

Air Heaters / Controllers

Comparison LHS - overview	24 / 25
LHS 15	26 / 27
LHS 21	28 / 29
LHS 41	30 / 31
LHS 61	32 / 33
LHS 91	34 / 35
LE 5000 High Temperature	36
LE 10000 High Temperature	37
LE MINI	38
LE MINI accessories	39
LHS 15 / 21 / 41 accessories	40 / 41
LHS 61 / 91 accessories	42 / 43
LE 5000 HT / LE 10000 HT accessories	42 / 43
Saving Energy with Leister	44
LE 10000 DF-C Double-Flange	45
LE 5000 Double-Flange	46
LE 10000 Double-Flange	47
Double-flange accessories	48
Key indicators	49
Temperature controllers CSS EASY / CSS / KSR Digital	50
Controller DSE / Accessories	51

Leister's air heaters: From mini to giant.

Leister's air heater highlight: The LHS series.



Picture: LHS 21S SYSTEM (p. 28 – 29)

1		Compact: Small dimensions for installation in tight spaces.
2		Reliable: Very durable heating elements thanks to innovative, patented heating element protection.
3		Easy Maintenance: Faster and easier heating element change.
4		Power electronics: External power control becomes obsolete and system design times are reduced.
5		Thermocouple: The integral thermocouple in SYSTEM devices improves precision and enables reproducibility.
6		User friendly: The display of the SYSTEM devices provides users precise local information.

7 Professional integration or controlled stand-alone operation






Operation modes LHS SYSTEM	Control mode	Adjustment mode
Internal (potentiometer) set point.	Temperature set point by potentiometer. Display shows temperature set point and actual temperature.	Capacity set point by potentiometer. Display shows capacity set point in % and actual temperature.
External (interface) set point.	Temperature set point by external controller. Display shows temperature set point and actual temperature.	Capacity set point by external controller. Display shows capacity set point in % and actual temperature.

The LHS air heater family

The LHS air heater family covers an impressive power range from 550 W to 40 kW. The diversity of this portfolio makes it ideal for practically all hot-air applications. By choosing LHS air heaters, you are investing in devices that are manufactured using state-of-the-art technology. Between them, the CLASSIC, PREMIUM and SYSTEM models offer the ideal solutions for users' differing requirements.

Features	CLASSIC	PREMIUM	SYSTEM
Easy to integrate (mounted from above)	✓	✓	✓
Overheat detection with alarm output for the heating element	✓		
Tool overheat detection with alarm output	✓		
Overheat protection with alarm output for the heating element		✓	✓
Tool overheat protection with alarm output		✓	✓
Infinitely adjustable heating capacity via potentiometer		✓	✓
Remote control via analogue interface (4 – 20 mA or 0 – 10 V)			✓
Various open-loop and closed-loop control modes available for selection			✓ *
LED display (target/actual value display)			✓ *
* = except the LHS 91 SYSTEM			

Alongside its optimised design and traditional Leister quality, the patented heating element protection guarantees yet another increase to the service life of the heating element. Thanks to their built-in temperature probes and controllers, integrating the LHS SYSTEM air heaters has never been easier. The integrated power electronics make external power controls a thing of the past and even simplify the wiring.

					
Model	LHS 15	LHS 21	LHS 41	LHS 61	LHS 91
		S L	S L	S L	
Power Range from – to	0.55 kW 0.77 kW	1.0 kW 2.0 kW	2.0 kW 3.6 kW	4.0 kW 9.0 kW	11 kW 40 kW
Catalogue page	26	28	30	32	34

LHS 15: Tiny and reliable.

The tiny air heater provides hot air up to 650 °C. All prominent features of Leister air heaters also are offered with this tiny heater: long-life heating element, reliable protection systems, standard interfaces. Simply summarizing – the same Leister quality as usual. This makes it a perfect tool for applications in Semiconductor, Electronics, Automotive and other industries.

Air heater

LHS 15



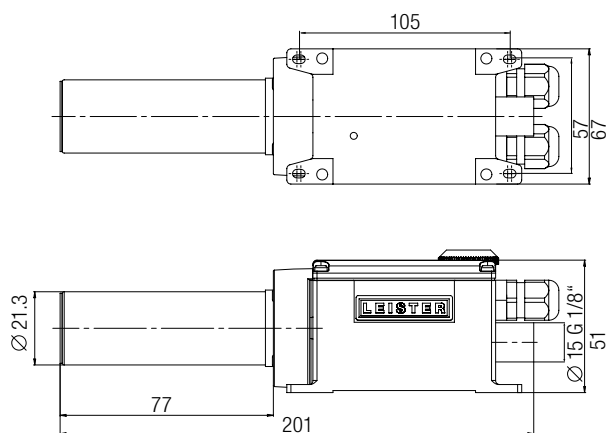
Technical data

Max. air outlet temperature	°C	650
Max. air inlet temperature	°C	65
Max. ambient temperature	°C	65
Min. air flow		As per diagram
Max. inlet pressure	kPa	100
Weight	kg	0.48

Conformity mark	CE
Approval mark	UK
Protection class II	□

Minimum quantity of air at air inlet temperature of 20°C at 100% heating power

Installation dimensions in mm



Combination possibilities

- Leister air heater at maximum heat power and without nozzle with Leister blower at 50 Hz, 1.5 m hose length and unimpeded air outflow.
- Hot-air temperature 3 mm after air outlet, measured at the hottest point.
- Air flow at 20 °C, 100.0 kPa compliant with ISO 6358.

Power Typ	Number LHS 15 x power cons. kW	Air flow l/min.	Temperatur °C
ROBUST	1 × 0.77	1 × 150	420
ROBUST	2 × 0.77	2 × 130	460

Air flow and temperature values may deviate from those above based on the design of the entire hot-air system (including nozzles, air hoses, environmental conditions).

Deflashing foil sleeves from charcoal filter elements



Air heater

LHS 15 CLASSIC



Heating power not adjustable

Detection of heating element and device overheating with alarm output

Air heater

LHS 15 PREMIUM



Heating power steplessly adjustable with potentiometer

Protection against heating element and device overheating with alarm output

Air heater

LHS 15 SYSTEM



Heating power or temperature steplessly adjustable with potentiometer or remote control interface

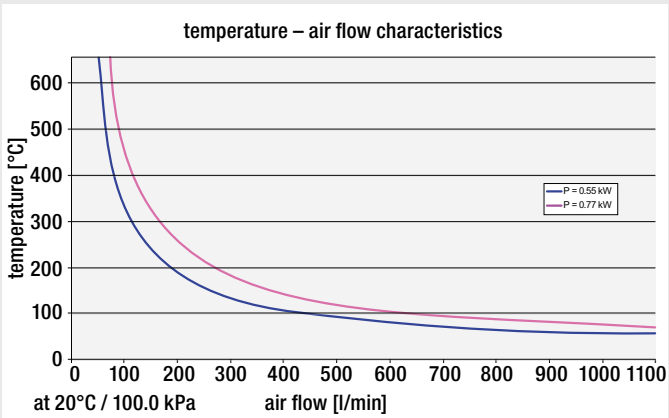
Protection against heating element and device overheating with alarm output

Remote control interface for external temperature controllers (Leister CSS, or PLCs)

Air Heaters
Controllers

Order no.:	CLASSIC	PREMIUM	SYSTEM
LHS 15 0.55 kW / 120 V	139.873	139.908	139.894
LHS 15 0.77 kW / 230 V	139.874	139.893	139.895

Contact a Leister sales partner in your region for professional advice and information on our other air heaters and blowers.



LHS 21: Designed for professionals.

These advanced air heaters are distinguished by their extremely small dimensions – especially the lean design (only 67 mm wide) – as well as their long service life. Designed for professional integration into machine systems, the new LHS series enables any specific application. Sterilizing, drying, welding, cleaning, shrinking, shaping, deburring and activating are now more efficient and reliable thanks to Leister's proven hot-air technology!

Air heater

LHS 21



Technical data

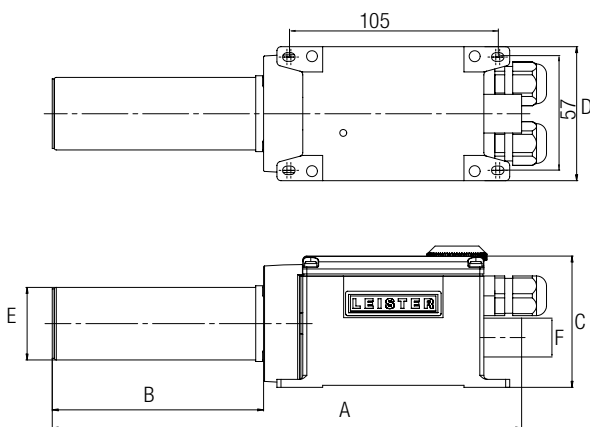
LHS 21S / 21L

Max. air outlet temperature	°C	650
Max. air inlet temperature	°C	65
Max. ambient temperature	°C	65
Min. air flow		As per diagram
Max. inlet pressure	kPa	100
Weight 21S / 21L	kg	0.55 / 0.65

Conformity mark	CE
Approval mark	Ⓢ
Protection class II	□

Minimum quantity of air at air inlet temperature of 20°C at 100% heating power

Installation dimensions in mm



Type	A	B	C	D	E	F
LHS 21S	236	106	66	67	Ø 36.5	Ø 19.5 G 3/8"
LHS 21L	266	136	66	67	Ø 36.5	Ø 19.5 G 3/8"

Combination possibilities

- Leister air heater at maximum heat power and without nozzle with Leister blower at 50 Hz, 1.5 m hose length and unimpeded air outflow.
- Hot-air temperature 3 mm after air outlet, measured at the hottest point.
- Air flow at 20°C, 100.0 kPa compliant with ISO 6358.

Power Typ	Number LHS 21S x power cons. kW	LHS 21S x Air flow l/min.	LHS 21S Temperature °C
ROBUST	1 × 1.0	1 × 640	160
ROBUST	2 × 1.0	2 × 420	200
ROBUST	4 × 1.0	4 × 240	300
ROBUST	1 × 2.0	1 × 590	300
ROBUST	2 × 2.0	2 × 390	380
ROBUST	4 × 2.0	4 × 220	540
MONO	2 × 1.0	2 × 341	236
MONO	1 × 2.0	1 × 525	333
MONO	2 × 2.0	2 × 353	450
Power Typ	Number LHS 21L x power cons. kW	LHS 21L x Air flow l/min.	LHS 21L Temperature °C
ROBUST	1 × 3.3	1 × 550	520
ROBUST	2 × 3.3	2 × 390	610
AIRPACK	2 × 3.3	2 × 1210	270
AIRPACK	4 × 3.3	4 × 700	340

Air flow and temperature values may deviate from those above based on the design of the entire hot-air system (including nozzles, air hoses, environmental conditions).

High-end air heaters on an indexing table for producing light bulbs.



Air heater

LHS 21 CLASSIC



Heating power not adjustable

Detection of heating element and device overheating with alarm output

Air heater

LHS 21 PREMIUM



Heating power steplessly adjustable with potentiometer

Protection against heating element and device overheating with alarm output

Air heater

LHS 21 SYSTEM



Heating power or temperature steplessly adjustable with potentiometer or remote control interface

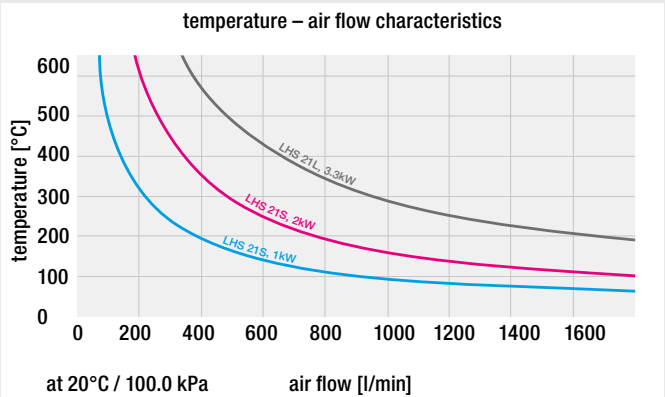
Protection against heating element and device overheating with alarm output

Remote control interface for external temperature controllers (Leister CSS, or PLCs)

Air Heaters
Controllers

Order No.:		CLASSIC	PREMIUM	SYSTEM
LHS 21S	1.0 kW/120V	139.868	140.454	140.458
LHS 21S	1.0 kW/230V	139.869	140.455	140.459
LHS 21S	2.0 kW/120V	139.870	140.456	140.460
LHS 21S	2.0 kW/230V	139.871	139.909	139.910
LHS 21L	3.3 kW/230V	139.872	140.457	140.461

Contact a Leister sales partner in your region for professional advice and information on our other air heaters and blowers.



LHS 41: Small but high performance.

The medium size LHS 41 series air heaters cover an extremely wide application range. The small footprint enables easy integration into machines. The heater tube diameter of 50 mm allows passing sufficient air flow, also for high performance applications.

Air heater

LHS 41



Technical data

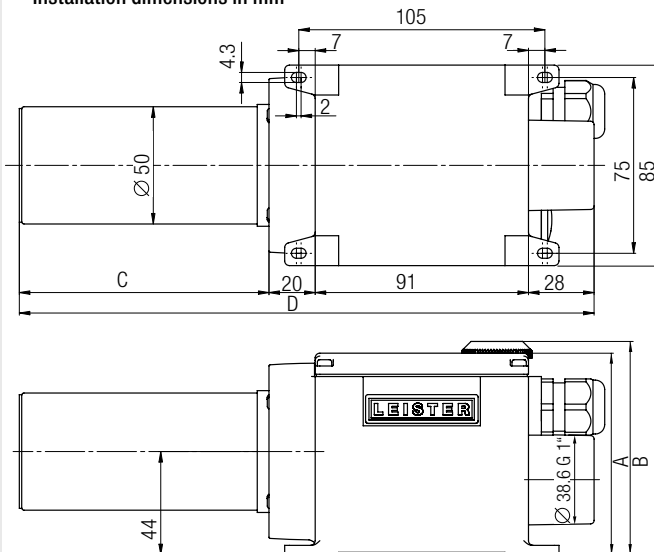
LHS 41S / 41L

Max. air outlet temperature	°C	650
Max. air inlet temperature	°C	65
Max. ambient temperature	°C	65
Min. air flow		As per diagram
Max. inlet pressure	kPa	100
Weight 41S / 41L	kg	0.85 / 0.95

Conformity mark	CE
Approval mark	Ⓢ
Protection class II	□

Minimum quantity of air at air inlet temperature of 20°C at 100% heating power

Installation dimensions in mm



Type	A	B	C	D
LHS 41S CLASSIC	86	86	106	245
LHS 41L CLASSIC	86	86	136	275
LHS 41S PREMIUM	86	91	106	245
LHS 41L PREMIUM	86	91	136	275
LHS 41S SYSTEM	86	91	106	245
LHS 41L SYSTEM	86	91	136	275

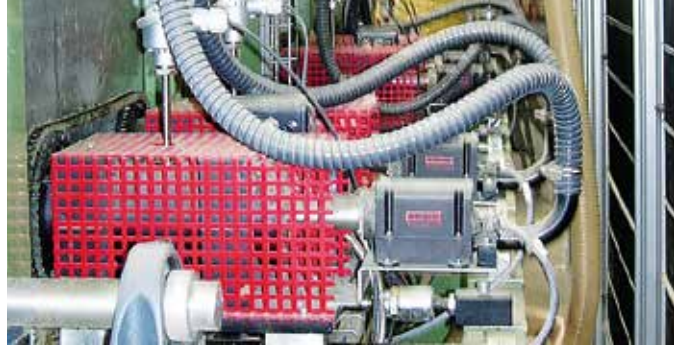
Combination possibilities

- Leister air heater at maximum heat power and without nozzle with Leister blower at 50 Hz, 1.5 m hose length and unimpeded air outflow.
- Hot-air temperature 3 mm after air outlet, measured at the hottest point.
- Air flow at 20°C, 100.0 kPa compliant with ISO 6358.

Power Typ	Number LHS 41S x power cons. kW	LHS 41S x Air flow l/min.	LHS 41S Temperature °C
ROBUST	2 × 2.0	2 × 480	300
ROBUST	4 × 2.0	4 × 250	450
ROBUST	1 × 3.6	1 × 810	370
ROBUST	2 × 3.6	2 × 470	540
SILENCE	2 × 2.0	2 × 460	290
SILENCE	4 × 2.0	4 × 380	300
SILENCE	1 × 3.6	1 × 440	600
SILENCE	2 × 3.6	2 × 410	600
SILENCE	4 × 3.6	4 × 330	600
ASO	4 × 2.0	4 × 500	230
ASO	4 × 3.6	4 × 480	450
MONO	1 × 2.0	1 × 750	250
MONO	1 × 3.6	1 × 665	468
Power Typ	Number LHS 41L x power cons. kW	LHS 41L x Air flow l/min.	LHS 41L Temperature °C
ROBUST	2 × 2.0	2 × 510	310
ROBUST	4 × 2.0	4 × 270	470
ROBUST	1 × 4.4	1 × 810	390
ROBUST	2 × 4.4	2 × 450	560
SILENCE	2 × 2.0	2 × 453	320
SILENCE	4 × 2.0	4 × 368	330
SILENCE	1 × 4.4	1 × 410	620
SILENCE	2 × 4.4	2 × 400	620
SILENCE	4 × 4.4	4 × 330	630
ASO	4 × 2.0	4 × 500	270

Air flow and temperature values may deviate from those above based on the design of the entire hot-air system (including nozzles, air hoses, environmental conditions).

LHS air heaters in a production line for drying insulating material.



Air heater

LHS 41 CLASSIC



Heating power not adjustable

Detection of heating element and device overheating with alarm output

Air heater

LHS 41 PREMIUM



Heating power steplessly adjustable with potentiometer

Protection against heating element and device overheating with alarm output

Air heater

LHS 41 System



Heating power or temperature steplessly adjustable with potentiometer or remote control interface

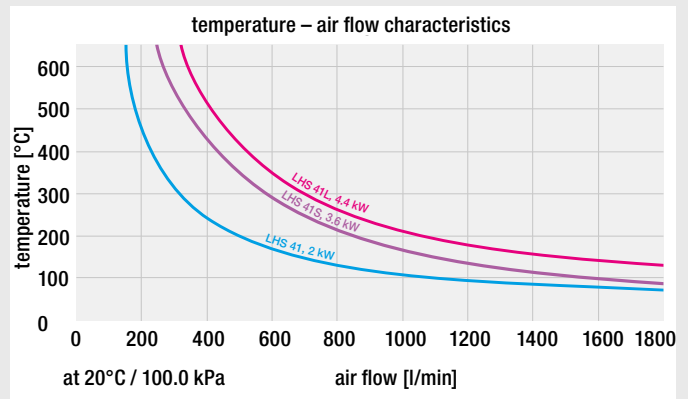
Protection against heating element and device overheating with alarm output

Remote control interface for external temperature controllers (Leister CSS, or PLCs)

Air Heaters
Controllers

Order No.:		CLASSIC	PREMIUM	SYSTEM
LHS 41S	2.0 kW / 120V	143.292	143.289	143.279
LHS 41S	2.0 kW / 230V	143.291	143.287	143.278
LHS 41S	3.6 kW / 230V	143.290	143.283	142.489
LHS 41L	4.4 kW / 230V	145.726	145.435	145.729
LHS 41L	2.0 kW / 400V	143.293	143.281	142.492
LHS 41L	4.4 kW / 400V	143.294	143.282	143.280
LHS 41L	5.5 kW / 400V	145.727	145.438	145.728

Contact a Leister sales partner in your region for professional advice and information on our other air heaters and blowers.



Accessories



LHS 61: The large powerful models.

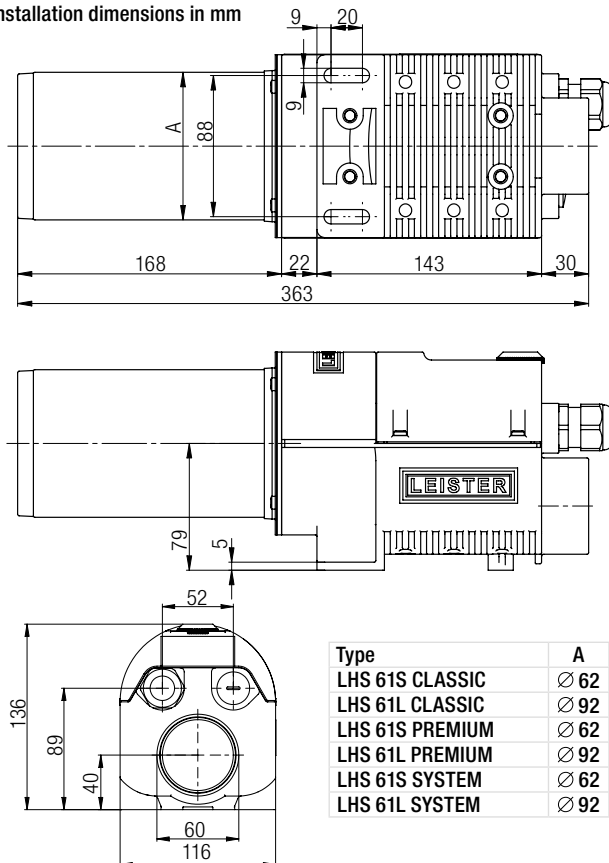
The LHS 61 series is your choice for high performance applications. The outlet diameter of 62 mm for LHS 61S versions and 92 mm for LHS 61L versions allow high air flows with up to 16 kW heating power.

Air heater

LHS 61



Installation dimensions in mm



Combination possibilities

- Leister air heater at maximum heat power and without nozzle with Leister blower at 50 Hz, 1.5 m hose length and unimpeded air outflow.
- Hot-air temperature 3 mm after air outlet, measured at the hottest point.
- Air flow at 20°C, 100.0 kPa compliant with ISO 6358.

Power Typ	Number LHS 61S x power cons. kW	LHS 61S x Air flow l/min.	LHS 61S Temperature °C
ROBUST	2 × 4.0	2 × 500	490
ROBUST	1 × 6.0	1 × 910	410
SILENCE	2 × 4.0	2 × 620	380
SILENCE	1 × 6.0	1 × 690	500
SILENCE	2 × 4.0	2 × 620	380
SILENCE	2 × 6.0	2 × 590	510
ASO	2 × 4.0	2 × 830	310
ASO	2 × 6.0	2 × 743	430
ASO	4 × 6.0	4 × 667	470
AIRPACK	1 × 4.0	1 × 3080	120
AIRPACK	2 × 4.0	2 × 1730	170
AIRPACK	4 × 4.0	4 × 960	280
AIRPACK	1 × 6.0	1 × 2950	160
AIRPACK	2 × 6.0	2 × 1700	240
AIRPACK	4 × 6.0	4 × 970	390
Power Typ	Number LHS 61L x power cons. kW	LHS 61L x Air flow l/min.	LHS 61L Temperature °C
ROBUST	1 × 8.0	1 × 1038	500
SILENCE	2 × 8.0	2 × 1029	440
SILENCE	1 × 11.0	1 × 1220	480
SILENCE	2 × 11.0	2 × 980	560
AIRPACK	1 × 8.0	1 × 3433	190
AIRPACK	2 × 8.0	2 × 2313	310
AIRPACK	4 × 8.0	4 × 979	510
AIRPACK	1 × 11.0	1 × 3380	230
AIRPACK	2 × 11.0	2 × 1840	380
AIRPACK	4 × 11.0	4 × 1010	590
AIRPACK	1 × 16.0	1 × 3450	360
AIRPACK	2 × 16.0	2 × 1930	550
ASO	1 × 11.0	1 × 1600	390
ASO	2 × 11.0	2 × 1480	420
ASO	4 × 11.0	4 × 1160	520
ASO	1 × 16.0	1 × 1500	610

Air flow and temperature values may deviate from those above based on the design of the entire hot-air system (including nozzles, air hoses, environmental conditions).

Three LHS 61S air heaters with wide slot nozzles in a wrapping line.



Air heater

LHS 61 CLASSIC



Heating power not adjustable

Detection of heating element and device overheating with alarm output

Air heater

LHS 61 PREMIUM



Heating power steplessly adjustable with potentiometer

Protection against heating element and device overheating with alarm output

Air heater

LHS 61 SYSTEM



Heating power or temperature steplessly adjustable with potentiometer or remote control interface

Protection against heating element and device overheating with alarm output

Remote control interface for external temperature controllers (Leister CSS, or PLCs)

Technical data

LHS 61S / 61L

Max. air outlet temperature	°C	650
Max. air inlet temperature	°C	65
Max. ambient temperature	°C	65
Min. air flow		As per diagram
Max. inlet pressure	kPa	100
Weight 61S / 61L	kg	3.15 / 3.65

Conformity mark



Approval mark



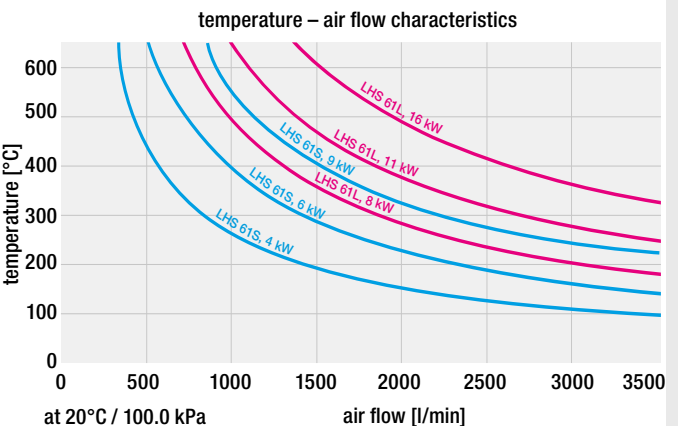
Protection class I



Minimum quantity of air at air inlet temperature of 20°C at 100% heating power

61S

Voltage	V ~	3 x 230			1 x 400	3 x 400		
Power	kW	4	6	8	8.5	4	6	9
CLASSIC	Order no.	143.707	143.696	142.839	145.732	143.708	143.490	143.697
PREMIUM	Order no.	143.714	143.484		145.442	143.715	143.481	143.716
SYSTEM	Order no.	143.726	143.727		145.734	143.728	142.496	143.729
Voltage	V ~	1 x 480		3 x 480				
Power	kW	8	4	6				
CLASSIC	Order no.	145.730	143.709	143.698				
PREMIUM	Order no.	145.439	143.717	143.483				
SYSTEM	Order no.	145.733	143.730	143.731				



61L

Voltage	V ~	3 x 230		3 x 400		3 x 480
Power	kW	8	10	5	8	8
CLASSIC	Order no.	143.710	143.489	143.711	143.712	143.713
PREMIUM	Order no.	143.718	143.719	143.720	143.721	143.723
SYSTEM	Order no.	143.732	143.733	143.734	143.735	143.736
Voltage	V ~			3 x 400		3 x 480
Power	kW			11	16	11 16
CLASSIC	Order no.			143.699	143.488	143.700 143.487
PREMIUM	Order no.			143.722	143.485	143.724 143.486
SYSTEM	Order no.			142.568	143.478	143.737 143.479

Accessories



LHS 91: The intelligent power giant.

With power of up to 40 kW, the LHS 91 is the tool for even the most demanding of heating applications. With this performance it is even capable of replacing many gas-fired heaters.

Air heater

LHS 91



Technical data LHS 91S

		BASIC	SYSTEM
Max. air outlet temperature	°C	650	650
Min. air flow acc. as per diagram			
Max. air inlet temperature	°C	100	50
Max. ambient temperature	°C	60	60
Weight	kg	13.5	13.5

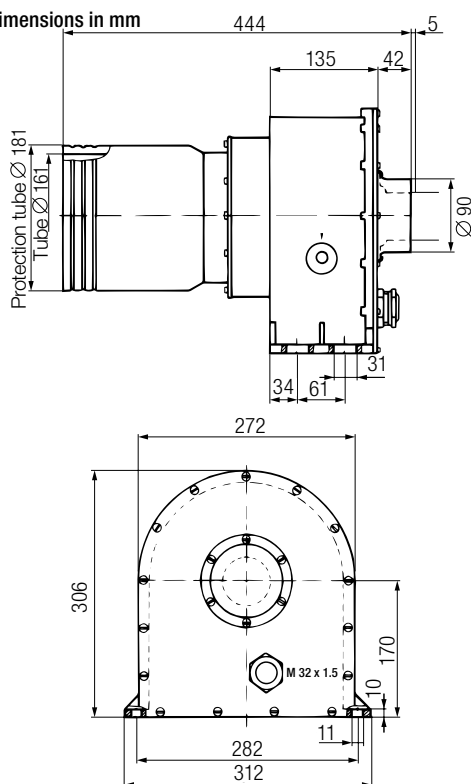
Mark of conformity

Protection class I



Minimum quantity of air at air inlet temperature of 20°C at 100% heating power

Installation dimensions in mm



Tension	V ~	3 x 400		3 x 480	3 x 480
Power cons.	kW	11	32	32	40
BASIC	Order no.		100.764	100.766	139.206
SYSTEM	Order no.	140.358	140.356	146.862	145.685

Ø 90 mm air inlet nozzle as standard

Combination possibilities

- Leister air heater at maximum heat power and without nozzle with Leister blower at 50 Hz, 3 m hose length and unimpeded air outflow.
- Hot-air temperature 3 mm after air outlet, measured at the hottest point.
- Air flow at 20°C, 100.0 kPa compliant with ISO 6358.

Power Type	Number LE x power cons. kW	Air flow l/min.	Temperature °C
ASO	2 x 32	2 x 4200	500
AIRPACK	1 x 32	1 x 3300	540

Air flow and temperature values may deviate from those above based on the design of the entire hot-air system (including nozzles, air hoses, environmental conditions).

Two air heaters and two blowers used to dry impregnated Eternit piping. Two wide slot nozzles ensure the air is evenly distributed.



Air heater

LHS 91 BASIC



Heating power not adjustable

Air heater

LHS 91 SYSTEM

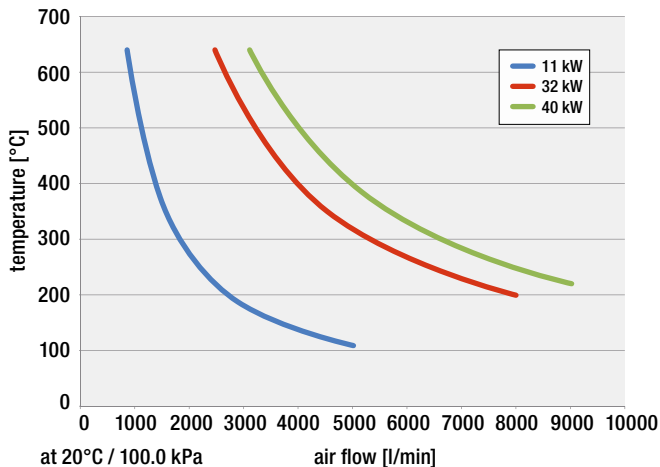


Heating power or temperature steplessly adjustable with potentiometer or remote control interface

Protection against heating element and device overheating with alarm output

Remote control interface for external temperature controllers (Leister CSS, or PLCs)

Air Heaters
Controllers



Accessories

43