



Engineered Sealing Systems

Food /Pharma/Medical Sectors



Facts & Figures

Offices and Warehouse:	Rho (MI), Italia
Year of establishment:	1968
Ownership:	Fatigati family
Employees:	30
Associated companies:	1
Turnover 2022:	≈ € 9,0 mio



Clusters & Assotiations



ASSOLOMBARDA
Confindustria Milano, Monza e Brianza, Lodi



Who we are what we do

Technical and application engineering consultancy for the design, development, production and supply of systems and components for the isolation and damping of vibrations and impacts in any type of industrial application, in addition to some specialized civil environments, and fluid sealing systems and components, also with a certification of materials and process systems



Sealing and Antivibration
Solutions

Fluids Sealing Solutions



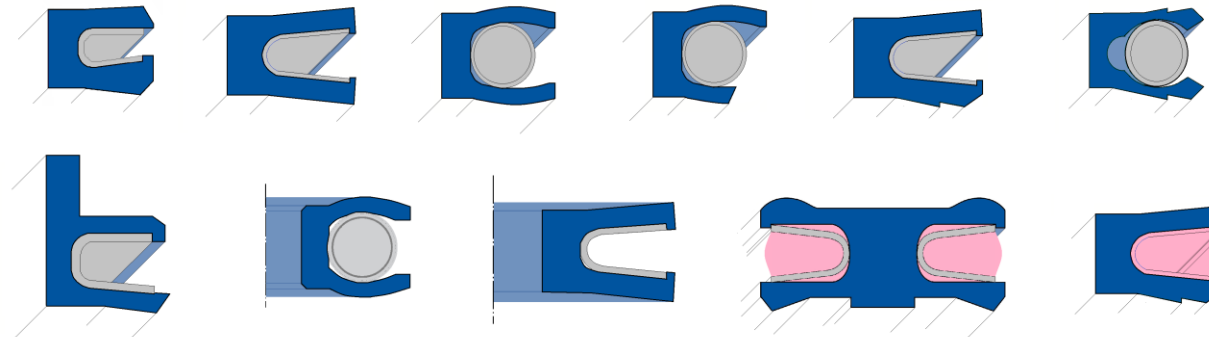
 RADIAFLO®	 MEMORY®	 SPRINGFLO®	 ROTAFLON®	 DOMSEL®	 OR-FEP
 SOFFIETTI	 MEMBRANE	 TUBI	 BOCCOLE	 PISTONI RICOPERTI	 ELEMENTI DEDICATI

 **Engineered
Sealing
Systems**



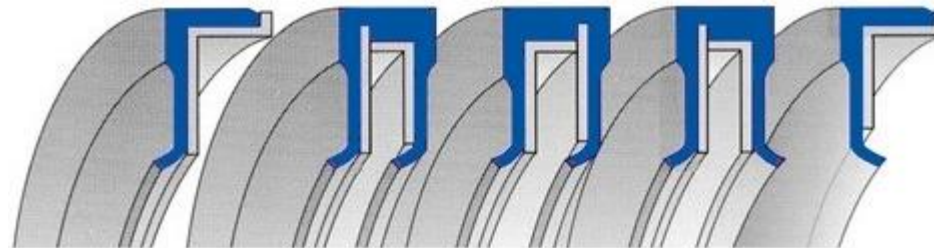
PTFE Energized Seals SPRINGFLON[®]

- Severe operating conditions in static and linear, rotating and rototranslating motions due to: chemical aggression, temperature, pressure, speed or absence of lubrication or presence of gas.
- Low coefficient of dynamic friction.
- Standard and custom solutions
- **Compounds Certified FDA / EU 1935-2004**
- Processings CIP (Clean in Place) and SIP (Sterilization in Place)
- Standard spring in AISI 304, other materials on request
- Temperature from -95°C to +280°C
- Pressure up to 70MPa
- Speed up to 2,5m/s (rotating) / up to 15m/s (linear)



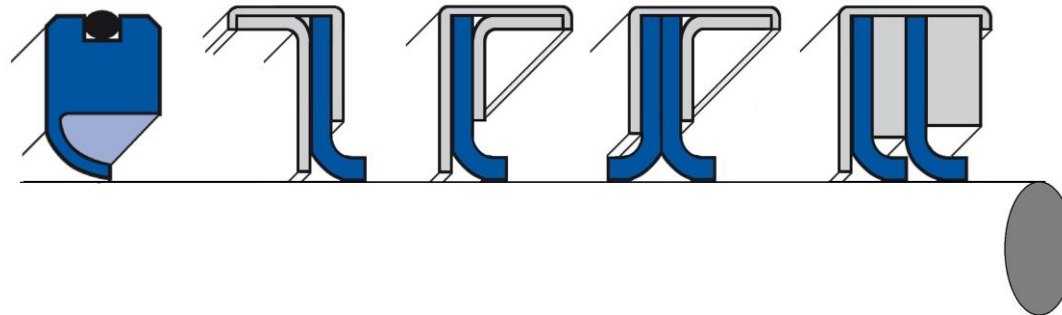
DOMSEL[®] Rotary Seals

- No tension spring
- Low friction
- Elastomers: NBR-HNBR-EPDM-VMQ-FKM-FFKM
- **Elastomers in Compliance FDA**
- 7 profiles
- Dimensions up to 380mm
- Temperatures from -20°C to +300°C
- Pressure up to 1.5MPa
- Speed up to 32 m/s



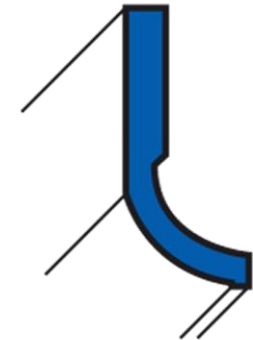
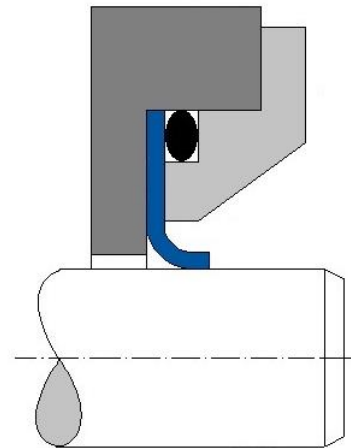
PTFE Rotary Seals RADIAFLON[®]

- For severe operating conditions due to: chemical aggression, temperature, pressure, speed, absence of lubrication or presence of gas.
- Very low dynamic coefficient of friction.
- Standard and custom solutions
- **Compounds Certified FDA / EU 1935-2004**
- Processing CIP (Clean in Place) and SIP (Sterilization in Place)
- Standard case in AISI 304, other materials on request
- Temperature from -60°C to +220°C
- Pressure up to 2.0MPa
- Speed < 30 m/s



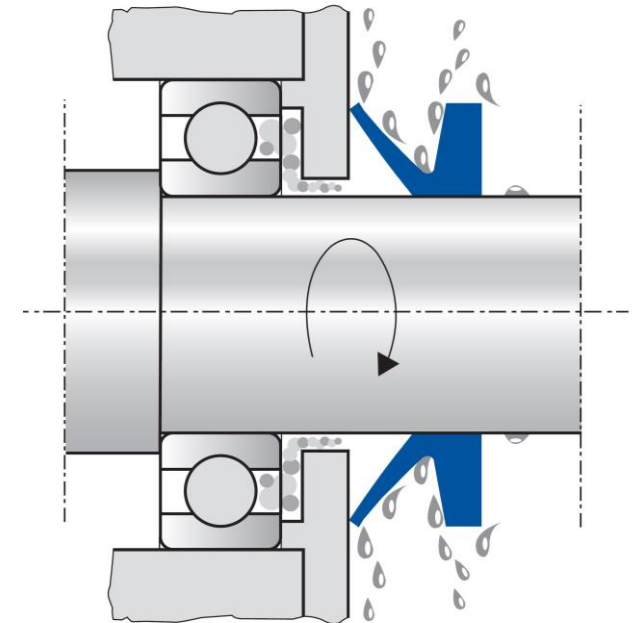
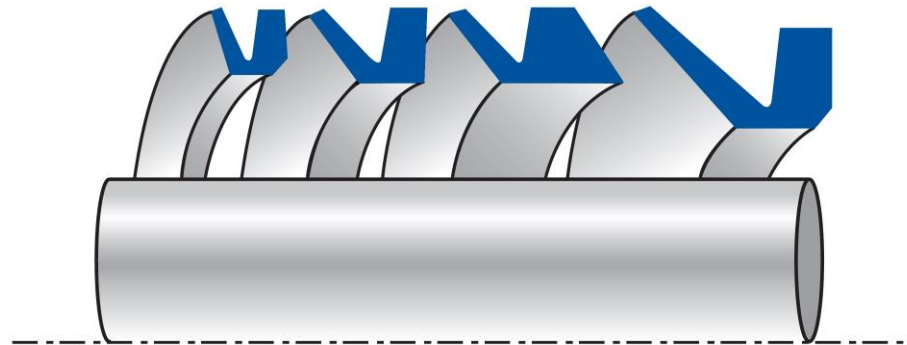
PTFE Rotary Shaft Lips SHAFTLIP

- For working or assembly conditions with limited space.
- High chemical resistance and use with poor lubrication or dry.
- Very low friction coefficient
- Special and customized solutions: multi-lip, single lip, lips with different thickness or preload.
- **Compounds Certified FDA / EU 1935-2004**
- Processing CIP (Clean in Place) and SIP (Sterilization in Place)
- Temperature from -90°C to +260°C
- Pressure up to 2.5MPa.
- Peripheral speed > 35m/s.



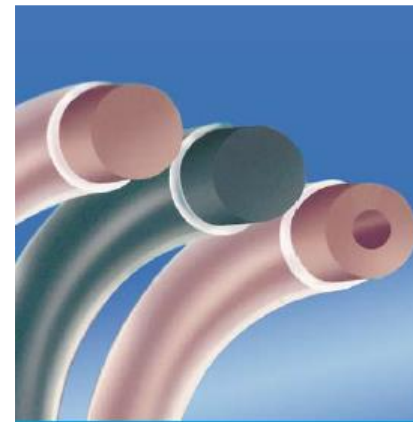
V-SEAL[®]

- Axial seal
- Very low friction coefficient
- Elastomers: NBR-FKM-VMQ
- **Elastomers in Compliance FDA**
- 3 profiles
- Dimensions up to 2000mm
- Temperature from -40°C to +200°C
- Pressure: none
- Speed: up to 18m/s

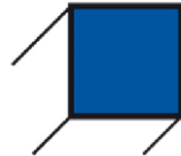
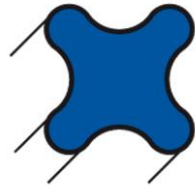
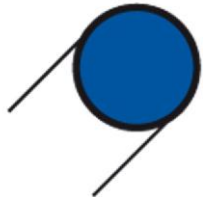


OR-FEP

- It combines the chemical and thermal resistance of PTFE with the elasticity of elastomers.
- Wide chemical and thermal operating range virtually inert to chemical aggression.
- Low coefficient of friction.
- Anti-adhesive sheath, absence of gluing with the surfaces in contact.
- **Non-toxic sheath: FDA 177.1550 compliance of title 21**
- Physiologically compatible
- Low vapor permeability and minimal hygroscopicity.
- Low compression-set exceeds the requirements of L-P389A and ASTM D-2166.
- Standard and metric sizes
- Can be used in existing site for OR conforming to AS568A standard
- Processing CIP (Clean in Place) and SIP (Sterilization in Place)
- Temperature from -60°C to +200°C (depending on the OR core)
- Pressure up to 15 MPa (after 5MPa with the aid of the Back-Up Ring)



Special Elastomers for ORING – X-RING – Q-RING[®] Con Certificazioni FDA / EU 1935-2004



- **NBR**

For continuous service from -30°C to $+100^{\circ}\text{C}$; good resistance to oils, mineral, vegetable and animal fats, hydrocarbons and gases.

- **EPDM**

Resistant to aging, ozone, hot water and steam; compatible with organic and inorganic acids. Thermal resistance between -45°C to $+150^{\circ}\text{C}$ (peaks $+175^{\circ}\text{C}$ for short periods). Suitable for CIP and SIP sterilization processes.

- **VMQ**

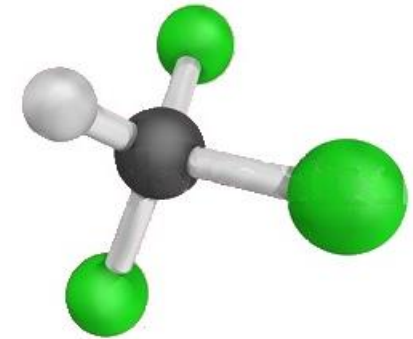
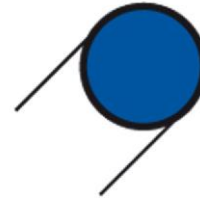
Thermal resistance between -60°C to $+200^{\circ}\text{C}$ (peaks $+230^{\circ}\text{C}$ for short periods). High impermeability to gases, excellent resistance to oxygen and ozone. Good behavior with: hot air, inert gases, vegetable and animal fats and oils.

- **FKM - peroxide**

Thermal resistance up to $+230^{\circ}\text{C}$ (peaks $+250^{\circ}\text{C}$ for a short time), special formulations for low temperatures, good resistance to bases and acids. Suitable for CIP and SIP sterilization processes.

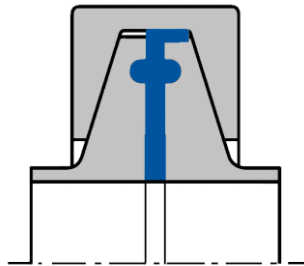
FFKM (perfluoroelastomers) ELAFLUOR[®] for ORING

ELAFLUOR[®] is a **FFKM** that combines the excellent chemical and thermal properties of PTFE with the best elasticity and resistance to compression deformation of elastomers. **ELAFLUOR[®]** is normally used in Food/Pharma/Medical sectors in all those applications where seals are required to meet extreme standards.

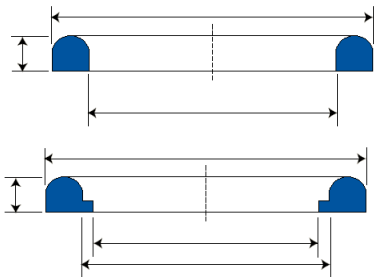


Ref. Pantecnica	Compound	SH	Color	Temperature	NOTE
FFKM701-FA	FFKM (FDA)	70	bianco	-20°C + 270°C	Certificato EC 1935-2004 - Compliance FDA 21CFR177.2400 - According to USP VI - 3A Sanitary
FFKM601-FA	FFKM (FDA)	60	nero	-40°C + 260°C	Compliance FDA 21CFR177.2400 (global migration) - Ultra low temperature
FFKM751-FA	FFKM (FDA)	75	nero	-20°C + 270°C	Compliance FDA 21CFR177.2400 - According to USP VI - 3A Sanitary

Tenute per Morsetti – Hygienic Clamp Seals



Clamp Seals DIN 32676:2009-05
Clamp Seals ISO 2852/ASME



Clamp Seals ISO 11851



Compounds and Elastomers Certified FDA / EU 1935-2004

PTFE Composite Seals for ACTUATORS

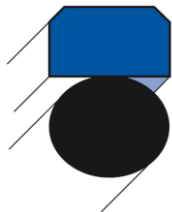
AXIAFLON[®]

For ROD and PISTON in linear applications with:

P: up to 80MPa

V: up to 15m/s

T: from -45°C to +200°C



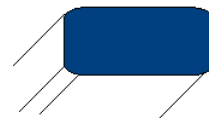
SLYDFLON[®]

Guids in PTFE and Composites for applications with:

V: up to 15m/s

T: from -60°C to +200°C

Static load up to 100N/mm²



WIPEFLON[®]

Scrapers for linear movements with:

V: up to 15m/s

T: from -45°C up to +200°C



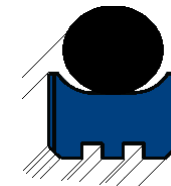
ROTAFLON[®]

For rotating applications systems with:

P: up to 30MPa

V: up to 2m/s

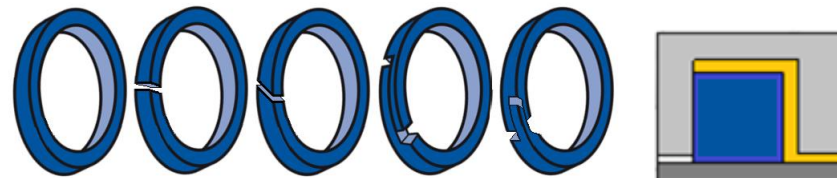
T: from -45°C to +200°C



Compounds and Elastomers Certified FDA / EU 1935-2004

PISTON RING

In applications with high value of PxV (up to 10 MPa x m/s)

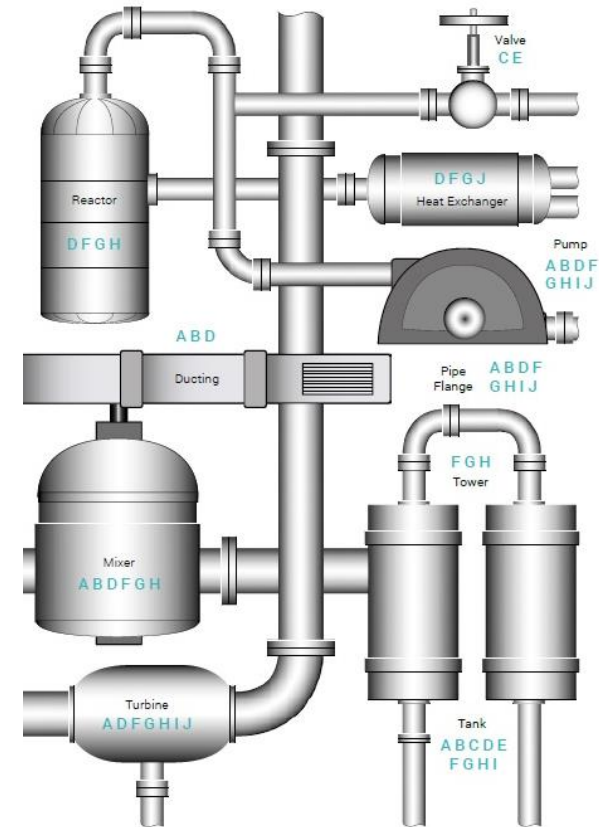


ePTFE KWO[®] gaskets

Properties of PTFE	Performance of ePTFE
High chemical & thermal resistance	High adaptability
Flame retardant	Superior resistance to creep and cold flow
Physiologically inert	Density from 0.6 to 1.0 g/cm ³
Low coefficient of friction	High creep resistance

Biocompatibility

No caking onto flange



ePTFE Guarnizioni Piano

- A Universal Tape F Premium
- B Universal Tape HD
- C Universal Tape R
- D CellFlon Tape
- E CellFlon Tape R
- F MultiTex Tape

ePTFE Guarnizioni in Fogli

- G MultiTex Sheet
- H CellFlon Sheet Blue
- I CellFlon Sheet Brown

ePTFE Guarnizioni ad Anello

- J MultiTex Ring

ePTFE KWO[®] flat gaskets

- Sealing tapes and cords for joints in pure 100% expanded PTFE with mono or multi-directional structure suitable for the Oil & Gas and Chemical sectors
- **Certificazioni: TA-Luft/VDI 220 – FDA 21 CFR 177.1550 – EU 1935/2004 – BAM – DVGW**
- Available in 9 types of ribbons / ropes
- For use on flanges, equipment housings, reactors and ventilation systems in the presence of temperature and pressure.

Advantages:

- easy to store
- for universal use
- easy to install
- ideal for large seals
- no waste



ePTFE KWO[®] sealing sheets

KWO[®] PTFE sealing sheets are the universal sealing solution for applications up to +250°C.

The sheets are suitable for all applications where high temperatures or aggressive fluids / gases are used. They can be used for flanged pipes according to DIN or ANSI standards, containers and glass lined systems

Certificazioni: TA-Luft/VDI 220 – FDA 21 CFR 177.1550 – EU 1935/2004 – BAM – DVGW



KWO[®] MultiTex[®]

100% multidirectional expanded ePTFE without pigments, inks or adhesives, suitable for clean food and pharmaceutical applications.



KWO[®] CellFlon[®] Sheet Blue

structured sheets with PTFE microspheres and hollow glass. For applications with limited bolt load or uneven flange. For sealing chemicals with pH (0-14).



KWO[®] CellFlon[®] Sheet Brown

structured sheets in PTFE and silica. For sealing chemicals with pH (0-14), including strong acids, hydrocarbons, steam, solvents or chlorine.



KWO[®] CellFlon[®] Sheet White

structured sheets in PTFE and barium sulphate. For sealing chemicals with pH (0-14), including strong acids, hydrocarbons, steam, solvents and others.

Bellows – Diaphragms – Membranes

- In modified virgin PTFE or PTFE compound
- Resistant to chemicals
- Processing CIP (Clean in Place) and SIP (Sterilization in Place)
- Temperature between -60°C to +200°C
- Vacuum pressure up to > 6bar
- Produced from machine or for molding or from turning
- Special and Customized Executions
- **Compounds in Compliance FDA, EU 1935-2004, USP VI**

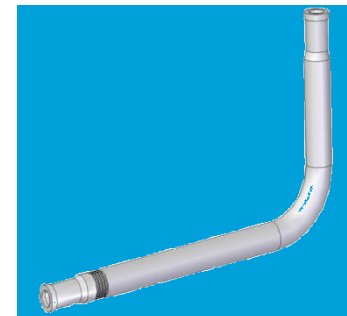
- **Employed in Food and Pharmaceutical processes such as:**
 - Filling systems with over 20mil. of shots
 - Pressurization valves filling m. (P up to 6bar - 10mil. cycles)
 - Food design purge valves (P up to 32bar - 4mm stroke - 10mil. Strokes)



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Engineered Plastics”

Tubes

- In modified virgin PTFE or PTFE compound
 - Resistant to chemicals
 - Processing CIP (Clean in Place) and SIP (Sterilization in Place)
 - Temperature between -60°C to +200°C
 - Vacuum pressure up to over 6bar
 - Produced from machine or for molding or from turning
 - Special and Customized Executions
 - **Compounds in Compliance FDA, EU 1935-2004, USP VI.**
-
- **Employed in Food and Pharmaceutical processes such as:**
 - Filling systems with over 20mil. of shots
 - Pressurization valves filling m. (P up to 6bar - 10mil. Cycles)
 - Food design purge valves (P up to 32bar - 4mm stroke - 10mil. Strokes)



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Warranty

1. WARRANTY

- 1.1 The content of this document refers expressly to «Pantecnica S.p.A. - Technical Documents Disclaimer - EN -Rev.01» published online, and it is provided for general information purposes only and should not be considered as a binding recommendation.
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2. OPERATING CONDITIONS' LIMIT VALUES

- 2.1 The limit values referred to the operating conditions are correlated with each other and must never be reached simultaneously. They are in close relationship both with the correct choice of the Products with respect to the specific application, and with its correct assembly.

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