KRIWAN OIL MANAGEMENT FOR

NEW REFRIGERANTS

CO_2 refrigeration systems have established themselves as an environmentally friendly and efficient solution in refrigeration technology. However, due to the specific physical properties of CO_2 as a refrigerant and the high operating pressures, these systems pose particular challenges for oil management. Reliable oil return is crucial to avoid system failures and damage.

- SPCIFICALLY DEVELOPED FOR TRANSCRITICAL CO_2 SYSTEMS
- UP TO 130 BAR

OIL LEVEL REGULATOR
INT280

KRIWAN

CHALLENGE

CO_2 refrigeration systems are widely used in modern refrigeration technology due to their environmental friendliness and efficiency. Despite their advantages, such as the low Global Warming Potential (GWP) of CO_2, these systems place specific demands on oil management, particularly because of the high operating pressures and the unique properties of CO_2 as a refrigerant. This also imposes high demands on the technology used.

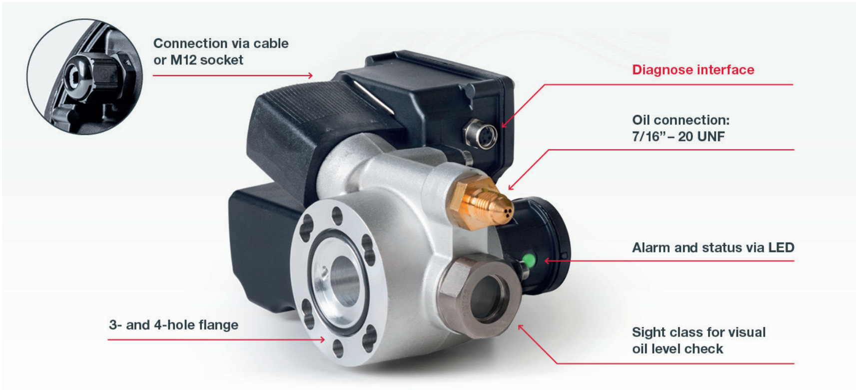
In transcritical applications, operating pressures can reach up to 130 bar, which complicates the return of oil. Another challenge is the low miscibility of CO_2 and oil. This causes the oil to settle within the system and prevents uniform return, increasing the complexity of oil return management.

Efficient return of separated oil from the oil separator to the compressor is crucial for the system's longevity and performance. Without effective oil return, wear and tear increase, leading to more frequent failures and potentially even damage to the system.

SOLUTION

Predefined filling cycles offer limited help in practice, as compressors and operating conditions vary greatly.

The INT280 is optimally suited for use in R744/CO_2 systems, thanks to its adaptive algorithm. This algorithm automatically determines the appropriate pause times and filling cycles, which helps, for example, to reduce oil foaming. As a result, the compressor's oil supply is ensured, regardless of weather conditions or the refrigeration load impacting the system.



Another advantage of the KRIWAN oil level regulator INT280 is that adjustments to the base algorithm can be made easily and precisely using the INTspector app. It is also possible to connect the device with the INT69 diagnostic system, where the running detection feature ensures that an alarm is triggered for oil shortage only when the compressor is running.

ADVANTAGES

- Increased operational availability and safety
- Reduction of unplanned downtime
- Detection of faulty operation (in case of complaints)
- Quick identification of critical conditions and error analysis
- Documentation and system management
- Plug-and-play solution
- For high oil temperatures up to 100°C
- Intelligent oil management
- Compact design
- Diagnostic interface
- Troubleshooting with the INTspector app
- Adjusting functional parameters

TECHNICAL DATA

Specification	INT280-130®	
Arcticle number	52 S 581 S041	31 S 581 S041
Supply voltage	AC 50/60 Hz 230 V ±10 % 35 VA	AC 50/60 Hz 24 V ±10 % 35 VA
Operating pressure	60 bar / 130 bar	
Check base	EN 61000-6-2, EN 61000-6-3, EN 61010-1, Overvoltage category II, Pollution level 2	

more information:

KRIWAN Industrie-Elektronik GmbH
Allmand 11, 74670 Forchtenberg
Deutschland

+49 7947 822 0
info@kriwan.com
www.kriwan.com