

LTB



- > 840LTB - Globe Type Low Temperature Bypass Valve
- > 860LTB - Angle Type Low Temperature Bypass Valve

LTB Low Temperature Bypass Valves

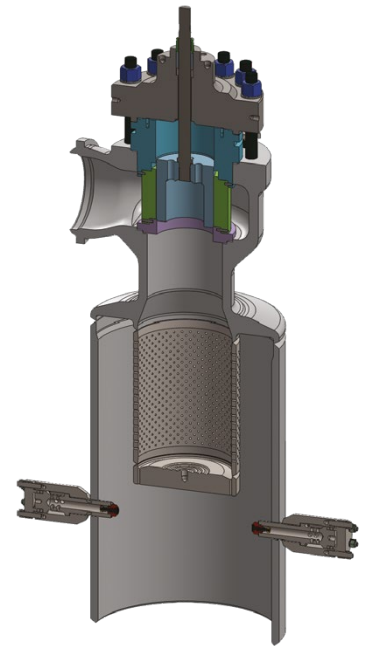
The LTB is a steam conditioning valve used for the simultaneous reduction of steam pressure and temperature to meet downstream requirements in a turbine bypass system or process control. The combined functions improve spraywater mixing and atomisation, rangeability, noise abatement, and response time resulting in accurate temperature control. The LTB is available in both globe or angle style body with the high performance model DAM desuperheater at the valve outlet.

Key features

- > Perforated cage design for optimal pressure reduction
- > Balanced trim design for low required opening force
- > Spring-loaded water injection nozzles
- > Quick exchangeable seat
- > Extended outlet design
- > Compatible with pneumatic, hydraulic and electric actuators

Benefits

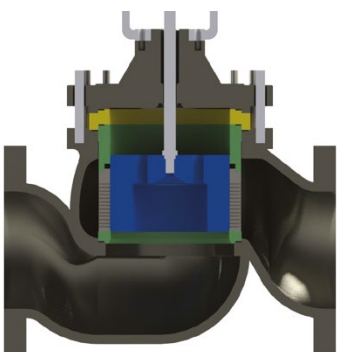
- > Accurate steam temperature control and high rangeability
- > High performance and control stability despite transient plant loads
- > Quick change seat for easy maintenance and reduced down time
- > Complete water evaporation prevents water fall-out resulting in cracked pipes
- > Low noise and vibration



Design advantage

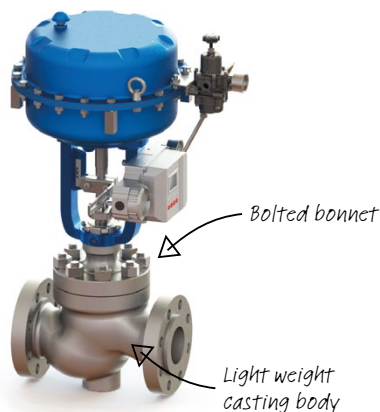
> Quick exchangeable seat

Suitable for installations where erosion caused by wet steam, or where high velocities can have an adverse effect on seat leakage tightness. The distribution of pressure drops in this configuration reduces the steam velocity across the sealing surfaces.



> Bolted bonnet and light weight valve body

The lightweight casted body design distributes heat evenly and the simple construction allows for easy maintenance. The standard diaphragm or piston pneumatic actuator can be quickly removed.



> Both diaphragm actuator or piston actuator can be applied

> Spring-loaded OP nozzles

The high performance variable orifice OP nozzle injects the right amount of fine droplets spray water into the turbulent high velocity steam for an efficient primary and secondary atomisation resulting in highly accurate temperature control.



Product specifications

Feature	Available Range
Body Type	Globe / Angle
End Connection	Butt-weld per ASME B16.25, Flanged raised face per ASME B16.5
Design Standard	ASME B16.34 / ASME B31.1
Pressure Rating	Class 150 to Class 2500 as per ASME B16.34
Flow direction	Flow to close (OTP) or Flow to open (UTP)*
Body Material	A216-WCB / A216-WCC / A217-WC6 / A217-WC9
Trim Size (in)	1.5, 2, 2.5, 3, 4, 5, 6, 7, 8
Trim Type	Balanced
Seat Type	Quick Change
Trim Material	410 SS+HT / A182-F11 / A182-F22 / INC 718+HT
Pneumatic Actuator	MSD-III, SP actuator
Leakage Class	ANSI / FCI 70.2 Class V
Noise Level	<100 dBA without insulation, depends on duration hours per day
Temperature	Maximum 550°C
Orientation	Vertical / Horizontal**
Flow Characteristic	Modified linear

Note 1. *Design temperature for flow to open (UTP) shall be less than 400°C.

Note 2. **Consult with IMI Critical Engineering for more details on horizontal installations.

Trim size (in)	Clearance Gap Cv	Stroke (mm)	Cv for LTB (Globe)		Cv for LTB (Angle)	
			Linear	Linear	Linear	Linear
2	0.875	30	46	53		
2.5	1.573	40	72	83		
3	2.176	40	100	114		
4	3.02	50	165	184		
5	4.74	70	275	312		
6	6.63	100	410	471		
7	7.73	100	560	650		
8	9.61	100	640	710		
10	8.93	130	970	1068		
12	10.71	150	1400	1543		

Valve inlet size variation (in)									
840LTB : Globe Type Low Temperature Bypass Valve									
Pressure Rating	Trim size (in)								
	1.5	2	2.5	3	4	5	6	7	8
150, 300	2, 3, 4	2, 3, 4	3, 4, 6	3, 4, 6	4, 6, 8	6, 8	6, 8	8, 10	8, 10
400, 600	2, 3, 4	2, 3, 4	3, 4, 6	3, 4, 6	4, 6, 8	6, 8	6, 8	8, 10	8, 10
900, 1500	2, 3, 4	2, 3, 4	3, 4, 6	3, 4, 6	4, 6, 8	6, 8	6, 8	10, 12	10, 12
2500	2, 3, 4	2, 3, 4	3, 4	3, 4, 6	6, 8	6, 8	8, 10	10, 12	10, 12
860LTB : Angle Type Low Temperature Bypass Valve									
Pressure Rating	Trim size (in)								
	1.5	2	2.5	3	4	5	6	7	8
150, 300	2, 3, 4	2, 3, 4	3, 4	4, 6	4, 6	6, 8	6, 8	8, 10	8, 10
400, 600	2, 3, 4	2, 3, 4	3, 4	4, 6	4, 6	6, 8	6, 8	8, 10	8, 10
900, 1500	2, 3	2, 3, 4	3, 4	4, 6	4, 6	6, 8	N/A	N/A	N/A
2500	3, 4	3, 4	3, 4	6, 8	6, 8	6, 8	N/A	N/A	N/A

Note. For valve inlet sizes that are not listed, please consult with IMI Critical Engineering.

Americas

imiccisales.americas@imi-critical.com

IMI CCI Brazil

Sao Paulo
Brasil

Tel: +55 11 2691 3361

IMI CCI Houston

Texas
USA

Tel: +1 832 467 7200

IMI CCI RSM

California
USA

Tel: +1 949 858 1877

Asia-Pacific

imiccisales.apac@imi-critical.com

IMI Critical Australia

Melbourne
Australia

Tel: +61 3 9213 0800

IMI Critical Japan

Kobe
Japan

Tel: +81 78 322 1220

IMI Critical Korea

Paju-si
Korea

Tel: +82 31 980 9800

IMI Critical Malaysia

Kuala Lumpur
Malaysia

Tel: +60 3 6412 3500

IMI Critical Singapore

Singapore

Tel: +65 6653 7000

IMI Critical Engineering

Lakeside, Solihull Parkway
Birmingham Business Park
Birmingham B37 7XZ
United Kingdom

Tel: +44 (0)121 717 3700

Fax: +44 (0)121 717 3701

www.imi-critical.com

Greater China

imiccisales.china@imi-critical.com

IMI Critical Greater China

Shanghai
PR China

Tel: +86 21 3973 8000

Europe

imiccisales.europe@imi-critical.com

IMI CCI Austria

Wien
Austria

Tel: +43 1 869 27 40

IMI CCI Brno

Brno
Czech Republic

Tel: +420 511 188 288

IMI CCI Italy

Milano
Italy

Tel: +39 02 4345 8611

IMI CCI Sweden

Säffle
Sweden

Tel: +46 533 689 600

IMI CCI Switzerland

Balterswil
Switzerland

Tel: +41 52 264 9500

IMI CCI United Kingdom

Manchester
UK

Tel: +44 (0)161 655 1680

India

imiccisales.india@imi-critical.com

IMI CCI Bangalore

Bangalore
India

Tel: +91 80 4030 3500

IMI CCI SriCity

Andhra Pradesh
India

Tel: +91 85 7639 8000

Middle East and Africa

imiccisales.mea@imi-critical.com

IMI Critical MEA

Dubai
United Arab Emirates

Tel: +971 4 807 3111

IMI CCI South Africa

Witbank
South Africa

Tel: +27 13 697 3305

Other

imicci.sales@imi-critical.com