



Instructions for use

1. Installation guide

The firebox must definitely be installed by a professionally qualified and duly authorized specialist for firebox life, safety and proper operation. Otherwise the guarantee is null and void.

1.1. Chimney

The chimney must meet the criteria prescribed by currently effective standards:

- ✓ ONLY a chimney inspected and approved by the competent authority is accepted.
- ✓ The apparatus is only allowed to be connected to a chimney with identical or larger diameter compared to that of the smoke exit.
- ✓ At the connection, the diameter of the chimney is not allowed to be reduced in the direction of flue gas flow.
- ✓ The chimney must be properly cleaned.
- ✓ NO solid fuel-fired apparatus is allowed to be connected to a chimney with gas-fuelled equipment.
- ✓ Only one appliance is allowed to be connected to a single chimney.
- ✓ The chimney must have an appropriate draught output.

1.2. Cover:

The firebox should always be installed and built in by a specialist, in compliance with the applicable requirements.

Fireboxes may only be operated with an appropriate cover in place. Even heat delivery must be ensured at installation (with an even air flow around the firebox): the air gap between the fireplace cover and the firebox should be at least 2-3 mm sideways at the door frame, then a minimum of 5 cm towards the wall. There should be a minimum of 5 mm at the top, between the firebox and the mantelpiece and a minimum of 5 cm between the firebox and the wall; a distance of at least 5 cm must be kept from the upper cone of the firebox; it should rather be 10 cm if allowed by the cover.

IMPORTANT: air flow must be ensured both at the bottom and at the top by an aperture or ventilation grid of appropriate size, the unobstructed dimensions of which should be minimum 30 cm² per kW both at the bottom and the top. Their installation is a basic requirement.

ATTENTION: in case of LD fireboxes leave enough space for the maintenance of the lifting mechanism.

ATTENTION: even heat delivery must be ensured to avoid firebox overload.

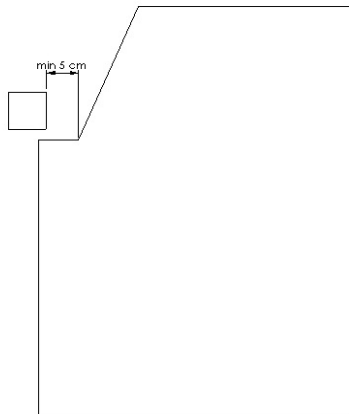


Figure 1.

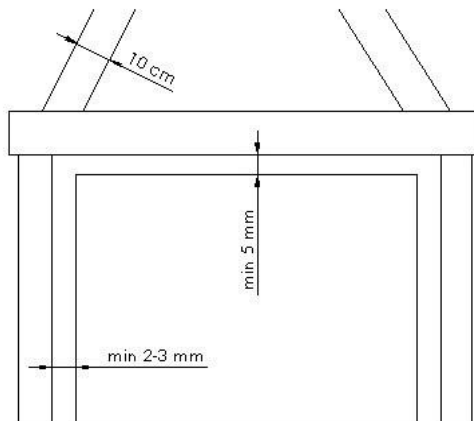


Figure 2.

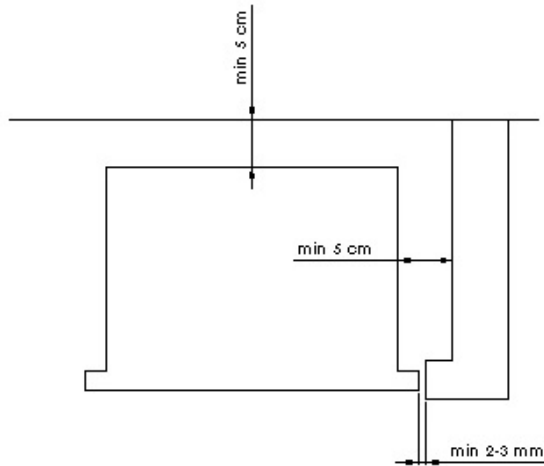


Figure 3.

An operating distance should be provided for firebox inlet controls: minimum 2 centimetres of free space must be ensured in addition to the space visibly required for their motion.

If the criteria listed are not met, the firebox may be seriously damaged and the guarantee is lost.

No flammable substances are allowed to be used or placed in the proximity of the apparatus. The smallest safety distance is 100cm; heat insulation is required for smaller distances.

1.3. Exhaust equipment effects:

If no sufficient ventilation is ensured, exhaust equipment in the same air space with the fireplace (including rooms behind a door provided with a ventilation grille or rooms with doors open) may disturb fireplace operation. Therefore exhaust devices must be provided with the air supply indispensable for their operation.

Important: if, for instance, outward air flow is only ensured for your vapour extraction device, it will not operate efficiently because it cannot take in air from anywhere. E.g. an exhaust device with a capacity of 600 cubic metres of air / hour will carry only 200 cubic metres of air. This reduces air pressure in your living space which is less than favourable to our general state of health. In certain cases, return flow can occur in case of not completely closed fireboxes (smoke gets into the living space) when out of service or when the door is opened. In case of inadequate ventilation, the firebox glass is also increasingly sooted.

1.4. Operation of a water jacket firebox

A firebox with a water jacket is only allowed to be operated if connected to a water system filled up with water, designed and installed by a heating engineer. The specialist makes sure to integrate the firebox into the system appropriately, connected to each of the 1-inch forward and return stubs diagonally, by plugging any unused stubs in order to prevent overcooling for adequate efficiency. The two half-inch stubs with external threading are the connection points for the cooling circuit (coilpipe) to prevent water from boiling and steam generation; they should not be plugged in case of an open system. It is recommended to fill the firebox with soft deionized water.

ATTENTION: the boiler protection circuit is required to be built in the central heating system to prevent overcooling and is a condition for guarantee provision. Precipitation of moisture and condensation water must be prevented as they highly corrode the metal and result in tar deposition, reduce efficiency and output, and these phenomena entail a loss of guarantee.

ATTENTION: the 4 threaded ¾-inch studs on the firebox are to accommodate handles.

2. Firebox structure:

PanTherm fireboxes are made of cast iron. PanTech fireboxes are made of 4 and 5 mm thick, and PanAqua fireboxes of 5 mm thick steel plates, constituting the firebox together with up to 700°C heat-proof glass.

2.1. Firebox use:

Door: the firebox is not allowed to be lifted and tilted by taking hold of the door; it is prohibited to lean on and to clutch at the door during use as it cannot bear this load.

Glass: beware of the direct use of strong chemical cleaners on nero glasses.

Flame deflector: PanTherm fireboxes include a casting flame deflector for appropriate flame control, fitted into the u-shaped recess for this purpose on the back wall in various ways according to type.

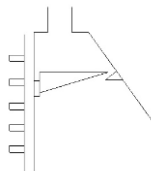


Figure 4.

The firebox is not allowed to be operated without a flame deflector.

Grills: to ensure that the burning wood gets sufficient air through the ash box and that the ash gets into the ash box, so the grills should always be in the same position.

Heat-proof lining of the firebox: the vermiculite lining to protect metal plate fireboxes (PanTech firebox family, and optional for PanAqua fireboxes) decays when wet firewood (exceeding 15-20% moisture content) is used, therefore wet firewood is **prohibited**.

Convection cover: an optional metal sheet cover (available for PanTherm and PanTech firebox products) surrounding the firebox casing, where firebox operation is only allowed with parallel fan use (air flow around the firebox is slowed down by the convection cover, therefore little heat is lost; in some cases, flow is not even started so there is no appropriate heat delivery during operation leading to overload. Thereby efficiency is very low and the firebox also gets damaged, which is not a case for guarantee claims).

Overload seal: the piece part indicates with form-change or melt on the fire, that the firebox gets heavy by overload is permitted.

3. Lighting a fire:

Definition of overload: firing a quantity of firewood exceeding the quantity corresponding to the output of the firebox on a pro-rata basis; and / or even heat delivery by the firebox is not ensured.

WARNING: firing a quantity of firewood exceeding the quantity corresponding to the output of the firebox on a pro-rata basis results in firebox overload, leading to serious firebox damage and injury to both the cover and the chimney.

Sudden heat shock: sudden excessive heat load in the heatup stage.

WARNING: Burning 1 kg of firewood yields about 3.65KW of heat quantity. The maximum loadability of your firebox is yielded by dividing the output of the firebox with 3.65, the result being the quantity (in kg) of wood allowed to be used each hour.

E.g.: $15\text{kW output} / 3.65 = 4.1 \text{ wood / hour}$

Overload and sudden heat shock are prohibited, entailing a loss of guarantee.

Only hardwood should be used for firing, such as beech, oak, locust, ash, alder and wood from various fruit trees. The burning time of hardwoods is longer than that of soft wood; they produce less ash and their tar content is low. Soft wood can only be used for lighting fires. Soft wood types (birch, lime, pine, poplar and Lombardy poplar) burn quicker, yield large quantities of ash and their embers cool down quickly. As they flicker quickly, it is easy to overload the firebox with them. It is **prohibited** to use coniferous woods with resin content as they burn with intense and rapid flames, and resin crystals make them crackle and sizzle frequently with bursts of sparkles. In line with the known dimensions of the firebox of the fireplace, firewood should be cut into 30-60 cm long logs and stored at a place not exposed to precipitation.

Only dry wood should be used, with a moisture content below 15-20%, both in order to achieve best efficiency and to avoid excessive sooting and tarring of the flue pipe and the glass.

3.1. Procedure of lighting a fire:

- Remove any ash from previous fire; clean glass as required.
- Open the air control shutters at the bottom of the door.
- After replacing the ash tray / ash box, pile dry softwood cut into a thumb's width into the combustion chamber and put 3-4 kg firewood on top of it.
- Then light a fire under the softwood using paper.
- Air for combustion must be supplied continuously through the regulator for even heating.
- A burn-in smell may emanate from firebox inlets during the first use, which is to discontinue after 7-8 hours of continuous firing. The room should be aired in such a case as high concentrations of the gases released can be injurious to health and can cause aesthetic damage as well.
- External air supply must be ensured, especially in case of small air space and perfectly sealed doors and windows.

Firewood (hardwood) moisture content (in %) according to drying time on average			
Fresh cut	75-78 %	1 year	35-36%
3 months	48-62%	1.5 years	18-27%
6 months	37-46%	2 years	16-24%
9 months	33-38%	2.5 years	15-24%

Freshly cut wood: 1750 Kcal/kg Dry wood: 3200 Kcal/kg

The maximum amount of firewood allowed to be placed in at the same time is triple the amount of quantity allowed to be fired per hour. It is permitted to be fired evenly in three hours or longer.

3.2. Draught demand: 10-15Pa

3.3. Specially prohibited fuels

- mineral, chimney fuels (all types of coal)
- garden and agricultural waste (e.g.: twigs, corn stalks, walnut kernels, lacquered parquet broken up or painted lumber, etc.)
- pellet and other tableted wood fuel
- combustible mineral fluids (petrol, diesel oil, chemical solvents, oils, etc.)
- alcohol to light a fire
- paper or cardboard (only to light a fire)

PanTherm Firebox Family

Type	Unit of measure	PT80	PT71	PT68-200 PT75C G	PT68-150	Optimum-200/150	PT62 PT69 CG
Nominal output	kW	19	17	15	15	10	13
Flue gas temperature at nominal output	C	300	300	300	300	300	283
Efficiency at nominal output	%	77	77	77	77	73	77
CO emission according to MSZ EN 13229	%	0,28	0,28	0,28	0,28	0,29	0,28
Mass flow of flue gas at nominal output	g/s	19	17	15	15	11,3	14

Table 1.

Firebox overload can cause permanent damage to the entire system!

Overall dimensions	Unit of measure	PT80	PT71	PT68 PT75 CG	PT68- 150	Opti mum -200	Opti mum -150	PT62 PT69C G
Depth	mm	440	440	440	440	430	430	440
Width	mm	800	710	680	680	680	680	620
Height	mm	852	852	730	730	640	640	730
Size of filling aperture (firebox door)								
Width	mm	760	670	640	640	640	640	580
Height	mm	480	480	430	430	430	430	430
Total weight	kg	182	168	151	151	106	106	127
Recommen ded size of ventilation grids	cm ²	570	510	450	450	300	300	390
Exhaust product nominal connection	mm	200	200	200	150	200	150	150
Actual exhaust product outlet diameter	mm	184	184	184	134	184	134	134
Required chimney draught	Pa	10,0-15,0						
	mbar	0,10-0,15						

Table 2.

Fuel consumption at nominal output						
Type	Unit	PT80	PT71	PT68	Optimum	PT62
Average fuel consumption	kg/h	6.5 - 7.5	5.7 - 6.8	5.1 - 6	3.4-3.8	4.4 – 5.2
Average length of logs	cm	45	40	35	35	30
Maximum fillup height	cm	30	30	25	25	25

Table 3.

Standards:

MSZ EN 13229:2001
including appliances under

MSZ EN 13229:2001/A1:2003
Requirements and

MSZ EN 13229:2001/A2:2005

MSZ EN 1443:2003
requirements.

MSZ EN 13384-1
and flow dimensioning procedure.

Solid fuel-fired fireplace inlets,

with an open fire chamber.

testing methods.

Flue exhaust equipment. General

Flue exhaust equipment. Thermal

Main dimensions:

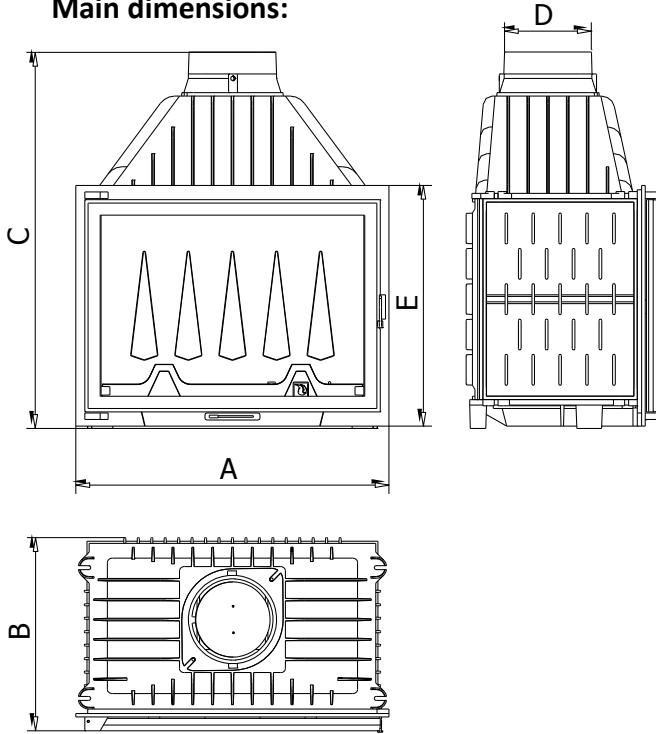


Figure 5.

Main dimensions (mm)						
Sign	Description	Type				
		PT80	PT71	PT68	Optimum	PT62
A	width	800	710	680	680	620
B	depth	440	440	440	430	440
C	height	852	852	762	640	762
D	chimney connection	200	200	200	200	150
E	frame height	550	550	500	500	500

Table 4.

PanAqua Water Jacket Firebox Family

Type	Unit of measure	PA15	PA20	PA25 PA75C G	PA30	PA110	PA Mini
Nominal output	kW	15	20	25/24	30	30/40	12
Flue gas temperature	°C	230	230	230	230	250- 270	230
Efficiency	%	>80	>80	>80	>80	>80	>80
CO emission according to MSZ EN 13229	%	0,1	0,1	0,1	0,1	0,11	0,11
Mass flow of flue gas at nominal output	g/s	15	20	24	30	31	13
Maximum operating pressure	bar	1,5	1,5	1,5	1,5	1,5	1,5

Table 5.

Firebox overload can cause permanent damage to the entire system

Overall dimensions	Unit	PA15	PA20	PA25 PA75C G	PA30	PA110	PA Mini
Depth	mm	535	535	535	535	535	535
Width	mm	620	680	710/ 750	800	1100	680
Height	mm	860	860	960	960	960	645
Size of filling aperture (firebox door)							
Width	mm	580	640	670	760	1060	640
Height	mm	640	640	510	510	510	640
Total weight	kg	174	189	215/ 209	238	310	141
Exhaust product nominal connection	mm	150	200	200	200	200/ 250	150
Actual exhaust product outlet diameter	mm	137	187	187	187	187/ 237	137
Required chimney draught	Pa	10,0- 15,0	10,0- 15,0	10,0- 15,0	10,0- 15,0	10,0- 15,0	10,0- 15,0
	mbar	0,10- 0,15	0,10- 0,15	0,10- 0,15	0,10- 0,15	0,10- 0,15	0,10- 0,15

Table 6.

Standards:

MSZ EN 303-5:2000	Heating boilers. Solid fuel-fired heating boilers with manual and automatic feed, having a maximum nominal heat output of 300 kW.
MSZ EN 14336:2005	Building heating systems. Installation and putting into operation of water heating systems.
MSZ EN 1443:2003	Flue exhaust equipment. General requirements.
MSZ EN 1457/ A1:2003	Flue exhaust equipment. Ceramic casing tubes. Requirements and testing.
MSZ EN 13384-1	Flue exhaust equipment. Thermal and flow dimensioning procedure.
MSZ EN 12953-3	Design of boilers with large water chambers.
Decree 9/2001.(IV.5.) GM	On EC design review under model B1 of Directive 97/23 EC

Connection diagrams

Firebox overheating protection in case of excessive burning and / or power supply interruption is ensured by a safety cooler circuit.

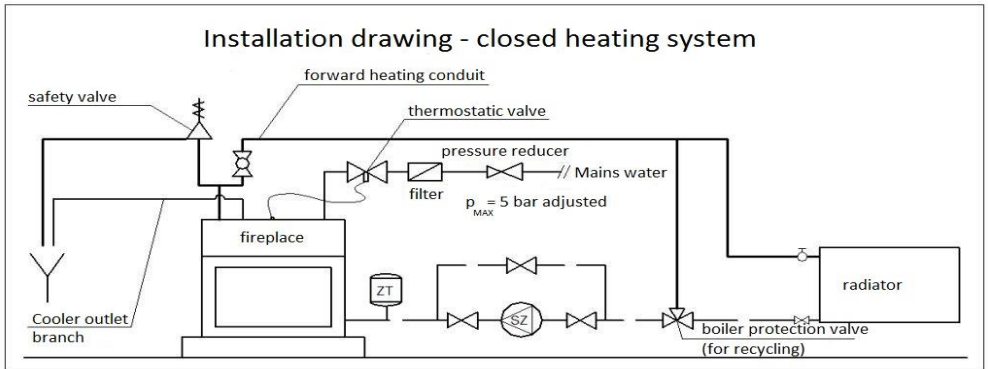


Figure 6.

A higher-efficiency heating system can be produced by installing a buffer tank as shown in Figure 7.

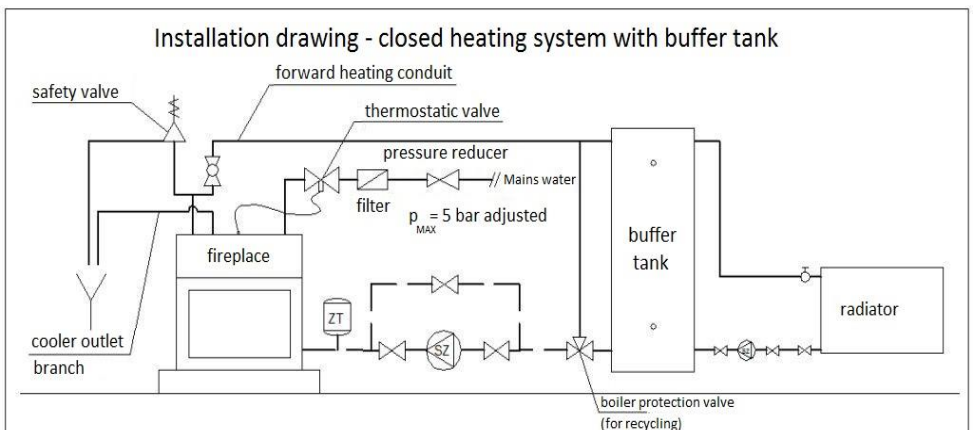
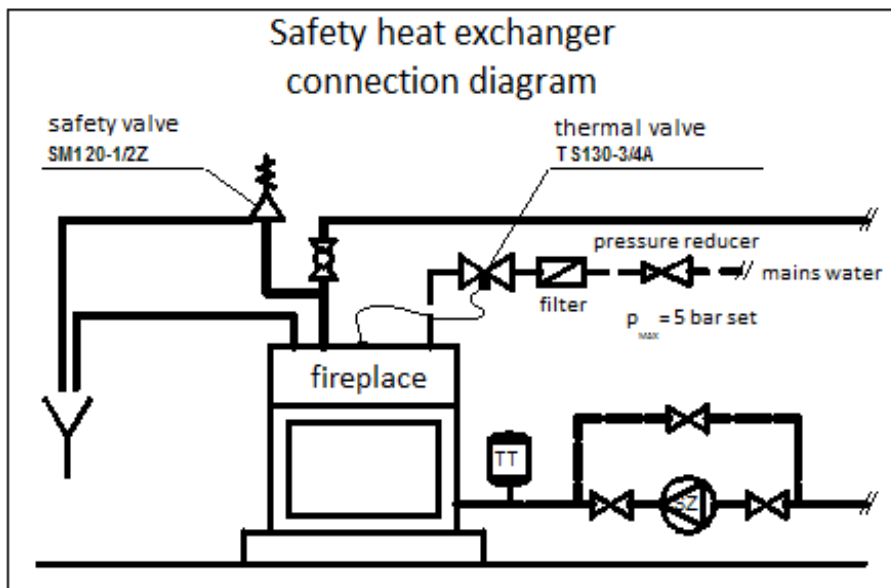


Figure 7.

Safety heat exchanger connection diagram with the proposed safety fittings



Thermal valve with a Honeywell TS type valve

Figure 8.

Main dimensions and connections

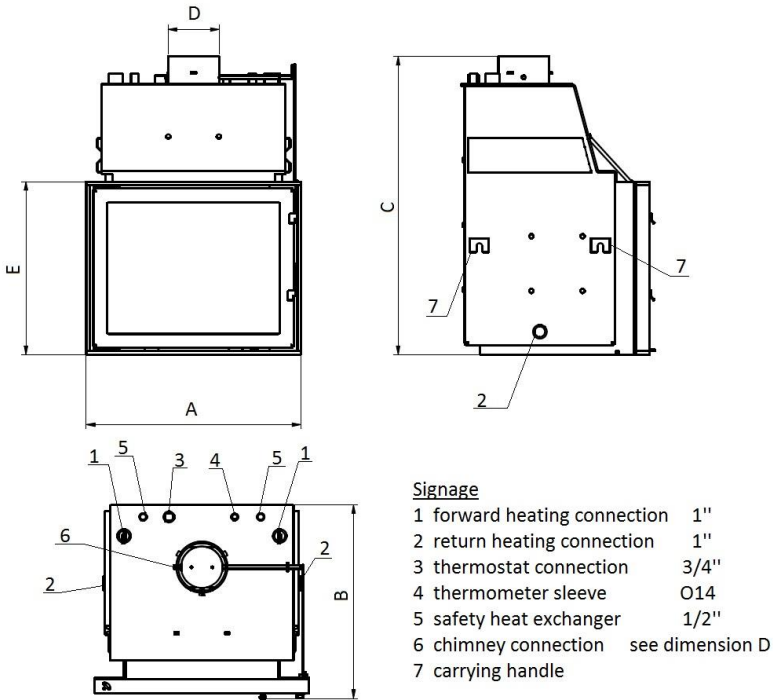


Figure 9.

Main dimensions (mm)					
Sign	Description	Type			
		PAII30Z	PAII25Z	PAII20Z	PAII15Z
A	width	800	710	680	620
B	depth	537	537	537	537
C	height	955	955	855	855
D	chimney connection	200	200	200	150
E	frame height	550	550	500	500

Table 7.

PanTech EVO Firebox Family

Type	Unit of measure	PH 68 EVO	PH 68 EVO 2D	PH 80 EVO	PH 80 EVO 2D	PH 110 EVO	PH 110 EVO 2D
Nominal output	KW	14	14	17	17	21	21
Flue gas temperature	°C	260-290	270-300	260-290	270-300	260-300	270-310
Efficiency (h)	%	>80	>80	>80	>80	>80	>80
CO emission according to MSZ EN 13229	%	0.09	0.1	0.09	0.1	0.09	0.1
Mass flow of flue gas at nominal output	g/s	15	15	18	18	21	21

Table 8.

Overall dimensions	Unit of measure	PH 68 EVO	PH 68 EVO 2D	PH 80 EVO	PH 80 EVO 2D	PH 110 EVO	PH 110 EVO 2D
Depth	mm	570	610	570	610	570	610
Width	mm	680	680	800	800	1100	1100
Height	mm	1070	1120	1070	1120	1170	1170
Size of filling aperture (firebox door)							
Width	mm	640	640	760	760	1060	1060
Height	mm	465	465	465	465	515	515
Total weight	kg	180	200	203	225	283	307
Recommended size of ventilation grids	cm ²	420	420	510	510	630	630
Exhaust product nominal connection	mm	200					
Actual exhaust product outlet diameter	mm	187					
Chimney draught required	Pa	12.0-19.0					
	mbar	0.12-0.19					

Table 9.

Fuel consumption at nominal output						
Type		PH160	PH130	PH110	PH80	PH68
Average consumption:	fuel kg/h	5.8	5.8	5.8	4.7	3.8
Average length of logs:	cm	70	70	70	55	40
Maximum fillup length	cm					

Table 10.

Standards

MSZ EN 13229:2001
including appliances under

MSZ EN 13229:2001/A1:2003
Requirements and

MSZ EN 13229:2001/A2:2005

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Main dimensions and connections

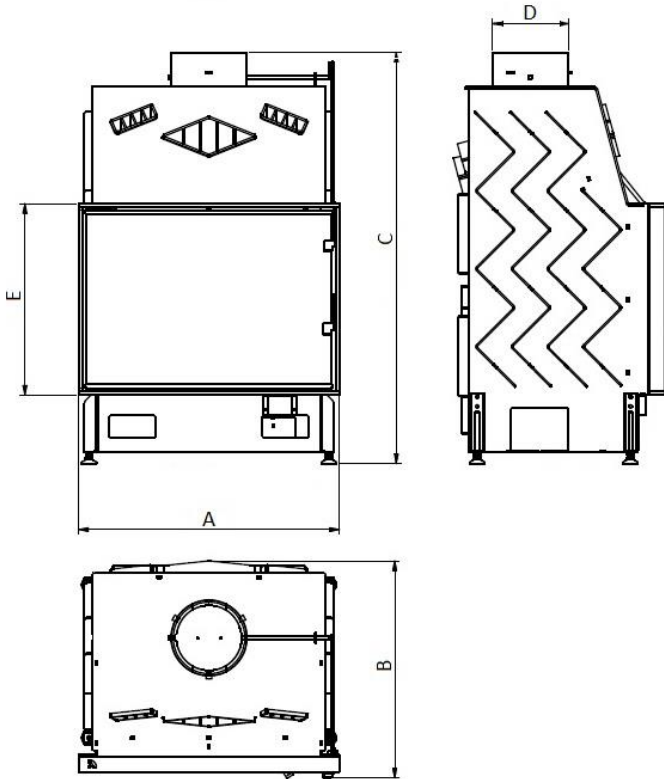


Figure 10.

Main dimensions (mm)				
Sign	Description	Type		
		PH110	PH80	PH68
A	width	1100	800	680
B	depth	569	571	567
C	height	1170-1265	1070-1170	1070-1170
D	chimney connection	200	200	200
E	frame height	550	500	500

Table 11.

Lift door version (LD)

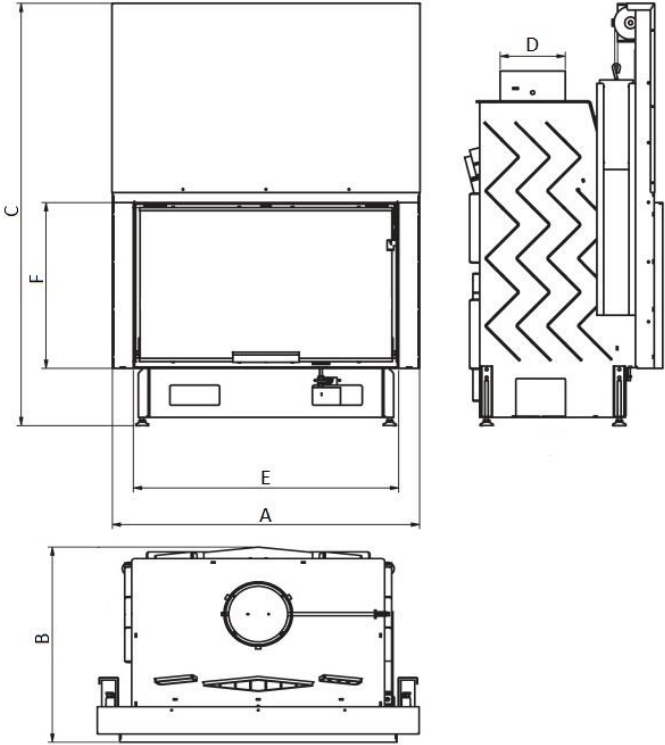


Figure 11.

Main dimensions (mm)					
Sign	Description	Type			
		PH200 LD	PH160 LD	PH130 LD	PH100 LD
A	width	1926	1526	1226	926
B	depth	646	595	595	595
C	height	1470- 1565	1470- 1565	1370- 1465	1270- 1365
D	chimney connection	300	200	200	200
E	frame width	1800	1400	1100	800
F	frame height	600	600	550	500

Table 12.

Before opening the door, ensure that the baffle valve is totally opened. Push the lift door slowly upwards and pull it steadily downwards for closing.

Cleaning the firebox: by releasing the spring-controlled latch above the door frame, the glass can be tipped out carefully until it stops. After applying a glass cleaner, place the glass carefully back into vertical position by gently putting it a bit downwards. Fasten in with the latch.

PanAqua EVO Firebox

Type	Unit of measures	PA68E PA80LD	PA80E PA100LD	PA110E PA130LD
Nominal output	kW	20	30	30
Flue gas temperature	°C	260-290	260-290	270-310
Efficiency (h)	%	>80	>80	>80
CO emisszion according to MSZ EN 13229	%	0,09	0,09	0,09
Mass flow of flue gas at nominal output	g/s	19	28	29
Maximum operating pressure	bar	1,5	1,5	1,5

Table 13.

Overall dimensions	Unit	PA68E PA80LD	PA80E PA100LD	PA110E PA130LD
Depth	mm	555/620	555/620	555/620
Width	mm	680/810	800/930	1100/1230
Height	mm	1100/1250	1100/1250	1150/1350
Size of filling aperture (firebox door)				
Width	mm	640	760	1060
Height	mm	465	465	515
Total weight	kg	222/276	260/318	341/414
Exhaust product nominal connection	mm	200	200	200
Actual exhaust product outlet diameter	mm	187	187	187
Chimney draught required	Pa	10,0-15,0	10,0-15,0	10,0-15,0
	mbar	0,10-0,15	0,10-0,15	0,10-0,15

Table 14.

Main dimensions and connections

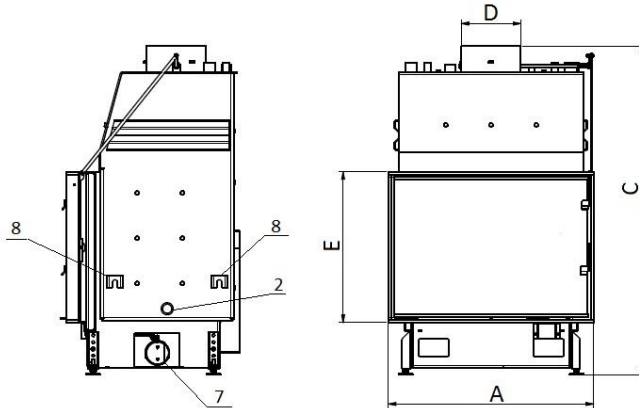
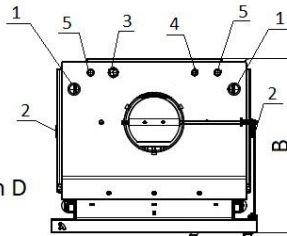


Figure 12.

Signage

- | | |
|------------------------------|-----------------|
| 1 forward heating connection | 1" |
| 2 return heating connection | 1" |
| 3 thermostat connection | 3/4" |
| 4 thermometer sleeve | O14 |
| 5 safety heat exchanger | 1/2" |
| 6 chimney connection | see dimension D |
| 7 air connection | 80mm |
| 8 carrying handle | |



Main dimensions (mm)				
Sign	Description	Type		
		PA68E	PA80E	PA110E
A	width	680	800	1100
B	depth	575	575	575
C	height	1088- 1153	1088- 1153	1138- 1203
D	chimney connection	200	200	200
E	frame height	500	500	550

Table 15.

Lift door version (LD)

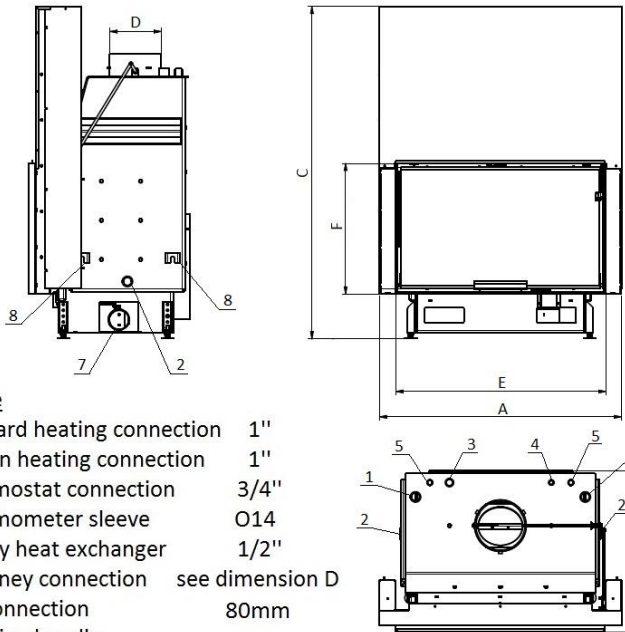


Figure 13.

Signage

- 1 forward heating connection 1"
- 2 return heating connection 1"
- 3 thermostat connection 3/4"
- 4 thermometer sleeve O14
- 5 safety heat exchanger 1/2"
- 6 chimney connection see dimension D
- 7 air connection 80mm
- 8 carrying handle

Main dimensions (mm)				
Sign	Description	Type		
		PA80LD	PA100LD	PA130LD
A	width	680	800	1100
B	depth	575	575	575
C	height	1088- 1153	1088- 1153	1138- 1203
D	chimney connection	200	200	200
E	frame height	500	500	550

Table 16.



Please stick the data label here found on the glass of the firebox door, the warranty card is valid only together with that label!

Warranty card

Manufacturer/Distributor:

Technical Kft.

1103, Bp. Kőér utca 16.

Product

Type

Duration of warranty is year(s) on the firebox house.

Duration of 1 year on the following parts: grate, flame baffle, moving parts (hinges, handle, and fittings). No warranty coverage on glues, seals, ceramic glass, and fire-clay insert.

Venue of repairing work falls under this warranty: Technical Kft. 1103, Bp., Kőér u. 16. Tel: +3612602290

The mutation of seal and inappropriate use causes loss of warranty.

Date of purchase: 201 year ... month .. day

..... Stamp & signature

Fireplace, the installation carried out by		
Contractor/company name:		
Address:		
Licence number:		
Tel:		
Date: 201.....	Stamp	
Legible signature:		
Warranty card for the period required by law		
Date of report:		
Reported fault:		
Reparation method:		
Date: 201.....	Stamp	
Legible signature:		
Date of report:		
Reported fault:		
Reparation method:		
Worksheet number:		
Date: 201.....	Stamp	
Legible signature:		

Heating system assembled by		
Contractor/company name:		
Address:		
Licence number:		
Tel:		
Date: 201.....	Stamp	
Legible signature		
Warranty card for the period required by law		
WARRANTY SLIP		
Type:		
Serial number:		
Date of purchase: 201... year month day		
Vendor:		
(Stamp & signature)		
WARRANTY SLIP		
Type:		
Serial number:		
Date of purchase: 201... year month day		
Vendor:		
(Stamp & signature)		

Important to know

- . For any warranty claim the buyer must show this warranty card along with the invoice of purchasing thus those must be carefully retained.
- 2. We cannot replace lost warranty card.
- 3. Repair work falling under the scope of warranty is accepted only when presenting valid warranty card.
- 4. Any correction, deletion, or overwriting made on the warranty card or entering untrue data causes the warranty card become void.
- 5. It is the vendor's responsibility to fulfil warranty claim if the warranty card had been filled incorrectly. Unfilled or partially filled warranty card is void
- 6. The warranty card is valid if the fireplace erector engineer or heating engineer in case of water jacket type firebox has filled the relevant sections and the installation of the fireplace and, in case of water jacket type firebox, the heating system was assembled by professionals.

Commencement of the warranty period

The warranty period starts on the day when the unit is handed over to the buyer. If commissioning is carried out by Technical Kft. or our distributor, the period starts on the day the commissioning was finished. In case the commissioning does take place within 3 months from the date of purchase then the warranty period starts on the day of purchase.

The buyer's rights emerging from the acts of warranty and guarantee:

The buyer has the rights listed in Sections 306-307 of Act IV of 1959 on the Civil Code, Section 6 (1) of Law-decree 2 of 1978 and Government Decree 117/1991. (IX.10.).

Once the buyer reported his claim the repair work must commence within 30 days from the date of report and finished within the subsequent 30 days.

I have received the user manual and accepted its content!
.....Stamp & signature