AYSU
HVAC SYSTEMS

DAMPERS · TECHNICAL DATASHEET

Product code: **AYS-DMP-DD**

SMOKE DAMPER



Motorized multi-blade damper that directs smoke into the extract duct in smoke control systems. Suitable for single and multi-section use.

CONTROL Motorized	ACTUATOR BELIMO / GRUNER
SIZE Made to project	VOLTAGE 24 V · 230 V

FEATURES

- Directs smoke into the extract duct, stops reverse flow
- Multi-blade design; opened and closed by actuator
- Controlled by fire panel or BMS signal
- Open / closed indication via end switches
- Single or multi-section; sizes made to project
- Actuators: BELIMO, GRUNER

TECHNICAL SPECIFICATIONS

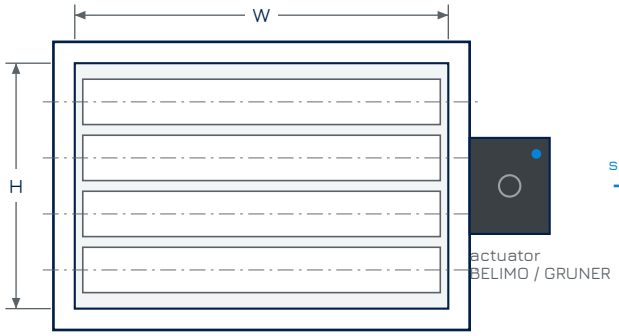
Damper type multi-blade, motorized	**Control** fire panel / BMS signal
Actuator BELIMO or GRUNER	**Actuator voltage** 24 V AC/DC or 230 V AC
Position indication open / closed end switches	**Duct connection** flanged
Size made to project, any size	**Class and certificate** stated per model

APPLICATIONS

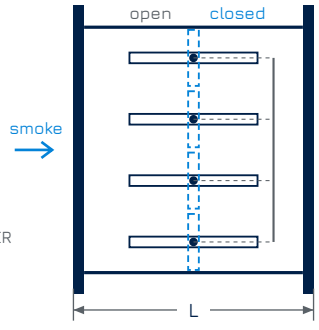
Car parks, shopping malls, corridors, atriums; smoke extract and pressurization systems.

TECHNICAL DRAWINGS

sizes to project · not to scale



FRONT VIEW



SECTION A–A



MULTI-SECTION
one actuator per section

ORDERING INFORMATION

Size	W × H duct inner size and L casing length are set to project
Actuator	BELIMO or GRUNER · 24 V AC/DC or 230 V AC
Sections	single or multi-section; large sizes are built from joined sections
Order code	AYS-DMP-DD-[W×H], e.g. AYS-DMP-DD-800×600

AYSU
HVAC SYSTEMS

DAMPERS · TECHNICAL DATASHEET

Product code: **AYS-DMP-DD**

SMOKE DAMPER

OPERATING PRINCIPLE

Motorized smoke damper · AYS-DMP-DD

1 **Standby position:** Depending on the system scenario the damper is normally closed (smoke extract) or normally open.

2 **Signal:** When a fire is detected, the fire panel or BMS commands the damper of the affected zone.

3 **Change of position:** The actuator turns the blades via the linkage; the damper opens to send smoke into the extract duct or closes to isolate the zone.

4 **Feedback and testing:** End switches report open / closed to the panel; the damper is tested by remote opening and closing.

ACTUATOR OPTIONS

BRAND	SERIES	TORQUE	VOLTAGE	NOTE
BELIMO	BLE · BE	15 Nm · 40 Nm	24 V AC/DC · 230 V AC	motor open / close, with end switches
GRUNER	smoke series	per maker data	24 V AC/DC · 230 V AC	torque and series selected by damper size

The actuator is selected for the torque required by the blade area; large sizes use a multi-section design with one actuator per section.

INSTALLATION AND MAINTENANCE

1 **Installation:** The damper is flange-connected to the smoke extract duct or shaft; ducts are supported separately with no load on the casing.

2 **Position:** Install so the blades turn freely and the actuator can be reached for service; provide an access door.

3 **Electrical:** Connect the actuator to the voltage on its label (24 V or 230 V); wire the end switches to the fire panel or BMS.

4 **Maintenance and testing:** Test regularly by opening and closing; check blades, seals, linkage and actuator.

SELECTION TABLE

Blades open · ρ = 1.2 kg/m³ · calculated · sizes are examples

W × H	A_F m²	AIRFLOW [m³/h] · by duct velocity			Δp [Pa] · calculated			ζ
		5 m/s	8 m/s	10 m/s	5 m/s	8 m/s	10 m/s	
200 × 200	0.022	720	1,150	1,440	24.0	61.5	96.1	1.60
300 × 200	0.035	1,080	1,730	2,160	18.6	47.7	74.6	1.24
300 × 300	0.057	1,620	2,590	3,240	14.4	36.9	57.6	0.96
400 × 300	0.080	2,160	3,460	4,320	12.7	32.6	51.0	0.85
400 × 400	0.110	2,880	4,610	5,760	11.3	28.9	45.1	0.75
500 × 400	0.141	3,600	5,760	7,200	10.5	26.9	42.1	0.70
600 × 400	0.171	4,320	6,910	8,640	10.0	25.7	40.2	0.67
600 × 500	0.219	5,400	8,640	10,800	9.4	24.0	37.5	0.62
800 × 500	0.297	7,200	11,520	14,400	8.9	22.7	35.4	0.59
800 × 600	0.362	8,640	13,820	17,280	8.5	21.7	33.9	0.56
1000 × 600	0.457	10,800	17,280	21,600	8.2	21.0	32.8	0.55
1000 × 800	0.620	14,400	23,040	28,800	7.8	19.9	31.1	0.52
1200 × 800	0.749	17,280	27,650	34,560	7.6	19.5	30.4	0.51
1200 × 1000	0.947	21,600	34,560	43,200	7.4	18.9	29.5	0.49
1500 × 1000	1.191	27,000	43,200	54,000	7.2	18.5	28.9	0.48

VALIDITY

Sizes in the table are examples; the damper is made to project in any size. Airflow and Δp are calculated (20 mm frame, 15 % open-blade projection; not laboratory tested). Class and certificates are stated per model.

SYMBOLS

BMS	building management system
End switch	blade position contact
A_F	free area (m²)
ζ	pressure loss coefficient
W × H	duct inner size