

BS

RECTANGULAR VARIABLE AIR VOLUME CONTROLLER VAV



VARIANTS

BSS, BSD

Galvanised rectangular VAV unit equipped with an electronic actuator and a specific aluminum differential pressure sensor. The damper is used to regulate constant or variable air flows in supply or exhaust ducts. The actuators are available with different control options, such as analogue 0(2)-10VDC, Modbus, BACnet & KNX. The aluminum counter-rotating damper blades are equipped with airtight gaskets and maintenance-free bearings. The casing airtightness meets class C according to EN1751, and damper blade air leakage meets class 2 according to EN1751. Available without insulation (BSS) and with insulation (BSD). External rectangular splitter silencers are available as an option.

Grada-Gruner 327VM actuator with integrated display/control and hybrid control 0(2)-10VDC and/or Modbus

Available for analogue control 0(2)-10VDC, Modbus, BACnet & KNX

Casing airtightness meets class C according to EN1751

ACCESSORIES



USSIL



TECHNICAL INFORMATION

APPLICATION	Type	Variable airflow control, supply & exhaust
CONSTRUCTION	Shape	Rectangular
	Measuring	non-polluting aluminium differential pressure sensor
	Length	400mm
	Min. width	150mm
	Max. width	1200mm
	Available steps in width	50mm
	Min. height	150mm
	Max. height	1200mm
	Available steps in height	50mm
	Frame size	20mm, 30mm (standard)
MATERIAL	Housing	Galvanised (275g/m²) sheet steel
	Blades	Aluminium extruded blades with strip gasket
	Insulation (BSD)	Mineral wool 25mm
PERFORMANCE	Air tightness housing	Class C - EN1751
	Air tightness blades	Class 2 - EN1751
	Min. air velocity	1,0m/s
GRUNER ACTUATOR	Standard actuator	GM01: 327VM-024-05-MB/GRA
	Input signal	0-10V, 2-10V (standard), Modbus
	Output signal	0-10V, 2-10V (standard), Modbus
	Operating voltage	24 VAC/DC +/- 20%
	Pressure sensor	Dynamic
BELIMO ACTUATOR	Standard actuator	B-01: LMV-D3-MP GD
	Input signal	0-10V, 2-10V (standard)
	Output signal	0-10V, 2-10V (standard)
	Operating voltage	24 VAC/DC +/- 20%
	Pressure sensor	Dynamic

GRADA-GRUNER GM01 ACTUATOR



PRODUCT KEY

RECTANGULAR VARIABLE AIRFLOW CONTROLLER VAV

B	S	S	3	2	-	-	GM01	0	4	0	0	0	4	0	0
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Nominale width B (mm):
From 150 to 1200mm, per
50mm

Nominal height H (mm):
From 150 to 1200mm, per
50mm

GM01: Gruner 327VM-024-05-MB/GRA - 5Nm - 0(2)-10VDC / Modbus
 GM02: Gruner 327VM-024-10-MB/GRA - 10Nm - 0(2)-10VDC / Modbus
 B-01: Belimo LMV-D3-MP-GD - 5Nm - 0(2)-10VDC / MP-Bus
 B-02: Belimo NMV-D3-MP - 10Nm - 0(2)-10VDC / MP-Bus
 B-03: Belimo LMV-D3-MF-GD - 5Nm - 0(2)-10VDC
 BM01: Belimo LMV-D3-MOD-GD - 5Nm - 0(2)-10VDC / Modbus / BACnet / MP-Bus
 BM02: Belimo NMV-D3-MOD - 10Nm - 0(2)-10VDC / Modbus / BACnet / MP-Bus
 BX01: Belimo LMV-D3-KNX - 5Nm - KNX
 BX02: Belimo NMV-D3-KNX - 10Nm - KNX
 S-01: Siemens GDB181.1E/3 - 5Nm - 0(2)-10VDC
 S-02: Siemens GLB181.1E/3 - 10Nm - 0(2)-10VDC
 SM01: Siemens GDB181.1E/MO - 5Nm - Modbus
 SM02: Siemens GLB181.1E/MO - 10Nm - Modbus
 SB01: Siemens GDB181.1E/BA - 5Nm - BACnet
 SB02: Siemens GLB181.1E/BA - 10Nm - BACnet
 SX01: Siemens GDB181.1E/KN - 5Nm - KNX
 SX02: Siemens GLB181.1E/KN - 10Nm - KNX

-: Without gearbox protection (standard)
 G: Gearbox protection

2: Blades Class 2

2: Frame width 20mm
 3: Frame width 30mm

S: Single-walled rectangular airflow controller VAV
 D: Double-walled rectangular airflow controller VAV

Notes:

Gearbox protection only available for single-walled

RECTANGULAR SPLITTER SILENCER

U	S	S	I	L	0	4	0	0	0	4	0	0	1	2	0	0
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Nominale width B (mm):
From 200 to 1200mm, per
100mm

Nominal height H (mm):
From 200 to 600mm, per
50mm
From 700 to 1200mm, per
100mm

Nominale length L (mm):
1200

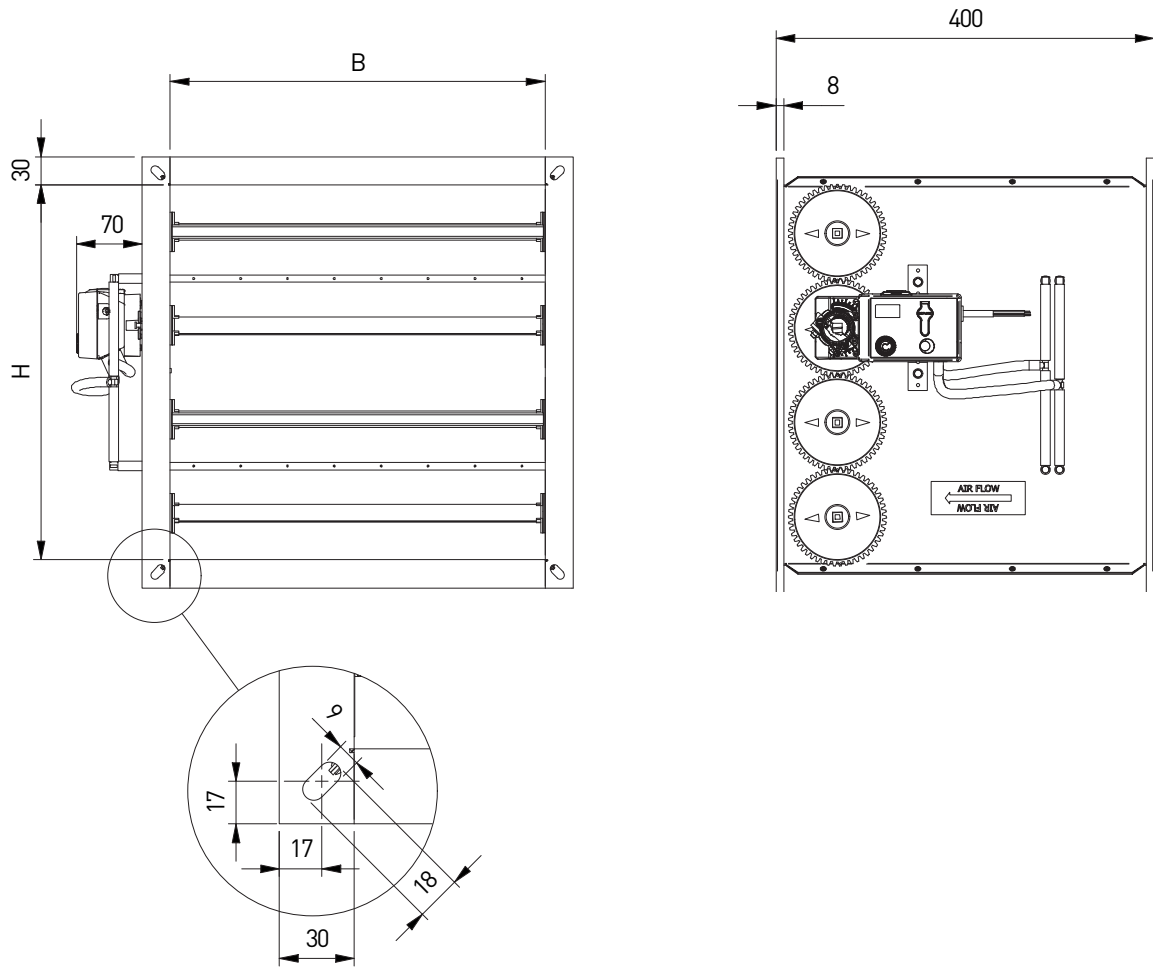
FACTORY SETTINGS - GRADA-GRUNER GM01 ACTUATOR

V_{\max} corresponds to the air flow rate at a duct air velocity of 6m/s.

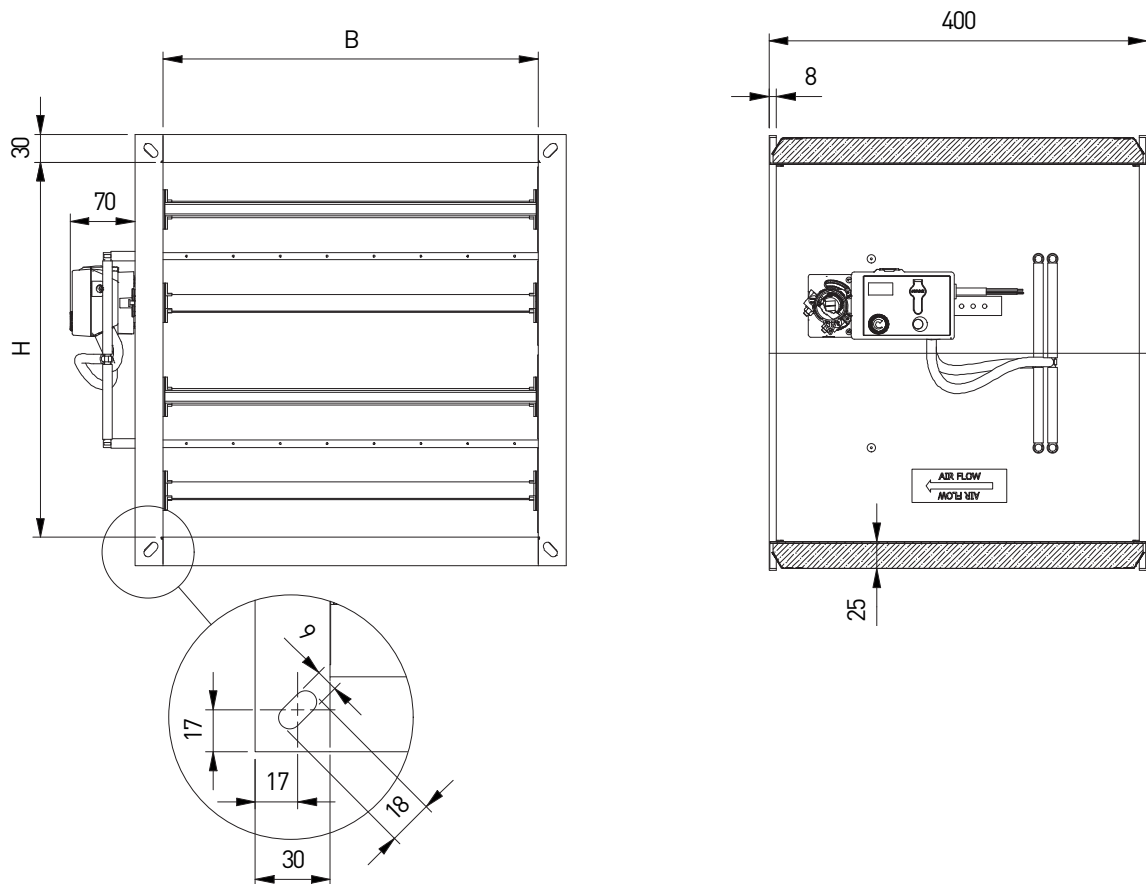
V_{\min} corresponds to the air flow rate at a duct air velocity of 1.5m/s.

Mode 2 - 10 V DC

BSS32--GM01



BSD32--GM01



MEASUREMENT ACCURACY

Duct velocities larger than 1.2 m/s are recommended, and should not go below 0,8 m/s.
At lower air velocities measurement accuracies cannot be guaranteed.

VELOCITY [m/s]	MEASU- REMENT ERROR [%]
≥ 0.8	< 10
≥ 1.2	< 5

The above volume flow rate accuracy applies only to situations with a straight upstream section of the duct according to ISO 5219 / EN 1751, and measured according ISO 3966. The actuators show a measurement error of $<5\%$ with respect to ISO 3966 in the recommended working range. Direct upstream mounting of a 90° bend on the VAV results in a measurement error of $<5\%$.

INSTALLATION INSTRUCTIONS

