

Triplex Plunger Pump

RECIPROCATING PLUNGER PUMP | PRODUCT BROCHURE



Where Innovation Flows

HIGH PRESSURE. HIGH EFFICIENCY.



With more than a century of innovation and experience in pumps and compressors systems manufacturing, supply, and service, Mouvex® a product brand within PSG®, a Dover company, offers expert solutions worldwide in various critical markets such as Oil & Gas, Nuclear Power, and Industry.

Mouvex designs, manufactures and offers complete solution systems for the transfer of fluids through API674 plunger pumps technology.

Based in Auxerre, France, the Mouvex production facility is Nuclear RCCM, ISO9001/14001 and OHSAS 18001 certified and benefits from the latest machining and process technologies (Lean Manufacturing, Continuous Improvement). Dedicated Market team, including all support functions, is committed to meet or exceed the expectations of our customers regarding their most critical needs.

FOR WORLDWIDE CRITICAL APPLICATIONS



OIL & GAS

- Gas Dehydration (TEG, Amine...)
- Chemical Injection (Methanol, Glycol...)
- Subsea Injection (Methanol, TEG...)
- Oil Water Treatment
- Closed Drain Transfer
- Reactor Flushing
- Gas Lift
- Enhanced Oil Recovery (EOR)



HYDROTESTING

- Pipelines Fabrication
- Pressure Vessel Testing
- Umbilical Testing
- Water Injection



INDUSTRIAL

- High pressure cleaning (vessel, piping, machines, ...)
- Hydraulic press
- Longwall mining hydraulic roof supports
- Boiler feedwater
- Descaling
- Jet cutting
- Hydraulic desanding



NUCLEAR ACTIVITIES

- Reactor Boron Injection Systems
- Safety Injection Pumps
- Reactor Coolant Hydrotest
- Reactor Coolant Pump Seals Water Injection

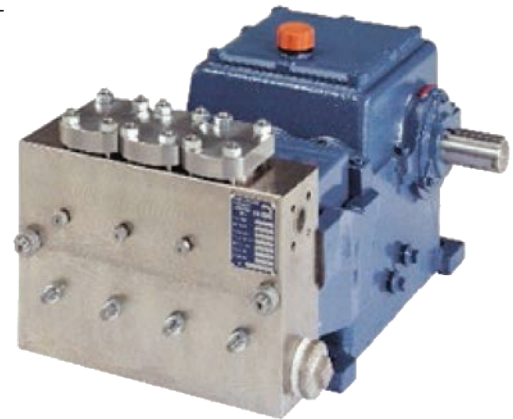
Mouvex® | Reciprocating Plunger Pump

HIGH PRESSURE – HIGH EFFICIENCY

The Mouvex Triplex Plunger Pump is a high pressure – 900 bar (13,053 psi) – positive displacement, reciprocating pump available in seven sizes, from 13 to 310 kW (18 to 420 HP).

CERTIFICATIONS

Designed for Explosive Atmospheres and compliant with API-674 (ISO 13710). ATEX certificate No. 17819/04 : Ex II 2 G IIC T4



RELIABLE

The Mouvex plunger pump offers controlled crankshaft speed and limited plunger acceleration, requiring less maintenance and downtime periods. The Triplex Plunger Pump has proven reliability with more than 50 years of operations

THE MOUVEX ADVANTAGE: PRECISION

- Materials and packing system can be adapted to each customer's specification
- Constant flow rate, not impacted by discharge pressure
- Very high hydraulic efficiency (up to 95%)
- Reduced flow pulsations thanks to the dephasing of the motion of the 3 plungers
- Limited noise and vibrations

COMPLETE SKID ACCESSORIES

- Connecting flanges
- Dampeners
- Safety valve
- Gear reducer or V-belt
- Electric motor / Variable speed drive
- Base plate
- Thermal insulation and electric tracing
- Instrumentation panel
- Zero-leakage panel
- Forced lubrication
- Wiring / Electrical cabinet

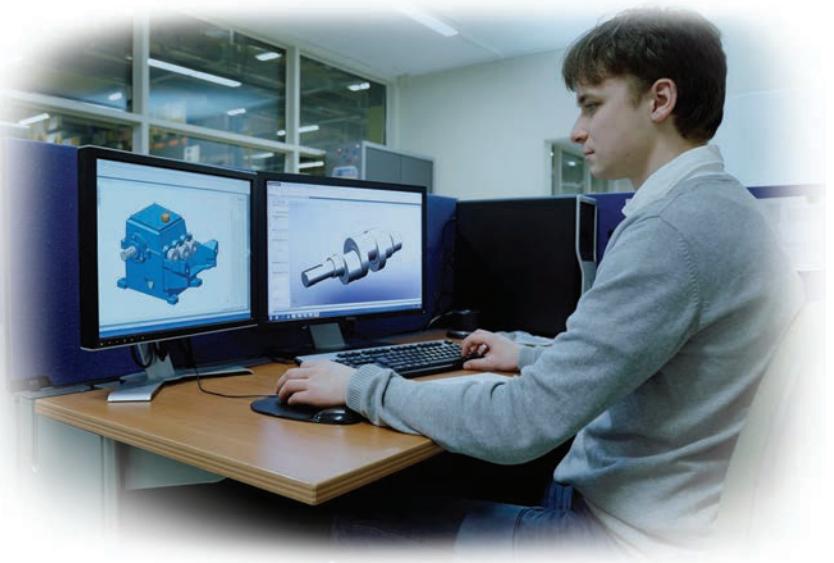


The Mouvex® Advantage

MORE THAN A PUMP MANUFACTURER

Mouvex is known for its ongoing open communications with customers and building mutual partnerships with users in all industries. This one-on-one relationship has been key to major industry breakthroughs and guidance in allowing Mouvex to successfully meet specific market and customer needs.

As a result, Mouvex has a unique insight and understanding of customer needs for precise customization of pump unit technology to meet specific requirements and challenges.



Design & Engineering Capabilities:

- 3D Modelling
- Pulsation studies on piping (design approach 1 and 2 according to API 674 code)
- Stress and fatigue analysis
- Reliability assessment
- Vibration analysis

Quality Approach

The Mouvex continuous improvement approach has built an integral quality management culture where everyone's priority is satisfying customer requirements and assuring complete satisfaction.

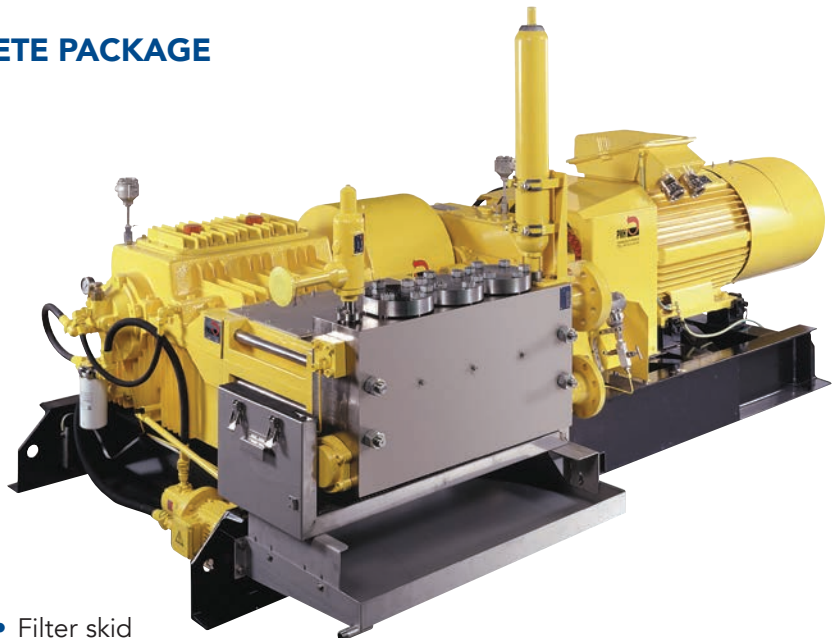
FROM YOUR REQUEST TO A COMPLETE PACKAGE

Testing Capabilities:

- Liquid end hydrostatic pressure tests
- String test – complete performance tests
- Bareshaft pump tests
- NPSH tests
- Vibration tests
- Seismic tests
- Noise tests

Complete Package Units Including:

- Reciprocating pump
- Control monitoring instrumentation panel
- Accessories such as pulsation dampeners, suction stabilizers valves...
- Self-supporting rigid skid
- Gear reducer, couplings
- Filter skid
- Insulation and heat tracing
- Lube oil system as per API614
- Noise hood
- Lifting equipment



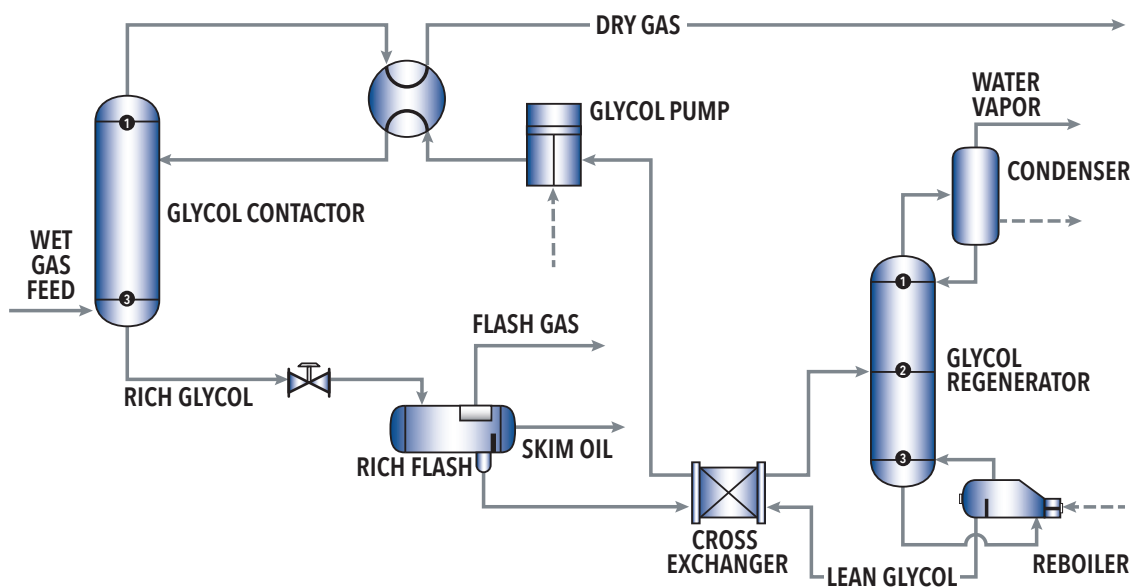
Mouvex API674 Engineered Triplex Plunger Pumps

For Gas Dehydration



The Process:

Gas dehydration is an essential phase in gas treatment before natural gas is sent to downstream process. Gas dehydration is accomplished using a liquid glycols absorption process (DEG, MEG, or mostly TEG) or solid desiccants absorption. In a TEG Gas Dehydration Unit, reciprocating pumps are used to pump lean glycol to the contactor where glycol absorbs water. After the rich TEG flows out from the contactor, it is regenerated and pumped back to the contactor. Because of the pressure difference between the regenerator and the contactor, a Triplex Plunger Pump is needed to generate the glycol flow.



Mouvex Triplex Pumps Advantages:

- Designed for very high volumetric efficiency (up to 95%), Mouvex triplex pumps' robust design built in compliance with API-674 help gas treatment operators focusing on the gas treatment process.
- With a proven reliability for more than 50 years and with 1000+ pumps operating worldwide Mouvex triplex pumps require less maintenance and downtime period.

Meeting Customer Expectations:

- Pump skid built according your application
- Designed and certified for ATEX Zone 1 Ex II 2G IIC T4
- Customized according to required configuration (V-belt or gear reducer)
- Single source accessories supply (dampener, safety valve)
- Long MTBF with extended packing lifetime and zero-emission option
- Easy and quick maintenance.





Mouvex API674 Engineered Triplex Plunger Pumps

For High Pressure Injection Processes

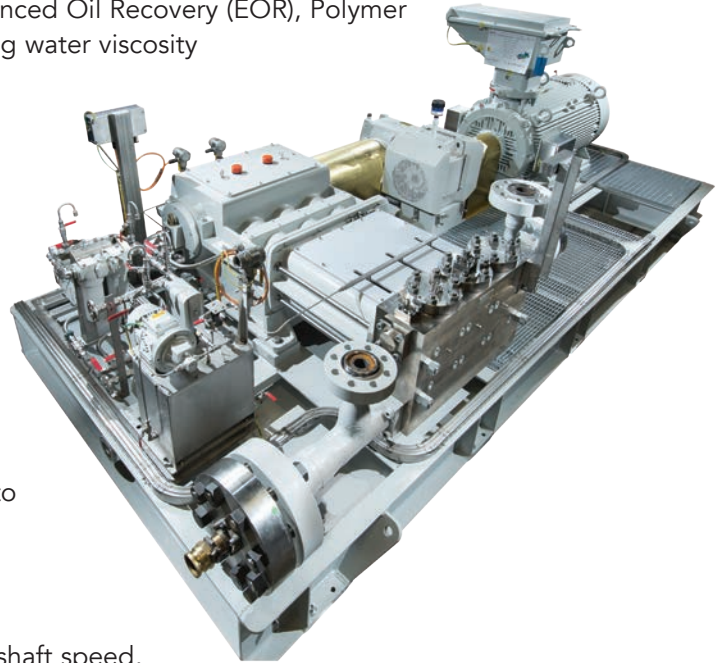
The Process:

Methanol injection is used in oil and gas applications to prevent hydrates blockage due water content. Water injection (injection) is used to reinjected water (produced water or sea water) into the reservoir in order to keep a high pressure and thus extract oil and gas faster. For Enhanced Oil Recovery (EOR), Polymer injection is also used to maximize oil recovery by increasing water viscosity

Performance Data:

- Maximum Capacity: 108 m³/h (476 gpm)
- Maximum Pressure: 900 bar (13,053 psi)
- Maximum Temperature: 200°C (392°F)
- Maximum Pump Speed*: 490 rpm

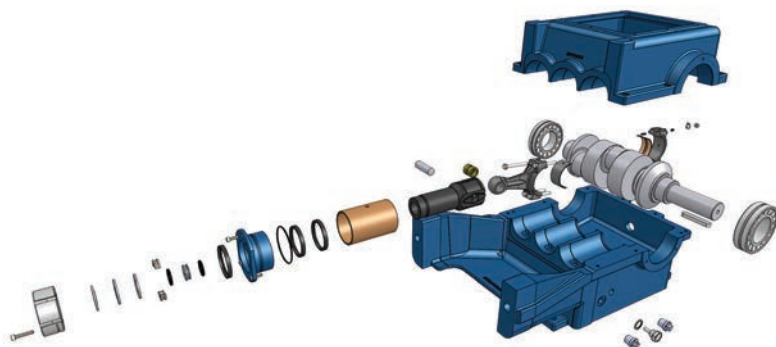
* API-674 Maximum speed allowed but higher speed possible.



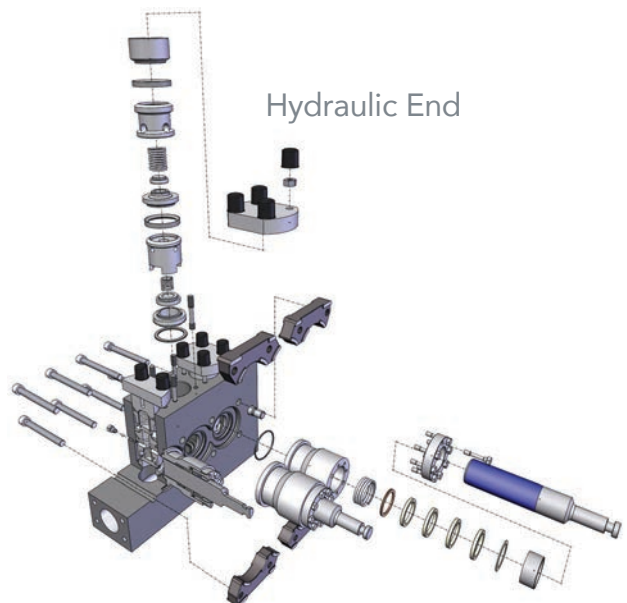
Meeting Customer Expectations:

- Available in 7 sizes with 12 different plunger sizes up to 420 hp (313 kW)
- From carbon steel to special alloys
- Designed for high-pressure high flow injections
- Compliant with API-674 (ISO 13710): Controlled crankshaft speed, limited plunger acceleration requiring less maintenance and downtime periods.
- Manufactured according stringent standards: Norsok, Shell DEP's, NACE, ASME...
- Different configurations possible for FPSO or Offshore installations
- Various lubrication options (internal or forced)
- Various tests possible: Vibrations, acoustic, non-destructive

Power End

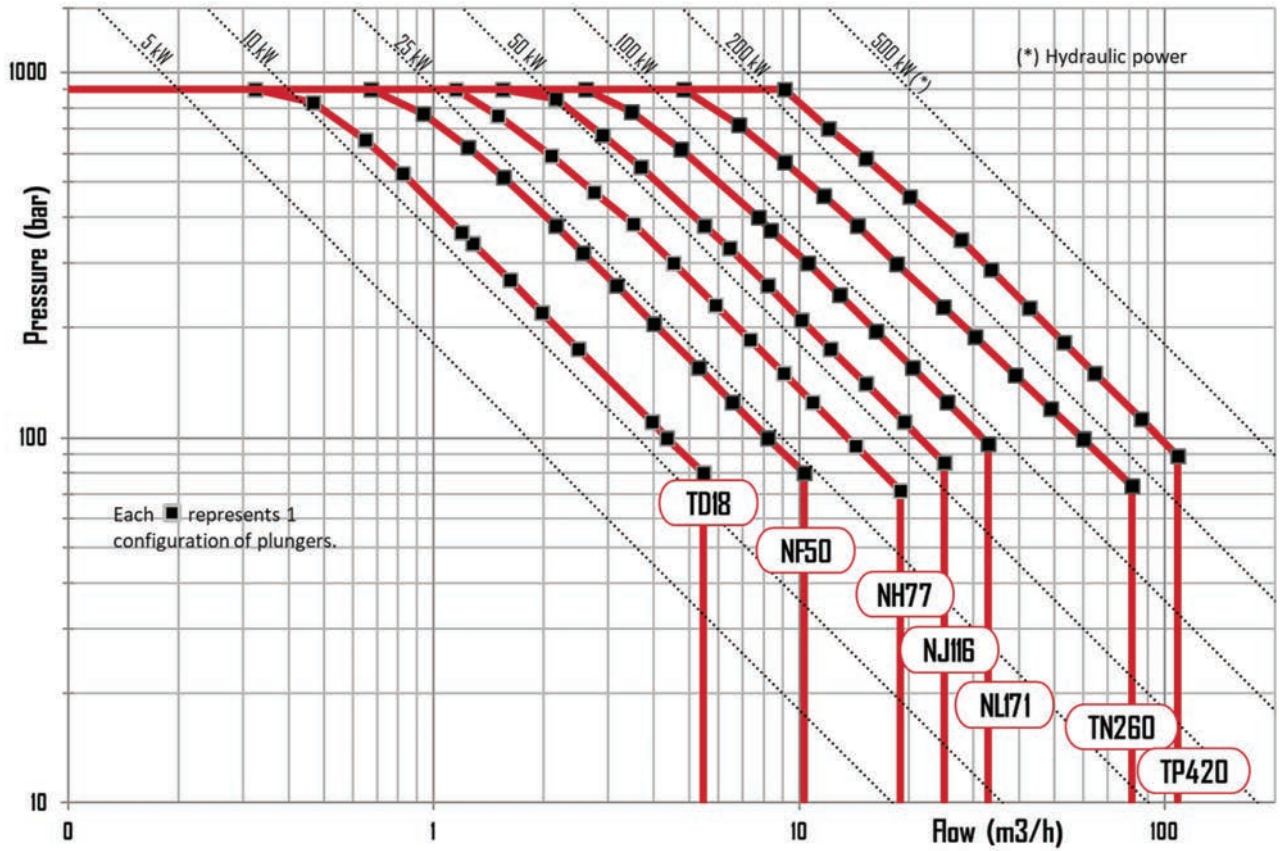


Hydraulic End

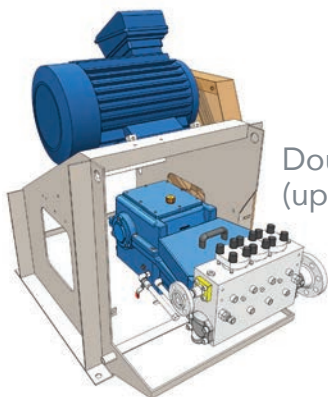


Mouvex API674 Triplex Plunger Pumps | Range & Configurations

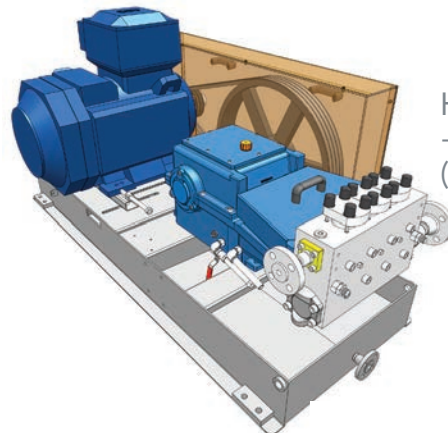
Performance Data



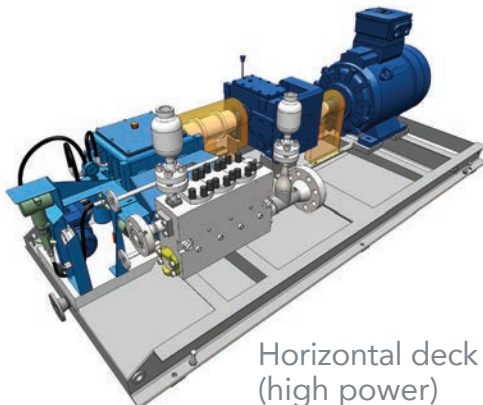
Possible Configurations



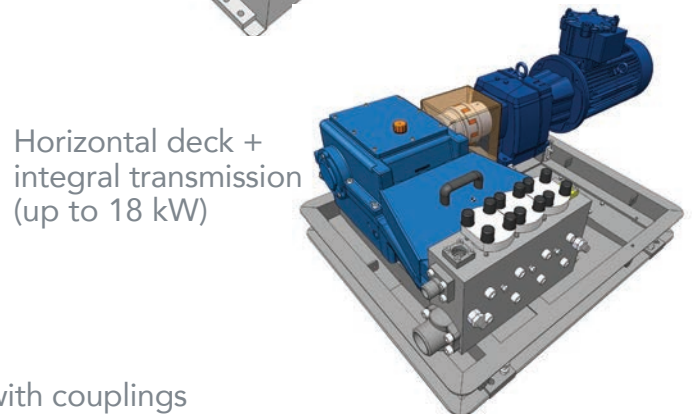
Double deck + V-belt
(up to 110 kW)



Horizontal deck + V-belt
(up to 150 kW)



Horizontal deck + reducer with couplings
(high power)



Horizontal deck + integral transmission
(up to 18 kW)



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