

RECTANGULAR VRF-SAV (SMART AIR VALVE)

SUBMITTAL



SAV

Rectangular Supply Damper used in VRF or pressure independent applications

DESCRIPTION

The SAV, (Smart Air Valve) is a pressure independent, self-balancing rectangular damper utilized in VRF applications to deliver specific CFM to each zone in a ducted system. The Smart Air Valve has a built-in pitot tube measuring section that controls adjustable air velocities, that are measured by differential pressure sensors. The SAV velocity setting potentiometers will assign a target air velocity at each SAV. The SAV air delivery will adjust itself to locate the target velocity. Then the SAV will hold this assigned air delivery regardless of static pressure changes in the system.

The EzTouchX used with a Smart Air Valve can request various preset air volume targets and send a specific target request to the SAV. The SAV will maintain constant CFM or cooling to the space. Once the zone is satisfied the SAV will switch to the vent mode to limit on/off compressor operation.

The Smart Air Valve is a new concept in air delivery. This operation emulates the way an indoor VRF unit operates allowing the addition of VAV or variable air volume control in a VRF system controlling up to 20 Smart Air Valves per indoor unit or fan coil.

Zonex VRF-VAV supplies a predictable CFM from each damper in the system.

Rectangular Smart Air Valves feature parallel blade construction for height dimensions to 14".

The damper assembly is enclosed in a 26" long, 20-gauge galvanized steel sleeve, with standard slip and drive connections. Damper blades are bolted to a hexagonal damper shaft.

Damper blades close against steel blade stops. The damper linkage is non-adjustable and fully enclosed within the damper.

Dampers feature 24VAC, full stall motors, which do not require use of end switches to terminate travel. Each SAV is paired and controlled from its respective EzTouchX zone thermostat.

Damper motors are easily removed for damper shaft and motor inspection. Each actuator hat section is insulated to prevent condensation.

TECHNICAL DATA

Electrical:

Supply Voltage: 24vac

Power consumption: 2 VA maximum (1.5W)

Environmental:

Operating temperature: 32 to 122° F (0 to 50° C)

Operating humidity: 10-95% non-condensing

Storage temperature: 0 to 160° F (-18 to 71° C)

General:

Shell: 20-gauge cold rolled galvanized steel

Shaft: 1/2" dia. plated steel, hexagonal

Blades: 16 gauge galvanized

Bushings: Stainless steel oilite

Actuator: Power Open / Power Close

Stroke: 90°

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TYPICAL CAPACITIES

Designing a Rectangular Smart Air Valve (SAV)

CFM x .205 = Area in Square Inches

Divide Square Inches by desired duct Height to find the duct Width

BTU	*CFM	SQ inches	SAV WxH		SAV WxH		SAV WxH		SAV WxH
16,745	558	102	13x8	or	10x10	or	9x12	or	7x14
17,894	596	109	13x8	or	11x10	or	9x12	or	8x14
18,551	618	113	14x8	or	11x10	or	9x12	or	8x14
19,536	651	119	15x8	or	12x10	or	10x12	or	8x14
20,439	681	125	15x8	or	12x10	or	10x12	or	9x14
21,342	711	130	16x8	or	13x10	or	11x12	or	9x14
22,245	741	136	17x8	or	13x10	or	11x12	or	10x14
23,148	772	141	17x8	or	14x10	or	12x12	or	10x14
24,050	802	147	18x8	or	14x10	or	12x12	or	10x14
24,953	832	152	19x8	or	15x10	or	12x12	or	11x14
25,856	862	158	19x8	or	15x10	or	13x12	or	11x14
26,759	892	163	20x8	or	16x10	or	13x12	or	11x14
27,662	922	169	20x8	or	16x10	or	14x12	or	12x14
28,656	952	174	21x8	or	17x10	or	14x12	or	12x14
29,468	982	180	22x8	or	17x10	or	15x12	or	12x14
30,371	1012	185	22x8	or	18x10	or	15x12	or	13x14
31,274	1042	191	23x8	or	18x10	or	15x12	or	13x14
32,177	1073	196	24x8	or	19x10	or	16x12	or	14x14
33,080	1103	202	24x8	or	19x10	or	16x12	or	14x14
33,983	1133	207	25x8	or	20x10	or	17x12	or	14x14
34,885	1163	213	26x8	or	20x10	or	17x12	or	15x14
35,788	1193	218	26x8	or	21x10	or	17x12	or	15x14
36,691	1223	224	27x8	or	22x10	or	18x12	or	15x14
37,594	1253	229	28x8	or	22x10	or	18x12	or	16x14
38,497	1283	235	28x8	or	23x10	or	19x12	or	16x14
39,400	1313	240	29x8	or	23x10	or	19x12	or	16x14
40,303	1343	246	29x8	or	24x10	or	20x12	or	17x14
41,206	1374	251	30x8	or	24x10	or	20x12	or	17x14
42,109	1404	257	31x8	or	25x10	or	20x12	or	18x14

*Air delivery may vary +/- 10% based on altitude, air density or installation. These air quantities were derived from duct sizing chart .1" friction loss per 100' of duct. All CFMs listed are approximate. The pressure drop for these dampers is .2"

ORDERING INFORMATION

5622 Engineer Drive / Huntington Beach, CA 92649 / Office (800) 228-2966 / Fax (714) 898-6802

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Part No. SAV WxH Smart Air Valve, Width x Height – Actuator located on the Height dimension

DIMENSIONAL DATA

