PRODUCT CATALOGUE

- Mechanical seals
- Seal support systems
- Braided packing
- Injectable packing
- Flat gaskets
- Maintenance products

SEALING BEYOND EXPECTATIONS

Sealing systems for rotating machines and industrial maintenance solutions

PRODUCT CATALOGUE

TABLE OF CONTENTS

MATERIAL IDENTIFICATION AND CODING

With the emergence of new technologies and materials, the need to standardize and rationalize seal identification has become increasingly important.EN 12756 systemhas replaced theDeutsche Industry Norm DIN 24960,and the FrenchNFE 29-991, with the aim of defining the critical dimensions of the pump housings, the seals themselves and the related construction materials.

SINGLE ESTATES	Material reference letters
Rotating ring	1
Stationary ring	2
Secondary seals	3
Spring/s	4
Metal parts	5

DOUBLE SEALS	Product side	Atmospheric side
Rotating ring	1	1
Stationary ring	2	2
Secondary seals	3	3
Spring/s	4	
Metal parts	5	

STANDARD MATERIALS

CODE	1, 2 FACES MATERIALS	CODE	3 SEALED MATERIALS SECONDARY	CODE	4, 5 SPRINGS AND METAL PARTS
TO	Antimony impregnated carbon	**AND**	EPDM - Ethylene propylene rubber	**G**	Steel 1.4571 CrNiMo (316Ti)
B1	Resin impregnated carbon	**P**	NBR – Nitrile Rubber	**G1**	Steel 1.4462 CrNiMo (Duplex)
D1	8µm diamond coated SiC	**V**	FKM - Fluorocarbon Rubber	**G4**	Steel 1.4501 CrNiMoCu (SuperDuplex)
D2	16µm diamond coated SiC	**X**	TFE/P – FEPM –Tetrafluoroethylene - Propylene	**G7**	Steel 1.4410 CrNiMoCu (SuperDuplex)
G	CrNiMo Steel	**K**	FFKM - Perfluoroelastomer	**M**	Hastelloy C4
U2	TC – Alloyed Tungsten Carbide nickel	**M1**	FKM, double PTFE coating	**M4**	Monel Alloy K500
U22	TC – Alloyed Tungsten Carbide hot-locked nickel	**M2**	EPDM, double PTFE coating	**M5**	Hastelloy C276
Q1	SSIC sintered silicon carbide	**M5**	FKM, FEP coated	**M6**	Inconel 718
Q2	SIC reaction bonded silicon carbide	**M7**	FKM, double PTFE coating / Solid PTFE	**F**	Steel 1.4301 (304)
Q3	S-SIC Graphite filled silicon carbide	**T**	PTFE	**T2**	Pure Titanium
Q12	SSIC sintered silicon carbide hot locked	**G**	Pure graphite	**T3**	Inconel 625
Q22	SIC reaction bonded silicon carbide hot locked			**T5**	Incoloy 800
V	Aluminum dioxide (ceramic) > 99%			**T6**	AM 350 special alloy
V2	Aluminum dioxide (ceramic) > 96%				
Y1	PTFE, glass filled				

PRODUCT LINES

LINE OF MECHANICAL SEALS "SLEEVELESS" - WITHOUT SOCKET

We are the first and only manufacturer to offer a complete line ofconical mechanical seals that feature superior performance and lower costs still the market standard.
ThePatented designensures a superior capacity for compensation of misalignments, and self-cleaning and self-cooling properties. This revolutionary design, which allows for easy customization to fit different stuffing boxes, has proven over the years to be able to handle most industrial applications: from the basic single seal design in 2006,
The line has evolved to include double, split, heavy duty, high pressure and chemically aggressive seals.

API 682 MECHANICAL SEALS

using only the highest quality materials and providing more controls and certifications than required by API682 regulations, we are

Oil & Gas in upstream and downstream applications, with delivery times significantly lower than the market average.
To complement our offering, we also design and manufacture all necessary auxiliary systems, such as barrier fluid tanks, valves, heat exchangers, transmitters and indicators, choosing components from the most renowned suppliers, some of which are part of our industrial group.

MECHANICAL SEALS FOR A WIDE RANGE OF APPLICATIONS

We offer one of the world's largest selections of mechanical seals, covering almost all applications.

components and OEM of the most popular designs, cartridge seals according to EN, ISO, JIS or ANSI standards, metal bellows seals, for heavy slurry, gas, for agitators. What makes us unique in the market is itsability to create tailor-made solutions, Also For amount Very small: the requests of the user today's final products become our products of tomorrow.

MODULAR SYSTEM

odular System is the line of cartridge seals

By using the same parts to assemble several different models, we are able to offer any standard seal size and material with immediate delivery. At the same time, modular components allow the end user to reduce the stock of spare parts, as the same repair kits can be applied to several seal models of the same size.

PACKINGS AND GASKETS

We produce a very wide range of flat gaskets and braided or injectable packings from graphite to aramid fiber or biaxial PTFE. Braided packings include over 40 different models to meet the widest possible variety of applications.

REPAIR SYSTEMS FOR PRESSURE PIPELINES

Land pipe leaks have always been a major problem for industries in all fields. We have developed a complete line of from pipes without having to interrupt the line. Seal-Tex and Self-Seal tapes, together with GF-HD and Leak-3 paste, have delivered savings beyond imagination at several major power plants and refineries, and are now part of their mandatory emergency equipment. Seal-Tex is certified according to ASME PCC-2/2008.

INDUSTRIAL MAINTENANCE PRODUCTS

TAll lubricants, coatings, cleaners and ceramic compounds have one common characteristic: they are that an effective maintenance program cannot be implemented without modern, efficient products that meet or exceed current environmental regulations of introduction worldwide. All the maintenance products are Made in Italy under the most stringent standards safety, and are perfect tools for creating value in plant maintenance.

SYSTEM ZERO LOSS

Lto packing injectable, known as System fill the stuffing box without dismantling the valve or pump, and is the only product of its kind made with 90% pure virgin fibers and, unlike other similar products available on the market, is not produced with recycled fibers. The savings in terms of leaks, man-hours and plant downtime make the SPZ the ideal sealing system for continuous operations.

“SLEEVELESS” CARTRIDGE SEALS

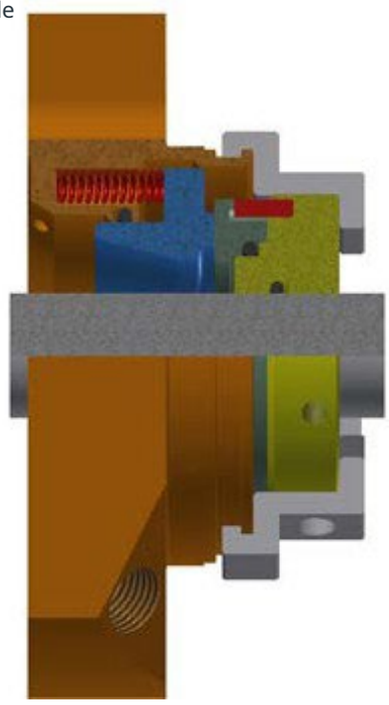
STYLE 600SL

This revolutionary design is the result of the most intense research on sealing systems, and constitutes the first real innovation in the sealing market for many years.

Until now, all cartridge mechanical seals have been designed with a sleeve integrated. The revolutionary design of the Style 600SL allows installation on pumps where it was before It is considered impossible to fit a mechanical seal. The sleeveless design also allows for greater tolerance for shaft misalignment. The 600SL is the first cartridge seal to incorporate a tapered extension of the stuffing box, allowing it to significantly improve seal operating life in slurry and charged fluid applications. With no part inside the stuffing box, solid fluid particles have space to circulate and do not settle on the sealing faces. This seal features a flange with flushing connection and massive sealing faces made of sintered materials mounted on flexible elastomers, which also act as shock absorbers.

shock, and offers the greater reliability under the most severe operating conditions.

The Style 600SL offers the user concrete benefits in terms of savings on the purchase of the seal, spare parts and machine downtime.

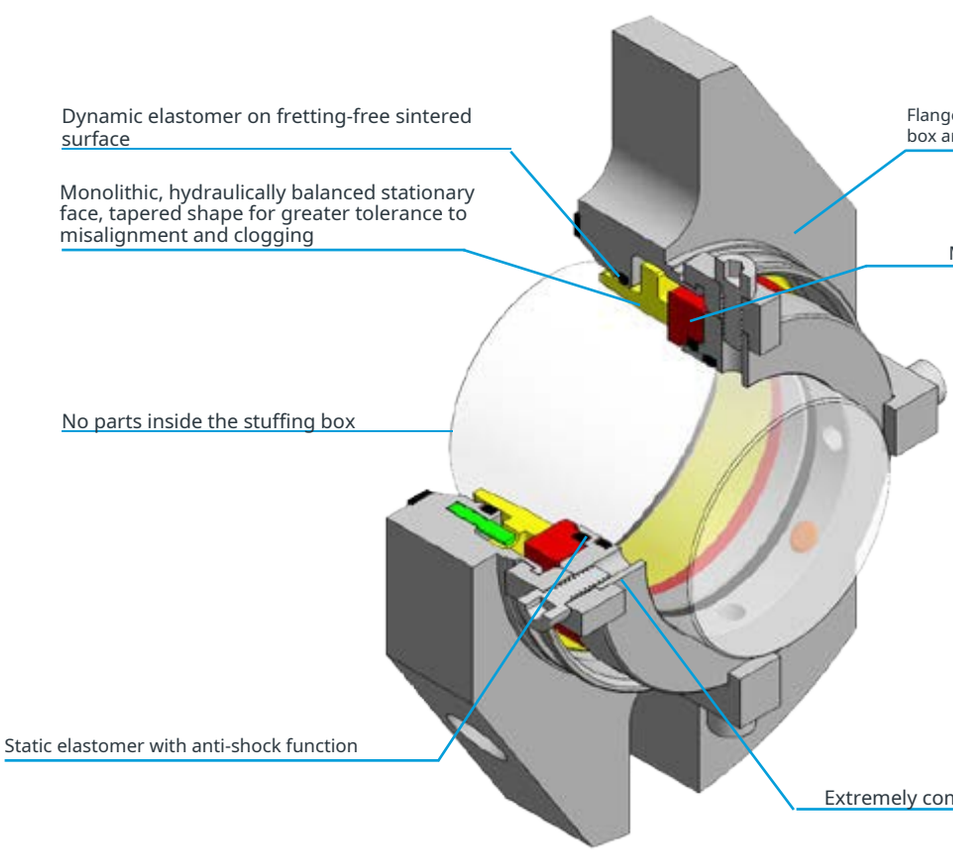


STYLE 600SL

PATENT: EU1370506

Materials		Technical data	
Parts metallic	AISI 316L DIN 1.4571*	**Pressure**	Vacuum 700 mm Hg ÷ 3.5 MPa**
Elastomers	FKM - EPDM - FFKM - FEPM - TTV	**Temperature**	Second elastomer limit. FKM: +205°C EPR: +150°C FFKM: +315°C
Faces of creeping	A - B - Q1 - Q2 - U2	**Speed**	25 m/sec 4920 FPM depending on the material crawling faces
Springs	Hastelloy* C - 276 DIN 2.4819	**Dimensions**	25-100mm ***

** Other materials available on request **Based on shaft size and speed ***Other sizes available on request*



STYLE 600SL

“SLEEVELESS” CARTRIDGE SEALS

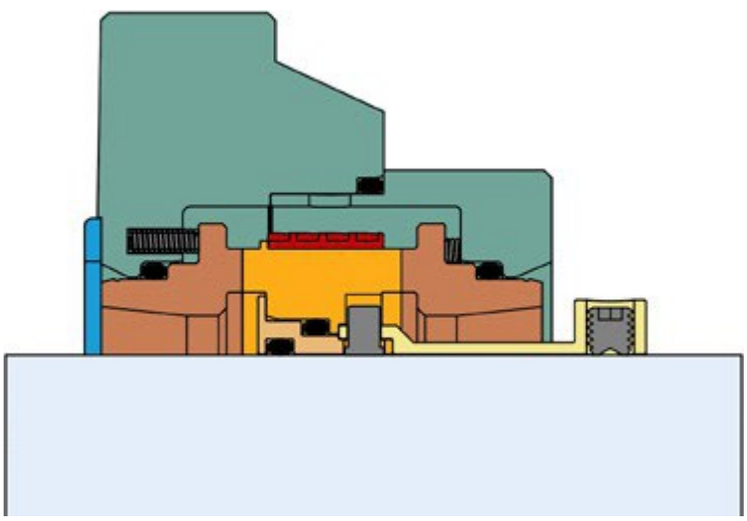
STYLE 606 DFS

Newly designed double mechanical seal that makes the most of the technology developed for Style 600SL seals and amplifies its applications and performance.

The Style 606 incorporatesa conical extension of the stuffing boxto ensure the longest possible MTBF in the most demanding applications, and its faces are produced using the most advanced FEA technology.

The estate is available in two versions: the606SL, with multiple springs outside the fluid, it is extremely compact but is able to withstand radial misalignments of up to 5°, and the606-3D with single springwhich allows to absorb axial play up to ±10 mm, depending on the shaft diameter.

Equipped with a standard pump ring, the Style 606 can beinstalled on any application, including heavy duty pumps, reactors and agitators.



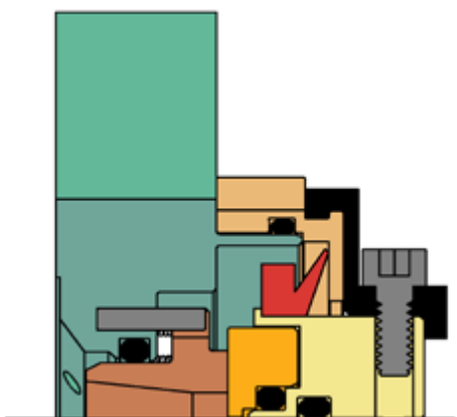
STYLE 606 DFS

STYLE 606 DFS

“SLEEVELESS” CARTRIDGE SEALS

600Q / 600FX

This variant includestwo additional connections for quench and drain. Style 600Q is equipped with alip seal for continuous quench leakage without p(Plan 62),while in the Style 600FX the lip seal is replaced by a low tolerance bushing that can be used for non-continuous quench and for loss collection (Plan 65). Particularly suitable for crystallizing and polymerizing fluids, where environmental control outside the sealing faces is essential.



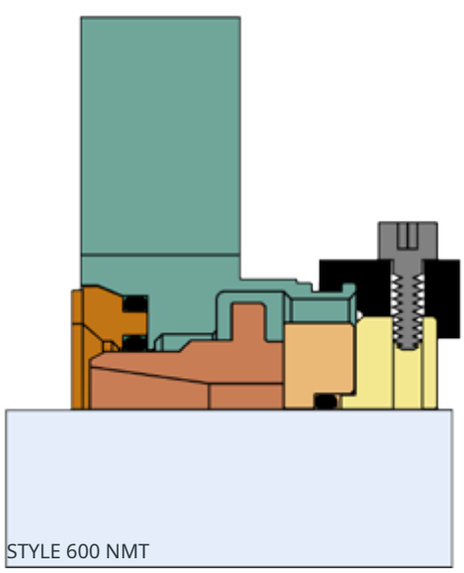
STYLE 600 Q

600 NMT

for all applications onaggressive chemicals,The Style 600NMT is a more efficient and effective alternative to exotic alloys such as Super Duplex or Hastelloy C276, comwhich are drastically outperformed by this revolutionary design where the parts in contact with the fluid are all made of alpha sintered silicon carbide, which guarantees total chemical resistance and increased ability to operate against abrasive fluids, all for just a fraction of the cost. NMT technology can also be applied to other mechanical seals in the Sleeveless line.

The Style 606NMT is the double seal specifically made for aggressive and dangerous chemicals, while the Style 600HD-NMT

It is the definitive solution for the shighly abrasive lurries typical of the mining and paper industries.

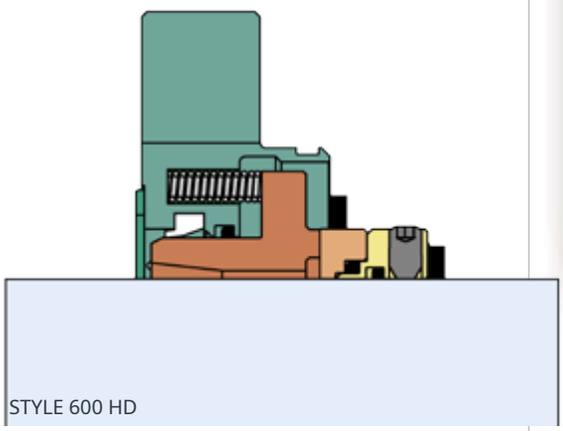


STYLE 600 NMT

STYLE 600 NMT

“SLEEVELESS” CARTRIDGE SEALS

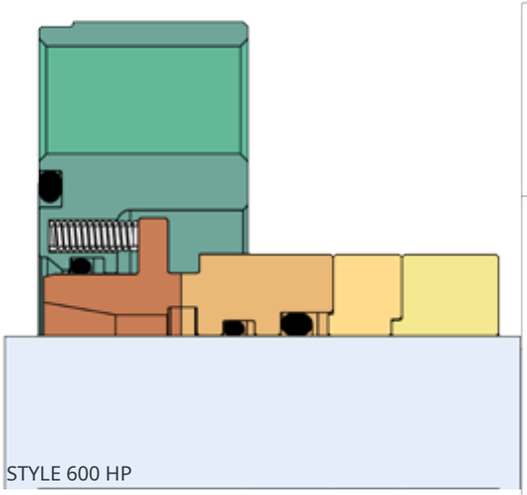
STYLE 600 HD



STYLE 600 HD

600 HD

THE a Style 600HD is a stronger variant of the original Sleeveless seal, specifically designed for heavy slurry applications requiring a robust seal to withstand possible heavy mechanical shock.
Oversized anti-rotation and drag pins provide increased torque resistance, and the multiple springs out of the fluid are also enlarged. With the addition of the revolutionary external quench ring, the seal can be quickly adapted to applications on crystallizing or polymerizing fluids.



STYLE 600 HP

STYLE 600 HP

600 HP

Vair compressor for high pressure applications, capable of withstand working environments up to 100 bar. The special shape of the sliding faces designed by advanced with the most FEM systems allows safe operation at very high pressures without distortions and with extreme PV factors. Thanks to its specific design and the use of advanced materials to reduce the load and friction of the faces, it can be successfully installed on boiler feed pumps, boosters, extruders and hydrocracking units.

SLEEVELESS CARTRIDGE SEALS

STYLE 688 SPLIT SEAL

Pur while maintaining the same advantages that make the Style 600SLamong the most efficient mechanical seals in the world, the Style 688 offers unmatched ease of installation for applications where a split mechanical seal is preferable. After the twopre-assembled halvesthey are united, no one further action is required,thus drastically reducing the possibility of errors due to installation.The Style 688 is also available in a semi-split configuration for superior performance, with a standard one-piece flange and interchangeable split parts.

Technical data

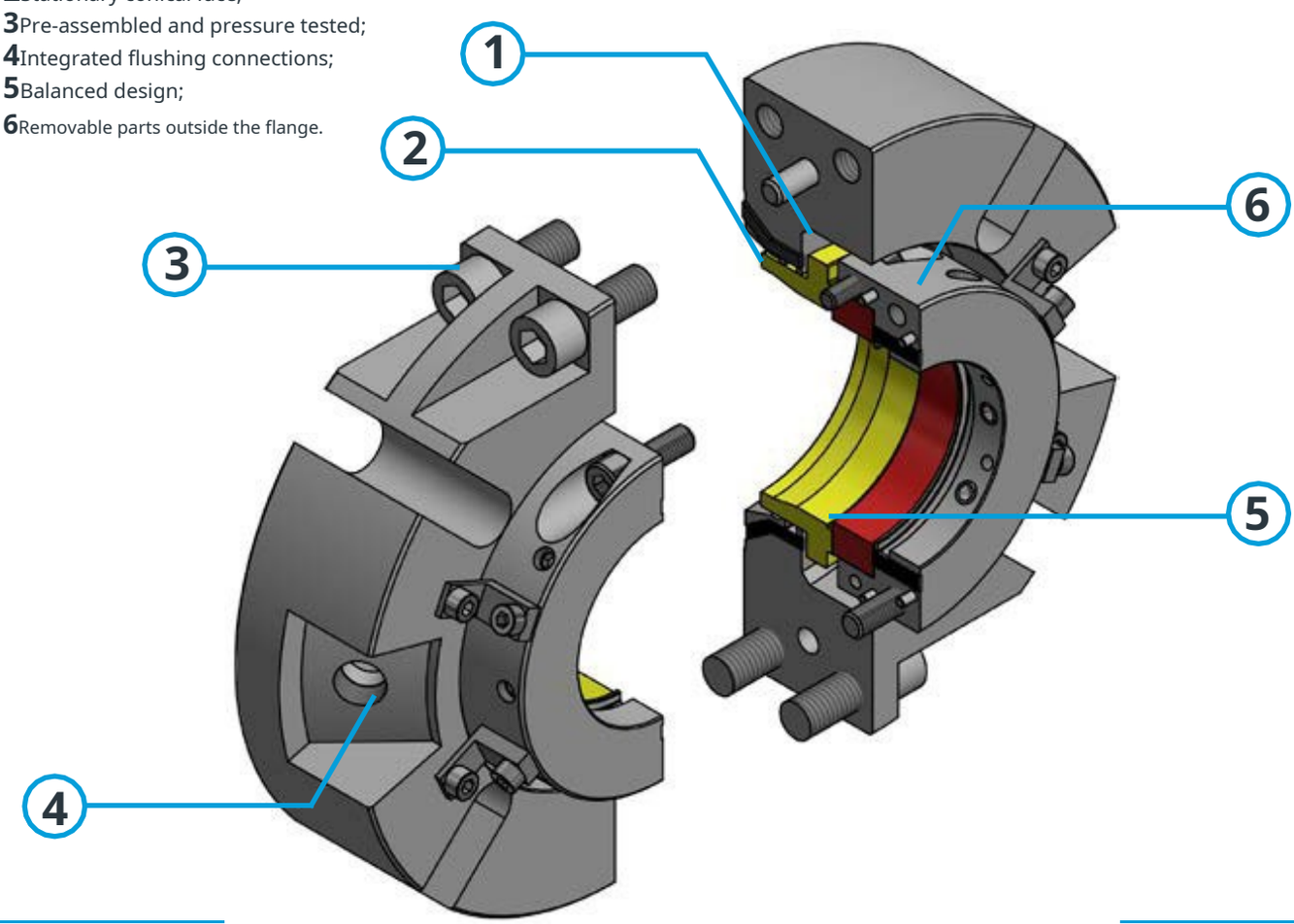
Pressure	Max 2.5 MPa* (362 PSI)
Temperature	Max 120°C (248°F)
Speed	Max 20 m/s (44.74 mph)

* Actual pressure limit may vary depending on shaft size, process fluid, and seal face material.

STYLE 688 SPLIT

LEGEND:

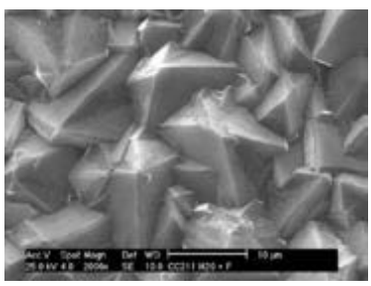
1Springs out of the fluid;
2Stationary conical face;
3Pre-assembled and pressure tested;
4Integrated flushing connections;
5Balanced design;
6Removable parts outside the flange.



DIAMOND COATING TECHNOLOGY

Diamond sliding faces provide far superior performance compared to other materials in terms of friction, heat generation and dissipation, energy absorption and**dry running tolerance.**

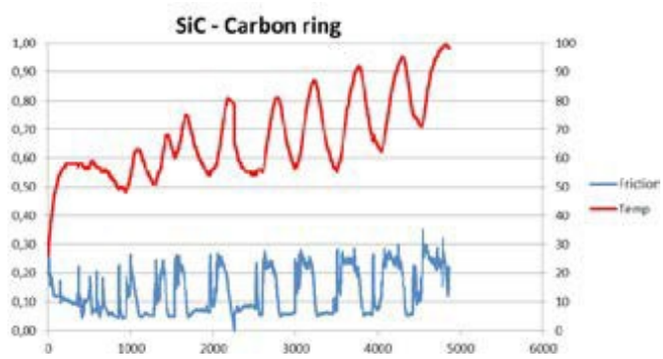
While not designed for continuous, prolonged dry running, diamond faces completely eliminate the risk of seal damage due to temporary, short-term lack of lubrication.
term. Their tribological properties ensure an importantenergy saving, with significant effects on the economic and environmental impact of industrial operations. Such savings They usually reach 50% of the entire energy consumption of the estate.



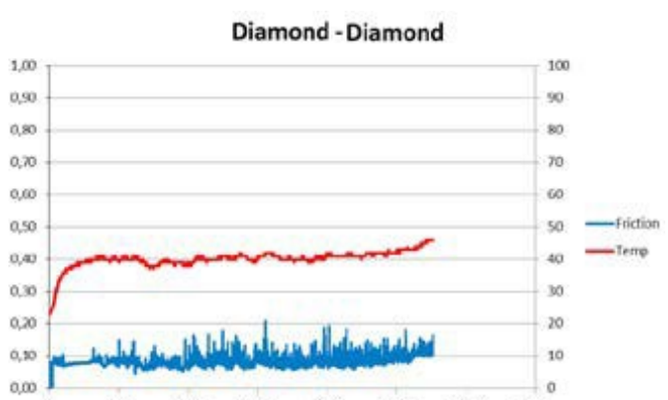
Polycrystalline diamond (electron microscope).

While diamond faces are gaining increasing trust among users, not all coatings are created equal. We are proud to provide a Full technical support in selecting the most suitable coating for each application, in order to always offer the most efficient solution. Some examples of the different types of coatings include:

- STANDARD COATING– An 8µm layer of CVD (chemical vapor deposition) diamond provides theoptimal solution for cost optimization.The standard coating can be coupled with other materials to reduce friction at very advantageous costs.
- HEAVY COATING– A 16µm or 24µm layer of polycrystalline diamond, perfect forlow viscosity slurries that would provide,
  Typically, insufficient lubrication to the seal without large amounts of expensive flushing. Excellent for the mining and paper industries.
- GLOSSY COATING– The smoother surface ensures better flatness of the faces. This coating reduces the friction coefficient of the estateoperating against high viscosity fluids, such as hot water or flammable hydrocarbons, which would cause a loss that is not acceptable with other types of diamond.
- AMORPHOUS COATING– while other types of coating need a base in sintered silicon carbide, this technology allows the application of diamond on tungsten carbide, when its mechanical resistance is required forcrystallizing and polymerizing fluids in batch operations.



CVD diamond coated sealing surface, as seen after 10 hours of dry running at 1500 rpm.

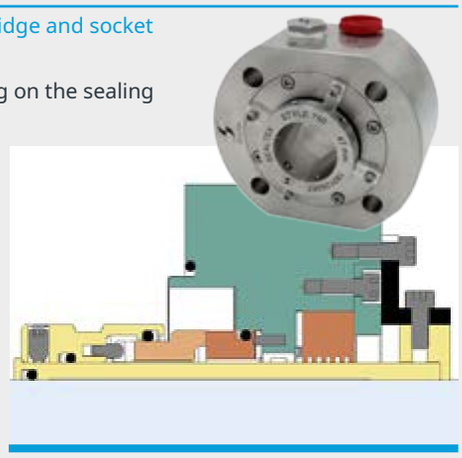


API SEALS Type A Arrangement 1

STYLE 750 API TYPE A, ARRANGEMENT 1

• Style 750 API features the proven and reliable Style 550 seal design, with cartridge and socket compliant with API 682 standard.

• Multiple fluid protected springs, and fretting-immune dynamic O-ring working on the sealing face.



Technical data

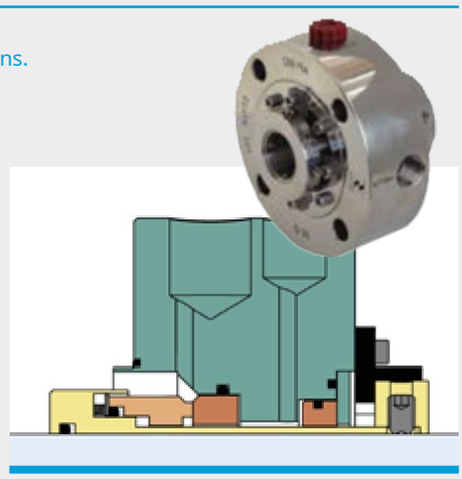
Pressure	40 bars
Temperature	- 40°C ÷ +305°C
Speed	18 m/sec
Special Features	Fixed or floating bushing

STYLE 701 API TYPE A, ARRANGEMENT 1

• Single rotary seal according to API682 for clean fluid applications.

• Available with medium (Style 702) and high (Style 703) pressure face designs.

• Equipped with fixed or floating bushing.



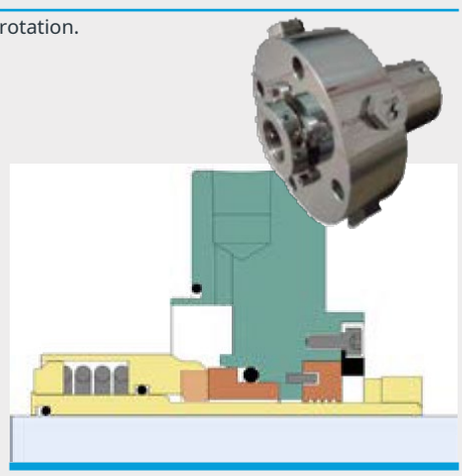
Technical data

Pressure	Up to 21 bar (702: 42 bar; 703: 70 bar)
Temperature	- 40°C ÷ +305°C
Speed	25 m/sec
Special Features	Pumping ring available for applications with Plan 23 (701P)

STYLE 730 API TYPE A, ARRANGEMENT 1

• Single seal according to API682, with single spring independent of the direction of rotation.

• Equipped with fixed or floating bushing.



Technical data

Pressure	Up to 70 bar
Temperature	- 40°C ÷ +305°C
Speed	23 m/s
Special Features	Pump ring available for applications with Plan 23 (730P)

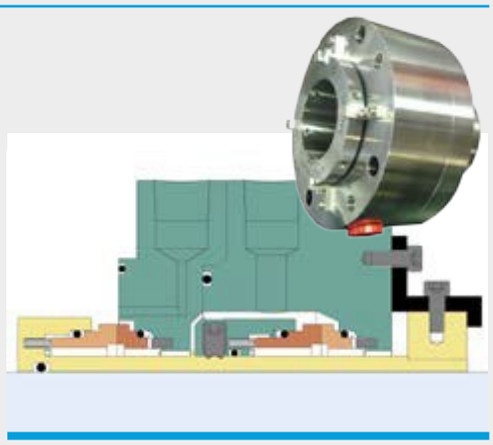
API SEALS Type A Arrangement 2, 3

STYLE 755 API TYPE A, ARRANGEMENT 2 AND 3

- Double rotary seal according to API682
- Multiple fluid protected springs
- Fretting-immune dynamic O-ring working on the sealing face.

Technical data

Pressure	40 bars
Temperature	- 40°C ÷ +305°C
Speed	18 m/s
Special Features	Equipped with internal pumping ring

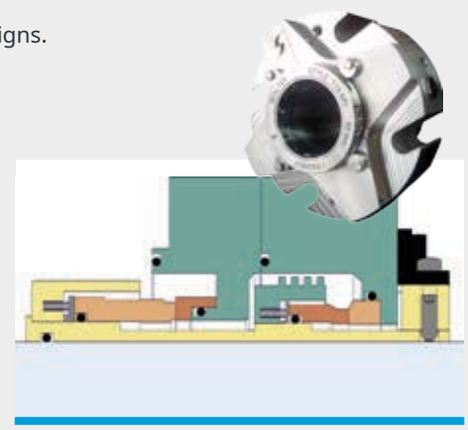


STYLE 711 API TYPE A, ARRANGEMENT 2 AND 3

- Double rotary seal according to API682 for clean fluid applications.
- Available with medium (Style 712) and high (Style 713) pressure face designs.
- Equipped with internal pumping ring for barrier fluid.

Technical data

Pressure	Up to 305 PSI (712: 42 bar; 713: 70 bar)
Temperature	- 40°C ÷ +305°C
Speed	25 m/s
Special Features	Pump ring available for applications with Plan 23 (711P)

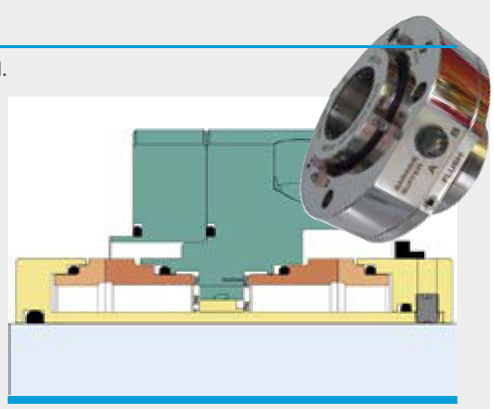


STYLE 777 API TYPE A, ARRANGEMENT 2 AND 3

- Stationary double seal according to API682 with multiple springs protected from the fluid.
- Symmetrical design maximizes seal life.

Technical data

Pressure	Vacuum 700 mm Hg ÷ 25 Kg/cm*
Temperature	- 40°C ÷ +305°C
Speed	25 m/s
Special Features	Equipped with internal pumping ring



Single seals type B and type C available upon request.
For more information, please see the catalogue.

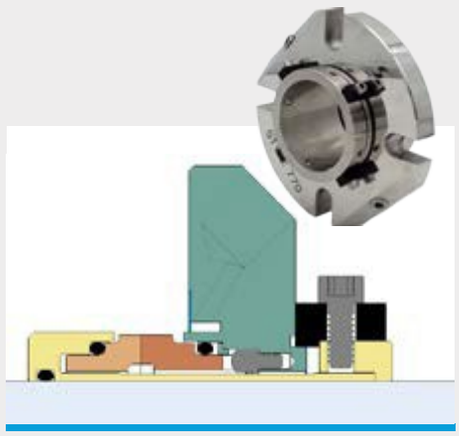
MODULAR CARTRIDGE SYSTEM

STYLE 770 SINGLE CARTRIDGE SEAL

- Balanced
- Stationary
- Standard flange
- Same spare parts as other Modular System seals

Technical data

Pressure	0.9 ÷ 25 bar
Temperature	- 40°C ÷ +305°C
Speed	25 m/sec

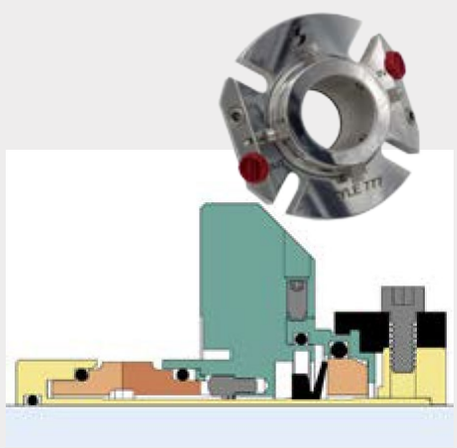


STYLE 777SO SINGLE CARTRIDGE SEAL WITH QUENCH

- Balanced
- Stationary
- Standard flange
- Same spare parts as other Modular System seals
- Lip seal for continuous watertight quench

Technical data

Pressure	0.9 ÷ 25 bar
Temperature	- 40°C ÷ +305°C
Speed	25 m/sec

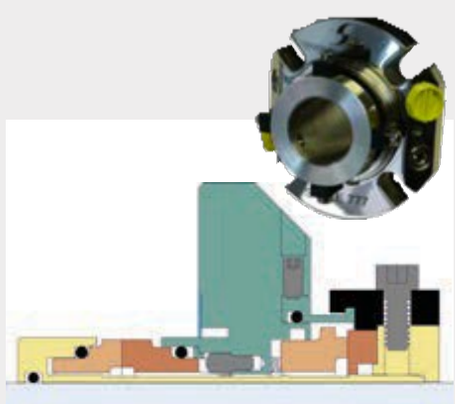


STYLE 777SW DOUBLE CARTRIDGE SEAL

- Balanced
- Stationary
- Standard flange
- Same spare parts as other Modular System seals

Technical data

Pressure	0.9 ÷ 25 bar
Temperature	- 40°C ÷ +305°C
Speed	25 m/sec

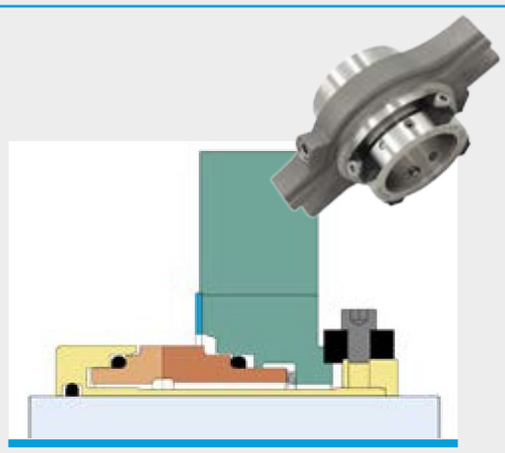


STYLE 670 SINGLE CARTRIDGE SEAL

- Balanced
- Stationary
- Reduced flange
- Same spare parts as other Modular System seals

Technical data

Pressure	0.9 ÷ 25 bar
Temperature	- 40°C ÷ +305°C
Speed	25 m/sec



STYLE 677RG DOUBLE CARTRIDGE SEAL

- Balanced
- Stationary
- Reduced flange
- Same spare parts as other Modular System seals

Technical data

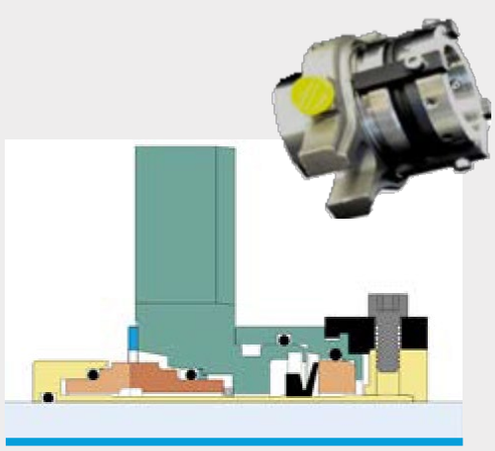
Pressure	0.9 ÷ 25 bar
Temperature	- 40°C ÷ +305°C
Speed	25 m/sec

STYLE 677SO SINGLE CARTRIDGE SEAL WITH QUENCH

- Balanced
- Stationary
- Reduced flange
- Same spare parts as other Modular System seals Lip
- seal for continuous quench watertight

Technical data

Pressure	0.9 ÷ 25 bar
Temperature	- 40°C ÷ +305°C
Speed	25 m/sec



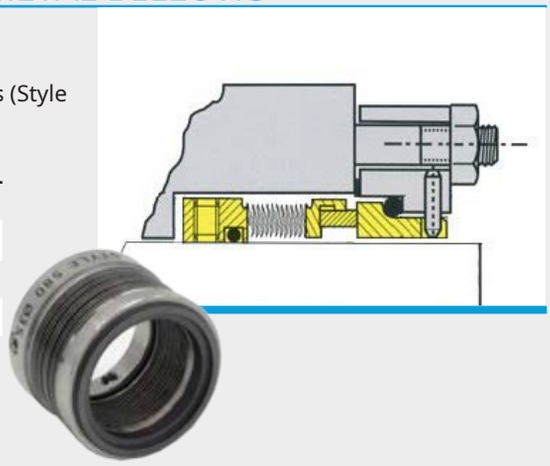
METAL BELLOWS

STYLE 580 COMPONENT SEAL WITH METAL BELLOWS

• Metal bellows in AM350.
• Available with bellows and containment ring in C276 (Style 581)
• Available with AISI 316 containment ring and Hastelloy C bellows (Style 582).

Technical data

Pressure	40 bars
Temperature	- 40°C ÷ +305°C
Speed	15 m/sec
Bellows material	T6

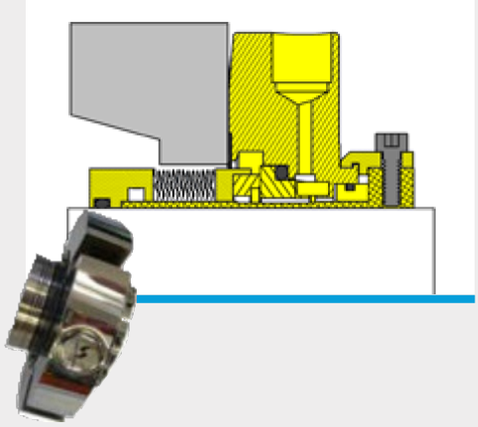


STYLE 780 SINGLE CARTRIDGE SEAL WITH METAL BELLOWS

• Smetal office available in a wide range of materials.
• Available with stationary bellows (Style 784),
• Available with lip seal for watertight quench (Style 780Q), or with Restrictor Bushing (Style 780FB).

Technical data

Pressure	25 bars
Temperature	- 40°C ÷ +305°C
Speed	20 m/sec
Bellows material	G - T6 - T1 - M5

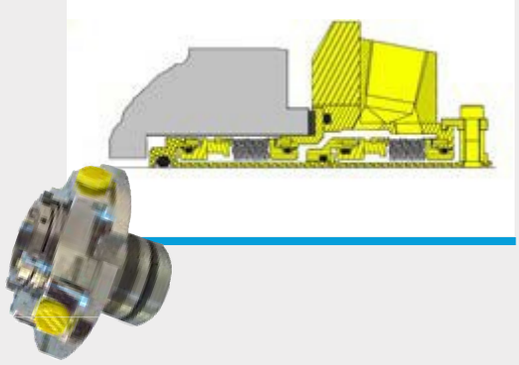


STYLE 788 DOUBLE CARTRIDGE SEAL WITH METAL BELLOWS

• Metal bellows available in a wide range of materials.
• Available with stationary bellows (Style 787).

Technical data

Pressure	21 bars
Temperature	- 40°C ÷ +305°C
Speed	25 m/sec
Bellows material	G - T6 - T1 - M5



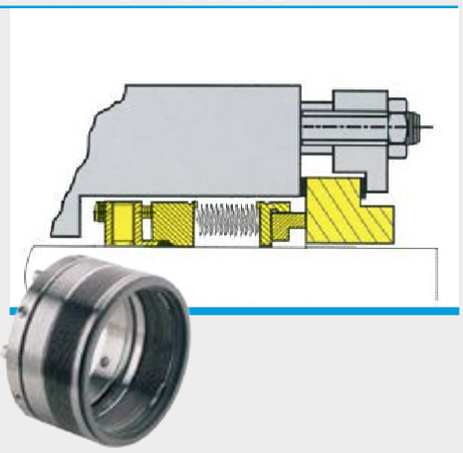
METAL BELLOWS WITH GRAPHITE

STYLE 590 COMPONENT SEAL WITH ROTATING METAL BELLOWS

- For high temperature or cryogenic applications
- Graphite secondary seals.
- Available with driving pin and high pressure resistant double wave bellows (Style 591)

Technical data

Pressure	590: 30 bar – 591: 50 bar
Temperature	380°C
Speed	590: 20 m/sec – 591: 15 m/sec
Bellows material	590: T6 – 591: T6 double wave

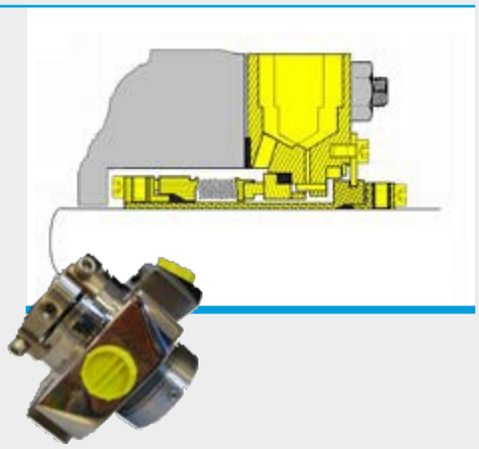


STYLE 790 SINGLE CARTRIDGE SEAL WITH METAL BELLOWS

- Metal bellows available in a wide range of materials.
- Secondary graphite seals.
- Available with stationary bellows (Style 794)
- Available with a lip seal for watertight quenching (Style 790Q), or with a restrictor bushing (Style 790FB).

Technical data

Pressure	21 bar (Double wave: 65 bar)
Temperature	- 60°C ÷ +450°C
Speed	25 m/sec
Bellows material	G - T6 - T1 - M5

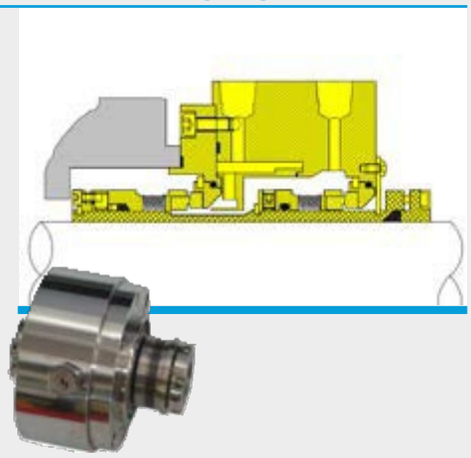


STYLE 798 DOUBLE CARTRIDGE SEAL WITH METAL BELLOWS

- Metal bellows available in a wide range of materials.
- Secondary seals in graphite.
- Available with stationary bellows (Style 797).

Technical data

Pressure	21 bar (Double wave: 65 bar)
Temperature	- 60°C ÷ +450°C
Speed	25 m/sec
Bellows material	G - T6 - T1 - M5



SEALS FOR MIXERS AND CUSTOM

MECHANICAL SEALS FOR MIXERS

Let's develop a **wide range of mechanical seals** for mixers and agitators, leveraging its technology to provide innovative solutions for the most demanding applications: seals **for mixers** they stand out for the due to their very high tolerance to shaft misalignment and the greater resistance to dry running given by the **latest generation materials used for the sealing faces.**

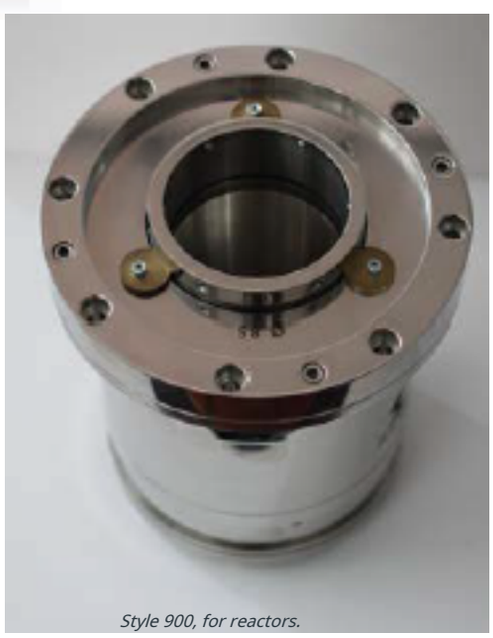
Mixer seals can be manufactured according to DIN 28138 standard, and can be installed in steel reactors according to DIN 28136 or mounting flanges according to DIN 28141, and are compatible with DIN 28154 shafts. All models can be supplied with the **addition of radial bearings,** and can be customized to fit specific applications.

CUSTOM MECHANICAL SEALS

THE The first principle of our philosophy is: the customer must never be forced to modify his pump. When an application cannot accept a standard solution, the department is ready to modify existing designs to fit the **specific customer requirements,** or create a template completely new, **regardless of the quantity requested.**

Our representatives around the world are available to provide assistance. direct and support for any application, collect the necessary data to design the customized proposal and assist the customer until a satisfactory solution is found.

Style 606 3D for SCAM vacuum pumps.



Style 900, for reactors.

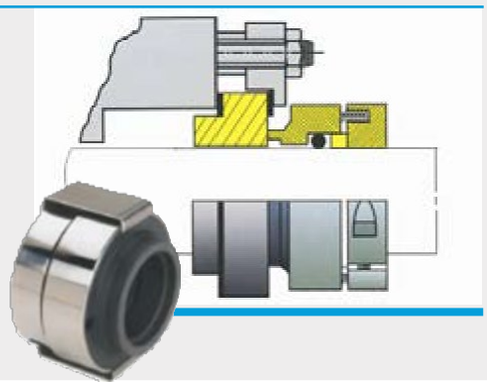
COMPONENT SEALS

STYLE 400 EXTERNAL COMPONENT SEAL

- No metal parts in contact with the fluid
- Clamping ring for installation on shafts of any material
- Monolithic faces

Technical data

Pressure	12 bars
Temperature	- 40°C ÷ +305°C
Speed	20 m/sec
Special Features	Crawling faces interchangeable

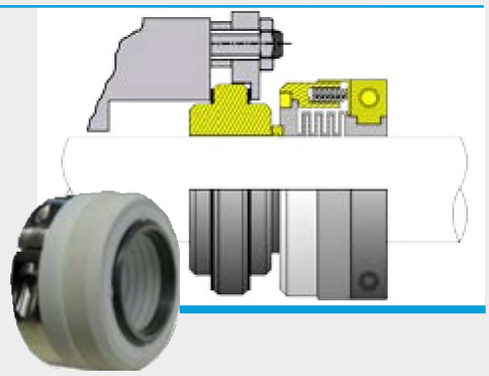


STYLE 410 EXTERNAL COMPONENT SEAL WITH PTFE BELLOWS

- No metal parts in contact with the fluid
- Clamping ring for installation on shafts of any material
- No dynamic o-ring

Technical data

Pressure	12 bars
Temperature	- 40°C ÷ +230°C
Speed	16 m/sec
Bellows material	T

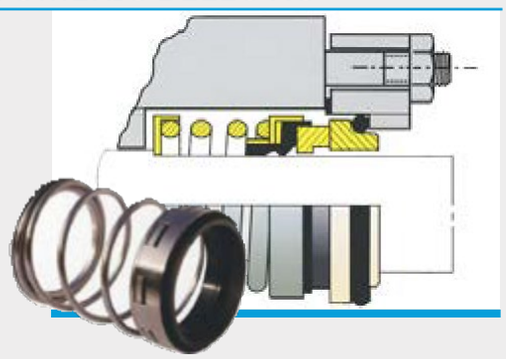


STYLE 520 COMPONENT SEAL WITH ELASTOMERIC BELLOWS

- No dynamic o-ring
- Greater tolerance to misalignment
- Independent of shaft rotation

Technical data

Pressure	12 bars
Temperature	- 20°C ÷ +204°C
Speed	10 m/sec
Bellows material	P - E - V

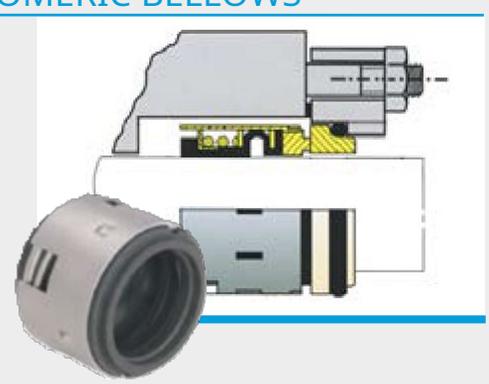


STYLE 522 COMPONENT SEAL WITH ELASTOMERIC BELLOWS

- No dynamic o-ring
- Length according to L1K
- Independent of shaft rotation Elastomeric
- bellows protected by metal body

Technical data

Pressure	15 bars
Temperature	- 20°C ÷ +204°C
Speed	13 m/sec
Bellows material	P - E - V



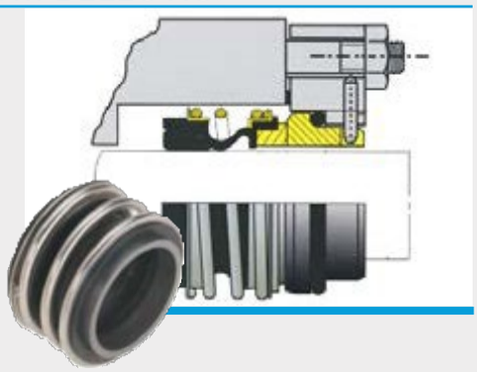
COMPONENT SEALS

STYLE 523 COMPONENT SEAL WITH ELASTOM BELLOWS.

- No dynamic o-ring
- Available in length according to L1K (Style 524)
- Independent of shaft rotation

Technical data

Pressure	12 bars
Temperature	- 20°C ÷ +204°C
Speed	10 m/sec
Bellows material	P - E - V

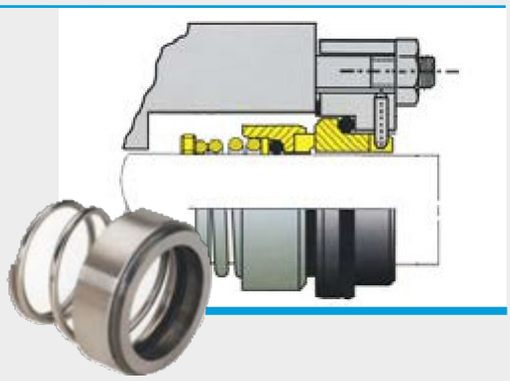


STYLE 530 SINGLE SPRING COMPONENT SEAL

- Dependent on the direction of rotation of the shaft
- Economical holding for high production volumes

Technical data

Pressure	10 bars
Temperature	- 40°C ÷ +305°C
Speed	10 m/sec

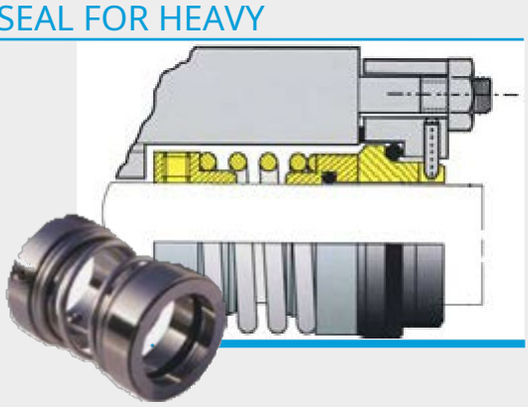


STYLE 531 SINGLE SPRING COMPONENT SEAL FOR HEAVY DUTY APPLICATIONS

- Independent of shaft rotation
- Robust design with oversized cylindrical spring

Technical data

Pressure	16 bars
Temperature	- 40°C ÷ +305°C
Speed	20 m/sec

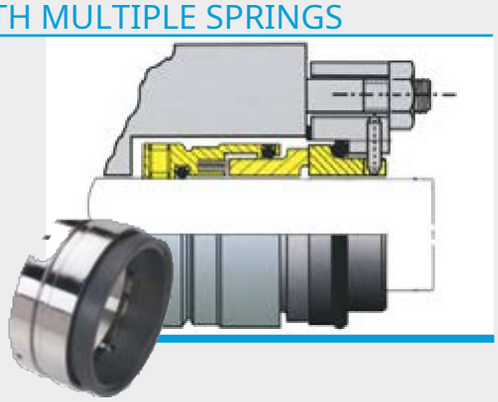


STYLE 550 COMPONENT SEAL BALANCED WITH MULTIPLE SPRINGS

- Balanced
- Fretting-free dynamic O-ring
- Fluid-protected springs
- Interchangeable sealing faces

Technical data

Pressure	40 bars
Temperature	- 40°C ÷ +305°C
Speed	18 m/sec

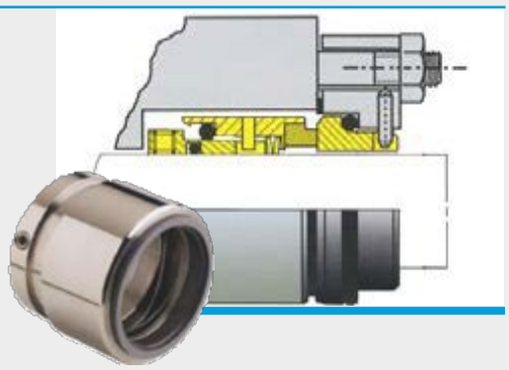


STYLE 551 COMPONENT SEAL BALANCED WITH WAVE SPRING

- Balanced
- Length according to L1K
- Fluid protected spring

Technical data

Pressure	25 bars
Temperature	- 40°C ÷ +305°C
Speed	15 m/sec

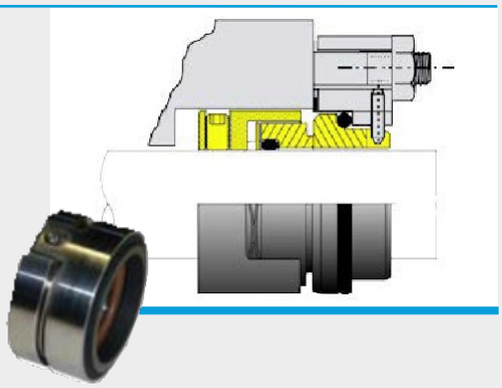


STYLE 557 WAVE SPRING COMPONENT SEAL

- Available in balanced version (Style 557B)
- Length according to L1K
- Interchangeable sealing faces

Technical data

Pressure	16 bars
Temperature	- 40°C ÷ +305°C
Speed	20 m/sec
Special Features	Available in double back-to-back configuration

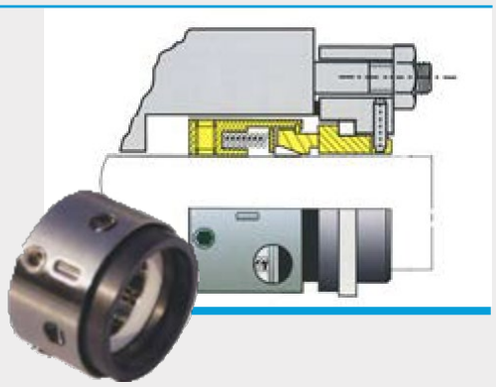


STYLE 558 COMPONENT SEAL WITH MULTIPLE SPRINGS

- Available in balanced version (Style 558B)
- Available with PTFE wedge in place of O-ring (Style 559 and Style 559B)
- Length according to L1K
- Interchangeable sealing faces

Technical data

Pressure	U = 15 bar ; B = 35 bar
Temperature	- 40°C ÷ +305°C
Speed	20 m/sec
Special Features	Available in double back-to-back configuration



OEM MECHANICAL SEALS

We develop mechanical seals with specific designs for installation on pumps whose stuffing box does not correspond to the standard international, such as Flygt, Grundfos, Fristam, Hidrostal and several other brands. While the dimensions are specifically designed to fit specific pumps, the materials and design are selected to offer an alternative higher quality than the original. For more information about the **complete line of OEM seals**, contact your nearest distributor.

SEALING SUPPORT SYSTEMS

API PLAN 53A

External reservoir that supplies pressurized barrier fluid to a double mechanical seal.

Pressurization is by external nitrogen source. The non-pressurized version can be used as Plan 52.

Api Plan 53A Includes:
Style 300 or Style 300-API Barrel
Optional cooling coil for the barrel
Level transducer
Pressure transducer
Optional recirculation pump for thicker barrier fluids
Base, pipes, valves and joints

API PLAN 53B

External reservoir that supplies pressurized barrier fluid to a double mechanical seal, for high pressure applications.

Pressurization occurs via a membrane filled with nitrogen.

Api Plan 53B Includes:
API682 Standard Size Bladder Accumulator
Pressure indicator
Pressure transducer
Temperature indicator
Manual refill pump
Water-cooled (Style 342), air-cooled (Style 343) or finned tubes
Optional recirculation pump for dense fluids
Structure, pipes and fittings

API PLAN 53C

External reservoir that supplies pressurized barrier liquid to the double mechanical seal for fluctuating pressure applications.

Pressurization is carried out via a reference line from the stuffing box to the piston booster.

Api Plan 53C Includes:
Piston booster sized according to API682
Pressure indicator
Piston position or level indicator
Piston position or level transducer
Differential pressure transducer
Temperature indicator
Water heat exchanger (Style 342) or finned tubes
Optional recirculation pump for dense fluids
Base, pipes and fittings

STYLE 300 BARRIER FLUID BARREL

Double seal barrier fluid barrel manufactured to ASME and PEDE specifications for API Plan 53 applications. Stainless steel connections, stainless steel pressure gauge, welded level indicator, borosilicate glass, stainless steel safety valve. Wide range of accessories available, including cooling coil, filling unit, level switch, and API682 variant.

Technical data

Volume (lt)	5, 7, 9, 12, 18
Maximum operating pressure	30 bars
Operating temperature	- 60°C ÷ 200°C
Body material	1.4301 (AISI 304), 1.4571 (AISI 316Ti)
Cooling capacity (coil)	1.5kW (4 kW with forced circulation)

STYLE 330 BARREL FOR LIGHT APPLICATIONS

Barrier fluid barrel made of synthetic material. Extremely convenient and absolutely capable of covering most industrial applications in non-exaggerated situations. Available with internal magnetic drive pump for better fluid circulation. Equipped as standard with quick connections in synthetic material, pressure gauge, thermometer and level indicator, safety valve and connections for various accessories available.

Technical data

Volume (lt)	5, 7, 9
Maximum operating pressure	10 bars
Operating temperature	- 30°C ÷ +70°C
Body material	PVC, SPI code = 3
Metal parts	DIN 1.4301
Temperature/level indicator	Polycarbonate

STYLE 342 HEAT EXCHANGER

Water-cooled heat exchanger, adjustable to the required heat exchange area, pressure and cooling capacity. The barrier fluid is inside the barrel, with the cooling water inside the tubes. It can be supplied as a stand-alone element or integrated into complete Plan 21, 22, 23 and 41.

Technical data

Building material	DIN 1.4404 ; 1.4571
Estates	PTFE, FKM, Expanded Graphite
Heat exchange area	0.6m² (standard version)
Heat exchange capacity	36kW (standard version)
Operating Temperature	350°C
Operating Pressure	16 bar (tube), 50 bar (external)

STYLE 320 CYCLONE SEPARATOR

Cyclone separator to filter the process fluid and automatically convey solid particles to the pump suction. Internal wear parts are made of silicon carbide for increased abrasion resistance. Available as a stand-alone element integrated into Plan 31 or 41.

Technical data

Operating temperature	Up to 125°C
Operating pressure	Up to 62 bar
Pressure differential	From 1.3 to 8 bar
Building material	DIN 1.4404
Insert material	Silicon carbide
Estates	FKM

BRAIDED PACKING-*Overview*

> "If you think that a high quality packing is expensive, you still have to experience how much a poor quality one will ultimately cost you."

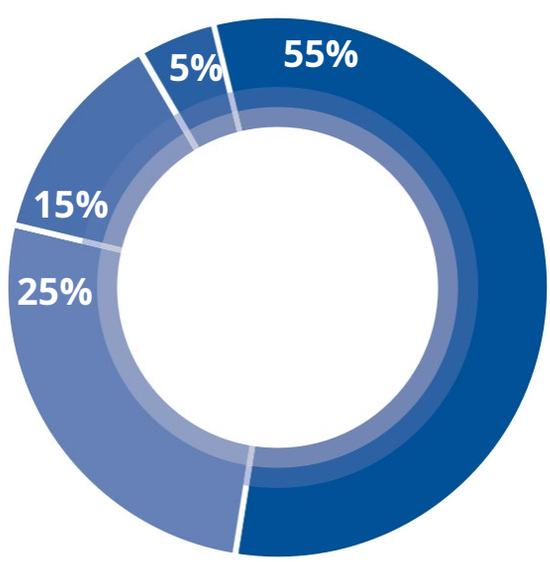
High quality fiber from the most reliable suppliers, proper impregnation and perfect braiding are the key factors for the production of effective and efficient packing. Several factors can make the difference between a quality product capable of sustaining an entire production cycle with limited material consumption, and a low technology product that after an initial low purchase price causes several additional costs over its operating life. We are proud to offer a wide range of braided packings where Each individual type is guaranteed to represent the current state of the art.

✗ Packings of irregular size will result in rings that are too large and too small. Excessive friction will occur in the larger rings, and more leakage will occur in the smaller ones, requiring more adjustments and causing greater mechanical stress and a shorter packing life.	✓ A packing controlled density with uniform ring size can maximize the sealing action while minimizing the compression required, which in turn generates a less friction on the bushing and lower mechanical stress on the packing, prolonging its operating life.
✗ Poor quality lubricants will cause increased friction, bushing abrasion, energy absorption and coolant requirement.	✓ High quality lubricants reduce friction and heat generation, prolonging the life of the packing and minimizing the need for cooling and the cost of the energy absorbed
✗ More rapid deterioration of packing rings requires more man-hours to keep the leak under control, and can cause unplanned shutdowns resulting in unwanted machine downtime, generating additional costs.	✓ Slower wear of packing rings reduces loss and labor costs for machine monitoring. A maximized operating life allows the system to be stopped only for its scheduled maintenance.

While the cost associated with a quality packing that will remain operational for a long time can be easily calculated, The effects of unplanned maintenance are often difficult to predict and quantify. Since the cost of the packing itself will prove to be the smallest part of the total maintenance and operation expenses of the plant, it becomes clear how the high-quality products can avoid or minimize all other related expenses, and can quickly represent a profitable investment in any industrial application.

OPERATING COSTS OF THE PACKING

55% Production loss due to machine downtime
25% Value of spilled fluid
15% Cost of labor
5% Cost of purchasing the packing



BRAIDED PACKING

STYLE 1000 POLYCRYSTALLINE GRAPHITE YARN WITH LIGHTWEIGHT PTFE COATING

100% synthetic crystalline graphite fiber, impregnated with colloidal graphite in synthetic oil.

T°C	- 250 ÷ +650		
Pbar	80	120	150
V m/sec	25	10	2
pH	0 ÷ 14		

Applications

- Cryogenic applications
- Centrifugal pumps
- Chemical industry
- Power generation industry

STYLE 1001 CARBOX YARN

Pure pre-oxidized PAN spun carbon, impregnated with colloidal graphite on synthetic oil.

T°C	- 50 ÷ +500		
Pbar	40	100	150
V m/sec	20	2	1
pH	2 ÷ 12		

Applications

- Valves for steam and medium temperature hydrocarbons
- Dynamic medium temperature applications with steam and hydrocarbons

STYLE 1001/N PANOX YARN

Pure pre-oxidized carbon yarn, impregnated with PTFE colloidal suspension.

T°C	- 40 ÷ +300		
Pbar	80	120	150
V m/sec	25	10	2
pH	0 ÷ 14		

Applications

- Centrifugal and reciprocating pumps
- Mixers, agitators
- Dryers
- Valve stems

STYLE 1002 IMX GRAPHITE YARN

99% synthetic graphite fiber, impregnated with colloidal graphite in synthetic oil (<2%).

T°C	- 80 ÷ +500		
Pbar	25	50	100
V m/sec	35	4	1
pH	0 ÷ 14		

Applications

- Heavy Duty High Temperature Pump and Valve Applications
- Aggressive fluids

B

STYLE 1003 IMX GRAPHITE YARN

96% synthetic graphite fiber and 4% Inconel alloy, impregnated with colloidal graphite in synthetic oil (<2%).

				Applications

STYLE 1009 COMBIGRAPH YARN

38% synthetic graphite fiber and 62% expanded graphite, impregnated with non-metallic corrosion inhibitor.

				Applications
T°C	- 150 ÷ +650			• Valves, pumps and pistons for heavy duty, high temperature and high pressure
Pbar	60	80	150	
V m/sec	30	5	1	
pH	0 ÷ 14			

STYLE 1009X ULTRAGRAPH YARN

40% carbon graphite fiber backing and corners, 60% expanded graphite braided tapes, impregnated with non-metallic corrosion inhibitor.

				Applications
T°C	- 150 ÷ +750			• Centrifugal and piston pumps for heavy-duty applications, for high temperatures and high pressures
Pbar	100	150	300	
V m/sec	30	10	8	
pH	0 ÷ 14			

STYLE 1023T POLYPROPYLENE AND PTFE YARN COATING

Acrylic fibers wrapped in PTFE yarns around a silicon core. Can withstand repeated opening and closing of tank lids.

				Applications
T°C	- 30 ÷ +160			• Tank lids and main hatches
Pbar	-	-	20	• Inspection and cleaning covers on tankers carrying any type of liquid cargo in all IMO classes.
pH	0 ÷ 14			

STYLE 1024 PURE PTFE YARN

100% PTFE braided with highly controlled density (HCD) method, impregnated with PTFE dispersion.

				Applications
T°C	- 240 ÷ +280			• Strong chemicals on static applications (valves, gates, taps, covers, wells)
Pbar	50	100	500	• Strong chemicals on low pressure centrifugal or reciprocating pumps speed.
V m/sec	2	1	1	
pH	0 ÷ 14			

STYLE 1025 PURE FOOD GRADE PTFE YARN

100% PTFE braided with High Controlled Density method, impregnated with food grade lubricant. Braided in a clean room.

				Applications
T°C	- 200 ÷ +280			• Chemical, food and pharmaceutical industry
Pbar	25	100	-	
V m/sec	8	2	-	
pH	0 ÷ 14			

STYLE 1026 META-ARAMID YARN

Long meta-aramid fibers woven with High Controlled Density method, impregnated with 40% colloidal PTFE.

				Applications
T°C	- 30 ÷ +300			• Heavy duty applications
Pbar	60	80	100	• Paper and pulp applications requiring white, non-staining packaging
V m/sec	15	5	2	
pH	1 ÷ 13			

STYLE 1027 KYNOL® PHENOLIC YARN

Phen-Top fibers woven with High Controlled Density method, impregnated with colloidal PTFE and synthetic oil.

				Applications
T°C	- 80 ÷ +260			• General applications
Pbar	30	50	80	• Paper and pulp applications requiring white, non-staining packaging
V m/sec	25	12	1	
pH	3 ÷ 12			

B

TYPE 1028 PURE PTFE YARN

100% High Controlled Density braided PTFE, impregnated with olloidal PTFE.

				Applications
T°C	- 240 ÷ +280			• Pumps centrifuges, agitators, mixers and reactors with most chemicals
Pbar	25	50	100	
V m/sec	8	4	2	
pH	0 ÷ 14			

STYLE 1028X PTFE YARN FOR HIGH SPEED

100% pure expanded PTFE with encapsulated lubricants, compliant with FDA CFR 177.550 regulations.

				Applications
T°C	- 100 ÷ +280			• Centrifugal pumps and agitators in the chemical, pharmaceutical and food industries.
Pbar	20	30	-	
V m/sec	15	2	-	
pH	0 ÷ 14			

STYLE 1029 RAMIE YARN

Textured and treated vegetable fiber, impregnated with colloidal PTFE and synthetic oil.

				Applications
T°C	- 30 ÷ +140			• Marine applications (stern tubes and helmsmen) • Pulp and paper industry
Pbar	20	30	40	
V m/sec	15	6	1	
pH	4 ÷ 11			

STYLE 1037 KYNOL®/ARAMID YARN

aramidic structure, with phenolic reinforced corners, colloidal PTFE impregnation and silicone rubber core.

				Applications
T°C	- 50°C ÷ +200°C			• Pumps, mixers and crystallizers of large size heavy duty Sugar industry • Pulp and paper industry
Pbar	35	50	100	
V m/sec	20	15	2	
pH	2 ÷ 12			

STYLE 1040 ARAMID YARN

Long aramid fibers, impregnated with 20% colloidal PTFE and synthetic oil.

T°C	- 100 ÷ +280		
Pbar	50	100	200
V m/sec	20	2	1
pH	2 ÷ 12		

Applications

- Centrifugal and piston pumps, valves, expansion joints
- Water, steam, solvents, acids, medium/ weak alkalis, oils
- Maritime Industry
- Pulp and paper industry

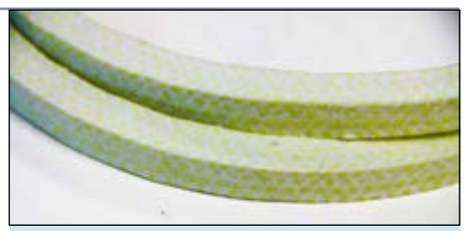
STYLE 1042 ARAMID YARN WITH PTFE

Aramid staple fibers, impregnated with 25% colloidal PTFE and synthetic oil.

T°C	- 80 ÷ +260		
Pbar	30	50	80
V m/sec	20	12	1
pH	3 ÷ 12		

Applications

- Pumps, valves, expansion joints and piston pumps
- Water, steam, solvents, weak acids and alkalis, petroleum derivatives
- Chemical, pulp and paper, pharmaceutical, food industry and water treatment



STYLE 1043 ARAMID YARN WITH GRAPHITE

Aramid staple fibers, impregnated with 25% colloidal graphite and synthetic oil.

T°C	- 80 ÷ +350		
Pbar	70	150	300
V m/sec	20	5	2
pH	2 ÷ 13		

Applications

- Applications heavy to high temperature and pressure
- Boiler feed pumps, steam valves and gate valves.

STYLE 1044 ARAMID YARN WITH PTFE AND GRAPHITE

Aramid fibers and interlocked PTFE - graphite, impregnated with colloidal PTFE and synthetic oil.

T°C	- 80 ÷ +280		
Pbar	70	150	300
V m/sec	20	5	2
pH	2 ÷ 13		

Applications

- Centrifugal and piston pumps
- Mixers and reactors

STYLE 1048 PURE PTFE YARN

Pure PTFE yarn with corners reinforced with continuous aramid fibres, impregnated with colloidal PTFE and synthetic oil.

T°C	- 200 ÷ +280		
Pbar	25	300	500
V m/sec	10	3	1
pH	3 ÷ 12		

Applications

- Centrifugal pumps and pistons, mixers, valves.
- Food and pharmaceutical chemistry And industry

STYLE 1050 ORIGINAL PTFE-GRAPHITE

Expanded PTFE with pure graphite dispersion.

T°C	- 200 ÷ +280		
Pbar	50	70	100
V m/sec	25	5	2
pH	0 ÷ 14		

Applications

- Centrifugal pumps, reactors, mixers
- Valves, gate valves, taps, expansion joints
- Static hold on almost all chemicals

STYLE 1051 HYBRID GRAPHITE-PTFE YARN

Expanded PTFE with colloidal graphite dispersion.

T°C	- 120 ÷ +250		
Pbar	40	60	80
V m/sec	20	4	1
pH	0 ÷ 14		

Applications

- Worn shafts and pumps in bad conditions conditions
- Centrifugal, piston and plunger pumps
- Valves and static applications

STYLE 1055 HYBRID GRAPHITE-PTFE YARN ON ARAMID

Aramid support wrapped with PTFE-graphite film. High heat dissipation and tensile strength.

T°C	- 30 ÷ +260		
Pbar	80	100	150
V m/sec	15	4	2
pH	0 ÷ 14		

Applications

- High pressure applications
- Worn out trees
- High speed applications

BRAIDED PACKING

STYLE 1066 GRAPHITE-ALUMINIUM YARN

25% anti-friction metallic oil and 75% expanded graphite, impregnated with corrosion inhibitor.

T°C	- 20 ÷ +550		
Pbar	120	200	300
V m/sec	10	3	1
pH	3 ÷ 11		

Applications

- Applications with low to medium shaft speeds
- High Temperature Centrifugal Pump Applications
- Crude oil, tar, distillates and lower fractions, heat transfer fluids, hot oil
- Industry of the sugar, crystallizers, paints
- Trees with hardness > 500° brinnel

STYLE 1077 PTK 28 YARN WITH PTFE

textured acrylic fiber, impregnated with 40% colloidal PTFE and synthetic oil.

T°C	- 25 ÷ +200		
Pbar	25	40	60
V m/sec	15	3	1
pH	3 ÷ 12		

Applications

- General Industry
- Paper and pulp applications requiring white, non-staining packaging

STYLE 1077G PTK 28 YARN WITH GRAPHITE

Textured acrylic fiber, impregnated with 30% colloidal graphite and synthetic oil. Superior heat dissipation over 1077 style.

T°C	- 25 ÷ +200		
Pbar	25	40	60
V m/sec	15	3	1
pH	3 ÷ 12		

Applications

- General Industry

STYLE 1080 ARAMID AND SYNTHETIC CARBON YARN

Pre-oxidized braided AN and aramid fibers, impregnated with 0% colloidal PTFE and synthetic oil.

T°C	- 60 ÷ +260		
Pbar	50	70	120
V m/sec	30	10	3
pH	1 ÷ 13		

Applications

- Muds, polymerizing fluids, glues, pitch, abrasive fluids

STYLE 1099 COMBIGRAPH YARN

91% expanded graphite wrapped around 9% synthetic graphite, impregnated with non-metallic corrosion inhibitor.

T°C	- 150 ÷ +650		
Pbar	30*	80*	120*
V m/sec	35	3	1
pH	0 ÷ 14		

* with anti-extrusion rings

Applications

- Heavy Duty Pumps & Valves high temperature / high pressure
- High speed applications
- Abrasive and strong chemicals

STYLE 1099R COMBIGRAPH YARN (REINFORCED)

93% expanded graphite wrapped around 7% Inconel alloy wire, impregnated with non-metallic corrosion inhibitor

T°C	- 150 ÷ +550		
Pbar	-	-	300
V m/sec	-	-	2
pH	0 ÷ 14		

Applications

- High Temperature / High Pressure Pumps and Valves
- High speed applications
- Abrasive and strong chemicals.

STYLE 1111 INCOGRAPH YARN

85% expanded graphite wrapped around 15% Inconel alloy wire, impregnated with non-metallic corrosion inhibitor

T°C	- 150 ÷ +650		
Pbar	-	-	300
V m/sec	-	-	2
pH	0 ÷ 14		

Applications

- Steam valves, soot, blowers Of gates

STYLE 1300 NON-SINTERED PTFE

Pure non-sintered PTFE yarn with special lubricants, its softness reduces shaft friction and allows a high degree of moldability. Available with added graphite dispersion (Style 1301).

T°C	- 58 ÷ +500		
Pbar	10	-	-
V m/sec	10	-	-
pH	0 ÷ 14		

Applications

- Acids and alkalis, oils, gases, solvents, steam on centrifugal pumps, mixers and agitators.

ULTRASEAL

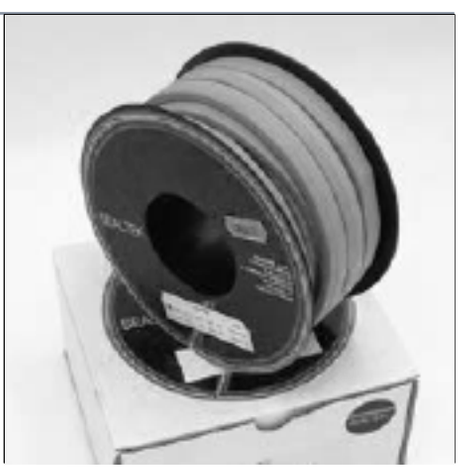
ULTRASEAL® is a revolutionary new line of gasket materials made from ultra-pure PTFE, treated to make it elastic, resilient, with a multidirectional microstructure.
With appropriate processes it is then prepared in different configurations to be able to cover practically all industrial sectors. Characteristics common to all types are the almost absolute chemical resistance, the perfect flexibility, the absence of cold flow, the high compressibility.

Characteristics

- 100% pure PTFE
- Excellent holding capacity
- Perfect flexibility
- High compressibility
- Cold flow resistance
- Complete chemical resistance
- Non-contaminating
- Suitable for direct contact with food (FDA 21 CFR 177.1550)
- Operating pressures from vacuum up to 220 Bar
- Temperatures -240°C ÷ +280°C
- Easy to cut and install
- Also applicable on imperfect surfaces

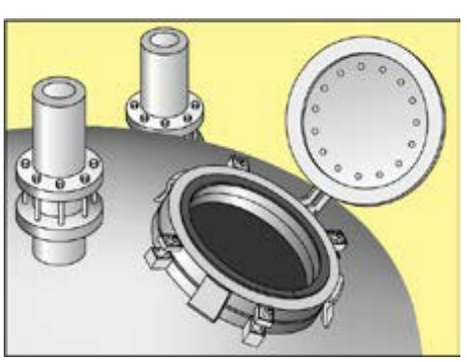
ULTRASEAL GRAPH

Self-modeling tape gasket specifically designed for couplings with high clamping loads and high temperatures. Thanks to the high percentage of pure graphite stabilized in the microporosity of the expanded PTFE, this material is able to disperse heat very effectively without losing volume or density. It is therefore particularly suitable for manholes, flue pipes, handholes and in general in all applications where greater dimensional stability is required compared to classic ULTRASEAL®.



Characteristics	Typical applications
• Easy to install • Self-adhesive • Easy to remove • Even for irregular surfaces • High compressibility • For high temperatures • Withstands high clamping loads • Secure hold with minimal bolt tightening • Registrations no longer necessary • For pressures up to 200 bar • It doesn't age • No waste • No time wasted cutting gaskets • Reduction of warehouse stocks • Unlimited duration	• Man's footsteps • Hand passes • Smoke ducts • Steam pipe flanges

Available sizes		Code
mm 14 × 5	mt.10	**7021410**
mm 17 × 6	mt. 10	**7021710**
mm 20 × 7	mt. 10	**7022010**

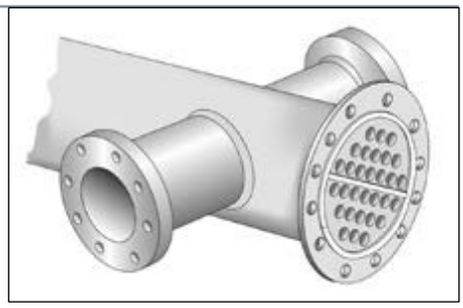


ATTENTION!*It is essential that before reaching the steam phase, the bolts are checked several times and, if necessary, adjusted.*

ULTRASEAL

ULTRASEAL HD

Self-shaping tape gasket specially designed for large-sized couplings with high clamping loads.
The microporous structure of this materialAndIt has been made extremely dense, so that it does not extrude or flow even when subjected to strong tensions.
The specific field of applicationAndthat of heat exchangers, thanks to the reduced coefficient of thermal expansion, which allows good operation even in the presence of continuous temperature changes.



Characteristics	Typical applications
• High density • Easy to install • Self-adhesive • Easy to remove • Even for irregular surfaces • High compressibility • Secure hold with minimal bolt tightening • Registrations no longer necessary • For pressures up to 200 bar • It doesn't age • No waste • No time wasted cutting gaskets • Reduction of warehouse stocks • Unlimited duration • Low coefficient of thermal expansion	• Heat exchanger covers • Narrow sealing surfaces in general

Available sizes		Code
6 x 4.5 mm	mt.25	**7010625**
mm 10 × 5	mt. 10	**7011010**
mm 10 × 5	mt. 25	**7011025**
mm 17 × 6	mt. 10	**7011710**

ATTENTION!*It is essential that before reaching the steam phase, the bolts are checked several times and, if necessary, adjusted.*

ULTRASEAL TP

Self-modeling gasket tape made of 100% pure multidirectional microporous PTFE.
Equipped with extremely high tensile strength, it can be easily applied to all surfaces where a secure and long-lasting hold is required.
It has a self-adhesive surface that makes assembly easy and is available in various sizes for surfaces of all sizes.

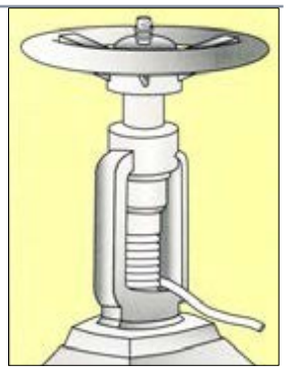
Characteristics	Typical applications
• Easy to install • Self-adhesive • Easy to remove • Even for irregular surfaces • High compressibility • Secure hold with minimal bolt tightening • Registrations no longer necessary • For pressures up to 200 Bar • It doesn't age • No waste • No time wasted cutting gaskets • Reduction of warehouse stocks • Unlimited duration	• Flange • Fireplaces • Pump bodies • Ceramic connections • Ventilation ducts • Reducer covers

Available sizes		odice	Available sizes		Code
mm 3.0 × 1.5	mt.25	**000325**	mm 14 × 5.0	mt. 10	**7001410**
mm 5.0 × 2.0	mt. 25	**000525**	mm 14 × 5.0	mt. 25	**7001425**
mm 7.0 × 2.5	mt. 25	**000725**	mm 17 × 6.0	mt. 10	**7001710**
mm 10 × 3.0	mt. 10	**001010**	mm 17 × 6.0	mt. 25	**7001725**
mm 10 × 3.0	mt. 25	**001025**	mm 20 × 7.0	mt. 5	**7002005**
mm 12 × 4.0	mt. 25	**001225**	mm 20 × 7.0	mt. 25	**7002025**

ULTRALON S

ULTRASEAL® self-modeling round section gasket in pure expanded multidirectional PTFE. Designed and manufactured specifically for taps, valves and gate valves as a “real-time gasket”, immediately available, without size limitations, applicable even on equipment in poor condition or on systems made with delicate materials such as ceramic or glass.

Extremely easy and quick to use, it allows for enormous savings in time and materials.

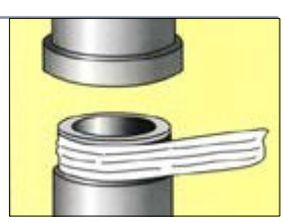


Characteristics	Typical applications
• Easy to install and remove • Even for irregular surfaces • High compressibility • Secure hold with minimal tightening • Operating pressures up to 200 bar • No waste • Unlimited duration	• Valves • Rolling shutters • Taps

Available sizes		Code	Available sizes		Code
mm 3	mt. 50	**7160350**	mm 10	mt. 10	**7161010**
mm 4	mt. 40	**7160440**	mm 12	mt. 10	**7161210**
mm 6	mt. 25	**7160625**	mm 14	mt. 10	**7161410**
mm 7	mt. 25	**7160725**	mm 16	mt. 10	**7161610**
mm 8	mt. 25	**7160825**			

ULTRATAPE S+ULTRATAPE MD+ULTRATAPE HD

Tape gaskets in pure expanded multidirectional PTFE. Thanks to its particular structure, it completely fills the spaces between the threads ensuring a more secure seal even in the presence of temperature changes and aggressive chemicals. Particularly suitable for large or damaged threads, where traditional tapes would be irreparably crushed and cut. Indispensable for stainless steel threads where normally the thread peaks cut the fibres of traditional tapes preventing a good seal.



Characteristics

- Excellent holding capacity
- Excellent flexibility
- High compressibility
- Complete chemical resistance
- Non-contaminating
- Can be used in direct contact with food
- Temperatures from -240°C ÷ +280°C
- For large or stainless steel fillets

	Available sizes		Code
ULTRATAPE S	mm 0.20 × 12	mt.15	**7131320**
ULTRATAPE S	mm 0.20 × 19	mt.15	**7131321**
ULTRATAPE MD	mm 12.7	mt.12	**7131311**
ULTRATAPE HD	mm 12.7	mt.12	**7131312**

ZERO LOSS SYSTEM *Overview*

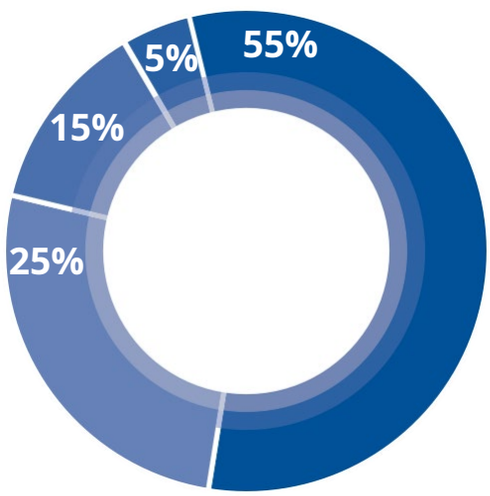
The Zero Loss System offers a variety of fibrous compounds, replacing the braided packing in the stuffing box.

This material evenly surrounds the shaft and works as a lubricated plug, and undermines pressure points. It ensures minimal friction, extending the operating life of the compass and ensuring significant energy savings.

Zero Loss System It is available in various synthetic fibers, mixed with thixotropic lubricants. Treated at pressure to ensure uniformity of dispersion.

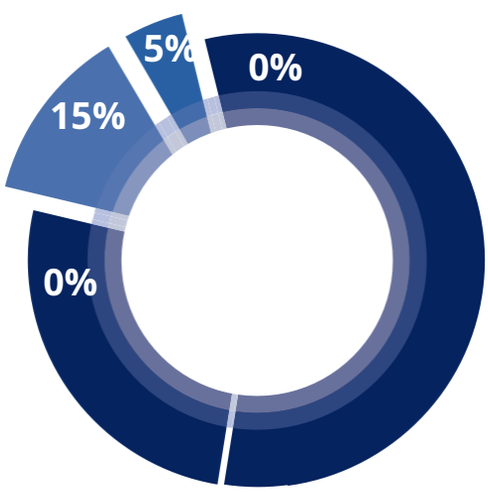
OPERATING COSTS OF BRAIDED PACKINGS

55%	Production loss due to machine
25%	downtime Cost of lost fluid
15%	Cost of labor
5%	Cost of purchasing the packing



OPERATING COSTS WITH ZERO LOSS SYSTEM

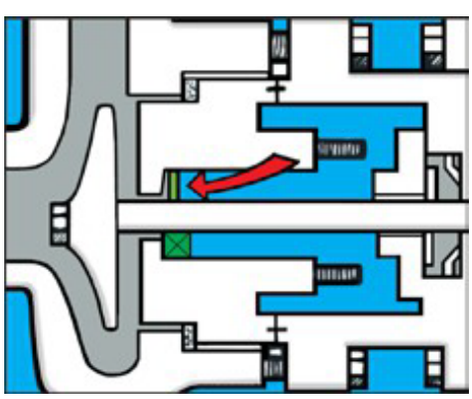
0%	Production loss due to machine
0%	downtime Cost of lost fluid
15%	Cost of labor
5%	Cost of purchasing the packing



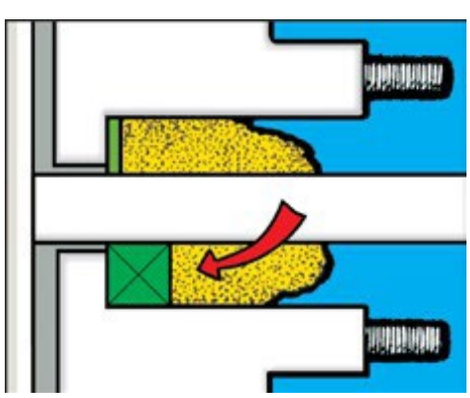
ZERO LOSS SYSTEM

BRAIDED PACKING	ZERO LOSS SYSTEM
✗ Fluid loss is necessary for lubrication. The optimum rate is generally 30 to 50 drops per minute, which can mean an annual loss of more than 1200 liters of product	✓ With correct application, and in optimal mechanical conditions, the loss can reach zero.
✗ Packing requires frequent replacement, causing machine downtime and production losses	✓ After the first application, no replacement is needed. Zero Loss System is topped up without stopping the machine, and not replaced.
✗ Cooling with lantern rings consumes large amounts of water. Compression of the packing reduces its effectiveness.	✓ No cooling or flushing is required.
✗ To ensure quick changeover, each packing size used in a plant must have adequate inventory available. Peak demand for a given size can cause downtime if there is not enough packing in stock.	✓ The same stock can be used for ALL sizes of stuffing boxes in a plant. The amount of material in stock to service all equipment in a factory is significantly reduced. Stock control is easy, demand spikes are unlikely as SPZ is refilled slowly and there are no sudden consumptions.
✗ Friction, especially with the harder fibers needed for abrasive fluids, causes very high energy absorption and rapid wear of the compass.	✓ Although friction against the bushing remains, the self-lubricating fibers reduce it to a small fraction of what braided packing typically creates.

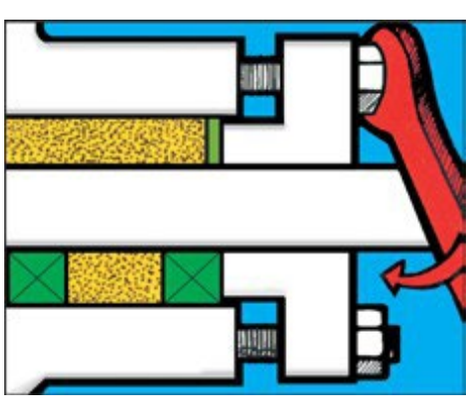
HOW IT WORKS:



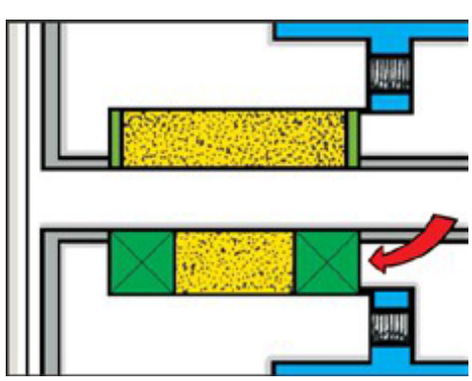
1Install an anti-extrusion ring of braided packing or solid PTFE.



2Hand fill the stuffing box with compound, using the stuffing box to compact.



3Install a ring of braided anti-extrusion packing or a solid PTFE washer on the side of the packing gland and “seal” with the packing gland.



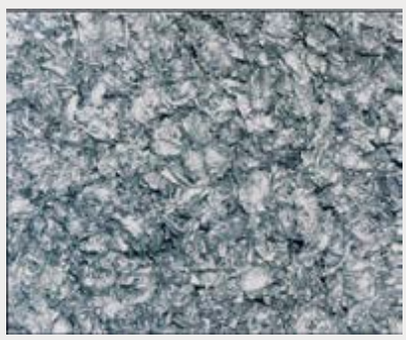
4Tighten the bolts to compress the compound, and start the pump/valve.

ZERO LOSS SYSTEM

STYLE ONE PTFE + GRAPHITE

Composed of expanded PTFE with pure graphite incorporated, lubricants, thixotropic gels and additives for heat dissipation. Used in place of traditional packing, it eliminates or reduces to almost zero losses. Chemically inert (pH 0 ÷ 14), it allows standardization of the entire system.

T°C	- 80 ÷ +280		
Pbar	20	35	70
V m/sec	20	8	4
pH	0 ÷ 14		
Vol	615 cm_3/Kg		



STYLE TWO ARAMID FIBERS

Made of pure Twaron® para-aramid fibers, thixotropic gels and colorless inert lubricants. Does not stain or color. Ideal for use in paper mills even on abrasive fluids. Advantageously used on water, sea water and wastewater pumps.

T°C	- 35 ÷ +260		
Pbar	25	40	80
V m/sec	18	4	2
pH	2 ÷ 13		
Vol	830 cm_3/Kg		

STYLE FIVE PTFE FIBERS

Composed of pure PTFE fibers, textured and realigned, with very high performance. Also suitable for direct contact with food. Due to its chemical inertia and white color, it is also suitable for demanding applications in the chemical and pharmaceutical industries.

T°C	- 80 ÷ +260		
Pbar	20	30	60
V m/sec	8	3	1
pH	0 ÷ 14		
Vol	640 cm_3/Kg		

STYLE SEVEN EXPANDED GRAPHITE

Made from 100% pure expanded graphite fibres, designed for use in critical temperature and pressure situations. Ideal for steam valves, boiler feed pumps, diathermic oil pumps.

T°C	- 30 ÷ +600		
Pbar	40	70	90
V m/sec	25	5	2
pH	0 ÷ 14		
Vol	710 cm_3/Kg		

STYLE TF350 RAW PTFE

Composed of pure PTFE fibers, expanded PTFE microspheres and synthetic lubricants. Can be used as a “zero leak” gasket on valves, pumps and mixers with peripheral speeds not exceeding 8m/sec. It can also be advantageously used in cryogenic applications and up to a maximum temperature of 26°C on practically all fluids, even aggressive ones.

T°C	- 40 ÷ +260		
Pbar	20	30	60
V m/sec	8	3	1
pH	0 ÷ 14		
Vol	610 cm_3/Kg		

STYLE P99 G - P99GP ARAMID + GRAPHITE

Blend of pure virgin Twaron® fibers, expanded mineral graphite and special heat-resistant thixotropic lubricants. Available in the GP version with anti-friction metal microspheres for applications on worn shafts and pumps in poor mechanical conditions.

T°C	- 20 ÷ +300		
Pbar	30	50	80
V m/sec	20	5	1
pH	1 ÷ 13		
Vol	620 cm_3/Kg		

FLAT GASKETS - *Overview*

FLAT GASKETS - GUIDELINES:

- Pressure and temperature limits are indicative and should never be combined at their maximum value.
- Surface compression should never exceed the maximum pressure of each material.
- The surface to be sealed must be free of pitting, flat, smooth, free of dirt or residues of old gaskets.
- Parallel flanges are a necessary condition to avoid premature gasket failure.
- The use of a torque wrench during compression is strongly
- recommended.
- No non-stick agent should be used with gaskets. All gaskets are pre-
- treated with a non-stick agent and do not require any additional protection.

t & t

MAX TEMP.	550°C	550°C	550°C	550°C	280°C	250°C	300°C	200°C	260°C	260°C	260°C
STYLE	**3000**	**3001**	**3002**	**3004**	**4005**	**4205**	**4400**	**5005**	**6000**	**6011**	**6050**
AIR up to 95°C	○	○	○	○	○	○	○	○	○	○	○
HYDROGEN	○	○	○	○	/	/	/	●	○	○	○
NATURAL GAS	○	○	○	○	○	○	○	○	○	○	○
LOW STEAM PRESSURE	○	○	○	○	●	●	○	/	○	●	●
SATURATED STEAM	○	○	○	○	/	/	●	/	/	/	/
STEAM OVERHEATED	○	○	○	○	/	/	/	/	/	/	/
DIATHERMIC OIL	○	○	○	○	●	/	○	/	○	●	●
WATERFALL	○	○	○	○	○	○	○	○	○	○	○
OVERHEATED WATER	○	○	○	○	○	○	○	○	○	○	○
AMMONIA	○	○	○	○	○	○	○	○	○	○	○
MILD ALKALIS	○	○	○	●	○	○	○	○	○	○	○
STRONG ALKALIS	○	○	○	○	○	○	○	○	○	○	○
MILD ACIDS	○	○	○	●	○	○	○	○	○	○	○
STRONG ACIDS	●	○	●	●	○	○	○	○	○	○	○
PETROLEUM SOLVENTS	○	○	○	○	○	○	○	○	○	○	○
SOLVENTS NOT AROMATICS	○	○	○	○	○	○	○	/	○	○	○
CHLORINATED SOLVENTS	○	○	○	○	/	/	/	/	○	○	○
PAINTS	○	○	○	○	/	/	●	●	○	○	○
KETONES	○	○	○	○	/	/	/	/	○	○	○
FUELS	○	○	○	○	○	○	○	●	○	○	○
FREON	○	○	○	○	○	○	○	○	○	○	○
HYDRAULIC OILS	○	○	○	○	●	●	○	●	○	○	○
NUCLEAR POWER PLANTS	/	○	/	/	/	/	/	/	○	○	○
FDA STANDARDS	/	○	/	/	○	○	/	/	○	○	○

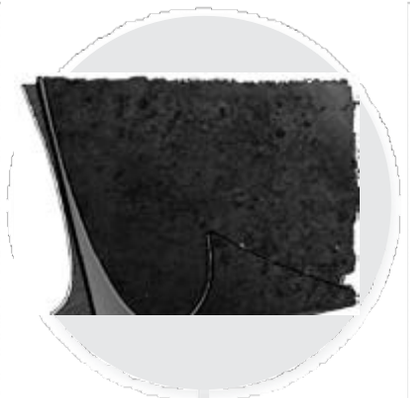
○ Recommended ● To be evaluated with caution / Not suitable For other applications, please contact us

FLAT GASKETS

STYLE 3000

Static sealing gasket sheet in pure graphite, reinforced with a central microlamina in AISI 316 steel. Does not contain any binder. It can be used in practically all applications, even the most demanding. Resists extreme temperatures. Does not stick and is not subject to aging phenomena. Particularly suitable for flanges with low surface pressures and difficult installation conditions.

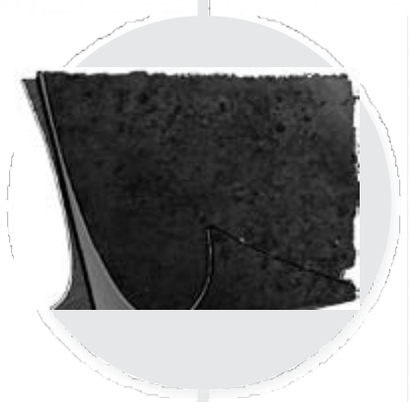
Technical data	
Max Pressure	130 bars
Max. Temperature	550°C
P × T Factor	max 30,000
Color	Black



STYLE 3001

Static sealing gasket sheet in pure expanded mineral graphite, reinforced by a microlamina in AISI 316 with a diamond structure. Does not contain any binder. Can be used for all applications, even the most demanding. Resists high temperatures and pressures.
It does not stick and is not subject to aging phenomena. Resistant to thermal shock, no hot or cold creep, with inorganic corrosion inhibitor and anti-scratch treatment.

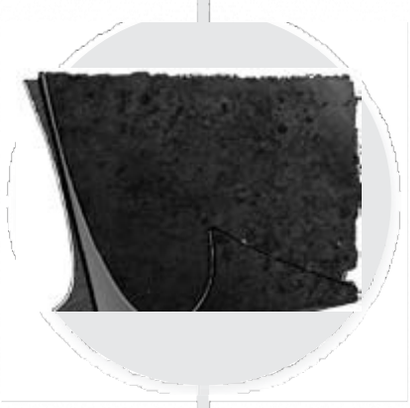
Technical data	
Max Pressure	130 bars
Max. Temperature	550°C
P × T Factor	max 40,000
Color	Black



STYLE 3002

Static sealing gasket sheet in pure graphite, reinforced with a central micro-mesh in AISI 316 steel. Does not contain any binder. It can be used for practically all applications, even the most demanding. Resists extreme temperatures. Does not stick and is not subject to aging phenomena. Particularly suitable for flanges with low surface pressures and difficult installation conditions. Particularly suitable for cutting gaskets in series thanks to the extreme ease with which it can be die-cut.

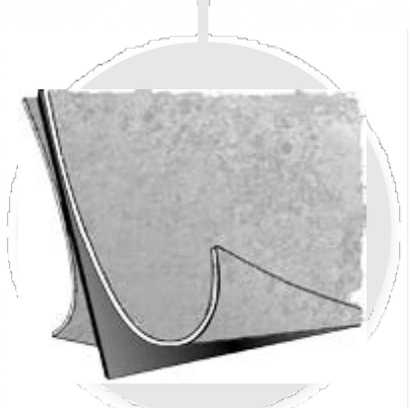
Technical data	
Max Pressure	130 bars
Max. Temperature	550°C
P × T Factor	max 30,000
Color	Black



STYLE 3004

Static sealing gasket sheet with sandwich structure, made with a central core of pure expanded mineral graphite and an external part made of an aluminum microlamina. It represents the latest innovation in the field of flat gaskets, solving all the problems related to the use of pure graphite. It can be easily handled and cut.

Technical data	
Max Pressure	80 bars
Max. Temperature	550°C
P × T Factor	max 24,000
Color	Silver



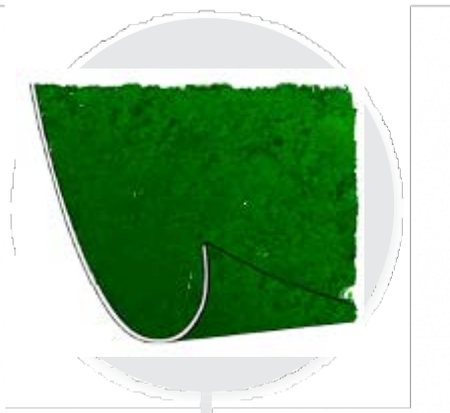
FLAT GASKETS

STYLE 4005

Static sealing gasket sheet made with aramid fibers, Rockwool fibers and special elastomeric binders. Featuring very high resistance to pressure and temperature, resilience and compressibility. It always remains elastic and, thanks to the special surface treatment, does not adhere to metal surfaces.

Technical data

Max Pressure	100 bars
Max. Temperature	300°C
P × T Factor	21,000
Color	Green

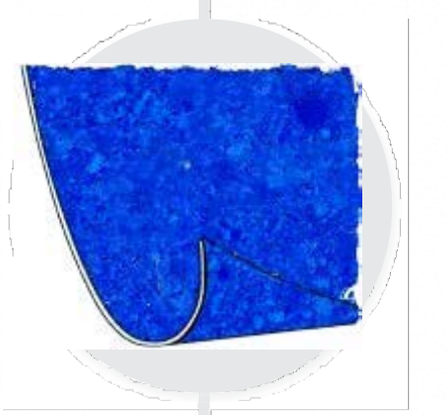


STYLE 4205

Style 4205 gasket is made of synthetic and aramidic fibers bonded with nitrile rubber. Completely free of glass and ceramic fibers. Sheet suitable for universal use at medium-high temperatures, resistant to a wide range of products such as: oils, petrol, water, hot water, low pressure steam, some chemicals, solvents and gases. The excellent cost/performance ratio and the high stress resistance value makes it ideal for general use in medium-high temperature and pressure conditions and is also easily workable.

Technical data

Max Pressure	100 bars
Max. Temperature	300°C
P × T Factor	21,000
Color	Blue

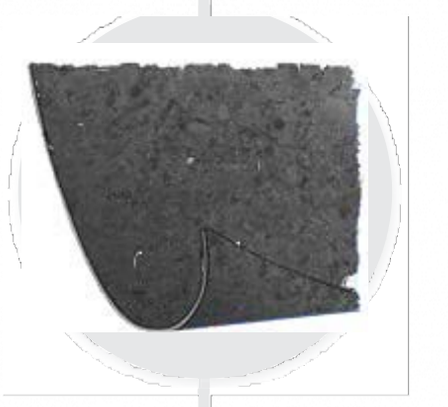


STYLE 4400 XP

Sheet for flat gaskets made with an innovative system that reinforces the graphite with aramidic fibers using a low percentage of binder. Given the high mechanical resistance and high flexibility, the use of internal metal reinforcements is no longer necessary. It is also easy to handle and work. It is ideally used in extremely heavy-duty applications at high temperatures and high pressures.

Technical data

Max Pressure	105 bars
Max. Temperature	350°C
P × T Factor	max 25,000
Color	Grey-black



STYLE 5005

Asbestos-free flat gasket sheet, obtained from the combination of aramid fibers, inert mineral fibers, PTFE and synthetic binders with high chemical resistance. It combines excellent resistance to chemicals with elasticity and compressibility. It does not adhere to surfaces thanks to the surface treatment.

Technical data

Max Pressure	50 bars
Max. Temperature	200°C
P × T Factor	max 6,000
Color	Ivory

FLAT GASKETS

STYLE 6000

Asbestos-free flat gasket sheet, obtained from the combination of aramid fibers, inert mineral fibers, PTFE and synthetic binders with high chemical resistance. It combines excellent resistance to chemicals with elasticity and compressibility. It does not adhere to surfaces thanks to the surface treatment.

Technical data

Max Pressure	250 bars
Max. Temperature	260°C
P × T Factor	max 20,000
Color	White

STYLE 6011

Flat gasket sheet made with biaxial PTFE and silica-based fillers, usable in a wide range of applications requiring maximum resistance to chemicals (pH 0÷14), combined with high mechanical resistance. Usable on strong acids (except hydrofluoric acid), alkalis, solvents, hydrocarbons, chlorine, steam and water. It has very low gas permeability, high resistance to “creep” and “cold flow” compared to conventional PTFE and excellent ease of cutting.

Technical data

Max Pressure	85 bars
Max. Temperature	260°C
P × T Factor	max 14,000
Color	Orange

STYLE 6050

Flat gasket sheet made of biaxial PTFE, barium sulphate fillers and special inorganic microspheres. Developed for low clamping loads on glass, ceramic, plastic-coated or distorted flanges. Suitable for a wide range of applications where maximum resistance to chemicals (pH 0 : 14) except molten alkali metals, fluorine and hydrofluoric acid is required, combined with high mechanical strength.

Featuring very low gas permeability, high resistance to cracking and cold flow compared to conventional PTFE, excellent ease of cutting.

Technical data

Max Pressure	85 bars
Max. Temperature	260°C
P × T Factor	max 16,000
Color	Sky blue

STYLE 8001 ULTRATHERM

Style 8001 Ultratherm is an innovative gasket material free of any rubber binders, graphite or synthetic fibres, made only of pure mica phlogopite laminated and reinforced with 316 steel in diamond shapes. Perfectly resistant to scratches and rough handling. It offers great advantages in high temperature flanges of heat exchangers, gas turbine housings, and high temperature piping in power plants, steel mills and other critical applications.

Technical data

Max Pressure	150 bars
Max. Temperature	950°C/1100°C
P × T Factor	55,000
Color	Light brown

REPAIR AND MAINTENANCE

PIPE REPAIR TAPES

SEAL-TEX It is a fast-curing tape for pipe repairs

- **In 20 minutes**
- **With the work of just one person**
- **With minimal costs**
- **Without emptying the lines**

With a little water impregnation, used as a catalyst, the quick-curing tape can reach a80 Shore hardness after 10-15 minutes of contact with moisture. Can be applied to leaky pipes or corroded surfaces.

The tape**SEAL-TEX**can withstand contact with various fluids, such as petroleum, sulfuric acid (>10%), caustic soda, steam and many others.

Seal-Tex is**Officially certified ASME PCC-2/2008**for the repair of equipment and pipes under pressure

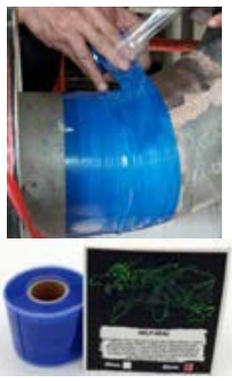
Technical data	
Pipe pressure without GF-HD	30 bars
Pipe pressure with GF-HD	50 bars
Flexural strength	ASTDM D709 111 N/mm sq.
Tensile strength	ASTDM D638 172 N/mm sq.
Compression force	ASTDM D695 180 N/mm sq.
Single overlap adhesion	19 N/mm sq.
Dielectric strength	16KV/mm
Continuous temperature resistance	120°C - "XT" version up to 500°C
Maximum temperature resistance	190°C - "XT" version up to 550°C
Chemical resistance	Water, salt water, petroleum, dilute acids and alkalis
Shelf life	@20°C: 3 years

SEAL TEX XThigh temperature tape

Continuous resistance: up to 500°C Short-term resistance: up to 550°C

PIPE REPAIR TAPES

SELF-SEAL SELF-CURING TAPE



SELF SEAL it's a self-curing tape made of silicone rubber suitable for immediate application before using the tape **SELF SEAL**, or as is in less severe applications. A taut wrap around the leaking pipe allows for easier and faster repair, thanks to the self-amalgamating properties of the rubber. A wooden wedge or a screw can be used in conjunction with **SELF SEAL** for larger holes.

Technical data

Color	Blue
Resistant to	Oil, water, ozone and most chemicals
Max Temperature	260°C
Applications	Tool insulation, protection of cables and electrical terminations, insulation of spirals in motors and generators, protection of electrical connections, pipe repair

FLANGE SEAL FLANGE COVER TAPE

FLANGE SEAL it's a revolutionary system to replace flange covers in a wide range of applications, eliminating the need to maintain large inventories of different sizes for different flange sizes.

Technical data

Color	Grey
Resistant to	Oils, water, ozone, most chemicals
Max Temperature	260°C
Applications	Prevention of harmful splashes and mist formation from defective pipe joints

GF - HD FIBERGLASS PUTTY (HIGH DENSITY)

Pre-dosed molecular polymer compound of new conception, based on microparticles of glass fibre, created by directly inserting the catalyst into the molecular matrix and thus forming a stick which, cut to the desired size and manipulated with the fingers, allows to obtain a paste that hardens perfectly in a few minutes.

Can be used for repair and reconstruction of synthetic parts, with the exception of polyalphaolefins and fluorinated parts, and for operations Repair under water or in a humid environment of metal parts, where normal polymers cannot act.

Technical data

Pot life at 20°C	20 minutes
Specific weight	2.45 g/cm3
Polymerization time	min 1 hour - max 24 hours
Operating temperature	- 35°C ÷ +120°C

LEAK-3 SEALING PASTE ONLINE

LEAK-3 Sealing Paste it's a revolutionary compound capable of reducing or completely eliminating fluid loss with a very simple gesture.

Technical data

Color	Dark amber
Resistant to	Water, hydrocarbons
Max Temperature	70°C
Applications	Low pressure leak sealing; Surface waterproofing.

TECHNICAL MAINTENANCE PRODUCTS *Overview*

It doesn't matter how much a lubricant or cleaner costs. It matters how much you will spend annually on lubricants or cleaners to achieve the same result.

The world of chemicals for industrial applications is seemingly boundless. The range spans across different combinations of efficiency, convenience, environmental impact and operator safety.

We have always promoted the culture ofproductive maintenanceusing high-tech chemical products, aimed at obtaining the highest degree of effectiveness without ever compromising their environmental impact or on operators.

What makes us stand out in the market is its wide range of products that candramatically reduce maintenance costs in daily industrial operations, while improving working conditions for the people involved. The philosophy behind the formulation of our products is: the better the product, the fewer applications are required to achieve the intended purpose. Fewer applications mean less product consumed, less pollution, less waste and less work.

We focused onlow environmental impact alternativessince its founding decades ago, when environmental regulations were still very lax. As regulations become more stringent, the need to optimize maintenance costs becomes more critical to offset reduced margins in various markets. Using clean, cost-effective maintenance products is the best way to create value while reducing the overall environmental impact of operations.

SPECIAL PRODUCTS

CUTTING OIL

Highly lubricating and coolant fluid for easy cutting, drilling, tapping and general machining of all ferrous and non-ferrous metals. Adheres to the tool surface. No fumes.

Characteristics	Applications
Full lubricant	• Cutting, tapping, machining of all metals
Refrigerant	
Universal use	
It doesn't drip or leak	
With EP additives	
Protects from corrosion	

GAS LEAK DETECTION

Liquid for quickly and effectively detecting any leaks from pipes, fittings and flanges. Suitable for oxygen, fuel gas, tanks and compressed air systems.

Characteristics	Applications
Usable on all fluids	• For pipes, fittings and flanges of all sizes.
Non-flammable	
Instantly visible	
Non-polluting	
Easy to use	

ANTI-SEIZE WITHOUT METALS

Suspension of non-metallic microparticles with high surface resistance and special EP additives capable of resisting temperatures up to 1800°C, very high pressures, chemical attacks and humidity.

Characteristics	Applications
Fully synthetic base	• Prevents self-welding, corrosion and seizing of bolts and nuts in any environment.
Contains no metals	
Effective up to 1800°C	
Usable on all metals	
Protects against corrosion	
Seal	
Prevents self-welding	

ANTI-SEIZE WITHOUT METALS FG

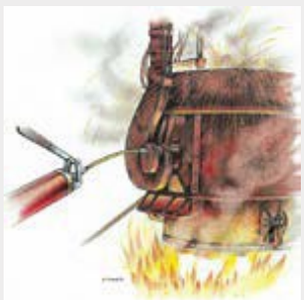
Lubricating compound certified for use in food systems, containing special non-metallic particles capable of resisting high temperatures, high pressures and chemical attacks.

Characteristics	Applications
Non-toxic certified	• Prevents self-welding, corrosion and seizing of bolts and nuts in factories food.
It does not carbonize	
Effective up to 1450°C	
Protects against corrosion	
Prevents self-welding	
Usable on all metals	

METAL PLUS

Anti-seize and lubricating compound based on microparticles of pure lamellar copper, corrosion inhibitors and EP additives.

Characteristics	Applications
Pure laminated copper	• Contains no nickel or other harmful substances. Prevents seizure of soft metals.
Effective up to 1100°C	
Anti-seize	
Extreme Temperature Lubricant	
Protective	
Contains no nickel or other harmful substances	



MOLD RELEASE AGENT

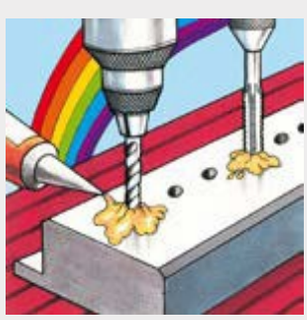
A highly concentrated silicone compound for easy release during molding of plastic, rubber and other synthetic materials. Minimizes waste, improves surface finish and reduces production time.

Characteristics	Applications
Highest number of detachments	• Rubber and plastic injection, hot stamping.
Protects steel molds	
Better finishing of printed parts	
Less waste	
Increase in production	
High concentration of active agent	

ULTRACUT

Fully synthetic fluid for cutting, drilling and tapping of ferrous metals, stainless steels and alloys. Completely free of toxic solvents, environmentally friendly and does not release harmful vapors. Biodegradable and safe. Highly efficient and reliable.

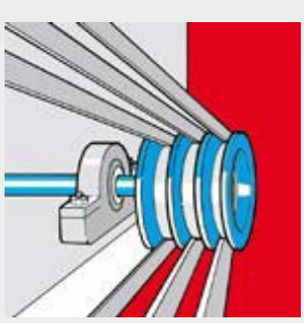
Characteristics	Applications
Not dangerous	• Cutting, machining and turning of all types of metals.
Very effective	
Non-flammable	
It does not produce smoke	
For all types of metal	
Safe for operators	



ULTRAGRIP

Prevents slippage of transmission belts of any shape and material, maintains constant tension, protects them from cracking and hardening. Does not form deposits or lumps and does not stain.

Characteristics	Applications
Prevents slippage	• Increases and maintains drive belt grip, drive belt protection
Increases traction capacity	
Keeps tension constant	
Does not stain	
Protects against aging	
Water repellent	
For all types of straps	



LUBRICANTS

ULTRASOL

Penetrating fluid of vegetal origin with high solvent power. Quickly frees nuts, bolts and any other mechanical part from rust and oxidation, subsequently leaves a protective film. Does not contain chlorinated solvents.

Characteristics	Applications
Quick release	• Rust remover for loosening bolts, nuts and other metal parts blocked
Penetrates deep	
Super fast action	
Contains no acids	
Protective and anti-corrosive	
FG version available	

LUBRICANT AND CLEANER FLUID

Semi-synthetic oily compound of extreme lightness and purity. Penetrates the tightest tolerances, cleans and coats surfaces with a lubricating and protective film.

Characteristics	Applications
Low surface tension	• Light, clean multipurpose fluid for all industrial uses.
Penetrates into tight tolerances	
Cleansing action	
Excellent lubricant	
Contains EP additives	
Inhibits corrosion	

LUBRICANT FOR TRANSMISSION CHAINS

Penetrates and lubricates deeply the pins and bushings of transmission chains, even when subjected to extreme loads. Inhibits corrosion, protects against humidity, facilitates sliding. Also suitable for lubricating wire ropes.

Characteristics	Applications
Low surface tension	• Lubrication of all types of drive chains.
It doesn't thicken	
Protects against corrosion	
It remains effective over time	
Contains EP additives	
Two-stage treatment	

HT LUBRICANT GREASE

Multipurpose lubricating grease for high temperatures. Effectively resists oxidation, high loads, high and low speeds. Dropping point free, contains corrosion inhibitors.

Characteristics	Applications
Withstands extreme loads	• Lubricating grease for high temperature applications
Effective from -25°C to +220°C	
Contains EP additives	
Resists oxidation	
Stabilized against oxidation	
Inhibits corrosion	

HT MOLY SYNTHETIC LUBRICANT

Totally synthetic. Leaves no carbon or ash residue. Lubricates at very high temperatures (+450°c) thanks to molybdenum disulfide. Resists extreme pressure. Performs a powerful cleaning action.

Characteristics	Applications
Contains molybdenum disulfide	• Lubrication at extreme temperatures; dry lubrication even at higher temperatures.
Effective from -35°C to +450°C	
Leaves no residue	
It has a cleansing action	
Contains EP additives	

MOLY PLUS

Lubricating, anti-seize and protective compound based on molybdenum disulfide. Contains special EP and synthetics. For temperatures up to 450°C. Facilitates the assembly and disassembly of mechanical parts and, at the same time, protects the lubricated parts from wear.

Characteristics	Applications
Contains no metals	• All metal-to-metal connections. • Prevents seizure and corrosion
Effective up to 450°C	
Complies with MIL-M-7866 AB specifications	
Highly lubricating	
Anti-seize	
Protective	

PTFE COATING

Dry, clean and pure PTFE coating. Adheres strongly to the substrate. Minimizes friction on any porous and non-porous surface. Resistant to water and aggressive chemicals. Easy to apply.

Characteristics	Applications
Resists abrasion	• Clean and dry release agent • Improved friction properties in hoppers, chutes and sliding surfaces scrolling
Reduces friction	
Clean and dry	
For any surface	
Excellent release agent	

WHITE PTFE GREASE

Blend of pure refined mineral grease, non-toxic synthetic greases and micronized PTFE. For the safe lubrication of moving parts in food, pharmaceutical and textile plants. Resists water, steam and acid fumes. Does not harden or drip.

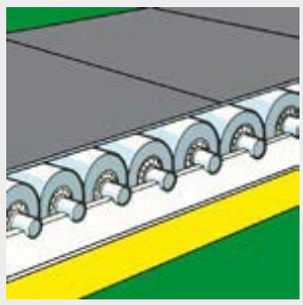
Characteristics	Applications
It does not harden	• For accurate lubrication of moving parts in the food, pharmaceutical and textile industries
Semi-synthetic	
Resists high temperatures	
Odorless and tasteless	
Does not stain	
Non-toxic certified	

LUBRICANTS + COATINGS

SILICONE LUBRICANT

Highly concentrated silicone fluid for lubricating plastics, rubber and various synthetic materials. Waterproofing and release agent. Does not stain or dirty. Effective at extreme temperatures.

Characteristics	Applications
High percentage of pure silicone	• Lubrication of plastic, rubber and various synthetic parts.
Lubricates and protects	
Waterproofing and water repellent	
Does not stain	
Non-toxic and safe	
Effective from -40°C to +220°C	



SYNTHETIC LUBRICANT

Fully synthetic fluid. Leaves no carbon or ash residue. Lubricates at very high temperatures and in severe situations. Resists extreme pressure. Powerful cleaning action.

Characteristics	Applications
Contains synthetic EP additives	• Lubricates at high temperatures and high pressures, when required in large volumes.
Effective from -35°C to +280°C	
Cleansing action	
Leaves no residue	
Universal	
Economic	

ULTRAFLEX

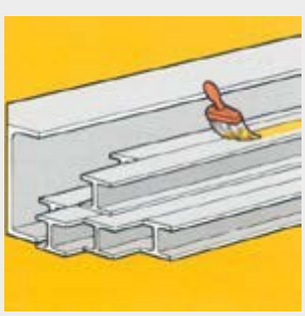
Surface lubricating treatment for transmission chains, wire ropes and gears. Renews the lubricating layer at each rotation, does not drip, is not washed away by water. Does not contain graphite.

Characteristics	Applications
Lubricating fluid with EP additives	• Lubricates chain drives, wide ropes and gears. • Particularly suitable for railway switch plates.
Adhesive	
Protects against corrosion	
Water repellent	
Resists chemical fumes	
Easy to apply	

COLD GALVANIZING

Galvanic protection of all ferrous metals. Fast, safe galvanizing with long-term protection. Does not crumble, does not flake, remains elastic over time.

Characteristics	Applications
Effective electrochemical galvanizing	• Long-lasting galvanic coating for all ferrous metals.
Excellent base	
Ideal for touch-ups	
Prevents galvanic corrosion	
Resists temperatures up to 120°C	
Flexible	



ANTI-RUST PROTECTIVE COATING

Protects against corrosion, rust and oxidation without the need for painting. Forms an elastic, waterproof and self-repairing layer, does not require special preparation of the metal surface to be protected, easily removable.

Characteristics	Applications
Protection for 2+ years	• Coating and protection of metal parts subject to rust and oxidation.
Easy to apply and remove	
Without background preparations	
Transparent amber	
Complies with MIL and C-16173D specifications	
Water repellent	

ANTI-HUMIDITY COATING

Generates an extremely thin semi-oily protective film. Eliminates moisture, prevents rust and corrosion, penetrates even the smallest tolerances.

Characteristics	Applications
Low surface tension	• Coating and protection of surfaces from humidity.
Penetrates and lubricates	
Short-term anticorrosive	
High dielectric strength	
Complies with MIL specification C-16173D, Grade 3	
Easy to remove if needed	

RUST TRANSFORMER

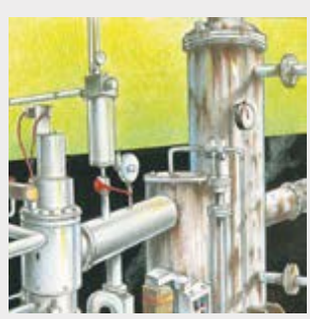
Able to transform iron oxide (rust) into an inert salt through an electrochemical process. Creates an ideal base for primer adhesion, eliminating the need for expensive and dangerous methods such as sandblasting, scraping and treatment with strong acids.

Characteristics	Applications
Transforms rust into an inert substance	• Quick and easy treatment of rusted and oxidized metal parts
Very high coverage	
No need to rinse	
Very easy application	
Avoid environmental contamination	

ULTRASTEEL

Protective coating based on pure stainless steel. Creates a layer with very high chemical, mechanical and thermal resistance on any metal or non-metal surface. Prevents the onset of corrosion, even in highly aggressive environments.

Characteristics	Applications
Long-term protection	• Long-term protection against corrosion and scale in aggressive and high-temperature applications
Resists up to 500°C	
It doesn't crack	
Resists chemical attacks	
Easily applicable anywhere	



DETERGENTS

PAINT AND CARBON DEPOSITS REMOVER

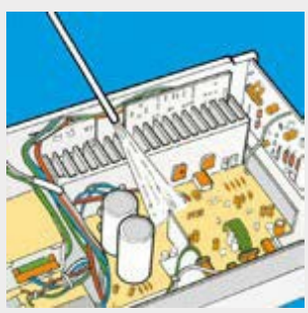
Solvent with very high decarbonizing activity. Breaks carbon bonds. Solubilizes sludge, pitch, old, tenaciously adherent paints.

Characteristics	Applications
Does not contain phenols	• Removal of combustion deposits, grease and carbon sludge trapped inside engines, carburetors, valves and electric motor casings.
It is not corrosive	
Very slow evaporation	
Economic	
Can be diluted	

ELECTRICAL CONTACT CLEANER

Fast evaporating synthetic detergent for cleaning electrical and electronic equipment. High purity, virtually residue-free, totally non-flammable. Non-harmful or toxic.

Characteristics	Applications
Non-flammable	• Removal of grease, dirt and dust from electrical and electronic equipment electronics
Very high dielectric strength	
Rapid evaporation without residues	
Leaves no residue	
Effective and penetrating	



ELECTRIC MOTOR CLEANER

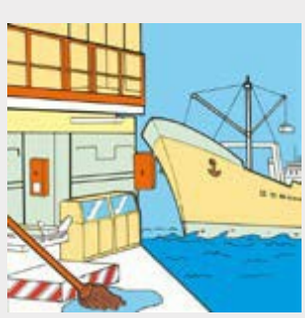
High dielectric strength degreaser for cleaning motors, transformers and other electrical equipment. Non-conductive, non-corrosive, leaves no greasy residue, contains no harmful solvents or other pollutants.

Characteristics	Applications
Low conductivity	• Cleaning and degreasing of electric motors, generators, air conditioners, fans, transformers and tools.
Inexpensive	
Safe for the user	
Quick cleaning action	
High flash point	
Eco-friendly	

INDUSTRIAL NAVAL SOLVENT

Highly concentrated alkaline detergent, effective on inorganic dirt. Contains no toxic solvents, non-flammable, mild anti-corrosion effect. Low foaming.

Characteristics	Applications
Extremely versatile	• Quick and effective cleaning of industrial machinery, floors, pumps, ducts, ship bilges, superstructures.
Contains no toxic solvents	
Anti-rust action	
Non-corrosive	
Quick cleansing action	
Extremely economical	



INDUSTRIAL DEGREASING DETERGENT

Heavy duty solvent cleaner. Quickly removes and dissolves sludge, tar and grease. High flash point (over 65°C). Low evaporation coefficient.

Characteristics	Applications
Very fast action	• Maintenance and cleaning of all machinery and equipment in the sector industrial and naval.
Odorless	
Slow evaporation	
Non-polluting	
High flash point	
Economic	

MULTIPURPOSE CLEANER

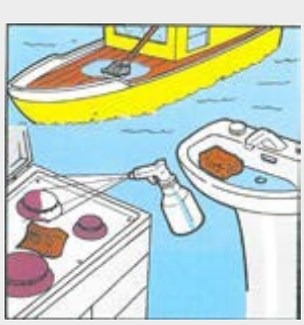
Degreaser for metal parts. Quickly removes dirt and even heavy grease and sludge encrustations. Leaves a light protective film.

Characteristics	Applications
Non-polluting	• Versatile, low-cost solvent to replace chlorinated hydrocarbons.
Effective	
Low volatility	
Does not induce corrosion	
High flash point	
Economic	

PHOSPHATE-FREE CLEANER

Highly concentrated alkaline detergent specifically designed to clean even the most stubborn organic dirt: does not contain polluting phosphates, toxic solvents or dangerous ingredients. Biodegradable and versatile.

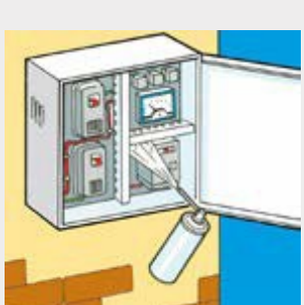
Characteristics	Applications
Biodegradable	• Safe and ecological detergent for organic dirt in the civil sector (hospitals, schools, restaurants, supermarkets) and industrial sector (food, zootechnical, maritime).
Concentrated	
Effective on organic dirt	
Versatile	
Does not contain solvents	
Economic	



SAFETY SOLVENT

Degreaser and rapid cleaner for electrical and mechanical equipment. Non-flammable, contains corrosion inhibitors. Fast evaporation, high dielectric strength. Leaves no residue.

Characteristics	Applications
High flash point	• Cleaning of electrical equipment, motors, switches, relays. Replacement of oil-based products for cold and complete cleaning of mechanical equipment.
Fast evaporation	
High TLV	
Stabilized	
Non-corrosive	
High dielectric strength	



DETERGENTS

SUPER RUST REMOVER with inhibitor of corrosion

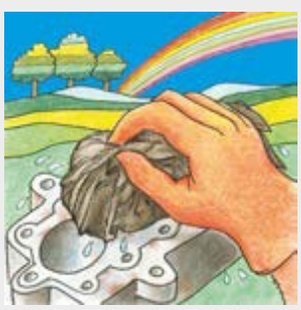
Rapid dissolver of rust, corrosion and scale. Removes deep oxidation from all ferrous metals, providing temporary protection from corrosion. Also effective against organic and inorganic dirt.

Characteristics	Applications
Removes rust	• Removal of rust from ferrous materials such as copper, aluminum, brass and bronze; preparation of surfaces for painting or electroplating.
Provides temporary protection	
Effective cleansing action	
Does not corrode metals	
Diluted with water	
Convenient	

ULTRACLEAN TYPE C - TYPE D

Cleaning, degreasing and deodorizing fluid for all industrial and civil cleaning. Of vegetal origin, completely biodegradable but highly effective. Harmless to people and the environment. Usable as a replacement for chlorinated, petroleum or caustic solvents.

Characteristics	Applications
Of plant origin	• Safe and eco-friendly cleaner to remove dirt, grease, oil and wax in all industrial applications.
Detergent and degreaser	
100% biodegradable	
Does not develop foam	
Harmless to people and the environment	
- Contains no phosphates	



ULTRA METAL SYSTEM *Overview*

High-tech polymer compounds for repair, reconstruction and protection of metal and non-metal parts, subject to corrosion, erosion, chemical attacks, abrasions.

Made with appropriate mixtures of resins obtained by reaction of epichlorohydrin epoxide Pm < 700 and metallic, mineral and synthetic fillers, they allow maintenance interventions that are as rapid as they are effective and long-lasting.

Any metal structure can be completely renovated, rebuilt and made even more resistant than the original using one of the “Ultra Metal System” metal polymer compounds.

Thanks to their insulating properties, they are also able to eliminate corrosion and electrolytic and pitting pitting from all equipment.

ULTRA METAL SYSTEM

PHYSICAL PROPERTIES

TYPE	COMPOSITION	COLOR DRIED	RELATIONSHIP MIXING % weight resin	RELATIONSHIP MIXING % weight hardener	RELATIONSHIP MIXING % volume resin	RELATIONSHIP MIXING % volume hardener	POT LIFE At 20°C (min.)	SPECIFIC WEIGHT OF THE MIXTURE g/cm3	TEMPERATURE OPERATIONAL FROM/TO	HARDENED TIME-CHIN (in hours) hand strength-population	HARDENED TIME-CHIN (in hours) hardness final
AL-P	80% aluminum - 20% resin	Aluminum	100	20	4.5	1	60	1.6	- 35°C; +120°C	16	24
AL-L	80% aluminum - 20% resin	Aluminum	100	14	4	1	60	1.45	- 35°C; +120°C	16	24
TI-P	80% titanium - 20% resin	Grey	100	33	-	-	120	1.61	- 35°C; +200°C peaks +260°C	-	48
ST-HT	80% steel - 20% resin	Dark grey	100	100	1	1.3	30	2.34	- 35°C; +200°C peaks +280°C	12	24
FAST	80% steel - 20% resin	Dark grey	100	13	2.5	1	5	2.6	- 35°C; +90°C	3	6
FLEX-Y	100% polyurethane resin	Colorless	-	-	-	-	depending on of my-choice, min. 30'	0.97	- 35°C; +95°C	Depending on the relationship of mixing	
THERE IS - WRW	80% zirconium oxide - 20% resin	White	100	33	-	-	120	1.59	- 35°C; +200°C peaks +260°C	-	48
CE-P	80% ceramic/steel - 20% resin	Dark grey	100	25	3.5	1	45	1.67	- 35°C; +120°C	16	24
CE-L	80% ceramic/steel - 20% resin	Black	100	15	2.8	1	45	2.3	- 35°C; +120°C	16	24
CE-SR	80% ceramic/steel - 20% resin	Blue	100	15	3.5	1	40	1.8	- 35°C; +180°C	16	24
ST-P	80% steel - 20% resin	Dark grey	100	10	4	1	60	2.9	- 35°C; +120°C	16	24
ST-L	80% steel - 20% resin	Dark grey	100	7	4	1	60	2.75	- 35°C; +120°C	16	24
ST-HD	50% steel - 50% resin	Dark grey	-	-	-	-	5 -10	-	- 35°C; +120°C	0.5	24

AL-P ALUMINUM PASTE

Metallic polymer compound for repair, protection and reconstruction of aluminium and light alloy parts in general. Based on aluminium microgranules treated with a special surface agent, capable of ensuring a perfect and homogeneous dispersion in the carrier resin. Ideal for sealing holes and repairing damage on molds, on die-cast parts, on various aluminum parts.

AL-L LIQUID ALUMINUM

Polymeric compound of fluid consistency, consisting of aluminum microgranules dispersed in epichlorohydrin resin, specific for aluminium and light alloy parts. Thanks to its high fluidity, it penetrates into the smaller porosity of the metal same. It is used to make prototypes and casting models, to block metal parts, in ultrasonic welding machines.

TI-P/TIW-P TITANIUM PASTA

Metal-ceramic polymer compound for repair and reconstruction of metal parts. The special fillers based on pure Titanium and the newly developed binding resin make this product ideal for applications where a material with very high resistance to compression combined with excellent chemical resistance is required. Ideal for the reconstruction and repair of pump bodies, bearing seats, drive keys, impellers, shafts or bushings; also for the complete anti-corrosion coating of pumps, valves or other components, even vertically.

ST-HT STEEL PASTE *High temperatures*

Special polymer compound consisting of steel microgranules transported with a resin with a “cross-linked” structure resistant to high temperatures. Can be used for all repair operations on systems operating at high temperatures such as pumps, valves, pipes and gate valves. Often used also to create models and prototypes, to seal and repair microporosities and blowholes. It can be applied at temperatures up to 200°C continuously and up to 280°C for short periods.

FAST QUICK HARDENING STEEL

Metal compound forfast repairs of any metal surface. Thepolymerization time, extremely fast, allows it to be used for quick maintenance operations on leaks in pipes, pump bodies, and gear boxes. It is certainly an indispensable tool for modern industrial maintenance even if, due to its more modest physical-chemical characteristics, it should always be subsequently protected with another appropriate polymer compound.

FLEX-Y ELASTIC ADDITIVE

Flex-Y is a special polyurethane catalyst which, when used in place of the normal catalyst with CE-P and ST-P,transforms molecular compounds, normally of high hardness, into material of elastic consistency. The flexibility of these can be varied by using more or less catalyst, until obtaining a consistency similar to that of a tire. This material is irreplaceable in the creation ofsurfaces resistant to impacts and mechanical shocks.

CHEM-L CHEMICAL RESISTANT COATING

Liquid Two-component polymer compound based onethoxy resins loaded with silicates and stabilized with silicones.

Suitable for resurfacing, protecting or repairing iron, cement and concrete surfaces such as pump casings, tanks and industrial floors. It can be applied and will adhere towet or humid surfaces at low temperatures. Offers an extremely wear and chemical resistant surface that will also withstand abrasion and pressure impacts as well as chemical attack.

CE-WRW SUPER RESISTANT CERAMIC PASTE ABRASION

Polymer compoundsuper ceramic paste based on pure titanium dioxide,for protection fromabrasion and erosionon metal surfaces. Thanks to its high viscosity, it can be used oninclined, vertical or even suspended surfaces. Featuring excellent chemical resistance andwhite color, finds ideal application on any material where classic anti-abrasion coatings are not acceptable due to the dark colour and the possibility of its release.

CE-P METAL-CERAMIC PASTE

Compound polymer metal ceramic for repair, reconstruction and protection of any metal surface subject to strong erosive, corrosive and abrasive actions. Formulated with a high percentage of metal-ceramic particles finely dispersed in a special resin with high chemical-physical resistance, it can be advantageously used to restore parts or to create an abrasion-resistant surface. Added with the special **Flex-Y**, polyurethane hardener, becomes able to absorb vibrations and shocks.

CE-L CERAMIC METAL LIQUID

Compound polymer metal-ceramic with fluid consistency for repair and protection of all metal surfaces subject to strong abrasion and erosion. Formulated with a high percentage of metal-ceramic microgranules and a resin with high chemical-physical resistance, it is used for repair damaged parts or to provide a abrasion resistant surface. With the special polyurethane-based Flex-Y hardener, it allows you to create an elastic surface, which guarantees a longer life than new material. Easy to apply with a roller or brush.

CE-SR SUPER-RESISTANT LIQUID CERAMIC ABRASION

Fluid superceramic polymer compound for the protection from heavy abrasion and erosion phenomena of metal surfaces of pump bodies, bearings and bushings, pipes, elbows, impellers, valves. Of great surface hardness, it cannot be worked with traditional tools being zirconium oxide based, which gives it excellent resistance characteristics against abrasion and corrosion and an equally excellent mechanical strength. It can be applied by brush, with reduced polymerization times.

ST-P STEEL PASTE

Pasty consistency compound made with extremely fine steel powder pre-treated with a special “bonding agent”, mixed with polymer resin and corrosion inhibitors. Especially suitable for repair, reconstruction and protection of all metal parts. It is used to eliminate corrosion and holes on tanks, pipes, pump bodies, machine parts. It can be advantageously used on all types of metal, including stainless steel, thanks to the high dielectric strength which does not allow galvanic corrosion phenomena.

ST-LLIQUID STEEL

Polymer compound offluid consistency, made of extra fine grain steel, treated with a special “joining agent” and mixed with resin and corrosion inhibitors. Particularly suitable for repairing surface damage to metal parts, for the creation ofmodels and guide molds, for sealing microporosities and bubbles in printed parts. Ideal as a locking agent in the positioning of machine tools. Its high dielectric strength does not allow the emergence of electrolytic corrosion phenomena.

ST-HDSTEEL PUTTY*high density*

A new concept of pre-dosed molecular polymer compound, based on steel microparticles, created by directly inserting the catalyst into the molecular matrix and thus forming a stick which, cut to the desired size and manipulated with the fingers, allows for obtaining a paste thatIt hardens perfectly in a few minutes. Can be used for quick repairs or reconstructions of metal parts in steel, iron, cast iron.