





Mono is a recognised name in the design, manufacture and supply of progressing cavity pumps, parts, grinders, screens and packaged solutions, worldwide. We have 8 international sites and a global distribution network, as well as over 75 years' experience in providing a range of products for the multiple application requirements of today's industries.

## Oil & Gas Solutions

Progressing Cavity (PC) pump technology is ideal for the arduous applications of solids entrained multiphase fluids, which require steady flow and low shear to prevent emulsification, whilst resisting the effects of abrasion without gas locking.

NOV Mono have the experience and state of the art facilities at plants around the world for the manufacture, design and development of any transfer pump application for process and separation duties.

## **Products**

**API 676 Pumps** 

**Transfer Pumps** 

**Widethroat Pumps** 

**Dosing Pumps** 

**Grinders** 

Artificial Lift

A variety of pump designs are available, including the new self-priming API 676 pump.

Featuring Mono's EZstrip™ technology, the pumps can be manufactured from different materials - ranging from cast iron and duplex steels through to traceable and NACE-certified stainless steels.

Capacity up to 400m³/h 60382 bbl (US)/d

Pressure up to 250 bar 3626 psi

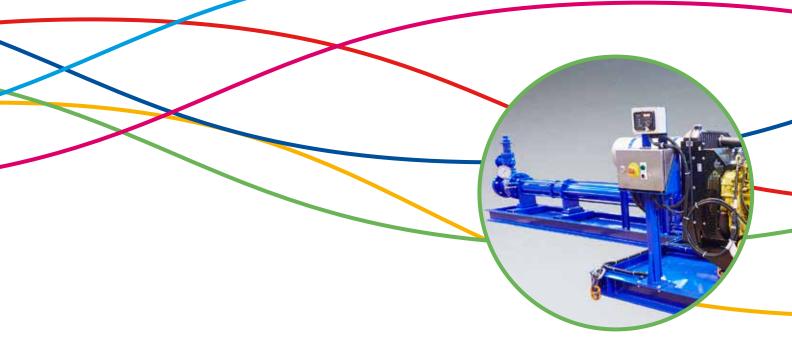
Temperature -10°C up to 100°C 14°F up to 212°F

# **National Oilwell Varco**

National Oilwell Varco Inc. is a worldwide leader in the design, manufacture and sale of equipment and components used in oil and gas drilling and production operations, the provision of oilfield services, and supply chain integration services to the upstream oil and gas industry.

National Oilwell Varco (NOV) is headquartered in Houston, Texas and has over 170 years' experience as a leading provider of products and services to the international oil and gas industry. It has over 100 subsidiaries, and currently has over 68,000 employees at 1,200 sites around the world, plus annual revenues in excess of \$22 billion.





# Oil & Gas Value Chain

• API 676 pumps

• API 676 pumps

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Production

Transportation

• open / closed drains - KO drum
• slop / waste / reject oil
• MEG / TEG slurry

• Midstream

• API 676 pumps

• API 676 pumps

• open / closed drains
- KO drum
• slop / waste / reject oil
• slop / waste / reject oil

• re-injection / salt water injection

• produced fluid transfer

multiphase

# **API 676**

The American Petroleum Institute (API) is an association for the USA oil and gas industry and sets standards for a wide range of criteria, including materials of construction, operating procedures and safe practice.

Mono's API 676 EZstrip™ pump has been designed to comply with the Positive Displacement Pumps - Rotary, Third Edition standard and a specification is available, outlining the design and materials of construction requirements for pump selections.

Flows up to: 225m<sup>3</sup>/h / 990 g/min

33,942 barrels/day Up to 24 bar / 350 psi

## **Over Pressure Protection**

• MEG / TEG slurry

Pressure relief valves to API 520/526 - supplied loose.

# **Dry Run Protection**

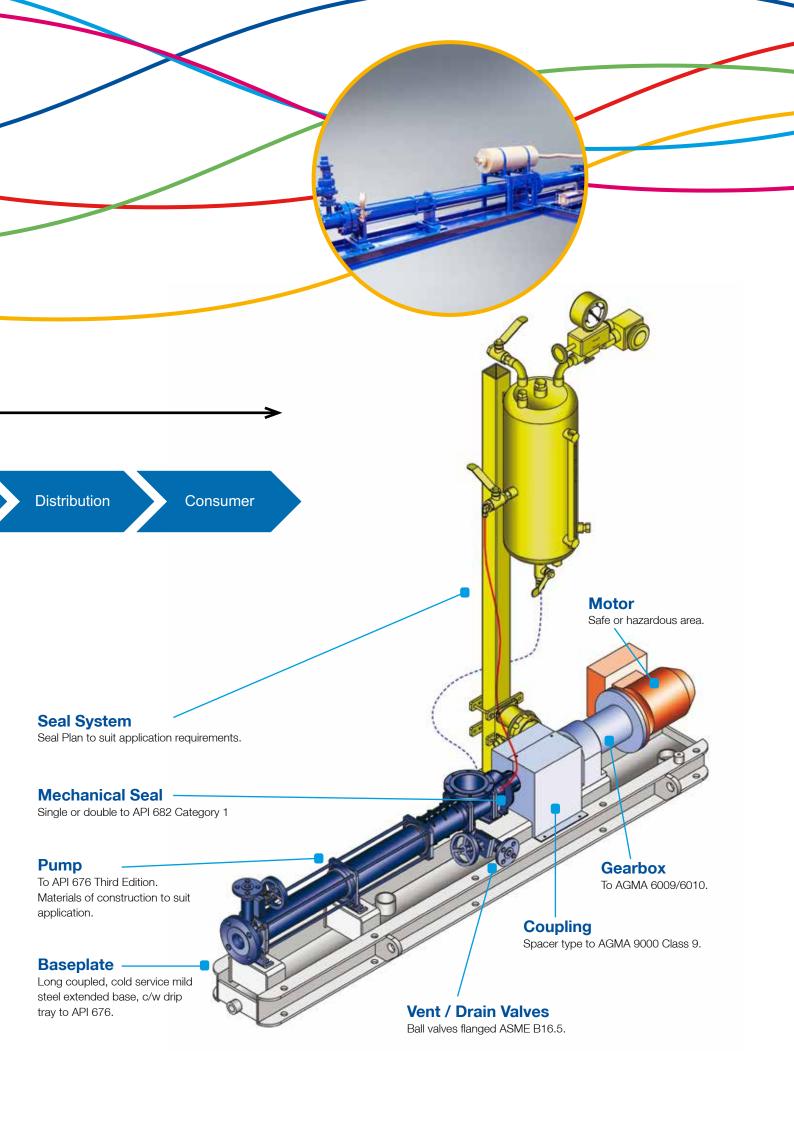
PT100 sensor with control relay, supplied with IS barrier for hazardous area applications.

## **Surface Protection**

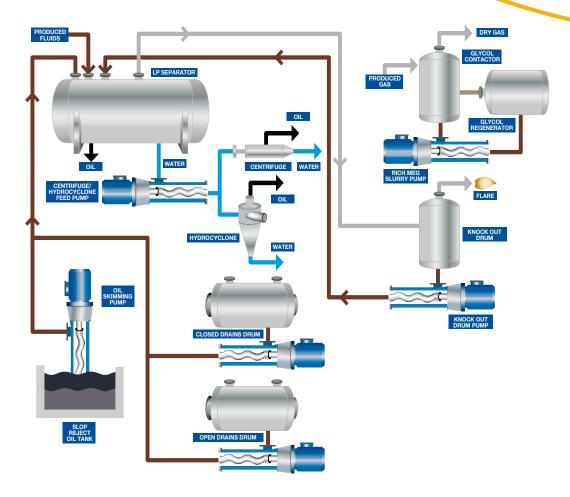
Mono standard high build two pack epoxy to 12944 C5-M or contract specific e.g. NORSOK M501.

## **Inspection and Test**

Mechanical run, including performance, noise and vibration, NPSH and hydrostatic test and material certification to contract requirements.



# Oil & Gas Process



# **EZ**strip™

Traditional progressing cavity (PC) pump maintenance requires full removal from the pipe work to replace the pump's rotor, stator and connecting rod assembly.

For large pumps, as much as 50% of the length of the pump needs to be left free to allow this.

Mono's API 676 pump features the EZstrip™ design, allowing the pump to be "Maintained-in-Place", reducing maintenance downtime and offering labour and space savings. The suction chamber of the EZstrip API 676 pump is easily dismantled by removing a few screws to gain access to rotating parts.

Suction and discharge pipework can be left connected and for installations where space is at a premium, no dismantling space is needed.





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