

KRIWAN Oil Differential Pressure Measurement



**Protect your oil pump in semi-hermetic
piston refrigerant compressors**

Protection



Scope of application

Semi-hermetic piston compressors are usually equipped with oil pumps to ensure reliable oil lubrication. In order to transport sufficient quantities of oil and to avoid damage to the compressor, these compressor types are generally equipped with oil differential pressure switches. If the quantity of oil is too low, the compressor is shut down by the safety chain after a certain delay.

KRIWAN has developed a product family of evaluation units and screw-in parts that are outstanding due to their reliable oil differential pressure monitoring and easy handling. Thus, no additional capillary tubes are necessary.

Product family



Delta-P II OPS 2

- Stand-alone solution
- Integrated intelligent electronics
- Time integration
- Hall sensor



INT250

- Solution for system integration
- Suitable for ATEX applications
- Reed contact



Screw-in parts

- Registering pump and suction pressure
- Installed directly in the pump
- Function with Delta-P II / OPS 2 and INT250
- Hermetically sealed – evaluation circuitry can be removed without evacuation
- One-time-only definition of the necessary oil differential pressure



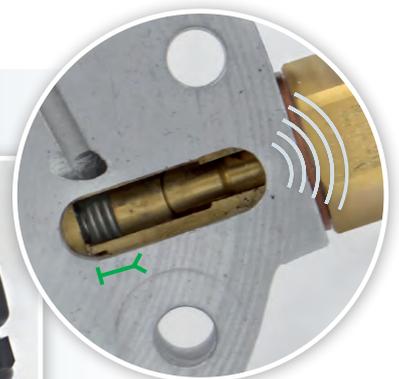
Functional principle

The KRIWAN solution for oil differential pressure monitoring consists of evaluation electronics as well as a screw-in part that are mounted separate from each other and that can be exchanged. The screw-in part is built directly into the pump and measures the pump and suction pressure through the internal channels and calculates the difference. If the pump pressure is great, the cylinder piston in the screw-in part is pressed forward and thereby distances itself from the evaluation unit. The electronics registers this distance and, in doing so, measures that sufficient oil differential pressure is available.

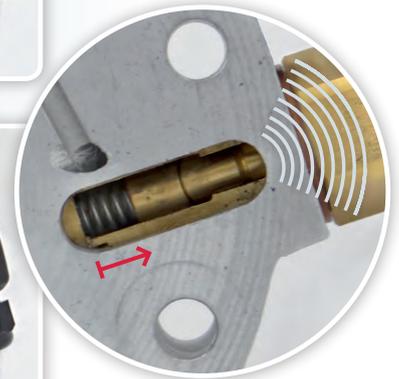
If the pump pressure is too low, the oil differential pressure is insufficient to move the cylinder. In this case, the sensor signals this promptly to the connected electrical device (on the INT250) or interprets the signal independently (on the Delta-P II and OPS 2) and switches off the compressor via the safety chain as a precaution after a defined delay time has elapsed.

Oil differential pressure measurement

Oil pressure
ok



Oil pressure
low



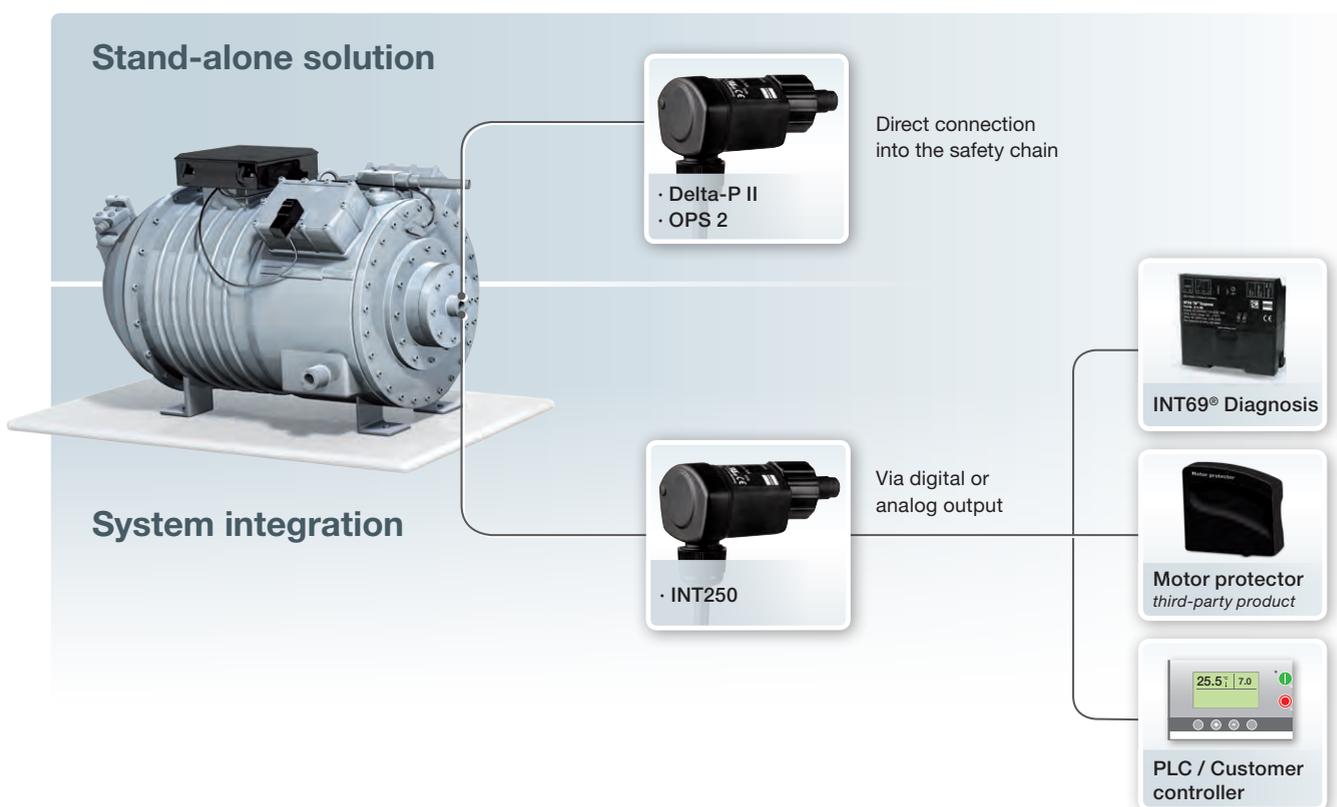


Easy integration with your systems

The oil differential pressure measuring can be integrated as an independent solution directly in the safety chain (Delta-P II and OPS 2) as well as in a comprehensive control system (INT250).

For the independent solution, the oil differential pressure is monitored reliably by the KRIWAN device by itself without an additional control or operating system being necessary.

Integration in control systems opens up further possibilities for diagnostics and control. In some systems, for example, a remote control is possible. Depending on the system, costs for the installation can be greatly reduced.



Benefits



Reliable protection for compressors

Technical expertise, experience and outstanding product quality have made KRIWAN a leading manufacturer in the refrigeration and AC market for almost 50 years.

All units are continuously monitored during production and subjected to extremely rigorous testing. This helps to prevent failures in the systems and makes sure that persons and machinery are always safe.

KRIWAN stands for outstanding product quality and reliability. Currently, more than 10,000,000 compressors around the world are equipped with the popular INT69® and more than 500,000 oil pumps are already monitored by KRIWAN differential pressure sensors.

Thanks to precise, reliable measurements, errors are avoided and the service life of the system is extended.

What make KRIWAN products for oil differential pressure measurement so special are the high flexibility as well as the compatibility for integration in existing systems.

Benefits at a glance

- Removal or replacement of the switch is possible with the refrigerant circuit closed
- Screwed directly in the pumping housing makes other additional, breakable pipe connections unnecessary
- Visual status information (optional)
- Installation control
- UL- and CE-conform
- Low leak rate
- Quick and easy assembly
- Function for self-monitoring of the device (optional)
- High flexibility with various screw-in parts

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