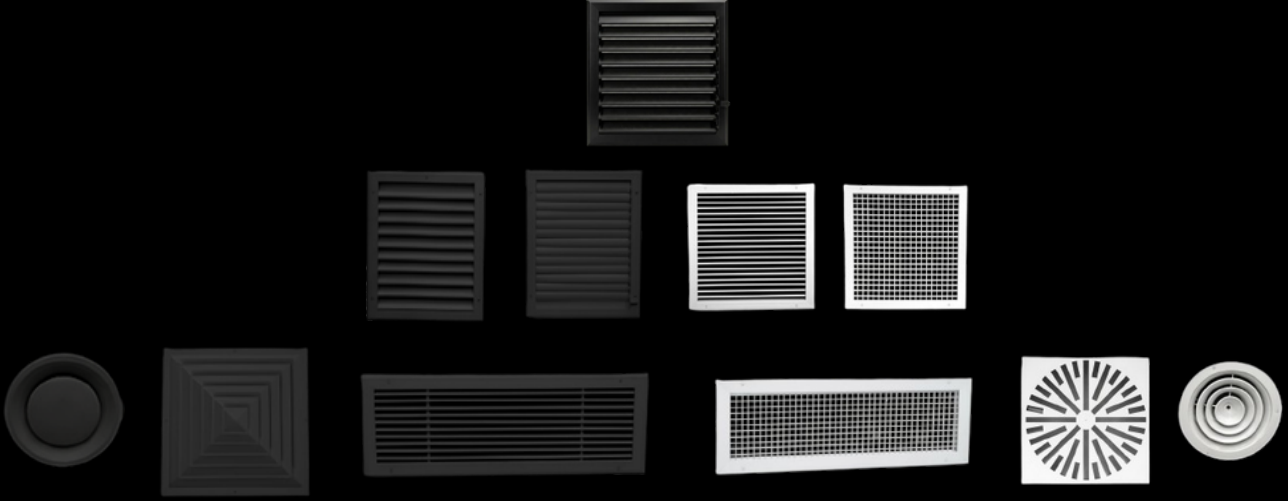


VENTSAN



HEATING, COOLING & AIR DISTRIBUTION SYSTEMS

GRILLES & *DIFFUSERS*

2026

INTRODUCTION

00

Engineered air, quietly delivered.

Every space that moves air — an office floor, a hospital ward, a stairwell in an emergency — depends on a single quiet element to get that air where it needs to go, at the speed and pattern the room actually requires. A grille or diffuser is rarely noticed when it is right, and immediately obvious when it is wrong: draughts, noise, dead zones, condensation on the glass.

Every product in this catalogue is built from corrosion-resistant aluminium or coated steel, finished to any RAL code, and sized to match standard duct necks so that specification and installation stay simple from drawing to commissioning.

This edition brings together the full Ventsan range of louvres, ceiling diffusers, disc valves and swirl outlets in a single, disciplined reference — each family engineered in-house, each one documented down to the throw pattern, pressure loss and sound level it delivers on site.

Selection tables, correction factors and worked examples are provided throughout so that an engineer can move from required air volume straight to a part number — without guesswork, and without oversizing.



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Full product
archive.

8 sections · 2026 edition

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HOW TO USE THIS CATALOGUE

Each section opens with a general description, followed by standard sizes, installation types, a quick selection table, and an order-configuration code. Values in selection tables are representative rows from the complete data set; intermediate sizes and full tables are available on request.

01 — AIR DISTRIBUTION

01

Air Louvre.

VAL—Fixed Blade, Wide & Narrow Frame

Engineered for external duct terminations on supply and extract lines, VAL is machined from specially extruded aluminium profile and offered in narrow and wide-blade formats. Blades run diagonally at 45° across the free area to shed driven rain while maintaining airflow.

An optional mesh guard restricts debris and pests at the duct opening. Finish is electrostatic powder coat in any RAL code, or anodised on request. An arm linkage converts the range into an operable sliding-bladelouvre where required.



WIDE & NARROW FRAME

EXTRUDED ALUMINIUM

ANY RAL COLOUR

45° DIAGONAL BLADE, WIDE FRAME

TYPICAL DUTY

External louvring on supply and extract duct terminations, plant-room intakes, and weather-protected openings on building envelopes.

Standard sizes.

Frame Dimensions (mm)

Section	VAL-W Wide	VAL-N Narrow
a	70	30
b	45	32–22
c	50	40

Sizes given at the duct-neck opening. Full free-area figures for every standard width × height combination are tabulated on the next page.

CROSS SECTION A / B / C

Standard Widths & Heights (mm)

	Range
Width:	200 – 2000, in 100–200 mm steps
Height:	200 – 800, in 50–100 mm steps

ORDER NOTE

Custom sizes and finishes are available on request; intermediate widths and heights outside the standard series can be produced to project drawings.

Performance data.

Effective Free Area — VAL-W, A_k (m²)
WIDTH (MM) → ROWS · HEIGHT (MM) ↓ HEADER

H \ W	200	400	600	800	1000	1200	2000
200	0.01	0.03	0.05	0.06	0.08	0.11	0.15
400	0.03	0.10	0.16	0.22	0.28	0.35	0.50
600	0.05	0.16	0.24	0.32	0.40	0.48	0.81
800	0.06	0.22	0.34	0.46	0.57	0.69	1.15
1000	0.08	0.28	0.43	0.58	0.73	0.87	1.46
1200	0.09	0.35	0.52	0.70	0.88	1.06	1.78
1600	0.12	0.47	0.72	0.96	1.21	1.45	2.43
2000	0.15	0.60	0.91	1.22	1.53	1.84	3.09

Values shown are representative rows from the complete 15-step selection table (widths 200–2000mm, heights 200–2000mm).
Locate width along the header row and height down the left column; the intersection gives effective free area A_k in square metres.

Pressure Loss & Sound — Inside to Outside

V (m/s)	Δp (Pa)	Lw (dBA)
1.50	10	30
2.50	29	47
3.50	58	57
5.00	115	67
6.00	165	72

Pressure Loss & Sound — Outside to Inside

V (m/s)	Δp (Pa)	Lw (dBA)
1.50	14	35
2.50	36	51
3.50	70	60
5.00	145	71
6.00	200	75

Face velocity measured at louvre free area.

Order configuration.

VAL — N — 0 — 400×200 — 9010

FRAME TYPE

W Wide Frame
N Narrow Frame
S Sliding Louvre

INSTALLATION

0 Without screw
1 With screw

DUCT NECK (MM)

W Width
H Height

FINISH

RAL State any RAL code

WORKED EXAMPLE

VAL-N-0-400×200-9010 — narrow-frame louvre, without screw fixing, 400×200 mm duct neck, finished in RAL 9010.

02 — AIR DISTRIBUTION

02

Square Ceiling Diffuser.

VSCD — Fixed & Curved Blade

Designed for ceiling applications, VSCD serves both supply and extract duty in air ventilation systems. A damper can be fitted to regulate air volume, and 1, 2, 3 or 4-way blade patterns are made to order.

The blade geometry suits horizontal throws; where Coanda effect is required the diffuser should sit flush with the ceiling plane. Recommended for ceiling heights up to 3.5–4 m.

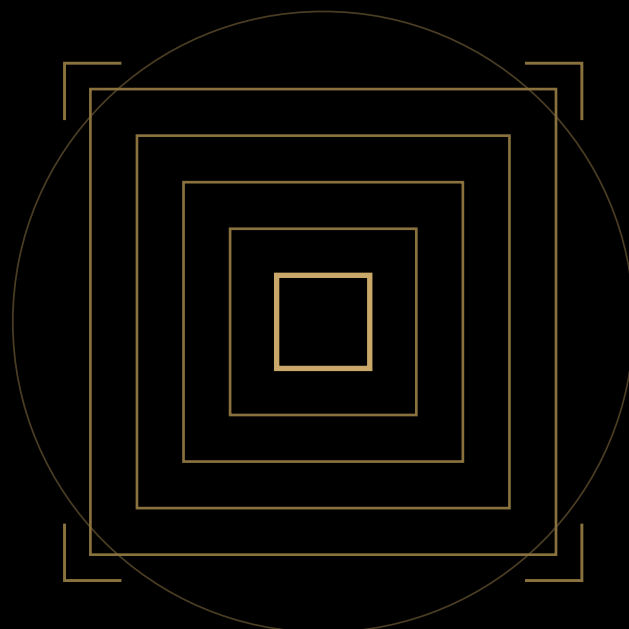
1/2/3/4-WAY

FIXED OR CURVED BLADE

ANY RAL COLOUR

TYPICAL DUTY

Suspended-ceiling supply and extract in offices, retail, and general commercial interiors up to moderate ceiling heights.



4-WAY DISCHARGE PATTERN

Sizes & installation.

Frame Dimensions (mm)

A (Face)

B

C

150×150

230

310

225×225

305

385

300×300

380

460

375×375

455

535

400×400

480

560

450×450

515

595

525×525

605

685

600×600

680

760

Installation Types

CLIP MOUNT

SCREW MOUNT

SUB-FRAME

CLIP-IN CEILING

Supply Directions

1-way, 2-way, 3-way and 4-way blade patterns are made to order according to the installation position — corner, wall-line, or open-field ceiling location.

Sizes at duct-neck opening. Clip-in variant fits a 600×600 mm ceiling grid, with a 390 mm diffuser face.

Quick selection.

Quick Selection — 3/4-Way (Air Volume, m³/h)

AK IN M² · VK FACE VELOCITY M/S · PT PRESSURE LOSS PA · LT THROW M · NR SOUND LEVEL

Size (mm)	Ak (m²)	300 m³/h	600 m³/h	1000 m³/h	2000 m³/h
150	0.0138	Vk 6.4 / NR 33	—	—	—
300	0.0486	Vk 1.8 / NR <20	Vk 3.5 / NR 25	—	—
450	0.0972	—	Vk 1.7 / NR 16	Vk 3.4 / NR 26	Vk 5.5 / NR 37
600	0.1692	—	—	Vk 1.8 / NR 18	Vk 3.0 / NR 28

Quick Selection — 1/2-Way (Air Volume, m³/h)

Size (mm)	Ak (m²)	300 m³/h	600 m³/h	1000 m³/h	2000 m³/h
150	0.011	Vk 5.3 / NR 35	—	—	—
300	0.046	Vk 1.7 / NR 15	Vk 4.5 / NR 35	Vk 6.1 / NR 43	—
450	0.105	—	Vk 1.8 / NR 18	Vk 4.1 / NR 27	—
600	0.187	—	—	—	Vk 3.2 / NR 34

Condensed from the full 14-column selection table (100–2000 m³/h, all standard sizes). Complete data, including intermediate sizes 200/250/350/400/500/550, is available on request.

Definitions & order code.

Definitions

Q_v air flow (m³/h) · A_k effective area (m²) · V_k outlet velocity (m/s) · H ceiling height (m) · H1 ceiling-to-comfort-zone distance · A spacing between diffusers · L_t horizontal throw (m) · V_t velocity entering comfort zone (m/s) · I_{WA} sound power · L_{WNC} sound level (NR).

VSCD-N-PD-1-4-
400×200-9010

WORKED EXAMPLE

Air volume 1000 m³/h, throw 2.5 m, V_t 0.5 m/s → size 450×450 (A_k 0.0972, V_k ≈ 2.8 m/s) selected directly from the 3/4-way selection diagram. Diagram assumes 100% open damper position and ±0.5 m ceiling-height tolerance around 3 m.

FRAME

N Normal / Standard
C Clip-in

ACCESSORY

PD Parallel damper
ZD Opposite damper

BLADE PATTERN

1-4 Way count

03 — AIR DISTRIBUTION

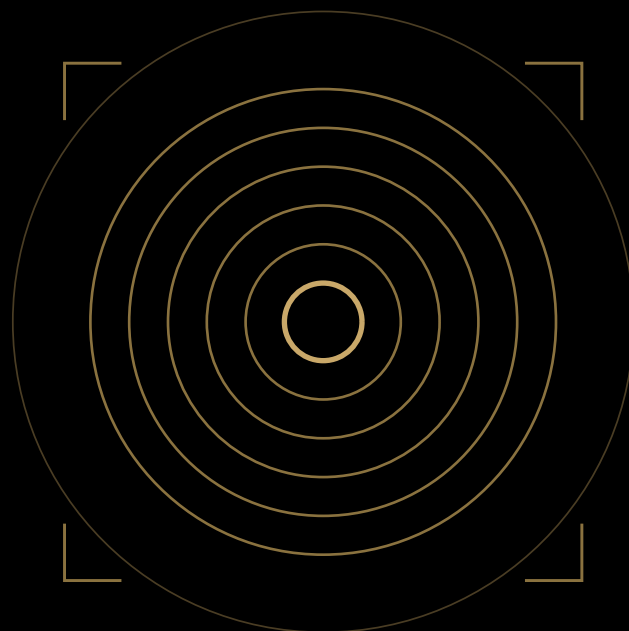
03

Round Ceiling Diffuser.

VRCD — Fixed Blade, Plenum Mounted

The round diffuser is designed for ceiling applications and serves both supply and extract duty. A plenum box behind the diffuser achieves the optimum throw characteristic, with a damper fitted at the inlet on request.

Plenum boxes are pressed from 0.6 mm galvanised steel, available with acoustic lining and thermal insulation. Recommended for ceiling heights up to 3.5–4 m.



GALVANISED PLENUM BOX

ACOUSTIC LINING

DAMPER OPTIONAL

CONCENTRIC FIXED-BLADE FACE

TYPICAL DUTY

Ceiling supply and extract where a circular architectural vocabulary is preferred over the square-format VSCD range.

Sizes & installation.

Standard Diameters (mm)

Ø Nominal	ØD	ØA	ØB (outer)
150	142	210	250
200	192	260	300
250	241	320	360
300	295	360	400
350	342	410	450
400	395	460	500
450	445	510	550
500	497	560	600
550	542	620	660

Variable-Cone Diffuser — Travel (mm)

CONE TRAVEL T LETS THE DIFFUSER ADJUST THROW AND VOLUME WITHOUT A SEPARATE DAMPER

Ø Nominal	T (travel)
150	24
250	48
350	72
450	96
550	120

Installation Types

SCREW MOUNT SUSPENDED CEILING CLIP-IN CEILING DIRECT-TO-DUCT

Fixing type does not change effective area; with-damper and without-damper variants share the same outer diameters.

Quick selection.

Quick Selection Table

CONDENSED — 3 FLOW STEPS PER SIZE SHOWN, FULL TABLE ON REQUEST

Ø (mm)	A _k (m ²)	Q (m ³ /h)	L _t V _t =0.25	Δp (Pa)	dB(A)
150	0.010	90 / 140 / 215	0.43 / 0.63 / 0.90	7 / 15 / 36	<20 / <20 / 30
250	0.030	200 / 400 / 600	0.58 / 1.03 / 1.45	3 / 11 / 25	<20 / 25 / 37
350	0.053	450 / 950 / 1450	0.95 / 1.70 / 2.38	3 / 14 / 34	<20 / 35 / 49
450	0.095	800 / 1500 / 2200	1.18 / 1.98 / 2.78	3 / 12 / 26	20 / 38 / >50
550	0.135	1000 / 1900 / 2800	1.28 / 2.23 / 3.00	2 / 9 / 19	<20 / 38 / >50

Definitions

Q_v air flow · A_k effective area · V_k outlet velocity · H ceiling height · H1 ceiling-to-comfort-zone distance · L_t horizontal throw · V_t comfort-zone entry velocity · V_r comfort-zone velocity. Comfort zone taken at 1.8 m above floor.

Worked example & order code.

VRCD — Selection & Ordering

WORKED EXAMPLE

Air volume Q_v 800 m³/h, throw L_t 3.3 m, V_t 0.25 m/s → diameter ØD 300 (A_k 0.040 m², $V_k \approx 2.5$ m/s) read directly from the quick-selection table.

VRCD — 32 — PD — 1 — 400×200 — 9010

FRAME

32	32 mm
22	22 mm

INSTALLATION

0	W/O screw
1	With screw
2	With clips

ACCESSORY

PD	Without damper
KD	Butterfly damper

FINISH

RAL	State RAL code
-----	----------------

Disc Valve.

VDV—AdjustableCentreDisc for Wet Rooms

VDV ventilates small wet-room spaces such as toilets and bathrooms. Air flow is adjusted by turning the centre disc, which lifts cleanly out of the frame for cleaning or balancing.

Neck sizes are matched to standard flexible ducting, making VDV a natural fit for collector-duct systems. Standard fixing is by spring clip, with screw fixing available. Manufactured from aluminium.



ADJUSTABLE CENTRE DISC

FLEX-DUCT NECK SIZES

RAL 9010 STANDARD

ADJUSTABLE CENTRE DISC

Standard Diameters (mm)

Ø Nominal	ØA (neck)	ØB (outer)	ØC (disc)
100	95	200	130
120	119	220	140
160	153	255	185
200	193	285	220

Selection Data (Sample)

Ø	Flow (m³/h)	Δp (Pa)	dB(A)
100	35 / 75 / 145	10 / 40 / 140	<20 / 20 / 40
160	75 / 145 / 220	15 / 55 / 130	<20 / 25 / 35
200	145 / 360 / 500	6 / 55 / 90	<20 / 34 / 40

Full 5-step selection tables for every diameter are available on request.

Order configuration.

VDV — 2 — 100 — 9010

INSTALLATION

- 1 With screw
- 2 Spring clip

SIZE

Ø State diameter

WORKED EXAMPLE

VDV-2-100-9010 — Ø100 disc valve, spring-clip fixing, finished in RAL 9010 (standard finish unless otherwise specified).

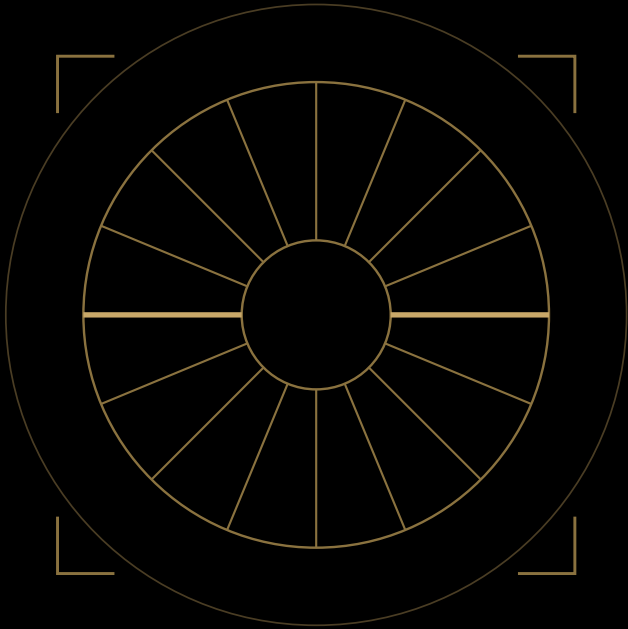
Swirl Diffuser.

Turbulence-type diffusers manufactured from 1 mm steel sheet, designed for ceiling application and recommended for spaces served by distributor-style air-handling systems.

Suitable for supply or extract air with ceiling heights of 3–4 m. Blades are fixed and arranged radially; the diffuser must be installed flush with the ceiling for best performance. Offered in square (VSW-01K) or round (VSW-01D) frame.

FIXED RADIAL BLADE 1MM STEEL SHEET

SQUARE OR ROUND



FIXED RADIAL BLADE RING

Standard Sizes — VSW-01K / VSW-01D (mm)

Model	A1 (face)	H1 (plenum)	ØG (spigot)	ØD (blade ring)
300	292	242	142	200
400	392	293	193	300
500	492	344	244	400
595	587	395	295	495
625	792	496	396	525

Selection & order code.

Selection Table (Sample Rows)

V_L = COMFORT-ZONE ENTRY VELOCITY, M/S

Size	Q (m³/h)	L $V_L=0.25$	L $V_L=0.10$	Δp (Pa)	dB(A)
300	140 / 220 / 300	1.40 / 1.80 / 3.00	3.10 / 3.90 / 6.60	17 / 23 / 70	31 / — / 50
400	170 / 310 / 450	1.15 / 2.15 / 3.20	2.90 / 5.50 / 8.00	7 / 24 / 52	<20 / 33 / 52
500	220 / 320 / 540	1.30 / 2.20 / 3.20	3.30 / 5.70 / 8.20	7 / 17 / 38	<20 / 31 / 42
595/600	290 / 460 / 630	1.50 / 2.50 / 3.50	3.75 / 6.25 / 8.70	6 / 14 / 28	20 / 32 / 42

Definitions

Q_v air flow · A_k effective area · V_k outlet velocity · H ceiling height · H1 ceiling-to-comfort distance · L throw distance · V_t comfort-zone entry velocity. Comfort-zone reference 1.7 m above floor.

VSW-01-D-1-400×200-9010

TYPE

- D Circular
K Square

INSTALLATION

- 0 W/O screw
1 With screw
2 With bridge

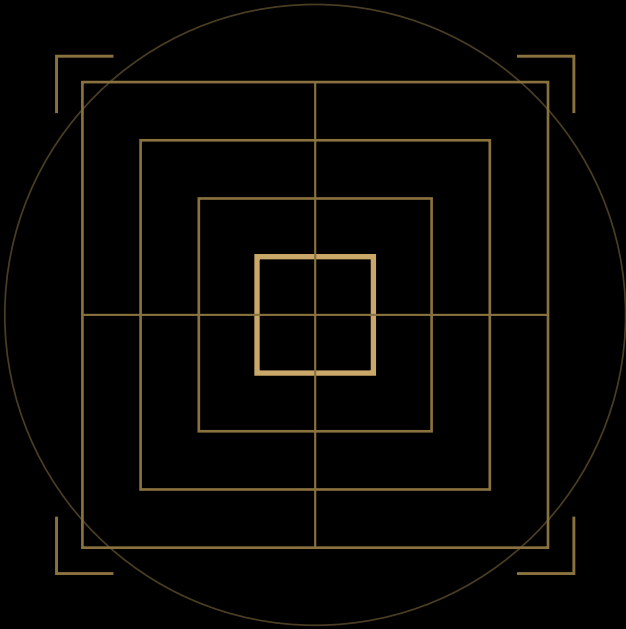
No accessories — standard fixed-blade construction only.

Swirl Diffuser, 4-Way.

VSW-02 — High-Ceiling Supply

Designed for high-ceiling supply applications, VSW-02 is offered with fixed or adjustable blades. Blades are set to horizontal throw for cooling and vertical throw for heating.

Well suited to industrial and commercial buildings — factories, warehouses, airports, supermarkets, sports halls — with ceiling heights of 3.5 m and above. Constructed entirely in aluminium.



4 INDEPENDENT QUADRANTS VERTICAL: HEATING

HORIZONTAL: COOLING

4-WAY QUADRANT, ALUMINIUM

Standard Sizes (mm)

A×A (face)	H1 (plenum)	A1 (duct frame)	Ø (spigot)
425×425	400	440	193
595×595	450	610	244
775×775	450	790	295
1050×1050	500	1065	396

Performance & order code.

Heating — Vertical Throw (Sample)

Model	Q (m³/h)	L _{max} (m)	NR	Δp (Pa)
425	900 / 1260	3 / 5	40 / 45	60 / 80
600	1260 / 2520	2.9 / 4.8	30 / 50	25 / 1000
775	1800 / 4680	3 / 6	25 / 50	12 / 70

Cooling — Horizontal Throw (Sample)

Model	Q (m³/h)	V _t (m/s)	A (m)	NR	Δp (Pa)
425	900 / 1260	0.15	3	40 / 50	45 / 55
600	1260 / 2520	0.15	3	25 / 50	30 / 85
775	1800 / 4680	0.15–0.2	3–4	25 / 50	25 / 60

VSW-02-D-1-400×200-9010

TYPE

D	Fixed blade
K	Moveable blade

INSTALLATION

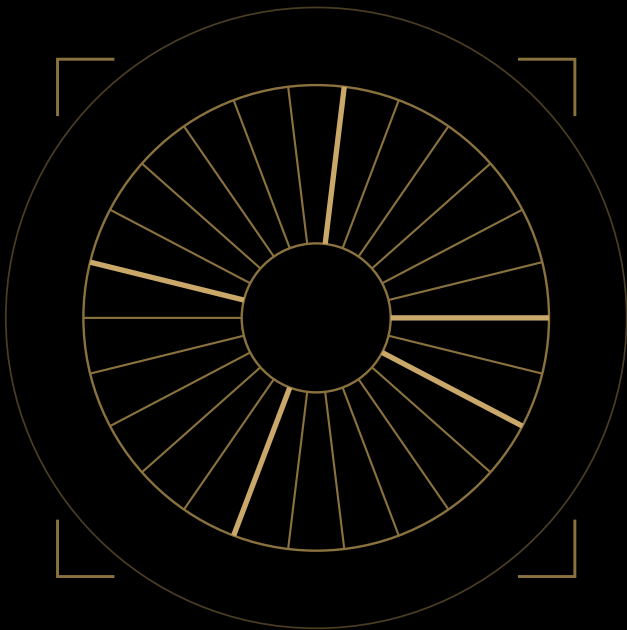
0	W/O screw
1	With screw
2	With clips

Swirl Diffuser, Adjustable.

VSW-03 — Types C & S

VSW-03 diffusers are designed for ceiling application, supply or extract, with adjustable blades suited to both horizontal and vertical air throws — recommended for ceiling heights of 2.6–4 m.

Produced as square or circular face, manufactured from 1.2 mm steel sheet with internal blades in black-coloured plastic for crisp visual contrast. Type C uses fixed radial blade count; Type S uses a linear adjustable pattern.



FIELD-ADJUSTABLE BLADE

TYPE C: RADIAL

TYPE S: LINEAR

ADJUSTABLE BLADE, BLACK PLASTIC

VSW-03C — Blade Count

AxA	Blades	ØG	A1	H1
300	10	142	292	242
400	16	193	392	293
500	36	244	492	344
800	72	396	792	496

VSW-03S — Blade Count

AxA	Blades	ØG	A1	H1
300	12	142	292	242
400	20	193	392	293
500	44	244	492	344
800	108	396	792	496

Supply directions & selection.

VSW-03 — Airflow Reference
Supply Directions

VERTICAL — HEATING THROW HORIZONTAL — COOLING THROW TWO-WAY — BALANCED SPREAD

Blade angle is field-adjustable: rotate individually to bias the discharge pattern between a tight vertical plume (heating) and a wide horizontal spread hugging the ceiling (cooling, Coanda effect).

Definitions

Q_v air flow · A_k effective area · V_k outlet velocity · H ceiling height · H1 ceiling-to-comfort distance · L throw distance · V_t comfort-zone entry velocity. Comfort-zone reference 1.7 m above floor.

Selection Table — Type C (Sample)

A × Blades	Q (m³/h)	L $V_t=0.25$	Δp (Pa)	dB(A)
300×10	100 / 200 / 300	0.80 / 1.60 / 2.50	7 / 24 / 50	<20 / 32 / 42
500×36	300 / 600 / 900	1.48 / 2.54 / 3.39	8 / 34 / 90	23 / 41 / 50
800×72	700 / 1200 / 1700	1.90 / 3.02 / 4.14	8 / 25 / 46	<20 / 37 / 48

Selection & order code.

Selection Table — Type S (Sample)

A × Blades	Q (m³/h)	L V _t =0.25	Δp (Pa)	dB(A)
300×12	90 / 170 / 250	0.90 / 1.90 / 3.00	6.5 / 16 / 40	<20 / 31 / 50
500×44	400 / 700 / 1000	1.75 / 2.60 / 3.20	14 / 42 / 84	27 / 48 / 60
800×108	1000 / 1400 / 1800	2.35 / 2.80 / 3.40	16 / 25 / 46	29 / 40 / 50

WORKED EXAMPLE

Q_v 1000 m³/h, throw 3 m, room height 3 m, ΔT 8°C, V_t 0.25 m/s → 600×60 (Type S) selected: Δp 72 Pa, sound 48 dB(A).

VSW-03C-32-PD-1-400×200-9010

TYPE

- D** Circular
- K** Square

ACCESSORY

- KS** W/O blades
- KL** With blades

INSTALLATION

- 0** W/O screw
- 1** With screw
- 2** With bridge

FINISH

- RAL** State RAL code

Slot Diffuser.

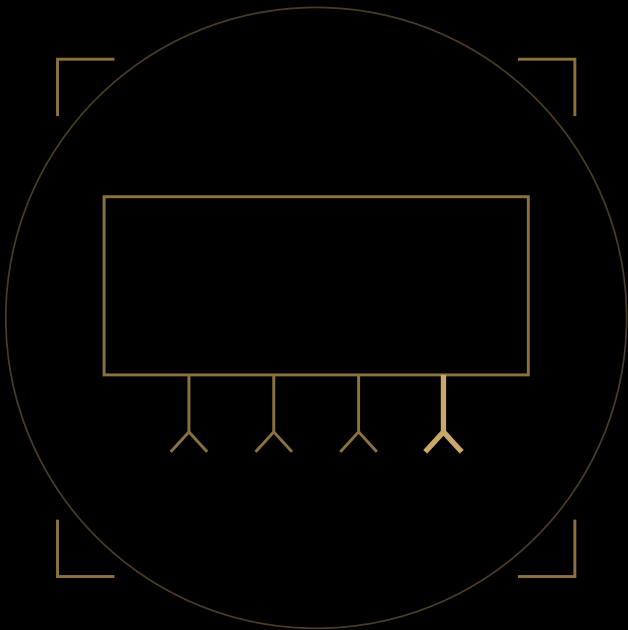
VSD — 1–6 Slot Linear Profile

Slot diffusers serve both supply and extract duty in ceiling applications, machined from specially extruded aluminium profile in 1 to 6-slot configurations.

Adjustable blades suit both horizontal and vertical air throws. Recommended for ceiling heights of 2.6–4 m, with an optional galvanised plenum box for optimum throw characteristics.

1–6 SLOTS EXTRUDED ALUMINIUM

PLENUM BOX OPTIONAL



4-SLOT LINEAR PROFILE

Profile Dimensions (mm) by Slot Count

Slots	W (frame)	B (plenum mating)	A (slot face)
1	48.3	84.9	58
2	81.0	119.2	90
3	115.0	153.5	125
4	151.5	189.2	165
5	185.0	223.5	195
6	217.0	257.8	230

Profile length made to order, joined at 1 m intervals for continuous linear runs. Air direction (left / right / straight-down) is set per slot; 90° and 135° corner pieces join continuous runs.

Quick selection.

VSD — Horizontal & Vertical Throw

Quick Selection — Horizontal Throw

THROW AT $V_L=0.25$ M/S, $\Delta T=10^\circ\text{C}$, 1 M SLOT
LENGTH

Slots	Q (m³/h)	Throw (m)	Δp (Pa)	dB(A)
1	140 / 240 / 340	2.80 / 5.20 / 8.00	18 / 44 / 82	27 / 40 / 48
3	430 / 610 / 790	6.00 / 8.90 / 11.90	17 / 35 / 60	33 / 41 / 48
6	870 / 1170 / 1470	9.20 / 11.90 / 14.90	16 / 28 / 45	35 / 40 / 48

Quick Selection — Vertical Throw

THROW AT $V_L=0.25$ M/S, $\Delta T=10^\circ\text{C}$, 1 M SLOT
LENGTH

Slots	Q (m³/h)	Throw (m)	Δp (Pa)	dB(A)
1	140 / 240 / 340	1.90 / 3.70 / 5.60	17 / 46 / 84	25 / 40 / 48
3	430 / 610 / 790	4.30 / 6.20 / 7.80	17 / 36 / 55	34 / 42 / 46
6	870 / 1170 / 1470	6.60 / 8.10 / 10.10	16 / 26 / 42	33 / 38 / 44

Condensed from the full 5-step selection tables for slot counts 1–6; complete data available on request.

Correction factors & order code.

VSD — Reference & Ordering

Correction Factors — Length (m)

Length	L _t Factor	NR
1	×1	+0
2–3	×1.1	+3...+7
6–10	×1.15	+8...+9

Velocity Correction (V_t, m/s)

V _t	Throw Factor
0.25	×1
0.375	×0.67
0.5	×0.5
0.625	×0.4

Damper Position

Position	Δp Factor	Lw
100% open	×1.50	+5
50% open	×3.38	+15
35% open	×8.85	+25

Without plenum box: Δp ×0.6, NR –5. Apply factors sequentially to base selection-table values.

VSD – DL – 400×200 – 9010

ACCESSORY

- DL With damper
DS Without damper

SLOT COUNT

- 1–6 Selected per run length

Worked example: VSD–DL–400×200–9010 — slot diffuser with damper, 400×200 mm neck, RAL 9010.

VENTSAN

Ventilation, reimagined as architecture.

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