

# Process Pumps EO / EOS

The high-performance pump for homogeneous liquids containing high concentrations of solids and high gas content. Different numbers of impeller blades for large and small particle sizes.



## Applications

- Demanding fluids in the chemical and petrochemical industries
- Multiphase mixtures for reactor loops
- Aerated fibre suspensions in the pulp and paper industry
- Wastewater and viscous materials in wastewater technology
- Sludges
- Numerous abrasive and corrosive fluids

## Features

- Pumping of fluids with gas contents up to 25%
- Semi-open impeller
- Different numbers of blades

## Facts & Figures

Nominal dimensions:	DN 50–500 mm 2–20"
Flow rate:	up to 1500 l/s 23800 US gpm
Differential head:	up to 150 m 492 ft
Pressure:	up to 30 bar 440 psi
Temperature:	up to 180°C 365°F

**Reference industries and fluids** The Process Pumps EO/EOS have the capability to handle challenging liquids containing gas and solids.

Below is a selection of industry sectors in which pumps have proven themselves over a long time:

- Chemical industry
- Petrochemical industry
- Waste water treatment
- Steel industry
- Power industry
- Sugar industry
- Automotive industry
- Paint and varnish industry
- Rubber industry
- Solar industry
- Textile and fiber industry
- Paper and cellulose industry
- Food industry
- Building industry
- Shipbuilding

## Advantages

### High suction capability

The process pump series features, due its special impeller blade geometry, low  $NPSH_R$  values and thus has a high suction capacity.

### Low energy costs

By the systematic development and flow optimization a global efficiency up to 89% can be achieved.

### Gas contents up to 25% vol

The transport of fluids with a gas content of up to 25% is possible without stalling. Even to 10% without significant drop of delivery head.

### High solids concentrations

As solids handling pumps, process pumps EO/EOS are suitable for homogeneous fluids with high solids content, fibers and high viscosities.

### Constant delivery rate

The wear plate that can be adjusted from the outside on the suction side, guarantees a constant delivery rate, especially for highly abrasive products.

### Impeller models

For larger solids, the triple-bladed EOS impeller geometry with a larger open channel is available. This hydraulic series is complemented by the self-cleaning profile for transportation of fiber-containing fluids.

### Modular system

The modular system enables reduced storage due to reusable mechanical and hydraulic modules in the pump configuration.

# Hydraulics for process pumps EO / EOS

The semi-open radial impeller with special profile is a logical development of the original impeller, which brought about the founding of the firm in 1947. The EO and EOS impeller family is distinguished most significantly by their number of blades; their hydraulic properties are virtually identical.

## Transport of fluids with high gas content – high suction capability

Ordinary radial impellers are known for their limited transport of gas content which results in a drastic reduction of output to the point where delivery stops altogether. Our special blade geometry guarantees the delivery of gas contents up to 25%, as has been proven in numerous reactor loop installations in the chemical industry. This hydraulic family exhibits low  $NPSH_R$  values.

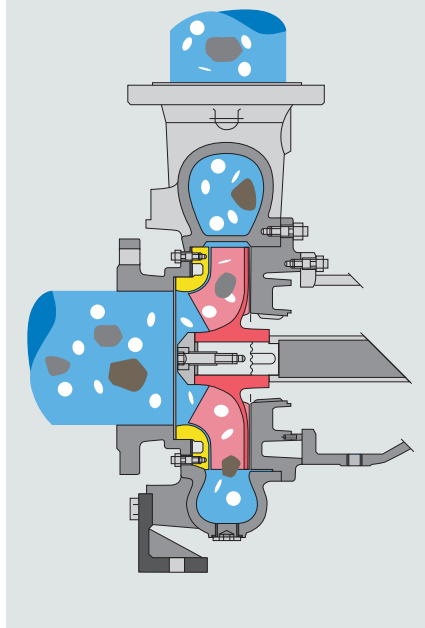
## Higher, longer-lasting efficiency through adjustable impeller openings – also under conditions of wear

Semi-open impellers have a fixed wear plate opposite them. The gap between them is critical for the performance data (Q, H,  $\eta$ ). For abrasive fluids, the gap gets bigger and bigger and causes a reduction in the nominal pump values. The pumps in the EO and EOS families are equipped with a wear plate that can be adjusted from the outside and with which one can reset the impeller gap back to its original size. Thus, the specified original delivery characteristic values can be restored and a replacement can be usually omitted in the longer term. As an alternative, under conditions of high wear, the casing cover can also be equipped with a replaceable wear insert.

## Impeller models EOSA: For an excellent freedom from clogging by particles and fibres

The triple-bladed EOSA-impeller has a larger, open spherical channel than the EO-impeller and is used primarily for slurries and suspensions of larger

## High efficiency pumps for homogeneous slurries containing high concentrations of solids



solids. The blade leading edge and the opposing wear plate have special designs that make it possible to transport even long-fibre components, such as occur in wastewater.

## Transport of high consistency paper pulp

Has been known for decades for pulp pumps in the pulp and paper industry. Fibres, high air content, etc. – these are all everyday occurrences that are very challenging. The process pump production series EO/EOS with their special blade geometries guarantees even for this case the safe delivery of consistencies as high as 8% bone dry.

## Multi-purpose applicability

Gathering the large number of specific hydraulic properties in a hydraulic system and pairing them with sound construction make the EO/EOS production series genuine process pumps that are valued as such by our clients all over the world. Process pumps are suited for a wide range of abrasive, corrosive and viscous fluids and even multiphase suspensions, containing solids and high gas content.

The process pump range is also available in a high pressure and high temperature execution.

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