

ApenGroup



LK KONDENSA

LRP RAPID PRO 



NEW SUSPENDED WARM AIR HEATERS

Why Choose Kondensa or Rapid Pro?

From 1-1-2021, Apen Group will introduce the new versions to satisfy the ERP 2021 requirements.

Our range of suspended warm air heaters is composed by two series of products:

- KONDENSA, suspended condensing and modulating warm air heater, with efficiency up to 108%;
- RAPID PRO, modulating warm air heater,

The two ranges, provide different performances and efficiency, are characterized by:

- high quality materials, such as AISI 441 stainless steel, pre-painted panels and advanced electronic burner control system;
- premix combustion system with very low polluting emissions;
- innovative and efficient production systems;
- reliability and safety guaranteed by a 100% factory test.



High Quality Materials

Combustion chamber and heat exchanger are manufactured entirely from AISI 441 high quality stainless steel (with low carbon content) which assures maximum reliability and long life cycle.

Clean Combustion

The burner fully premixes gas and combustion air, providing each heater with the following benefits:

- No carbon monoxide emissions - CO=0.
- Very low nitrogen oxides emissions, approximately 30 ppm
- Low emission of CO₂, due to high combustion efficiency and to reduction of fuel consumption arising from heat output modulation.

Innovation and Technology

The microprocessor-based electronic card, of KONDENSA and RAPID-PRO heaters, regulates continuous modulation of heat output and controls both the burner fan and the gas valve.

Guaranteed Safety

An advanced technique of pre-mix burners guarantees total safety. The gas valve delivers gas according to the air/gas ratio set at factory. If combustion air fails, the gas valve closes. If combustion air decreases, the valve automatically reduces gas flow while maintaining optimal combustion parameters.

Safety and Control Devices

Safety and control devices include:

1. Safety thermostat with manual reset.
2. Electronic ignition device for the burner and ionisation flame control device.
3. Ignition and flame detection electrodes.

Modulating Burner

The flexibility and turndown of modulating burners allows each heater (whether a single unit or multiple unit system) ensure that the correct amount of heat is being delivered by the appliance(s) demanded by the control system.

Direct Thermal Exchange

No Water Supply,

The thermal energy produced by the burner is transferred to the air by means of a heat exchanger that contains the products of combustion. This ensures maximum transference of heat into the supply air stream without any contact with the products of combustion.

This method provides instant heating benefits for the space being served.

The absence of intermediate fluid prevents the realization of the hydraulic system and the inherent problems in the freezing water.

Because there is no requirement for water the inherent problems associated with such systems are avoided.

Plant Room Not Required

LK and LRP models are installed within the space they are heating, therefore plant room space is not required.

Summer Ventilation

It is possible to set heaters in summer ventilation mode, by activating the enabling the supply air fan to run, this will help improve the comfort levels within the space they are installed.

Versatility of Installation

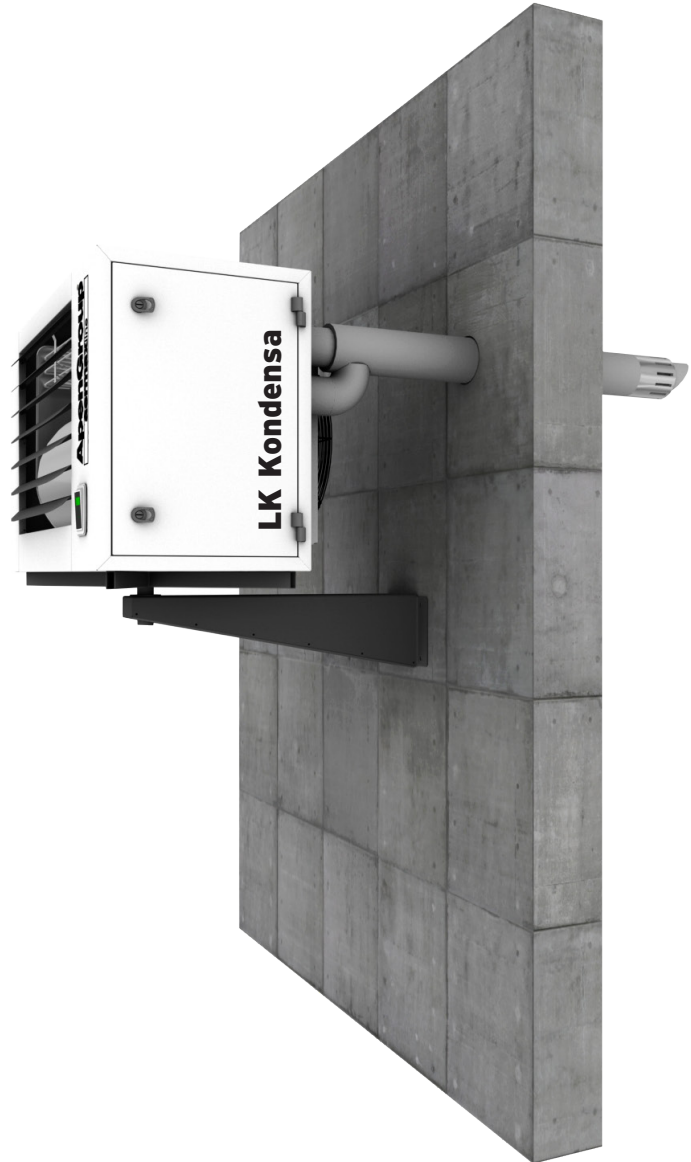
The heaters of the serie KONDENSA and RAPID-PRO can also be installed hanged to the ceiling through eyebolts or with downwards air blow.



KONDENSA LK Condensing and Modulating Warm Air Heater

Technical Features

- Outputs range from 5 kW to 97 kW;
- Sealed combustion circuit;
- INOX AISI 441 stainless steel combustion chamber, INOX AISI 441 stainless steel heat exchanger tubes and flue collection box made of low carbon content;
- Efficiency up to 108% (ncv);
- Premixed gas modulating burner, low NO_x emissions (class 5) in compliance with EN 1020 2009 standards;
- Electronic control board with continuous modulation of heat output, controlled by a microprocessor, which allows energy savings of up to 50%;
- Very high reduction of air stratification;
- An advanced technique of air/gas mixing guarantees total heater safety;
- Safety thermostat and condensate control sensor;
- 230V/1ph/50Hz supply voltage;
- In compliance with all applicable EC regulations (0476CQ0451);
- A version of suspended heater KONDENSA serie LK with centrifugal fan and mixing box is available upon request.



KONDENSA / Technical Data

Model		LK020	LK034	LK045	LK065	LK080	LK105						
Type of appliance		B23 - B23P - C13 - C33 - C43 - C53 - C63											
EC Approval	PIN.	0476CQ0451											
NOx Class [EN1020:2009]	Val	5											
Type of fuel		Gaseous											
Heater Performance													
		min	max	min	max	min	max	min	max	min	max	min	max
Burner heat output (Hi)	kW	4,75	19,00*	7,60	34,85	8,50	42,00	12,40	65,00	16,40	82,00	21,00	100,00
Useful heat output [P_{min}, P_{rated}]*	kW	4,97	18,18	8,13	33,56	8,97	40,45	13,40	62,93	17,77	80,03	22,77	97,15
Hi Efficiency (N.C.V.) [η_{p}, η_{nom}]*	%	104,63	95,68*	106,97	96,30	105,50	96,30	108,06	96,82	108,35	97,60	108,40	97,15
Hs Efficiency (G.C.V.) [η_{p}, η_{nom}]*	%	94,26	86,20	96,37	86,76	95,07	86,76	97,36	87,22	97,62	87,93	97,68	87,52
Flue losses with burner ON (Hi)	%	0,4	4,3	0,6	3,7	0,5	3,7	0,2	3,2	0,3	2,4	0,2	2,8
Flue losses with burner OFF (Hi)	%	<0,1		<0,1		<0,1		<0,1		<0,1		<0,1	
Max. condensation ⁽¹⁾	l/h	0,4		0,9		1,1		2,1		3,3		2,7	
Exhaust Gases - Pollution Emissions													
Carbon monoxide - CO - (0% of O ₂) ⁽²⁾	ppm	< 5		< 5		< 5		< 5		< 5		< 5	
Emissions of nitrogen oxides - NOx* (0% of O ₂) (Hi) ⁽³⁾		29 mg/kWh - 16 ppm		51 mg/kWh - 29 ppm		36 mg/kWh - 20 ppm		45 mg/kWh - 25 ppm		31 mg/kWh - 18 ppm		40 mg/kWh - 23 ppm	
Emissions of nitrogen oxides - NOx* (0% of O ₂) (Hs) ⁽⁶⁾		26 mg/kWh - 15 ppm		46 mg/kWh - 26 ppm		32 mg/kWh - 18 ppm		41 mg/kWh - 23 ppm		28 mg/kWh - 16 ppm		36 mg/kWh - 20 ppm	
Available pressure at the flue	Pa	80		90		100		120		120		120	
Electrical Data													
Supply voltage	V	230 Vac - 50 Hz single-phase											
Rated power	kW	0,147	0,180	0,270	0,310	0,280	0,310	0,420	0,510	0,500	0,613	0,650	0,750
Protection rating	IP	IP 20											
Operating temperatures	°C	from -15°C to +40°C - for lower temperatures, a burner housing heating kit is required ⁽⁹⁾											
Storage temperatures	°C	-25°C to +60°C											
Connections													
Ø Gas connection ⁽⁴⁾	GAS	UNI/ISO 228/1- G 3/4"	UNI/ISO 228/1- G 3/4"	UNI/ISO 228/1- G 3/4"	UNI/ISO 228/1- G 3/4"	UNI/ISO 228/1- G 3/4" ⁽⁵⁾	UNI/ISO 228/1- G 3/4" ⁽⁵⁾						
Ø Intake/exhaust pipes	mm	80/80	80/80	80/80	80/80	100/100 ⁽⁶⁾	100/100 ⁽⁶⁾						
Air Flow Rate													
Air flow rate (15° C)	m ³ /h	2700		4300		4500		7800		9000		11100	
Air temperature increase	°C	5,28	19,30	5,42	22,37	5,73	25,74	4,92	23,13	5,66	25,49	5,89	25,09
Number and diameter of fans		1 x Ø350		1 x Ø 450		1 x Ø450		2 x Ø400		2 x Ø450		3 x Ø400	
Fans speed	rpm	1370		1370		1370		1370		1370		1370	
Sound pressure (Lp) ⁽⁷⁾	dB(A)	44		49		49		51		52		54	
Weight													
Net weight	kg	58		72		79		98		129		145	
Weight with packaging	kg	73		90		97		122		155		173	

NOTES:

* Symbol of conformity with Reg.EU/2281/2016.

(1) Max. condensation produced acquired from testing at 30%Qn.

(2) Value referred to cat. H (G20)

(3) Weighted value to EN17082 ref. to cat. H (G20), referred to net calorific value (Hi, N.C.V).

(4) The gas line must be dimensioned according to the length of the routing and not to the heater input diameter.

For countries requiring an ISO connection different from the one shown, an adaptor will be supplied.

(5) For the LK080 and LK105 models, the minimum gas supply pipe diameter must be almost UNI/ISO 228/1- G 1".

(6) Ø100/100 obtained by using adaptors supplied as standard.

(7) Measured at a distance of 6 m from the appliance.

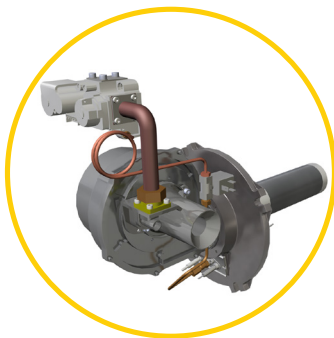
(8) Weighted value to EN17082 ref. to cat. H (G20), referred to gross calorific value (Hs, G.C.V).

(9) In case of installation of the burner housing heating kit, add 105 W (230V) to the nominal electric power value.

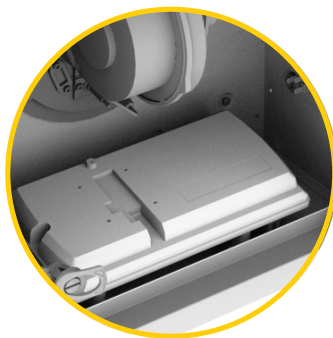


Technical Features

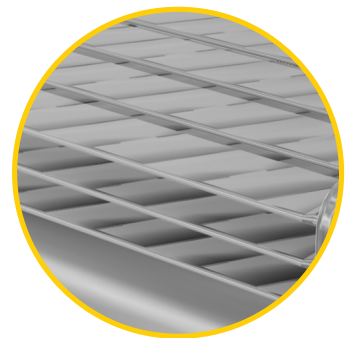
- Outputs range from 9 kW to 92 kW;
- Sealed combustion circuit;
- INOX AISI 441 stainless steel combustion chamber, INOX AISI 441 stainless steel heat exchanger tubes and flue collection box made of low carbon content;
- Efficiency up to 97% (ncv);
- Premixed gas modulating burner, low NOx emissions (class 5) in compliance with EN 1020 2009 standards;
- Electronic control board with continuous modulation of heat output, controlled by a microprocessor, which allows energy savings of up to 40%;
- Very high reduction of air stratification;
- An advanced technique of air/gas mixing guarantees total heater safety;
- Safety thermostat;
- 230V/1ph/50Hz supply voltage;
- In compliance with all applicable EC regulations.



Premix Burner



Electronic Card



Stainless Steel Tube Bundle

Model	LRP018	LRP028	LRP035	LRP045	LRP055	LRP075	LRP102								
Type of appliance	B23 - B23P - C13 - C33 - C43 - C53 - C63														
EC Approval	PIN. 0476CQ0451														
NOx Class [EN1020:2009]	Val 5														
Type of fuel	Gaseous														
Heater Performance															
		min	max	min	max	min	max	min	max	min	max	min	max	min	max
Burner heat output (Hi)	kW	10,1	16,5	16	27	20,2	34,8	26	44	29,8	52,2	44,4	73,5	51,8	100,0
Useful heat output [P_{min} , P_{rated}]*	kW	9,7	15,1	15,4	24,6	19,6	32,4	25,0	40,6	28,8	48,1	42,5	67,5	49,9	92,3
Hi Efficiency (N.C.V.) [η_{pH} , η_{nomH}]*	%	95,8	91,8	96,3	91,2	96,8	93,1	96,3	92,3	96,8	92,1	95,8	91,8	96,4	92,3
Hs Efficiency (G.C.V.) [η_{pH} , η_{nomH}]*	%	86,2	82,6	86,7	82,1	87,1	83,8	86,7	83,1	87,1	82,9	86,2	82,6	86,8	83,1
Flue losses with burner on (Hi)	%	4,2	8,2	3,7	8,8	3,2	6,9	3,7	7,7	3,2	7,9	4,2	8,2	3,6	7,7
Flue losses with burner off (Hi)	%	<0,1		<0,1		<0,1		<0,1		<0,1		<0,1		<0,1	
Exhaust Gases - Pollution Emissions															
Carbon monoxide - CO - (0% of O ₂) ⁽¹⁾	ppm	<5		<5		<5		<5		<5		<5		<5	
Emissions of nitrogen oxides - NOx* (0% of O ₂) (Hi) ⁽²⁾		51 mg/kWh - 29 ppm		55 mg/kWh - 31 ppm		42 mg/kWh - 24 ppm		55 mg/kWh - 31 ppm		46 mg/kWh - 26 ppm		60 mg/kWh - 34 ppm		67 mg/kWh - 38 ppm	
Emissions of nitrogen oxides - NOx* (0% of O ₂) (Hs) ⁽⁷⁾		46 mg/kWh - 26 ppm		49 mg/kWh - 28 ppm		38 mg/kWh - 21 ppm		49 mg/kWh - 28 ppm		42 mg/kWh - 23 ppm		54 mg/kWh - 31 ppm		60 mg/kWh - 34 ppm	
Available pressure at the flue	Pa	80		100		120		120		130		140		140	
Electrical Data															
Supply voltage	V	230 Vac - 50 Hz single-phase													
Rated power	kW	0,1	0,143	0,15	0,197	0,13	0,184	0,25	0,32	0,268	0,33	0,454	0,493	0,49	0,582
Protection rating	IP	IP 20													
Operating temperatures	°C	from -15°C to +40°C - for lower temperatures, a burner housing heating kit is required ⁽⁸⁾													
Storage temperatures	°C	from -25°C to +60°C													
Connections															
Ø Gas connection ⁽³⁾	GAS	UNI/ISO 228/1-G 3/4"	UNI/ISO 228/1-G 3/4"	UNI/ISO 228/1-G 3/4"	UNI/ISO 228/1-G 3/4"	UNI/ISO 228/1-G 3/4"	UNI/ISO 228/1-G 3/4"	UNI/ISO 228/1-G 3/4"	UNI/ISO 228/1-G 3/4"	UNI/ISO 228/1-G 3/4"	UNI/ISO 228/1-G 3/4"	UNI/ISO 228/1-G 3/4"	UNI/ISO 228/1-G 3/4"	UNI/ISO 228/1-G 3/4"	UNI/ISO 228/1-G 3/4"
Ø Intake/exhaust pipes	mm	80/80		80/80		80/80		80/80		80/80		80/80		100/100 ⁽⁵⁾	
Air Flow Rate															
Air flow rate (15°C)	m ³ /h	2000		2700		3100		4300		4500		7800		7900	
Air temperature increase	°C	13,9	21,7	16,4	26,1	18,1	30,0	16,7	27,1	18,4	30,6	15,6	24,8	18,1	33,5
Number and diameter of fans		1 X Ø350 (6P)		1 X Ø350(4P)		1 X Ø450(6P)		1 X Ø450(4P)		1 X Ø450(4P)		2 X Ø400 (4P)		2 X Ø400 (4P)	
Fans speed	rpm	920		1370		970		1370		1370		1370		1370	
Sound pressure (Lp) ⁽⁶⁾	dB(A)	34		44		40		49		49		51		51	
Weight															
Net weight	kg	58		58		68		70		78		102		123	
Weight with packaging	kg	73		73		85		88		96		126		149	

NOTES:

* Symbol of conformity with Reg.EU/2281/2016.

(1) Value referred to cat. H (G20)

(2) Weighted value to EN17082 ref. to cat. H (G20), referred to net calorific value (Hi, N.C.V).

(3) The gas line must be dimensioned according to the length of the routing and not to the heater input diameter. For countries requiring an ISO connection different from the one shown, an adaptor will be supplied.

(4) For the LRP102 model, the minimum gas supply pipe diameter must be at least UNI/ISO 228/1- G 1".

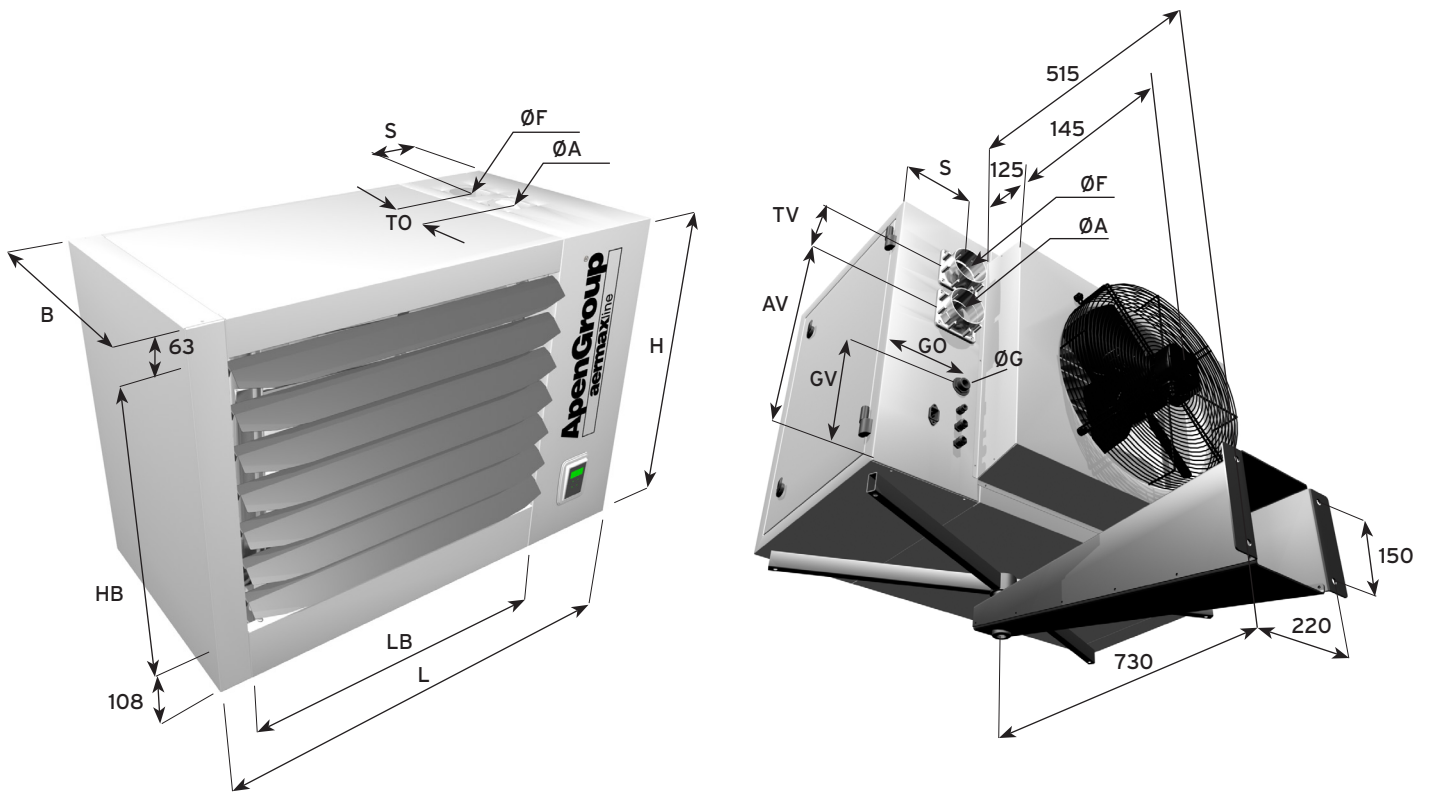
(5) Ø100/100 obtained by using adaptors supplied as standard.

(6) Measured at a distance of 6 m from the appliance.

(7) Weighted value to EN17082 ref. to cat. H (G20), referred to gross calorific value (Hs, G.C.V).

(8) In case of installation of the burner housing heating kit, add 105 W (230V) to the nominal electric power value.

Dimensions

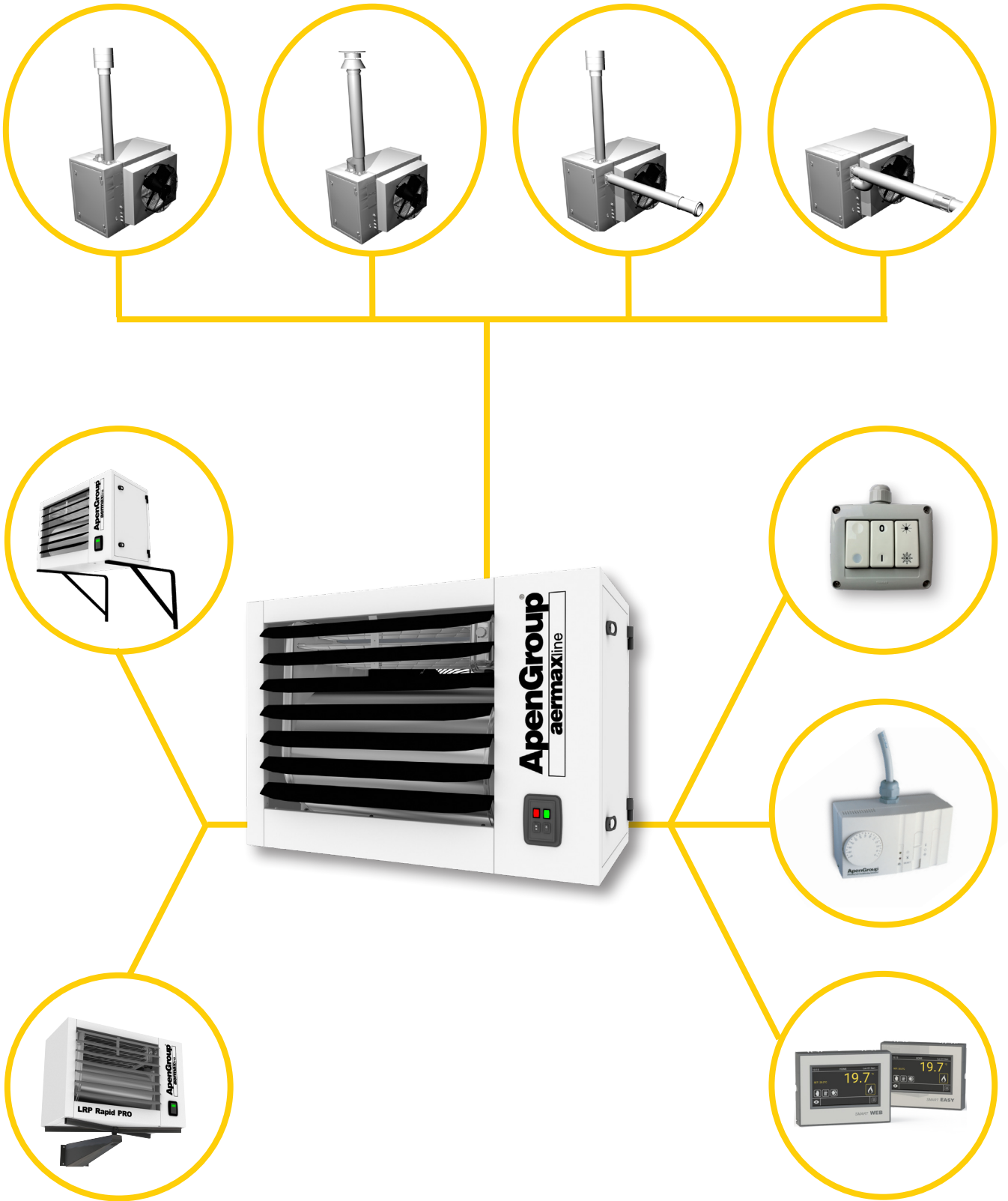


Kondensa

Model	Overall Dimensions			Louvres		Brackets		GAS Supply			Packaging			
	B	H	L	HB	LB	IS	ID	ØG	GO	GV	Bi	Li	Hi	Hbi
LK020	500	690	795	520	490	395	400	3/4"	180	255	815	870	850	118
LK034			985		680	490	495					1065		
LK045		1310	1010	605	710	1395	920							
LK065		1515	1180	720	795	1595	1040							
LK080		1740	1410	805	935	1820								
LK105														

Rapid PRO

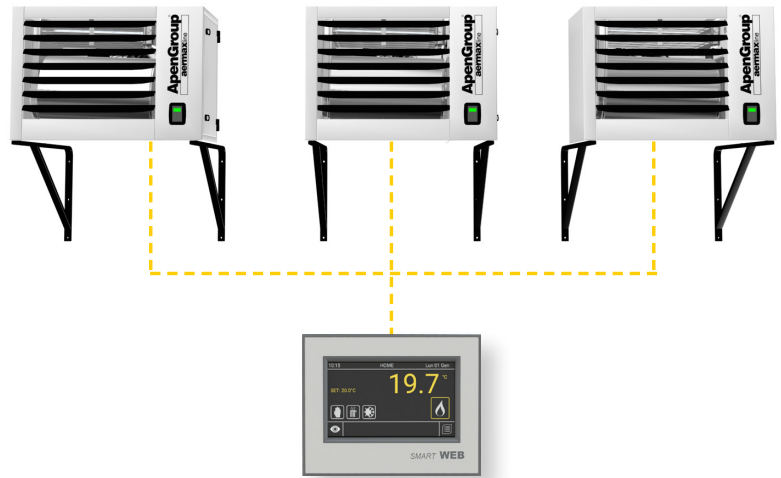
Model	Overall Dimensions			Louvres		Brackets		GAS Supply			Packaging			
	B	H	L	HB	LB	IS	ID	ØG	GO	GV	Bi	Li	Hi	Hbi
LRP018 LRP028	500	690	795	520	490	395	400	3/4"	180	255	815	870	850	118
LRP035 LRP045			985		680	490	495					1065		
LRP055		1310	1010	605	710	1395	920							
LRP075		1515	1180	720	795	1595	1040							
LRP102		1740	1410	805	935	1820								



Heater's Controls

SmartWeb / SmartEasy Controls

Apen Group's new remote control SMARTWEB and SMARTEASY series perform the functions of standalone timeclock and thermostat and can be used in a system that controls up to 32 heaters installed in a single zone.

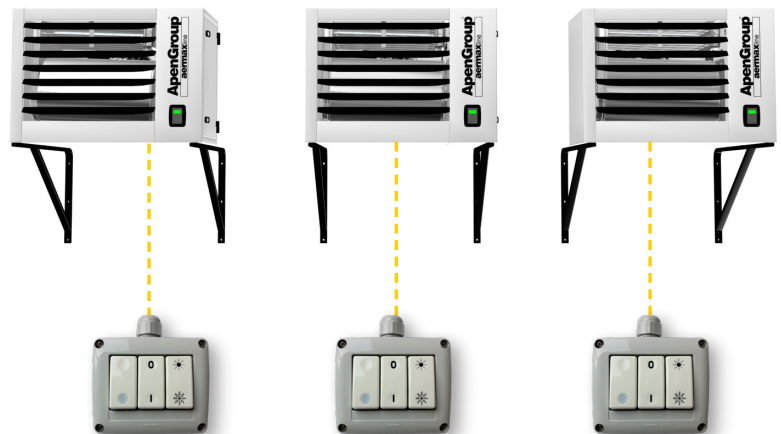


Basic Remote Control

It allows the following settings:

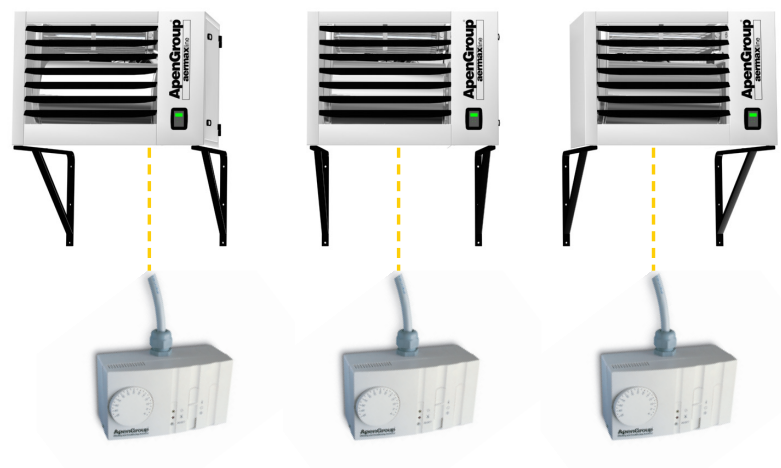
- On/Off button
- Summer/Winter switch and Reset button.

It can be used with a thermostat to regulate room temperature, switch to summer or winter working mode, turn off the heater without powering the unit off, display burner lock and reset the burner after a lock.



Remote Control with Thermostat

Control of turning ON/OFF with the room temperature regulation, with Summer/Winter switch and Reset button.

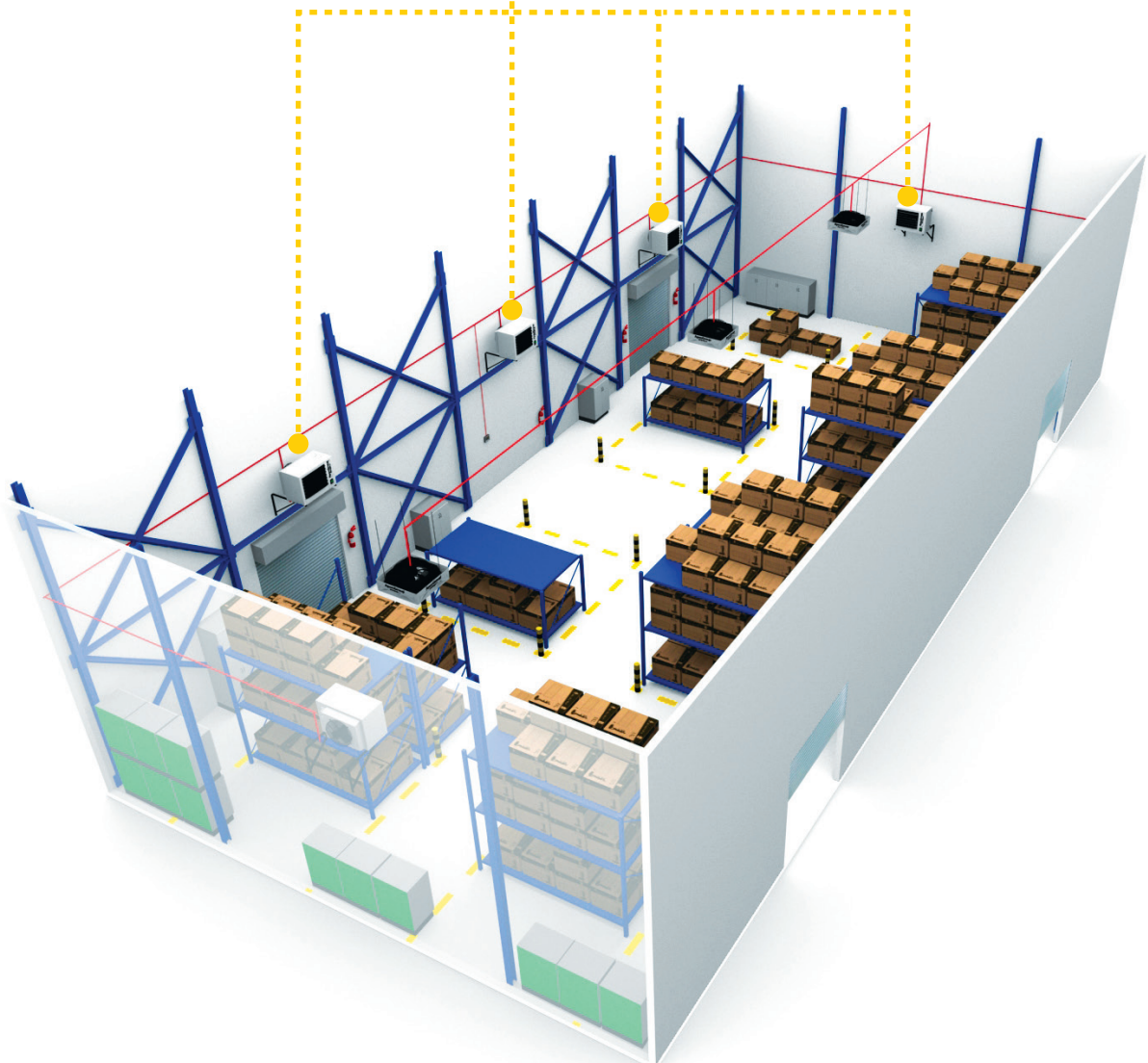
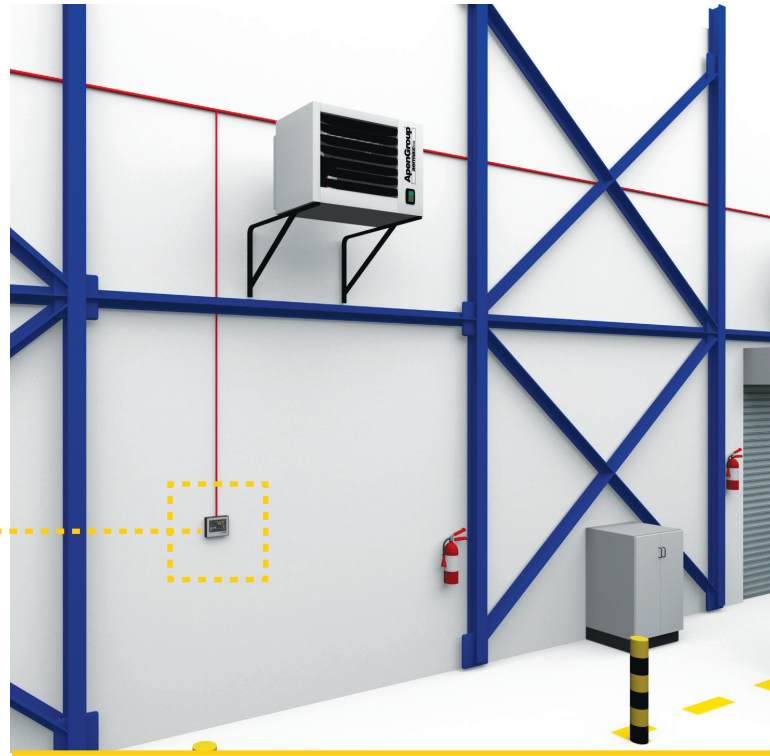


SMARTWEB and SMARTEASY controls



Features

- Simple connection to the heater using four polarized wires (2 wires for modbus control and 2 for electrical supply, 12 V);
- It manages all the functions, regulations and resetting;
- Possibility to install 3 additional temperature probes;
- Has a 4.3" touch screen with resolution 480x272 pixel;
- Supports the following languages: italian, english, spanish, french, german, dutch, czech, polish and rumenian;
- Additionally, SMARTWEB version allows connection to the internet via ethernet to remotely control the installation;
- It can be installed from the beginning or added later as an optional accessory.





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