Industrial Heating Technology

PAKOLE

Your comfort is our success

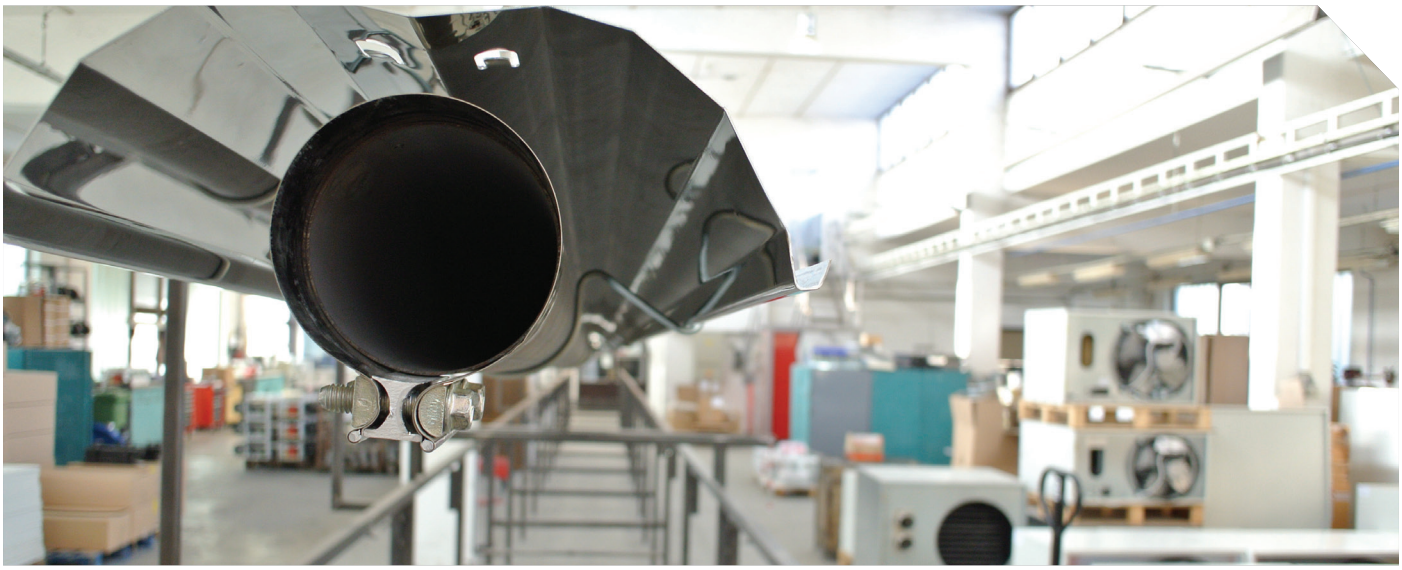
2020 – 2021

www.pakole.com

„It does not matter what you do, but one thing is certain, if you do it with pleasure and passion, you will be successful…”

GYULA KOVÁCS | THE FOUNDER OF THE CORPORATE GROUP

A few words about Us



Our company has been developing its products and production methods since its foundation in order to guarantee the outstanding quality of its products.

The PAKOLE corporate group has been a determinant member of the industrial heating technical market for more than 25 years and our products are referred to in Europe as a synonym of quality. Since the beginning of the 90s we have been manufactured many hundreds of heating device models in our four standard categories and these models are transported into 18 foreign countries besides Hungary. All our heating devices meet the requirements of the highest norms, like the CE, EMC, GOST and they have Ukrainian, Croatian and Serbian certificates.

CURIOSITY

Our company was one of the first companies in Europe that started producing tube radiant heaters with under-blowing system, which have been produced by many of our concurrent companies since then.

- **Self-developed high-quality heating devices**
- **Constant research and development**
- **Efficient production from excellent-quality materials**
- **High-qualified, helpful product-support team**
- **Extended service partner system in 24 European towns**
- **Free technical assessment and technical offer**

Production and service on the highest standard!

Our references

The most important thing during the designing and assembling of our devices is that they can serve the requirements of our customers completely and in a reliable way.

Alcoa–Köfém
Székesfehérvár, Hungary

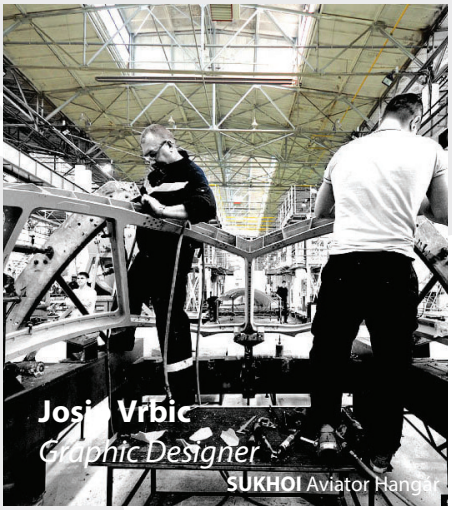
"We haven't had any heating problems in the past 20 years"

The project of the heating system development started in the 90s on the site of Alcoa–Köfém in Székesfehérvár. Our company installed more than 1500 heating devices all over this industrial park due to this project. The two companies have had a great relationship and thanks to a very strong cooperation our company always takes part on the development of all parts of the site or on the building of new facilities.

Intersteel
Košice, Slovakia

"We had to pay for service after 15 years"

The company Intersteel with its site in Košice has been constantly decentralising its whole heating system since the middle of the 90s. 90% of the heating of the facilities on the site was realised through our GH ceramic heaters, which have been functioning flawless until now in spite of the fact that in most cases the technical pollution of the halls is extraordinary high. The substitution of the devices planted 15 years ago started in 2010.



SUKHOI Factory
Novosibirsk, Russia

"The devices provided 25°C even if there was –35°C outside"

We installed the complete decentralised heating system in the halls of the SUKHOI airliner factory. During this project we had to meet many unconventional requirements. One of them was the extremely low measurement temperature (-35°C), further our devices have to be able to provide a constant temperature of +25°C in some parts of the halls due to technical reasons. More than 200 of our tube radiant heaters and nearly 150 air heaters function on the plant.

Our own Products

The devices manufactured by us have been developed by our engineers. All of these developments are the result of experimental research during long years and that of the experience collected in more than 30 years.

ZENIT — Tube radiant heaters

An efficient and extremely economical solution for heating tasks in medium and large air halls. The use of radiant heating solutions can save up to 20-30% compared to other conventional systems.

ZENIT 70⁺ — Tube radiant heaters

Thanks to the insulated reflecting shield, the radiation efficiency of the device is improved, which can exceed 70%, thus reducing the amount of gas used compared to classic devices.

VARIANT — Tube radiant heaters

It is suitable for heating tasks of any kind of medium or high ceiling facility.
With a suction fan, several devices can be operated, so even one wall / roof passage is sufficient inside a building.

ZENIT 80⁺ — Tube radiant heaters

Thanks to the permanently closed insulated reflecting shield, the radiation efficiency of the device is improved, which can exceed 80%, thus further reducing the amount of gas used compared to classic devices.

GHI / ECO — Ceramic heaters

In order to increase the efficiency of the ceramic heaters, we manufacture a cheaper, dual layer reflective shield (GHI ECO) or a more efficient, insulated reflective shield (GHI), which also meet the requirements of the ErP standard, so they can be equipped with a modern heating system.

GH — Ceramic heaters

Our GH type radiators are not ErP certified, so they can only be used for technological heating from 2018 within the European Union. Instead try to use GHI or GHI-ECO products.

GTV - E — Forced convection air heaters

A device family recommended for the implementation of heating tasks in low and medium ceiling buildings. Energy efficiency and low emissions are guaranteed by compliance with the ErP certificate.

GTV — Forced convection air heaters

From 2018, our classic GTV devices can only be used for technological heating within the European Union.

GTV Condens+ — Forced convection air heaters

A family of condensing devices recommended for heating tasks in low and medium ceiling buildings. Higher energy efficiency and low emissions are guaranteed by compliance with the ErP certificate.

LH — Direct operation air heaters

We recommend it for agricultural facilities where the devices are exposed to high concentrations of contaminants and nevertheless long-term reliable operation must be ensured.

Our retailed Products

We choose our own trade-named heating devices with the highest care and our first priority is that they meet the highest requirements of our customers.

SIERRA Brooders

Our brooders function on the principle of heat radiation and they can be applied in every animal-breeding facility where suitable conditions must be provided for the stock locally or everywhere. Its strong, long life-capacity design and the carefully chosen materials guarantee the long, continuous and reliable functioning.

MVT Thermoventilators

Our hot water or electric heating element operation air heaters are perfectly suitable for any heating solutions. They can be operated with inner or external air circulation, but even in a partial re-circulation mode.

AFR Thermoventilators

AFR thermoventilators with modern design and reliable operation are recommended to be used mainly in large buildings and halls.

ACR Hot-air curtain units

The high efficiency and modular construction of ACR air curtains make them perfectly suitable for the thermal control of industrial halls (gates).

KL Hot-air curtain units

Our air curtain air heaters in many models can exclude the outside cold air from the heated room. You can operate them only with the usage of the inner air, but their efficiency can be improved also with hot water or with electric heating support.

MSP Hot water radiant panel

MSP hot water radiant panels offer an alternative to classical radiant heaters and centralized hot water heating systems. If installed at lower heights, these ceiling-mounted radiant panels give the same sensation of warmth as radiant heaters, which ensures significant energy savings compared to conventional convective heating solutions.

LLV Air destartifiers

Our destratifier ventilators are recommended as a complement technical solution in halls with large inner space where the convective technology or the heating air get stuck under the ceiling and it should be led back to the useful heating space.

ATG Standing solution thermogenerators

The standing solution thermogenerators provide an extraordinary wide choice of applicability. They are suitable for the heating of halls with large– and small inner height through direct blowing, but these very same tasks can be carried out by the transformation of the device into a complete air-management device, but it can be used for even technological purposes.

ZENIT

We have been manufacturing and selling our **ZENIT** tube radiant heaters for more than 15 years now during which period we managed to create the highest possible quality device due to the continuous research and development. One defining element of quality is that we use only the best materials during the production.

Another contributing factor of the quality of our devices is that after the production only those products are exported from our plant that passed the final examination during which the data given by the customer were set-up. The appliance operates on the basis of radiant heating. The combustion products of burned up gas and air mixture flow through the thin-walled browned pipes and warm it up thus the aluminium reflector shields, which have the best reflecting ability, radiate the produced heat to the target area. As for their design there are two different configurations: "L" – linear design and "U" – U-shaped design. They can be operated in three ways: by OFF-ON switching, by two-point, either in 100% or 50% mode or by scale-free **modulation** control. There are **significant differences** as regards saving between the modes.

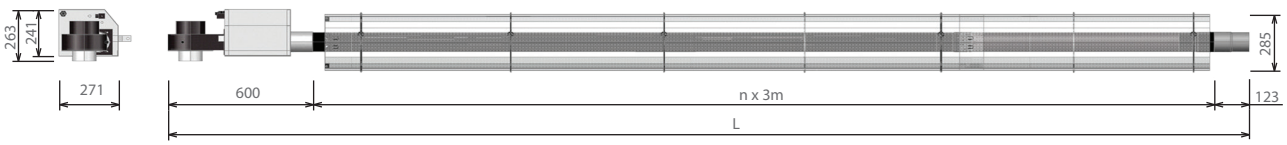
- Unique mode regulation, it can be modified by 2 kW
- Removable burners, easy maintenance
- Polygon section reflector profile for higher radiation efficiency
- Easy installation, can be mounted horizontally or in a tilted way
- Easy-to-handle 3m-long cardboard boxes
- 2-year complete warranty

CURIOSITY

In connection with the application of tube radiant heaters with an under-blowing system few consider the advantages that arise from their design. Such an advantage may be that the installation and operation of the devices are extremely easy, since the burning-air ventilator gets immediately into its position through the installation of the burner, because it had been set to the capacity earlier, during the production. Thus only the fine tuning of the device should be carried out on the spot, which makes the installation significantly shorter.

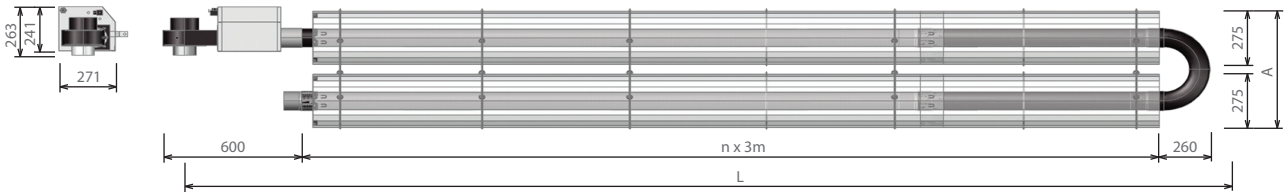
ZENIT "L" – linear design tube radiant heaters

Type		L6	L9	L12	L15	L18	L21*
Input Power [kW]		12...20	16...28	22...36	28...46	34...50	38...58
Full length L [m]		6.65	9.57	12.50	15.42	18.35	21.27
Width [mm]		298					
Height [mm]		271					
Weight [kg]	Netto	42.9	57.1	71.3	85.5	99.7	113.9
	Transport	50.5	64.7	78.9	97.3	111.5	125.7
Average electric consumption [W]		110					
Electrical connection		One phase 230V / 50Hz					
Part-number		Based on price list					
3-point regulation Part-number		**3970**					
Modulation regulation Part-number		**9806**					



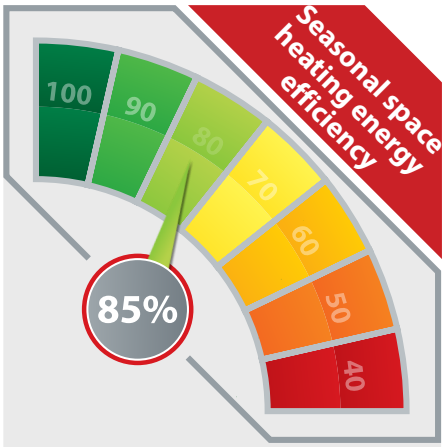
ZENIT „U" design tube radiant heaters

Type		U3	U4,5	U6	U7,5	U9	U10,5*
Input Power [kW]		12...20	16...28	22...36	28...46	34...50	38...58
Full length L [m]		3.86	5.29	6.79	8.21	9.71	11.14
A - Width before 2021 [mm]		615					
A - Width after 2021 [mm]		585					
Height [mm]		271					
Weight [kg]	Netto	46.0	60.5	74.6	89.1	103.3	117.8
	Transport	53.7	68.2	82.3	101.0	115.1	129.6
Average electric consumption [W]		110					
Electrical connection		One phase 230V / 50Hz					
Part-number		Based on price list					
3-point regulation Part-number		**3970**					
Modulation regulation Part-number		**9806**					



***In case of the application of a marked device, please, always contact our product engineer colleagues.**

ZENIT 70+



The **ZENIT** 70+ tube radiant heater models are based on the technical solutions of the standard models, the only difference is that during the design of these devices the top priority was the creation of the best possible efficiency as regards radiational heat transmission.
The **82–86%** seasonal heating efficiency is outstanding among the devices functioning with the same principle and the otherwise high energy-saving ability resulting from the sensed temperature can be further increased.
The device functions on the principle of **heat radiation** just like the standard model the basis of which is that combustion products of the burned up gas and air mixture flowing through the thin-walled browned pipes warm up the radiating pipe and the produced heat is radiated to the target area by the heat-reflecting shields. As for their design there are two different configurations "L" – linear design and "U" – U-shaped design and they can be operated in three ways, by OFF-ON switching, by two-point, either in **100%** or **50%** mode or by scale-free **modulation** control.
Further advantages:

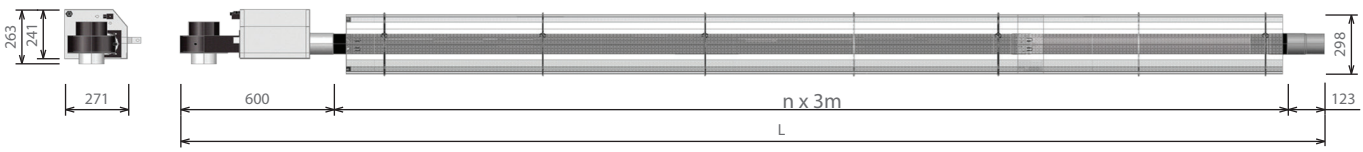
- Unique mode regulation, it can be modified by 2 kW
- Removable burners, easy maintenance
- Polygon section reflector profile for higher radiation efficiency
- Outstanding quality Insulfrax® thermal insulation material
- Easy-to-handle 3m-long cardboard boxes
- 2-year complete warranty

CURIOSITY

It is important to stress in case of the tube radiant heaters with insulated reflecting shield that thanks to the increased radiational efficiency they need approximately 10–15% less power to provide the same temperature sensation in the heated room compared to the standard models. This saving is remarkably significant, especially if we consider that devices operating on radiational principle provide 15%–20% savings in comparison with other convective heating solutions.

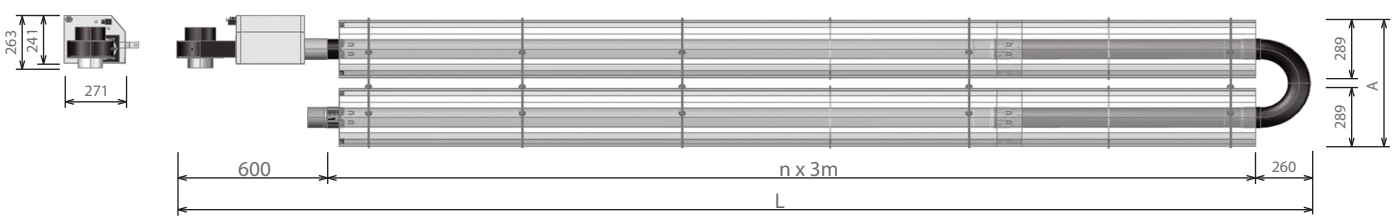
ZENIT 70+ Linear "L" design tube radiant heaters

Type		L6	L9	L12	L15	L18	L21
Input Power [kW]		12...18	14...24	20...32	26...42	26...42	30...48
Full length L [m]		6.65	9.57	12.50	15.42	18.35	21.27
Width [mm]		298					
Height [mm]		271					
Weight [kg]	Netto	69.3	96.7	124.1	151.5	178.9	206.3
	Transport	76.5	103.9	131.3	163.07	191.1	218.5
Average electric consumption [W]		110					
Electrical connection		One phase 230V / 50Hz					
Part-number		Based on price list					
3-point regulation Part-number		**3970**					
Modulation regulation Part-number		**9806**					

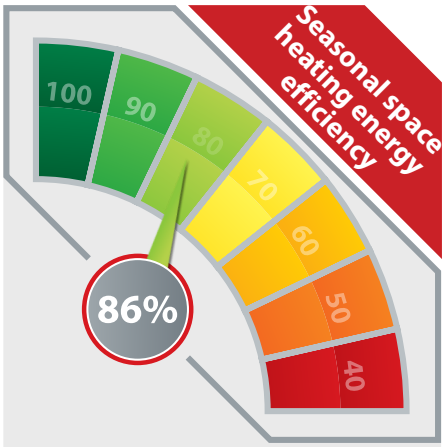


ZENIT 70+ „U" design tube radiant heaters

Type		U3	U4.5	U6	U7.5	U9	U10.5
Input Power [kW]		12...18	14...24	20...32	26...42	26...42	30...48
Full length L [m]		3.68	5.10	6.60	8.03	9.53	10.95
A - Width [mm]		645					
Height [mm]		271					
Weight [kg]	Netto	75.4	103.1	130.4	158.1	185.5	213.2
	Transport	82.5	110.1	137.4	170.1	197.5	225.3
Average electric consumption [W]		110					
Electrical connection		One phase 230V / 50Hz					
Part-number		Based on price list					
3-point regulation Part-number		**3970**					
Modulation regulation Part-number		**9806**					



ZENIT 80+



ZENIT 80+ tube radiant heater models are based on the technical solutions of the standard models, the only difference is that during the design of these devices the top priority was the creation of the best possible efficiency as regards radiational heat transmission. Thanks to the detailed and carefully carried-out research the radiational intensity of these devices is between 75–85% depending on type.

The average 86% seasonal heating efficiency is outstanding among the devices functioning with the same principle and the otherwise high energy-saving ability resulting from the sensed temperature can be further increased. In case of the these devices it must be mentioned that it was a priority during designing that they can be mounted in rooms with any kind of inner atmosphere. In order to be able to realise this, we have made these devices available in every colour of the RAL scale.

As for their design they can have also an "L" linear design and a "U"-shaped design. As regards their modes, they are available only with modulation controlling which supports the possibility of the above mentioned outstanding saving values.

Further advantages:

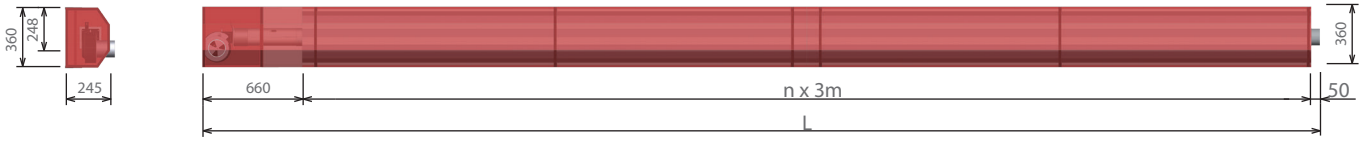
- Heat-proof aluminised steel pipe up to 800°C
- Honeywell solenoid valve and ignition controlling electronic
- First-class blow-off ventilator made in Europe
- Unique power choice per 2 kW
- Polygon section reflector profile for higher radiation efficiency
- 2-year complete warranty

CURIOSITY

During the designing of our ZENIT 80+ product series, one of our top priorities was to find a solution which can increase further the efficiency of the heating devices. This increased efficiency could be achieved with a hybrid solution which utilizes the application of today's modern insulation materials and the insulation abilities of the air. Thanks to this design these premium quality devices can reduce the convective heat loss under the ceiling almost to zero thanks to which almost all of the heat is transmitted in a radiatonal way.

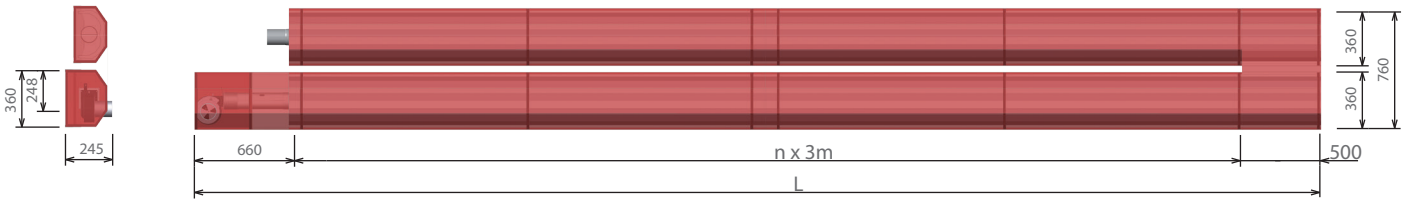
ZENIT 80+ Linear "L" design tube radiant heaters

Type		L9	L12	L15	L18
Input Power [kW]		12...22	16...30	20...40	24...42
Full length L [m]		9.6	12.5	15.4	18.3
Width [mm]		360			
Height [mm]		245			
Weight [kg]	Netto	138.1	179.3	220.5	261.7
	Transport	148.3	189.5	230.7	271.9
Average electric consumption [W]		110			
Electrical connection		One phase 230V / 50Hz			
Part-number		Based on price list			
3-point regulation Part-number		**3970**			
Modulation regulation Part-number		**9806**			



ZENIT 80+ „U" design tube radiant heaters

Type		U4.5	U6	U7.5	U9
Input Power [kW]		12...22	16...30	20...40	24...42
Full length L [m]		5.2	6.7	8.1	9.6
Width [mm]		760			
Height [mm]		245			
Weight [kg]	Netto	155.5	186.6	218.1	269.3
	Transport	165.7	196.8	228.3	279.5
Average electric consumption [W]		110			
Electrical connection		One phase 230V / 50Hz			
Part-number		Based on price list			
3-point regulation Part-number		**3970**			
Modulation regulation Part-number		**9806**			



ZENIT CONDENSER

CURIOSITY

The outstanding efficiency of the devices is due to the multi-piped heat exchanger unit in which there can be found turbulence profiles to increase the exothermic features.

Our **ZENIT** Condenser combustion gas condenser unit was born in 2014 as the result of our R&D programme. The device is able to decrease the temperature of the leaving, high, about 200°C combustion gas – which is created when apllying **ZENIT** air heaters – to even 55°C in one step. Thanks to this the whole system can be transformed into a condensational one. A huge advantage of the system is that it can be mounted to earlier installed units.

- Thick-wall, rust-resistant steel heat-exchanger pipes
- Automatic which avoids the blowing-off of cold air
- Turbulator placed in the exothermic pipe system
- First-class blow-off ventilator made in Europe

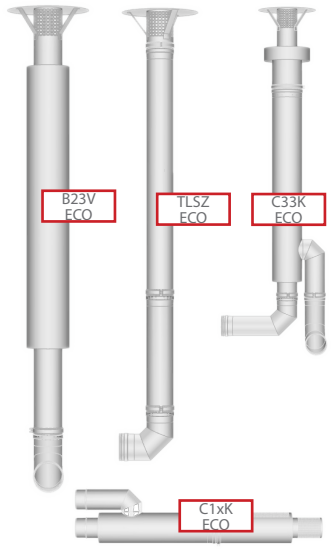
ZENIT Condenser combustion gas condenser

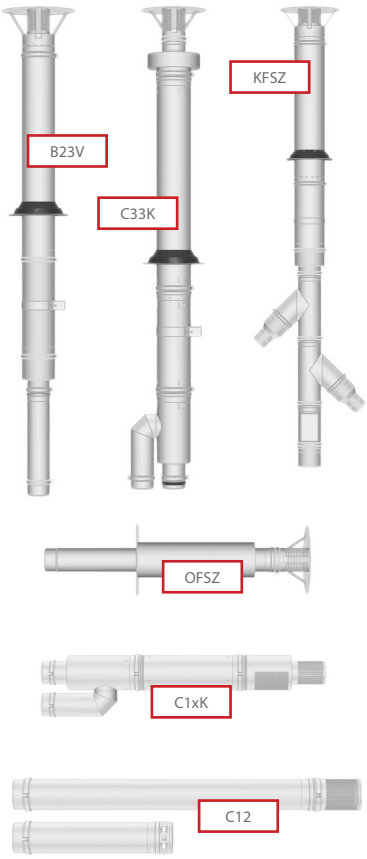
Type		ZENIT Condenser
Input Power [kW]		Max. 50 kW
Max. connection temperature		220 C°
Air flow [m^3/h]		ca. 950
Reachable efficiency		98% – 108%
Full length [mm]		3 200
Width [mm]		250
Height [mm]		250
Weight [kg]	Netto	39
	Transport	42
Average electric consumption [W]		275
Electrical connection		One phase 230V / 50Hz
Part-number		9574

Heat Controlling Systems		Type	Part-number
	2-point regulation thermostat with internal temperature sensor	FP–1	1709
	3-point regulation thermostat with weekly hour-programming and sensed temperature sensor. With BUS system preparation	FP–3	1102
	2-point regulation thermostat with weekly hour-programming and sensed temperature sensor. It cannot be connected to a BUS system!	FP–4	1699
	Modulational regulation thermostat with weekly hour-programming and sensed temperature sensor, it cannot be connected to a BUS system!	FP–MOD	8512
	Sensed temperature sensor (for FP–1, TW-4, TW-4Z2 regulators)	SR–1	5640
	Sensed temperature sensor (for FP–3/4/MOD regulators)	SR–2	7931

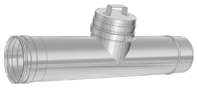
Heat Controlling Systems – Smart Line		Type	Part-number
	Two zone touchscreen On-Off regulation thermostat, with 2 sensed temperature sensors, coding possibility, admin interface. (It can be extended up to 240 zones with TW-4Z2)	TW-4	9585
	Adding plus 2 zone controlling unit to TW-4 or TW-6 regulators. (It does not contain any temperature sensors!)	TW–4Z2	9586
	On-Off regulation controller on computer with Web interface instead of TW-4 (at least one IC–BOX or TW-4Z2 necessary for the controlling)	TW–6	9587
	Additional controller for modulation regulation for Zenit appliances (TW-6 or TW-4 necessary for the controlling)	IC–BOX	9588

* For the installation of our heat regulation systems higher level of computer skills may be needed, that is why you should ask our colleagues for help before the installation if it is necessary.

ZENIT INOX ECO Combined air supply and venting set	Type	Part-number
		
Vertical outside air supply with rain cap Full height: 1,7 m Diameter: 100 mm	TLSZ ECO	9833
Vertical outside air supply with rain cap Full height: 2,1 m Diameter: 100 mm	TLSZ II ECO	9839
Vertical venting set with rain cap Full height: 1,5 m Diameter: 100 mm	B23V ECO	9825
Coaxial, horizontal combined air supply and venting set Full length: 1,2 m Diameter: 100/150 mm	C1xK ECO	9826
Coaxial, vertical combined air supply and venting set with rain cap Full height: 1,61 m , Coaxial height: 0,9 m Diameter: 100/150 mm	C33K ECO	9823

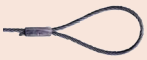
ZENIT INOX Combined air supply and venting set	Type	Part-number
		
Horizontal outside air supply Full length: ~500 mm Diameter: 100 mm	OLSZ 100/500	4600
Horizontal combined air supply and venting set Full length: 1,1 m Diameter: 100 mm	C12	9614
Horizontal venting set Full length: 1,1 m Isolated length: 0,5m Diameter: 100/150 mm	OFSZ	8478
Vertical outside air supply with rain cap Full height: 2,0 m Diameter: 100 mm	TLSZ 100/2000	8572
Coaxial, horizontal combined air supply and venting set Full length: 1,2 m Diameter: 100/150 mm	C1xK	7572
Vertical venting set with rain cap and roof flashing Full height: 2,2 m Isolated height: 1,5 m Diameter: 100/150 mm	B23V	8479
Coaxial, vertical combined air supply and venting set with rain cap and roof flashing Full height: 2,1 m, Coaxial height: 1,7 m Diameter: 100/150 mm	C33K	236
Common vertical venting set Full height: 3,1 m Diameter: 100/200 mm	KFSZ	7654

* If the chosen tube radiant heater has a CApacity higher than 48 kW, the 200/100 coaxial exhaust systems must be applied.

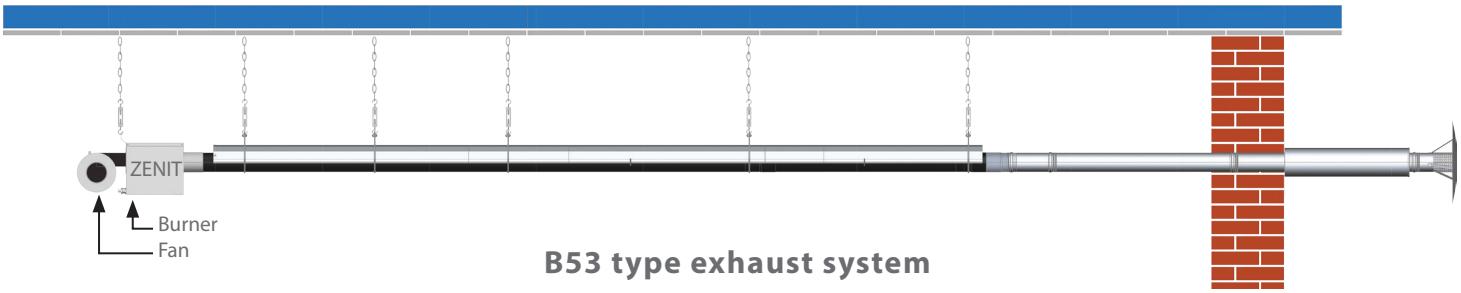
INOX One-wall exhaust system profiles		Type	Part-number
	1000 mm straight exhaust system pipe, Ø100 mm	LDC 1000	6989
	500 mm straight exhaust system pipe, Ø100 mm	LDC 500	7416
	250 mm straight exhaust system pipe, Ø100 mm	LDC 250	7944
	Bend 90°, three parts 165x165mm, Ø100 mm	LDKB 90	7417
	Three-part 90° bend with removable observing door 180x180mm, Ø100 mm	LDKBCR90	3597
	Bend 45°, two parts, Ø100 mm	LDKB 45	6424
	Strained „T" profile equal 90° 330x200mm, Ø100 mm	LTK90	5439
	Strained „T" profile, 330mm, Ø100 mm	LTK45	8515
	Condense draining profile, side outflow 3/8" 240mm, Ø100 mm	LPDEA	4685
	Chimney starting profile with an observing door + a condense draining opening, 460mm, Ø100 mm	LKOMORA	4977
	Pipe switch clamp	LS–1	7003
	"O" filler ring (to inner diameter), Ø100 mm	OGY	6698
	Wall Y fix fastener clamp	LZDJ	1048
	Fume pipe to wall fastener	LZDR	8387
	500 mm straight pipe with removable observing door	LDCCR 500/100	3598
	Bend 90°, three parts, widened on both sides Ø100 mm	LDKBD 90/100	9846
	250 mm pipe widened on both sides Ø100mm	LDDC 250/100	8490
	Strained „T" profile with drain pipe Ø100 mm	LTKKBM 90/100	3596

INOX Burning-air lead-in		Type	Part-number
	Flexible fume pipe Ø100 mm	LJFC	857
	Connector profile to flexible fume pipes Ø100 (male)	LNFKC	858
	Connector profile to flexible fume pipes Ø100 (male)	LNSFKB	859
	INOX fix transition profile widened on both sides Ø100	LDDC 250/100	8490
	Acid-resistant clamp INOX to flexible fume pipes	SZB	7425
	Bend 90°, three parts, widened on both sides Ø100 mm	LDKBD 90/100	9846

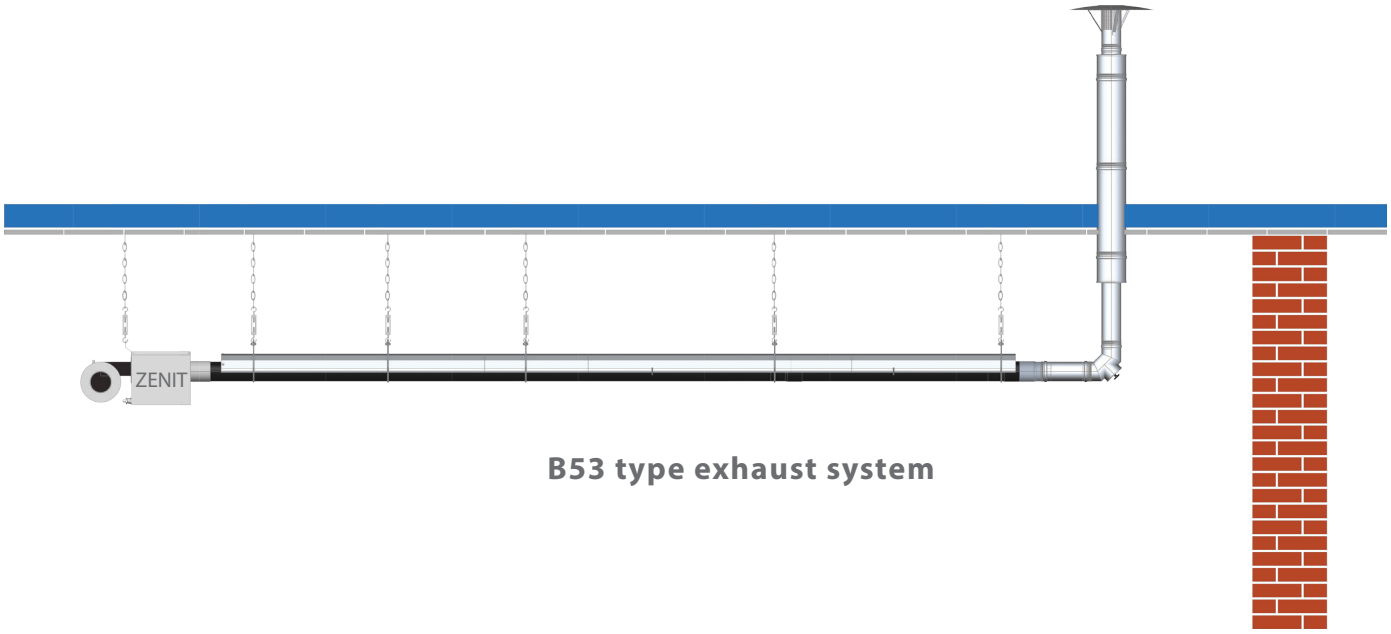
Coaxial exhaust system profiles		Type	Part-number
	1000 mm straight coaxial exhaust system pipe external Ø 150 mm, internal Ø 100 mm	LKDC1000/100/150	7588
	500 mm straight coaxial exhaust system pipe external Ø 150 mm, internal Ø 100 mm	LKDC500/100/150	7589
	250 mm straight coaxial exhaust system pipe external Ø 150 mm, internal Ø 100 mm	LKDC250/100/150	4579
	Coaxial bend 90°, three parts external Ø 150 mm, internal Ø 100 mm	LKDCB90/100/150	4497
	Coaxial bend 45°, two parts external Ø150mm, internal Ø 100 mm	LKDCB45/100/150	4450

Fittings		Type	Part-number
	1/2" gas coupling set (ball-end+filter+flexible acid-resistant gas tube) 500 – 1 000 mm	GBSZ ½"	990
	Göppinger suspension chain (Price per meter)	GFL	2716
	Suspension hook "S"	FK	7910
	Gripple suspension wire with a noose end in 1–4m length	HFS 1.0	9129
		HFS 2.0	9130
		HFS 3.0	9131
		HFS 4.0	9132
	Gripple suspension wire M8 with screwed rod in 1–4 m length	MFS 1.0	9133
		MFS 2.0	9134
		MFS 3.0	9135
		MFS 4.0	9136
	Gripple suspension wire with a STOP end in 1–4 m length	SFS 1.0	9137
		SFS 2.0	9138
		SFS 3.0	9139
		SFS 4.0	9140
	Gripple suspension wire with a hook end in 1–4 m length	KFS 1.0	9141
		KFS 2.0	9142
		KFS 3.0	9143
		KFS 4.0	9144
	Gripple suspension wire with a bore-hole end in 1–4 m length	FFS 1.0	9145
		FFS 2.0	9146
		FFS 3.0	9147
		FFS 4.0	9148

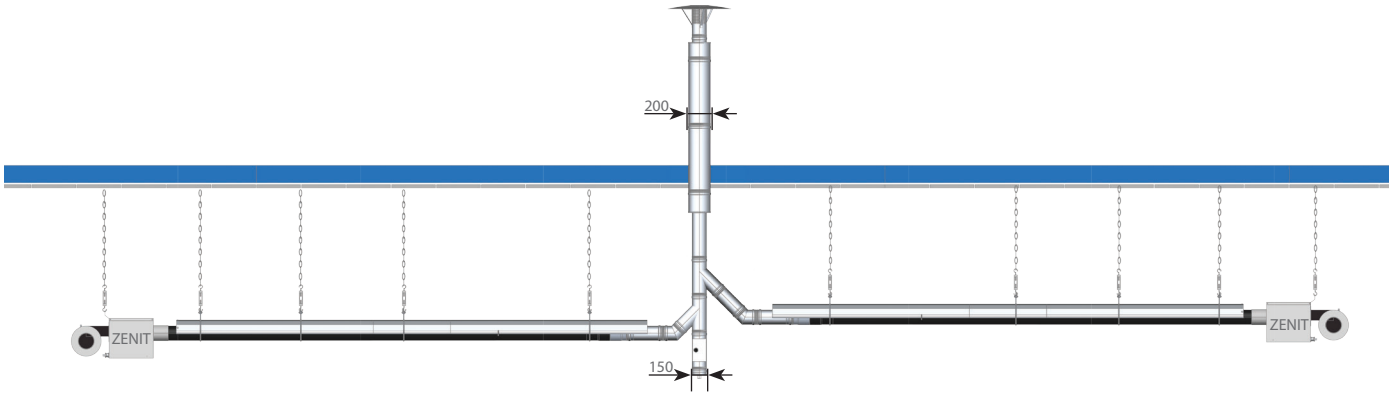
GRIPPLE



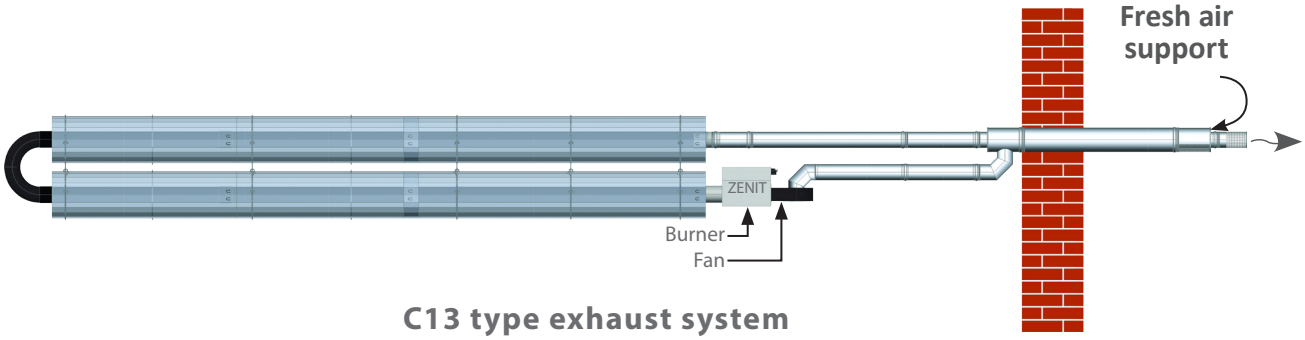
B53 type exhaust system



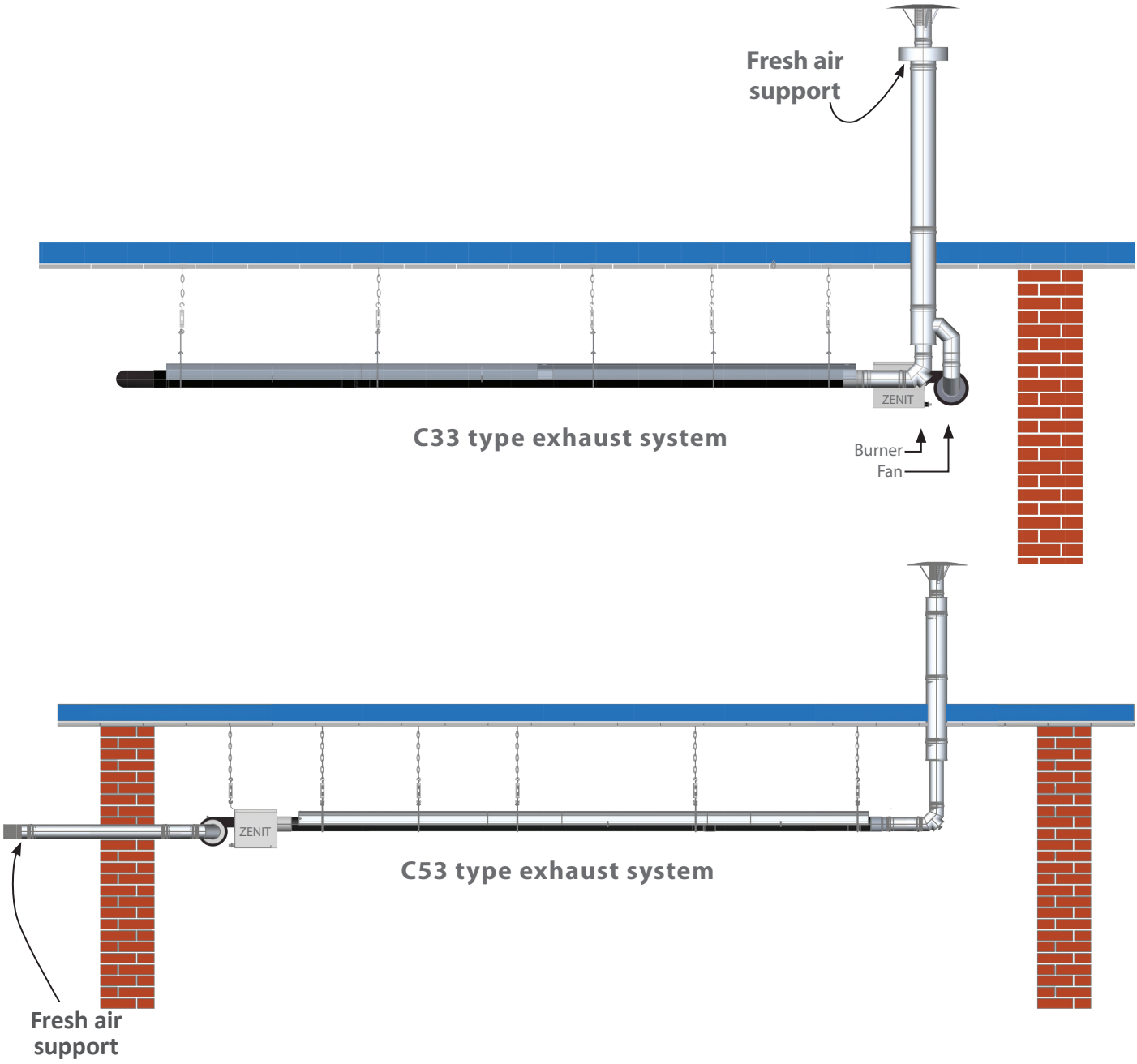
B53 type exhaust system



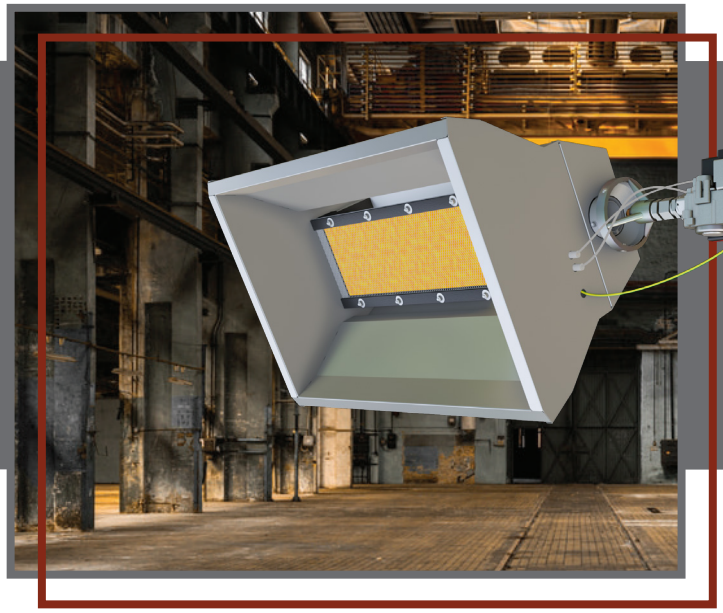
B33 type exhaust system

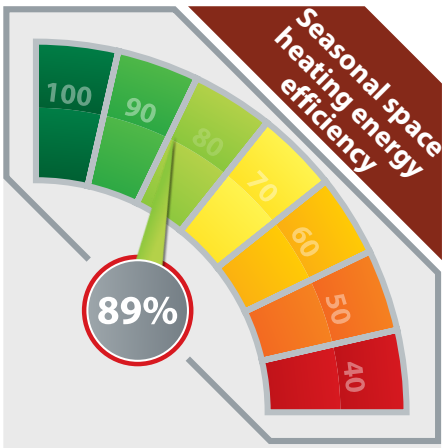


C13 type exhaust system


Fresh air
support
ZENIT
C33 type exhaust system
Burner
Fan
ZENIT
C53 type exhaust system
Fresh air
support

GHI
GHI-ECO



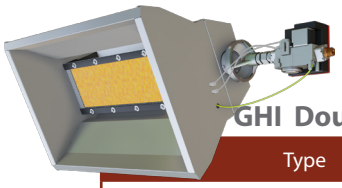


Our brand new **GHI** ceramic heaters developed for comply for the Ecodesign regular. The GHI has an insulated reflective shield managed to improve the appliance's effective. The **GHI ECO** has a dual layer reflective shield managed to improve the appliance's effective.
Another contributing factor of the quality of our devices is that after the production only those products are exported from our plant that passed the final examination during which the data given by the customer were set-up.
This device is an atmospheric burning gas-powered infra-radiation machine that functions on the principle of high temperature heat radiation heating. The gas-air mixture flows into the bore-holes of a ceramic surface where the burning is happening in a way that the flames are pulled back into the bore-holes of the ceramic surface in normal mode. Due to the burning process the ceramic surface glows up to **850–900 °C** whose radiational intensity and heat transmission is fast. As for the design of the devices they can have a single or twin structure. The devices can be operated in two ways, with OFF–ON switching or with the two modes, **100%** or **50%**, of the twin devices.
Further advantages:

- Heat-proof ceramic plates up to 1200 °C
- Honeywell magnetic valve and ignition controlling electronics
- Robust and resistant enamelled mixing house
- Simple and easy-to-assemble reflecting shield
- Easy suspension, can be mounted vertically or in a tilted way
- 2-year complete warranty

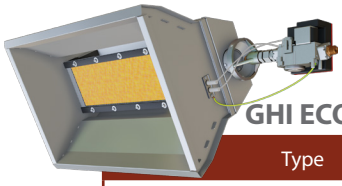
CURIOSITY

Unfortunately the industrial application of ceramic heaters has fallen into the background recently the reason of which is that combustion gases get stuck in the rooms and the other reason is the weak energy efficiency of the additional ventilating system to remove the combustion gases. But today with modern air circulators it is easy to create a heat recovering ventilating–fresh air blowing in system that provides the safe removal of combustion gases through a cross-direction heat exchanger in way that the blown-in air is heated up with the heat of the combustion gases. The efficiency of the heat exchanging can be as high as 98% depending on the applied technology.



GHI Double-walled ceramic heater product series with ceramic fiber insulation

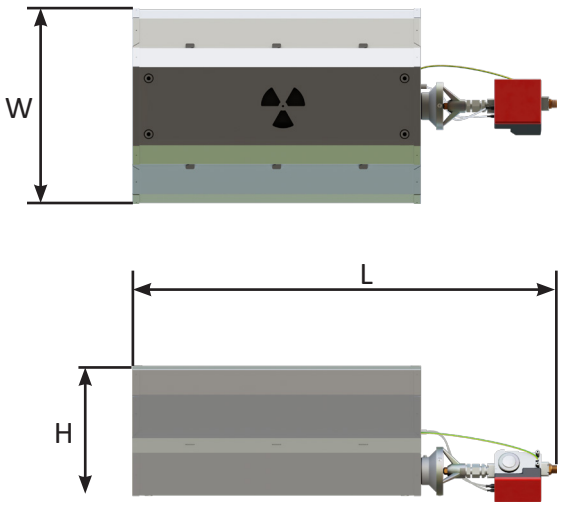
Type		GHI–7	GHI–11	GHI–18	GHI–23	GHI–36
The device complies with Ecodesign 2281/2016		ERP 2018	ERP 2018	ERP 2018	ERP 2018	ERP 2018
Input Power [kW]		6,6	9,9	16,3	19,7	29,8
Weight [kg]	Netto	14,5	17	24	27	37
	Transport	15,5	19	27	30	41
Average electric consumption [W]		35				
Electrical connection		One phase 230V / 50Hz				
Part-number [Natural gas]		**10308**	**10311**	**10314**	**10317**	**10320**
Part-number [Propane-butane]		**10309**	**10312**	**10315**	**10318**	**10321**
Part-number [Propane]		**10310**	**10313**	**10316**	**10319**	**10322**



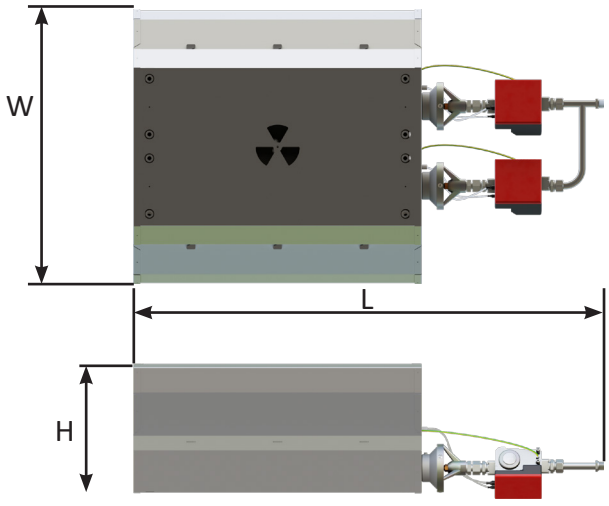
GHI ECO Double-walled ceramic heater product series with air layer insulation

Type		GHI ECO–11	GHI ECO–18	GHI ECO–23	GHI ECO–36
The device complies with Ecodesign 2281/2016		ERP 2018	ERP 2018	ERP 2018	ERP 2018
Input Power [kW]		11,7	19,4	23,5	35,2
Weight [kg]	Netto	15	22	25	35
	Transport	17	25	28	39
Average electric consumption [W]		35			
Electrical connection		One phase 230V / 50Hz			
Part-number [Natural gas]		**10247**	**10248**	**10081**	**10110**
Part-number [Propane-butane]		**10250**	**10251**	**10067**	–
Part-number [Propane]		**10253**	**10254**	–	–

GHI-7, GHI-11, GHI-18 and ECO

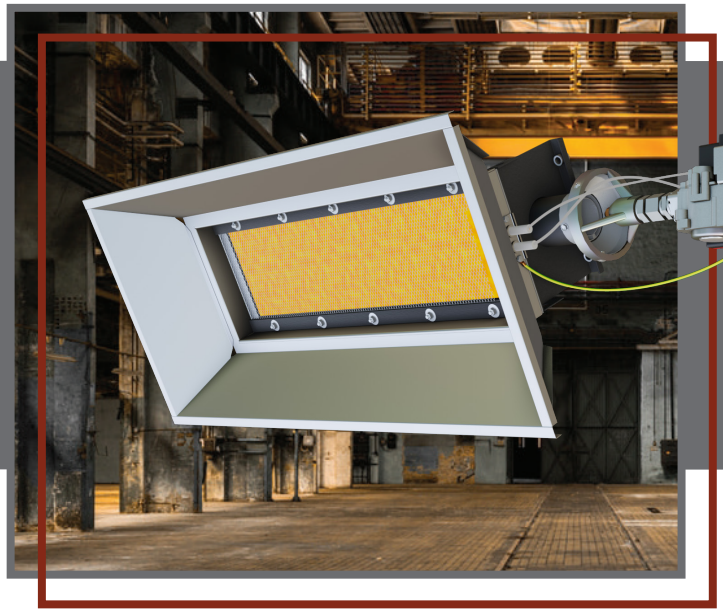


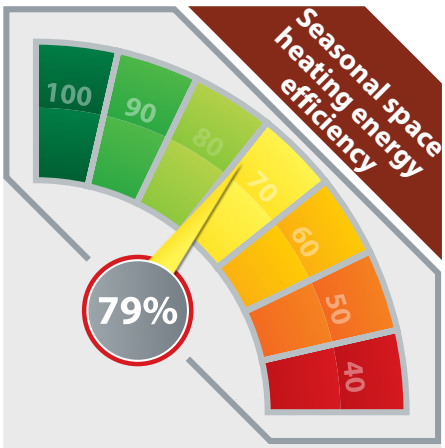
GHI-23, GHI-36 and ECO



	GHI–7	GHI–11 GHI ECO–11	GHI–18 GHI ECO–18	GHI–23 GHI ECO–23	GHI–36 GHI ECO–36
a – Length [mm]	450	450	450	620	620
b – Width [mm]	290	290	290	290	290
c – Height [mm]	785	965	1330	1070	1440

GH





We have been manufacturing and selling our **GH** ceramic heaters for more than 25 years now during which period we managed to create the highest possible quality device due to the continuous research and development.

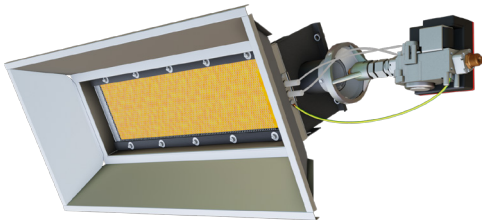
Another contributing factor of the quality of our devices is that after the production only those products are exported from our plant that passed the final examination during which the data given by the customer were set-up.
This device is an atmospheric burning gas-powered infra-radiation machine that functions on the principle of high temperature heat radiation heating. The gas-air mixture flows into the bore-holes of a ceramic surface where the burning is happening in a way that the flames are pulled back into the bore-holes of the ceramic surface in normal mode. Due to the burning process the ceramic surface glows up to 850–900 °C whose radiational intensity and heat transmission is fast. As for the design of the devices they can have a single or twin structure. The devices can be operated in two ways, with OFF–ON switching or with the two modes, 100% or 50%, of the twin devices.
Further advantages:

- Heat-proof ceramic plates up to 1200 °C
- Honeywell magnetic valve and ignition controlling electronics
- Robust and resistant enamelled mixing house
- Simple and easy-to-assemble reflecting shield
- Easy suspension, can be mounted vertically or in a tilted way
- Easy-to-handle cardboard boxes
- 2-year complete warranty

CURIOSITY

Unfortunately the industrial application of ceramic heaters has fallen into the background recently the reason of which is that combustion gases get stuck in the rooms and the other reason is the weak energy efficiency of the additional ventilating system to remove the combustion gases. But today with modern air circulators it is easy to create a heat recovering ventilating–fresh air blowing in system that provides the safe removal of combustion gases through a cross-direction heat exchanger in way that the blown-in air is heated up with the heat of the combustion gases. The efficiency of the heat exchanging can be as high as 98% depending on the applied technology. Due to the EU Regulation 2016/2281, which entered into force in 2018, the devices can only be used for technology heating within the EU. We recommend **GHI** and **GHI ECO** devices instead.

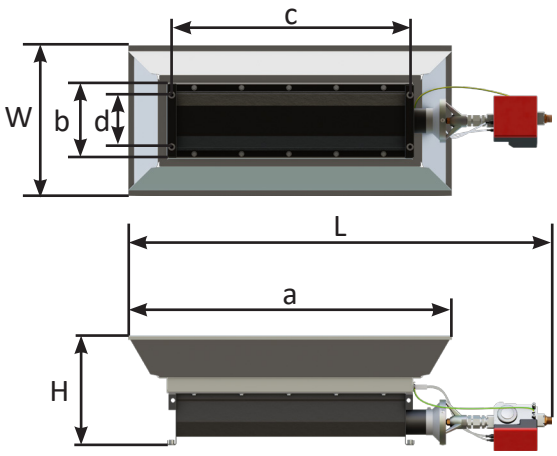
Due to the EU Regulation 2016/2281, the devices can only be used for technology heating within the EU!



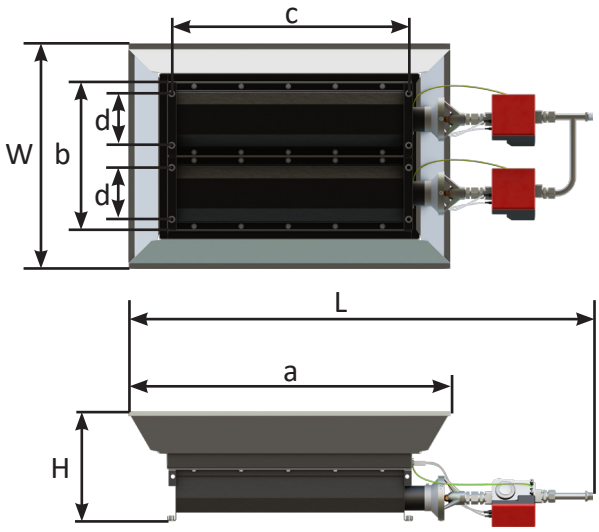
GH ceramic heater product series

Type		GH–7	GH–11	GH–18	GH–23	GH–36
Input Power [kW]		7	11	18	23	36
Weight [kg]	Netto	9.8	12.3	16.2	21.8	29.5
	Transport	10.3	13	17	23	30.5
Average electric consumption [W]		35				
Electrical connection		One phase 230V / 50Hz				
Part-number [Natural gas]		**133**	**134**	**135**	**136**	**137**
Part-number [Propane-butane]		**6395**	**6396**	**6397**	**6398**	**6399**
Part-number [Propane]		**3895**	**3896**	**3897**	**3898**	**3899**

GH-7, GH-11, GH-18



GH-23, GH-36



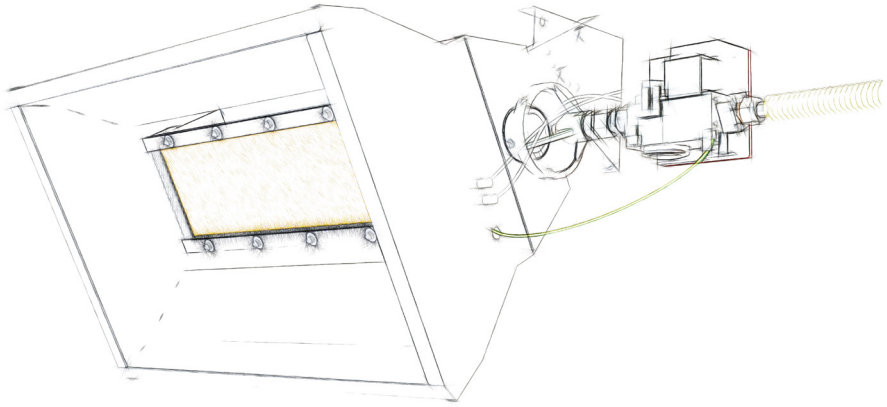
	GH–7	GH–11	GH–18	GH–23	GH–36
W – Width [mm]	370	370	370	540	540
H – Height [mm]	270	270	270	270	270
L – Length [mm]	850	1035	1440	1140	1550
a – Length of reflector [mm]	600	785	1150	785	1150
b – Width of fixing base [mm]	175	175	175	355	355
c – Length of mounting holes [mm]	400	580	950	580	950
d – Width of mounting holes [mm]	130	130	130	130/50/130	130/50/130

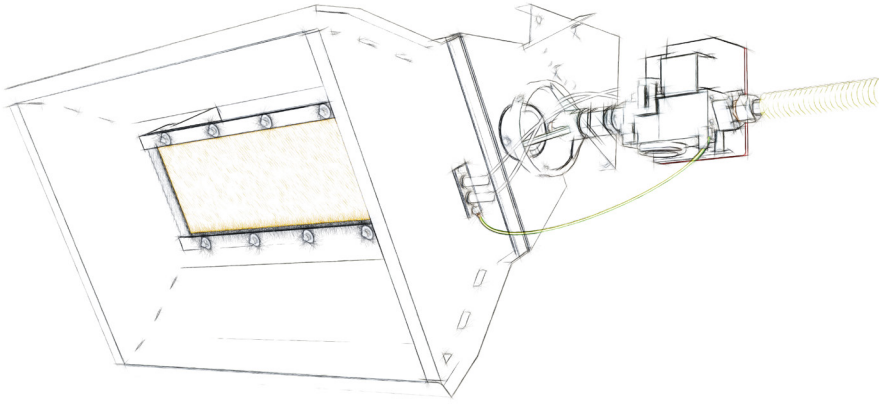
Heat Controlling Systems		Type	Part-number
	2-point regulation thermostat with internal temperature sensor	FP–1	1709
	3-point regulation thermostat with weekly hour-programming and sensed temperature sensor. With BUS system preparation	FP–3	1102
	2-point regulation thermostat with weekly hour-programming and sensed temperature sensor. It cannot be connected to a BUS system!	FP–4	1699
	Sensed temperature sensor (for FP–1, TW-4, TW-4Z2 regulators)	SR–1 FP MOD	5640

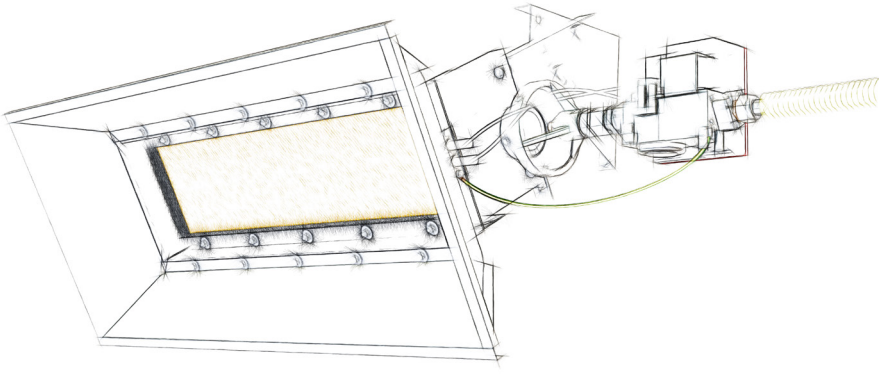
Heat Controlling Systems – Smart Line		Type	Part-number
	Two zone touchscreen On-Off regulation thermostat, with 2 sensed temperature sensors, coding possibility, admin interface. (It can be extended up to 240 zones with TW-4Z2)	TW-4	9585
	Adding plus 2 zone controlling unit to TW-4 or TW-6 regulators. (It does not contain any temperature sensors!)	TW–4Z2	9586
	On-Off regulation controller on computer with Web interface instead of TW-4 (at least one TW-4Z2 necessary for the controlling)	TW–6	9587

* For the installation of our heat regulation systems higher level of computer skills may be needed, that is why you should ask our colleagues for help before the installation if it is necessary.

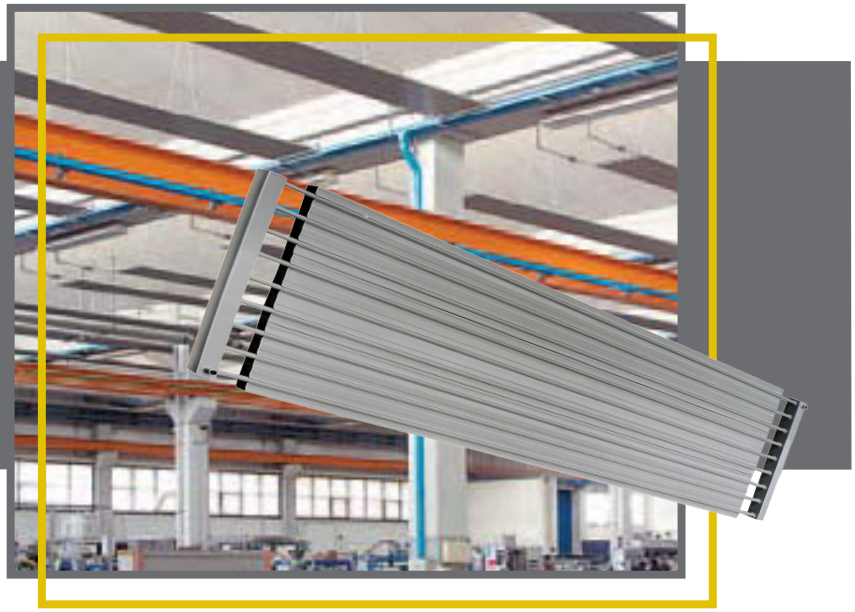
Fittings		Type	Part-number
	1/2" gas coupling set (ball-end+filter+flexible acid-resistant gas tube) 500 – 1 000 mm	GBSZ ½"	990
	Connecting plate for the appliance to hang up (4 pcs. - 2 pair)	Összekötő I. 2017	96

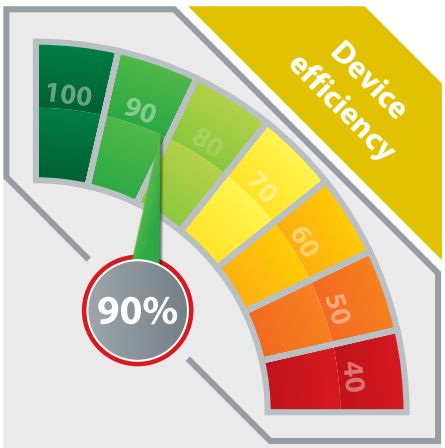






MSP





MSP hot water radiant panels offer an alternative to classical radiant heaters and centralized hot water heating systems. If installed at lower heights, these ceiling-mounted radiant panels give the same sensation of warmth as radiant heaters, which ensures significant energy savings compared to conventional convective heating solutions.

The radiant panels are subjected to several quality controls after production to guarantee that each unit delivered from the factory is in perfect condition and quality.
The appliances can be used in many different applications. The benefits of the construction were recognized and utilized by large companies. Radiant panels have significant advantages in terms of both installation and operation, including silent operation, eliminating airflow and avoiding the formation of air layers in the room. Furthermore, installation is very simple, and various colours are available to match company image. Operation is service- and maintenance-free. Radiant panels, just like our other products, are made using only the highest quality raw materials.

- High density, high insulating mineral fiber insulation
- Steel alloy plate profile with excellent heat transfer coefficient
- Thin-walled, high-end heat transfer pipes
- Panels are also available with coloured epoxy-polyester coat
- Easy installation
- Economical operation
- Noisy environment
- Service- and maintenance-free operation

CURIOSITY

The resinous mineral wool insulation makes the radiant panels suitable to be used in A1 fire- and explosion-proof rooms (EN 13501–1), allowing energy savings resulting from the temperature difference of 2–3 °C between ambient temperature and temperature sensation. Another interesting feature of radiant panels is that they are not only suitable for heating purposes but, using a proper coolant, also for summer cooling.
Thanks to the resinous mineral wool insulation, the major part of the heat transferred are provided within the radiation range by the panels as radiant heat.

MSP Hot radiant panel

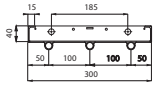
(the first and last unit can be 4 m or 6 m, intermediate units must be 5-6 m)

		STANDARD Ø1/2", PIPE DISTANCE 100 MM					PLUS Ø1/2", PIPE DISTANCE 75 MM			
Type		ESS-03-A	ESS-06-A	ESS-09-A	ESS-12-A	ESS-15-A	ESS-03-P	ESS-06-P	ESS-09-P	ESS-12-P
Weight [kg/m]		4	8	12	16	19	5	9	14	18
Water content [l/m]		0,57	1,15	1,72	2,29	2,87	0,77	1,53	2,29	3,06
Weight full header **[kg]		1,64	3,33	4,92	6,51	8,10	1,64	3,33	4,92	6,51
Nominal heat transfer Δtm(55) [W/m]		201	335	489	620	761	218	372	521	667
Lowest recommended height of installation [m]										
Mean water temperature	60 °C	3,00	3,10	3,10	3,20	3,30	3,00	3,10	3,20	3,30
	70 °C	3,10	3,20	3,20	3,30	3,40	3,10	3,20	3,30	3,40
	80 °C	3,20	3,30	3,30	3,40	3,50	3,20	3,30	3,40	3,50
	90 °C	3,30	3,50	3,50	3,70	3,80	3,30	3,50	3,70	3,80
	100 °C	3,40	3,70	3,70	3,90	4,00	3,40	3,70	3,90	4,00
	110 °C	3,50	4,00	4,00	4,30	4,40	3,50	4,00	4,30	4,40
Operating pressure [Bar]		10 bar								
Operating Temperature [°C]		120 °C								
Part-number		**10557**	**10558**	**10559**	**10560**	**10561**	**10574**	**10575**	**10576**	**10577**
Starting and finishing elements type		**ESS-03-A**	**ESS-06-A**	**ESS-09-A**	**ESS-12-A**	**ESS-15-A**	**ESS-03-P**	**ESS-06-P**	**ESS-09-P**	**ESS-12-P**
Part-number		**10562**	**10563**	**10564**	**10565**	**10566**	**10578**	**10579**	**10580**	**10581**

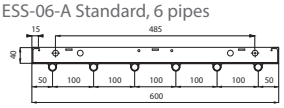
* In case of the application of marked device, please, always contact our product engineer colleagues.
** Starting and finishing elements should head element.

ø18mm, pipe distance 100 mm

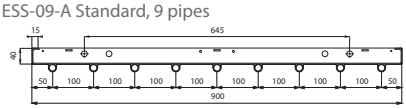
ESS-03-A Standard, 3 pipes



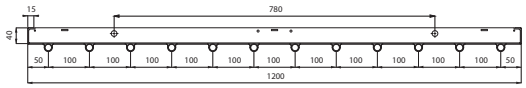
ESS-06-A Standard, 6 pipes



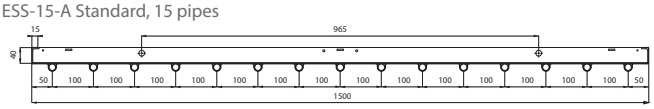
ESS-09-A Standard, 9 pipes



ESS-12-A Standard, 12 pipes

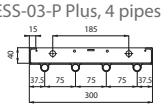


ESS-15-A Standard, 15 pipes

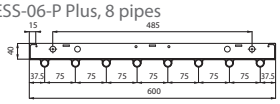


ø18mm, pipe distance 75 mm

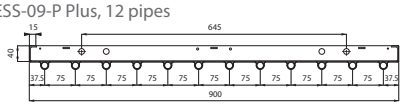
ESS-03-P Plus, 4 pipes



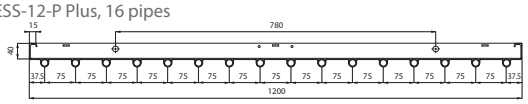
ESS-06-P Plus, 8 pipes

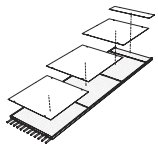
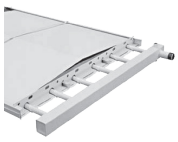
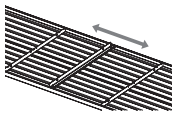


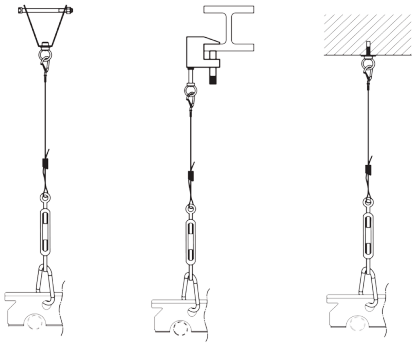
ESS-09-P Plus, 12 pipes



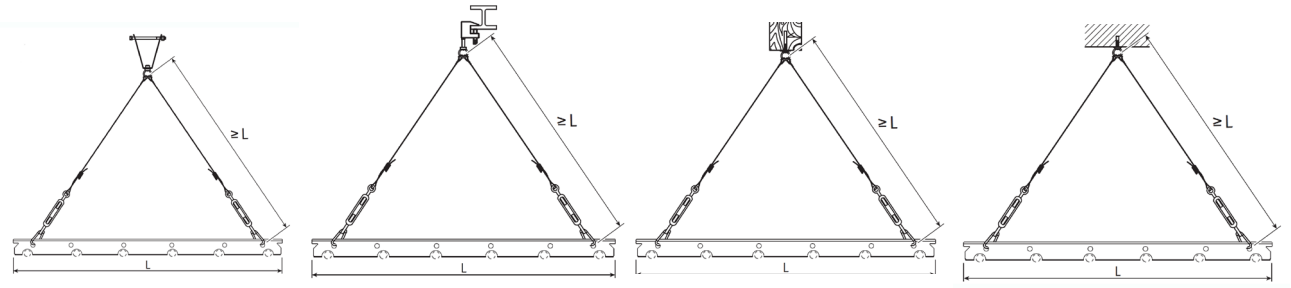
ESS-12-P Plus, 16 pipes



Fittings	Type	Part-number
 Suspension hook "S"	FK	7910
 Göppinger suspension chain (Price per meter)	GFL	2716
 Steel wire (Price/1, 2, 3 meter)	FAS–1	9928
	FAS–2	9929
	FAS–3	9930
 Mineral wool for Aluminum foil insulation 30 mm height	300 mm wide	10567
	600 mm wide	10568
	900 mm wide	10569
	1200 mm wide	10570
	1500 mm wide	10571
 Mineral wool for Aluminum foil insulation 40 mm height	K–40SZ-03	10594
	K–40SZ-06	10595
	K–40SZ-09	10596
	K–40SZ-12	10597
	K–40SZ-15	10598
 Cover panel	Variable size	
 Upper plate for gyms	Available in lengths from 1 to 6 m, wide is depending on the number of pipes	
Upper cover panel joint for gyms	wide is depending on the number of pipes	
 Sliding suspension bracket	300 mm wide	10691
	600 mm wide	10692
	900 mm wide	10693
 Anti-convective skirt	KOT	9953
 Pressfitting	PF	10572

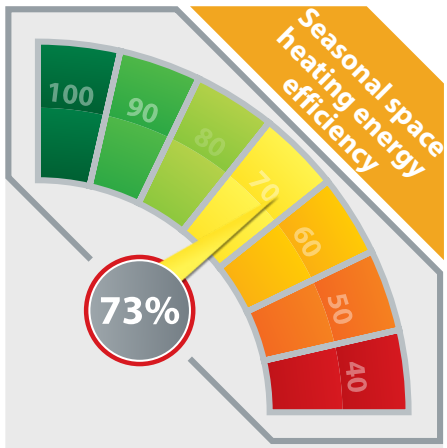


Suspension accessories for MSP panels	Type	Part-number
Hanging brackets with hanger (without steel wire)	ATF–S	9943
Hanging brackets with steel clamp (without steel wire)	AIF–S	9944
Hanging brackets with wedge anchor (without steel wire)	ABF–S	9947



Suspension accessories for MSP panels	Type	Part-number
Hanging installation with hanger	ATF–D	9948
Hanging installation with steel clamp	AIF–D	9949
Hanging installation with screw for wood	AFF–D	9951
Hanging installation with wedge anchor	ABF–D	9952

GTV-E



Our **GTV-E** forced convection air heater's range is the latest generation of **GTV** products that have been developed for more than 10 years, and is by far the most efficient and most environmentally friendly air heater for our product family. The efficiency of **GTV-E** exceeds the strict limits set out in the Ecodesign and NO_x emissions are lower than expected in the EU Regulation, which entered into force in 2018.

GTV-E products perfectly meet the requirements of the relevant strict EU regulation in terms of both efficiency and nitrogen oxide emissions. The quality of the devices is increased by the fact that all of the manufactured parts undergo a documented final examination before shipping. The air heating device burns the sucked-in mixture of burning-air and gas and creates the heating air which streams through a 3D shaped pipe heat exchanger where the streaming air heats up the pipe coil. The created heat gets into the target area with the help of a blow-off ventilator, which can be carried out by direct blowing or through a ventilation shaft. The devices can be regulated in two ways: by two-point, either in 100% or 60% mode or by scale-free modulation control. There are significant differences as regards saving between the modes.

- Heat-proof rust-resisting steel pipe up to 700 °C
- Patented ignition-proof burner line
- Honeywell magnetic valve and ignition controlling electronics
- First-class ventilators made in Europe
- Unique, perfectly fitting INOX exhaust system
- Rust-resistant heat exchanger pipes with outstanding heat transfer
- 2-year complete, extended warranty

CURIOSITY

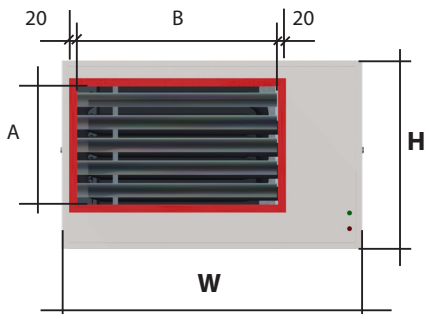
The efficiency and pollutant emissions of the **GTV-E** devices controlled by modulation control also meet the requirements of the near future, and as they are the same size as the traditional forced convection air heaters, their weight only a few kilograms heavier, so it is easy to replace and upgrade the old devices, even if the control is replaced with state-of-the-art modulation control.

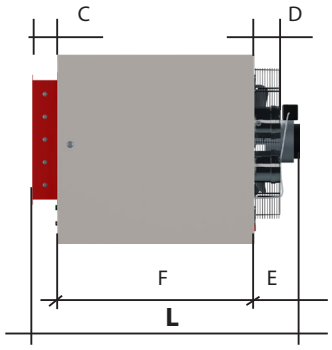
The biggest advantage of the **GTV-E** family over conventional air heaters, is that it significantly reduces NOx emissions. The reduction is due to state-of-the-art control, a modified combustion chamber and flue gas treatment.

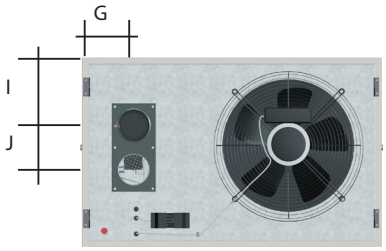
GTV–E A series of axial fan air heater appliances

Type		GTV–E 20A	GTV–E 27A	GTV–E 33A	GTV–E 40A	GTV–E 48A	GTV–E 58A
The device complies with Ecodesign 2281/2016		ERP 2018	ERP 2018	ERP 2018	ERP 2018	ERP 2018	ERP 2018
Input power max./min. [kW]		21/16.6	25.8/20.4	34.1/26.9	39.6/31.3	48.8/38.6	58.6/46.3
Weight [kg]	Netto	64	64	86	86	95	95
	Transport	79	79	98	98	106	106
Average electric consumption [W]		219	239	416	455	437	610
Electrical connection		One phase 230V / 50Hz					
With 3-point regulation (3P)							
Part-number [Natural gas]		**10398**	**10400**	**10402**	**10404**	**10406**	**10408**
Part-number [Propane]		**10399**	**10401**	**10403**	**10405**	**10407**	**10409**
With modulation regulation (MOD)							
Part-number [Natural gas]		**10423**	**10425**	**10427**	**10429**	**10431**	**10433**
Part-number [Propane]		**10424**	**10426**	**10428**	**10430**	**10432**	**10434**

* Meaning 3-point regulation: **Off – Min – Max** stage







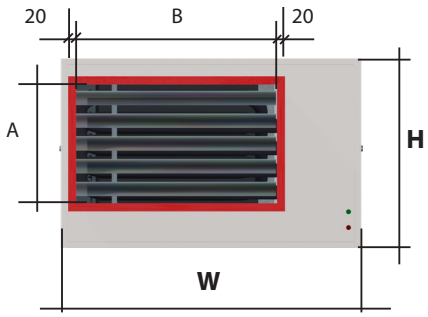
GTV–E A series of axial fan air heater appliances

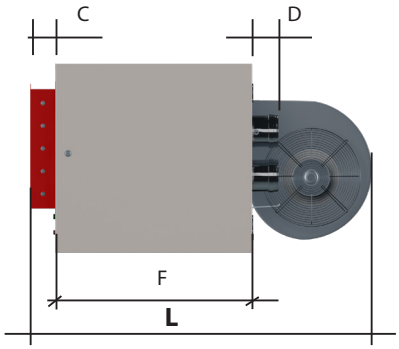
	GTV–E– 20A	GTV–E– 27A	GTV–E– 33A	GTV–E– 40A	GTV–E– 48A	GTV–E– 58A
W	950	950	950	950	950	950
H	470	470	610	610	750	750
L	855	855	855	855	855	855
A	360	360	500	500	640	640
B	600	600	600	600	600	600
C	80	80	80	80	80	80
D	60	60	60	60	60	60
E	155	155	155	155	155	155
F	620	620	620	620	620	620
G	169	169	169	169	169	169
I	117	117	187	187	249	249
J	140	140	140	140	140	140

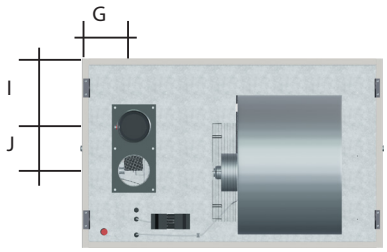
GTV–E C series of centrifugal fan air heater appliances

Type		GTV–E 20C	GTV–E 27C	GTV–E 33C	GTV–E 40C	GTV–E 48C	GTV–E 58C
The device complies with Ecodesign 2281/2016		ERP 2018	ERP 2018	ERP 2018	ERP 2018	ERP 2018	ERP 2018
Input power max./min. [kW]		21/16.6	25.8/20.4	34.1/26.9	39.6/31.3	48.8/38.6	58.6/46.3
Rated output max./min. [kW]		19.4/15.2	23.9/18.7	31.5/24.6	36.7/28.7	45.1/35.3	54.2/42.3
Airflow [m^3/h]		2 520	3 110	3 720	4 490	5 480	6 410
Weight [kg]	Netto	70	70	93	93	121	121
	Transport	87	87	107	107	131	131
Average electric consumption [W]		738	738	1 461	1 461	1 288	1 288
Electrical connection		One phase 230V / 50Hz					
With 3-point regulation (3P)							
Part-number [Natural gas]		10410	10412	10414	10416	10418	10420
Part-number [Propane]		10411	10413	10415	10417	10419	10421
With modulation regulation (MOD)							
Part-number [Natural gas]		10435	10437	10439	10441	10443	10445
Part-number [Propane]		10436	10438	10440	10442	10444	10446

* Meaning 3-point regulation: **Off – Min – Max** stage







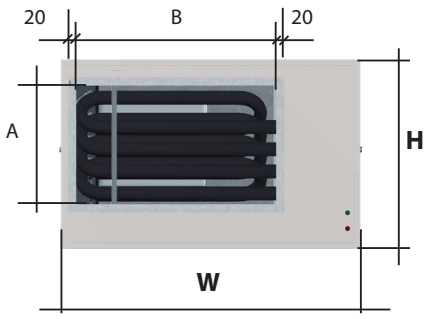
GTV–E C series of centrifugal fan air heater appliances

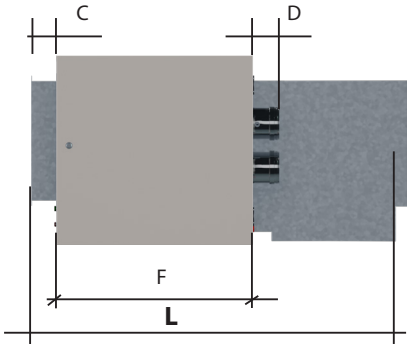
	GTV–E 20C	GTV–E 27C	GTV–E 33C	GTV–E 40C	GTV–E 48C	GTV–E 58C
W	950	950	950	950	950	950
H	470	470	610	610	750	750
L	1 040	1 040	1 090	1 090	1 150	1 150
A	360	360	500	500	640	640
B	600	600	600	600	600	600
C	85	85	85	85	85	85
D	80	80	80	80	80	80
F	620	620	620	620	620	620
G	170	170	170	170	170	170
I	117	117	187	187	249	249
J	140	140	140	140	140	140

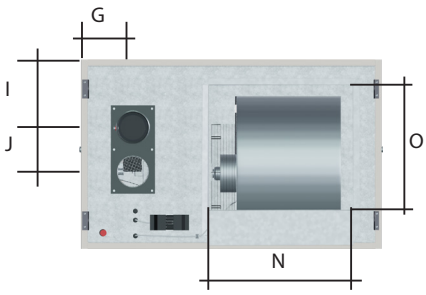
GTV–E CL series of centrifugal fan with air duct connection air heater appliances

Type		GTV–E 20CL	GTV–E 27CL	GTV–E 33CL	GTV–E 40CL	GTV–E 48CL	GTV–E 58CL
The device complies with Ecodesign 2281/2016		ERP 2018	ERP 2018	ERP 2018	ERP 2018	ERP 2018	ERP 2018
Input power max./min. [kW]		21/16.6	25.8/20.4	34.1/26.9	39.6/31.3	48.8/38.6	58.6/46.3
Rated output max./min. [kW]		19.4/15.2	23.9/18.7	31.5/24.6	36.7/28.7	45.1/35.3	54.2/42.3
Airflow [m^3/h]		2 520	3 110	3 720	4 490	5 480	6 410
Weight [kg]	Netto	70	70	93	93	121	121
	Transport	87	87	107	107	131	131
Average electric consumption [W]		738	738	1 461	1 461	1 288	1 288
Electrical connection		One phase 230V / 50Hz					
With 3-point regulation (3P)							
Part-number [Natural gas]		**10462**	**10464**	**10466**	**10469**	**10471**	**10473**
Part-number [Propane]		**10463**	**10465**	**10468**	**10470**	**10472**	**10474**
With modulation regulation (MOD)							
Part-number [Natural gas]		**10447**	**10449**	**10451**	**10453**	**10455**	**10457**
Part-number [Propane]		**10448**	**10450**	**10452**	**10454**	**10456**	**10458**

* Meaning 3-point regulation: **Off – Min – Max** stage



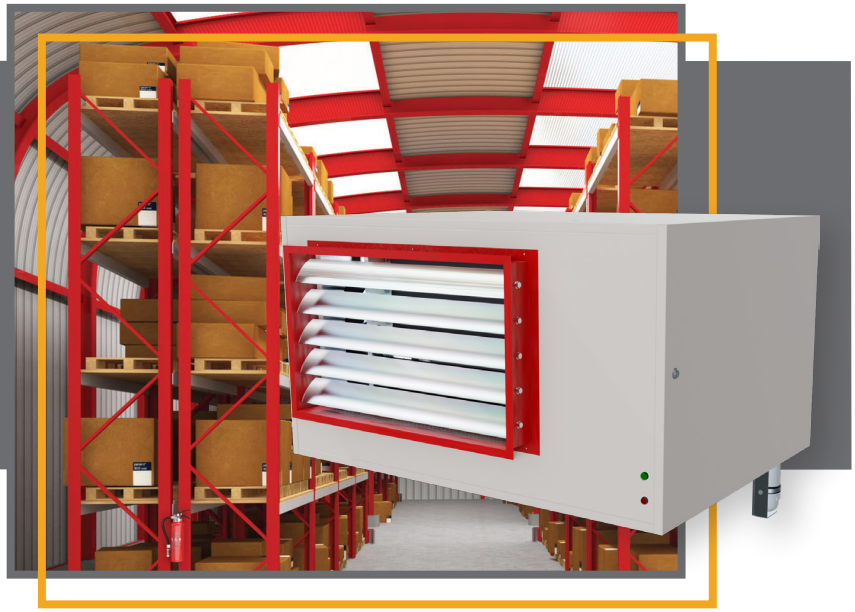


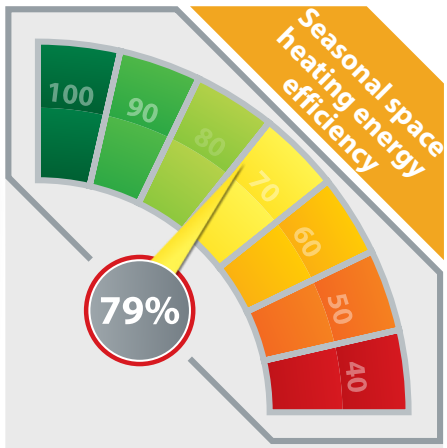


GTV–E CL series of centrifugal fan with air duct connection air heater appliances

	GTV–E 20CL	GTV–E 27CL	GTV–E 33CL	GTV–E 40CL	GTV–E 48CL	GTV–E 58CL
W	950	950	950	950	950	950
H	470	470	610	610	750	750
L	1 120	1 120	1 150	1 150	1 200	1 200
A	360	360	500	500	640	640
B	600	600	600	600	600	600
C	85	85	85	85	85	85
D	80	80	80	80	80	80
F	620	620	620	620	620	620
G	170	170	170	170	170	170
I	135	135	187	187	252	252
J	140	140	140	140	140	140
N	500	500	550	550	600	600
O	350	350	400	400	450	450

GTV CONDENS+





The **GTV** CONDENS+ type of air heater product series is one of the latest development of our company and it meet all the requirements of today's modern gas-operation air heaters. As the result of development we managed to create a product which has the highest quality in its category. The fact all the devices are made of the most outstanding raw materials serves the purpose of quality.

The quality of the devices is increased by the fact that all of the manufactured parts undergo a documented final examination before shipping. The air heating device burns the sucked-in mixture of burning-air and gas and creates the heating air which streams through double lined 3D shaped pipe heat exchangers where the streaming air heats up the pipe coils. The created heat gets into the target area with the help of a blow-off ventilator, which can be carried out by direct blowing or through a ventilation shaft. The regulation of the device can be carried out only by modulation which regulates the capacity between 100% and 60% scale-free. With this regulation mode and the condensation of combustion gases, a significant amount of saving can be achieved in comparison with the traditional systems.

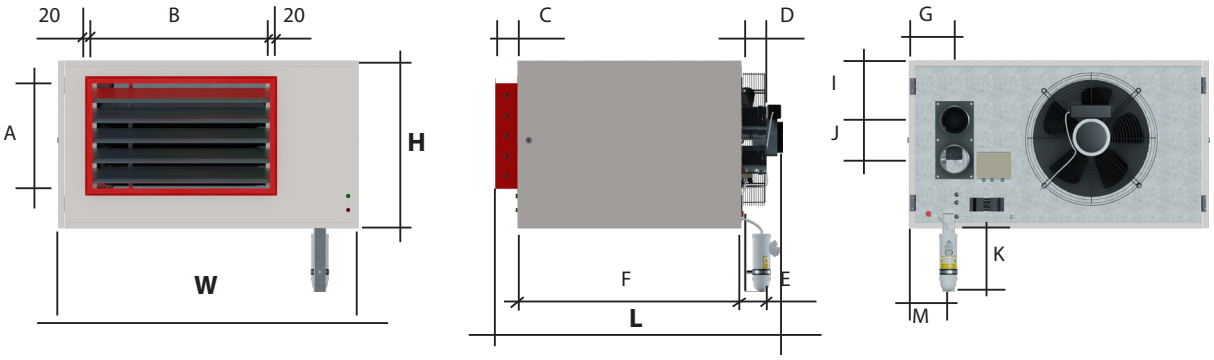
- Heat-proof rust-resisting steel pipe up to 700 °C
- Patented ignition-proof burner line
- Honeywell magnetic valve and ignition controlling electronics
- First-class ventilators made in Europe
- Unique, perfectly fitting INOX exhaust system
- Rust-resistant heat exchanger pipes with outstanding heat transfer
- 2-year complete, extended warranty

CURIOSITY

Our newly developed condensational air heaters can operate in a condensational mode even in 100% mode thanks to the secondary heat exchanger with a bigger surface placed after the main heat exchanger and to the scale-free regulation. Thanks to these two developments, the heating technical efficiency will be in every case 98% independently from the fact whether your device operates on a 100% or on a 60% efficiency. If this efficiency is corrected and the additional energy demand for the condensation is added, we get the complete final efficiency of the device which is about 102% at least.

GTV CONDENS+ A series of axial fan air heater appliances

Type		GTV CON–27/19 A	GTV CON–40/28 A	GTV CON–58/40 A
The device complies with Ecodesign 2281/2016		ERP 2018	ERP 2018	ERP 2018
Max. Input Power [kW]		27	40	58
Input power min. ... max. [kW]		17.6...26.7	26.4...39.9	38.4...58.3
Airflow [m^3/h]		2 790	4 160	5 890
Weight [kg]	Netto	100	123	193
	Transport	106	130	201
Average electric consumption [W]		330	790	790
Electrical connection		One phase 230V / 50Hz		
With modulation regulation (MOD)				
Part-number [Natural gas]		**9109**	**9111**	**9113**
Part-number [Propane]		**9110**	**9112**	**9114**

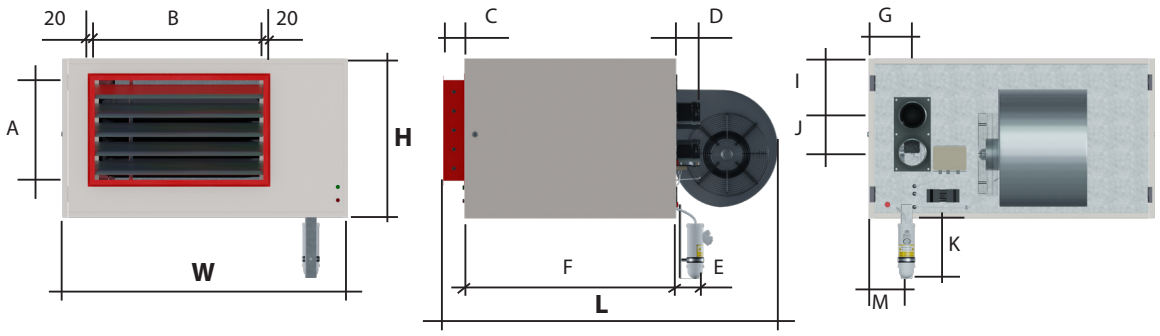


GTV CONDENS+ A series of axial fan air heater appliances

	W	H	L	A	B	C	D	E	F	G	I	J	K	M
GTV CON–27/19 A	1080	600	1030	360	600	85	60	91.5	800	165	215	140	230	141.5
GTV CON–40/28 A	1080	670	1030	500	600	85	60	91.5	800	165	247	140	230	141.5
GTV CON–58/40 A	1170	800	1090	640	600	85	60	91.5	800	232	300	140	230	141.5

GTV CONDENS+ C series of centrifugal fan air heater appliances

Type		GTV CON–27/19 C	GTV CON–40/28 C	GTV CON–58/40 C
The device complies with Ecodesign 2281/2016		ERP 2018	ERP 2018	ERP 2018
Input Power [kW]		27	40	58
Input power min. ... max. [kW]		17.6...26.7	26.4...39.9	38.4...58.3
Airflow [m3/h]		2 787	4 140	5 870
Weight [kg]	Netto	115	145	214
	Transport	128	161	231
Average electric consumption [W]		870	1 090	1 280
Electrical connection		One phase 230V / 50Hz		
With modulation regulation (MOD)				
Part-number [Natural gas]		**9115**	**9117**	**9119**
Part-number [Propane]		**9116**	**9118**	**9120**

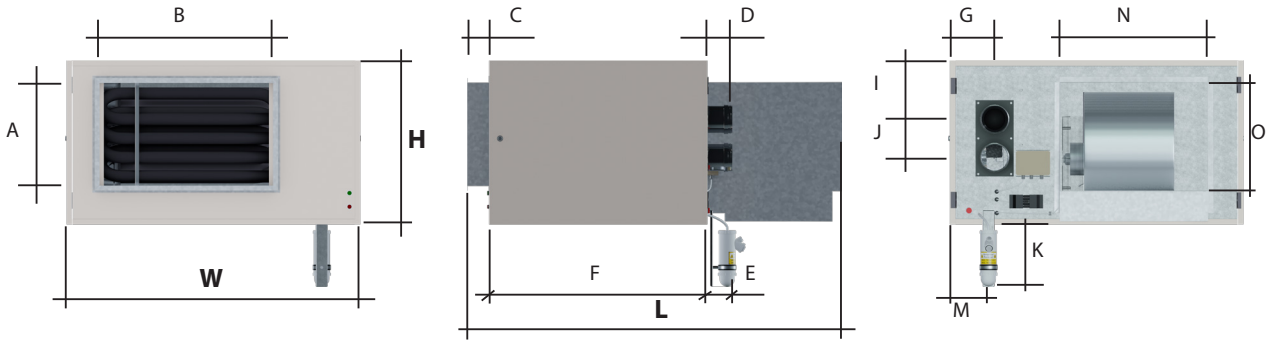


GTV CONDENS+ C series of centrifugal fan air heater appliances

	W	H	L	A	B	C	D	E	F	G	I	J	K	M
GTV CON–27/19 C	1080	600	1370	360	600	85	60	91.5	800	165	215	140	230	141.5
GTV CON–40/28 C	1080	670	1420	500	600	85	60	91.5	800	165	247	140	230	141.5
GTV CON–58/40 C	1170	800	1420	640	600	85	60	91.5	800	232	300	140	230	141.5

GTV CONDENS+ CL series of centrifugal fan with air duct connection air heater appliances

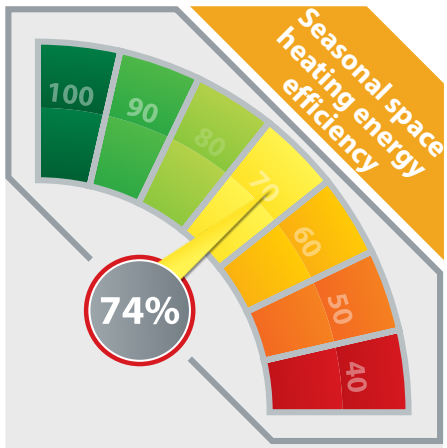
Type		GTV CON–27/19 CL	GTV CON–40/28 CL	GTV CON–58/40 CL
The device complies with Ecodesign 2281/2016		ERP 2018	ERP 2018	ERP 2018
Input Power [kW]		27	40	58
Input power min. ... max. [kW]		17.6...26.7	26.4...39.9	38.4...58.3
Airflow [m^3/h]		2 787	4 140	5 870
Weight [kg]	Netto	121	149	220
	Transport	137	165	237
Average electric consumption [W]		870	1 090	1 280
Electrical connection		One phase 230V / 50Hz		
With modulation regulation (MOD)				
Part-number [Natural gas]		**9121**	**9123**	**9125**
Part-number [Propane]		**9122**	**9124**	**9126**



GTV CONDENS+ CL series of centrifugal fan with air duct connection air heater appliances

	W	H	L	A	B	C	D	E	F	G	I	J	K	M	N	O
GTV CON–27/19 CL	1080	600	1370	360	600	85	60	91.5	800	165	215	140	230	141.5	550	400
GTV CON–40/28 CL	1080	670	1420	500	600	85	60	91.5	800	165	247	140	230	141.5	600	450
GTV CON–58/40 CL	1170	800	1420	640	600	85	60	91.5	800	232	300	140	230	141.5	600	450

GTV



We have been producing and selling our **GTV** air heater devices for more than 10 years now, during which period we collected plenty of information in connection with the functioning of the devices. This gathered information has been integrated into today's final product and thanks to this your chosen unit – whichever it is – will definitely meet all your highest expectations. The fact all the devices are made of the most outstanding raw materials serves the purpose of quality.

The quality of the devices is increased by the fact that all of the manufactured parts undergo a documented final examination before shipping. The air heating device burns the sucked-in mixture of burning-air and gas and creates the heating air which streams through a 3D shaped pipe heat exchanger where the streaming air heats up the pipe coil. The created heat gets into the target area with the help of a blow-off ventilator, which can be carried out by direct blowing or through a ventilation shaft. The devices can be regulated in three ways: by OFF-ON switching, by two-point, either in 100% or 60% mode or by scale-free modulation control. There are significant differences as regards saving between the modes.

- Heat-proof rust-resisting steel pipe up to 700 °C
- Patented ignition-proof burner line
- Honeywell magnetic valve and ignition controlling electronics
- First-class ventilators made in Europe
- Unique, perfectly fitting INOX exhaust system
- Rust-resistant heat exchanger pipes with outstanding heat transfer
- 2-year complete, extended warranty

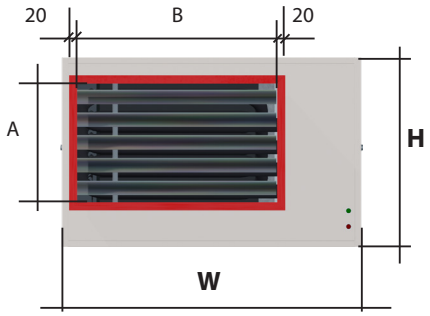
CURIOSITY

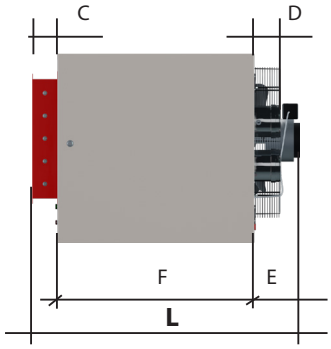
Our forced convection air heater devices functioning with pipe heat exchangers have been available since 2014 with 2-point and modulational controlling. Due to this fact the operating expenses of the device has decreased significantly. Devices functioning with this principle can decrease the income capacity of the device up to 40% automatically depending on the heating requirements. Depending on the chosen controlling mode it can be carried out in one step (2-point regulation) or even by scale-free modulation controlling.

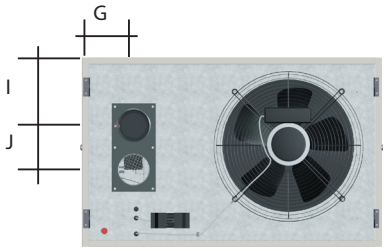
The device does not comply with the ERP2020 standard, therefore it can only be used for technological heating!

GTV A series of axial fan air heater appliances

Type		GTV–20A	GTV–27A	GTV–33A	GTV–40A	GTV–48A	GTV–58A
Input Power for On-Off model [kW]		20	27	33	40	48	58
3-point and modulation input power [kW]		12.2...18.6	16.4...24.9	20.2...30.8	24.4...37.2	28.6 ...43.6	35.6 ...54.3
Airflow [m^3/h]		2 270	2 797	3 478	4 158	5 014	5 890
Weight [kg]	Netto	64	64	86	86	95	95
	Transport	79	79	98	98	106	106
Average electric consumption [W]		219	239	416	455	437	610
Electrical connection		One phase 230V / 50Hz					
With On-Off regulation							
Part-number [Natural gas]		**7432**	**7436**	**7439**	**7442**	**7445**	**7448**
Part-number [Propane]		**7434**	**7437**	**7440**	**7443**	**7446**	**7449**
With 3-point regulation (3P)							
Part-number [Natural gas]		**10204**	**10206**	**10208**	**10210**	**10212**	**10214**
Part-number [Propane]		**10205**	**10207**	**10209**	**10211**	**10213**	**10215**
With modulation regulation (MOD)							
Part-number [Natural gas]		**10216**	**10218**	**10220**	**10222**	**10224**	**10226**
Part-number [Propane]		**10217**	**10219**	**10221**	**10223**	**10225**	**10227**







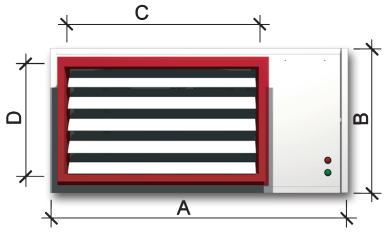
GTV A series of axial fan air heater appliances

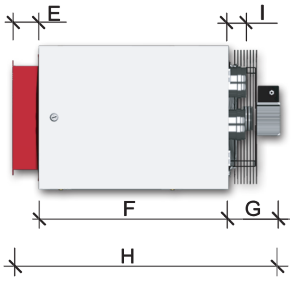
	GTV–20A	GTV–27A	GTV–33A	GTV–40A	GTV–48A	GTV–58A
W	950	950	950	950	950	950
H	470	470	610	610	750	750
L	855	855	855	855	855	855
A	360	360	500	500	640	640
B	600	600	600	600	600	600
C	80	80	80	80	80	80
D	60	60	60	60	60	60
E	155	155	155	155	155	155
F	620	620	620	620	620	620
G	169	169	169	169	169	169
I	117	117	187	187	249	249
J	140	140	140	140	140	140

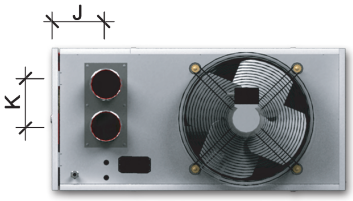
The device does not comply with the ERP2020 standard, therefore it can only be used for technological heating!

GTV A series of axial fan air heater appliances

Type		GTV–68A*	GTV–78A*	GTV–87A*	GTV–97A*	GTV–107A*	GTV–116A*
Input Power for On-Off model [kW]		68	78	87	97	107	116
3-point and modulation input power [kW]		41.7...63.1	48.3...72.9	-	-	-	-
Airflow [m^3/h]		7 070	7 030	8 300	8 300	11 000	11 000
Weight [kg]	Netto	170	170	180	180	208	208
	Trans-port	208	208	220	220	250	250
Average electric consumption [W]		1 026	1 026	836	836	1340	1340
Electrical connection		One phase 230V / 50Hz					
With On-Off regulation							
Part-number [Natural gas]		**8073**	**8075**	**8077**	**8079**	**8083**	**8081**
Part-number [Propane]		**8074**	**8076**	**8078**	**8080**	**8129**	**8082**
With 3-point regulation (3P)							
Part-number [Natural gas]		**10238**	**10242**	-	-	-	-
Part-number [Propane]		**10239**	**10243**	-	-	-	-







GTV A series of axial fan air heater appliances

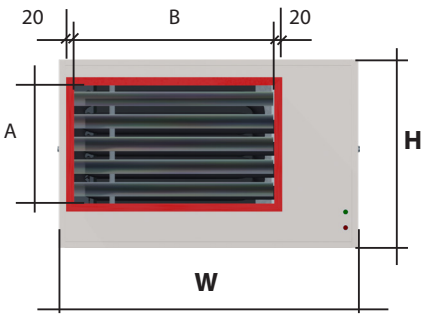
	GTV–68A	GTV– 78A	GTV–87A	GTV–97A	GTV–107A	GTV– 116A
A	1 250	1 250	1 250	1 250	1 250	1 250
B	810	960	960	960	1 110	1 110
H	985	985	985	985	985	985
C	850	850	850	850	850	850
D	700	850	850	850	1 000	1 000
E	80	80	80	80	80	80
F	750	750	750	750	750	750
G	155	155	155	155	155	155
I	60	60	60	60	60	60
J	170	170	170	170	170	170
K	140	140	140	140	140	140

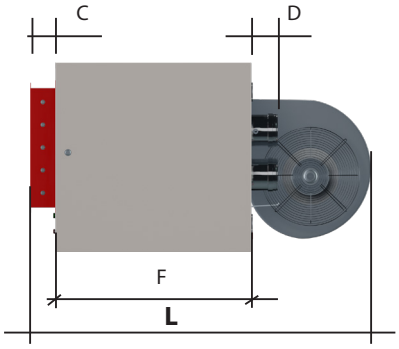
*** The availability of these products is limited, please contact our colleagues before ordering.**

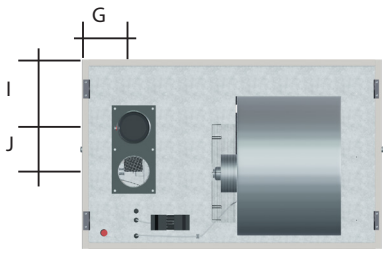
The device does not comply with the ERP2020 standard, therefore it can only be used for technological heating!

GTV C series of centrifugal fan air heater appliances

Type		GTV–20C	GTV–27C	GTV–33C	GTV–40C	GTV–48C	GTV–58C
Input Power for On-Off model [kW]		20	27	33	40	48	58
3-point and modulation input power [kW]		12.2...18.6	16.4...24.9	20.2...30.8	24.4...37.2	28.6 ...43.6	35.6 ...54.3
Airflow [m^3/h]		2270	2800	3480	4160	5010	5890
Weight [kg]	Netto	67.5	67.5	93	93	117	117
	Trans-port	81	81	107	107	128	128
Average electric consumption [W]		738	738	1 461	1 461	1 288	1 288
Electrical connection		One phase 230V / 50Hz					
With On-Off regulation							
Part-number [Natural gas]		**7451**	**7454**	**7457**	**7460**	**7463**	**7466**
Part-number [Propane]		**7452**	**7455**	**7458**	**7461**	**7464**	**7467**
With 3-point regulation (3P)							
Part-number [Natural gas]		**10255**	**10257**	**10259**	**10261**	**10263**	**10265**
Part-number [Propane]		**10256**	**10258**	**10260**	**10262**	**10264**	**10266**
With modulation regulation (MOD)							
Part-number [Natural gas]		**10279**	**10281**	**10283**	**10285**	**10287**	**10289**
Part-number [Propane]		**10280**	**10282**	**10284**	**10286**	**10288**	**10290**







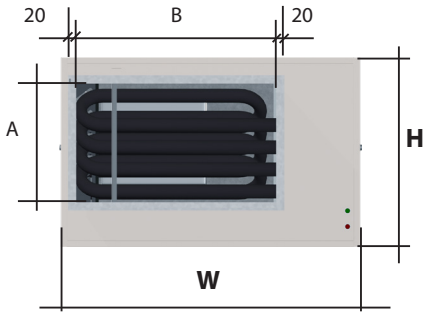
GTV C series of centrifugal fan air heater appliances

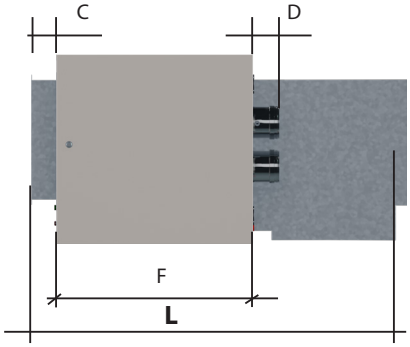
	GTV–20C	GTV– 27C	GTV–33C	GTV–40C	GTV–48C	GTV– 58C
W	950	950	950	950	950	950
H	470	470	610	610	750	750
L	1 040	1 040	1 090	1 090	1 150	1 150
A	360	360	500	500	640	640
B	600	600	600	600	600	600
C	85	85	85	85	85	85
D	80	80	80	80	80	80
F	620	620	620	620	620	620
G	170	170	170	170	170	170
I	117	117	187	187	249	249
J	140	140	140	140	140	140

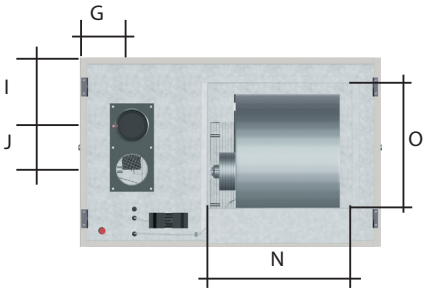
The device does not comply with the ERP2020 standard, therefore it can only be used for technological heating!

GTV CL series of centrifugal fan with air duct connection air heater appliances

Type		GTV–20CL	GTV–27CL	GTV–33CL	GTV–40CL	GTV–48CL	GTV–58CL
Input Power for On-Off model [kW]		20	27	33	40	48	58
3-point and modulation input power [kW]		12...20	12...27	18...33	18...40	26...48	26...58
Airflow [m^3/h]		2270	2800	3480	4158	5014	5890
Weight [kg]	Netto	69,5	69,5	96	96	121	121
	Transport	83	83	110	110	132	132
Average electric consumption [W]		738	738	1 461	1 461	1 288	1 288
Electrical connection		One phase 230V / 50Hz					
With On-Off regulation							
Part-number [Natural gas]		**7469**	**7473**	**7476**	**7479**	**7487**	**7490**
Part-number [Propane]		**7470**	**7474**	**7477**	**7485**	**7488**	**7491**
With 3-point regulation (3P)							
Part-number [Natural gas]		**10267**	**10269**	**10271**	**10273**	**10275**	**10277**
Part-number [Propane]		**10268**	**10270**	**10272**	**10274**	**10276**	**10278**
With modulation regulation (MOD)							
Part-number [Natural gas]		**10291**	**10293**	**10295**	**10297**	**10299**	**10301**
Part-number [Propane]		**10292**	**10294**	**10296**	**10298**	**10300**	**10302**







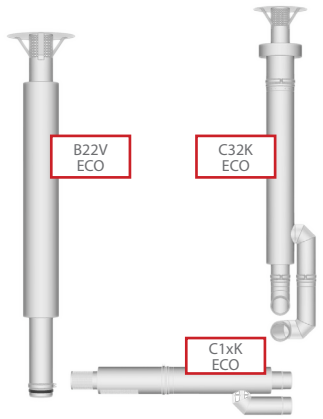
GTV CL series of centrifugal fan with air duct connection air heater appliances

	GTV–20CL	GTV– 27CL	GTV–33CL	GTV–40CL	GTV–48CL	GTV– 58CL
W	950	950	950	950	950	950
H	470	470	610	610	750	750
L	1 120	1 120	1 150	1 150	1 200	1 200
A	360	360	500	500	640	640
B	600	600	600	600	600	600
C	85	85	85	85	85	85
D	80	80	80	80	80	80
F	620	620	620	620	620	620
G	170	170	170	170	170	170
I	135	135	187	187	252	252
J	140	140	140	140	140	140
N	500	500	550	550	600	600
O	350	350	400	400	450	450

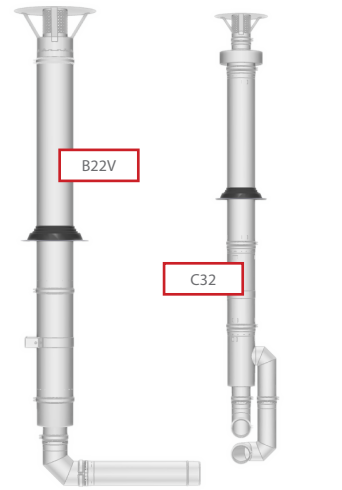
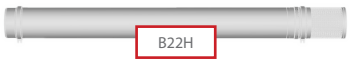
Heat Controlling Systems		Type	Part-number
	2-point regulation thermostat for 2 or 3-point regulated appliances with separate temperature sensor	AHP–1/3K	11146
	2-point regulation thermostat for 2 or 3-point regulated appliances with inner temperature sensor	AHP–1/3	11145
	IP-65 protected temperature sensor for AHP controlling systems	AHP–SR	8220
	3-point regulation thermostat with weekly hour-programming and sensed temperature sensor.	AHP-3	7502
	Modulational regulation thermostat with weekly hour-programming and sensed temperature sensor,	AHP-MOD	9638

Heat Controlling Systems – Smart Line		Type	Part-number
	Two zone touchscreen On-Off regulation thermostat, with 2 sensed temperature sensors, coding possibility, admin interface. (It can be extended up to 240 zones with TW-4Z2)	TW-4	9585
	Adding plus 2 zone controlling unit to TW-4 or TW-6 regulators. (It does not contain any temperature sensors!)	TW–4Z2	9586
	On-Off regulation controller on computer with Web interface instead of TW-4 (at least one IC–BOX or TW-4Z2 necessary for the controlling)	TW–6	9587
	Additional controller for modulation regulation for Zenit appliances (TW-6 or TW-4 necessary for the controlling)	IC–BOX	9588

* For the installation of our heat regulation systems higher level of computer skills may be needed, that is why you should ask our colleagues for help before the installation if it is necessary.

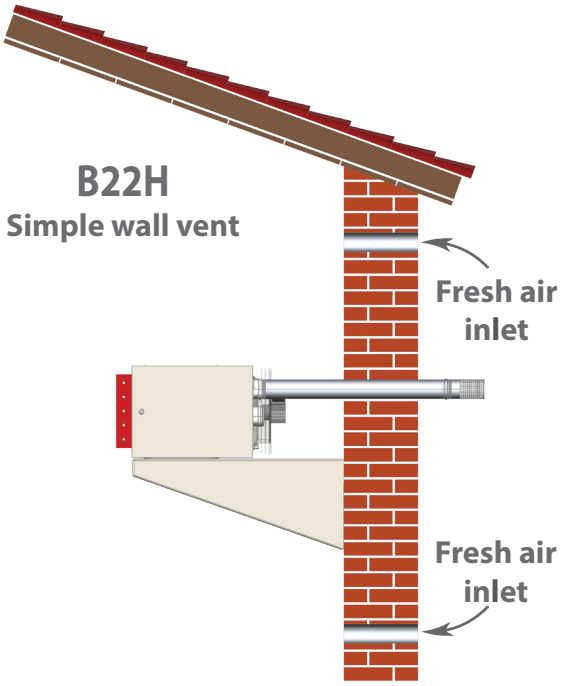
GTV INOX ECO Combined air supply and venting set *	Type	Part-number
		
Vertical outside venting set with rain cap	B22V ECO	9824
Coaxial, horizontal combined air supply and venting set	C1xK ECO	9826
Coaxial, vertical combined air supply and venting set, with double bend and rain cap	C32K ECO	9822

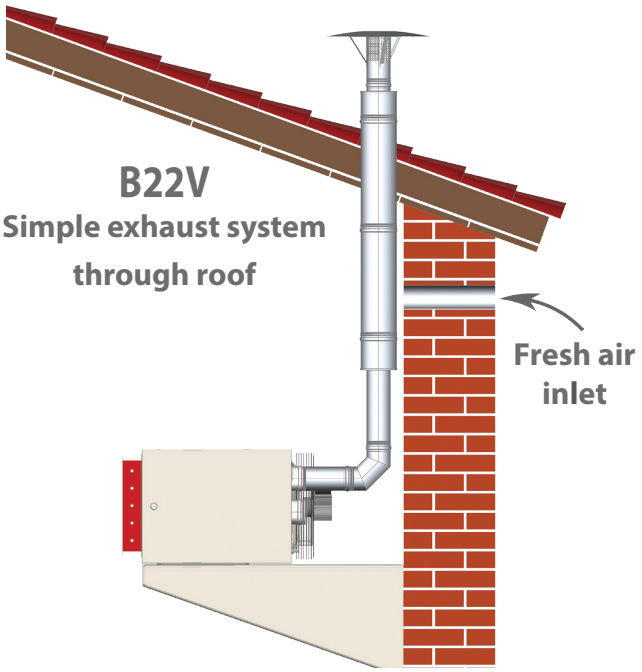
** The ECO sets cannot be extended, they must be treated as one unit!*

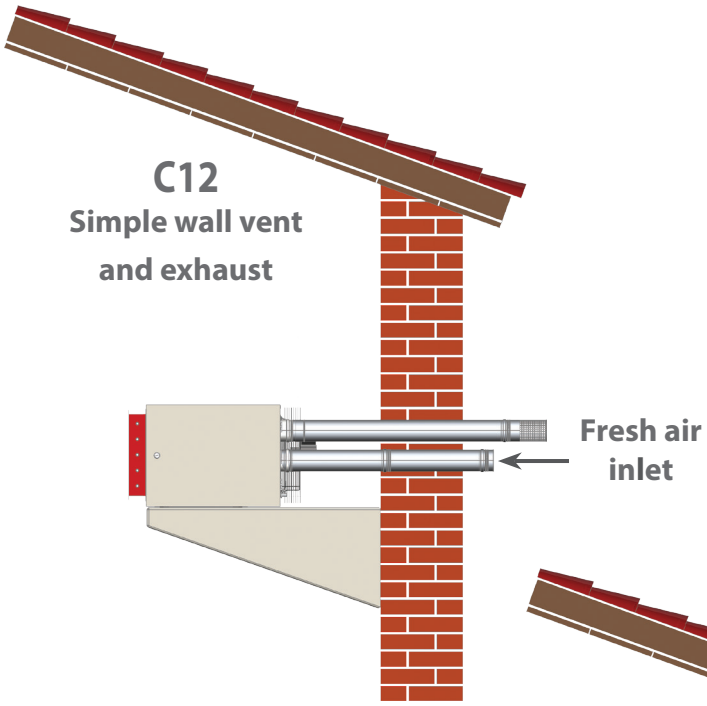
GTV INOX Combined air supply and venting set	Type	Part-number
		
Horizontal outside air supply	OLSZ 100/500	9776
		
Horizontal air venting set	B22H	7648
Horizontal combined air supply and venting set	C12	7639
Coaxial, horizontal combined air supply and venting set	C1xK	7572
Coaxial, horizontal combined air supply and venting set to agricultural activity	C12K PTH	3607
Coaxial, horizontal combined air supply and venting set * (150/100 mm)	C12N	7775
		
Vertical venting set with rain cap and roof flashing	B22V	7650
		
Coaxial, vertical combined air supply and venting set with rain cap and roof flashing	C32	7556
Coaxial, vertical combined air supply and venting set with rain cap and roof flashing	C32N	7952

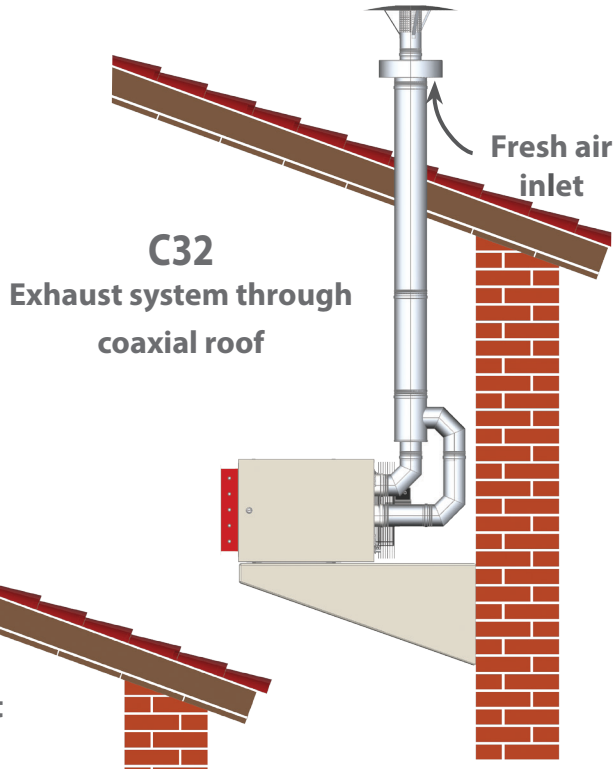
* For GTV type devices with a capacity between 68kW and 116kW the air intake connections „father" types and the flue gas outlet connections are „female" types. The diameter of the air and flue system of the GTV 58–116kW type devices is 150/100 mm.

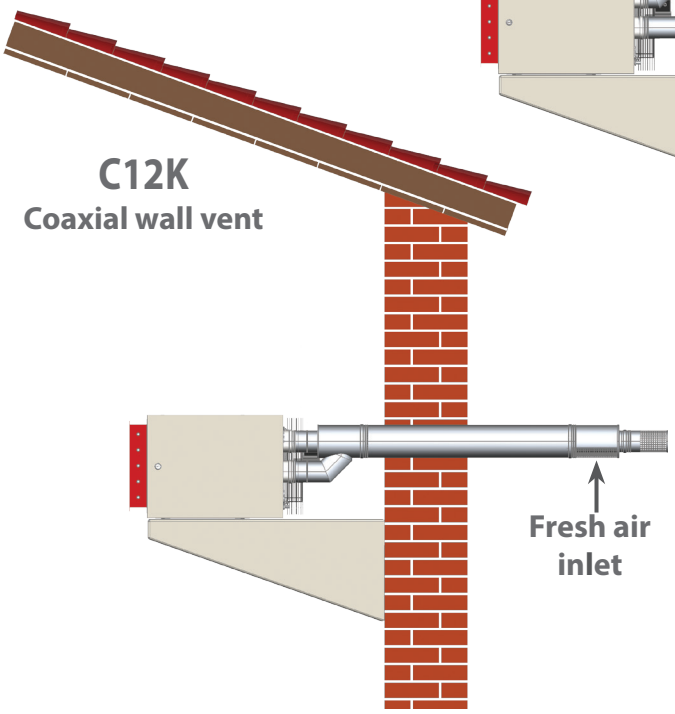
INOX One-wall exhaust system profiles		Type	Part-number
	1000 mm straight exhaust system pipe, Ø100 mm	LDC 1000	6989
	500 mm straight exhaust system pipe, Ø100 mm	LDC 500	7416
	250 mm straight exhaust system pipe, Ø100 mm	LDC 250	7944
	Bend 90°, three parts 165x165mm, Ø100 mm	LDKB 90	7417
	Three-part 90° bend with removable observing door 180x180mm, Ø100 mm	LDKBCR90	3597
	Bend 45°, two parts, Ø100 mm	LDKB 45	6424
	Strained „T" profile equal 90°330x200mm, Ø100 mm	LTK90	5439
	Strained „T" profile, 330mm, Ø100 mm	LTK45	8515
	Condense draining profile, side outflow 3/8" 240mm, Ø100 mm	LPDEA	4685
	Chimney starting profile with an observing door + a condense draining opening, 460mm, Ø100 mm	LKOMORA	4977
	Pipe switch clamp	LS–1	7003
	"O" filler ring (to inner diameter), Ø100 mm	OGY	6698
	Wall Y fix fastener clamp	LZDJ	1048
	Fume pipe to wall fastener	LZDR	8387
	500 mm straight pipe with removable observing door	LDCCR 500/100	3598
	Bend 90°, three parts, widened on both sides Ø100 mm	LDKBD 90/100	9846
	250 mm pipe widened on both sides Ø100mm	LDDC 250/100	8490
	Strained „T" profile with drain pipe Ø100 mm	LTKKBM 90/100	3596


B22H
Simple wall vent
Fresh air inlet
Fresh air inlet

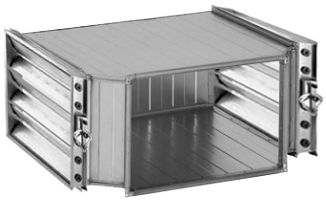

B22V
Simple exhaust system through roof
Fresh air inlet

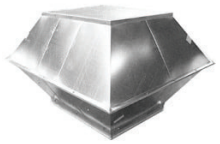

C12
Simple wall vent and exhaust
Fresh air inlet

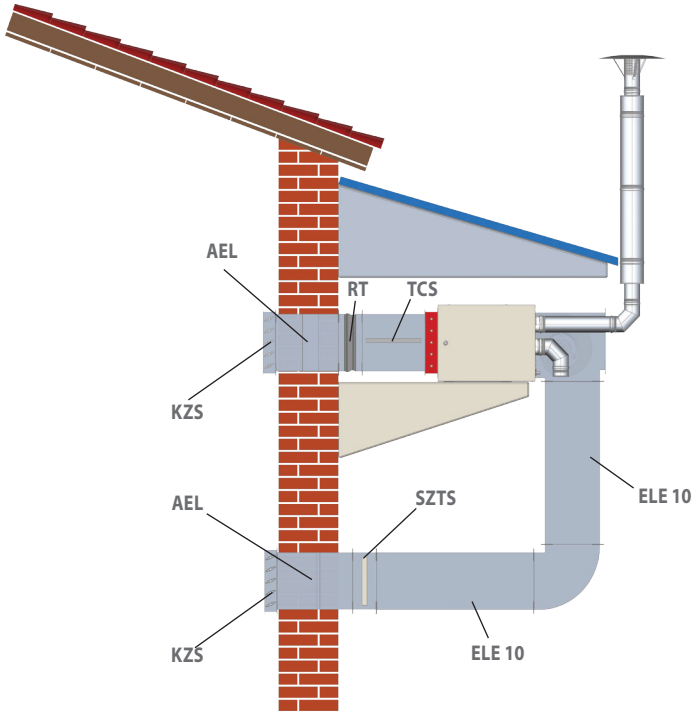

C32
Exhaust system through coaxial roof
Fresh air inlet

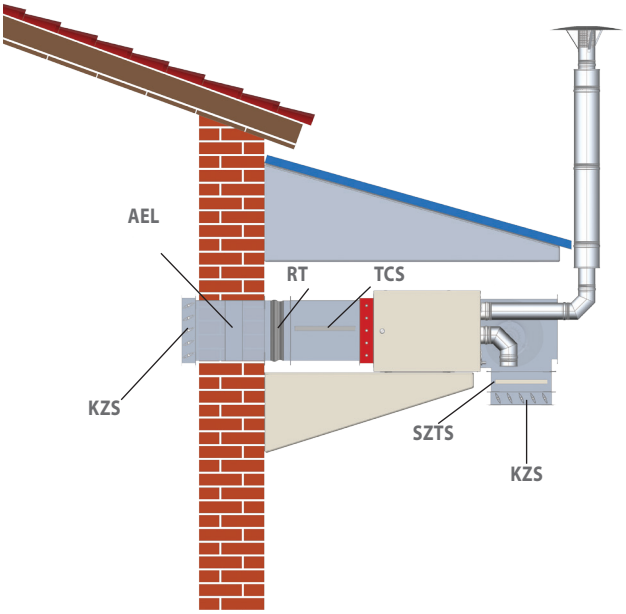

C12K
Coaxial wall vent
Fresh air inlet

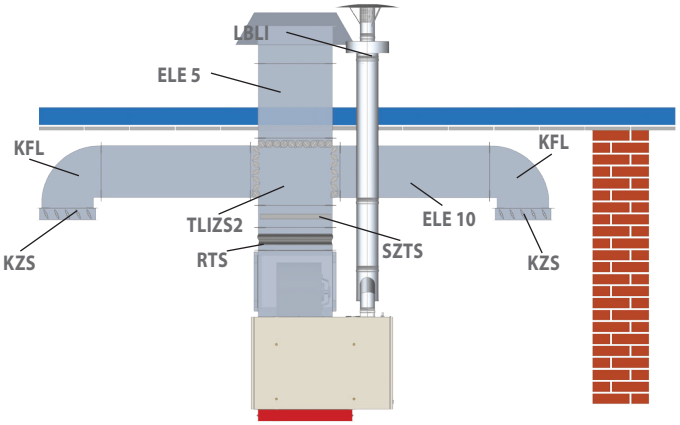
Air duct elements			Type	Part-number
	Straight air duct element to GTV 20–27	250 mm	ELE 2.5 20–27	9565
		500 mm	ELE 5 20–27	9336
		1 000 mm	ELE 10 20–27	9337
	Straight air duct element to GTV 33–40	250 mm	ELE 2.5 33–40	9566
		500 mm	ELE 5 33–40	9338
		1 000 mm	ELE 10 33–40	9339
	Straight air duct element to GTV 48–58	250 mm	ELE 2.5 48–58	9567
		500 mm	ELE 5 48–58	9340
		1 000 mm	ELE 10 48–58	9341
	90° flat elbow to GTV 20 – 27		KFL 20–27	9342
	90° flat elbow to GTV 33 – 40		KFL 33–40	9343
	90° flat elbow to GTV 48 – 58		KFL 48–58	9344
	T equal ventilation shaft profile to GTV 20 – 27		TLI 20–27	9345
	T equal ventilation shaft profile to GTV 33 – 40		TLI 33–40	9346
	T equal ventilation shaft profile to GTV 48 – 58		TLI 48–58	9347
	Adjustable straight ventilation shaft element to GTV 20 – 27		AEL 0.5 20–27	7672
			AEL 1.0 20–27	9602
	Adjustable straight ventilation shaft element to GTV 33 – 40		AEL 0.5 33–40	7673
			AEL 1.0 33–40	9603
	Adjustable straight ventilation shaft element to GTV 48 – 58		AEL 0.5 48–58	7674
			AEL 1.0 48–58	9604
	External air-suction duct with bird mesh to GTV 20 – 27		KLM 20–27	7659
	External air-suction duct with bird mesh to GTV 33 – 40		KLM 33–40	7660
	External air-suction duct with bird mesh to GTV 48 – 58		KLM 48–58	7661

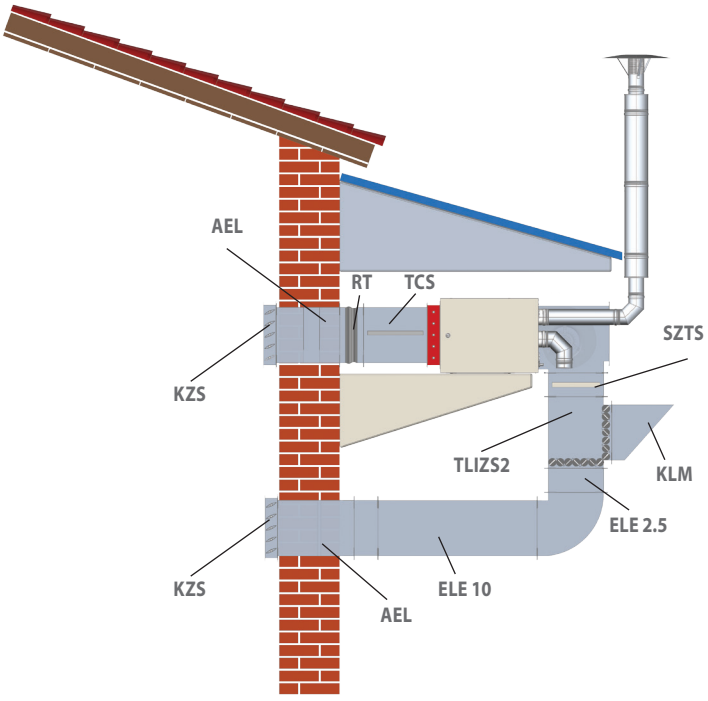
Air duct elements		Type	Part-number
	Filter holder element with filter to GTV 20 – 27	SZTS 20–27	7662
	Filter holder element with filter to GTV 33 – 40	SZTS 33–40	7663
	Filter holder element with filter to GTV 48 – 58	SZTS 48–58	7666
	Vibration damper profile to front side GTV 20 – 27	RT 20–27	7667
	Vibration damper profile to front side GTV 33 – 40	RT 33–40	7668
	Vibration damper profile to front side GTV 48 – 58	RT 48–58	7671
	Vibration damper profile to back side GTV 20 – 27	RTS 20–27	10182
	Vibration damper profile to back side GTV 33 – 40	RTS 33–40	10183
	Vibration damper profile to back side GTV 48 – 58	RTS 48–58	10184
	Fire-protection clack to GTV 20 – 27	TCS 20–27	7675
	Fire-protection clack to GTV 33 – 40	TCS 33–40	7676
	Fire-protection clack to GTV 48 – 58	TCS 48–58	7677
	T ventilation shaft profile with adjustable shutters on both sides to GTV 20 – 27	TLIZS–2 20–27	9348
	T ventilation shaft profile with adjustable shutters on three sides to GTV 20 – 27	TLIZS–3 20–27	9349
	T ventilation shaft profile with adjustable shutters on both sides to GTV 33 – 40	TLIZS– 2 33–40	9350
	T ventilation shaft profile with adjustable shutters on three sides to GTV 33 – 40	TLIZS–3 33–40	9351
	T ventilation shaft profile with adjustable shutters on both sides to GTV 48 – 58	TLIZS–2 48–58	9352
	T ventilation shaft profile with adjustable shutters on three sides to GTV 48 – 58	TLIZS–3 48–58	9353
	Adjustable air-suction/blowing shutters to GTV 20 – 27	AZS 20–27	9354
	Adjustable air-suction/blowing shutters to GTV 33 – 40	AZS 33–40	9355
	Adjustable air-suction/blowing shutters to GTV 48 – 58	AZS 48–58	9356

Air duct elements			Type	Part-number
	Air-suction profile through the roof to GTV 20 – 27		LBLI 20–27	9357
	Air-suction profile through the roof to GTV 33 – 40		LBLI 33–40	9358
	Air-suction profile through the roof to GTV 48 – 58		LBLI 48–58	9359
	Air-suction/blowing shutters to GTV 20 – 27		KZS 20–27	9360
	Air-suction/blowing shutters to GTV 33 – 40		KZS 33–40	9361
	Air-suction/blowing shutters to GTV 48 – 58		KZS 48–58	9362
	Shutter-moving engine	24V	ZSMM 24	9363
		~230V	ZSMM 230	9605


AEL
RT
TCS
KZS
AEL
SZTS
ELE 10
KZS
ELE 10


AEL
RT
TCS
KZS
SZTS
KZS


LBLI
ELE 5
KFL
KFL
TLIZS2
ELE 10
SZTS
RTS
KZS
KZS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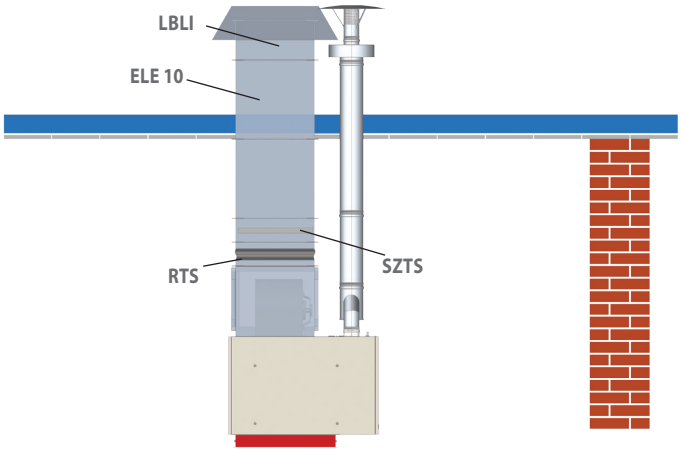
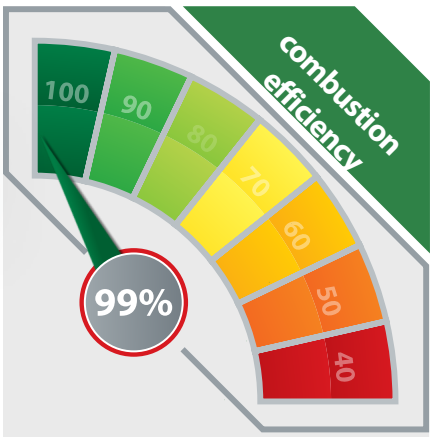
RT
TCS
SZTS
KZS
TLIZS2
KLM
ELE 2.5
KZS
ELE 10
AEL


LBLI
ELE 10
RTS
SZTS

Fittings		Type	Part-number
	1/2" gas coupling set (ball-end+filter+flexible acid-resistant gas tube) 500 – 1 000 mm	GBSZ ½"	990
	¾" gas coupling set (ball-end+filter+flexible acid-resistant gas tube) 500 – 1 000 mm	GBSZ ¾"	2612
	Wall fastener console to "A" type GTV 20...up to 58 kW and to "C or CL" types GTV 20...27 kW	OK 20–58	8172
	Wall fastener console to "C or CL" types GTV 33...40 kW	OK 33–58	8171
	Fastener tying to hanging designs (4 pairs / device)	GTV–FP	8204
	Gripple suspension wire with a noose end in 1–4m length	HFS 1.0	9129
		HFS 2.0	9130
		HFS 3.0	9131
		HFS 4.0	9132
	Gripple suspension wire M8 with screwed rod in 1–4 m length	MFS 1.0	9133
		MFS 2.0	9134
		MFS 3.0	9135
		MFS 4.0	9136
	Gripple suspension wire with a STOP end in 1–4 m length	SFS 1.0	9137
		SFS 2.0	9138
		SFS 3.0	9139
		SFS 4.0	9140
	Gripple suspension wire with a hook end in 1–4 m length	KFS 1.0	9141
		KFS 2.0	9142
		KFS 3.0	9143
		KFS 4.0	9144
	Gripple suspension wire with a bore-hole end in 1–4 m length	FFS 1.0	9145
		FFS 2.0	9146
		FFS 3.0	9147
		FFS 4.0	9148

SIERRA



We have been selling our **SIERRA** brooders for more than 15 years. These devices are manufactured on the basis of an English licence and some of the integrated parts come direct from England and other spare parts come from European partners.

Another contributing factor of the quality of our devices is that after the production only those products are exported from our plant that passed the final examination during which the data given by the customer were set-up.

The appliance operates on the basis of radiant heating. The burner rose head – located in at the bottom of the radiant cone – heats up the surface of the external, acid-resistant cone radiant cone on the effect of which a high intensity heat radiation energy transmission happens. One of the most important feature of the device is that behind the external cone there can be found an inner, isolated reflecting cone which provides a more efficient heat transmission. The devices can be operated in three ways: by OFF-ON switching in manual mode, by OFF-ON switching in automatic 24V mode and by OFF-ON switching in automatic 230V mode. Further advantages:

- Acid-resistant, perforated radiant cone
- SIT magnetic valve and ignition controlling electronics
- Highly rigid, deep strained aluminium reflector
- Unique radiant cone provided with inner isolation
- Three types of controlling modes
- Parabolic shield profile for the increase of the efficiency
- 2-year complete warranty

CURIOSITY

The parabolic shield heat radiators are used – due to their even heat transmission – mainly in the agriculture, but they are suitable for individual heating solutions both inside or outside, like for the heating of terraces, outdoor areas, smoking areas or the working stations of building sites.

The three optional controlling provide a flexible solution for the application under different circumstances.

The increased efficiency of the device is provided by the isolated, inner reflection element located on the inner surface of the radiant cone.

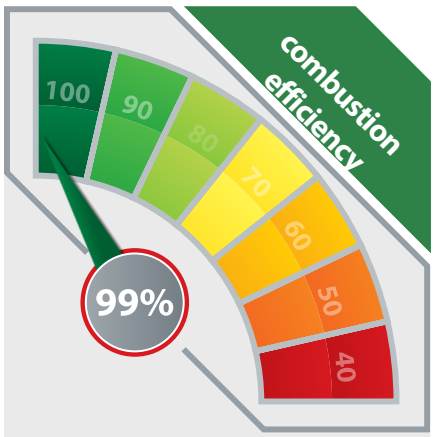
SIERRA parabolic shield infrared heat radiator

Type		SIE 24	SIE SN	SIE 230
Input Power [kW]		10	10	10
Length [mm]		895		
Width [mm]		895		
Height [mm]		640		
Weight [kg]	Netto	10	10	10
	Transport	10	10	10
Average electric consumption [W]		5	–	8
Electrical connection		24V / 50Hz	–	One phase 230V / 50Hz
Part-number [Natural gas]		**4580**	**8568**	**4581**

Fittings		Type	Part-number
	1/2" gas coupling set (ball-end+filter+flexible acid-resistant gas tube) 500 – 1 000 mm	GBSZ ½"	990
 	Gripple suspension INOX wire with a noose end in 1–4m length	HFS 1.0i	9189
		HFS 2.0i	9190
		HFS 3.0i	9191
		HFS 4.0i	9192
	Gripple suspension INOX wire M8 with screwed rod in 1–4 m length	MFS 1.0i	9193
		MFS 2.0i	9194
		MFS 3.0i	9195
		MFS 4.0i	9196
	Gripple suspension INOX wire with a STOP end in 1–4 m length	SFS 1.0i	9197
		SFS 2.0i	9198
		SFS 3.0i	9199
		SFS 4.0i	9200

GRIPPLE

LH



We have been manufacturing and selling our **LH** tube radiant heater devices for more than 15 years. During their development the primary aim was the simplest possible application without malfunctions under agricultural circumstances.

The quality of our **LH** air heaters is increased – just like in case of our other products – by the fact that all our products must undergo a final examination after the production and during this process the data given by the customer are set.

These devices are direct operation air heaters, which means that the mixture of the incoming gas and heating/burning air is ignited on the round burner line safely due to the design of the burners and creates a stable flame. This flame heats up the huge amount of air flowing through the device and it gets directly into the target area without any loss. The devices can be operated in two ways, with OFF–ON switching or in ventilating mode from the thermostat or from the central controlling unit. Further advantages:

- First class acid-resistant cover with high heat-resistance
- Honeywell magnetic valve and ignition controlling electronics
- Ignition-proof burner line with corrosion-resistant coating
- First-class blow-off ventilator made in Europe
- Two-part external cover for the easy maintenance
- Obstruction heat disc for more efficient exothermic features
- 2-year complete warranty

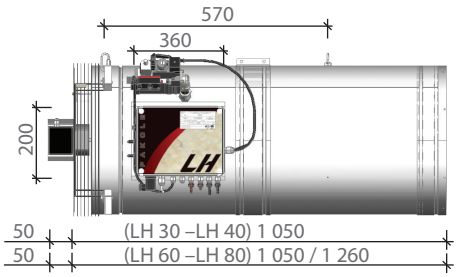
CURIOSITY

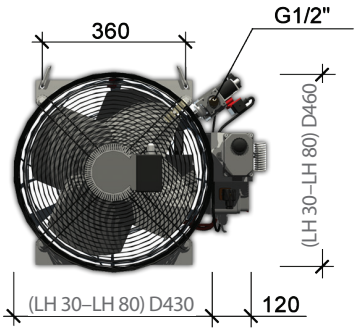
In case of the application of direct operation air heaters, it is important to consider – already in the planning phase – the fact that the combustion gases which are created during the burning process are not removed from the target area. That is why it is essential to provide the necessary quality and quantity of fresh air in every case. The devices can operate with external fresh air only partly. In these cases the amount of the ventilation air can be reduced. The safe functioning of the devices can be guaranteed only by regular cleaning of the devices.

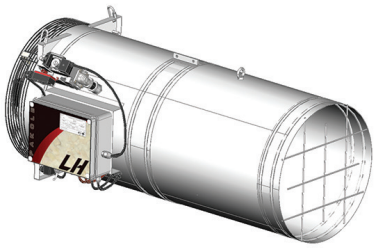
Direct operation air heaters function on an efficiency of nearly 100%, because the combustion gases generated during the burning get stuck in the target area.

LH direct operation air heater devices

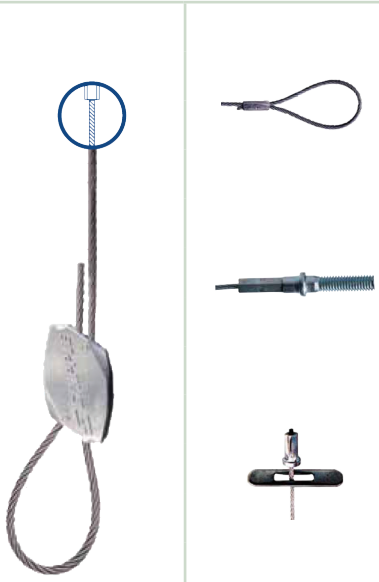
Type		LH–30	LH–40	LH–50	LH–60	LH–70	LH–80
Input Power [kW]		30	40	50	60	70	80
Airflow [m3/h]		3 600	3 600	3 600	3 600	3 600	3 600
Weight [kg]	Netto	22.5	22.5	22.5	23.5	23.5	23.5
	Transport	24	24	24	26	26	26
Average electric consumption [W]		186	186	186	186	186	186
Electrical connection		One phase 230V / 50Hz					
Part-number [Natural gas]		**4270**	**4271**	**4272**	**4273**	**4274**	**5537**
Part-number [Propane]		**230**	**233**	**237**	**238**	**241**	**10087**





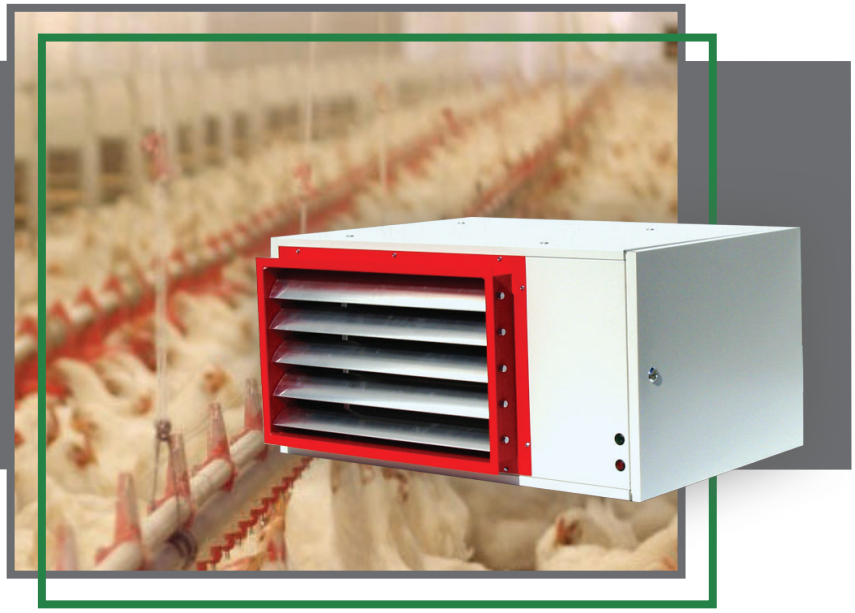


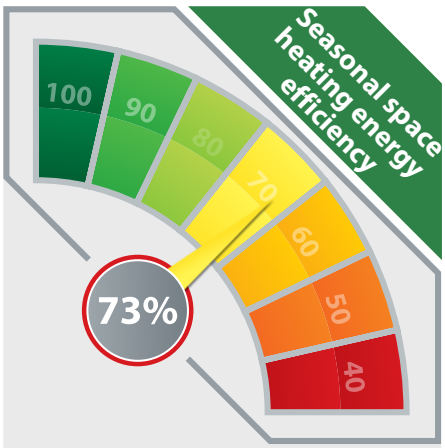
Heat Controlling Systems		Type	Part-number
	Temperature regulators that can be integrated on LH devices	LH–HSZ	7622

Fittings		Type	Part-number
	1/2" gas coupling set (ball-end+filter+flexible acid-resistant gas tube) 500 – 1 000 mm	GBSZ ½"	990
	Gripple suspension INOX wire with a noose end in 1–4m length	HFS 1.0i	9189
		HFS 2.0i	9190
		HFS 3.0i	9191
		HFS 4.0i	9192
	Gripple suspension INOX wire M8 with screwed rod in 1–4 m length	MFS 1.0i	9193
		MFS 2.0i	9194
		MFS 3.0i	9195
		MFS 4.0i	9196
	Gripple suspension INOX wire with a STOP end in 1–4 m length	SFS 1.0i	9197
		SFS 2.0i	9198
		SFS 3.0i	9199
		SFS 4.0i	9200

GRIPPLE

GTV AGRO





The **GTV AGRO** type of air heater is one of our company's latest product. During its development we applied all the information that we collected during 20 years of execution and operation in agriculture. As the result of this development we managed to create a product which has the highest quality in its category. The fact all the devices are made of the most outstanding raw materials serves the purpose of quality.

During the designing of the air heaters it was a priority that the devices can function without problems under all highly polluted circumstances where a strong concentration of dust and corrosive materials can occur due to animal husbandry. That is why we recommend our **GTV AGRO** units to be used in chicken, turkey and/or pig breeders. The quality of the devices is increased by the fact that all of the manufactured parts undergo a documented final examination before shipping. The air heating device burns the sucked-in mixture of burning-air and gas and creates the heating air which streams through double lined 3D shaped pipe heat exchangers where the streaming air heats up the pipe coils. The created heat gets into the target area with the help of a blow-off ventilator, which can be carried out by direct blowing. Further advantages:

- Heat-proof rust-resisting steel pipe up to 700 °C
- Patented ignition-proof burner line
- IP 55 cover for the controlling unit
- First-class ventilators with closed house made in Europe
- Unique, perfectly fitting INOX exhaust system
- Rust-resistant heat exchanger pipes with outstanding heat transfer
- 2-year complete, extended warranty

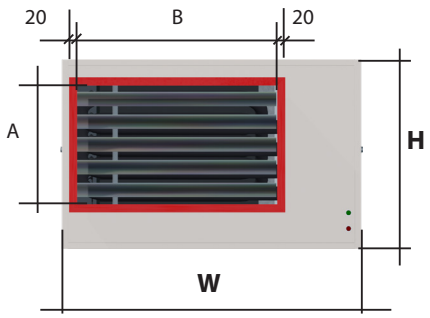
CURIOSITY

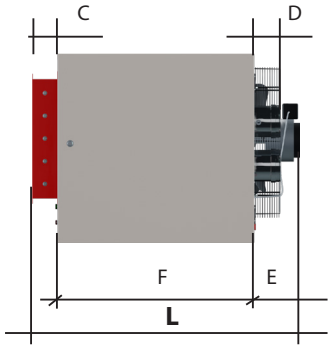
The newly developed **GTV AGRO** air heaters can be applied with great efficiency not just in animal breeding farms, but also in greenhouses, since due to the well isolated inner electronic design our devices are resistant to the environmental circumstances resulting from the increased humidity.

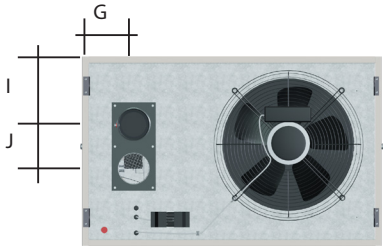
The devices can be supplied with an external, burning controlling unit with the help of which the actual operational state of the air heater can be monitored continuously and the unit can be monitored and/or reset even far from the breeding site.

GTV AGRO A series of axial fan air heater appliances

Type		GTV AGRO–48 A	GTV AGRO–58 A
Input Power [kW]		48	58
Airflow [m3/h]		3 600	5 200
Weight [kg]	Netto	97	97
	Transport	108	108
Average electric consumption [W]		773	773
Electrical connection		230 V / 50 Hz	
Part-number [Natural gas]		**9177**	**9179**
Part-number [Propane]		**9178**	**9180**



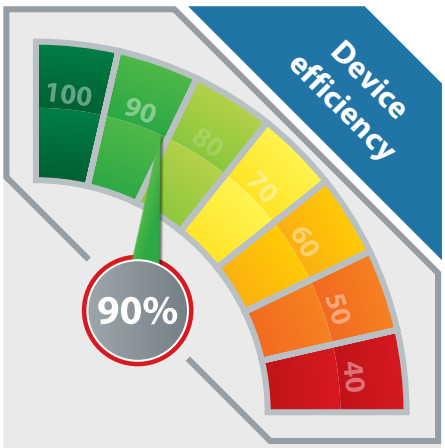




GTV AGRO A series of axial fan air heater appliances

	GTV AGRO–48 A	GTV AGRO–58 A
W	950	950
H	750	750
L	855	855
A	650	650
B	600	600
C	80	80
D	60	60
E	155	155
F	620	620
G	169	169
I	249	249
J	140	140

AFR-C



Due to their modern and reliable design, **AFR-C** thermoventilators are perfect choices for large buildings and halls where quick heating-up and stable temperature are required. Our range of **AFR-C** thermoventilator series offers more different models for our customers.

The appliance housing is made of expanded polypropylene (EPP), a 100% recyclable material, in a lightweight and reliable design. The direction of airflow is regulated to the side by the bracket and vertically by the outlet shutters. It can be operated with both low and high temperature heating water. The device operates on a forced convection principle by heating loop expansion pipes and aluminium lamellas mounted on them, using hot or warm water coming from the distribution network to the unit, which allows the heat to be delivered by a fan to the space to be heated. Thermoventilators can be controlled in a variety of ways, either by 3-stage blow-off fans or mixing valves.

Further advantages:

- Easy installation on the sidewall or ceiling
- Simple adjustment of outlet shutters
- Durable, extremely lightweight EPP housing
- High quality heat exchanger with excellent heat transfer ability
- Long service life, low operating costs
- 1-years full warranty

CURIOSITY

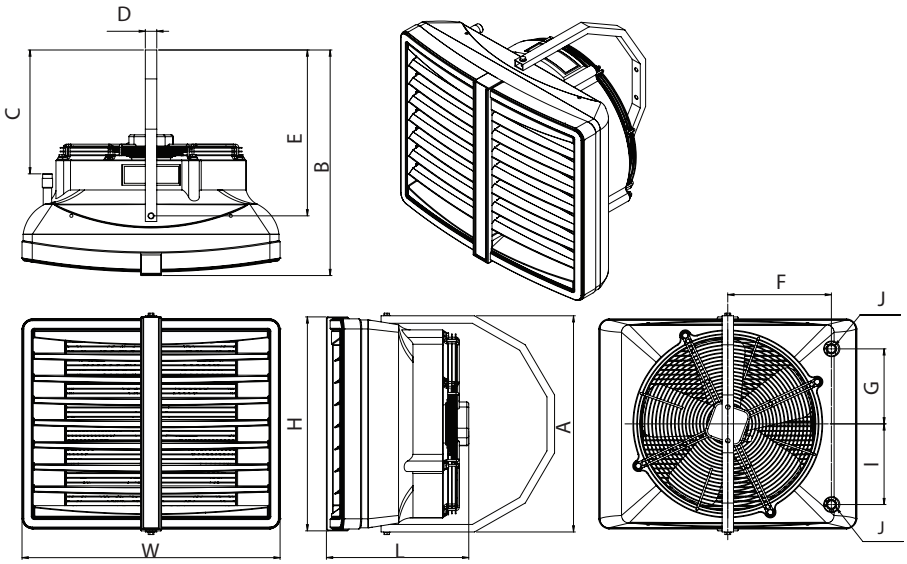
EPP has been used in industry since 1982 and thanks to the state of the art manufacturing processes, it can now be utilized for more and more purposes, for instance to manufacture large heating appliances with varied heat ranges.

The durability and strength of EPP is equal to those of conventional thermoventilator housings, but it weighs less than one-third the weight thereof, which makes mounting much easier.

Thanks to the EPP housing, this appliance is also suitable for heating wet, humid and chemical-contaminated areas.

AFR-C Air heaters

	AFR-C0	AFR-C1	AFR-C2	AFR-C3	AFR-M1
Heat output range [kW]	7–20	9–30	13–50	20–70	-
Max. Air flow [m³/h]	1 600	3 900	3 350	2 950	4 800
Number of unit rows	2	1	2	3	-
Air temperature increase [°C]	35	19	33	48	-
Max. working pressure [Mpa]	1.6	1.6	1.6	1.6	-
Max. airflow range [m]	14	27	25	24	11.4
Diameter of connection nozzles [ø]	1/2″	3/4″	3/4″	3/4″	-
Electrical connection [V/Hz]	230V /50 Hz				
Motor Input Power [kW]	0.124	0.25	0.25	0.25	0.25
Motor speed [RPM]	1400	1350	1350	1350	1350
IP protection class	IP54				
Noise level max. [dB(A)]	35 / 46 / 52	44 / 52 / 62	41 / 50 / 60	39 / 48 / 60	36 / 44 / 54
Weight [kg] Netto	9.6	10.8	12.7	14.5	9.2
Weight [kg] Transport	10.7	11.9	14.8	16.9	11
Part-number	11064	11065	11066	11067	11069
AFR installation bracket					
Part-number	10802	10006			



Size [mm]	C0	C1, C2, C3, M1
W	570	680
H	508	570
L	332	375
A	532	576
B	456	601
C	228	330
D	30	30
E	324	442
F	222	273
G	181	200
I	183	215
J	G 1/2″	G 3/4″

AFR-C0 Air flow 1 600 m³/h (speed 3.)

	Inlet/outlet water temperature 120/90 °C					Inlet/outlet water temperature 90/70 °C					Inlet/outlet water temperature 70/50 °C					Inlet/outlet water temperature 50/30 °C				
Inlet air temperature [°C]	0	5	10	15	20	0	5	10	15	20	0	5	10	15	20	0	5	10	15	20
Heat output [kW]	25.7	24.4	23.1	21.8	20.5	18.7	17.5	16.2	15.0	13.8	12.5	11.4	10.2	9.1	7.9	6.7	5.6	4.6	3.4	1.8
Outlet air temperature [°C]	46.4	49.0	51.6	54.1	56.6	35.0	37.5	40.1	42.6	45.2	24.9	27.4	29.9	32.3	34.8	14.4	16.7	19.0	21.1	22.2
Water flow [m³/h]	0.8	0.7	0.7	0.6	0.6	0.9	0.8	0.7	0.7	0.6	0.6	0.6	0.5	0.4	0.4	0.4	0.3	0.3	0.2	0.1
Pressure drop [kPa]	14.7	13.4	12.2	11.0	9.8	19.6	17.4	15.2	13.2	11.3	11.5	9.7	8.0	6.5	5.1	5.0	3.6	2.5	1.5	0.5

AFR-C1 Air flow 3 900 m³/h (speed 3.)

	Inlet/outlet water temperature 120/90 °C					Inlet/outlet water temperature 90/70 °C					Inlet/outlet water temperature 70/50 °C					Inlet/outlet water temperature 50/30 °C				
Inlet air temperature [°C]	0	5	10	15	20	0	5	10	15	20	0	5	10	15	20	0	5	10	15	20
Heat output [kW]	37.9	35.9	33.9	31.9	29.9	23.0	25.1	23.2	21.3	19.5	16.0	14.4	12.9	11.3	9.7	8.7	7.1	5.4	3.6	1.7
Outlet air temperature [°C]	30.7	36.0	41.3	16.6	51.9	18.0	25.8	30.7	35.5	40.3	12.8	16.9	21.2	25.3	29.4	7.3	11.4	15.5	19.4	23.2
Water flow [m³/h]	0.9	0.8	0.8	0.7	0.7	0.8	0.9	0.8	0.8	0.7	0.7	0.6	0.6	0.5	0.4	0.4	0.3	0.2	0.2	0.1
Pressure drop [kPa]	9.4	8.5	7.7	6.9	6.1	9.7	11.1	9.6	8.3	7.1	7.1	5.9	4.8	3.8	2.9	2.8	1.9	1.2	0.6	0.2

AFR-C2 Air flow 3 350 m³/h (speed 3.)

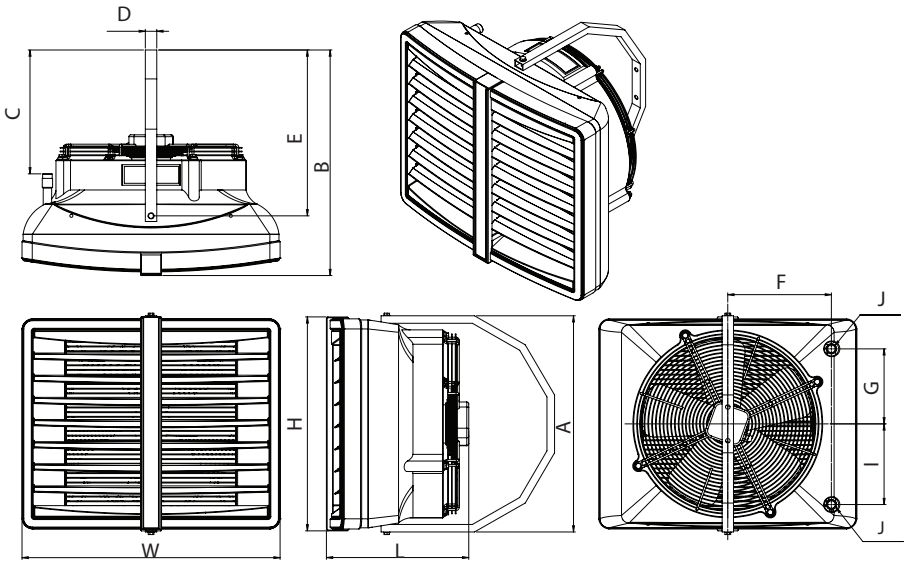
	Inlet/outlet water temperature 120/90 °C					Inlet/outlet water temperature 90/70 °C					Inlet/outlet water temperature 70/50 °C					Inlet/outlet water temperature 50/30 °C				
Inlet air temperature [°C]	0	5	10	15	20	0	5	10	15	20	0	5	10	15	20	0	5	10	15	20
Heat output [kW]	53.4	50.7	48.0	45.3	42.6	39.3	36.7	34.0	31.4	28.8	26.2	23.7	21.3	18.8	16.3	12.5	10.5	8.4	6.1	2.8
Outlet air temperature [°C]	45.0	47.6	50.4	53.1	55.9	32.4	35.0	37.6	40.2	42.7	22.1	24.6	27.1	29.5	32.0	10.7	12.6	14.6	16.4	17.3
Water flow [m³/h]	1.5	1.4	1.3	1.3	1.2	1.7	1.6	1.5	1.4	1.2	1.2	1.1	1.0	0.9	0.8	0.7	0.6	0.5	0.3	0.2
Pressure drop [kPa]	13.6	12.4	11.2	10.1	9.0	18.2	16.0	14.0	12.1	10.4	10.5	8.8	7.2	5.8	4.5	4.4	3.2	2.1	1.2	0.3

AFR-C3 Air flow 2 950 m³/h (speed 3.)

	Inlet/outlet water temperature 120/90 °C					Inlet/outlet water temperature 90/70 °C					Inlet/outlet water temperature 70/50 °C					Inlet/outlet water temperature 50/30 °C				
Inlet air temperature [°C]	0	5	10	15	20	0	5	10	15	20	0	5	10	15	20	0	5	10	15	20
Heat output [kW]	67.1	63.8	60.5	57.2	54.0	50.1	46.9	43.6	40.4	37.2	35.3	32.1	29.0	25.8	22.6	20.0	17.0	14.0	10.8	7.2
Outlet air temperature [°C]	63.5	65.0	66.5	68.0	69.5	47.9	49.5	51.0	52.6	54.1	34.2	35.8	37.3	38.7	40.2	20.1	21.5	22.8	24.0	24.9
Water flow [m³/h]	2.0	1.9	1.8	1.7	1.6	2.3	2.1	2.0	1.9	1.7	1.7	1.5	1.4	1.2	1.1	1.0	0.9	0.7	0.5	0.4
Pressure drop [kPa]	22.5	20.6	18.7	16.9	15.2	29.9	26.5	23.3	20.3	17.5	17.8	15.0	12.5	10.1	8.0	7.9	5.9	4.1	2.6	1.3

AFR-C Air heaters

		AFR-C2M	AFR-C3M	AFR-C4M	AFR-M2
Heat output range [kW]		25–70	35–95	40–120	-
Max. Air flow [m³/h]		5 700	5 600	5 100	7 200
Number of unit rows		2	3	3	-
Air temperature increase [°C]		55 KW / 30 °C	74 KW / 49 °C	94 KW / 60 °C	-
Max. working pressure [Mpa]		1.6	1.6	1.6	-
Max. airflow range [m]		27	26	25	16
Diameter of connection nozzles [ø]		3/4″	3/4″	3/4″	-
Electrical connection [V/Hz]		230V /50 Hz			
Motor Input Power [kW]		0.52 KW / 2.2A			
Motor speed [RPM]		1380			
IP protection class		IP54			
Noise level max. [dB(A)]		41 / 50 / 59	40 / 50 / 58	40 / 50 / 58	31 / 42 / 49
Weight [kg]	Netto	23.6	25.2	25.5	15.8
	Transport	25.2	27.4	28	18
Part-number		11119	11063	11068	11120
		AFR Installation bracket			
Part-number		11121			



Size [mm]	C2M, C3M, C4M, M2
W	780
H	714
L	385
A	718
B	625
C	347
D	30
E	462
F	322
G	253
I	267
J	G 3/4″

AFR-C2M Air flow 5 700 m³/h (speed 3.)

	Inlet/outlet water temperature 120/90 °C					Inlet/outlet water temperature 90/70 °C					Inlet/outlet water temperature 70/50 °C					Inlet/outlet water temperature 50/30 °C				
Inlet air temperature [°C]	0	5	10	15	20	0	5	10	15	20	0	5	10	15	20	0	5	10	15	20
Heat output [kW]	72.4	68.5	64.5	60.6	56.8	55.0	51.1	47.2	43.4	39.6	39.7	35.9	32.0	28.3	24.5	24.5	20.5	16.5	12.3	7.5
Outlet air temperature [°C]	39.3	42.6	45.9	49.1	52.2	30.1	33.3	36.4	39.5	42.6	22.3	25.5	28.6	31.7	34.8	13.7	16.8	19.8	22.7	25.0
Water flow [m³/h]	1.6	1.5	1.4	1.3	1.3	1.8	1.7	1.5	1.4	1.3	1.3	1.2	1.0	0.9	0.8	0.8	0.6	0.5	0.4	0.2
Pressure drop [kPa]	10.9	9.8	8.8	7.9	7.0	14.5	12.7	11.0	9.4	8.0	8.4	7.0	5.7	4.5	3.5	3.5	2.5	1.7	0.9	0.3

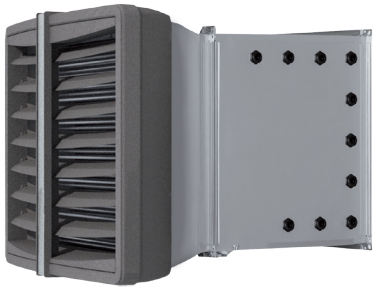
AFR-C3M Air flow 5 600 m³/h (speed 3.)

	Inlet/outlet water temperature 120/90 °C					Inlet/outlet water temperature 90/70 °C					Inlet/outlet water temperature 70/50 °C					Inlet/outlet water temperature 50/30 °C				
Inlet air temperature [°C]	0	5	10	15	20	0	5	10	15	20	0	5	10	15	20	0	5	10	15	20
Heat output [kW]	96.6	91.4	86.3	81.2	76.2	74.2	69.0	63.9	58.9	53.9	53.0	48.0	43.1	38.2	33.3	31.9	27.0	22.2	17.2	11.8
Outlet air temperature [°C]	63.2	68.1	72.6	77.2	81.8	49.1	53.5	57.9	62.2	66.4	35.0	39.3	43.3	47.4	51.3	20.9	24.8	28.4	31.9	35.1
Water flow [m³/h]	2.6	2.5	2.4	2.2	2.1	3.1	2.8	2.6	2.4	2.2	2.2	2.0	1.8	1.6	1.4	1.4	1.2	0.9	0.7	0.5
Pressure drop [kPa]	28.9	26.1	23.5	21.0	18.7	40.3	35.3	30.7	26.5	22.5	23.7	19.8	16.3	13.1	10.2	10.5	7.8	5.4	3.4	1.7

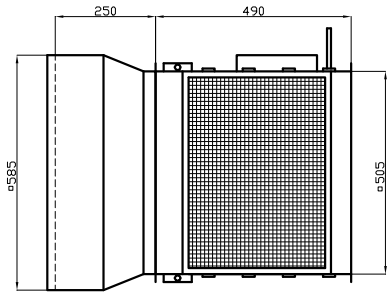
AFR-C4M Air flow 5 100 m³/h (speed 3.)

	Inlet/outlet water temperature 120/90 °C					Inlet/outlet water temperature 90/70 °C					Inlet/outlet water temperature 70/50 °C					Inlet/outlet water temperature 50/30 °C				
Inlet air temperature [°C]	0	5	10	15	20	0	5	10	15	20	0	5	10	15	20	0	5	10	15	20
Heat output [kW]	121.6	115	108.4	101.9	95.5	93.9	87.3	80.8	74.4	68.0	68.3	61.9	55.5	49.2	42.9	42.1	35.7	29.3	22.9	16.0
Outlet air temperature [°C]	78.0	81.8	85.5	89.2	92.6	60.1	63.6	67.0	70.4	73.5	44.1	47.5	50.6	53.8	56.8	26.9	29.8	32.6	35.3	37.6
Water flow [m³/h]	3.1	3.0	2.8	2.6	2.5	3.6	3.4	3.1	2.9	2.6	2.6	2.4	2.1	1.9	1.6	1.6	1.4	1.1	0.9	0.6
Pressure drop [kPa]	39.2	35.4	31.8	28.4	25.2	54.3	47.5	41.3	35.5	30.2	32.1	26.8	22.0	17.7	13.8	14.3	10.7	7.5	4.8	2.5

AFR AirBox – mixing chamber



The **AFR AirBox** mixing chamber supplies fresh air to the room. The ratio of fresh and reused air can be adjusted according to the needs. The mixing chamber also contains a filter, and ventilation can be easily performed even in larger spaces (e.g. in production halls, shopping centres, etc.).

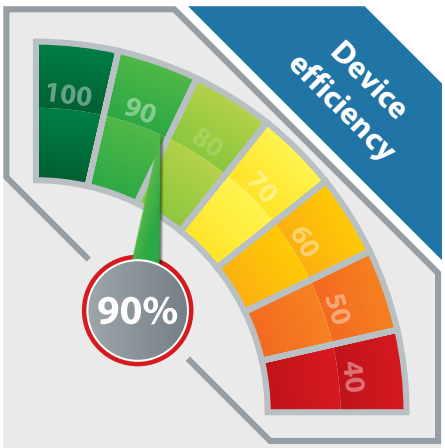


- Easy installation
- Mixing fresh air to indoor air
- Equipped with a filter

Type	Part-number
AirBox mixing chamber	10070

Accessories		Type	Part-number
	AFR Intelligent RS-485 digital temperature controller	Intelligent RS–485	9998
	AFR Comfort temperature controller	Comfort	9997
	AFR Multi6 Six-channel distributor for Intelligent controller	Multi6	9999
	AFR solenoid valve, KVS 5,5 3/4”		10004
	AFR actuating valve 230V, M30x1,5		10005

MVT



Our **MVT** thermoventilators have been part of our product catalogue for over 15 years and during this period we had the opportunity to assess, which types are mostly needed for the heating and/or cooling of halls. Thanks to this experience we are having a product catalogue today which contains all the possible designs that make us be able to meet any requirements.

The quality of the devices is further increased by the fact that all of the manufactured parts undergo a final examination after the manufacturing process.

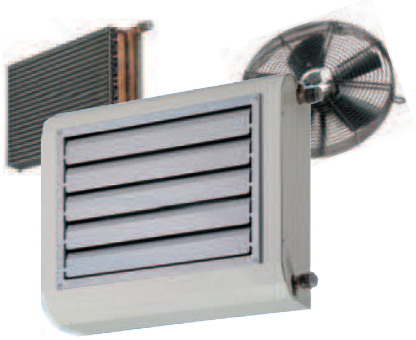
This is a forced convection air heater device, which means that the incoming hot or even cold water – coming from the distributing network – heats up the goose necks as it is flowing through them and at the same time heats up the aluminium lamellae which are closely pushed to the goose necks. When they are heated up, a ventilator blows the produced heat into the target area. Thermoventilators can be regulated in different ways, even with 5-level blow-off ventilators, but also a mixing valve solution can be chosen. Further advantages by purchasing **MVT**:

- Thin-wall, outstanding emission copper pipe system
- Extremely clean, aluminium lamellae
- Long-wearing, massive electric controller/distributing boards
- High quality heat exchanger with excellent heat transfer abilities
- Easy-to-adjust blowing-out shutters
- Up to a 2-year complete warranty

CURIOSITY

Our thermoventilator product series contains 12 different models altogether with their accessories. In addition to all this, every single model can be ordered in a form which is suitable for steam operation or in acid-resistant design. Among the accessories there can be found every necessary element that enables you to set up a complete air technical system. There is a possibility of external–internal air circulation and/or mixture, but also that of the application of heat recovery.

The appropriate efficiency of the devices is provided by the application of suitable raw materials, such as thin-wall copper pipe coil or extremely clean, aluminium lamellae.

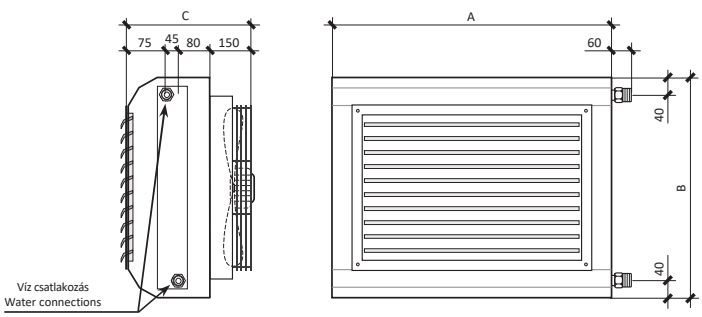


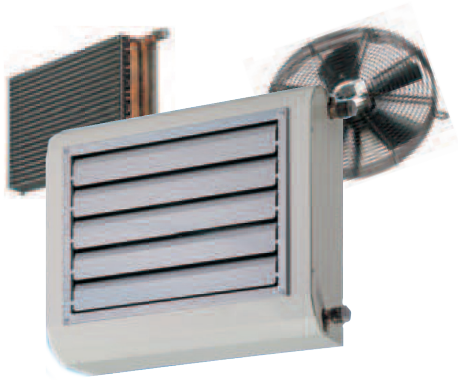
MVT 1FA One-level design with axial ventilator only for heating – 230 V

Type		MVT 10–1FA	MVT 20–1FA	MVT 30–1FA	MVT 40–1FA	MVT 50–1FA	MVT 60–1FA
Input Power [kW]		16.33	20.88	26.65	33.76	41.38	48.63
Air flow [m^3/h]		1 856	1 758	2 860	2 688	4 680	4 083
Length A [mm]		520		620		720	
Height B [mm]		440		540		640	
Width C [mm]		350					
Weight [kg]	Netto	14.0	16.2	17.7	20.0	22.1	23.7
	Transport	18.1	19.3	21.4	25.6	26.4	28.2
Average electric consumption [W]		1 x 90	1 x 95	1 x 140	1 x 150	1 x 115	1 x 120
Electrical connection		One phase 230V / 50Hz					
Water connection ø		3/4"	3/4"	1"	1"	1"	1"
Part-number		54	56	93	94	99	100

MVT 1FA One-level design with axial ventilator only for heating – 230 V

Type		MVT 70–1FA	MVT 80–1FA	MVT 90–1FA	MVT 100–1FA
Input Power [kW]		54.95	70.22	85.94	106.41
Air flow [m^3/h]		5 940	5 590	9 720	8 875
Length A [mm]		1 120		1 320	
Height B [mm]		540		640	
Width C [mm]		350			
Weight [kg]	Netto	36.5	40.5	43.2	47.4
	Transport	40.1	45.2	49.3	54.6
Average electric consumption [W]		2 x 140	2 x 150	2 x 115	2 x 120
Electrical connection		One phase 230V / 50Hz			
Water connection ø		1"1/4	1"1/4	1"1/4	1"1/2
Part-number		101	102	103	104



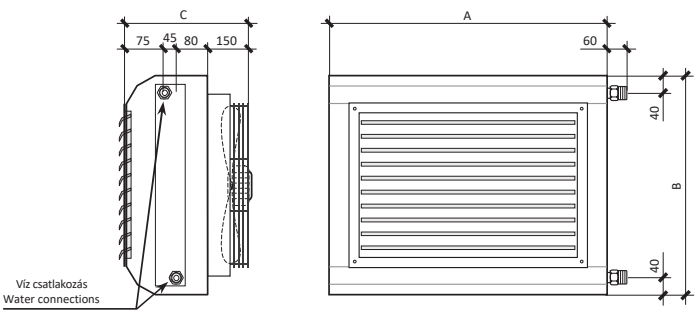


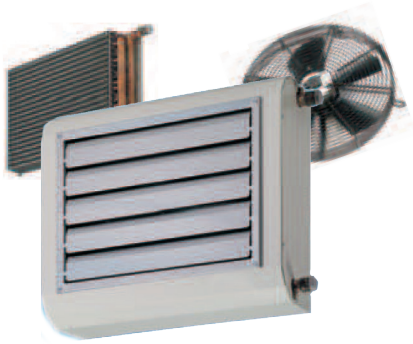
MVT 3FA Three-level design with axial ventilator only for heating – 230 V

Type		MVT 10–3FA	MVT 20–3FA	MVT 30–3FA	MVT 40–3FA	MVT 50–3FA	MVT 60–3FA
Input Power [kW]		16.33	20.88	26.65	33.76	41.38	48.63
Air flow [m^3/h]		1 856	1 758	2 860	2 688	4 680	4 083
Length A [mm]		520		620		720	
Height B [mm]		440		540		640	
Width C [mm]		350					
Weight [kg]	Netto	14.1	16.3	17.8	20.1	22.2	23.8
	Transport	18.1	19.3	21.4	25.6	26.4	28.2
Average electric consumption [W]		1 x 90	1 x 95	1 x 140	1 x 150	1 x 115	1 x 120
Electrical connection		One phase 230V / 50Hz					
Water connection ø		3/4"	3/4"	1"	1"	1"	1"
Part-number		**105**	**106**	**107**	**108**	**114**	**119**

MVT 3FA Three-level design with axial ventilator only for heating – 230 V

Type		MVT 70–3FA	MVT 80–3FA	MVT 90–3FA	MVT 100–3FA
Input Power [kW]		54.95	70.22	85.94	106.41
Air flow [m^3/h]		5 940	5 590	9 720	8 875
Length A [mm]		1 120		1 320	
Height B [mm]		540		640	
Width C [mm]		350			
Weight [kg]	Netto	36.6	40.6	43.3	47.5
	Transport	40.1	45.2	49.3	54.6
Average electric consumption [W]		2 x 140	2 x 150	2 x 115	2 x 120
Electrical connection		One phase 230V / 50Hz			
Water connection ø		1"1/4	1"1/4	1"1/4	1"1/2
Part-number		**127**	**138**	**139**	**140**



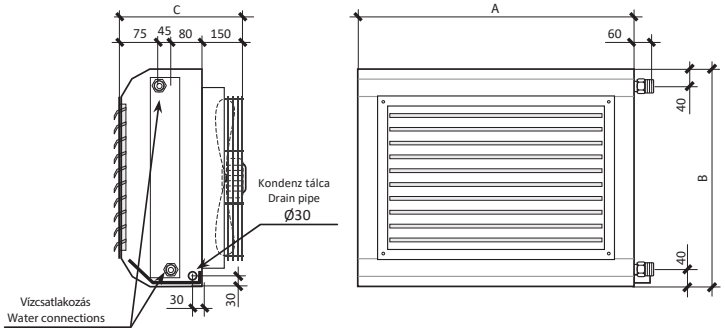


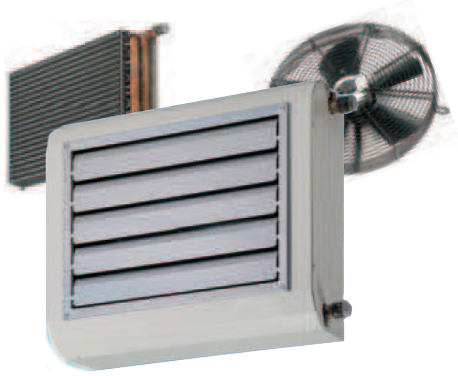
MVT 1HFA One-level design with axial ventilator for cooling and heating – 230 V

Type		MVT 10–1HFA	MVT 20–1HFA	MVT 30–1HFA	MVT 40–1HFA	MVT 50–1HFA	MVT 60–1HFA
Heating Input Power [kW]		16.33	20.88	26.65	33.76	41.38	48.63
Cooling Input Power [kW]		6.20	7.93	10.13	12.83	15.72	18.48
Air flow [m^3/h]		1 856	1 758	2 860	2 688	4 680	4 083
Length A [mm]		520		620		720	
Height B [mm]		470		570		670	
Width C [mm]		350					
Weight [kg]	Netto	14.9	17.1	18.8	21.1	23.4	25.0
	Transport	18.1	19.3	21.4	25.6	26.4	28.2
Average electric consumption [W]		1 x 90	1 x 95	1 x 140	1 x 150	1 x 115	1 x 120
Electrical connection		One phase 230V / 50Hz					
Water connection ø		3/4"	3/4"	1"	1"	1"	1"
Part-number		**9233**	**9234**	**9235**	**9236**	**9237**	**9238**

MVT 1HFA One-level design with axial ventilator for cooling and heating – 230 V

Type		MVT 70–1HFA	MVT 80–1HFA	MVT 90–1HFA	MVT 100–1HFA
Heating Input Power [kW]		54.95	70.22	85.94	106.41
Cooling Input Power [kW]		20.88	26.68	32.66	40.44
Air flow [m^3/h]		5 940	5 590	9 720	8 875
Length A [mm]		1 120		1 320	
Height B [mm]		570		670	
Width C [mm]		350			
Weight [kg]	Netto	37.9	41.9	44.7	48.9
	Transport	40.1	45.2	49.3	54.6
Average electric consumption [W]		2 x 140	2 x 150	2 x 115	2 x 120
Electrical connection		One phase 230V / 50Hz			
Water connection ø		1"1/4	1"1/4	1"1/4	1"1/2
Part-number		**9239**	**9240**	**9241**	**9242**



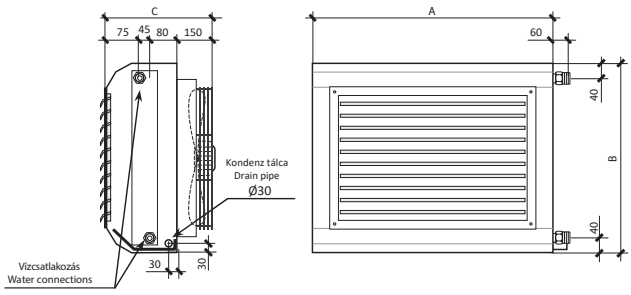


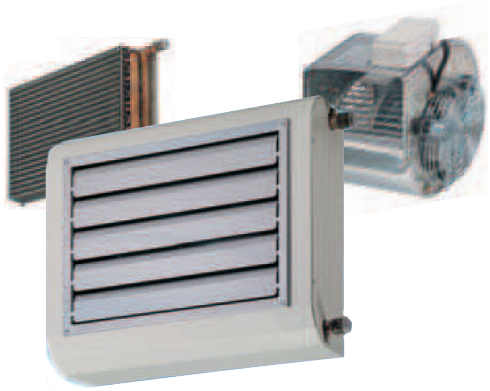
MVT 3HFA Three-level design with axial ventilator for cooling and heating – 230 V

Type		MVT 10–3HFA	MVT 20–3HFA	MVT 30–3HFA	MVT 40–3HFA	MVT 50–3HFA	MVT 60–3HFA
Heating Input Power [kW]		16.33	20.88	26.65	33.76	41.38	48.63
Cooling Input Power [kW]		6.20	7.93	10.13	12.83	15.72	18.48
Air flow [m^3/h]		1 856	1 758	2 860	2 688	4 680	4 083
Length A [mm]		520		620		720	
Height B [mm]		440		540		640	
Width C [mm]		350					
Weight [kg]	Netto	15.0	17.2	18.9	21.2	23.5	25.1
	Transport	18.1	19.3	21.4	25.6	26.4	28.2
Average electric consumption [W]		1 x 90	1 x 95	1 x 140	1 x 150	1 x 115	1 x 120
Electrical connection		One phase 230V / 50Hz					
Water connection ø		3/4″	3/4″	1″	1″	1″	1″
Part-number		**141**	**142**	**143**	**144**	**145**	**146**

MVT 3HFA Three-level design with axial ventilator for cooling and heating – 230 V

Type		MVT 70–3HFA	MVT 80–3HFA	MVT 90–3HFA	MVT 100–3HFA
Heating Input Power [kW]		54.95	70.22	85.94	106.41
Cooling Input Power [kW]		20.88	26.68	32.66	40.44
Air flow [m^3/h]		5 940	5 590	9 720	8 875
Length A [mm]		1 120		1 320	
Height B [mm]		540		640	
Width C [mm]		350			
Weight [kg]	Netto	38.0	42.0	44.8	49.0
	Transport	40.1	45.2	49.3	54.6
Average electric consumption [W]		2 x 140	2 x 150	2 x 115	2 x 120
Electrical connection		One phase 230V / 50Hz			
Water connection ø		1″1/4	1″1/4	1″1/4	1″1/2
Part-number		**147**	**148**	**27**	**28**



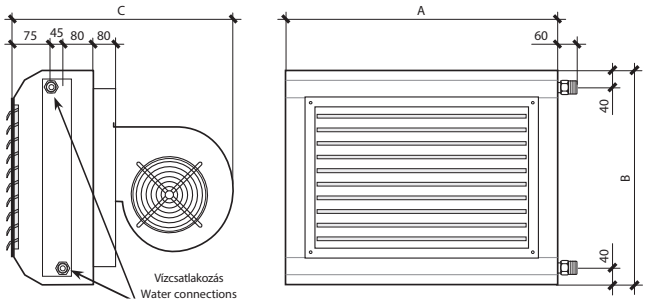


MVT 3FC Three-level design with radial ventilator only for heating – 230 V

Type		MVT 10–3FC	MVT 20–3FC	MVT 30–3FC	MVT 40 –3FC	MVT 50–3FC	MVT 60 –3FC
Input Power [kW]		18.25	23.28	28.39	34.70	39.35	47.58
Air flow [m^3/h]		2214	2070	3198	2880	4158	3750
Length A [mm]		520		620		720	
Height B [mm]		440		540		640	
Width C [mm]		600		660			
Weight [kg]	Netto	19.2	20.1	25.8	28.0	30.5	33.2
	Transport	22.5	23.4	29	31.2	33.7	36.5
Average electric consumption [W]		1 x 270	1 x 270	1 x 586	1 x 586	1 x 564	1 x 564
Electrical connection		One phase 230V / 50Hz					
Water connection ø		3/4"	3/4"	1"	1"	1"	1"
Part-number		**150**	**151**	**152**	**153**	**154**	**155**

MVT 3FC Three-level design with radial ventilator only for heating – 230 V

Type		MVT 70–3FC	MVT 80–3FC	MVT 90–3FC	MVT 100–3FC
Input Power [kW]		58.51	73.46	82.70	98.09
Air flow [m^3/h]		6642	6096	8733	7680
Length A [mm]		1 120		1 320	
Height B [mm]		540		640	
Width C [mm]		660			
Weight [kg]	Netto	51.2	54.8	61.0	65.7
	Transport	54.5	59	64.8	70.9
Average electric consumption [W]		2 x 586	2 x 586	2 x 564	2 x 564
Electrical connection		**One phase 230V / 50Hz**			
Water connection ø		1"1/4	1"1/4	1"1/4	1"1/2
Part-number		**156**	**157**	**158**	**159**

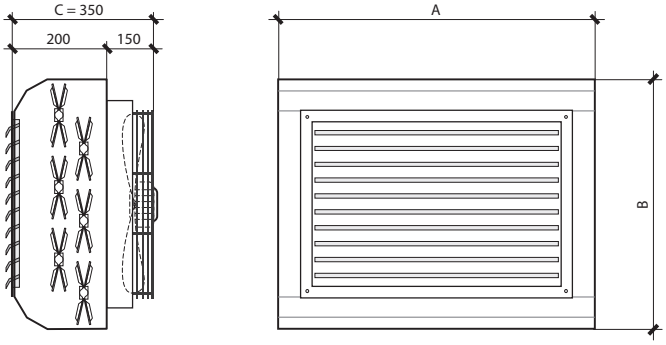


MVT 1FEA One-level design with axial ventilator and electric heat exchanger – 230 V

Type		MVT 3/230–1FEA	MVT 4.5/230–1FEA	MVT 6/230–1FEA	MVT 7.5/230–1FEA	MVT 9/230–1FEA	MVT 10.5/230–1FEA
Input Power [kW]		3.0	4.5	6.0	7.5	9.0	10.5
Air flow [m^3/h]		1 500	1 500	1 500	1 500	1 500	1 500
Length A [mm]		520					
Height B [mm]		440					
Width C [mm]		350					
Weight [kg]	Netto	13.1	13.1	13.4	13.7	14.0	14.3
	Transport	16.3	16.3	16.6	16.7	17.1	17.5
Average electric consumption [W]		1 x 90	1 x 90	1 x 90	1 x 90	1 x 90	1 x 90
Electrical connection		One phase 230V / 50Hz					
Part-number		**9245**	**9246**	**9247**	**9248**	**9249**	**9250**

MVT 1FEA One-level design with axial ventilator and electric heat exchanger – 230 V

Type		MVT12/230–1FEA	MVT13.5/230–1FEA	MVT15/230–1FEA	MVT 16.5//230–1FEA	MVT18/230–1FEA	MVT 20/230–1FEA
Input Power [kW]		12.0	13.5	15.0	16.5	18.0	20.0
Air flow [m^3/h]		1 500	1 500	2 500	2 500	2 500	2 500
Length A [mm]		520		620			780
Height B [mm]		440		540			540
Width C [mm]		350					
Weight [kg]	Netto	14.6	14.9	17.3	17.7	18.0	19.4
	Transport	17.8	18.1	20.5	20.9	21.2	22.5
Average electric consumption [W]		1 x 90	1 x 90	1 x 140	1 x 140	1 x 140	1 x 140
Electrical connection		One phase 230V / 50Hz					
Part-number		**9251**	**9252**	**9253**	**9254**	**9255**	**9256**

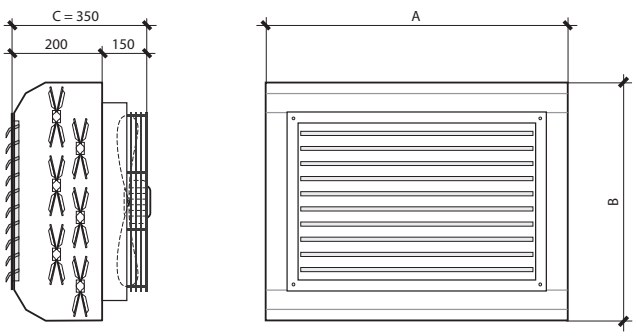


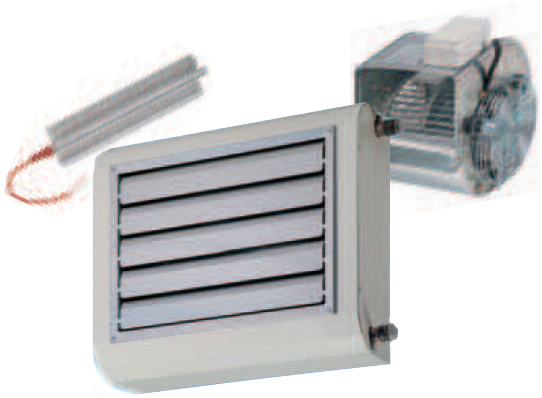
MVT 1FEA/400 One-level design with axial ventilator and electric heat exchanger –400V

Type		MVT 3/400–1FEA	MVT 4.5/400–1FEA	MVT 6/400–1FEA	MVT 7.5/400–1FEA	MVT 9/400–1FEA	MVT 10.5/400–1FEA
Input Power [kW]		3.0	4.5	6.0	7.5	9.0	10.5
Air flow [m^3/h]		1 544	1 544	1 544	1 544	1 544	1 544
Length A [mm]		520					
Height B [mm]		440					
Width C [mm]		350					
Weight [kg]	Netto	13.2	13.2	13.5	13.8	14.1	14.4
	Transport	16.3	16.3	16.6	16.7	17.1	17.5
Average electric consumption [W]		1 x 85	1 x 85	1 x 85	1 x 85	1 x 85	1 x 85
Electrical connection		Three-phase 400V / 50Hz					
Part-number		**9257**	**9258**	**9259**	**9260**	**9261**	**9262**

MVT 1FEA/400 One-level design with axial ventilator and electric heat exchanger –400V

Type		MVT 12/400–1FEA	MVT 13.5/400–1FEA	MVT 15/400–1FEA	MVT 16.5/400–1FEA	MVT 18/400–1FEA	MVT 21/400–1FEA
Input Power [kW]		12.0	13.5	15.0	16.5	18.0	21.0
Air flow [m^3/h]		1 544	1 544	2 577	2 577	2 577	2 577
Length A [mm]		520		620			780
Height B [mm]		440		540			540
Width C [mm]		350		350			350
Weight [kg]	Netto	14.7	15.0	17.4	17.8	18.1	19.5
	Transport	17.8	18.1	20.5	20.9	21.2	22.5
Average electric consumption [W]		1 x 85	1 x 85	1 x 120	1 x 120	1 x 120	1 x 120
Electrical connection		Three-phase 400V / 50Hz					
Part-number		**9263**	**9264**	**9265**	**9266**	**9267**	**9268**



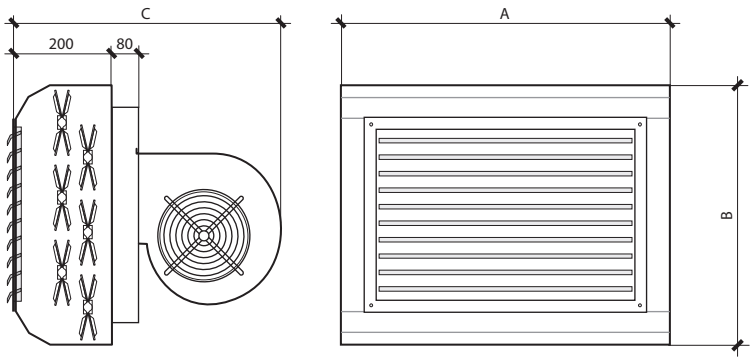


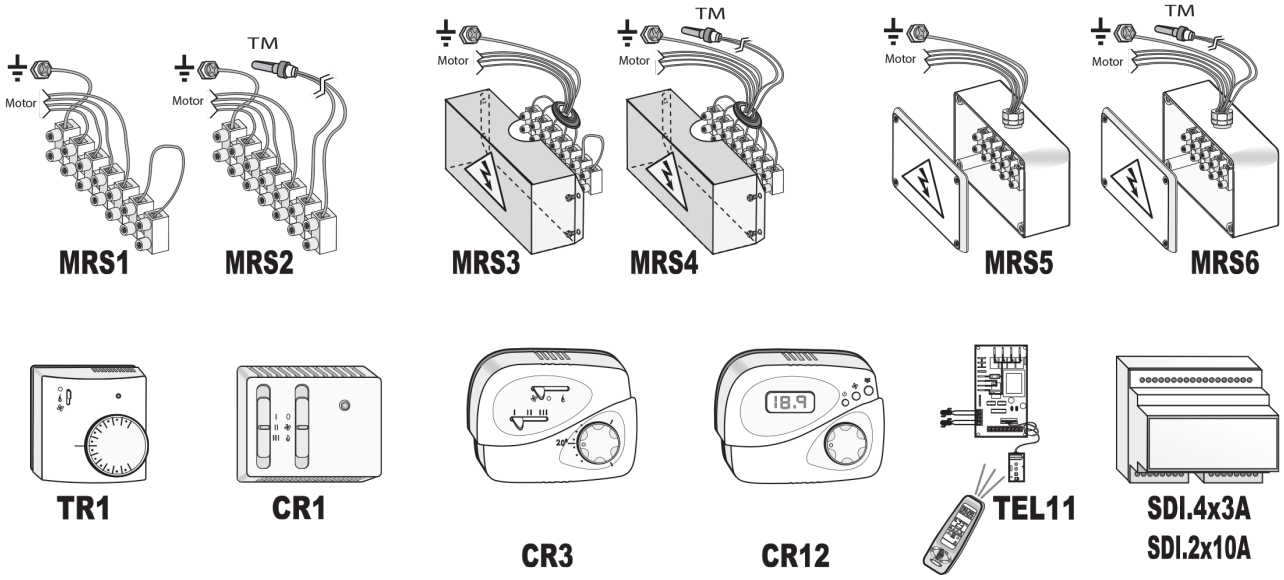
MVT 3FEC Three-level design with radial ventilator and electric heat exchanger –400V

Type		MVT 3/400–3FEC	MVT 4.5/400–3FEC	MVT 6/400–3FEC	MVT 7.5/400–3FEC	MVT 9/400–3FEC	MVT 10.5/400–3FEC
Input Power [kW]		3.0	4.5	6.0	7.5	9.0	10.5
Air flow [m^3/h]		1 590	1 590	1 590	1 590	1 590	1 590
Length A [mm]		520					
Height B [mm]		440					
Width C [mm]		600					
Weight [kg]	Netto	18.0	18.0	18.3	18.6	18.9	19.2
	Transport	21.3	21.3	21.7	22	22.4	22.8
Fan electric consumption [W / A]		270W / 1.2A	270W / 1.2A	270W / 1.2A	270W / 1.2A	270W / 1.2A	270W / 1.2A
Fan electrical connection		One phase 230V / 50Hz					
Heat exchanger electric consumption [A]		3x4.35	3x6.53	3x8.70	3x10.87	3x13.05	3x15.22
Heat exchanger electrical connection		Three phase 400V / 50 Hz					
Part-number		**160**	**161**	**162**	**163**	**164**	**9273**

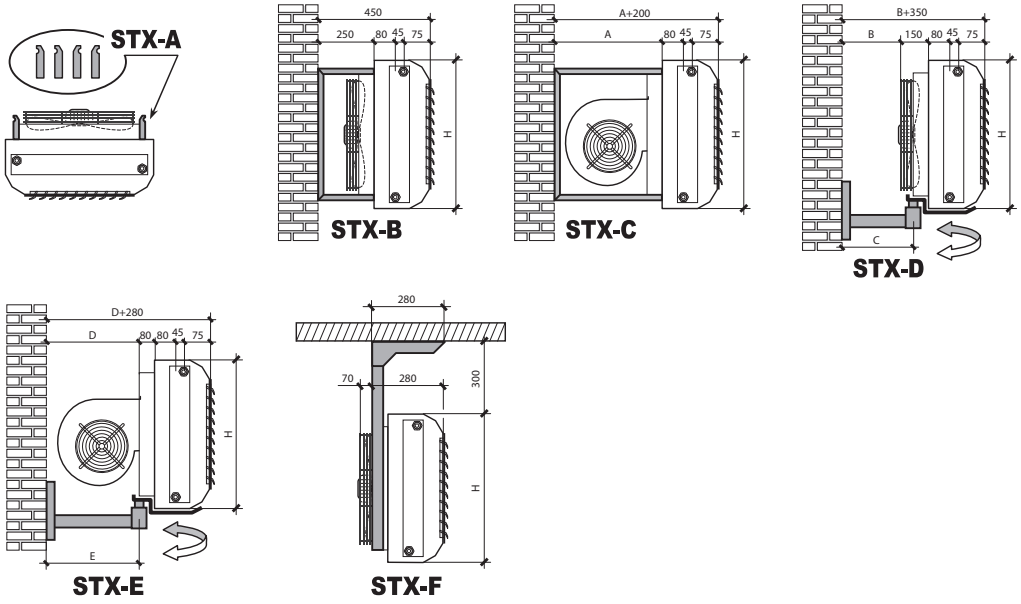
MVT 3FEC Three-level design with radial ventilator and electric heat exchanger –400V

Type		MVT 12/400–3FEC	MVT 13.5/400–3FEC	MVT 15/400–3FEC	MVT 16.5/400–3FEC	MVT 18/400–3FEC	MVT 21/400–3FEC
Input Power [kW]		12.0	13.5	15.0	16.5	18.0	21.0
Air flow [m^3/h]		1 590	1 590	2 500	2 500	2 500	2 500
Length A [mm]		520		620			780
Height B [mm]		440		540			540
Width C [mm]		600		660			660
Weight [kg]	Netto	19.5	19.8	25.0	25.4	25.7	27.1
	Transport	23.2	23.6	29	29.5	29.8	31.2
Fan electric consumption [W / A]		270W / 1.2A	270W / 1.2A	586W / 2.6A	586W / 2.6A	586W / 2.6A	586W / 2.6A
Fan electrical connection		One phase 230V / 50Hz					
Heat exchanger electric consumption [A]		3x17.40	3x19.57	3x21.74	3x23.92	3x26.09	3x30.44
Heat exchanger electrical connection		Three phase 400V / 50 Hz					
Part-number		**9275**	**9276**	**9277**	**9278**	**9279**	**9280**

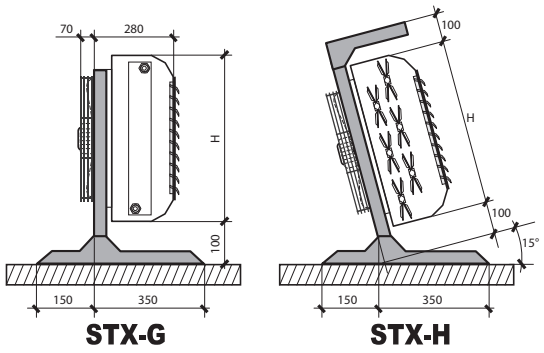




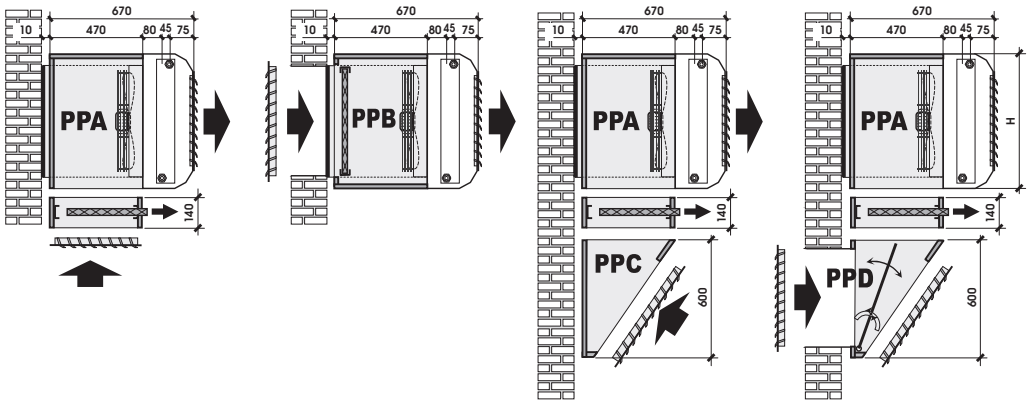
	Type	Part-number
The accessory of the basic design, traditional line hook slat, without cold water thermostat	MRS 1	–
Traditional line hook slat, with cold water thermostat	MRS 2	170
Screw lock connector panel with plastic cover and without cold water thermostat	MRS 3	171
Screw lock connector panel with plastic cover and cold water thermostat	MRS 4	172
IP 55 screw lock connector panel with plastic cover and without cold water thermostat	MRS 5	173
IP 55 screw lock connector panel with plastic cover and cold water thermostat	MRS 6	174
Electronic room thermostat with OFF/ventilation/heating functions	TR 1	175
Electronic thermostat with OFF/Ventilation/Heating functions + manual, 3 level speed regulation function	CR 22	9641
Electronic thermostat with OFF/Ventilation/Heating functions + manual or automatic, 3 level speed regulation function	CR 23	10846
Electronic thermostat to a 2 or 4 pipes system with or without valve Output signal 1 engine 3 levels + 2 valves Off/ON/scale-free/3 points	CR 25	10175
Electronic thermostat to a 2 or 4 pipes system with or without valve Output signal 1 engine 3 levels (or a 0...10Vdc engine without brush) + 2 0...10Vdc modulation valves	CR 26	10915
Infrared controlled switching panel with an air and water temperature sensor + infrared signal reader (to 2–4 pipes systems without valves)	TEL 11	9290
Control panel to the control of 2 units at the same time (for 3 speed levels)	SDI.2x10A	9288
Control panel to the control of 4 units at the same time (for 3 speed levels)	SDI.4x3A	179



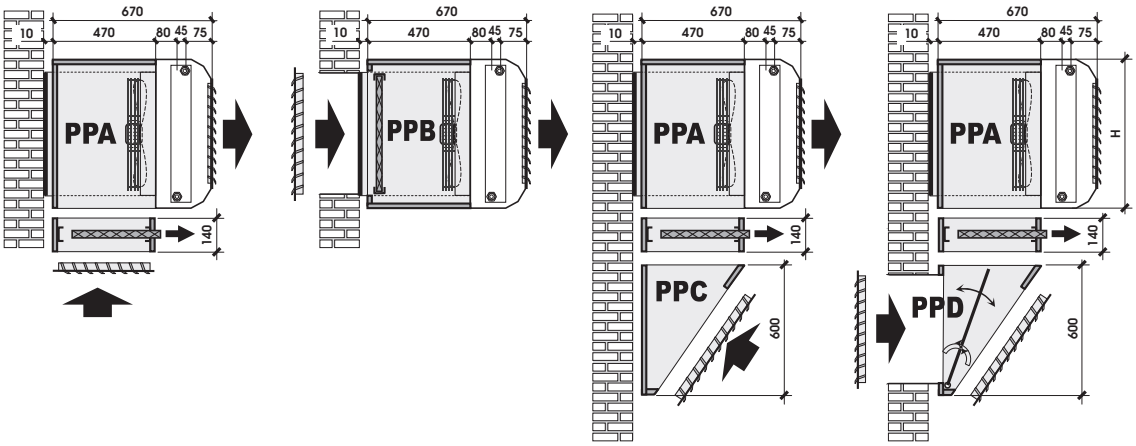
	Type	Part-number
4 pcs galvanised steel suspension flaps to horizontal installation, and to every type	STX–A	180
2 pcs galvanised FIX holding frames to axial ventilator designs "MVT 10 – 20" and "3/230 – 4,5/230 – 6/230 – 3/400 – 4,5/400 – 6/400"	STX–B1	181
2 pcs galvanised FIX holding frames to axial ventilator designs "MVT 30 – 40, 70 – 80" and "7,5/230 – 9/230 – 9/400 – 13,5/400"	STX–B2	182
2 pcs galvanised FIX holding frames to axial ventilator designs "MVT 50 – 60, 90 – 100"	STX–B3	183
2 pcs galvanised FIX holding frames to radial ventilator designs "MVT 10 – 20" and "3/230 – 4,5/230 – 6/230 – 3/400 – 4,5/400 – 6/400"	STX–C1	184
2 pcs galvanised FIX holding frames to radial ventilator designs "MVT 30 – 40, 70 – 80" and "7,5/230 – 9/230 – 9/400 – 13,5/400"	STX–C2	185
2 pcs galvanised FIX holding frames to radial ventilator designs "MVT 50 – 60, 90 – 100"	STX–C3	186
1 pcs painted steel rotatable wall console in white colour to axial ventilator designs "MVT 10 – 20" and "3/230 – 4,5/230 – 6/230 – 3/400 – 4,5/400 – 6/400"	STX–D1	187
1 pcs painted steel rotatable wall console in white colour to axial ventilator designs "MVT 30 – 40" and "7,5/230 – 9/29/413,5/400"	STX–D2	188
1 pcs painted steel rotatable wall console in white colour to axial ventilator designs "MVT 50 – 60"	STX–D3	189
1 pcs painted steel rotatable wall console in white colour to axial ventilator designs "MVT 70 – 80"	STX–D4	190
1 pcs painted steel rotatable wall console in white colour to axial ventilator designs "MVT 90 – 100"	STX–D5	191
1 pcs painted steel rotatable wall console in white colour to radial ventilator designs "MVT 10 – 20" and "3/230 – 4,5/230 – 6/230 – 3/400 – 4,5/400 – 6/400"	STX–E1	192
1 pcs painted steel rotatable wall console in white colour to radial ventilator designs "MVT 30 – 40" and "7,5/230 – 9/29/413,5/400"	STX–E2	193
1 pcs painted steel rotatable wall console in white colour to radial ventilator designs"MVT 50 – 60"	STX–E3	194
1 pcs painted steel rotatable wall console in white colour to radial ventilator designs "MVT 70 – 80"	STX–E4	195
1 pcs painted steel rotatable wall console in white colour to radial ventilator designs "MVT 90 – 100"	STX–E5	4583
Galvanised FIX vertical holding frame to axial ventilator designs to the fixing on the ceiling to MVT 10 – 20 devices	STX–F1	9291
Galvanised FIX vertical holding frame to axial ventilator designs to the fixing on the ceiling to MVT 30 – 40, 70 – 80 devices	STX–F2	9292
Galvanised FIX vertical holding frame to axial ventilator designs to the fixing on the ceiling to MVT 30 – 40, 70 – 80 devices	STX–F3	9293



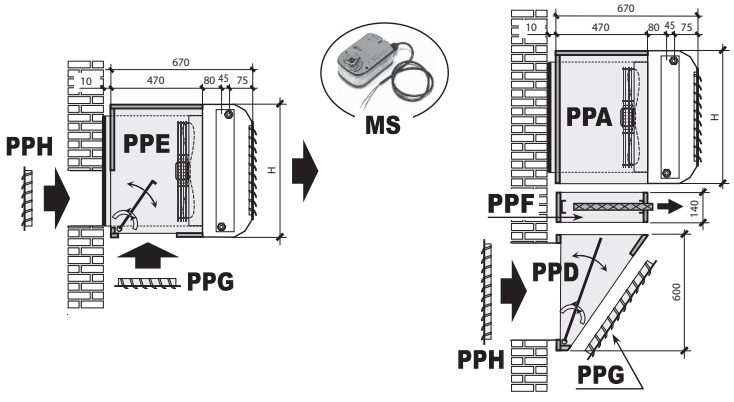
	Type	Part-number
Galvanised FIX vertical holding frame to axial ventilator to the fixing on the floor for MVT 10 – 20 devices	STX–G1	9294
Galvanised FIX vertical holding frame to axial ventilator to the fixing on the floor for MVT 30 – 40, 70 – 80 devices	STX–G2	9295
Galvanised FIX vertical holding frame to axial ventilator to the fixing on the floor for MVT 30 – 40, 70 – 80 devices	STX–G3	9296
Painted steel bracket for portable unit to MVT 10 – 20	STX–H1	9297
Painted steel bracket for portable unit to MVT 30 – 40, 70 – 80	STX–H2	9298
Painted steel bracket for portable unit to MVT 50 – 60, 90 – 100	STX–H3	9299



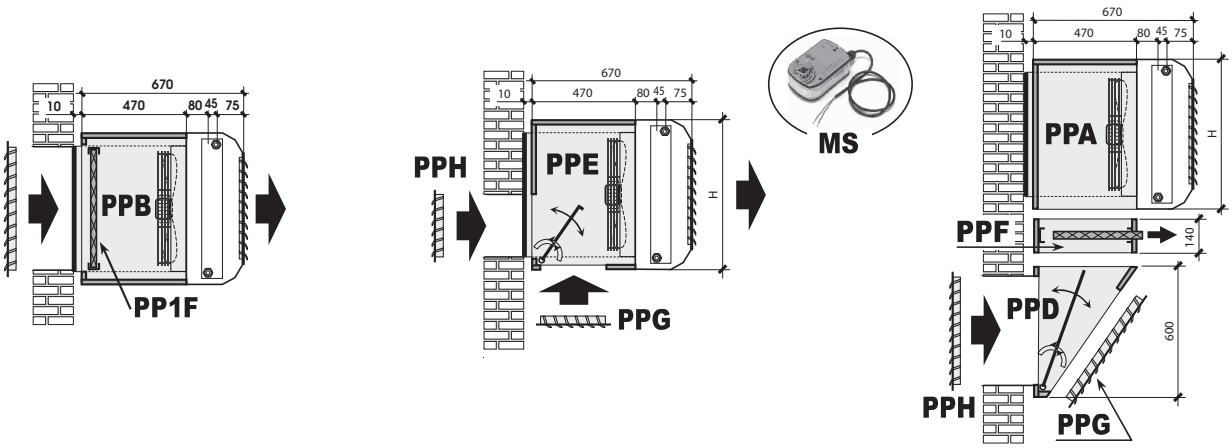
	Type	Part-number
Rear air lead-in with a bottom lead-in opening "MVT 10 – 20"	PPA 10 – 20	614
Rear air lead-in with a bottom lead-in opening "MVT 30 – 40"	PPA 30 – 40	627
Rear air lead-in with a bottom lead-in opening "MVT 50 – 60"	PPA 50 – 60	717
Rear air lead-in with a bottom lead-in opening "MVT 70 – 80"	PPA 70 – 80	718
Rear air lead-in with a bottom lead-in opening "MVT 90 – 100"	PPA 90 – 100	719
Rear air lead-in with a rear lead-in opening "MVT 10 – 20"	PPB 10 – 20	723
Rear air lead-in with a rear lead-in opening "MVT 30 – 40"	PPB 30 – 40	724
Rear air lead-in with a rear lead-in opening "MVT 50 – 60"	PPB 50 – 60	725
Rear air lead-in with a rear lead-in opening "MVT 70 – 80"	PPB 70 – 80	726
Rear air lead-in with a rear lead-in opening "MVT 90 – 100"	PPB 90 – 100	760



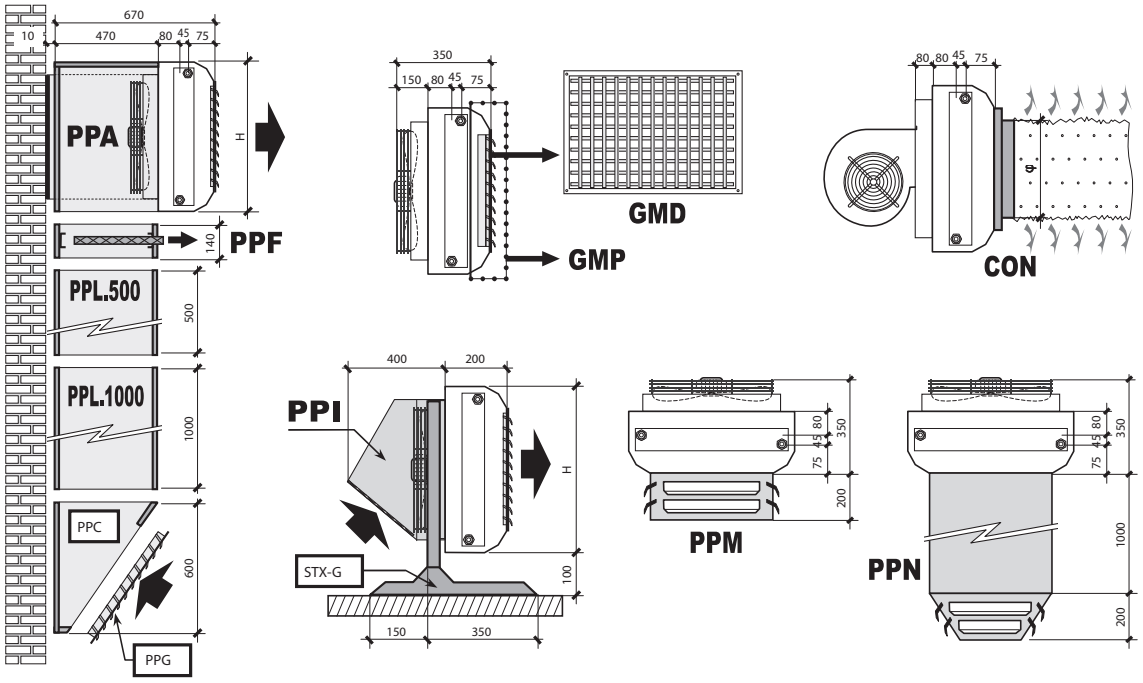
	Type	Part-number
Bottom air lead-in with a front–bottom lead-in opening "MVT 10 – 20"	PPC 10 – 20	766
Bottom air lead-in with a front–bottom lead-in opening "MVT 30 – 40"	PPC 30 – 40	883
Bottom air lead-in with a front–bottom lead-in opening "MVT 50 – 60"	PPC 50 – 60	884
Bottom air lead-in with a front–bottom lead-in opening "MVT 70 – 80"	PPC 70 – 80	885
Bottom air lead-in with a front–bottom lead-in opening "MVT 90 – 100"	PPC 90 – 100	886
Bottom air lead-in with External/Internal air regulation "MVT 10 – 20"	PPD 10 – 20	887
Bottom air lead-in with External/Internal air regulation "MVT 30 – 40"	PPD 30 – 40	888
Bottom air lead-in with External/Internal air regulation "MVT 50 – 60"	PPD 50 – 60	889
Bottom air lead-in with External/Internal air regulation "MVT 70 – 80"	PPD 70 – 80	890
Bottom air lead-in with External/Internal air regulation "MVT 90 – 100"	PPD 90 – 100	891



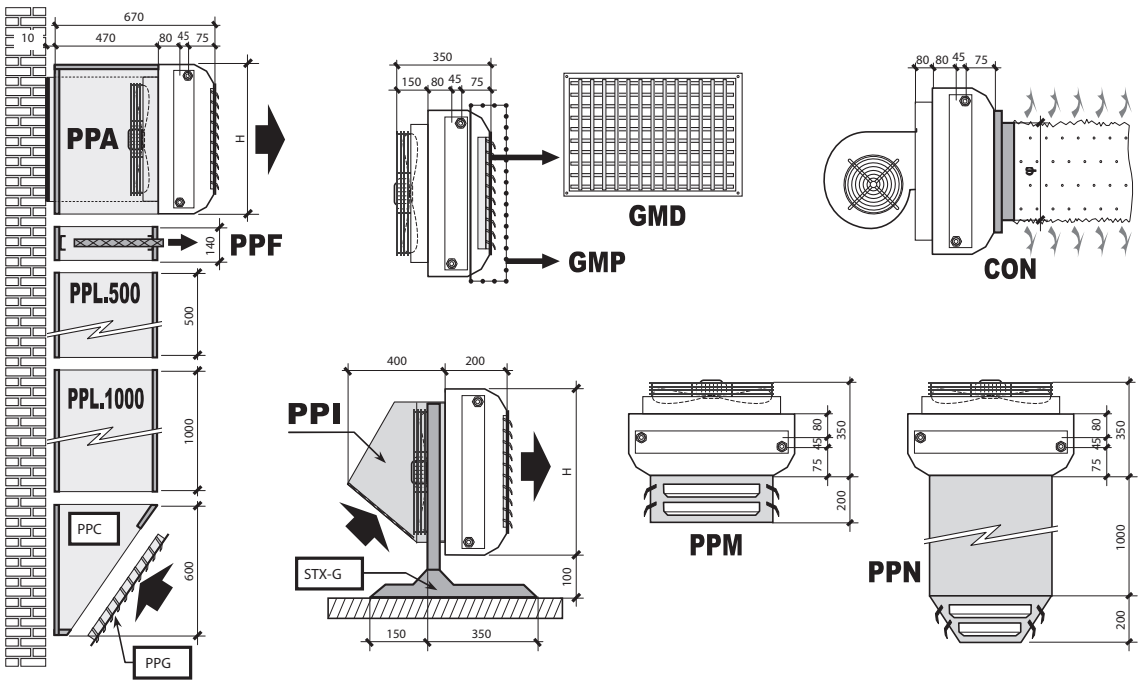
	Type	Part-number
Rear air lead-in with External/Internal air regulation "MVT 10 – 20"	PPE 10 – 20	943
Rear air lead-in with External/Internal air regulation "MVT 30 – 40"	PPE 30 – 40	947
Rear air lead-in with External/Internal air regulation "MVT 50 – 60"	PPE 50 – 60	948
Rear air lead-in with External/Internal air regulation "MVT 70 – 80"	PPE 70 – 80	952
Rear air lead-in with External/Internal air regulation "MVT 90 – 100"	PPE 90 – 100	954



	Type	Part-number
Air filtering ventilation shaft element + EU–3 filter level air filter which is removable at the front "MVT 10 – 20"	PPF 10 – 20	955
Air filtering ventilation shaft element + EU–3 filter level air filter which is removable at the front "MVT 30 – 40"	PPF 30 – 40	975
Air filtering ventilation shaft element + EU–3 filter level air filter which is removable at the front "MVT 50 – 60"	PPF 50 – 60	981
Air filtering ventilation shaft element + EU–3 filter level air filter which is removable at the front "MVT 70 – 80"	PPF 70 – 80	989
Air filtering ventilation shaft element + EU–3 filter level air filter which is removable at the front "MVT 90 – 100"	PPF 90 – 100	993
Air filtering ventilation shaft element only to PPB ventilation shaft elements + EU–3 filter level air filter which is removable at the front "MVT 10 – 20"	PP1F 10 – 20	9300
Air filtering ventilation shaft element only to PPB ventilation shaft elements + EU–3 filter level air filter which is removable at the front "MVT 30 – 40"	PP1F 30 – 40	9301
Air filtering ventilation shaft element only to PPB ventilation shaft elements + EU–3 filter level air filter which is removable at the front "MVT 50 – 60"	PP1F 50 – 60	9302
Air filtering ventilation shaft element only to PPB ventilation shaft elements + EU–3 filter level air filter which is removable at the front "MVT 70 – 80"	PP1F 70 – 80	9303
Air filtering ventilation shaft element only to PPB ventilation shaft elements + EU–3 filter level air filter which is removable at the front "MVT 90 – 100"	PP1F 90 – 100	9304
Air lead-in steel shutters in white colour with FIX lamellae "MVT 10 – 20" and "3/230 – 4,5/230 – 6/230 – 3/400 – 4,5/400 – 6/400"	PPG 10 – 20	1007
Air lead-in steel shutters in white colour with FIX lamellae "MVT 30 – 40" and "7,5/230 – 9/230–9/400–13,5/400"	PPG 30 – 40	1023
Air lead-in steel shutters in white colour with FIX lamellae "MVT 50 – 60"	PPG 50 – 60	1043
Air lead-in steel shutters in white colour with FIX lamellae "MVT 70 – 80"	PPG 70 – 80	1044
Air lead-in steel shutters in white colour with FIX lamellae "MVT 90 – 100"	PPG 90 – 100	2570
Air lead-in steel shutters in white colour with FIX lamellae to be placed outside of walls "MVT 10 – 20" and "3/230 – 4,5/230 – 6/230 – 3/400 – 4,5/400 – 6/400"	PPH 10 – 20	7573
Air lead-in steel shutters in white colour with FIX lamellae to be placed outside of walls "MVT 30 – 40" and "7,5/230 – 9/230–9/400–13,5/400"	PPH 30 – 40	9305
Air lead-in steel shutters in white colour with FIX lamellae to be placed outside of walls "MVT 50 – 60"	PPH 50 – 60	9306
Air lead-in steel shutters in white colour with FIX lamellae to be placed outside of walls "MVT 70 – 80"	PPH 70 – 80	9307
Air lead-in steel shutters in white colour with FIX lamellae to be placed outside of walls "MVT 90 – 100"	PPH 90 – 100	9308
Servomotor for dampers PPD and PPE 2Points (ON/OFF) & 3Points - (NO Spring return), 230V, 5Nm	MS-2+3P230-5Nm	11151
Servomotor for dampers PPD and PPE 2Points (ON/OFF) & 3Points - (NO Spring return), 230V, 10Nm	MS-2+3P230-10Nm	11152
Servomotor for dampers PPD and PPE 2Points (ON/OFF) & 3Points - (NO Spring return), 230V, 15Nm	MS-2+3P230-15Nm	11153

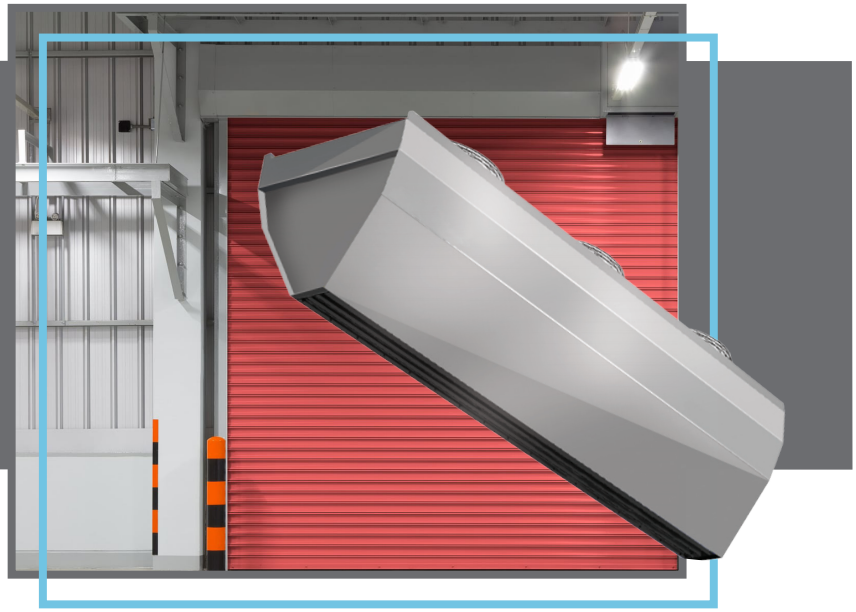


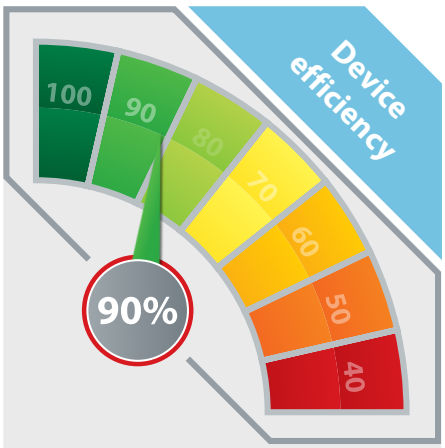
	Type	Part-number
Ventilator protective covering made of painted plates (recommended to outdoor installations) "MVT 10 – 20"	PPI 10 – 20	9309
Ventilator protective covering made of painted plates (recommended to outdoor installations) "MVT 30 – 40"	PPI 30 – 40	9310
Ventilator protective covering made of painted plates (recommended to outdoor installations) "MVT 50 – 60"	PPI 50 – 60	9311
Ventilator protective covering made of painted plates (recommended to outdoor installations) "MVT 70 – 80"	PPI 70 – 80	9312
Ventilator protective covering made of painted plates (recommended to outdoor installations) "MVT 90 – 100"	PPI 90 – 100	9313
Painted, steel, straight ventilation shaft profile in a length of 500 mm "MVT 10 – 20"	PPL500 10 – 20	9314
Painted, steel, straight ventilation shaft profile in a length of 500 mm "MVT 30 – 40"	PPL500 30 – 40	9315
Painted, steel, straight ventilation shaft profile in a length of 500 mm "MVT 50 – 60"	PPL500 50 – 60	9316
Painted, steel, straight ventilation shaft profile in a length of 500 mm "MVT 70 – 80"	PPL500 70 – 80	9317
Painted, steel, straight ventilation shaft profile in a length of 500 mm "MVT 90 – 100"	PPL500 90 – 100	9318
Painted, steel, straight ventilation shaft profile in a length of 1000 mm "MVT 10 – 20"	PPL1000 10 – 20	9319
Painted, steel, straight ventilation shaft profile in a length of 1000 mm "MVT 30 – 40"	PPL1000 30 – 40	9320
Painted, steel, straight ventilation shaft profile in a length of 1000 mm "MVT 50 – 60"	PPL1000 50 – 60	9321
Painted, steel, straight ventilation shaft profile in a length of 1000 mm "MVT 70 – 80"	PPL1000 70 – 80	9322
Painted, steel, straight ventilation shaft profile in a length of 1000 mm "MVT 90 – 100"	PPL1000 90 – 100	9323
Four direction painted air blowing profile with adjustable lamellae "MVT 10 – 20"	PPM 10 – 20	9324
Four direction painted air blowing profile with adjustable lamellae "MVT 30 – 40"	PPM 30 – 40	9325
Four direction painted air blowing profile with adjustable lamellae "MVT 50 – 60"	PPM 50 – 60	9326
Four direction painted air blowing profile with adjustable lamellae "MVT 70 – 80"	PPM 70 – 80	9327
Four direction painted air blowing profile with adjustable lamellae "MVT 90 – 100"	PPM 90 – 100	9328



	Type	Part-number
Four direction painted air blowing 1 000mm profile with adjustable lamellae "MVT 10 – 20"	PPN 10 – 20	9329
Four direction painted air blowing 1 000mm profile with adjustable lamellae "MVT 30 – 40"	PPN 30 – 40	9330
Four direction painted air blowing 1 000mm profile with adjustable lamellae "MVT 50 – 60"	PPN 50 – 60	9331
Four direction painted air blowing 1 000mm profile with adjustable lamellae "MVT 70 – 80"	PPN 70 – 80	9332
Four direction painted air blowing 1 000mm profile with adjustable lamellae "MVT 90 – 100"	PPN 90 – 100	9333
Air blowing shuttles with two direction adjustable shovels "MVT 10 – 20"	GMD 10 – 20	196
Air blowing shuttles with two direction adjustable shovels "MVT 30 – 40"	GMD 30 – 40	216
Air blowing shuttles with two direction adjustable shovels "MVT 50 – 60"	GMD 50 – 60	243
Air blowing shuttles with two direction adjustable shovels "MVT 70 – 80"	GMD 70 – 80	244
Air blowing shuttles with two direction adjustable shovels "MVT 90 – 100"	GMD 90 – 100	245
Air blowing protective net "MVT 10 – 20"	GMP 10 – 20	246
Air blowing protective net "MVT 30 – 40"	GMP 30 – 40	248
Air blowing protective net "MVT 50 – 60"	GMP 50 – 60	251
Air blowing protective net "MVT 70 – 80"	GMP 70 – 80	254
Air blowing protective net "MVT 90 – 100"	GMP 90 – 100	282
Circle cross section transition profile to textile or metal ventilation shaft systems "MVT 10 – 20"	CON 10 – 20	286
Circle cross section transition profile to textile or metal ventilation shaft systems "MVT 30 – 40"	CON 30 – 40	455
Circle cross section transition profile to textile or metal ventilation shaft systems "MVT 50 – 60"	CON 50 – 60	463
Circle cross section transition profile to textile or metal ventilation shaft systems "MVT 70 – 80"	CON 70 – 80	465
Circle cross section transition profile to textile or metal ventilation shaft systems "MVT 90 – 100"	CON 90 – 100	468

ACR Pro





ACR air curtains provide a protective line at the entrance of the building. The product - thanks to its high efficiency and modular design - allows heat protection of industrial premises. They also help to minimize the building's filtration heat loss, thus reducing the operating costs of the building.
Devices equipped with a heat exchanger operate on a forced convection principle by heating loop expansion pipes and aluminium lamellas mounted on them, using hot water, which allows the heat to be delivered to the gate by a fan. Air curtains can be controlled in several ways.

The **ACR** door curtain product family is available in two versions:

We recommend the **ACR** type's formally cleared, modern designed brother to shops, offices an tot he general public. It is available with or without heat exchanger, also in electrical version.

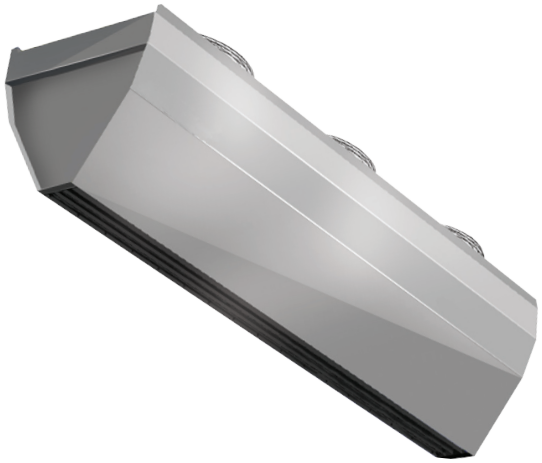
The **ACR Pro** is specifically recommended for industrial environments, with or without a heat exchanger.

- High quality heat exchanger with excellent heat transfer ability
- Can be installed both vertically and horizontally
- Up to 7 m installation height
- Modular construction
- Available lengths: 150 cm and 200 cm (ACR 100 cm too)
- 2-years full warranty

CURIOSITY

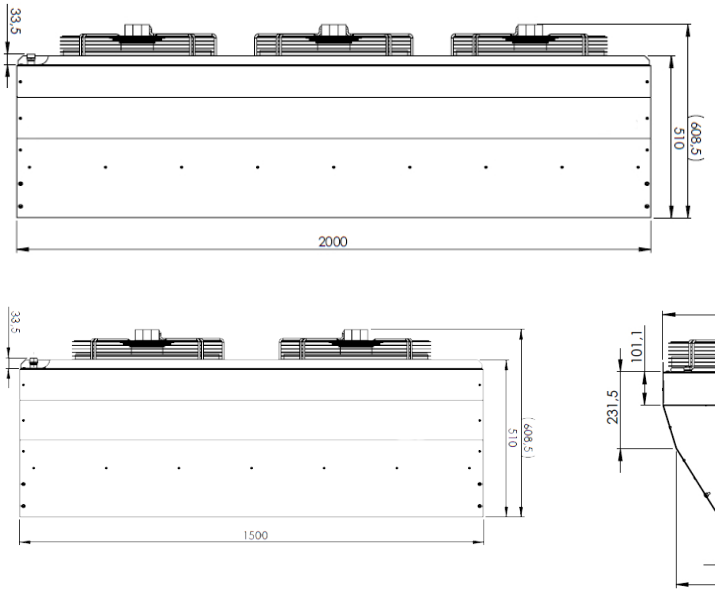
Air curtains enable considerable energy savings in large spaces with continuous traffic or material handling.
The number of air changes in the building can increase from the normal 0.5–0.6-fold to 0.9–1.0-fold, resulting in up to 30–35% extra energy consumption on the heating side. For this reason, it is important to take into account the purpose for which the building has been designed.
Air curtains are available in two widths (1.5 m and 2 m), larger widths can be achieved by placing the devices side by side or above each other.

Efficiency is increased by narrow vents of 130 mm which produces a sharp air blast to prevent cold air from entering the building.



ACR Pro air curtain

Type		with water heat exchanger		without heat exchanger	
		ACR Pro 1500H	ACR Pro 2000H	ACR Pro 1500C	ACR Pro 2000C
Lenght of unit [m]		1.5	2	1.5	2
Max. airflow range [m]		7.5	7.5	7.5	7.5
Heat output [kW]		33	47	–	–
Max. Air flow [m³/h]		6 500	9 000	6 800	9 200
Max. working pressure [MPa]		1.6	1.6	–	–
Diameter of connection nozzles [ø]		3/4˝	3/4˝	–	–
Power supply		230 V/50 Hz			
Motor Input Power [kW]		0.5	0.75	0.5	0.75
Power consumption [A]		2.4	3.6	2.4	3.6
IP protection class		IP54			
Noise level [dB(A)]		58	60	58	60
Weight [kg]	Netto	44	60	37	51
	Transport	46	62	39	53
Part-number		**9995**	**9996**	**9993**	**9994**



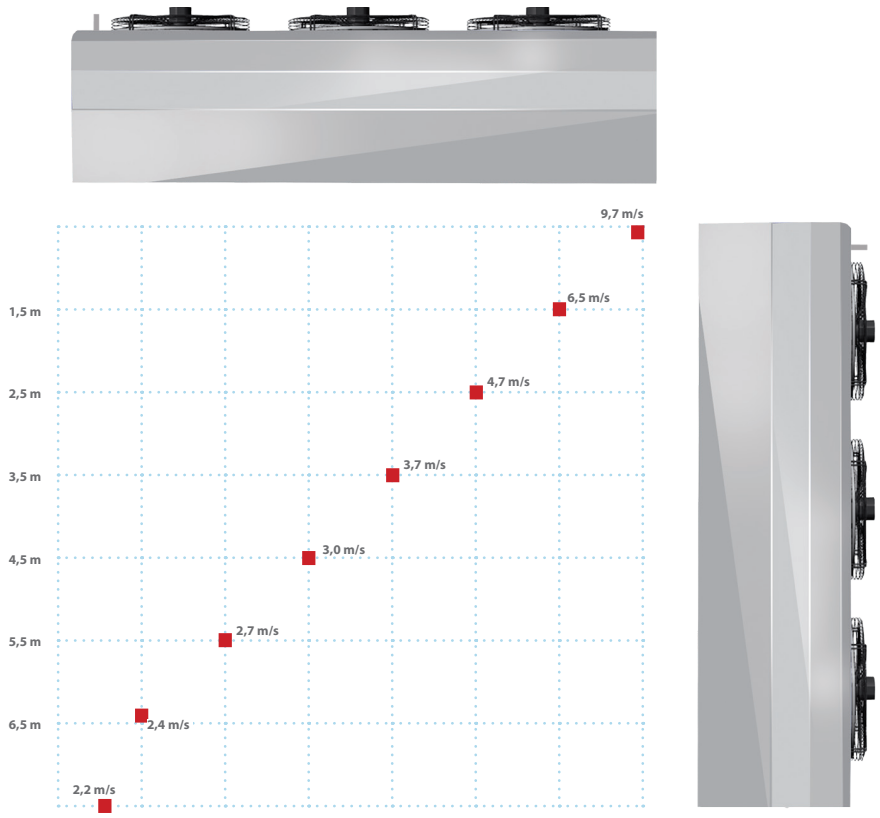
ACR Pro 1500H Air flow 6 500 m³/h

	Inlet/outlet water temperature 60/40 °C					Inlet/outlet water temperature 70/50 °C					Inlet/outlet water temperature 90/70 °C				
Inlet air temperature [°C]	0	5	10	15	20	0	5	10	15	20	0	5	10	15	20
Input Power [kW]	19.1	17.0	14.9	12.8	10.7	23.9	21.5	19.2	17.0	14.7	33.0	30.8	28.5	26.2	23.9
Outlet air temperature [°C]	8.8	12.7	16.7	20.6	24.5	10.5	14.5	18.6	22.6	26.5	14.3	18.2	22.2	26.2	30.2
Water flow [m³/h]	0.7	0.7	0.7	0.4	0.4	1.1	0.7	0.7	0.7	0.7	1.4	0.7	0.7	0.7	0.7
Pressure drop [kPa]	2.4	1.8	1.3	0.9	0.5	3.7	3.1	2.5	2.0	1.5	6.7	5.9	5.2	4.4	3.8

ACR Pro 2000H Air flow 9 000 m³/h

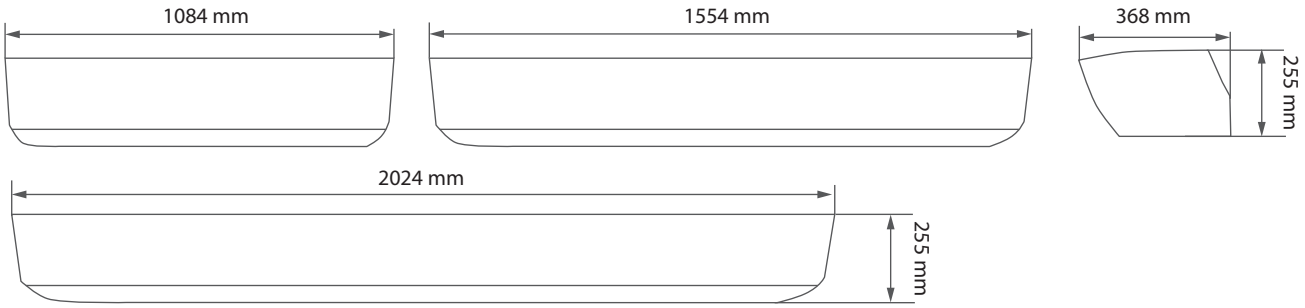
	Inlet/outlet water temperature 60/40 °C					Inlet/outlet water temperature 70/50 °C					Inlet/outlet water temperature 90/70 °C				
Inlet air temperature [°C]	0	5	10	15	20	0	5	10	15	20	0	5	10	15	20
Input Power [kW]	29.1	25.5	22.1	18.9	15.8	35.1	31.8	28.6	25.4	22.3	47.0	43.4	39.9	36.5	33.2
Outlet air temperature [°C]	8.7	12.7	16.6	20.6	24.6	10.4	14.4	18.4	22.4	26.4	14.1	18.1	22.1	26.1	30.1
Water flow [m³/h]	1.1	1.1	0.7	0.7	0.7	1.4	0.7	0.7	0.7	0.4	1.8	1.8	1.4	1.4	1.4
Pressure drop [kPa]	5.6	4.4	6.1	2.5	1.7	8.5	7.1	5.8	4.7	3.7	15.0	13.0	12.0	9.9	8.5

Air speed



ACR air curtain

Type		with water heat exchanger			with electric heat exchanger			without heat exchanger		
		ACR 1000H	ACR 1500H	ACR 2000H	ACR 1000E	ACR 1500E	ACR 2000E	ACR 1000C	ACR 1500C	ACR 2000C
Lenght of unit [m]		1	1.5	2	1	1.5	2	1	1.5	2
Max. airflow range [m]		4	4	4	4	4	4	4	4	4
Heat output [kW]		10–16	20–29	25–40	4–7	6.5–11	8.5–14	–	–	–
Max. Air flow [m³/h]		2 000	3 600	4 800	2 000	3 600	4 800	2 100	3 700	5 000
Max. working pressure [MPa]		1.6	1.6	1.6	–	–	–	–	–	–
Diameter of connection nozzles [ø]		1/2″	1/2″	1/2″	–	–	–	–	–	–
Power supply [V/Hz]		230 V / 50 Hz								
Motor Input Power [W]		220	320	320	220	320	320	220	320	320
Power consumption [A]		1.95	2.6	2.6	1.95	2.6	2.6	1.95	2.6	2.6
IP protection class		IP 21								
Noise level [dB(A)]		59	61	62	59	61	62	60	61	62
Weight [kg]	Netto	16.5	20.5	28	17	21.5	29	15	18.5	25
	Transport	16	23	31	20	24	32	18	22	28
Part-number		10790	10791	10792	10796	10797	10798	10793	10794	10795



ACR 1000 Air flow 2 000 m³/h

	Inlet/outlet water temperature 60/40 °C					Inlet/outlet water temperature 70/50 °C					Inlet/outlet water temperature 90/70 °C				
Inlet air temperature [°C]	0	5	10	15	20	0	5	10	15	20	0	5	10	15	20
Input Power [kW]	9	7.9	6.9	5.8	4.8	11.3	10.3	9.2	8.1	7.1	16	14.9	13.9	12.8	11.7
Outlet air temperature [°C]	14.9	18.3	21.8	25.2	28.7	18.4	21.8	25.2	28.7	32.1	25.4	28.8	32.2	35.6	39
Water flow [m³/h]	0.4	0.3	0.3	0.2	0.2	0.5	0.4	0.4	0.3	0.3	0.7	0.6	0.6	0.5	0.5
Pressure drop [kPa]	2	2	1	1	1	4	3	2	2	1	7	6	5	5	4

ACR 1500 Air flow 3 600 m³/h

	Inlet/outlet water temperature 60/40 °C					Inlet/outlet water temperature 70/50 °C					Inlet/outlet water temperature 90/70 °C				
Inlet air temperature [°C]	0	5	10	15	20	0	5	10	15	20	0	5	10	15	20
Input Power [kW]	17.4	15.6	13.8	12.1	10.3	21.3	19.5	17.7	15.9	14.1	29.0	27.2	25.4	23.6	21.8
Outlet air temperature [°C]	15.1	18.6	22.1	25.7	29.2	18.3	21.8	25.3	28.9	32.4	24.7	28.2	31.7	35.2	38.7
Water flow [m³/h]	0.6	0.6	0.5	0.4	0.3	0.8	0.7	0.7	0.6	0.5	1.2	1.1	1	0.9	0.8
Pressure drop [kPa]	8	6	4	3	2	12	10	8	6	5	22	19	17	14	12

ACR 2000 Air flow 4 800 m³/h

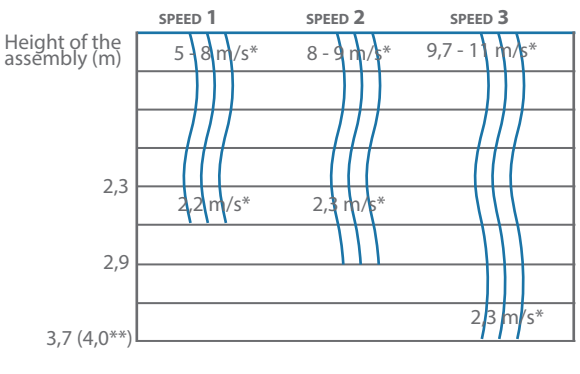
	Inlet/outlet water temperature 60/40 °C					Inlet/outlet water temperature 70/50 °C					Inlet/outlet water temperature 90/70 °C				
Inlet air temperature [°C]	0	5	10	15	20	0	5	10	15	20	0	5	10	15	20
Input Power [kW]	24.7	22.3	19.9	17.5	15.1	29.8	27.4	25.0	22.6	20.2	40.0	37.6	35.2	32.8	30.4
Outlet air temperature [°C]	15.7	19.2	22.7	26.2	29.7	18.9	22.4	25.9	29.4	32.9	25.2	28.7	32.2	35.7	39.2
Water flow [m³/h]	0.9	0.8	0.7	0.6	0.5	1.1	1	0.9	0.8	0.7	1.6	1.5	1.4	1.3	1.2
Pressure drop [kPa]	15	12	9	7	5	22	19	15	12	9	42	37	32	27	23

ACR 1 000E / 1 500E / 2 000E

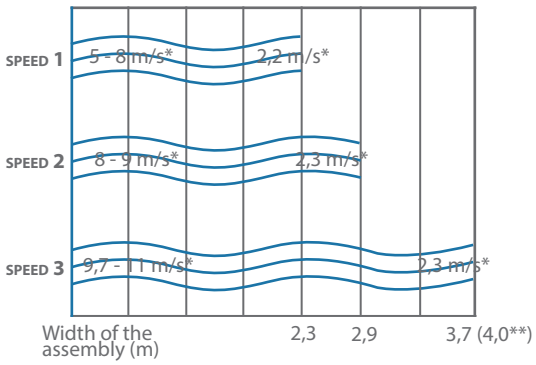
	ACR 1 000 E					ACR 1 500 E					ACR 2 000 E				
Inlet air temperature [°C]	0	5	10	15	20	0	5	10	15	20	0	5	10	15	20
Outlet air temperature [°C]	12	17	22	27	32	13	18	23	28	33	14	19	24	29	34

Air flow

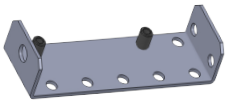
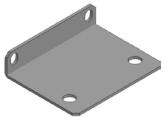
VERTICAL AIRFLOW LENGTH
(maximum installation height)



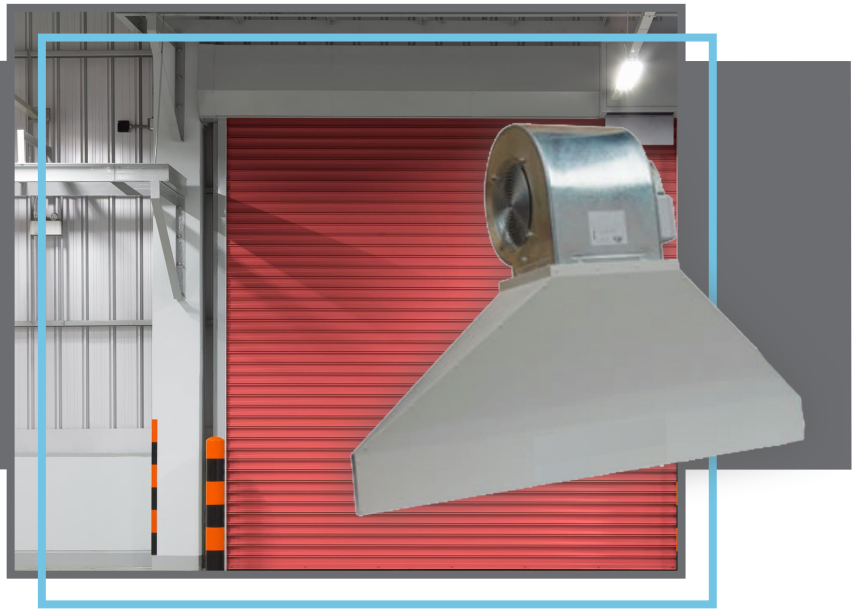
HORIZONTAL AIRFLOW LENGTH
(max range by vertical installation)

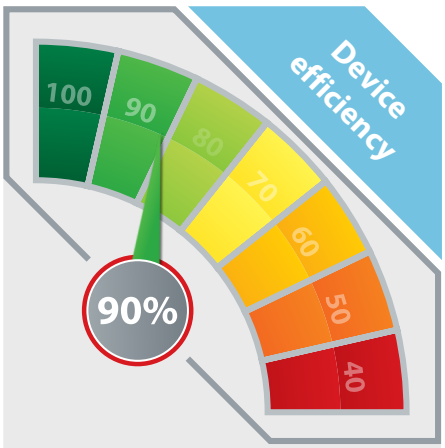


* air flow speed ** ambient air curtain

		Type	Part-number
	Simple temperature controller for ACR	Comfort	9997
	ACR Pro fan speed regulator single phase 230V 10A		10001
	ACR Pro control box		10002
	Door opening sensor for ACR Pro		10003
	Universal iron fastener for ACR Pro (Required for both horizontal and vertical position)		10007
	AFR actuating valve 230V, M30x1,5		10005
	Vertical holder item for ACR Pro		11122

KL





We have been selling our **KL** air curtain air heater devices for more than 15 years now during which period we managed to create the highest possible quality device due to the continuous research and development. The quality of the devices is further increased by the fact that all of the manufactured parts undergo a final examination after the manufacturing process.

The **KL–E** and **KL–MV** devices are forced convection air heater devices, which means that the electric heating inserts heat up or the incoming hot water – coming from the distributing network – heats up the goose necks as it is flowing through them and at the same time heats up the aluminium lamellae which are closely pushed to the goose necks. When they are heated up, a ventilator blows the produced heat to the line of the gate. The air curtain air heaters can be regulated in completely different ways, such as with infra gates or traditional remote controls, which control the 3 level blow-off ventilators, too.

One defining element of quality is that we use only the best materials during the production, like:

- High quality heat exchanger with excellent heat transfer abilities
- Easy-to-adjust blowing-out shutters
- Easy suspension, can be mounted horizontally or in a tilted way
- 140 cm blow-out width
- 2-year complete warranty

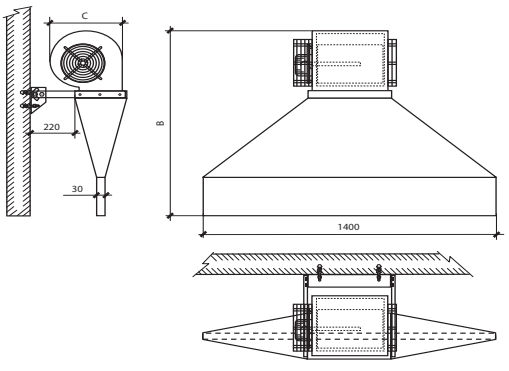
CURIOSITY

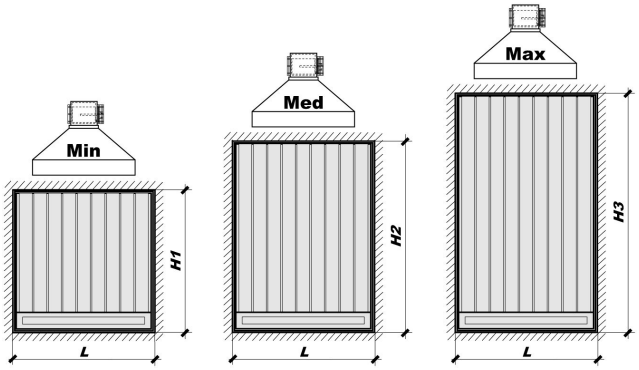
Through the application of air curtain air heaters a huge amount of energy can be saved in huge rooms where gates are being opened continuously due to transit traffic or conveyance of materials.
The air exchange number of the building can increase from the normal 0.5–0.6 up to 0.9–1.0, which saves 30–35% additional energy as regards the heating. That is why it is important to consider during measuring, what purposes the application of the building is going to serve.

The efficiency of the devices is supported, but the incoming external cold air is hindered by the 30 mm thick blowing-out crack opening which creates a thin, sharp airstream.

KL Air curtain air heaters for the circulation of internal air

Type		KL 10	KL 20	KL 30	KL 40
Airflow [m3/h]	Max.	3 120	3 610	3 840	4 250
	Mid.	2 480	2 920	3 160	3 600
	Min.	1 990	2 200	2 560	2 850
Constant static pressure [pa]		220 – 190 – 155	300 – 250 – 195	250 – 215 – 180	330 – 270 – 210
Installation height [m]	H3	3.5	4.0	4.5	5.0
	H2	3.0	3.5	3.7	4.3
	H1	2.5	3.0	3.2	3.7
Gate width L [m]		1.2 – 2	1.2 – 2.2	1.2 – 2.3	1.2 – 2.5
Length [mm]		1 400			
Width [mm]		390	390	445	445
Height [mm]		1 000	1 000	1 050	1 050
Weight [kg]	Netto	25	26	28	29
	Transport	29	32	35	36
Average electric motor consumption [W]		564	857	609	1 420
Electrical connection		One phase 230V / 50Hz			
Part-number		**4453**	**4454**	**4455**	**4457**





KL E Air curtains with electric heat exchanger in 230V or 400V

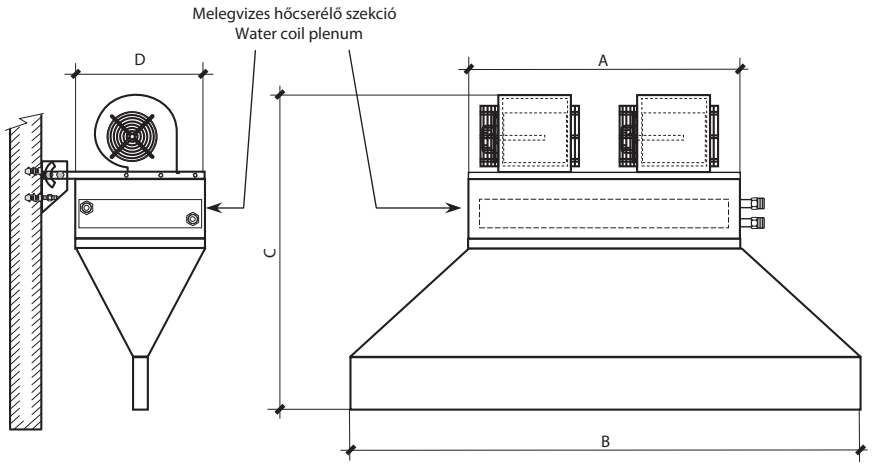
Type		KL 10 E	KL 20 E	KL 30 E	KL 40 E
Airflow [m3/h]	Max.	3 120	3 610	3 840	4 250
	Mid.	2 480	2 920	3 160	3 600
	Min.	1 990	2 200	2 560	2 850
Constant static pressure [pa]		220 – 190 – 155	300 – 250 – 195	250 – 215 – 180	330 – 270 – 210
Installation height [m]	H3	3.5	4.0	4.5	5.0
	H2	3.0	3.5	3.7	4.3
	H1	2.5	3.0	3.2	3.7
Gate width L [m]		1.2 – 2	1.2 – 2.2	1.2 – 2.3	1.2 – 2.5
Length [mm]		1400			
Width [mm]		390	390	445	445
Height [mm]		1 000	1 000	1 050	1 050
Weight [kg]	Netto	25	26	28	29
	Transport	29	32	35	36
Average electric motor consumption [W]		564	857	609	1420
Electrical connection		One phase 230V / 50Hz or Three-phase 400V / 50Hz			
Type		**KL–10–E/230**	**KL–20–E/230**	**KL–30–E/230**	**KL–40–E/230**
Heat exchanger electric consumption		3kW / 13.1A	4.5kW / 19.6A	6kW / 26.1A	9kW / 39.2A
Air temperature increase [°C]		5.8	7.6	9.5	12.8
Part-number		**4475**	**4481**	**4483**	**4501**
Type		**KL–10–E/400**	**KL–20–E/400**	**KL–30–E/400**	**KL–40–E/400**
Heat exchanger electric consumption		3x1kW / 3x4.4A	3x1.5kW / 3x6.6A	3x2kW / 3x8.7A	3x3kW / 3x13.1A
Air temperature increase [°C]		5.8	7.6	9.5	12.8
Part-number		**4509**	**4513**	**4514**	**4518**

KL MV Air curtains with hot water heat exchanger 230V

Type		KL 10 MV	KL 20 MV	KL 30 MV	KL 40 MV	KL 50 MV	KL 60 MV
Airflow [m3/h]	Max.	2 214	2 070	3 198	2 880	4 158	3 750
	Mid.	1 778	1 741	2 501	2 313	3 136	3 032
	Min.	1 277	1 237	1 736	1 573	2 393	2 160
Installation height [m]	H3	4.0		4.5		5.5	
	H2	3.5		4.0		4.5	
	H1	3.0		3.5		4.0	
Gate width L [m]		1.2 – 2.0		1.4 – 2.2		1.5 – 2.3	
Length [mm]		1 500		1 600		1 700	
Width [mm]		405		505		605	
Height [mm]		1 170		1 230		1 230	
Weight [kg]	Netto	29.2	30.1	32.8	40.0	44.5	47.2
	Transport	33.2	34.1	37.8	45.2	50.5	52.3
Average electric motor consumption [W / A]		1 x 270W / 1.3A		1 x 750W / 3.5A		1 x 750W / 3.5A	
Electrical connection		One phase 230V / 50Hz					
Part-number		**4521**	**4523**	**4525**	**4527**	**4529**	**4532**

KL MV Air curtains with hot water heat exchanger 230V

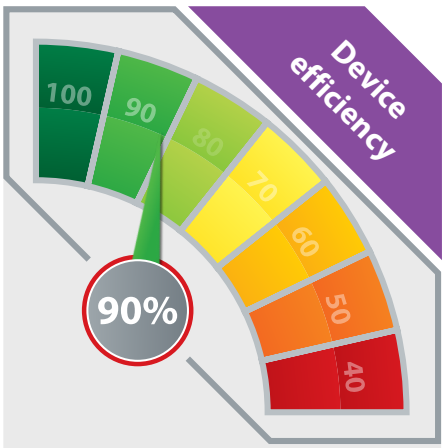
Type		KL 70 MV	KL 80 MV	KL 90 MV	KL 100 MV
Airflow [m3/h]	Max.	6 642	6 096	8 733	7 680
	Mid.	5 203	4 858	6 850	6 052
	Min.	3 649	3 439	4 845	4 347
Installation height [m]	H3	4.5		5.5	
	H2	4.0		4.5	
	H1	3.5		4.0	
Gate width L [m]		1.8 – 2.6		2.0 – 3.0	
Length [mm]		2 100		2 300	
Width [mm]		505		605	
Height [mm]		1 230		1 230	
Weight [kg]	Netto	67.2	70.8	79.0	83.7
	Transport	74.2	78.1	86.6	91.6
Average electric motor consumption [W / A]		2 x 750W / 2x3.5A		2 x 750W / 2x3.5A	
Electrical connection		One phase 230V / 50Hz			
Part-number		**4541**	**4543**	**4545**	**4548**



Size [mm]	KL 10 MV	KL 20 MV	KL 30 MV	KL 40 MV	KL 50 MV	KL 60 MV	KL 70 MV	KL 80 MV	KL 90 MV	KL 100 MV
A	510	510	610	610	710	710	1 110	1 110	1 310	1 310
B	1 500	1 500	1 600	1 600	1 700	1 700	2 100	2 100	2 300	2 300
C	1 170	1 170	1 230	1 230	1 230	1 230	1 230	1 230	1 230	1 230
D	405	405	505	505	605	605	505	505	605	605

	Type	Part-number
Electronic remote control with OFF/Summer/Winter functions + manual, 3 level speed regulation function	CR 1	**4578**
Control panel to the control of 2 units at the same time (for 3 speed levels)	SDI.2x10A	**9288**
Control panel to the control of 4 units at the same time (for 3 speed levels)	SDI.4x3A	**179**

LLV



Our **LLV** destratification fan have been part of our product catalogue for more than 15 years, at the beginning there were only 3 sizes of them, but today you can order them in five sizes and as regards their construction there have been some significant changes.

Another contributing factor of the quality of our devices is that after the production only those products are exported from our plant that passed the final examination during which the data given by the customer were set-up.
The functioning of the device is extraordinarily simple. In the upper stratum of air under the ceiling of huge halls the rising hot air gets stuck, but the **LLV** destratification fan blow the air back to the target area after reaching the set temperature. All of the devices are provided with a manual temperature sensor which must be set before the mounting.

The most defining element of device quality is that we use only the best materials during the production.

CURIOSITY

The destratification fan cannot be used only for the returning of the hot air got stuck in the upper stratum of air to the target area.

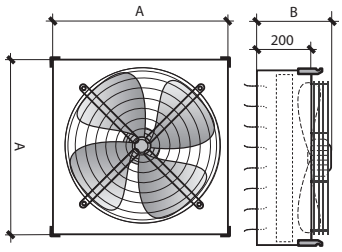
They are perfectly suitable for ventilation, air circulation and heat recovery tasks with the application of appropriate ventilation shaft elements. If you had any questions in connection with the above mentioned application, please, contact our colleagues at any time.

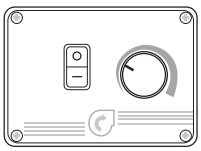
No efficiency factor can be determined in case of our LLV devices, however, the built-in fan meet the latest ERP 2015 standard.

- Unique, plum seed formed blowing aluminium lamellae line (only 650, 800)
- Long-wearing, massive electric controller/distributing boards
- First-class blow-off ventilator made in Europe
- Removable, easy-to-maintain structure
- Easy to suspend
- Up to 2-year full warranty

LLV destratification fans

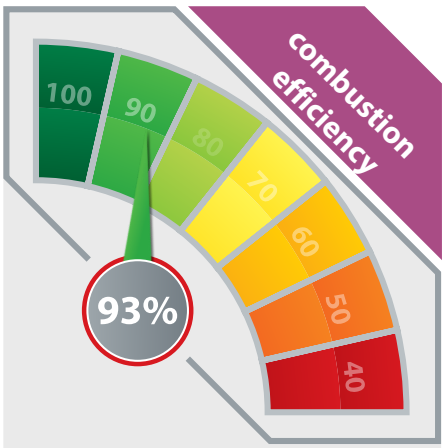
Type		LLV 400	LLV 450	LLV 500	LLV 650	LLV 800
Air flow [m^3/h]		3 600	5 500	7 200	11 435	14 000
Length [m]		500	550	600	925	950
Width [m]		500	550	600	780	950
Height [m]		270	380	380	480	515
Weight [kg]	Netto	15	19	26	46,5	54
	Transport	19	23	31	50	58
Average electric consumption [W / A]		210W / 0.96A	350W / 1.8A	360W / 1.9A	750W / 3,5A	1760W / 7,4A
Electrical connection		One phase 230V / 50Hz				
Part-number		**4550**	**4552**	**4560**	**9334**	**9335**



Fittings		Type	Part-number
	Remote control with OFF/ON function, scale-free ventilator speed regulation (max. 1,5 A)	**CR 5 A**	**4566**
	Remote control with OFF/ON function, scale-free ventilator speed regulation (max. 3 A)	**CR 5 B**	**4571**
	Remote control with OFF/ON function, scale-free ventilator speed regulation (max. 5 A)	**CR 5 C**	**4575**
	 Gripple suspension wire with a noose end in 1–4m length	**HFS 1.0**	**9129**
		HFS 2.0	**9130**
		HFS 3.0	**9131**
		HFS 4.0	**9132**
	 Gripple suspension wire M8 with screwed rod in 1–4 m length	**MFS 1.0**	**9133**
		MFS 2.0	**9134**
		MFS 3.0	**9135**
		MFS 4.0	**9136**
	 Gripple suspension wire with a STOP end in 1–4 m length	**SFS 1.0**	**9137**
		SFS 2.0	**9138**
		SFS 3.0	**9139**
		SFS 4.0	**9140**
	 Gripple suspension wire with a hook end in 1–4 m length	**KFS 1.0**	**9141**
		KFS 2.0	**9142**
		KFS 3.0	**9143**
		KFS 4.0	**9144**

GRIPPLE

ATG



We have been selling our **ATG** standing or lying solution thermogenerator devices for more than 25 years now during which period we managed to create the highest possible quality device due to the continuous research and development.

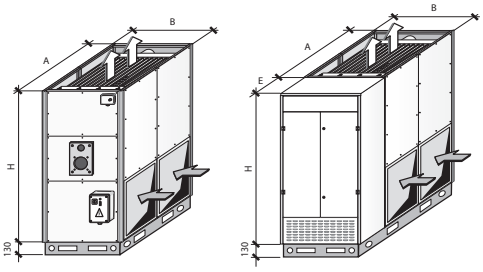
The appliance operates on the basis of forced convection. The free-to-choose block burner mounted to the devices heats up the air in the heat exchanger barrel and this air heats up the surface of the lamellae further as it is flowing through them. The heated-up air flowing past the barrel and the exothermic lamellae transports the heat to the target area. The devices can be standard or certain types of design can be condensed types of heat exchangers. One of the advantages of the device family is that it is possible to produce extra high temperature air and high pressure too. They can be operated in three ways: by OFF-ON switching, by two-point, either in 100% or 50% mode or by scale-free modulation control. There are significant differences as regards saving between the modes. One defining element of quality is that we use only the best materials during the production, like:

- Heat exchanger barrel welded from acid-resistant material
- Painted steel plate sandwich panel covering
- Excellent quality ventilator section made in Europe
- Optional, individually measured ventilational section
- Simple, horizontal and vertical mounting
- Up to 2-years full warranty

CURIOSITY

Due to their new design, in case of our **ATG** devices we are able to deliver you a unique device meeting your requirements. Thanks to this fact, you do not have to restrict the list of your ideas, but you can compile a configuration which is measured to an exactly defined task and contains every element and accessory without any compromises.
Thanks to the above changes today you have the opportunity to compile even a complete air controlling unit.

The devices can be ordered even with a condensational heat exchanger, which supports further significant energy savings.

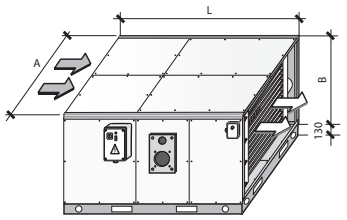


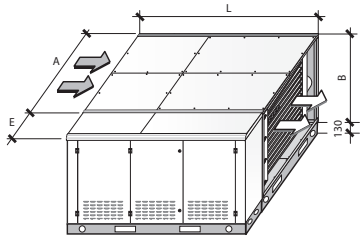
ATG Vertical thermogenerators painted in RAL 9001 colour

Type	ATG 30	ATG 40	ATG 60	ATG 80	ATG 110	ATG 130	ATG 160	ATG 200	ATG 250
Nominal capacity [kW]	34	46	69	93	127	151	186	232	290
Rated thermal power [kW]	31.2	42.4	63.3	84.9	115.5	136.9	167.9	210.2	263.6
Efficiency [%]	91.7	92.2	91.8	91.3	91.0	90.7	90.3	90.6	90.9
Air flow [m^3/h]	2 000	2 700	4 200	5 500	7 600	8 600	10 800	13 600	16 500
Static pressure [Pa]	130	167	221	160	207	184	212	248	228
Noise level [dB]	50	49	57	54	65	63	66	68	63
Temperature difference [dT]	47	48	46	47	46	48	47	47	48
Full length A [mm]	750		900		1 000		1 400		1 900
Width B [mm]	500		650		850		1 000		1 150
Height H [mm]	1 600		1 800		2 100		2 300		240
Depth E [mm]	400		450		500		700		800
Weight [kg] Netto	115	130	170	190	260	300	420	470	580
Electric consumption [kW]	1 x 0.25	1 x 0.28	1 x 0.74	1 x 0.74	1 x 1.5	1 x 1.5	1 x 2.2	1 x 3.0	2 x 1.5
Electrical connection	One phase 230V / 50Hz				Three-phase 400 V / 50Hz				
ATG–A	**2601**	**2608**	**2609**	**2611**	**2613**	**2614**	**2658**	**3021**	**3034**
ATG–B Burner with protective covering	**3105**	**3128**	**3129**	**3134**	**3135**	**3140**	**3141**	**3154**	**3155**
Condensation supplement	**3707**	**3708**	**3709**	**3710**	**3711**	**3712**	**3713**	**3714**	**3715**

ATG Vertical thermogenerators painted in RAL 9001 colour

Type	ATG 300	ATG 350	ATG 400	ATG 450	ATG 520	ATG 580	ATG 650	ATG 750	ATG 850	ATG1000
Nominal capacity [kW]	348	407	465	522	603	672	754	870	986	1160
Rated thermal power [kW]	317.7	372.8	427.3	477.6	546.3	616.2	681.6	794.3	888.4	1053.3
Efficiency [%]	91.3	91.6	91.9	91.5	90.6	91.7	90.4	91.3	90.1	90.8
Air flow [m^3/h]	20 000	24 000	27 800	30 000	34 000	39 000	42 000	48 700	54 000	64 000
Static pressure [Pa]	219	216	220	126	110	126	206	189	249	206
Noise level [dB]	66	65	68	70	73	70	72	72	74	74
Temperature difference [dT]	48	47	47	48	49	48	49	49	50	50
Full length A [mm]	1 900	2 100		2 100		2 600		3 100		3 700
Width B [mm]	1 150	1 250		1 300		1 500		1 600		1 800
Height H [mm]	2 400	2 450		2 750		3 000		31 00		3 200
Depth E [mm]	800	800		900		900		1 000		1 100
Weight [kg] Netto	620	730	800	950	1 120	1 470	1 580	1 770	2 080	2 320
Electric consumption [kW]	2 x 2.2	2 x 2.2	2 x 3.0	2 x 3.0	2 x 4.0	2 x 3.0	3 x 4.0	3 x 4.0	3 x 5.5	4 x 5.5
Electrical connection	Three-phase 400 V / 50Hz									
ATG–A Part-number	**3035**	**3064**	**3065**	**3076**	**3077**	**3082**	**3083**	**3096**	**3097**	**3104**
ATG–B Burner with protective covering	**3164**	**3165**	**3180**	**3181**	**3182**	**3184**	**3214**	**3270**	**3271**	**3272**
Condensation supplement	**3716**	**3717**	**3718**	**3719**	**3720**	**3721**	**3722**	**3723**	**3724**	**3725**





ATG Horizontal thermogenerators painted in RAL 9001 colour

Type	ATG 30	ATG 40	ATG 60	ATG 80	ATG 110	ATG 130	ATG 160	ATG 200	ATG 250
Nominal capacity [kW]	34	46	69	93	127	151	186	232	290
Rated thermal power [kW]	31.2	42.4	63.3	84.9	115.5	136.9	167.9	210.2	263.6
Efficiency [%]	91.7	92.2	91.8	91.3	91.0	90.7	90.3	90.6	90.9
Air flow [m^3/h]	2 000	2 700	4 200	5 500	7 600	8 600	10 800	13 600	16 500
Static pressure [Pa]	130	167	221	160	207	184	212	248	228
Noise level [dB]	50	49	57	54	65	63	66	68	63
Temperature difference [dT]	47	48	46	47	46	48	47	47	48
Full length A [mm]	750		900		1 000		1 400		1 900
Width B [mm]	500		650		850		1 000		1 150
Height H [mm]	1 950		2 100		2 450		2 650		2 750
Depth E [mm]	400		450		500		700		800
Weight [kg] Netto	120	135	178	198	273	313	441	491	610
Electric consumption [kW]	1 x 0.25	1 x 0.28	1 x 0.74	1 x 0.74	1 x 1.5	1 x 1.5	1 x 2.2	1 x 3.0	2 x 1.5
Electrical connection	One phase 230V / 50Hz				Three-phase 400 V / 50Hz				
ATG–C	3726	3727	3728	3729	3730	3731	3732	3733	3734
ATG–D Burner with protective covering	3745	8581	8582	8583	8584	8585	8586	8587	8588
Condensation supplement	**3707**	**3708**	**3709**	**3710**	**3711**	**3712**	**3713**	**3714**	**3715**

ATG Horizontal thermogenerators painted in RAL 9001 colour

Type	ATG 300	ATG 350	ATG 400	ATG 450	ATG 520	ATG 580	ATG 650	ATG 750	ATG 850	ATG1000
Nominal capacity [kW]	348	407	465	522	603	672	754	870	986	1160
Rated thermal power [kW]	317.7	372.8	427.3	477.6	546.3	616.2	681.6	794.3	888.4	1053.3
Efficiency [%]	91.3	91.6	91.9	91.5	90.6	91.7	90.4	91.3	90.1	90.8
Air flow [m^3/h]	20 000	24 000	27 800	30 000	34 000	39 000	42 000	48 700	54 000	64 000
Static pressure [Pa]	219	216	220	126	110	126	206	189	249	206
Noise level [dB]	66	65	68	70	73	70	72	72	74	74
Temperature difference [dT]	48	47	47	48	49	48	49	49	50	50
Full length A [mm]	1 900	2 100		2 100		2 600		3 100		3 700
Width B [mm]	1 150	1 250		1300		1 500		1 600		1 800
Height H [mm]	2 750	2 800		3 050		3 300		3 400		3 500
Depth E [mm]	800	800		900		900		1 000		1 100
Weight [kg] Netto	620	765	835	1 000	1 170	1 540	1 650	1 850	2 160	2 430
Electric consumption [kW]	2 x 2.2	2 x 2.2	2 x 3.0	2 x 3.0	2 x 4.0	3 x 3.0	3 x 4.0	3 x 4.0	3 x 5.5	4 x 5.5
Electrical connection	Three-phase 400 V / 50Hz									
ATG–C Part-number	3735	3736	3737	3738	3739	3740	3741	3742	3743	3744
ATG–D Burner with protective covering	8589	8590	8591	8592	8593	8594	8595	8596	8597	8598
Condensation supplement	**3716**	**3717**	**3718**	**3719**	**3720**	**3721**	**3722**	**3723**	**3724**	**3725**

ATG MSP medium static pressure ventilation accessory

Type	MSP 30	MSP 40	MSP 60	MSP 80	MSP 110	MSP 130	MSP 160	MSP 200	MSP 250
Air flow [m^3/h]	2 000	2 700	4 200	5 500	7 600	8 600	10 800	13 600	16 500
Constant static pressure [Pa]	280	380	350	350	350	350	350	350	350
Noise level [dB]	53	53	62	62	65	65	66	68	64
Electric consumption [kW]	0.42	0.55	1.5	1.5	2.2	3	3	4	2 x 2.2
Part-number	3288	3289	3313	3318	3371	3585	3747	3850	3874

ATG MSP medium static pressure ventilation accessory

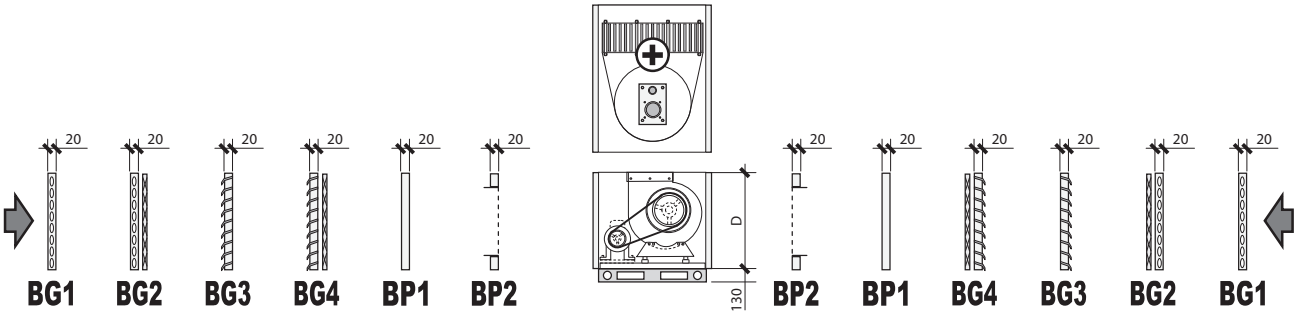
Type	MSP 300	MSP 350	MSP 400	MSP 450	MSP 520	MSP 580	MSP 650	MSP 750	MSP 850	MSP1000
Air flow [m^3/h]	20 000	24 000	27 800	30 000	34 000	39 000	42 000	48 700	54 000	61 000
Constant static pressure [Pa]	350	350	350	350	350	350	350	350	350	350
Noise level [dB]	67	65	68	70	73	73	72	72	74	74
Electric consumption [kW]	2 x 3	2 x 3	2 x 4	2 x 5.5	2 x 7.5	3 x 5.5	3 x 5.5	3 x 5.5	3 x 7.5	4 x 5.5
Part-number	**3875**	**3876**	**3877**	**3882**	**3905**	**3940**	**3942**	**3944**	**8599**	**8600**

ATG HSP high static pressure ventilation accessory

Type	HSP 30	HSP 40	HSP 60	HSP 80	HSP 110	HSP 130	HSP 160	HSP 200	HSP 250
Air flow [m^3/h]	2 000	2 700	4 200	5 500	7 600	8 600	10 800	13 600	16 500
Constant static pressure [Pa]	550	720	540	600	600	530	565	620	560
Noise level [dB]	62	64	64	65	67	66	67	68	66
Electric consumption [kW]	0.75	1.5	1.5	2.2	3	3	4	5.5	2x3
Part-number	**3948**	**3949**	**3952**	**3956**	**3957**	**3958**	**3959**	**3960**	**3963**

ATG HSP high static pressure ventilation accessory

Type	HSP 300	HSP 350	HSP 400	HSP 450	HSP 520	HSP 580	HSP 650	HSP 750	HSP 850	HSP1000
Air flow [m^3/h]	20 000	24 000	27 800	30 000	34 000	39 000	42 000	48 700	54 000	61 000
Constant static pressure [Pa]	605	500	600	500	600	600	820	670	600	700
Noise level [dB]	68	66	69	70	72	71	72	71	74	71
Electric consumption [kW]	2 x 4	2 x 4	2 x 5.5	2 x 5.5	2 x 7.5	3x 7.5	3x 7.5	3 x 7.5	3 x 7.5	4 x 7.5
Part-number	**3969**	**3972**	**3973**	**3974**	**3975**	**3976**	**3977**	**3978**	**3984**	**3987**



BG 1 perforated, painted air suction bars without filter only for one side

Type	BG1 30–40	BG1 60–80	BG1 110–130	BG1 160–200	BG1 250–300
Part-number	3990	3994	4034	4035	4054

Type	BG1 350–400	BG1 450–520	BG1 580–650	BG1 750–850	BG1 1 000
Part-number	4057	4061	4070	4080	4100

BG 2 perforated, painted air suction bars with EU3 filter, only for one side

Type	BG2 30–40	BG2 60–80	BG2 110–130	BG2 160–200	BG2 250–300
Part-number	9269	9270	9271	9272	9274

Type	BG2 350–400	BG2 450–520	BG2 580–650	BG2 750–850	BG2 1 000
Part-number	9281	9282	9283	9284	9285

BG 3 closing panel with fix lamellae only for one side

Type	BG3 30–40	BG3 60–80	BG3 110–130	BG3 160–200	BG3 250–300
Part-number	9365	9366	9367	9368	9369

Type	BG3 350–400	BG3 450–520	BG3 580–650	BG3 750–850	BG3 1 000
Part-number	9370	9371	9372	9373	9374

BG 4 closing panel with fix lamellae, with EU3 filter, only for one side

Type	BG4 30–40	BG4 60–80	BG4 110–130	BG4 160–200	BG4 250–300
Part-number	9375	9376	9377	9378	9379

Type	BG4 350–400	BG4 450–520	BG4 650	BG4 750–850	BG4 1 000
Part-number	9380	9381	9382	9383	9384

BP 1 painted metal covering panel only for one side

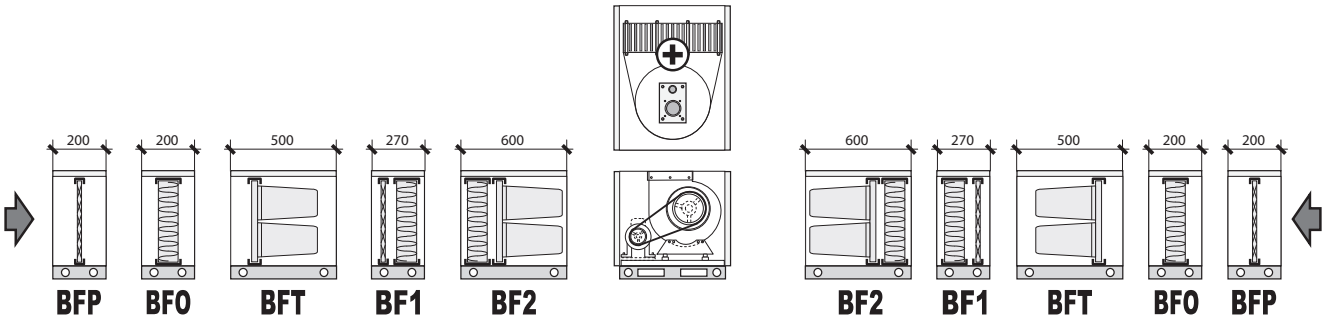
Type	BP1 30–40	BP1 60–80	BP1 110–130	BP1 160–200	BP1 250–300
Part-number	4102	4104	4110	4113	4114

Type	BP1 350–400	BP1 450–520	BP1 580–650	BP1 750–850	BP1 1 000
Part-number	4115	4116	4117	4126	4131

BP 2 painted metal cover with air intake section with discretionary diameter, only for one side

Type	BP2 30–40	BP2 60–80	BP2 110–130	BP2 160–200	BP2 250–300
Part-number	9385	9386	9387	9388	9389

Type	BP2 350–400	BP2 450–520	BP2 580–650	BP2 750–850	BP2 1 000
Part-number	9390	9391	9392	9393	9394



BFP Ventilation shaft lengthening element with EU3 filter, filter is removable from upper side

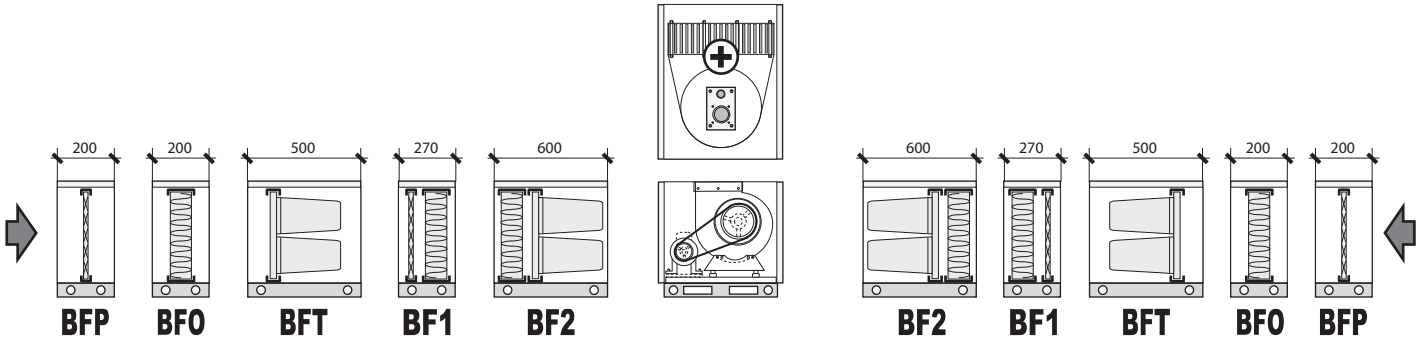
Type	BFP 30–40	BFP 60–80	BFP 110–130	BFP 160–200	BFP 250–300
Part-number	9395	9396	9397	9398	9399

Type	BFP 350–400	BFP 450–520	BFP 580–650	BFP 750–850	BFP 1 000
Part-number	9400	9401	9402	9403	9404

BFO Ventilation shaft lengthening element with EU5 filter, the filter is removable from upper side

Type	BFO 30–40	BFO 60–80	BFO 110–130	BFO 160–200	BFO 250–300
Part-number	9405	9406	8348	9407	9408

Type	BFO 350–400	BFO 450–520	BFO 580–650	BFO 750–850	BFO 1 000
Part-number	9409	9410	9411	9412	9413



BFT Ductable air filter with EU7 filter, the filter is removable from upper side

Type	BFT 30–40	BFT 60–80	BFT 110–130	BFT 160–200	BFT 250–300
Part-number	9414	9415	9416	9417	9418

Type	BFT 350–400	BFT 450–520	BFT 580–650	BFT 750–850	BFT 1 000
Part-number	9419	9420	9421	9422	9423

BF 1 Ductable air filter with EU3+EU5 double filter, it is removable from upper side

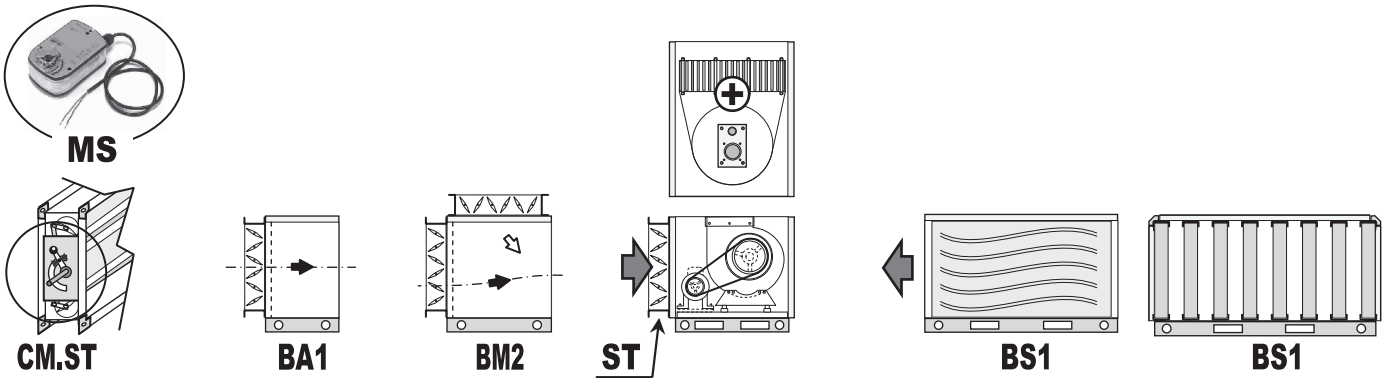
Type	BF1 30–40	BF1 60–80	BF1 110–130	BF1 160–200	BG2 250–300
Part-number	9424	9425	9426	9427	9428

Type	BF1 350–400	BF1 450–520	BF1 580–650	BF1 750–850	BG2 1 000
Part-number	9429	9430	9431	9432	9433

BF 2 Ductable air filter with EU5+EU7 double filter, it is removable from upper side

Type	BF2 30–40	BF2 60–80	BF2 110–130	BF2 160–200	BF3 250–300
Part-number	9434	9435	9436	9437	9438

Type	BF2 350–400	BF2 450–520	BF2 580–650	BF2 750–850	BF2 1 000
Part-number	9439	9440	9441	9442	9443



MS Shutter-moving servo engine to adjustable shutter frames

Type	max. 5Nm (MS 30–40–60–80)	max. 10Nm (MS 110–130–160–200)	max. 15Nm (MS 250–1200)
Servomotor 2-Points or 3-Points, 230V	11151	11152	11153
Servomotor 2-Points or 3-Points, 24V	11154	11155	11156
Servomotor, 0...10Vdc modulation, 24V	11157	11158	11159

BA1 Air intake section with frontal adjustment shutter (manual or motorized)

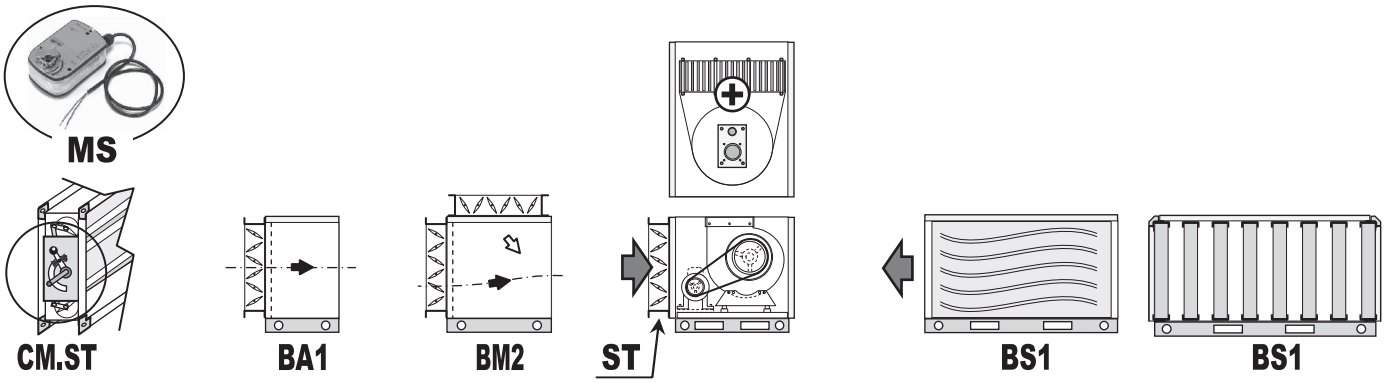
Type	BA1 30–40	BA1 60–80	BA1 110–130	BA1 160–200	BA1 250–300
Part-number	9450	9451	9452	9453	9454

Type	BA1 350–400	BA1 450–520	BA1 580–650	BA1 750–850	BA1 1 000
Part-number	9455	9456	9457	9458	9459

BM2 Air mixing section with two adjustment shutters (manual or motorized)

Type	BM2 30–40	BM2 60–80	BM2 110–130	BM2 160–200	BM2 250–300
Part-number	9460	9461	9462	9463	9464

Type	BM2 350–400	BM2 450–520	BM2 580–650	BM2 750–850	BM2 1 000
Part-number	9465	9466	9467	9468	9470



ST Adjustable air lead-in shutters

Type	ST 30–40	ST 60–80	ST 110–130	ST 160–200	ST 250–300
Part-number	9472	9473	9474	9475	9476

Type	ST 350–400	ST 450–520	ST 580–650	ST 750–850	ST 1 000
Part-number	9477	9478	9479	9480	9481

CM.ST Manual regulating lever to air lead-in shutters with fastener construction

Type	CM.ST 30–1 000
Part-number	3600

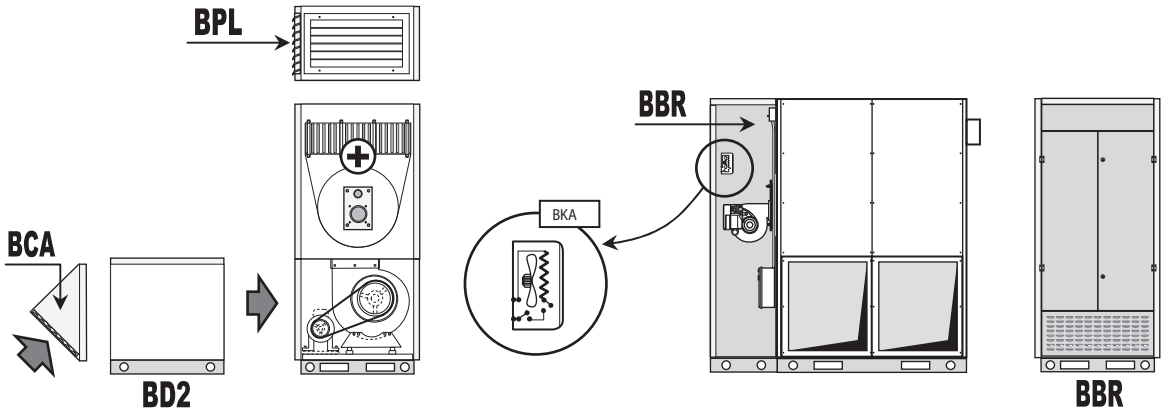
BS1 Ductable antistatic sound-damping profile with glass wool

Type	BS1 30–40	BS1 60–80	BS1 110–130	BS1 160–200	BS1 250–300
Part-number	9492	9493	9494	9495	9496

Type	BS1 350–400	BS1 450–520	BS1 580–650	BS1 750–850	BS1 1 000
Part-number	9497	9498	9499	9500	9501

BKA Frost protection heating unit to burner protecting cover

Type	BKA 30–1 000
Part-number	9502



BCA Air suction profile with bird net + EU3 efficiency filter insert

Type	BCA 30–40	BCA 60–80	BCA 110–130	BCA 160–200	BCA 250–300
Part-number	9503	9504	9505	9506	9507

Type	BCA 350–400	BCA 450–520	BCA 450–520	BCA 750–850	BCA 1 000
Part-number	9508	9509	9510	9511	9512

BD2 Duct element

Type	BD2 30–40	BD2 60–80	BD2 110–130	BD2 160–200	BD 250–300
Part-number	9513	9514	9515	9516	9517

Type	BD2 350–400	BD2 450–520	BD2 580–650	BD2 750–850	BD2 1 000
Part-number	9518	9519	9520	9521	9522

BPL blowing-out unit with three blowing openings and one direction adjustable lamellae

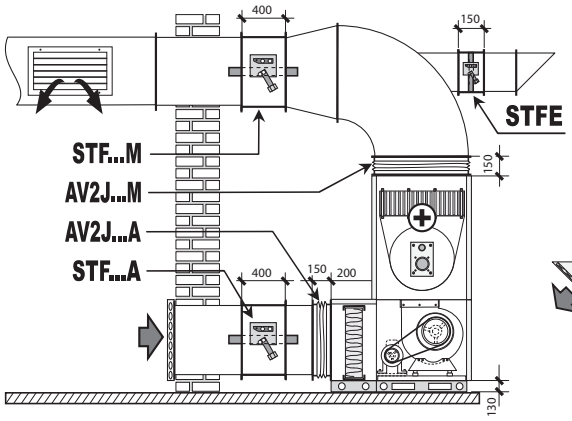
Type	BPL 30–40	BPL 60–80	BPL 110–130	BPL 160–200	BPL 250–300
Part-number	9523	9524	9525	9526	9527

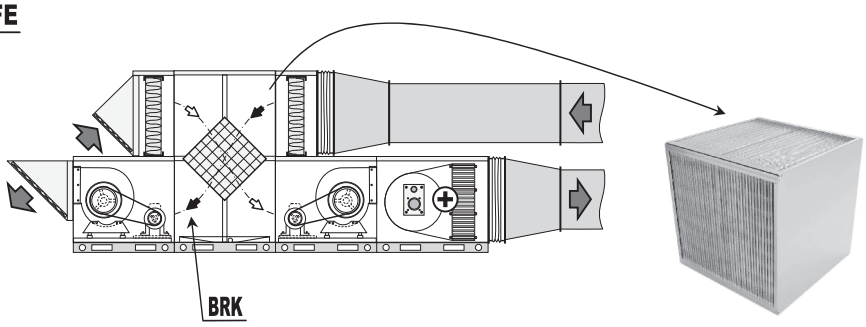
Type	BPL 350–400	BPL 450–520	BPL 580–650	BPL 750–850	BPL 1 000
Part-number	9528	9529	9530	9531	9532

BBR Burner protective covering

Type	BBR 30–40	BBR 60–80	BBR 110–130	BBR 160–200	BBR 250–300
Part-number	9533	9534	9535	9536	9537

Type	BBR 350–400	BBR 450–520	BBR 580–650	BBR 750–850	BBR 1 000
Part-number	9538	9539	9540	9541	9542





STF Fire-protection clack to REI 180

Type	STF 30–40	STF 60–80	STF 110–130	STF 160–200	STF 250–300
Part-number	7721	4132	4133	4135	4137

Type	STF 350–400	STF 450–520	STF 580–650	STF 750–850	STF 1 000
Part-number	4139	4151	4153	4216	4218

AV2J Ductable anti-vibration damper profile

Type	AV2J 30–40	AV2J 60–80	AV2J 110–130	AV2J 160–200	AV2J 250–300
Part-number	9543	9544	9545	9546	9547

Type	AV2J 350–400	AV2J 450–520	AV2J 580–650	AV2J 750–850	AV2J 1 000
Part-number	9548	9549	9550	9551	9552

STFE Overheating safety clack (The switching value is 72 °C)

Type	STFE 30–40	STFE 60–80	STFE 110–130	STFE 160–200	STFE 250–300
Part-number	4223	4225	4228	4232	4237

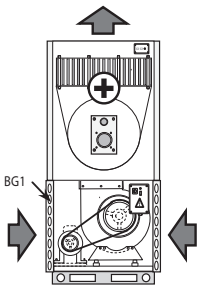
Type	STFE 350–400	STFE 450–520	STFE 580–650	STFE 750–850	STFE 1 000
Part-number	4249	4251	4260	4262	4277

BRK High efficiency cross direction heat recovery section

Type	BRK 30–40	BRK 60–80	BRK 110–130	BRK 160–200	BRK 250–300
Part-number	4279	9555	9556	9557	9558

Type	BRK 350–400	BRK 450–520	BRK 580–650	BRK 750–850	BRK 1 000
Part-number	9559	9560	9561	9562	9563

1.figure



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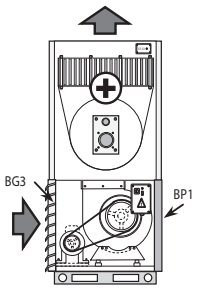

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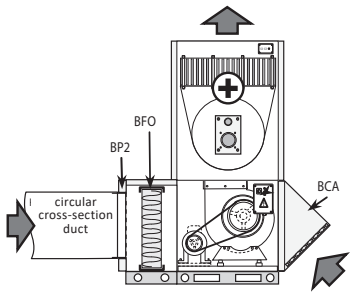

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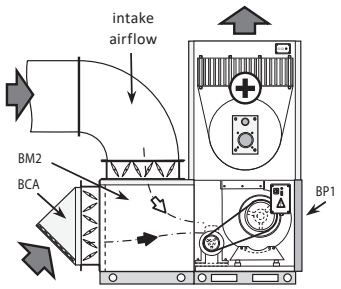

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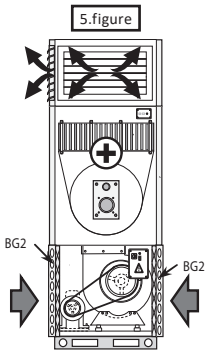

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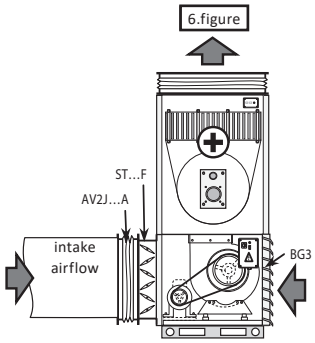

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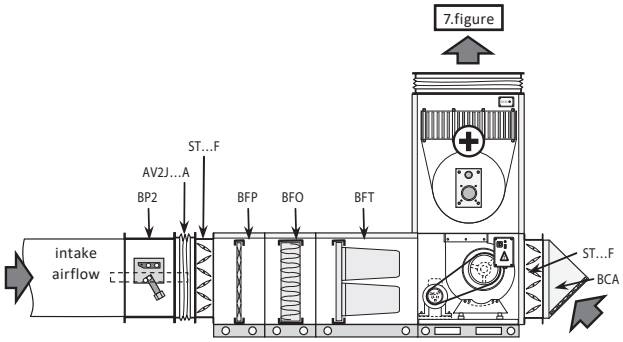

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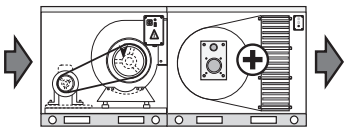

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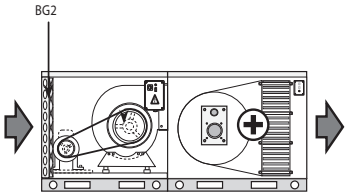

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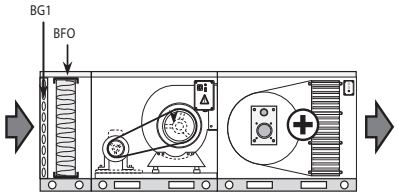

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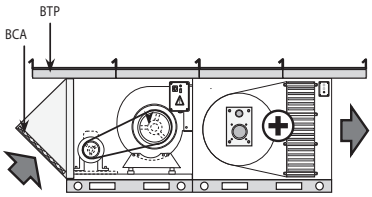

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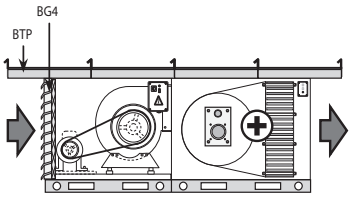

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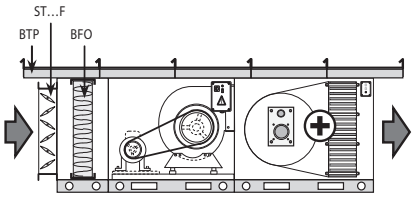

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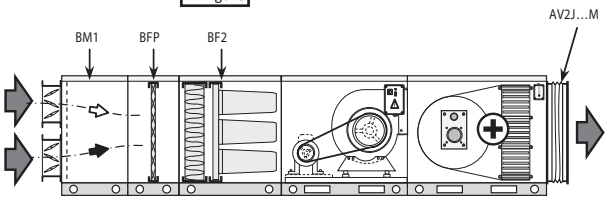

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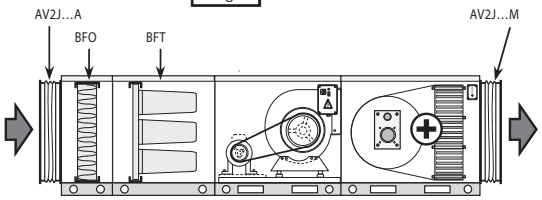

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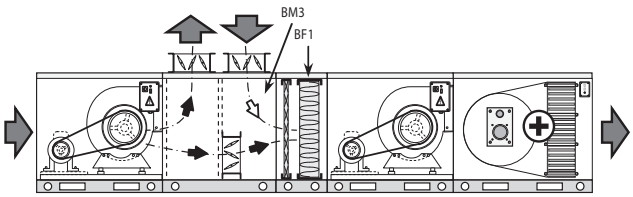

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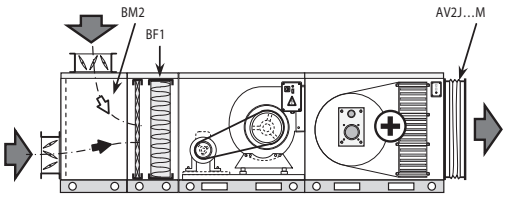


SSBG Single-stage gas burner with manual air shutter + compatible regulation phase

Type	SSBG 30	SSBG 40	SSBG 60–80	SSBG 110–130	SSBG 160–200	SSBG 250
Burner type [FBR]	GAS X0 CE TC	GAS X1 CE TC	GAS X2 CE TC	GAS X3 CE TC	GAS X4 CE TC	GAS X5 CE TC
Part-number [Natural gas]	4284	4289	4298	4320	4351	4353
Part-number [Propane]	4286	4291	4303	4349	4352	4354

Type	SSBG–GR 30	SSBG–GR 40	SSBG–GR 60–80	SSBG–GR 110–130	SSBG–GR 160–200	SSBG–GR 250
Regulation phase type [FBR]	GAS CE D1/2‴S-SX90	GAS CE D1/2‴S-SX90	GAS CE D3/4″ S-SX90°	GAS CE D1″ S-SX90°	GAS CE D1″ S-SX90°	GAS CE D1″1/4 S-SX90°
Part-number	–	–	–	4437	4437	4438

Type	SSBG 300	SSBG 350–400–450–520	SSBG 580–650	SSBG 750–850	SSBG 1 000
Burner type [FBR]	GAS X5 CE TC	GAS XP60 CE TC	–	–	–
Part-number [Natural gas]	4353	4355	–	–	–
Part-number [Propane]	4354	4356	–	–	–

Type	SSBG–GR 300	SSBG–GR 350–400–450–520	SSBG–GR 580–650	SSBG–GR 750–850–1 000
Regulation phase type [FBR]	GAS CE D1″1/4 S-SX90°	GAS CE D1-1/2″ S-SX90°	–	–
Part-number	4438	4449	–	–

TSBG Two-stage gas burner with automatic air shutter + compatible regulation phase

Type	TSBG 30–40	TSBG 60–80	TSBG 110–130	TSBG 160–200	TSBG 250
Burner type [FBR]	GAS X1/2 CE TC	GAS X2/2 CE TC	GAS X3/2 CE TC	GAS X4/2 CE TC	GAS X5/2 CE TC
Part-number [Natural gas]	4357	4359	4361	4363	4365
Part-number [Propane]	4358	4360	4362	4364	4368

Type	TSBG–GR 30–40	TSBG–GR 60–80	TSBG–GR 110–130	TSBG–GR 160–200	TSBG–GR 250
Regulation phase type [FBR]	GAS/2 CE D1/2″ S-SX90°	GAS/2 CE D3/4″ S-SX90°	GAS/2 CE D1″ S-SX90°	GAS/2 CE D1″ S-SX90°	GAS/2 CE D1″1/4 S-SX90°
Part-number	4441	4442	4443	4444	4445

Type	TSBG 300	TSBG 350–400–450-520	TSBG 580–650	TSBG 750–850–1 000
Burner type [FBR]	GAS X5/2 CE TC	GAS XP60/2 CE TC	GAS P70/2 CE TC	GAS P100/2 CE TC
Part-number [Natural gas]	4365	4380	4382	4384
Part-number [Propane]	4368	4381	4383	4391

Type	TSBG–GR 300	TSBG–GR 350–400–450-520	TSBG–GR 580–650	TSBG–GR 750–850–1 000
Regulation phase type [FBR]	GAS/2 CE D1″1/4 S-SX90°	GAS/2 CE D1-1/2″ S-SX90°	GAS/2 CE D1-1/2″ S-SX90°	GAS/2 CE D2″ S-SX90°
Part-number	4445	4447	4448	4448

MBG Modulated gas burner with automatic air shutter + compatible regulation phase

Type	MBG 30	MBG 40–60–80	MBG 110–130	MBG 160–200	MBG 250
Burner type [FBR]	–	GAS X2/M CE TC	GAS X3/M CE TC	GAS X4/M CE TC	GAS X5/M CE TC EL
Part-number [Natural gas]	–	4395	4399	4414	4422
Part-number [Propane]	–	4397	4413	4416	4424

Type	MBG–GR 30	MBG–GR 40–60–80	MBG–GR 110–130	MBG-GR 160–200	MBG–GR 250
Regulation phase type [FBR]	–	GAS CE D3/4" S-SX90°	GAS CE D1" S-SX90°	GAS CE D1" S-SX90°	GAS CE D1"1/4 S-SX90°
Part-number	–	4436	4437	4437	4438

Type	MBG 300	MBG 350–400–450-520	MBG 580–650	MBG 750–850–1 000
Burner type [FBR]	GAS X5/M CE TC EL	GAS XP60/M CE TC EVO	GAS P70/M CE TC	GAS P100/M CE TC
Part-number [Natural gas]	4422	4427	4431	4434
Part-number [Propane]	4424	4429	4433	4435

Type	MBG–GR 300	MBG–GR 350–400–450-520	MBG–GR 580–650	MBG-GR 750–850–1 000
Regulation phase type [FBR]	GAS CE D1"1/4 S-SX90°	GAS CE D1-1/2" S-SX90°	GAS/2 CE D2" FS50SX 90°	GAS CE D2" S-SX90°
Part-number	4438	4449	4451	4451

Burner accessories

Type	Name	Part-number
M Card	Modulation card	**4576**
ADTS	High temperature thermostat 0–250 °C	**4577**

Each of our available products can be ordered with oil burner, but if you need any information about this, please, contact our sales or technical personal.

Alternatively to the above listed gas- and oil burners we have compatible Riello burners to every ATG model if necessary. For further information, please, contact our colleagues.

TERMS AND CONDITIONS OF THE DELIVERY CONTRACT

1. The seller declares that he provides an opportunity before the establishment of the agreement to make an agreement which differs from the one determined in this contract, to discuss the differences if the buyer asks for it.

2. The object of this contract: the seller delivers the buyer the products due date and transfers the ownership of the products according to the order and the confirmation of the order.

3. The parties agree during the order of the goods/devices on the following, which can be regarded as the agreement on the main conditionals of the delivery contract, if they do not agree on any differences:

3.1. the type, kind of the goods/devices,

3.2. their amount,

3.3. the purchase price of the types, the type and deadline of payment

3.4. the place – which is the place of fulfilment and that of the transfer of the risk of hazard – and time of the transfers the ownership

3.5. if the taking possession of property does not happen on the site of the seller, the transporter/ buyer's agent's person, and furthermore, from whose side the assignment was carried out. Seller - if not agreed otherwise – the parties hand over the goods in exchange for the delivery note on the site of the buyer

3.6. the expected place and time of the bringing into service and the other circumstances in connection with that,

3.7. the expected costs of the bringing into service

3.8. the declaration of the buyer about the fact whether s/he buys each product as an ultimate user or as seller

3.9.the agreement declaration of the Buyer in which s/he expresses that he undertakes the obligation of the payment of 30 (thirty) % of the agreed net purchase price as caution money because of the production of an individual device in case s/he abandons the purchase after the order confirmation – if this does not influence the directives of other laws

3.10. The agreement declaration of the Buyer in which s/he expresses that if the payment of the full purchase price is more than 30 days, s/he is obliged to accept without any demand for compensation and any kind of claim enforcement that the Seller/or the Seller's agent makes the unpaid device out of service either with a remote control or on the spot until the 3rd working day after payment.

3.11. The agreement declaration of the Buyer in which s/he expresses that if the bringing into service of the individual device is not carried out by the Seller/the Seller's certified service or by the Seller's agent, the mistakes stemming from the bringing into service cannot enforce warranty rights.

4. The seller undertakes that s/he puts the technical documentation, certificates, manuals, documents in connection with consumer rights of the devices and in case of an acceptance on the buyer's site the bill at the buyer's disposal according to the law at the same time with the transmission of ownership.

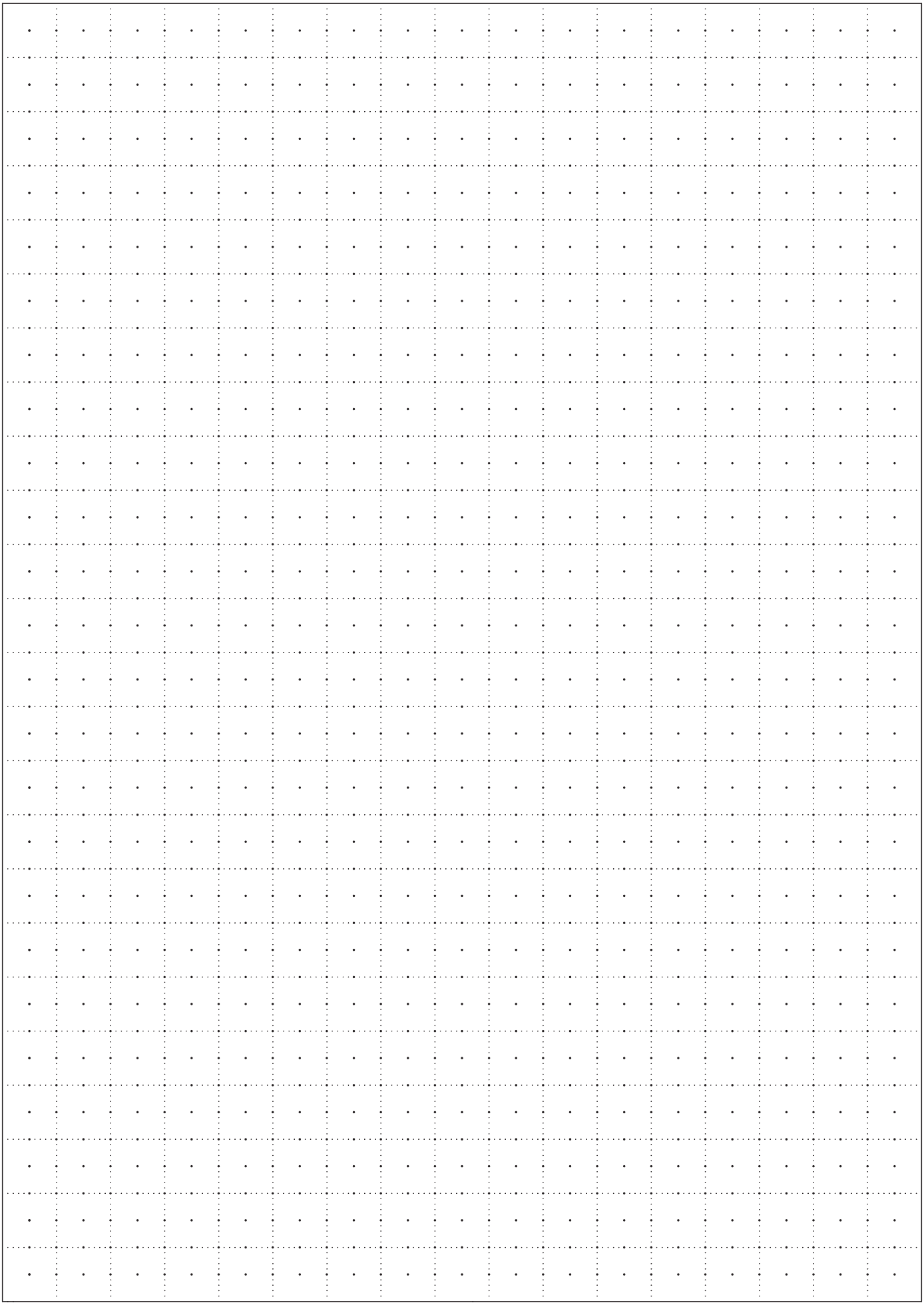
5. The seller undertakes that s/he sends an order confirmation within 3 days after the reception of the order.

6. The buyer undertakes that s/he pays the purchase price of the delivered devices fully and without any undue delay against bills. The buyer accepts that in case of delay s/he must pay interest for delay and recovering expense allowance according to the 2013. V. law about the legal relationships of economic associations. The Buyer accepts that in case of any disputes the Seller gives latest the 5th day after posting as the reception of the bill by the Buyer. The invoicing is carried out only on the basis of the certificate of completion and an appropriately filled-in delivery note.

7. The seller hands the products/devices over to the buyer on the basis of the delivery note and the certificate of completion on which the parties certify the handing-over with their signature. The obligation of the quality and quantity reception of the device is that of the buyer. The buyer must immediately announce if there are any differences as regards quality or quantity and only in case of their correction is the signing of the delivery note and the certification of the completion carried out.

8. The seller sets up the delivered devices with the help of his/her services/agents. The buyer provides warranty for the devices set-up by the buyer for 2 (two) calendar years after the setting-up both for consumers and for not consumer sellers. The lengthening of the guarantee/ warranty can be agreed on only by a maintenance contract. If the set-up is not carried out by the Seller/or the Seller's certified service, agent, the warranty duration of the device is 1 (one) calendar year after the setting-up.

9. In case of selective distributor contracts the parties make an individual agreement about the amendment of these delivery conditions.



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