

Optimized design, shorter installation length, improved performance

EagleBurgmann®

Rely on excellence

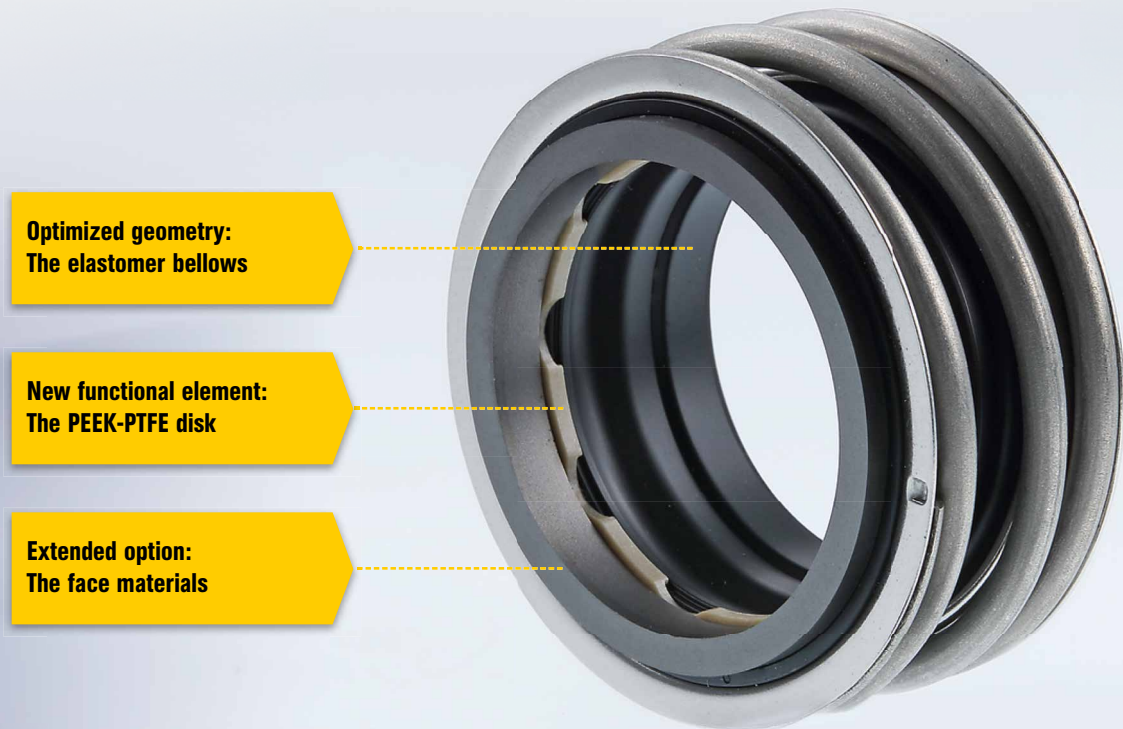
eMG1 and eMG – the new generation of pump seals



eMG1: 100 %
compatible with MG1

eMG: 20 %
shorter installation length

Strong seal. And now even better: The new eMG1.



The eMG1 is the latest generation of elastomer bellows seals by EagleBurgmann.

The eMG1 is 100% compatible with the million-fold proven MG1. Moreover, essential parts of the eMG1 were optimized and functionally enhanced.

The elastomer bellows

The optimized geometry of the eMG1 elastomer bellows was developed using sophisticated calculations and detailed 3D designs and then tested and confirmed in long-term tests at the test facilities of our Research and Development center as well as in practical use with well-known customers.

A vastly reduced outer diameter of the required bellows support can now be directly supported by a retaining ring or by using much smaller spacer rings. The new shape of the bellows significantly improved the automatic alignment of the bellows on the shaft (e.g. for axial shaft movements when starting up the pump) and minimizes stick-slip effects.

The PEEK-PTFE disk

The characteristic feature of the new eMG1 generation is the shaped PEEK-PTFE disk. It exhibits outstanding sliding properties, ensures consistent centering across the entire pressure operating range, and safeguards the automatic alignment necessary during operation of the elastomer bellows through the continuous self-cleaning of the disk/shaft.

The face materials

The eMG1 can be supplied in numerous material combinations.

The latest additions are two powerful friction- and wear-optimized variants:

eCarb-B is a synthetic resin impregnated carbon graphite with special properties, and **eSiC-Q7**, a special silicon carbide.

The particular efficiency of both materials was tested long term and proven in practice. Up to 50% longer operating periods, lower power consumption and extended emergency running properties distinguish the face materials offered exclusively by EagleBurgmann.

Strong seal. And now even shorter: The new eMG.



The eMG is identical in construction with the eMG1 – but has a 20% shorter installation length.

Manufacturers are now provided with new opportunities in pump construction: e.g., a more compact design due to shorter shafts with the associated material savings and increased efficiency.

The rotating unit

Not a millimeter too much – but with the same technical properties – that was the assigned task and this is how it was solved: the computed pre-modelled and optimized bellows design and the spring assembly have no superfluous excess lengths, and the outer diameter of the bellows support was reduced to a minimum.

The stationary seat

The standard stationary seat of the eMG is also the short-installation G6 ring type. As a result, the rotating unit and its stationary seat form an unbeatably short team.

The face materials

The eMG is equipped with new friction- and wear-optimized materials as standard: **eCarb-B** is a synthetic resin impregnated carbon graphite with special properties, and **eSiC-Q7**, a special silicon carbide.

eMG1 and eMG

in detail

Features

- For plain shafts
- Rotating elastomer bellows
- Unbalanced
- Bi-directional
- Single and double seal

Advantages

- 100% compatible with MG1
- Smaller outer diameter of bellows support enables direct retaining ring support, or smaller spacer rings
- Optimal alignment characteristic through self-cleaning of disk/shaft
- Improved centering across entire pressure operating range
- Bellows free from torsional load
- Protection of shaft across the entire seal length
- Special bellows design protects the seal face during assembly
- Impervious to shaft deflections through high axial mobility
- Can be used for simple sterile applications
- Dimensional adjustments and additional stationary seat geometries possible

Operating range

Shaft diameter:

$d_1 = 15 \dots 100 \text{ mm (0.59" ... 3.94")}$

Pressure: $p_1 = 16 \text{ bar (230 PSI)}$,

vacuum up to 0.5 bar (7.25 PSI),

up to 1 bar (14.5 PSI) with seat locking

Temperature: $t = -20 \text{ °C ... } +140 \text{ °C}$

$(-4 \text{ °F ... } +284 \text{ °F})$

Sliding velocity: $v_g = 10 \text{ m/s (33 ft/s)}$

Permissible axial movement: $\pm 2.0 \text{ mm}$

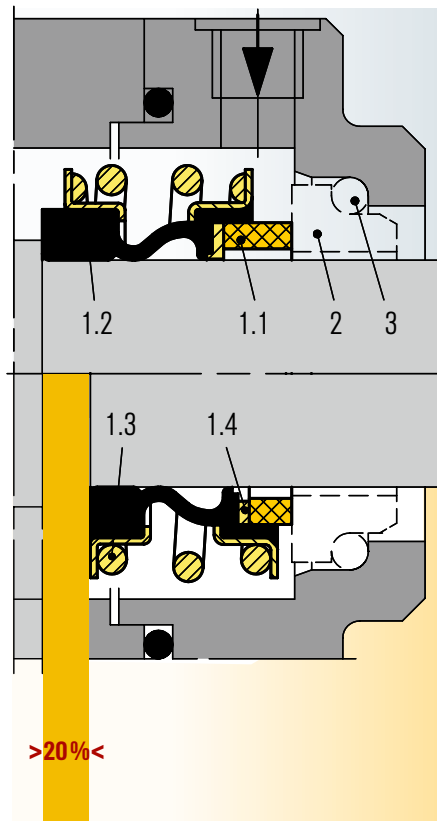
Materials

Seal face: Carbon graphite antimony impregnated (A), Carbon graphite resin impregnated (eCarb-B), Silicon carbide (Q1, eSiC-Q7), Tungsten carbide (U3)

Stationary seat: Silicon carbide (Q1, Q2, eSiC-Q7), Tungsten carbide (U3), Special CrMo cast steel (S), Aluminum oxide (V)

Elastomer: NBR (P), EPDM (E), FKM (V), HNBR (X4)

Metal parts: CrNiMo steel (G), Hastelloy® C-4 (M)



eMG1

eMG

Identical in construction with the eMG1 but with approx. 20% shorter installation length.

Equipped with new friction- and wear-optimized materials as standard: Carbon graphite resin impregnated (eCarb-B) and Silicon carbide (eSiC-Q7).
Standard stationary seat: G6

Item Description

1.1	Seal face
1.2	Bellows
1.3	Spring assembly
1.4	Disk
2	Stationary seat
3	O-ring or profile seal

Note

The eMG1 can also be used as double seal in tandem or back-to-back arrangement. Installation recommendations are available upon request. Dimensional adjustments to given installation conditions, e.g., shaft in inches or special stationary seat dimensions are possible. Please inquire.

Standards and releases

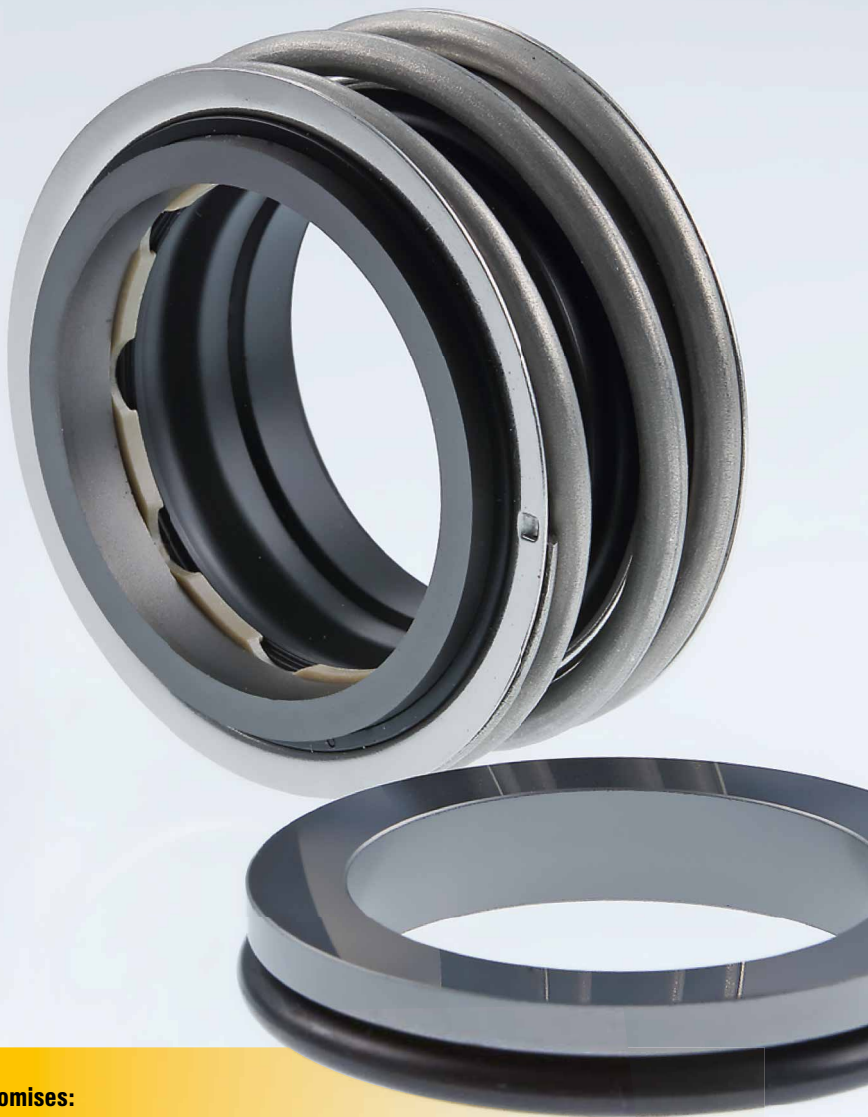
Diverse material approvals available (depending on type and material combination). Please inquire!

- WRAS
- FDA
- KTW
- ACS
- W270

Recommended applications

- Process industry
- Chemical industry
- Pulp and paper industry
- Water and waste water technology
- Food industry
- Sugar industry, water, waste water, sludge (solids content 5% weight component) pulp (up to 4% abs. dry)
- Latex
- Milk products, beverages
- Sulfide slurry
- Chemicals
- Oils
- Standard chemical pumps
- Eccentric screw pumps
- Stock pumps
- Circulating pumps
- Submersible motor pumps
- Water and waste water pumps

Uncompromising. And worth every cent: The new eMG1.



**No compromises:
the new eMG1 and eMG for sealing pumps.
Perfected redesign, shorter installation length, more
powerful materials – longer operating periods.**

Success that counts

50 million EagleBurgmann MG1 series seals have been used successfully worldwide as shaft seals of pumps since 1978.

Often copied but never equaled: the MG1 has become the seal standard thanks to its outstanding quality and reliability. This is an advantage we will continue to expand further – with the new eMG1 generation.

The new eMG1

The eMG1 generation will be setting new standards in numerous industrial sectors and applications in the economic sealing of chemical pumps, water and waste water pumps, circulating pumps, submersible motor pumps and much more.

Convincing features

- Optimized bellows geometry, even more reliable for demanding operating conditions.
- Safe function in all operating states through contoured PEEK-PTFE disk
- Up to 20 % reduced installation length (eMG) provides new perspectives to manufacturers in pump construction
- New eCarb and eSiC face materials that are friction- and wear-optimized high performers

Convincing advantages

- Reliable leak-tightness in all operating states
- Best automatic alignment of bellows
- Lower power consumption
- Outstanding emergency running properties
- Significantly extended period of use

Algeria · Angola · **Argentina** · **Australia** · **Austria** · Bahrain · Bangladesh · Belarus · **Belgium** · Botswana · **Brazil** · Bulgaria · Cameroon · **Canada** · **Chile** · **China** · **Colombia** · Congo · Cyprus · **Czech Republic** · **Denmark** · **Ecuador** · Egypt · Estonia · Finland · **France** · Gabon · **Germany** · Ghana · **Great Britain** · Greece · **Hungary** · **India** · **Indonesia** · Iraq · Ireland · Israel · **Italy** · Ivory Coast · **Japan** · Jordan · Kazakhstan · Kenya · **Korea** · Kuwait · Latvia · Lebanon · Libya · Lithuania · Madagascar · **Malaysia** · Mauritius · **Mexico** · Morocco · Myanmar · Namibia · **Netherlands** · **New Zealand** · Nigeria · **Norway** · Oman · Pakistan · Paraguay · Peru · **Philippines** · **Poland** · Qatar · Romania · **Russia** · **Saudi Arabia** · Serbia · **Singapore** · Slovak Republic · Slovenia · **South Africa** · **Spain** · Sudan · **Sweden** · **Switzerland** · **Taiwan** · **Thailand** · Trinidad and Tobago · Tunisia · **Turkey** · Ukraine · **United Arab Emirates** · Uruguay · **USA** · **Venezuela** · **Vietnam** · Yemen · Zambia · Zimbabwe · www.eagleburgmann.com/world



eMG10 / Ez / PDF / 08:15 / 97:1 © EagleBurgmann Group Marketing, Germany

EagleBurgmann 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 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.

eagleburgmann.com

info@eagleburgmann.com

EagleBurgmann®

Rely on excellence