EagleBurgmann®
Rely on excellence

Complete line of sealing products and services

EagleBurgmann at a glance.

- More than 130 years of experience in sealing technology
- More than 6,000 highly-skilled and highly-motivated employees
- Comprehensive range of products and services
- 250 locations and service centers in close proximity to our customers
- TotalSealCare – the modular seal service to meet the individual needs of our customers in any industry

Our products – as varied as our customers.

EagleBurgmann products deliver safe, reliable sealing performance in any application including oil pumping and cracking, gas compression, process gas containment, phase separation or synthesis of chemical substances, pipeline sealing, dairy product filling or compensation of temperature expansion in flue gas systems.

Our challenge is to design seals that are able to withstand a wide range of media, different aggregate states and varying pressure and temperature and to provide special solutions for small installations up to seal contact areas of several meters. Every application has its own special requirements profile, and our job is to provide the best sealing solution.

The EagleBurgmann portfolio: A product range with an unlimited horizon.

EagleBurgmann is one of the world's leading manufacturer of industrial sealing solutions. Our extensive portfolio is covering products from standard seals to one-off application-specific designs:

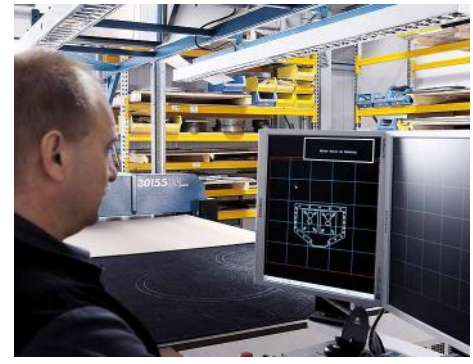
- Mechanical seals
- Magnetic couplings
- Seal supply systems
- Carbon floating ring seals
- Compression packings
- Gaskets
- Expansion joints
- Special products
- TotalSealCare Services

Total commitment to quality excellence.

Outstanding quality is the top priority at EagleBurgmann. Our products are designed for user-friendly installation, optimal functionality and long service life. Our R&D activities, advanced quality management system, in-house test facilities and profound engineering expertise ensure that our seals meet the most challenging customer expectations. Starting right back in the development phase, our employees continually verify the quality of our products, and we carry out systematic inspection and testing to guarantee that customers are getting utmost quality.

Proud of the confidence which our customers place in us.

EagleBurgmann is a dependable, competent partner. Our customers are always in total control of the media in their pumps, agitators, compressors, blowers, turbines, valves and pipeline systems even when operating conditions are extremely harsh. There is good reason why customers in the oil & gas, refinery, chemical, energy, food processing, paper, water, marine, aerospace, mining and other industries choose EagleBurgmann as their sealing solutions supplier.



Mechanical seals

Mechanical seals for pumps
EagleBurgmann offers a complete range of liquid and gas-lubricated pump shaft seals including standard and engineered seals in single and multi-seal versions. We also offer a complete range of solutions for all API 682 categories and arrangements. The portfolio includes a broad selection of material and surface technologies such as DiamondFace coatings.

Cartridge seals
- Easy to install
- Inboard/outboard variants
- For all standard modes of circulation
- O-ring, metal bellows and elastomer bellows seals
- Gas-lubricated versions
- Special versions, e.g. for sterile applications
- Split versions available
- Diameter: 20 ... 110 (250) mm *(0.79" ... 4.33 (9.84)")*
- Pressure: ... 42 (150) bar *(... 609 (2,175) PSI)*
- Temperature: –40 °C ... +220 °C *(–40 °F ... +428 °F)*

Elastomer bellows seals
- Compact design
- Straightforward installation
- Stationary and rotating designs
- Approvals: FDA, WRAS, KTW, ACS, W270, NST
- Diameter: 6 ... 100 mm *(0.24" ... 4")*
- Pressure: ... 16 bar *(... 230 PSI)*
- Temperature: ... +140 °C *(... +284 °F)*

Component seals
- Designed for universal applications
- Versions for high-viscosity media and media containing solids
- Versions for high-performance pumps
- Diameter: ... 400 mm *(... 16")*
- Pressure: ... 150 bar *(... 2,176 PSI)*
- Temperature: –50 °C ... +220 °C *(–58 °F ... +428 °F)*

Metal bellows seals
- For extreme temperature ranges
- For high-viscosity media and media containing solids
- Diameter: 16 ... 100 mm *(0.62" ... 4")*
- Pressure: vacuum ... 25 bar *(... 363 PSI)*
- Temperature: –100 °C ... +400 °C *(–148 °F ... +752 °F)*

Other sizes and engineered seals on request.

Typical applications:
Centrifugal pumps, positive displacements pumps, high-performance pumps, multi-phase and slurry pumps, circulation pumps, hydraulic pumps

Mechanical seals for agitators
Sealing solutions for normal and sterile applications. The design and selection of materials ensure that the seals are rugged enough to deliver excellent cost and engineering performance in all major applications.

Dry-running agitator seals
- Dry-running, contacting seal faces
- For steel and glass lined vessels
- DIN connections or according to customer request
- No seal supply system needed
- FDA-approved face materials
- Diameter: 25 ... 160 mm *(0.98" ... 6.30")*
- Pressure: vacuum ... 6 bar *(... 87 PSI)*
- Temperature: –20 °C ... +250 °C *(–4 °F ... +482 °F)*

Gas-lubricated agitator seals
- For steel and glass lined vessels
- DIN connections or according to customer request
- FDA-approved face materials
- Non-contacting operation
- Versions for sterile applications
- Diameter: 40 ... 220 mm *(1.58" ... 8.7")*
- Pressure: vacuum ... 6 bar *(... 87 PSI)*
- Temperature: -40 °C ... +250 °C *(-40 °F ... +482 °F)*

Liquid-lubricated agitator seals
- For steel and glass lined vessels
- DIN connections or according to customer request
- FDA-approved face materials
- Designed for all applications
- Diameter: 15 ... 500 mm *(0.59" ... 19.69")*
- Pressure: vacuum ... 250 bar *(... 3,626 PSI)*
- Temperature: –80 °C ... +350 °C *(–112 °F ... +662 °F)*

Typical applications:
Agitators, mixers, dryers, kneaders, reactors, separators, filters

Mechanical seals for compressors
A complete range of products compressors from a single source. Single, double and tandem versions and tandem seals with intermedia labyrinths available.

DGS series
- Standard product series with a proven track record
- Diameter: 29 ... 264 mm *(1.14" ... 10.39")*
- Pressure: 0 ... 120 bar *(0 ... 1,740 PSI)*
- Temperature: –20 °C ... +200 °C *(–4 °F ... +392 °F)*

PDGS high pressure seals
- Elastomer-free, DLC-coated sliding faces
- Diameter: 29 ... 355 mm *(1.14" ... 13.98")*
- Pressure: 0 ... 450 bar *(0 ... 6,526 PSI)*
- Temperature: –170 °C ... +230 °C *(–274 °F ... +446 °F)*

MDGS series for screw compressors
- Seat materials: ductile steel with DM-TiN coating
- Diameter: 48 ... 200 mm *(1.89" ... 7.87")*
- Pressure: 0 ... 50 bar *(0 ... 725 PSI)*
- Temperature: –20 °C ... +200 °C *(–4 °F ... +392 °F)*

TDGS series for steam turbines
- Metal bellows
- Diameter: 40 ... 140 mm *(1.5" ... 5.5")*
- Pressure: 0 ... 10 bar *(0 ... 145 PSI)*
- Temperature: –50 °C ... +450 °C *(–58 °F ... +842 °F)*

Separation seals CSR and CSE
- Very low gas consumption
- Diameter: 38 ... 390 mm *(1.50" ... 15.35")*

CobaSeal separation seal
- Insensitive to oil contamination
- Low N_2 consumption
- Face materials: ductile steel with special EagleBurgmann high performance iDLC coating
- Diameter: 29.5 ... 210 mm *(1.16" ... 8.27")*
- Pressure: 0 ... 15 bar *(0 ... 218 PSI)*
- Temperature: –20 °C ... +200 °C *(–4 °F ... +392 °F)*

WRS oil-lubricated seals
- Optimized design due to FEM and computational fluid dynamics
- Diameter: 30 ... 300 mm *(1.18" ... 11.81")*
- Pressure: ... 50 bar *(725 PSI)*
- Temperature: -20 °C ... +200 °C *(-4 °F ... +392 °F)*

Typical applications:
Centrifugal compressors, expanders, turbines, integrally geared compressors, screw compressors, roots compressors, special machines

Approved, efficient, versatile –

Magnetic couplings

Uncompromising sealing technology for very demanding applications. Hermetically sealed magnetic couplings guarantee leakage-free and maintenance-free pumping and mixing.
The media remains within closed system circulation loops.

MAK series
- Modular design
- Integrated sliding bearing
- Compact dimensions
- Torque transmission ... 462 Nm
- Speed: 3,600 min^{-1}
- Pressure: ... 40 bar *(... 580 PSI)*
- Temperature: ... +250 °C *(...+482 °F)*
- Versions for sterile agitator applications
- Optional ceramic or carbon PEEK can

NMB high-efficiency series
- Patented laminated can
- Reduced eddy current losses
- Optional sliding bearing
- Torque transmission: ... 1,879 Nm
- Pressure: ... 45 bar *(... 653 PSI)*
- Temperature: ... +250 °C *(... +482° F)*

LMF1 Bearing for magnetic couplings
- Sliding bearing with ceramic or carbon materials for the shaft end of magnetic coupled pumps
- Suitable for MAK66, MAK685 and NMB HE magnetic couplings and others
- Self lubrication through pump liquid
- Compact dimensions
- Version for increased usage conditions on request

Typical applications:
Centrifugal pumps, positive displacements pumps, vacuum pumps, agitators, mixers, compressors, blowers, special machines

Seal supply systems

Depending on the design, application and mode of operation, supply systems are required to flush, cool and pressurize mechanical seals and magnetic couplings and provide leakage compensation. EagleBurgmann supplies a complete range of solutions from a single source including design, production, commissioning and service. The portfolio includes a complete range of API compliant supply systems.

Quench systems
- Versions with polyethylene or stainless steel tanks
- API 682 versions
- Circulation of buffer fluid possible

Thermosiphon systems
- Comprehensive modularized product range
- Sterilizable versions
- API 682 versions for Plan 52 and 53A

Heat exchangers
- Comprehensive standard range
- Extremely efficient cooling
- Compact design
- API 682 versions

SPO (SPB/SPC) closed-circuit barrier fluid systems
- Suitable for applications with high pressure
- No connection to nitrogen supply necessary
- API 682 versions

SPA open-circuit buffer/barrier fluid systems
- High cooling capacity
- Combined supply of various seals

SPN refill units
- Manual, automatic and mobile versions

Gas supply systems
- Customized versions for all types and requirements in gas-lubricated mechanical seal applications
- Seal management system
- API 682 / 614

RoTechBooster
- Compact gas supply unit for compressor seals during the slow-roll or shut-down phase

Typical applications:
Liquid and gas lubricated mechanical seals, magnetic couplings

Important note

All the technical specifications are based on extensive tests and our many years of experience. However, the diversity of possible applications means that they can serve as guide values only.

It should be noted that the extremal values of each operating parameter cannot be applied at the same time because of their interaction. Furthermore, the operating range of each specific product depends on the respective shaft diameter, materials used, mode of operation and on the medium to be sealed.

A guarantee can only be given in the individual case if the exact conditions of application are known and these are confirmed in a special agreement. When critical conditions of operation are involved, we recommend consulting with our specialist engineers.

Subject to change.

sealing solutions to meet any challenge.

Carbon floating ring seals

Carbon floating ring seals are supplied as maintenance-free compact labyrinth cartridge seals with low leakage. The floating self-adjusting sealing rings provide radial sealing on the shaft with a very small gap. The seal requires no additional lubrication, and it is designed for dry running. Besides pure gas, carbon floating ring seals are also suitable for Atex applications, toxic media, media containing solids, flue gas, dust, powder, vapor, liquid mist, oil mist and penetrating oil.

Espey WD series (split housing)
- Split housing and seal rings allow easy installation
- Pressure: vacuum ... 20 bar *(... 290 PSI)*
- Shaft diameter: 40 ... 340 mm *(1.57" ... 13.39")*
- Radial clearance: max. ±5.0 mm *(0.2")*
- Axial movement: theoretically unlimited
- Temperature: –120 °C ... +800 °C *(–184 °F ... +1,472 °F)*
- Sliding velocity: 40 ... 150 m/s *(131 ... 492 ft/s)*

Espey WDK-BHS for bulkhead shaft penetrations
- Split housing and seal rings allow easy installation
- Verified leakage rates
- International type approvals
- Pressure: max. 3 bar *(44 PSI)*
- Shaft diameter: 40 ... 800 mm *(1.57" ... 31.5")*
- Radial play: max. 5 mm *(0.2")*
- Axial movement: theoretically unlimited
- Temperature: max. 225 °C *(437 °F)*
- Sliding velocity: 40 m/s *(131 ft/s)*

Special Espey WD series variants
- Seals for top driven agitators and DIN seal chambers
- Blast furnace seals, shaft ... 4,000 mm *(... 157.48")*
- Seals for mills and centrifuge feed heads

Espey WKA series
- Chamber seal (modular design – can be combined in any order), optional with housing and lid
- Pressure: vacuum ... 250 bar *(... 3,626 PSI)*
- Shaft diameter: 20 ... 340 mm *(0.79" ... 13.39")*
- Radial play: max. ± 2.0 mm *(0.08")*
- Axial movement: theoretically unlimited
- Temperature: –120 °C ... +500 °C *(–184 °F ... +932 °F)*
- Sliding velocity: 150 ... 240 m/s *(492 ... 787 ft/s)*, depending on type

Espey shaft sleeves
- Metallic or ceramic coating
- One-piece or split design
- Shaft diameter: 45 ... 340 mm *(1.77" ... 13.39")*
- Temperature: ... +1,000 °C *(...+1,832 °F)*

Typical applications:
Blowers, compressors, turbines, centrifuges, mills, agitators, dryers, bulkheads, steam turbines, throttle/control valves, gear units, motors

Compression packings

A cost effective and reliable method for sealing pump shafts, valve spindles and rotating shafts in process equipment. Manufactured from a range of material combinations – traditional and innovative – using state-of-the-art production techniques. Supplied in boxed lengths or pre-cut rings. Approvals/certification includes BAM, DVGW, FDA, API, ISO, TA-Luft. Fire-safe, low leakage, low emission and nuclear grades are available with full documentation and certification.

Rotatherm graphite rings
An accepted industry-standard for valves and pumps in high pressure and high temperature service. Manufactured as moulded rings (with and without steel reinforcement) or special seals. Suits all industry applications including the power and nuclear industries. Approvals/certification includes: BAM, DVGW, API, ISO, TA-Luft.

BuraTAL Fugitive emission products
A comprehensive range of low leakage packing sets manufactured in graphite or our unique non-woven materials. All current fugitive emission standards are met with outstanding performance, low friction, ease of installation, and a long service life. Approvals/certification includes: API 622, ISO 15848, TA-Luft.

Burajet Injectable packings
The Burajet Injectable packing system offers a wide range of injectable compounds for pumps, valves, and process equipment. An ideal product for the mining and paper & pulp industries. Approvals/Certification includes: FDA

Buraglas Glass packings
Manufactured from non-ceramic materials and fibres, BuraGlas packings are suitable for sealing of vessels, coal mills, industrial furnaces, oven doors, hatches and covers. Produced in lengths in sizes up to 150 mm section. Approvals/Certification: Hydrolytische Klasse 1; DIN 12111.

Packing cartridges
Packing cartridges combine quick and easy installation with robust simple construction to provide minimum downtime and maximum reliability in critical process applications. Manufactured to individual requirements to fit into DIN/ASME standard equipment e.g. agitators. Cartridges can be supplied with live-loading and additional bellows containment for maximum environmental safety.

Typical applications:
Pumps, agitators, mixers, kneaders, dryers, fans, blowers, filters, refiners, pulpers, mills, valves

Gaskets

Fibre gasket sheets
Burasil-Basic, -Universal and Buratherm N gasket sheets for service in low to medium pressure and temperature applications for process equipment and pipework in industry and for utility applications like gas and water supply. Approvals/certification includes: DVGW, KTW, HTB, WRAS, WRC, TA-Luft, BAM (Oxygen max. = 120 °C / 130 bar)

PTFE gasket sheets and tapes
Burachem is a highly chemical resistant modified PTFE gasket material range offering varying properties of mechanical strength and chemical resistance depending upon application. Approvals/certification includes: DVGW, KTW, HTB, WRAS, WRC, BAM (Oxygen max. =120 °C / 130 bar), TA-Luft.
Quick-Seal MultiTex tape is the latest development in the field of expanded PTFE sealing materials for in-place sealing of vessel and pipe flanges.

Graphite seals and tapes
Statotherm Graphite gasket sheets, tapes
Soft, flexible, graphite gasket sheets ideal for pump, valve, and equipment gaskets.
Statotherm R Profile rings for static sealing in high temperature applications, e.g. in heat exchangers, valves or pumps.
Statotherm V and V-Flex cover seals are used as self-sealing gaskets in high-pressure valves e.g. for power plants at high temperatures. Statotherm V-Flex is supplied by the meter.

Metal gaskets
Approvals/certification include BAM, DVGW, TA-Luft
Spiraltherm spiral wound gaskets. Available to suit all international flange standards and in a wide choice of materials.
Corratherm corrugated gaskets are for heavy duty applications.
Kammprofile serrated gaskets are for applications with high demands for operating safety and tightness.
Buralloy metal jacketed gaskets are produced in a wide variety of different materials (in various combinations), in many styles for heat exchangers, pipe flanges, boilers, and process equipment.
Buralloy ring type joints are available to suit all ASME and DIN flanges from stock. Sizes: 15 ... 900 mm *(0.5" ... 36")*; manufactured to ASME B16.20 and to API 6A.

Typical applications:
Stationary machine parts, flanges, flange-like joints, bulkheads

Expansion joints

Expansion joints are vital components in most industrial plants. They are installed as flexible connections in pipe and duct systems to take up or compensate for thermal expansion, vibration and misalignments. Advancements in processing and generating technologies are being combined with high demands for efficiency. This, along with a clear orientation towards environmental protection, puts high demands on expansion joint designs.

Customized expansion joints made of fabric or metal are the solution of choice.

Fabric expansion joints
- Single and multilayer designs
- Dimensions: according to customer specifications
- Temperature -35 °C ... +1,000 °C *(-31 °F ... + 1,832 °F)* (higher temperature, on request)
- Pressure: +/-0.35 bar
- Versions with wiremesh reinforcement
- Versions with high chemical resistance
- Versions with Nekal-tight design
- Fabric expansion joint are available as units, including bolster and steel parts.

Metal expansion joints
- Dimensions: Circular: DN40 and up. Rectangular: According to customer specifications
- Temperature: –198 °C ... +1,371 °C *(–324 °F ... + 2,500 °F)*
- Pressure: vacuum ... 172 bar *(... 2,500 PSI)*
- Materials: stainless steel, Incoloy® Inconel®, Hastelloy®, titanium, special materials
- Single and universal designs
- Metal expansion joints are available with for example tie rods, hinges, gimbals, refractory lining, elbow, pantograph.

Dimensions and pressure range depends on design, material selection, type of expansion joint and duct insulation.

Typical applications:
Air and flue gas ducts, pipelines, sewer systems

Special products

For particular applications, innovative, customized solutions are the only answer. The supplier must have a wealth of in-depth expertise, many years of experience and above all the willingness and ability to translate ideas into solutions that work in practical application.

Contoured diaphragm couplings
For demanding rotating equipment such as turbines and compressors in the oil and gas industries as well as petrochemicals, conventional and nuclear power generation, marine applications and the aerospace industry.

They are lightweight, easy to install and maintain, and demonstrate high reliability in stress analysis. Low bearing load, best dynamic balance repeatability and no fretting or wearing are advantages of the coupling. Uniquely shaped flexible elements in the metal diaphragms located at each end of the spacers attain optimum performance. Additional features:

- Couplings acc. to API 671 / ISO10441 or API 610 / ISO13709
- Multi diaphragms, compensation for large misalignments
- Low (reduced) moment
- Electrically insulatet
- Spark resistant materials
- Tuned for rotor dynamics
- Torque overload releasing device
- Torque measuring system

Operating range: Max. torque: 2,700 kNm,
max. speed: 100,000 min^{-1}

High-grade metal bellows
for specialized applications in the nuclear power, semi conductor and medical equipment industries, etc.

Dynamic and static sealing elements
for the aerospace industry which meet extremely demanding quality requirements.

Stern tube and marine seals
with various approvals and certifications, for marine outfitters and users.

Rotary kiln sealing systems
as single and double seals in drying, calcination, combustion and pyrolysis applications.

Typical applications:
Engineered solutions designed to meet customer requirements

TotalSealCare

Flexible, transparent service modules tailored to specific requirements and business environment. Full service from installation, commissioning and total maintenance of all installed seals including electronic documentation right through to inventory management and staff training.

Our customers choose only the services that they really need, putting together a service package which is tailored to their exact on-site needs.

The modules at a glance
- Consulting & engineering
- Maintenance and repair
- On-site service
- Inventory management
- Seminars & training
- Engineering analysis & support
- Service agreements

Typical applications:
Oil & gas, refinery, petrochemical, chemical, pharmaceutical, energy, food, paper, water, etc.

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EagleBurgmann, a joint venture of the German Freudenberg Group and the Japanese Eagle Industry Group, is one of the internationally leading companies for industrial sealing technology. Our products are used everywhere where safety and reliability are important: in the oil and gas industry, refining technology, the petrochemical, chemical and pharmaceutical industries, food processing, power, water, mining, pulp & paper, aerospace and many other spheres. Every day, more than 6,000 employees in more than 60 subsidiaries contribute their ideas, solutions and commitment towards ensuring that customers all over the world can rely on our seals. Our modular TotalSealCare service underlines our strong customer orientation and offers tailor-made services for every application.

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a member of EKK and FREUDENBERG

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