

AIR HEATER ZG-A

Air heaters are used for heating of objects as garages, industrial buildings, workshops ...

Simple construction enables reliable operation and maintenance. By means of an axial fan, air is supplied via heat transmitter through adjustable grilles.

Standard models and designs

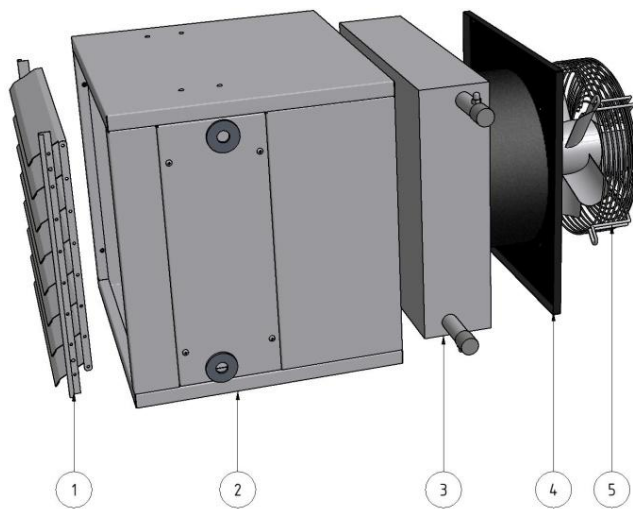
Air heaters are made in five sizes. Basic model is made of a housing, grilles, a heat transmitter, and an axial fan. The housing and the grill are made of coloured tin RAL 9006. Other models are superstructures of the basic model and differ in their venting nature:

- Venting by means of circulating air
- Venting by means of circulating and external air
- Venting by means of external air

Through various air injection nozzles we supply required discharge to the precisely determined place.

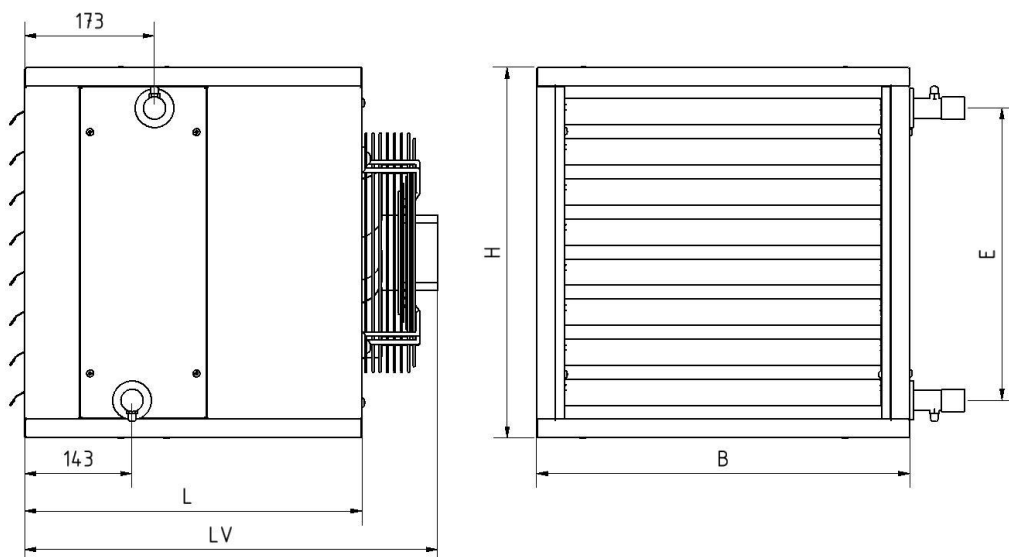
Advantages

- adjustable grilles (blades are interconnected by means of a ledge)
- Simple maintenance of built-in elements
- Single-phase and three-phase fan



Basic heater construction:

1. Adjustable grilles
2. Heater housing
3. Heat transmitter
4. Fan plate
5. Fan



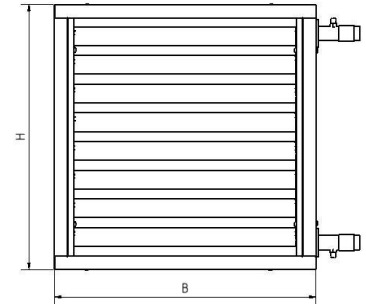
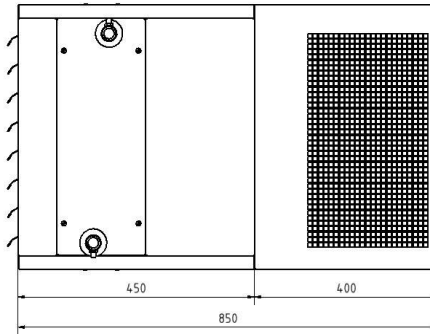
Data as to basic model

Size			ZG-A1	ZG-A2	ZG-A3	ZG-A4	ZG-A5
Housing dimensions	B	mm	498	548	688	838	938
	H	mm	494	544	594	709	895
	L	mm	450	450	450	450	450
	LV	mm	580	580	575	575	585
	E	mm	390	390	446	609	746
Air flow	Q	m ³ /h	1000-1500	1600-2500	2600-4000	4100-5500	5600-7500
Fan data	power	W	150	180	250	420	500
	current	A	0,7	0,8	1,2	1,85	2,4
	No. of revolutions	v/min	1380	1380	1350	1300	1300
	condenser	µf/V	4/400	6/400	8/400	10/400	10/400
	power supply	V/Hz	230/50				
Water connections	Ø	0,75"					
Total weight (*)	kg	20,5	23	29	37,5	47	

(*) excl. bearing consoles

Combinations of basic model for circulating, external, and mixed air

Models P and M

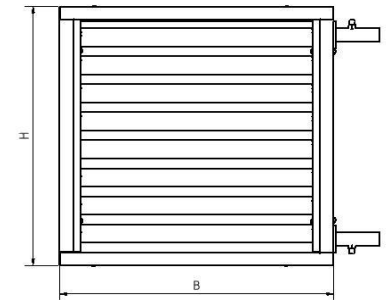
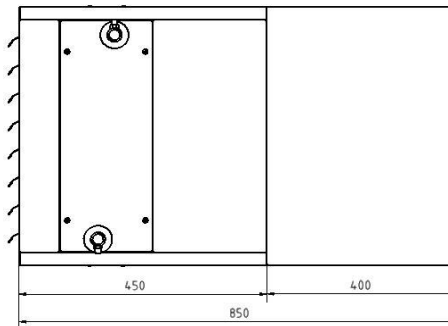


P model is used for heating and purifying of the primary (circulating) air. The basic unit is supplemented with an unit featuring perforated net enabling air supply from the environment. As per request of a customer, a filter additionally purifying air at its entry is fitted onto the net.

Size	ZG-A1	ZG-A2	ZG-A3	ZG-A4	ZG-A5
B mm	498	548	688	838	938
H mm	494	544	594	709	895

M model is used for heating and venting by means of mixing of the primary and the external air. For optimal mixture we apply flaps integrated in the unit.

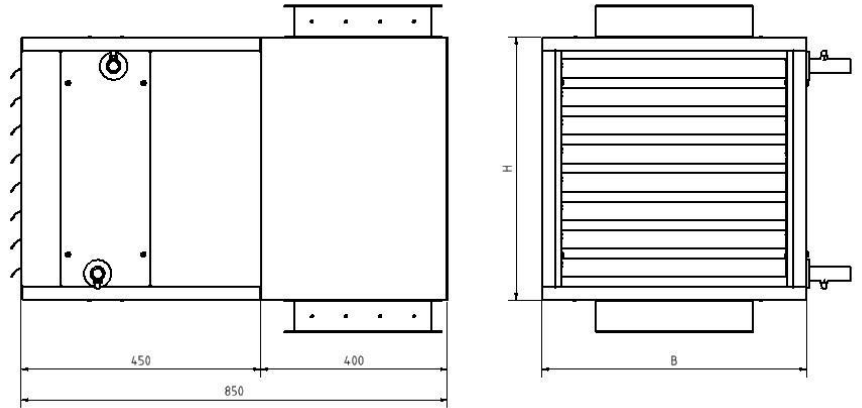
E model



Size	ZG-A1	ZG-A2	ZG-A3	ZG-A4	ZG-A5
B mm	498	548	688	838	938
H mm	494	544	594	709	895

E model is used for heating and venting by means of the external air. Teh basic unit is supplemented with an unit for connection onto the external wall.

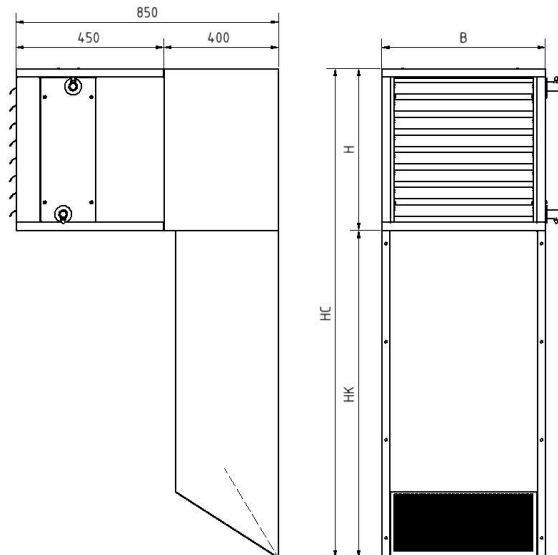
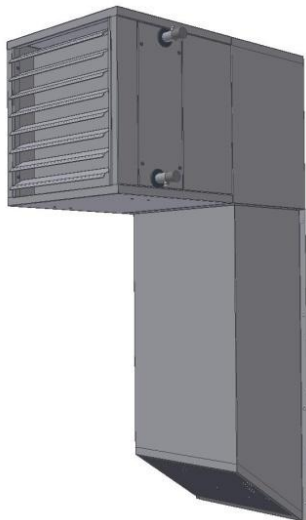
Model MZ



Velikost		ZG-A1	ZG-A2	ZG-A3	ZG-A4	ZG-A5
B	mm	498	548	688	838	938
H	mm	494	544	594	709	895
L	mm	850	850	850	850	850

MZ model is used for heating and venting, by means of mixing of the primary and the external air. To ensure optimal mixture we apply counterrotating grilles for setting of required air inflow.

PV and MV models



MV model is used for heating and venting by means of mixing of the primary and the external air. For optimal mixture we apply flaps integrated into the unit.

Size		ZG-A1	ZG-A2	ZG-A3	ZG-A4	ZG-A5
B	mm	498	548	688	838	938
H	mm	494	544	594	709	895
HK	mm	1000	1000	1250	1500	1500
HC	mm	1494	1544	1844	2338	2438

PV model is used for heating and purifying of the primary (circulating) air. The basic unit is supplemented with a channel, sucking the air above ground. Advantage of this unit is a better circulation of air in a room. It is intended for higher heights. As per request of a customer, a filter additionally purifying the air entering the unit is fitted onto the unit.

ADDITIONAL FITTINGS:

Additional fittings include various nozzles for air blast into a room. Given the need of a user, we thus ensure required air inflow quality. With the fittings, there is no grill on the fan-heater.

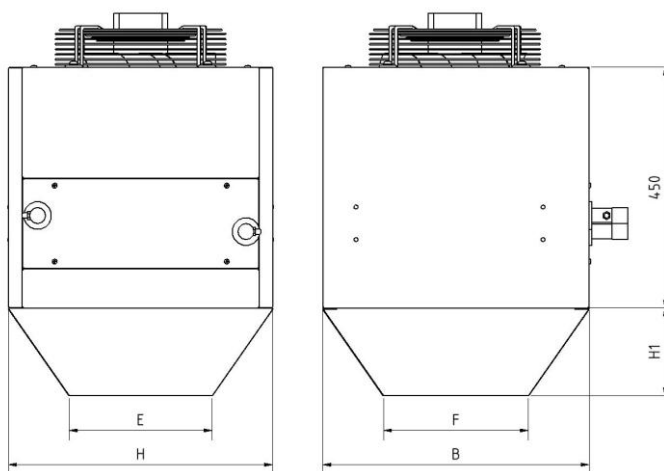
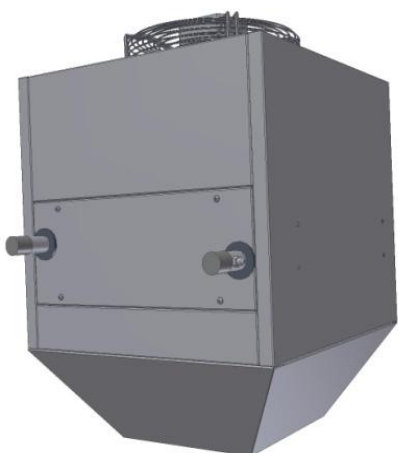
Regarding purpose there are three types of snouts/nozzles available:

REDUCTION CHANNEL enables higher ranges and is suitable for build-in in higher rooms.

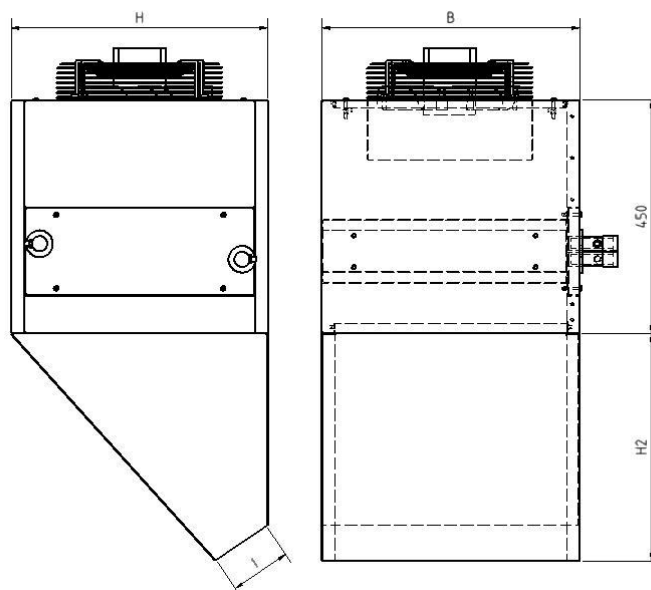
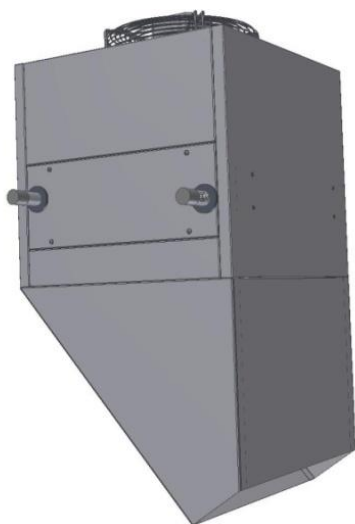
AIR CURTAIN prevents inflow of the external air at the door. The air jet is to be directed above the door, directly.

FOUR-SIDED BLAST enables even distribution of air in the room.

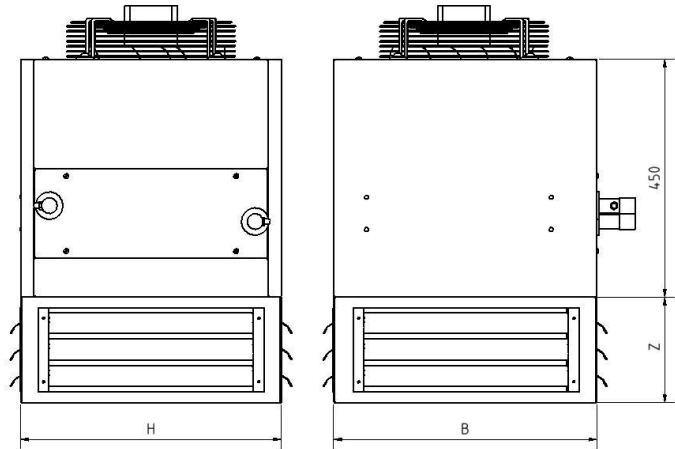
Reduction channel R



Curtain C



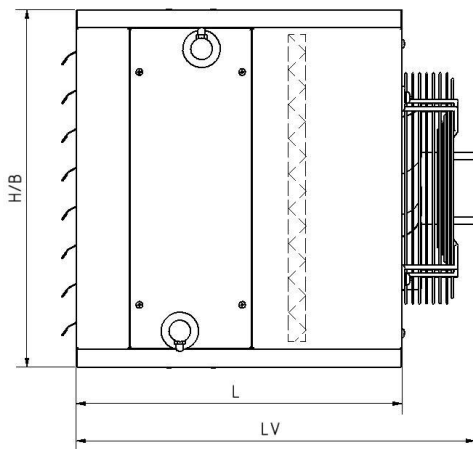
FOUR-SIDED BLAST



		Size	ZG-A1	ZG-A2	ZG-A3	ZG-A4	ZG-A5
REDUCTION CHANNEL/R	B	mm	498	548	688	838	938
	H	mm	494	544	594	709	895
	E	mm	270	290	300	370	500
	F	mm	274	294	394	499	543
	H1	mm	180	200	250	300	350
CURTAIN /C	I	mm	150	160	180	220	290
	H2	mm	340	400	500	600	700
FOUR-SIDED BLAST /FB	Z	mm	200	200	250	250	250

Table of dimensions for additional fittings

Filter F



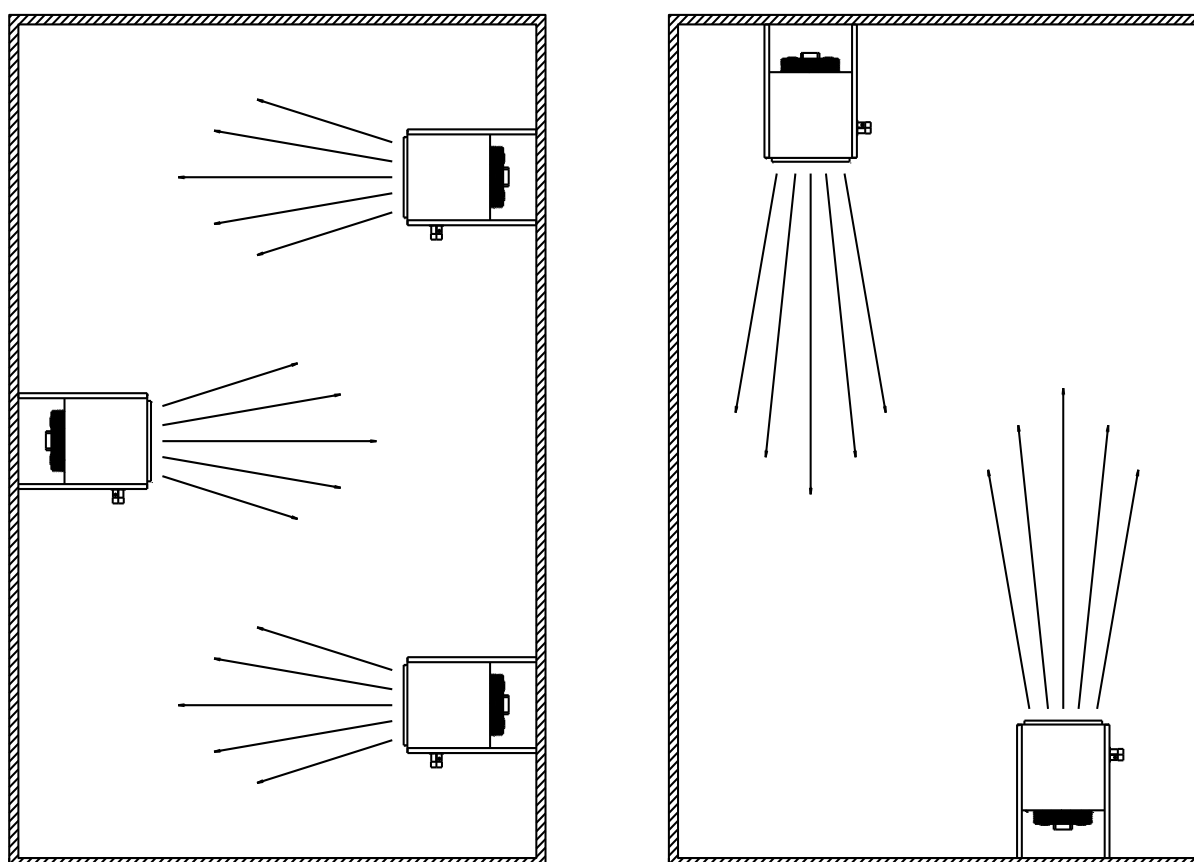
As a supplement, a filter may be built into each unit. Said filter enables cleaning of the circulating or the External air. The built-in filter is of G3, G4 or F5 quality.

Mounting instruction

Optimal heating performance of certain room is subject of the right choice and right installation of a heater in a room. Air distribution into a room is to proceed evenly, which can only be achieved by selecting the right size of a heater. In selecting of size we are to consider air resistance for it tends to increase with every built-in element. At building in of a heater we are to consider thata the distance from the floor and the mutual distance is the right one so that no air mixing or air blast directly to people occurs. Adjustable slats achieve optimal distribution of air in a room.

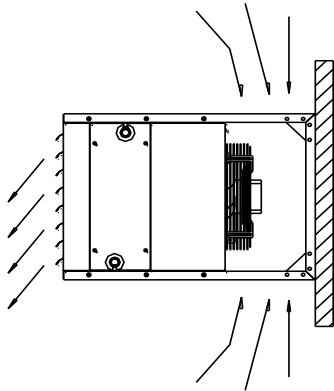
At mountings on the ceiling in case of lower heights we use the basic cell, while with higher heights (above 5 m) we use a nozzle for broared range.

Correct installation of heaters in a room.

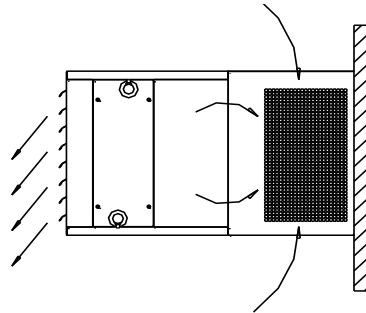


Mounting of heaters (wall build in)

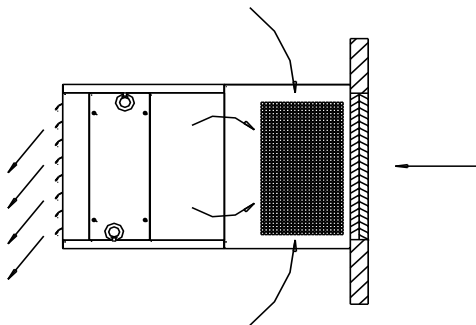
Basic model ZG-A



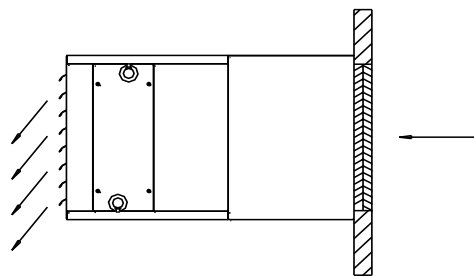
P model



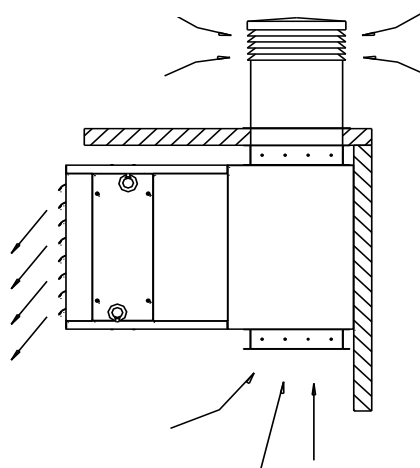
M model



E model

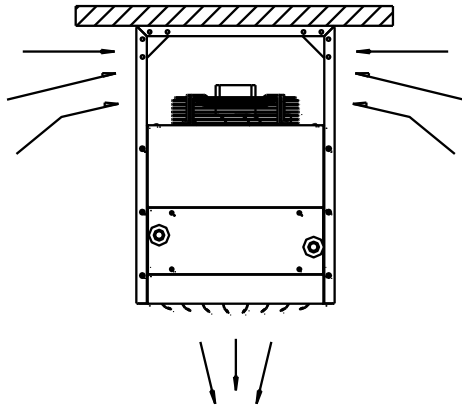


MZ model

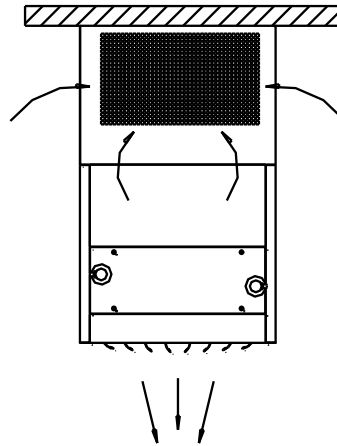


Mounting of heaters (ceiling build-in)

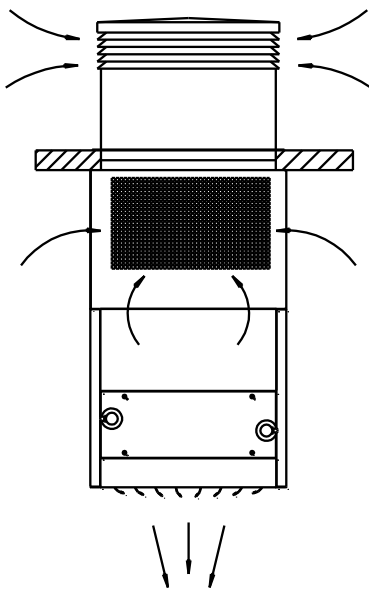
Basic model ZG-A



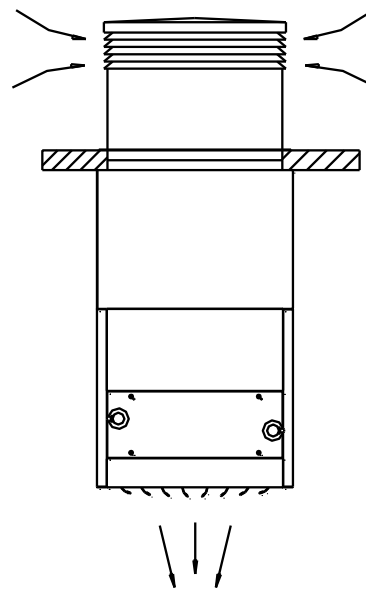
P model



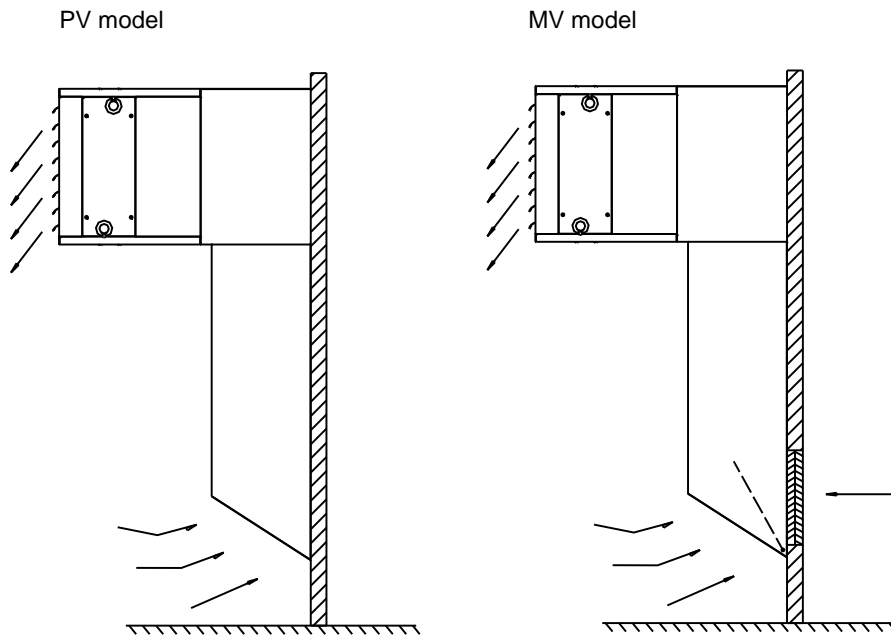
M model



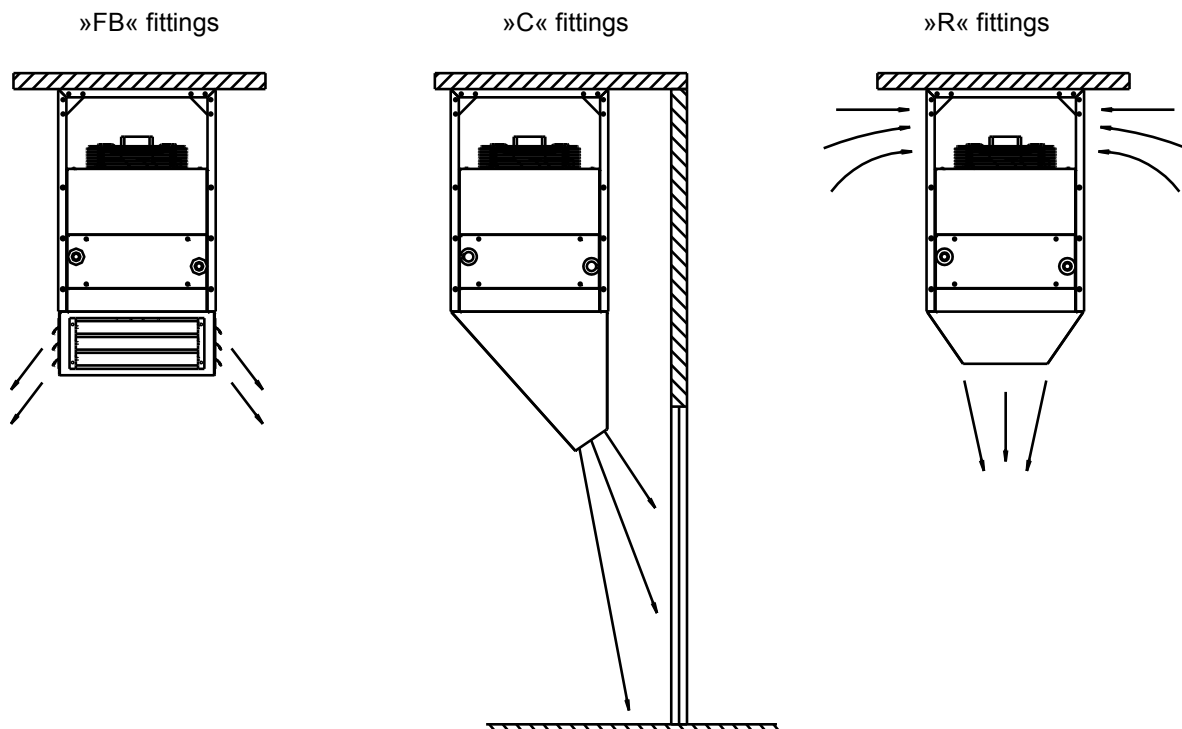
E model



Installation of heaters (wall build in – higher heights)



Installation of heaters (ceiling build-in – additional fittings)



Heater technical data:

Medium – warm water

2-grade exchanger																					
Model		ZG-A1 (470x440x120)				ZG-A2 (520x490x120)				ZG-A3 (660x540x120)				ZG-A4 (810x655x120)				ZG-A5 (910x840x120)			
Air flow (m ³ /h)		1000		1500		1600		2500		2600		4000		4100		5500		5600		7500	
Water T	t _v (°C)	Q(kW)	t _i (°C)	Q(kW)	t _i (°C)	Q(kW)	t _i (°C)	Q(kW)	t _i (°C)	Q(kW)	t _i (°C)	Q(kW)	t _i (°C)	Q(kW)	t _i (°C)	Q(kW)	t _i (°C)	Q(kW)	t _i (°C)	Q(kW)	t _i (°C)
90/70 °C	-15	19,61	42,30	25,41	34,50	28,25	36,60	36,89	28,10	45,37	36,00	58,58	27,80	71,93	36,30	85,99	30,70	100,85	37,70	120,57	32,00
	-10	18,54	44,20	24,00	36,70	26,63	38,70	34,78	30,70	42,80	38,10	55,26	30,40	67,86	38,40	81,09	33,10	95,25	39,70	113,80	34,40
	0	16,36	47,80	21,16	41,20	23,45	42,90	30,57	35,80	37,73	42,40	48,64	35,60	59,78	42,60	71,36	37,90	84,01	43,80	100,27	39,10
	10	14,19	51,50	18,32	45,70	20,27	47,10	26,36	40,80	32,65	46,70	42,03	40,70	51,70	46,90	61,64	42,80	72,73	48,00	86,70	43,80
	15	13,10	53,30	16,90	47,90	18,67	49,20	24,26	43,40	30,12	48,90	38,70	43,30	47,66	49,00	56,78	45,20	67,10	50,00	79,93	46,20
	20	12,02	55,10	15,47	50,10	17,07	51,20	22,16	45,90	27,58	51,00	35,39	45,90	43,60	51,10	51,92	47,60	61,48	52,10	73,17	48,50
80/60 °C	-15	17,33	35,60	22,42	28,70	24,83	30,40	32,38	22,90	39,96	29,90	51,53	22,70	63,31	30,10	75,58	25,20	88,98	31,40	106,22	26,40
	-10	16,24	37,50	21,00	30,90	23,24	32,50	30,28	25,40	37,42	32,10	48,23	25,30	59,28	32,30	70,73	27,60	83,33	33,50	99,42	28,80
	0	14,07	41,10	18,16	35,40	20,06	36,70	26,07	30,50	32,36	36,40	41,60	30,40	51,21	36,50	60,02	32,40	72,10	37,60	85,91	33,50
	10	11,90	44,80	15,32	39,80	16,88	40,90	21,88	35,60	27,28	40,70	35,00	35,60	43,12	40,70	51,29	37,30	60,87	41,80	72,41	38,20
	15	10,81	46,60	13,90	42,10	15,29	43,00	19,79	38,20	24,74	42,80	31,70	38,20	39,08	42,90	46,44	39,70	55,22	43,80	65,62	40,60
	20	9,72	48,40	12,48	44,30	13,70	45,10	17,89	40,70	22,21	45,00	28,39	40,80	35,05	45,00	41,59	42,10	49,59	45,90	58,86	43,00


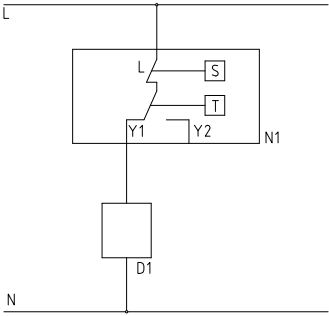

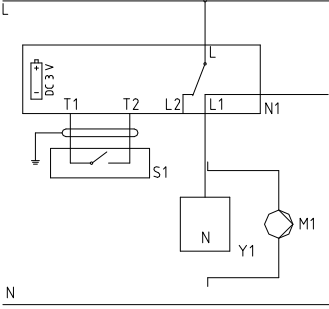

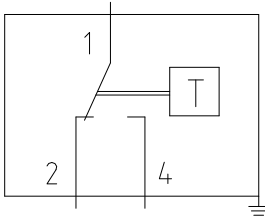
3-grade exchanger																					
Model		ZG-A1 (470x440x120)				ZG-A2 (520x490x120)				ZG-A3 (660x540x120)				ZG-A4 (810x655x120)				ZG-A5 (910x840x120)			
Air flow (m ³ /h)		1000		1500		1600		2500		2600		4000		4100		5500		5600		7500	
Water T	t _v (°C)	Q(kW)	t _i (°C)	Q(kW)	t _i (°C)	Q(kW)	t _i (°C)	Q(kW)	t _i (°C)	Q(kW)	t _i (°C)	Q(kW)	t _i (°C)	Q(kW)	t _i (°C)	Q(kW)	t _i (°C)	Q(kW)	t _i (°C)	Q(kW)	t _i (°C)
90/70 °C	-15	24,59	56,80	32,73	48,80	36,41	51,50	49,04	42,30	58,11	50,40	77,25	41,50	93,05	51,40	113,57	45,40	129,52	52,60	158,09	46,60
	-10	23,26	57,90	30,97	50,30	34,38	52,90	46,28	44,20	54,88	51,70	72,90	43,30	87,96	52,70	107,26	47,00	122,49	53,90	149,40	48,30
	0	20,58	60,10	27,36	53,30	30,36	55,50	40,79	47,70	48,51	54,60	64,28	47,00	77,74	55,40	94,72	50,30	108,37	56,60	131,98	51,50
	10	17,90	62,30	23,74	56,20	26,36	58,20	35,32	51,30	42,10	57,40	55,66	50,70	67,59	58,20	82,16	53,70	94,18	59,20	114,59	54,70
	15	16,56	63,40	21,93	57,70	24,36	59,60	32,58	53,10	38,89	58,80	51,35	52,50	62,45	59,50	75,84	55,30	87,18	60,50	105,90	56,30
	20	15,21	64,40	20,12	59,20	22,34	60,90	29,83	54,90	35,66	60,10	47,01	54,40	57,34	60,90	69,55	57,00	80,70	61,80	97,14	57,90
80/60 °C	-15	21,78	48,60	28,96	41,40	32,14	43,80	43,19	35,50	51,36	42,80	68,06	34,80	82,29	43,70	100,29	38,30	114,73	44,90	139,76	39,50
	-10	20,44	49,70	27,16	42,90	30,14	45,10	40,46	37,30	48,16	44,20	63,76	36,60	77,20	45,00	94,03	40,00	107,67	46,20	131,08	41,10
	0	17,76	51,90	23,55	45,90	26,14	47,80	35,00	41,00	41,75	47,00	55,15	40,30	67,04	47,80	81,45	43,30	93,56	48,80	113,72	44,30
	10	15,07	54,00	19,94	48,80	22,12	50,50	29,51	44,50	35,32	49,70	46,51	44,00	56,80	50,50	68,89	46,60	79,41	51,40	96,28	47,50
	15	13,74	55,50	18,12	50,30	20,11	51,80	26,78	46,30	32,11	51,10	42,20	45,80	51,69	51,90	62,61	48,30	72,29	52,70	87,57	49,10
	20	12,39	56,20	16,30	51,80	18,09	53,10	24,04	48,10	28,87	52,50	37,88	47,70	46,56	53,20	56,28	49,90	65,18	54,00	78,84	50,70

t_v (°C) – incoming air T

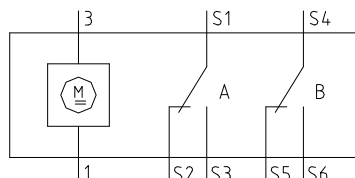
t_i (°C) – exiting air T

Q (kW) – heat power

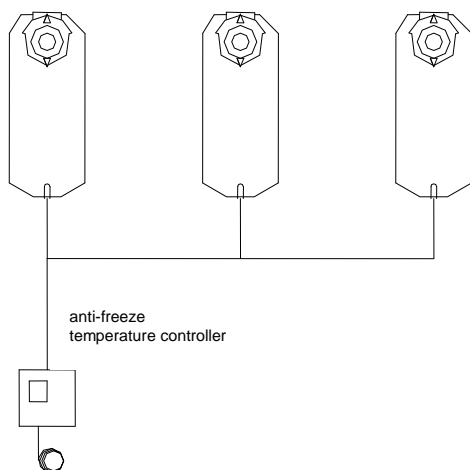
Regulation:

<p>Room temperature controller RAA 30</p> 		<ul style="list-style-type: none"> - AC 24...250V - stikalo ON/OFF - prekinjanje el. toka 0,2-6 (2)A - temperaturno. območje 8°C do 30°C - IP 30 - dim. 96,4x99,6x42,8
<p>Room temperature controller REV 24</p> 		<ul style="list-style-type: none"> - AC 24...250V - DC 3V - Batteries (alkaline AA) 2x1,5V - Elec.current flow 6(2,5)A - Temperature range 5°C to 40°C - IP 20 - dim. 134,5x94x30
<p>Anti-freeze temperature controller</p> 		<ul style="list-style-type: none"> - AC 250 V - Elec.current flow 10(2)A - Temperature range - 5°C to +15°C - IP 54 - dim. 106x85x37

Electromagnetic drive GMA 321-1E



- AC 230V
- power 7VA/4.5W
- 7 Nm
- Opening time 90 s
- Closing with return spring (15 s)
- Revolving angle 90 °
- IP 54
- dim. 190x81x63



Models of heaters applying the external air are to include appropriate anti-freeze protection. For this purpose, a louver with motor drive is built in at the external air entry. Said louver closes automatically as the T falls under the required level. For anti-freeze protection a temperature controller is applied, where the required T of the external air is set. One or several drives can be connected to the temperature controller.

Key for ordering:

ZG - A1 - 2 - STR - M - R - F - ZR - 1

