


VS



  
*Engineering  
GREAT Solutions*

## Turbine Bypass Stop Valve

# VS: Turbine Bypass Stop Valve

The IMI CCI VS Turbine Bypass Stop Valve is used in the harsh environment of modern fossil-fuelled power plants when a separate stop valve is used upstream of the HP and/or LP turbine bypass valves, or whenever a tight shut off valve is required. The VS valve is also used when a separate stop valve is required in the spray water line.

Another application for the VS valve is as an isolation valve in a process steam line.

The Kv/Cv-value of the valve depends on the pressure ratio between inlet and outlet and must – for each valve – be calculated by the computer program, where all throttling points in the valve are taken into consideration. A certified dimensional drawing will be supplied by IMI CCI.



*Designed to minimise material stresses*

## Key features

The VS valve design is an angle style. The valve body, fully machined of forged CrMo low alloy or carbon steel, is designed to minimise material stresses as well as to fit the requirements of the piping system with regard to material, pressure class and piping connections..

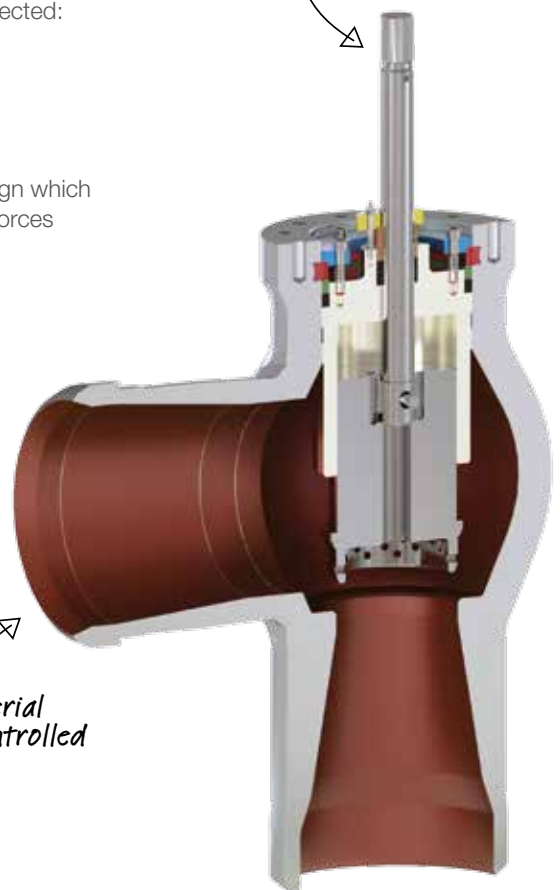
- > An even material distribution is essential to minimise the material stresses. By using the homogenous forged material, an accurate and controlled wall thickness is achieved
- > For severe operating conditions with large temperature variations, we recommend continuous preheating of the valve inlet side
- > The hard-faced seat is integrated with the valve body, thus assuring tight shut-off. This design, which eliminates the use of a gasket, provides a class V (ANSI / FCI 70-2) tightness between valve body and seat
- > The plug and stem assembly is made of a corrosion-resistant alloy, which is surface-treated to provide a sufficient hardness. The plug is guided by the stem or by the bonnet
- > A pressure seal bonnet design is used, which is tight, safe and easy to mount and remove

> The VS valve is designed to be operated by an actuator, and depending on the actuating force and project preference, any type of actuator can be selected:

- Pneumatic actuator
- Electrohydraulic actuator
- Electromechanical actuator

> Available in balanced tight design which reduces the required opening forces

*Designed for operation by any type of actuator*



*Homogenous forged material ensures accurate and controlled wall thickness*

## Benefits

- > Customisable
- > Designed to minimise material stresses
- > Easy mounting and removal
- > Reliable connection – safety
- > Tight

## Product specification

### Valve configurations

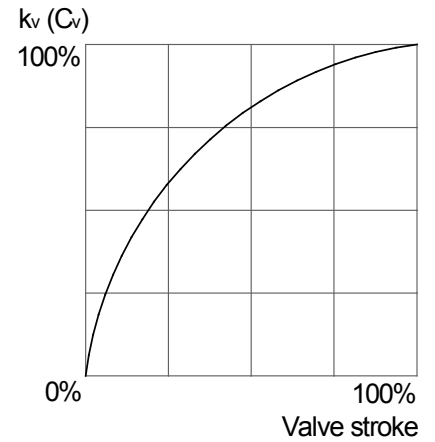
The IMI CCI stop valves are available in a number of designs, all derived from the VS configuration:

VS-T Unbalanced, tight design with leakage tightness according to ANSI B16.104 Class V

VS-BT Balanced, tight design. Leakage tightness according to ANSI B16.104 Class V

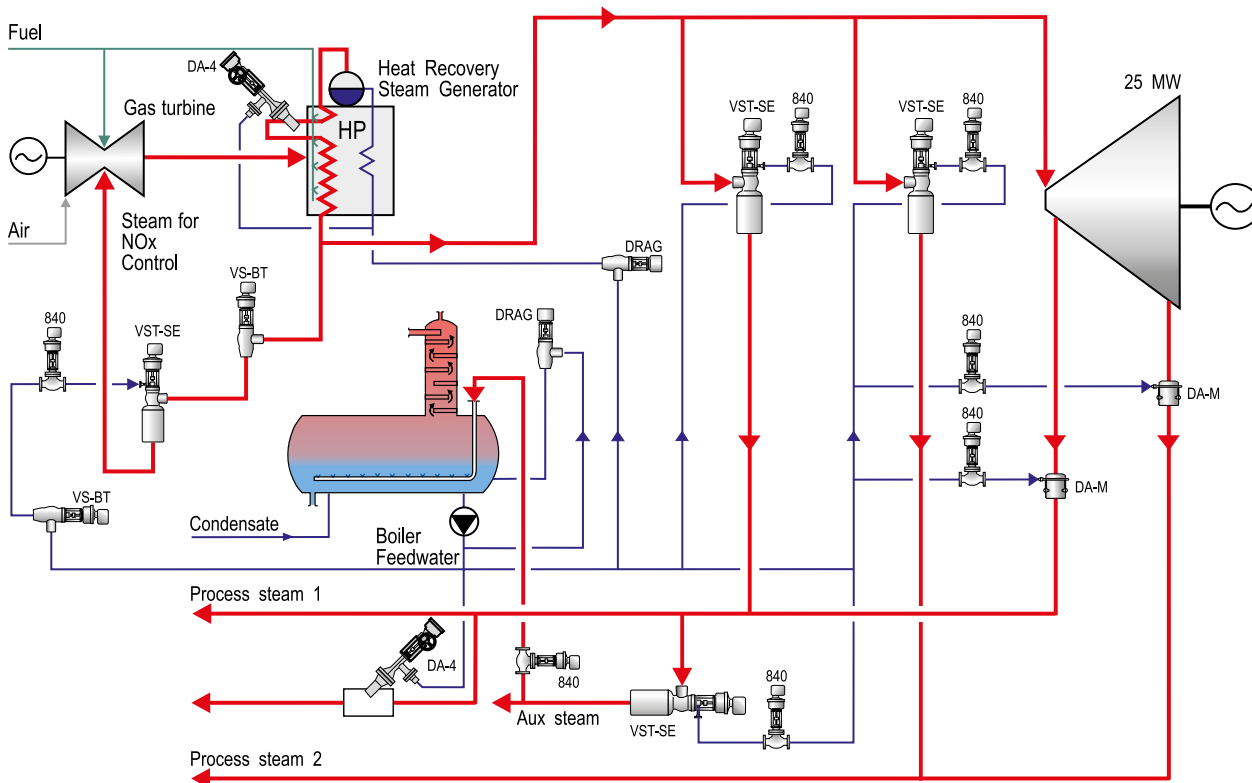
### Valve designation guide

Valve type VS  
 Plug design T, BT



Standard linear valve characteristics.  
 Other plug characteristics on request.

## Example



Typical simple CHP scheme with gas turbine, heat recovery steam generator (HRSG) and steam turbine

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