

# MultiMAXX HG

TECHNICAL DATA



**Dear customer,**

This catalogue will assist you in selecting your MultiMAXX HG unit heater to meet your needs and in putting together the required type code.

**A wide range of versions:** We offer a wide range of versions of gas unit heaters and accessories, among which you are certain to find the right one to meet your requirements. Use the type code provided to outline the exact specifications of your unit.

The catalogue is divided into four main chapters:

- Chapter 1 Unit description**  
Here you will find details about the main parts of the unit.
- Chapter 2 Installation examples**  
Here we share our experience regarding the most frequent applications of MultiMAXX HG gas unit heaters.
- Chapter 3 Technical data**  
This will give you important technical data of MultiMAXX HG gas unit heaters. The dimensions and weights of the units are summarized here.
- Chapter 4 Design data**  
Once you have chosen one of the units, this chapter will give you information about its control system.

**Unit Type Code** The complete type code (page 3) specifies the unit in its characteristic properties. Like in other FläktGroup products it includes all details necessary both for your order and any extension and spare parts to be delivered at a later date.

**Accessories type code** Accessory parts have their own type code (page 3).  
If necessary, contact our trained sales staff who will help you to choose the most suitable unit.

**MultiMAXX**

H G 2 4 U E F T C B A M D

**Size**

- 2 = Size 2
- 4 = Size 4

**Capacity stage**

- 4 = Low capacity
- 5 = High capacity

**Unit configuration**

- U = Recirculating air unit
- M = Mixed air unit

**Heating medium**

- E = Natural gas (NG), Propane-butane (LPG)

**Heat exchanger**

- F = High-temperature resistant steel

**Heating capacity control**

- P = • Supply air temperature control (only in mixed air units)
- T = • Room temperature control

**Appliance configuration**

- B = Non-room-sealed firing
- C = Room-sealed firing

**Outlet**

- A = Nozzle
- B = Basic
- C = Ceiling-mounted secondary-louvre, manually adjustable
- D = Ceiling-mounted secondary-louvre, motor controlled, 230V, open/close
- K = Flange
- L = Air deflection louvre
- P = Secondary louvre Basic
- T = Gate nozzle
- U = Wall-mounted secondary-louvre, manually adjustable
- V = Four-side anemostat diffuser (ceiling-mounted)
- W = Wall-mounted secondary-louvre, motor controlled, 230V, open/close
- Z = Two-side anemostat diffuser
- O = Without louvre

**Motor / speeds**

**AC-motors**

- A = 3x400V, 2-speed - low speed range, wide-blade fan, for low capacity stage (4)
- B = 3x400V, 2-speed - high speed range, wide-blade fan, for high capacity stage (5)
- D = 1x230V, 2-speed - low speed range, wide-blade fan, for low capacity stage (4) (only for size 2)
- E = 1x230V, 2-speed - high speed range, wide-blade fan, for high capacity stage (5)
- R = 3x400V, 2-speed - high speed range, sickle-blade fan, for high capacity stage (5) (only for size 4)

**EC motors**

- Y = 1x230V, continuous, sickle-blade fan (only for size 4)
- Z = 3x400V, continuous, sickle-blade fan (only for size 4)
- U = without a fan

**Electric equipment**

- M = Multi control system

**Unit casing**

- D = Industry - painted sheet steel in RAL 7000

**Controls**

OSHG 0.000M

**Control panel / control board type**

- 0.000M = Control panel Multi (for fans D and E)
- 0.EC0M = Control panel Multi (for fans A, B, R, Y and Z)
- 0.RDDO = Remote control board RDDO

**Accessories**

Z H # # # # #

**Size**

- 2 = Size 2
- 4 = Size 4

**Air side accessories**

- 20 = Mixed air module, type 1
- 21 = Mixed air module, type 2
- 23 = Outside air blocking damper
- 25 = Flexible connector
- 26 = Rectangular duct 150
- 27 = Rectangular duct 1000
- 28 = Duct bend 90° symmetrical
- 29 = Duct bend 90° asymmetrical
- 31 = Wall air intake hood
- 32 = External weather grille
- 33 = Contact protection grille
- 34 = Roof duct, slanted roof
- 35 = Roof air intake hood
- 36 = Bag filter module
- 37 = Mat filter module
- 38 = Spare filter for roof air intake hood 35
- 39 = Spare filter for the bag filter module 36
- 40 = Spare filter for the mat filter module 37
- 49 = Roof duct with flat roof-duct base
- 51 = Frame for wall connection
- 52 = Flange (for recirculating-air units)

**Suspensions**

- 53 = Compact C
- 54 = Studio (for wall configuration)
- 55 = Modular (for wall configuration)
- 56 = Ceiling suspension

**Configuration / material**

- 0 = Standard configuration
- 8 = Ecodesign (only for 25, 26, 35, 36, 38, 39)

**Actuators for louvers and mixed-air modules**

- 0 = Actuator on site
- 1 = Manual
- 2 = Actuator 230 V, open/close
- 3 = Actuator 230 V, open/close + potentiometer
- 4 = Actuator 230 V, open/close + limit switches
- 5 = Actuator 230V, spring return

**Filter class / electric equipment**

- 0 = Without a filter, without a differential pressure switch
- 2 = G2 / without a differential pressure switch
- 3 = G3 / without a differential pressure switch (only for 37)
- 4 = G4 / without a differential pressure switch
- 5 = G2 / with a differential pressure switch
- 6 = G3 / with a differential pressure switch (only for 37)
- 7 = G4 / with a differential pressure switch
- 9 = F7 / with a differential pressure switch (only for 35 and 36) (for Ecodesign)

**Modular (ZH#.550#) with accessories**

- |                         |  |
|-------------------------|--|
| 0 = without accessories | 8 = 25(26)+36+23+51                                    |
| 1 = 25(26)+20+51        | 9 = 25(26)+37+23+51                                    |
| 2 = 25(26)+36+20+51     | A = 25(26)+36  |
| 3 = 25(26)+37+20+51     | B = 25(26)+37  |
| 4 = 25(26)+21+29+51     | C = 25(26)+28 (+49...)                                 |
| 5 = 25(26)+36+21+29+51  | E = Ecodesign  |
| 6 = 25(26)+37+21+29+51  | (25(26)+36+20+51)                                      |
| 7 = 25(26)+23+51        | W = without accessories for units with vertical outlet |

**Ceiling suspension (ZH#.560#)**

- 0 = Without threaded rods
- 1 = Threaded rod 1 m
- 2 = Threaded rod 2 m
- 3 = Threaded rod 3 m

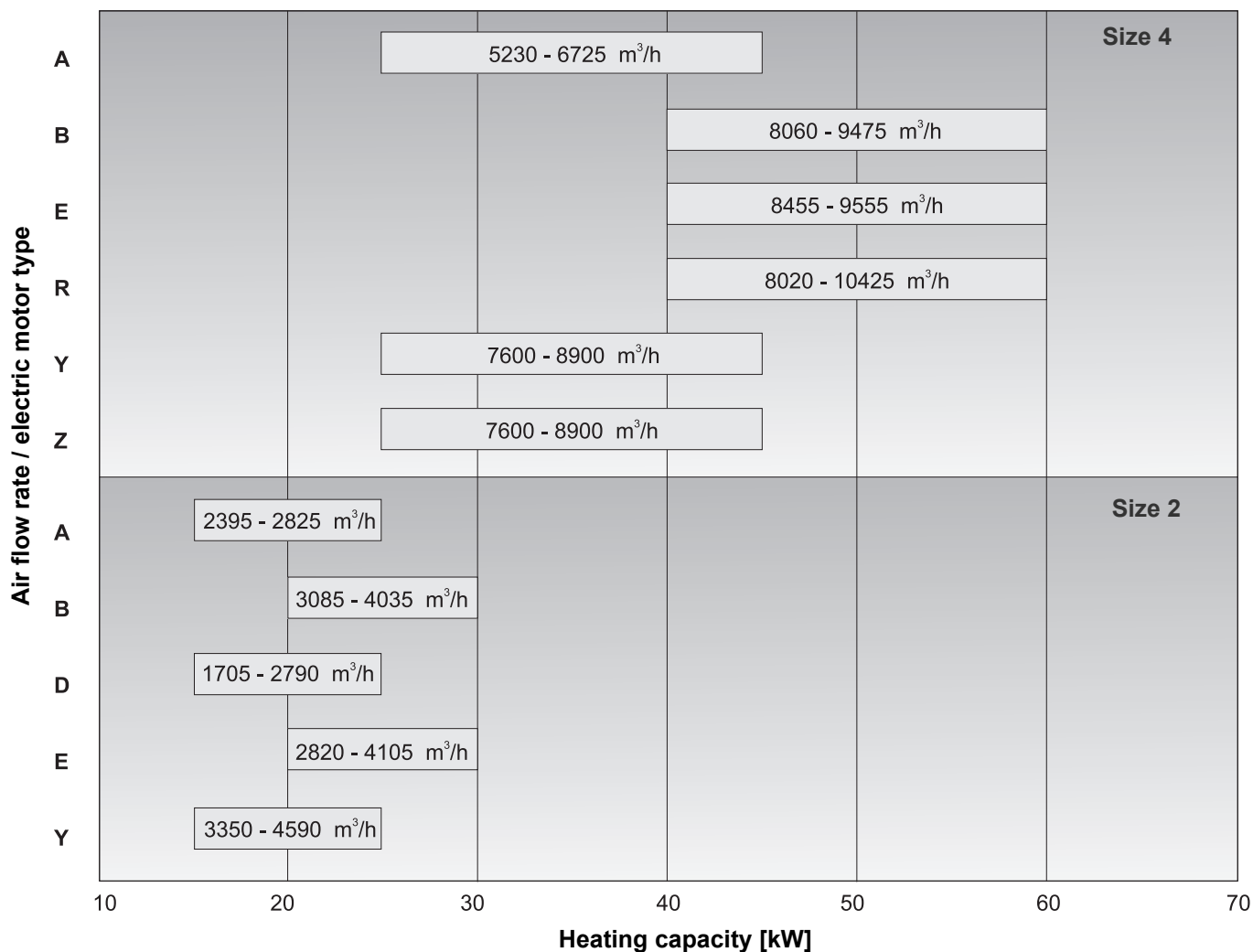


Fig. 1: Overview of heating capacity rates of MultiMAXX HG gas unit heaters

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**CHAPTER 1: *Unit description***


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## Unit Description

Structural design of the unit

MultiMAXXHG

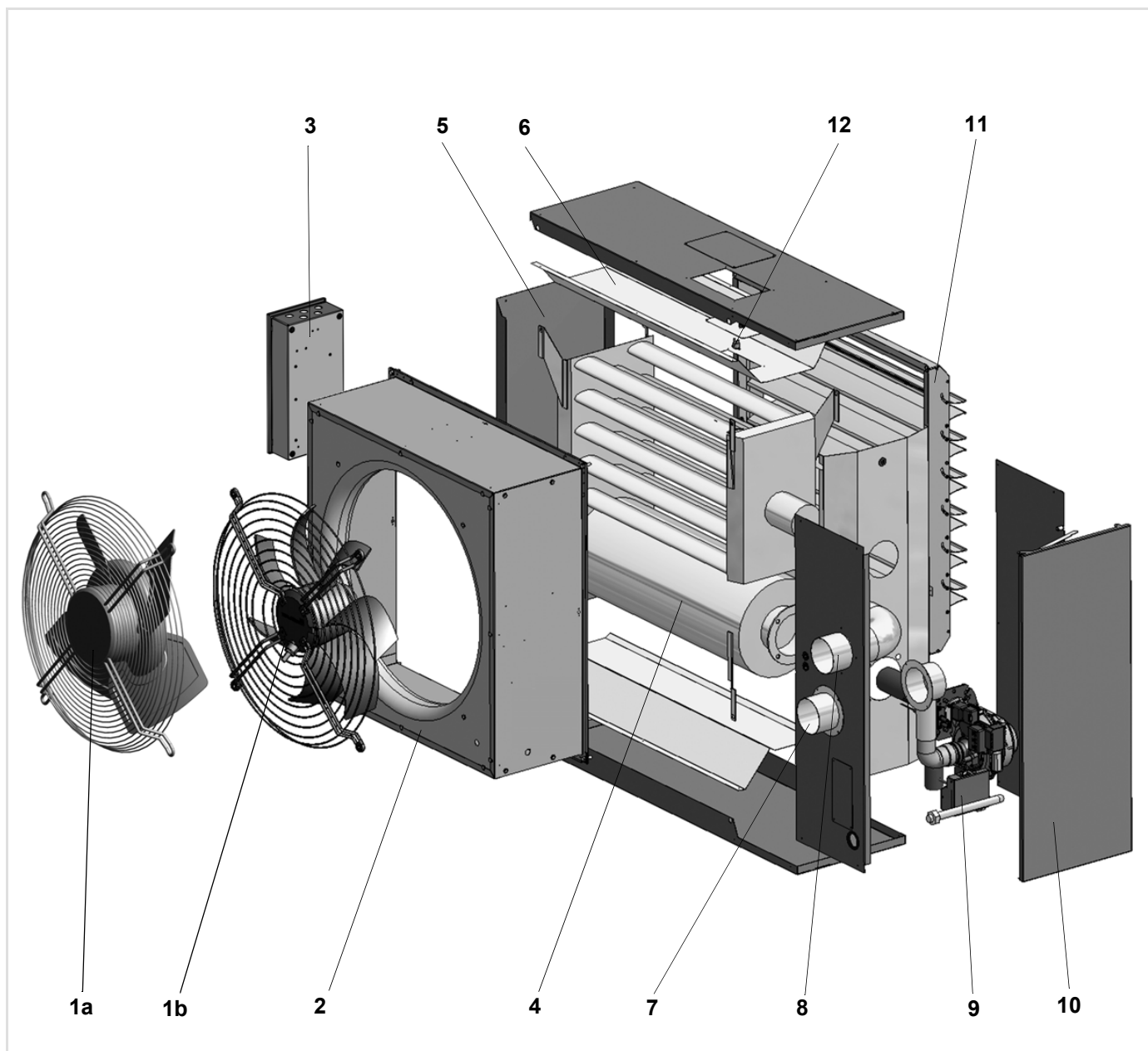


Fig. 2: Structural design of the MultiMAXX HG gas unit heater

Pos. 1a: Wide-blade fan (optional)

Pos. 1b: Sickle-blade fan (optional)

Pos. 2: Fan chamber with air intake nozzle

Pos. 3: Electrical box for the Multi control system (steel box)

Pos. 4: Fe heat exchanger

Pos. 5: Heat exchanger casing

Pos. 6: Reflective metal sheets

Pos. 7: Flue pipe fitting of air intake

Pos. 8: Flue gas fitting for smoke exhaust

Pos. 9: Gas burner

Pos. 10: Gas burner casing

Pos. 11: Outlet louvre (optional)

Pos. 12: Thermal fuse

## Operating conditions

Gas unit heaters MultiMAXX HG are used in industrial, storage, retail and exhibition facilities, i.e. in a weather-protected environment (in accordance with CSN 33 2000-1 ed.2 and CSN EN 60 721-3-3).

In all environment requiring the use of room-sealed appliances the units may be equipped with outside air supply for combustion (coaxial flue gas system may be used).

In spaces where there is a risk of negative pressure occurring the room-sealed-type of the unit must be used.

Protection IP42 (in accordance with CSN EN 60 529).

Operating temperature 0 °C to +40 °C

Gas burner class: I<sub>2R</sub> - natural gas (NG)  
I<sub>3R</sub> - propane-butane (PB), propane (P), butane (B)

NO<sub>x</sub> class: 5 (<50mg/kWh), 4 - only HG 45 (<80mg/kWh)

Variant types of the exhaust installation: B<sub>23</sub>, C<sub>53</sub>, C<sub>13</sub>, C<sub>23</sub>, C<sub>33</sub>  
(in accordance with CSN EN 1020)

Gas burner input pressure of the heating medium: natural gas and propane/  
butane: 3 +1 kPa\*

\* When the unit (burner) is running, the pressure drop in the ductwork usually leads to a decrease in gas pressure. Even with this reduction the gas pressure must not be outside of the limits.



Fig. 3: Gas unit heater

## Fans

### Sickle-blade fan

An axial fan with an AC or EC motor with external rotor motor and integrated contact protection grille (in accordance with CSN EN ISO 13875), designed for increased pressure and noise level demands.

It maintains pressure stability even in applications with mixed air, filtration and increased reach / suspension height. Its optimized suction nozzle significantly reduces noise level parameters. The sickle blade wheel is balanced at the factory and is maintenance free. Protection IP54, heat class F (in accordance with CSN EN 60 034-1 ed.2), thermal contact wired to the terminal box, AC-motors in single version 3 x 400 V, 50H, EC-motors in one version 1 x 230 V, 50Hz and one version 3 x 400 V, 50H.

Limits of operation:	
Suction side air temperature:	-20 to +40°C

H G # # . # E F # # # . R # D  
↑

Motor / speed
R = AC-motor, 3 ~ 400 V, 2-speed, high speed combination
Y = EC-motor, 1 ~ 230 V, continuous (3-speed)
Z = EC-motor, 3 ~ 400 V, continuous (3-speed)

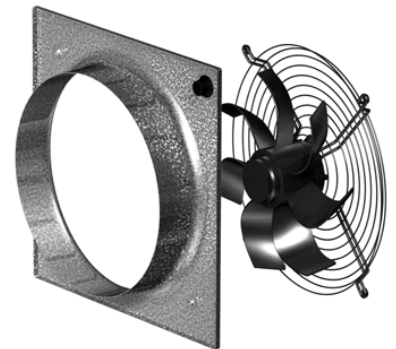


Fig. 4: Sickle-blade fan

### Wide-blade fan

An axial fan with a motor with external rotor motor and integrated contact protection grille (in accordance with CSN EN ISO 13875), designed for standard pressure and noise level demands. The wide aluminium blade wheel is balanced at the factory and is maintenance free.

Protection IP54, heat class F (in accordance with CSN EN 60 034-1), thermal contact wired to to terminal box, in 2 versions 3 ~ 400V, 50Hz and 2 versions 1 ~ 230V, 50Hz.

Limits of operation:	
Suction side air temperature:	-20 to +40°C

H G # # . # E F # # # . A # D  
↑

Motor / speed
A = AC motor, 3 ~ 400 V, 2-speed, low speed combination
B = AC motor, 3 ~ 400 V, 2-speed, high speed combination
D = AC motor, 1 ~ 230 V, 2-speed, low speed combination
E = AC motor, 1 ~ 230 V, 2-speed, high speed combination



Fig. 5: Wide-blade

## Unit description

MultiMAXXHG

Heat exchanger, gas burner



Fig. 6: Heat exchanger

### Heat exchanger

The heat exchanger is the basic element of the MultiMAXX HG unit heaters. The heat exchanger is simple and robust, furnished with a combustion chamber and integrated (return) retractions, thereby ensuring an optimal heat transfer between the combustion chamber and the air to be warmed. The heat exchanger and its combustion chamber are made of high-temperature resistant steel.

H G # # . # E F # # # . # # D  
↑

#### Heat exchanger

F = High-temperature resistant steel

### Heat exchanger casing

The Industry-version of the heat exchanger casing is assembled by the manufacturer on the unit.

- The heat exchanger casing is assembled by the manufacturer and made of galvanized steel sheet, painted in RAL 7000.

H G # # . # E F # # # . # # D  
↑

#### Casing versions

D = Industry - painted sheet steel in RAL 7000



Fig. 7: Industry heat exchanger casing

### Gas burner

The fully automatic gas-pressure burner provides for the temperature rise in the heat exchanger. It ensures perfect combustion and can be used for the following gas configurations: natural gas, gas propane, butane and propane-butane. The burner makes it possible to optimally adjust the performance of the unit with respect heating requirements.

Protection IP42 (in accordance with CSN EN 60 529)

Operating voltage: 1~230V, 50Hz, control voltage 0 ... 10V

H G # # . # E F # # # . # # D  
↑

#### Heating medium

E = Natural gas (NG), propane-butane (PB), propane (P), butane (B)



Fig. 8: Gas burner



## Outlet louvres (wall mounted)

### Secondary louvre

The secondary louvre was developed and patented by FläktGroup. The louvre slats are divided into sections joined to each other. The sections are joined together in such a way so as to make it possible to increase outlet air velocities by changing the position of the slats relative to each other in the sections. Secondary air is drawn in under pressure on the sides through the open slats between the sections and is mixed with the primary air flow. The result is a 5-15% saving on energy costs.

The secondary louvre is available in the following versions:

- manually adjustable
- motor-adjustable (actuator 230 V open/close)

### Secondary louvre Basic

The secondary louvre Basic is a simple version of the secondary louvre. The louvre slats are made of rigid aluminium profiles and divided into two variously adjustable sections. The louvre frame is made of galvanized steel sheet, painted in RAL 7000.

The louvre is designed to increase air throw at a constant air discharge velocity. Medium air throw can thus be achieved without any trouble.

The secondary louvre Basic is manually adjustable.

### Basic louvre

The slats of the basic louvre are individually manually adjustable and make it possible to direct treated air in the required direction.

The slats and the frame are made of galvanized sheet steel.

### Flange

The flange is designed for connecting HVAC ductwork directly to the outlet side of the unit, making it possible to place the unit behind walls or in other areas.

## Outlet louvres (ceiling mounted)

### Secondary louvre

The secondary louvre was developed and patented by FläktGroup. The louvre slats are divided into sections joined to each other. The sections are joined together in such a way so as to make it possible to increase outlet air velocities by changing the position of the slats relative to each other in the sections. Secondary air is drawn in under pressure on the sides through the open slats between the sections and is mixed with the primary air flow. The result is a 5-15% saving on energy costs.

The secondary louvre is available in the following versions:

- manually adjustable
- motor-adjustable (actuator 230 V open/close)



Fig. 9: Secondary louvre



Fig. 10: Secondary louvre Basic



Fig. 11: Basic louvre

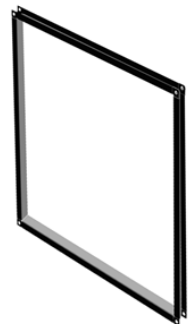


Fig. 11: Flange

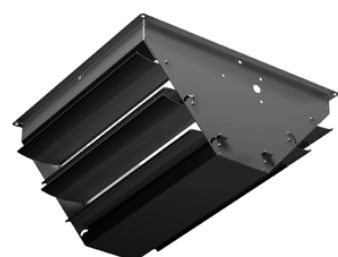


Fig. 12: Ceiling-mounted secondary-louvres

### Outlet louvres



Fig. 13: Secondary louvre Basic

#### Secondary louvre Basic

The secondary louvre Basic is a cheaper version of the secondary louvre. The louvre slats are made of rigid aluminium profiles and divided into two variously adjustable sections. The louvre frame is made of galvanized steel sheet, painted in RAL 7000.

The louvre is designed to increase air throw at a constant air discharge velocity. Medium air throw can thus be achieved without any trouble.

The secondary louvre Basic is manually adjustable.

#### Air deflection louvre

A special outlet louvre for low installation heights. Short slats made of galvanized sheet steel, independently adjustable, set at 90°, make it possible to direct air flow as required. They can also be mounted on walls.



Fig. 14: Air deflection louvre

#### Two-side anemostat diffuser

The two-side anemostat diffuser is designed for low installation heights.

The galvanized sheet steel slats make it possible to direct treated air in two directions. The settings are divided between two sections.



Fig. 15: Two-side anemostat diffuser

#### Four-side anemostat diffuser

The four-side anemostat diffuser made of galvanized sheet steel is designed for directing air flow at low installation heights. Independent settings in four directions provide for individualized air flow directing. Direct air flow into the space underneath the anemostat diffuser is prevented.

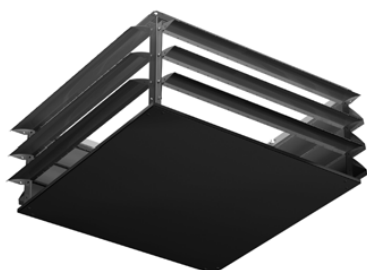


Fig. 16: Four-side anemostat diffuser

#### Nozzle

The rectangular nozzle made of galvanized steel sheet increases air flow velocities. It is suitable for units installed at heights.



Fig. 17: Nozzle

#### Gate nozzle

This nozzle made of galvanized sheet steel is narrower at one end to increase air flow velocities and makes it possible to direct air flow to cover large gate space. Multiple units next to each other are used.

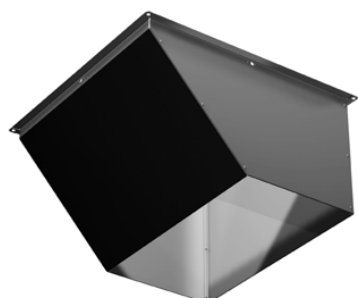


Fig. 18: Gate nozzle

**Example of a ceiling-mounted unit – a mixed air unit for process air ventilation**

	Parts of the unit / accessories	Type code
1	Secondary louvre	HG#5.MFFPCD.BMD
2	Heat exchanger casing	
3	Electrical control box	
4	Fan module	
5	Rectangular duct 150 or Flexible connector	ZH#.2600 or ZH#.2500
6	Bag filter incl. filter G4 with differential pressure switch	ZH#.3607
7	Mixed air module with actuator 230 V, open/close + potentiometer	ZH#.2003
8	Ceiling suspension	ZH#.5602
9	Roof duct with flat roof-duct base	ZH#.4900
10	Roof air intake hood	ZH#.3500
# = Size 2, 4		

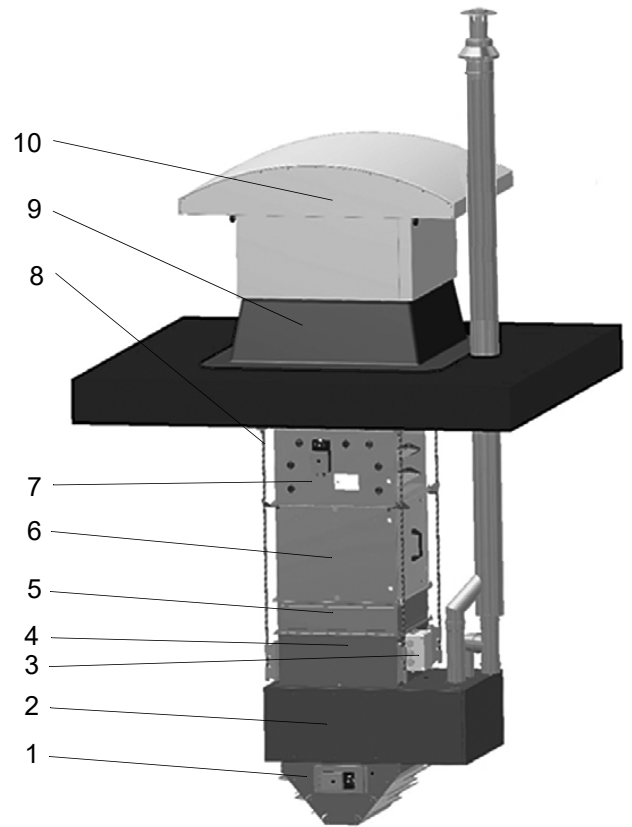


Fig. 19: Example of a ceiling-mounted unit (C13)

**Example of a wall-mounted unit – a mixed air unit in accordance with Ecodesign**

	Parts of the unit / accessories	Type code
1	Secondary louvre Basic	HG#4.MEFTCP.YMD
2	Heat exchanger casing	
3	Fan module	
4	Electrical control box	
5	Flexible connector	ZH#.2580
6	Bag filter incl. filter F7 with differential pressure switch	ZH#.3689
7	Mixed air module with actuator 230 V, open/close + potentiometer	ZH#.2003
8	Suspension Modular for accessories 25 + 37 + 20 + 51	ZH#.550E
9	Frame for wall connection (not shown in the figure)	ZH#.5100
10	Wall air intake hood	ZH#.3100
# = Size 2, 4		

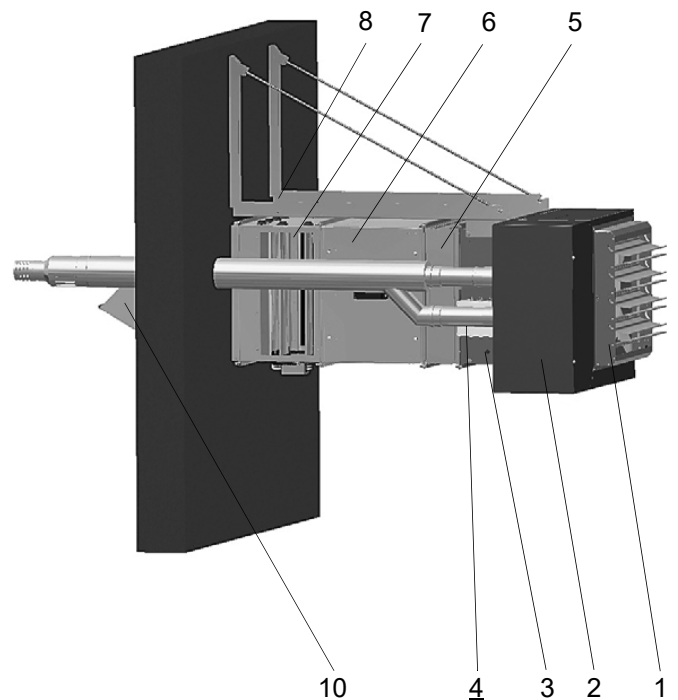


Fig. 20: Example of a wall-mounted unit (C33)

Type	Thermal output range $Q_T$	El. motor speed	Air flow rate $V_L$	Air throw (louvre B)	Air throw (louvre U, W)	Suspension height (louvre C, D)	Weight with burner without louvre
	[kW]	[min <sup>-1</sup> ]	[m <sup>3</sup> /h]	[m]	[m]	[m]	[kg]
<b>AC motor A 3 ~ 400 V, 2-speed (low speed range)</b>							
HG 24	15 ÷ 25	710	2395	6,4	8,3	11,4	65
		910	2835	7,1	9,2	13,5	
HG 44	25 ÷ 45	500	5210	5,1	6,7	7,9	112
		650	6725	6,0	7,9	10,2	
<b>AC motor B - 3 ~ 400 V, 2-speed (high speed range)</b>							
HG 25	20 ÷ 30	890	3085	7,5	9,8	14,7	65
		1270	4035	9,0	11,7	19,3	
HG 45	40 ÷ 60	740	8065	6,8	8,9	12,3	112
		910	9475	7,6	9,9	14,4	
<b>AC motor D 1 ~ 230 V, 2-speed (low speed range)</b>							
HG 24	15 ÷ 25	460	1705	5,1	6,6	8,1	65
		890	2790	7,0	9,1	13,3	
<b>AC motor E - 1 ~ 230 V, 2-speed (high speed range)</b>							
HG25	20 ÷ 30	780	2820	7,1	9,2	13,5	65
		1210	4105	9,1	11,8	19,6	
HG45	40 ÷ 60	700	8455	7,0	9,2	12,9	112
		910	9555	7,6	10,0	14,5	
<b>AC motor R - 3 ~ 400 V, 2-speed (high speed range)</b>							
HG45	40 ÷ 60	650	8020	6,8	8,9	12,2	112
		870	10425	8,1	10,6	15,8	
<b>EC motor Y - 1 ~ 230 V, 3-speed</b>							
HG24	15 ÷ 25	1185	3350	8,0	10,4	16,0	65
		1356	3900	9,0	11,6	18,6	
		1605	4590	10,1	13,1	22,0	
HG44	25 ÷ 45	727	7600	6,7	8,2	11,4	112
		772	8200	7,1	8,6	12,3	
		840	8900	7,5	9,1	13,4	
<b>EC motor Z - 3 ~ 400 V, 3-speed</b>							
HG44	25 ÷ 45	740	7600	6,7	8,2	11,4	112
		791	8200	7,1	8,6	12,3	
		854	8900	7,5	9,1	13,4	

\* Air throw values apply to an outlet temperature of  $\Delta 20K$  above ambient temperature

### How to work with air side pressure drop graphs

In order to explain how to work with the following graphs we show the individual steps leading to the result using an example.

**Example**

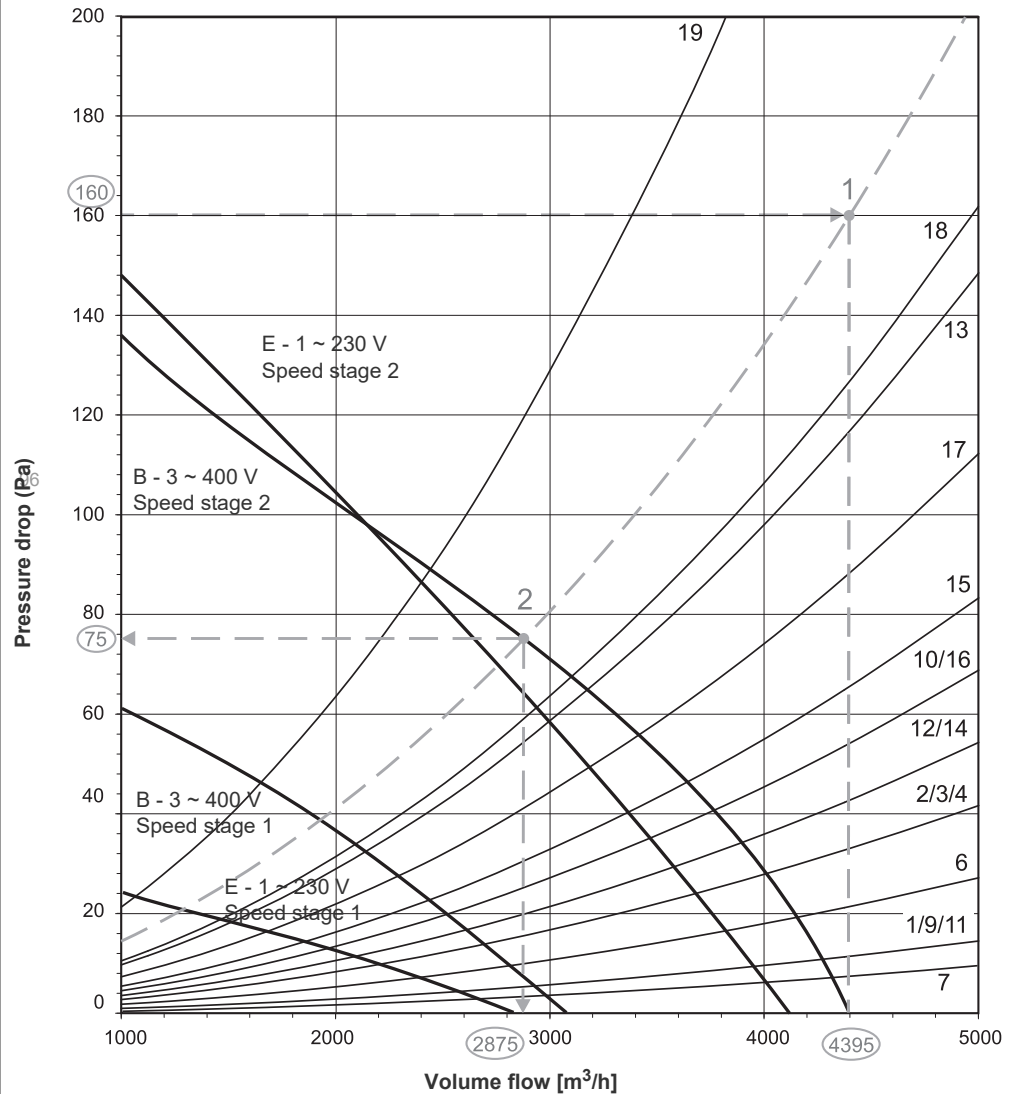
	Input data	→ Results
<p><b>Specifications</b></p> <p>A set of a Size 2 unit with secondary wall-mounted louvre and mat filter (class G2) is selected for this example.</p>	<p>Air flow rate <math>V_{L1}</math> → <math>V_{L1} = 4395 \text{ m}^3/\text{h}</math></p> <p>Size 2 / capacity stage 5 / motor R</p> <p>Wall-mounted secondary-louvre (in the graph key as No. 3)</p> <p>Mat filter with filter fabric G2 (in the graph key as No. 18)</p>	
<p><b>Step 1</b></p> <p>Use the <math>V_{L1}</math> value from the performance data charts on page 12 and go to the respective graph – "HG 25 - size 2, motors B, E, R" on page 15. (Please make sure you use the correct unit size and fan type!).</p> <p>Enter the air flow rate value <math>V_{L1}</math> on axis x to the top near the intersection of the air side accessory curves and on axis y read the respective pressure drop values <math>p_1</math> and <math>p_2</math>.</p>	<p>Wall-mounted secondary louvre pressure drop (<math>p_1</math>) → <b>33 Pa</b></p> <p>Mat filter pressure drop (<math>p_2</math>) → <b>127 Pa</b></p>	
<p><b>Step 2</b></p> <p>Add up the pressure drop values.</p>	<p><math>p_1 + p_2 = p_G</math>      <math>33 \text{ Pa} + 127 \text{ Pa} = 160 \text{ Pa}</math>      →</p>	<p><b>160 Pa</b></p>

## Air side pressure drop

### Step 3

Enter this total  $p_G$  again on axis y. The intersection with the air flow rate value  $V_{L1}$  represents point 1 of the addition curve which can now be drawn according to individual curves.

On intersection 2 towards the fan curve you can now read the actual maximum air flow rate  $V_{LK}$  and total pressure drop  $p_{GK}$ .



Total air flow rate  $V_{LK}$  [ $m^3/h$ ] obtained from the graph →

**2875  $m^3/h$**

Total pressure drop  $p_{GK}$  [Pa] obtained from the graph →

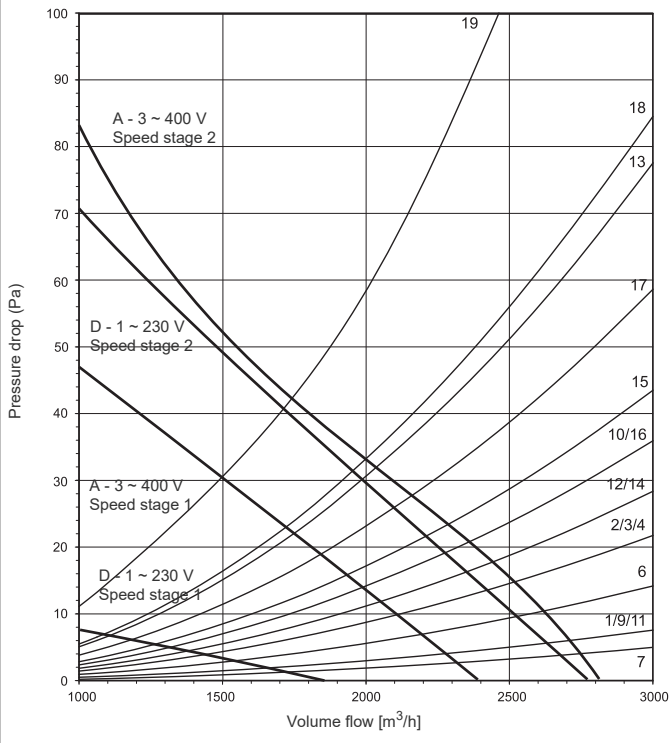
**75 Pa**

### Graph key

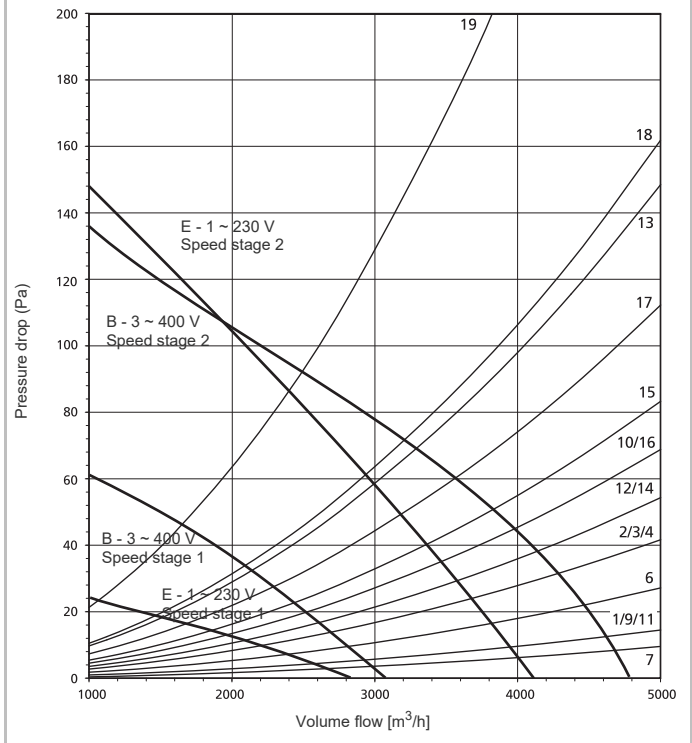
- 1 Basic louvre / two-side anemostat diffuser
- 2 Secondary louvre Basic
- 3 Wall-mounted secondary-louvre
- 4 Ceiling-mounted secondary-louvre
- 6 Nozzle / gate nozzle
- 7 Four-side anemostat diffuser
- 9 Mixed air module, type 1

- 10 Mixed air module, type 2
- 11 Outside air blocking damper
- 12 Wall intake air hood / contact protection grille
- 13 External weather grille
- 14 Roof air intake hood with filter G2
- 15 Roof air intake hood with filter G4
- 16 Bag filter with filter element G2
- 17 Bag filter with filter element G4
- 18 Mat filter with filter fabric G2
- 19 Mat filter with filter fabric G4 / bag filter with filter element F7 / roof air intake hood with bag filter F7

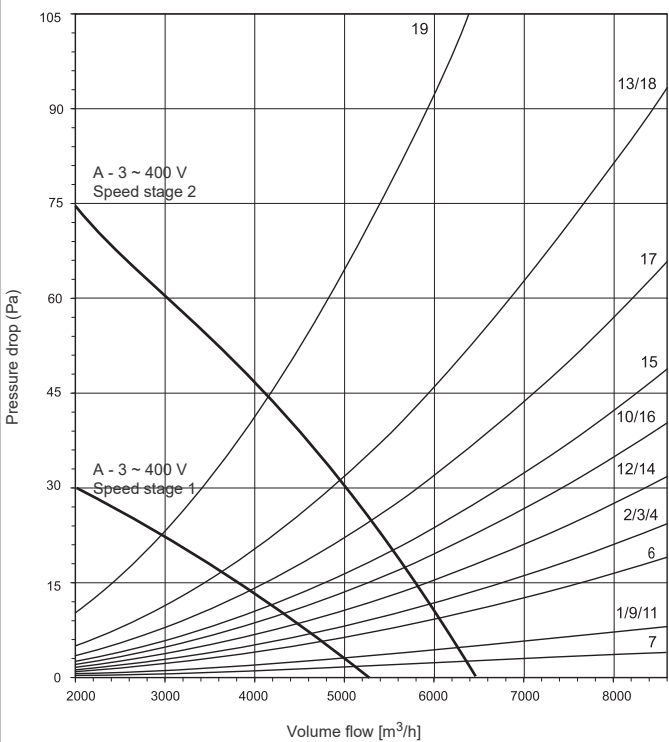
**Fig.21: HG 24 - size 2, AC motors A, D**



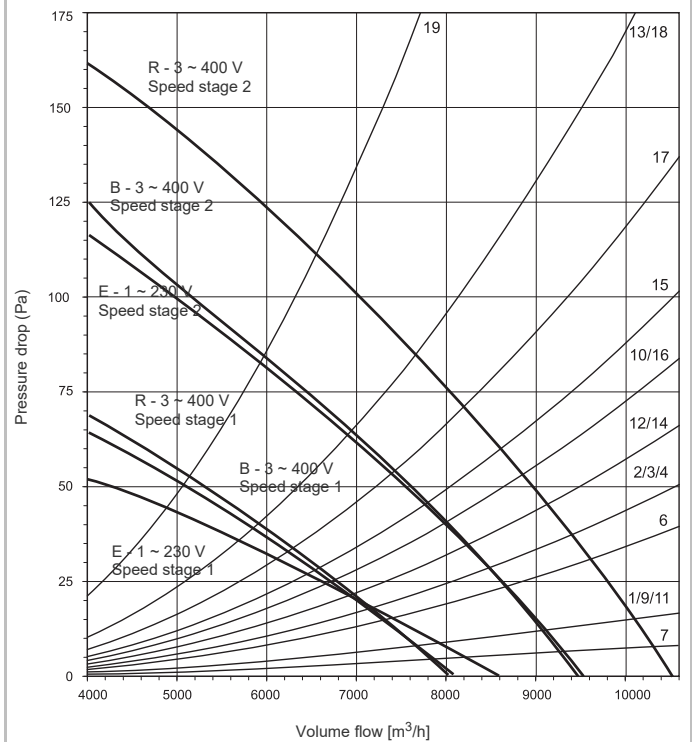
**Fig.22: HG 25 - size 2, AC motors B, E**



**Fig.23: HG 44 - size 4, AC motors A**



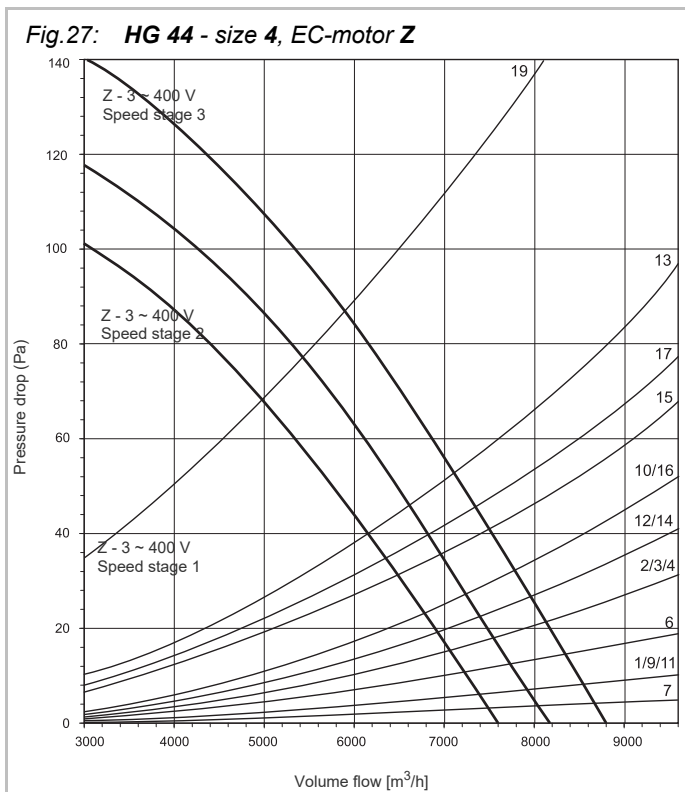
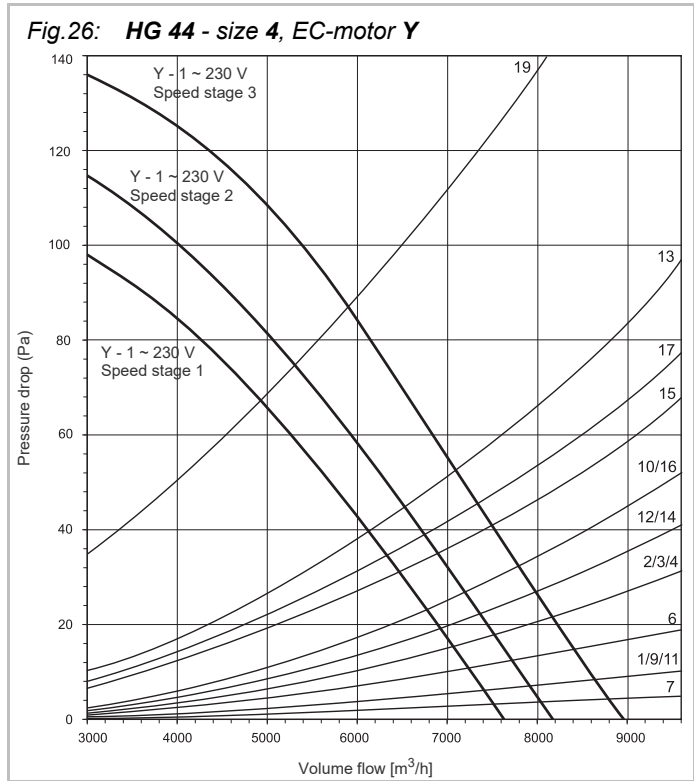
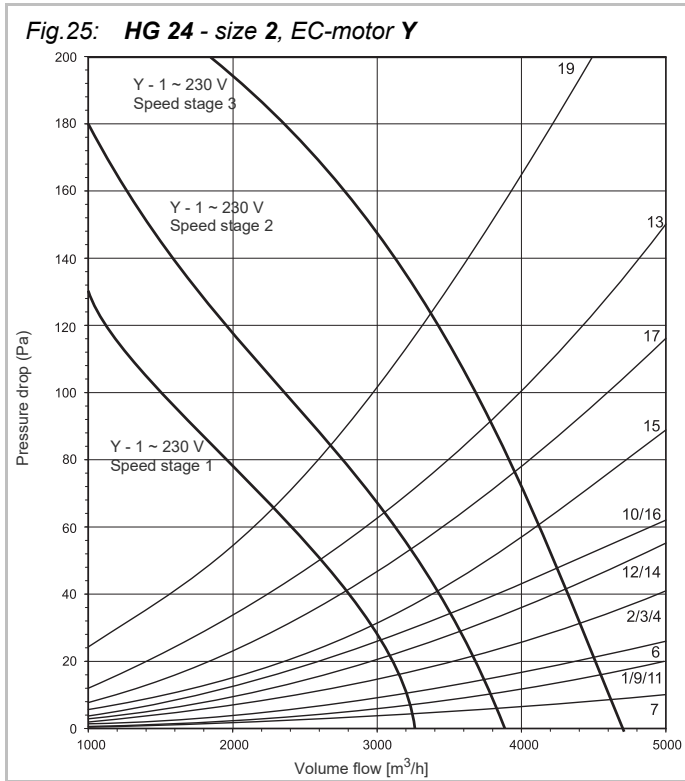
**Fig.24: HG 45 - size 4, AC motors B, E, R**



**Graph key**

- 1 Basic louvre / two-side anemostat diffuser
- 2 Secondary louvre Basic
- 3 Wall-mounted secondary-louvre
- 4 Ceiling-mounted secondary-louvre
- 6 Nozzle / gate nozzle
- 7 Four-side anemostat diffuser
- 9 Mixed air module, type 1
- 10 Mixed air module, type 2
- 11 Outside air blocking damper
- 12 Wall intake air hood / contact protection grille
- 13 External weather grille
- 14 Roof air intake hood with filter G2
- 15 Roof air intake hood with filter G4
- 16 Bag filter with filter element G2
- 17 Bag filter with filter element G4
- 18 Mat filter with filter fabric G2
- 19 Mat filter with filter fabric G4 / bag filter with filter element F7 / roof air intake hood with bag filter F7

Air side pressure drop



**Graph key**

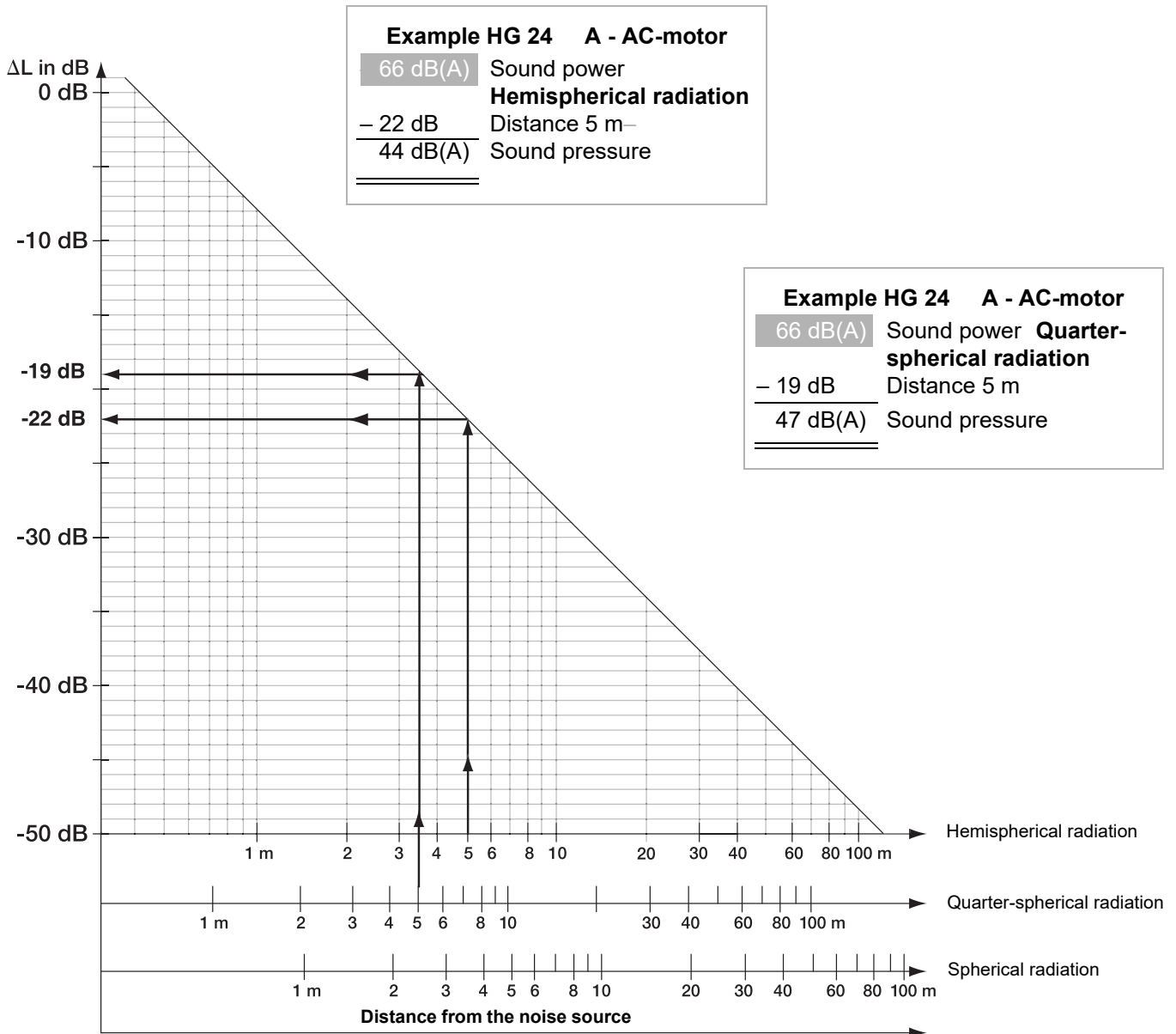
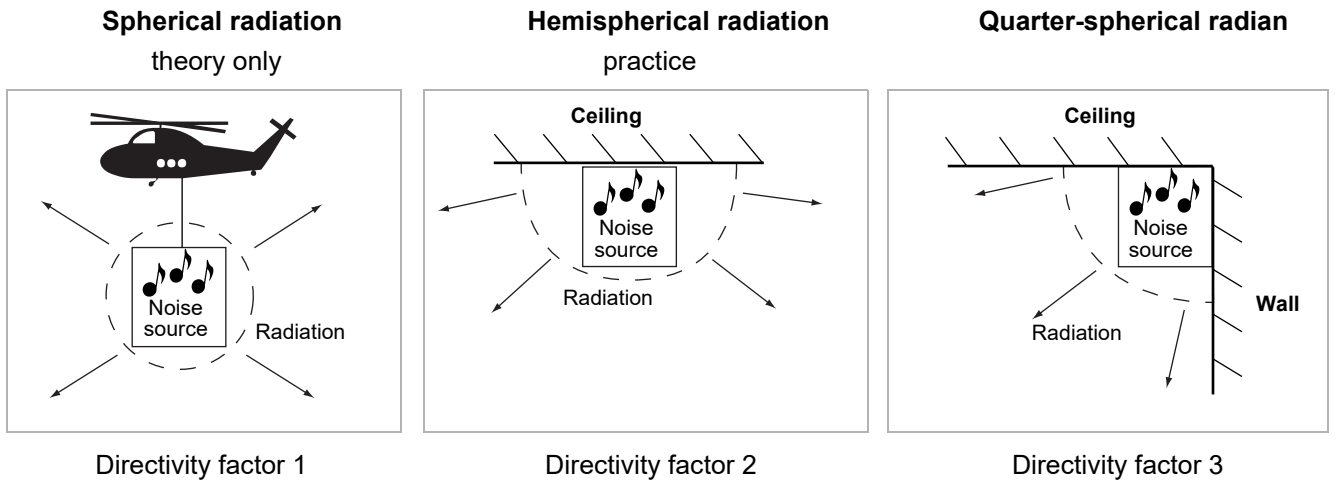
- 1 Basic louvre / two-side anemostat diffuser
- 2 Secondary louvre Basic
- 3 Wall-mounted secondary-louvre
- 4 Ceiling-mounted secondary-louvre
- 6 Nozzle / gate nozzle
- 7 Four-side anemostat diffuser
- 9 Mixed air module, type 1

- 10 Mixed air module, type 2
- 11 Outside air blocking damper
- 12 Wall intake air hood / contact protection grille
- 13 External weather grille
- 14 Roof air intake hood with filter G2
- 15 Roof air intake hood with filter G4
- 16 Bag filter with filter element G2
- 17 Bag filter with filter element G4
- 19 Bag filter with filter element F7 / roof air intake hood with bag filter F7



**Sound power to sound pressure conversion**

**Radiation from the noise source without reflection**



Noise levels and electric data

Type	El. motor speed	Sound pressure level (dB)								Total level A-classification		Unit current I	Unit power input P	Unit voltage U	Burner voltage U <sub>H</sub>
		Medium octave frequency (Hz)								Sound power	Sound pressure*				
	[min <sup>-1</sup> ]	63	125	250	500	1000	2000	4000	8000	[dB(A)]	[dB(A)]	[A]	[kW]	[V]	[V]
<b>AC motor A - 3 ~ 400 V, 2-speed (low speed range)</b>															
HG 24	710	73	64	64	60	58	54	48	40	63	48	0,40	0,13	3 x 400	1 x 230
	910	70	65	66	62	61	58	53	46	66	41	0,57	0,19		
HG 44	500	68	68	66	60	59	57	48	40	64	49	0,78	0,24	3 x 400	1 x 230
	650	75	72	72	66	65	63	57	48	70	55	1,11	0,36		
<b>AC motor B - 3 ~ 400 V, 2-speed (high speed range)</b>															
HG 25	890	76	70	70	66	64	61	56	49	69	54	0,59	0,27	3 x 400	1 x 230
	1270	71	75	74	69	69	66	63	57	74	59	0,83	0,38		
HG 45	740	91	76	75	71	69	68	63	54	75	60	2,02	0,63	3 x 400	1 x 230
	910	84	79	81	75	73	71	68	60	79	64	2,04	0,78		
<b>AC motor D 1 ~ 230 V, 2-speed (low speed range)</b>															
HG 24	460	59	59	57	59	52	50	44	36	55	40	0,79	0,12	1 x 230	1 x 230
	890	72	68	66	64	60	58	53	46	66	51	0,89	0,21		
<b>AC motor E - 1 ~ 230 V, 2-speed (high speed range)</b>															
HG 25	780	73	68	68	62	60	58	53	47	66	51	1,88	0,26	1 x 230	1 x 230
	1210	74	74	74	69	69	66	63	58	74	59	2,04	0,43		
HG 45	700	86	79	80	72	70	69	63	55	77	63	3,93	0,67	1 x 230	1 x 230
	910	87	80	88	76	73	71	69	65	82	67	3,71	0,83		
<b>AC motor R - 3 ~ 400 V, 2-speed (high speed range)</b>															
HG 45	650	78	73	74	68	68	64	55	48	72	57	1,87	0,72	3 x 400	1 x 230
	870	79	83	80	75	74	72	64	57	79	64	2,72	1,08		
<b>EC motor Y - 1 ~ 230 V, 3-speed</b>															
HG 24	1185	72	73	77	75	73	69	64	56	74	60	1,38	0,31	1 x 230	1 x 230
	1356	69	76	73	70	68	65	60	51	79	65	1,91	0,43		
	1605	66	69	68	67	64	61	56	46	82	68	2,31	0,52		
HG 44	727	75	70	72	62	60	54	47	39	72	58	2,27	0,47	1 x 230	1 x 230
	772	71	69	70	63	62	57	50	43	73	59	2,52	0,55		
	840	73	75	73	65	64	59	52	45	74	60	3,03	0,67		
<b>EC motor Z - 3 ~ 400 V, 3-speed</b>															
HG 44	740	71	68	69	62	59	53	46	38	70	56	1,30	0,50	3 x 400	1x 230
	791	73	71	72	65	61	56	48	40	72	58	1,41	0,58		
	854	74	74	76	66	63	58	50	42	74	60	1,56	0,69		

\* **Sound pressure:** The noise level value in the table represents the level of sound pressure dB(A) of an unloaded unit in a room with average reflective properties, measured at a distance of 5 metres from the unit. The sound pressure level is determined using exact methods (in accordance with CSN EN ISO 3743-2). The additional load the unit might be under due pressure drop from its accessories or other HVAC equipment may increase or reduce the noise levels..

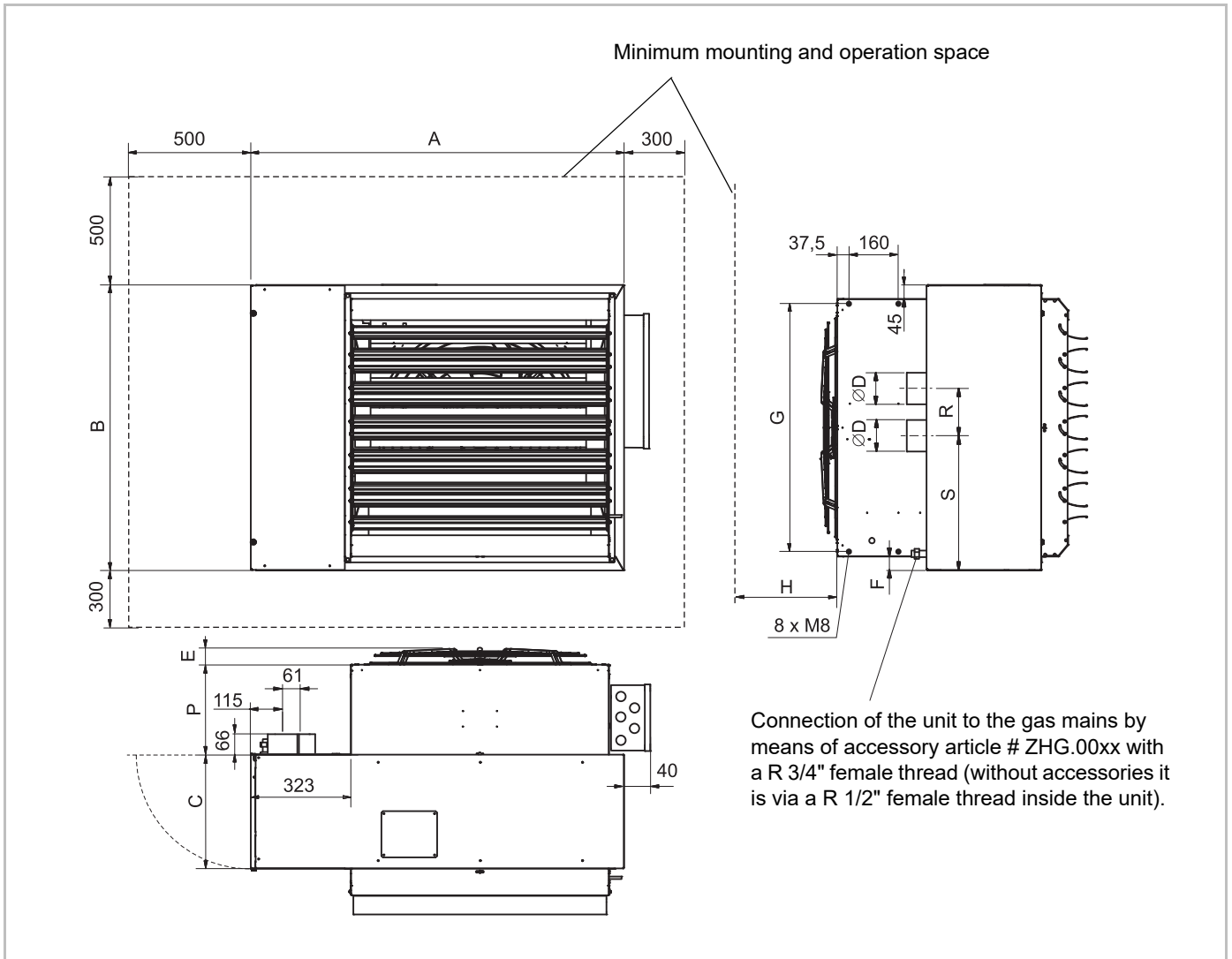


Fig. 28: Dimensions of MultiMAXX HG gas unit heaters

Dimensions / size	2	4
A [mm]	918	1206
B [mm]	701	954
C [mm]	340	370
D [mm]	80	100
E (for AC motor A, B, D, E) [mm]	81	112
E (for AC motor R) [mm]	-	66
E (for EC motor Y) [mm]	65	53
E (for EC motor Z) [mm]	-	53
F [mm]	110	75
G [mm]	514	802
H [mm]	300	400
P [mm]	222,5	288
R [mm]	126	195
S [mm]	352	424

**Basic dimensions and installation of the unit**

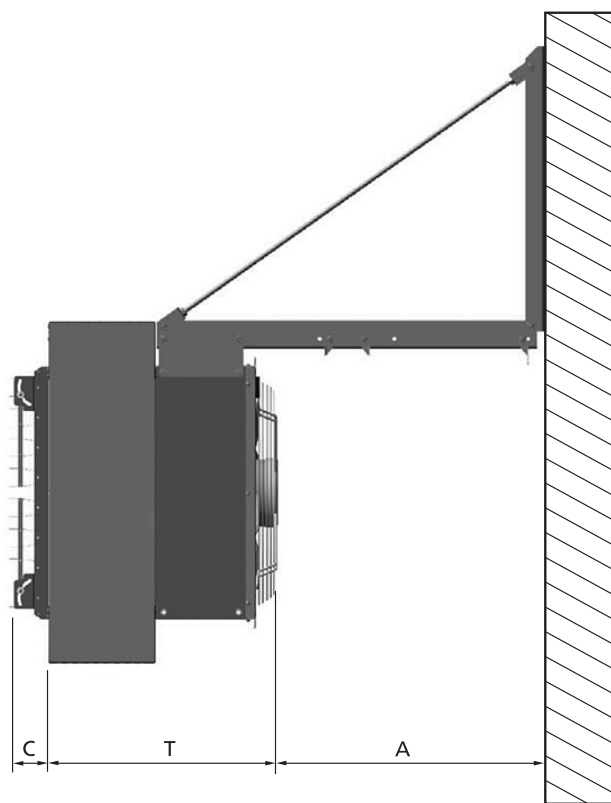


Fig. 29: shows the unit mounted on the wall using Modular suspensions.

The table shows the **optimum distances of the unit from wall A for various sizes**. This distance provides space for the intake of the required amount of air and is also important for the maintenance, inspection and servicing of the fan. If the unit is suspended using non-original suspensions, please observe this distance as a necessary requirement.

**The total depth of the unit is a total of dimensions T and C.**

**The unit depth T** is specific for various types of motor fans.

**The outlet louver depth C** is shown in the bottom section of the table; it varies for different outlet louver types.

Fig. 29: Example of the unit with Modular suspension

Distance from wall A [mm]			HG 2	HG 4
			300	400
Unit depth T [mm]			HG 2	HG 4
Unit with AC motor A, B, D, E			644	770
Unit with AC motor R			-	724
Unit with EC motor Y, Z			628	711
Outlet louver depth C [mm]			HG 2	HG 4
Basic louver	B	Wall-mounted	105	105
Two-side anemostat diffuser	Z	Ceiling-mounted	105	105
Secondary louver	C, D	Ceiling-mounted	291	376
Four-side anemostat diffuser	V	Ceiling-mounted	260	260
Nozzle	A	Ceiling-mounted	178	253
Gate nozzle	T	Ceiling-mounted / wall-mounted	302	525
Air deflection louver	L	Ceiling-mounted / wall-mounted	70	70
Secondary louver Basic	P	Ceiling-mounted / wall-mounted	100	100
Secondary louver	U, W	Wall-mounted	150	150
Flange	K	Ceiling-mounted / wall-mounted	60	60

**Outlet louvres (wall mounted)**



**Secondary louvre**

used to direct outlet air velocities and air throw; the following versions are available:

Size	2	4
A (mm)	566	854
B (mm)	585	873
Weight (kg)	8,9	17,7

**HG##.#.#.#.#U.##** – manually adjustable

**HG##.#.#.#.#W.##** – motor-adjustable (actuator 230 V open/close)

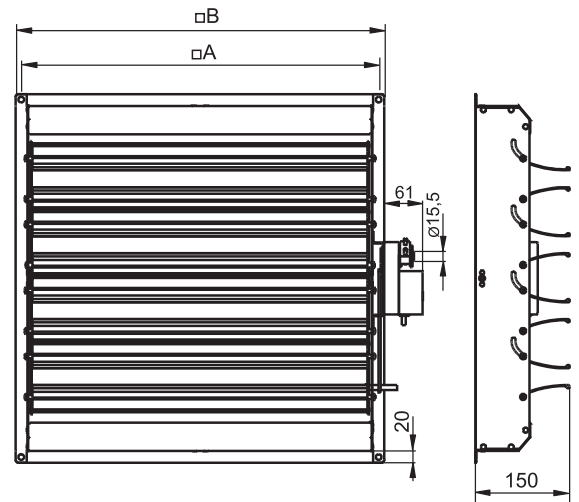


Fig. 30: Secondary louvre - wall mounted



**Secondary louvre Basic**

made up from aluminium profiles, designed to increase outlet air flow velocities and air throw.

Size	2	4
A (mm)	566	854
B (mm)	585	873
Weight (kg)	7,8	16,4

**HG##.#.#.#.#P.##** – manually adjustable, self-closing

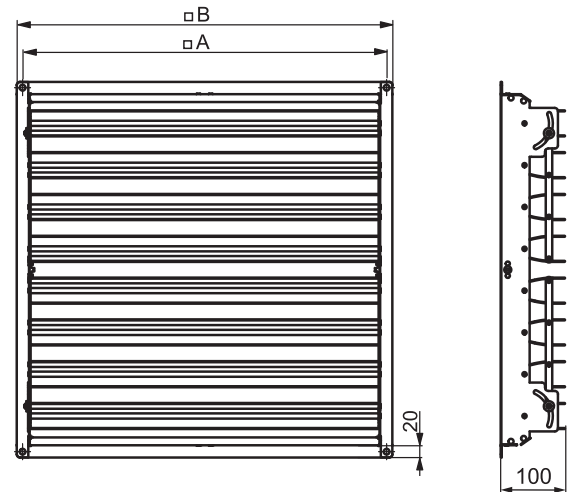


Fig. 31: Secondary louvre Basic



**Basic louvre**

manually adjustable, self-closing, for setting air flow direction

Size	2	4
A (mm)	566	854
B (mm)	585	873
Weight (kg)	3,6	8

**HG##.#.#.#.#B.##** – manually adjustable, self-closing

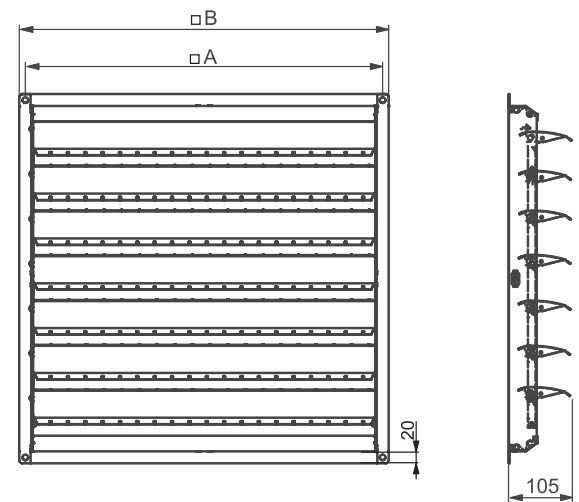


Fig. 32: Basic louvre

## Technical data

### Louvre dimensions and weight

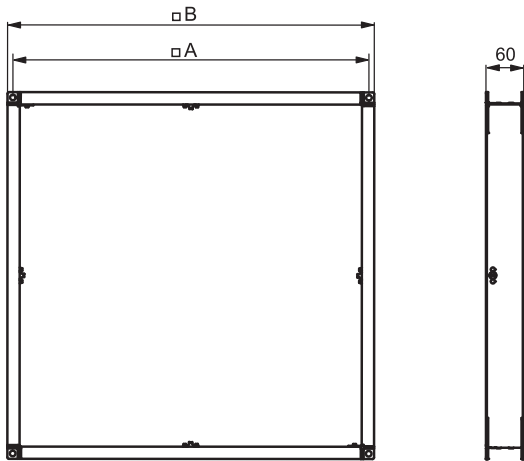


Fig. 33: Flange

### Flange

is designed to connect short air ducts directly to the outlet side of the unit heater. As a result, the unit can be placed e.g. behind walls or other space.



Size	2	4
A (mm)	566	854
B (mm)	585	873
Weight (kg)	2,5	3,8

**HG##.#.#.#.#K.##.#** – connecting an air duct

### Outlet louvres (ceiling mounted)

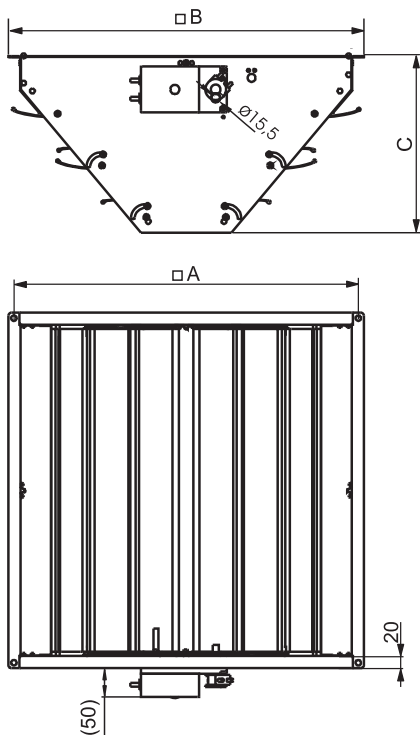


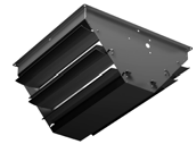
Fig. 34: Ceiling-mounted secondary-louvre

### Secondary louver

used to direct outlet air velocities and air throw; the following versions are available:

Shaft diameter = 15.5 mm

Size	2	4
A (mm)	566	854
B (mm)	585	873
C (mm)	291	376
Weight (kg) without actuator	11,1	19,9



**HG##.#.#.#.#C.##.#** – manually adjustable

**HG##.#.#.#.#D.##.#** – motor-adjustable (actuator 230 V open/close)



**Secondary louvre Basic**

made up from aluminium profiles, designed to increase outlet air flow velocities and air throw.

Size	2	4
A (mm)	566	854
B (mm)	585	873
Weight (kg)	7,8	16,4

**HG**##.# ##P.### – manually adjustable, self-closing

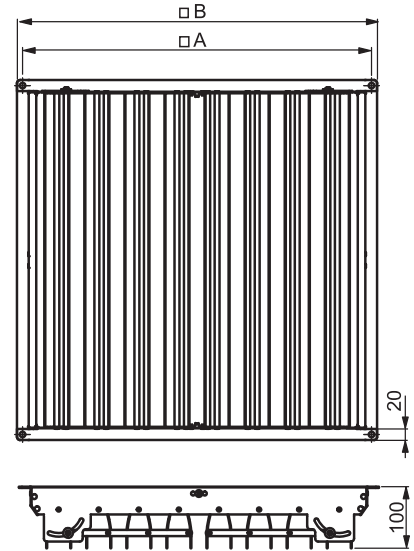


Fig. 35: Secondary louvre Basic



**Two-side anemostat diffuser**

used to divide outlet air flow into two directions.

Size	2	4
A (mm)	566	854
B (mm)	585	873
Weight (kg)	3,6	8

**HG**##.# ##Z.### – manually adjustable, self-closing

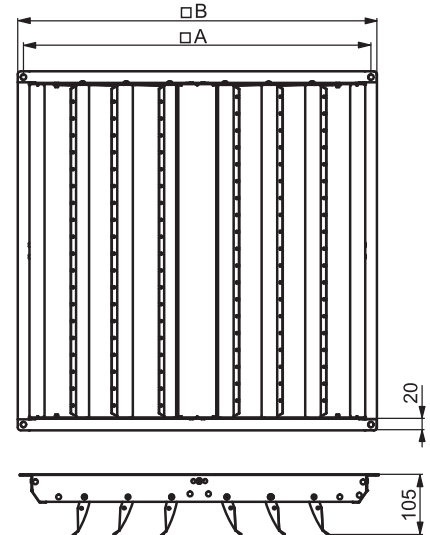
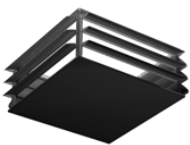


Fig. 36: Two-side anemostat diffuser



**Four-side anemostat diffuser**

for low installation height (2.5 - 3.5 m), used to divide outlet air flow into four directions, prevents air from being blown directly at occupants

Size	2	4
A (mm)	566	854
B (mm)	585	873
C (mm)	260	260
E (mm)	700	985
Weight (kg)	8,5	16,6

**HG**##.# ##V.### – manually adjustable

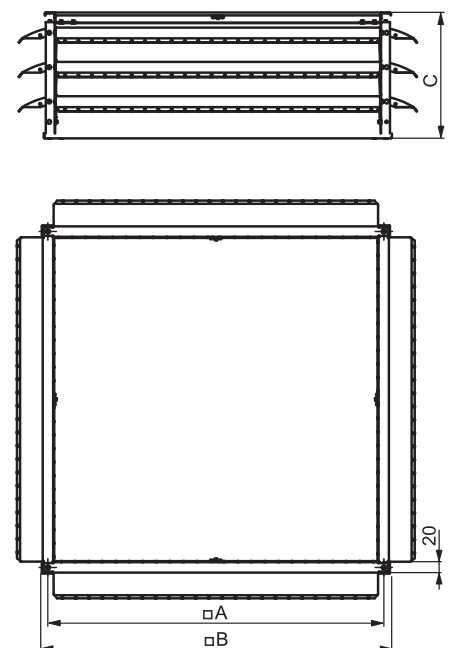


Fig. 37: Four-side anemostat diffuser

## Technical data

### Louvre dimensions and weight

MultiMAXXHG

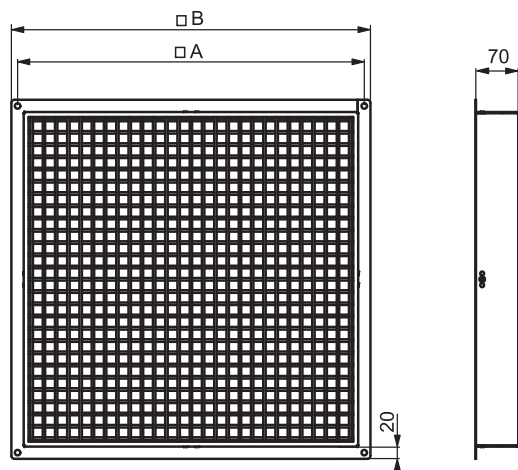
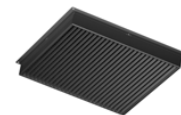


Fig. 38: Air deflection louvre

### Air deflection louvre

for directing air flow in any direction

Size	2	4
A (mm)	566	854
B (mm)	585	873
Weight (kg)	6,8	15,6



HG##.#.#.#.#L.### – manually adjustable, self-closing

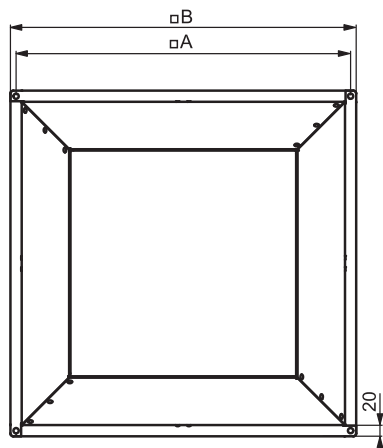
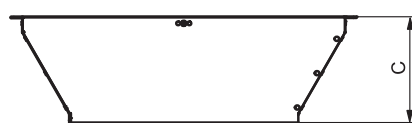


Fig. 39: Nozzle

### Nozzle

square, narrowed, the reduced outlet cross-sectional area increases air velocities and throw

Size	2	4
A (mm)	566	854
B (mm)	585	873
C (mm)	178	253
Weight (kg)	5	10,5



HG##.#.#.#.#A.### – for high installation

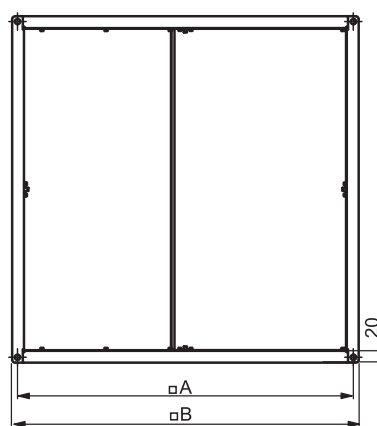
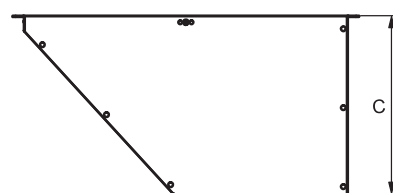
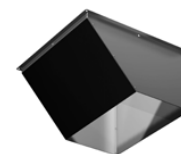


Fig. 40: Gate nozzle

### Gate nozzle

increases outlet air velocities by targeted air flow direction

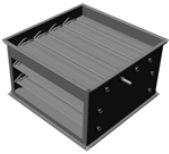
Size	2	4
A (mm)	566	854
B (mm)	585	873
C (mm)	302	525
Weight (kg)	5,6	14



HG##.#.#.#.#T.### – air curtain



**Air side accessories**



**Mixed air module, type 1**

1 outside air blocking damper in the unit axis, 2 side recirculating air blocking dampers

Shaft diameter = 15.5 mm

**ZH# . 2 0 0 #** – the end part of the code varies depending on accessories see table below

Size	2	4
A (mm)	566	854
B (mm)	587	875
C (mm)	340	450
Weight (kg)	16	31

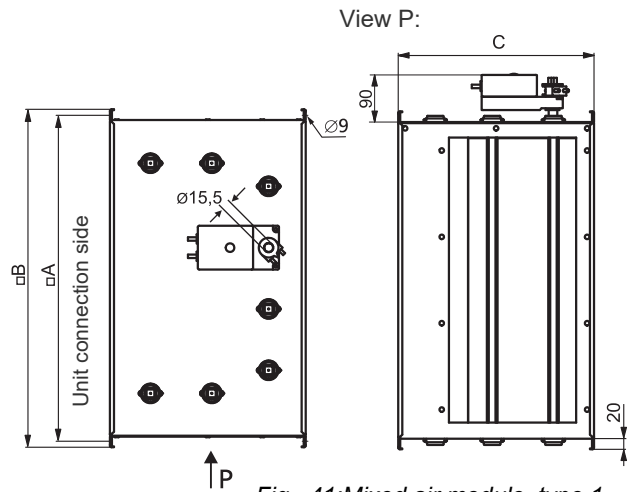
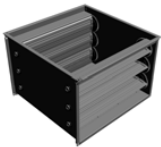


Fig. 41: Mixed air module, type 1



**Mixed air module, type 2**

1 outside air blocking damper and 1 recirculating air blocking damper; outside and recirculating air intake points are opposite each other.

Shaft diameter = 15.5 mm

**ZH# . 2 1 0 #** – the end part of the code varies depending on accessories see table below

Size	2	4
A (mm)	566	854
B (mm)	587	875
C (mm)	400	510
D (mm)	363	473
Weight (kg)	15,4	31,5

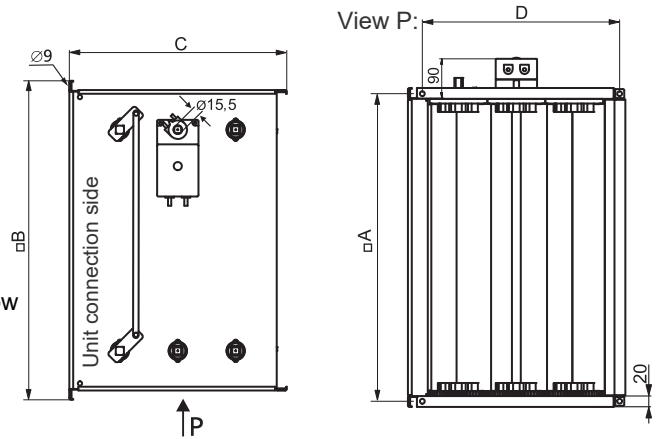


Fig. 42: Mixed air module, type 2



**Outside air blocking damper**

blocking damper slats made of galvanized sheet steel

Shaft diameter = 15.5 mm

**ZH# . 2 3 0 #** – the end part of the code varies depending on accessories see table below

Size	2	4
A (mm)	566	854
B (mm)	587	875
Weight (kg)	8,2	15,1

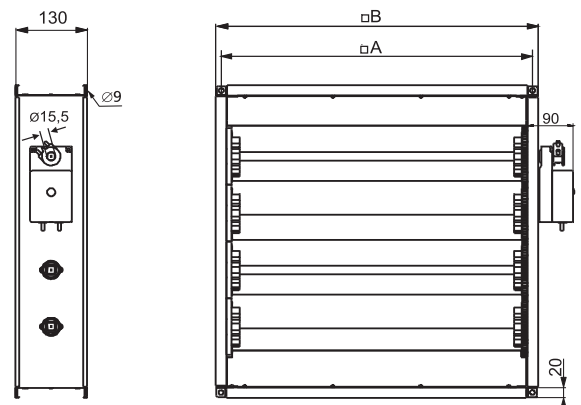


Fig. 43: Outside air blocking damper

**Tab: The end part of type code for the mixed air modules and blocking damper according to type of control**

<b>ZH# . 2 # 0 0</b>	– actuator on site (shaft diameter = 15.5 mm), (for control provided on site)
<b>ZH# . 2 # 0 1</b>	– manually adjustable
<b>ZH# . 2 # 0 2</b>	– with actuator 230 V, open/close
<b>ZH# . 2 # 0 3</b>	– with actuator 230 V, open/close + potentiometer
<b>ZH# . 2 # 0 4</b>	– with actuator 230 V, open/close + limit switch (for control provided on site)
<b>ZH# . 2 # 0 5</b>	– with actuator 230 V, open/close + spring return

## Technical data

### Accessory dimensions and weight

MultiMAXXHG

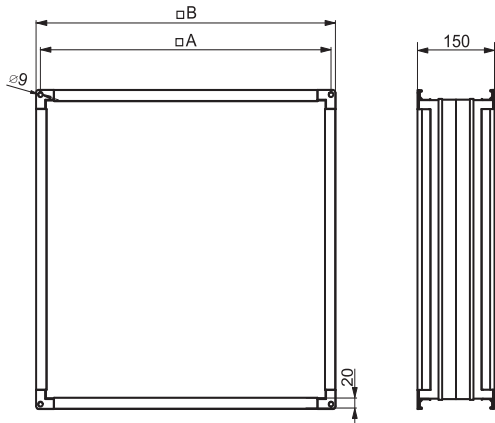


Fig. 44: Flexible connector

#### Flexible connector

A flexible connecting piece with flange fittings; this connector (or the 150 rectangular duct) is always used to connect the unit to other accessories on the air side.

ZH#	2	5	0	0	– air-tight, flexible
ZH#	2	5	8	0	– Ecodesign

Size	2	4
A (mm)	566	854
B (mm)	583	871
Weight (kg)	3,2	4,8

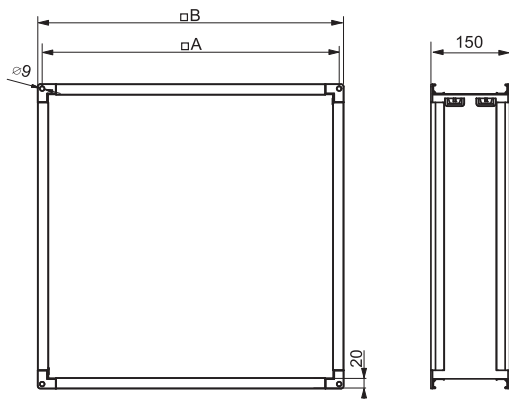


Fig. 45: Rectangular duct 150

#### Rectangular duct 150

A spacer with flange fittings; this piece (or the flexible connector) is always used to connect the unit to other accessories on the air side.

ZH#	2	6	0	0	– Installation depth 150 mm
ZH#	2	6	8	0	– Ecodesign

Size	2	4
A (mm)	566	854
B (mm)	583	871
Weight (kg)	2,2	3,3

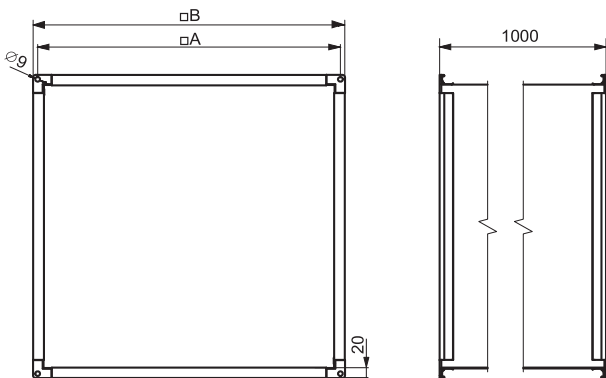
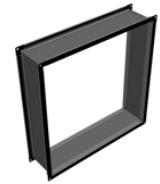


Fig. 46: Rectangular duct 1000

#### Rectangular duct 1000

A connecting piece with flange fittings made of galvanized sheet steel

ZH#	2	7	0	0	– Installation depth 1000 mm
-----	---	---	---	---	------------------------------

Size	2	4
A (mm)	566	854
B (mm)	583	871
Weight (kg)	15	22,4

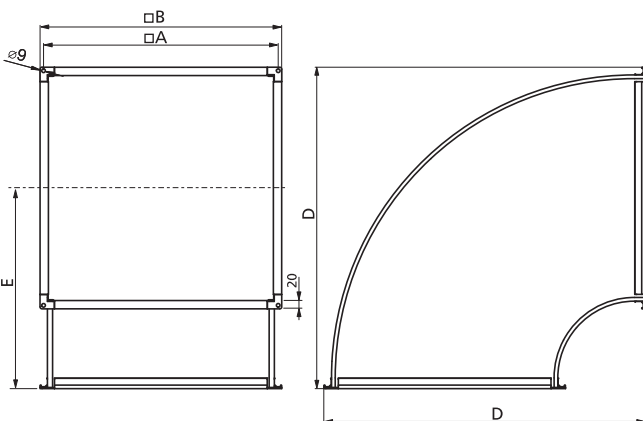
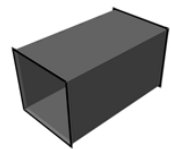


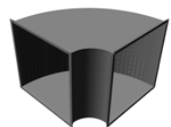
Fig. 47: Duct bend 90° - symmetrical

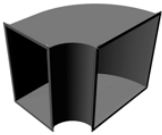
#### Duct bend 90° - symmetrical

with flange fittings, made of galvanized sheet steel

ZH#	2	8	0	0	– symmetrical
-----	---	---	---	---	---------------

Size	2	4
A (mm)	566	854
B (mm)	583	871
D (mm)	742	1030
E (mm)	451	595
Weight (kg)	11,5	33





**Duct bend 90° – asymmetrical**  
with flange fittings, made of galvanized sheet steel

ZH# . 2 9 0 0 0 – asymmetrical

Size	2	4
A1 (mm)	566	854
A2 (mm)	363	473
B1 (mm)	583	871
B2 (mm)	380	490
C (mm)	540	650
D (mm)	742	1030
E (mm)	451	595
F (mm)	350	405
Weight (kg)	11,5	33

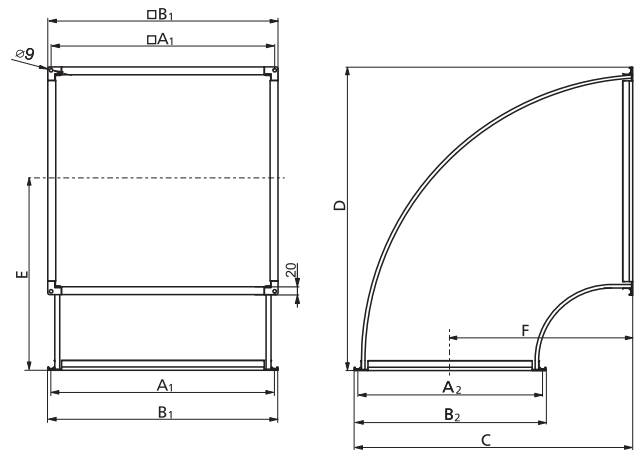
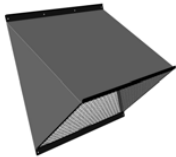


Fig. 48: Duct bend 90° - asymmetrical



**Wall air intake hood**  
made of galvanized sheet steel, with an anti-bird protection grille, low pressure drop, painted in RAL 9002

ZH# . 3 1 0 0 0 – on the outer wall

Size	2	4
X (mm)	592	880
y (mm)	596	884
Z (mm)	350	532
Weight (kg)	3,9	8,6

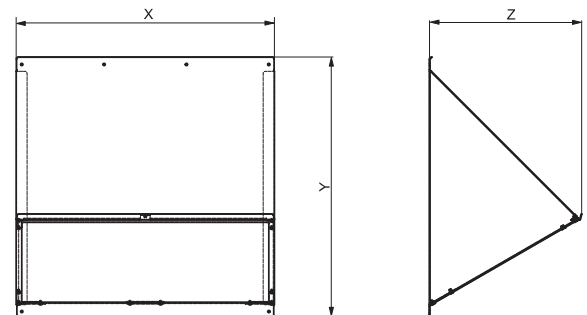


Fig. 49: Wall air intake hood



**External weather grille**  
made of galvanized sheet steel, with an anti-bird protection grille and removable wall anchoring system

ZH# . 3 2 0 0 0 – installation depth 45 mm

Size	2	4
A (mm)	592	880
C (mm)	534	822
Weight (kg)	5,2	11,5

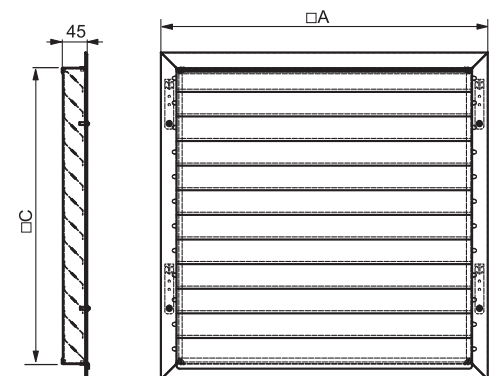
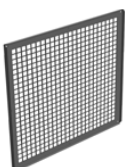


Fig. 50: External weather grille



**Contact protection grille**  
made of galvanized sheet steel, designed to protect exposed ductwork, accessory

ZH# . 3 3 0 0 0 – as a terminal piece for accessories on the air side

Size	2	4
A (mm)	566	854
B (mm)	590	878
Weight (kg)	3,3	5,1

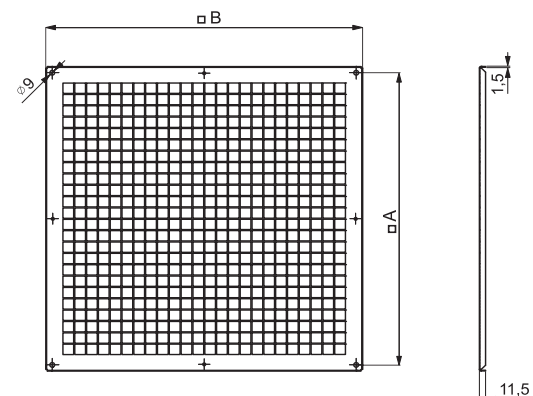


Fig. 51: Contact protection grille

## Technical data

### Accessory dimensions and weight

MultiMAXXHG

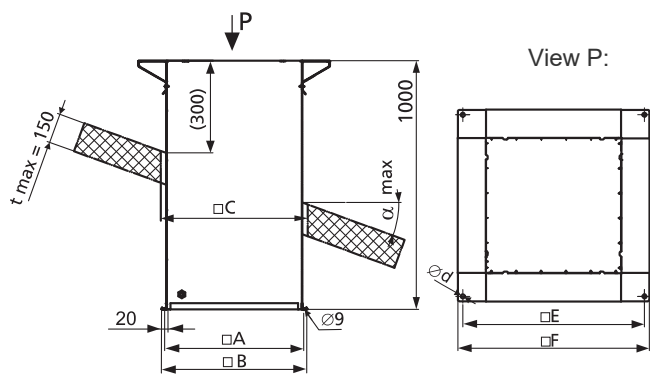


Fig. 52: Roof duct, slanted roof

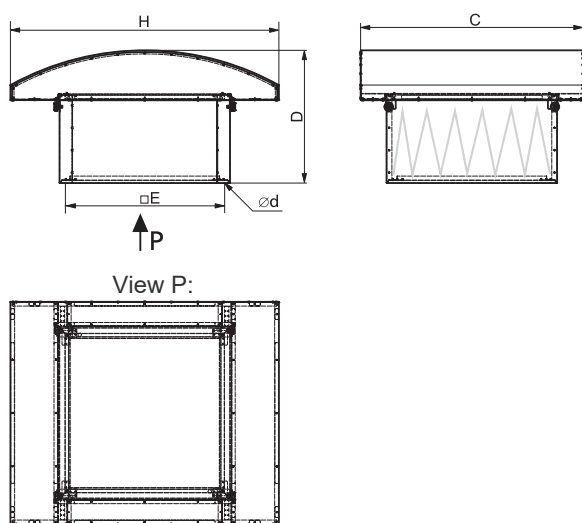


Fig. 53: Roof air intake hood

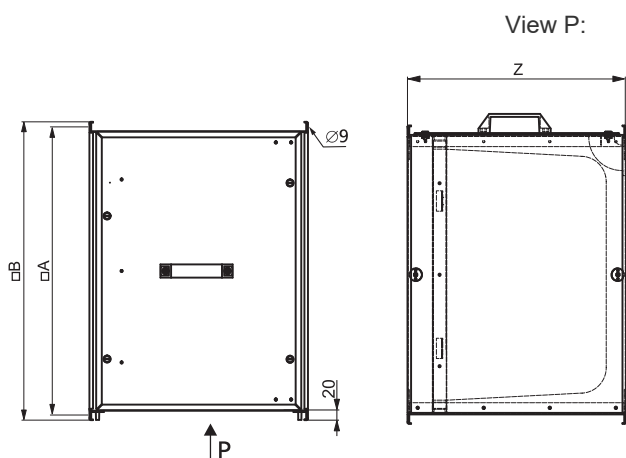


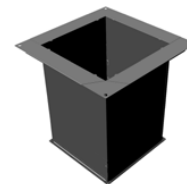
Fig. 54: Bag filter module

### Roof duct, slanted roof

made of galvanized sheet steel, includes brackets for mounting it to the roof

ZH# . 3 4 0 0

Size	2	4
A (mm)	566	854
B (mm)	583	871
C (mm)	630	920
E (mm)	730	1050
F (mm)	768	1088
d (mm)	16	16
$\alpha$ max	45°	35°
Weight (kg)	21	31



### Roof air intake hood

made of sheet steel painted in RAL 9002, with an anti-bird protection grille, other colour shades on request, optionally available with a bag filter (filter class G2, G4 and F7 in accordance CSN EN 779), the hood cover tilts out by 90° to facilitate filter replacement

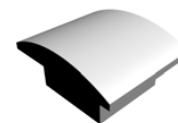
ZH# . 3 5 0 # – end part of code varies depending on accessories, see table on page 29

ZH# . 3 8 0 2 – spare bag filter G2

ZH# . 3 8 0 4 – spare bag filter G4

ZH# . 3 8 0 8 – spare bag filter F7

Size	2	4
C (mm)	1044	1500
D (mm)	623	712
E (mm)	730	1050
H (mm)	1260	1700
Weight (kg)	39,5	78



### Bag filter module

A bag filter module, filter class G2, G4 and F7 in accordance with CSN EN 779; a galvanized sheet steel casing, an inspection opening on the side, with a flange fitting, optionally with a differential pressure switch

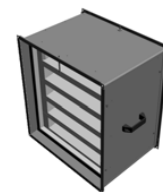
ZH# . 3 6 # # – the end part of the code varies depending on accessories, see the table on page 29

ZH# . 3 9 0 2 – spare bag filter G2

ZH# . 3 9 0 4 – spare bag filter G4

ZH# . 3 9 0 8 – spare bag filter F7

Size	2	4
A (mm)	566	854
B (mm)	587	875
Z (mm)	430	430
Z (mm) - Ecodesign	680	680
Weight (kg)	16	25





**Mat filter module**

in a frame, with filter pad class G2 - G4 in accordance with CSN EN 779; a galvanized sheet steel casing, an inspection opening on the side. with a retractable flange fitting, optionally with a differential pressure switch

ZH# . 3 7 0 # – the end part of the code varies depending on accessories, see the table below

ZH# . 4 0 0 2 – spare filter pad G2  
ZH# . 4 0 0 3 – spare filter pad G3  
ZH# . 4 0 0 4 – spare filter pad G4

Size	2	4
A (mm)	566	854
B (mm)	587	875
Weight (kg)	6,2	10

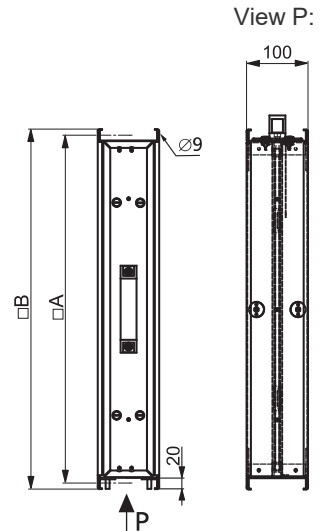
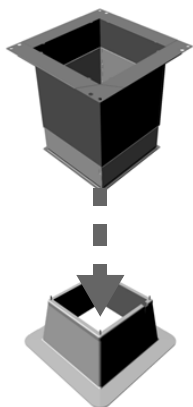


Fig. 55: Mat filter module

**Table: The type code for mat filter modules. bag filter modules and the roof air intake hood vary depending on the filter class and accessories**

ZH# . 3 # 0 0	– without a filter, without a differential pressure switch
ZH# . 3 # 0 2	– with a filter (filter pad), class G2, without a differential pressure switch
ZH# . 3 # 0 3	– with a filter pad, class G2, without a differential pressure switch (only for mat filters)
ZH# . 3 # 0 4	– with a filter (filter pad), class G4, without a differential pressure switch
ZH# . 3 # 0 5	– with a filter (filter pad), class G2, with a differential pressure switch
ZH# . 3 # 0 6	– with a filter pad, class G3, with a differential pressure switch (only for mat filters)
ZH# . 3 # 0 7	– with a filter (filter pad), class G4, with a differential pressure switch
ZH# . 3 # 8 9	– with a filter pad, class G2, with a differential pressure switch (does not apply to mat filters, applies to Ecodesign specifications)



**Roof duct, slanted roof, with a base**

A roof duct made of galvanized sheet steel, with a plastic base

The top section of the roof duct is inserted into the base from the top; the bottom section must be bolted to the accessories of the unit and inserted to the top section from the space underneath the roof.

ZH# . 4 9 0 0

Size	2	4
A (mm)	566	854
B (mm)	587	875
C (mm)	630	920
D (mm)	1100	1420
E (mm)	730	1050
F (mm)	775	1095
Weight (kg) – Roof duct	19,2	29,4
Weight (kg) - Base	10	13
KxL (mm)	M12x27	M12x27

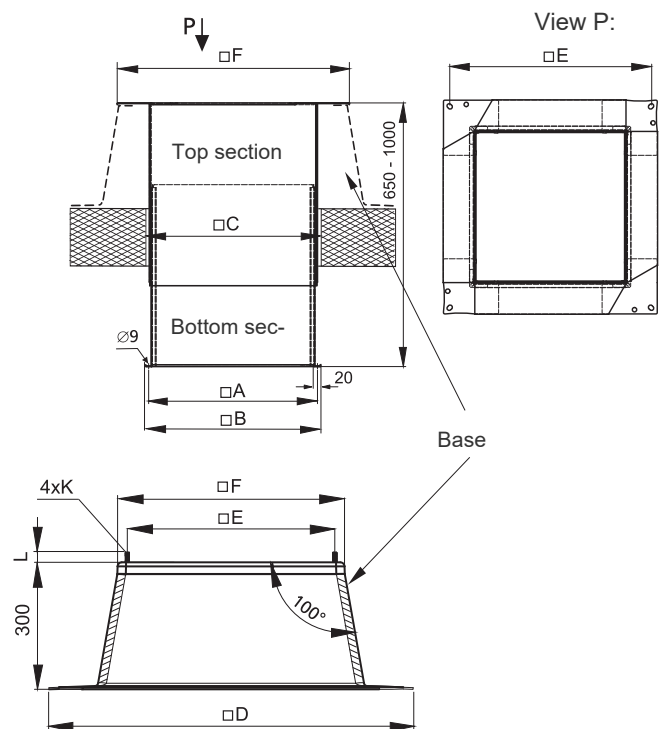


Fig. 56: Roof duct, slanted roof, with a base

## Technical data

### Accessory dimensions and weight

MultiMAXXHG

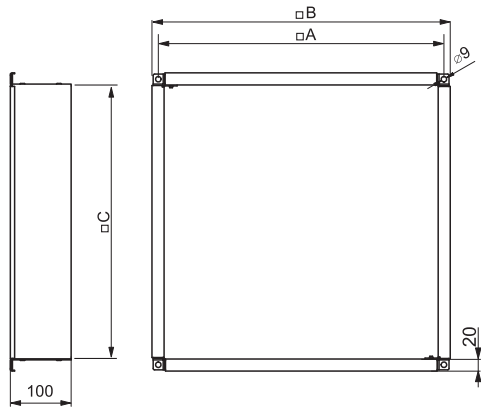


Fig. 57: Frame for wall connection

### Frame for wall connection

A spacer piece for a wall opening made of galvanized sheet steel.

It is used to provide the opening in the wall with a smooth finish on the room side.

ZH# . 5 1 0 0 – providing the opening in the wall with a smooth finish

Size	2	4
A (mm)	566	854
B (mm)	587	875
C (mm)	547	835
Weight (kg)	3,1	4,8

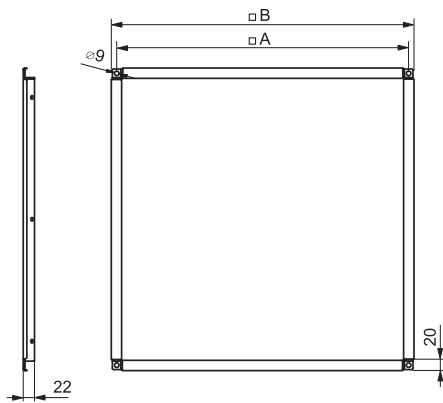
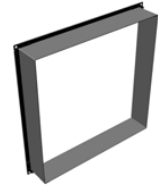


Fig. 58: Flange

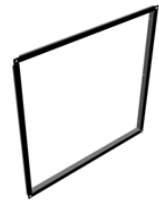
### Flange

(it is only required as a separate accessory for recirculating air units; in mixed air units it is included)

It is used for attaching air side accessories to recirculating air units, made of galvanized sheet steel.

ZH# . 5 2 0 0 – air side

Size	2	4
A (mm)	566	854
B (mm)	587	875
Weight (kg)	3,1	4,8



## Suspensions

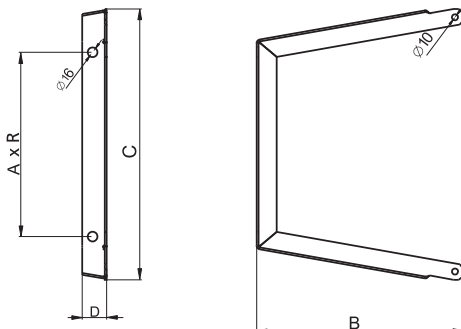


Fig. 59: Suspension Compact C

### Suspension Compact C

Suspensions for recirculating air units, wall and ceiling mounting, made of galvanized sheet steel

ZH# . 5 3 0 0 – Ceiling- / wall-mounted

Size	2	4
A (mm)	389	628
B (mm)	392	578
C (mm)	544	845
D (mm)	40	62
R (mm)	510	776
Weight (kg)	3,9	12,2

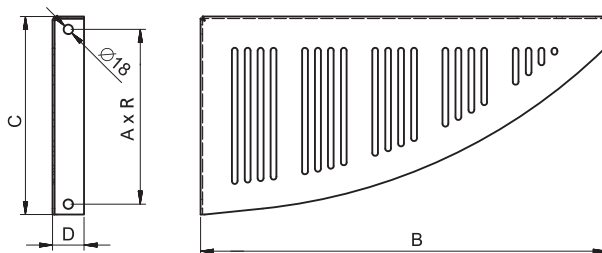
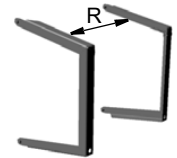


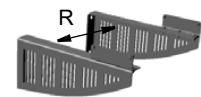
Fig. 60: Suspension Studio

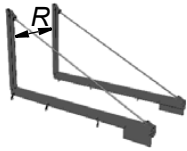
### Suspension Studio

Suspensions for recirculating air units, sheet steel painted in RAL 7000, other colour shades on

ZH# . 5 4 0 0 – wall-mounted

Size	2	4
A (mm)	175	282
B (mm)	544	728
C (mm)	220	327
D (mm)	60	60
R (mm)	496	784
Weight (kg)	8,1	13,5



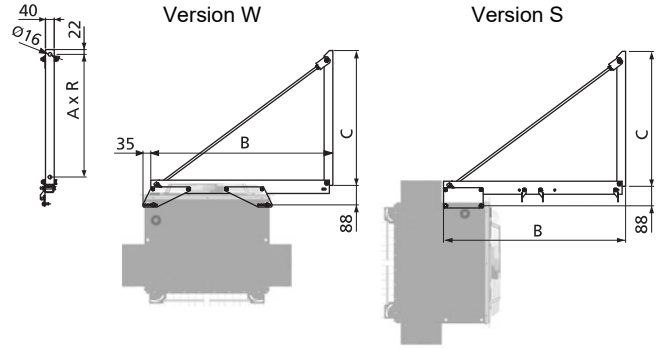


**Suspension Modular**

It consists of suspension brackets made of galvanized sheet steel, with threaded rods and locking clamps. It is mounted on the wall using steel corner braces.

W – suspension of units with vertical air outlet

S – suspension of units with horizontal air outlet



**ZH# . 5 5 0 #** – wall-mounted

for the end part of the code see table below

Fig. 61: Suspension Modular

<b>Size</b>	<b>2</b>	<b>4</b>
R (mm)	510	798

Z	H	#	.	5	5	0	0	1	2	3	4	5	6	7	8	9	A	B	C	W	E
Size	Accessory set																				
	without accessories																				
	Code																				
2				6S	7S	11S	8S	9S	13S	10S	5S	9S	6S	11S	8S	11S	8S	11S	8W	16S	
4				8S	8S	12S	9S	10S	14S	11S	5S	9S	6S	12S	9S	14S	11W	17S			

Code	5S	6S	7S	8S/8W	9S	10S	11S/11W	12S	13S	14S	16S	17S
A (mm)	386	386	386	556	556	556	556	556	656	656	656	656
B (mm)	505	605	715	825	935	1045	1155	1265	1375	1485	1405	1515
C (mm)	442	442	442	612	612	612	612	612	712	712	712	712
Weight (kg)	7,5	8,3	9,3	11,2	12,1	12,9	13,9	15	16,1	17	16,7	17,4

**Ceiling suspension**

an installation set consisting of 4 suspension corner braces made of galvanized sheet steel (1), mounting fixtures for optional accessories (2) and 4 threaded rods (3); for ceiling mounting; the threaded rods are available in different lengths and have the following type code ID:

<b>ZH# . 5 6 0 0</b>	– without a threaded rod
<b>ZH# . 5 6 0 1</b>	– 4x threaded rods M10, length 1 m
<b>ZH# . 5 6 0 2</b>	– 4x threaded rods M10, length 2 m
<b>ZH# . 5 6 0 3</b>	– 4x threaded rods M10, length 3 m

<b>Size</b>	<b>2</b>	<b>4</b>
R (mm)	627	915
Weight ZH#. 5600 (kg)	2,4	
Weight ZH#. 5601 (kg)	5,7	
Weight ZH#. 5602 (kg)	8,1	
Weight ZH#. 5603 (kg)	10,5	

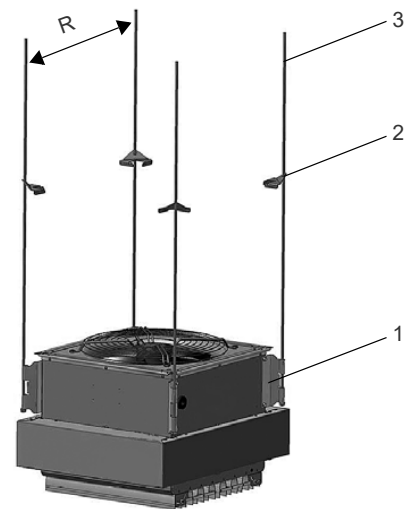


Fig. 62: Ceiling suspension

Accessories - Flue gas pipework

Some parts of the flue gas pipework contain silicone seals (a silicon-free version available on request)

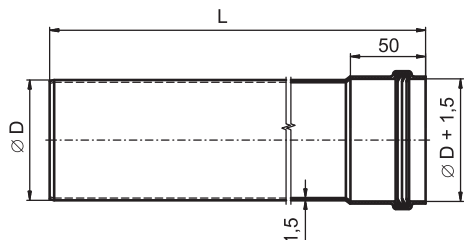


Fig. 63: Pipe with sleeve

Pipe with sleeve

from Al sheet, Ø 80 and 100 mm, length 0.5, 1 and 2 m



ZHG.	3 7 8 0	– Ø 80 mm, length 0.22 m
ZHG.	3 7 1 0	– Ø 100 mm, length 0.22 m
ZHG.	3 8 8 0	– Ø 80 mm, length 0.17 m
ZHG.	3 8 1 0	– Ø 100 mm, length 0.17 m
ZHG.	3 9 8 0	– Ø 80 mm, length 0.31 m
ZHG.	3 9 1 0	– Ø 100 mm, length 0.35 m
ZHG.	4 0 8 0	– Ø 80 mm, length 0.5 m
ZHG.	4 0 1 0	– Ø 100 mm, length 0.5 m
ZHG.	4 1 8 0	– Ø 80 mm, length 1 m
ZHG.	4 1 1 0	– Ø 100 mm, length 1 m
ZHG.	4 2 8 0	– Ø 80 mm, length 2 m
ZHG.	4 2 1 0	– Ø 100 mm, length 2 m

ZHG	3780	3710	3880	3810	3980	3910	4080	4010	4180	4110	4280	4210
Ø D (mm)	80	100	80	100	80	100	80	100	80	100	80	100
L (m)	0,22	0,22	0,17	0,17	0,31	0,35	0,5	0,5	1	1	2	2
Weight (kg)	0,2	0,3	0,2	0,2	0,3	0,4	0,5	0,6	1,0	1,3	2,0	2,6

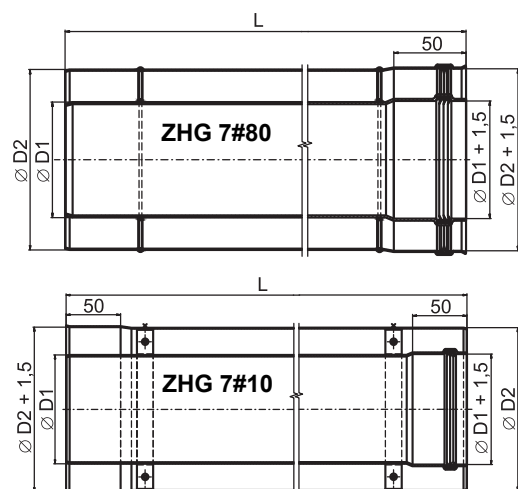


Fig. 64: Coaxial pipe with sleeve

Coaxial pipe with sleeve

from Al sheet, Ø 80/125 and 100/150 mm, length 0.5, 1 and 2 m



ZHG.	7 0 8 0	– Ø 80/125 mm, length 0.5 m
ZHG.	7 0 1 0	– Ø 100/150 mm, length 0.5 m
ZHG.	7 1 8 0	– Ø 80/125 mm, length 1 m
ZHG.	7 1 1 0	– Ø 100/150 mm, length 1 m
ZHG.	7 2 8 0	– Ø 80/125 mm, length 2 m
ZHG.	7 2 1 0	– Ø 100/150 mm, length 2 m

ZHG	7080	7010	7180	7110	7280	7210
Ø D1 (mm)	80	100	80	100	80	100
Ø D2 (mm)	125	150	125	150	125	150
L (m)	0,5	0,5	1	1	2	2
Weight (kg)	1,0	1,4	2,0	2,8	4,0	5,2

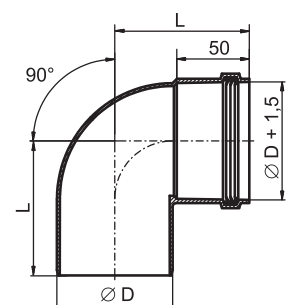


Fig. 65: Elbow fitting 90° with sleeve

Elbow fitting 90° with sleeve

from Al alloy, Ø 80 and 100 mm



ZHG.	4 3 8 0	– Ø 80 mm
ZHG.	4 3 1 0	– Ø 100 mm

ZHG	4380	4310
Ø D (mm)	80	100
L (mm)	93	120
Weight (kg)	0,3	0,4



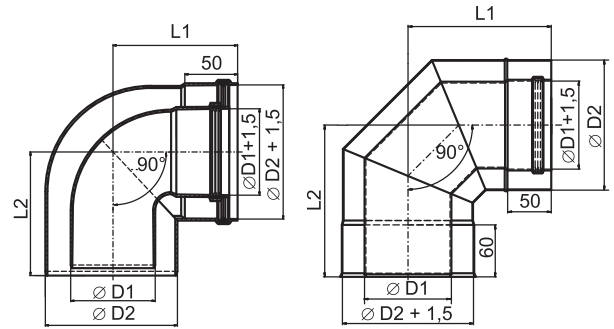


**Coaxial elbow fitting 90° with sleeve**

Al,  $\varnothing$  80/125 and 100/150 mm

ZHG	7380	- $\varnothing$ 80/125 mm
ZHG	7310	- $\varnothing$ 100/150 mm

ZHG	7380	7310
$\varnothing$ D1 (mm)	80	100
$\varnothing$ D2 (mm)	125	150
L1 (mm)	118	165
L2 (mm)	117	175
Weight (kg)	0,5	0,9



ZHG 7380

ZHG 7310

Fig. 66: Coaxial elbow fitting 90° with sleeve



**Elbow fitting 45° with sleeve**

from Al alloy,  $\varnothing$  80 and 100 mm

ZHG	4480	- $\varnothing$ 80 mm
ZHG	4410	- $\varnothing$ 100 mm

ZHG	4480	4410
$\varnothing$ D (mm)	80	100
L (mm)	72	80
Weight (kg)	0,2	0,3

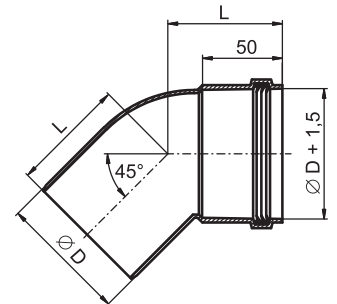


Fig. 67: Elbow fitting 45° with sleeve

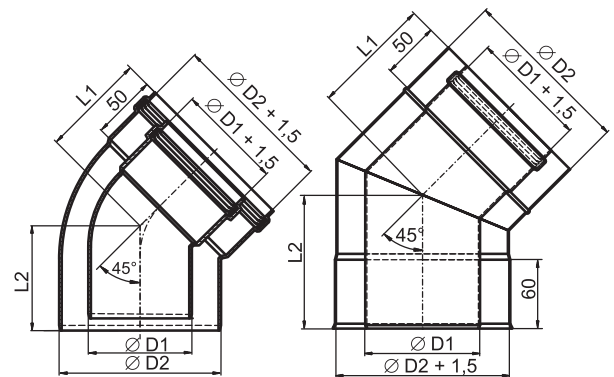


**Coaxial elbow fitting 45° with sleeve**

Al,  $\varnothing$  80/125 and 100/150 mm

ZHG	7480	- $\varnothing$ 80/125 mm
ZHG	7410	- $\varnothing$ 100/150 mm

ZHG	7480	7410
$\varnothing$ D1 (mm)	80	100
$\varnothing$ D2 (mm)	125	150
L1 (mm)	81	106
L2 (mm)	81	116
Weight (kg)	0,5	0,6



ZHG 7480

ZHG 7410

Fig. 68: Coaxial elbow fitting 45° with sleeve



**T-fitting 45°**

Al,  $\varnothing$  80 and 100 mm

ZHG	5580	- $\varnothing$ 80 mm
ZHG	5510	- $\varnothing$ 100 mm

ZHG	5580	5510
$\varnothing$ D (mm)	80	100
L (mm)	280	300
L1 (mm)	184	216
Weight (kg)	0,5	0,6

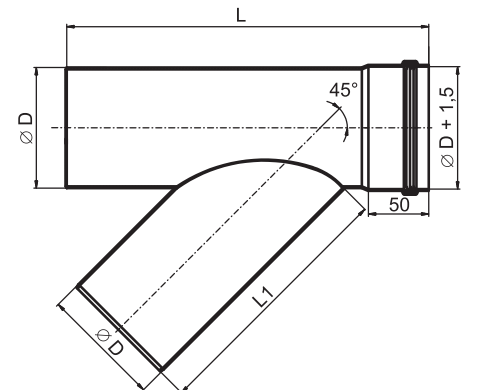


Fig. 69: T-fitting 45°

## Technical data

### Flue gas pipework dimensions and weight

MultiMAXXHG

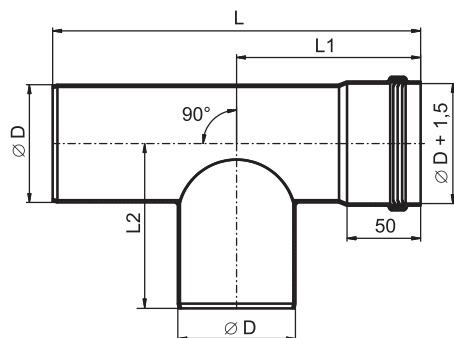


Fig. 70: T-fitting with sleeve

#### T-fitting with sleeve

Al,  $\varnothing$  80 and 100 mm

ZHG.	4	6	8	0	– $\varnothing$ 80 mm
ZHG.	4	6	1	0	– $\varnothing$ 100 mm

ZHG	4680	4610
$\varnothing$ D (mm)	80	100
L (mm)	250	216
L1 (mm)	125	103
L2 (mm)	112	113
Weight (kg)	0,2	0,4

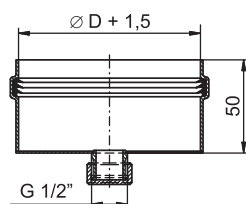


Fig. 71: Condensate container

#### Condensate container

Al,  $\varnothing$  80 and 100 mm

ZHG.	4	7	8	0	– $\varnothing$ 80 mm
ZHG.	4	7	1	0	– $\varnothing$ 100 mm

ZHG	4780	4710
$\varnothing$ D (mm)	80	100
Weight (kg)	0,1	0,1

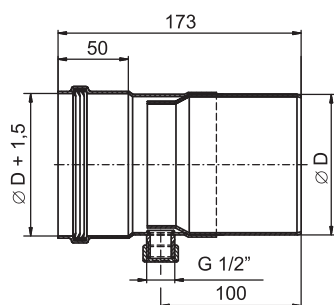
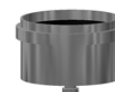


Fig. 72: Pipe with sleeve and condensate drain

#### Pipe with sleeve and condensate drain

Al,  $\varnothing$  80 and 100 mm

ZHG.	4	8	8	0	– $\varnothing$ 80 mm
ZHG.	4	8	1	0	– $\varnothing$ 100 mm

ZHG	4880	4810
$\varnothing$ D (mm)	80	100
Weight (kg)	0,2	0,3

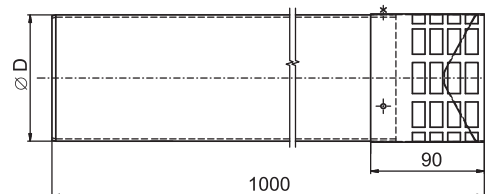


Fig. 73: Windproof hood (wall)

#### Windproof hood (wall)

Al,  $\varnothing$  80 and 100 mm

ZHG.	4	9	8	0	– $\varnothing$ 80 mm
ZHG.	4	9	1	0	– $\varnothing$ 100 mm

ZHG	4980	4910
$\varnothing$ D (mm)	80	100
Weight (kg)	0,9	1,2





**Coaxial windproof hood (wall)**

Al,  $\varnothing$  80/125 and 100/150 mm

ZHG	7980	- $\varnothing$ 80/125 mm
ZHG	7910	- $\varnothing$ 100/150 mm

ZHG	7980	7910
$\varnothing$ D1 (mm)	80	100
$\varnothing$ D2 (mm)	125	150
L (mm)	310	310
Weight (kg)	0,2	0,4

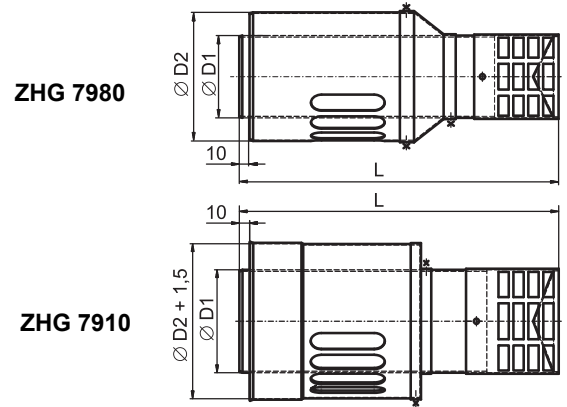


Fig. 74: Coaxial windproof hood (wall)



**Roof air intake hood**

Al,  $\varnothing$  80 and 100 mm

ZHG	5080	- $\varnothing$ 80 mm
ZHG	5010	- $\varnothing$ 100 mm

ZHG	5080	5010
$\varnothing$ D (mm)	80	100
L (mm)	172	171
Weight (kg)	0,4	0,3

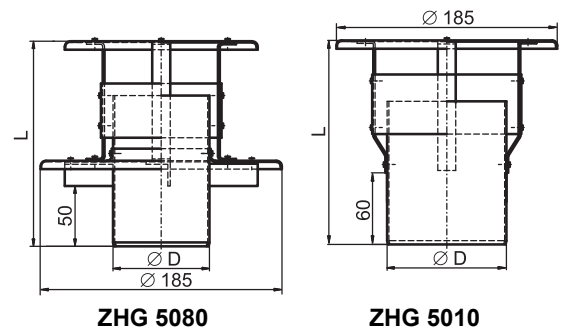


Fig. 75: Roof air intake hood



**Coaxial roof air intake hood**

Al,  $\varnothing$  80/125 and 100/150 mm

ZHG	9080	- $\varnothing$ 80/125 mm
ZHG	9010	- $\varnothing$ 100/150 mm

ZHG	9080	9010
$\varnothing$ D1 (mm)	80	100
$\varnothing$ D2 (mm)	125	150
L (mm)	280	280
Weight (kg)	0,5	0,6

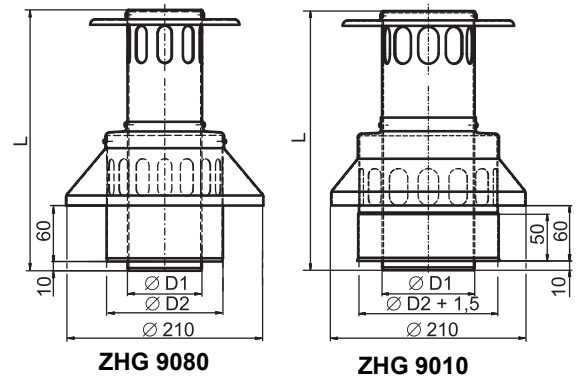


Fig. 76: Coaxial roof air intake hood



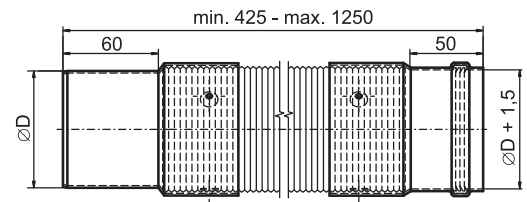
**Flexi - pipe with sleeve**

Al,  $\varnothing$  80 and 100 mm

ZHG	5180	- $\varnothing$ 80 mm, intake
ZHG	5110	- $\varnothing$ 100 mm, intake
ZHG	5280	- $\varnothing$ 80 mm, extraction
ZHG	5210	- $\varnothing$ 100 mm, extraction

ZHG	5180	5110	5280	5210
$\varnothing$ D (mm)	80	100	80	100
Weight (kg)	0,5	0,5	0,8	1,0

**ZHG 5180 a ZHG 5110**



**ZHG 5280 a ZHG 5210**

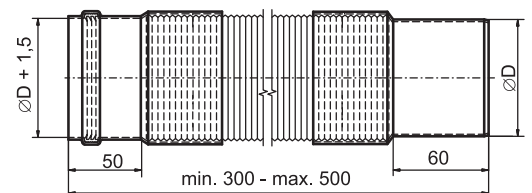


Fig. 77: Flexi - pipe with sleeve

## Technical data

### Flue gas pipework dimensions and weight

MultiMAXXHG

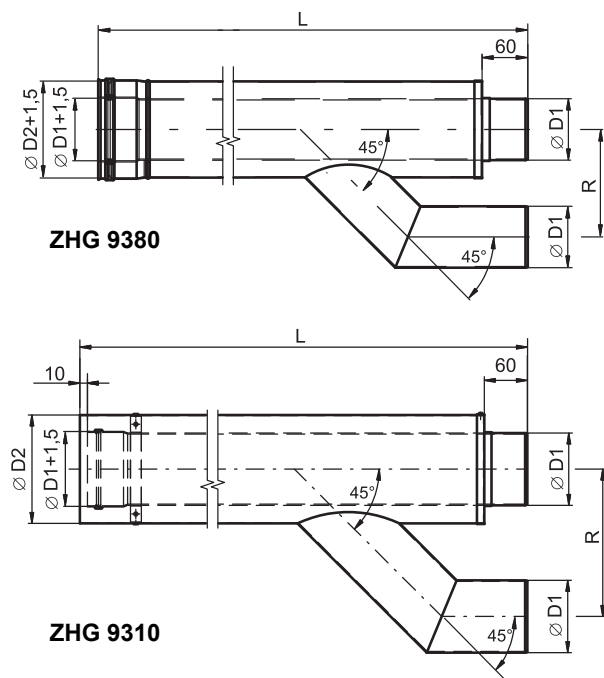


Fig. 78: Connecting piece

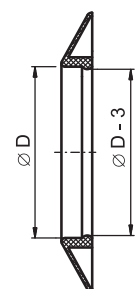


Fig. 79: Oversize sleeve

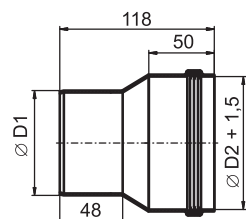


Fig. 80: Reducer

### Connecting piece

Al,  $\varnothing$  80/125 and 100/150 mm

ZHG.	9380	– $\varnothing$ 80/125 mm
ZHG.	9310	– $\varnothing$ 100/150 mm

ZHG	9380	9310
$\varnothing$ D1 (mm)	80	100
$\varnothing$ D2 (mm)	125	150
R (mm)	140	204
L (mm)	1000	1010
Weight (kg)	2,2	2,9



### Oversize sleeve

$\varnothing$  80, 100 a 125 mm, rubber

Al,  $\varnothing$  150 mm

ZHG.	5680	– $\varnothing$ 80 mm
ZHG.	5610	– $\varnothing$ 100 mm
ZHG.	9680	– $\varnothing$ 125 mm
ZHG.	9610	– $\varnothing$ 150 mm

ZHG	5680	5610	9680	9610
$\varnothing$ D (mm)	80	100	125	150
Weight (kg)	0,1	0,1	0,3	0,3



### Reducer

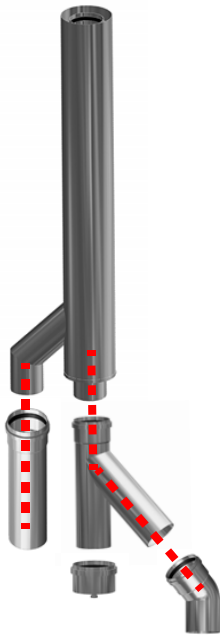
Al,  $\varnothing$  80/100 mm

ZHG.	5480	– $\varnothing$ 80/100 mm
------	------	---------------------------

ZHG	5480
$\varnothing$ D1 (mm)	80
$\varnothing$ D2 (mm)	100
Weight (kg)	0,1



## Coaxial flue gas pipework connection sets

**Set D45**

suitable for recirculating air units,  
condensate drain 112 mm from the  
unit

**ZHG.6080** – Ø 80 mm

- ZHG.3980 - pipe, 0.31m long
- ZHG.4480 - elbow fitting 45°
- ZHG.4780 - condensate container
- ZHG.5580 - T-fitting 45°
- ZHG.9380 - connecting piece

**ZHG.6010** – Ø 100 mm

- ZHG.3910 - pipe, 0.35m long
- ZHG.4410 - elbow fitting 45°
- ZHG.4710 - condensate container
- ZHG.5510 - T-fitting 45°
- ZHG.9310 - connecting piece

ZHG	6080	6010
L3 (mm)	551	618
L4 (mm)	1261	1310
Weight (kg)	3,4	4,3

**Set D90**

suitable for recirculating air units,  
condensate drain  
44 mm from the unit

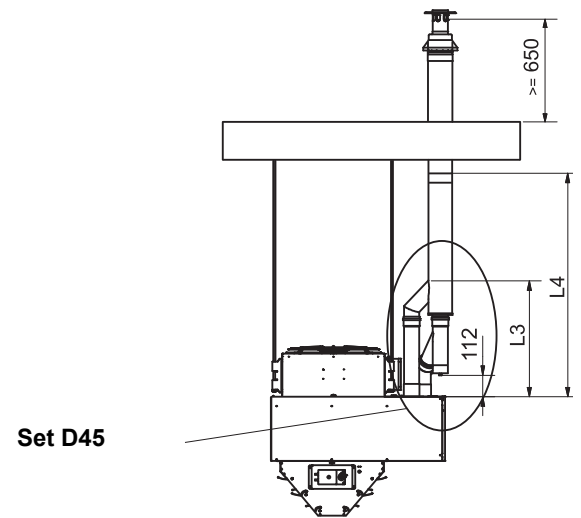
**ZHG.6180** – Ø 80 mm

- ZHG.3780 - pipe, 0.22m long
- ZHG.4380 - elbow fitting 90°
- ZHG.4680 - T-fitting 90°
- ZHG.4780 - condensate container
- ZHG.9380 - connecting piece

**ZHG.6110** – Ø 100 mm

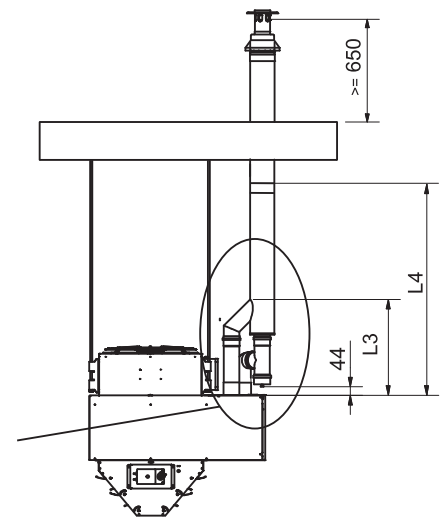
- ZHG.3710 - pipe, 0.22m long
- ZHG.4310 - elbow fitting 90°
- ZHG.4610 - T-fitting 90°
- ZHG.4710 - condensate container
- ZHG.9310 - connecting piece

ZHG	6180	6110
L3 (mm)	461	488
L4 (mm)	1171	1180
Weight (kg)	3,2	4,0



Set D45

Fig. 81: Coaxial flue gas pipework and D45 set assembly



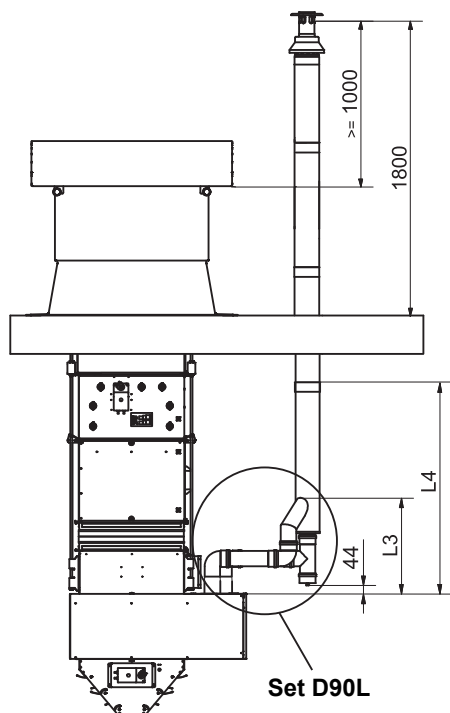
Set D90

Fig. 82: Coaxial flue gas pipework and D90 set assembly

## Technical data

### Flue gas pipework dimensions and weight

MultiMAXXHG



Set D90L

Fig. 83: Coaxial flue gas pipework and D90L set assembly

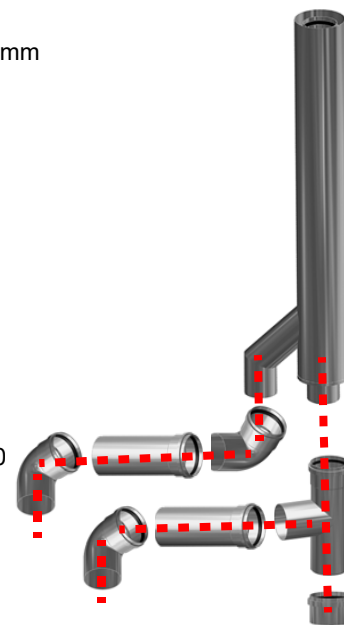
#### Set D90L

**ZHG. 6380** – Ø 80 mm

- ZHG.4080 - pipe, 0.5m long (2x)
- ZHG.4380 - elbow fitting 45° (3x)
- ZHG.4680 - T-fitting 90°
- ZHG.4780 - condensate container
- ZHG.9380 - connecting piece

**ZHG. 6310** – Ø 100

- ZHG.4010 - pipe, 0.5m long (2x)
- ZHG.4310 - elbow fitting 45° (3x)
- ZHG.4610 - T-fitting 90°
- ZHG.4710 - condensate container
- ZHG.9310 - connecting piece



ZHG	6180	6110
L3 (mm)	461	488
L4 (mm)	1171	1180
Weight (kg)	4,7	5,8

#### Set W

**ZHG. 6280** – Ø 80 mm

- ZHG.3880 - pipe, 0.17m long
- ZHG.4880 - pipe with condensate drain
- ZHG.9380 - connecting piece

**ZHG. 6210** – Ø 100 mm

- ZHG.3810 - pipe, 0.17m long
- ZHG.4810 - pipe with condensate drain
- ZHG.9310 - connecting piece

ZHG	6280	6210
L3 (mm)	461	488
L4 (mm)	1171	1180
Weight (kg)	2,6	3,4

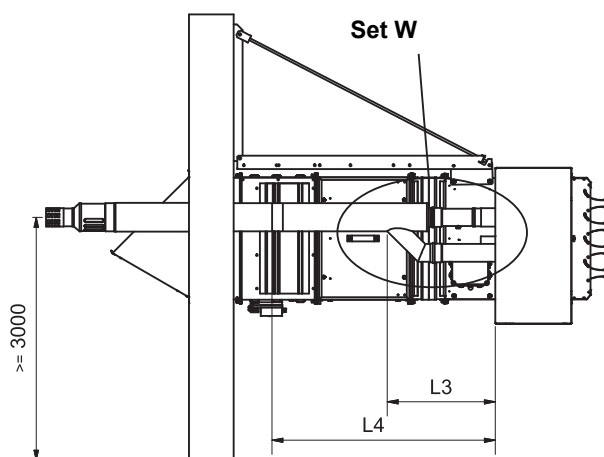


Fig. 84: Coaxial flue gas pipework and W set assembly



## Flue gas pipework

The flue gas pipework must be designed in keeping with standards in force (CSN 73 4201).

Each unit must have a condensate container with drainage. The pipe closure must be on the wall hood ZHG 49## (ZHG 79##) or roof hood ZHG 50## (ZHG 90##).

The insertion length of the individual flue gas pipework parts must be at least 50 mm.

The total length of the flue-gas pipework may not exceed 16 m (i.e. the combined length of the supply air and flue-gas pipework may not exceed 16 m).

A minimal length of 1 m must be observed when using coaxial flue gas pipework, while its maximum length may not exceed the values in the following table due to a possible risk of supply air overheating.

One elbow fitting 90° single type corresponds to 1 m length of a direct pipe with a sleeve as single type.

One elbow piece 90° coaxial model corresponds to 1 m length of a straight tube with coupling sleeve coaxial type or 2 m of the single type.

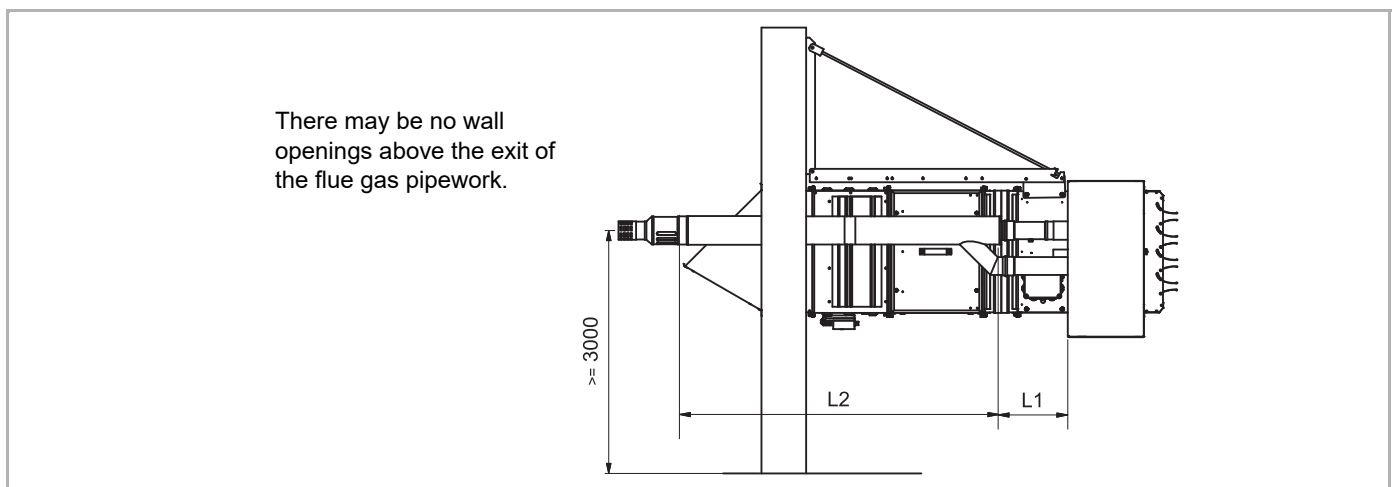


Fig.85: Length of the flue gas pipework

## Recommended height of the flue gas pipework above the roof

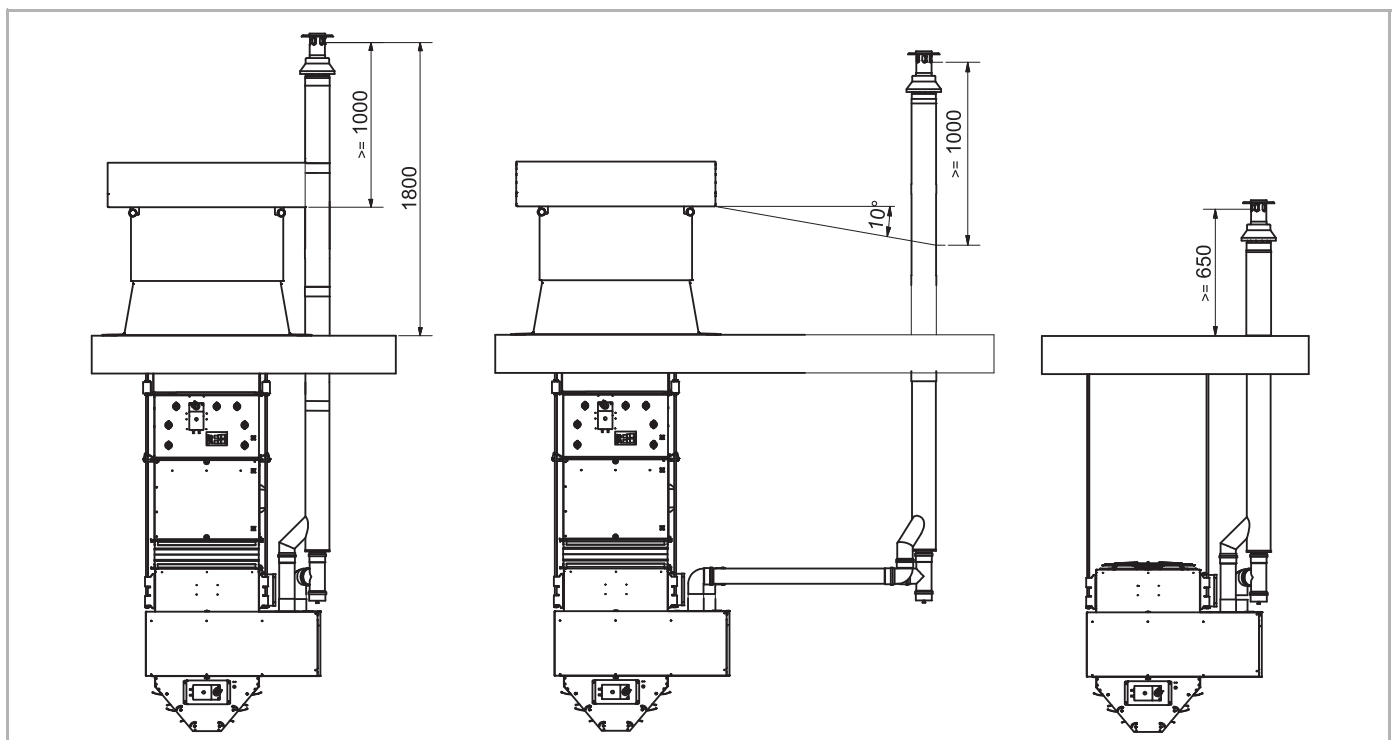


Fig.86: Recommended flue gas pipework height

**Table: Maximum length of the coaxial flue gas pipework**

Unit type	Flue gas pipework combination	Maximum unit heating capacity $Q_T$	Length of the flue gas pipework (for a unit with suction side accessories) L2	Length of the flue gas pipework (for a unit without suction side accessories) L2
		(kW)	(m)	(m)
<b>HG 24</b>	Coaxial	25	5	6
	Coaxial + 1m single (L1)		6	7
	Coaxial + 2m single (L1)		7	7
<b>HG 25</b>	Coaxial	30	2	3
	Coaxial + 1m single (L1)		3	4
	Coaxial + 2m single (L1)		6	6
<b>HG 44</b>	Coaxial	45	4	5
	Coaxial + 1m single (L1)		5	6
	Coaxial + 2m single (L1)		6	6
<b>HG 45</b>	Coaxial	60	3	4
	Coaxial + 1m single (L1)		4	5
	Coaxial + 2m single (L1)		5	6



### Gas distribution

Gas supply to the burner of the unit must comply with standards in force and respective regulations. A standard connection gas burner a R 1/2" female thread. The most suitable connection of the burner to the gas mains in accordance with CSN EN 1775, ed. 2 is via an elastic heating gas hose (optional accessory (ZHG.0040 (length 0.4m), ZHG.0070 (length 0.7m) or ZHG.0010 (length 1m)) with a R 3/4" female thread and a reducer with R 1/2" - R 3/4" male threads.

### Gas distribution system

The gas distribution system must include a manual shut-off valve. When connecting multiple units to a single supply system, it is recommended installing a gas filter (with a filtering capacity of at least 20 µm) and a gas pressure controller upstream of the shut-off valve. Particularly when the units are far from each other or the gas distribution system is complicated, it is necessary to install these controllers with filters for the proper operation of the unit. The manually operated gas shut-off valve for the unit must be installed in such a way that it can be easily accessed by operators without any restrictions (height etc.) and its end positions must be identified. For the recommended connection of the unit to the gas distribution system see the diagram in Fig. 86.

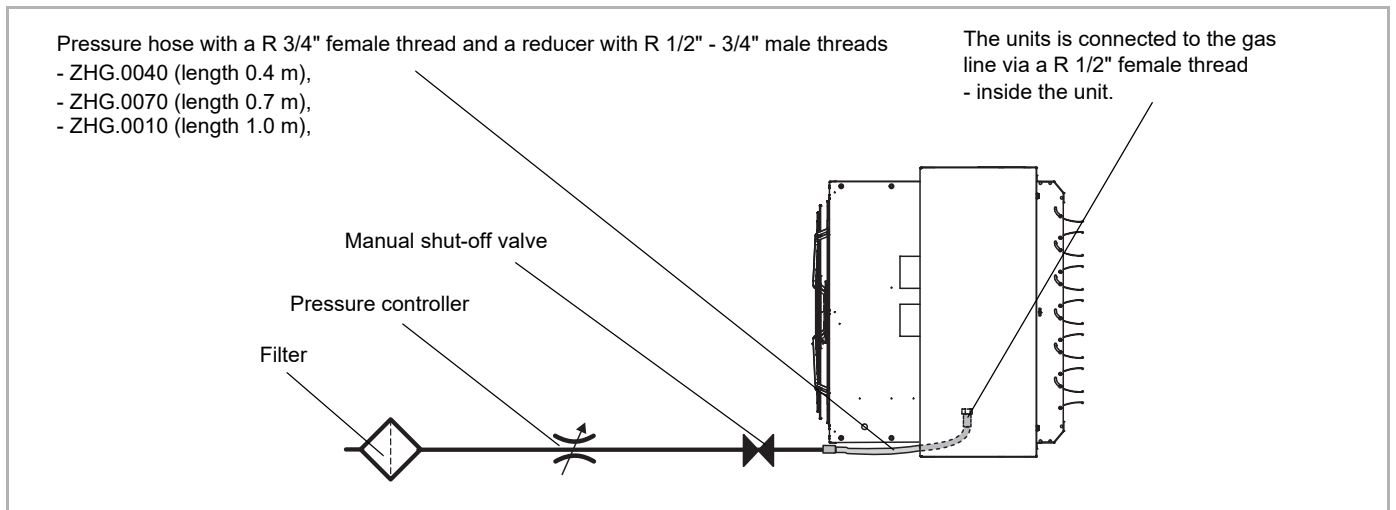


Fig.87: Gas line connection diagram

### Accessories



**Pressure hose R 3/4"**  
 stainless, lengths 0.4, 0.7 and 1m,  
 + a reducer with R 1/2" - 3/4" male threads

ZHG.	0	0	4	0	- length 0.4 m
ZHG.	0	0	7	0	- length 0.7 m
ZHG.	0	0	1	0	- length 1 m

ZHG	0040	0070	0010
L (m)	0,4	0,7	1
Weight (kg)	0,8	1,4	1,9

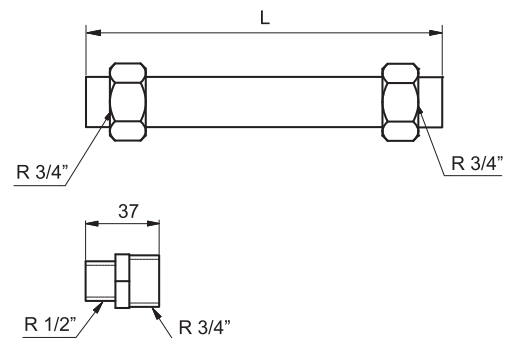


Fig. 88: Pressure hose with a R 3/4" female thread and a reducer with R 1/2" - 3/4" male threads

## Principle of Multi control

- The control system provides the continuous control of the gas burner (a heating power range of 3 fan speed levels can be selected).
- Selecting a HEATING or VENTILATION mode of operation
- The actuator of the mixed-air module (open/close, continuous with poti, limit switches or a return spring) always closes the outside-air supply when the control system is switched off.
- The fan of the unit and the fan of the gas burner continue to run on (200 s) to cool down the heat exchanger and discharge the hot exhaust gas from the flue gas pipework respectively.
- The control system protects the heat exchanger against condensate formation when the unit is started / running and simultaneously against overheating.

## Heating capacity control

### • Room temperature control (see Fig. 90):

- In our example, the desired room temperature  $T_p$  is 21°C.
- If the room temperature comes close to  $T_p - 1^\circ\text{C}$  (20°C), the heating capacity is reduced to 50% of the set heating output.
- When the desired room temperature  $T_p$  (21°C) is reached, the gas burner is heating at its minimum heating capacity.
- If the room temperature exceeds the desired room temperature  $T_p + 1^\circ\text{C}$  (22°C), the following switches off:
  - in the recirculating air unit (U): the gas burner and the fan of the unit
  - in the mixed air unit (U): the gas burner, while the fan keeps running
- If the temperature drops again to the desired value  $T_p$  (21 °C), the unit starts to run again at its minimum power. If the temperature continues to fall to  $T_p - 1^\circ\text{C}$  (20 °C), the unit will start up to 50% of the power initially set. When the temperature drops to  $-1.5^\circ\text{C}$ , the unit starts to run at the power level initially set.

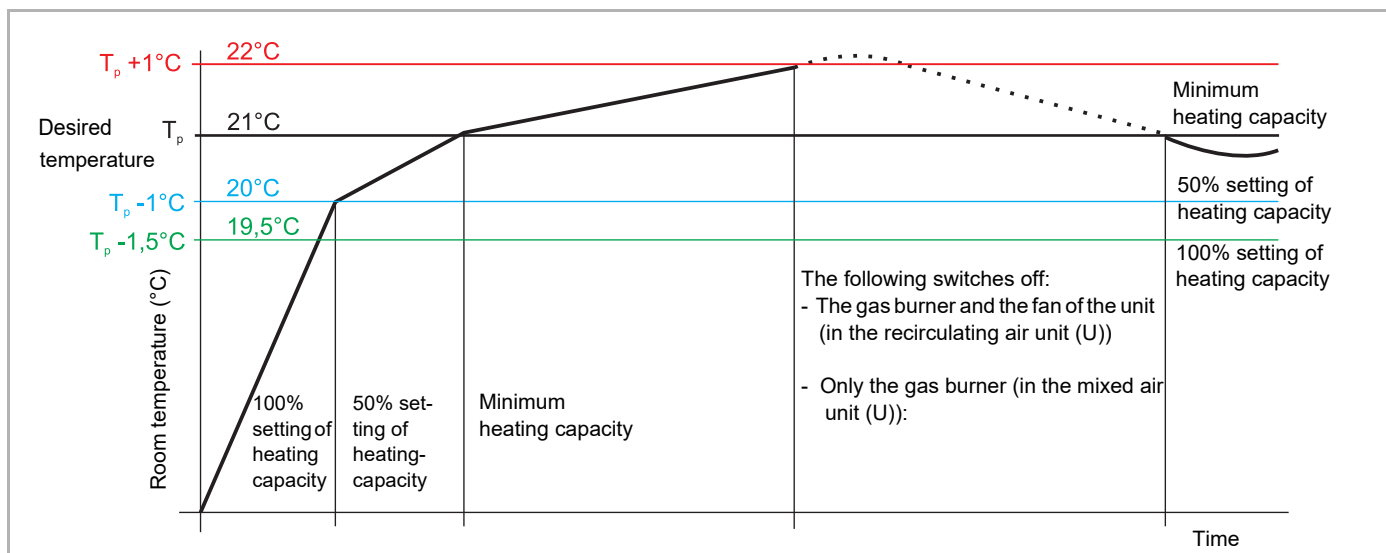


Fig.89: • Room temperature control example

### • Supply air temperature:

The desired supply air temperature is adjusted with this control. The heating capacity of the unit is set according to the desired discharge temperature on the basis of the intake temperature.

If the difference between the set temperature (desired) and the supply air temperature is smaller than that necessary for the minimum heating capacity of the unit, the unit keeps heating at its minimum capacity. If this temperature difference is smaller than 5°C, the burner switches off (the fan keeps running).

If, on the other hand, the temperature difference is bigger than that necessary for the maximum heating capacity of the unit, the unit keeps heating at its maximum capacity.

## Multi control

The Multi control system (a control system for a single unit or multiple units) a mandatory accessory for MultiMAXX HG unit heaters.

### Multi control system - Control panel OSHG 0.EC0M (OSHG 0.000M)

(a control system for a single unit or multiple units, see Fig. 91)

The Multi control system has the control box installed on the side of the unit (HG##.#####.M#) at the factory. The units are operated by control panel OSHG 0.EC0M (OSHG 0.000M) (see Fig. 91) with a graphic display; between 1 and 10 gas heater units can be controlled - the units do not have to be the same type and control mode types can be combined, i.e. desired room temperature or supply air temperature control can be used. If a mixed-air HG##.M#####.M# unit is used, a control box which makes it possible to control accessories (actuator, discharge louvre, damper and mixing chamber control and filter clogging indication) is automatically assigned to it.

We recommend connecting all unit heaters controlled from a single control panel to the same power supply section (in case of malfunction the entire section will be disconnected).

The Multi control system can also be used for a single unit heater with only one control panel OSHG 0.EC0M (OSHG 0.000M).

#### Parameters:

Ambient temperature: 0° C to +40° C

Dimensions (W/H/D): 178 x 138 x 80 mm (can be installed flush)

Weight: 0.7kg

Protection: IP 40

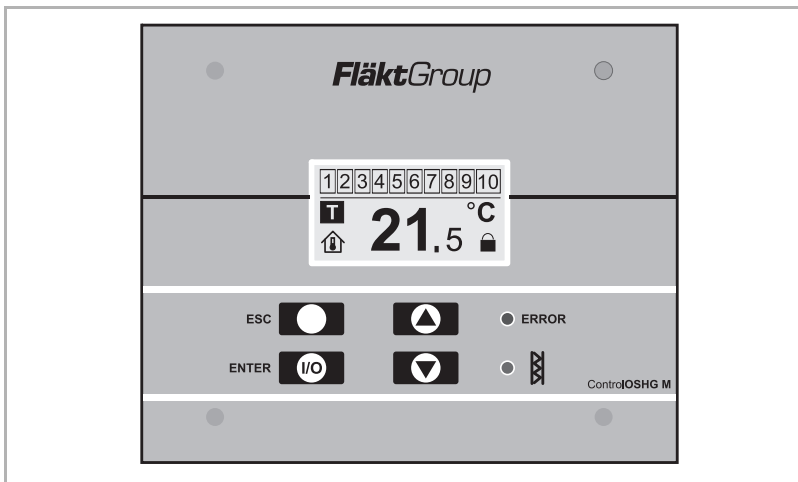


Fig. 90: Control panel OSHG 0.EC0M (OSHG 0.000M)

## Type code

**OSHG**

**0 . 000M**

#### Control

**000M** Control panel Multi (for fans D and E)

**EC0M** Control panel Multi (for fans A, B, R, Y and Z)

**Connection diagram of MultiMAXX HG ##.#####.##M# and control panel OSHG 0.EC0M (OSHG 0.000M) - Multi control**

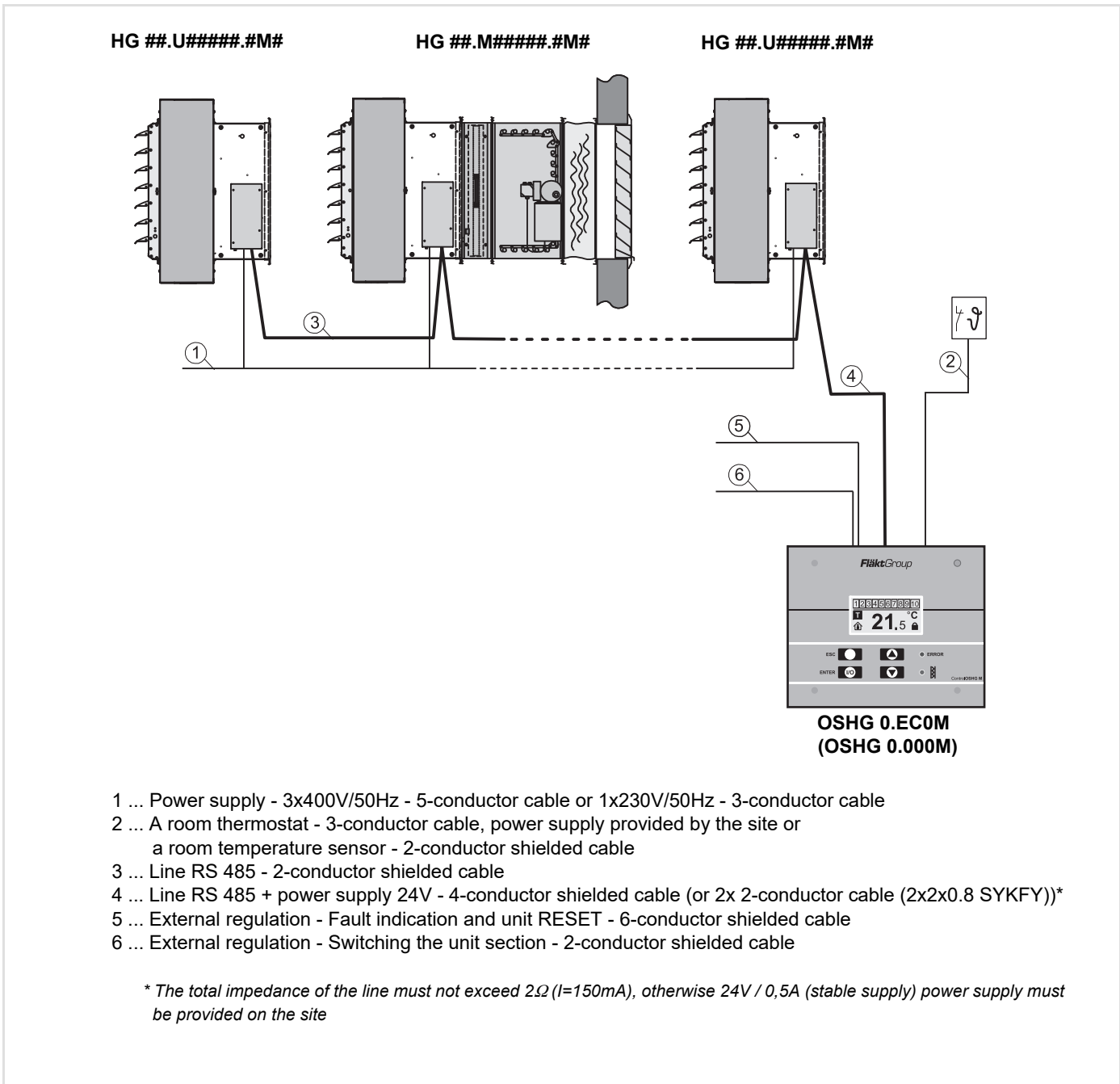


Fig. 91: Multi control connection diagram

## Multi control system - Remote control board OSHG 0.RDDO

(a control system for a single unit or multiple units, see Fig. 93)

The OSHG 0.RDDO remote control board is designed for the remote control of gas unit heaters MultiMAXX HG. The Multi control system consists of the OSHG 0.RDDO control board with clips for mounting on a DIN rail (without a cabinet and a control cabinet installed on the side of the gas unit heater (HG##.#####.#M#) at the factory.

One OSHG 0.RDDO remote control board can be used to control one section of units, each with 1 to 10 units - the units do not have to be the same type and control mode types can be combined, i.e. desired room temperature or supply air temperature control can be used. The remote control board makes it possible to control the heating capacity and supplied air volume of the units. Using an external connection it is possible to operate the units in HEATING or VENTILATION mode. All units in one section will have the same settings that will switch them on. If a mixed-air HG##.M#####.#M# unit is used, a control box which makes it possible to control accessories (actuator, discharge louvre, damper and mixing chamber control and filter clogging indication) is automatically assigned to it. The remote control board is not designed to control accessories. The OSHG 0.RDDO can control only the heating capacity of the units. They all have the same fan speed settings; it is possible to start the fan separately or the fan together with heating.

We recommend connecting all unit heaters controlled from a single remote control board to the same power supply section (in case of malfunction the entire section is disconnected).

### Parameters:

Ambient temperature: 0° C to +40° C  
 Dimensions (W/H/D): 175 x 85 x 30 mm  
 Weight: 0.5kg

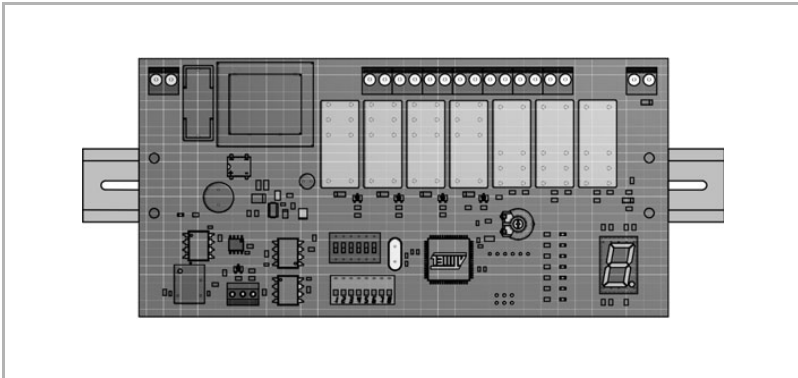


Fig. 92: Remote control board OSHG 0.RDDO

### Type code

OSHG

0

.

RDDO

### Control

**RDDO** Remote control board OSHG 0.RDDO

## Connection diagram of MultiMAXX HG ##.#####.#M# and remote control board OSHG 0.RDDO - Multi control

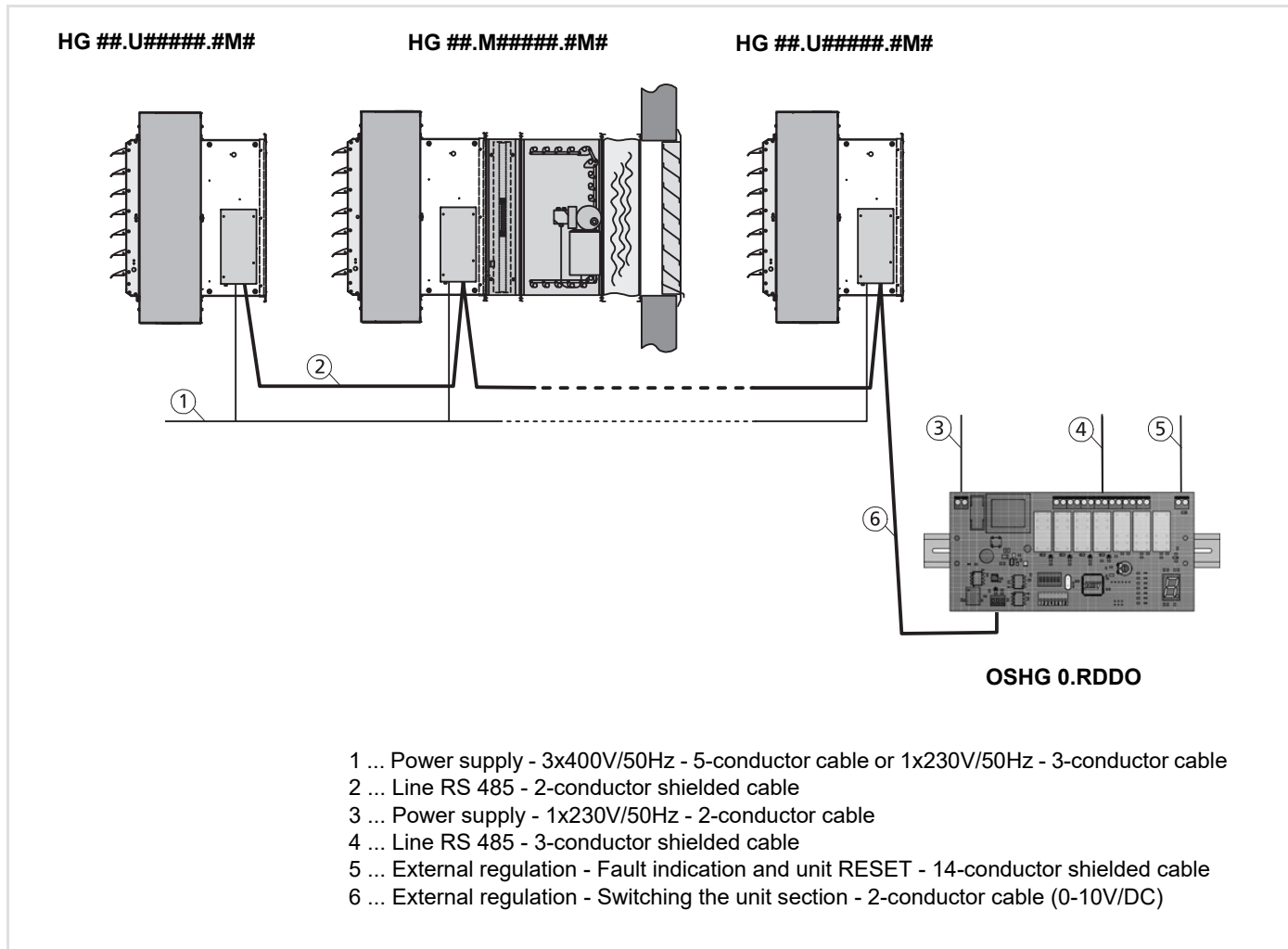


Fig. 93: Multi control connection diagram

## Commissioning

MultiMAXX HG gas unit heaters may only be installed and commissioned by an authorized company with properly trained staff.

Before commissioning it is necessary to conduct an inspection of electrical and gas connections in accordance with standards in force.

After completing installation and commissioning the installer must provide a report on adjusting the burner and its combustion including the values measured and confirm a warranty certificate.

The user must make sure the electrical and heating connections are inspected at regular intervals in accordance with standards in force and maintenance is carried out regularly.

### Industrial room thermostat

For room temperature control. The room thermostat is a closed capillary system.

- Temperature setting range: 0 to 60 °C
- Operating temperature: -10 °C to +65 °C
- Capillary spiral: nickel-coated copper
- Protection: IP 54
- Switching differential: 1.5 +/- 1K
- Output: changeover contact, 250V AC; breaking: 16A resistance, 6A induction; closing: 6A resistance, 4A induction
- Dimensions (W/H/D): 135 x 96 x 87 mm

**Type: 902113**

### Programmable room thermostat

For room temperature control. Day / night switching, weekly program, 2x 1,5V battery AA.

- Temperature setting range: +5 35 °C
- Operating temperature: 0 ... 40 °C
- Protection: IP 30
- Output: 230 V AC: 0,5 - 5 A resistance, 0,5 - 3 A induction, 24 V AC: 0,5 - 5 A resistance, 0,5 - 3 A induction
- Dimensions (W/H/D): 136 x 97 x 26 mm

**Type: 902110**

### Room thermostat REGO

For room temperature detection, a plastic box

- Temperature setting range: +5 35 °C
- Protection: IP 30
- Switching differential: 0.5 ... 1 K
- Output: changeover contact 2 A ohm., 230 V AC
- Dimensions (W/H/D): 102 x 82 x 33 mm

**Type: 972**

### Room temperature sensor

For room temperature detection, a plastic box, sensor PT 1000:

- Protection: IP 20
- Resistance at 0 °C: 1 000 Ω
- Each 1 Ω of the cable line increases the temperature detected by 0.25 °C (I= 887mA)
- Dimensions (W/H/D): 84 x 84 x 22 mm

**Type: 903477**



Fig. 94: Room thermostat 902 113



Fig. 95: Room thermostat 902 110



Fig. 96: Room thermostat 972



Fig. 97: Room temperature sensor 903 47

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