

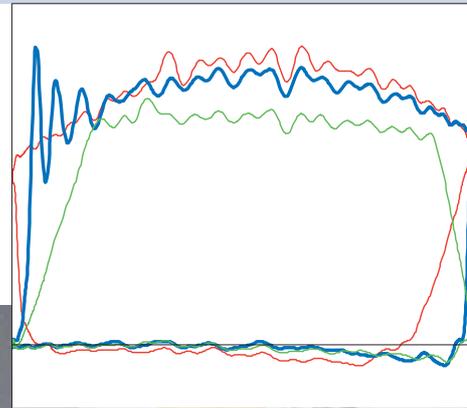
motralec

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NOVALINK-DSM is an off-line diagnostics system which is temporarily connected to a pump for evaluating its condition analogous to an ECG.

NOVALINK-DSM

Discontinuous Status Monitoring



NOVALINK-DSM - An Off-line Diagnostics System

The basis of the system is the so-called pV-diagramm which is generated during one complete revolution of the pump crank shaft from the pressure within the hydraulic chamber of the pump and the plunger position in a pumphead (Figure 1).

Key performance parameters can be assessed from this diagram, for example:

- Defects in the suction or discharge valve
- Defects in the replenishing valve or venting valve
- Activation of the internal relief valve
- Excessive pressure pulsation in the suction or discharge pipeline
- Air in the hydraulic chamber or product chamber
- Cavitation, etc.

In addition, volumetric efficiencies or the hydraulic power of the pump-head can be determined.

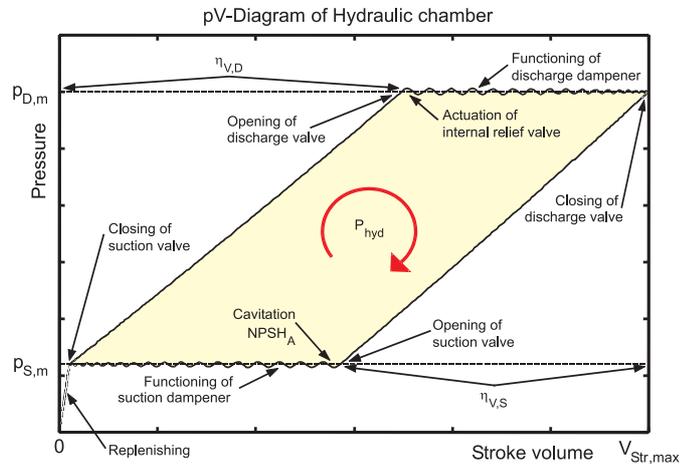


Figure 1: Theoretical pV diagram

NOVALINK-DSM - Advantages

- **Portable**, can be installed while the pump is operating and is easy to operate
- **Rapid documentation** of the pump's actual operating conditions (e.g. also during commissioning)
- **Targeted troubleshooting** generates a substantial reduction in down time and service cost
- **Improved predictability of pump failures**, enabling optimized maintenance work
- **Increased pump availability**, thus avoiding down-time and savings in standby pumps
- **Rapid, skilled service** is enabled for Bran+Luebbe metering and process pumps.

Configuration (Fig. 2)

The **NOVALINK-DSM** is centered around a portable PC with a data interface card and special software. These are connected to pressure sensors, available for various pressure ranges, and a trigger sensor. The measurement data are stored for subsequent service and diagnostic purposes.

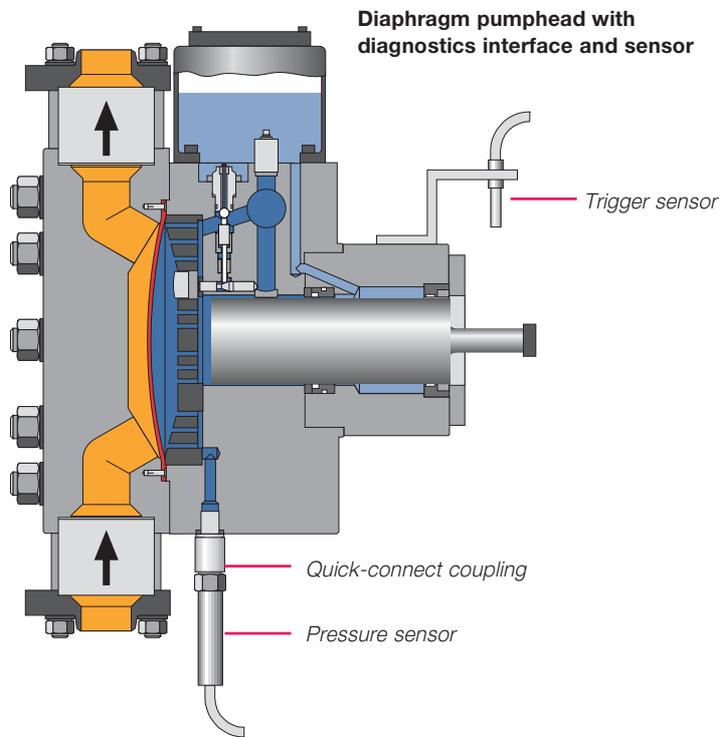
This system offers:

- Quick and easy sensor installation
- Minimal adjustment, with quick-connect coupling
- Compact and portable for offline diagnostics on different pumps.



Figure 2: NOVALINK-DSM kit

Operation

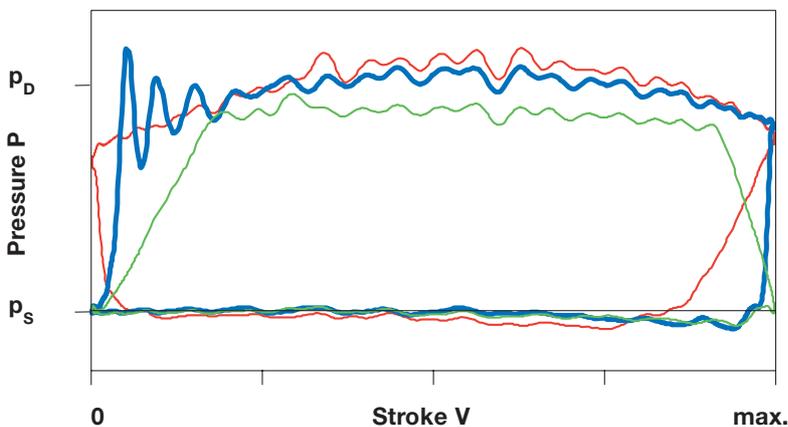


Pumps designed for electronic diagnosis

The diaphragm pumpheads used in our metering and process pumps are perfectly suited for off-line diagnosis, as they form the energy transfer interface between the mechanical and hydraulic components.

The processes taken place are described by the pV diagram. This requires a measurement of the time-dependent pressure changes in the pumphead and a trigger signal to define the plunger position.

The pressure sensor can be connected with the hydraulic chamber while the pump is running, using a special quick-connect coupling. The trigger sensor is aimed at the plunger.



Examples of pV diagrams

- Normal operation
- Suction valve leaking
- Discharge valve leaking

Technical Data

Pump interface

- Trigger sensor, e.g. reflecting sensor
- Pressure transmission signal: 0... 10 V or (0)4...20 mA
- Pressure transmitters can be mounted while the pump is running (with quick-connect fitting)

- Reading frequency: up to 2 kHz
- Ex-proof configuration: EEx i

**Global Headquarters: SPX Process Equipment,
Delavan, WI USA**

Your local contact

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