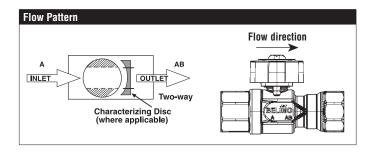
B215HT186, 1/2", High Temperature CCV Stainless Steel Ball and Stem





Technical Data	
Service	high temperature hot water/low pressure
001 V100	steam, up to 60% glycol
Flow Characteristic	A-port equal percentage
Controllable Flow Range	75°
Size [mm]	0.5" [15]
End Fitting	NPT female ends
Body	nickel plated brass (DZR) P-CuZn35Pb2
Ball	stainless steel
Stem	stainless steel
Stem Packing	Vition O-ring
Seat	ETFE
Seat O-ring	EPDM (lubricated)
Characterized Disc	ETFE
Body Pressure Rating [psi]	600
Max Inlet Pressure (Steam)	15 psi
Media Temperature Range (Water)	60°F to 266°F [16°C to 130°C]
Media Temperature Range (Steam)	250°F [120°C]
Maximum Differential Pressure (Steam)	15 psi
Max Differential Pressure (Water)	60 psi partially open ball, 116 psi full open
Close-Off Pressure	200 psi
Cv	1.86
Weight	0.7 lb [0.3 kg]
Leakage	0%
Servicing	maintenance free



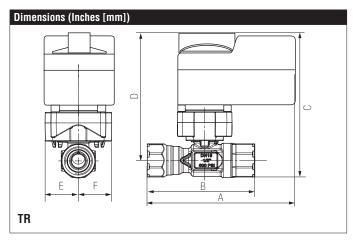
Application

This valve is typically used in air handling units on heating or cooling coils, and fan coil unit heating or cooling coils. Some other common applications include unit ventilators, VAV box re-heat coils and bypass loops. This valve is suitable for use in a hydronic system with variable flow.

This valve is designed to fit in compact areas where on/off, floating point and modulating control is required using 24 VAC.

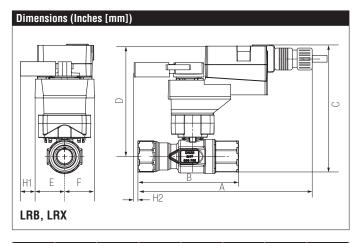
Suitable Actuators

	Non-Spring	Spring
B215HT186	TR, LR	TFR

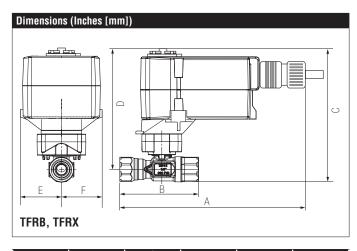


А	В	C	D	Е	F
4.16" [106]	3.33" [85]	5.44" [138]	4.91" [125]	1.48	" [38]





Α	В	С	D	E	F	H1	H2
8.32"	3.33"	5.8"	5.3"	1.3"		1.18"	0.5" [15]
[211]	[85]	[147]	[135]			[30]	



A	В	C	D	E	F
7.32" [186]	3.33" [85]	5.8" [147]	5.3" [135]	1.52	" [39]

LRB24-SR Modulating, Non-Spring Return, 24 V, for 2 to 10 VDC or 4 to 20 mA





Technical Data Power Supply 24 VAC ± 20%, 50/60 Hz, 24 VDC ± 10% Power Consumption Running 1.5 W Power Consumption Holding 0.4 W Transformer Sizing 3 VA (class 2 power source) Electrical Connection 3ft [1m], 18 GA plenum cable with 1/2" conduit connector Overload Protection electronic thoughout 0° to 90° rotation Operating Range Y 2 to 10 VDC, 4 to 20 mA w/ ZG-R01 (500 Ω, 1/4 W resistor) Input Impedance 100 k Ω for 2 to 10 VDC (0.1 mA), 500 Ω for 4 to 20 mA Feedback Output U 2 to 10 VDC Angle of Rotation 90° Direction of Rotation (Motor) reversible with built-in switch Position Indication integrated into handle Manual Override external push button Running Time (Motor) 90 sec Ambient Temperature Range -22°F to 122°F [-30°C to 50°C] Storage Temperature Range -40°F to 176°F [-40°C to 80°C] Housing NEMA 2, IP42, UL enclosure type 2 Agency Listings† cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC Noise Level (Motor) <35 dB (A) Servicing maintenance free <		
Power Consumption Running 1.5 W Power Consumption Holding 0.4 W Transformer Sizing 3 VA (class 2 power source) Electrical Connection $3ft [1m]$, 18 GA plenum cable with 1/2" conduit connector Overload Protection electronic thoughout 0° to 90° rotation Operating Range Y 2 to 10 VDC, 4 to 20 mA w/ ZG-R01 (500 Ω , 1/4 W resistor) Input Impedance 100 k Ω for 2 to 10 VDC (0.1 mA), 500 Ω for 4 to 20 mA Feedback Output U 2 to 10 VDC Angle of Rotation 90° Direction of Rotation (Motor) reversible with built-in switch Position Indication integrated into handle Manual Override external push button Running Time (Motor) 90 sec Ambient Temperature Range -22°F to 122°F [-30°C to 50°C] Storage Temperature Range -40°F to 176°F [-40°C to 80°C] Housing NEMA 2, IP42, UL enclosure type 2 Agency Listings† cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC Noise Level (Motor) <35 dB (A) Servicing maintenance free	Technical Data	
$\begin{array}{llllllllllllllllllllllllllllllllllll$	Power Supply	24 VAC ± 20%, 50/60 Hz, 24 VDC ± 10%
Transformer Sizing 3 VA (class 2 power source) Electrical Connection $3ft [1m]$, 18 GA plenum cable with 1/2" conduit connector Overload Protection electronic thoughout 0° to 90° rotation Operating Range Y 2 to 10 VDC, 4 to 20 mA w/ ZG-R01 (500 Ω , 1/4 W resistor) Input Impedance $100 \text{ k } \Omega$ for 2 to 10 VDC (0.1 mA), 500 Ω for 4 to 20 mA Feedback Output U 2 to 10 VDC Angle of Rotation 90° Direction of Rotation (Motor) reversible with built-in switch Position Indication integrated into handle Manual Override external push button Running Time (Motor) 90 sec Ambient Temperature Range $-22^{\circ}F$ to $122^{\circ}F$ [$-30^{\circ}C$ to $50^{\circ}C$] Storage Temperature Range $-40^{\circ}F$ to $176^{\circ}F$ [$-40^{\circ}C$ to $80^{\circ}C$] Housing NEMA 2, IP42, UL enclosure type 2 Agency Listings† cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC Noise Level (Motor) $<35 \text{ dB (A)}$ Servicing	Power Consumption Running	1.5 W
Electrical Connection 3ft [1m], 18 GA plenum cable with 1/2" conduit connector Overload Protection electronic thoughout 0° to 90° rotation Operating Range Y 2 to 10 VDC, 4 to 20 mA w/ ZG-R01 (500 Ω , 1/4 W resistor) Input Impedance 100 k Ω for 2 to 10 VDC (0.1 mA), 500 Ω for 4 to 20 mA Feedback Output U 2 to 10 VDC Angle of Rotation 90° Direction of Rotation (Motor) reversible with built-in switch Position Indication integrated into handle Manual Override external push button Running Time (Motor) 90 sec Ambient Temperature Range -22°F to 122°F [-30°C to 50°C] Storage Temperature Range -40°F to 176°F [-40°C to 80°C] Housing NEMA 2, IP42, UL enclosure type 2 Agency Listings† cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC Noise Level (Motor) <35 dB (A)	Power Consumption Holding	0.4 W
$\begin{array}{c} \text{connector} \\ \text{Overload Protection} \\ \text{Operating Range Y} \\ Operating Range Industry Policy Policy$	Transformer Sizing	3 VA (class 2 power source)
Operating Range Y $\begin{array}{c} 2 \text{ to 10 VDC, 4 to 20 mA w/ ZG-R01 (500 } \Omega, \\ 1/4 \text{ W resistor)} \\ \\ \text{Input Impedance} \\ 100 \text{ k } \Omega \text{ for 2 to 10 VDC (0.1 mA), 500 } \Omega \text{ for 4} \\ \text{ to 20 mA} \\ \\ \text{Feedback Output U} \\ 2 \text{ to 10 VDC} \\ \\ \text{Angle of Rotation} \\ \text{Direction of Rotation (Motor)} \\ \text{Position Indication} \\ \text{Integrated into handle} \\ \text{Manual Override} \\ \text{Running Time (Motor)} \\ \text{90 sec} \\ \text{Ambient Temperature Range} \\ \text{-22°F to 122°F [-30°C to 50°C]} \\ \text{Storage Temperature Range} \\ \text{-40°F to 176°F [-40°C to 80°C]} \\ \text{Housing} \\ \text{NEMA 2, IP42, UL enclosure type 2} \\ \text{Agency Listings} \\ \text{CULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC} \\ \text{Noise Level (Motor)} \\ \text{Servicing} \\ \text{maintenance free} \\ \end{array}$	Electrical Connection	
$ \begin{array}{c} 1/4 \ W \ resistor) \\ \\ Input \ Impedance \\ Input \ Input \ Impedance \\ Input \ Input \ Impedance \\ Input \ Input $	Overload Protection	electronic thoughout 0° to 90° rotation
to 20 mA Feedback Output U 2 to 10 VDC Angle of Rotation 90° Direction of Rotation (Motor) reversible with built-in switch Position Indication integrated into handle Manual Override external push button Running Time (Motor) 90 sec Ambient Temperature Range -22°F to 122°F [-30°C to 50°C] Storage Temperature Range -40°F to 176°F [-40°C to 80°C] Housing NEMA 2, IP42, UL enclosure type 2 Agency Listings† cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC Noise Level (Motor) <35 dB (A) Servicing maintenance free	Operating Range Y	•
Angle of Rotation 90° Direction of Rotation (Motor) reversible with built-in switch Position Indication integrated into handle Manual Override external push button Running Time (Motor) 90 sec Ambient Temperature Range -22°F to 122°F [-30°C to 50°C] Storage Temperature Range -40°F to 176°F [-40°C to 80°C] Housing NEMA 2, IP42, UL enclosure type 2 Agency Listings† cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC Noise Level (Motor) <35 dB (A) Servicing maintenance free	Input Impedance	
Direction of Rotation (Motor) reversible with built-in switch Position Indication integrated into handle Manual Override external push button Running Time (Motor) 90 sec Ambient Temperature Range -22°F to 122°F [-30°C to 50°C] Storage Temperature Range -40°F to 176°F [-40°C to 80°C] Housing NEMA 2, IP42, UL enclosure type 2 Agency Listings† cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC Noise Level (Motor) <35 dB (A) Servicing maintenance free	Feedback Output U	2 to 10 VDC
Position Indication integrated into handle Manual Override external push button Running Time (Motor) 90 sec Ambient Temperature Range -22°F to 122°F [-30°C to 50°C] Storage Temperature Range -40°F to 176°F [-40°C to 80°C] Housing NEMA 2, IP42, UL enclosure type 2 Agency Listings† cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC Noise Level (Motor) <35 dB (A) Servicing maintenance free	Angle of Rotation	90°
Manual Override external push button Running Time (Motor) 90 sec Ambient Temperature Range -22°F to 122°F [-30°C to 50°C] Storage Temperature Range -40°F to 176°F [-40°C to 80°C] Housing NEMA 2, IP42, UL enclosure type 2 Agency Listings† cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC Noise Level (Motor) <35 dB (A) Servicing maintenance free	Direction of Rotation (Motor)	reversible with built-in switch
Running Time (Motor) Ambient Temperature Range -22°F to 122°F [-30°C to 50°C] Storage Temperature Range -40°F to 176°F [-40°C to 80°C] Housing NEMA 2, IP42, UL enclosure type 2 Agency Listings† CULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC Noise Level (Motor) Servicing maintenance free	Position Indication	integrated into handle
Ambient Temperature Range	Manual Override	external push button
Storage Temperature Range	Running Time (Motor)	90 sec
Housing NEMA 2, IP42, UL enclosure type 2 Agency Listings† cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC Noise Level (Motor) <35 dB (A) Servicing maintenance free	Ambient Temperature Range	-22°F to 122°F [-30°C to 50°C]
Agency Listings† cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC Noise Level (Motor) <35 dB (A) Servicing maintenance free	Storage Temperature Range	-40°F to 176°F [-40°C to 80°C]
E60730-1:02, CE acc. to 2004/108/EC Noise Level (Motor) <35 dB (A) Servicing maintenance free	Housing	NEMA 2, IP42, UL enclosure type 2
Servicing maintenance free	Agency Listings†	· · · · · · · · · · · · · · · · · · ·
	Noise Level (Motor)	<35 dB (A)
Quality Standard ISO 9001	Servicing	maintenance free
	Quality Standard	ISO 9001



Modulating, Non-Spring Return, 24 V, for 2 to 10 VDC or 4 to 20 mA

Wiring Diagrams



💢 INSTALLATION NOTES



Provide overload protection and disconnect as required.

Only connect common to negative (-) leg of control circuits.



Actuators may be connected in parallel. Power consumption and input impedance must be observed.



Actuators may also be powered by 24 VDC.



A 500 Ω resistor (ZG-R01) converts the 4 to 20 mA control signal to 2 to 10 VDC.



Actuators with plenum cable do not have numbers; use color codes



Meets cULus requirements without the need of an electrical ground connection.



WARNING! LIVE ELECTRICAL COMPONENTS!

During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.

