

AIR TERMINAL UNITS (VAV)

WE ZONE
AIR



BETA
industrial
PRODUCTS CATALOGUE

PRODUCT BULLETIN

10

Ver: May 2019





BETA
i n d u s t r i a l

index

>> BY-PASS TYPE - EBP MODEL	1-2
>> P.I. SINGLE DUCT VAV - SDV/SDVE MODELS	3-6
>> BY-PASS SINGLE DUCT VAV - SDVBP/SDVBPE MODELS	7-9
>> ELECTRIC HEATER FOR RE-HEAT APPLICATIONS	10-12
>> PRESSURE INDEPENDENT TYPE - CTC MODEL	13-16
>> PRESSURE INDEPENDENT TYPE - RS MODEL	17-20
>> PRESSURE INDEPENDENT TYPE - RM MODEL	21-25



By-Pass Variable Air Volume Terminal – Model EBP

DESCRIPTION

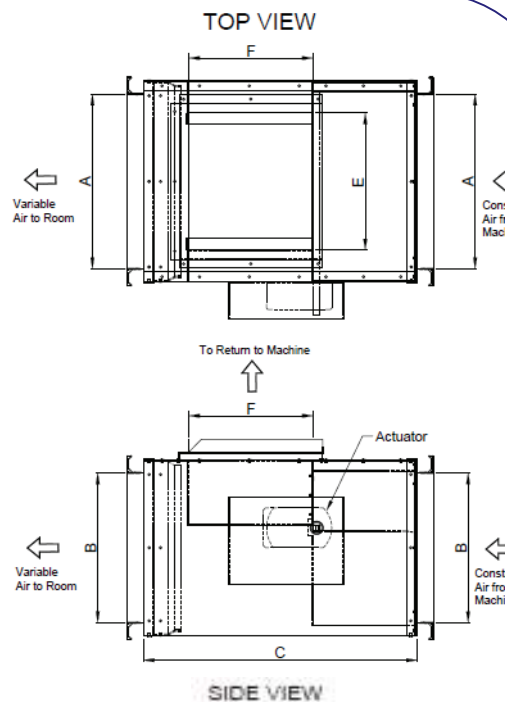
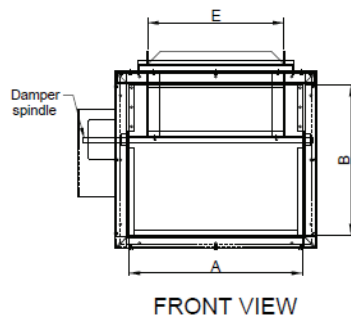
- Casing is made of 0.9mm & damper blade is made of 1.2mm; galvanized steel sheet.
- Blades are with rubber gasket, and self-lubricating plastic bushes.
- Damper shaft is made of solid square $\frac{1}{2} \times \frac{1}{2}$ inch G.I.
- Acoustically and thermally insulated with 1" thick glass fiber material 24kg/m³ that conform to NFPA-90A & 255, UL 181 and ASTM C665.
- Adjustable sliding-type by-pass outlet.
- Flanges at inlet & discharge openings.
- Responses proportionally to cooling requirements by changing the air volume supplied to space to be air conditioned while relieves conditioned air to the return ceiling plenum or duct.
- EBP maintains a constant air volume across the central system while it supplies a variable air volume to the space.



MODEL EBP

UNIT SIZE	DIMENSIONS					
	MAX CFM	DISCHARGE		C	BY PASS	
		A	B		E	F
1	200	250	200	400	175	100
2	400	300	250	400	225	150
3	600	350	300	550	275	250
4	800	400	350	550	325	250
5	1200	450	400	600	375	275
6	1500	500	450	600	450	150
7	2400	600	500	600	550	150
8	3200	800	550	600	750	150

NOTE : ALL DIMENSIONS ARE IN MM



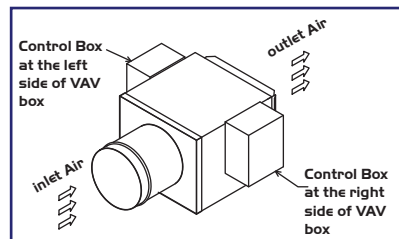


By-Pass Variable Air Volume Terminal – Model EBP

SOUND DATA

	CFM	ΔP_{SD} inch WG	ΔP_{SB} inch WG	NC _D	NC _R
SIZE 1	75	0.07	0.09	-	10
	125	0.14	0.18	12	12
	150	0.24	0.32	14	14
	200	0.35	0.51	19	20
SIZE 2	150	0.05	0.08	-	-
	250	0.12	0.17	12	13
	325	0.21	0.30	13	19
	400	0.33	0.42	15	25
SIZE 3	250	0.04	0.05	-	-
	350	0.09	0.13	-	11
	475	0.16	0.22	12	14
	600	0.25	0.32	13	22
SIZE 4	325	0.03	0.06	-	-
	475	0.07	0.11	-	12
	650	0.12	0.19	11	15
	800	0.20	0.28	13	22
SIZE 5	475	0.03	0.05	-	-
	725	0.06	0.11	-	12
	950	0.11	0.20	12	16
	1200	0.17	0.33	13	21
SIZE 6	850	0.03	0.06	-	-
	950	0.06	0.11	-	13
	1300	0.12	0.21	11	16
	1500	0.18	0.32	13	23
SIZE 7	950	0.04	0.07	-	11
	1450	0.10	0.22	-	15
	1925	0.18	0.34	12	23
	2400	0.29	0.42	14	30
SIZE 8	1275	0.04	0.08	-	11
	1925	0.09	0.22	11	15
	2550	0.15	0.36	12	23
	3200	0.23	0.45	14	31

- 1- ΔP_{SD} is the static pressure loss through the unit with 100% air flow through discharge outlet.
- 2- ΔP_{SB} is the static pressure loss through the unit with 100% air flow through by-pass outlet.
- 3- NC_D is the discharge noise criteria through the unit with 100% air flow through discharge outlet, based on 10 dB room absorption.
- 4- NC_R is the radiated noise criteria through an exposed unit with 100% air flow through discharge outlet, based on 10 dB room absorption.



ORDERING KEY



E	B	P	I	L	B	S	T
BY-PASS TYPE RECTANGULAR VAV BOX							
SIZE: 1, 2, 3, 4, 5, 6, 7 OR 8							
L: CONTROL BOX AT LEFT OF VAV BOX (STANDARD)							
R: CONTROL BOX AT RIGHT OF VAV BOX							
ACTUATOR:							
B: BELIMO							
G: GRUNER							
H: HONEYWELL							
J: JOHNSON							
S: SIEMENS							
O: OTHERS							
W: WITHOUT ACTUATOR							
THERMOSTAT:							
A: ACSYS							
B: BELIMO							
H: HONEYWELL							
J: JOHNSON							
S: SIEMENS							
T: TITAN							
O: OTHERS							
W: WITHOUT THERMOSTAT							
T: WITH TRANSFORMER							
-: WITHOUT TRANSFORMER							



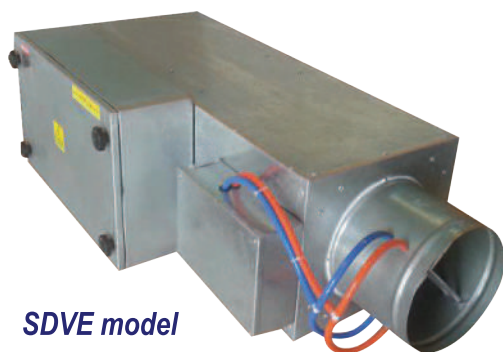
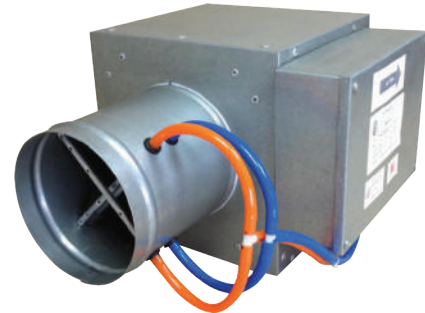


PRESSURE INDEPENDENT SINGLE DUCT VAV - SDV/SDVE MODELS

DESCRIPTION

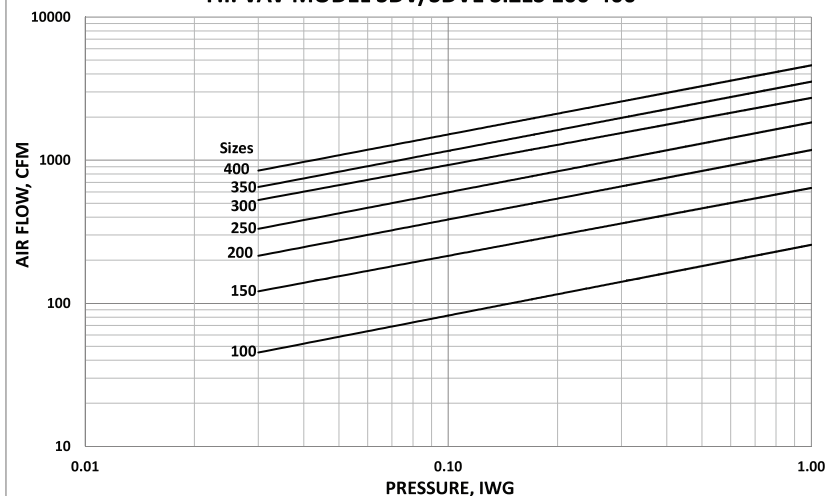
- Casing is made of 0.9mm & damper blade is made of 1.2mm; galvanized steel sheet.
- Damper shaft is made of solid square $\frac{1}{2} \times \frac{1}{2}$ inch G.I.
- With self-lubricating plastic bushes.
- Lined with $\frac{1}{2}$ inch thick clean high efficient insulation made of strong resilient dual density glass fibers 32kg/m³ that conform to NFPA-90A & 255, UL 181 and ASTM C665.
- Insulation edges are covered by metal to prevent exposing to airstream for zero fiber migration.
- Equipped with a multi-point flow-cross inlet flow sensor made of Aluminum. Other types of sensors can be arranged upon request with minimum quantities applicable.
- Sound and Pressure Drop of SDV terminals are tested at Intertek – USA in accordance with industry standards AHRI 880-2017 and ASHRAE 130-2016.
- For both Variable Air Volume (VAV) and Constant Air Volume (CAV) applications.
- SDVE model is enabled for electric heater for re-heat application by extended length of box.

SDV model



SDVE model

P.I. VAV MODEL SDV/SDVE SIZES 100-400



AIR CAPACITIES

SIZE	100	150	200	250	300	350	400
INLET DIA., IN	4	6	8	10	12	14	16
INLET AREA, SQ.FT.	0.09	0.20	0.35	0.55	0.79	1.07	1.40
NOMINAL FLOW, CFM	256	639	1176	1833	2721	3534	4597
MIN SENSIBLE FLOW, CFM	45	121	215	331	473	650	848

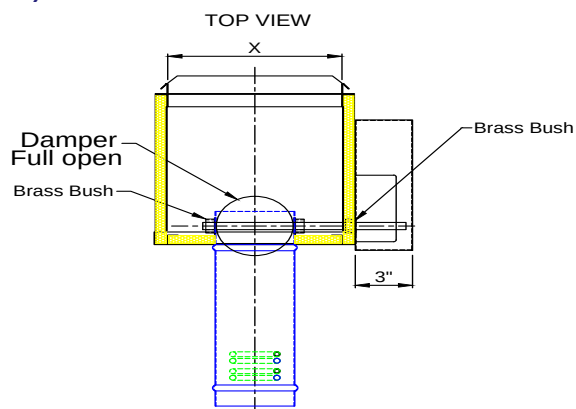




PRESSURE INDEPENDENT SINGLE DUCT VAV - SDV/SDVE MODELS

DIMENSIONS

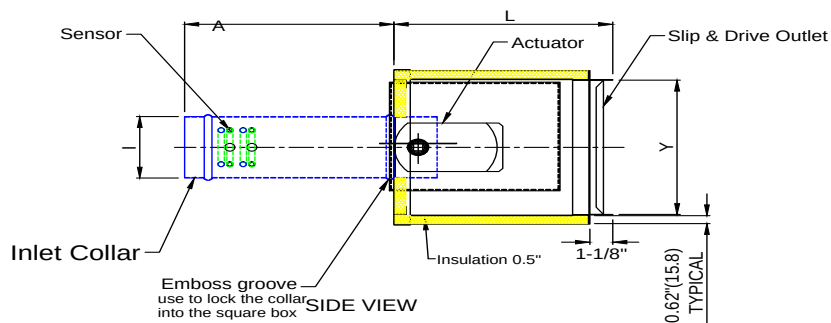
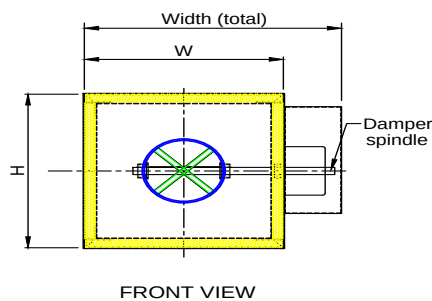
1) SDV MODEL:



UNIT SIZE	DIMENSIONS							
	Width (total)	W	H	L	A	I	X	Y
4	13 (330)	10 (254)	10 (254)	11 (280)	10.5 (267)	3.875 (98)	8.75 (222)	8.75 (222)
6	13 (330)	10 (254)	10 (254)	11 (280)	6.5 (165)	5.875 (149)	8.75 (222)	8.75 (222)
8	15 (381)	12 (305)	10 (254)	11 (280)	6.5 (165)	7.875 (200)	10.75 (273)	8.75 (222)
10	17 (432)	14 (356)	12.5 (318)	13.25 (336)	6.5 (165)	9.875 (251)	12.75 (324)	11.25 (286)
12	19 (482)	16 (406)	15 (381)	13.25 (336)	6.5 (165)	11.875 (302)	14.75 (375)	13.25 (349)
14	23 (584)	20 (508)	17.5 (445)	17.5 (445)	6.5 (165)	13.875 (352)	18.75 (476)	16.25 (413)
16	27 (686)	24 (610)	17.5 (445)	17.5 (445)	6.5 (165)	15.875 (403)	22.75 (578)	16.25 (413)

NOTES:-

- ALL DIMENSIONS ARE IN INCHES(MM) WITH A TOLERANCE OF $\pm 0.125"$ (3MM)



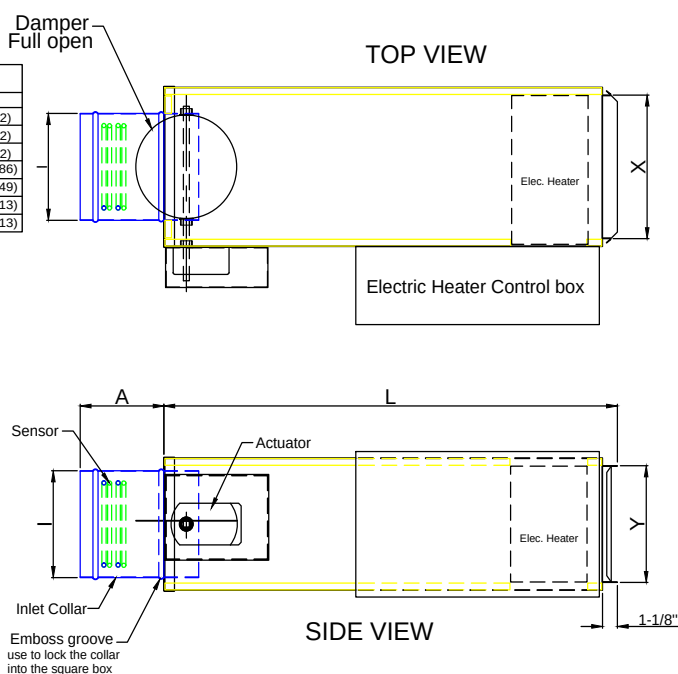
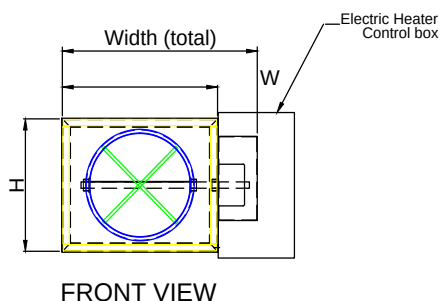
2) SDVE MODEL:

Note: "L" dimension shown and the dimensions of the control box of the electric heater are changeable according to size / capacity of the heating element and the options selected.

UNIT SIZE	DIMENSIONS							
	Width (total)	W	H	L	A	I	X	Y
4	13 (330)	10 (254)	10 (254)	35.5 (895)	10.5 (267)	3.875 (98)	8.75 (222)	8.75 (222)
6	13 (330)	10 (254)	10 (254)	35.5 (895)	6.5 (165)	5.875 (149)	8.75 (222)	8.75 (222)
8	15 (381)	12 (305)	10 (254)	35.5 (895)	6.5 (165)	7.875 (200)	10.75 (273)	8.75 (222)
10	17 (432)	14 (356)	12.5 (318)	32.25 (819)	6.5 (165)	9.875 (251)	12.75 (324)	11.25 (286)
12	19 (482)	16 (406)	15 (381)	32.25 (819)	6.5 (165)	11.875 (302)	14.75 (375)	13.25 (349)
14	23 (584)	20 (508)	17.5 (445)	32.25 (819)	6.5 (165)	13.875 (352)	18.75 (476)	16.25 (413)
16	27 (686)	24 (610)	17.5 (445)	32.25 (819)	6.5 (165)	15.875 (403)	22.75 (578)	16.25 (413)

NOTES:-

- ALL DIMENSIONS ARE IN INCHES(MM) WITH A TOLERANCE OF $\pm 0.125"$ (3MM)





PRESSURE INDEPENDENT SINGLE DUCT VAV - SDV/SDVE MODELS

PERFORMANCE DATA

AHRI Certified Radiated Sound Power, $\Delta P_s = 1.5$ in.w.g

Terminal Size	Min P_s	CFM	Octave Band					
			125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz
100	0.17	150	52	48	48	42	37	37
150	0.07	400	61	56	50	45	37	31
200	0.01	700	62	61	55	48	42	37
250	0.00	1100	58	55	56	46	37	30
300	0.00	1600	63	60	53	47	41	35
350	0.00	2100	63	62	54	47	41	35
400	0.05	2800	69	63	56	49	45	39

AHRI Certified Discharged Sound Power, $\Delta P_s = 1.5$ in.w.g

Terminal Size	Min P_s	CFM	Octave Band					
			125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz
100	0.17	150	64	65	59	51	48	47
150	0.07	400	74	73	68	64	62	57
200	0.01	700	70	73	66	62	60	57
250	0.00	1100	74	72	65	63	62	59
300	0.00	1600	74	70	63	61	60	59
350	0.00	2100	76	75	66	65	64	61
400	0.05	2800	77	71	67	63	62	61

CERTIFICATIONS AND STANDARDS

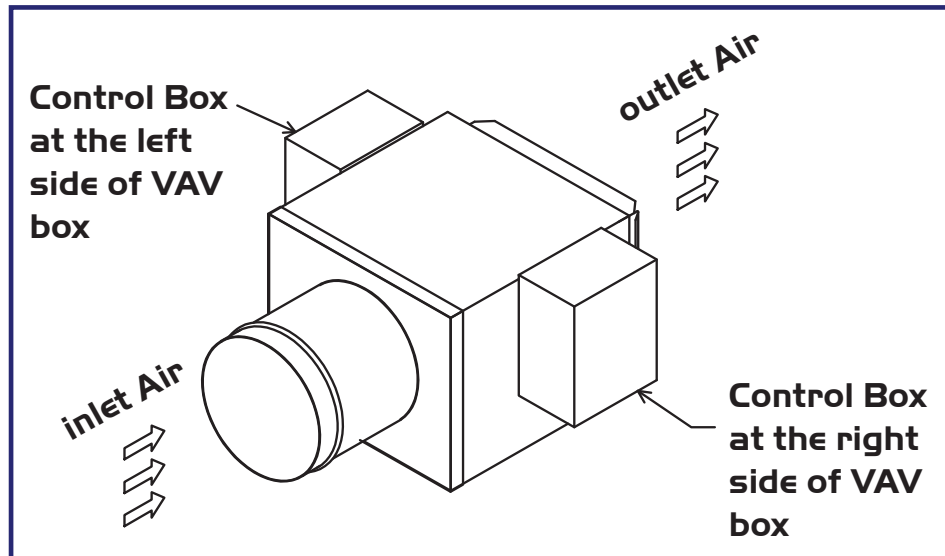
- Units tested as per ASHRAE Standard 130-2016
- Model sizes certified in accordance with AHRI 880-2017 certification program.
- Radiated Sound Power Level Test is done in accordance with AHRI Standard 880-2017 and Figure 20 of ASHRAE 130-2016
- Discharge Sound Power Level Test is done in accordance with AHRI Standard 880-2017 and Figure 14 of ASHRAE 130-2016





PRESSURE INDEPENDENT SINGLE DUCT VAV - SDV/SDVE MODELS

PERFORMANCE DATA



ORDERING KEY

Ordering Key:



S	D	V	E	2	5	O	L	B	S	T
PRESSURE INDEPENDENT TYPE SINGLE DUCT VAV BOX										
--: NOT ENABLED FOR ELECTRIC HEATER										
E: ENABLED FOR ELECTRIC HEATER										
SIZE: 100, 150, 200, 250, 300, 350 & 400										
L: CONTROL BOX AT LEFT OF VAV BOX (STANDARD)										
R: CONTROL BOX AT RIGHT OF VAV BOX										
ACTUATOR:										
B: BELIMO										
G: GRUNER										
H: HONEYWELL										
J: JOHNSON										
S: SIEMENS										
O: OTHER BRAND										
W: WITHOUT ACTUATOR										
THERMOSTAT:										
A: ACSYS										
B: BELIMO										
H: HONEYWELL										
J: JOHNSON										
S: SIEMENS										
T: TITAN										
O: OTHER BRAND										
W: WITHOUT THERMOSTAT										
T: WITH TRANSFORMER										
--: WITHOUT TRANSFORMER										





BY-PASS SINGLE DUCT VAV - SDVBP/SDVBPE MODELS

CONSTRUCTION

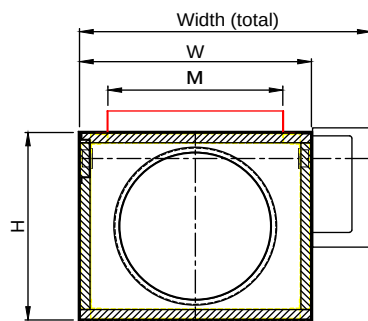
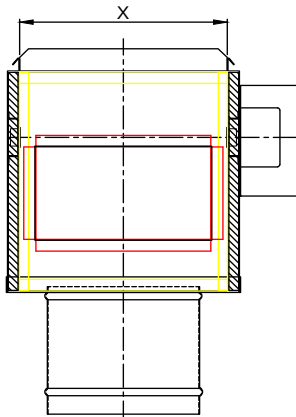
- * Casing is made of 0.9mm & damper blade is made of 1.2mm; galvanized steel sheet.
- * Damper shaft is made of solid square $\frac{1}{2} \times \frac{1}{2}$ inch G.I., with self-lubricating plastic bushes.
- * Lined with $\frac{1}{2}$ inch thick clean highly efficient insulation made of strong resilient dual density glass fibers 32kg/m³ that conform to NFPA-90A & 255, UL 181 and ASTM C665.
- * Insulation edges are covered by metal to prevent exposing to airstream for zero fiber migration.
- * Equipped with a By-Pass outlet to release conditioned air to the return duct or above false-ceiling plenum instead of Discharge outlet; when cooling demand decreases at the room to be conditioned.
- * Sound and Pressure Drop of SDV terminals are tested at Intertek – USA in accordance with industry standards AHRI 880-2008 and ASHRAE 130-2008.
- SDVBPE model is enabled for electric heater for re-heat application by extended length of box.



SDVBP model

DIMENSIONS

A) SDVBP MODEL: TOP VIEW

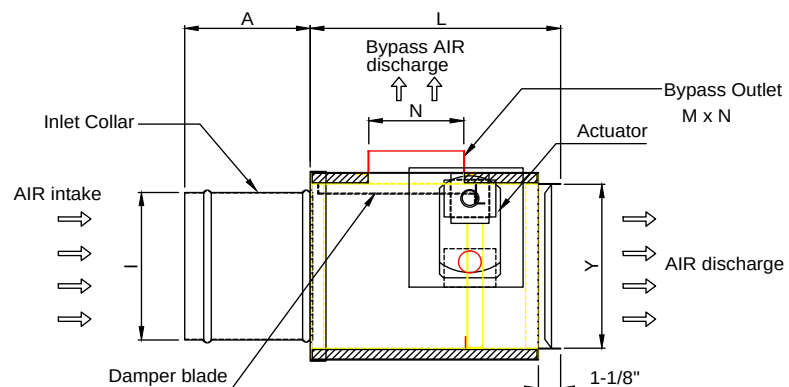


FRONT VIEW

UNIT SIZE	DIMENSIONS								BY-PASS	
	Width(total)	W	H	L	A	I	X	Y	M	N
4	13 (330)	10 (254)	10 (254)	13 (330)	10.5 (267)	3.875 (99)	8.75 (222)	8.75 (222)	5 (130)	4.9 (125)
6	13 (330)	10 (254)	10 (254)	13 (330)	6.5 (165)	5.875 (150)	8.75 (222)	8.75 (222)	7 (180)	4.9 (125)
8	15 (381)	12 (305)	10 (254)	13 (330)	6.5 (165)	7.875 (200)	10.75 (273)	8.75 (222)	9 (230)	4.9 (125)
10	17 (432)	14 (356)	12.5 (318)	15 (381)	6.5 (165)	9.875 (251)	12.75 (324)	11.25 (286)	11 (280)	6.9 (175)
12	19 (482)	16 (406)	15 (381)	17 (432)	6.5 (165)	11.875 (302)	14.75 (375)	13.25 (349)	13 (330)	6.9 (175)
14	23 (584)	20 (508)	17.5 (445)	19.5 (496)	6.5 (165)	13.875 (352)	18.75 (476)	16.25 (413)	15 (380)	8.9 (225)
16	27 (686)	24 (610)	17.5 (445)	19.5 (496)	6.5 (165)	15.875 (403)	22.75 (578)	16.25 (413)	17 (430)	8.9 (225)

NOTES:-

- ALL DIMENSIONS ARE IN INCHES(MM) WITH A TOLLERANCE OF ± 0.125 "(3MM)



SIDE VIEW





AIR TERMINALS (VAV)

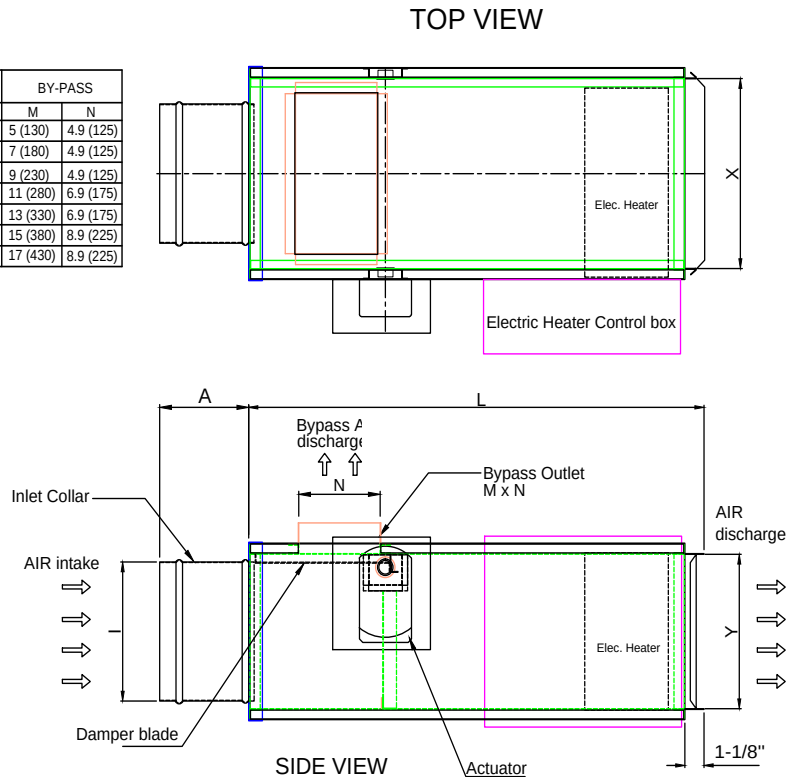
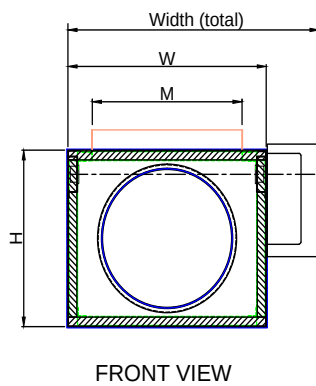
BY-PASS SINGLE DUCT VAV - SDVBP/SDVBPE MODELS

PERFORMANCE DATA

B) SDVBPE MODEL:

UNIT SIZE	DIMENSIONS										BY-PASS	
	Width (total)	W	H	L	A	I	X	Y	M	N		
4	13 (330)	10 (254)	10 (254)	35.5 (895)	10.5 (267)	3.875 (98)	8.75 (222)	8.75 (222)	5 (130)	4.9 (125)		
6	13 (330)	10 (254)	10 (254)	35.5 (895)	6.5 (165)	5.875 (149)	8.75 (222)	8.75 (222)	7 (180)	4.9 (125)		
8	15 (381)	12 (305)	10 (254)	35.5 (895)	6.5 (165)	7.875 (200)	10.75 (273)	8.75 (222)	9 (230)	4.9 (125)		
10	17 (432)	14 (356)	12.5 (318)	32.1 (816)	6.5 (165)	9.875 (251)	12.75 (324)	11.25 (286)	11 (280)	6.9 (175)		
12	19 (482)	16 (406)	15 (381)	39.3 (1000)	6.5 (165)	11.875 (302)	14.75 (375)	13.25 (349)	13 (330)	6.9 (175)		
14	23 (584)	20 (508)	17.5 (445)	39.3 (1000)	6.5 (165)	13.875 (352)	18.75 (476)	16.25 (413)	15 (380)	8.9 (225)		
16	27 (686)	24 (610)	17.5 (445)	39.3 (1000)	6.5 (165)	15.875 (403)	22.75 (578)	16.25 (413)	17 (430)	8.9 (225)		

NOTES:-
• ALL DIMENSIONS ARE IN INCHES(MM)
WITH A TOLERANCE OF ±0.125"(3MM)



AIR CAPACITIES

SIZE	100	150	200	250	300	350	400
INLET DIA., IN	4	6	8	10	12	14	16
INLET AREA, SQ.FT.	0.09	0.2	0.35	0.55	0.79	1.07	1.4
NOMINAL FLOW, CFM	256	639	1176	1833	2721	3534	4597

PERFORMANCE DATA

Intertek

Results of Intertek test conducted in accordance with AHRI 880-2008 AND ASHRAE 130-2008:

SIZE	CFM	Min P _s Inch WG	Radiated Sound Power (dB) By octave band @ 1.5 inch WG							Radiated Sound Power (dB) By octave band @ 1.5 inch WG						
			2	3	4	5	6	7		2	3	4	5	6	7	
150	400	0.07	55	48	46	39	31	25		74	73	68	64	62	57	
250	1100	0.00	58	55	56	46	37	30		74	72	65	63	62	59	
350	2100	-0.02	63	62	54	47	41	35		76	75	66	65	64	61	

Notes: 1- Above dB values are A-scaled 2- Above dB are with ref. 10⁻¹² watt





BY-PASS SINGLE DUCT VAV - SDVBP/SDVBPE MODELS

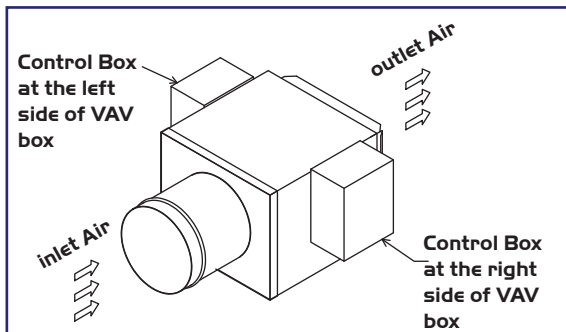
PERFORMANCE DATA

SOUND & PRESSURE DATA

NOTES:

- 1- ΔP_s is the static pressure loss through the unit with 100% air flow through discharge outlet.
- 2- NC_D is the discharge noise criteria through the unit with 100% air flow through discharge outlet, based on 10 dB room absorption.
- 3- NC_R is the radiated noise criteria through an exposed unit with 100% air flow through discharge outlet, based on 10 dB room absorption.

ORDERING KEY



Terminal Size	CFM	Min ΔP_s (inch WG)	NC_D			NC_R		
			0.5 Inch WG	1.0 Inch WG	3.0 Inch WG	0.5 Inch WG	1.0 Inch WG	3.0 Inch WG
100	50	0.01	36	41	52	28	30	36
	100	0.02	39	44	55	32	33	39
	150	0.03	42	49	59	36	37	46
	250	0.05	51	56	66	45	45	55
150	150	0.02	36	44	56	27	33	42
	250	0.04	40	46	58	30	35	45
	450	0.07	48	55	63	37	43	52
	600	0.08	51	59	66	39	46	55
200	200	0.01	39	45	62	28	35	49
	500	0.03	44	50	64	31	38	53
	800	0.03	50	56	65	40	44	55
	1100	0.04	54	59	68	44	47	56
250	300	0.01	39	49	62	38	36	49
	800	0.01	44	54	66	33	40	55
	1200	0.01	50	57	68	37	45	56
	1900	0.03	55	61	-	43	50	61
300	450	0.01	43	53	61	33	40	53
	1100	0.01	47	57	65	37	45	57
	1700	0.02	53	59	70	40	48	59
	2700	0.03	55	61	-	44	51	62
350	600	0.01	41	50	61	31	38	48
	1500	0.01	47	55	66	35	42	53
	2300	0.02	54	58	68	38	45	56
	3500	0.03	56	60	70	43	49	60
400	800	0.01	47	52	64	32	38	50
	2600	0.02	51	56	68	37	44	57
	3600	0.03	57	61	-	44	48	59
	4500	0.04	59	63	-	47	52	63

Intertek



Ordering Key:

S	D	V	B	P	E	I	S	O	L	B	S	T
BY-PASS TYPE SINGLE DUCT VAV BOX												
--: NOT ENABLED FOR ELECTRIC HEATER												
E: ENABLED FOR ELECTRIC HEATER												
SIZE: 100, 150, 200, 250, 300, 350 OR 400												
L: CONTROL BOX AT LEFT SIDE OF VAV BOX (STANDARD)												
R: CONTROL BOX AT RIGHT SIDE OF VAV BOX												
ACTUATOR:												
B: BELIMO				J: JOHNSON								
G: GRUNER				S: SIEMENS								
H: HONEYWELL				O: OTHER BRAND								
W: WITHOUT ACTUATOR												
THERMOSTAT:												
A: ACSYS				J: JOHNSON								
B: BELIMO				S: SIEMENS								
H: HONEYWELL				T: TITAN								
O: OTHER BRAND					W: WITHOUT THERMOSTAT							
T: WITH TRANSFORMER												
--: WITHOUT TRANSFORMER												





ELECTRIC RE-HEATING FOR SINGLE DUCT VAV - SDVE/SDVBPE MODELS

ELECTRIC HEATER

DESCRIPTION & OPTIONS

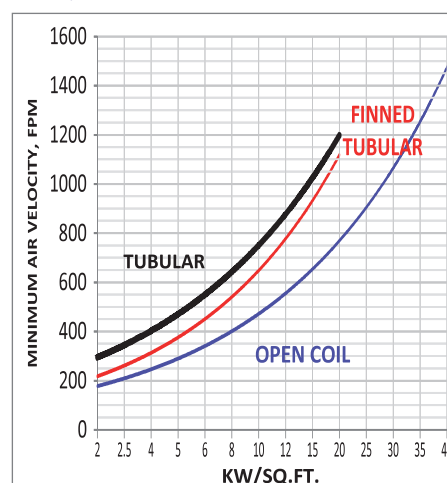
- Slip-in type electric heater made of galvanized steel of appropriate gauge.
- Configuration of the electric heater can be arranged as per customer requirements.
- Heating elements are available in Open Coil, Tubular or Finned Tubular types.
- Available in ON/Off, STAGING and MODULATING electric control.
- Primary over temperature protection is provided by auto reset thermal disc-type cutout.
- Air flow switch (requires min Pt total pressure of 0.07 inch WG at the face of the electric coil).

OPTIONS:

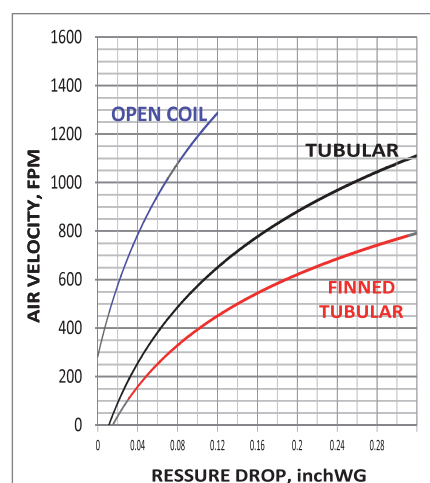
The following components can be provided upon request:

- Secondary over temperature protection with manual reset (push button) thermal disc-type cutout.
- 24V transformer & control fuse.
- Magnetic / safety contactors.
- Line and control terminal blocks.
- Up to 3 steps of heater.
- Patented Modulating HEC controls.
- Available in ETL/CSA or UL listed optional assemblies.
- Door-interlocking disconnect switch.
- Main power fuses.
- Mercury contactors.
- Proportional SSR control (0-100%).
- Discharge temperature limiting control.
- Electronic Flow Sensor can be provided.

MINIMUM AIR VELOCITY REQUIREMENTS:



HEATER'S ELEMENT PRESSURE DROP DATA:





ELECTRIC RE-HEATING FOR SINGLE DUCT VAV - SDVE/SDVBPE MODELS

ELECTRIC HEATER

HEATER CONTROL & POWER:

$$\text{kW} = \text{CFM} \times \Delta T^{\circ}\text{F} / 3160 = \text{m}^3/\text{h} \times \Delta T^{\circ}\text{C} / 2769$$

1) CONVENTIONAL STAGED CONTROL:

SIZE	STAGES	ALLOWABLE MAXIMUM KWATT		
		1 PHASE		3 PHASE
		120V	240V	380V
100	1,2	3.5	3.5	3.5
150	1,2	5.5	6.0	6.0
200	1,2,3	5.5	11.0	11.0
250	1,2,3	5.5	11.5	17.0
300	1,2,3	5.5	11.5	30.0
350	1,2,3	5.5	11.5	39.0
400	1,2,3	5.5	11.5	39.0

Notes:

- 1- Low watt density elements (Max. 35W/in²)
- 2- Min. kW:
 - Single Phase = 0.5 kW/stage
 - Three Phase = 1.5 kW
- 3- Min. based on air velocity of 200 FPM across the coil.

2) MODULATING CONTROL:

SIZE	ALLOWABLE MAXIMUM KWATT		
	1 PHASE		3 PHASE
	120V	240V	380V
100	3.0	3.0	3.0
150	4.5	6.0	6.0
200	4.5	9.5	11.0
250	4.5	9.5	19.0
300	4.5	9.5	30.0
350	4.5	9.5	33.0
400	4.5	9.5	33.0

Notes:

- 1- Low watt density elements (Max. 35W/in²)
- 2- Min. kW:
 - Single Phase = 1.0 kW
 - Three Phase = 1.5 kW
- 3- Min. based on air velocity of 100 FPM across the coil.

* The Max Allowable KW shown is based on UL / NEC standards.

** The minimum air flow requirement for terminals with electric coils is the greater of 70 CFM/KW or the minimum allowable flow rate that can be accurately controlled. This allows proper operation of the electric coil and results in increased coil life with a maximum air temperature rise of 45° F to prevent thermal stratification in the space.

*** Uniform flow through a coil results in optimum performance, and therefore, we recommend a minimum length of 48" of full size discharge duct after the air terminal.





ELECTRIC RE-HEATING FOR SINGLE DUCT VAV - SDVE/SDVBPE MODELS

ELECTRIC HEATER

HEATER'S STANDARD & OPTIONAL FEATURES:

ELEMENT TYPE:	☐ OPEN COIL			☐ TUBULAR		☐ FINNED TUBULAR	
ELEMENT CONSTRUCTION:	☐ GRADE C NiCr 60 (standard) ☐ GRADE A NiCr 80			☐ INCOLOY 800 Nickel Alloy (standard) ☐ S.S. ELEMENT			
POWER PHASE:	☐ SINGLE ☐ 3 PHASE						
POWER VOLTAGE:	☐ 120V ☐ 240V ☐ 380V						
POWER FREQUENCY:	☐ 50Hz ☐ 60Hz						
HEATING STAGES:	STAGE NO.	CONTROL SIGNAL	KW	STAGE NO.	CONTROL SIGNAL	KW	
	STAGE 1	☐ ON/OFF ☐ MODULATING		STAGE 3	ON/OFF		
	STAGE 2	ON/OFF					
DISC-TYPE AUTOMATIC RE-SET THERMAL CUT-OUT	STANDARD						
MANUAL RE-SET THERMAL CUT-OUT	OPTIONAL						
AIR FLOW SWITCH (at least 0.07" WG)	STANDARD (OPTIONAL ONLY WITH HEC) ☐ fixed (PDN) ☐ adjustable (PDA)						
MAGNETIC CONTACTORS	STANDARD (OPTIONAL ONLY WITH STEP CONTROLLED HEATERS)						
DISCONNECT SWITCH	OPTIONAL: ☐ Disconnect switch (door interlock) (DS) ☐ Toggle switch (TS)						
TIME DELAY SWITCH	OPTIONAL: ☐ Thermal relay (RT) ☐ Silent relay (CS) ☐ Mercury contactor (CM)						
TRANSFORMER	OPTIONAL (STANDARD ONLY WITH HEC)						
POWER FUSES	OPTIONAL: ☐ Line fuses (LF) ☐ Stage fuses (SF) ☐ BOTH LF & SF						
CONTROL FUSES	OPTIONAL (STANDARD ONLY WITH HEC)						
SCR Modulating Controller (0-10 VDC)	OPTIONAL						
SOLID STATE RELAY	OPTIONAL (STANDARD ONLY WITH HEC)						
PILOT LIGHT	OPTIONAL: ☐ Line Power (LP) ☐ Stage ON (LS) ☐ Heating ON (LH) ☐ Overheat (LO) ☐ No airflow (LN)						
VOLT FREE CONTACTS	OPTIONAL						
STEP CONTROLLER	OPTIONAL						
AUTOMATIC CIRCUIT BREAKER	OPTIONAL						

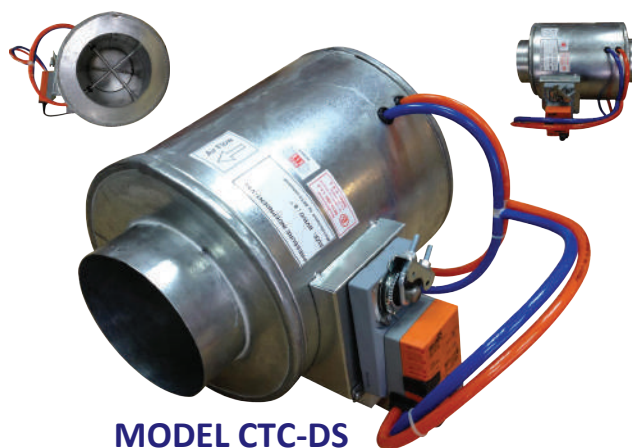




Circular-To-Circular Single Duct Variable Air Volume Terminal – Models CTC and CTC-DS

Description:

- CTC is cylindrical with circular inlet and outlet.
- Casing is made of 0.9mm & damper blade is made of 1.2mm; galvanized steel sheet.
- Blades are with rubber gasket, and self-lubricating plastic bushes.
- Damper shaft is made of solid square $\frac{1}{2} \times \frac{1}{2}$ inch G.I.
- Equipped with a multi-point flow-cross inlet flow sensor made of Aluminum.
- Air tightness complies with DIN 1946 Part 4. Housing leakage complies with Class II, VDI 3803 – DIN 24194.
- Model CTC-DS has Double-Skin casing with 1" insulation made of strong resilient dual density glass fibers 24kg/m³ that conform to NFPA-90A & 255, UL 181 and ASTM C665.



MODEL CTC-DS



MODEL CTC

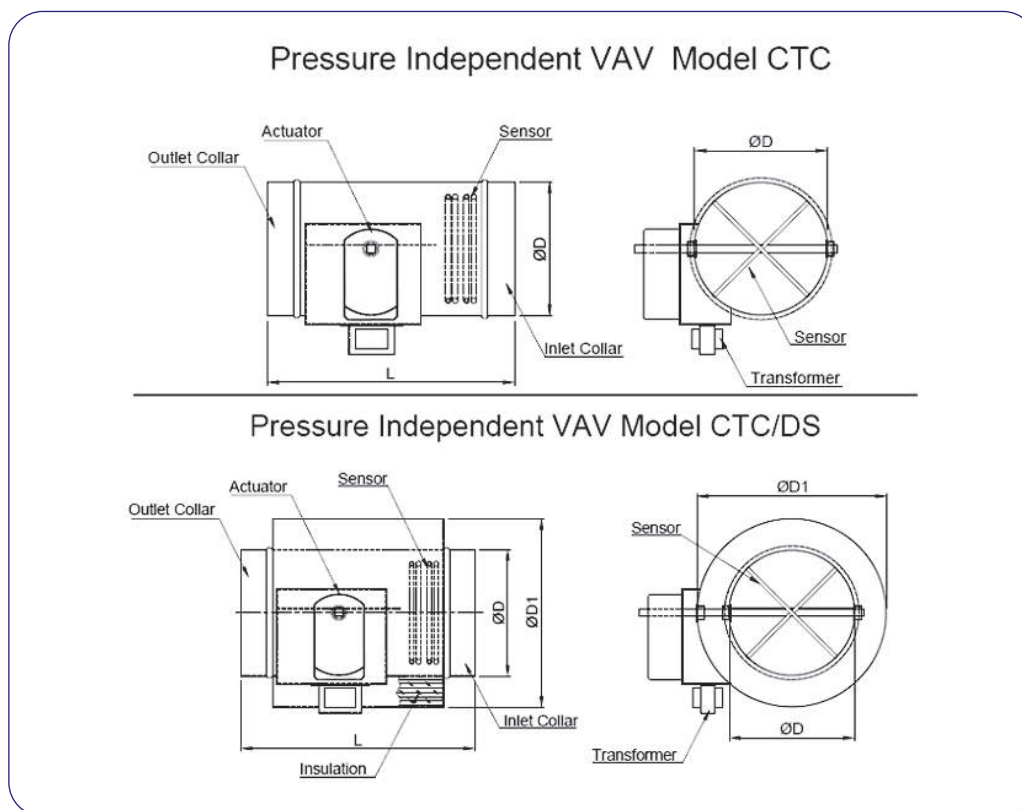
SIZE	INLET AREA		F _{min} (SENSIBLE)		F _{max} (NOMINAL)		CTC		CTC-DS
	m ²	Ft ²	m ³ /h	CFM	m ³ /h	CFM	L mm	Ø D mm	Ø D1 mm
100	0.008	0.086	76	45	435	261	375	98	200
125	0.012	0.130	148	89	826	496	375	123	225
160	0.020	0.216	257	154	1412	847	375	158	260
200	0.031	0.334	365	219	1998	1199	375	198	300
250	0.049	0.527	562	337	3115	1869	375	248	350
315	0.078	0.844	983	590	5463	3278	420	313	415
400	0.127	1.367	1441	865	7811	4687	480	398	500
500	0.196	2.110	1563	938	8513	5108	610	498	600
630	0.312	3.376	1784	1070	9770	5862	720	628	730

Note: All dimensions are with 3mm tolerance.





Circular-To-Circular Single Duct Variable Air Volume Terminal – Models CTC and CTC-DS



ORDERING KEY



C	T	C	-	-	I	O	O	L	B	S	T
CIRCULAR TO CIRCULAR PRESSURE INDEPENDENT SINGLE DUCT VAV BOX											
---: WITHOUT INSULATION (STANDARD)											
DS: INSULATION CONTAINED IN DOUBLE SKIN											
SIZE: 100, 125, 160, 200, 250, 315, 400, 500 OR 630											
L: CONTROL BOX AT LEFT SIDE OF VAV BOX (STANDARD)											
R: CONTROL BOX AT RIGHT SIDE OF VAV BOX											
ACTUATOR:											
B: BELIMO					J: JOHNSON						
G: GRUNER					S: SIEMENS						
H: HONEYWEL					O: OTHERS						
W: WITHOUT ACTUATOR											
THERMOSTAT:											
A: ACSYS					J: JOHNSON						
B: BELIMO					S: SIEMENS						
H: HONEYWELL					T: TITAN						
O: OTHERS					W: WITHOUT THERMOSTAT						
T: WITH TRANSFORMER											
---: WITHOUT TRANSFORMER											





Circular-To-Circular Single Duct Variable Air Volume Terminal – Model CTC and CTC-DS

DISCHARGE SOUND RATE

SIZE	F m³/h	Δ P fm250Hz									
		150 Pa		300 Pa		600 Pa		1000 Pa		1500 Pa	
		Lw(A)	NR	Lw(A)	NR	Lw(A)	NR	Lw(A)	NR	Lw(A)	NR
100	85	42	38	49	43	59	56	61	58	62	62
	170	49	43	56	49	62	57	65	61	68	64
	250	54	48	59	54	65	58	68	61	71	66
	340	58	53	63	57	68	62	70	65	73	67
125	133	42	38	48	44	56	53	59	58	65	62
	265	51	45	56	51	62	57	65	58	68	62
	395	56	51	62	55	66	61	69	65	72	66
	530	61	55	65	62	69	66	71	67	74	70
160	220	43	39	48	44	56	53	61	58	65	62
	435	51	45	56	48	63	55	66	58	70	63
	650	56	51	61	55	66	59	69	62	73	66
	870	59	54	64	58	69	66	72	70	75	71
200	340	42	38	48	45	56	53	61	58	65	62
	680	52	45	56	49	63	56	66	62	70	66
	1020	58	52	62	55	67	59	70	64	73	67
	1360	63	56	66	59	70	65	73	70	75	71
250	700	43	38	52	47	59	56	66	61	68	64
	1050	53	48	58	51	65	57	68	63	73	68
	1580	59	53	64	57	69	62	72	66	75	70
	2120	64	58	67	61	71	66	74	71	76	71
315	850	44	39	52	46	59	55	64	59	68	64
	1690	53	45	58	52	65	57	69	62	73	67
	2530	59	52	63	55	68	61	72	66	75	68
	3370	64	56	66	59	72	66	75	70	78	71
400	1400	44		52		57		63		71	
	2700	51		58		65		70		76	
	4100	55		62		70		75		80	
	5400	58		65		73		77		84	
500	2180	46		54		59		65		73	
	4300	53		61		67		73		79	
	6500	57		64		72		77		83	
	8000	61		67		75		81		85	
630	3400	48		56		62		67		75	
	6750	55		63		70		75		80	
	10200	59		66		75		79		84	
	13400	63		69		78		83		87	
SIZE	F m³/h	Lw(A)		Lw(A)		Lw(A)		Lw(A)		Lw(A)	
		50 Pa		100 Pa		250 Pa		500 Pa		1000 Pa	
		Δ P									

Notes:

- 1- Lw(A) is the Sound Power Level in dB(A), where NR is the Noise Rating (unitless)
- 2- F is the Air Flow in m³/h
- 3- ΔP is the Pressure Drop across the VAV box in Pa





Circular-To-Circular Single Duct Variable Air Volume Terminal – Model CTC and CTC-DS

DISCHARGE SOUND RATE

SIZE	F m³/h	Δ P										fm250H ₂
		150 Pa		300 Pa		600 Pa		1000 Pa		1500 Pa		
		Lw(A)	NR	Lw(A)	NR	Lw(A)	NR	Lw(A)	NR	Lw(A)	NR	
100	85	38	35	41	39	48	47	51	49	57	53	
	170	43	40	47	45	51	50	54	51	58	55	
	250	48	46	50	48	54	50	57	53	62	56	
	340	51	49	54	50	58	56	61	57	64	59	
125	133	38	35	43	42	50	49	53	52	57	56	
	265	42	39	47	46	51	50	55	53	58	57	
	395	47	46	50	49	54	52	56	54	61	59	
	530	50	50	53	51	56	54	58	57	62	59	
160	220	37	33	42	40	48	47	52	50	56	54	
	435	41	39	45	41	50	47	54	50	58	55	
	650	46	42	48	44	52	48	56	50	61	55	
	870	50	48	51	48	55	50	58	53	63	56	
200	340	38	34	43	40	50	48	54	51	58	54	
	680	45	41	49	45	54	50	58	53	63	57	
	1020	49	46	51	48	56	51	61	55	65	61	
	1360	52	49	55	50	63	58	62	56	67	63	
250	700	40	35	45	43	50	48	55	52	59	54	
	1050	45	40	49	45	53	49	58	54	63	47	
	1580	50	46	52	47	56	52	62	57	65	61	
	2120	54	49	55	50	59	54	64	58	68	64	
315	850	45	42	50	47	55	51	57	54	61	57	
	1690	50	48	53	51	58	54	61	55	63	56	
	2530	54	50	57	54	62	57	64	57	66	59	
	3370	59	52	61	55	64	57	66	62	68	52	
400	1400	45		51		56		62		70		
	2700	50		57		64		69		76		
	4100	54		61		69		74		80		
	5400	57		64		72		77		84		
500	2180	47		53		58		64		72		
	4300	52		59		66		72		78		
	6500	56		63		71		76		82		
	8000	59		66		74		80		85		
630	3400	49		55		61		66		74		
	6750	54		62		69		74		80		
	10200	58		65		74		79		84		
	13400	62		68		78		83		87		
SIZE	F m³/h	Lw(A)		Lw(A)		Lw(A)		Lw(A)		Lw(A)		
		50 Pa		100 Pa		250 Pa		500 Pa		100Pa		
						Δ P						

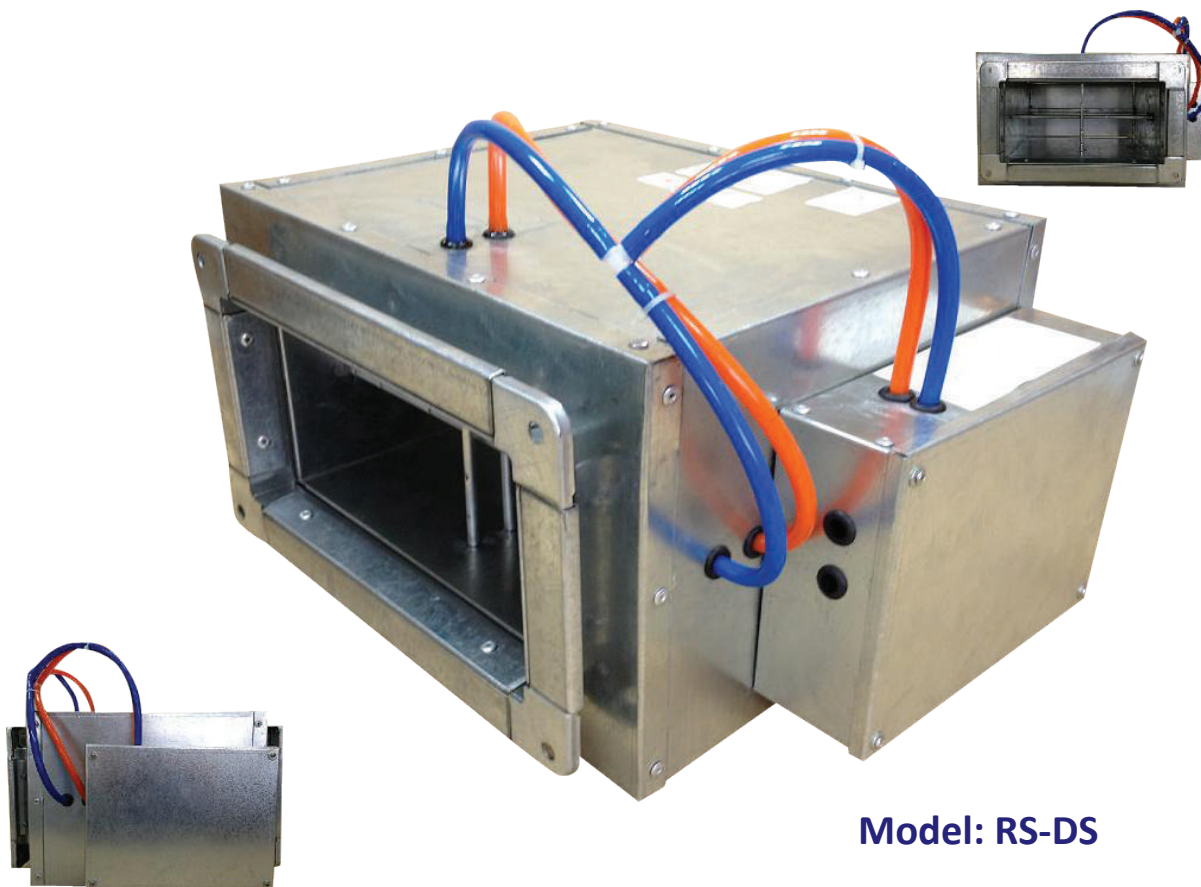
Notes:

- 1- Lw(A) is the Sound Power Level in dB(A), where NR is the Noise Rating (unitless)
- 2- F is the Air Flow in m³/h
- 3- ΔP is the Pressure Drop across the VAV box in Pa
- 4- For CTC-DS model, Radiated Noise figures would be 8-10 dB(A) less than the above values.





SINGLE BLADE Rectangular-To-Rectangular Single Duct Variable Air Volume Terminal – Models RS and RS-DS



Model: RS-DS

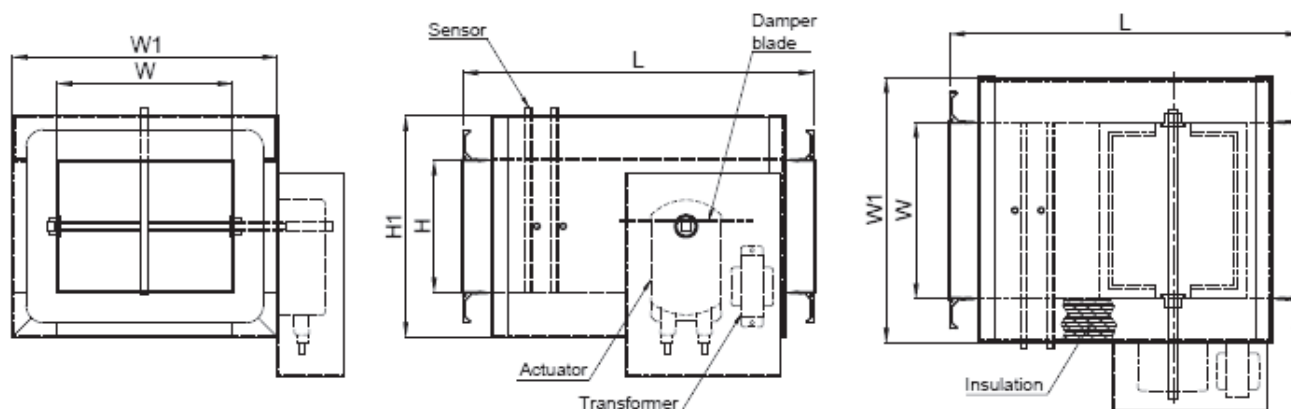
Description:

- Model RS is a Single-blade air terminal with Rectangular inlet and outlet.
- Casing is made of 0.9mm & damper blade is made of 1.2mm; galvanized steel sheet.
- Blades are with rubber gasket, and self-lubricating plastic bushes.
- Damper shaft is made of solid square ½X½ inch G.I.
- Equipped with a multi-point flow-cross inlet flow sensor made of Aluminum.
- Air tightness complies with DIN 1946 Part 4. Housing leakage complies with Class II, VDI 3803 – DIN 24194.
- Model RS-DS has Double-Skin casing with 1" insulation made of strong resilient dual density glass fibers 24kg/m³ that conform to NFPA-90A & 255, UL 181 and ASTM C665.





SINGLE BLADE Rectangular-To-Rectangular Single Duct Variable Air Volume Terminal – Models RS and RS-DS



H=150 mm L=400 mm H1-250mm				
W (mm)	W1 (mm)	A (m ²)	F _{min} (m ³ /h)	F _{max(NOM)} (m ³ /h)
200	300	0.03	162	1080
250	350	0.04	203	1350
300	400	0.05	243	1620
350	450	0.05	284	1890
400	500	0.06	324	2160
450	550	0.07	365	2430
500	600	0.08	405	2700
600	700	0.09	510	3240
700	800	0.11	567	3780
800	900	0.12	648	4320
900	1000	0.14	729	4860
1000	1100	0.15	810	5400
1100	1200	0.17	892	5940
1200	1300	0.18	972	6480

H=200 mm L=460 mm H1-250mm				
W (mm)	W1 (mm)	A (m ²)	F _{min} (m ³ /h)	F _{max(NOM)} (m ³ /h)
200	300	0.04	216	1440
250	350	0.05	270	1800
300	400	0.06	324	2160
350	450	0.07	378	2520
400	500	0.08	432	2880
450	550	0.09	486	3240
500	600	0.1	540	3600
600	700	0.12	648	4320
700	800	0.14	756	5040
800	900	0.16	864	5760
900	1000	0.18	972	6480
1000	1100	0.20	1080	7200
1100	1200	0.22	1188	7920
1200	1300	0.24	1296	8640

H=250 mm L=500 mm H1-350mm				
W (mm)	W1 (mm)	A (m ²)	F _{min} (m ³ /h)	F _{max(NOM)} (m ³ /h)
200	300	0.05	338	2250
300	400	0.08	405	2700
350	450	0.09	473	3150
400	500	0.10	540	3600
450	550	0.11	608	4050
500	600	0.13	675	4500
600	700	0.15	810	5400
700	800	0.18	945	6300
800	900	0.20	1080	7200
900	1000	0.23	1215	8100
1000	1100	0.25	1350	9000
1100	1200	0.28	1485	9900
1200	1300	0.30	1620	10800

H=300 mm L=560 mm H1-400mm				
W (mm)	W1 (mm)	A (m ²)	F _{min} (m ³ /h)	F _{max(NOM)} (m ³ /h)
300	400	0.09	486	3240
350	450	0.11	567	3780
400	500	0.12	648	4220
450	550	0.14	729	4860
500	600	0.15	810	5400
600	700	0.18	972	6480
700	800	0.21	1134	7560
800	900	0.24	1269	8640
900	1000	0.27	1458	9720
1000	1100	0.30	1620	10800
1100	1200	0.33	1782	11880
1200	1300	0.36	1944	12960





SINGLE BLADE Rectangular-To-Rectangular Single Duct Variable Air Volume Terminal – Model RS and RS-DS

DISCHARGE SOUND:

W mm	H mm	AREA m ²	AIR VELOCITY m/s	ΔP in Pa		
				200	500	1000
				dB(A)	dB(A)	dB(A)
600	150	0.09	2	52	61	68
			6	55	65	72
			8	56	66	73
			10	57	67	74
600	200	0.12	2	53	62	69
			6	56	66	73
			8	57	67	74
			10	58	68	75
600	250	0.15	2	53	63	70
			6	56	67	74
			8	57	68	75
			10	58	69	76
600	300	0.18	2	54	64	71
			6	57	67	74
			8	59	69	76
			10	60	70	77

Correction factor "C" to be added
for Discharge Sound of other
widths:

W mm	C
200	3
250	3
300	2
350	2
400	1
450	1
500	1
600	0
700	0
800	-1
900	-1
1000	-2
1100	-3
1200	-3

RADIATED SOUND:

W mm	H mm	AREA m ²	AIR VELOCIT Y m/s	ΔP					
				200 Pa		500 Pa		1000 Pa	
				RS dB(A)	RS-DS dB(A)	RS dB(A)	RS-DS dB(A)	RS dB(A)	RS-DS dB(A)
600	150	0.09	2	38	25	46	34	52	40
			6	45	33	53	41	60	48
			8	47	35	57	45	63	51
			10	51	39	59	47	65	53
600	200	0.12	2	41	29	49	37	55	43
			6	50	38	58	46	63	51
			8	52	40	60	48	66	54
			10	54	42	62	50	68	56
600	250	0.15	2	42	30	50	38	56	44
			6	51	39	59	47	64	52
			8	53	41	61	49	67	55
			10	55	43	63	51	69	57
600	300	0.18	2	43	31	51	39	57	45
			6	51	39	59	47	65	53
			8	54	42	62	50	68	56
			10	56	44	64	52	70	58

Correction factor "C" to
be added
for Radiated Sound of
other widths:

W mm	C
200	3
250	2
300	2
350	2
400	1
450	1
500	1
600	0
700	0
800	-1
900	-1
1000	-2
1100	-2
1200	-2





SINGLE BLADE Rectangular-To-Rectangular Single Duct Variable Air Volume Terminal – Model RS and RS-DS

ORDERING KEY



R	S	D	S	B	O	O	X	I	S	O	L	B	S	T
RECTANGULAR SINGLE-BLADE PRESSURE INDEPENDENT SINGLE DUCT VAV BOX														
---: WITHOUT INSULATION (STANDARD)														
DS: INSULATION CONTAINED IN DOUBLE SKIN														
SIZE: WIDTH X HEIGHT														
L: CONTROL BOX AT LEFT SIDE OF VAV BOX (STANDARD)														
R: CONTROL BOX AT RIGHT SIDE OF VAV BOX														
ACTUATOR:														
B: BELIMO				J: JOHNSON										
G: GRUNER				S: SIEMENS										
H: HONEYWELL				O: OTHERS										
W: WITHOUT ACTUATOR														
THERMOSTAT:														
A: ACSYS				J: JOHNSON										
B: BELIMO				S: SIEMENS										
H: HONEYWELL				T: TITAN										
O: OTHERS				W: WITHOUT THERMOSTAT										
T: WITH TRANSFORMER														
---: WITHOUT TRANSFORMER														





MULTIPLE BLADES Rectangular-To-Rectangular Single Duct Variable Air Volume Terminal – Models RM and RM-DS

Model: RM-DS



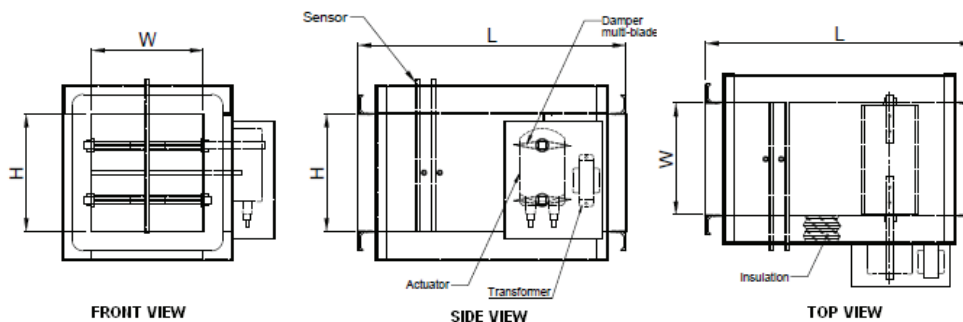
Description:

- Model RM is a Multiple-blades air terminal with Rectangular inlet and outlet.
- Casing is made of 0.9mm & damper blade is made of 1.2mm; galvanized steel sheet.
- Blades are with rubber gasket, and self-lubricating plastic bushes.
- Damper shaft is made of solid square ½X½ inch G.I.
- Equipped with a multi-point flow-cross inlet flow sensor made of Aluminum.
- Air tightness complies with DIN 1946 Part 4. Housing leakage complies with Class II, VDI 3803 – DIN 24194.
- Model RM-DS has Double-Skin casing with 1" insulation made of strong resilient dual density glass fibers 24kg/m³ that conform to NFPA-90A & 255, UL 181 and ASTM C665.





MULTIPLE BLADES Rectangular-To-Rectangular Single Duct Variable Air Volume Terminal – Models RM and RM-DS



W=200mm		L=580mm	
H (mm)	F_{min} (m ³ /h)	F_{max} (m ³ /h)	
210	302	1512	
310	446	2232	
410	590	2952	
510	734	3672	
610	878	4392	
710	1022	5112	
810	1166	5832	
910	1310	6552	
1010	1454	7272	

W=300mm		L=580mm	
H (mm)	F_{min} (m ³ /h)	F_{max} (m ³ /h)	
210	454	2268	
310	670	3348	
410	886	4428	
510	1102	5508	
610	1318	6588	
710	1534	7668	
810	1750	8748	
910	1966	9828	
1010	2182	10908	

W=400mm		L=580mm	
H (mm)	F_{min} (m ³ /h)	F_{max} (m ³ /h)	
210	605	3024	
310	893	4464	
410	1181	5904	
510	1469	7244	
610	1757	8784	
710	2045	10224	
810	2333	11664	
910	2621	13104	
1010	2909	14544	

W=500mm		L=580mm	
H (mm)	F_{min} (m ³ /h)	F_{max} (m ³ /h)	
210	756	3780	
310	1116	5580	
410	1476	7380	
510	1836	9180	
610	2196	10980	
710	2556	12780	
810	2916	14580	
910	3276	16380	
1010	3636	18180	

W=600mm		L=580mm	
H (mm)	F_{min} (m ³ /h)	F_{max} (m ³ /h)	
210	907	4536	
310	1339	6696	
410	1771	8856	
510	2203	11016	
610	2635	13176	
710	3067	15336	
810	3499	17496	
910	3931	19656	
1010	4363	21816	

W=700mm		L=580mm	
H (mm)	F_{min} (m ³ /h)	F_{max} (m ³ /h)	
210	1058	5292	
310	1562	7812	
410	2066	10332	
510	2570	12852	
610	3074	15372	
710	3578	17892	
810	4082	20412	
910	4586	22932	
1010	5090	25452	

W=800mm		L=580mm	
H (mm)	F_{min} (m ³ /h)	F_{max} (m ³ /h)	
210	1210	6048	
310	1786	8928	
410	2362	11808	
510	2938	14688	
610	3514	17568	
710	4090	20448	
810	4666	23328	
910	5242	26208	
1010	5818	29088	

W=900mm		L=580mm	
H (mm)	F_{min} (m ³ /h)	F_{max} (m ³ /h)	
210	1361	6804	
310	2009	10044	
410	2657	13284	
510	3305	16524	
610	3953	19764	
710	4601	23004	
810	5249	26244	
910	5897	29484	
1010	6545	32724	

W=1000mm		L=580mm	
H (mm)	F_{min} (m ³ /h)	F_{max} (m ³ /h)	
210	1512	7560	
310	2232	11160	
410	2952	14760	
510	3672	18360	
610	4392	21960	
710	5112	25560	
810	5832	29160	
910	6552	32760	
1010	7272	36360	

W=1100mm		L=580mm	
H (mm)	F_{min} (m ³ /h)	F_{max} (m ³ /h)	
210	1663	8316	
310	2455	12276	
410	3247	16236	
510	4039	20196	
610	4831	24156	
710	5623	28116	
810	6415	32076	
910	7207	36036	
1010	7999	39996	

W=1200mm		L=580mm	
H (mm)	F_{min} (m ³ /h)	F_{max} (m ³ /h)	
210	1814	9072	
310	2678	13392	
410	3542	17712	
510	4406	22032	
610	5207	26352	
710	6134	30672	
810	6998	34992	
910	7862	39312	
1010	8726	43632	





MULTIPLE BLADES Rectangular-To-Rectangular Single Duct Variable Air Volume Terminal – Models RM and RM-DS

DISCHARGE SOUND:

W mm	H mm	AREA m ²	AIR VELOCITY m/s	ΔP in Pa		
				200	500	1000
600	210	0.126	2	53	62	69
			6	56	66	73
			8	57	67	74
			10	58	66	75
600	310	0.186	2	54	63	70
			6	57	67	74
			8	59	69	79
			10	60	70	76
600	410	0.246	2	55	64	72
			6	58	68	75
			8	59	69	76
			10	60	70	77
600	510	0.306	2	56	65	72
			6	59	69	76
			8	60	70	77
			10	61	71	78
600	610	0.366	2	56	66	73
			6	60	69	76
			8	61	70	77
			10	62	71	78
600	710	0.426	2	59	68	75
			6	62	72	79
			8	63	73	80
			10	64	74	81
600	810	0.486	2	59	69	76
			6	63	72	79
			8	64	73	80
			10	65	74	81
600	910	0.546	2	60	69	76
			6	63	72	80
			8	64	73	81
			10	65	75	82
600	1010	0.606	2	60	69	77
			6	63	73	80
			8	64	74	81
			10	65	75	82

Correction factor "C" to be
added
for Discharge Sound of other
widths:

W mm	C
200	3
250	2
300	2
350	2
400	1
450	1
500	1
600	0
700	0
800	-1
900	-1
1000	-2
1100	-3
1200	-3
1200	-3





MULTIPLE BLADES Rectangular-To-Rectangular Single Duct Variable Air Volume Terminal – Models RM and RM-DS

RADIATED SOUND:

W mm	H mm	AREA m ²	AIR VELOCIT Y m/s	200 Pa		ΔP 500 Pa		1000 Pa	
				RM	RM-DS	RM	RM-DS	RM	RM-DS
				dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
600	210	0.126	2	41	29	49	37	55	43
			6	48	36	55	43	61	49
			8	51	39	59	47	65	53
			10	4	42	62	50	68	56
600	310	0.186	2	43	31	51	39	57	45
			6	50	38	58	46	63	51
			8	54	42	62	50	69	57
			10	56	44	64	52	70	58
600	410	0.246	2	45	33	53	41	59	47
			6	52	40	60	48	65	53
			8	56	44	63	51	69	57
			10	58	46	65	53	71	59
600	510	0.306	2	46	34	54	42	60	48
			6	54	42	61	49	67	55
			8	56	44	64	52	70	58
			10	59	47	67	55	73	61
600	610	0.366	2	47	35	55	43	61	49
			6	55	43	62	50	68	56
			8	58	46	66	54	72	60
			10	60	48	65	58	74	62
600	710	0.426	2	50	38	58	46	64	52
			6	58	46	65	53	71	59
			8	61	49	69	57	75	63
			10	63	51	71	59	76	64
600	810	0.486	2	51	39	59	47	64	52
			6	58	46	66	54	72	60
			8	62	50	69	57	75	63
			10	63	51	71	59	77	65
600	910	0.546	2	51	39	59	47	65	53
			6	59	47	67	55	73	61
			8	62	50	70	58	76	64
			10	64	52	72	60	78	66
600	1010	0.606	2	52	40	60	48	66	54
			6	59	47	72	60	78	66
			8	63	51	71	59	77	65
			10	65	53	72	60	78	66

Correction factor "C" to
be added
for Radiated Sound of
other widths:

W mm	C
200	3
250	2
300	2
350	2
400	1
450	1
500	1
600	0
700	0
800	-1
900	-1
1000	-2
1100	-2
1200	-2





MULTIPLE BLADES Rectangular-To-Rectangular Single Duct Variable Air Volume Terminal – Models RM and RM-DS



MEMBER

ORDERING KEY

R	M	D	S	B	O	O	X	I	S	O	L	B	S	T
RECTANGULAR MULTIPLE- BLADES PRESSURE INDEPENDENT SINGLE DUCT VAV BOX														
--: WITHOUT INSULATION (STANDARD)														
DS: INSULATION CONTAINED IN DOUBLE SKIN														
SIZE: WIDTH X HEIGHT														
L: CONTROL BOX AT LEFT SIDE OF VAV BOX (STANDARD)														
R: CONTROL BOX AT RIGHT SIDE OF VAV BOX														
ACTUATOR:														
B: BELIMO				J: JOHNSON										
G: GRUNER				S: SIEMENS										
H: HONEYWELL				O: OTHERS										
W: WITHOUT ACTUATOR														
THERMOSTAT:														
A: ACSYS				J: JOHNSON										
B: BELIMO				S: SIEMENS										
H: HONEYWELL				T: TITAN										
O: OTHERS				W: WITHOUT THERMOSTAT										
T: WITH TRANSFORMER														
--: WITHOUT TRANSFORMER														





BETA
i n d u s t r i a l

Dubai Head Office:
Tel: +971 4 706 9777
Fax: +971 4 706 9787

Abu Dhabi Branch:
Tel: +971 2 645 0107
Fax: +971 2 645 0167

Saudi Arabia:
Tel: +966 1 265 4551
Fax: +966 1 265 4550

Email: betai@betag.com
P.O.Box 50708, Dubai
United Arab Emirates

www.betag.com

