



PRODUCT CATALOGUE ·

AIR

Dampers

2026

INTRODUCTION

01

Control, engineered into every duct line.

"A diffuser shapes the air you can feel. A damper decides how much of it arrives at all — quietly, precisely, and out of sight."

Every well-balanced air distribution system depends on components most occupants never see. Behind each diffuser and grille, a network of dampers throttles, balances, and directs airflow — holding the whole duct run in equilibrium.

Each damper is fabricated in-house from galvanised steel or aluminium, and finished to match the rest of the duct run. Manual, motorised, or pneumatic control is fitted to suit the application — from a simple balancing damper on a branch line to a BMS-integrated volume-control unit at the heart of a mechanical plant room.

Ventsan's damper range brings this same discipline to volume regulation that our diffusers bring to air distribution. Rectangular and circular volume dampers throttle or balance airflow across supply and extract lines, while backdraft dampers stop reverse flow the instant a fan shuts down, and iris dampers give commissioning engineers a precise, lockable point of measurement.

This catalogue presents the complete Ventsan damper family: rectangular and circular volume dampers, high-performance VHD series units, backdraft and non-return dampers, and iris dampers for fine flow measurement — together with the dimensional data, technical performance, and ordering information needed to specify with confidence.

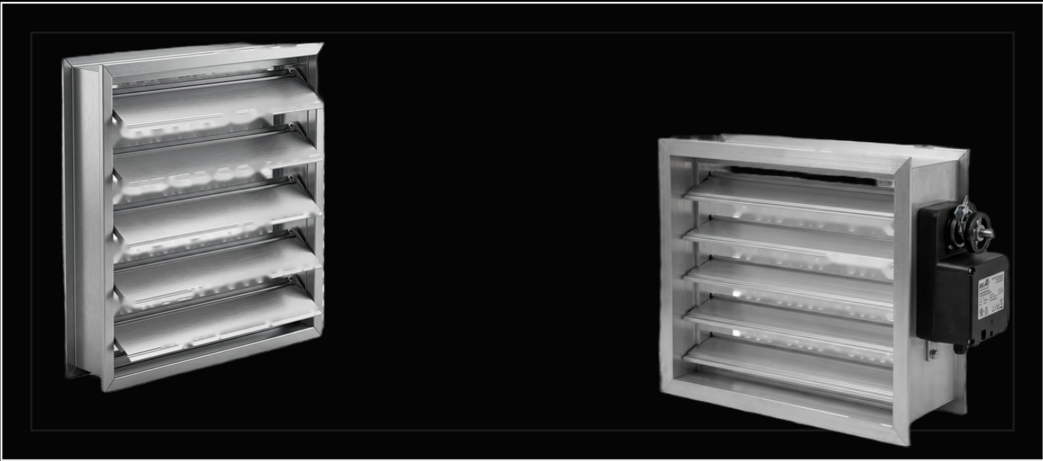
- MANUAL / MOTORISED / PNEUMATIC
- PARALLEL OR OPPOSED BLADE
- GALVANISED STEEL · ALUMINIUM · STAINLESS
- EN 1751 LEAKAGE CLASSIFICATION



THE RANGE

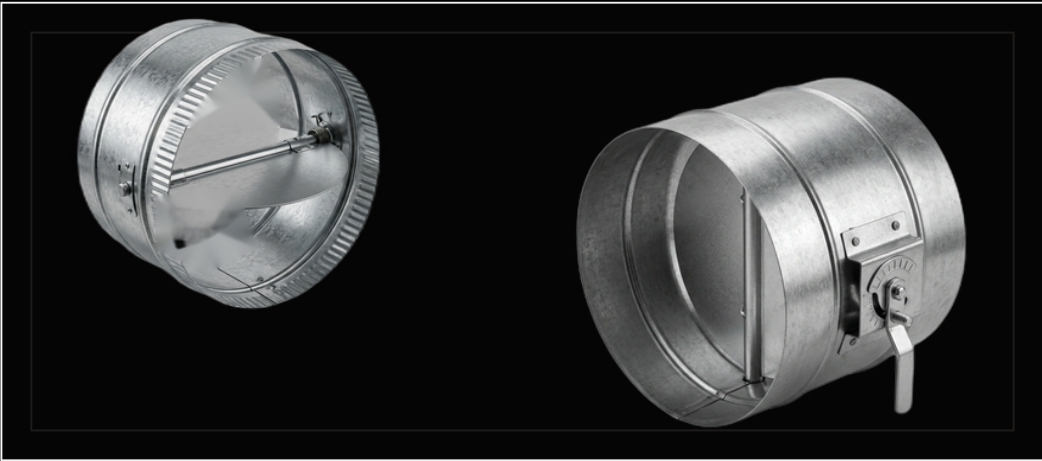
Four families, one duct language.

Rectangular, circular, non-return, and iris—every dampers share the same build quality and finish.



I. VAD — Rectangular Volume Damper

Opposed or parallel-blade dampers for rectangular ducts, used to balance or throttle airflow on supply and extract lines. Manual lever as standard; motorised actuator on request.



II. VRD — Circular Volume Damper

The same throttling control for spiral or flexible circular ducts, in a compact single-blade body sized to standard duct diameters, with manual or servomotor drive.



III. VBD / V-GDD — Backdraft Damper

Gravity-operated blades open under forward airflow and fall closed the moment flow stops, blocking reverse draughts when a fan is off. No springs, no motors.



IV. VID — Iris Damper

An adjustable iris aperture for fine flow balancing and measurement in circular ducts, fitted with twin pressure tappings and locked at the set position.

RECTANGULAR VOLUME DAMPER — OPPOSED / PARALLEL BLADE

03

Rectangular Volume Damper

VAD dampers regulate or shut off air flow in rectangular ducts. Blades can be supplied opposed—dividing the flow for finer control — or parallel, for a more direct throttling action, turning together on a geared linkage.

Frame and blades are formed from galvanised sheet steel as standard, with an aluminium-frame option. A manual quadrant lever is fitted as standard; a motorised actuator can be fitted for automated or BMS-linked control.

- OPPOSED OR PARALLEL BLADE
- MANUAL LEVER STANDARD
- MOTORISED ACTUATOR OPTIONAL



Standard Sizes

A × A (MM)	OVERALL FRAME (MM)	BLADE COUNT
200×200	270×270	2
300×300	370×370	2
400×400	470×470	3
600×600	670×670	4
800×800	870×870	6
1000×1000	1070×1070	7
1200×1200	1270×1270	8

Rectangular sizes are supplied to order in width × height combinations beyond the table above. Openings wider or taller than 1200 mm are built as a multi-section assembly for structural rigidity.

CIRCULAR VOLUME DAMPER — SPIRO / FLEXIBLE DUCT

04

Circular Volume Damper

VRD dampers give the same volume control as the rectangular range in a compact body sized to standard circular duct diameters, for spiro or flexible duct work.

A single blade rotates on a spindle that projects through the casing wall, operated by a locking lever as standard, or a servomotor for automated systems.

- SINGLE-BLADE BODY
- LOCKING LEVER / SERVOMOTOR
- GALVANISED STEEL STANDARD



Standard Sizes

ØD (MM)	OVERALL LENGTH L (MM)
100	150
125	150
150	150
160	160
200	160
250	180
315	200
400	220
500	250
630	280

ENGINEERED RANGE

The VHD series.

Two performance tiers, built for stepless flow control from 0–100%.

VHD 100 — Standard Control Damper

Stepless, precise volume control across the full 0–100% range. Galvanised steel or aluminium casing with aerodynamically profiled aluminium blades, driven by a long-life, low-noise high-strength PVC gear train.

Opposed-blade operation as standard for balanced airflow. Manual quadrant lever fitted as standard; pneumatic or electric servomotor available on request. An enhanced sealing gasket is offered as an option.

VHD 200 — High-Performance Damper

The same high-precision, stepless 0–100% control, built for demanding applications. Galvanised steel or aluminium casing with a choice of aluminium, galvanised steel, or CrNi stainless-steel blades.

A bronze bearing system allows continuous operation up to 400°C. Blade linkage may be specified parallel or opposed. Manual or automation-ready pneumatic/ electric servomotor control, with an optional high-sealing gasket for critical applications.

Technical Comparison

PROPERTY	VHD 100	VHD 200
Casing	Galvanised steel, depth 120 mm / Aluminium profile, depth 120 mm	Galvanised steel, depth 120 mm / Aluminium profile, depth 120 mm
Blades	Aluminium profile	Aluminium profile, galvanised steel, or CrNi stainless
Blade Linkage	Geared drive	Articulated linkage
Shaft Bearings	PVC	Bronze
Actuation	Motorised or manual lever	Motorised or manual lever
Sealing	Gasketed (optional)	Gasketed
Flange	35 mm (25 mm optional)	35 mm (25 mm optional)
Temperature Rating	Standard 80°C	Standard 120–200°C · Special build to 400°C



Actuation In Detail

Both series accept the same actuator family: a standard manual quadrant lever for field balancing, or a pneumatic / electric servomotor for automated and BMS-linked control. Actuator torque and drive speed are matched to casing size at order stage, with left- or right-hand rotation available on motorised units.

SELECTION DATA

Dimensions & leakage classification.

VHD 100 — W × H (mm)

W	100	300	600	1000	1500	2000
H	110	210	410	610	810	1010
Blade Count	1	2	4	6	8	10

Above 1500 mm damper height, the reinforced 140 mm blade profile is used for higher structural strength.

VHD 200 — W × H (mm)

W	100	300	600	1000	1500	2000
H	150	290	570	850	1270	1410
Blade Count	1	2	4	6	8	10

Each damper is designated by its W × H opening. Intermediate sizes are supplied to order across the full selection range.

Leakage Classification — EN 1751

CLASS	CLOSED-POSITION LEAKAGE RATE
Class 0	Not classified
Class 1	≤ 4 m³/h·m² @ 1000 Pa ≤
Class 2	10 m³/h·m² @ 1000 Pa ≤
Class 3	20 m³/h·m² @ 1000 Pa ≤
Class 4	40 m³/h·m² @ 1000 Pa

Ventsan dampers are typically produced to Class 2 or Class 3 casing leakage. When fully closed, sealing performance at 100 Pa across 1 m² is approximately 150 m³/h under standard construction. Full acoustic and pressure-loss diagrams, by blade angle and casing size, are available on request.

BACKDRAFT / NON-RETURN DAMPER — GRAVITY BLADE

Backdraft Damper.

VBD and V-GDD dampers keep air flow moving in one direction only, stopping unwanted reverse draughts when a fan is switched off or a duct branch is idle.

Forward airflow lifts the blades open by aerodynamic force; when flow stops, the blades fall closed under their own weight — without springs or motors. Rectangular and circular bodies are both available in galvanised steel, with an aluminium option.

- GRAVITY-OPERATED
- NO SPRINGS OR MOTORS
- RECTANGULAR & CIRCULAR BODIES



V-GDD 100 — Standard Duct Type

A low-resistance, high-performance sealing damper for rectangular ducts. Suitable for horizontal duct runs only, with blades operating in a vertical plane. Not recommended for direct mounting at a fan discharge or in vertical flow lines. Rated to a maximum 10 m/s face velocity and 100 Pa pressure class.

Installation

Horizontal duct runs only, with the blade axis horizontal so gravity closes the damper fully. Not recommended mounted directly at a fan discharge — leave a straight duct length equal to at least one casing width before the damper so airflow evens out before reaching the blades.

V-YGDD — Circular Duct Type

A compact non-return damper optimised for circular (spiro or flexible) ductwork. Its tubular body integrates easily into the duct run, minimising reverse-flow leakage and energy loss while the mechanism stays clear of the airway.



SELECTION DATA

Dimensions & vertical-duct kits.

V-GDD 100 — W × H (mm)

W	100	300	500	600	800	1000
H	150	300	450	600	750	900
Blade Count	1	2	3	4	5	6

V-YGDD — Circular (mm)

SIZE	ØD	L
100	100	150
125	125	125
150	150	150
160	160	160
180	180	180
200	200	200
250	250	250
315	315	315

V-GDD 101 — High-Pressure Type. A reinforced, heavy-duty damper for industrial facilities and high static-pressure systems. Holds its form at higher air velocities and pressure differentials than the standard model, without blade flutter — preferred for horizontal runs where sealing performance is critical.

Vertical-Duct Mounting

StandardV-GDDunits are designed for horizontal duct mounting, with the blades gravity-closing against a horizontal axis. Where a vertical duct run demands a non-return function, Ventsan supplies a factory-integrated Vertical Duct Mounting Kit:

- V-GDD100-D — Standard duct type, vertical-mount compatible.
- V-GDD101-D — High-pressure performance, vertical-mount compatible.

Vertical installation must be specified at order stage. The blades are configured to work against gravity, and the kit must always be fitted together with the vertical duct hardware.

IRIS DAMPER — ADJUSTABLE APERTURE, DUAL PRESSURE TAPPING

09

Iris Damper.

VID dampers give precise flow control and measurement in circular ducts. A set of overlapping blades close down like a camera iris, and the aperture is read and locked at the adjustment handle.

Twin pressure tapings let the pressure drop across the aperture be measured directly, so the running air volume can be read off and the setting fine-tuned without disturbing neighbouring branches. Suited to both supply and extract systems.

- DUAL MANOMETER PORTS
- LOCKING ADJUSTMENT HANDLE
- GALVANISED STEEL BODY



Standard Sizes

ØA — DUCT NECK (MM)	ØB — OUTER TRIM (MM)	C — DEPTH (MM)	L — OVERALL (MM)
100	165	50	110
125	210	50	110
160	230	50	110
200	285	50	110
250	335	55	135
315	410	55	135
400	525	70	190
500	655	70	210
630	815	70	210

HOW A DAMPER WORKS

Anatomy & control types.

A damper is the control element that starts, stops, meters, or directs airflow within a duct system.

Core Components

- Frame —galvanised sheet steel body.
- Blades —aluminium or galvanised steel, set the airflow path.
- Shaft —linkstheblades together in unison.
- Bushing —allowssmooth, low-friction shaft rotation.
- Actuator Linkage — connects the drive to the blade position.
- Actuator —setsand holds damper position.
- Seal —optionalgasket around the blade perimeter for airtight closure.

Control Types

- 1 — Manual.Lever or hand-wheel, positioned and locked by hand.
- 2 — Motorised. Electric actuator under controller command — 24V AC/DC or 230V AC supply, 0–10V / 2–10V or open/close control, modulating or on/off.
- 3 — Pneumatic. Pneumatic actuator running on 2–10 bar air supply, for fast-response modulating or open/close operation.

Operating Principle

FULLY OPEN — 100%

Minimum resistance to airflow; blades set parallel to the duct axis.

PARTIALLY OPEN — MODULATING

Blades throttle the airway to meter flow at any intermediate position.

FULLY CLOSED — 0%

Blades seated against the frame or each other, sealing the duct.

Note. Dampers do not provide fire resistance. Fire-rated dampers must be used in fire-compartment lines. Regular maintenance ensures a long, reliable service life, and installation and servicing should follow local regulations.



Order configuration.

VAD-Z-1-400×400-9010

BladeType

- Z — Opposed blade
- P — Parallel blade

Control

- 1 — Manual lever
- 2 — Motorised actuator
- 3 — Pneumatic actuator

Duct Neck

- W — Width, mm
- H — Height, mm

Finish

RAL —State any RAL code

Related Codes

PREFIX	PRODUCT	EXAMPLE
VAD	Rectangular volume damper	VAD-Z-1-400×400-9010
VRD	Circular volume damper	VRD-1-200-9010
VBD	Backdraft damper	VBD-400×400-9010
VID	Iris damper	VID-250-9010
VHD100/200 V-	Engineered volume damper	VHD100-K-600×600
GDD / V-YGDD	Rectangular / circular backdraft damper	V-YAD-R-315

Worked example. VAD-Z-1-400×400-9010 — opposed-blade rectangular damper, manual lever, 400×400 mm duct neck, finished in RAL 9010. For VHD and V-GDD series, suffix **K** denotes manual lever, **M** servomotor, and **P** pneumatic actuation.

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