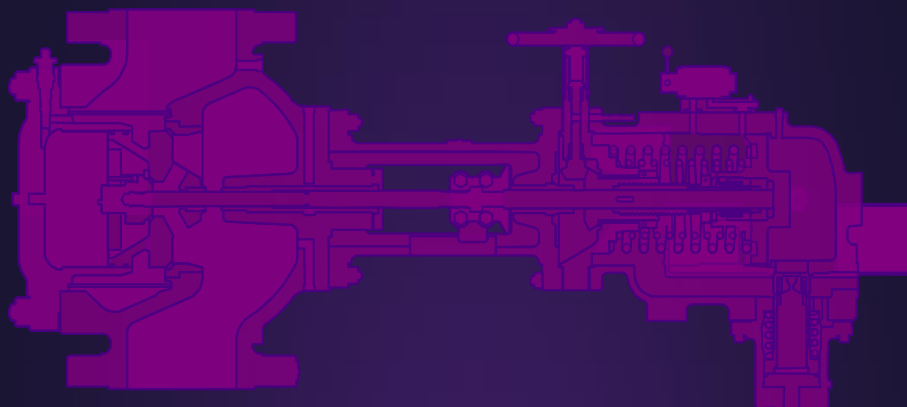

OOTTV

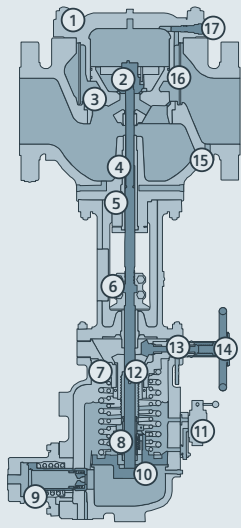
Gimpel Oil Operated Trip Throttle Valve

(Inverted Globe Body)

PIB 108-2020



OOTTV



- 1 Cover
- 2 Pilot design
- 3 Stellite wear-resistant metal alloys discs and seat
- 4 Back seat design
- 5 Stems and bushings
- 6 Non-rotating coupling
- 7 Spring
- 8 Special relay
- 9 Double relay design
- 10 Balanced piston
- 11 Lever-operated exerciser
- 12 Key
- 13 Gimpel hydraulic actuators
- 14 Beveled gear handwheel
- 15 Before and after seat drains featured
- 16 Drilled strainer

Background

SE Gimpel's oil operated trip throttle valve (OOTTV) is designed to close (trip) after a loss of oil supply pressure and does not reopen until oil pressure has been re-established.

The OOTTV (inverted globe body) is recommended for steam turbines driving the main process compressors in API-612 critical service applications in chemical and petrochemical plants, refineries and synchronous generators in power generation facilities with normal inlet steam pressure up to 900 psig (63.4 kg/cm²g).

Design

The OOTTV is designed to use hydraulic pressure supplied by the turbine control oil system to compress a fully enclosed, large diameter trip spring. This trip spring allows an OOTTV to typically produce four to 10 times the closing force of a mechanical latch-type trip throttle valve during tripping. The OOTTV is designed with pull-to-close operation and features a backseated stem that results in no continuous valve stem leakage when the valve is operating in its normal, fully-open position.

The OOTTV can be designed for start-up or extraction non-return valve service in applications that use a high-pressure extraction steam header for unit start-up.

The OOTTV achieved the functional safety certificate for application up to SIL 3.

Features

The OOTTV can be furnished in several body style and assembly arrangements, and can be installed with the valve stem in a horizontal or vertical position.

Standard features:

- SIL 3 certificated
- API 612 compliant
- Trips in 0.3 seconds or less
- ANSI NPS 3 to 24 and Class 150 to 2500
- Steam temperature up to 1,004°F (540°C)
- RF valve body drain and valve stem leak-off connections
- Stainless steel, integral, replaceable steam strainer basket
- Handwheel provides throttling for use during start-up
- Low pressure (100 – 200 psig) and high pressure (1,100 – 1,600 psig) hydraulic actuators available

Optional features:

- Limit switches to monitor valve stem positions
- Solenoid exerciser for remote on-line exercising
- Electric actuator for remote valve operation
- Protective cover (for harsh climate installations)
- Temporary start-up screen with spare cover gasket
- Blowdown kits

To ensure high accessibility, an oil mist separator with two fans can be used. This is particularly important if the turbine tend to leak oil.

The filter allows for at least five years of operation between changes. We recommend that the installation is carried out by qualified Siemens Energy personnel during an overhaul or other turbine shutdown. Piping is preferably constructed by the customer supervised by Siemens Energy personnel.

Published by

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