

HIGH PRESSURE and LOW FLOW for a precise lubrication

Our Client is a global company operating in the construction of reciprocating compressors. These compressors have many applications in Oil & Gas industry, both onshore and offshore

The points to be lubricated in this kind of systems are located between cylinder and pistons. If these parts are not sufficiently lubricated or over lubricated the whole plant may be subject to a variety of different malfunctions.

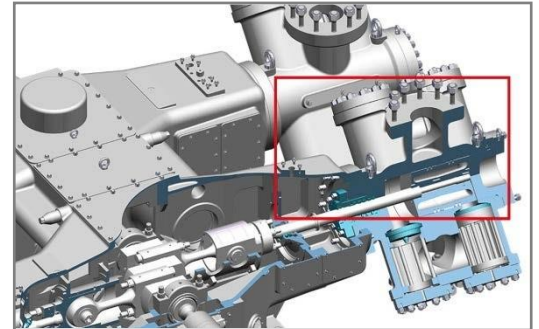


Fig. 1 - Cilinder

The issue of our client was to get a precise and constant lubrication with some specific conditions which these machines are subject:

- Create a lubrication system that would reach high pressures;
- A very low amount of oil delivery
- Suitable for an explosive environment, categorised as Zone 2 Atex.

To meet these issues DropsA studied a customised central lubrication system for the client.

The lubrication system consists of two parts: the main pumping station called "**MAIN UNIT**" which includes pumps and reservoir and "**DISTRIBUTOR UNIT**" include all distribution elements and accessories.

On the "**MAIN UNIT**" are mounted two line pumps one for work and the other in stand-by (for safety, in case of the main pump is damaged). The 100 liter reservoir completes the main pumping station (See Fig. 2).

On the "**DISTRIBUTOR UNIT**" from the pumps there is in line a PSV (pressure safety valve), check valves, pressure gauges and the first divider '**MASTER DIVIDER**' that feeds the two secondary dividers placed directly on the compressor.

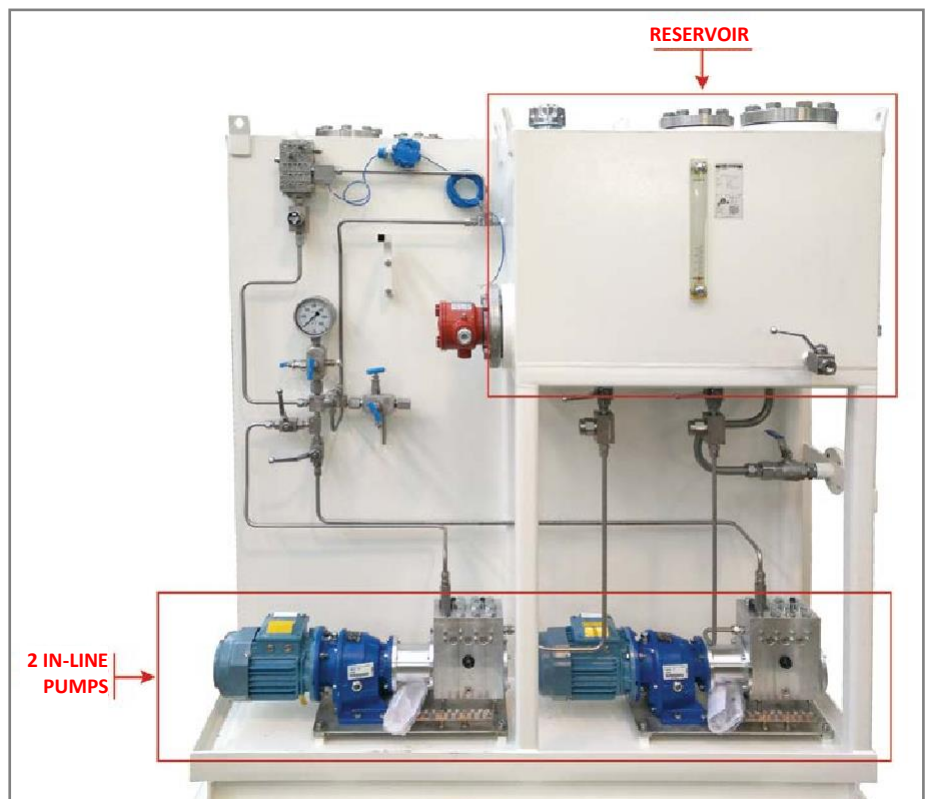
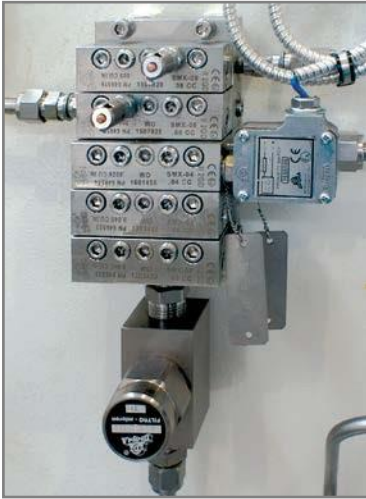


Fig. 2- Main pumping station



*Fig. 4 - SMX "MASTER DIVIDERS"
with valves and sensors*

For this system all products, tools and electrical equipment are Atex certified, area Zone 2, IIB, T3. The main products DropsA used to build this system were: the Line pump Atex line and the SMX dividers.

DropsA had been chosen for the product excellence and the technical availability in delivering of a specific solution for customer's equipment needs.

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The '**Distribution Units**' are composed by two secondary feeders positioned near the lubricating points supplied from the master dividers positioned on the MAIN UNIT.

Seven balancing valves help the correct distribution of lubricant to all points. The support of these valves is necessary, especially when back pressure to the lubrication points reaches differential pressure at least 70 bars.



Fig. 5 - SMX distributor unit

