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SANITARY CATALOGUE

FOR FOOD & PHARMA INDUSTRIES



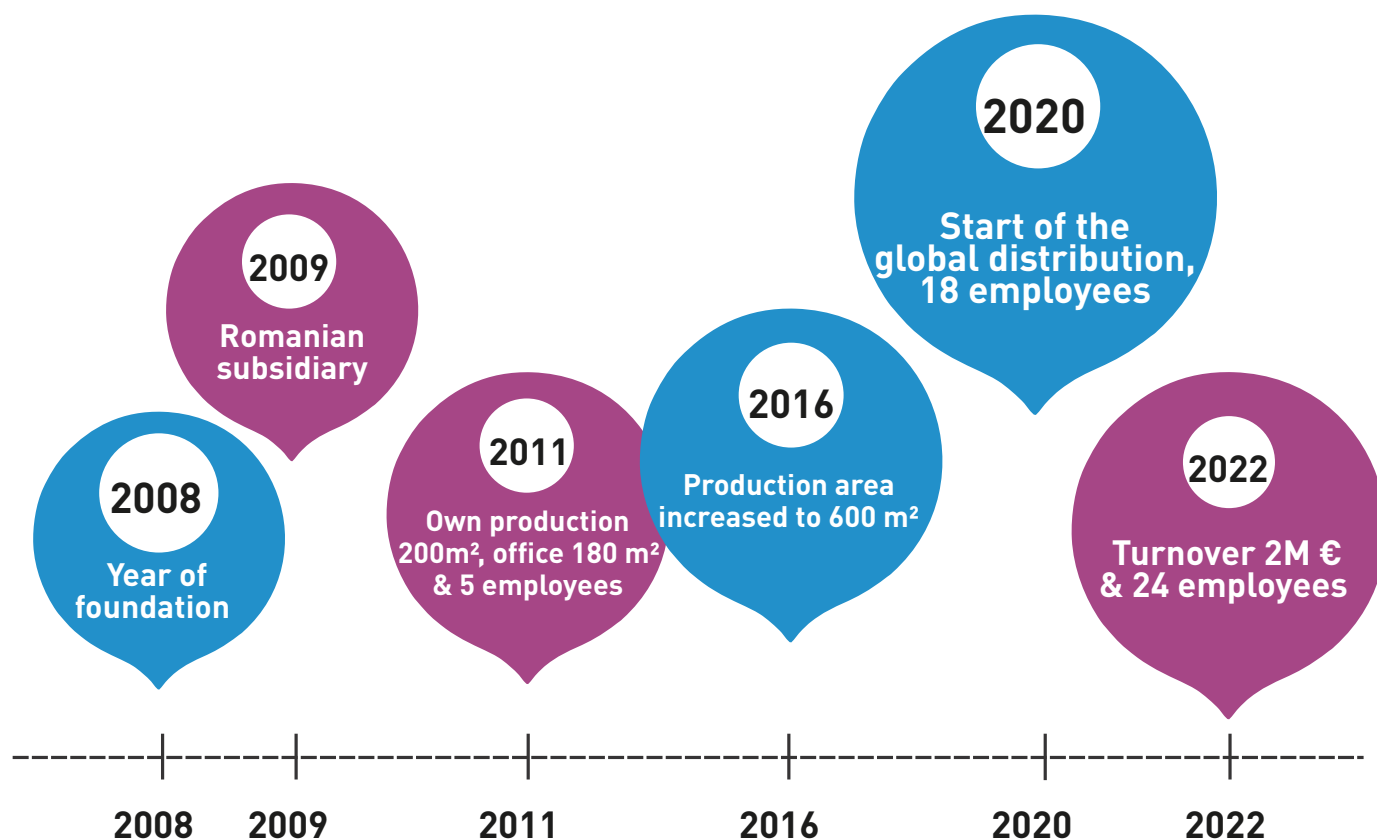
DYNOTEQ
Dynamic Technology

About us

Our mission is to ensure that we provide the right service, solution and product at the right time to minimize our clients' operational costs. We don't want to be the biggest, but we do want to be the best in all we do, offer and supply.

"The reward for job well-done is the opportunity to do more... is what drives us." Karoly Feher, CEO.

Our Milestones



Dynoteq Ltd. has been operating since the year 2008 as a 100% Hungarian-owned family business. We deal with the distribution and manufacturing of special sealing products as well as the thermal insulation materials. We have been dealing with sealing technology since 2004, so we have some 18 years of experience in this field.

We consciously built and build our company around industrial activities. Our goal is to serve the ever-increasing and changing needs effectively. We carefully examine all problem areas or applications to provide our costumers with the most suitable product, thus providing the best solution.

Our range of products and service is build by our costumers' diverse needs. We advise and consult our costumers in any aspect to cover the demands of the end-user in any industry. We are application driven and can with our flexible approach meet almost any material requests.

Sanitary gaskets

PTFE/FKM Tri-Clamp Gaskets

Advantage & Properties

Sanitary tri-clamp gaskets are used to make a secure, leak-proof connection between clamp fittings. A variety of materials are available for selection depending upon medium used inline processing. The compounds meet current requirements for pharmaceutical use.

Tri-clover Clamps are quality-based clamps that are easy to assemble and breakdown and are ideal for short term process lines and equipment.

Compounds & Product specs

EPDM

Platinum Silicone

FKM

PTFE

Tri-Bond® (PTFE bonded to elastomer)

Steam-Flon® (PTFE with stainless steel powder)



Standards & Certificates

DIN32676 series A, B, and C

DIN32676 (Series A)

ISO1127 (DIN32676 Series B)

ASME BPE (DIN32676 Series C)

ISO2852

SMS3017 pipe SMS3008

ASME BPE Category I & II

Applications

Food, Dairy, Beverage, Biotech, Pharmaceutical and many other Sanitary Process industries to seal clamp connections in sanitary pipe lines.

Tri-Bond® Gaskets

Advantage & Properties

With bounded elastomer and the PTFE in Tri-Bond® you get the full use of the flexibility of the elastomer, but with the full protection of the PTFE. The thin PTFE lining on the outside takes care of the chemical resistance of the gasket while the flexible elastomer inside covers its sealing capabilities. With envelopes there will always remain an inconsistency between the two material, leading to creep and cold-flow.

Compounds & Product specs

PTFE + FKM substrate, CMD-1020

PTFE + EPDM substrate, CMD-1061



Standards & Certificates

ASME BPE MINI

DIN32676-A+C DN MINI

DIN32676 Serie C (ASME BPE)

Type-I

SMS3017/ISO2852

Type-I

DIN32676 Serie A

Type-II

DIN32676 Serie B (ISO1127)

Type-II

Tri-Bond® Biological Compliance:

Meets: USP Class VI-121°C

Meets: USP <661>

Meets: EC 10/2011

Meets: FDA CFR 177.1550

Certified TSE/BSE free (EME/410/01)

Applications

Pharmaceutical, Beverage, Biotech. Eliminating envelop inconsistency between different material make Tri-Bond® the ultimate pharmaceutical gasket.

Steam FLON Gaskets

Advantage & Properties

A unique blend of non-pigmented PTFE and 316L stainless steel powder takes the cold flow (CF) out of the equation, creating a very stable seal with no leaks even at large temperature fluctuations. CF is the term we use for the movement of plastic under permanent load/stress, a state that is common with static seals (e.g. virgin PTFE gaskets) and it increases at elevated temperatures. Ideal material for sanitary gaskets and some other innovative products.

Compounds & Product specs

Non-pigmented **PTFE** and 316L stainless steel powder.
Deformation under Load 14 MPa - 24 hrs @ 23°C = 5%
For standard PTFE it is Deformation under Load 14 MPa - 24 hrs @ 23°C = 15%

Applications

Especially recommended for usage at sanitary gaskets and pipelines for: **Pure Steam (SIP)**, **Cleaning in place liquids (CIP)** **Connections with hot oil inside (Food)**.



Standards & Certificates

DIN32676

ISO1127 (DIN32676 Series A, B, C)

Steam-Flon[®] Biological Compliance:

Material: PTFE/316L Compound number CMD-1019,

T° range -212°C to 288°C

Meets: USP Class VI-121°C

Meets: USP <661>

Meets: EC 10/2011

Meets: FDA CFR 177.1550

Screen Gaskets

Advantage & Properties

High-performance screen gaskets made from standard screen material 316SS or one of the validated compounds (see the list below) that we use for our standard Sanitary Gaskets range. Our screen gaskets are not used in the same way as conventional filters and they only have one layer so they can not be considered the same as a filter.



Compounds & Product specs

CMD-1004 EPDM black

CMD-1010 FKM black

CMD-1012 Platinum Silicone Translucent

CMD-1028 PTFE white

CMD-1019 Steam-Flon

Sizes:

1/2" through 6" (TC 25 -TC 167)

DIN32676 A, B, C same TC diameters

Applications

Conventional filters are built differently and have many layers to prevent particles to pass through. With a conventional filter, the second or third layer will prevent the particle to pass.

Standards & Certificates

DIN32676 series A, B, and C.

ISO1127 (DIN32676 Series B)

ASME BPE (DIN32676 Series C)

ISO2852

SMS3017

DIN11851, 1864, 11853

SMS1149-L

Bs4825

Orifice plates

Advantage & Properties

Aiming at altering flow patterns in critical systems we offer a wide range of Orifice Plate gaskets (no holes, standard material 316 L electropolished on all plates). Each Orifice plate has a high-performance gasket made from one of the validated compounds that we use for our standard Sanitary Gaskets range. Passing through the orifice, fluids' pressure builds up slightly upstream of the orifice, but as the fluid is forced to pass through the hole, the velocity increases and the fluid pressure decreases downstream.

Compounds & Product specs

EPDM (CMD-1004)

Platinum Silicone (CMD-1012)

FKM (CMD-1010)

Virgin PTFE (CMD-1018)

Steam-Flon® (CMD-1019)

Sizes:

DIN32676 Reihe A, B and C

ASME BPE, ISO1127

ISO2852

SMS3017

Applications

An orifice plate is a thin plate with a hole in it, which is usually placed in a pipe. Most commonly known applications take place in **Pharmaceutical, Food and Biotech industries**.



Standards & Certificates

Meets: USP Class VI-121°C (CMD-1012 also EP 3.1.9)

Meets: EC 10/2011 (EC1935/2004)

Meets: FDA 177.2600 + FDA 177.1550 (PTFE)

Certified TSE/BSE (ADIF) free (EME/410/01)

Snap-On Gaskets

Advantage & Properties

Premium Silicone Gaskets, free of plasticizers or other additives that could leach into a drug product and cause toxicological issues. Silicone materials may be cured using free radical (peroxide) or addition (platinum) cure mechanisms. Due to easy handling: Silicone is highly flexible and tear-resistant, making it a good choice for sealing fluids in downstream processes. Platinum-cured gasket has a higher purity and lower leachability than peroxide-cured silicone.

Compounds & Product specs

CMD-1012 Compression Moulding compound
Translucent

CMD-1065 Compression Moulding compound White

CMD-1071 Liquid Injection Moulding compound
Transparent

CMD-1084 Liquid Injection Moulding compound White

Applications

Silicone is widely used in **pharmaceutical applications**. To make Silicone gaskets, there are two cure system options with silicones, with different characteristics, whose impact should be considered before selection.



Standards & Certificates

Meets : FDA CFR 177.2600

Meets : USP 35 Cytotoxicity Testing <87>

Meets : USP 35 Class VI-121°C <88>

Meets : European Pharmacopoeia 2013, 3.1.9

Conforms: ADIF (Animal Derived Ingredient Free)
BSE/TSE

Platinum Silicone Gaskets

Advantage & Properties

Gasket over-compression because of pipe misalignments is one of the most common problems we see daily. The elastomer we use in the Snap-On plastic ring will absorb the mechanical force that is needed to bring the two ferrules together. Even bringing the two ferrules together with an excessive amount of force will not destroy the elastomeric gasket and the gasket will be aligned with the size and evenness of the ferrule.



Compounds & Product specs

EPDM (CMD-1004)

Platinum Silicone (CMD-1012)

Ring: ULTRAMID® (BASF) Glass-filled Nylon 66 T° range -20°C to 150°C

Sizes: ASME BPE 1/2" - 3/4" - 1" - 1,5" and 2"

Colour identification

Dimension identification

Standards & Certificates

Meets: FDA USP Class VI-121°C (CMD-1012)

Certified: **TSE/BSE** (ADIF) free (EME/410/01)

Certified: **EC 10/2011** (EC1935/2004)

Certified: **FDA 177.2600**

Certified: **TSE/BSE** (ADIF) free (EME/410/01)

Applications

When you turn the wing-nut you will first compress the rubber material until the ferrule hits the plastic ring and creates a full stop. It is impossible to further (over-) compress the gasket. Utilizing the Snap-On will resolve big problems.

FEP/PFA Encapsulated 'O'-Rings and Seals

Advantage & Properties

Our manufacturing partner Vulcan Seals is a leading manufacturer of FEP/PFA Encapsulated 'O'-Rings and Seals globally.

We have the capacity to produce virtually any cross-section and diameter size or shape of seals, backed by a Stock Guarantee on the most common items and a short lead time on the rest. Carefully monitored in-house production and multiple levels of electronic inspection ensure high product quality and reliability.

Exceptional resistance to aggressive chemicals and gas permeability 'O'-Rings equipment.

Compounds & Product specs

Elastomer

FEP Encapsulation: Standard material for all applications up to 205°C, resistant to virtually all chemicals and joined by an advanced heat moulding process to give a seamless encapsulation.

PFA Encapsulation: Same properties as FEP encapsulation but with greater heat resistance for applications above 205°C. Also resistant to virtually all chemicals and joined seamlessly via advanced heat moulding process.

Applications

An Encapsulated 'O'-Ring is an 'O'-Ring bound by a seamless and uniform FEP/PFA encapsulation, which encloses an elastomeric core, completely protecting it from the media. They combine the energizing properties of an elastomeric 'O'-Ring with the resilience to extreme temperatures and hostile chemicals of FEP/PFA.



Standards & Certificates

Available upon request.

Encapsulated Kamlock™ Gaskets

Advantage & Properties

Vulcan Seals gaskets are produced to be the highest quality available in the market.

The rectangular cross-section inner core of silicone or Viton™ rubber is protected by an encapsulation of FEP, providing extreme chemical and high temperature resistance. We managed to eliminate common product issues found in the market, guaranteeing a consistent fit and reliable performance.

- » Minimal encapsulation-to-core gap - reducing the potential for encapsulation damage
- » Superior gasket flatness - ensuring even contact across the sealing surface
- » Smooth sealing surface - free from warps and kinks to ensure no potential leak paths
- » No need to specify different elastomer materials for different applications
- » Leak-free performance: low compression set and elastomer core energizer avoids cold flow leakage
- » Easy installation and maintenance due to the non-stick surface with low coefficient of friction
- » Superior seal for bulk liquid transfer couplings in manufacturing, distribution or storage
- » Elimination of coupling leakage from chemical attack or creep issues, unlike traditional solid PTFE gaskets
- » Exceptional chemical resistance - a cost-efficient replacement for FFKM seals for aggressive chemicals



Compounds & Product specs

Encapsulation: **FEP**
Inner core: **Silicone or Viton™**

White silicone elastomer:

T range -60°C (-75°F) to +205°C (+400°F)

Red silicone elastomer:

T range -60°C (-75°F) to +205°C (+400°F)

Applications

Encapsulated gaskets by Vulcan Seals for the universal sealing of cam and groove hose couplings. The white color is ideal for use in **pharmaceutical, hygienic and sanitary applications**, where red silicone may not be suitable.

Standards & Certificates

Sanitary, sterilizable & FDA/EC specification compliant encapsulation

Sanitary clamps

Stainless steel

Advantage & Properties

Excellent quality and consistent sealing. We emphasize the importance of the correct assembly of our gaskets. Making a good connection requires the correct gasket but also a solid quality clamp.

Compounds & Product specs

Material 304SS

Material 316SS

Applications

Made of stainless-steel Sanitary Tri-Clamps are being used on **systems, pipes and vessels** to close and secure connections tightly.



Standards & Certificates

Laser etched heat number for traceability.

Mill Test Report (USA) or **EN 10204 -3.1.**

Clamp shapes and sizes as per customer request.

Eazy-Clamp

Advantage & Properties

The Eazy-Clamp® only requires half a turn thus reducing the chance of repetitive strain injuries. Therefore the required torque can be as low as 1,5-2 Nm, which helps with a swift installation and making clamps last longer.

Compounds & Product specs

ASME BPE 1/2" through 6"

Flange OD sizes: 25 / 34 / 50,5 /

64 / 77 / 91 / 106 / 119 / 130 /

144 / 155 / 167

Material 304SS / 316SS / Ceramic

Applications

Designed for Tri-Clover clamps operations **connecting hoses, pressure gauges, sight glasses** and taking them apart again for cleaning.



Standards & Certificates

Endurance test : 20,000+ open/close cycles

Elasto-Clamp®

Advantage & Properties

The Elasto-Clamp® has an elastomeric bonded liner at the V-groove surfaces allowing for expansion and retraction movement thus maintaining force to keep the gasket closed (10 Bar @ 1.5Nm). Clamp secures gasket over-compression protection and prevents rubber to break.

Compounds & Product specs

25 mm flanges (1/2" -3/4") Part N. 13EC-050/075

50.5 mm flanges (1" - 1.5") Part N. 13EC-100/150

Applications

The elastomeric gasket in all its varieties is still the preferred **industry gasket in general** as it's flexible and it always seals.



Standards & Certificates

Available upon request.

Pinch valve

Advantage & Properties

The Pinch valve for tubing is made from the same glass-filled nylon and has the same operational features as our Pharma-Clamp®. This material is extremely strong and is stable during heat exposure and mechanical load. A tie-wrap can easily be installed while a locking device prevents unwanted opening during storage or transportation. The pressure is always low and therefore no excess of force is needed to stop the flow inside the tubing



Compounds & Product specs

CMD-1057 Nylon Glass Filled

Sizes:

Minimum tubing wall thickness is 2,40 mm maximum is 3,40 mm

Standards & Certificates

USP & FDA conformity

ASME BPE

DIN32676

Lot traceability

Applications

The Pharma-Clamp® can be exposed to 50kGy Gamma radiation and can be autoclaved and can **withstand up to 150°C**.

Pressure Gauge

Advantage & Properties

The gauge indicates pressure and is designed so operators could prevent the system getting pressurized. The housing is filled with liquid silicone oil, so we recommend to use a Gauge Guard Isolator gasket to prevent potential system contamination, in case of a gauge membrane rupture. Pressure gauge needs to be reliable, accurate and easy to read, helping prevent failure in everyday operations. Therefore, how a gauge is constructed and tested is extremely important for reliability, safety and peace-of-mind.



Compounds & Product specs

CMD-1028 PTFE (non gamma sterilization)

CMD-XXXX PP (under development)

Sizes:

3/4" MINI TC connection

1" -1.5" TC connection

Standards & Certificates

Available upon request.

Applications

Pressure gauges are crucial components of most processing systems. Our single-Use Pressure Gauges measure applied force by a fluid on a surface and vacuum with $\pm 15\%$ accuracy.

Pharma - Clamps

Advantage & Properties

The market for a Single-Use Systems is rapidly increasing. Cleaning a conventional stainless-steel vessel with all components is a difficult task, including a potential risk of cross-contamination from batch A to batch B, due by absorption of some of the build-in components.

We supply solutions built by new components, never exposed to any other drug before. These components are non-metallic and are usually cold sterilized by gamma irradiation.

We offer a method of better controlling the cleanliness of a production unit.

Compared to traditional non-metallic wing-nut executed clamps for single-use systems our Pharma-Clamps have many advantages:

- » only one way to close it so it can't be installed incorrectly
- » no installment adjustments required
- » compression & destruction of the gasket is literally impossible
- » withstanding 10 Bars of pressure without any problem

Compounds & Product specs

CMD-1057 Nylon Glass Filled

Sizes:

1/2" through 6" (TC 25 -TC 167)
DIN32676 A, B, C same TC diameters

The Pharma-Clamp® is available for Tri-Clamp flange sizes:

25 mm (3/4") / 50,5 mm (1" + 1-1/2") / 64 mm (2")
77,5 mm (2,5") / 91 mm (3") / 119 mm (4") / 167 mm (6")

The Pharma-Clamp® can be exposed to 50kGy Gamma radiation, can be autoclaved and can withstand up to 150°C

DN Size	Flange Size
1/2"	25.0 mm
3/4"	25.0 mm
1"	50.5 mm
1-1/2"	50.5 mm
2"	64.0 mm
2-1/2"	77.5 mm
3"	91.0 mm
4"	119.0 mm
6"	167.0 mm

Applications

Made from glass-filled nylon this material is **extremely strong and stable during heat exposure and mechanical load**. It's preferable choice for **Pharma, Food and Biotech industry**.



Standards & Certificates

USP & FDA

ADIF (Animal Derived Ingredient Free)

ASME BPE

DIN32676

Lot traceability

Disclaimer:

All testings are done by external institutes and re-confirmed by end-users. The competitive product is one of the leading producers. All information is based on years of experience in production and operation of sealing elements. However, in view of the wide variety of possible installation and operating conditions one cannot draw final conclusions in all application cases regarding the behaviour in gasket joint. The data may not, therefore, be used to support any warranty claims. This edition cancels all previous issues. Subject to change without notice.



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