Product Line Overview

The area alarm vertical zone valve box (AZVB) combo shall be the Powerex FirstCall™ alarm series and must be installed and tested in strict accordance with NFPA 99 standards and or any other local codes before use.

The Powerex AVZVB monitors the status of up to four medical gases in Category 1 healthcare facilities. The alarm systems are ETL listed to UL 1069 and comply with the latest edition of NFPA 99.

Each AZVB shall consist of the following components: a white extruded high-impact ABS frame, an easily removable flexible window, up to 4 three-piece ball valves, gas-specific sensors, and a 7" high definition touchscreen PLC + HMI.

PLC + HMI

- Monitors medical gas transducers and alarm points on 7" LED HMI touchscreen
- Includes preprogrammed standard settings for medical gas inputs
- Allows customization of alarm set points, messages, and source descriptions
- Records alarm and error history in Alarm Summary
- Communicates with building monitoring system using BACnet over IP protocol (optional)
- USB-B port for input of a mouse or keyboard to facilitate faster programming or firmware updates when Internet access is unavailable

Power

- Input power to the alarm panel is 110 to 240 VAC +/- 10% 50/60 Hz. The toggle control circuit breaker is rated for 2 amps
- The internal power supply converts the input voltage to low voltage 24 VDC
- All user accessible electronics and wiring utilize low voltage

Alarm Panel Configuration

- Monitors Gas Levels: The panel keeps track of up to 4 digital gas sensors located in the zone valve box assembly
- Real-time Pressure Display: The screen continuously shows the gas pressure or vacuum levels in the piping system
- Customizable Display Information: During setup, define the areas served by each gas using the touchscreen
- Clear Visual Cues: All gas badges are color coded according to NFPA 99. During operation, green lights indicate normal system pressure/vacuum, while individual red lights signal alarm faults like low or high pressure
- Adjustable Alarm Settings: Preset low and high alarm points follow NFPA 99 standards, but you can easily adjust them using the touchscreen
- Maintenance Mode: When Maintenance mode is toggled, the alarm horn will not activate during a normal alarm event, allowing a technician to perform maintenance without setting off the loud alarm

Three-Piece Ball Valves

The valves shall be three-piece, ball-type design with a forged brass body and a chrome plated, brass ball for sizes 0.5" to 1".

- Ball seats, stem seals, and stem washer use reinforced Teflon (PTFE), with Viton stem and flange o-rings
- Blow-out proof stem
- Maximum pressure rating of 600 psi (29in/Hg vacuum)
- Type K copper tubing extensions
- Cleaned for oxygen service in accordance with current CGA standards
- Capped tube ends to prevent contamination prior to installation
- Three 1/8" NPT ports:
  - One for pressure or vacuum gauge

- One for gas sensor
- One for purging while brazing during installation
- Identification bracket for medical gas identification label
- All valves shall be piped left to right

Zone Valve Box Unit Design
- The alarm shall be affixed to the valve assembly using a hinge of 18 gauge stainless steel
- The box is constructed using 14 gauge sheet steel construction, painted to prevent rust
- A single box shall house from one to four valves
- Box shall be supplied with an adjustable plaster flange 0.43" to 1.35" for easy mounting
- The alarm panel electronics shall be housed within steel frame enclosure

Unit Window
- The window shall be an opaque, white, flexible cover with a cutout for viewing the 7" digital display
- The window shall not be replaceable while any valve is in a closed position
- The window shall include the following statement: "MEDICAL GAS SHUTOFF VALVES. CAUTION: CLOSE ONLY IN EMERGENCY"
- Pull-out ring, pre-attached to the center of the window, facilitates removal

Features and Benefits
- Designed and manufactured in the USA to meet NFPA 99 standards
- Convenient single unit saves space and installation time
- 7" high-resolution touchscreen HMI for intuitive operation
- Pre-programmed standard settings for medical gas inputs
- Real-time pressure display
- Gas-specific DISS transducers provided for each valve
- Available Ethernet connectivity using BACnet over IP protocol to building management system
- Customizable emergency instructions in the event of an alarm
- High-impact ABS trim
- Hinged electronics enclosure door for easy assembly and maintenance
- 5-year warranty on parts, 2-year warranty on labor

- All valves have one source-side and two patient-side 1/8" NPT ports
- All valves are three-piece in-line repairable full port ball valves
- Blow-out proof stem design
- Accommodates up to 4 valves sizes from 0.5" to 1"
- Valves to have a working pressure of 600 psi (29 in/Hg vacuum)
- All valves cleaned for oxygen service
- Full color-coded labeling (one of each medical gas provided)

Ordering Information
AVZVB-N-VVV...-GGG...(-B)

N = Number of Valves (up to 4)

V = Valve Sizes

  A = 0.5"

  B = 0.75"

  C = 1"

G = Gas Type

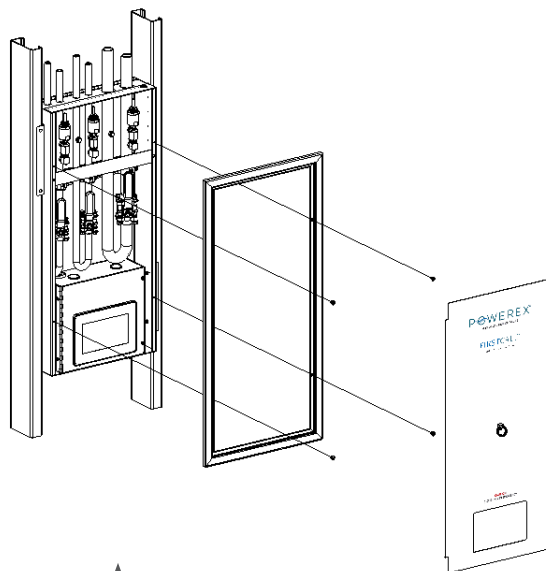|	
O = Oxygen	N = N2
A = Medical Air	C = CO2
V = Vacuum	W = WAGD
2 = N2O	I = Instrument Air

B = BACnet Adder (optional)

Ex. AVZVB-3-ABC-OAV-B = Vertical Alarm Zone Valve Box with a 0.5" oxygen valve, a 0.75" medical air valve, & and a 1" vacuum valve, with BACnet

Disclaimers
Up to 4 valves fit in a single box. A single box can fit up to three 1" valves. 4 Valve boxes must have three 0.5" valves, with the fourth being 0.5", 0.75" or 1".

POWEREX MEDICAL

Rough-in Dimensions			
Valve Count	Width (in)	Depth (in)	Height (in)
1	14.0"	4.2"	30.6"
2	14.0"	4.2"	30.6"
3	14.0"	4.2"	30.6"
4	14.0"	4.2"	30.6"

Installation Example

Example Configuration

AVZVB-3-AAB-OAV

36.6"

16.2"

POWEREX
MEDICAL GAS SHUT-OFF VALVES

FIRSTCALL™
Medical Gas Alarm

CAUTION
CLOSE ONLY IN EMERGENCY

OXYGEN	MEDICAL AIR	MEDICAL VACUUM
55 PSIG	51 PSIG	16 IN HG
NORMAL	NORMAL	NORMAL

NORMAL | GENERAL EMERGENCY