## ELIMO

### **B3 Series, 3-Way, Characterized Control Valve Chrome Plated Brass Ball and Brass Stem**







Service       chilled or hot water, 60% glycol         Flow characteristic       A-port equal percentage B-port modified for constant common port flow         Controllable Flow Range       75°         Sizes       ½", ¾"         Type of end fitting       NPT female ends         Materials:       Body         Body       forged brass, nickel plated         Ball       chrome plated brass         Stem       nickel plated brass         Seats       PTFE         Characterizing disc       Tefzel®         Packing       2 EPDM 0-rings, lubricated         Body pressure rating       600 psi         Media temp. range       0°F to 250°F [-18°C to 120°C]         Close off pressure       200 psi         Maximum differential pressure (ΔP)       50 psi for typical applications         Leakage       0% for A to AB         <2.0% for B to AB         External leakage       according to EN 12266-1:2003         C <sub>V</sub> rating       A-port: see product chart for values		
Flow characteristic  A-port equal percentage B-port modified for constant common port flow  Controllable Flow Range  75°  Sizes  ½", ¾"  Type of end fitting  NPT female ends  Materials:  Body Ball chrome plated brass Stem nickel plated brass Stem Seats PTFE Characterizing disc Packing  Packing  Body pressure rating  600 psi  Media temp. range  O°F to 250°F [-18°C to 120°C]  Close off pressure  Maximum differential pressure (ΔP)  Leakage  0% for A to AB <2.0% for B to AB  External leakage  according to EN 12266-1:2003  A-port: see product chart for values	Technical Data	
B-port modified for constant common port flow  Controllable Flow Range 75° Sizes ½", ¾" Type of end fitting NPT female ends  Materials: Body Ball Chrome plated brass Stem Inckel plated brass Seats PTFE Characterizing disc Packing Packing Foresure rating Foresure	Service	chilled or hot water, 60% glycol
flow  Controllable Flow Range  75°  Sizes  ½", ¾"  Type of end fitting  NPT female ends  Materials:  Body Ball Chrome plated brass Stem Inckel plated brass Seats PTFE Characterizing disc Packing  Body pressure rating  600 psi  Media temp. range  10° F to 250° F [-18° C to 120° C]  Close off pressure  Maximum differential Pressure (ΔP)  Leakage  0% for A to AB <2.0% for B to AB  External leakage  according to EN 12266-1:2003  A-port: see product chart for values	Flow characteristic	A-port equal percentage
Controllable Flow Range  Sizes  75°  Sizes  7ye of end fitting  NPT female ends  Materials:  Body  Ball  Chrome plated brass  Stem  nickel plated brass  Seats  PTFE  Characterizing disc  Packing  Packing  Characterizing  Seds  PTFE  Characterizing  Chrome plated brass  NPTFE  Characterizing  Chrome plate		B-port modified for constant common port
Sizes       ½", ¾"         Type of end fitting       NPT female ends         Materials:       Body         Ball       chrome plated brass         Stem       nickel plated brass         Seats       PTFE         Characterizing disc       Tefzel®         Packing       2 EPDM 0-rings, lubricated         Body pressure rating       600 psi         Media temp. range       0°F to 250°F [-18°C to 120°C]         Close off pressure       200 psi         Maximum differential pressure (ΔP)       50 psi for typical applications         Leakage       0% for A to AB         <2.0% for B to AB		flow
Type of end fitting  Materials:  Body Ball Chrome plated brass Stem Seats PTFE Characterizing disc Packing  Body pressure rating  Media temp. range  Close off pressure  Maximum differential pressure (ΔP)  Leakage  Cy rating  NPT female ends  forged brass, nickel plated  brass  PTFE Tetzel® 2 EPDM 0-rings, lubricated  800 psi  Mo-rings, lubricated  Sop psi F-18°C to 120°C]  Close off pressure  200 psi  Maximum differential pressure (ΔP)  Leakage  O% for A to AB <2.0% for B to AB  External leakage  according to EN 12266-1:2003  A-port: see product chart for values	Controllable Flow Range	75°
Materials:       Body       forged brass, nickel plated         Ball       chrome plated brass         Stem       nickel plated brass         Seats       PTFE         Characterizing disc       Tefzel®         Packing       2 EPDM 0-rings, lubricated         Body pressure rating       600 psi         Media temp. range       0°F to 250°F [-18°C to 120°C]         Close off pressure       200 psi         Maximum differential pressure (ΔP)       50 psi for typical applications         Leakage       0% for A to AB         <2.0% for B to AB	Sizes	1/2", 3/4"
Body Ball chrome plated brass Stem nickel plated brass Seats PTFE Characterizing disc Packing 2 EPDM 0-rings, lubricated  Body pressure rating 600 psi Media temp. range 0°F to 250°F [-18°C to 120°C] Close off pressure 200 psi Maximum differential pressure (ΔP)  Leakage 0% for A to AB <2.0% for B to AB External leakage according to EN 12266-1:2003 C <sub>V</sub> rating A-port: see product chart for values	Type of end fitting	NPT female ends
Ball chrome plated brass Stem nickel plated brass PTFE Characterizing disc Packing 2 EPDM 0-rings, lubricated  Body pressure rating 600 psi Media temp. range 0°F to 250°F [-18°C to 120°C] Close off pressure 200 psi Maximum differential pressure (ΔP)  Leakage 0% for A to AB <2.0% for B to AB External leakage according to EN 12266-1:2003 C <sub>V</sub> rating A-port: see product chart for values	Materials:	
Stem       nickel plated brass         Seats       PTFE         Characterizing disc       Tefzel®         Packing       2 EPDM 0-rings, lubricated         Body pressure rating       600 psi         Media temp. range       0°F to 250°F [-18°C to 120°C]         Close off pressure       200 psi         Maximum differential pressure (ΔP)       50 psi for typical applications         Leakage       0% for A to AB          <2.0% for B to AB	Body	forged brass, nickel plated
Seats       PTFE         Characterizing disc       Tefzel®         Packing       2 EPDM 0-rings, lubricated         Body pressure rating       600 psi         Media temp. range       0°F to 250°F [-18°C to 120°C]         Close off pressure       200 psi         Maximum differential pressure (ΔP)       50 psi for typical applications         Leakage       0% for A to AB         <2.0% for B to AB	Ball	chrome plated brass
Characterizing disc Packing	Stem	nickel plated brass
Packing       2 EPDM 0-rings, lubricated         Body pressure rating       600 psi         Media temp. range       0°F to 250°F [-18°C to 120°C]         Close off pressure       200 psi         Maximum differential pressure (ΔP)       50 psi for typical applications         Leakage       0% for A to AB         <2.0% for B to AB	Seats	PTFE
Body pressure rating     600 psi       Media temp. range     0°F to 250°F [-18°C to 120°C]       Close off pressure     200 psi       Maximum differential pressure (ΔP)     50 psi for typical applications       Leakage     0% for A to AB       <2.0% for B to AB	Characterizing disc	Tefzel®
Media temp. range       0°F to 250°F [-18°C to 120°C]         Close off pressure       200 psi         Maximum differential pressure (ΔP)       50 psi for typical applications         Leakage       0% for A to AB         <2.0% for B to AB         External leakage       according to EN 12266-1:2003         C <sub>V</sub> rating       A-port: see product chart for values	Packing	2 EPDM O-rings, lubricated
Close off pressure     200 psi       Maximum differential pressure (ΔP)     50 psi for typical applications       Leakage     0% for A to AB        <2.0% for B to AB	Body pressure rating	600 psi
Maximum differential pressure (ΔP)     50 psi for typical applications       Leakage     0% for A to AB        <2.0% for B to AB	Media temp. range	0°F to 250°F [-18°C to 120°C]
pressure (ΔP)  Leakage 0% for A to AB <2.0% for B to AB  External leakage according to EN 12266-1:2003  C <sub>V</sub> rating A-port: see product chart for values	Close off pressure	200 psi
Leakage 0% for A to AB < 2.0% for B to AB  External leakage according to EN 12266-1:2003  C <sub>V</sub> rating A-port: see product chart for values	Maximum differential	50 psi for typical applications
<2.0% for B to AB External leakage according to EN 12266-1:2003 C <sub>V</sub> rating A-port: see product chart for values	pressure (∆P)	
External leakage according to EN 12266-1:2003  C <sub>V</sub> rating A-port: see product chart for values	Leakage	0% for A to AB
C <sub>v</sub> rating A-port: see product chart for values		<2.0% for B to AB
	External leakage	according to EN 12266-1:2003
I= 1	C <sub>v</sub> rating	A-port: see product chart for values
B-port: 70% of A to AB C <sub>v</sub>		B-port: 70% of A to AB C <sub>v</sub>

Tefzel® is a registered trademark of DuPont

# Dimensions OCEST-LOSSI-ANIENTEN A A

	Valve Nor	ninal Size	Dimensions (Inches [mm])			
Valve Body	Inches	DN [mm]	Α	В	С	
B307B-B311B	1/2"	15	2.41" [61.1]	1.39" [35.2]	1.20" [30.6]	
B312B-B316B	1/2"	15	2.38" [60.4]	1.78" [45.2]	1.29" [32.8]	
B317B-B321B	3/4"	20	2.73" [69.3]	1.87" [47.4]	1.47" [37.3]	

Flow Patter	'no				
FIUW Faller	119				
A	Three-way Mixing	"B" Por be piped bypass	to the	Three-way Divert	AB
Characterizi Disc (where applica	ible)	Port Disc All 3-way models)	Characterizi Disc (where applic	<u> </u>	B Port Disc (All 3-way models)

#### **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 or constant flow.

#### \* (Not for use in change over applications)

	<b>Valve Nominal Size</b>		Type	Suitable Actuators			S	
Cv	Inches DN [mm]		3-way NPT	Non-S	Non-Spring		Spring	
0.3	1/2	15	B307B					
0.46	1/2	15	B308B					
8.0	1/2	15	B309B					
1.2	1/2	15	B310B					
1.9	1/2	15	B311B					
3	1/2	15	B312B			Series	ies	
4.7	1/2	15	B313B			Ser	LF Series	
10	1/2	15	B315B		<b>4</b>	E	造	
16	1/2	15	B316B					
4.7	3/4	20	B317B					
7.4	3/4	20	B318B					
14	3/4	20	B320B					
24	3/4	20	B321B					

<sup>\*</sup>Models without characterizing disc









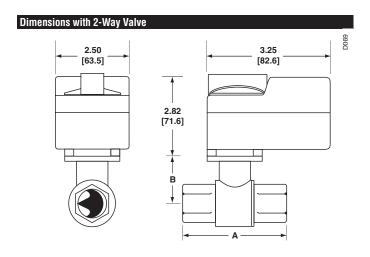




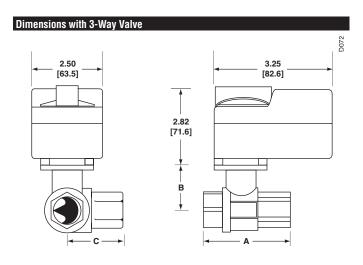
TR24-3 US TR24-3-T US with 3 ft plenum rated cable TR24-3/300 US TR24-3-T US with 10 ft plenum rated cable TR24-3/500 US TR24-3-T US with 16 ft plenum rated cable

Technical Data	
Control	on/off, floating point
Nominal voltage	24 VAC 50/60 Hz
Nominal voltage range	19.228.8 VAC
Power consumption	1 W
Transformer sizing	1VA (class 2 power source)
Electrical connection	screw terminals accessible after removal of
	small cover (3 ft, 10 ft, 16 ft cables optional)
Input impedance	0.36 kΩ
Angle of rotation	90°
Position indication	integrated into handle
Manual override	push down handle
Running time	90 seconds @ 60 hz, 108 seconds @ 50 hz
Humidity	5 to 95% non-condensing
Ambient temperature	-22°F to 122°F (-30°C to 50°C)
Storage temperature	-40°F to 176°F (-40°C to 80°C)
Housing	NEMA 1/IP40
Housing rating	UL94-5V(B)
Agency listing†	cULus according to UL 60730-1A/-2-14, CAN/
0 0	CSA E60730-1:02, CE according to 2004/108/
	EC and 2006/95/EC for line voltage and/or -S
	versions
Noise level	max. 35 db (A)
Quality standard	ISO 9001

<sup>†</sup> Rated impulse voltage 330V, Control pollution degree 2, Type of action 1



	Valve Nominal Size		Dimensions (	Inches [mm])
Valve Body	Inches DN [mm]		Α	В
B207(B)-B211(B)	1/2"	15	2.41" [61.1]	1.39" [35.2]
B212(B)-B215(B)	1/2"	15	2.38" [60.4]	1.78" [45.2]
B217(B)-B221(B)	3/4"	20	2.73" [69.3]	1.87" [47.4]



	<b>Valve Nominal Size</b>		Dimensions (Inches [mm])			
Valve Body	Inches	DN [mm]	Α	В	C	
B307(B)-B311(B)	1/2"	15	2.41" [61.1]	1.39" [35.2]	1.20" [30.6]	
B312(B)-B315(B)	1/2"	15	2.38" [60.4]	1.78" [45.2]	1.29" [32.8]	
B317(B)-B321(B)	3/4"	20	2.73" [69.3]	1.87" [47.4]	1.47" [37.3]	



#### **Wiring Diagrams**



#### X INSTALLATION NOTES



The common connection from the actuator must be connected to the Hot connection of the controller.



Actuators with plenum rated cable do not have numbers on wires; use color codes instead.



The actuator Hot must be connected to the control board Hot.

**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.

#### **TR24-3 Actuators, On-Off, Floating Point**

NOTE: TR24-3(-T) US cannot be wired in parallel with themselves or any other actuator.

