The School Board of Broward County, Florida
Office of Facilities & Construction
1643 North Harrison Parkway
Sunrise, FL 33323 **(754) 321-1500**

Document 01330a (00 62 11)-Submittal Form

To: VIA DESIGN STUDIO
(Project consultant)

Attn: Vanessa Smith torres
Project No: P.001866
Project Title: GOB Renovations
Facility Name: River Glades Elementary School
Location No: 2891

Submittal No.: 007 **Date:** 12/26/19

☐ Resubmittal

(One Submittal item per form)

We hereby submit:

Qty	Reference Number	Title/Description/ Manufacturer	Spec Section Title, Paragraph/ Drawing Detail Reference
1	007	Valves	SBBC N0=15.100
			CSI No= 22 0526

☒ Submitted for Review and Approval.
☐ Resubmitted for Review and Approval.
☐ Complies with contract requirements.
☐ Will be available to meet construction Schedule.
☐ Reviewed, coordinated and approved by the Contractor.

Other remarks concerning submittal:

LUNACONCONSTRUCTION GROUP Clara Uzcategui Digitally signed by Clara Uzcategui DN: cn=Clara Uzcategui, o=Lunacon Construction Group, Corp, ou, email=cuzcategui@lunaconcorp.com, c=US Date: 2019.12.26 16:04:03 -05'00' Integ

Contractor: **By:** (Signature) **Contractor:**
Retain copy for Project Files

To:
(Contractor)

Date Received: _____ **Date Returned:** _____

FROM: Project Consultant

The referenced submittal has been/is:

☐ Approved
☐ Approved as Noted
☐ Disapproved/Resubmit
☐ Not Subject to Review
☐ Incomplete/Resubmit
☐ Provide file copy with corrections identified.
☐ Full Point by Point Comparative Data Required for Evaluation and Approval Process.
☐ Other:

By: (Signature) **Project Consultant:**

Distribution: ☐ Contractor ☐ Owner ☐ Retain Copy for Project File

Submittal

Job: P.001866
GOB Renovation
Riverglades Elementary School
Location No: 2891

Spec Section No: 15.100
Submittal No: 007
Revision No:
Sent Date: 12/26/2019

Submittal Title:Valves

Contractor:Lunacon Construction Group
16890 S Dixie Highway
Miami, FL 33157
(786)293-0035

VIA Design Studio, LLC
Vanessa Smith Torres

A	X	NO EXCEPTIONS
B		EXCEPTIONS AS NOTED
C		RESUBMIT
D		REJECTED
E		FOR INFORMATION ONLY

SUBMITTAL REVIEW

This review is for conformance with the information given in the design concept expressed in the Contract Documents.
The Contractor remains responsible for:
1 Compliance with the Contract Documents
2 Confirming and correlating quantities and dimensions
3 Selecting fabrication processes and techniques of construction
4 Coordination of this Work with other trades
5 Performing this Work in a safe and satisfactory manner
6 Compliance with the Contractor's construction schedule
7 All other provisions of the Agreement
It is understood that the Architect's notation on the submittal is not to be construed as an authorization for additional work or additional cost.

VDS
VIA DESIGN STUDIO
AA26002071

Reviewed: VST
Checked: VST
Date: 01/15/20

☒ Approved ☐ Revise & Resubmit
☐ Rejected ☐ Approved As Noted

Contractor's Stamp

LUNACON CONSTRUCTION GROUP

Checked as to General Arrangement and Conformity with Contract Document.

Subcontractor Is Advised That Failure Of The Architect-Engineer Or The General Contractor To Direct And Correct An Error In The Material Submitted For Approval Or Errors In Either Size Or Location Dimensions, Does Not In Any Way Relieve The Supplier/ Subcontractor Of His Responsibility To Comply In All Details With The True Meaning A Intent Of The Contract Documents.

By: Clara Uzcategui Date: 12/26/2019
Submittal: 15.100

Architect's Stamp

Engineer's Stamp

JOHNSON, AVEDANO, LOPEZ, RODRIGUEZ & WALEWSKI ENGINEERING GROUP, INC.

SUBMITTAL REVIEW IS FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT AND CONTRACT DOCUMENTS.

MARKING OR COMMENTS SHALL NOT BE CONSTRUED AS RELIEVING THE CONTRACTOR FROM COMPLIANCE WITH THE PROJECT PLANS AND SPECIFICATIONS, NOR DEPARTURES THEREFROM. THE CONTRACTOR REMAINS RESPONSIBLE FOR DETAILS AND ACCURACY FOR CONFIRMING AND CORRELATING ALL QUANTITIES, FOR ASCERTAINING THAT DIMENSIONS OF EQUIPMENT AND MATERIALS SUBMITTED WILL FIT WITHIN THE ALLOCATED SPACE, JOB CONDITIONS AND DIMENSIONS, FOR SELECTING FABRICATING PROCESS, FOR TECHNIQUES OF ASSEMBLY AND CONSTRUCTION AND FOR PERFORMING THE WORK IN A SAFE MANNER.

☒ REVIEWED	☐ REVIEWED AS NOTED	☐ REVISE AND RESUBMIT	☐ REJECTED

REVIEWED BY: John G. Cumper, P.E.

SUBMITTAL No.: 007 - Valves DATE: Jan 13, 2020.

B3 Series, Three Way, Characterized Control Valve
Stainless Steel Ball and Stem

Application

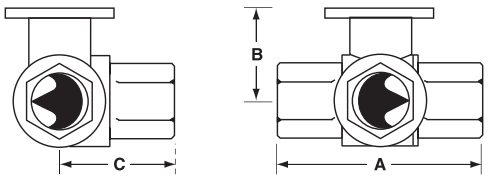
This valve is typically used in air handling units on heating or cooling coils, and fan coil unit heating or cooling coils. Some other common applications include Unit Ventilators, VAV box re-heat coils and bypass loops. This valve is suitable for use in a hydronic system with variable or constant flow.

Technical Data

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", 1", 1¼", 1½", 2"
Type of end fitting	NPT female ends
Materials:	
Body	forged brass, nickel plated
Ball	stainless steel
Stem	stainless steel
Seats	PTFE
Characterizing disc	Tefzel®
Packing	2 EPDM O-rings, lubricated
Body pressure rating	
600 psi	½" - 1"
400 psi	1¼" - 2"
Media temp. range	0°F to 250°F [-18°C to 120°C]
Close off pressure	
200 psi	½" - 2"
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_v rating	A-port: see product chart for values B-port: 70% of A to AB C_v

Tefzel® is a registered trademark of DuPont

Dimensions



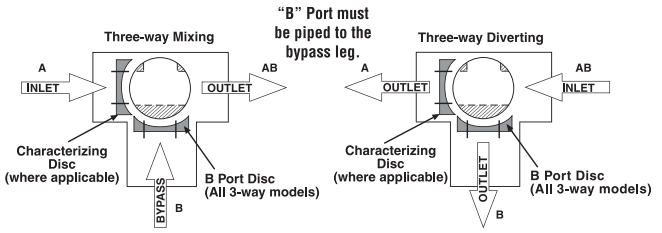
3WayValve-B307-B320

	Valve Nominal Size		Dimensions (Inches [mm])		
Valve Body	Inches	DN [mm]	A	B	C
B307-B311	½"	15	2.41" [61.1]	1.39" [35.2]	1.20" [30.6]
B312-B316	½"	15	2.38" [60.4]	1.78" [45.2]	1.29" [32.8]
B317-B321	¾"	20	2.73" [69.3]	1.87" [47.4]	1.47" [37.3]
B322-B325	1"	25	3.09" [78.4]	1.87" [47.4]	1.59" [40.3]
B329-B331	1¼"	32	3.96" [100.6]	2.27" [57.7]	2.14" [54.3]
B338-B341	1½"	40	4.39" [111.6]	2.51" [63.7]	2.40" [61.1]
B347-B352	2"	50	4.90" [124.5]	2.73" [69.5]	2.74" [69.7]

	Valve Nominal Size		Type	Suitable Actuators					
				Non-Spring			Spring		
C_v	Inches	DN [mm]	3-Way NPT	TR Series	LR Series	NR...N4 Series	TF Series	LF Series	AF Series
0.3	½	15	B307						
0.46	½	15	B308						
0.8	½	15	B309						
1.2	½	15	B310						
1.9	½	15	B311						
3	½	15	B312						
4.7	½	15	B313						
10	½	15	B315						
14	½	15	B316						
4.7	¾	20	B317						
7.4	¾	20	B318						
14	¾	20	B320						
24	¾	20	B321						
7.4	1	25	B322						
10	1	25	B323						
30	1	25	B325*						
10	1¼	32	B329						
19	1¼	32	B330						
25	1¼	32	B331						
19	1½	40	B338						
29	1½	40	B339						
37	1½	40	B340						
46	1½	40	B341						
29	2	50	B347						
37	2	50	B348						
46	2	50	B349						
57	2	50	B350						
68	2	50	B351						
83	2	50	B352						

*Models without characterizing disc

Flow Patterns



BELIMO

5 YEAR WARRANTY

CE LISTED 94 D5 TEMP.IND. & REG.EQUIP. c UL us

BRUSHLESS dc motor

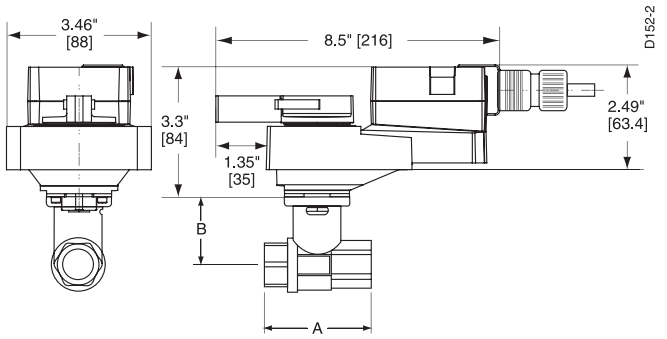
Models

ARB24-SR
ARX24-SR Flexible Version

Technical Data	
Power supply	24 VAC ± 20% 50/60 Hz 24 VDC ± 10%
Power consumption running	2.5 W
holding	0.4 W
Transformer sizing	5 VA (class 2 power source)
Electrical connection	½" conduit connector 18 GA plenum rated cable 3 ft [1m], 10 ft [3m], 16 ft [5m]
Overload protection	electronic throughout 0° to 95° rotation
Operating range Y	2 to 10 VDC, 4 to 20 mA
Feedback output U	1 to 10 VDC, max 0.5 mA
Input impedance	100 kΩ (0.1 mA), 500 Ω
Angle of rotation	90°, adjustable with mechanical stop
Torque	180 in-lb [20 Nm]
Direction of rotation	reversible with protected ↷/↶ switch
Position indication	handle
Manual override	external push button
Running time ARB24-SR... ARX24-SR...	 90 seconds 300, 150, 90 seconds, constant independent of load
Humidity	5 to 95% RH non-condensing (EN 60730-1)
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 2/IP54
Housing material	UL94-5VA
Agency listings†	cULus according to UL 60730-1A/-2-14, CAN/CSA E60730-1:02, CE according to 2004/108/EC and 2006/95/EC for line voltage and/or –S versions
Noise level	<45 dB(A)
Quality standard	ISO 9001

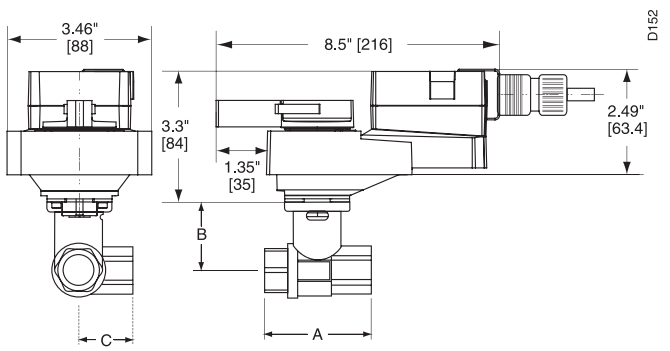
† Rated impulse voltage 800V, Control pollution degree 3, Type of action 1 (1.B for -S models)

Dimensions with 2-Way Valve



	Valve Nominal Size		Dimensions (Inches [mm])	
Valve Body	Inches	DN [mm]	A	B
B231-B232	1¼"	32	3.72" [94.6]	2.04" [51.9]
B238-B240	1½"	40	3.88" [98.5]	2.04" [51.9]
B248-B250	2"	50	4.21" [107.0]	2.27" [57.7]

Dimensions with 3-Way Valve



	Valve Nominal Size		Dimensions (Inches [mm])		
Valve Body	Inches	DN [mm]	A	B	C
B329-B331	1¼"	32	3.96" [100.6]	2.27" [57.7]	2.14" [54.3]
B338-B341	1½"	40	4.39" [111.6]	2.51" [63.7]	2.40" [61.1]
B347-B352	2"	50	4.90" [124.5]	2.73" [69.5]	2.74" [69.7]

Wiring Diagrams

INSTALLATION NOTES

△2 ***CAUTION** Equipment damage!*
Actuators may be connected in parallel.
Power consumption and input impedance must be observed.

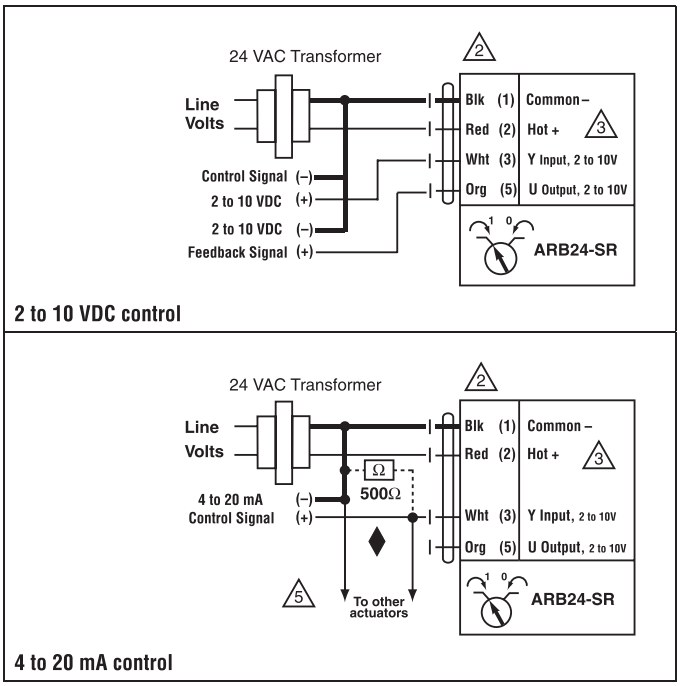
△3 Actuators may also be powered by 24 VDC.

△5 Only connect common to neg. (–) leg of control circuits.

APPLICATION NOTES

◆ The ZG-R01 500 Ω resistor converts the 4 to 20 mA control signal to 2 to 10 VDC, up to 2 actuators may be connected in parallel.

⚠ ***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.



2 to 10 VDC control

4 to 20 mA control