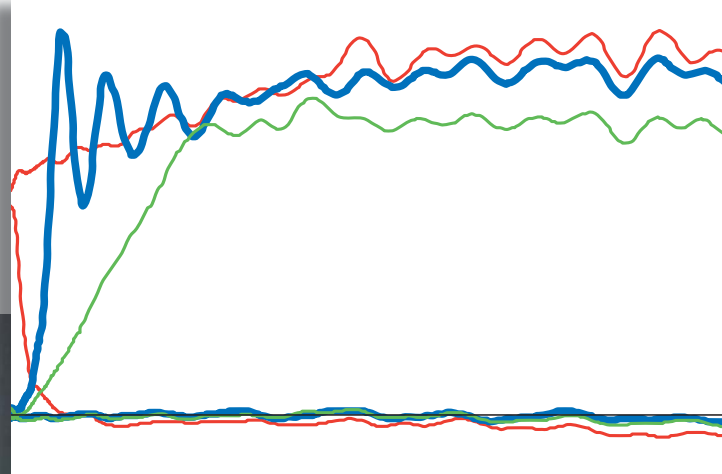


NOVALINK-DSM is an off-online diagnostics system which is temporarily connected to a pump for evaluating its condition analogous to an ECG

NOVALINK-DSM

Discontinuous Status Monitoring



NOVALINK-DSM - An off-line diagnostics system

The basis of the system is the pV-diagram 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 pump head (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.

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)

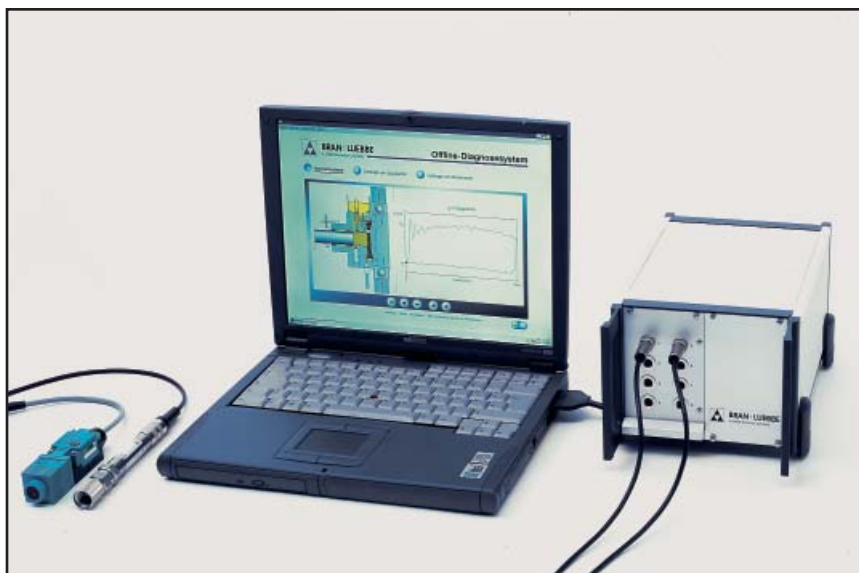


Figure 2: NOVALINK-DSM kit

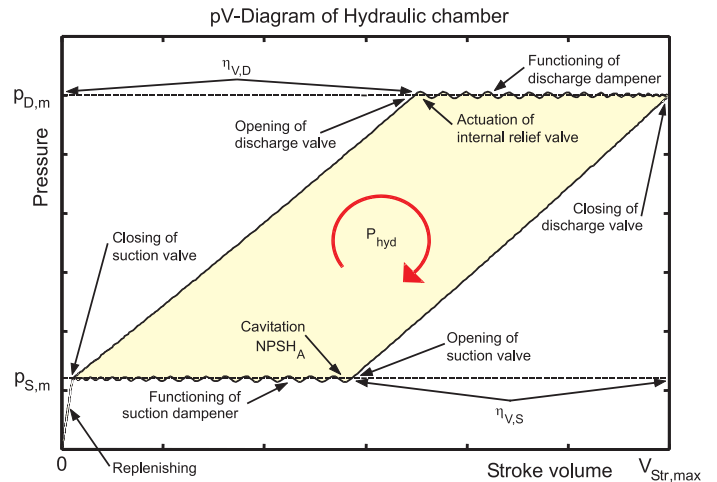


Figure 1: Theoretical pV diagram

- **Targeted troubleshooting** generates a substantial reduction in downtime and service cost
- **Improved predictability of pump failures**, enabling optimized maintenance work
- **Increased pump availability**, thus avoiding downtime and savings in standby pumps
- **Rapid, skilled service** is enabled for Bran+Luebbe metering and process pumps

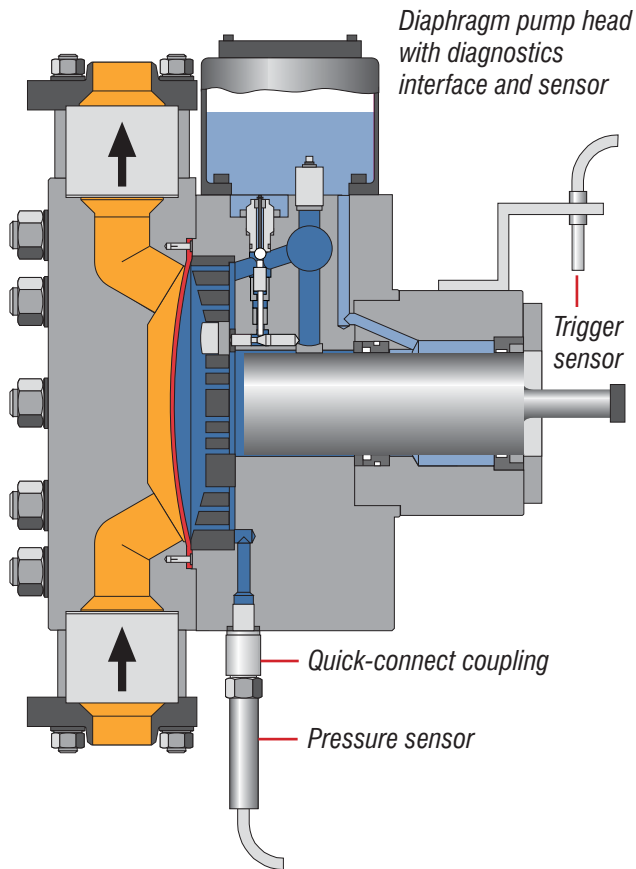
Configuration (Fig. 2)

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

Operation

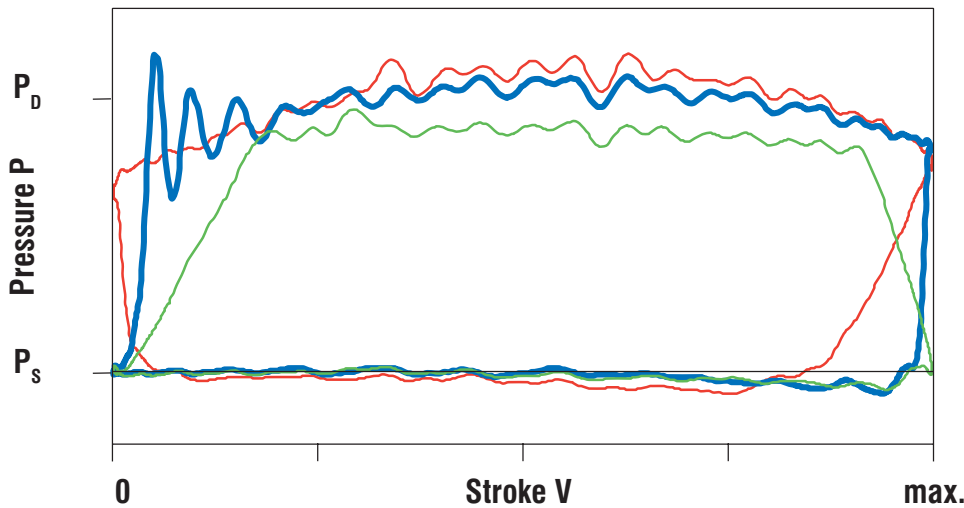


Pumps designed for electronic diagnosis

The diaphragm pump heads used in our metering and process pumps are perfectly suited for offline 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 pump head 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



Bran+Luebbe, Headquarters Norderstedt, Germany



For more information about our worldwide locations, approvals, certifications, and local representatives, please visit our web site.

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SPX Process Equipment reserves the right to incorporate our latest design and material changes without notice or obligation. Design features, materials of construction and dimensional data, as described in this bulletin, are provided for your information only and should not be relied upon unless confirmed in writing. Certified drawings are available upon request.

Issued: 07/06 BL-1610