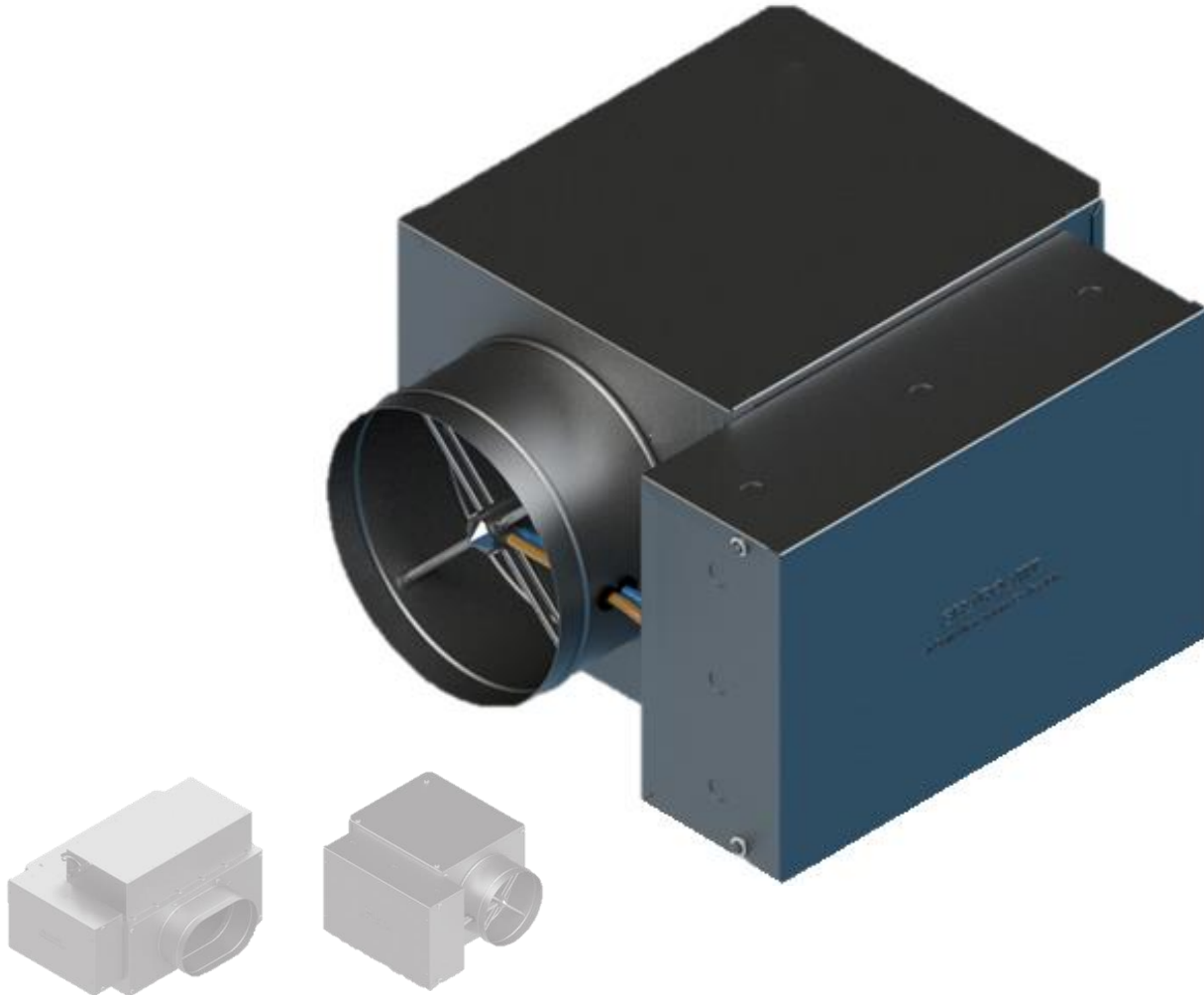




**SHARQAWI**

Air Distribution Systems Co. Factory



## **VARIABLE AIR VOLUME BOX (VAV)**

### *Installation, Operation and Maintenance Manual*

Please read carefully before attempting to assemble, install, operate or maintain the described product. Pay attention to safety warnings, failure to comply with instructions could result in personal injury and/or property damage! **RETAIN INSTRUCTIONS FOR FUTURE REFERENCE.**

## RECVING AND UNPACKING

When unpacking, inspect carefully for any visible damages that may have occurred during transit. Make sure any loose fittings, bolts, etc., are tightened before installing a VAV into service.

VAV units and it's accessories are shipped with identification labels showing the data below in *Figure 1*.

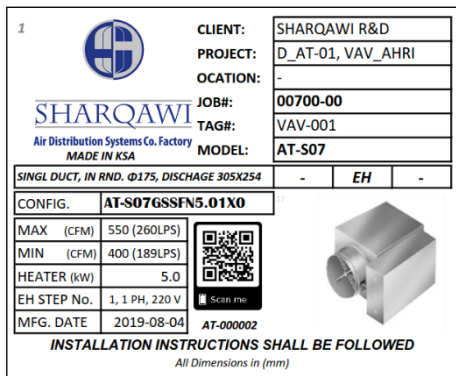


Figure 1, IDENTIFICATION LABELS



Do not operate the VAV if damaged during shipping, handling or use.

## DIMENSIONAL DATA AND SPECS

Check VAV dimensions and specs as per *Figure 2*, DIMENSIONAL DATA and *Figure 3*, MODEL TYPE.

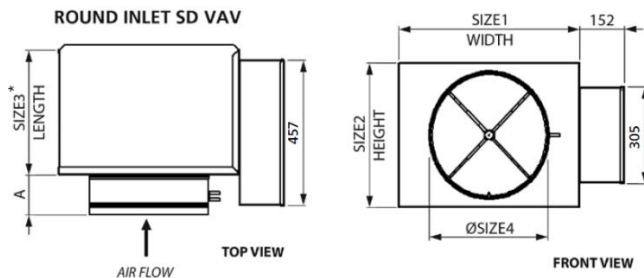


Figure 2, DIMENSIONAL DATA

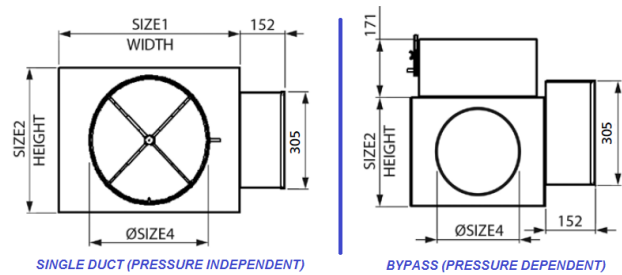


Figure 3, MODEL TYPE



Do not operate the VAV if there is a variation between requested SPECS. and received SPECS.

In case storage was required, VAV should be stored on a stable, clean, dry and flat level surface that is not subject to flooding or wet conditions.

## INSTALLATION GUIDELINES

The proper installation of a VAV is equally as important to the total performance of the VAV as the manufacturing process and materials used.



Improper handling and installation can cause property damage, injury or death.

- It is prohibited to lift from blades, linkage or actuators, drag the VAV and push the VAV, see *Figure 4*, PROHIBITED LIFTING

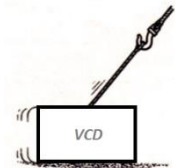


Figure 4, PROHIBITED LIFTING

- VAV lifting -especially heavy VAV- has to be performed by using rigid beam as per *Figure 5*, HEAVY VAV LIFTING

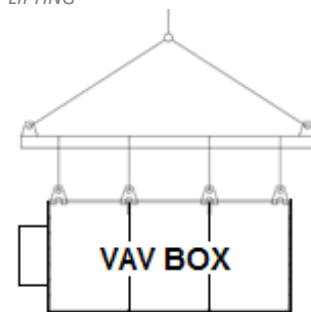
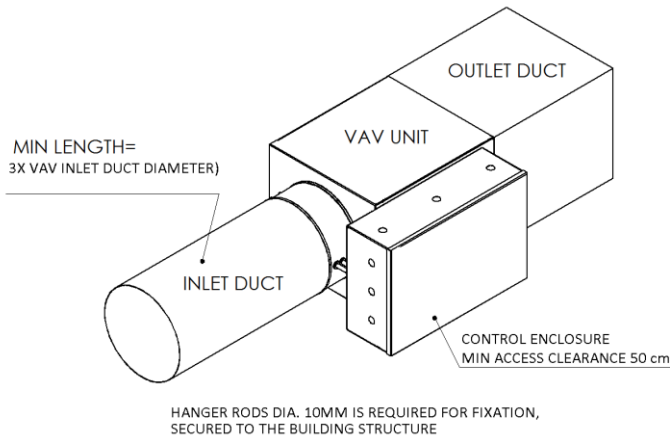


Figure 5, HEAVY VAV LIFTING



**Improper installation can cause excessive leakage and/or additional torque requirements.**

- Do not install any screws, rivets or any additional parts to VAV frame, which may interfere with VAV's movable parts.



- INLET DUCT** Min of 3, duct diameter (must equal the listed collar diameter) of straight duct upstream of the inlet sensor shall be used .
- HANGER RODS** Dia. 10, with angle 30x30x3 is required for fixation. Rods shall be secured to the building structure.

- FLEXIBLE DUCT** can be used at the inlet of VAV units, away from VAV inlet 3 times VAV inlet Diameter. Length Flexible length more than 2 ft. Not recommended to be used
- CLOSE COUPLING** the terminal unit inlet and outlet not recommended.
- Follow the wiring diagram.
- It is recommended that discharge ductwork be lined with min 1/2 inch Thickness, with density 48 kg/m<sup>3</sup>.
- For flanged (TDC) type VAV installation use screw metric M10 screw with strength of 4.8.
- Align VAV properly with other ductworks and avoid any misalignment or twisted surfaces.
- Ensure that the ductwork is properly supported, and VAV itself will not relied upon to support ductwork.
- In case of Electrical Heater usage, fixation comply with NFPA 90A section 4.2.4.5.1 and NFPA 70 Article 424 part VI.

## MAINTENANCE

In addition to operation observation, annual maintenance should be to assure a long and more reliable life for VAV. The following steps should be accomplished:

- Clean any dirt and grime from VAV's parts that may interfere with its movement.
- VAV's blades should be checked in closed position to ensure that they are all close in proper way; Adjustments may be required to the linkage in order to close and open the blades appropriately.
- All VAV's bearings are self-lubricating; do not use any lubricants with the VAV.
- Ensure that VAV is perform properly in its normal working condition.
- Make sure any loose fittings, bolts, etc., are tightened.

## OPERATION

- VAVs are suitable for Variable/Constant modulation working conditions.

### SHARQAWI Air Distribution System Co. Factory

Street 38, Industrial Area – Phase 3  
P.O. Box 50353, Jeddah 21523, Kingdom of Saudi Arabia  
Tel.: +966 12 6380683 / 6080896 / 6080082 Direct: 9200 06309  
Fax: +966 12 6380684  
Email: [info@sharqawifactory.com](mailto:info@sharqawifactory.com)  
[www.sharqawifactory.com](http://www.sharqawifactory.com)

