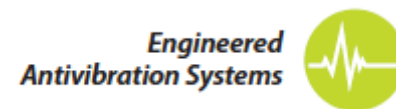




Capabilities

Engineered sealing & antivibration systems



Facts & Figures

Offices and Warehouse:	Rho (MI), Italia
Year of establishment:	1968
Ownership:	Fatigati family
Employees:	32
Associated companies:	1
Turnover 2022:	≈ € 10,0 mio



Quality Management System



MANAGEMENT SYSTEM CERTIFICATE

Certificate no.: CERT08910-2001-AG-ML-SINCERT Initial certification date: 18 July 2001 Valid: 24 July 2021 – 23 July 2024

This is to certify that the management system of
PANTECNICA S.p.A.
Via Magenta, 77/14 A - 20017 Rho (MI) - Italy

has been found to conform to the Quality Management System standard:
ISO 9001:2015

This certificate is valid for the following scope:
Design and trade, also under own trademark, of anti-vibration Systems, fluid seal systems and technical industrial items (IAF 29, 14, 17)

Place and date:
Vimercate (MB), 04 February 2022



ACCREDITED UNIT
DNV Business Assurance
Via Energy Park, 14 - 20871 Vimercate (MB) - Italy

For the issuing office:
DNV - Business Assurance
Via Energy Park, 14 - 20871 Vimercate (MB) - Italy

Claudia Baricelli
Claudia Baricelli
Management Representative

Lack of fulfillment of conditions as set out in the Certification Agreement may render this Certificate invalid.
ACCREDITED UNIT: DNV Business Assurance Italy S.r.l., Via Energy Park, 14 - 20871 Vimercate (MB) - Italy - TEL: +39 03 99 9105 - www.dnv.it



MANAGEMENT SYSTEM CERTIFICATE

Certificate no.: 119652-2012-AG-ITA-ACCREDIA Initial certification date: 19 July 2012 Issue Date: 19 July 2021 Expiry Date: 18 July 2024

This is to certify that the management system of
PANTECNICA S.p.A.
Via Magenta, 77/14 A - 20017 Rho (MI) - Italy

has been found to conform to the Quality Management System standards:
EN 9120:2018 and ISO 9001:2015
(technically equivalent to AS9120B and SJAC9120:A)

and has been audited in accordance with the requirements of EN 9104-001:2013 and ACCREDIA Technical Regulation RT-18.

Type of certification structure: Single Site

This certificate is valid for the following scope:
Parts and materials marketing for aviation, space and defense industry.
Commercializzazione di parti e materiali per l'industria aeronautica, dello spazio e della difesa.

IAF Sector(s) : 29, 14, 17

Place and (re-)issue date:
Vimercate (MB), 16 July 2021



ACCREDITED UNIT
DNV Business Assurance
Via Energy Park, 14 - 20871 Vimercate (MB) - Italy

For the accredited unit:
DNV - Business Assurance
Via Energy Park, 14 - 20871 Vimercate (MB) - Italy

Zeno Beltrami
Zeno Beltrami
Management Representative

Lack of fulfillment of conditions as set out in the Certification Agreement may render this Certificate invalid.
ACCREDITED UNIT: DNV Business Assurance Italy S.r.l., Via Energy Park, 14 - 20871 Vimercate (MB) - Italy - TEL: +39 03 99 9105 - www.dnv.it

Clusters & Assotiations



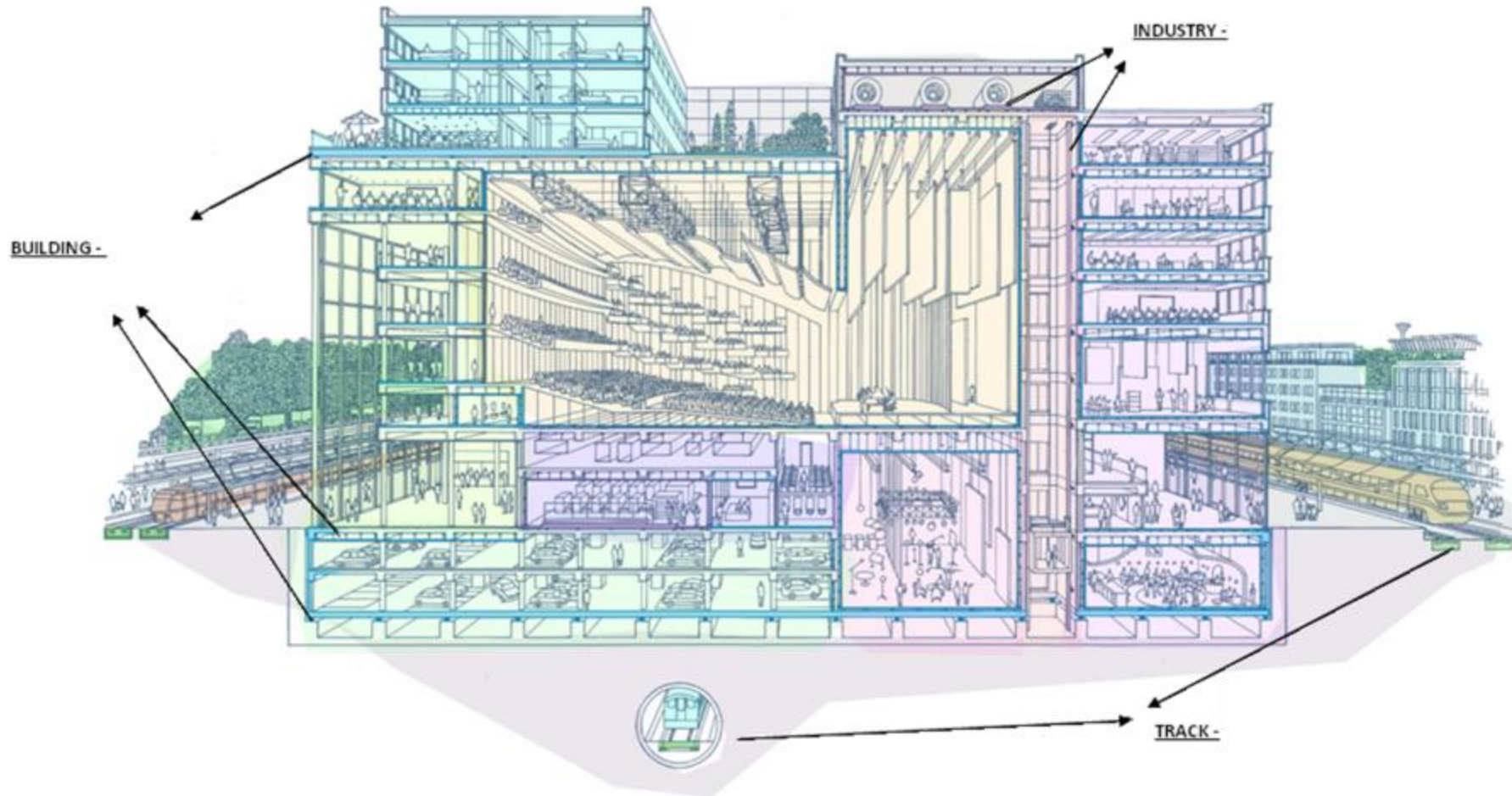
ADERENTE AL SISTEMA
CONFEDERALE

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



Application know-how



Antivibration, damping and anti-shock systems



Application know-how

Antivibration solutions for tram and rail vehicles



Application know-how

Antivibration solutions for tram and rail infrastructures

Elastomer rail pads for Milano
Modificato type fastening

Lateral buffers, elastomer underbase
pads and sleeper mats for Milano
Massivo



Milano, Metro 5 project, Bignami-Garibaldi FS section,
2010 - 2012

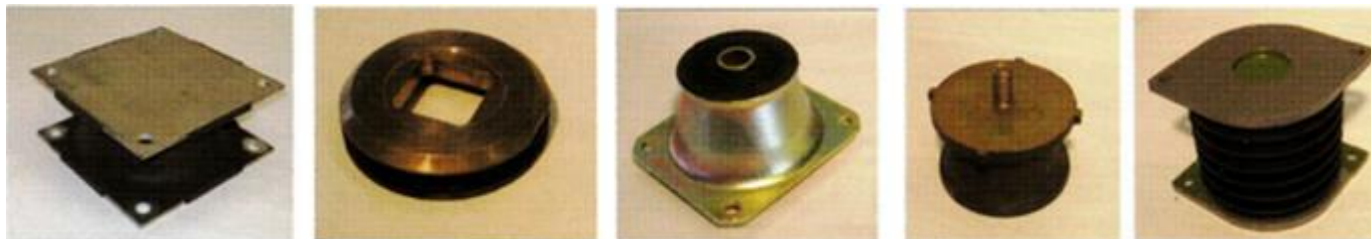
Application know-how Systems and components for earthmoving equipment



Application know-how

Earthmoving equipment

High frequency loads require elastomers designed specifically for these applications.



Application know-how



Aircraft industry

In this sector, there is no room for error due to the very nature of the field of operation, thus requiring reliable and certified sealing systems and antivibration solutions to mitigate the possible risks of damage due to vibrations. Cabin interior fittings, shock mounts, tie rods, space holders, bushes, window fasteners, etc..

Application know-how

Defence industry

We can develop customized solutions for any kind of application in this sector (i.e. for the protection of passengers on Lince military vehicles; for the FCS on FREMM frigates; sealing systems Space Surveillance Tracking; etc..)



Application know-how



Automotive industry

Wearproof rubber and rubber-to-metal bonded antivibration systems and components.



Application know-how

Naval shipyards

We develop solutions against mechanical vibrations and impact stresses for on-board engines, electronic equipment, pumps, fans, and rotating machinery for optimal operating conditions and passengers and crew comfort. We also develop technologically innovative solutions (Blue Technologies), to improve systems efficiency onboard and on offshore platforms, therefore functional to the mitigation of their environmental impact and the reduction of marine and coastal pollution.



Application know-how

Antivibration systems for heating and air-conditioning

We are consolidated partners of many companies specializing in this field, because we are not bound by the use of a specific material and over the decades we have refined a wide range of solutions suitable to meet the expectations of mitigation of vibration and noise transmitted through solid. Our experience matured in the field allows us to recommend both the type of spring best suited to the specific application, and the most correct method of assembly.



Application know-how

Antivibration systems and components for wind energy plants



Application know-how

**Special systems and components for
any kind of industrial machinery and
equipment**



Application know-how

Antivibration rubber and rubber-to-metal-bonded elements, specially designed for the commercial vehicles and truck industry



Antivibration, damping and anti-shock systems

Protective slings for safe lifting and handling of artworks



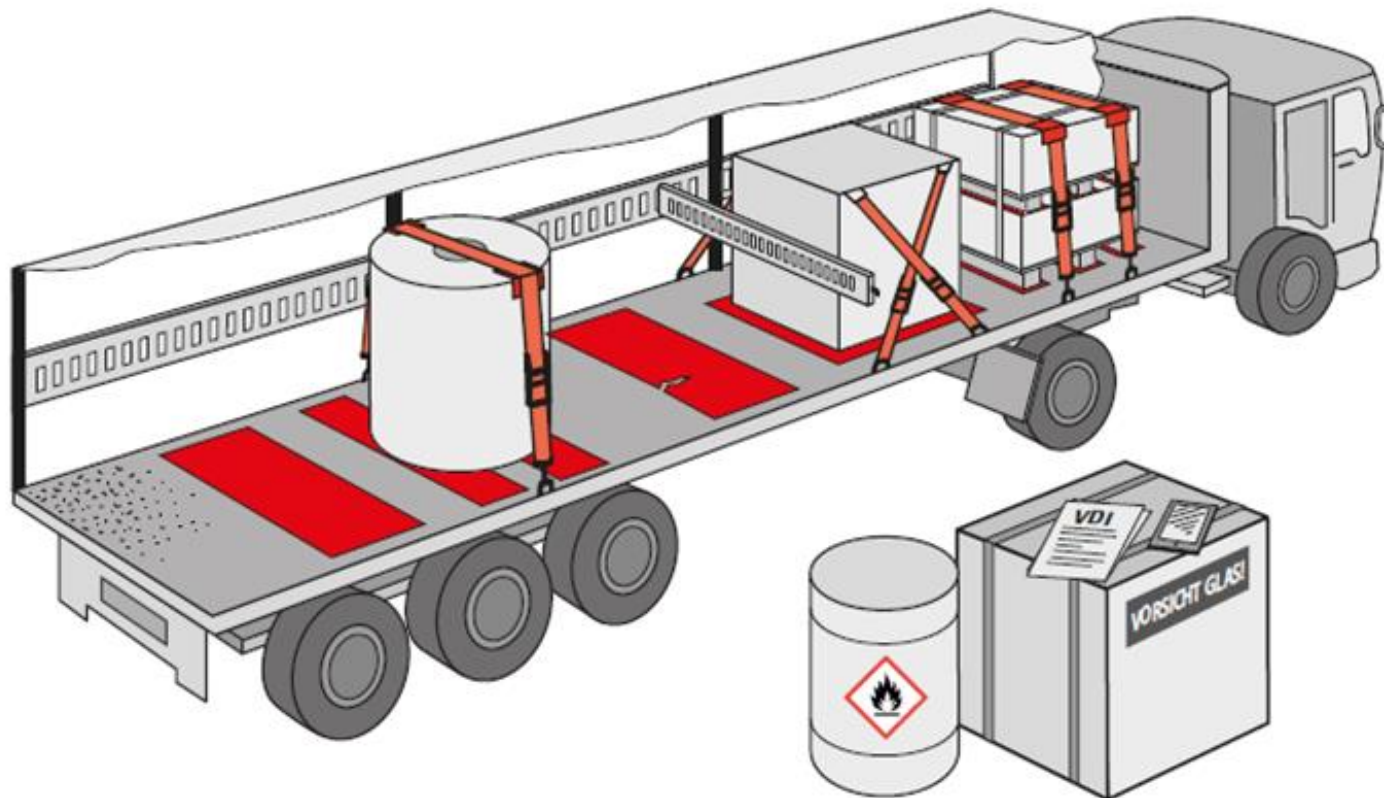
Antivibration, damping and anti-shock systems

Containers with holders to safeguard artworks during transportation



Antivibration, damping and anti-shock systems

Safety supports and anchors for artworks transport



Antivibration, damping and anti-shock systems

Cases and containers with anti-shock protection for artworks transport



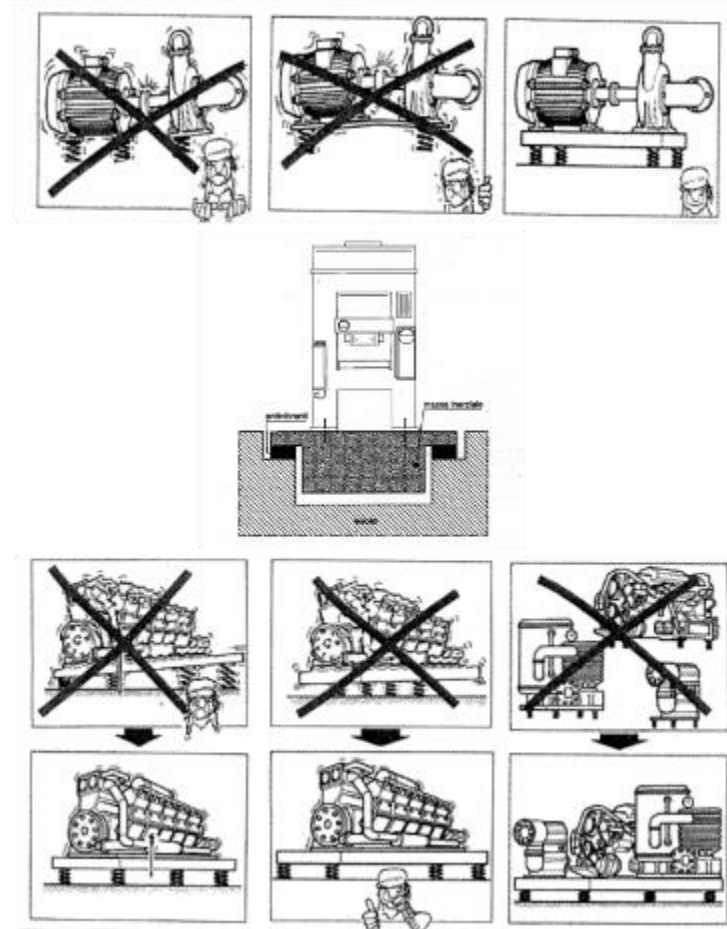


Application know-how

System design cautions

Care should be taken to ensure that:

- ✓ machine parts are securely assembled;
- ✓ the center of gravity is not lost;
- ✓ any frames are sufficiently rigid;
- ✓ the mass-spring system is stable, possibly by virtue of special inertial masses;
- ✓ additional costs are contained by placing several machines on the same base;
- ✓ support bases (be they slabs, metal structures, floors, embankments or whatever) are sufficiently rigid.



Application know-how

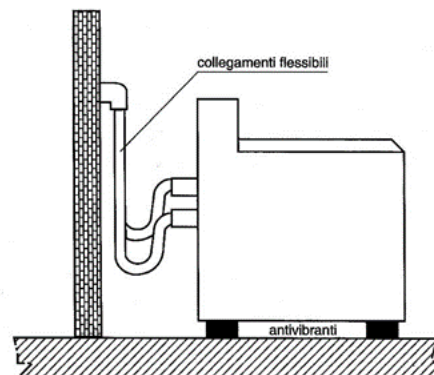
Expertise in spring selection

Some machine tools require leveling elements with $\Rightarrow 0$ ($0,125 < \lambda < 0,5$) deflections and therefore, preferably, with $D \Rightarrow 1$ values. If the oscillation is characterized by large frequencies and small amplitudes (e.g.: compressors, fans, etc.), it is necessary to adopt suspensions with a hysteresis such as to transform a sufficient amount of energy to give stability to the suspended system: for example rubber elements that, properly preloaded, show small but further dynamic deflections and, therefore, phenomena of internal molecular friction. In case of shocks with large amplitudes and low frequencies (e.g.: hydraulic presses), it is necessary to use springs that return the energy with which they have been deformed with respect to the initial position - while isolating the shock - combined with hydraulic or pneumatic dissipating devices, which quickly reduce the vibration amplitude of the suspended system.

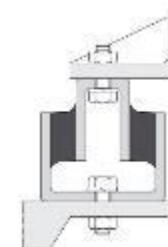
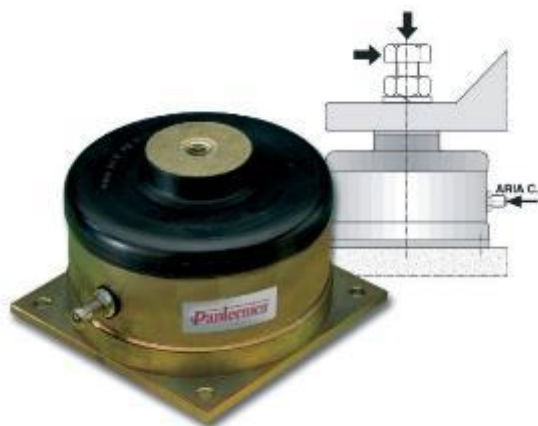
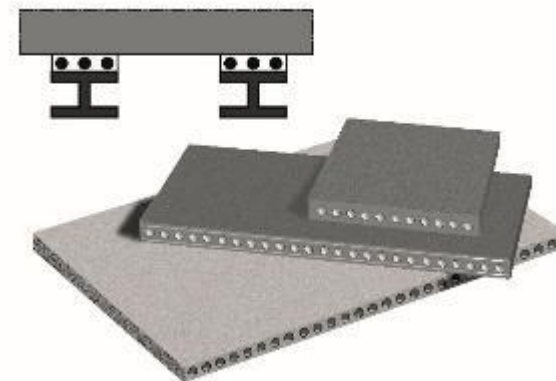
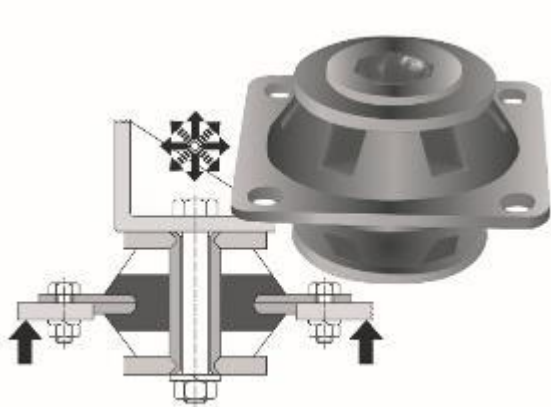


Application know-how Spring selection cautions

Not all antivibration systems can resist to tensile stress and/or bending moments (electrical panels, "hanging" masses, etc.). It is therefore necessary to carefully select them in order to avoid impairing their effectiveness due to unwanted deformations and stresses. It should also be considered that vibrations easily spread through the so-called "vibratory bridges": it is therefore necessary to "interrupt" all connections to peripheral areas (pipes, electrical conduits, shafts, fastening pins, etc.) with flexible elements.



Installation cautions



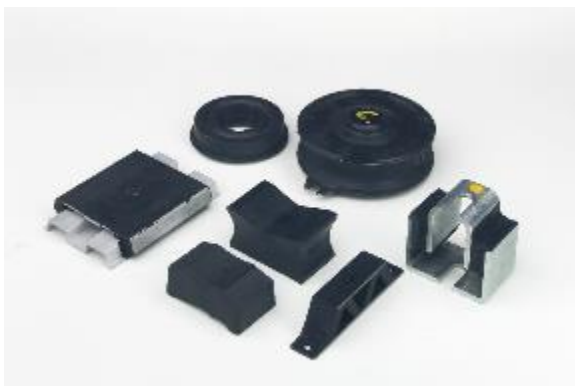
Antivibration, damping and anti-shock systems

Polyurethane and elastomeric elements



Antivibration, damping and anti-shock systems

Rubber-to-metal-bonded and polyurethane-to-steel-bonded elements



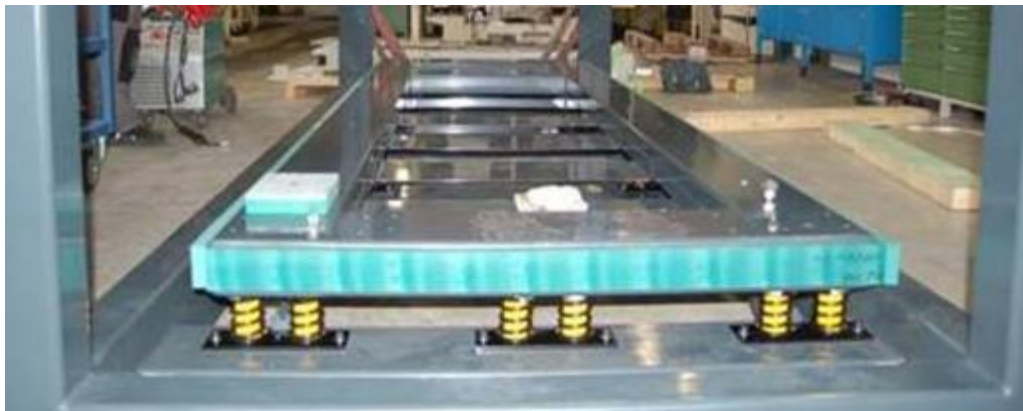
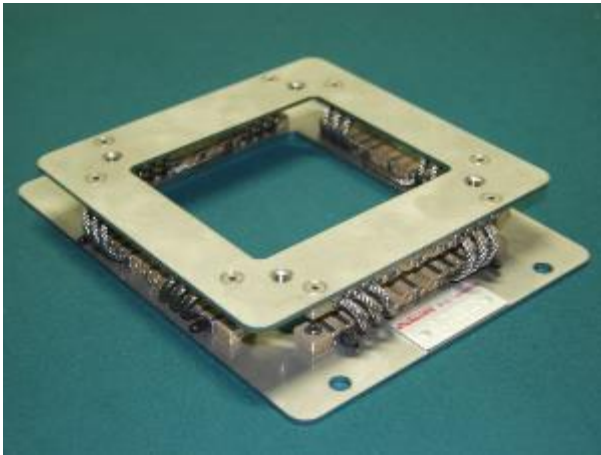
Antivibration, damping and anti-shock systems

Steel, steel cable and steel cushion springs



Antivibration, damping and anti-shock systems

Antivibration baseplates, for active and/or passive isolation



Antivibration, damping and anti-shock systems Antivibration baseplates for applications in seismic areas



Antivibration, damping and anti-shock systems UPS equipped with anti-seismic mountings



Antivibration, damping and anti-shock systems

Antivibration stainless steel springs, also with damping and/or anti-seismic protection



Antivibration, damping and anti-shock systems

Antivibration stainless steel springs with damper

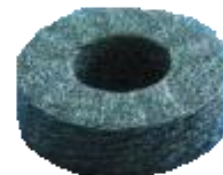
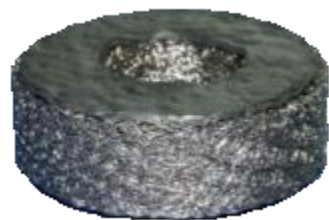
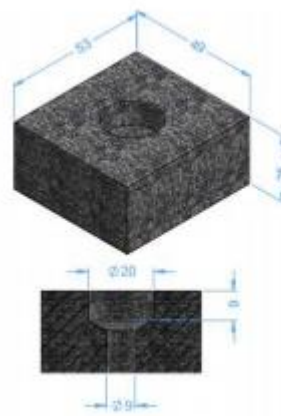


Air Springs with rubber-to-metal-bonded structure



Antivibration, damping and anti-shock systems

Metal cushion solutions and components



Fluids sealing solutions



Rotary Shaft Seals

For any operating condition, heavy or not, with pressure, speed and temperature.

DIN 3760 - 3761



- For rotary applications
- Standard and custom solutions
- For any Industrial and Naval sector

WR 35-36-37



CASSETTE SEAL

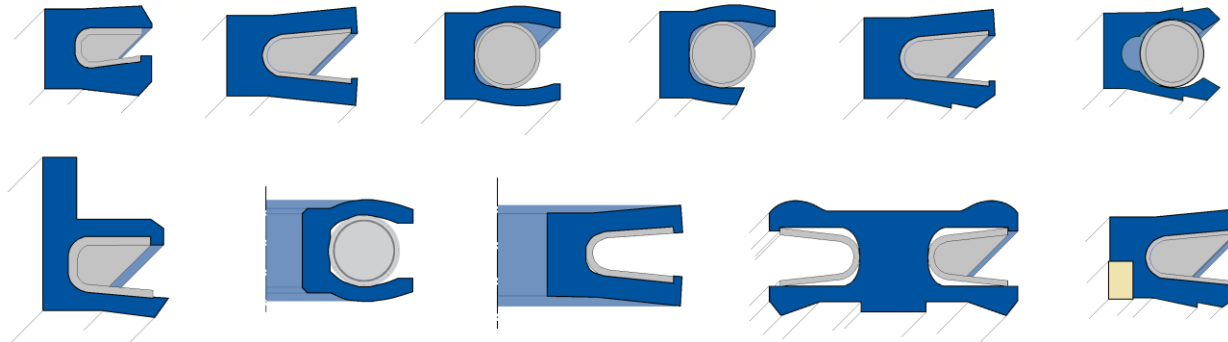
- For any Industrial and Off-Road sector



PTFE Energized Seals **SPRINGFLON**[®]

For severe operating conditions due to: chemical aggression, temperature, pressure, speed and/or lubrication absence.

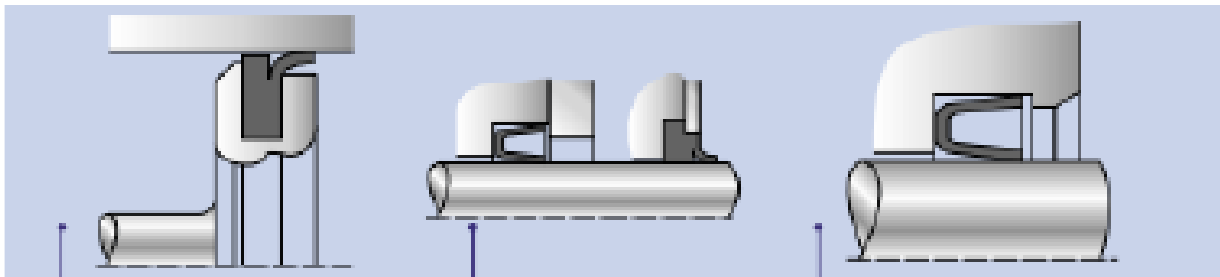
- For static, linear, rotary and rototraslating applications
- Low coefficient of dynamic friction.
- Standard and custom solutions
- Standard spring in AISI 304, other materials on request
- Temperature from -95°C to +280°C
- Pressure up to 70MPa
- Speed up to 2,5m/s (rotating) / up to 15m/s (linear)



PTFE MEMORY[®] Seals

For operating conditions due to: chemical aggression,
temperature, pressure, speed and/or lubrication absence.

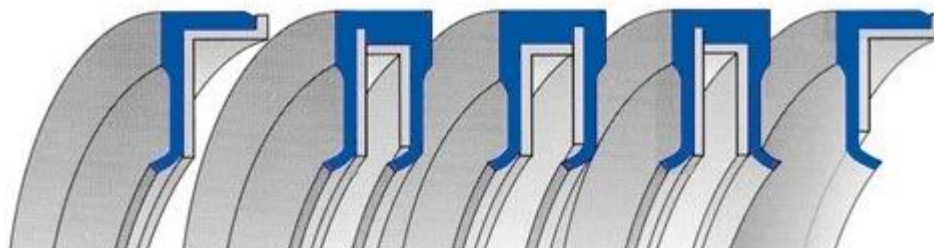
- **For linear applications or slow rotary motions.**
- Preformed seal to ensure constant contact preload.
- Low coefficient of dynamic friction.
- Standard and custom solutions
- Temperature from -40°C to +220°C
- Pressure up to 2MPa
- Speed up to 1m/s (rotating) / up to 15m/s (linear)



DOMSEL[®] Rotary Seals

For severe operating conditions with concomitance of pressure and speed.

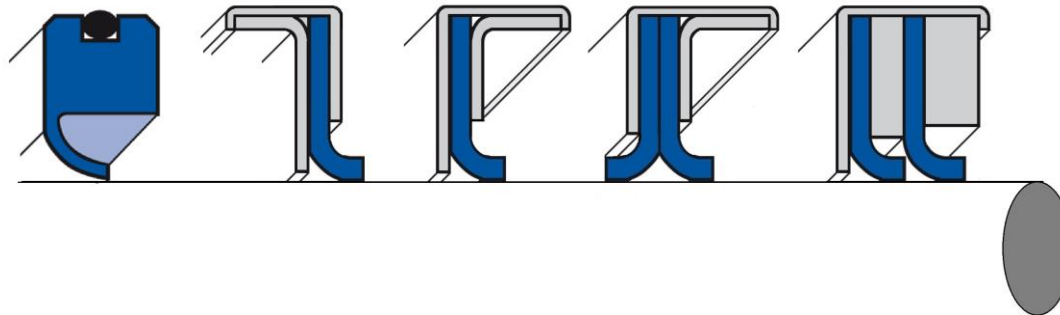
- **For rotary applications**
- No tension spring
- Low coefficient friction
- Elastomers: NBR-HNBR-EPDM-VMQ-FKM-FFKM
- 7 profiles
- Dimensions up to 380mm
- Temperatures from -40°C to +300°C
- Pressure up to 1.5MPa
- Speed up to 32 m/s



PTFE Rotary Seals **RADIAFLON**[®]

For severe operating conditions due to: chemical aggression, temperature, pressure, speed and/or lubrication absence.

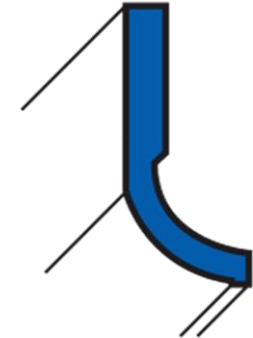
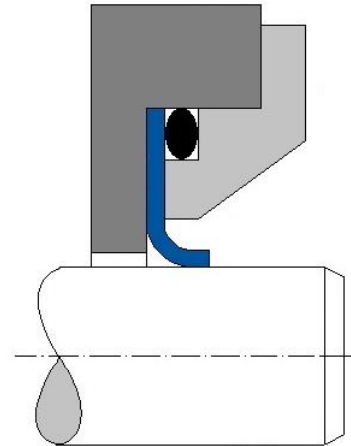
- **For rotary applications**
- Very low dynamic coefficient of friction.
- Standard and custom solutions
- Standard case in AISI 304, other materials on request
- Temperature from -60°C to +220°C
- Pressure up to 2.0MPa
- Speed < 30 m/s



PTFE Rotary Shaft Lips SHAFTLIP

For working or assembly conditions with limited space and with presence of:
chemical aggression, temperature, pressure, speed and/or lubrication absence..

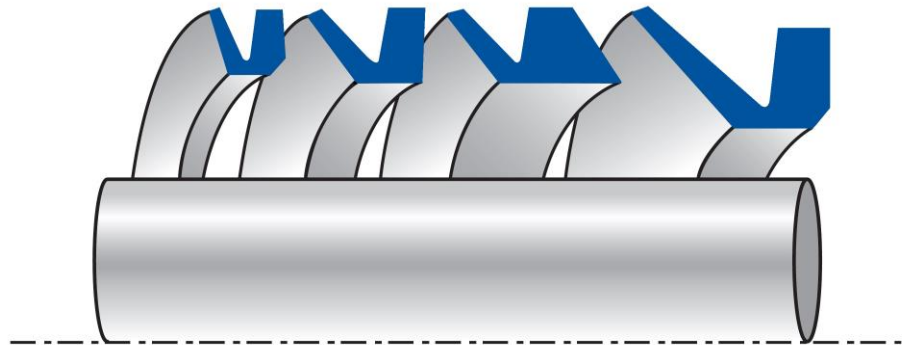
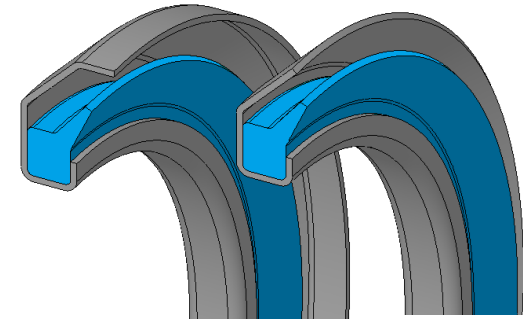
- **For rotary applications**
- Very low friction coefficient
- Special and customized solutions: multi-lip, single lip, lips with different thickness or preload.
- Temperature from -90°C to +260°C
- Pressure up to 2.5MPa.
- Peripheral speed > 35m/s.



V-SEAL[®] & AXIA-SEALS

Rotary scrapers in the presence of more or less aggressive fluids or solid contaminants, temperature and speed.

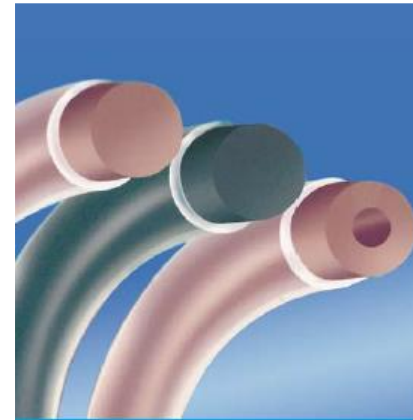
- **For rotary applications**
- Very low friction coefficient
- Elastomers: NBR-FKM-VMQ
- 3 profiles
- Dimensions up to 2000mm
- Temperature from -40°C to +200°C
- Pressure: none
- Speed: up to 18m/s



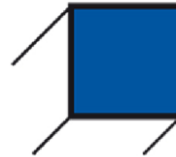
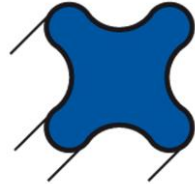
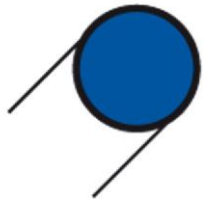
OR-FEP

Static seal in presence of aggressive fluids or gases and temperature.

- **For static applications**
- 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.
- Anti-adhesive sheath, absence of gluing with the surfaces in contact.
- 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
- 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)

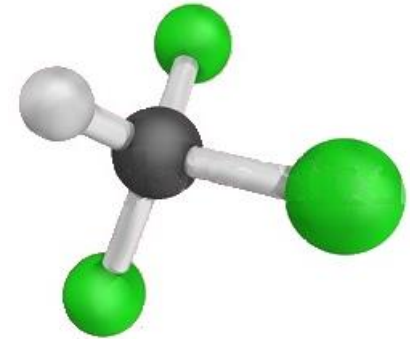
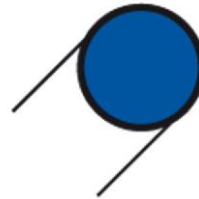


Special Elastomers for ORING – X-RING – Q-RING[®]



- **NBR**: continuous service between **-30°C to +100°C**; good resistance to oils, mineral, vegetable and animal fats, hydrocarbons and gases.
- **HNBR**: continuous service between **-30°C to +150°C**; good resistance to mineral, animal and vegetable oils and fats, aliphatic hydrocarbons, diesel oil, ozone, low acidity gas, diluted acids and bases.
- **EPDM**: continuous service between **-45°C to +150°C** (peaks +175°C), resistant to aging, ozone, hot water and steam; compatible with organic and inorganic acids. Special formulations for EMC applications
- **VMQ**: continuous service between **-60°C to +200°C** (peaks +230°C), high impermeability to gases, excellent resistance to oxygen and ozone. Good behavior with: hot air, inert gases, vegetable and animal fats and oils. Special for EMC applications
- **FVMQ**: continuous service between **-60°C to +175°C**; impermeable to gases, high resistance to oxygen and ozone, aromatic mineral oils, aliphatic hydrocarbons, toluene, benzene, diesel oil, diluted acids and bases. Special formulations for EMC applications
- **FKM - peroxide**: service up to **+230°C**, special formulations for low temperatures, good resistance to bases and acids.

FFKM (perfluoroelastomers) **ELAFLUOR**[®] for ORING



- **ELAFLUOR**[®] is an FFKM that combines the excellent chemical and thermal properties of PTFE with the best elasticity and compressive deformation resistance of elastomers.
- **ELAFLUOR**[®] is normally used in all those applications where it is required that the seals meet extreme standards for Temperature and Chemical Compatibility.
- **ELAFLUOR**[®] is a range of FFKM that offer significant and cost-effective improvements in those applications where other elastomers or thermoplastics are used. The improvement in duration and the consequent savings on operating costs compensate for the higher initial cost.
- **ELAFLUOR**[®] is available with a wide range of O-Rings covering all standard dimensions with diameters up to 2000 mm. Possibility of producing parts according to customer drawings.

PTFE Composite Seals for ACTUATORS

Composite sealing systems for any kind oleopneumatic applications

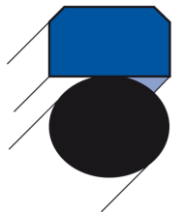
AXIAFLON[®]

For ROD and PISTON in linear applications with:

P: up to 80MPa

V: up to 15m/s

T: from -45°C to +200°C



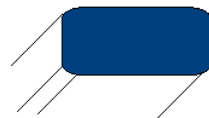
SLYDFLON[®]

Guides 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



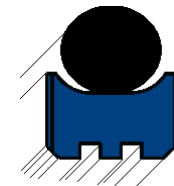
ROTAFLON[®]

For rotating applications systems with:

P: up to 30MPa

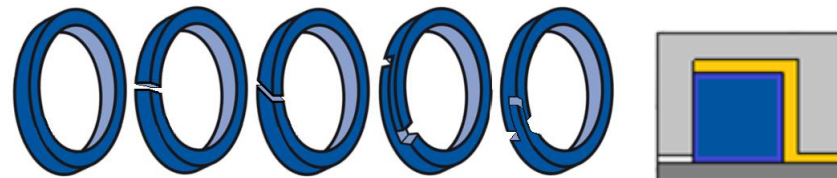
V: up to 2m/s

T: from -45°C to +200°C



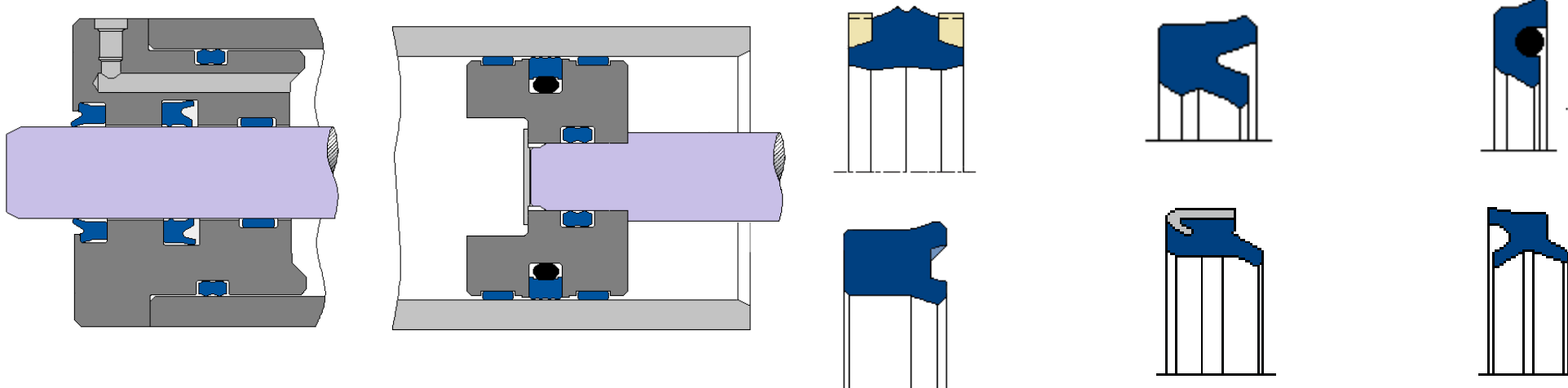
PISTON RING

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



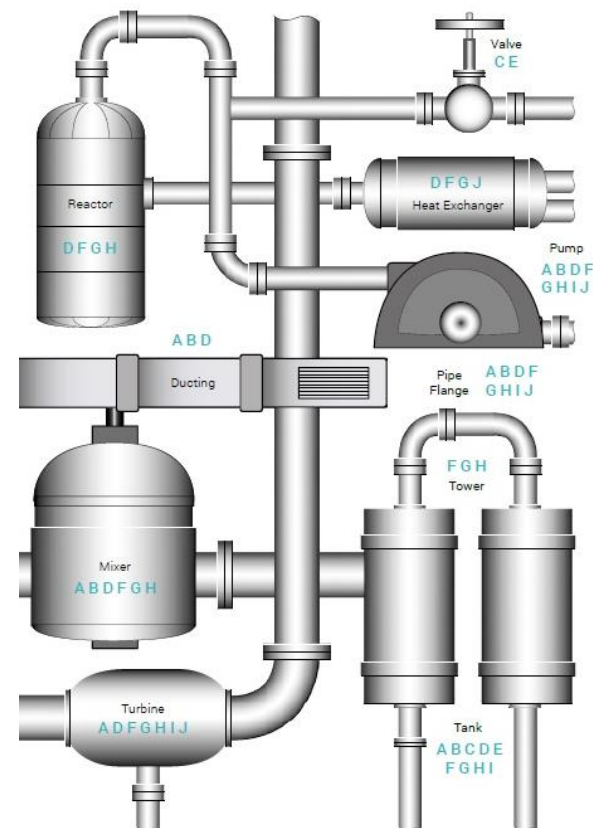
Oleopneumatic Sealing Systems

RU: polyurethane scrapers and seals for linear motions with:
P: up to 40MPa – V: up to 1m/s – T: from -35°C to +100°C



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 Piane

- 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

e-PTFE KWO[®] the quick universal sealing solution for applications up to +250°C

- Sealing tapes and cords for joints in pure 100% expanded PTFE with mono or multi-directional structure suitable for any industrial sectors
- Available in 9 types of tapes and cords
- 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 sheets 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



KWO[®] MultiTex[®]

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



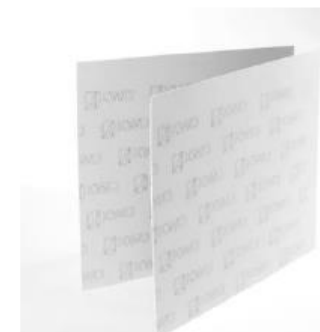
KWO[®] CellFlon[®] Sheet Blue

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.



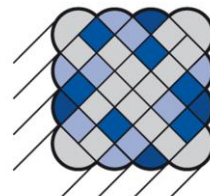
KWO[®] CellFlon[®] Sheet White structured sheets in PTFE and barium sulphate. For sealing chemicals with pH (0-14), including strong acids, hydrocarbons, steam, solvents and others.

For EMC applications are available solutions and sheets in dedicated VMQ and FVMQ

Packings WEBAK[®]

WEBAK[®] packings made with different materials and impregnants for all sealing problems

- **Rotary Pumps:**
 - Fluids with pH 0-14
 - Temperature from -200°C to +450°C (steam up to +650°C)
 - Pressure up to 25 MPa
 - Speed up to 25 m/s
- **Linear Pumps::**
 - Fluids with pH 0-14
 - Temperature from -200°C to +450°C (steam up to +650°C)
 - Pressure up to 25 MPa
 - Speed upto 2 m/s
- **Valves:**
 - Fluids with pH 0-14
 - Temperature from -200°C to +450°C (steam up to +650°C)
 - Pressure up to 30 MPa
 - Speed up to 1 m/s



Bellows - Diaphragms - Membranes

- In modified virgin PTFE or PTFE compound
- Resistant to chemicals
- Temperature between -60°C to +200°C
- Vacuum pressure up to > 6bar
- Produced from machine, from molding or from turning
- Special and Customized Executions
- **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)



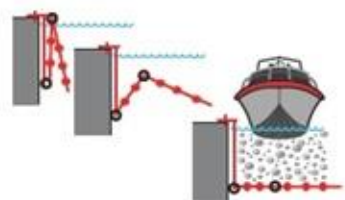
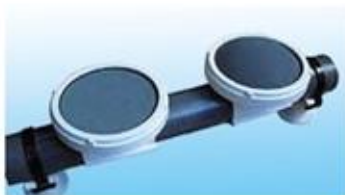
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SONICBOAT®



BUBBLEBOAT®



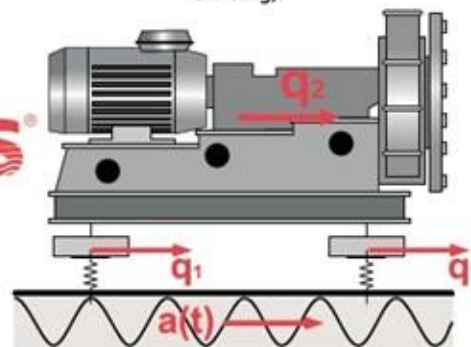
Sonicboat® e Bubbleboat® - Tecnologie antifouling, in linea con l'obiettivo Sustainable Development Goal 14 dell'Agenda ONU 2030.



Siamo partner di Manta Aircraft nello sviluppo di HEV/STOL (Hybrid Electric Vertical Short TakeOff and Landing).

DAFiReS®

Dispositivo Antivibrante con Fissaggio a Resistenza Sismica.



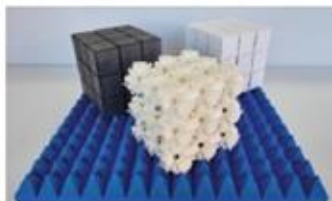
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ACOUSTIC SHIELDING



Schermature Acustiche per il Settore Nautico
Metalow Frequency & MetaPanel Absorbing

NoViDamp®



NoViDamp® metatecnologie innovative brevettate
per isolare le vibrazioni in ambito civile, industriale e
infrastrutturale.



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PHONONIC VIBES
THE METAMATERIAL EXPERIENCE

Warranty

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