ref: 7034

DATA SHEET

Scale & Corrosion Inhibitor High Pressure Injection Pumps

94/9/EC ATEX - 97/23/EC PED - 2006/42/EC Machinery Directive - CE Marked

Pressure: 50 Bar (725 psi) to 700 Bar (10,150 psi)
Flows: 0.08BPM (3.36 gpm) to 1.5 BPM (63 gpm)

Introduction:

The Calder range of electric motor driven high pressure reciprocating plunger pump units are designed and built primarily for the oil and gas Industry for operation in hazardous and non-hazardous locations; On-shore fields from the Siberian Arctic to the Kuwait desert; Offshore facilities from Northern Norwegian waters to Asian and African tropical oceans. The pump packages are designed to deliver fixed or variable flows at a range of pressures to meet the most challenging well conditions.

The deposition of mineral scale in downhole systems is a problem in many water producing wells. Speciality products are used to inhibit all types of oil field scale (calcium carbonate, calcium sulphate, barium sulphate and strontium sulphate).

Scale build up can block flow by clogging perforations or forming a thick lining in production tubing. It can also coat and damage down-hole completion equipment such as safety valves and gas-lift mandrels.

The build up of scale causes a significant threat to production rates and in the most severe instances, there can be a total loss of production or fluid flow in a matter of hours.

Applications:

- Scale Squeeze
- Diesel & Dilute Acid Injection
- Injection of Corrosion Inhibitors
- Pressure Test
- General Chemical Injection

Operation & Control Systems:

- Manned or Un-manned operation
- Variable flow achieved with Variable Speed Hydraulic Drive.
- Control systems with simple Start/Stop and shut down indicators or PLC controls with HMI and touch screen.

Pumped Liquids:

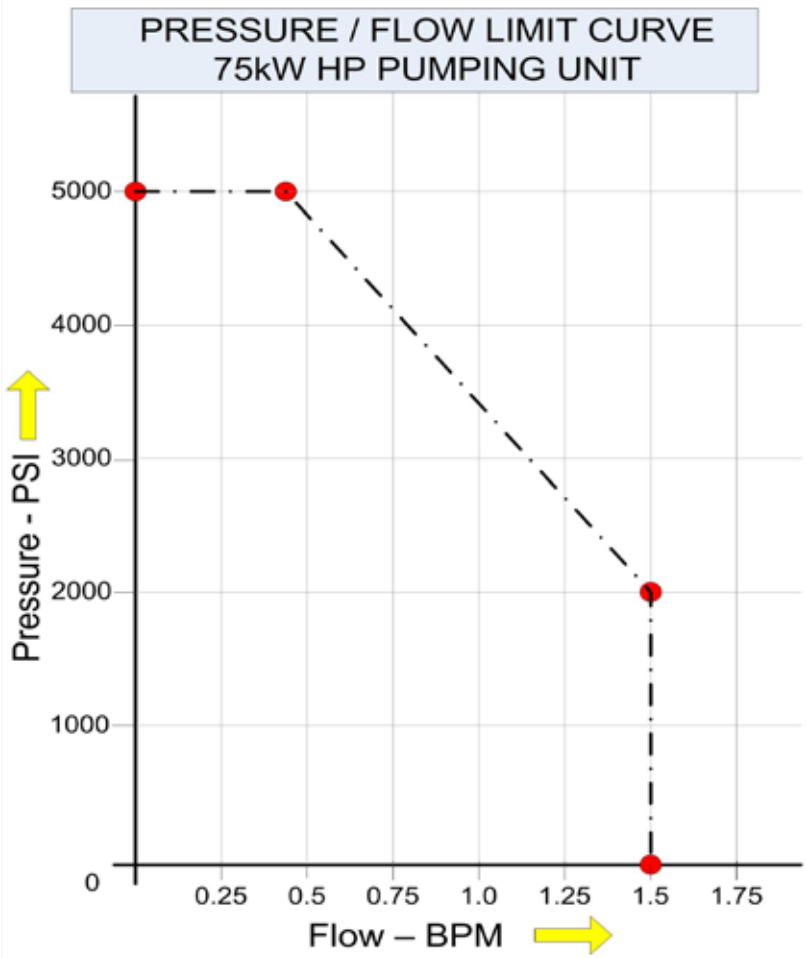
- Scale Inhibitors
- Corosion Inhibitors
- Gas & Water Condensate.
- Sea Water, Produced Water, Potable Water.
- Diesel.
- Chemicals & Dilute Acids.

ref: 7034

Scale & Corrosion Inhibitor High Pressure Injection Pumps

INNOVATION THROUGH EXPERIENCE

CALDER



Performance Curve

Chart illustrates the range of flows and pressures available for a 75 kW scale squeeze unit. Please consult with the Calder technical department for alternative performance requirements.

Technical Specifications:

- Skid mounting options:
  - Fixed installation skids complete with FEA.
  - Open oil field type skid.
  - Crash frame skid. (DNV 2.7-1).
- Containerised/Noise Enclosure.
- Noise attenuated to 85Db(A) at 1M.
- Environmental conditions -20°C to 55°C
- Hazardous area: Zone 1 or optional Zone 2.
- Driver type: Electric Motor with Hydraulic Pump & Hydraulic Motor.

Pump Types:

- Triplex reciprocating plunger pumps. API 674.
  - Pressure range: 50 bar (725 psi) to 700 bar (10,000 psi)
  - Flow range: 0.08 BPM (3.36 gpm) to 1.5BPM (63 gpm)
- Zero Leakage to atmosphere, hermetically sealed.
- Leak detection.
- Flow Control <10:1 flow range.
- Discharge Pulsation <1.5% peak to peak.
- Hammelmann High Pressure Labyrinth Seal for long term reliability >4000 hrs.
- Volumetric efficiency 95% (with water).
- Mechanical efficiency 95%.
- Vertical Mount pump for minimal foot print.
- In-built gear reducer.
- Material Options:
  - 304 or 316SS or Duplex Stainless Steel.
  - Super Duplex Stainless Steels (25% Cr).
  - Hastalloy & Inconel.

Standards & Specifications:

Calder pump packages can comply with most international standards and specifications including:

ATEX | IEC | GOST | EN | DNV | API | ANSI | PED | AS/NZ | NORSOK | NACE

ISO 9001 Quality standard has been practised by Calder since 1987 with award of certification in 1999. Our rigorous application of this highly respected International Quality Standard has ensured that we consistently meet and exceed our customers' most demanding expectations for both quality and reliability.

ISO 14001 Environmental Standard has been held by Calder since 1999. Careful and judicious management of our working environment with the application of sound and well informed design applications utilising the latest and most efficient technologies helps us to produce equipment which minimises the environmental footprint of our production facility and the operating equipment in the field.

OHSAS 18001 We at Calder pride ourselves on our safety record. As members of the British Safety Council we practise the strictest safety procedures within our factory and working environments, applying rigorous risk assessments to all activities and equipment which we design and build.

Calder Ltd
Prescott Drive
Warndon
Worcester
WR4 9NE
United Kingdom

web : www.calderltd.com
email : sales@calder.co.uk
tel : +44 (0) 1905 751790