62	62,00	52,00	13,00
TTU 1751	45-63	63,00	45,00	11,00
TTU 1751/1	48-63	63,00	48,00	11,00
TTU 1752	50-63	63,00	50,00	7,00
TTU 1752/1	53-63/1	63,00	53,00	6,00
TTU 1752/2	53-63/2	63,00	53,00	7,00
TTU 1753	53-63	63,00	53,00	7,50
TTU 1754	40-65	65,00	40,00	13,00
TTU 1755	45-65	65,00	45,00	11,00
TTU 1756	45-65/1	65,00	45,00	13,00
TTU 1757	50-65	65,00	50,00	11,00
TTU 1757/1	55-65/2	65,00	55,00	6,00
TTU 1757/2	55-65/3	65,00	55,00	7,00
TTU 1758	55-65/1	65,00	55,00	11,00
TTU 1759	55-65	65,00	55,00	13,00
TTU 1759/1	56-66	66,00	56,00	6,00
TTU 1759/2	56-66/1	66,00	56,00	7,00
TTU 1759/3	58-68	68,00	58,00	7,00
TTU 1760	36-70	70,00	36,00	11,00
TTU 1761	40-70	70,00	40,00	16,00
TTU 1762	50-70	70,00	50,00	11,00
TTU 1763	50-70/1	70,00	50,00	13,00
TTU 1764	50-70/2	70,00	50,00	19,00
TTU 1764/1	53-70	70,00	53,00	9,00
TTU 1765	55-70	70,00	55,00	13,00
TTU 1765/1	70-60	70,00	60,00	6,00
TTU 1765/2	70-60/3	70,00	60,00	7,00
TTU 1766	60-70/1	70,00	60,00	9,00
TTU 1767	60-70/2	70,00	60,00	11,00
TTU 1768	60-70	70,00	60,00	13,00
TTU 1768/2	70-54	70,00	54,00	9,50
TTU 1768/3	70,8-53,5	70,80	53,50	9,00
TTU 1768/4	60-71	71,00	60,00	8,00
TTU 1768/6	53-73	73,00	53,00	13,00
TTU 1768/1	63-73	73,00	63,00	5,50
TTU 1768/5	63-73/1	73,00	63,00	7,00
TTU 1769	40-75	75,00	40,00	11,00
TTU 1770	55-75	75,00	55,00	13,00
TTU 1771	60-75/1	75,00	60,00	11,00
TTU 1772	60-75	75,00	60,00	13,00
TTU 1773	63-75	75,00	63,00	11,00
TTU 1773/2	65-75/2	75,00	65,00	5,50
TTU 1773/1	65-75/1	75,00	65,00	7,00
TTU 1774	65-75	75,00	65,00	13,00
TTU 1774/1	56-76	76,00	56,00	13,00
TTU 1775	66-76	76,00	66,00	9,00





PART NR		DIMENSIONI SEDI / Housing dimensions		
		D	d	H
TTU 1775/2	66-76	76,00	66,00	7,00
TTU 1775/1	67-77/2	77,00	67,00	7,00
TTU 1776	67-77/1	77,00	67,00	11,00
TTU 1777	67-77	77,00	67,00	13,00
TTU 1778	63-78	78,00	63,00	11,00
TTU 1779	55-80	80,00	55,00	13,00
TTU 1780	60-80	80,00	60,00	11,00
TTU 1781	60-80/1	80,00	60,00	13,00
TTU 1782	60-80/3	80,00	60,00	14,50
TTU 1783	60-80/2	80,00	60,00	19,00
TTU 1784	65-80/1	80,00	65,00	12,00
TTU 1785	65-80	80,00	65,00	13,00
TTU 1786	66-80	80,00	66,00	11,00
TTU 1787	66-80/1	80,00	66,00	14,00
TTU 1788	70-80/3	80,00	70,00	6,00
TTU 1788/1	70-80/4	80,00	70,00	7,00
TTU 1789	70-80/1	80,00	70,00	9,00
TTU 1790	70-80/2	80,00	70,00	11,00
TTU 1791	70-80	80,00	70,00	13,00
TTU 1791/1	71-80	80,00	71,00	7,00
TTU 1792	63-83	83,00	63,00	16,00
TTU 1792/1	63-83/1	83,00	63,00	13,00
TTU 1793	60-85	85,00	60,00	13,50
TTU 1794	65-85/1	85,00	65,00	11,00
TTU 1795	65-85	85,00	65,00	13,00
TTU 1796	70-85	85,00	70,00	13,00
TTU 1796/1	75-85/1	85,00	75,00	7,00
TTU 1797	75-85	85,00	75,00	13,00
TTU 1797/1	67-87	87,00	67,00	13,00
TTU 1798	60-90	90,00	60,00	16,00
TTU 1799	70-90	90,00	70,00	13,00
TTU 1800	70-90/2	90,00	70,00	14,50
TTU 1801	70-90/1	90,00	70,00	19,00
TTU 1802	75-90	90,00	75,00	8,50
TTU 1803	75-90/2	90,00	75,00	11,00
TTU 1804	75-90/1	90,00	75,00	13,00
TTU 1804/1	80-90/2	90,00	80,00	6,00
TTU 1804/2	80-90/3	90,00	80,00	7,00
TTU 1805	80-90	90,00	80,00	11,00
TTU 1806	80-90/1	90,00	80,00	13,00
TTU 1806/1	71-91	91,00	71,00	13,00
TTU 1807	82-92	92,00	82,00	11,00
TTU 1808	78-93	93,00	78,00	11,50
TTU 1809	84,5-94,0	94,00	84,50	8,80
TTU 1810	70-95	95,00	70,00	13,00
TTU 1811	75-95	95,00	75,00	13,00
TTU 1811/1	75-95/1	95,00	75,00	14,50
TTU 1812	80-95	95,00	80,00	13,00
TTU 1813	85-95	95,00	85,00	9,50
TTU 1814	85-95/1	95,00	85,00	13,00
TTU 1815	88-96	96,00	88,00	9,00
TTU 1816	80-100	100,00	80,00	11,00

PART NR		DIMENSIONI SEDI / Housing dimensions		
		D	d	H
TTU 1817	80-100/1	100,00	80,00	13,00
TTU 1818	80-100/2	100,00	80,00	14,50
TTU 1818/1	85-100/2	100,00	85,00	10,00
TTU 1819	85-100/1	100,00	85,00	12,00
TTU 1820	85-100	100,00	85,00	13,00
TTU 1820/1	90-100/3	100,00	90,00	6,00
TTU 1821	90-100/2	100,00	90,00	8,00
TTU 1822	90-100	100,00	90,00	9,00
TTU 1823	90-100/1	100,00	90,00	13,00
TTU 1823/1	90-102	102,00	90,00	10,00
TTU 1824	85-105	105,00	85,00	13,00
TTU 1825	90-105	105,00	90,00	13,00
TTU 1825/2	90-105/1	105,00	90,00	10,00
TTU 1825/1	90-110/3	110,00	90,00	11,00
TTU 1826	90-110	110,00	90,00	13,00
TTU 1827	90-110/1	110,00	90,00	19,00
TTU 1827/1	90-110/2	110,00	90,00	14,00
TTU 1828	95-110	110,00	95,00	13,00
TTU 1829	95-110/1	110,00	95,00	16,00
TTU 1829/1	100-110	110,00	100,00	6,00
TTU 1830	95-112	112,00	95,00	12,00
TTU 1830/2	98-112	112,00	98,00	10,00
TTU 1830/1	101,6-114,3	114,00	101,60	7,00
TTU 1831	85-115	115,00	85,00	16,00
TTU 1832	90-115/1	115,00	90,00	16,00
TTU 1833	90-115	115,00	90,00	23,00
TTU 1834	95-115	115,00	95,00	13,00
TTU 1835	95-115/1	115,00	95,00	19,00
TTU 1836	100-115	115,00	100,00	13,00
TTU 1836/1	100-115/1	115,00	100,00	10,00
TTU 1837	100-120	120,00	100,00	13,00
TTU 1838	100-120/1	120,00	100,00	14,50
TTU 1838/1	100-120/2	120,00	100,00	11,00
TTU 1839	105-120	120,00	105,00	9,00
TTU 1839/1	105-120/2	120,00	105,00	10,00
TTU 1840	105-120/1	120,00	105,00	16,00
TTU 1841	106-120	120,00	106,00	9,50
TTU 1842	100-125	125,00	100,00	13,00
TTU 1843	100-125/2	125,00	100,00	16,00
TTU 1843/1	105-125/3	125,00	105,00	11,00
TTU 1844	105-125/1	125,00	105,00	13,00
TTU 1845	105-125	125,00	105,00	15,00
TTU 1845/1	105-125/2	125,00	105,00	16,00
TTU 1845/2	105-125/3	125,00	105,00	17,00
TTU 1846	110-125	125,00	110,00	13,00
TTU 1847	110-125/1	125,00	110,00	16,00
TTU 1847/2	110-125/2	125,00	110,00	10,00
TTU 1847/1	112-125	125,00	112,00	10,00
TTU 1848	113-125	125,00	113,00	10,50
TTU 1848/1	116-126	126,00	116,00	17,00
TTU 1849	115-126	126,00	115,00	16,00
TTU 1849/1	114,3-127,0	127,00	114,30	7,00





PART NR		DIMENSIONI SEDI / Housing dimensions		
		D	d	H
TTU 1849/2	114,3-127/1	127,00	114,30	10,50
TTU 1850	100-130	130,00	100,00	13,00
TTU 1850/1	110-130/2	130,00	110,00	11,00
TTU 1851	110-130	130,00	110,00	16,00
TTU 1852	110-130/1	130,00	110,00	19,00
TTU 1852/2	110-130/3	130,00	110,00	17,00
TTU 1852/3	115-130	130,00	115,00	10,00
TTU 1852/1	120-130/1	130,00	120,00	6,00
TTU 1853	120-130	130,00	120,00	15,00
TTU 1853/1	112-132	132,00	112,00	17,00
TTU 1854	115-135	135,00	115,00	16,00
TTU 1855	120-135	135,00	120,00	16,00
TTU 1855/2	120-135/1	135,00	120,00	10,00
TTU 1855/1	118-138	138,00	118,00	17,00
TTU 1856	115-140/1	140,00	115,00	16,00
TTU 1857	115-140	140,00	115,00	23,00
TTU 1857/1	120-140/1	140,00	120,00	11,00
TTU 1858	120-140	140,00	120,00	16,00
TTU 1858/3	120-140/2	140,00	120,00	17,00
TTU 1858/1	125-140/2	140,00	125,00	8,00
TTU 1858/2	125-140/3	140,00	125,00	10,00
TTU 1859	125-140	140,00	125,00	12,00
TTU 1859/1	125-140	140,00	125,00	13,00
TTU 1860	125-140/1	140,00	125,00	16,00
TTU 1860/1	125-145/2	145,00	125,00	11,00
TTU 1861	125-145	145,00	125,00	16,00
TTU 1861/1	125-145/3	145,00	125,00	17,00
TTU 1862	125-145/1	145,00	125,00	19,00
TTU 1862/1	130-145	145,00	130,00	12,00
TTU 1863	130-150	150,00	130,00	16,00
TTU 1863/1	130-150	150,00	130,00	13,00
TTU 1863/2	130-150/1	150,00	130,00	17,00
TTU 1864	135-150	150,00	135,00	16,00
TTU 1864/2	136-150	150,00	136,00	10,00
TTU 1864/1	140-150	150,00	140,00	6,00
TTU 1865	125-155	155,00	125,00	16,00
TTU 1866	135-155	155,00	135,00	16,00
TTU 1866/1	140-155	155,00	140,00	10,00
TTU 1867	140-155/AI	155,00	140,00	16,00
TTU 1868	135-160	160,00	135,00	16,00
TTU 1868/1	140-160/2	160,00	140,00	11,00
TTU 1869	140-160/1	160,00	140,00	13,00
TTU 1869/1	140-160	160,00	140,00	16,00
TTU 1869/4	140-160/3	160,00	140,00	17,00
TTU 1869/2	145-160	160,00	145,00	10,00
TTU 1869/3	148-160	160,00	148,00	10,50
TTU 1870	150-160	160,00	150,00	14,50
TTU 1870/1	150-160/1	160,00	150,00	16,00
TTU 1871	140-165	165,00	140,00	16,00
TTU 1872	145-165	165,00	145,00	16,00
TTU 1872/1	150-170	170,00	150,00	13,00
TTU 1873	150-170	170,00	150,00	16,00

PART NR		DIMENSIONI SEDI / Housing dimensions		
		D	d	H
TTU 1873/1	150-170/2	170,00	150,00	17,00
TTU 1874	150-170/1	170,00	150,00	19,00
TTU 1874/1	155-170	170,00	155,00	11,00
TTU 1874/2	160-170	170,00	160,00	6,00
TTU 1874/3	160-175	175,00	160,00	13,00
TTU 1875	150-180	180,00	150,00	14,50
TTU 1875/1	160-180	180,00	160,00	11,00
TTU 1876	160-180	180,00	160,00	16,00
TTU 1876/2	165-180	180,00	165,00	10,00
TTU 1876/1	170-190	190,00	170,00	13,00
TTU 1877	170-190	190,00	170,00	16,00
TTU 1878	170-200	200,00	170,00	19,00
TTU 1879	175-200	200,00	175,00	16,00
TTU 1879/1	180-200/1	200,00	180,00	11,00
TTU 1879/2	180-200/2	200,00	180,00	13,00
TTU 1880	180-200	200,00	180,00	16,00
TTU 1880/1	190-206	206,00	190,00	21,00
TTU 1880/2	187-202	202,00	187,00	12,00
TTU 1881	180-220	220,00	180,00	21,00
TTU 1881/1	200-220/1	220,00	200,00	11,00
TTU 1881/2	200-220/3	220,00	200,00	13,00
TTU 1881/3	200-220/4	220,00	200,00	12,00
TTU 1882	200-220	220,00	200,00	16,00
TTU 1882/5	200-220/5/AI	220,00	200,00	16,00
TTU 1882/1	200-220/2	220,00	200,00	17,00
TTU 1882/3	200-220/AE	220,00	200,00	18,00
TTU 1882/4	200-220/AI	220,00	200,00	18,00
TTU 1883/1	208-220	220,00	208,00	10,00
TTU 1883	200-225	225,00	200,00	19,00
TTU 1883/3	200-225/1	200,00	225,00	16,00
TTU 1883/2	220-240	240,00	220,00	16,00
TTU 1884	225-245	245,00	225,00	16,00
TTU 1885	220-250	250,00	220,00	19,00
TTU 1885/5	225-250	250,00	225,00	19,00
TTU 1885/3	230-250	250,00	230,00	13,00
TTU 1885/4	230-250/1	250,00	230,00	16,00
TTU 1885/1	238-250	250,00	238,00	10,00
TTU 1885/6	230-255	255,00	230,00	20,00
TTU 1885/2	240-260	260,00	240,00	21,00
TTU 1886	245-270	270,00	245,00	16,00
TTU 1886/1	260-275	275,00	260,00	12,00
TTU 1887	250-280	280,00	250,00	19,00
TTU 1887/1	265-280	280,00	265,00	12,00
TTU 1887/2	260-290	290,00	260,00	19,00
TTU 1888	265-290	290,00	265,00	18,00
TTU 1889	270-290	290,00	270,00	18,00
TTU 1890	270-300	300,00	270,00	16,00
TTU 1891	280-300	300,00	280,00	16,00
TTU 1891/1	285-300	300,00	285,00	12,00
TTU 1891/5	280-310	310,00	280,00	20,00
TTU 1891/2	300-320	320,00	300,00	16,00
TTU 1891/3	300-320	320,00	300,00	20,00







TTE TTE/AE

Guarnizioni per PISTONE
PISTON seals

TECNOLAN



Versione standard		Standard version	
TTE TTE/AE	Poliuretano Poliuretano + POM	TTE TTE/AE	Polyurethane Polyurethane + POM
Versioni Alternative		Alternative Versions	
Poliuretano Basse Temperature		Low Temperature Polyurethane	
Pressione fino a / Pressure up to			
35 MPa			
Velocità fino a / Speed up to			
0.5 m/s			
Temperatura / Temperature			
-35°C +100°C		-50°C +110°C PN 522	
Applicazioni		Applications	
Piattaforme aeree Presse Cilindri semplici effetto		Lift Platforms Presses Single acting Cylinders	

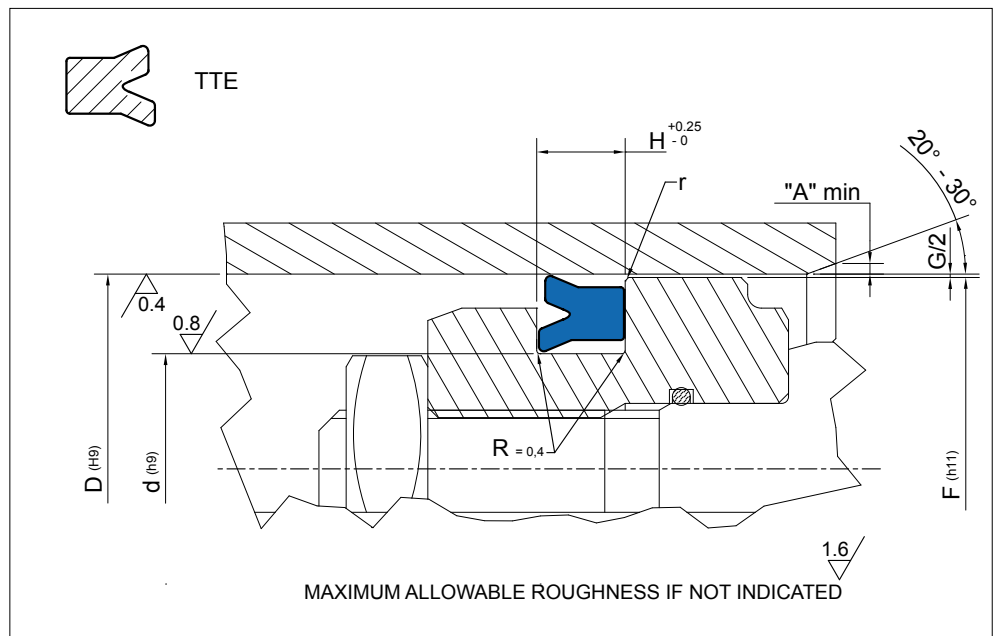


Guarnizioni per PISTONE
PISTON seals

TTE • TTE/AE

180÷186





Piston Seal design guidelines

	< d ≤ 100mm		d ≥ 100mm	
r	remove sharp edges: r ≤ 0.3mm			
A	1 mm	2 mm	3 mm	3 mm < A ≤ 5 mm

Operating pressure to determinate Maximum Gap Allowance: G/2

G	Profile Dimension	> 16 MPa	> 26 MPa	> 32 MPa
	5		0.90 mm	0.50 mm
7.5		1.00 mm	0.60 mm	0.30 mm
10		1.10 mm	0.60 mm	0.30 mm
12.5		1.20 mm	0.60 mm	0.40 mm

PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TTE 1001	12-5	12,00	5,00	6,00
TTE 1002	14-8	14,00	8,00	6,80
TTE 1003	16-10/1	16,00	10,00	6,50
TTE 1004	16-10	16,00	10,00	9,00
TTE 1005	20-12	20,00	12,00	7,50
TTE 1006	20-14	20,00	14,00	6,00
TTE 1007	22-12	22,00	12,00	9,00
TTE 1007/1	24-18	24,00	18,00	6,00
TTE 1008	25-10	25,00	10,00	11,00
TTE 1009	25-15	25,00	15,00	9,00
TTE 1010	30-15	30,00	15,00	11,00
TTE 1011	30-20	30,00	20,00	9,00
TTE 1012	30-22	30,00	22,00	7,00
TTE 1013	32-22/1	32,00	22,00	9,00
TTE 1014	32-22	32,00	22,00	11,00
TTE 1015	32-26	32,00	26,00	6,00
TTE 1016	34-22/1	34,00	22,00	9,40
TTE 1017	34-22	34,00	22,00	10,00
TTE 1018	35-20	35,00	20,00	11,00
TTE 1019	35-25	35,00	25,00	9,00
TTE 1020	35-27	35,00	27,00	11,00
TTE 1021	36,5-24,0	36,50	24,00	7,00
TTE 1022	37-21	37,00	21,00	13,00
TTE 1023	38-31	38,00	31,00	5,20
TTE 1024	40-25	40,00	25,00	11,00

TTE TTE/AE

PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TTE 1024/1	40-25/AE	40,00	25,00	11,00
TTE 1025	40-30/1	40,00	30,00	7,50
TTE 1026	40-30	40,00	30,00	11,00
TTE 1027	40-32	40,00	32,00	9,00
TTE 1028	40-33	40,00	33,00	9,00
TTE 1029	42-32	42,00	32,00	11,00
TTE 1030	42,0-34,5	42,00	34,50	4,70
TTE 1031	43-25	43,00	25,00	10,00
TTE 1032	44-20	44,00	20,00	12,00
TTE 1033	45,0-28,5	45,00	28,50	13,00
TTE 1034	45-30	45,00	30,00	11,00
TTE 1034/1	45-35	45,00	35,00	9,00
TTE 1034/2	45-35/AE	45,00	35,00	9,00
TTE 1035	50-30	50,00	30,00	13,00
TTE 1036	50-32	50,00	32,00	11,00
TTE 1037	50-35/1	50,00	35,00	9,50
TTE 1038	50-35	50,00	35,00	11,00
TTE 1038/1	50-39/AE	50,00	39,00	9,00
TTE 1039	50-40/1	50,00	40,00	5,50
TTE 1040	50-40	50,00	40,00	11,00
TTE 1041	50-42/3	50,00	42,00	4,00
TTE 1042	50-42/2	50,00	42,00	6,00
TTE 1042/1	50-42/3	50,00	42,00	8,00
TTE 1043	50-42/1	50,00	42,00	9,00
TTE 1044	50-42	50,00	42,00	11,00
TTE 1044/1	50-42/AE	50,00	42,00	10,60
TTE 1045	50,8-40,8	50,80	40,80	8,00
TTE 1046	52-42/AE	52,00	42,00	10,60
TTE 1047	55-40	55,00	40,00	11,00
TTE 1048	55-47	55,00	47,00	6,30
TTE 1049	60-40	60,00	40,00	13,00
TTE 1049/1	60-40/1	60,00	40,00	14,50
TTE 1050	60-45	60,00	45,00	11,00
TTE 1051	60-50/1	60,00	50,00	5,50
TTE 1052	60-50	60,00	50,00	8,00
TTE 1053	60-50/2	60,00	50,00	11,00
TTE 1054	60-52	60,00	52,00	9,00
TTE 1055	63-43	63,00	43,00	13,00
TTE 1056	63-45	63,00	45,00	11,00
TTE 1057	63-48/1	63,00	48,00	11,00
TTE 1058	63-48	63,00	48,00	13,00
TTE 1059	63-53	63,00	53,00	8,00
TTE 1060	63-53/1	63,00	53,00	13,00
TTE 1060/1	63-55	63,00	55,00	6,30
TTE 1061	65-45/1	65,00	45,00	13,00
TTE 1062	65-45	65,00	45,00	14,50
TTE 1063	65-50	65,00	50,00	11,00
TTE 1063/1	65-50/AE	65,00	50,00	11,00
TTE 1064	65-50/1	65,00	50,00	12,50
TTE 1065	65-55/1	65,00	55,00	11,00
TTE 1065/1	65-55/2-AE	65,00	55,00	11,00
TTE 1066	65-55	65,00	55,00	14,50



TTE TTE/AE



PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TTE 1066/1	65-57	65,00	57,00	8,00
TTE 1067	68-48	68,00	48,00	11,00
TTE 1068	70-50	70,00	50,00	13,00
TTE 1069	70-50/1	70,00	50,00	14,50
TTE 1070	70-50/2	70,00	50,00	16,00
TTE 1071	70-55/1	70,00	55,00	10,50
TTE 1072	70-55	70,00	55,00	13,00
TTE 1072/1	70-55/AE	70,00	55,00	13,00
TTE 1073	70-60	70,00	60,00	8,00
TTE 1073/1	70-60/AE	70,00	60,00	8,00
TTE 1074	70-60/1	70,00	60,00	13,00
TTE 1075	70-60/2	70,00	60,00	14,50
TTE 1075/1	70-62/1	70,00	62,00	6,00
TTE 1076	70-62	70,00	62,00	8,50
TTE 1077	72-58	72,00	58,00	13,00
TTE 1078	75-50	75,00	50,00	15,00
TTE 1079	75-55	75,00	55,00	14,50
TTE 1080	75-65/1	75,00	65,00	5,50
TTE 1081	75-65/3	75,00	65,00	7,50
TTE 1082	75-65/4	75,00	65,00	8,00
TTE 1083	75-65/2	75,00	65,00	11,00
TTE 1083/1	75-65/2-AE	75,00	65,00	11,00
TTE 1084	75-65	75,00	65,00	14,50
TTE 1085	80-60	80,00	60,00	13,00
TTE 1086	80-60/1	80,00	60,00	14,50
TTE 1086/1	80-60/AE	80,00	60,00	15,00
TTE 1086/2	80-65/AE	80,00	65,00	11,00
TTE 1087	80-65	80,00	65,00	13,00
TTE 1087/2	80-65/AE	80,00	65,00	11,00
TTE 1088	80-70	80,00	70,00	8,00
TTE 1088/1	80-70/AE	80,00	70,00	8,00
TTE 1089	80-70/1	80,00	70,00	13,00
TTE 1089/1	80/72/1	80,00	72,00	8,00
TTE 1090	80-72	80,00	72,00	13,00
TTE 1091	85-65	85,00	65,00	14,50
TTE 1092	85-75/1	85,00	75,00	11,00
TTE 1092/1	85-75/2-AE	85,00	75,00	11,00
TTE 1093	85-75	85,00	75,00	13,00
TTE 1094	90-70	90,00	70,00	13,00
TTE 1095	90-70/1	90,00	70,00	14,50
TTE 1095/1	90-70/2-AE	90,00	70,00	16,00
TTE 1096	90-75	90,00	75,00	13,00
TTE 1097	90-80/2	90,00	80,00	5,50
TTE 1098	90-80/1	90,00	80,00	11,00
TTE 1098/1	90-80/3-AE	90,00	80,00	11,00
TTE 1099	90-80	90,00	80,00	14,00
TTE 1100	95-75	95,00	75,00	14,50
TTE 1101	95-85/2	95,00	85,00	7,50
TTE 1102	95-85	95,00	85,00	8,00
TTE 1103	95-85/1	95,00	85,00	9,50
TTE 1103/1	95-85/2-AE	95,00	85,00	9,50

TTE TTE/AE

PART NR		DIMENSIONI SEDI / Housing dimensions		
		d	D	H
TTE 1104	95-85/3	95,00	85,00	14,50
TTE 1104/1	95-87	95,00	87,00	8,00
TTE 1104/2	100-80	100,00	80,00	8,00
TTE 1105	100-80/2	100,00	80,00	11,00
TTE 1106	100-80	100,00	80,00	13,00
TTE 1106/1	100-80/AE	100,00	80,00	13,00
TTE 1106/2	100-80/1-AE	100,00	80,00	16,00
TTE 1107	100-80/1	100,00	80,00	14,50
TTE 1108	100-85	100,00	85,00	13,00
TTE 1109	100-86	100,00	86,00	13,00
TTE 1110	100-90	100,00	90,00	8,00
TTE 1111	100-90/1	100,00	90,00	11,50
TTE 1112	101,6-80,0	101,60	80,00	13,00
TTE 1113	105-90	105,00	90,00	13,00
TTE 1113/1	110-80/AE	110,00	80,00	19,00
TTE 1114	110-90	110,00	90,00	13,00
TTE 1114/1	110-90/AE	110,00	90,00	13,00
TTE 1114/2	110-90/1-AE	110,00	90,00	16,00
TTE 1115	110-95	110,00	95,00	13,00
TTE 1115/1	110-95/AE	110,00	95,00	13,00
TTE 1116	110-100	110,00	100,00	8,00
TTE 1117	110-100/1	110,00	100,00	14,50
TTE 1117/1	115-95/AE	115,00	95,00	13,00
TTE 1118	115-100	115,00	100,00	11,50
TTE 1119	115-105	115,00	105,00	14,50
TTE 1120	120-95	120,00	95,00	13,00
TTE 1121	120-100	120,00	100,00	13,00
TTE 1122	120-100/1	120,00	100,00	14,50
TTE 1124	120-103	120,00	103,00	17,00
TTE 1125	125-105	125,00	105,00	13,00
TTE 1126	125-105/1	125,00	105,00	16,00
TTE 1126/1	125-105/2-AE	125,00	105,00	16,00
TTE 1127	125-115	125,00	115,00	8,00
TTE 1127/1	125-115/AE	125,00	115,00	8,00
TTE 1128	125-115/1	125,00	115,00	16,00
TTE 1129	130-110	130,00	110,00	13,00
TTE 1130	130-110/1	130,00	110,00	16,00
TTE 1131	130-120	130,00	120,00	14,50
TTE 1132	140-114	140,00	114,00	13,00
TTE 1133	140-120	140,00	120,00	13,00
TTE 1134	140-120/1	140,00	120,00	16,00
TTE 1135	150-125	150,00	125,00	14,50
TTE 1136	150-130	150,00	130,00	16,00
TTE 1136/1	150-135	150,00	135,00	10,00
TTE 1137	150-140	150,00	140,00	8,00
TTE 1138	160-140	160,00	140,00	14,50
TTE 1138/1	160-140/1	160,00	140,00	16,00
TTE 1139	160-148	160,00	148,00	7,50
TTE 1140	170-150	170,00	150,00	16,00
TTE 1141	174,8-165,2	174,80	165,20	7,50
TTE 1141/1	180-150	180,00	150,00	20,00





GUARNITEC



TTE/W TTE/W-RR

Guarnizioni per PISTONE
PISTON seals

TECNOLAN



Versione standard		Standard version	
TTE/W	Poliuretano Tecnolan+POM	TTE/W	Polyurethane Tecnolan+POM
TTE/W-RR	Poliuretano Tecnolan+POM+ anello Snap Ring POM	TTE/W-RR	Polyurethane Tecnolan+POM+ POM Snap Ring
Versioni Alternative		Alternative Versions	
Poliuretano Basse Temperature+POM		Low Temperature Polyurethane+POM	
Pressione fino a / Pressure up to			
50 MPa			
Velocità fino a / Speed up to			
0.5 m/s			
Temperatura / Temperature			
-35°C +100°C		-50°C +110°C PN 522	
Applicazioni		Applications	
Cilindri Idraulici Sponde Idrauliche Macchine movimento terra		Hydraulic Cylinders Tail Lifts Earthmoving Machinery	

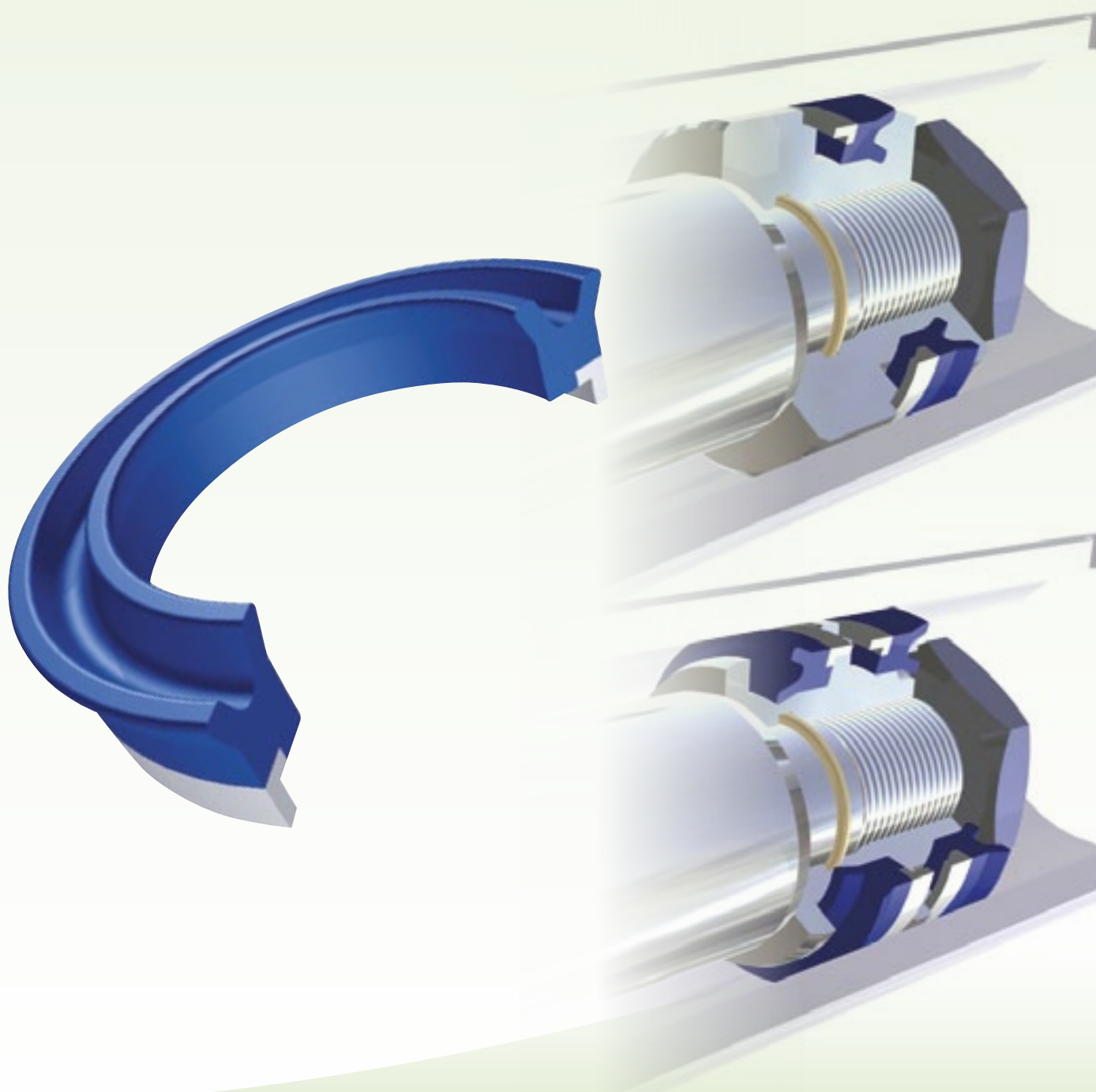


GUARNITEC

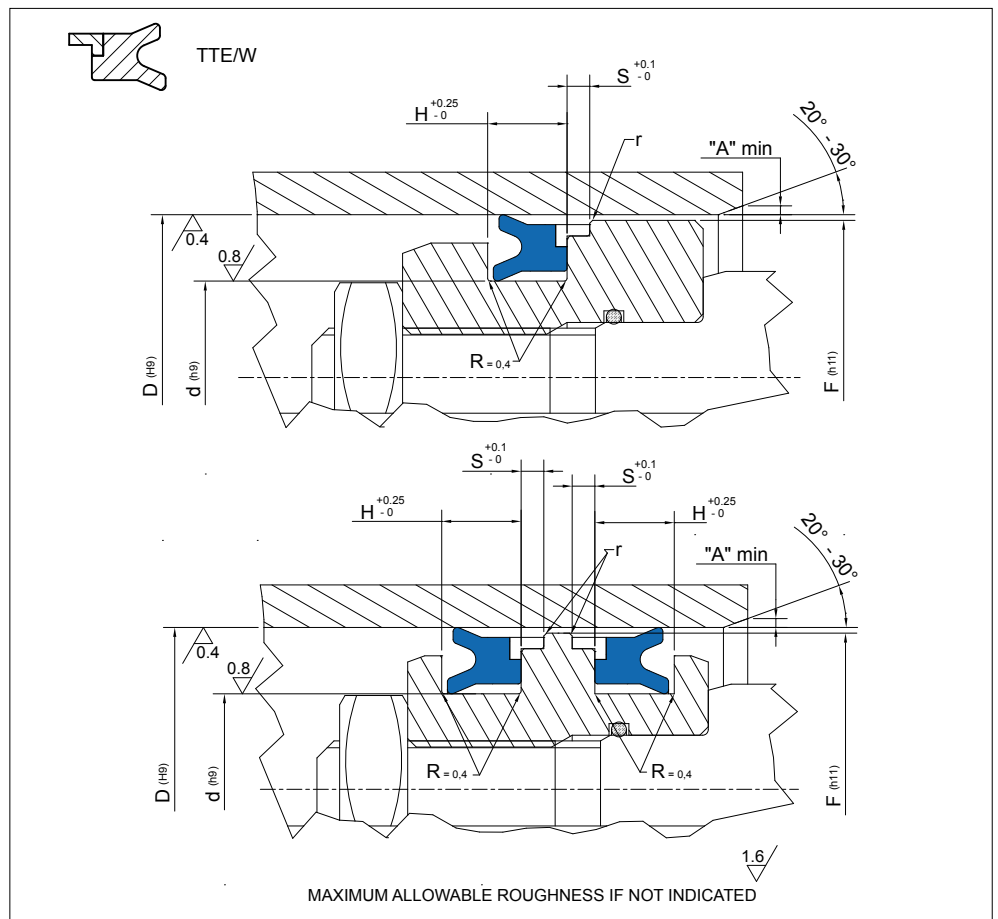
Guarnizioni per PISTONE
PISTON seals

TTE/W • TTE/W-RR

188÷195



TTE/W TTE/W-RR



Piston Seal design guidelines

	< d ≤ 100mm		d ≥ 100mm	
r	remove sharp edges: r ≤ 0.3mm			
A	1 mm	2 mm	3 mm	3 mm < A ≤ 5 mm

PART NR		DIMENSIONI SEDI / Housing dimensions				
		D	d	H	F	S
TTE/W 2001	32-20-8-W	32,00	20,00	9,00	28,50	6,35
TTE/W 2001/1	32-20-9-W	32,00	20,00	10,00	28,50	6,35
TTE/W 2002	35-22-9-W	35,00	22,00	10,00	31,40	6,35
TTE/W 2003	40-25-8,5-W	40,00	25,00	9,50	35,40	6,35
TTE/W 2004	40-26-8,5-W	40,00	26,00	9,50	35,40	6,35
TTE/W 2004/2	40-30-7-W	40,00	30,00	8,00	35,40	6,35
TTE/W 2004/1	40-30-8,5-W	40,00	30,00	9,50	35,40	6,35
TTE/W 2005	45-30-9-W	45,00	30,00	10,00	40,40	6,35
TTE/W 2006	45-35-8,5-W	45,00	35,00	9,50	40,40	6,35
TTE/W 2007	50-30-13,5	50,00	30,00	14,50	44,30	6,35
TTE/W 2008	50-35-10-W	50,00	35,00	11,00	45,35	6,35
TTE/W 2009	50-40-10-W	50,00	40,00	11,00	45,40	6,35
TTE/W 2010	55-40-10-W	55,00	40,00	11,00	50,35	6,35
TTE/W 2011	60-40-13,5-W1	60,00	40,00	14,50	54,20	6,35
TTE/W 2012	60-40-13,5-W	60,00	40,00	14,50	55,40	6,35
TTE/W 2013	60-45-10/W	60,00	45,00	11,00	54,20	6,35
TTE/W 2013/1	60-45-10-W1	60,00	45,00	11,00	55,40	6,35
TTE/W 2014	63-45-10-W	63,00	45,00	11,00	58,40	6,35
TTE/W 2015	65-50-10-W	65,00	50,00	11,00	60,40	6,35



TTO

Guarnizioni per PISTONE
PISTON seals

TECNOLAN

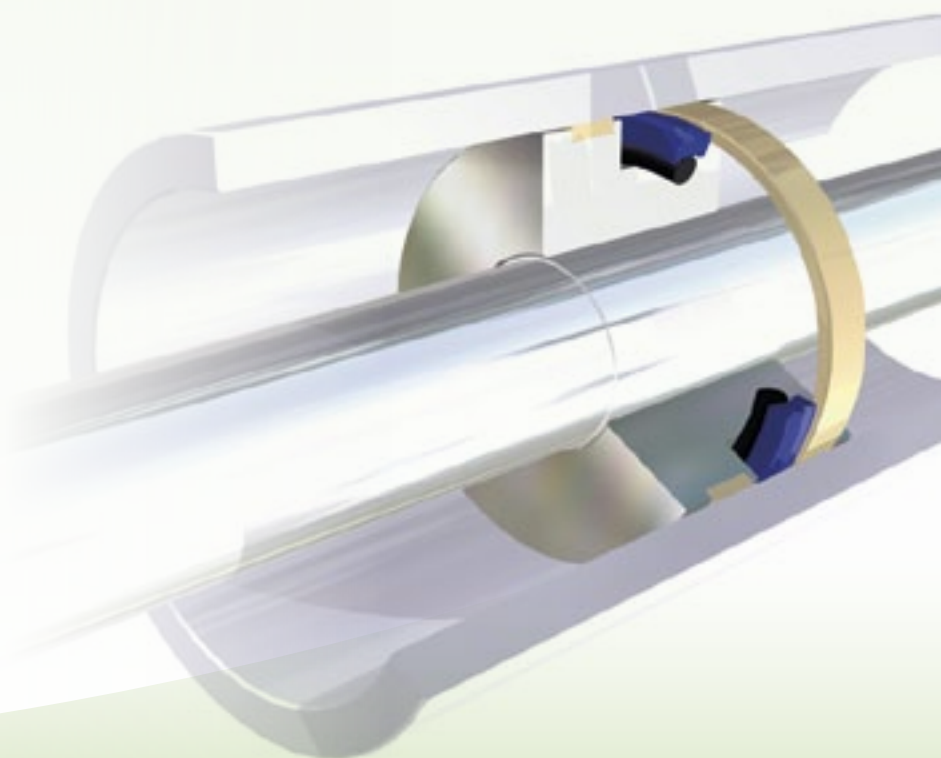
Versione standard	Standard version
Poliuretano+OR NBR	Polyurethane+OR NBR
Pressione fino a / Pressure up to	
25 MPa PB501	40 MPa PB546
Velocità fino a / Speed up to	
0.5 m/s	
Temperatura / Temperature	
-35°C +100°C	
Applicazioni	Applications
Cilindri per agricoltura Macchine movimento terra Carrelli elevatori Cilindri per idroguidi	Agricultural Cylinders Earthmoving Machinery Fork Lifts Steering Cylinders

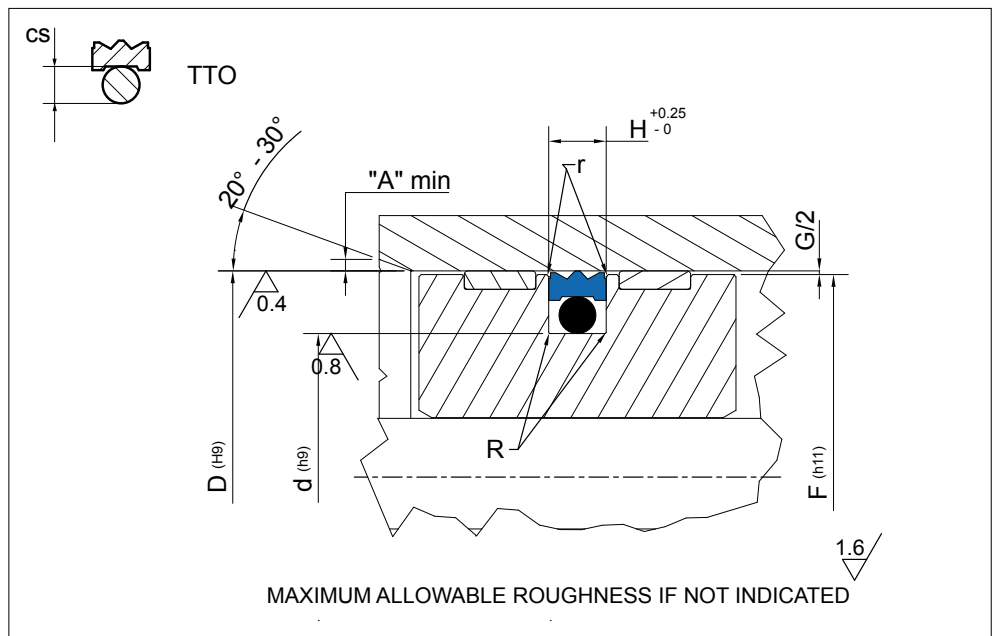


Guarnizioni per PISTONE
PISTON seals

TTO

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Piston Seal design guidelines

R	$d \leq 65\text{mm}$		$d > 65\text{mm}$	
	max 0.50 mm		max 0.90 mm	
r	remove sharp edges: $r \leq 0.3\text{mm}$			
A	1 mm	2 mm	3 mm	$3\text{ mm} < A \leq 5\text{ mm}$

G	O-Ring Cross Section		Max Gap Allowance	
	CS		G MAX	
	1,78		0,40	
	2,62		0,50	
	3,53		0,50	
	5,33		0,50	
	7,00		0,60	

PART NR	DIMENSIONI SEDI / Housing dimensions			
	D	d	H	OR
TTO 15	15,00	7,50	3,20	108
TTO 16	16,00	8,50	3,20	109
TTO 20	20,00	12,50	3,20	112
TTO 25	25,00	14,00	4,20	207
TTO 25/1	25,00	17,50	3,20	115
TTO 30	30,00	22,50	3,20	118
TTO 32	32,00	21,00	4,20	211
TTO 32/1	32,00	24,50	3,20	119
TTO 35	35,00	27,50	3,20	121
TTO 36	36,00	28,50	3,20	122
TTO 38	38,00	30,50	3,20	123
TTO 40	40,00	24,50	6,30	318
TTO 40/1	40,00	29,00	4,20	216
TTO 42	42,00	31,00	4,20	217
TTO 45	45,00	29,50	6,30	320
TTO 45/1	45,00	34,00	4,20	219
TTO 48	48,00	37,00	4,20	221
TTO 50	50,00	34,50	6,30	324
TTO 50/1	50,00	39,00	4,20	222
TTO 55	55,00	39,50	6,30	325
TTO 55/1	55,00	44,00	4,20	224
TTO 57	57,00	46,00	4,20	224



TTQ

Guarnizioni per PISTONE
PISTON seals

TECNOLAN

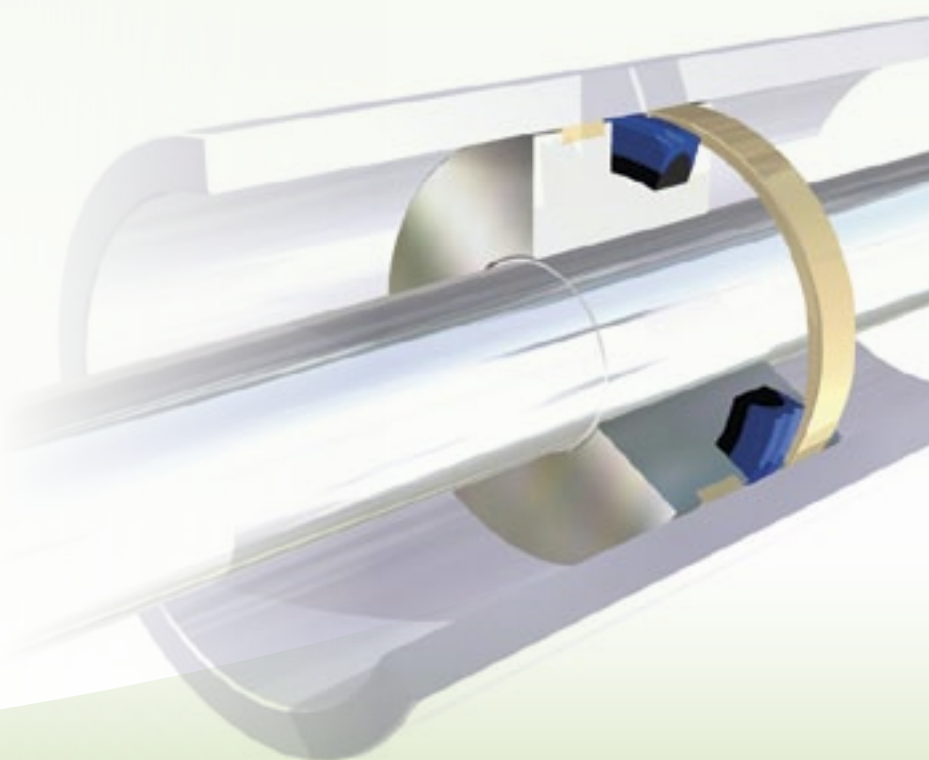
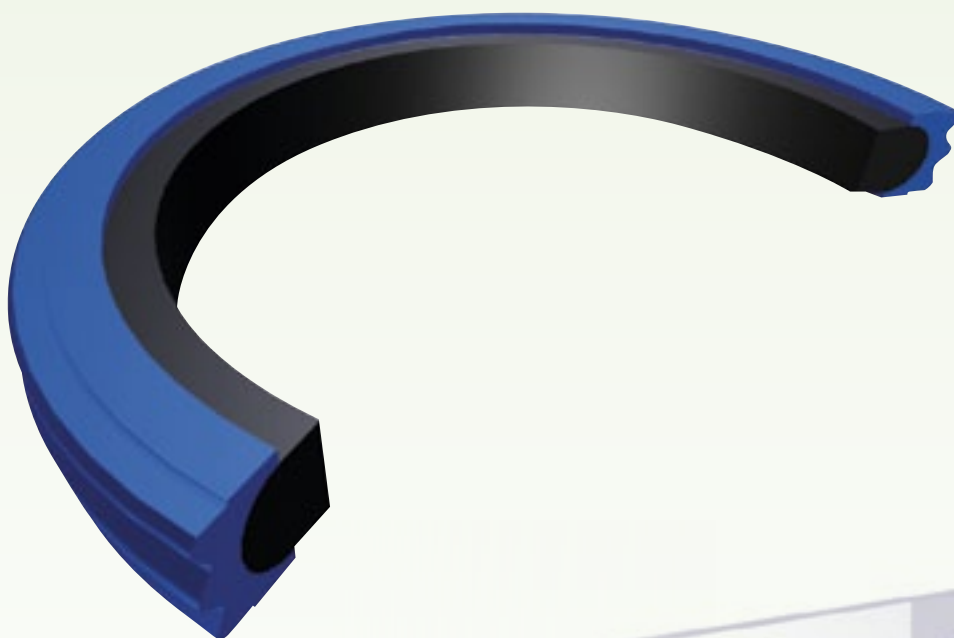
Versione standard	Standard version
Poliuretano+NBR	Polyurethane+NBR
Pressione fino a / Pressure up to	
40 MPa	
Velocità fino a / Speed up to	
0.5 m/s	
Temperatura / Temperature	
-35°C +100°C	
Applicazioni	Applications
Cilindri per agricoltura Macchine movimento terra Carrelli elevatori Cilindri per idroguidi	Agricultural Cylinders Earthmoving Machinery Fork Lifts Steering Cylinders

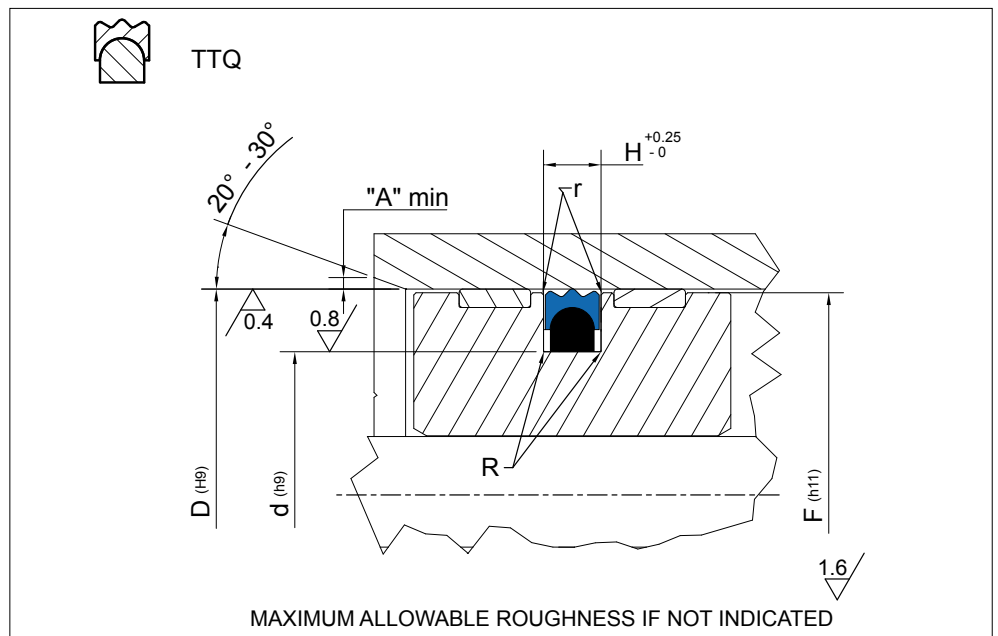


Guarnizioni per PISTONE
PISTON seals

TTQ

196÷199





Piston Seal design guidelines

R	$d \leq 100\text{mm}$		$d > 100\text{mm}$	
	max 0.30 mm		max 0.40 mm	
r	remove sharp edges: $r \leq 0.3\text{mm}$			
A	1 mm	2 mm	3 mm	$3\text{ mm} < A \leq 5\text{ mm}$

PART NR	DIMENSIONI SEDI / Housing dimensions		
	D	d	H
TTQ 20	20,00	12,50	3,20
TTQ 25	25,00	17,50	3,20
TTQ 30	30,00	22,50	3,20
TTQ 32	32,00	24,50	3,20
TTQ 35	35,00	24,00	4,20
TTQ 40	40,00	24,50	6,30
TTQ 40/1	40,00	29,00	4,20
TTQ 45	45,00	34,00	4,20
TTQ 48	48,00	37,00	4,20
TTQ 50	50,00	34,50	6,30
TTQ 50/1	50,00	39,00	4,20
TTQ 55	55,00	39,50	6,30
TTQ 55/1	55,00	44,00	4,20
TTQ 57	57,00	46,00	4,20
TTQ 60	60,00	44,50	6,30
TTQ 60/1	60,00	49,00	4,20
TTQ 63	63,00	47,50	6,30
TTQ 63/1	63,00	52,00	4,20
TTQ 65	65,00	49,50	6,30
TTQ 65/1	65,00	52,00	4,20
TTQ 68	68,00	57,00	4,20
TTQ 70	70,00	54,50	6,30
TTQ 70/2	70,00	57,00	6,30
TTQ 70/1	70,00	59,00	4,20
TTQ 72	72,00	61,00	4,20
TTQ 75	75,00	59,50	6,30
TTQ 75/1	75,00	63,00	6,30



TTR

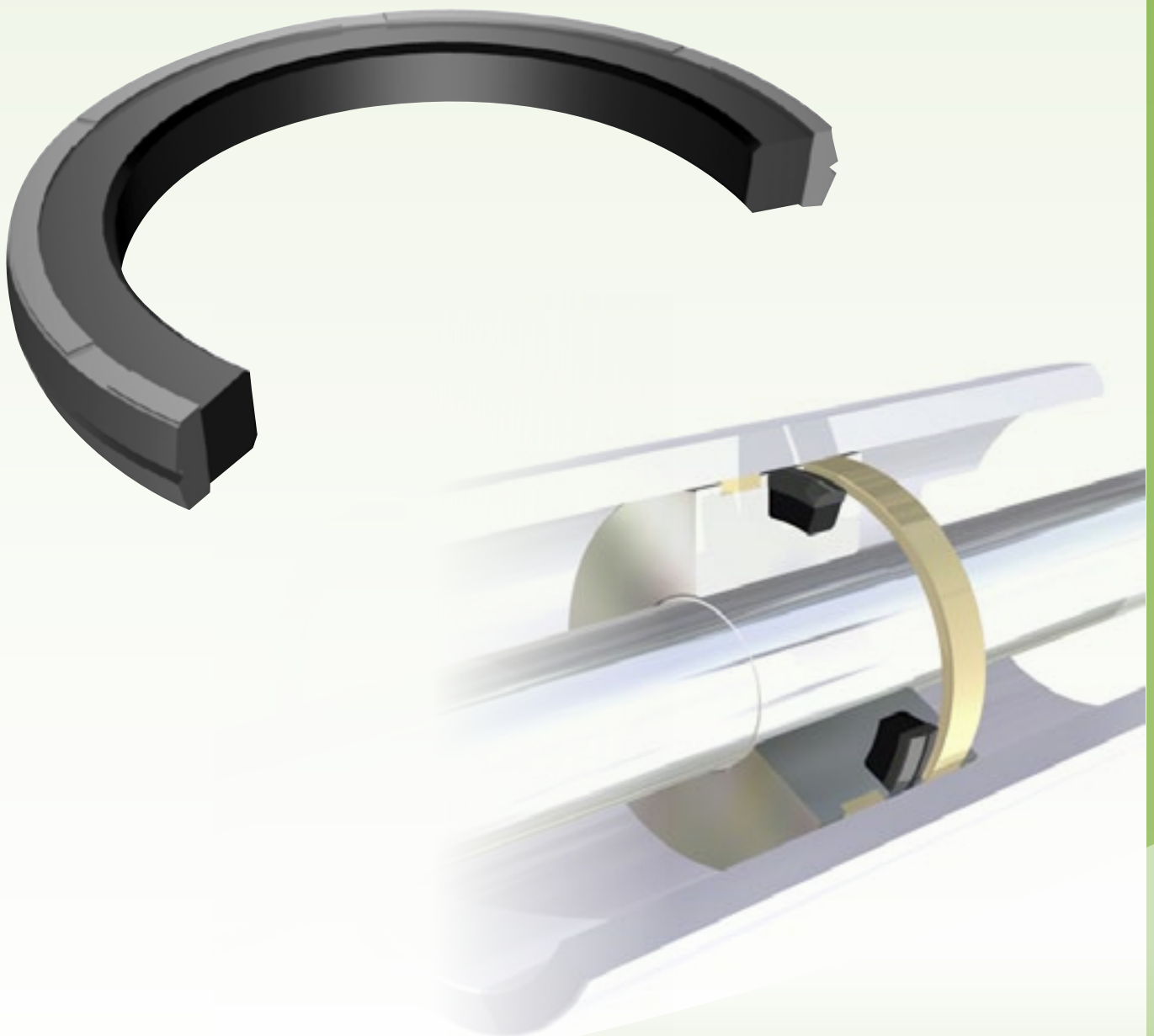
Guarnizioni per PISTONE
PISTON seals

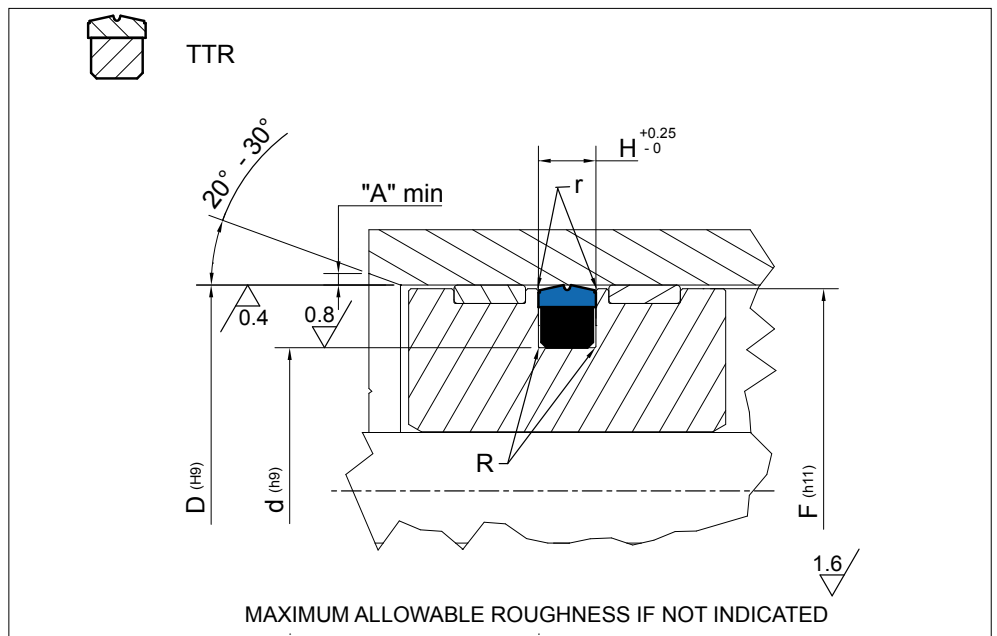
TECNOLAN

Versione standard	Standard version
Poliuretano + NBR	Polyurethane + NBR
Pressione fino a / Pressure up to	
40 MPa	
Velocità fino a / Speed up to	
0,5 m/s	
Temperatura / Temperature	
-35°C +100°C	
Applicazioni	Applications
Cilindri Standard Cilindri per Agricoltura Serie leggera	Standard Industrial Cylinders Agricultural Cylinders Light Duty machinery

TTR

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Piston Seal design guidelines

R	$d \leq 100\text{mm}$	$d > 100\text{mm}$		
		max 0.30 mm	max 0.40 mm	
r	remove sharp edges: $r \leq 0.3\text{mm}$			
A	1 mm	2 mm	3 mm	$3\text{ mm} < A \leq 5\text{ mm}$

PART NR	DIMENSIONI SEDI / Housing dimensions		
	D	d	H
TTR 50	50,00	34,50	6,30
TTR 50/1	50,00	39,00	4,20
TTR 55	55,00	39,50	6,30
TTR 55/1	55,00	44,00	4,20
TTR 60	60,00	44,50	6,30
TTR 60/1	60,00	49,00	4,20
TTR 63	63,00	47,50	6,30
TTR 63/1	63,00	52,00	4,20
TTR 65	65,00	49,50	6,30
TTR 65/1	65,00	52,00	6,30
TTR 70	70,00	54,50	6,30
TTR 70/1	70,00	59,00	4,20
TTR 75	75,00	59,50	6,30
TTR 75/1	75,00	62,00	6,30
TTR 80/1	80,00	69,00	4,20
TTR 80	80,00	64,50	6,30
TTR 85	85,00	69,50	6,30
TTR 90	90,00	74,50	6,30
TTR 95	95,00	79,50	6,30
TTR 100	100,00	84,50	6,30
TTR 105	105,00	89,50	6,30
TTR 110	110,00	94,50	6,30
TTR 120	120,00	104,50	6,30
TTR 125	125,00	109,50	6,30
TTR 130	130,00	114,50	6,30
TTR 130/1	130,00	109,00	8,10
TTR 140	140,00	119,00	8,10



TUT

Guarnizioni per PISTONE
PISTON seals

TECNOTEX

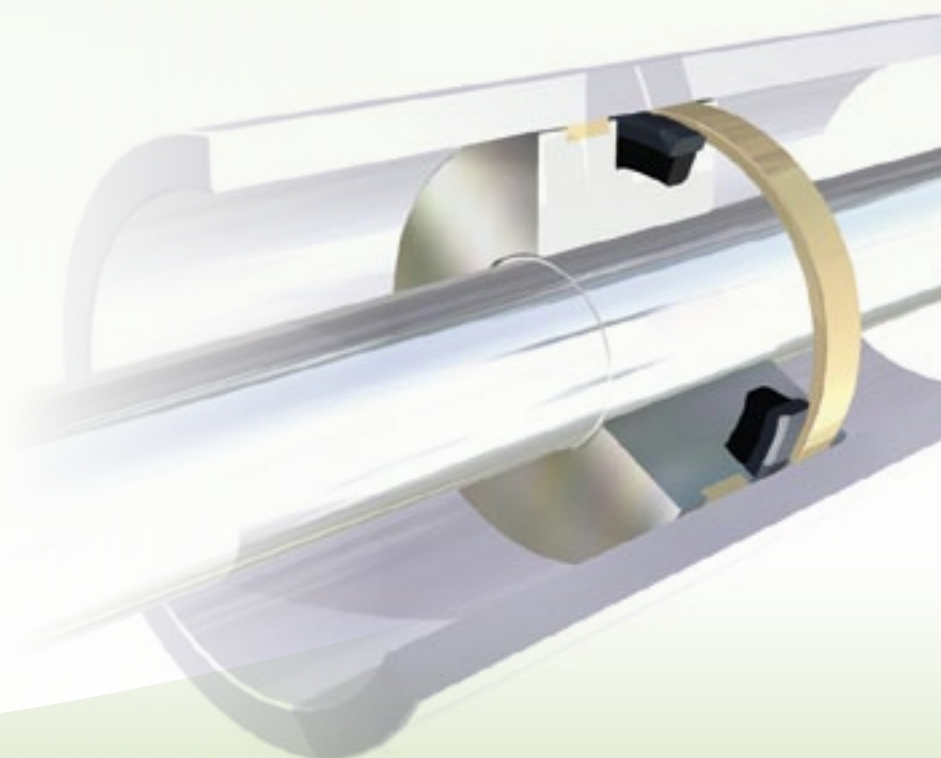
Versione standard	Standard version
PA66 + NBR	PA66 + NBR
Pressione fino a / Pressure up to	
50 MPa	
Velocità fino a / Speed up to	
1,0 m/s	
Temperatura / Temperature	
-30°C +110°C	
Applicazioni	Applications
Cilindri doppio effetto con alta pressione Cilindri serie pesanti	Heavy duty Applications High pressure Double acting cylinders



Guarnizioni per PISTONE
PISTON seals

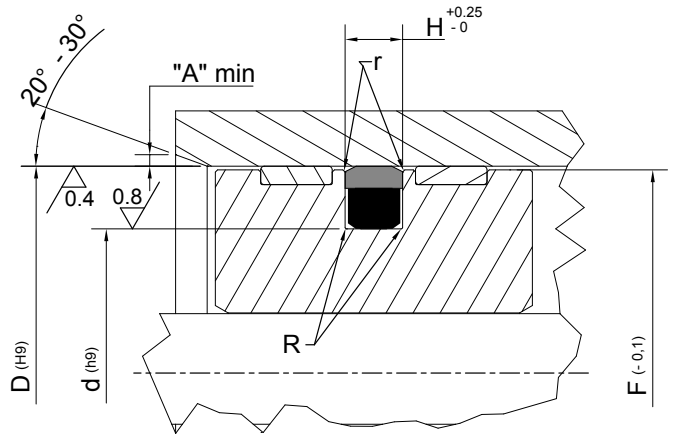
TUT

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TUT



MAXIMUM ALLOWABLE ROUGHNESS IF NOT INDICATED



Piston Seal design guidelines

R	d ≤ 65mm		d > 65mm	
	max 0.40 mm		max 0.80 mm	
r	remove sharp edges: r ≤ 0.3mm			
A	1 mm	2 mm	3 mm	3 mm < A ≤ 5 mm

PART NR	DIMENSIONI SEDI / Housing dimensions			
	D	d	H	F
TUT 30	30,00	22,00	3,75	29,00
TUT 35	35,00	27,00	3,75	34,00
TUT 50	50,00	34,50	6,30	49,00
TUT 60	60,00	41,70	7,00	59,20
TUT 63	63,00	47,50	6,30	62,00
TUT 80	80,00	64,50	6,30	79,00
TUT 80/1	80,00	59,00	8,10	79,00
TUT 85	85,00	64,00	8,10	84,00
TUT 90	90,00	69,00	8,10	89,00
TUT 90/1	90,00	74,50	6,30	89,00
TUT 95	95,00	74,00	8,10	94,00
TUT 100	100,00	79,00	8,10	99,00
TUT 100/1	100,00	84,50	6,30	99,00
TUT 105	105,00	84,00	8,10	103,80
TUT 110	110,00	89,00	8,10	108,80
TUT 110/1	110,00	94,50	6,30	109,00
TUT 115	115,00	94,00	8,10	113,80
TUT 120	120,00	99,00	8,10	118,80
TUT 125	125,00	104,00	8,10	123,80
TUT 125/1	125,00	109,50	6,30	124,00
TUT 130	130,00	109,00	8,10	128,80
TUT 135	135,00	114,00	8,10	133,80
TUT 140	140,00	119,00	8,10	138,80
TUT 150	150,00	129,00	8,10	148,80
TUT 160	160,00	139,00	8,10	158,80
TUT 165	165,00	144,00	8,10	163,80
TUT 170	170,00	149,00	8,10	168,80

GUA-RING 01



Guarnizioni per PISTONE
PISTON seals

TEF-RING

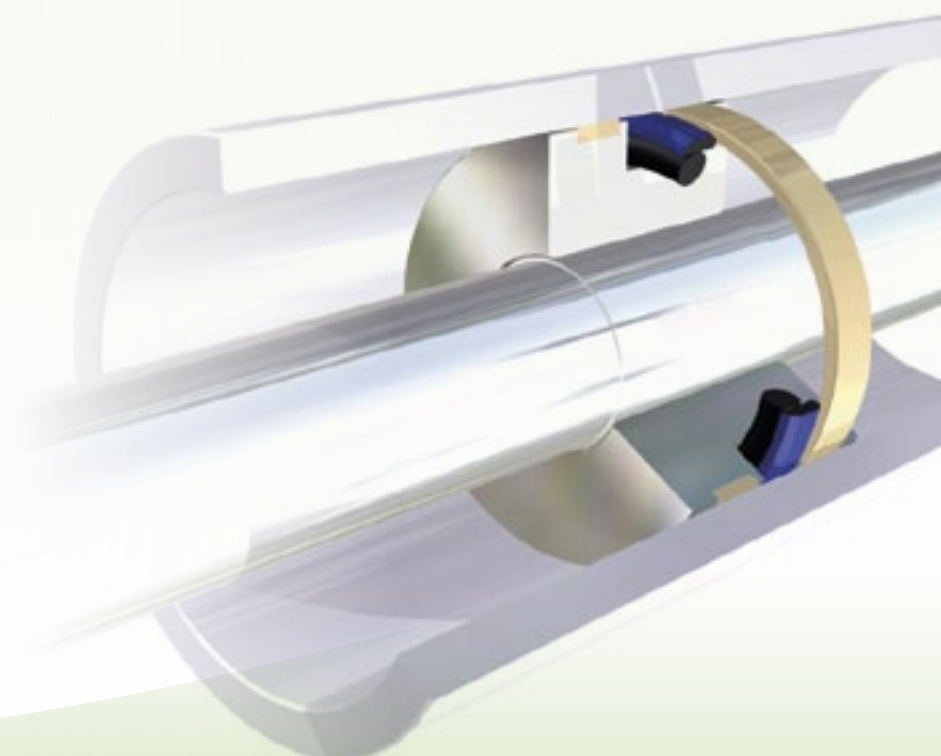
Versione standard	Standard version
PTFE caricato vetro + OR NBR	Glass filled PTFE + OR NBR
Versioni Alternative	Alternative Versions
PTFE caricato vetro + OR FKM	Glass filled PTFE + OR FKM
Pressione fino a / Pressure up to	
50 MPa	
Velocità fino a / Speed up to	
12 m/s	
Temperatura / Temperature	
-30°C +100°C	-20°C +200°C FKM
Applicazioni	Applications
Presse Cilindri Idraulici	Presses Hydraulic Cylinders



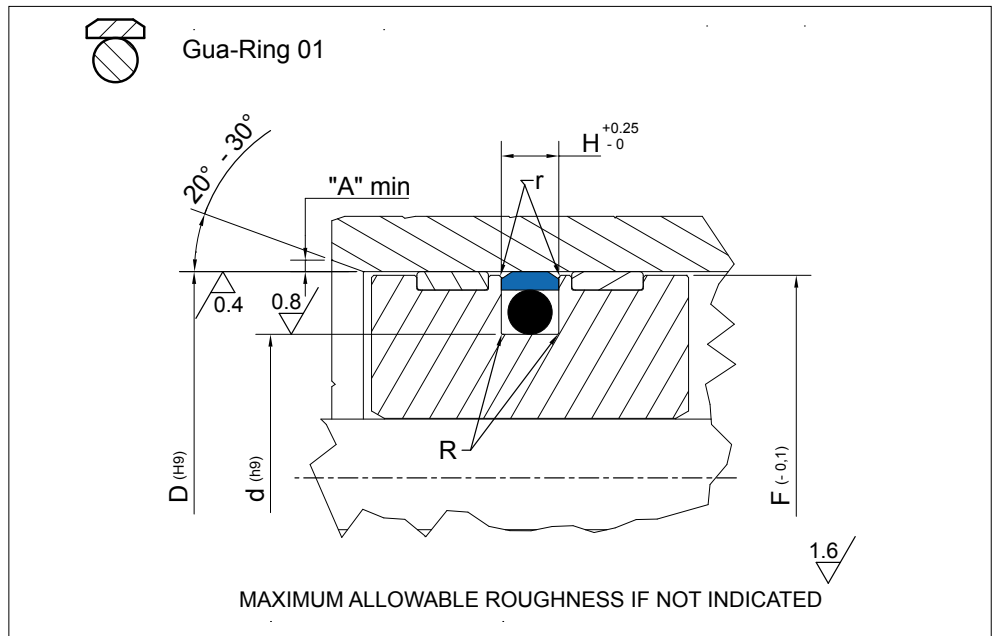
Guarnizioni per PISTONE
PISTON seals

GUA-RING 01

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GUA-RING 01



Piston Seal design guidelines

R	$d \leq 100\text{mm}$		$d > 100\text{mm}$	
		max 0.40 mm		max 0.80 mm
r	remove sharp edges: $r \leq 0.3\text{mm}$			
A	1 mm	2 mm	3 mm	$3\text{ mm} < A \leq 5\text{ mm}$

PART NR	DIMENSIONI SEDI / Housing dimensions			
	D	d	H	OR
01.007	7,00	3,00	1,95	006
01.008	8,00	4,00	1,95	007
01.010	10,00	6,00	1,95	009
01.012	12,00	8,00	1,92	011
01.014	14,00	10,00	1,95	012
01.015	15,00	11,00	1,95	013
01.016	16,00	10,00	2,80	110
01.018	18,00	12,00	2,80	111
01.020	20,00	14,00	2,80	113
01.022	22,00	16,00	2,80	114
01.025	25,00	19,00	2,80	116
01.028	28,00	20,00	3,75	210
01.030	30,00	22,00	3,75	212
01.032	32,00	24,00	3,75	213
01.033	33,00	25,00	3,75	214
01.035	35,00	27,00	3,75	215
01.036	36,00	28,00	3,75	215
01.038	38,00	30,00	3,75	217
01.040	40,00	32,00	3,75	218
01.042	42,00	34,00	3,75	219
01.045	45,00	37,00	3,75	221
01.048	48,00	40,00	3,75	222
01.050	50,00	37,50	5,50	325
01.052	52,00	39,50	5,50	325
01.055	55,00	42,50	5,50	326
01.058	58,00	45,50	5,50	327
01.060	60,00	47,50	5,50	328

GUA- RING 01

PART NR	DIMENSIONI SEDI / Housing dimensions			
	D	d	H	OR
01.063	63,00	50,50	5,50	329
01.065	65,00	52,50	5,50	329
01.068	68,00	55,50	5,50	330
01.070	70,00	57,50	5,50	331
01.072	72,00	59,50	5,50	331
01.075	75,00	62,50	5,50	332
01.078	78,00	65,50	5,50	333
01.080	80,00	67,50	5,50	334
01.085	85,00	72,50	5,50	336
01.090	90,00	77,50	5,50	337
01.092	92,00	79,50	5,50	338
01.095	95,00	82,50	5,50	339
01.100	100,00	87,50	5,50	340
01.104	104,00	91,50	5,50	342
01.105	105,00	92,50	5,50	342
01.108	108,00	95,50	5,50	343
01.110	110,00	97,50	5,50	343
01.115	115,00	102,50	5,50	345
01.120	120,00	107,50	5,50	347
01.125	125,00	112,50	5,50	348
01.130	130,00	114,20	7,45	425
01.135	135,00	119,20	7,45	426
01.140	140,00	124,20	7,45	428
01.145	145,00	129,20	7,45	429
01.150	150,00	134,20	7,45	431
01.155	155,00	139,20	7,45	433
01.160	160,00	144,20	7,45	434
01.165	165,00	149,20	7,45	436
01.170	170,00	154,20	7,45	437
01.180	180,00	164,20	7,45	874
01.185	185,00	169,20	7,45	439
01.190	190,00	174,20	7,45	440
01.200	200,00	184,20	7,45	442
01.205	205,00	189,20	7,45	882
01.210	210,00	194,20	7,45	443
01.215	215,00	197,40	7,45	444
01.220	220,00	202,40	7,45	886
01.222	222,00	204,40	7,45	445
01.225	225,00	207,40	7,45	445
01.230	230,00	212,40	7,45	674
01.240	240,00	222,40	7,45	676
01.250	250,00	232,40	7,45	447
01.260	260,00	242,40	7,45	448
01.270	270,00	252,40	7,45	680
01.280	280,00	262,40	7,45	682
01.285	285,00	267,40	7,45	450
01.290	290,00	272,40	7,45	684
01.295	295,00	277,40	7,45	684
01.300	300,00	282,40	7,45	451
01.320	320,00	302,40	7,45	688
01.330	330,00	312,40	7,45	453
01.340	340,00	322,40	7,45	454





GUARNITEC

GUA-RING GER



Guarnizioni per PISTONE
PISTON seals

TEF-RING

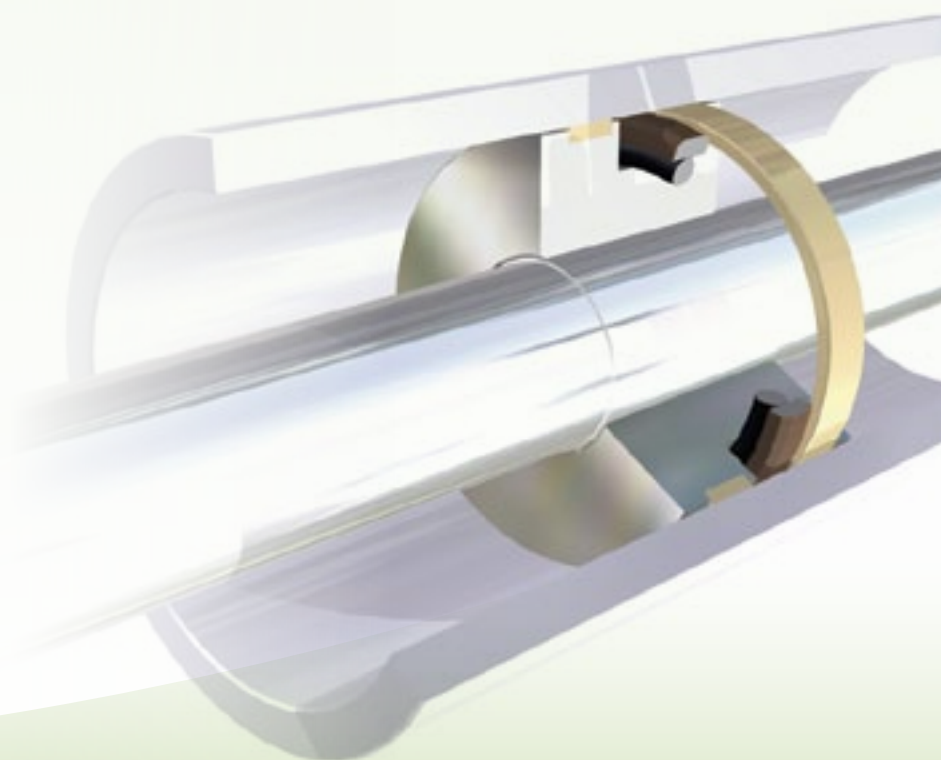
Versione standard		Standard version	
PTFE caricato bronzo+OR NBR		Bronze filled PTFE+OR NBR	
Versioni Alternative		Alternative Versions	
PTFE caricato bronzo+OR FKM		Bronze filled PTFE+OR FKM	
PTFE caricato bronzo+OR NBR basse temp.		Bronze filled PTFE+OR NBR low temp.	
Pressione fino a / Pressure up to			
60 MPa			
Velocità fino a / Speed up to			
15 m/s			
Temperatura / Temperature			
-30°C +100°C	-10°C +200°C FKM	-50°C +100°C TDS 108	
Applicazioni		Applications	
Cilindri speciali		Special Cylinders	
Idraulica Mobile		Mobile Hydraulics	
Macchine movimento terra		Earth moving machinery	
Presse		Presses	
Macchine stampaggio iniezione		Injection moulding machines	



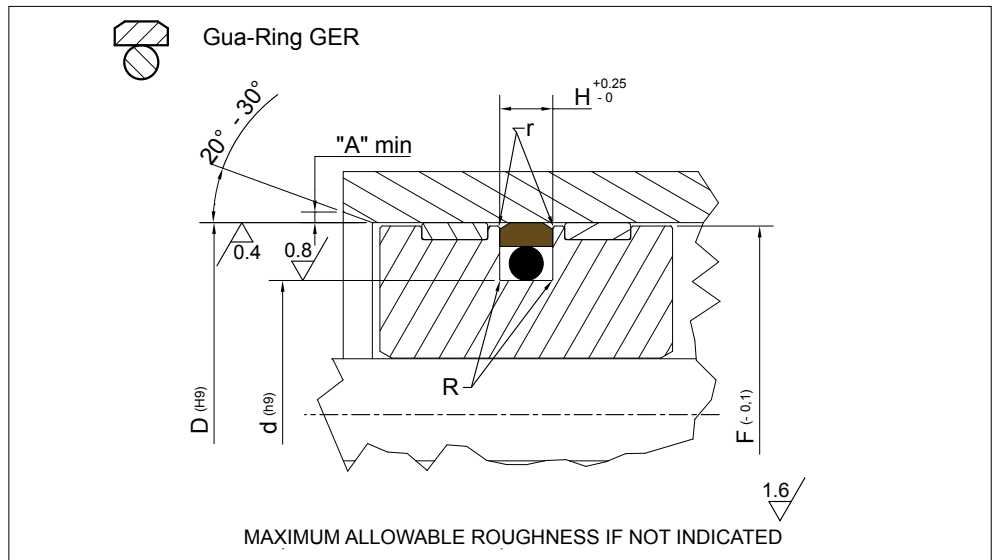
Guarnizioni per PISTONE
PISTON seals

GUA-RING GER

214÷257



GUA-RING GER



Piston Seal design guidelines








R	$d \leq 100\text{mm}$		$d > 100\text{mm}$	
		max 0.40 mm		max 0.80 mm
r	remove sharp edges: $r \leq 0.3\text{mm}$			
A	1 mm	2 mm	3 mm	$3\text{ mm} < A \leq 5\text{ mm}$

PART NR	DIMENSIONI SEDI / Housing dimensions			
	D	d	H	OR
GER 0080	8,00	3,10	2,20	006
GER 0100	10,00	5,10	2,20	008
GER 0120	12,00	7,10	2,20	010
GER 0150	15,00	7,50	3,20	108
GER 0160	16,00	8,50	3,20	109
GER 0180	18,00	10,50	3,20	110
GER 0200	20,00	12,50	3,20	111
GER 0220	22,00	14,50	3,20	113
GER 0240	24,00	16,50	3,20	114
GER 0250	25,00	17,50	3,20	115
GER 0280	28,00	20,50	3,20	116
GER 0300	30,00	22,50	3,20	118
GER 0320	32,00	24,50	3,20	119
GER 0350	35,00	27,50	3,20	121
GER 0380	38,00	30,50	3,20	123
GER 0390	39,00	31,50	3,20	124
GER 0400	40,00	29,00	4,20	216
GER 0420	42,00	31,00	4,20	217
GER 0450	45,00	34,00	4,20	219
GER 0480	48,00	37,00	4,20	221
GER 0500	50,00	39,00	4,20	222
GER 0520	52,00	41,00	4,20	223
GER 0550	55,00	44,00	4,20	224
GER 0600	60,00	49,00	4,20	225
GER 0630	63,00	52,00	4,20	226
GER 0650	65,00	54,00	4,20	227
GER 0700	70,00	59,00	4,20	228

GUA- RING GER

PART NR	DIMENSIONI SEDI / Housing dimensions			
	D	d	H	OR
GER 0750	75,00	64,00	4,20	230
GER 0800	80,00	64,50	6,30	333
GER 0850	85,00	69,50	6,30	335
GER 0900	90,00	74,50	6,30	336
GER 0950	95,00	79,50	6,30	338
GER 1000	100,00	84,50	6,30	339
GER 1050	105,00	89,50	6,30	341
GER 1100	110,00	94,50	6,30	343
GER 1150	115,00	99,50	6,30	344
GER 1200	120,00	104,50	6,30	346
GER 1250	125,00	109,50	6,30	347
GER 1300	130,00	114,50	6,30	349
GER 1350	135,00	114,00	8,10	425
GER 1400	140,00	119,00	8,10	426
GER 1450	145,00	124,00	8,10	428
GER 1500	150,00	129,00	8,10	429
GER 1600	160,00	139,00	8,10	433
GER 1700	170,00	149,00	8,10	436
GER 1800	180,00	159,00	8,10	438
GER 1900	190,00	169,00	8,10	439
GER 2000	200,00	179,00	8,10	441
GER 2100	210,00	189,00	8,10	442
GER 2200	220,00	199,00	8,10	444
GER 2250	225,00	204,00	8,10	445
GER 2300	230,00	209,00	8,10	445
GER 2400	240,00	219,00	8,10	446
GER 2500	250,00	229,00	8,10	447
GER 2600	260,00	239,00	8,10	447
GER 2700	270,00	249,00	8,10	448
GER 2800	280,00	259,00	8,10	449
GER 2900	290,00	269,00	8,10	450
GER 3000	300,00	279,00	8,10	451
GER 3100	310,00	289,00	8,10	451
GER 3200	320,00	299,00	8,10	452
GER 3300	330,00	305,50	8,10	453
GER 3400	340,00	315,50	8,10	453
GER 3500	350,00	325,50	8,10	454
GER 3600	360,00	335,50	8,10	455
GER 3700	370,00	345,50	8,10	456
GER 3800	380,00	355,50	8,10	457
GER 3900	390,00	365,50	8,10	457
GER 4000	400,00	375,50	8,10	458
GER 4100	410,00	385,50	8,10	459
GER 4200	420,00	395,50	8,10	460
GER 4300	430,00	405,50	8,10	461
GER 4400	440,00	415,50	8,10	461
GER 4500	450,00	425,50	8,10	462
GER 4600	460,00	435,50	8,10	463
GER 4700	470,00	445,50	8,10	464
GER 4800	480,00	455,50	8,10	465
GER 4900	490,00	465,50	8,10	465
GER 5000	500,00	475,50	8,10	466



PROFILO <i>PROFILE</i>	TIPO <i>SEAL TYPE</i>	valori • <i>technical data</i>			MATERIALE <i>MATERIAL</i>				pagina <i>page</i>
		MPa	speed m/s	temp. °C					
	AGI AGI/S	-	-	-40 +110	POM + Fibra vetro <i>POM + Fiberglass</i>	●	● ●		220÷225
	AGE	-	-	-40 +110	POM + Fibra vetro <i>POM + Fiberglass</i>	●	● ●		226÷229
	AFI AFE	-	-	-40 +130	Tessuto + Resina fenolica <i>Fabric + Phenolic Resin</i>	●	● ● ●	● ● ● ●	230÷234
	TEF/SEAL TF	-	-	-40 +200	PTFE + Bronzo <i>PTFE + Bronze</i>	●	● ● ●	● ● ● ●	236÷239



ANELLI di guida

guide **RINGS**



AGI AGI/S

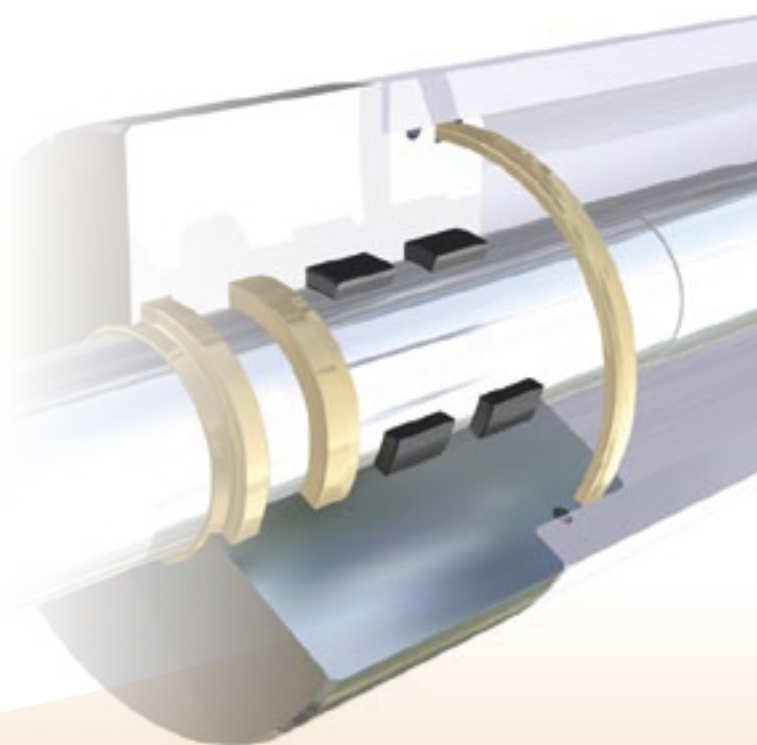
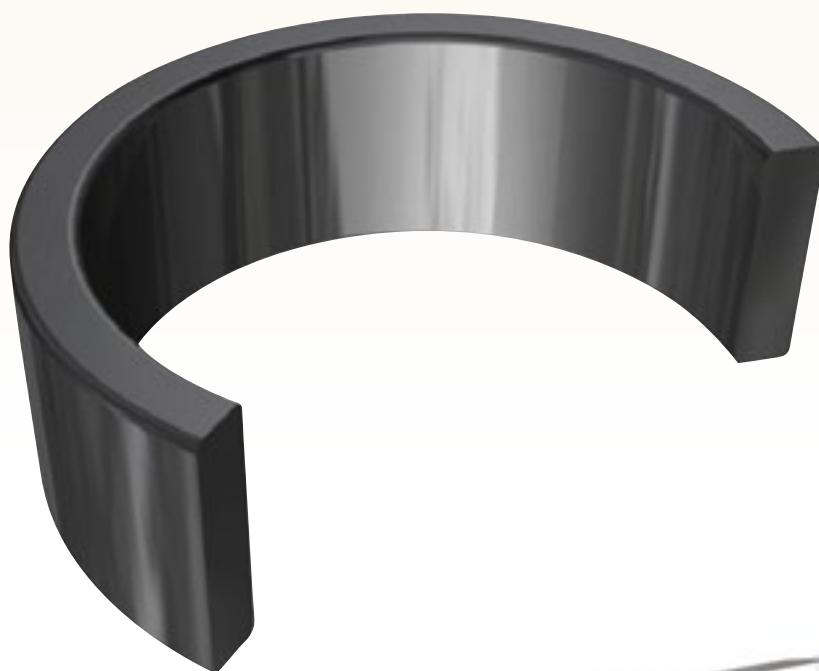
ANELLI di guida
guide **RINGS**

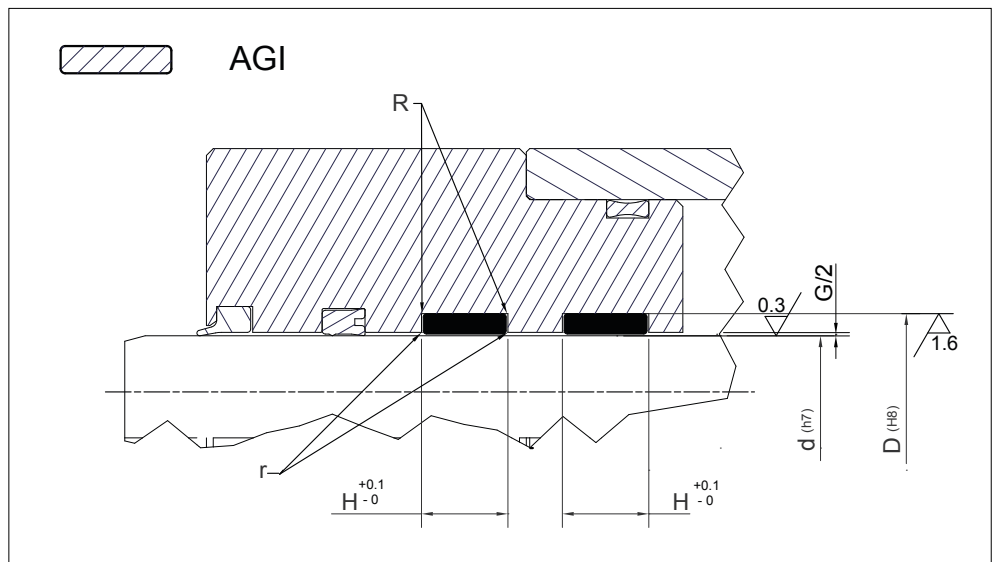
TECNOTEX

Versione standard	Standard version
AGI POM AGI/S POM	AGI POM AGI/S POM
Carico Radiale STATICO fino a / <i>STATIC Radial Load up to</i>	
40 N/mm ²	
Carico Radiale DINAMICO fino a / <i>DYNAMIC Radial Load up to</i>	
20 N/mm ²	
Velocità fino a / <i>Speed up to</i>	
1,0 m/s	
Temperatura / <i>Temperature</i>	
-40°C +110°C	
Applicazioni	Applications
Cilindri Idraulici Cilindri Telescopici Cilindri per agricoltura Carrelli Elevatori	<i>Standard cylinders Telescopic cylinders Agricultural cylinders Forklift</i>

AGI • AGI/S

220÷225





Wear Ring design guidelines

R	R ≤ 0.3 mm		
r	r ≤ 0.2 mm		
G	D ≤ 25mm	D ≥ 25mm to D100mm	>100mm
	0.60mm	0.80mm	1.30mm

Roughness- Ra

Sliding Surface	Ra < 0.3 μm
Groove Base	Ra < 1.6 μm
Groove Flanks	Ra < 1.6 μm

PART NR	DIMENSIONI SEDI / Housing dimensions		
	d	D	H
AGI 12/2	12,00	16,00	9,70
AGI 14/2	14,00	18,00	9,70
AGI 16/2	16,00	20,00	9,70
AGI 18/2	18,00	22,00	9,70
AGI 20/2	20,00	24,00	9,70
AGI 22/2	22,00	26,00	9,70
AGI 25/2	25,00	29,00	9,70
AGI 26/2	26,00	30,00	9,70
AGI 28/2	28,00	32,00	9,70
AGI 30/2	30,00	34,00	9,70
AGI 32/2	32,00	36,00	9,70
AGI 35/2	35,00	39,00	9,70
AGI 36/2	36,00	40,00	9,70
AGI 38/2	38,00	42,00	9,70
AGI 40/2	40,00	44,00	9,70
AGI 45	45,00	51,00	9,70
AGI 46	46,00	52,00	9,70
AGI 48	48,00	54,00	9,70
AGI 50	50,00	56,00	9,70
AGI 53	53,00	59,00	9,70
AGI 55	55,00	61,00	9,70
AGI 60	60,00	66,00	12,80
AGI 63	63,00	69,00	12,80
AGI 65	65,00	71,00	12,80
AGI 70	70,00	76,00	12,80
AGI 75	75,00	81,00	12,80
AGI 80	80,00	86,00	12,80



PART NR	DIMENSIONI SEDI / Housing dimensions		
	d	D	H
AGI 15/S5	15,00	19,00	8,50
AGI 16/S	16,00	19,00	5,60
AGI 16/S1	16,00	20,00	5,60
AGI 22/S	22,00	28,00	9,70
AGI 25/S1	25,00	30,00	5,60
AGI 25/S	25,00	31,00	9,70
AGI 27/S5	27,00	30,00	6,00
AGI 27/S1	27,00	32,00	5,60
AGI 27/S	27,00	32,00	9,70
AGI 28/S	28,00	33,00	9,70
AGI 28/S1	28,00	33,00	5,60
AGI 30/S5	30,00	34,00	8,50
AGI 30/S	30,00	34,00	9,70
AGI 30/S1	30,00	35,00	5,60
AGI 30/S2	30,00	35,00	9,70
AGI 32/S5	32,00	35,00	6,00
AGI 32/S	32,00	38,00	9,70
AGI 34/S	34,00	40,00	9,70
AGI 35/S5	35,00	39,00	8,50
AGI 35/S	35,00	40,00	5,60
AGI 35/S3	35,00	40,00	9,70
AGI 35/S1	35,00	41,00	9,70
AGI 36/S1	36,00	41,00	5,60
AGI 36/S3	36,00	41,00	9,70
AGI 36/S	36,00	42,00	9,70
AGI 36/S2	36,00	42,00	12,70
AGI 39/S	39,00	45,00	9,70
AGI 40/S5	40,00	44,00	8,50
AGI 40/S	40,00	45,00	9,70
AGI 40/S1	40,00	45,00	5,60
AGI 40/S2	40,00	46,00	9,70
AGI 41/S1	41,00	45,00	9,70
AGI 41/S	41,00	46,00	5,60
AGI 43/S	43,00	48,00	5,30
AGI 45/S5	45,00	49,00	8,50
AGI 45/S1	45,00	50,00	5,60
AGI 45/S	45,00	50,00	9,70
AGI 45/S2	45,00	51,00	12,70
AGI 46/S	46,00	50,00	9,70
AGI 49/S	49,00	55,00	9,70
AGI 50/S	50,00	55,00	9,70
AGI 50/S1	50,00	55,00	20,00
AGI 50/S2	50,00	56,00	12,70
AGI 52/S	52,00	57,00	5,30
AGI 55/S5	55,00	59,00	8,50
AGI 55/S1	55,00	60,00	5,60
AGI 55/S	55,00	60,00	9,70
AGI 56/S1	56,00	61,00	9,70
AGI 56/S	56,00	62,00	12,70
AGI 57/S4	57,00	63,00	13,00
AGI 58/S1	58,00	63,00	5,60
AGI 58/S	58,00	63,00	9,70



AGE

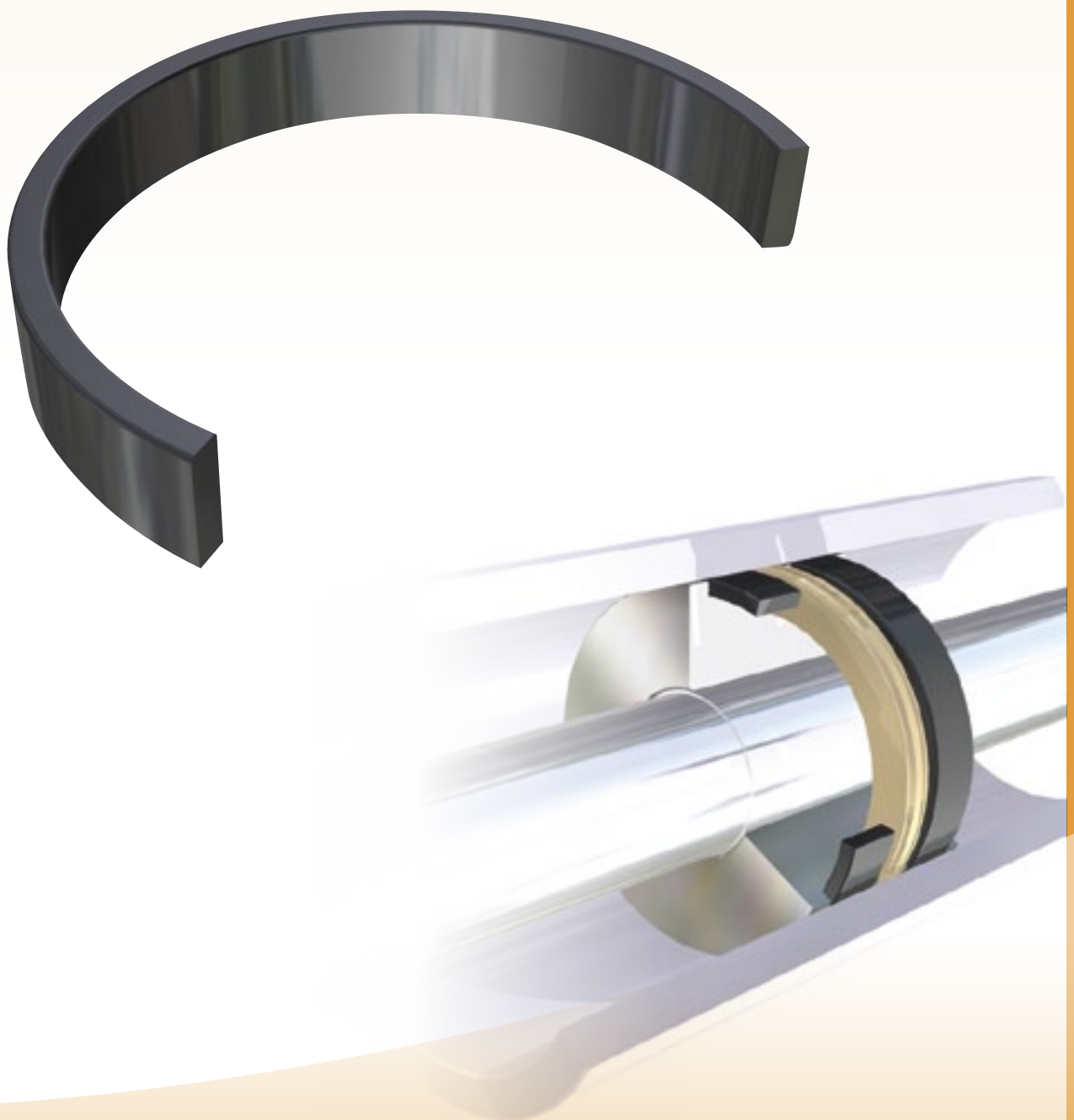
ANELLI di guida
guide **RINGS**

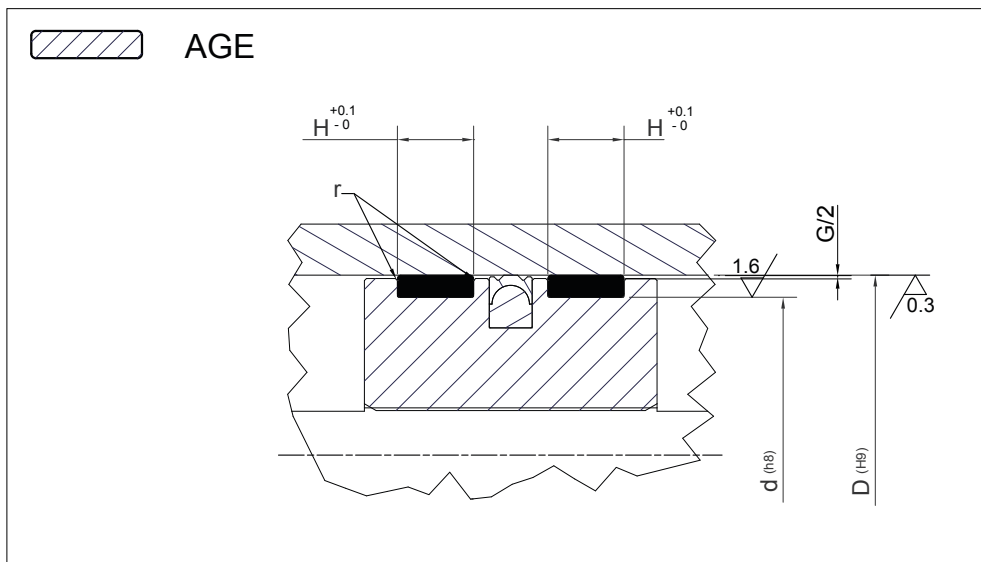
TECNOTEX

Versione standard	Standard version
POM	POM
Carico Radiale STATICO fino a / STATIC Radial Load up to	
40 N/mm ²	
Carico Radiale DINAMICO fino a / DYNAMIC Radial Load up to	
20 N/mm ²	
Velocità fino a / Speed up to	
0.8 m/s	
Temperatura / Temperature	
-40°C +110°C	
Applicazioni	Applications
Cilindri Idraulici Cilindri Telescopici Cilindri per agricoltura Carrelli Elevatori	Standard cylinders Telescopic cylinders Agricultural cylinders Forklift

AGE

226÷229





Wear Ring design guidelines

r	r ≤ 0.2 mm		
G	D ≤ 25mm	D ≥ 25mm to D100mm	>100mm
	0.60mm	0.80mm	1.30mm
Roughness- Ra			
Sliding Surface	Ra < 0.3 μm		
Groove Base	Ra < 1.6 μm		
Groove Flanks	Ra < 1.6 μm		

PART NR	DIMENSIONI SEDI / Housing dimensions		
	D	d	H
AGE 16/2	16,00	12,00	9,70
AGE 20/2	20,00	16,00	9,70
AGE 25/2	25,00	21,00	9,70
AGE 30/2	30,00	26,00	9,70
AGE 32/2	32,00	28,00	9,70
AGE 35/2	35,00	31,00	9,70
AGE 40/2	40,00	36,00	9,70
AGE 45/2	45,00	41,00	9,70
AGE 50	50,00	44,00	9,70
AGE 55	55,00	49,00	12,80
AGE 60	60,00	54,00	12,80
AGE 63	63,00	57,00	12,80
AGE 65	65,00	59,00	12,80
AGE 70	70,00	64,00	12,80
AGE 74	74,00	68,00	12,80
AGE 75	75,00	69,00	12,80
AGE 80	80,00	74,00	12,80
AGE 85	85,00	79,00	12,80
AGE 90	90,00	84,00	12,80
AGE 93	93,00	87,00	12,80
AGE 95	95,00	89,00	12,80
AGE 100	100,00	94,00	12,80
AGE 105	105,00	99,00	12,80
AGE 110	110,00	104,00	12,80
AGE 112	112,00	106,00	12,70
AGE 115	115,00	109,00	12,80
AGE 120	120,00	114,00	12,80



AFI
AFE

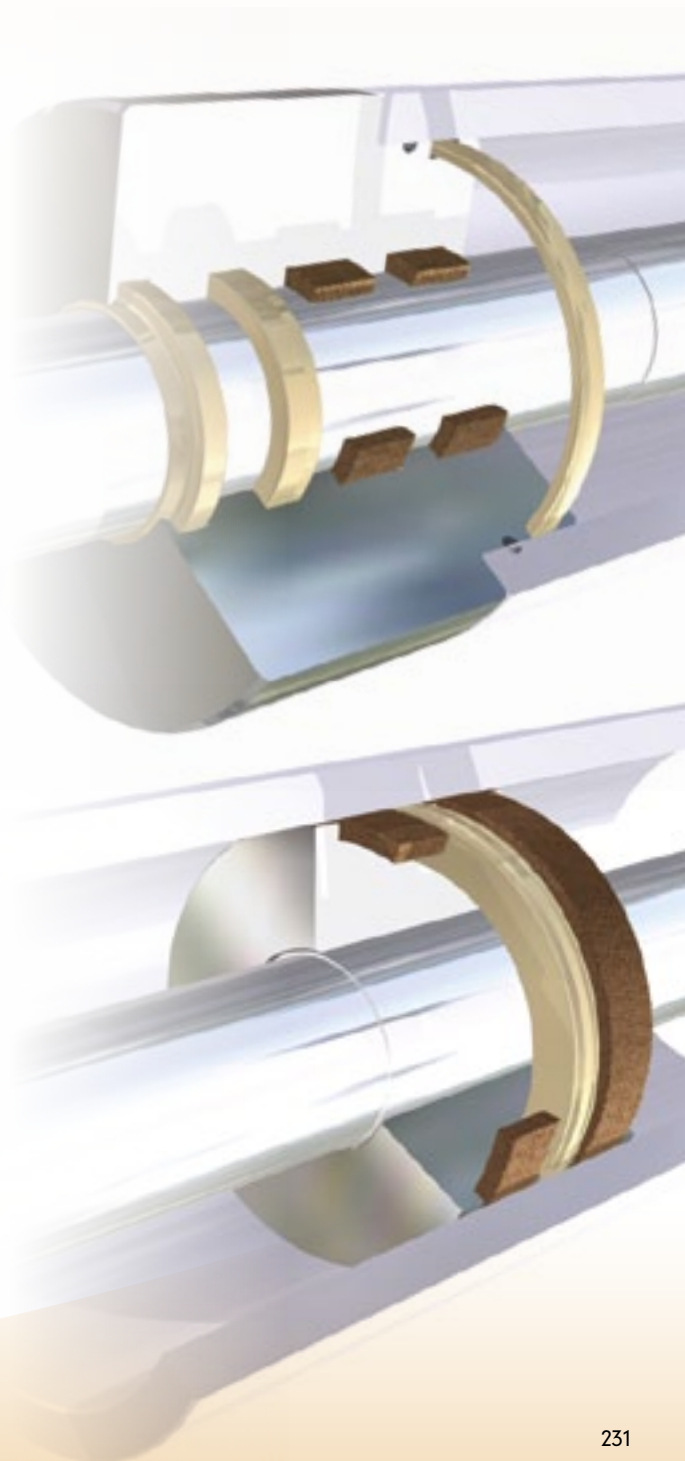
ANELLI di guida
guide **RINGS**

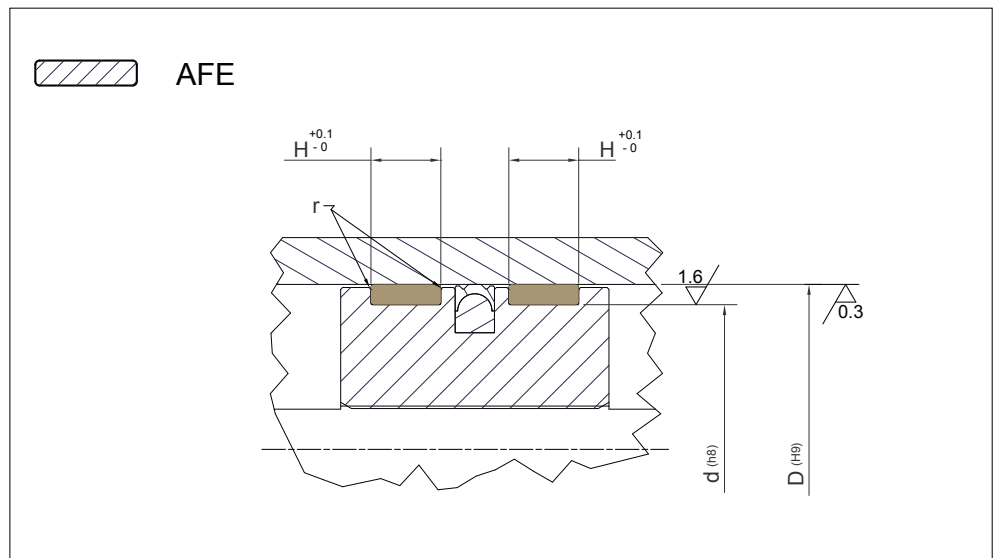
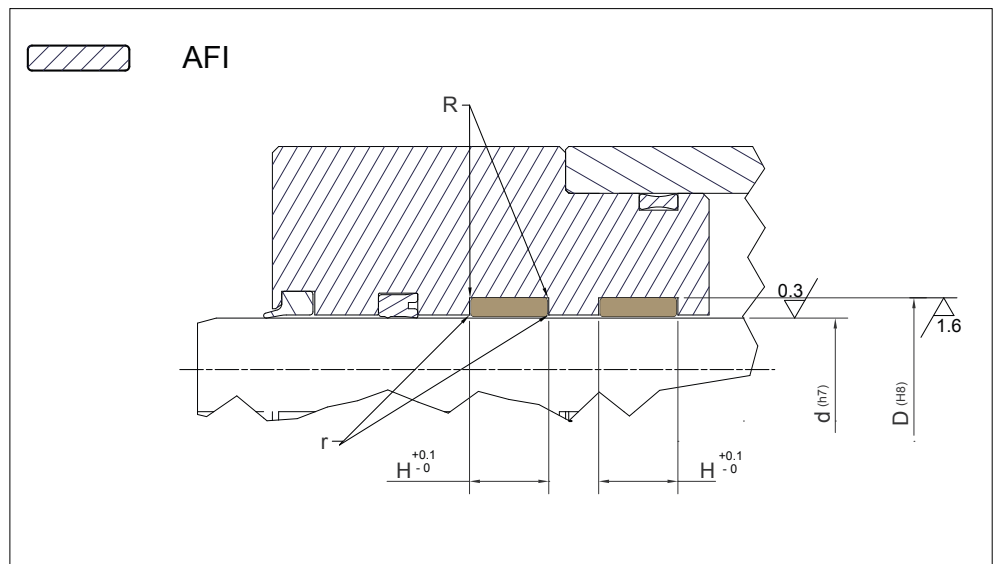
TEXILAN

Versione standard	Standard version
Fenolico	Phenolic
Carico Radiale STATICO fino a / STATIC Radial Load up to	
270 N/mm ²	
Carico Radiale DINAMICO fino a / DYNAMIC Radial Load up to	
80 N/mm ²	
Velocità fino a / Speed up to	
1 m/s	
Temperatura / Temperature	
-40°C +120°C	
Applicazioni	Applications
Cilindri per miniere Idraulica Mobile Presse Escavatori	Mining cylinders Mobile hydraulics Presses Excavators

AFI • AFE

230÷234





Wear Ring design guidelines

R	$R \leq 0.3 \text{ mm}$
r	$r \leq 0.2 \text{ mm}$
Roughness- Ra	
Sliding Surface	$Ra < 0.3 \mu\text{m}$
Groove Base	$Ra < 1.6 \mu\text{m}$
Groove Flanks	$Ra < 1.6 \mu\text{m}$

PART NR	DIMENSIONI SEDI / Housing dimensions		
	d	D	H
AFI AFE 20 25 9.7	20,00	25,00	9,70
AFI AFE 25 30 9.7	25,00	37,00	9,70
AFI AFE 27 32 9.7	27,00	32,00	9,70
AFI AFE 30 35 9.7	30,00	35,00	9,70
AFI AFE 35 40 9.7	35,00	40,00	9,70
AFI AFE 36 41 9.7	36,00	41,00	9,70
AFI AFE 37 42 9.7	37,00	42,00	9,70
AFI AFE 40 45 9.7	40,00	45,00	9,70
AFI AFE 45 50 9.7	45,00	50,00	9,70
AFI AFE 50 55 9.7	50,00	55,00	9,70
AFI AFE 55 60 9.7	55,00	60,00	9,70
AFI AFE 56 61 9.7	56,00	61,00	9,70

PART NR	DIMENSIONI SEDI / Housing dimensions		
	d	D	H
AFI AFE 58 63 9.7	58,00	63,00	9,70
AFI AFE 60 65 9.7	60,00	65,00	9,70
AFI AFE 63 68 9.7	63,00	68,00	9,70
AFI AFE 65 70 9.7	65,00	70,00	9,70
AFI AFE 70 75 9.7	70,00	75,00	9,70
AFI AFE 75 80 9.7	75,00	80,00	9,70
AFI AFE 80 85 9.7	80,00	85,00	9,70
AFI AFE 85 90 9.7	85,00	90,00	9,70
AFI AFE 90 95 9.7	90,00	95,00	9,70
AFI AFE 95 100 9.7	95,00	100,00	9,70
AFI AFE 100 105 9.7	100,00	105,00	9,70
AFI AFE 105 110 9.7	105,00	110,00	9,70
AFI AFE 110 115 9.7	110,00	115,00	9,70
AFI AFE 115 120 9.7	115,00	120,00	9,70
AFI AFE 120 125 9.7	120,00	125,00	9,70
AFI AFE 125 130 9.7	125,00	130,00	9,70
AFI AFE 130 135 9.7	130,00	135,00	9,70
AFI AFE 135 140 9.7	135,00	140,00	9,70
AFI AFE 140 145 9.7	140,00	145,00	9,70
AFI AFE 145 150 9.7	145,00	150,00	9,70
AFI AFE 150 155 9.7	150,00	155,00	9,70
AFI AFE 155 160 9.7	155,00	160,00	9,70
AFI AFE 160 165 9.7	160,00	165,00	9,70
AFI AFE 170 175 9.7	170,00	175,00	9,70
AFI AFE 175 180 9.7	175,00	180,00	9,70
AFI AFE 180 185 9.7	180,00	185,00	9,70
AFI AFE 185 190 9.7	185,00	190,00	9,70
AFI AFE 195 200 9.7	195,00	200,00	9,70
AFI AFE 36 41 15	36,00	41,00	15,00
AFI AFE 40 45 15	40,00	45,00	15,00
AFI AFE 45 50 15	45,00	50,00	12,00
AFI AFE 50 55 15	50,00	55,00	15,00
AFI AFE 55 60 15	55,00	60,00	15,00
AFI AFE 58 63 15	58,00	63,00	15,00
AFI AFE 60 65 15	60,00	65,00	15,00
AFI AFE 65 70 15	65,00	70,00	15,00
AFI AFE 70 75 15	70,00	75,00	15,00
AFI AFE 75 80 15	75,00	80,00	15,00
AFI AFE 80 85 15	80,00	85,00	15,00
AFI AFE 85 90 15	85,00	90,00	15,00
AFI AFE 90 95 15	90,00	95,00	15,00
AFI AFE 95 100 15	95,00	100,00	15,00
AFI AFE 100 105 15	100,00	105,00	15,00
AFI AFE 105 110 15	105,00	110,00	15,00
AFI AFE 110 115 15	110,00	115,00	15,00
AFI AFE 115 120 15	115,00	120,00	15,00
AFI AFE 120 125 15	120,00	125,00	15,00
AFI AFE 125 130 15	125,00	130,00	15,00
AFI AFE 130 135 15	130,00	135,00	15,00
AFI AFE 135 140 15	135,00	140,00	15,00
AFI AFE 140 145 15	140,00	145,00	15,00

TEXILAN

ANELLI di guida
guide RINGS

**AFI
AFE**





GUARNITEC



TEF/SEAL TF

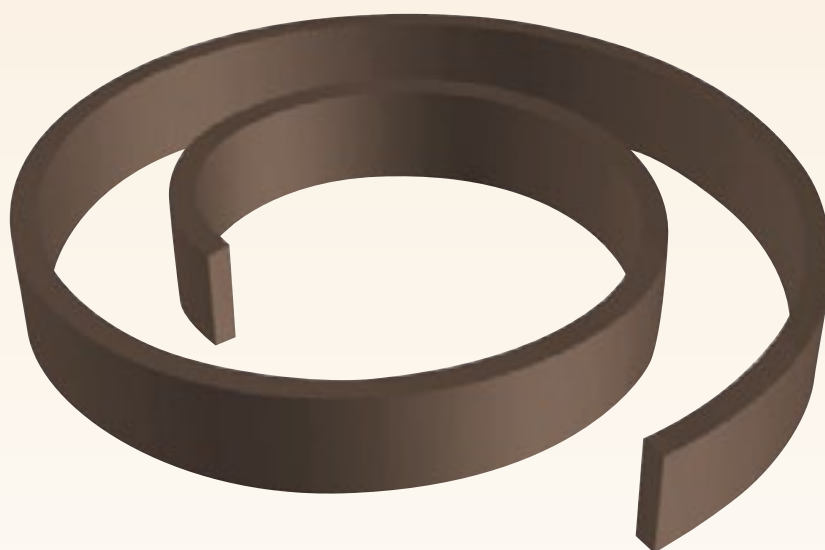
ANELLI di guida
guide **RINGS**

TEXILAN

Versione standard	Standard version
PTFE caricato bronzo	Bronze filled PTFE
Carico Radiale STATICO fino a /STATIC Radial Load up to	
25 N/mm ²	
Carico Radiale DINAMICO fino a /DYNAMIC Radial Load up to	
15 N/mm ²	
Velocità fino a /Speed up to	
≤5,0 m/s	
Temperatura / Temperature	
-40°C +200°C	
Applicazioni	Applications
Idraulica Mobile Presse Escavatori	Mobile hydraulics Presses Excavators

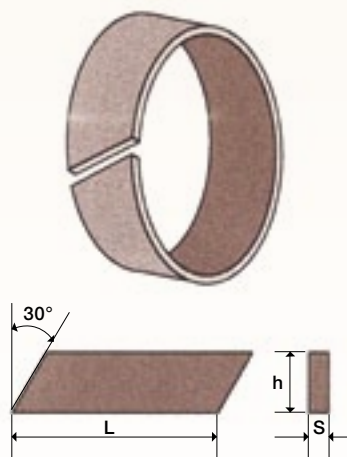
TEF/SEAL • TF

236÷239



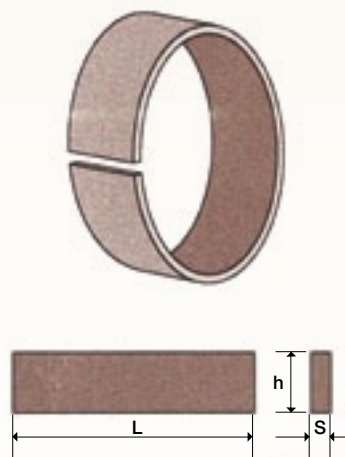
STELO . ROD

$$L = \pi (d+S) - 0,8$$

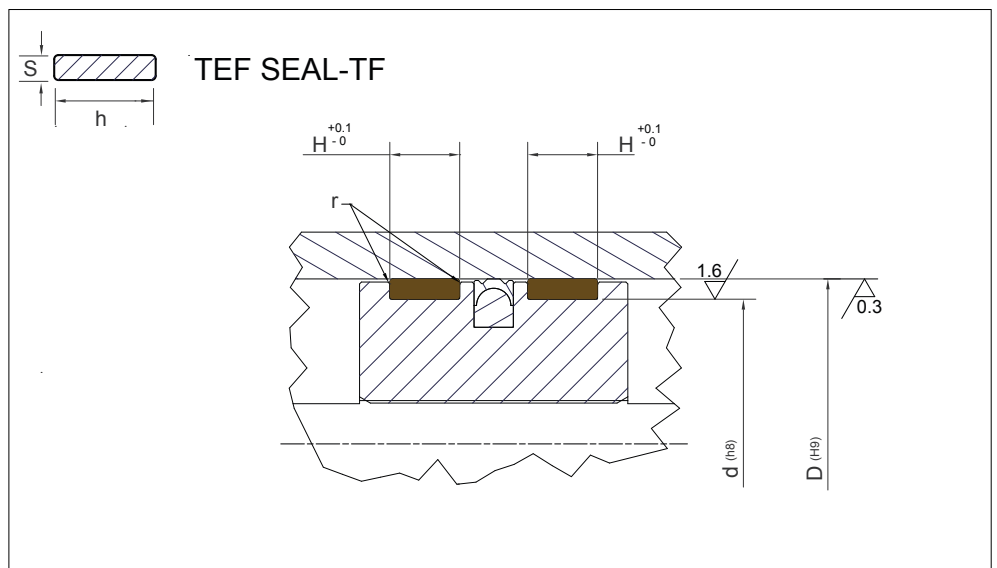
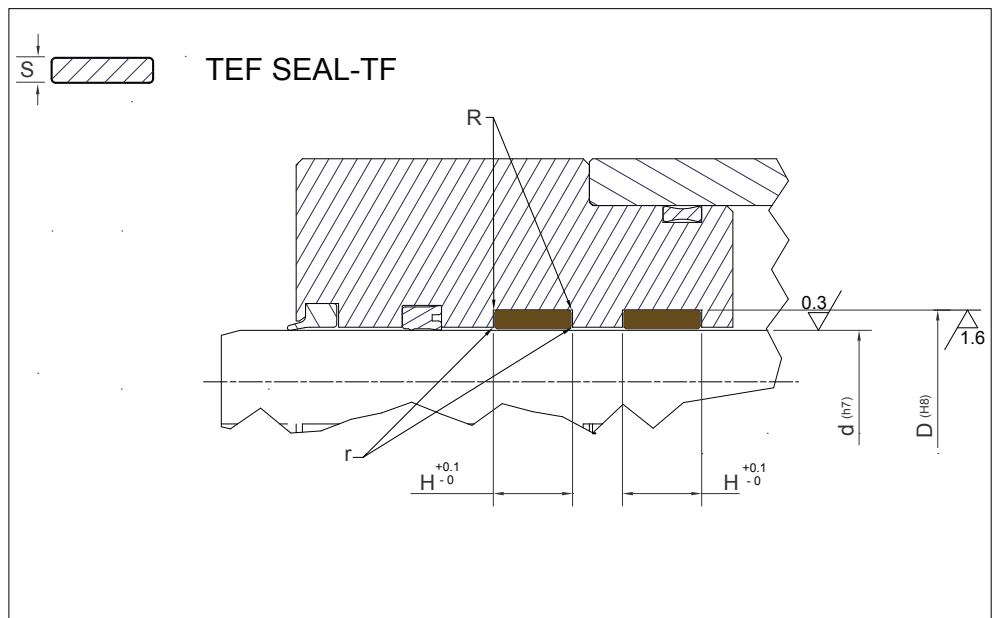


PISTONE . PISTON

$$L = \pi (D-S) - 0,8$$



TEF SEAL TF













Wear Ring design guidelines

R	$R \leq 0.3 \text{ mm}$
r	$r \leq 0.2 \text{ mm}$
Roughness- Ra	
Sliding Surface	$Ra < 0.3 \mu\text{m}$
Groove Base	$Ra < 1.6 \mu\text{m}$
Groove Flanks	$Ra < 1.6 \mu\text{m}$

PART NR	DIMENSIONI SEDI / Housing dimensions		
	H	h	S
TF 03-3215	3,20	3,00	1,50
TF 03-6315	6,30	6,10	1,50
TF 03-15015	15,00	14,80	1,50
TF 03-20015	20,00	19,70	1,50
TF 03-25015	25,00	24,70	1,50
TF 03-4220	4,20	4,00	2,00
TF 03-6320	6,30	6,10	2,00
TF 03-8120	8,10	7,90	2,00
TF 03-9720	9,70	9,50	2,00
TF 03-12020	12,00	11,70	2,00
TF 03-15020	15,00	14,80	2,00
TF 03-20020	20,00	19,70	2,00

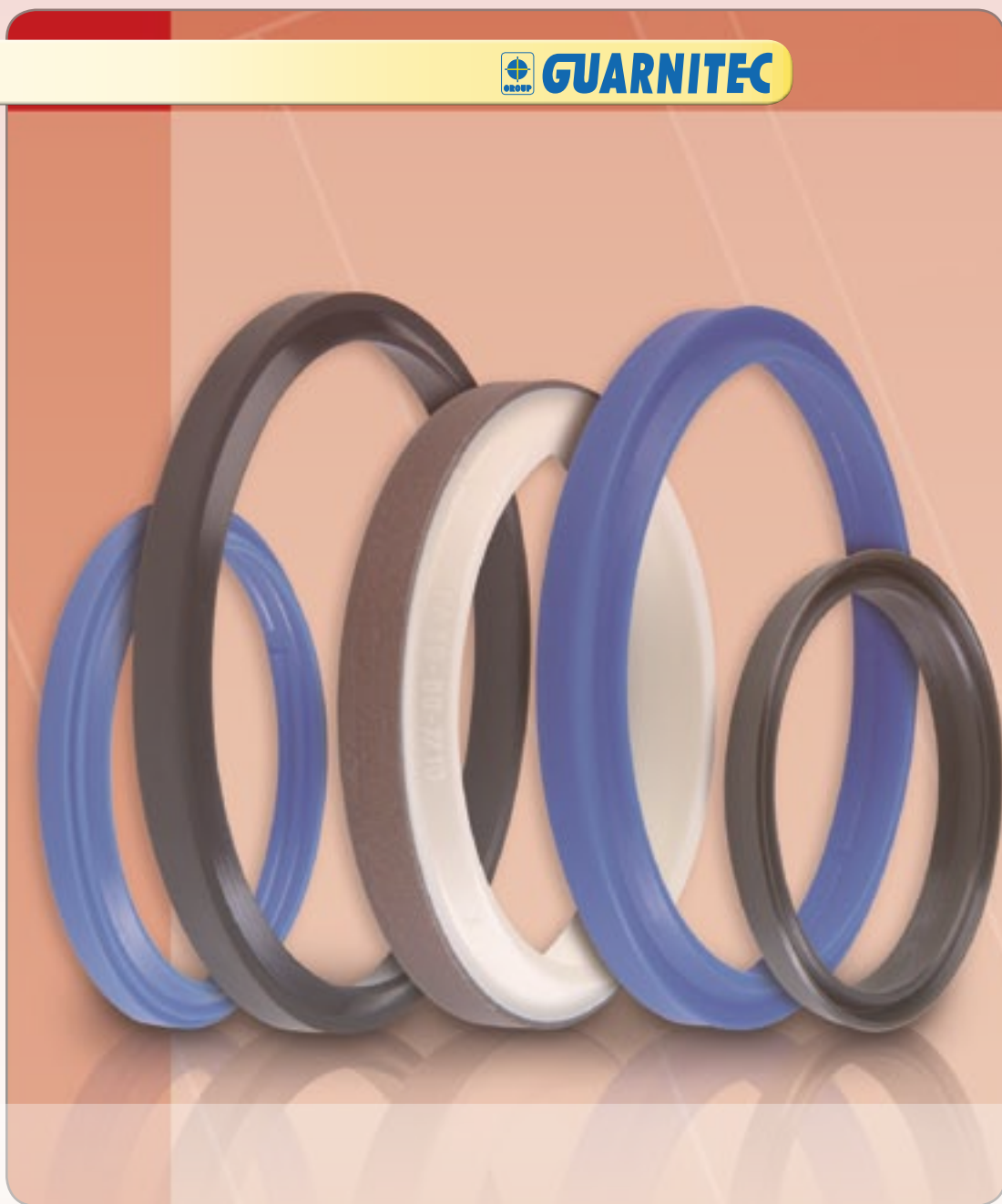
PROFILO PROFILE	TIPO SEAL TYPE	MPa	temp. °C	MATERIALE MATERIAL	 light	 medium	 heavy	pagina page
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PER INTERNI

	GHM	-	-30 +110	NBR	•	• •		242÷246
	GHK	-	-35 +100	Poliuretano Polyurethane	•	• •		248÷253
	GHY	-	-35 +100	Poliuretano Polyurethane	•	• •		254÷257
	GHW	-	-35 +100	Poliuretano Polyurethane	•	• •	• • •	258÷261
	GPA	-	-35 +100	Poliuretano + Metallo Polyurethane + Metal		• •	• • •	262÷265
	GHP	-	-35 +100	Poliuretano Polyurethane	•	• •		266÷269
	GPW	-	-35 +100	Poliuretano Polyurethane	•	• •		270÷273
	GWH*							
	GHF	-	-30 +130	PTFE caricato + NBR PTFE reinforced + NBR			• • •	274÷277
	GHH	-	-50 +140	TPE Thermoplastic		• •	• • •	278÷281

PER ESTERNI

	GGW	-	-35 +100	Poliuretano Polyurethane	•	• •	• • •	282÷284
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RASCHIATORI

WIPERS



GHM

RASCHIATORI
WIPERS

TECNOLEO

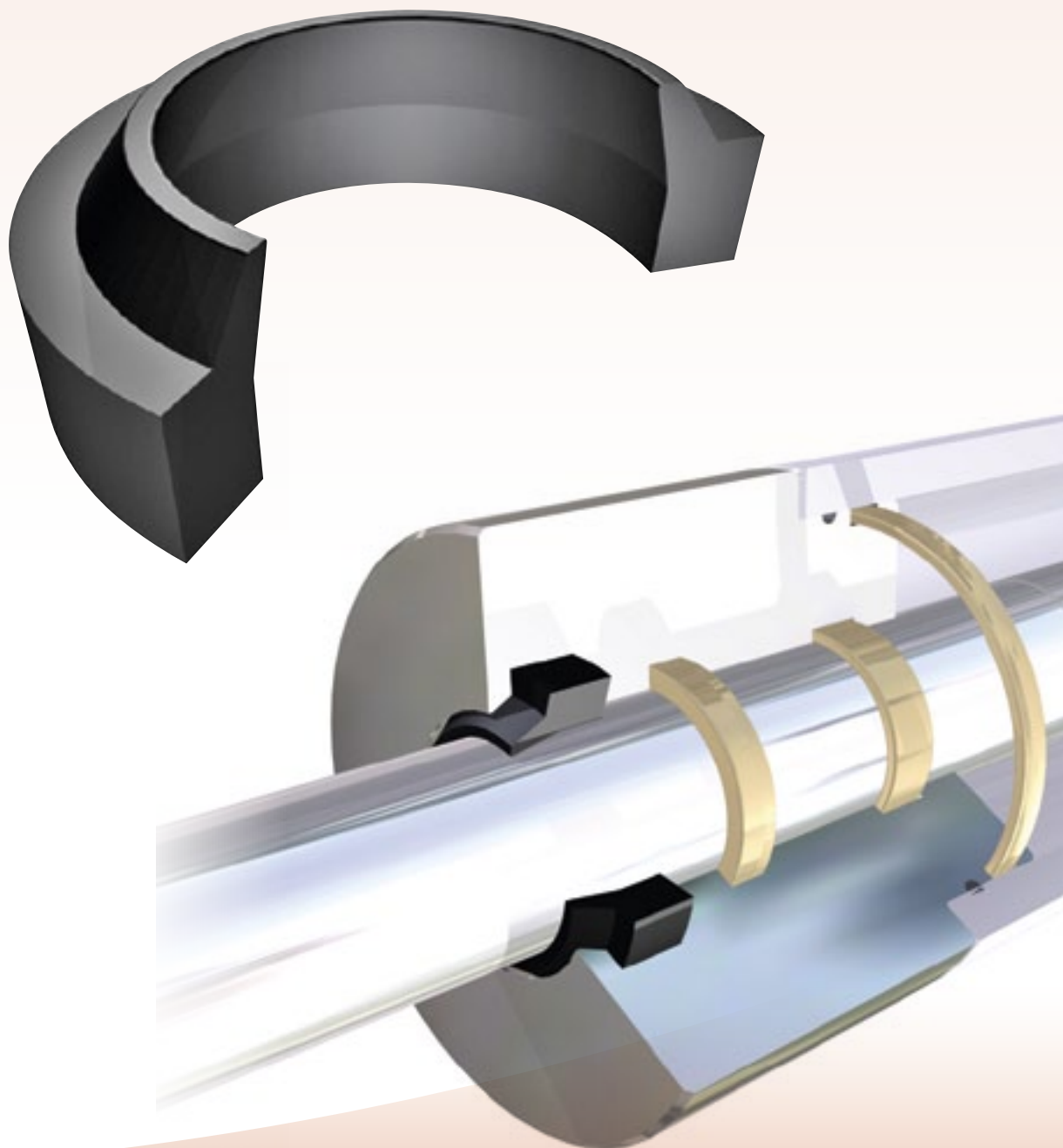
Versione standard	Standard version
NBR	NBR
Versioni Alternative	Alternative Versions
NBR FKM	NBR FKM
Velocità fino a / Speed up to	
0.8 m/s	
Temperatura / Temperature	
-30°C +110°C	-20°C +200°C FKM
Applicazioni	Applications
Macchine meccaniche di movimentazione Macchine per agricoltura Sponde Idrauliche	Handling Equipment Agricultural Machinery Tail Lifts

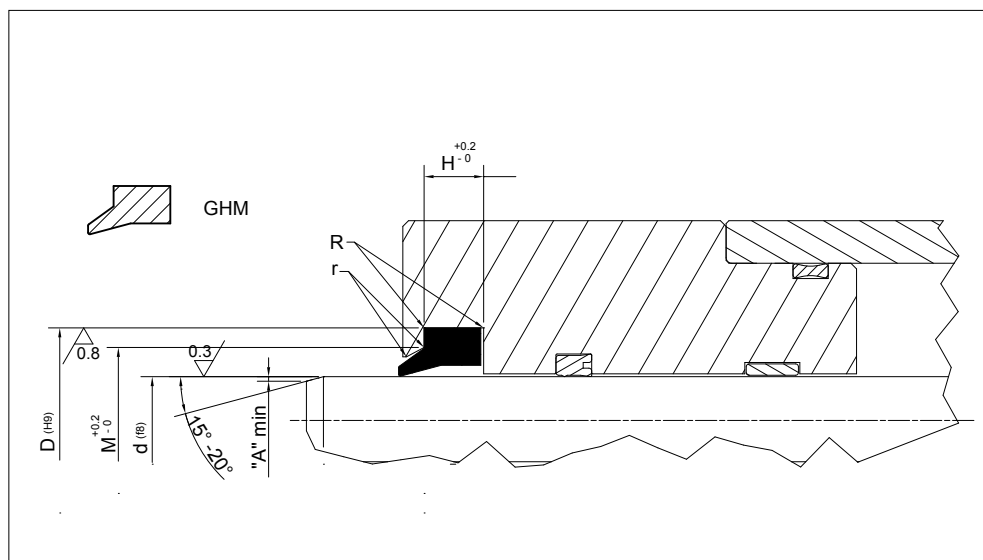


RASCHIATORI
WIPERS

GHM

242÷246





Design wipers guidelines

R	$R \leq 0.5 \text{ mm}$	
r	$r \leq 0.3 \text{ mm}$	
A	D ≤ 70mm	D ≥ 70mm
	4 mm	6 mm

PART NR		DIMENSIONI SEDI / Housing dimensions			
		d	D	H	M
GHM 300	047070	12,00	18,60	3,80	15,00
GHM 301	051074	13,00	19,60	3,80	16,00
GHM 302	059082	15,00	21,60	3,80	18,00
GHM 302/1	062087	16,00	22,60	3,80	19,00
GHM 302/2	062094	16,00	24,60	5,30	19,00
GHM 303	066094	17,00	23,60	3,80	20,00
GHM 304	070094	18,00	24,60	3,80	21,00
GHM 305	074110	19,00	28,60	5,30	22,00
GHM 306	078110	20,00	28,60	5,30	23,00
GHM 307	086118	22,00	30,60	5,30	25,00
GHM 307/1	094125	24,00	32,60	5,30	27,00
GHM 308	098129	25,00	33,60	5,30	28,00
GHM 309	102133	26,00	34,60	5,30	29,00
GHM 309/1	106137	27,00	35,60	5,30	30,00
GHM 310	110141	28,00	36,60	5,30	31,00
GHM 311	118149	30,00	38,60	5,30	33,00
GHM 312	125157	32,00	40,60	5,30	35,00
GHM 312/1	129161	33,00	41,60	5,30	36,00
GHM 313	137169	35,00	43,60	5,30	38,00
GHM 314	141173	36,00	44,60	5,30	39,00
GHM 315	149181	38,00	46,60	5,30	41,00
GHM 316	157188	40,00	48,60	5,30	43,00
GHM 317	165196	42,00	50,60	5,30	45,00
GHM 318	177208	45,00	53,60	5,30	48,00
GHM 319	177216	45,00	55,60	5,30	49,00
GHM 320	181212	46,00	54,60	5,30	49,00
GHM 321	188220	48,00	56,60	5,30	51,00

PART NR		DIMENSIONI SEDI / Housing dimensions			
		d	D	H	M
GHM 322	196228	50,00	58,60	5,30	53,00
GHM 323	196236	50,00	60,60	5,30	54,00
GHM 324	208240	53,00	61,60	5,30	56,00
GHM 325	216248	55,00	63,60	5,30	58,00
GHM 326	216255	55,00	65,60	5,30	59,00
GHM 326/1	220251	56,00	64,60	5,30	59,00
GHM 327	220259	56,00	66,60	5,30	59,00
GHM 328	236267	60,00	68,60	5,30	63,00
GHM 329	236275	60,00	70,60	5,30	63,00
GHM 329/1	240271	61,00	69,00	5,30	64,00
GHM 330	248279	63,00	71,60	5,30	66,00
GHM 331	248287	63,00	73,60	5,30	67,00
GHM 332	255287	65,00	73,60	5,30	68,00
GHM 333	255295	65,00	75,60	5,30	69,00
GHM 334	275307	70,00	78,60	5,30	73,00
GHM 335	275314	70,00	80,60	5,30	73,00
GHM 336	275322	70,00	82,60	7,10	76,00
GHM 337	295326	75,00	83,60	5,30	78,00
GHM 338	295345	75,00	87,20	7,10	81,00
GHM 338/1	301348	76,50	88,70	7,10	82,50
GHM 339	314346	80,00	88,60	5,30	83,00
GHM 340	314362	80,00	92,20	7,10	86,00
GHM 340/1	334366	85,00	93,60	5,30	88,00
GHM 341	334381	85,00	97,20	7,10	91,00
GHM 341/1	354385	90,00	98,60	5,30	93,00
GHM 342	354401	90,00	102,20	7,10	96,00
GHM 343	374421	95,00	107,20	7,10	101,00
GHM 343/1	380437	96,50	111,00	7,10	104,00
GHM 343/2	393425	100,00	108,60	5,30	103,00
GHM 344	393440	100,00	112,20	7,10	106,00
GHM 345	413460	105,00	117,20	7,10	111,00
GHM 346	433480	110,00	122,20	7,10	116,00
GHM 347	452500	115,00	127,20	7,10	121,00
GHM 347/1	472504	120,00	128,60	5,30	123,00
GHM 348	472519	120,00	132,20	7,10	126,00
GHM 348/1	481511	122,00	130,20	5,30	126,00
GHM 349	492539	125,00	137,20	7,10	131,00
GHM 350	492551	125,00	140,20	10,10	132,60
GHM 351	511559	130,00	142,20	7,10	136,00
GHM 352	531578	135,00	147,20	7,10	141,00
GHM 353	551598	140,00	152,20	7,10	146,00
GHM 354	551610	140,00	155,20	10,10	147,00
GHM 354/1	570602	145,00	153,20	5,30	149,00
GHM 355	570618	145,00	157,20	7,10	151,00
GHM 355/1	570629	145,00	160,60	9,00	152,50
GHM 355/2	590622	150,00	158,60	5,30	154,00
GHM 355/3	575606	146,00	154,20	5,30	150,00
GHM 356	590637	150,00	162,20	7,10	156,00
GHM 357	590649	150,00	165,20	10,10	157,60
GHM 357/1	629661	160,00	168,20	5,30	164,00
GHM 358	629688	160,00	175,20	10,10	168,00
GHM 358/4	649688	165,00	173,20	5,30	169,00





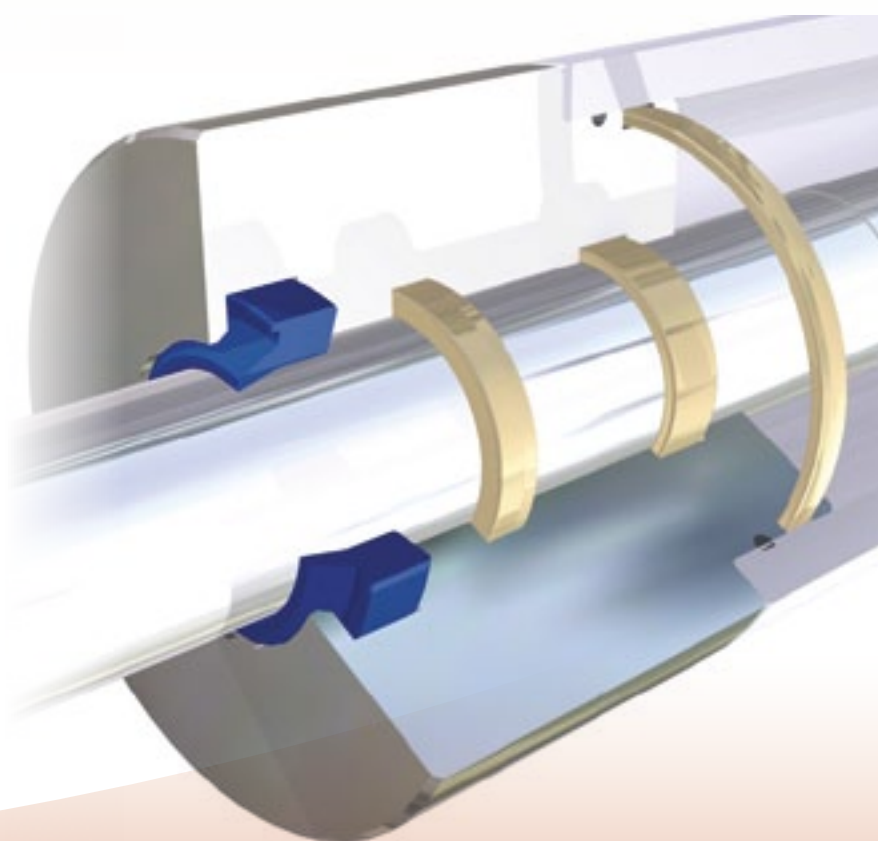


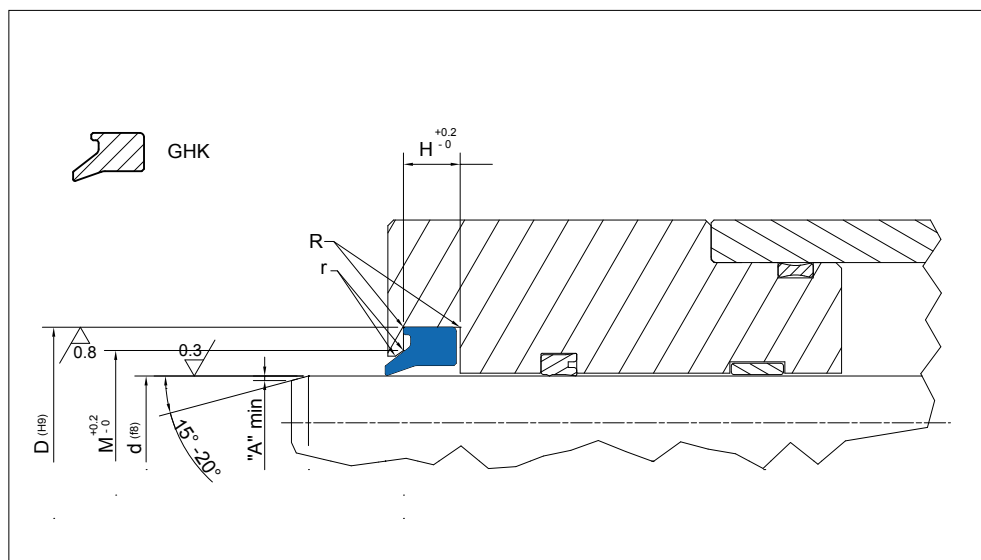
GHK

RASCHIATORI
WIPERS

TECNOLAN

Versione standard	Standard version
Poliuretano disponibile in colore Blu o Nero	<i>Polyurethane available in Blue or Black colour</i>
Velocità fino a /Speed up to	
0.8 m/s	
Temperatura /Temperature	
-35°C +100°C	
Applicazioni	Applications
Macchine meccaniche di movimentazione Macchine per agricoltura Sponde Idrauliche	<i>Handling Equipment Agricultural Machinery Tail Lifts</i>





Design wipers guidelines

R	R ≤ 0.5 mm	
r	r ≤ 0.3 mm	
A	D ≤ 70mm	D ≥ 70mm
	4 mm	6 mm

PART NR		DIMENSIONI SEDI / Housing dimensions			
		d	D	H	M
GHK 300	047070	12,00	18,60	3,80	15,00
GHK 300/1	047063	12,00	16,60	3,00	14,00
GHK 300/2	039055	10,00	14,60	2,00	12,00
GHK 301	051074	13,00	19,60	3,80	16,00
GHK 301/1	055078	14,00	20,60	3,80	17,00
GHK 302	059082	15,00	21,60	3,80	18,00
GHK 302/1	062087	16,00	22,60	3,80	19,00
GHK 302/2	062087/1	16,00	22,60	2,70	19,00
GHK 303	066094	17,00	23,60	3,80	20,00
GHK 304	070094	18,00	24,60	3,80	21,00
GHK 305	074110	19,00	28,60	5,30	22,00
GHK 305/1	078102	20,00	26,60	3,40	23,00
GHK 306	078110	20,00	28,60	5,30	23,00
GHK 306/1	086106	22,00	27,60	2,50	24,50
GHK 307	086118	22,00	30,60	5,30	25,00
GHK 307/1	094125	24,00	32,60	5,30	27,00
GHK 308	098129	25,00	33,60	5,30	28,00
GHK 309	102133	26,00	34,60	5,30	29,00
GHK 309/1	106137	27,00	35,60	5,30	30,00
GHK 310	110141	28,00	36,60	5,30	31,00
GHK 310/1	118141	30,00	36,60	4,20	32,00
GHK 311	118149	30,00	38,60	5,30	33,00
GHK 312	125157	32,00	40,60	5,30	35,00
GHK 312/1	129161	33,00	41,60	5,30	36,00
GHK 313	137169	35,00	43,60	5,30	38,00
GHK 314	141173	36,00	44,60	5,30	39,00
GHK 315	149181	38,00	46,60	5,30	41,00

PART NR		DIMENSIONI SEDI / Housing dimensions			
		d	D	H	M
GHK 315/1	157174	40,00	44,80	5,30	42,00
GHK 316	157188	40,00	48,60	5,30	43,00
GHK 316/1	157196	40,00	50,60	5,30	44,00
GHK 317	165196	42,00	50,60	5,30	45,00
GHK 318	177208	45,00	53,60	5,30	48,00
GHK 319	177216	45,00	55,60	5,30	48,00
GHK 320	181212	46,00	54,60	5,30	49,00
GHK 320/1	185216	47,00	55,60	5,30	50,00
GHK 321	188220	48,00	56,60	5,30	51,00
GHK 321/1	188236	48,00	60,60	5,30	54,00
GHK 322	196228	50,00	58,60	5,30	53,00
GHK 323	196236	50,00	60,60	5,30	54,00
GHK 324	208240	53,00	61,60	5,30	56,00
GHK 325	216248	55,00	63,60	5,30	58,00
GHK 326	216255	55,00	65,60	5,30	59,00
GHK 327	220251	56,00	64,60	5,30	59,00
GHK 327/1	220259	56,00	66,60	5,30	60,00
GHK 328	236267	60,00	68,60	5,30	63,00
GHK 329	236275	60,00	70,60	5,30	63,00
GHK 329/2	236278	60,50	69,50	5,30	63,50
GHK 329/1	240279	61,00	69,60	5,30	64,00
GHK 330	248279	63,00	71,60	5,30	66,00
GHK 331	248287	63,00	73,60	5,30	67,00
GHK 331/1	248287/1	63,00	73,60	6,10	67,00
GHK 331/2	248295	63,00	75,60	5,30	69,00
GHK 332	255287	65,00	73,60	5,30	68,00
GHK 333	255295	65,00	75,60	5,30	69,00
GHK 333/1	267299	68,00	76,00	5,30	72,00
GHK 334	275307	70,00	78,60	5,30	73,00
GHK 335	275314	70,00	80,60	5,30	72,00
GHK 336	275322	70,00	82,60	7,10	76,00
GHK 337	295326	75,00	83,60	5,30	78,00
GHK 338	295345	75,00	87,20	7,10	81,00
GHK 338/1	299330	76,00	84,60	5,30	79,00
GHK 338/2	307338	78,00	86,60	5,30	81,00
GHK 338/3	309344	78,50	87,50	5,30	81,50
GHK 339	314346	80,00	88,60	5,30	83,00
GHK 339/1	314354	80,00	90,60	5,30	85,00
GHK 339/2	314354/1	80,00	90,60	6,50	85,00
GHK 340	314362	80,00	92,20	7,10	86,00
GHK 340/2	326374	83,00	95,20	7,10	89,00
GHK 340/1	334366	85,00	93,60	5,30	88,00
GHK 341	334381	85,00	97,20	7,10	91,00
GHK 341/2	346377	88,00	96,60	5,30	91,00
GHK 341/1	354385	90,00	98,60	5,30	93,00
GHK 342	354401	90,00	102,20	7,10	96,00
GHK 342/1	358389	91,00	99,60	5,30	94,00
GHK 343	374421	95,00	107,20	7,10	101,00
GHK 343/1	381413	97,00	105,60	5,30	100,00
GHK 343/2	381417	97,00	106,20	5,30	101,50
GHK 343/3	385420	98,00	107,20	5,30	102,50
GHK 344	393440	100,00	112,20	7,10	106,00





PART NR		DIMENSIONI SEDI / Housing dimensions			
		d	D	H	M
GHK 344/1	393452	100,00	115,20	9,30	107,50
GHK 344/2	399462	101,50	117,50	7,10	109,50
GHK 344/3	407470	103,50	119,50	7,10	111,50
GHK 344/4	413444	105,00	113,60	5,30	108,00
GHK 345	413460	105,00	117,20	7,10	111,00
GHK 345/1	413472	105,00	120,20	5,30	112,50
GHK 345/2	420452	107,00	115,60	5,30	110,00
GHK 345/3	425472	108,00	120,20	7,10	114,00
GHK 346	433480	110,00	122,20	7,10	116,00
GHK 347	452500	115,00	127,20	7,10	121,00
GHK 347/3	454490	115,50	124,50	5,30	120,00
GHK 347/4	456492	116,00	125,20	5,30	119,00
GHK 347/2	464497	118,00	126,60	5,30	121,00
GHK 347/1	472504	120,00	128,60	5,30	123,00
GHK 348	472519	120,00	132,20	7,10	126,00
GHK 349	492539	125,00	137,20	7,10	131,00
GHK 350	492551	125,00	140,20	10,10	132,60
GHK 350/1	495529	126,00	134,60	5,30	129,00
GHK 351	511559	130,00	142,20	7,10	136,00
GHK 351/1	529564	134,50	143,50	5,30	139,00
GHK 351/2	531566	135,00	144,20	5,30	138,00
GHK 352	531578	135,00	147,20	7,10	141,00
GHK 352/1	551582	140,00	148,60	5,30	142,80
GHK 353	551598	140,00	152,20	7,10	146,00
GHK 354	551610	140,00	155,20	10,10	147,60
GHK 354/1	562596	143,00	151,60	5,30	146,00
GHK 354/2	570603	145,00	153,60	5,30	148,00
GHK 355	570618	145,00	157,20	7,10	151,00
GHK 355/1	578610	147,00	155,00	5,30	150,00
GHK 356	590637	150,00	162,20	7,10	156,00
GHK 357	590649	150,00	165,20	10,10	157,60
GHK 357/3	604639	153,50	162,50	5,30	158,00
GHK 357/4	606649	154,00	163,20	5,30	158,50
GHK 357/1	610657	155,00	167,20	7,10	161,00
GHK 357/2	610664	155,00	169,20	7,10	162,00
GHK 357/6	629661	160,00	168,00		
GHK 357/5	629677	160,00	172,20	7,10	
GHK 358	629688	160,00	175,20	10,10	168,00
GHK 358/12	642688	163,00	175,20	7,10	171,00
GHK 358/11	649681	165,00	173,60	5,30	168,00
GHK 358/1	649698	165,00	177,20	7,10	170,00
GHK 358/6	649708	165,00	180,22	10,20	173,00
GHK 358/5	669700	170,00	178,00	5,30	174,00
GHK 358/8	669708	170,00	180,60	5,30	175,00
GHK 358/2	669728	170,00	185,20	10,10	178,00
GHK 358/4	672707	171,00	179,60	5,30	174,00
GHK 358/9	679714	172,50	181,50	5,30	177,00
GHK 358/10	685720	174,00	183,20	5,30	178,50
GHK 358/7	688744	175,00	189,20	7,10	182,00
GHK 358/3	708767	180,00	195,20	10,10	188,00
GHK 359	708787	180,00	200,20	10,20	190,00
GHK 359/7	736775	187,00	197,60	5,30	192,00



GHY

RASCHIATORI
WIPERS

TECNOLAN

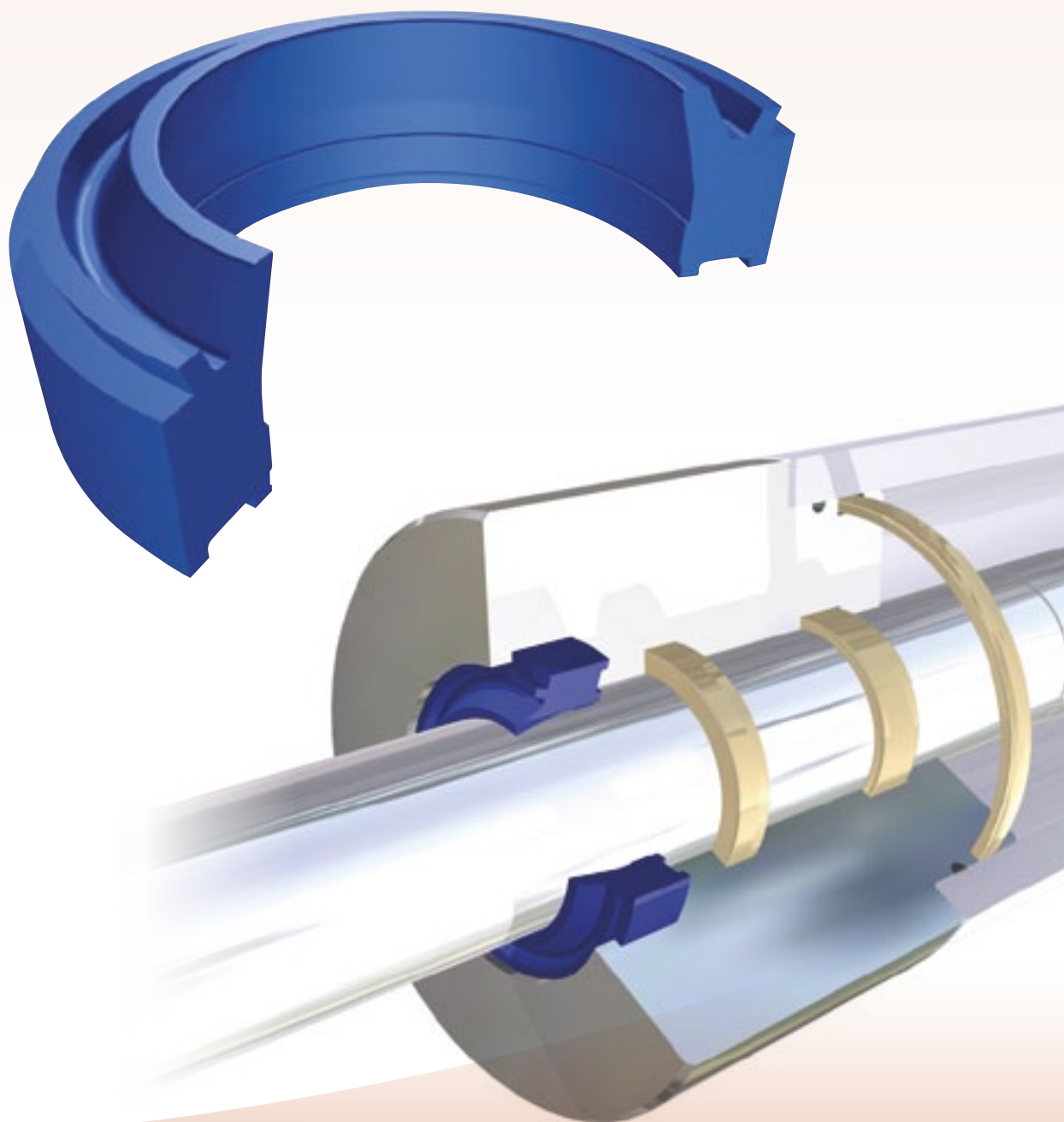
Versione standard	Standard version
Poliuretano	Polyurethane
Velocità fino a /Speed up to	
0.8 m/s	
Temperatura /Temperature	
-35°C +100°C	
Applicazioni	Applications
Macchine meccaniche di movimentazione Macchine per agricoltura Sponde Idrauliche	Handling Equipment Agricultural Machinery Tail Lifts

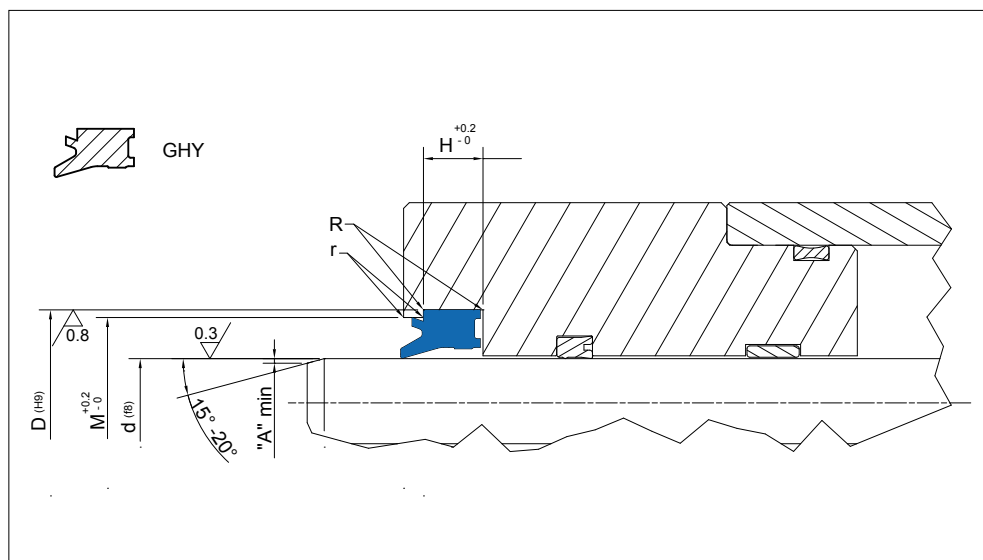


RASCHIATORI
WIPERS

GHY

254÷257





Design wipers guidelines

R	R ≤ 0.5 mm	
r	r ≤ 0.3 mm	
A	D ≤ 70mm	D ≥ 70mm
	4 mm	6 mm



PART NR		DIMENSIONI SEDI / Housing dimensions			
		d	D	M	H
GHY 101	062094	16,00	24,00	21,50	5,00
GHY 102	070102	18,00	26,00	23,50	5,00
GHY 103	078110	20,00	28,00	25,50	5,00
GHY 104	086118	22,00	30,00	27,50	5,00
GHY 105	098129	25,00	33,00	30,50	5,00
GHY 105/1	110137	28,00	34,00	31,50	4,00
GHY 106	110141	28,00	36,00	33,50	5,00
GHY 107	118149	30,00	38,00	35,50	5,00
GHY 108	125157	32,00	40,00	37,50	5,00
GHY 109	137169	35,00	43,00	40,50	5,00
GHY 110	137169/1	35,00	43,00	40,50	4,00
GHY 111	141173	36,00	44,00	41,50	5,00
GHY 112	157188	40,00	48,00	45,50	5,00
GHY 113	177208	45,00	53,00	50,50	5,00
GHY 114	177208/1	45,00	53,00	50,50	4,00
GHY 115	196228	50,00	58,00	55,50	5,00
GHY 116	216248	55,00	63,00	60,50	4,00
GHY 117	220251	56,00	64,00	61,50	4,00
GHY 118	220259	56,00	66,00	63,00	6,30
GHY 119	236267	60,00	68,00	65,00	4,00
GHY 119/1	236275	60,00	70,00	67,50	6,30
GHY 120	248287	63,00	73,00	70,00	6,30
GHY 121	255287	65,00	73,00	70,50	4,00
GHY 122	275314	70,00	80,00	77,00	6,30
GHY 123	314354	80,00	90,00	87,00	6,30
GHY 123/1	334374	85,00	95,00	92,00	6,30
GHY 124	354393	90,00	100,00	97,00	6,30



GHW

RASCHIATORI
WIPERS

TECNOLAN

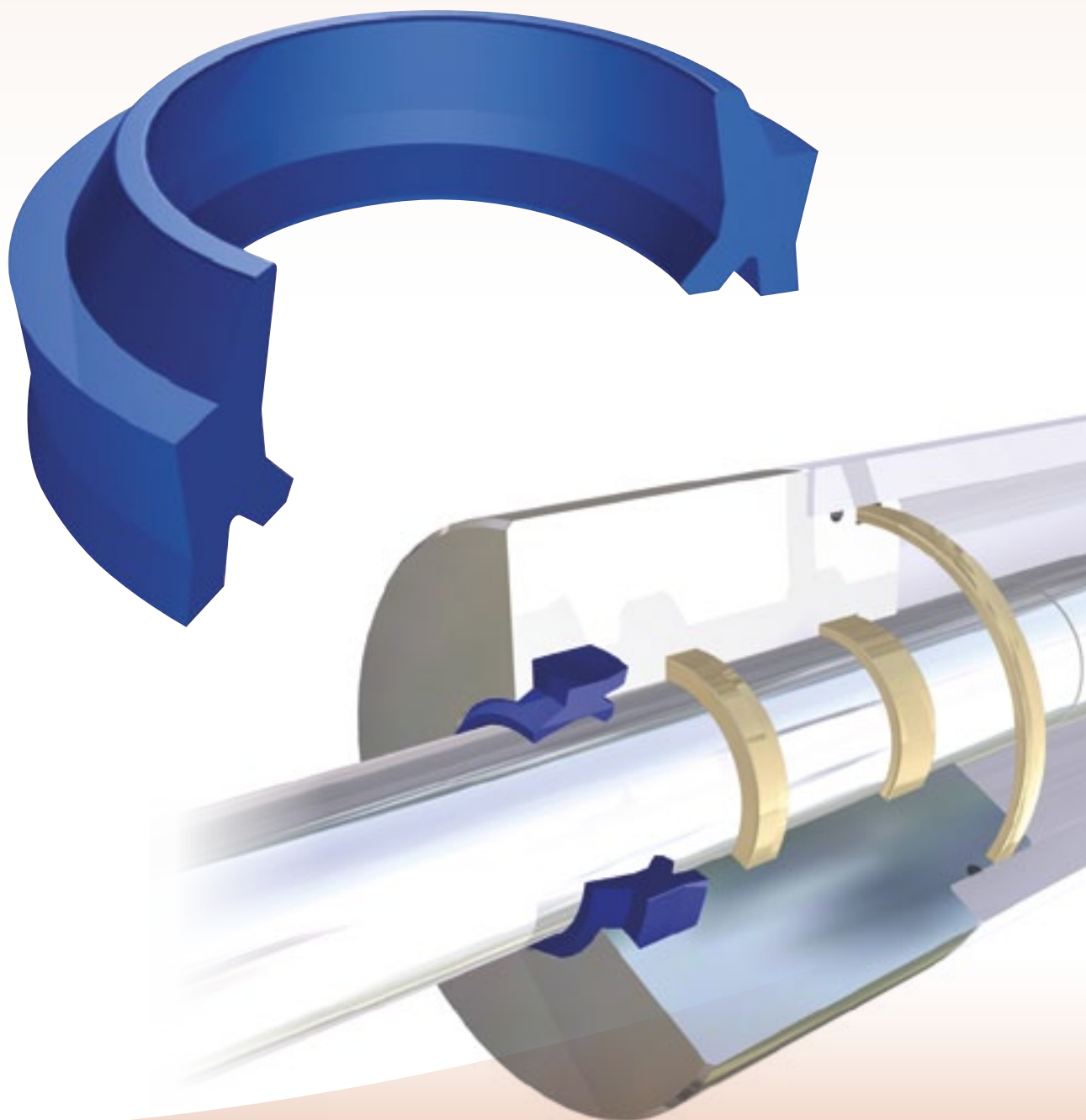
Versione standard	Standard version
Poliuretano	Polyurethane
Velocità fino a /Speed up to	
0.8 m/s	
Temperatura /Temperature	
-35°C +100°C	
Applicazioni	Applications
Cilindri idraulici Cilindri Telescopici Sponde idrauliche	Standard hydraulic cylinders Telescopic Cylinders Tail Lifts

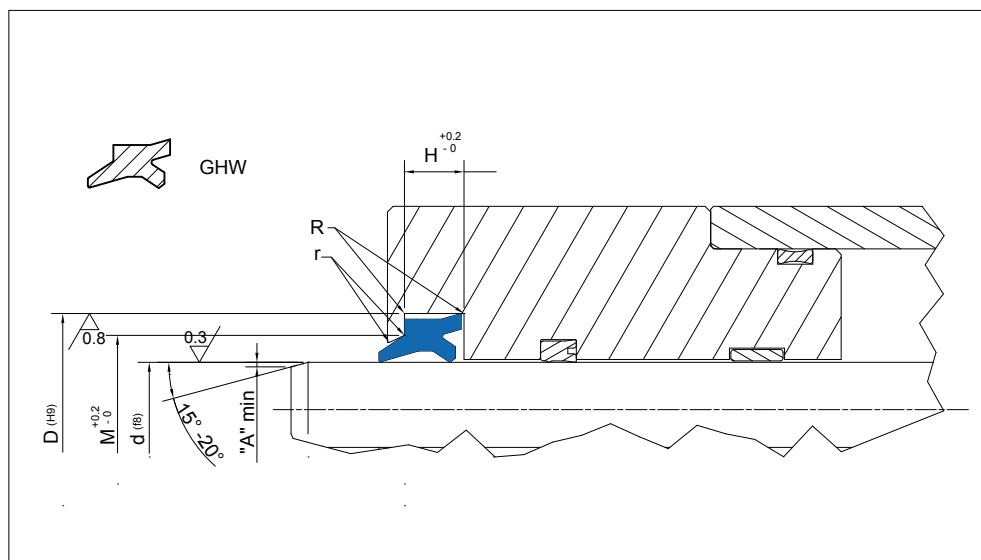


RASCHIATORI
WIPERS

GHW

258÷261





Design wipers guidelines

R	R ≤ 0.5 mm	
r	r ≤ 0.3 mm	
A	D ≤ 70mm	D ≥ 70mm
	4 mm	6 mm

PART NR		DIMENSIONI SEDI / Housing dimensions			
		d	D	H	M
GHW 10	039063	10,00	16,60	3,60	11,30
GHW 10/1	039063/1	10,00	16,60	5,30	11,30
GHW 12	047070	12,00	18,60	3,80	15,00
GHW 14	055078	14,00	20,60	3,80	17,00
GHW 18	070094	18,00	24,60	3,80	21,00
GHW 20	078110	20,00	28,60	5,30	23,00
GHW 20/1	078102	20,00	26,60	3,80	23,00
GHW 22	086118	22,00	30,60	5,30	25,00
GHW 24	094125	24,00	32,60	5,30	27,00
GHW 25	098129	25,00	33,60	5,30	28,00
GHW 28	110141	28,00	36,60	5,30	31,00
GHW 30	118149	30,00	38,60	5,30	33,00
GHW 32	125157	32,00	40,60	5,30	35,00
GHW 35	137169	35,00	43,60	5,30	38,00
GHW 36	141173	36,00	44,60	5,30	39,00
GHW 40	157188	40,00	48,60	5,30	43,00
GHW 42	165196	42,00	50,00	5,30	45,00
GHW 45	177208	45,00	53,60	5,30	48,00
GHW 50	196228	50,00	58,60	5,30	53,00
GHW 55	216248	55,00	63,60	5,30	58,00
GHW 56	220251	56,00	64,60	5,30	59,00
GHW 60	236267	60,00	68,60	5,30	63,00
GHW 60/1	236275	60,00	70,60	5,30	65,00
GHW 63	248279	63,00	71,60	5,30	66,00
GHW 63/1	248279/1	63,00	73,60	5,30	66,00
GHW 65	255287	65,00	73,60	5,30	68,00
GHW 70	275307	70,00	78,60	5,30	73,00



GPA

**RASCHIATORI
WIPERS**

TECNOLAN

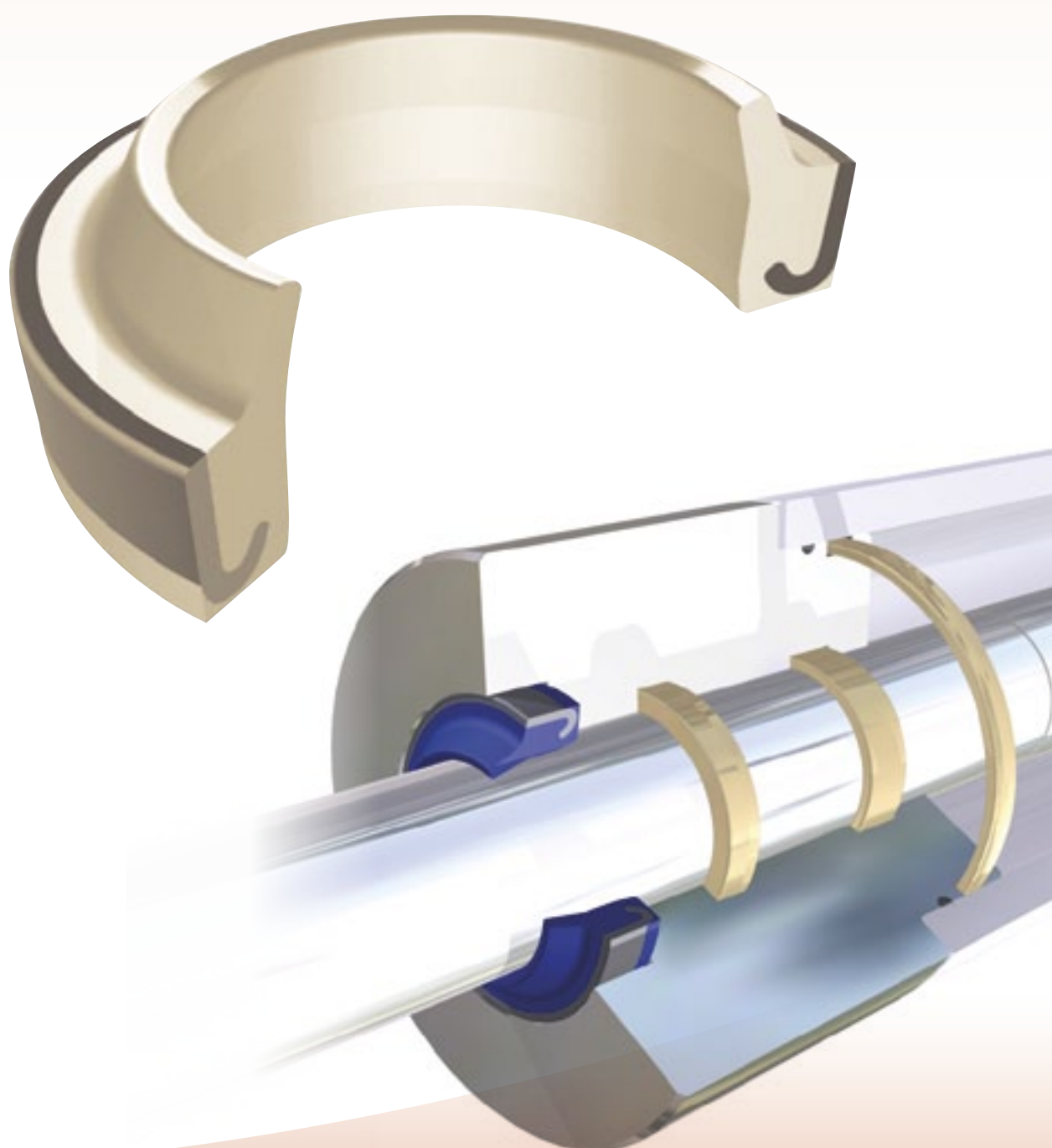
Versione standard	Standard version
Poliuretano+Metallo	Polyurethane+Metal
Velocità fino a /Speed up to	
1 m/s	
Temperatura /Temperature	
-35°C +100°C	
Applicazioni	Applications
Cilindri per ingegneria civile Cilindri per agricoltura Cilindri per applicazioni medie e gravose	Construction machinery Agricultural cylinders Medium and heavy duty applications

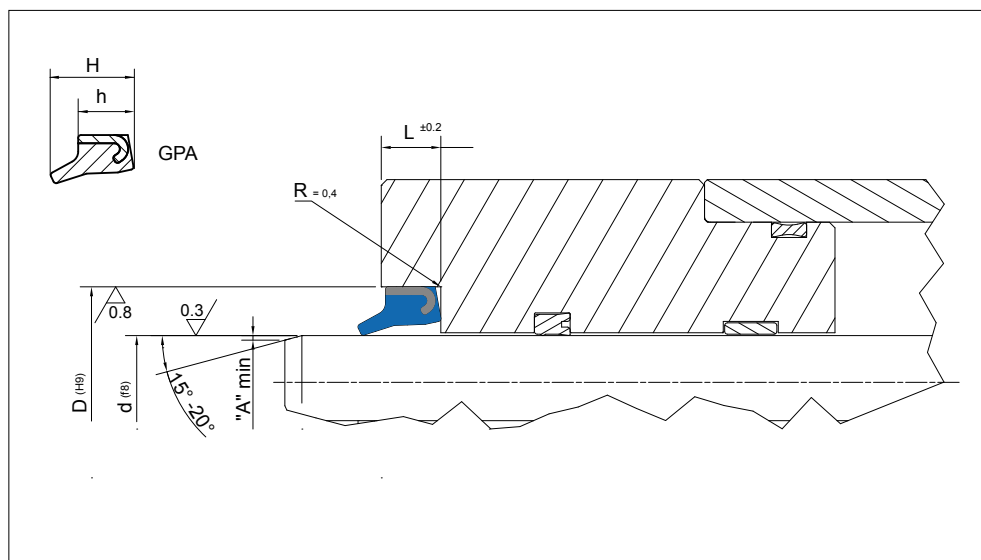


RASCHIATORI
WIPERS

GPA

262÷265





A	D ≤ 100mm	D ≥ 100mm
	4 mm	6 mm

PART NR	DIMENSIONI SEDI / Housing dimensions				
	d	D	h	L	H
GPA 1500	10,00	19,00	7,00	7,50	10,00
GPA 1501	16,00	22,00	4,00		
GPA 1502	20,00	30,00	7,00	7,50	10,00
GPA 1503	25,00	35,00	7,00	7,50	10,00
GPA 1504	28,00	38,00	7,00	7,50	10,00
GPA 1505	30,00	40,00	5,50		
GPA 1506	30,00	40,00	7,00	7,50	10,00
GPA 1507	32,00	42,00	7,00	7,50	10,00
GPA 1508	32,00	45,00	7,00	7,50	10,00
GPA 1509	35,00	45,00	7,00	7,50	10,00
GPA 1510	36,00	45,00	7,00	7,50	10,00
GPA 1511	36,00	46,00	7,00	7,50	10,00
GPA 1512	38,10	50,80	7,00	7,50	10,00
GPA 1513	40,00	50,00	7,00	7,50	10,00
GPA 1514	40,00	50,00	5,50		
GPA 1515	45,00	55,00	7,00	7,50	10,00
GPA 1516	45,00	60,00	7,00	7,50	10,00
GPA 1517	50,00	60,00	7,00	7,50	10,00
GPA 1518	50,00	65,00	7,00	7,50	10,00
GPA 1519	50,80	63,50	7,00	7,50	10,00
GPA 1520	55,00	65,00	7,00	7,50	10,00
GPA 1521	55,00	70,00	7,00	7,50	1,00
GPA 1522	56,00	66,00	7,00	7,50	10,00
GPA 1523	57,15	70,00	7,00	7,50	10,00
GPA 1524	60,00	70,00	7,00	7,50	10,00
GPA 1525	63,00	73,00	7,00	7,50	10,00
GPA 1526	63,00	75,00	7,00	7,50	10,00



GHP

RASCHIATORI
WIPERS

TECNOLAN

Versione standard	Standard version
Poliuretano disponibile in colore Blu o Nero	<i>Polyurethane available in Blue or Black colour</i>
Velocità fino a /Speed up to	
0.8 m/s	
Temperatura /Temperature	
-35°C +100°C	
Applicazioni	Applications
Cilindri per agricoltura Attrezzature meccaniche di movimentazione	<i>Agricultural cylinders Handling Equipment</i>

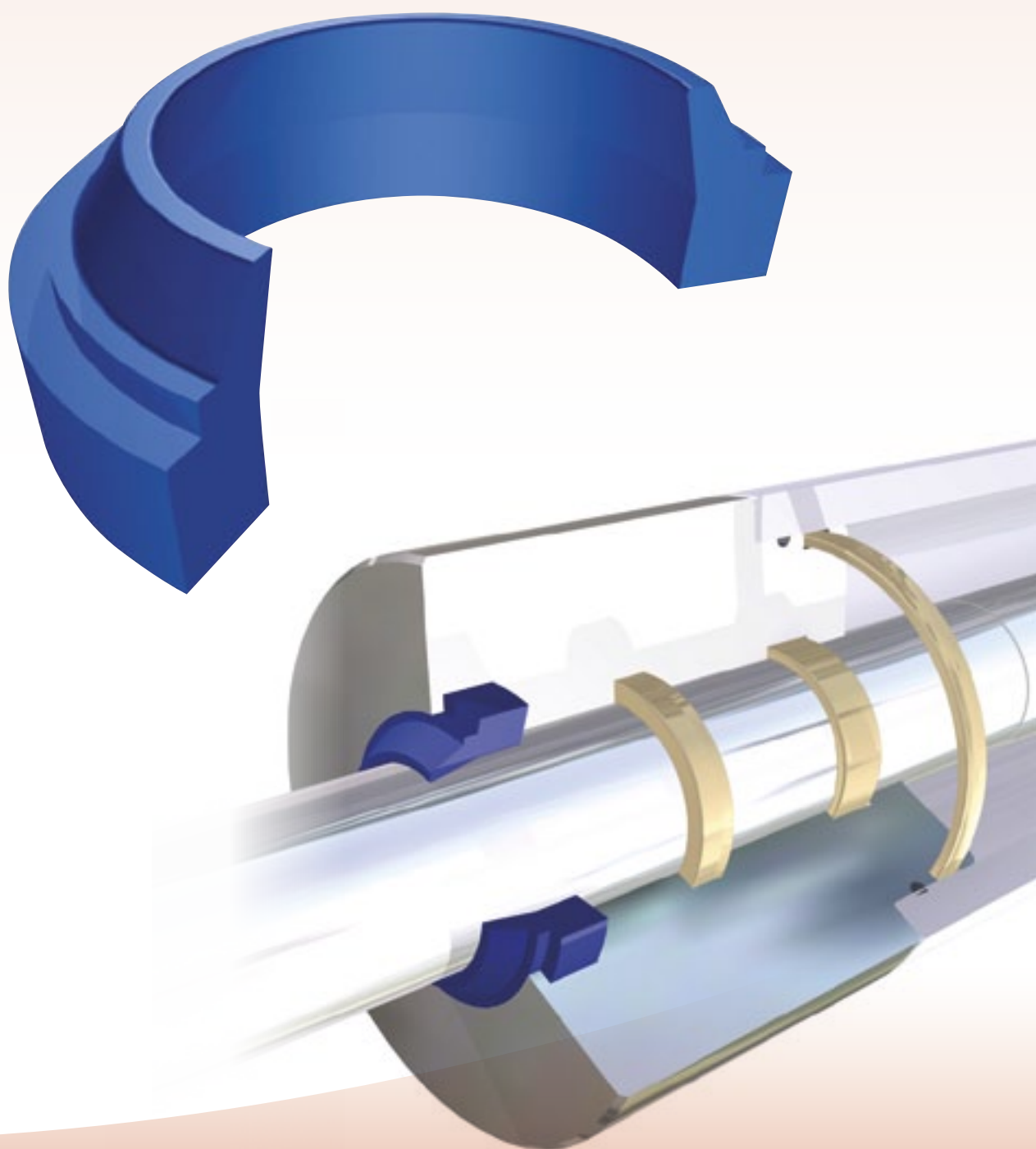


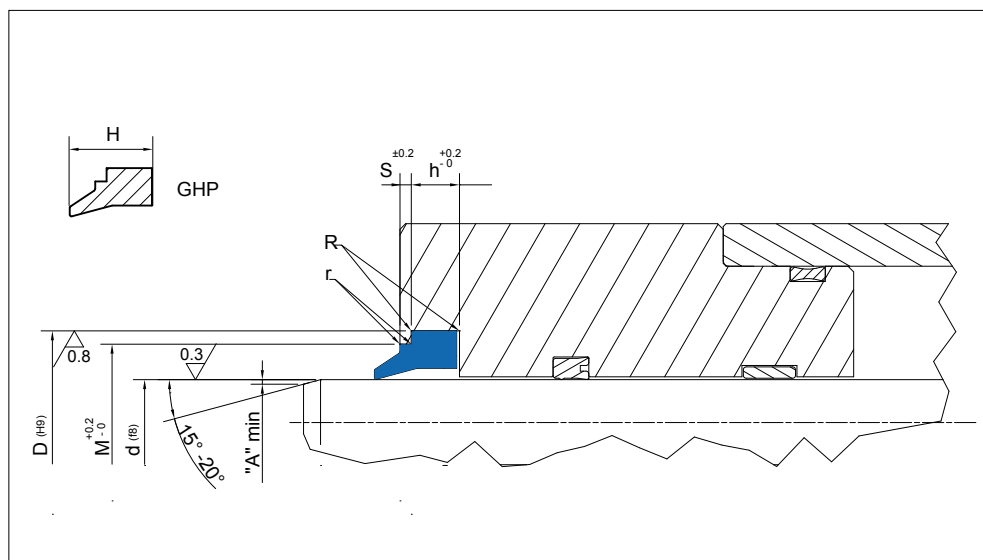
GUARNITEC

**RASCHIATORI
WIPERS**

GHP

266÷269





Design wipers guidelines

R	R ≤ 0.5 mm	
r	r ≤ 0.3 mm	
A	D ≤ 70mm	D ≥ 70mm
	4 mm	6 mm



PART NR		DIMENSIONI SEDI / Housing dimensions					
		d	D	h	M	S	H
GHP 12	047070	12,00	20,00	4,00	18,00	1,00	7,00
GHP 16/1	063086	16,00	22,00	3,00	20,00	1,00	5,00
GHP 16	063094	16,00	24,00	4,00	22,00	1,00	7,00
GHP 18	070102	18,00	26,00	4,00	24,00	1,00	7,00
GHP 20	078110	20,00	28,00	4,00	26,00	1,00	7,00
GHP 22	086118	22,00	30,00	4,00	28,00	1,00	7,00
GHP 25	098129	25,00	33,00	4,00	31,00	1,00	7,00
GHP 28	110141	28,00	36,00	4,00	34,00	1,00	7,00
GHP 30	118149	30,00	38,00	4,00	36,00	1,00	7,00
GHP 32	125157	32,00	40,00	4,00	38,00	1,00	7,00
GHP 35	137169	35,00	43,00	4,00	41,00	1,00	7,00
GHP 36	141173	36,00	44,00	4,00	42,00	1,00	7,00
GHP 40	157188	40,00	48,00	4,00	46,00	1,00	7,00
GHP 42	165196	42,00	50,00	4,00	48,00	1,00	7,00
GHP 45	177208	45,00	53,00	4,00	51,00	1,00	7,00
GHP 50	196228	50,00	58,00	4,00	56,00	1,00	7,00
GHP 55	216248	55,00	63,00	4,00	61,00	1,00	7,00
GHP 56	220252	56,00	64,00	4,00	62,00	1,00	7,00
GHP 60	236267	60,00	68,00	4,00	66,00	1,00	7,00
GHP 63	248279	63,00	71,00	4,00	69,00	1,00	7,00
GHP 65	255287	65,00	73,00	4,00	71,00	1,00	7,00
GHP 70	275307	70,00	78,00	4,00	76,00	1,00	7,00
GHP 75	295236	75,00	83,00	4,00	81,00	1,00	7,00
GHP 80	314346	80,00	88,00	4,00	86,00	1,00	7,00
GHP 85	334366	85,00	93,00	4,00	91,00	1,00	7,00
GHP 90	354385	90,00	98,00	4,00	96,00	1,00	7,00
GHP 95	374405	95,00	103,00	4,00	101,00	1,00	7,00



GPW

RASCHIATORI
WIPERS

TECNOLAN

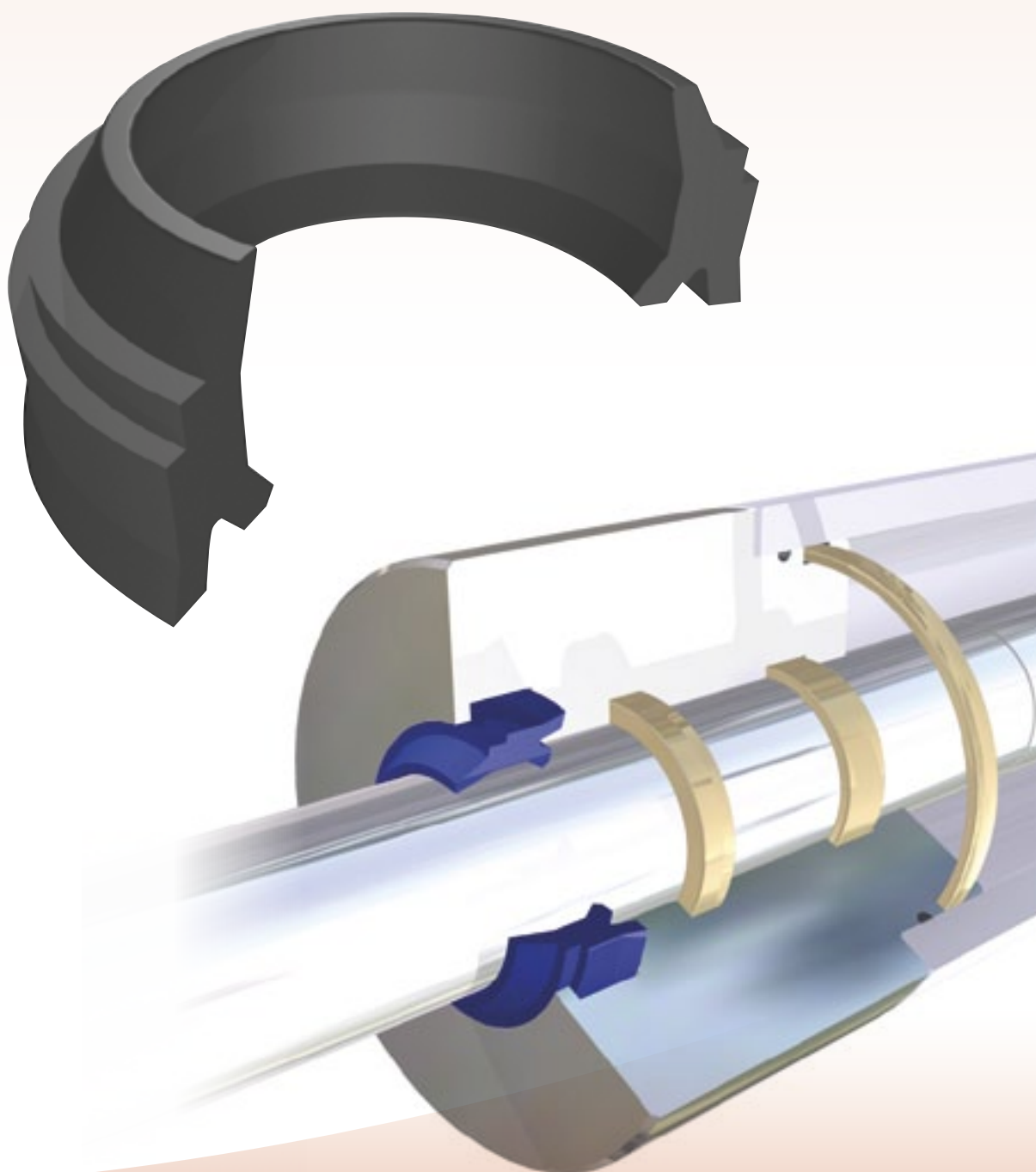
Versione standard	Standard version
Poliuretano	Polyurethane
Velocità fino a /Speed up to	
0.8 m/s	
Temperatura /Temperature	
-35°C +100°C	
Applicazioni	Applications
Macchine movimento terra Cilindri Idraulici	Earthmoving machines Hydraulic Cylinders

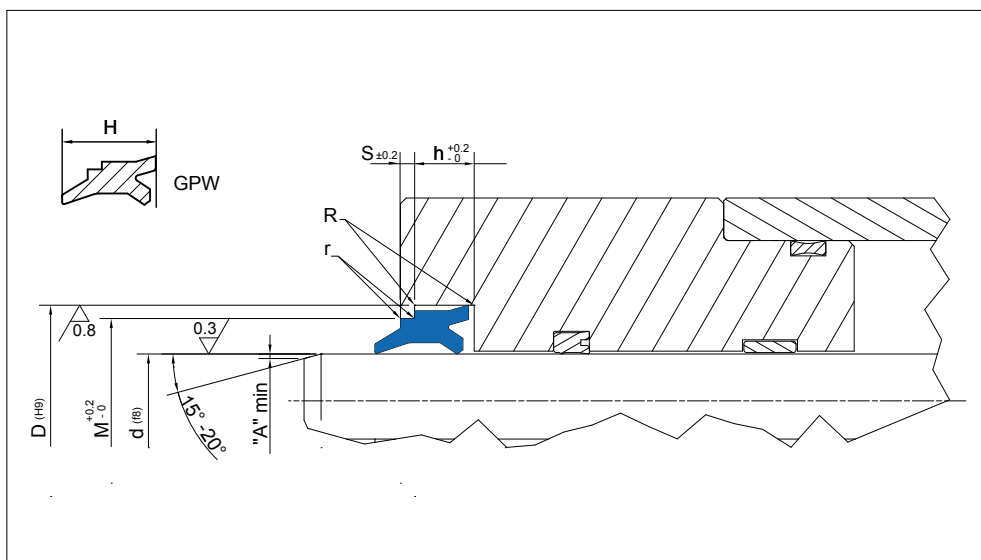


RASCHIATORI
WIPERS

GPW

270÷273





Design wipers guidelines

R	R ≤ 0.5 mm	
r	r ≤ 0.3 mm	
A	D ≤ 70mm	D ≥ 70mm
	4 mm	6 mm

PART NR	DIMENSIONI SEDI / Housing dimensions					
	d	D	h	M	S	H
GPW 10	10,00	18,00	6,00	13,50	2,00	8,00
GPW 12	12,00	20,00	6,00	15,50	2,00	8,00
GPW 14	14,00	22,00	6,00	17,50	2,00	8,00
GPW 15	15,00	23,00	6,00	18,50	2,00	8,00
GPW 16	16,00	24,00	6,00	19,50	2,00	8,00
GPW 18	18,00	26,00	6,00	21,50	2,00	8,00
GPW 20	20,00	28,00	6,00	23,50	2,00	8,00
GPW 22	22,00	30,00	6,00	25,50	2,00	8,00
GPW 25	25,00	33,00	6,00	28,50	2,00	8,00
GPW 28	28,00	36,00	6,00	31,50	2,00	8,00
GPW 30	30,00	38,00	6,00	33,50	2,00	8,00
GPW 32	32,00	40,00	6,00	35,50	2,00	8,00
GPW 35	35,00	43,00	6,00	38,50	2,00	8,00
GPW 36	36,00	44,00	6,00	39,50	2,00	8,00
GPW 38	38,00	46,00	6,00	41,50	2,00	8,00
GPW 40	40,00	48,00	6,00	43,50	2,00	8,00
GPW 42	42,00	50,00	6,00	45,50	2,00	8,00
GPW 45	45,00	53,00	6,00	48,50	2,00	8,00
GPW 50	50,00	58,00	6,00	53,50	2,00	8,00
GPW 55	55,00	63,00	6,00	58,50	2,00	8,00
GPW 56	56,00	64,00	6,00	59,50	2,00	8,00
GPW 60	60,00	68,00	6,00	63,50	2,00	8,00
GPW 63	63,00	71,00	6,00	66,50	2,00	8,00
GPW 65	65,00	73,00	6,00	68,50	2,00	8,00
GPW 70	70,00	78,00	6,00	73,50	2,00	8,00
GPW 75	75,00	83,00	6,00	78,50	2,00	8,00
GPW 80	80,00	88,00	6,00	83,50	2,00	8,00

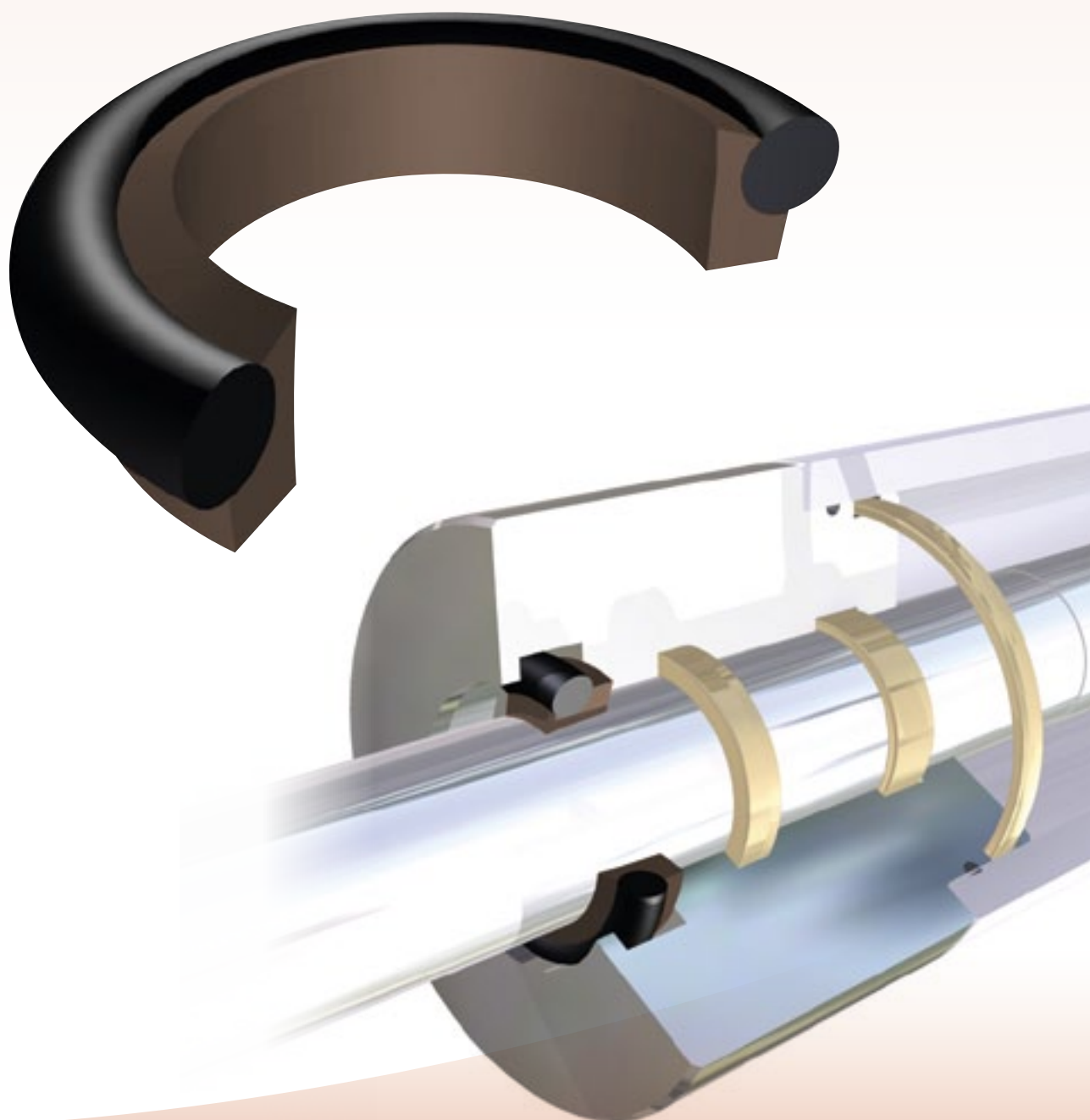


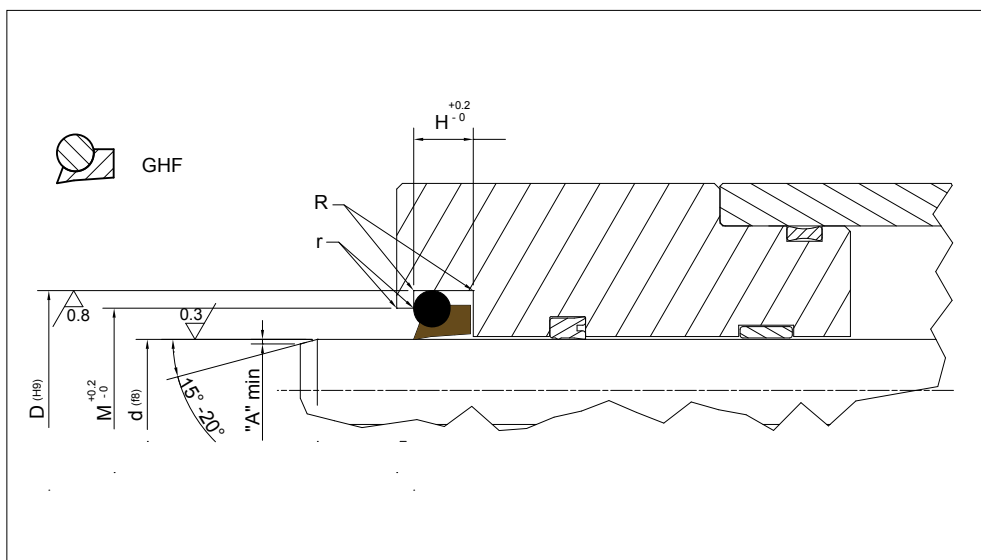
GHF

**RASCHIATORI
WIPERS**

TEF-RING

Versione standard	Standard version
PTFE caricato bronzo +Anello spinta NBR	Bronze filled PTFE + Rubber Sealing Ring NBR
Versioni Alternative	Alternative Versions
PTFE caricato bronzo +Anello spinta NBR FKM	Bronze filled PTFE + Rubber Sealing Ring NBR
Velocità fino a / Speed up to	
15 m/s	
Temperatura / Temperature	
-30°C +130°C <small>depending on O-ring material</small>	-20°C+200°C FKM
Applicazioni	Applications
Cilindri per Idroguidie Presse per Stampaggio Cilindri Idraulici	Steering Cylinders Injection moulding machines Hydraulic Cylinders





Design wipers guidelines

R	R ≤ 0.5 mm	
r	r ≤ 0.3 mm	
A	D ≤ 70mm	D ≥ 70mm
	4 mm	6 mm

PART NR	DIMENSIONI SEDI / Housing dimensions				
	d	D	H	M	OR
GHF 008	8,00	12,80	3,70	10,70	012
GHF 010	10,00	14,80	3,70	12,70	013
GHF 012	12,00	18,80	5,00	15,50	113
GHF 014	14,00	20,80	5,00	17,50	114
GHF 015	15,00	21,80	5,00	18,50	115
GHF 016	16,00	22,80	5,00	19,50	116
GHF 018	18,00	24,80	5,00	21,50	117
GHF 020	20,00	26,80	5,00	23,50	118
GHF 025	25,00	31,80	5,00	28,50	121
GHF 028	28,00	34,80	5,00	31,50	123
GHF 030	30,00	36,80	5,00	33,50	124
GHF 032	32,00	38,80	5,00	35,50	126
GHF 035	35,00	41,80	5,00	38,50	127
GHF 040	40,00	46,80	5,00	43,50	131
GHF 045	45,00	51,80	5,00	48,50	134
GHF 050	50,00	56,80	5,00	53,50	137
GHF 055	55,00	61,80	5,00	58,50	140
GHF 060	60,00	66,80	5,00	63,50	143
GHF 065	65,00	73,80	6,00	69,00	231
GHF 070	70,00	78,80	6,00	74,00	233
GHF 075	75,00	83,80	6,00	79,00	234
GHF 080	80,00	88,80	6,00	84,00	236
GHF 085	85,00	93,80	6,00	89,00	237
GHF 090	90,00	98,80	6,00	94,00	239
GHF 095	95,00	103,80	6,00	99,00	241
GHF 100	100,00	108,80	6,00	104,00	242
GHF 110	110,00	118,80	6,00	114,00	245

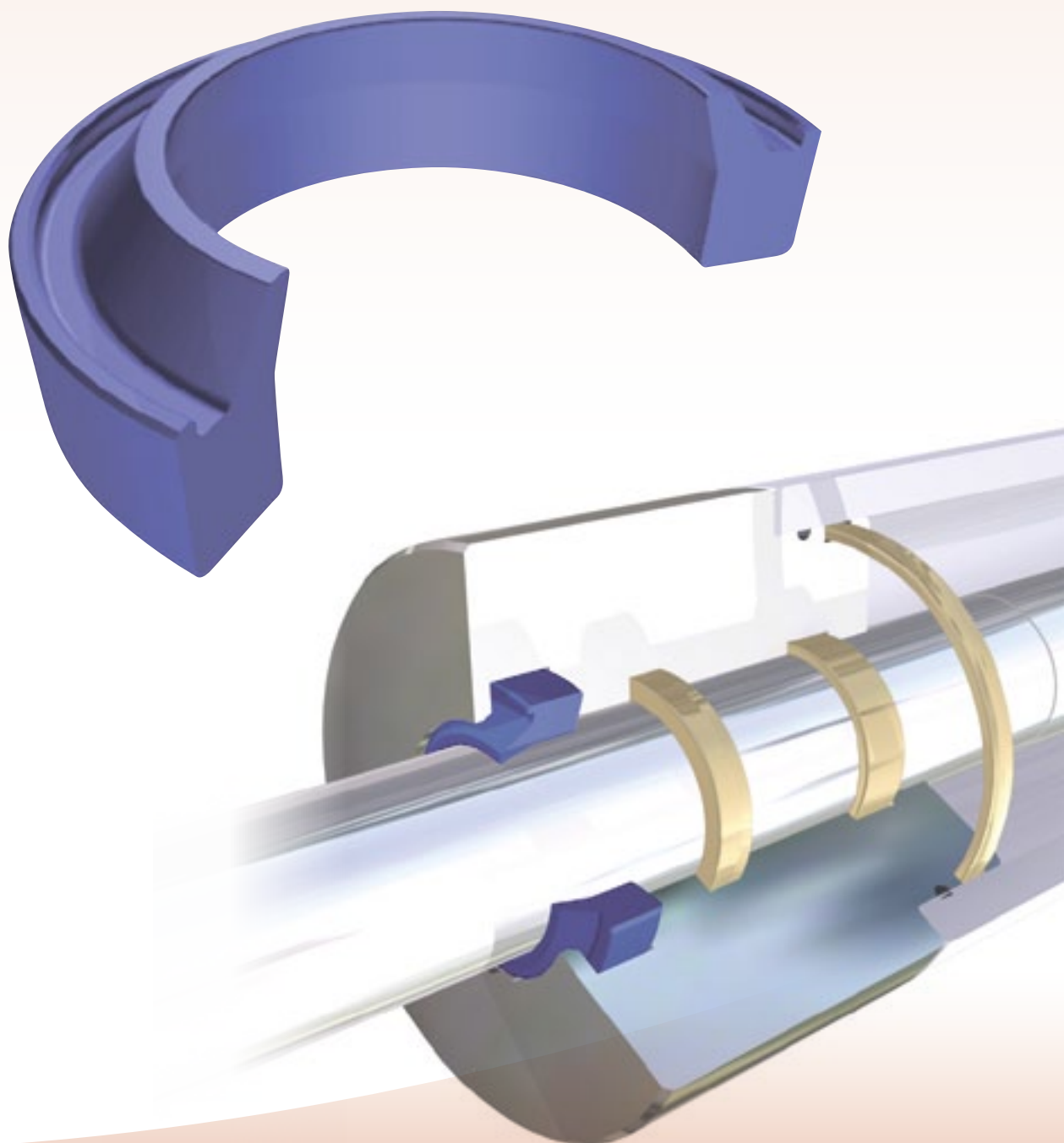


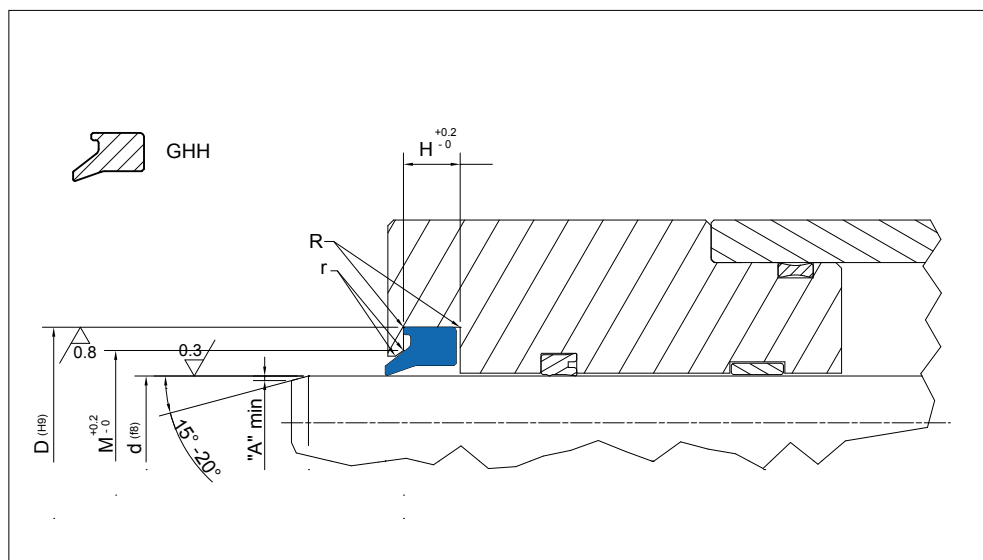
GHH

**RASCHIATORI
WIPERS**

TECNOTEX

Versione standard	Standard version
TPE	TPE
Velocità fino a / Speed up to	
1,0 m/s	
Temperatura / Temperature	
-40°C +140°C	
Applicazioni	Applications
Macchine agricole Gru per camion Sponde idrauliche Escavatori	Agricultural machinery Cargo handling cranes Tail Lifts Excavators





Design wipers guidelines

R	R ≤ 0.5 mm	
r	r ≤ 0.3 mm	
A	D ≤ 70mm	D ≥ 70mm
	4 mm	6 mm

PART NR	DIMENSIONI SEDI / Housing dimensions			
	d	D	H	M
GHH 501	32,00	38,20	3,50	34,00
GHH 501/1	32,00	40,20	4,00	35,00
GHH 502	35,00	43,20	5,00	38,00
GHH 503	40,00	48,20	5,00	43,00
GHH 503/1	40,00	50,20	7,00	44,00
GHH 504	45,00	53,20	5,00	48,00
GHH 504/1	46,00	51,20	5,00	48,00
GHH 505	46,00	52,20	3,50	48,00
GHH 506	46,00	52,20	5,00	48,00
GHH 507	50,00	58,20	5,00	53,00
GHH 508	60,00	68,20	5,00	63,00
GHH 509	60,00	70,20	6,00	63,00
GHH 510	61,00	67,20	3,50	63,00
GHH 511	61,00	67,20	5,00	63,00
GHH 512	63,00	73,20	5,00	67,00
GHH 513	65,00	75,20	6,00	69,00
GHH 514	68,00	74,20	5,00	70,00
GHH 515	70,00	82,20	7,00	76,00
GHH 516	72,00	78,20	3,50	75,00
GHH 516/1	72,00	82,60	5,00	77,30
GHH 517	75,00	85,20	5,00	80,00
GHH 518	75,00	87,20	7,00	81,00
GHH 519	76,00	82,20	3,50	79,00
GHH 520	76,00	82,20	5,00	79,00
GHH 521	76,20	88,20	7,00	82,20
GHH 522	80,00	88,60	5,00	83,00
GHH 523	80,00	90,20	7,00	85,00
GHH 524	88,00	94,20	5,00	91,00

PART NR	DIMENSIONI SEDI / Housing dimensions			
	d	D	H	M
GHH 525	90,00	105,20	7,00	97,50
GHH 526	91,00	97,20	3,50	94,00
GHH 527	91,00	97,20	5,00	94,00
GHH 528	91,00	101,60	5,00	96,00
GHH 529	100,00	108,60	5,00	104,00
GHH 530	100,00	110,20	5,00	105,00
GHH 531	105,00	120,20	7,00	112,50
GHH 532	107,00	113,20	3,50	110,00
GHH 533	107,00	113,20	5,00	110,00
GHH 534	110,00	120,60	5,00	115,00
GHH 534/1	110,00	122,20	7,00	116,00
GHH 534/2	115,00	125,20	7,00	120,00
GHH 535	115,00	127,20	7,00	121,00
GHH 536	120,00	132,20	7,00	126,00
GHH 537	125,00	135,20	5,00	130,00
GHH 538	126,00	132,20	5,00	129,00
GHH 539	127,00	133,20	3,50	130,00
GHH 540	129,00	139,60	5,00	134,00
GHH 541	135,00	147,20	7,00	141,00
GHH 542	140,00	155,20	9,50	147,60
GHH 543	140,00	155,20	10,00	147,60
GHH 544	145,00	151,20	5,00	148,00
GHH 544/1	145,00	155,60	7,00	
GHH 545	146,00	152,20	3,50	149,00
GHH 545/1	149,00	159,60	5,00	154,30
GHH 546	165,00	171,20	5,00	168,00
GHH 547	166,00	172,20	3,50	169,00
GHH 547/1	169,00	179,20	5,00	174,00
GHH 548	170,00	182,20	7,00	176,00
GHH 549	170,00	185,20	10,00	178,00
GHH 549/1	172,00	182,60	5,00	177,00
GHH 550	175,00	190,20	14,00	182,50
GHH 551	180,00	195,20	10,00	188,00
GHH 552	185,00	200,20	14,00	192,50
GHH 553	185,00	200,20	10,00	192,50
GHH 554	187,00	195,20	8,00	191,00
GHH 555	190,00	205,20	10,00	198,00
GHH 556	190,00	210,20	10,00	200,00
GHH 556/1	191,00	201,20	5,00	196,00
GHH 557	192,00	207,20	8,00	199,50
GHH 557/1	196,00	206,60	5,00	201,30
GHH 558	200,00	215,20	10,00	207,50
GHH 559	200,00	220,20	10,00	210,00
GHH 560	210,00	218,20	8,00	214,00
GHH 561	210,00	225,20	10,00	217,50
GHH 562	212,00	227,20	7,50	219,50
GHH 563	212,00	232,20	12,50	222,00
GHH 564	220,00	240,20	10,00	230,00
GHH 565	220,00	240,20	12,50	230,00
GHH 566	235,00	252,20	7,50	243,50
GHH 567	236,00	244,20	8,00	240,00
GHH 568	260,00	280,20	15,00	270,00
GHH 569	265,00	273,20	8,00	277,30

TECNOTEX

RASCHIATORI
WIPERS

GHH





GGW

RASCHIATORI
WIPERS

TECNOLAN

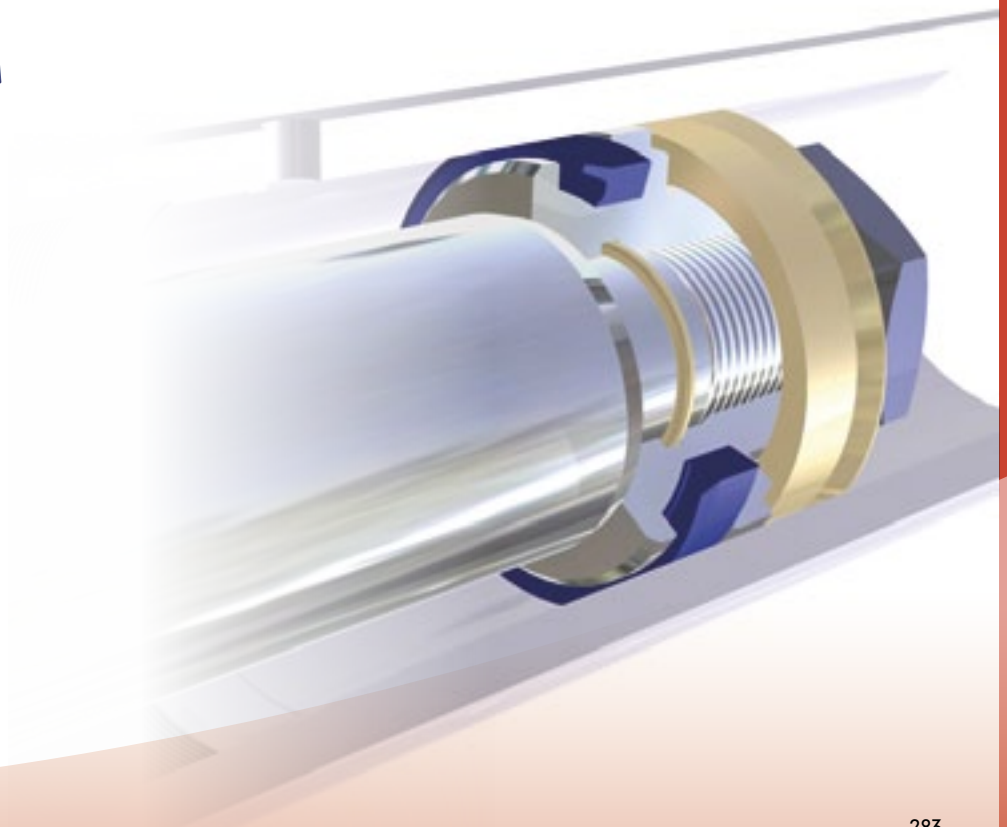
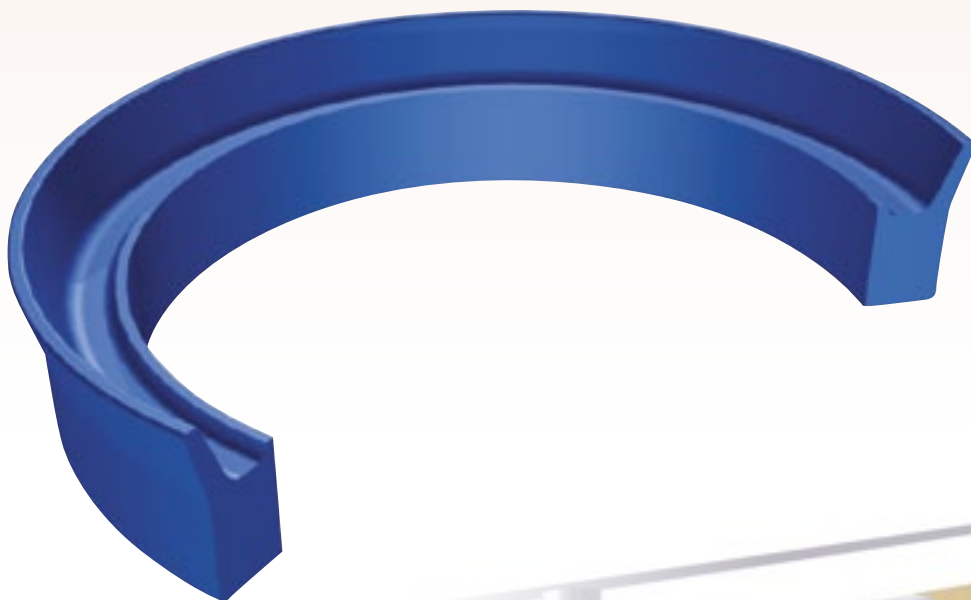
Versione standard	Standard version
Poliuretano	Polyurethane
Velocità fino a / Speed up to	
0.8 m/s	
Temperatura / Temperature	
-35°C +100°C	
Applicazioni	Applications
Cilindri idraulici semplice effetto	Single acting hydraulic cylinders



RASCHIATORI
WIPERS









GGW

282÷284





GUARNITEC

PROFILO PROFILE	TIPO SEAL TYPE	valori • technical data			MATERIALE MATERIAL	 light  medium  heavy			pagina page
		MPa	speed m/s	temp. °C					
	GDS	50	-	-35 +100	Poliuretano Polyurethane	•	• •	• • •	288÷294
	GSS/P inch GSS metric	40	-	-35 +100	Poliuretano Polyurethane	•	• •	• • •	296÷298
	O-RING	*	-	-30 +130	NBR	•	• •		300-311
	GKS inch	Statica Static		-40 +150	TPE	•	• •	• • •	300-311
	GKM metric	Statica Static		-40 +150	TPE	•	• •	• • •	312-314

* in funzione delle condizioni di impiego
* depending on working conditions



guarnizioni per
TENUTE STATICHE

STATIC seals



GDS

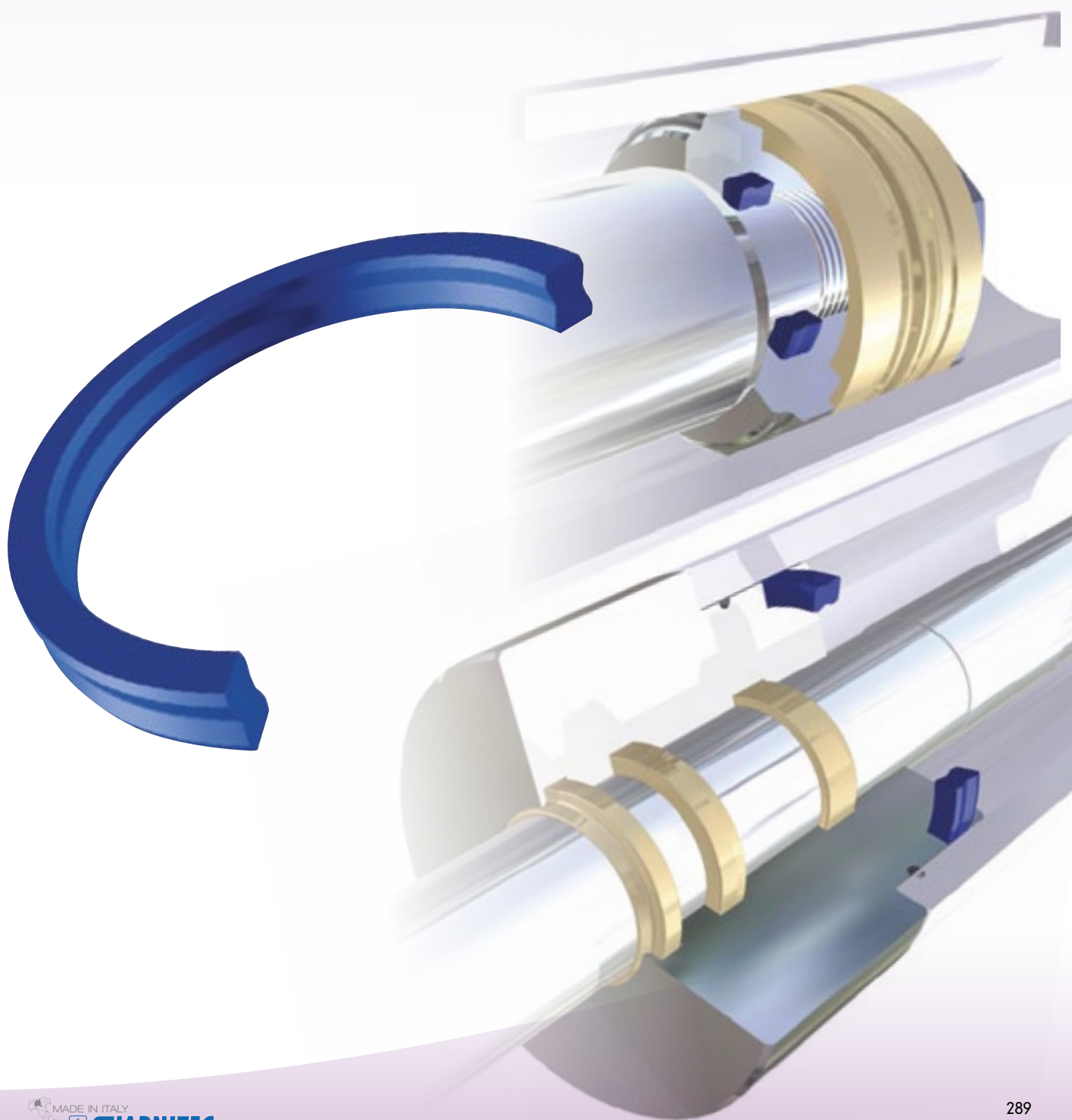
Guarnizioni per TENUTE STATICHE
STATIC seals

TECNOLAN

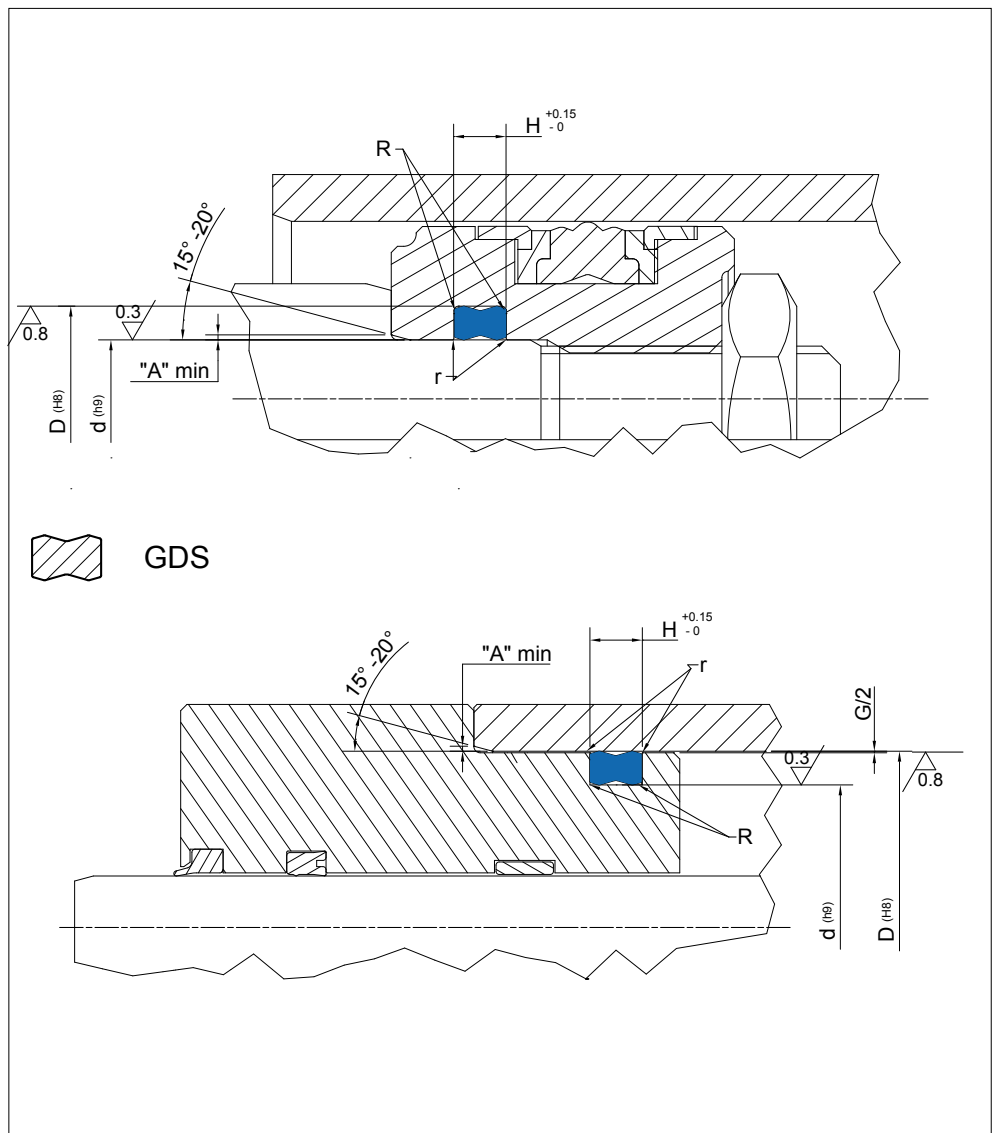
Versione standard	Standard version
Poliuretano	<i>Polyurethane</i>
Pressione fino a / Pressure up to	
50 MPa	
Temperatura / Temperature	
-35°C +100°C	-45°C +110°C PN 522
Applicazioni	Applications
Presse Carrelli Elevatori Cilindri Idraulici Idraulica mobile	<i>Presses Fork Lifts Hydraulic Cylinders Mobile hydraulics</i>

GDS

288÷294



GDS 2000



Static Seal design guidelines

R	0mm < d ≤ 20mm	20mm < d ≤ 50mm	50mm < d ≤ 100mm	d ≥ 100mm
	max 0.50 mm	max 0.80 mm	max 1 mm	max 1.5 mm
r	remove sharp edges: r ≤ 0.3mm			
A	1 mm	2 mm	3 mm	3 mm < A ≤ 5 mm

Operating pressure to determinate Maximum Gap Allowance: G/2

G	10 MPa	20 MPa	30 MPa	40 MPa
	0.50 mm	0.40 mm	0.25 mm	0.18 mm

PART NR	DIMENSIONI SEDI / Housing dimensions		
	D	d	H
GDS 2000	6,00	12,00	3,10
GDS 2000/1	6,00	4,60	2,40
GDS 2000/2	10,00	7,60	3,60
GDS 2000/3	11,00	8,60	2,60
GDS 2000/4	12,00	9,60	3,60
GDS 2000/5	13,80	9,20	3,10
GDS 2000/6	15,00	12,60	3,60
GDS 2000/7	15,50	13,10	3,60
GDS 2000/8	16,00	13,60	3,60
GDS 2001	16,60	12,00	3,10
GDS 2002	17,00	14,60	3,60

GDS 2000

PART NR	DIMENSIONI SEDI / Housing dimensions		
	D	d	H
GDS 2003	18,00	14,00	5,80
GDS 2004	19,00	15,60	4,40
GDS 2004/1	19,00	15,60	3,60
GDS 2004/2	19,00	16,60	2,60
GDS 2004/3	19,00	16,60	3,60
GDS 2005	20,00	16,00	5,80
GDS 2005/1	20,00	16,60	4,40
GDS 2005/2	20,00	16,60	3,60
GDS 2005/3	20,00	17,60	3,60
GDS 2006	20,50	17,20	5,00
GDS 2006/1	21,00	17,60	4,40
GDS 2006/2	21,00	18,60	3,60
GDS 2006/2	21,50	18,10	4,40
GDS 2006/3	21,50	19,10	2,60
GDS 2006/4	22,00	19,60	3,60
GDS 2006/5	23,00	19,60	4,40
GDS 2006/6	23,00	20,60	3,60
GDS 2007	24,00	20,00	4,80
GDS 2007/1	24,00	21,60	3,60
GDS 2007/2	26,00	22,00	4,40
GDS 2008	26,80	22,00	5,40
GDS 2008/1	28,00	23,80	5,30
GDS 2008/2	28,60	25,60	3,60
GDS 2008/3	30,00	25,10	4,40
GDS 2009	30,00	25,40	5,40
GDS 2009/8	30,00	26,00	5,00
GDS 2009/2	31,00	26,40	5,00
GDS 2009/3	32,00	27,40	5,40
GDS 2009/9	32,00	28,00	5,00
GDS 2009/4	34,00	28,40	5,30
GDS 2009/5	34,00	31,10	3,60
GDS 2009/1	35,00	30,00	4,50
GDS 2009/6	35,00	30,40	5,00
GDS 2009/7	35,50	30,90	5,00
GDS 2009/10	35,00	31,00	5,00
GDS 2010	36,00	32,00	6,20
GDS 2010/1	38,00	32,40	5,30
GDS 2010/1	40,00	33,40	4,10
GDS 2011	40,00	35,20	5,40
GDS 2012	40,00	35,40	5,40
GDS 2012/1	40,60	35,10	4,80
GDS 2012/2	40,00	36,00	5,00
GDS 2013	42,80	38,00	6,80
GDS 2013/1	43,40	37,80	6,20
GDS 2014	45,00	35,80	9,60
GDS 2015	45,00	40,00	5,40
GDS 2015/1	48,00	42,40	3,50
GDS 2015/2	48,00	43,00	4,10
GDS 2015/3	48,00	44,40	4,50
GDS 2016	50,00	40,80	9,60
GDS 2016/1	50,00	43,80	5,60
GDS 2017	50,00	44,60	6,20



GDS 2000



PART NR	DIMENSIONI SEDI / Housing dimensions		
	D	d	H
GDS 2017/3	50,00	45,40	3,90
GDS 2017/5	50,00	45,40	5,40
GDS 2017/1	50,00	45,00	5,60
GDS 2017/2	52,00	42,00	5,60
GDS 2017/4	55,00	45,80	9,80
GDS 2018	55,00	49,60	6,20
GDS 2019	55,00	49,90	5,30
GDS 2019/1	55,00	50,00	6,70
GDS 2020	55,00	51,00	3,50
GDS 2021	57,00	52,20	4,10
GDS 2021/5	58,00	50,00	9,00
GDS 2021/1	58,00	52,60	4,10
GDS 2021/2	58,00	53,40	4,00
GDS 2021/3	58,50	54,50	3,30
GDS 2021/6	60,00	50,80	9,70
GDS 2021/4	60,00	53,60	5,60
GDS 2022	60,00	54,40	5,80
GDS 2023	60,00	54,60	6,20
GDS 2024	63,00	53,80	9,60
GDS 2025	63,00	56,60	6,40
GDS 2026	63,00	57,40	4,80
GDS 2027	63,00	57,60	6,20
GDS 2027/2	63,00	58,40	5,40
GDS 2027/1	64,00	59,00	3,30
GDS 2028	65,00	59,40	5,00
GDS 2029	65,00	59,60	6,20
GDS 2030	65,00	60,00	5,00
GDS 2030/2	65,50	61,10	5,00
GDS 2030/1	68,00	62,70	5,00
GDS 2030/3	69,60	65,00	3,90
GDS 2031	71,00	65,00	6,00
GDS 2031/1	70,00	64,60	6,20
GDS 2032	70,00	65,00	5,00
GDS 2032/1	70,00	66,40	6,20
GDS 2033	72,00	66,40	5,00
GDS 2033/1	72,80	65,70	5,00
GDS 2033/2	73,50	70,00	5,00
GDS 2033/3	74,60	70,00	3,80
GDS 2033/4	75,00	65,80	9,70
GDS 2034	75,00	69,40	5,30
GDS 2035	75,00	69,60	6,20
GDS 2036	76,60	72,00	4,80
GDS 2036/1	77,00	70,80	6,20
GDS 2037	78,00	73,00	5,00
GDS 2037/1	70,00	70,80	9,00
GDS 2038	80,00	70,80	9,70
GDS 2039	80,00	73,60	6,40
GDS 2040	80,00	73,80	6,90
GDS 2041	80,00	74,40	5,30
GDS 2041/5	80,00	74,60	6,20
GDS 2041/3	80,00	75,40	5,40
GDS 2041/4	80,00	76,00	3,60

GDS 2000

PART NR	DIMENSIONI SEDI / Housing dimensions		
	D	d	H
GDS 2041/2	82,00	76,90	3,00
GDS 2041/1	85,00	78,60	6,40
GDS 2042	85,00	79,40	5,30
GDS 2042/2	85,00	79,60	6,20
GDS 2042/1	85,10	80,50	3,90
GDS 2043	90,00	81,40	9,00
GDS 2044	90,00	83,00	6,50
GDS 2045	90,00	84,40	4,80
GDS 2045/1	91,60	84,60	6,30
GDS 2045/6	93,00	87,40	5,30
GDS 2045/2	95,00	88,30	4,40
GDS 2045/3	95,00	88,30	6,90
GDS 2045/9	95,00	86,40	9,00
GDS 2045/7	95,00	89,40	6,20
GDS 2045/8	97,00	91,40	4,80
GDS 2045/4	100,00	90,00	10,50
GDS 2045/5	100,00	90,20	9,00
GDS 2046	100,00	90,80	9,70
GDS 2047	100,00	91,60	8,60
GDS 2048	100,00	91,40	9,00
GDS 2049	100,00	93,80	6,90
GDS 2049/1	101,60	89,20	9,00
GDS 2049/4	102,00	95,80	6,20
GDS 2049/5	105,00	96,40	9,00
GDS 2049/2	108,80	101,60	6,00
GDS 2049/3	110,00	100,50	9,00
GDS 2050	110,00	101,40	9,00
GDS 2050/1	110,00	100,80	9,70
GDS 2050/8	110,20	100,60	9,00
GDS 2050/6	114,00	107,80	6,20
GDS 2050/9	115,00	106,40	9,00
GDS 2050/9	115,00	106,60	8,60
GDS 2050/3	120,10	110,00	9,00
GDS 2050/2	120,00	111,40	9,00
GDS 2050/4	120,10	114,40	9,00
GDS 2050/5	120,10	113,00	6,30
GDS 2050/9	120,20	110,60	9,00
GDS 2051	125,00	115,80	9,70
GDS 2052	125,00	116,40	9,00
GDS 2053	125,00	116,60	8,60
GDS 2053/1	130,00	121,40	9,00
GDS 2053/2	135,00	123,40	12,30
GDS 2054	140,00	128,40	12,30
GDS 2054/1	140,00	130,80	9,70
GDS 2055	140,00	131,60	8,60
GDS 2055/1	142,00	132,00	10,50
GDS 2056	150,00	138,40	12,30
GDS 2056/2	150,00	140,80	9,70
GDS 2056/1	150,00	141,60	8,60
GDS 2057	160,00	148,40	12,30
GDS 2057/2	160,00	150,80	9,70
GDS 2057/1	162,00	152,00	10,50





GSS GSS/P

Guarnizioni per TENUTE STATICHE
STATIC seals

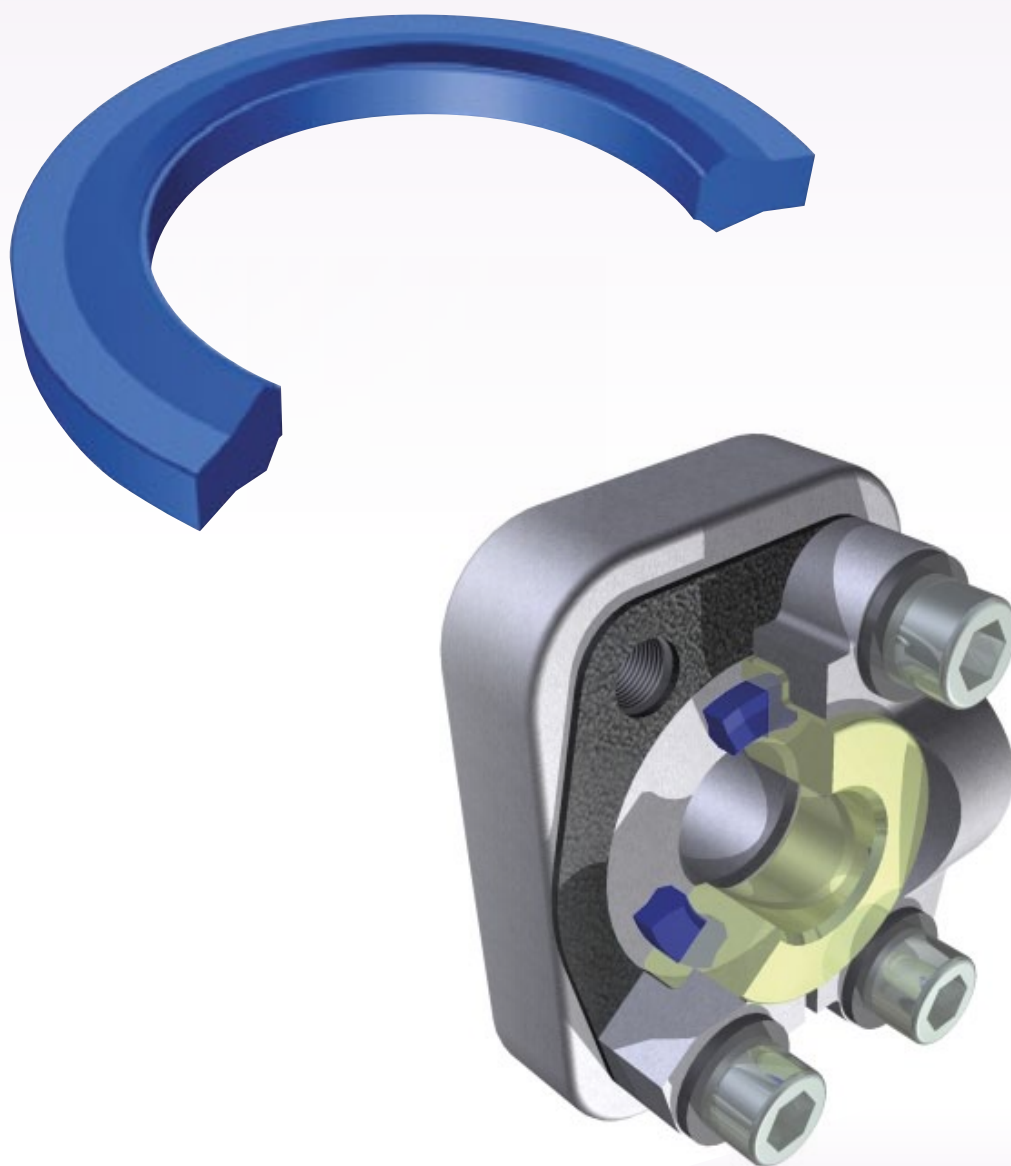
TECNOLAN



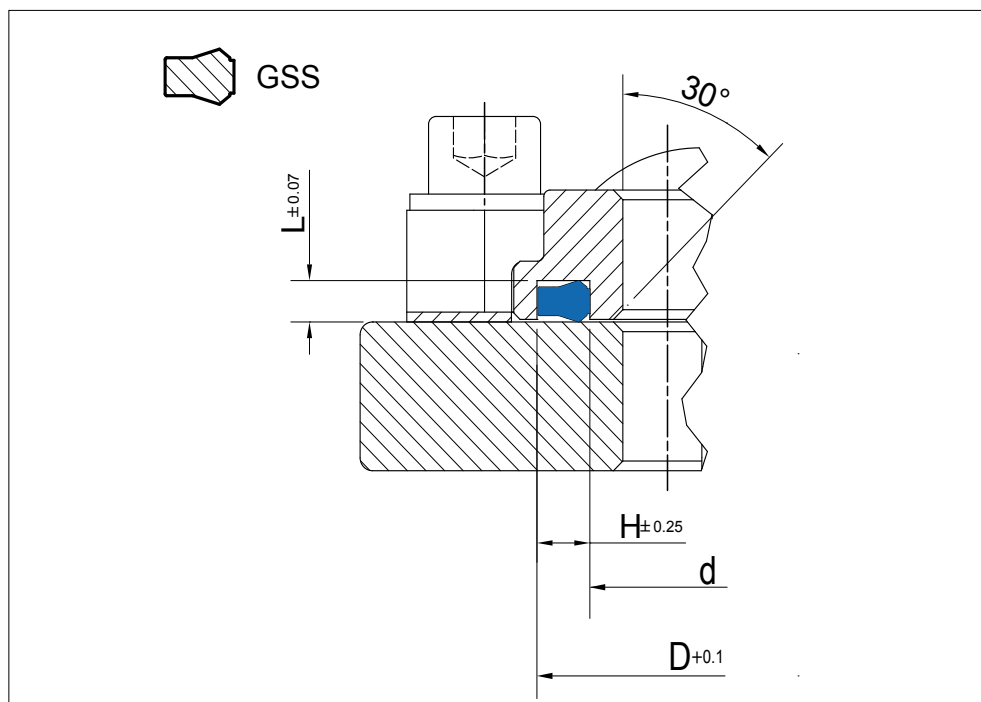
Versione standard	Standard version
Poliuretano	Polyurethane
Pressione fino a / Pressure up to	
40 MPa	
Temperatura / Temperature	
-35°C +100°C	
Applicazioni	Applications
Macchine meccaniche di movimentazione Idraulica mobile	Handling Equipment Mobile hydraulics

GSS • GSS/P

296÷298



GSS GSS/P



PART NR	DIMENSIONI SEDI / Housing dimensions			
	d	D	H	L
GSS 001	6,00	12,00	3,00	2,10
GSS 002	8,00	14,00	3,00	2,10
GSS 003	10,00	16,00	3,00	2,10
GSS 004	12,00	18,00	3,00	2,10
GSS 005	14,00	21,00	3,50	2,10
GSS 006	16,00	23,00	3,50	2,40
GSS 007	20,00	27,00	3,50	2,10
GSS 008	24,00	30,00	3,00	2,10
GSS 009	24,60	31,80	3,60	2,60
GSS 010	25,00	33,00	4,00	2,10
GSS 011	26,30	33,50	3,60	2,10
GSS 012	30,00	38,00	4,00	2,10
GSS 013	32,00	40,00	4,00	3,30
GSS 014	32,00	40,00	4,00	3,00
GSS 015	40,00	48,00	4,00	3,00

PART NR		DIMENSIONI SEDI / Housing dimensions			
		d	D	H	L
GSS/P 150	1/2"	17,00	25,40	4,20	2,85
GSS/P 151	3/4"	23,40	31,80	4,20	2,85
GSS/P 152	1"	31,24	39,62	4,20	2,85
GSS/P 153	1 1/4"	36,10	44,50	4,20	2,85
GSS/P 154	1 1/2"	45,40	53,80	4,20	2,85
GSS/P 155	2"	55,00	63,40	4,20	2,85
GSS/P 156	2 1/2"	67,80	76,20	4,20	2,85
GSS/P 157	3"	83,55	91,95	4,20	2,85



GUARNITEC

O-RING GKS GKM

Guarnizioni per TENUTE STATICHE
STATIC seals

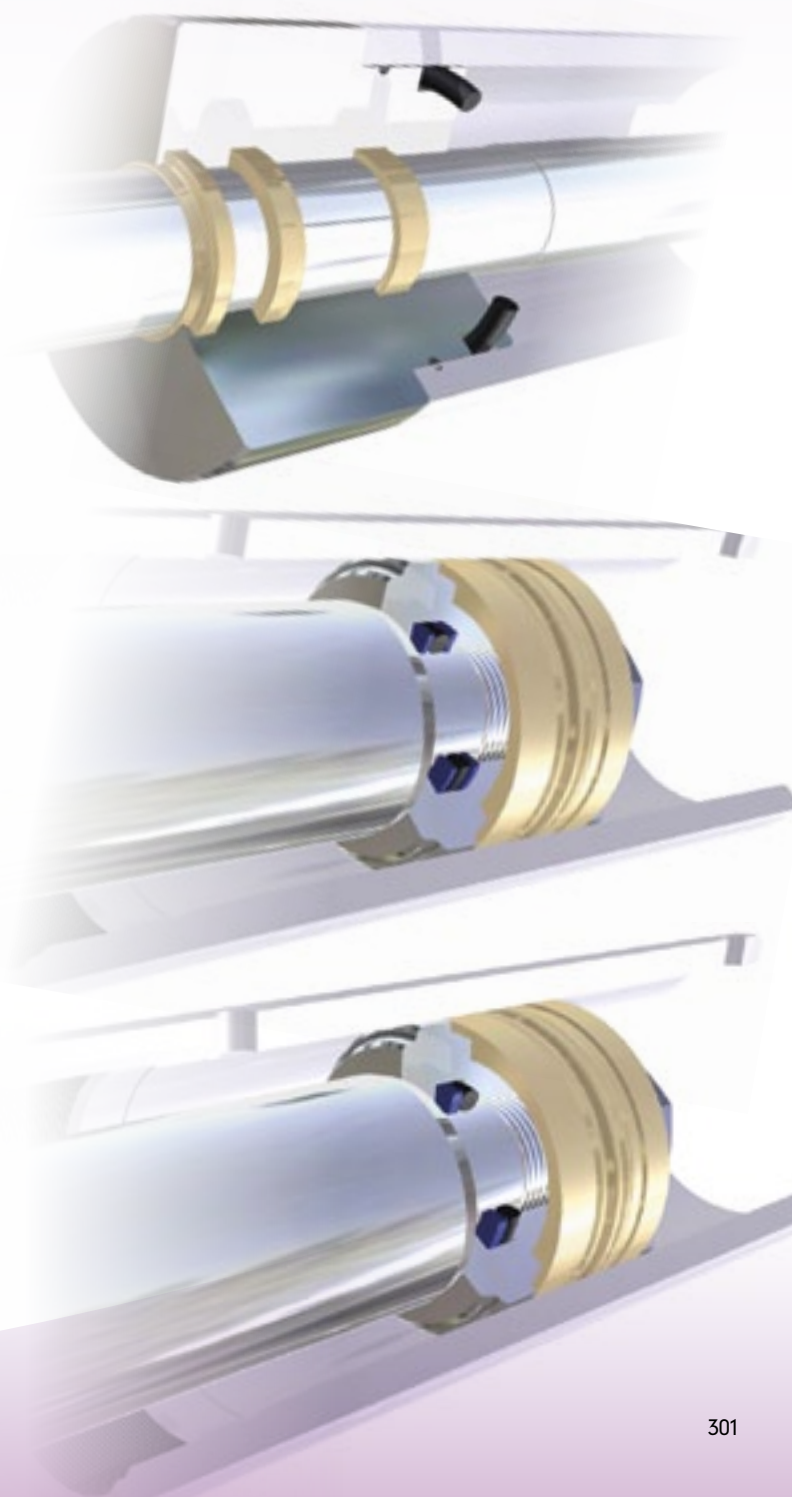
TECNO-RING



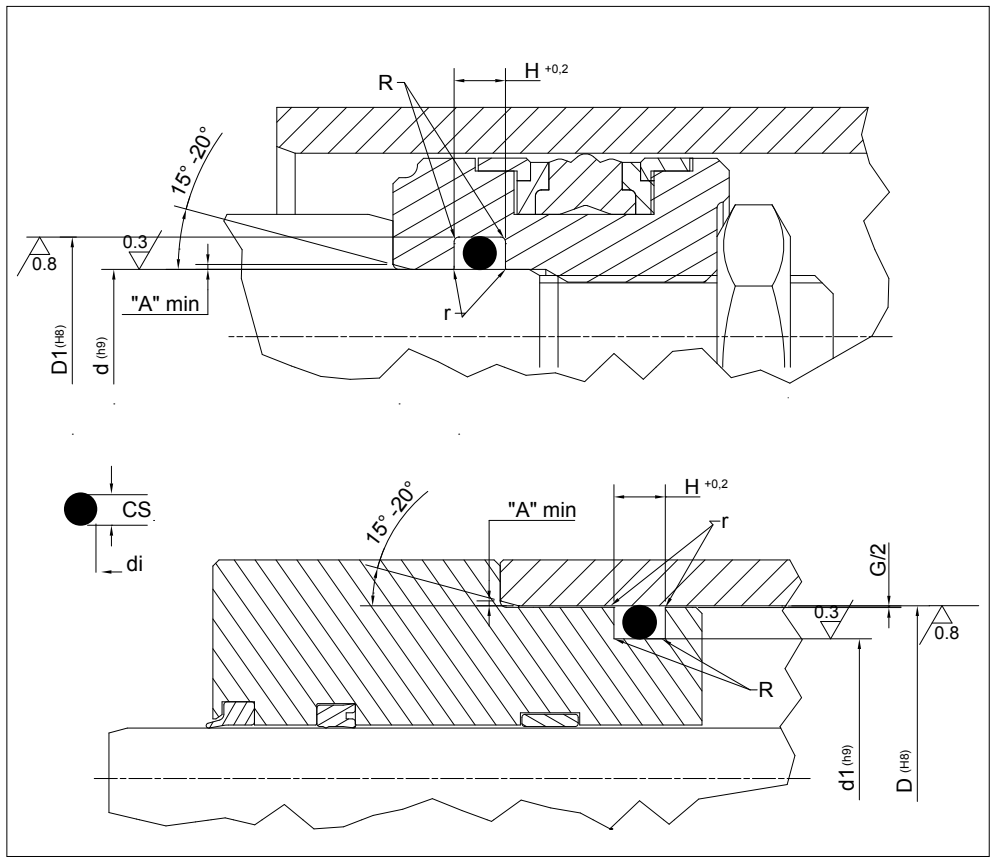
Versione standard		Standard version	
O-RING	NBR	O-RING	NBR
GKS	TPE	GKS	TPE
GKM	TPE	GKM	TPE
Versioni Alternative		Alternative Versions	
O-RING FKM	NBR FKM	O-RING FKM	NBR FKM
O-RING PU	Poliuretano	O-RING PU	Polyurethane
Pressione fino a / Pressure up to			
Statico/Static Radial Sealing 20 MPa (OR) 40 MPa (OR+GKS) (OR+GKM) 200 MPa (OR+GKS special)		Dinamico/Dynamic Radial Sealing Oltre/Over 5 MPa (OR+GKS) (OR+GKM)	
Velocità DINAMICO fino a / DYNAMIC Speed up to			
0.5 m/s			
Velocità IN ROTAZIONE fino a / ROTATION Speed up to			
2 m/s			
Temperatura / Temperature			
-30°C +110°C NBR	-20°C +200°C FKM	-35°C+100°C PU	-40°C +140°C TPE

O-RING • GKS • GKM

300÷314



O-RING GKS



Static Seal design guidelines

R	0mm < d ≤ 20mm	20mm < d ≤ 50mm	50mm < d ≤ 100mm	d ≥ 100mm
	max 0.50 mm	max 0.80 mm	max 1 mm	max 1.5 mm
r	remove sharp edges: r ≤ 0.3mm			
A	1 mm	2 mm	3 mm	3 mm < A ≤ 5 mm

Operating pressure to determinate Maximum Gap Allowance: G/2

G	O-ring Cross Section (CS)	Operating pressure to determinate Maximum Gap Allowance: G/2			
		> 16 MPa	> 26 MPa	> 32 MPa	> 40 MPa
	1.78	0.40 mm	0.40 mm	0.30 mm	0.20 mm
	2.62	0.70 mm	0.60 mm	0.50 mm	0.30 mm
	3.53	1.00 mm	0.80 mm	0.70 mm	0.50 mm
	5.34	1.00 mm	0.80 mm	0.70 mm	0.50 mm
	6.99	1.10 mm	0.90 mm	0.70 mm	0.70 mm

TECNORING	PART NR	OR UK	U.S.A	O-Ring Dimensions		Housing Dimensions					GDS for O-Ring grooves				
				di	CS	H	D	d1	d	D1	OR	OR+1GKS	OR+2GKS		
	10.001	2007	004	1,78	1,78										
	10.002	2010	005	2,57	1,78										
	10.003	101	2012	006	2,90	1,78	2,40	6,35	3,73	3,12	5,74				
	10.004		801	3,17	1,78										
	10.005	102	2015	007	3,69	1,78	2,40	7,14	4,52	3,91	6,53				
	10.006	103	2018	008	4,47	1,78	2,40	7,93	5,31	4,70	7,32				
	10.006/1		802	4,76	1,78										
	10.007	104	2021	009	5,28	1,78	2,40	8,74	6,12	5,51	8,13	2,50	4,00	5,50	
	10.008	105	2025	010	6,07	1,78	2,40	9,53	6,91	6,30	8,92				
	10.008/1		803	6,35	1,78										
	10.009	106	610	6,75	1,78	2,40	10,32	7,70	7,08	9,70					
	10.010	107	2031	011	7,65	1,78	2,40	11,11	8,49	7,78	10,49				
	10.010/1		804	7,94	1,78										
	10.011			8,48	1,78										
	10.012	108	611	8,73	1,78	2,40	12,30	9,68	9,07	11,69					

TECNORING			O-Ring Dimensions		Housing Dimensions					GDS for O-Ring grooves			
	PART NR	OR UK	U.S.A	di	CS	H	D	d1	d	D1	OR	OR+1GKS	OR+2GKS
10.013	110	2037	012	9,25	1,78	2,40	12,70	10,08	9,47	12,09			
10.013/1				9,52	1,78								
10.014				9,75	1,78								
10.015		2043	013	10,82	1,78	2,40	14,30	11,68	11,10	13,72			
10.016	114		806	11,11	1,78	2,40	14,68	12,06	11,51	14,13			
10.017		2050	014	12,42	1,78	2,40	15,88	13,26	12,70	15,32			
10.018		2056	015	14,00	1,78	2,40	17,48	14,86	14,28	16,90			
10.019		2062	016	15,60	1,78	2,40	19,05	16,43	15,88	18,50			
10.020		2068	017	17,17	1,78	2,40	20,63	18,01	17,48	20,10			
10.021		2075	018	18,77	1,78	2,40	22,23	19,61	19,05	21,67			
10.022		2081	019	20,35	1,78	2,40	23,80	21,18	20,63	23,25			
10.023		2087	020	21,95	1,78	2,40	25,40	22,78	22,23	24,85			
10.024		2093	021	23,52	1,78	2,40	26,98	24,36	23,81	26,42			
10.025		2100	022	25,12	1,78	2,40	28,58	25,96	25,40	28,02			
10.026		2106	023	26,70	1,78	2,40	30,18	27,56	26,98	29,60			
10.027		2112	024	28,30	1,78	2,40	31,75	29,13	28,58	31,20			
10.028		2118	025	29,87	1,78	2,40	33,33	30,71	30,18	32,80			
10.029		2125	026	31,47	1,78	2,40	34,93	32,31	31,75	34,37			
10.030		2131	027	33,05	1,78	2,40	36,50	33,88	33,33	35,95			
10.031		2137	028	34,65	1,78	2,40	38,10	35,48	34,93	37,55			
10.031/1			517	36,27	1,78	2,40							
10.032		2150	029	37,82	1,78	2,40							
10.032/1			519	39,45	1,78	2,40							
10.033		2162	030	41,00	1,78	2,40							
10.034		2175	031	44,17	1,78	2,40							
10.035		2187	032	47,35	1,78	2,40							
10.036		2200	033	50,52	1,78	2,40							
10.037		2212	034	53,70	1,78	2,40							
10.038		2225	035	56,87	1,78	2,40							
10.039		2237	036	60,04	1,78	2,40							
10.040		2250	037	63,22	1,78	2,40							
10.041		2262	038	66,40	1,78	2,40							
10.042		2275	039	69,57	1,78	2,40							
10.043		2287	040	72,75	1,78	2,40							
10.044		2300	041	75,92	1,78	2,40							
10.044/1		2312	532	79,00	1,78	2,40							
10.045		2325	042	82,27	1,78	2,40							
10.045/1		2337	534	85,34	1,78	2,40							
10.046		2350	43	88,62	1,78	2,40							
10.046/1		2362	536	91,70	1,78	2,40							
10.047		2375	44	94,97	1,78	2,40							
10.047/1		2387	538	98,05	1,78	2,40							
10.048		2400	045	101,32	1,78	2,40							
10.048/1		2412	540	104,40	1,78	2,40							
10.049		2425	046	107,67	1,78	2,40							
10.049/1		2437	542	110,74	1,78	2,40							
10.050		2450	047	114,02	1,78	2,40							
10.050/1		2462	544	117,10	1,78	2,40							
10.051		2475	048	120,37	1,78	2,40							
10.051/1		2487	546	123,44	1,78	2,40							

2,50
4,00
5,50

TECNORING

Guarnizioni per
TENUTE STATICHE
STATIC seals

O-RING GKS



O-RING GKS



TECNORING			O-Ring Dimensions		Housing Dimensions					GDS for O-Ring grooves			
	PART NR	OR UK	U.S.A	di	CS	H	D	d1	d	D1	OR	OR*1GKS	OR*2GKS
10.052	2500	049	126,72	1,78	2,40						2,50	4,00	5,50
10.052/1	2512	548	129,40	1,78	2,40								
10.053	2525	050	133,07	1,78	2,40								
10.053/1	2537	550	135,76	1,78	2,40								
10.053/2	2550	551	138,94	1,78	2,40								
10.053/3	2562	552	142,11	1,78	2,40								
10.053/4	2575	553	145,29	1,78	2,40								
10.053/5	2587	554	148,46	1,78	2,40								
10.053/6	2600	555	151,64	1,78	2,40								
10.053/7	2612	556	154,81	1,78	2,40								
10.053/8	2625	557	158,00	1,78	2,40								
10.053/9	2637	558	161,16	1,78	2,40								
10.053/10	2652	559	164,34	1,78	2,40								
10.053/11	2662	560	167,51	1,78	2,40								
10.053/12	2675	561	170,69	1,78	2,40								
10.053/13	2687	562	173,87	1,78	2,40								
10.054/1		102	1,24	2,62	3,60						3,50	5,00	6,50
10.054/2		103	2,06	2,62	3,60								
10.054/3		104	2,84	2,62	3,60								
10.054/4		105	3,63	2,62	3,60								
10.054/5		106	4,42	2,62	3,60								
10.054/6		107	5,23	2,62	3,60								
10.054/7		108	6,02	2,62	3,60								
10.054/8		109	7,59	2,62	3,60								
10.054	109		9,13	2,62	3,60								
10.055	111	3037	110	9,19	2,62	3,60							
10.056	112		613	9,90	2,62	3,60							
10.057	113	3043	111	10,77	2,62	3,60							
10.058	115		614	11,91	2,62	3,60							
10.059	116	3050	112	12,37	2,62	3,60							
10.059/1			807	12,70	2,62	3,60							
10.060	117		615	13,10	2,62	3,60							
10.061	118	3056	113	13,94	2,62	3,60							
10.062	119		616	15,08	2,62	3,60							
10.063				15,34	2,62	3,60							
10.064	120	3062	114	15,54	2,62	3,60							
10.065	121		809	15,88	2,62	3,60							
10.066	122	3068	115	17,12	2,62	3,60							
10.066/1			810	17,46	2,62	3,60							
10.067	123		617	17,86	2,62	3,60	23,02	18,83	18,20	22,39			
10.068	124	3075	116	18,72	2,62	3,60	23,81	19,62	19,00	23,19			
10.069	127	3081	117	20,30	2,62	3,60	25,80	21,61	21,03	25,22			
10.070	128		812	20,64	2,62	3,60							
10.071		3087	118	21,89	2,62	3,60							
10.072	130		813	22,22	2,62	3,60	27,38	23,19	22,62	26,81			
10.073		3093	119	23,47	2,62	3,60	28,58	24,39	23,80	27,99			
10.074	132		814	23,81	2,62	3,60	28,97	24,78	24,21	28,40			
10.075		3100	120	25,07	2,62	3,60	30,18	25,99	25,40	29,59			
10.076		3106	121	26,64	2,62	3,60	31,75	27,56	26,98	31,17			
10.077		3112	122	28,24	2,62	3,60	33,33	29,14	28,58	32,77			

TECNOLOGIA			O-Ring Dimensions		Housing Dimensions					GDS for O-Ring grooves		
	PART NR	OR UK	U.S.A	di	CS	H	D	d1	d	D1	OR	OR+1GKS
10.079	3118	123	29,82	2,62	3,60	34,93	30,74	30,18	34,37			
10.080	3125	124	31,42	2,62	3,60	36,50	32,31	31,75	35,94			
10.081	3131	125	32,99	2,62	3,60	38,10	33,91	33,33	37,52			
10.082	3137	126	34,59	2,62	3,60	39,70	35,51	34,93	39,12			
10.083	3143	127	36,17	2,62	3,60	41,28	37,09	36,50	40,69			
10.084	3150	128	37,77	2,62	3,60	42,88	38,69	38,10	42,29			
10.085	3156	129	39,34	2,62	3,60	44,45	40,26	39,68	43,87			
10.086	3162	130	40,94	2,62	3,60	46,03	41,84	41,28	45,47			
10.087	3168	131	42,52	2,62	3,60	47,63	43,44	42,88	47,07			
10.088	3175	132	44,12	2,62	3,60	49,20	45,01	44,45	48,64			
10.089	3181	133	45,69	2,62	3,60	50,80	46,61	46,03	50,22			
10.090	3187	134	47,29	2,62	3,60	52,38	48,19	47,63	51,82			
10.091	3193	135	48,90	2,62	3,60	53,98	49,79	49,20	53,39			
10.092	3200	136	50,47	2,62	3,60	55,58	51,39	50,80	54,99			
10.093	3206	137	52,07	2,62	3,60	57,15	52,96	52,38	56,57			
10.094	3212	138	53,64	2,62	3,60	58,73	54,54	53,98	58,17			
10.095	3218	139	55,25	2,62	3,60	60,33	56,14	55,58	59,77			
10.096	3225	140	56,82	2,62	3,60	61,90	57,71	57,15	61,34			
10.097	3231	141	58,42	2,62	3,60	63,50	59,31	58,73	62,92			
10.098	3237	142	59,99	2,62	3,60	65,10	60,91	60,33	64,52			
10.099	3243	143	61,60	2,62	3,60	66,68	62,49	61,90	66,09			
10.100	3250	144	63,17	2,62	3,60	68,28	64,09	63,50	67,69			
10.101	3256	145	64,77	2,62	3,60	69,85	65,66	65,08	69,27			
10.102	3262	146	66,34	2,62	3,60	71,43	67,24	66,68	70,87			
10.103	3268	147	67,95	2,62	3,60	73,03	68,84	68,28	72,47			
10.104	3275	148	69,52	2,62	3,60	74,60	70,41	69,85	74,04			
10.105	3281	149	71,12	2,62	3,60	76,60	72,01	71,43	75,62			
10.106	3287	150	72,69	2,62	3,60							
10.106/1		640	74,30	2,62	3,60							
10.107	3300	151	75,87	2,62	3,60							
10.107/1		641	77,50	2,62	3,60							
10.107/2		642	80,60	2,62	3,60							
10.108	3325	152	82,22	2,62	3,60							
10.108/1		643	83,80	2,62	3,60							
10.109	3350	153	88,57	2,62	3,60							
10.110	3375	154	94,92	2,62	3,60							
10.111	3400	155	101,27	2,62	3,60							
10.112	3425	156	107,62	2,62	3,60							
10.113	3450	157	113,97	2,62	3,60							
10.114	3475	158	120,32	2,62	3,60							
10.115	3500	159	126,67	2,62	3,60							
10.116	3525	160	133,02	2,62	3,60							
10.117	3550	161	139,37	2,62	3,60							
10.118	3575	162	145,72	2,62	3,60							
10.119	3600	163	152,07	2,62	3,60							
10.120	3625	164	158,42	2,62	3,60							
10.121	3650	165	164,77	2,62	3,60							
10.122	3675	166	171,12	2,62	3,60							
10.123	3700	167	177,47	2,62	3,60							
10.124	3725	168	183,82	2,62	3,60							
10.125	3750	169	190,17	2,62	3,60							

3,60
5,00
6,50

Guarnizioni per
TENUTE STATICHE
STATIC seals

O-RING GKS



O-RING GKS



TECNORING			O-Ring Dimensions		Housing Dimensions					GDS for O-Ring grooves			
	PART NR	OR UK	U.S.A	di	CS	H	D	d1	d	D1	OR	OR+1GKS	OR+2GKS
10.126	3775	170	196,52	2,62	3,60						3,50	5,00	6,50
10.127	3800	171	202,87	2,62	3,60								
10.128	3825	172	209,22	2,62	3,60								
10.129	3850	173	215,57	2,62	3,60								
10.130	3875	174	221,92	2,62	3,60								
10.131	3900	175	228,27	2,62	3,60								
10.132	3925	176	234,62	2,62	3,60								
10.133	3950	177	240,97	2,62	3,60								
10.134	3975	178	247,32	2,62	3,60								
10.135/1		201	4,34	3,53	4,80								
10.135/2		202	5,94	3,53	4,80								
10.135/3		203	7,52	3,53	4,80								
10.135/4		204	9,12	3,53	4,80								
10.135/5		205	10,69	3,53	4,80								
10.135/6		206	12,29	3,53	4,80								
10.135/7		207	13,87	3,53	4,80								
10.135/8		208	15,47	3,53	4,80								
10.135/9		209	17,04	3,53	4,80								
10.135	125	4075	210	18,64	3,53	4,80	25,43	19,71	19,00	24,72			
10.136	126	4081	211	20,22	3,53	4,80	27,00	21,28	20,55	26,27			
10.137	129	4087	212	21,82	3,53	4,80	28,60	22,88	22,15	27,87			
10.138	131	4093	213	23,39	3,53	4,80	30,18	24,46	23,72	29,44			
10.139	133	4100	214	24,99	3,53	4,80	31,78	26,06	25,32	31,04			
10.140	134	618	215	25,80	3,53	4,80	32,58	26,86	26,13	31,85			
10.141	135	4106	216	26,57	3,53	4,80	33,35	27,63	26,90	32,62			
10.142	136	4112	217	28,17	3,53	4,80	34,95	29,23	28,50	34,22			
10.143	137	4118	218	29,74	3,53	4,80	36,53	30,81	30,07	35,79			
10.144	138	4125	219	31,34	3,53	4,80	38,13	32,41	31,67	37,39			
10.145	139	4131	220	32,92	3,53	4,80	39,70	33,98	33,25	38,97			
10.146	140	4137	221	34,52	3,53	4,80	41,30	35,58	34,85	40,57			
10.147	141	4143	222	36,09	3,53	4,80	42,88	37,16	36,42	42,14			
10.148	142	4150	223	37,69	3,53	4,80	44,48	38,76	38,02	43,74			
10.149	144	824	224	39,70	3,53	4,80	46,49	40,77	40,02	45,74			
10.150	4162	223	40,87	3,53	4,80	47,65	41,94	41,20	46,91				
10.151	146	825	224	41,28	3,53	4,80	48,05	42,33	41,61	47,33			
10.152	147	826	225	42,86	3,53	4,80	49,64	43,92	43,19	48,91			
10.153	4175	224	44,04	3,53	4,80	50,83	45,11	44,37	50,09				
10.154	149	827	225	44,45	3,53	4,80	51,22	45,50	44,77	50,49			
10.155	150	828	226	46,04	3,53	4,80	52,80	47,08	46,35	52,07			
10.156	4187	225	47,22	3,53	4,80	54,00	48,29	47,55	53,26				
10.157	152	829	226	47,62	3,53	4,80	54,39	48,67	47,94	53,66			
10.158	153	830	227	49,21	3,53	4,80	55,98	50,26	49,53	55,25			
10.159	4200	226	50,39	3,53	4,80	57,18	51,46	50,72	56,44				
10.160	155	831	227	50,80	3,53	4,80	57,57	51,85	51,12	56,84			
10.161	156	832	228	52,40	3,53	4,80	59,17	53,45	52,70	58,42			
10.162	4212	227	53,57	3,53	4,80	60,35	54,64	53,90	59,61				
10.163	158	833	228	53,97	3,53	4,80	60,74	55,02	54,29	60,01			
10.164	834	228	55,56	3,53	4,80	62,34	56,62	55,88	61,60				
10.165	4225	228	56,74	3,53	4,80	63,92	57,81	57,07	62,79				
10.166	161	835	229	57,15	3,53	4,80	63,92	58,22	57,47	63,19			

O-RING GKS

TECNO-RING			O-Ring Dimensions		Housing Dimensions					GDS for O-Ring grooves			
	PART NR	OR UK	U.S.A	di	CS	H	D	d1	d	D1	OR	OR+1GKS	OR+2GKS
10.167	162		836	58,74	3,53	4,80	65,50	59,78	59,05	64,77			
10.168		4237	229	59,92	3,53	4,80	66,70	60,99	60,25	65,96			
10.169	164		837	60,32	3,53	4,80	67,09	61,37	60,66	66,38			
10.170	165		838	61,90	3,53	4,80	68,68	62,96	62,23	67,95			
10.171		4250	230	63,09	3,53	4,80	69,88	64,16	63,42	69,14			
10.172	167		839	63,50	3,53	4,80	70,27	64,55	63,82	69,54			
10.173	168		840	65,10	3,53	4,80	71,85	66,13	65,40	71,12			
10.174		4262	231	66,27	3,53	4,80	73,05	67,34	66,60	72,31			
10.175	170		841	66,67	3,53	4,80	73,45	67,75	67,00	72,72			
10.176	171		842	68,26	3,53	4,80	75,02	69,30	68,58	74,30			
10.177		4275	232	69,44	3,53	4,80	76,23	70,51	69,77	75,49			
10.178	174		843	69,85	3,53	4,80	76,62	70,90	70,17	75,89			
10.179	174		844	71,44	3,53	4,80	78,20	72,48	71,75	77,47			
10.180		4287	233	72,62	3,53	4,80	79,40	73,69	72,95	78,66			
10.181		176	845	73,03	3,53	4,80	79,79	74,04	73,34	79,06			
10.182		177	846	74,61	3,53	4,80	81,38	75,66	74,93	80,65			
10.183		4300	234	75,79	3,53	4,80	82,58	76,86	76,10	81,81			
10.185		4312	235	78,97	3,53	4,80	85,78	80,06	79,27	84,99			
10.186		4325	236	82,14	3,53	4,80	88,95	83,23	82,45	88,16			
10.187		4337	237	85,32	3,53	4,80	92,13	86,41	85,62	91,34			
10.188		4350	238	88,49	3,53	4,80	95,09	89,37	88,80	94,51			
10.189		4362	239	91,67	3,53	4,80	98,48	92,76	91,97	97,69			
10.190		4375	240	94,84	3,53	4,80			95,15	100,86			
10.191		4387	241	98,02	3,53	4,80			98,32	104,04			
10.192		4400	242	101,19	3,53	4,80			101,50	107,21			
10.193		4412	243	104,37	3,53	4,80			104,67	110,39			
10.194		4425	244	107,54	3,53	4,80			107,85	113,56			
10.195		4437	245	110,72	3,53	4,80			111,02	116,74			
10.196		4450	246	113,89	3,53	4,80			114,20	119,91			
10.197		4462	247	117,07	3,53	4,80			117,37	123,09			
10.198		4475	248	120,24	3,53	4,80			120,55	126,26			
10.199		4487	249	123,42	3,53	4,80			123,72	129,44			
10.200		4500	250	126,59	3,53	4,80			126,90	132,61			
10.201		4512	251	129,77	3,53	4,80			130,07	135,79			
10.202		4525	252	132,94	3,53	4,80			133,25	138,96			
10.203		4537	253	136,12	3,53	4,80			136,42	142,14			
10.204		4550	254	139,29	3,53	4,80			139,60	145,31			
10.205		4562	255	142,47	3,53	4,80			142,77	148,49			
10.206		4575	256	145,64	3,53	4,80			145,95	151,66			
10.207		4587	257	148,82	3,53	4,80			149,12	154,84			
10.208		4600	258	151,99	3,53	4,80			152,30	158,01			
10.209		4625	259	158,34	3,53	4,80			158,65	164,36			
10.210		4650	260	164,69	3,53	4,80			165,00	170,71			
10.211		4675	261	171,04	3,53	4,80			171,35	177,06			
10.212		4700	262	177,39	3,53	4,80			177,70	183,41			
10.213		4725	263	183,74	3,53	4,80			184,05	189,76			
10.214		4750	264	190,09	3,53	4,80			190,40	196,11			
10.215		4775	265	196,44	3,53	4,80			196,75	202,46			
10.216		4800	266	202,79	3,53	4,80			203,10	208,81			
10.217		4825	267	209,14	3,53	4,80			209,45	215,16			

4,50
6,00
7,50



O-RING GKS



TECNORING			O-Ring Dimensions		Housing Dimensions					GDS for O-Ring grooves			
	PART NR	OR UK	U.S.A	di	CS	H	D	d1	d	D1	OR	OR*1GKS	OR*2GKS
10.218	4850	268	215,49	3,53	4,80				215,80	221,51	4,50	6,00	7,50
10.219	4875	269	221,84	3,53	4,80				222,15	227,86			
10.220	4900	270	228,19	3,53	4,80				228,50	234,21			
10.221	4925	271	234,54	3,53	4,80				234,85	240,56			
10.222	4950	272	240,89	3,53	4,80				241,20	246,91			
10.223	4975	273	247,24	3,53	4,80				247,55	253,26			
10.224		274	253,59	3,53	4,80				253,90	259,61			
10.225		275	266,29	3,53	4,80								
10.226		276	278,99	3,53	4,80								
10.227		277	291,69	3,53	4,80								
10.228		278	304,39	3,53	4,80								
10.229		279	329,79	3,53	4,80								
10.230		280	355,19	3,53	4,80								
10.231		281	380,59	3,53	4,80								
10.232		282	405,26	3,53	4,80								
10.233		283	430,66	3,53	4,80								
10.234		284	456,06	3,53	4,80								
10.235/1		309	10,46	5,34	7,10								
10.235/2		310	12,07	5,34	7,10								
10.235/3		311	13,64	5,34	7,10								
10.235/4		312	15,24	5,34	7,10								
10.235/5		313	16,81	5,34	7,10								
10.235/6		314	18,42	5,34	7,10								
10.235/7		315	19,99	5,34	7,10								
10.235/8		316	21,59	5,34	7,10								
10.235/9		317	23,16	5,34	7,10								
10.235/10		318	24,77	5,34	7,10								
10.235/11		319	26,34	5,34	7,10								
10.235/12		320	27,94	5,34	7,10								
10.235/13		321	29,51	5,34	7,10								
10.235/14		322	31,12	5,34	7,10								
10.235/15		323	32,69	5,34	7,10								
10.235/16		324	34,29	5,34	7,10								
10.235	143	6150	325	37,47	5,34	7,10	47,65	38,89	38,02	46,78	7,00	8,80	10,60
10.236	145	6162	326	40,64	5,34	7,10	50,83	42,07	41,20	49,96			
10.237				42,52	5,34	7,10							
10.238	148	6175	327	45,82	5,34	7,10							
10.239	151	6187	328	46,99	5,34	7,10	57,18	48,42	47,55	56,31			
10.240	154	6200	329	50,16	5,34	7,10	60,35	51,59	50,72	59,48			
10.241	157	6212	330	53,34	5,34	7,10	63,53	54,77	53,90	62,66			
10.242	160	6225	331	56,52	5,34	7,10	66,70	57,94	57,07	65,83			
10.243	163	6237	332	59,69	5,34	7,10	69,88	61,12	60,25	69,01			
10.244	166	6250	333	62,87	5,34	7,10	73,05	64,29	63,42	72,18			
10.245	169	6262	334	66,04	5,34	7,10	76,23	67,47	66,60	75,36			
10.246	172	6275	335	69,22	5,34	7,10	79,40	70,64	69,77	78,53			
10.247	175	6287	336	72,39	5,34	7,10	82,58	73,82	72,95	81,71			
10.248	178		619	74,63	5,34	7,10	85,00	76,24	75,35	84,11			
10.249	179	6300	337	75,57	5,34	7,10	85,78	77,02	76,10	84,86			
10.250	180	6312	338	78,74	5,34	7,10	88,95	80,19	79,27	88,03			
10.251	181		620	79,77	5,34	7,10	90,93	82,17	81,29	90,05			

O-RING GKS

TECNO-RING			O-Ring Dimensions		Housing Dimensions					GDS for O-Ring grooves			
	PART NR	OR UK	U.S.A	di	CS	H	D	d1	d	D1	OR	OR+1GKS	OR+2GKS
10.252	182	6325	339	81,92	5,34	7,10	92,13	83,37	82,45	91,21			
10.253	183	6337	340	85,09	5,34	7,10	95,30	86,54	85,62	94,38			
10.254	184	6350	341	88,27	5,34	7,10	98,48	89,72	88,80	97,56			
10.255	185		621	89,69	5,34	7,10	100,06	91,30	90,40	99,16			
10.256	186	6362	342	91,44	5,34	7,10	101,65	92,89	91,97	100,73			
10.257	187	6375	343	94,62	5,34	7,10	104,83	96,07	95,15	103,91			
10.258	188	6387	344	97,79	5,34	7,10	108,00	99,24	98,32	107,08			
10.259	189		622	100,00	5,34	7,10	110,38	101,62	100,74	109,50			
10.260	190	6400	345	100,97	5,34	7,10	111,18	102,48	101,50	110,26			
10.261	191	6412	346	104,14	5,34	7,10	114,35	105,54	104,67	113,43			
10.263	192	6425	347	107,32	5,34	7,10	117,53	108,77	107,85	116,61			
10.264	193		623	109,54	5,34	7,10	119,91	111,15	110,23	118,99			
10.265	194	6437	348	110,49	5,34	7,10	120,70	111,94	111,05	119,81			
10.266	195	6450	349	113,67	5,34	7,10	123,88	115,12	114,20	122,96			
10.267			350	116,84	5,34	7,10							
10.268	199		860	117,48	5,34	7,10	127,84	119,08	118,17	126,93			
10.269			351	120,02	5,34	7,10							
10.270	201		861	120,65	5,34	7,10	131,02	122,26	121,34	130,10			
10.271			352	123,19	5,34	7,10							
10.272	203		862	123,83	5,34	7,10	134,19	125,43	124,12	132,88			
10.273			353	126,37	5,34	7,10							
10.274	206		863	127,00	5,34	7,10	137,37	128,61	127,69	136,45			
10.275			354	129,54	5,34	7,10							
10.276	208		864	130,18	5,34	7,10	140,54	131,78	130,87	139,63			
10.277			355	132,72	5,34	7,10							
10.278	210		865	133,35	5,34	7,10	143,72	134,96	134,04	142,80			
10.279			356	135,89	5,34	7,10	146,89	138,13	137,22	145,98			
10.280	213		866	136,53	5,34	7,10							
10.281			357	139,07	5,34	7,10	150,07	141,31	140,39	149,15			
10.282	215		867	139,70	5,34	7,10							
10.283			358	142,24	5,34	7,10							
10.284	217		868	142,88	5,34	7,10	153,24	144,48	143,57	152,33			
10.285			359	145,42	5,34	7,10							
10.286	219		869	146,05	5,34	7,10	156,42	147,66	146,74	155,50			
10.287			360	148,59	5,34	7,10							
10.288	221		870	149,23	5,34	7,10	159,59	150,83	149,92	158,68			
10.289			361	151,77	5,34	7,10							
10.289/1			644	155,00	5,34	7,10							
10.290			362	158,12	5,34	7,10							
10.290/1			645	161,30	5,34	7,10							
10.291			363	164,47	5,34	7,10							
10.291/1			646	167,70	5,34	7,10							
10.292			364	170,82	5,34	7,10							
10.292/1			647	174,00	5,34	7,10							
10.293			365	177,17	5,34	7,10							
10.294			366	183,52	5,34	7,10							
10.295			367	189,87	5,34	7,10							
10.296		6775	368	196,22	5,34	7,10							
10.297		6795	369	202,57	5,34	7,10							
10.298		6820	370	208,92	5,34	7,10							
10.299		6850	371	215,27	5,34	7,10							

7,00
8,80
10,60



O-RING GKS



TECNORING PART NR	GDS for O-Ring grooves		O-Ring Dimensions		Housing Dimensions					OR	OR+1GKS	OR+2GKS	
	OR UK	U.S.A	di	CS	H	D	d1	d	D1				
10.300	6870	372	221,62	5,34	7,10						7,00	8,80	10,60
10.301	6895	373	227,97	5,34	7,10								
10.302	6920	374	234,32	5,34	7,10								
10.303	6945	375	240,67	5,34	7,10								
10.304	6975	376	247,02	5,34	7,10								
10.305	6995	377	253,37	5,34	7,10								
10.306	61050	378	266,07	5,34	7,10								
10.307	61100	379	278,77	5,34	7,10								
10.308	61150	380	291,47	5,34	7,10								
10.309	61200	381	304,17	5,34	7,10								
10.310	61300	382	329,57	5,34	7,10								
10.311	61400	383	354,97	5,34	7,10								
10.312	61500	384	380,37	5,34	7,10								
10.313	61600	385	405,26	5,34	7,10								
10.314	61700	386	430,66	5,34	7,10								
10.315	61800	387	456,06	5,34	7,10								
10.316	61900	388	481,41	5,34	7,10								
10.317	62000	389	506,81	5,34	7,10								
10.318	62100	390	532,21	5,34	7,10								
10.319		391	557,61	5,34	7,10								
10.320		392	582,68	5,34	7,10								
10.321		393	608,08	5,34	7,10								
10.322		394	633,48	5,34	7,10								
10.322/1		395	658,88	5,34	7,10								
10.323	196	8450	425	113,67	6,99	9,50	127,10	115,95	114,20	125,35	9,50	12,00	14,50
10.324	197		624	114,70	6,99	9,50	128,30	117,15	115,20	126,35			
10.325	198	8462	426	116,84	6,99	9,50	130,20	119,05	117,30	128,45			
10.326	200	8475	427	120,02	6,99	9,50	133,40	122,25	120,50	131,65			
10.327	202	8487	428	123,19	6,99	9,50	136,60	125,45	123,70	134,85			
10.328	204		625	124,60	6,99	9,50	138,20	127,05	125,10	136,25			
10.329	205	8500	429	126,37	6,99	9,50	139,80	128,65	126,90	138,05			
10.330	207	8512	430	129,54	6,99	9,50	142,90	131,75	130,00	141,15			
10.331	209	8525	431	132,72	6,99	9,50	146,10	134,95	133,20	144,35			
10.332	211		626	134,50	6,99	9,50	148,20	137,05	135,00	146,15			
10.333	212	8537	432	135,89	6,99	9,50	149,30	138,15	138,15	149,30			
10.334	214	8550	433	139,07	6,99	9,50	152,50	141,35	141,35	152,50			
10.335	216	8562	434	142,24	6,99	9,50	155,60	144,45	144,45	155,60			
10.336	218	8575	435	145,42	6,99	9,50	158,80	147,65	147,65	158,80			
10.337	220	8587	436	148,59	6,99	9,50	162,00	150,85	150,85	162,00			
10.338	222	8600	437	151,77	6,99	9,50	165,20	154,05	154,05	165,20			
10.339	223		872	155,60	6,99	9,50	169,00	157,85	157,85	169,00			
10.340	224	8625	438	158,12	6,99	9,50	171,50	160,35	160,35	171,50			
10.341	225		627	159,50	6,99	9,50	173,00	161,85	161,85	173,00			
10.342	226		874	161,90	6,99	9,50	175,30	164,15	164,15	175,30			
10.343	227	8650	439	164,47	6,99	9,50	177,90	166,75	166,75	177,90			
10.344	228		628	166,70	6,99	9,50	180,20	169,05	169,05	180,20			
10.345	229		876	168,30	6,99	9,50	181,80	170,65	170,65	181,80			
10.346	230	8675	440	170,82	6,99	9,50	184,20	173,05	173,05	184,20			
10.347	231		878	174,60	6,99	9,50	188,20	177,05	177,05	188,20			
10.348	232	8700	441	177,17	6,99	9,50	190,60	179,45	179,45	190,60			

TECNORING			O-Ring Dimensions		Housing Dimensions					GDS for O-Ring grooves			
	PART NR	OR UK	U.S.A.	di	CS	H	D	d1	d	D1	OR	OR+1GKS	OR+2GKS
10.349	233		880	181,00	6,99	9,50	194,50	183,35	183,35	194,50			
10.350	234	8725	442	183,52	6,99	9,50	196,90	185,75	185,75	196,90			
10.351	235		882	187,30	6,99	9,50	20,90	189,75	189,75	200,90			
10.352	236	8750	443	189,87	6,99	9,50	203,30	192,15	192,15	203,30			
10.353	237		884	193,70	6,99	9,50	207,20	196,05	196,05	207,20			
10.354	238	8775	444	196,22	6,99	9,50	209,60	198,45	198,45	209,60			
10.355	239		886	200,00	6,99	9,50	213,60	202,45	202,45	213,60			
10.356	240	8800	445	202,57	6,99	9,50	216,00	204,85	204,85	216,00			
10.357	241	8825	674	208,92	6,99	9,50	222,30	211,15	211,15	222,30			
10.358	242	8850	446	215,27	6,99	9,50	228,70	217,55	217,55	228,70			
10.359	243	8875	676	221,62	6,99	9,50	235,00	223,85	223,85	235,00			
10.360	244	8900	447	227,97	6,99	9,50	241,40	230,25	230,25	241,40			
10.361	245	8925	678	234,32	6,99	9,50	247,70	236,55	236,55	247,70			
10.362	246	8950	448	240,67	6,99	9,50	254,10	242,95	242,95	254,10			
10.363	247	8975	680	247,00	6,99	9,50	260,40	249,25	249,25	260,40			
10.364	248	81000	449	253,37	6,99	9,50	266,80	255,65	255,65	266,80			
10.365	249	81025	682	259,70	6,99	9,50	273,10	261,95	261,95	273,10			
10.366	250	81050	450	266,07	6,99	9,50	279,50	268,35	268,35	279,50			
10.367	251	81075	684	272,40	6,99	9,50	285,80	274,65	274,65	285,80			
10.368	252	81100	451	278,77	6,99	9,50	292,20	281,05	281,05	292,20			
10.369	253	81125	686	285,10	6,99	9,50	298,50	287,35	287,35	298,50			
10.370			-	287,81	6,99	9,50							
10.371	254	81150	452	291,47	6,99	9,50	304,90	293,75	293,75	304,90			
10.372	255	81175	688	297,80	6,99	9,50	311,20	300,05	300,05	311,20			
10.373	256	81200	453	304,17	6,99	9,50	317,60	306,45	306,45	317,60			
10.373/1			648	310,50	6,99	9,50							
10.374	257	81250	454	316,87	6,99	9,50	330,30	319,15	319,15	330,30			
10.374/1			649	323,20	6,99	9,50							
10.375	258	81300	455	329,57	6,99	9,50	343,00	331,85	331,85	343,00			
10.375/1			650	335,90	6,99	9,50	355,70	344,55	344,55	355,70			
10.376	259	81350	456	342,27	6,99	9,50							
10.377	260	81400	457	354,97	6,99	9,50	368,40	357,25	357,25	368,40			
10.378	261	81450	458	367,67	6,99	9,50	381,10	369,95	369,95	381,10			
10.379	262	81500	459	380,37	6,99	9,50	393,80	382,65	382,65	393,80			
10.380	263	81550	460	393,07	6,99	9,50	406,50	395,35	395,35	406,50			
10.381		81600	461	405,26	6,99	9,50							
10.382		81650	462	417,96	6,99	9,50							
10.383		81700	463	430,66	6,99	9,50							
10.384		81750	464	443,36	6,99	9,50							
10.385		81800	465	456,06	6,99	9,50							
10.386		81850	466	468,76	6,99	9,50							
10.387		81900	467	481,46	6,99	9,50							
10.388		81950	468	494,16	6,99	9,50							
10.389		82000	469	506,86	6,99	9,50							
10.390		82100	470	532,26	6,99	9,50							
10.391		82200	471	557,66	6,99	9,50							
10.392		82300	472	582,68	6,99	9,50							
10.393		82400	473	608,08	6,99	9,50							
10.394		82500	474	633,48	6,99	9,50							
10.395		82600	475	656,88	6,99	9,50							

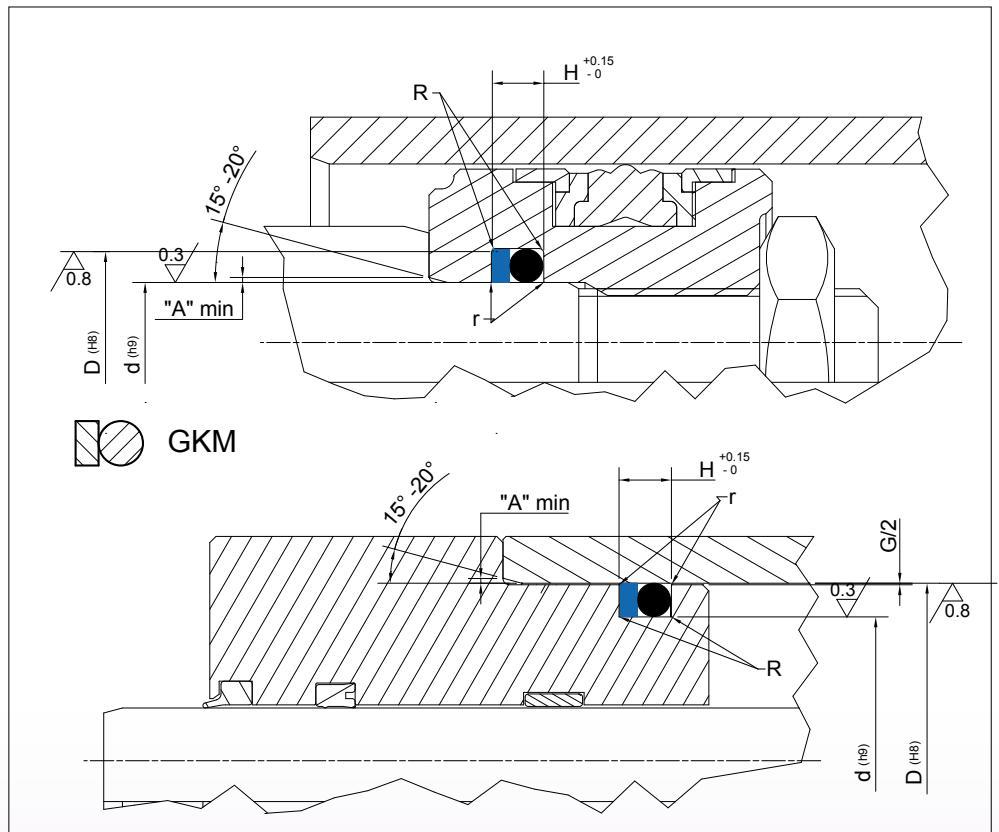
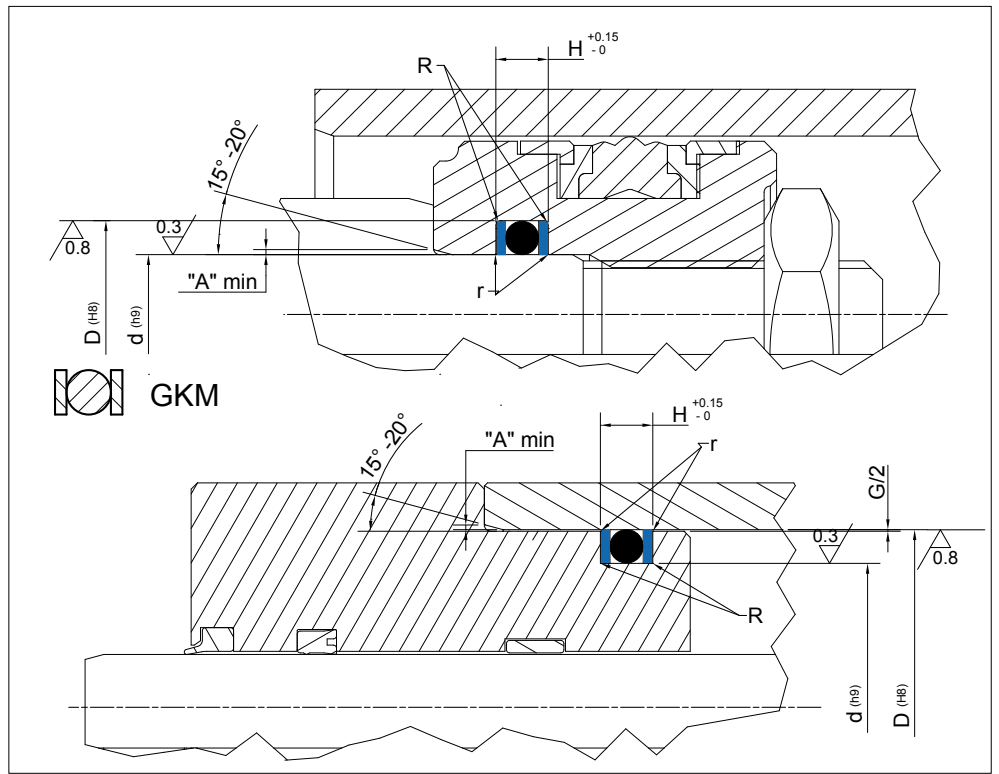
9,50
12,00
14,50

TECNORING

Guarnizioni per
TENUTE STATICHE
STATIC seals

O-RING GKS





Static Seal design guidelines

	0mm < d ≤ 20mm	20mm < d ≤ 50mm	50mm < d ≤ 100mm	d ≥ 100mm
R	max 0.50 mm	max 0.80 mm	max 1 mm	max 1.5 mm
r	remove sharp edges: r ≤ 0.3mm			
A	1 mm	2 mm	3 mm	3 mm < A ≤ 5 mm

Operating pressure to determinate Maximum Gap Allowance: G/2

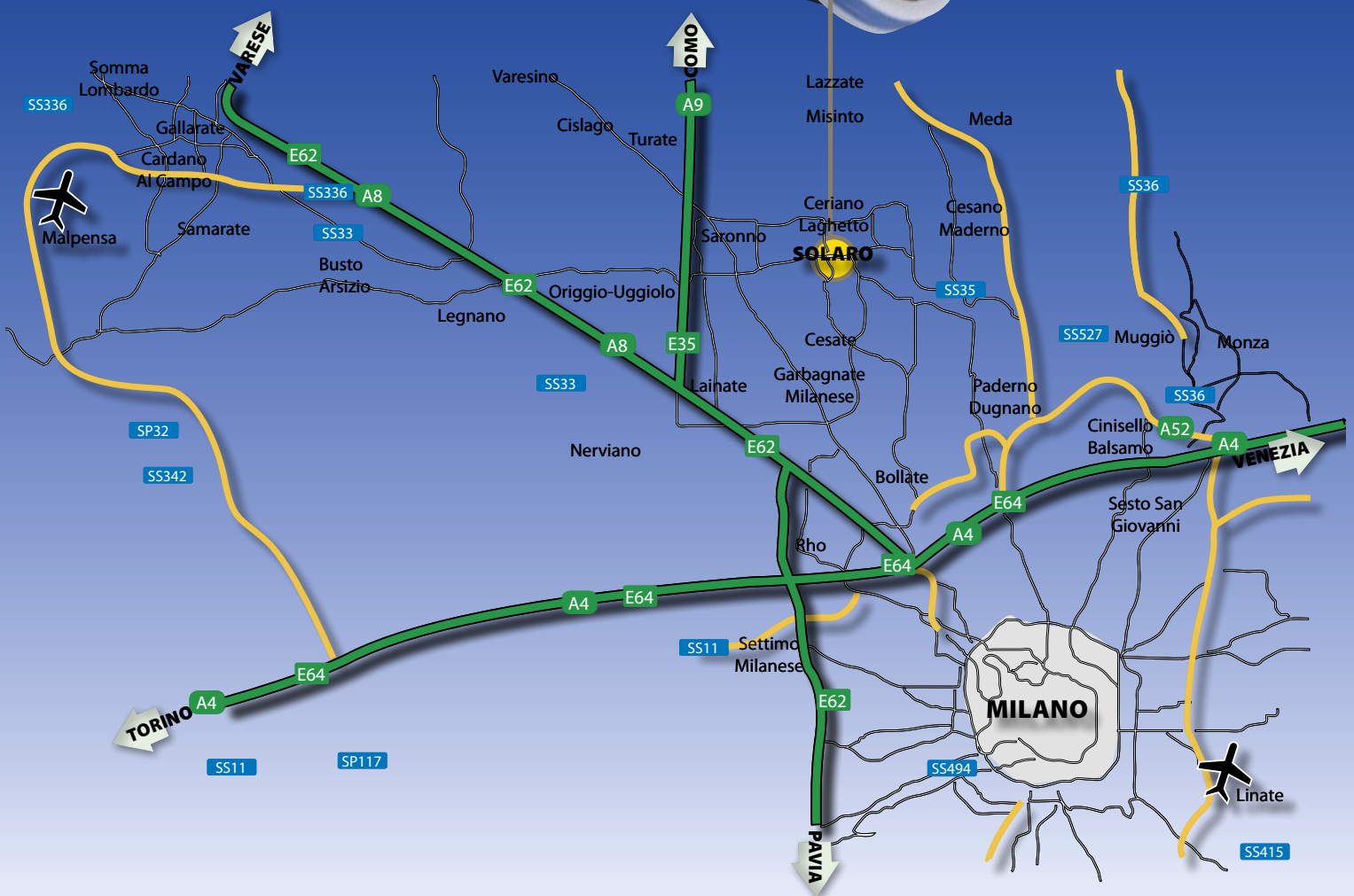
		> 16 MPa	> 26 MPa	> 32 MPa	> 40 MPa
G	O-ring Cross Section (CS)				
	1.78	0.40 mm	0.40 mm	0.30 mm	0.20 mm
	2.62	0.70 mm	0.60 mm	0.50 mm	0.30 mm
	3.53	1.00 mm	0.80 mm	0.70 mm	0.50 mm
	5.34	1.00 mm	0.80 mm	0.70 mm	0.50 mm
	6.99	1.10 mm	0.90 mm	0.70 mm	0.70 mm

PART NR		DIMENSIONI SEDI / Housing dimensions					
		D	d	h	H1	H2	O-Ring
GKM	15001	8,00	4,00	1,30	4,50	5,80	3,3x2,4
GKM	15002	9,00	5,00	1,30	4,50	5,80	4,3x2,4
GKM	15003	10,00	6,00	1,30	4,50	5,80	5,3x2,4
GKM	15004	11,00	7,00	1,30	4,50	5,80	6,3x2,4
GKM	15005	12,00	8,00	1,30	4,50	5,80	7,3x2,4
GKM	15006	13,00	9,00	1,30	4,50	5,80	8,3x2,4
GKM	15007	14,00	10,00	1,30	4,50	5,80	9,3x2,4
GKM	15008	15,00	11,00	1,30	4,50	5,80	10,3x2,4
GKM	15009	16,00	12,00	1,30	4,50	5,80	11,3x2,4
GKM	15010	17,00	13,00	1,30	4,50	5,80	12,3x2,4
GKM	15011	18,00	14,00	1,30	4,50	5,80	13,3x2,4
GKM	15012	19,00	15,00	1,30	4,50	5,80	14,3x2,4
GKM	15013	20,00	16,00	1,30	4,50	5,80	15,3x2,4
GKM	15014	21,00	17,00	1,30	4,50	5,80	16,3x2,4
GKM	15015	22,00	18,00	1,30	4,50	5,80	17,3x2,4
GKM	15016	25,00	20,00	1,30	5,30	6,60	19,2x3
GKM	15017	28,00	23,00	1,30	5,30	6,60	22,2x3
GKM	15018	30,00	25,00	1,30	5,30	6,60	24,2x3
GKM	15019	32,00	27,00	1,30	5,30	6,60	26,2x3
GKM	15020	35,00	30,00	1,30	5,30	6,60	29,2x3
GKM	15021	38,00	33,00	1,30	5,30	6,60	32,2x3
GKM	15022	40,00	35,00	1,30	5,30	6,60	34,2x3
GKM	15023	42,00	37,00	1,30	5,30	6,60	36,2x3
GKM	15024	45,00	40,00	1,30	5,30	6,60	39,2x3
GKM	15025	48,00	43,00	1,30	5,30	6,60	42,2x3
GKM	15026	50,00	45,00	1,30	5,30	6,60	44,2x3
GKM	15027	53,50	48,50	1,30			
GKM	15028	55,00	50,00	1,30	5,30	6,60	49,5x3
GKM	15029	60,00	55,00	1,30	5,30	6,60	54,5x3
GKM	15030	63,00	58,00	1,30	5,30	6,60	57,5x3
GKM	15031	65,00	60,00	1,30	5,30	6,60	59,5x3
GKM	15032	68,00	63,00	1,30	5,30	6,60	62,0x3
GKM	15033	70,00	65,00	1,30	5,30	6,60	64,5x3
GKM	15034	75,00	70,00	1,30	5,30	6,60	69,5x3
GKM	15035	77,50	72,50	1,30			
GKM	15036	80,00	75,00	1,30	5,30	6,60	74,5x3
GKM	15037	85,00	80,00	1,30	5,30	6,60	79,5x3
GKM	15038	90,00	85,00	1,30	5,30	6,60	84,5x3
GKM	15039	95,00	90,00	1,30	5,30	6,60	89,5x3
GKM	15040	99,00	94,00	1,30	5,30	6,60	93,5x3
GKM	15041	100,00	95,00	1,30	5,30	6,60	94,5x3
GKM	15042	105,00	100,00	1,30	5,30	6,60	99,5x3
GKM	15043	110,00	105,00	1,30	5,30	6,60	104,5x3
GKM	15044	115,00	110,00	1,30	5,30	6,60	109,5x3
GKM	15045	118,00	113,00	1,30	5,30	6,60	112,5x3
GKM	15046	120,00	115,00	1,30	5,30	6,60	114,5x3
GKM	15047	125,00	120,00	1,30	5,30	6,60	119,5x3
GKM	15048	130,00	125,00	1,30	5,30	6,60	124,5x3
GKM	15049	135,00	130,00	1,30	5,30	6,60	129,5x3
GKM	15050	140,00	135,00	1,30	5,30	6,60	134,5x3
GKM	15051	145,00	140,00	1,30	5,30	6,60	139,5x3
GKM	15052	150,00	145,00	1,30	5,30	6,60	144,5x3









via della Repubblica, 45 - 20020 SOLARO (MI) - Italy



Tel. +39 02 96 90 666

Fax +39 02 96 91 022

info@guarnitecgroup.com - www.guarnitecgroup.com