



# Bypass Blow Valve

**BD800**

**NEW**

**Reliable Tight Shut-off**



# 47%\* of customers who perform bypass blowdown have experienced **internal leakage of valves.**

\* Research by TLV CO., LTD.

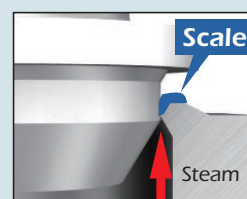
Periodic maintenance of steam system is followed by blowdown on bypass lines by supplying high pressure steam at start-up. However, globe valves often installed on bypass lines are commonly susceptible to internal leakage as the build-up of dirt and scale and the erosion of valve trim prevent the valve from closing completely. The BD800 was developed to eliminate these problems.

## API 598 valve with self-cleaning valve trim, clears scale build-up during operation



### Valve construction enables effective scale removal for tight shut-off

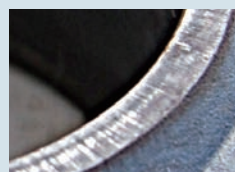
When the valve cannot be fully closed due to rust and scale build-up on the valve head or seat, simple and effective in-line scale removal restores steam tight sealing performance.



Scale is scraped off and flushed with steam by valve operation

### Highly durable materials prevent erosion

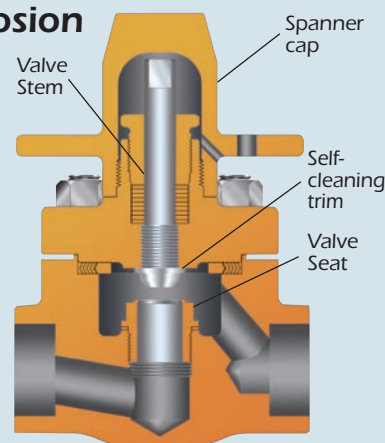
Valve stem and seat are constructed from durable materials to prevent erosion.



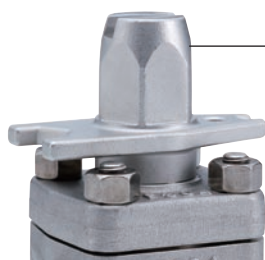
Wall thinning caused by steam leakage from eroded valve trim.

### Valve stem, valve seat and other key parts are replaceable

Parts worn by years of use can be replaced, extending product service life.



## Spanner cap is used in place of the valve handle



- Protects valve stem from weather and foreign matter, **preventing the valve stem from sticking**
- For applications with infrequent valve operation, the spanner cap can be fixed to the body to **prevent erroneous operation**



Fixed to body

- Can also be used **as a valve handle**



Adjusting the valve aperture



Tightening the gland retainer

### Applications

Bypass or other lines: for blowdown or elimination of steam locking

- Applicable fluids: Steam, water, air
- Maximum Operating Pressure PMO: 6.5 MPaG
- Connections: Screwed, socket welded, flanged

- Material: Stainless steel ASTM A182 F304
- Size: 15, 20, 25 mm
- Maximum Operating Temperature TMO: 425 °C

- Applicable standards: API 598, ASME B16.34
- Maximum Cv Value: 3.5 (US)



### CAUTION

To avoid abnormal operation, accidents or serious injury, DO NOT use this product outside of the specification range. Local regulations may restrict the use of this product to below the conditions quoted.

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Manufacturer  
**TLV CO., LTD.**  
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is approved by LRQA Ltd. to ISO 9001/14001

ISO 9001  
ISO 14001







# BYPASS BLOW VALVE

## MODEL BD800

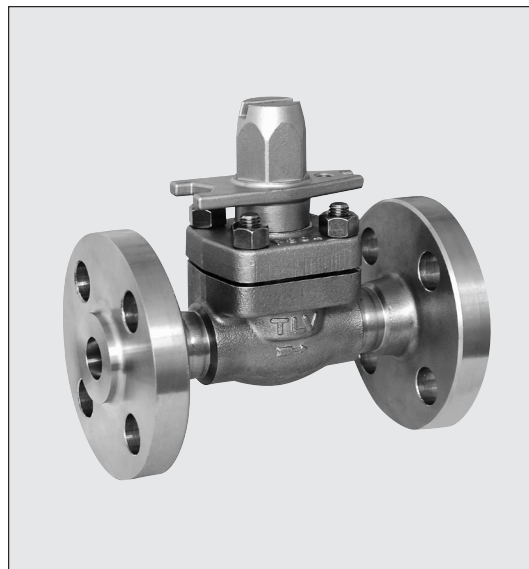
**BYPASS BLOW VALVE WITH SCALE REMOVAL FUNCTION AND INLINE MAINTAINABILITY FOR LONG SERVICE LIFE**

### Features

**Valve for use in high temperature and high pressure applications. Ideal for installation on steam trap bypass lines.**

**Unique construction enables in-line scale removal from the valve seat.**

1. Easy-to-use scale removal function ensures reliable long-term sealing performance to avoid internal leakage.
2. Gland packing proven in high pressure applications prevents external leakage.
3. Highly durable materials to prevent erosion.
4. Replaceable gland packing, valve stem, valve seat and gaskets for long product service life.
5. No valve handle to eliminate the risk of erroneous operation.
6. Spanner cap protects valve stem from weather and foreign matter, and can be used to operate the valve or tighten the gland retainer.



### Specifications

Model		BD800		
Connection		Screwed	Socket Welded	Flanged
Size (mm)		15, 20, 25		
Maximum Operating Pressure (MPaG)	PMO	6.5		
Maximum Operating Temperature (°C)	TMO	425		
Applicable Standards		API 598, ASME B16.34		
Seat Leakage (Gas test in accordance with API 598)		0 bubbles / 15 seconds @ 0.6 MPaG		
Applicable Fluids*		Steam, Water, Air		

\* Do not use for toxic, flammable or otherwise hazardous fluids.

1 MPa = 10.197 kg/cm<sup>2</sup>

PRESSURE SHELL DESIGN CONDITIONS (**NOT** OPERATING CONDITIONS): Maximum Allowable Pressure (MPaG) PMA: 6.5  
Maximum Allowable Temperature (°C) TMA: 425

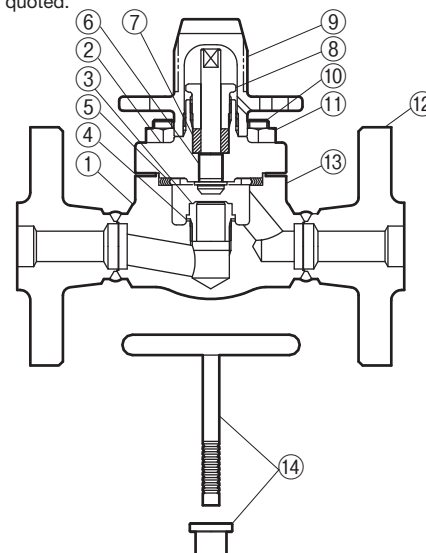


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No.	Description	Material	JIS	ASTM/AISI*
①	Body	Stainless Steel	—	A182 Gr.F304
②	Bonnet	Carbon Steel	—	A105
③ <sup>R</sup>	Valve Seat	—	—	—
④ <sup>MR</sup>	Valve Seat Gasket	Stainless Steel	SUS316L	AISI316L
⑤ <sup>MR</sup>	Bonnet Gasket	Graphite/Stainless Steel	- / SUS304	- / AISI304
⑥ <sup>R</sup>	Valve Stem	—	—	—
⑦ <sup>G</sup>	Gland Packing	Graphite	—	—
⑧	Gland Retainer	Stainless Steel	SUS303	AISI303
⑨	Spanner Cap	Cast Stainless Steel	—	A351 Gr.CF8
⑩	Bonnet Bolt	Stainless Steel	—	A193 Gr.B8 Cl.2
⑪	Bonnet Nut	Stainless Steel	—	A194 Gr.8
⑫	Flange	Cast Stainless Steel	—	A351 Gr.CF8
⑬	Nameplate	Stainless Steel	SUS304	AISI304
⑭ <sup>T</sup>	Gland Packing Removal Tool**	Stainless Steel	—	—

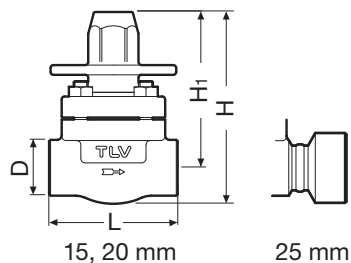
\* Equivalent \*\* Available on request. Consult TLV for details.

Replacement kits available: (M) maintenance parts, (R) repair parts, (G) gland packing, (T) gland packing removal tool



## Dimensions

### ● BD800 Screwed

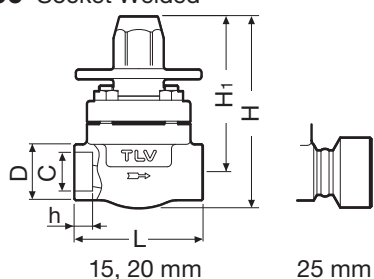


### BD800 Screwed\* (mm)

Size	L	H	H <sub>1</sub>	φ D	Weight (kg)
15	80	140	115	40	2.2
20	92			40	2.5
25	160			50	3.0

\* Rc(PT), other standards available

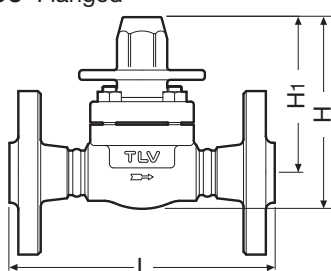
### ● BD800 Socket Welded



### BD800 Socket Welded (mm)

Size	L	H	H <sub>1</sub>	φ D	φ C	h	Weight (kg)
15	80	140	115	32	22.2	11	2.2
20	92			38	27.7	13	2.5
25	160			48	34.5	14	3.0

### ● BD800 Flanged



### BD800 Flanged (mm)

Size	L			H	H <sub>1</sub>	Weight* (kg)
	ASME Class					
	150RF	300RF	600RF			
15	152	152	165	140	115	4.1
20	178	178	190			5.4
25	203	203	216			6.5

Other standards available, but length and weight may vary

\* Weight is for Class 600RF

## Cv Values

	Nominal Valve Size (mm)		
	15	20	25
Cv (US)	3.5		
Cv (UK)	2.9		
Kvs (DIN)	3.0		