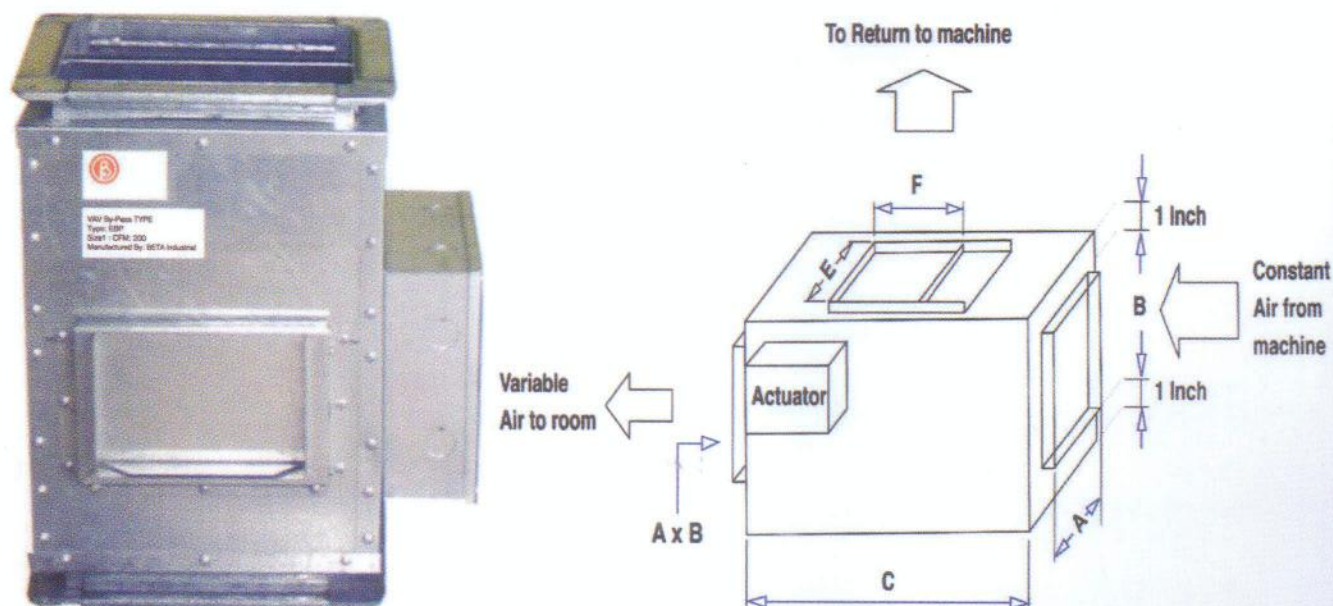


TERMINAL UNITS (VAV) - BY-PASS TYPE



**TERMINAL UNITS (VAV)
BY-PASS TYPE**

MODEL : BETA EBP2

DESCRIPTION

Low pressure by - pass terminal unit is specifically designed to enable multizone temperature control for low and medium velocity air systems. Responses proportionally to cooling requirements by changing the air volume supplied to space to be air conditioned. Discharges conditioned air to the space during times of maximum cooling loads (according to the thermostat) .

Once the cooling demand decreases, BETA EBP2 is modulated to relieve conditioned air to the return ceiling plenum or duct. Maintains a constant air volume across the central system while it supplies a variable air volume to the space.

CONSTRUCTION

Consists of an external casing made of 1.0. mm galvanized steel, acoustically and thermally insulated with 1" glass fibre material.

DIMENSIONS IN MM (INCH)

| SIZE | MAX. CFM | DISCHARGE | | C | By PASS | |
|------|----------|-----------|----------|-----|----------|----------|
| | | A | B | | E | F |
| 1 | 200 | 250 (10) | 200 (8) | 400 | 175 (7) | 100 (4) |
| 2 | 400 | 300 (12) | 250 (10) | 400 | 225 (9) | 150 (6) |
| 3 | 600 | 350 (14) | 300 (12) | 550 | 275 (11) | 250 (10) |
| 4 | 800 | 400 (16) | 350 (14) | 550 | 325 (13) | 250 (10) |
| 5 | 1200 | 450 (18) | 400 (16) | 600 | 375 (15) | 275 (11) |
| 6 | 1500 | 500 (20) | 450 (18) | 600 | 450 (18) | 150 (6) |
| 7 | 2400 | 600 (24) | 500 (20) | 600 | 550 (22) | 150 (6) |
| 8 | 3200 | 800 (32) | 550 (22) | 600 | 750 (30) | 150 (6) |



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BY-PASS TYPE - TERMINAL UNITS (VAV)

| | 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 |

NOTES:

- 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 (air borne) noise criteria through the unit with 100% air flow through discharge outlet, based on IOdB room absorption.
- 4- NC_R is the radiated noise criteria through an exposed unit with 100% air flow through by-pass outlet, based on IOdB room absorption.


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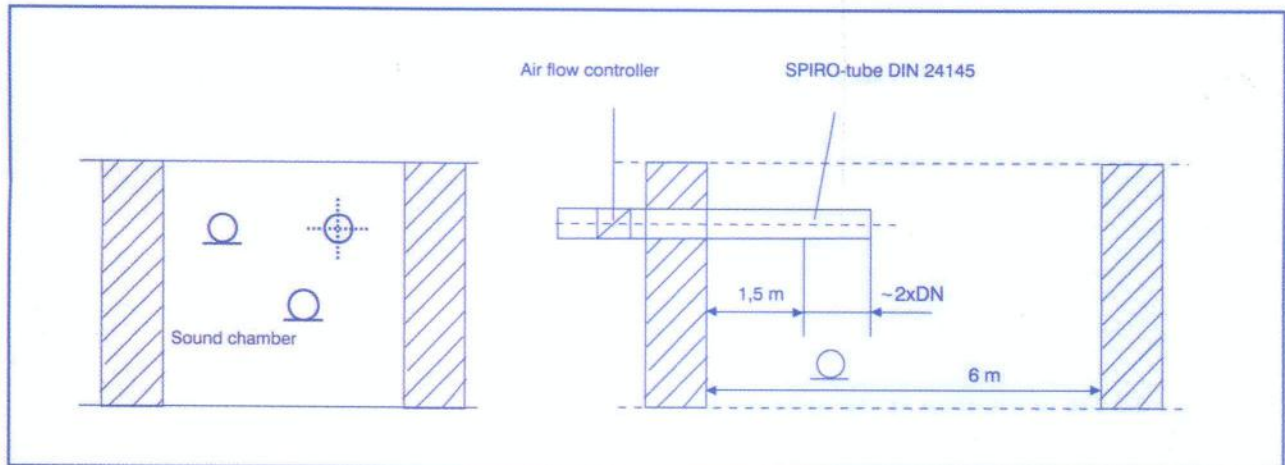
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TERMINAL UNIT (VAV) PRESSURE INDEPENDENT TYPE MODEL BVR, BVR/D

Quick reference flow-initiated noise

| NW | V | ΔP | | | | | | | | | | f _{250Hz} | |
|-----|-------|------------|----|-------|----|-------|----|-------|----|-------|----|--------------------|----|
| | | 150 | | 300 | | 600 | | 1000 | | 1500 | | Lw(A) | NR |
| | | Lw(A) | NR | Lw(A) | NR | Lw(A) | NR | Lw(A) | NR | Lw(A) | NR | | |
| 100 | 85 | 43 | 37 | 50 | 44 | 59 | 56 | 60 | 58 | 63 | 61 | Lw(A) | NR |
| | 170 | 50 | 44 | 56 | 50 | 61 | 57 | 64 | 60 | 67 | 63 | | |
| | 250 | 54 | 49 | 59 | 54 | 64 | 58 | 67 | 60 | 70 | 65 | | |
| | 340 | 58 | 53 | 62 | 57 | 67 | 61 | 69 | 64 | 72 | 66 | | |
| 125 | 133 | 43 | 37 | 49 | 45 | 56 | 53 | 59 | 58 | 64 | 61 | Lw(A) | NR |
| | 265 | 51 | 46 | 56 | 51 | 61 | 57 | 64 | 58 | 67 | 61 | | |
| | 395 | 56 | 51 | 61 | 55 | 65 | 60 | 68 | 64 | 71 | 65 | | |
| | 530 | 60 | 55 | 64 | 61 | 68 | 65 | 70 | 66 | 73 | 69 | | |
| 160 | 220 | 44 | 38 | 49 | 45 | 56 | 53 | 60 | 58 | 64 | 61 | Lw(A) | NR |
| | 435 | 51 | 46 | 56 | 49 | 62 | 55 | 65 | 58 | 69 | 62 | | |
| | 650 | 56 | 51 | 60 | 55 | 65 | 59 | 68 | 61 | 72 | 65 | | |
| | 870 | 59 | 54 | 63 | 58 | 68 | 65 | 71 | 69 | 74 | 70 | | |
| 200 | 340 | 43 | 37 | 49 | 46 | 56 | 53 | 60 | 58 | 64 | 61 | Lw(A) | NR |
| | 680 | 52 | 46 | 56 | 50 | 62 | 56 | 65 | 61 | 69 | 65 | | |
| | 1020 | 58 | 52 | 61 | 55 | 66 | 59 | 69 | 63 | 72 | 66 | | |
| | 1360 | 62 | 56 | 65 | 59 | 69 | 64 | 72 | 69 | 74 | 70 | | |
| 250 | 700 | 44 | 37 | 52 | 48 | 59 | 56 | 63 | 60 | 67 | 63 | Lw(A) | NR |
| | 1050 | 53 | 49 | 58 | 51 | 64 | 57 | 67 | 62 | 72 | 67 | | |
| | 1580 | 59 | 53 | 63 | 57 | 68 | 61 | 71 | 65 | 74 | 69 | | |
| | 2120 | 63 | 58 | 66 | 60 | 70 | 65 | 73 | 70 | 76 | 70 | | |
| 315 | 850 | 45 | 39 | 52 | 47 | 59 | 55 | 63 | 59 | 67 | 63 | Lw(A) | NR |
| | 1690 | 53 | 46 | 58 | 52 | 64 | 57 | 68 | 61 | 72 | 66 | | |
| | 2530 | 59 | 52 | 62 | 55 | 67 | 60 | 71 | 65 | 74 | 67 | | |
| | 3370 | 63 | 56 | 65 | 59 | 71 | 65 | 74 | 69 | 77 | 70 | | |
| 400 | 1400 | 45 | | 52 | | 57 | | 62 | | 70 | | Lw(A) | NR |
| | 2700 | 51 | | 58 | | 64 | | 69 | | 76 | | | |
| | 4100 | 55 | | 61 | | 69 | | 74 | | 80 | | | |
| | 5400 | 58 | | 64 | | 72 | | 77 | | 84 | | | |
| 500 | 2180 | 47 | | 54 | | 59 | | 64 | | 72 | | Lw(A) | NR |
| | 4300 | 53 | | 60 | | 66 | | 72 | | 78 | | | |
| | 6500 | 57 | | 63 | | 71 | | 76 | | 82 | | | |
| | 8000 | 60 | | 66 | | 74 | | 80 | | 85 | | | |
| 630 | 3400 | 49 | | 56 | | 61 | | 66 | | 74 | | Lw(A) | NR |
| | 6750 | 55 | | 62 | | 69 | | 74 | | 80 | | | |
| | 10200 | 59 | | 65 | | 74 | | 79 | | 84 | | | |
| | 13400 | 62 | | 68 | | 78 | | 83 | | 87 | | | |
| NW | V | Lw(A) | | Lw(A) | | Lw(A) | | Lw(A) | | Lw(A) | | Lw(A) | NR |
| | | 50 | | 100 | | 250 | | 500 | | 1000 | | | |

Metering set-up:
Several microphones following Ö-NORM S5031



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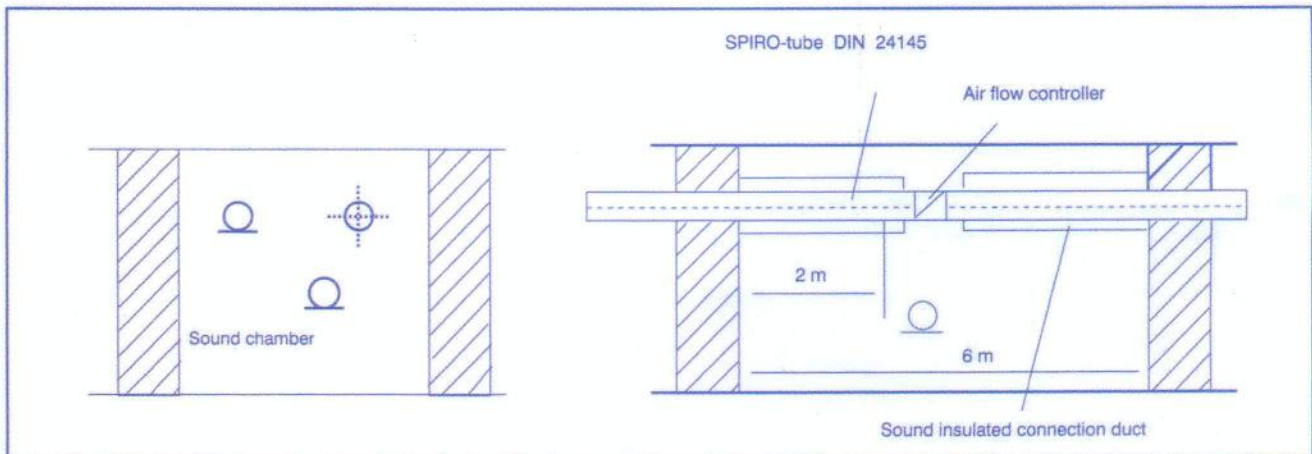
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PRESSURE INDEPENDENT TYPE MODEL BVR, BVR/D - TERMINAL UNITS (VAV)

Quick reference surface - emitted noise

| NW | V | Δp | | | | | | | | | | f _{250Hz} |
|-----|-------|------------|----|-------|----|-------|----|-------|----|-------|----|--------------------|
| | | 150 | | 300 | | 1000 | | 1500 | | | | |
| | | Lw(A) | NR | Lw(A) | NR | Lw(A) | NR | Lw(A) | NR | Lw(A) | NR | |
| 100 | 85 | 37 | 34 | 41 | 38 | 48 | 47 | 52 | 49 | 58 | 54 | |
| | 170 | 43 | 39 | 47 | 45 | 52 | 50 | 55 | 52 | 59 | 56 | |
| | 250 | 48 | 46 | 51 | 48 | 55 | 51 | 58 | 54 | 62 | 57 | |
| | 340 | 52 | 49 | 55 | 51 | 59 | 57 | 61 | 58 | 64 | 60 | |
| 125 | 133 | 37 | 34 | 43 | 42 | 50 | 49 | 54 | 53 | 58 | 57 | |
| | 265 | 42 | 38 | 47 | 46 | 52 | 50 | 56 | 54 | 59 | 58 | |
| | 395 | 47 | 46 | 51 | 49 | 55 | 53 | 57 | 55 | 61 | 60 | |
| | 530 | 51 | 50 | 54 | 52 | 57 | 55 | 59 | 58 | 62 | 60 | |
| 160 | 220 | 36 | 32 | 42 | 39 | 48 | 47 | 53 | 51 | 57 | 55 | |
| | 435 | 41 | 38 | 45 | 41 | 50 | 47 | 55 | 50 | 59 | 56 | |
| | 650 | 46 | 42 | 48 | 44 | 53 | 48 | 57 | 51 | 61 | 56 | |
| | 870 | 50 | 48 | 52 | 48 | 56 | 51 | 59 | 54 | 63 | 57 | |
| 200 | 340 | 37 | 33 | 43 | 39 | 50 | 48 | 55 | 52 | 59 | 55 | |
| | 680 | 45 | 41 | 49 | 45 | 55 | 50 | 59 | 54 | 63 | 58 | |
| | 1020 | 49 | 46 | 52 | 48 | 57 | 52 | 61 | 56 | 65 | 61 | |
| | 1360 | 53 | 49 | 56 | 51 | 63 | 59 | 62 | 57 | 67 | 63 | |
| 250 | 700 | 40 | 34 | 45 | 43 | 51 | 48 | 56 | 53 | 60 | 55 | |
| | 1050 | 45 | 39 | 49 | 45 | 54 | 49 | 59 | 55 | 63 | 47 | |
| | 1580 | 51 | 46 | 53 | 47 | 57 | 53 | 62 | 58 | 65 | 61 | |
| | 2120 | 55 | 49 | 56 | 51 | 60 | 55 | 64 | 59 | 68 | 64 | |
| 315 | 850 | 45 | 42 | 50 | 47 | 56 | 52 | 58 | 55 | 61 | 58 | |
| | 1690 | 50 | 48 | 54 | 52 | 59 | 55 | 61 | 56 | 63 | 57 | |
| | 2530 | 55 | 50 | 58 | 55 | 62 | 58 | 64 | 58 | 66 | 60 | |
| | 3370 | 60 | 53 | 61 | 56 | 64 | 58 | 66 | 62 | 68 | 53 | |
| 400 | 1400 | | 45 | | 52 | | 57 | | 62 | | 70 | |
| | 2700 | | 51 | | 58 | | 64 | | 69 | | 76 | |
| | 4100 | | 55 | | 61 | | 69 | | 74 | | 80 | |
| | 5400 | | 58 | | 64 | | 72 | | 77 | | | |
| 500 | 2180 | | 47 | | 54 | | 59 | | 64 | | 72 | |
| | 4300 | | 53 | | 60 | | 66 | | 72 | | 78 | |
| | 6500 | | 57 | | 63 | | 71 | | 76 | | 82 | |
| | 8000 | | 60 | | 66 | | 74 | | 80 | | 85 | |
| 630 | 3400 | | 49 | | 56 | | 61 | | 66 | | 74 | |
| | 6750 | | 55 | | 62 | | 69 | | 74 | | 80 | |
| | 10200 | | 59 | | 65 | | 74 | | 79 | | 84 | |
| | 13400 | | 62 | | 68 | | 78 | | 83 | | 87 | |
| NW | V | Lw(A) | | Lw(A) | | Lw(A) | | Lw(A) | | Lw(A) | | |
| | | 50 | | 100 | | 250 | | 500 | | 1000 | | |

Metering set-up:
Several microphones following Ö-NORM S5031

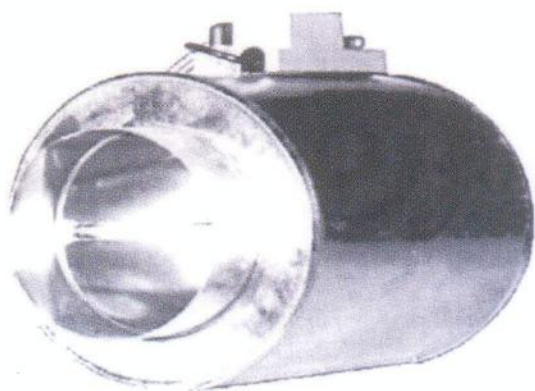
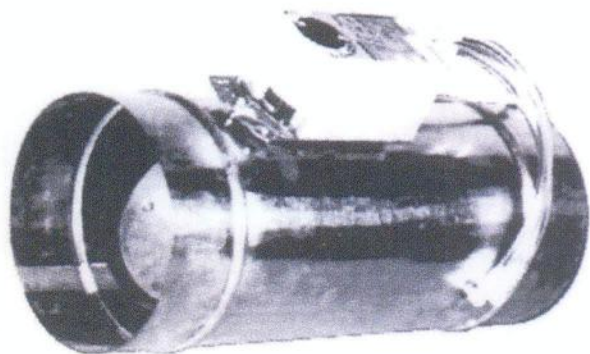


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TERMINAL UNITS (VAV) - PRESSURE INDEPENDENT TYPE BVR. BVR/D



Specification BVR

BVR controller, round design, with damper blade for variable and constant volume flow, for supply and exhaust air.

All dimensions from 100 mm to 630 mm. Volume flows between 50 m³/h up to 13000 m³/h. Each device is individually balanced for V max, V min and Vnom in the factory.

Metering profiles-sensor for differential pressure of Aluminum profile (Round-form) dust repellent with two connection nipples by the side for measuring unit. Controller suitable for connection to electronic or pneumatic regulation zones.

Housing and damper blade made from zincplated steel, non-ageing rubber gasket to provide air tightness, full close possible airtight to DIN 1946 part 4.

Differential pressure 20 - 1000 Pa, air volume range in dependence of controller type approx 7:l.

Housing air leaking conformable class II, VDI 3803 resp. DIN 24 194.

Description

BVR controller in round design, housing and damper blade made of zincplated steel, non-ageing rubber gasket, on both sides low friction bearings made of PVC.

Metering profile

Sensor made of Aluminum profile (Round-form) dust repellent.

Regulation unit

Dynamic pressure sensor for normal room air. Static pressure sensor for low aggressive air or normal room air.

Options

Body damper for reduction noise.
 Silencer for reduction of air flow noise.
 Heating coil
 Cooling coil
 Limit switch

Other options

Housing and damper blade made from aluminium, stainless steel or plastic.

Other dimensions after Inquiry.

Ordering sample

2 pcs. BVR/315/...



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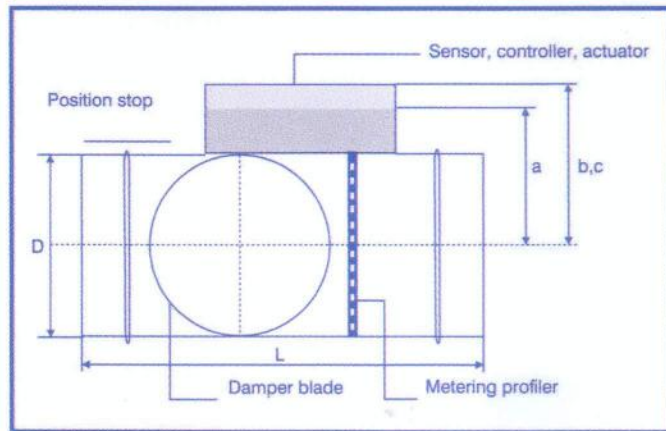
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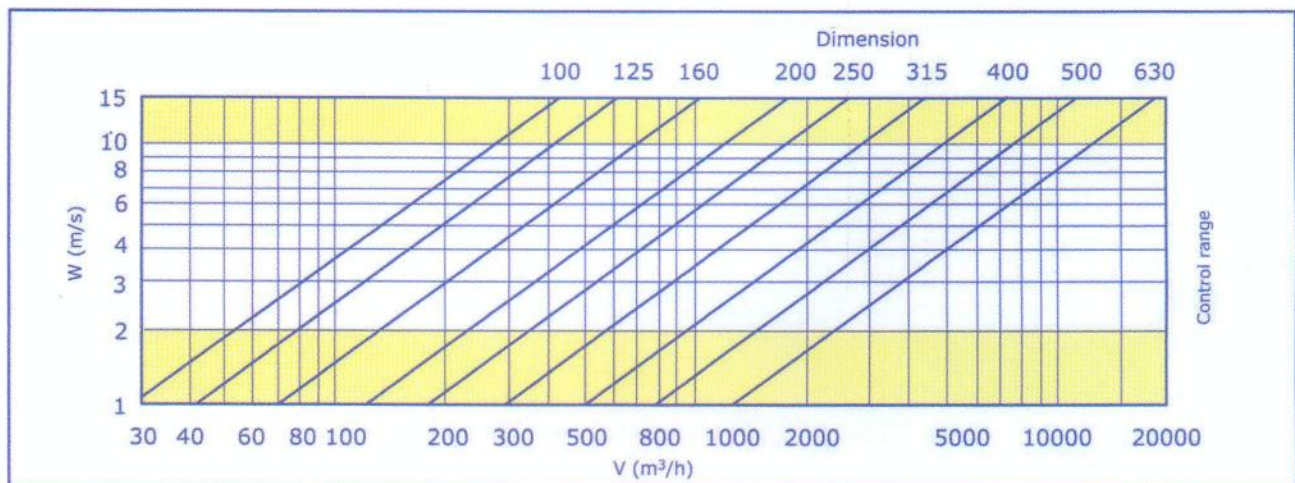
PRESSURE INDEPENDENT TYPE MODEL BVR, BVR/D - TERMINIAL UNITS (VAV)

Data Sheet



| Dimension | ∅D mm | L mm | a mm | b (NM-V) mm | c (L + S) mm | V _{min} | V _{max} | Weight Kg |
|-----------|----------|---------|---------|----------------|-----------------|------------------|------------------|--------------|
| 100 | 99 | 375 | 105 | 107 | 109 | 57 | 339 | 2.8 |
| 125 | 124 | 375 | 117 | 119 | 121 | 88 | 530 | 3 |
| 160 | 159 | 375 | 135 | 137 | 139 | 145 | 869 | 3.2 |
| 200 | 199 | 375 | 155 | 157 | 159 | 226 | 1357 | 3.6 |
| 250 | 249 | 375 | 180 | 182 | 184 | 353 | 2121 | 4.5 |
| 315 | 314 | 430 | 212 | 227 | 229 | 561 | 3367 | 5 |
| 400 | 399 | 480 | 255 | 270 | 272 | 905 | 5429 | 10 |
| 500 | 499 | 580 | 305 | 308 | 310 | 1414 | 8482 | 13 |
| 630 | 629 | 700 | 375 | 373 | 375 | 2244 | 13467 | 18 |

Quick reference for size NW 100 to NW 630



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