

**Armaturenwerk Altenburg GmbH**

Am Weißen Berg 30
04600 Altenburg, Germany
Tel +49 3447 893-0
Fax +49 3447 811-10
info@awa-armaturenwerk.de
www.awa-armaturenwerk.de

Unser Zeichen // Our Ref.

Abs. // Sender
Abt. // Dept.
Tel Dw. // Ext.
Fax Dw. // Ext.
E-Mail

Patrick Koops
Public Relations
+49 7031 932-4327
+49 7031 932-54327
patrick.koops@bitzer.de

AWA introduces smart valve for oil regulation in compressors

Altenburg, 28.10.2019. Founded in 1879, Armaturenwerk Altenburg (AWA) is one of Europe's leading manufacturers of valves, sight glasses and fittings for refrigeration and air conditioning technology. The traditional Thuringian company is now presenting its new oil level regulation system OLC.

The AWA OLC guarantees the optimum oil level in refrigeration compressors and is used in compound systems with reciprocating or scroll compressors. Its functionality is essentially based on the almost infinitely variable level measurement by means of an electronic float sensor. It can be used in systems of up to 120 bar for a variety of refrigerants and oils and ensures permanent and instantaneous level detection. In addition to the level, the speed of change of the level is also evaluated for the first time.

The electronic float is insensitive to foaming and swashing oil. Other features of the OLC include the large sight glass for better level recognition, an LED display on the front for fast status recording and the modular adapter system for connection to all common compressor types. The installation dimensions, reduced by up to 25 per cent, enable plant constructors to design more compact composite plants.

Innovative algorithms of the autonomous electronics enable two new special functions to protect the refrigeration compressors: the Power ON Logic and the Emergency Injection.

Power ON Logic prevents dry running during compressor startup

The Power ON Logic is activated the first time the compressor and AWA OLC are switched on. If the compressor level falls within the alarm range in less than ten seconds, the OLC immediately sprays oil into the compressor until the normal range is reached again. If the oil level does not fall within the



alarm range when switching on, the Power ON monitoring is deactivated again and the OLC operates in normal mode.

Emergency Injection for sudden oil demand

When there is a sudden increase in oil demand, which can occur with frequency-modulated compressors, for example, the oil level drops abruptly from the normal to the alarm range. This rapid oil level change is detected by the OLC: It deactivates the useful delay in normal operation and injects oil immediately.

Permanent level monitoring in normal operation

For optimum lubrication of the compressor, the AWA OLC regulates its oil quantity to a level of 40 to 60 per cent. If the value falls below the normal range, a delay counter is activated. During normal operation, this prevents the system from swinging up and the compressor from overfilling. After ten seconds the injection of oil begins. If the oil level drops below the critical range (40 to 25 per cent) despite active filling, an alarm counter starts which switches an alarm relay after 80 seconds. This relay contact can be tapped and used, for example, to switch off the compressor or trigger an alarm routine.



Around the globe, market leaders in the refrigeration and air conditioning industry rely on the precision and the quality of AWA products. Armaturenwerk Altenburg offers an extensive and progressive product portfolio of fittings, service valves, sight glasses, adapters and other components. The traditional German company was founded in 1879 and has been part of the BITZER Group since 2013.

Overview of images

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Press information



Image: The AWA OLC guarantees high-precision oil level regulation