

Modernization of Fuel Control Valve

THM gas turbines



MAN PrimeServ has developed a modernization solution to further improve the maintainability and the reliability of existing fuel control valves.

To adapt the power output of the gas turbine to the requirements of the main process the fuel control valve regulates the fuel feed according to the corresponding control signals of the unit control system. To further improve the maintainability and the reliability MAN PrimeServ has developed a modernization solution for existing fuel control valves including a modification of the trip valve and the actuating unit.

Separate Trip Valve

To reduce maintenance efforts and therefore to improve the overall availability of the gas turbine unit MAN PrimeServ has developed an improved design with the trip valve used for interrupting the fuel supply to the combustion chambers during standstill or in case of a trip being separated from the fuel control valve. Within the modification the trip valve, which was formerly integrated in the fuel control valve, is removed and replaced by a new trip valve installed in the fuel gas pipe downstream the fuel control valve. Therefore, also the 3/2-way solenoid valve and the buffer are removed. (Fig. 1)

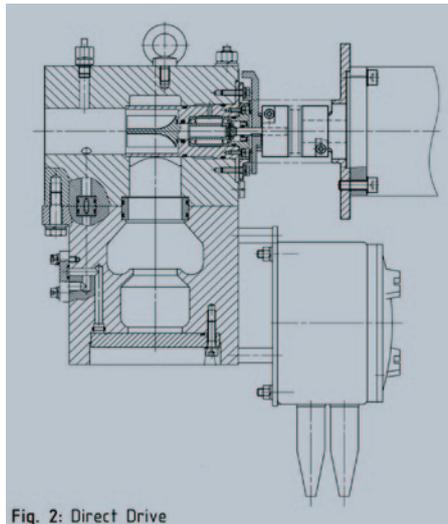
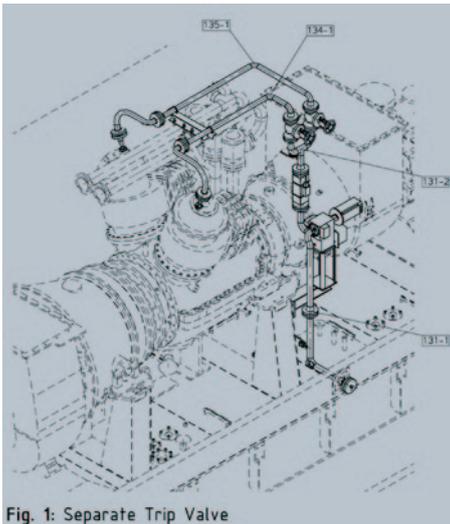
Direct Drive

For several years now MAN Diesel & Turbo uses a direct drive system based on a servo actuator and a new valve cone for the precise regulation of the fuel quantity. To adapt the existing fuel control valves to this standard MAN PrimeServ replaces the stepper motor with the high-maintenance assembly rod, which was formerly used for the power transmission between the stepper motor and the valve cone, by a servo actuator directly acting on



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the valve cone. Therefore, the existing valve cone is replaced by a new one specially designed for the use with the servo drive. (Fig. 2)

Benefits

The modernization of the fuel control valve to the actual technical standard features an improved maintainability and reliability:

- Separate trip valve for simplified maintenance and higher operation reliability
- Servo drive for fast and reliable positioning due to integrated feedback signal and homing run for simple resolver feedback calibration
- Direct drive with small overall size and less mechanical components
- EEx-d certification according to ATEX directive

Comprehensive Modernization

MAN PrimeServ provides comprehensive modernization concepts to modernize your equipment – no matter if you want to optimize reliability, operating costs, environmental sustainability or anything else. Please contact us for further information.

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