

Oil Temperature Regulator

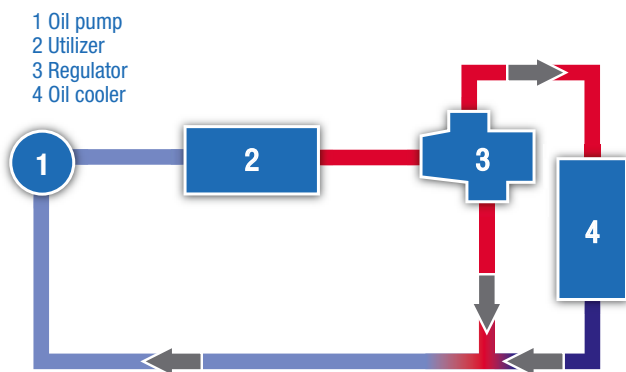


Wahler – Solutions in Partnership.
Products for Exhaust Gas and Temperature Management.

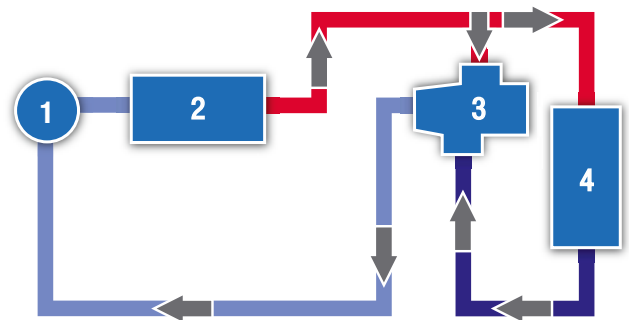


Oil temperature regulator

Wax thermostats for special applications



Closed-circuit regulator installation –
Utilizer output temperature remains constant



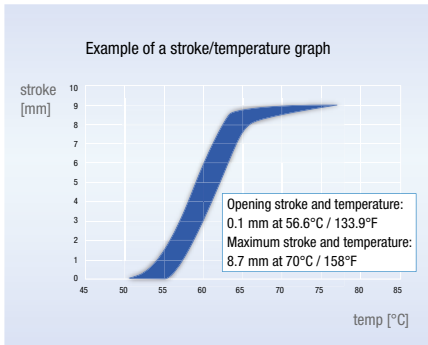
Mixing-valve regulator installation –
Utilizer input temperature remains constant

Major applications for Wahler oil temperature regulators:

- Agricultural implements
- Construction machinery
- Compressors
- Oil coolers
- Special applications,
e. g. wind power installations, transmissions, hydraulics,
machine tool construction.

Special features

- Fixed temperature values
- High regulation accuracy
- Regulator function independent of static
and dynamic oil pressure
- Low pressure loss values
- Rugged construction
- Vibration insensitive
- Impact resistant
- Function unaffected by installed position
- Maintenance free
- Long service life



- Wahler **thermostats** are tasked with the dedicated regulation and control of automotive cooling circuits (engine coolant, lubricating oil, fuel, and air).
- Wahler **valves and flaps** are deployed as components of exhaust gas return systems and control the path and volume of the flow of exhaust gases.
- Wahler **pipes** make up a large variety of connections for routing exhaust emissions, coolants and lubricating fluids required for engine operation.

Wahler product features and functions directly impact engine performance and service life positively. We therefore ensure the highest quality of our products, from advanced feature sets to the finest materials used in all phases of manufacturing.

Order number key

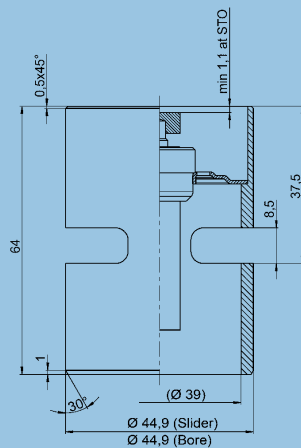
The order number of a given regulator instantly reveals its specifications.

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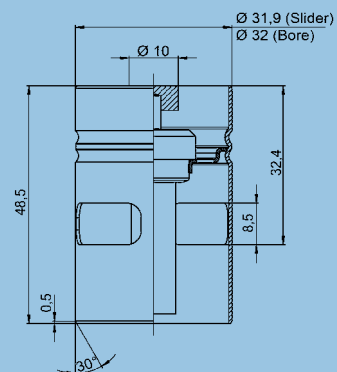
Type no. Index Opening temperature Packaging variant

Wahler product line

Wahler products are deployed either directly on the engine or in its immediate vicinity. Because they regulate and transport engine coolants and exhaust gases, they must be impervious to the engine's radiated heat and the attendant high thermal loads. Wahler products are designed to deliver reliable performance across any and all ambient conditions.



Regulator insert 7038



Regulator insert 7036

Design

The basic design common to Wahler oil temperature regulators is that of a 3/2 directional valve. A slide valve in a cast aluminum housing is actuated by the temperature responses of a wax element. With its reliability and long service life, this actuation principle has proven accurate and dependable in millions of wax thermostats deployed in engine coolant temperature control. The oil temperature regulator housing features three threaded connections facilitating direct installation in the pressure lines of the oil circulation system.

Functional principle (Closed-circuit regulator)

The flow of lubrication oil heated by the lubricated unit (utilizer) is directed into the oil temperature regulator, which keeps returning the oil to the utilizer via the bypass until the rated opening temperature has been reached. Because this so-called closed-circuit mode bypasses the oil cooler, the oil heats up more rapidly.

Once the desired oil temperature has been reached, the oil cooler inflow port opens infinitely variable while the bypass port closes at the same rate.

As a function of the rising oil temperature, the volume flow into the oil cooler increases until its input line is no longer restricted. The point at which the port is fully open is reached approx. 10°C to 15°C (50°F to 59°F) above the opening temperature. At this moment the bypass line is completely closed.

The oil temperature regulator maintains the oil temperature within its rated range by passing through the oil cooler only oil volumes sufficient to attain the desired oil temperature.

Installation options

1. Closed-circuit regulator configuration

Functioning as a closed-circuit regulator, the oil temperature regulator is installed in the oil circuit. The mixing of bypass and oil cooler flow volumes maintains a constant oil temperature at the utilizer output. The regulator operates accordingly on basis of the maximum temperature.

2. Mixing valve configuration

In this configuration the heated oil from the utilizer output is mixed with the cold oil from the oil cooler output. In this way, the oil temperature at the utilizer input is kept constant.



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