

– weishaupt –

# product

Information on compact burners



Digital combustion technology

**Weishaupt oil burners, WL10 to WL40 (30 – 570 kW)**

# Hot for quality

Technological progress is our motivation. It has been driving us for more than 60 years to set new standards for the combustion industry.

Weishaupt's own Research and Development Centre is constantly working both on new developments and on the optimisation of existing products.

It is our goal and our responsibility to go above and beyond current legislative requirements in developing combustion systems which produce ever lower emissions, save ever more energy, and in so doing combine ecology and economy in a practical manner.

Therefore, not only do we invest in research and technology but we also only ever work with the best materials using the latest tools, and we carry out meticulous quality control checks.

It has been proven over a million times in the field that heating specialists and customers hold Weishaupt burners to be reliable, long-lasting, environmentally friendly, and technologically advanced; a fact also borne out by our numerous prizes for design and innovation.

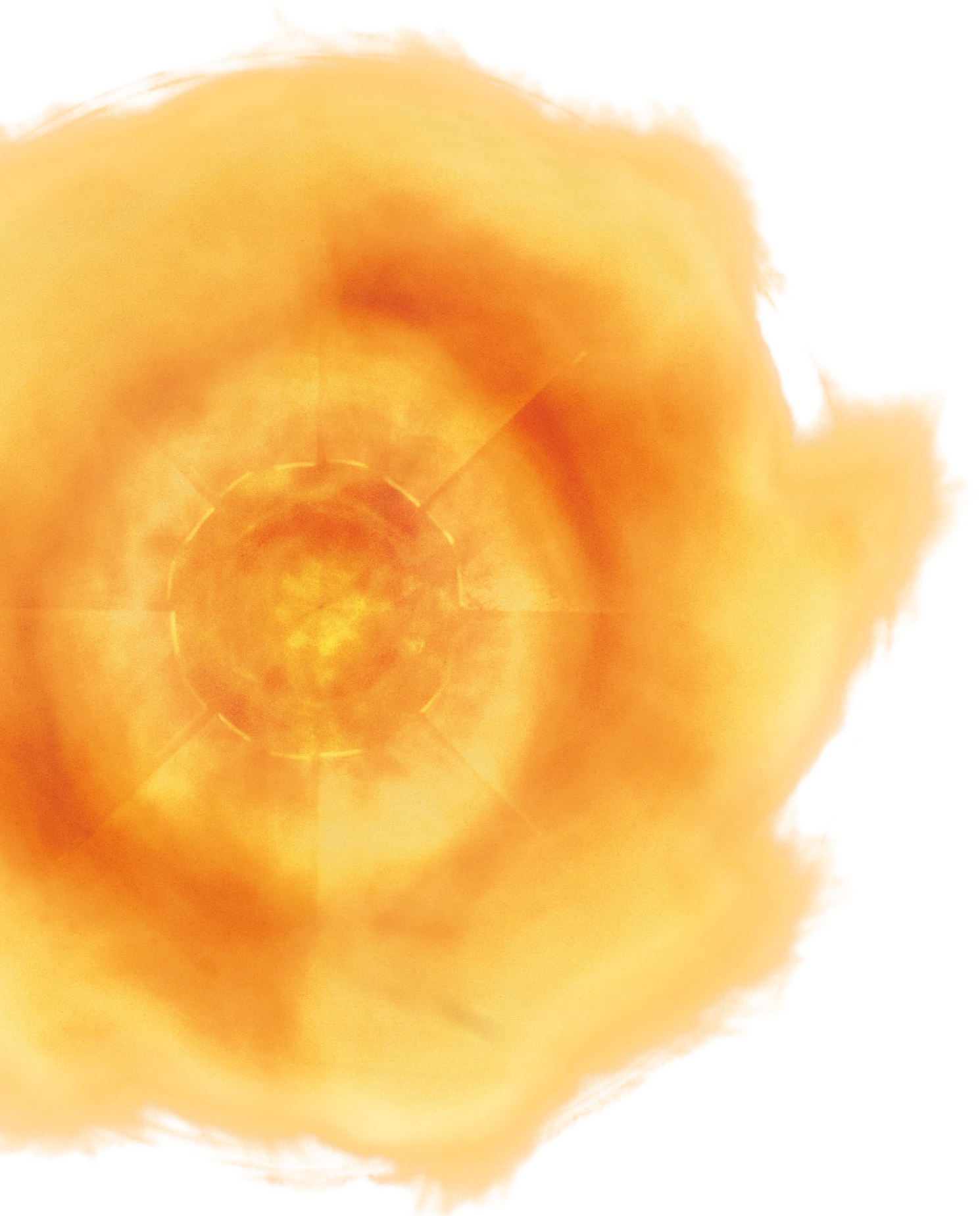
Every day, more than 600 burners are manufactured at our ultra-modern production facilities in Schwendi in southern Germany. Every single burner undergoes a mechanical and electrical function test. The combination of technology with an effective quality-control system safeguards Weishaupt's renowned reputation for quality.

A new burner is always an investment in the future. Costs need to be well-balanced against use, but the final deciding factors for long-term success are quality, technology and safety. Deciding on a Weishaupt burner is a safe investment in the future.



*The very latest research and production methods and rigorous quality control ensure the quality for which Weishaupt is renowned*

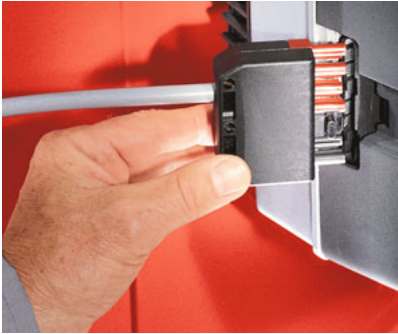




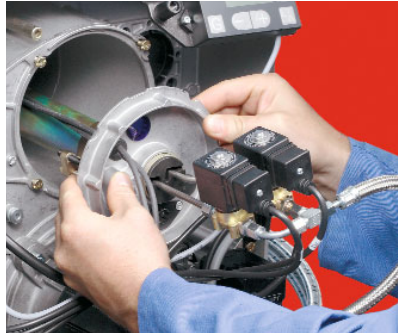




## A hallmark of practical combustion technology



*Coded plugs for safe electrical connection*



*All components are easily accessible*



*Simple commissioning and diagnosis*

### **A safe investment in the future**

Reliable and economical: The million-fold success of Weishaupt's compact burners is the result of an unrelenting orientation towards quality and customer satisfaction. The technology has been constantly developed and improved over decades.

The latest production methods and stringent quality checks of all products ensure Weishaupt's reputation for quality. In choosing Weishaupt you are making a safe investment in the future.

### **Large capacity range**

The large capacity range of 30 to 550 kW makes the burners suitable for a wide range of heat exchangers.

### **Electronic ignition**

The W-ZG 01 ignition unit used on all Weishaupt W-series burners is very energy efficient and extremely reliable.

### **Digital combustion management for reliability and ease of use**

Weishaupt is a pioneer in this field. Digital combustion management offers greater ease of use and simple servicing, even greater reliability in operation, and, last but not least, an extremely attractive price/capacity ratio. Furthermore, this intelligent technology enables the burner to be integrated with complex building management systems.

### **Outstanding service**

Weishaupt has an extensive worldwide sales and service network. Customer service is available around the clock. Optimal in-house training by Weishaupt ensures our service technicians are of the highest calibre.

### **Service case**

The Weishaupt servicing case for burner sizes up to WL20 combines the sensible storage of spare parts with optimal service readiness. All the parts needed for repairs and service work are clearly arranged in this handy and robust plastic case.

### **Proven quality**

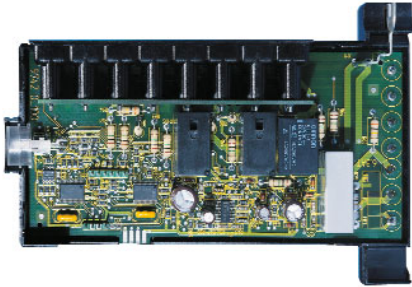
All burners are tested by an independent body and conform to the following standards and EU directives:

- EN 267
- Machinery Directive 98/37/EC
- Electromagnetic Compatibility Directive 89/336/EEC
- Low Voltage Directive 73/23/EEC
- Boiler Efficiency Directive 92/42/EEC

LN version burners also comply with:

- Germany's *Bundesimmissions-Schutzverordnung* (Federal Immission Control Act - 1.BImSchV)
- Switzerland's *Luftreinhalte-Verordnung* (Clean Air Act - LRV)

# Digital combustion management: reliable and easy to use



All Weishaupt W series burners are fitted as standard with digital combustion managers, whose microprocessors control and monitor all burner functions. Consequently, Weishaupt burners are easy to use, precise, and reliable.

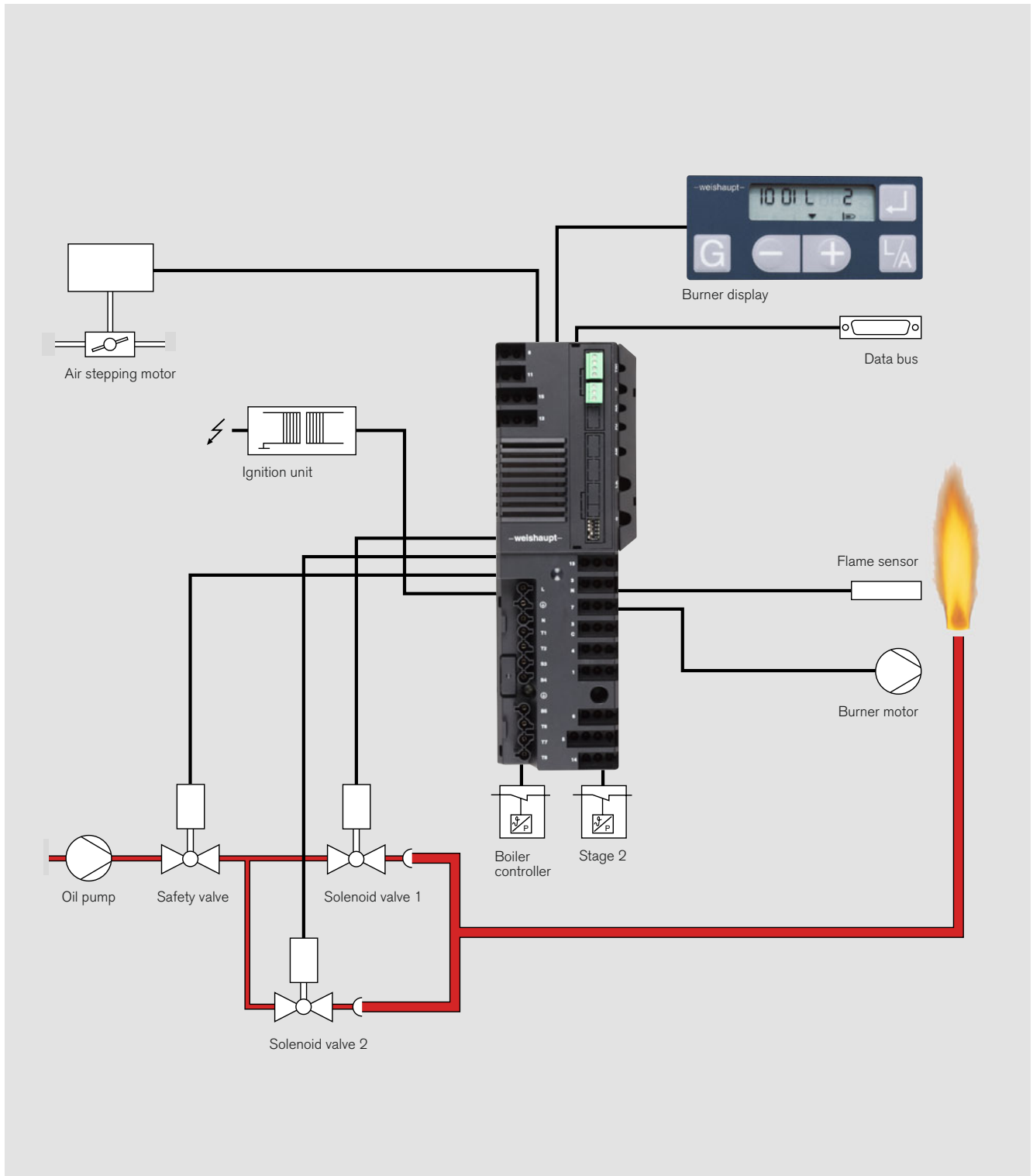
The digital combustion managers also offer the possibility of communicating with other systems via an integrated eBUS port. This enables a heating engineer to monitor the operation of the burner and remotely diagnose any errors.

## The key points:

- The utilisation of identical units for gas and oil-fired burners simplifies commissioning and reduces the number of spares required.
- Non-interchangeable plugged connections ensure the correct electrical connection of all components
- Electrical remote reset is possible
- Safety is ensured through the use of two microprocessors (reciprocal monitoring)
- Vari-coloured LED lamp to indicate burner operational stage and fault conditions (WL 10 and WL 20)
- LCD display with interrogation, servicing, and parameterisation functions. The burner can be set directly via the operating keys (WL 30 and WL 40)
- Suitable for continuous operation of hot water plant (controlled shutdown and restart every 24 hours)
- Suitable for air heaters and Group II and III steam boilers
- The integrated eBUS interface offers the following functions:
  - Connection to a PC for display of the operational sequence and the setting of functional parameters
  - Remote monitoring and diagnosis via a self-dialling modem
  - Connection to modern building management systems
  - Prepurge time can be set from a PC via the eBUS interface

Digital combustion management General system overview	W-FM 05	W-FM 10	W-FM 25	W-FM 25 PO
Controller for intermittent operation	●	●	●	●
Controller for continuous operation				●
Flame sensor for intermittent operation	ORB	ORB	ORB	ORB
Flame sensor for continuous operation				ORB
Servomotor with stepping motor		●	●	●
Single-fuel operation	●	●	●	●
Removable operating unit (max. distance)			3 m	3 m
Fuel consumption meter			● <sup>1)</sup>	● <sup>1)</sup>
eBUS interface	eBUS	eBUS	Modbus/Profibus	Modbus/Profibus
Available on burner models	WL 10-D WL 20-C single-stage	WL 10-D WL 20-C two-stage	WL 30-C WL 40 two-stage	WL 30-C WL 40 two-stage

<sup>1)</sup> in conjunction with VZ04 oil meter with pulsed output



Example of digital combustion management on WL40

# Trustworthy technology

Even with its cover removed, the burner is visually impressive. All its components are clearly arranged, and the electrical connections are obvious and non-interchangeable. The technology makes a good impression because it is typical Weishaupt.

## Compact construction

The WL burners' compact construction means they can be easily installed by one person. Installation costs have been reduced to a minimum.

## Weishaupt nozzle-shut-off system

All Low NO<sub>x</sub> burners are equipped with the Weishaupt nozzle-shut-off system. This ensures a tight oil shut off at the nozzle assembly, preventing any drips after the burner has been switched off.

## Low NO<sub>x</sub> version

There are Low NO<sub>x</sub> versions available for all WL burners. A specially designed mixing head produces an intensive internal flue-gas recirculation, resulting in exemplary emission levels.

## Sound attenuated air inlet

The transverse fan has a sound attenuated air inlet. These burners therefore operate particularly quietly.

## Electronically controlled air damper

The electronically controlled air damper closes at burner shutdown to hinder the cooling-down of the combustion chamber.

## Servicing position

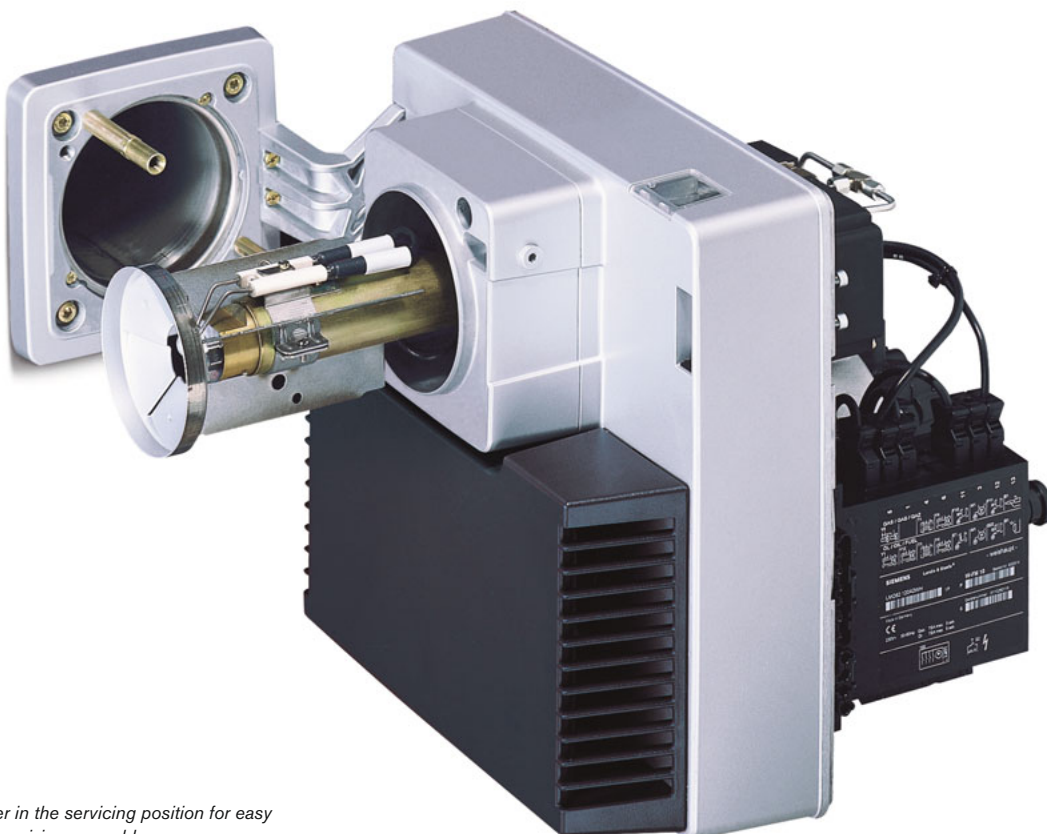
A special bracket enables the burner to be put into a servicing position, which allows easy access to the burner and mixing assembly.

## Common platform

The common platform principle used with W-series burners simplifies the provision and storage of spare parts.

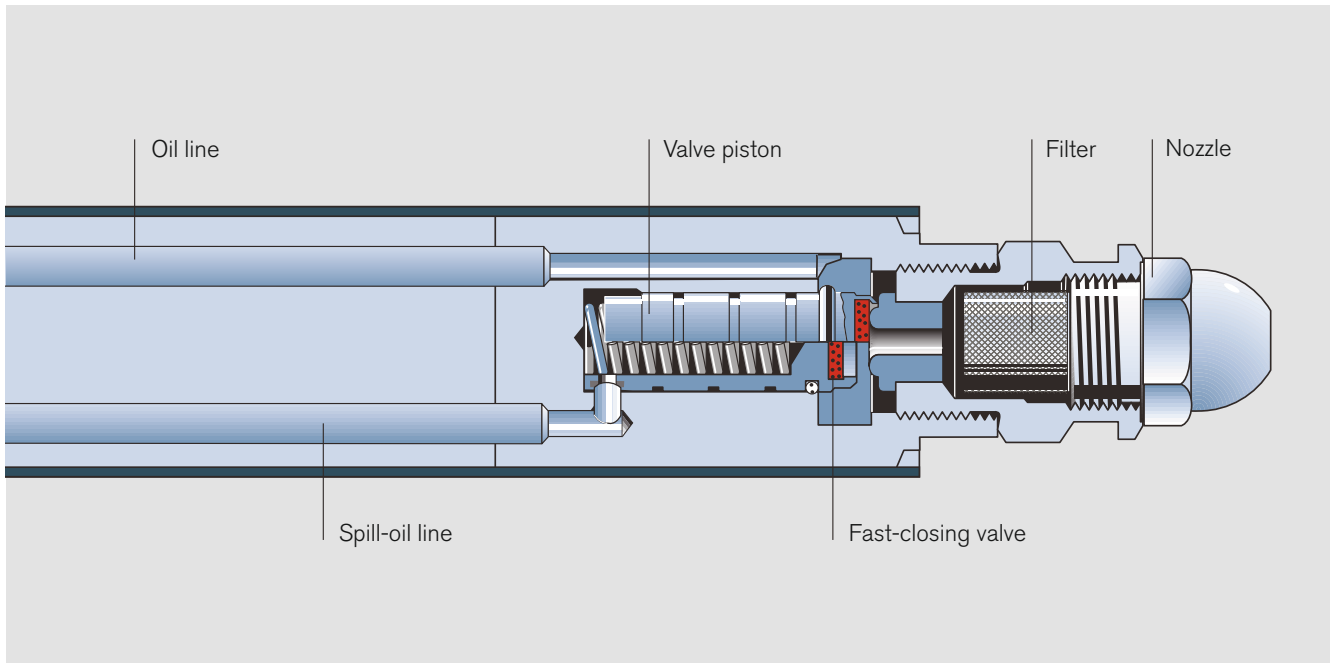
## Diagnosis via laptop

A special software package and connection cables are available for interrogating the combustion manager. Combustion optimisation and fault analysis can thus be carried out easily via a laptop computer.

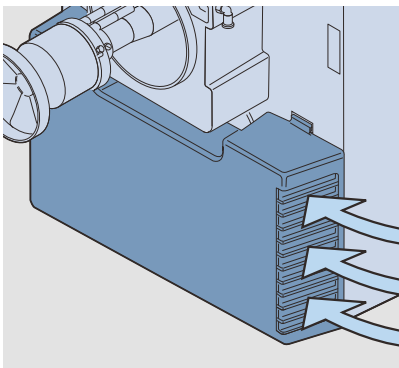


*WL20 burner in the servicing position for easy access to the mixing assembly*

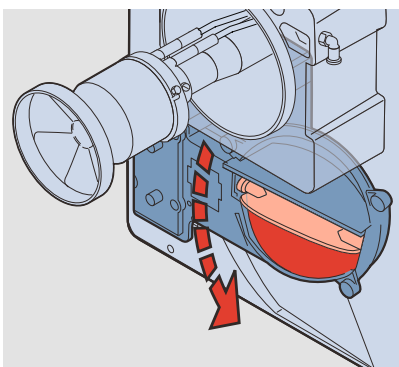




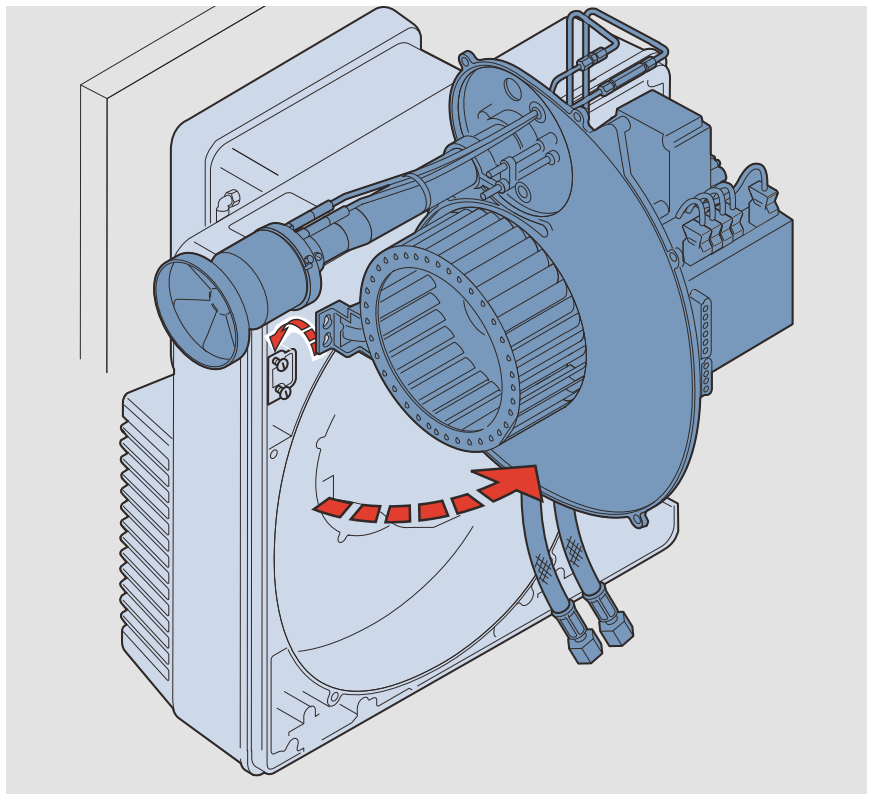
Weishaupt nozzle-shut-off system



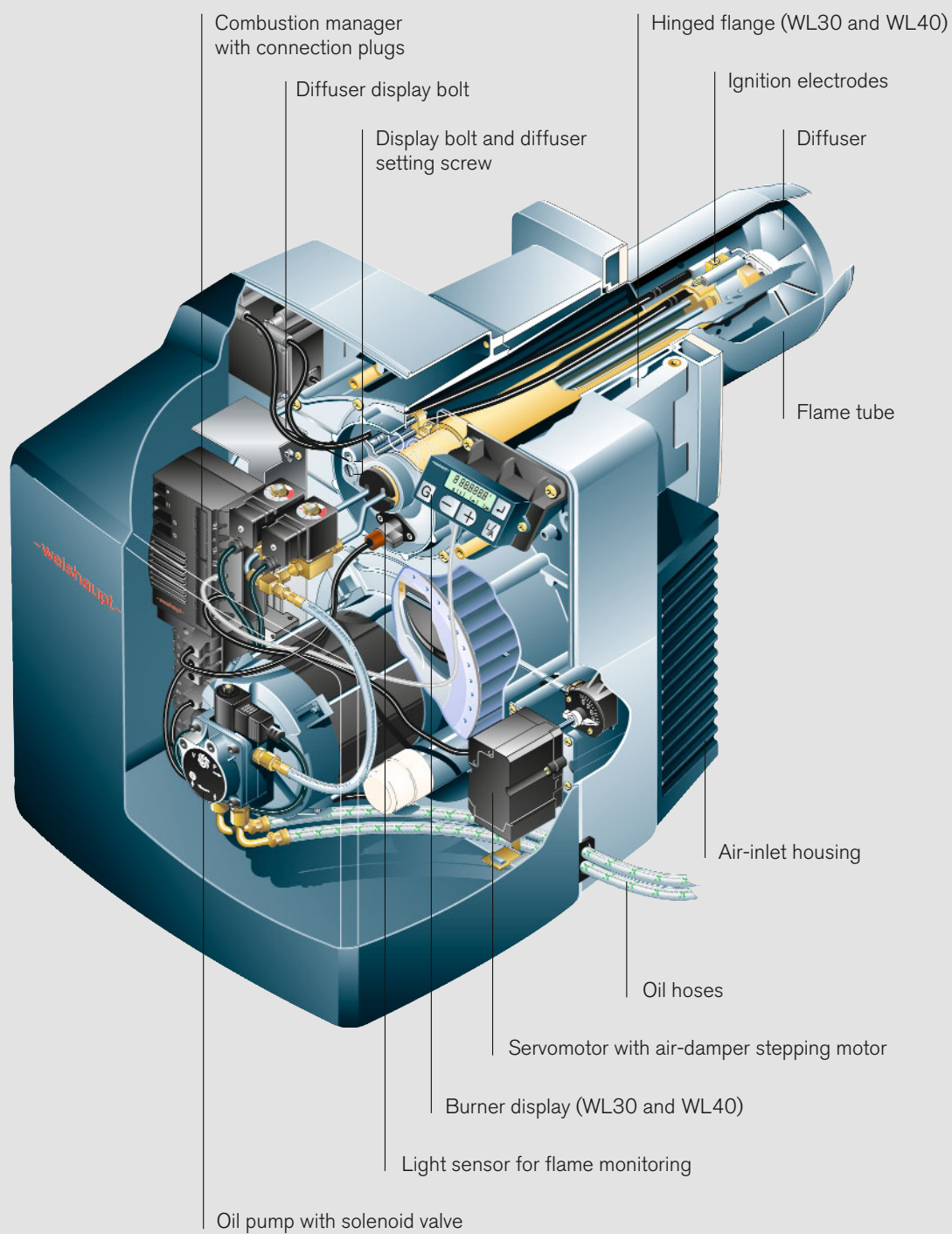
Sound-absorbing air inlet housing



Electronically controlled air damper



Housing with components in the servicing position: easy access to the fan wheel



## Model overview

Burner type	Version	Mode of operation	Rating	Power consumpt.	Weight	Order No.
<b>Standard</b>						
WL10/2-D		Single-stage	35 – 70 kW	0.13 kW	14.0 kg	241 111 22
WL10/2-D		Single-stage with servomotor	35 – 70 kW	0.13 kW	14.0 kg	241 111 20
WL10/2-D	Z	Two-stage with servomotor	35 – 70 kW	0.13 kW	14.0 kg	241 111 23
WL10/3-D		Single-stage	50 – 90 kW	0.13 kW	14.0 kg	241 110 31
WL10/3-D		Single-stage with servomotor	50 – 90 kW	0.13 kW	14.0 kg	241 110 30
WL10/3-D	Z	Two-stage with servomotor	50 – 100 kW	0.13 kW	14.0 kg	241 110 32
WL20/1-C		Single-stage	50 – 120 kW	0.25 kW	20.0 kg	241 210 21
WL20/1-C		Single-stage with servomotor	50 – 120 kW	0.25 kW	20.0 kg	241 210 11
WL20/1-C	Z	Two-stage with servomotor	50 – 120 kW	0.25 kW	20.5 kg	241 213 21
WL20/2-C		Single-stage	70 – 180 kW	0.25 kW	20.0 kg	241 210 22
WL20/2-C		Single-stage with servomotor	70 – 180 kW	0.25 kW	20.0 kg	241 210 12
WL20/2-C	Z	Two-stage with servomotor	70 – 200 kW	0.25 kW	20.5 kg	241 213 22
WL30-C	Z	Two-stage	72 – 330 kW	0.42 kW	28.0 kg	241 313 21
WL40-A	Z	Two-stage	145 – 570 kW	0.62 kW	37.0 kg	241 403 21
<b>Low NO<sub>x</sub></b>						
WL10/1-D 1LN	1LN	Single-stage	30 – 55 kW	0.13 kW	14.0 kg	241 110 15
WL10/2-D 1LN	1LN	Single-stage	50 – 75 kW	0.13 kW	14.0 kg	241 110 25
WL20/1-C 1LN	Z-1LN	Two-stage	55 – 130 kW	0.25 kW	20.5 kg	241 213 25
WL30Z-C 4LN	4LN	Two-stage	72 – 215 kW	0.42 kW	28.0 kg	241 313 26
WL40Z-A 1LN	1LN	Two-stage	120 – 355 kW	0.62 kW	37.0 kg	241 403 25

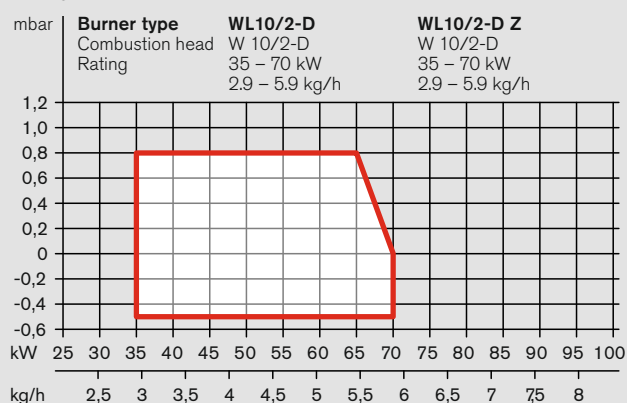
See price list for special equipment



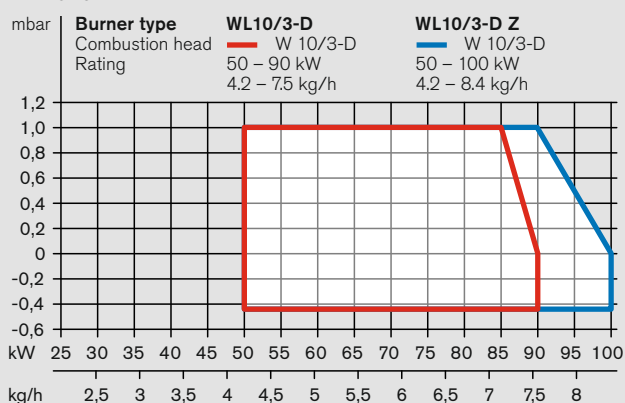
# Burner selection

## WL10 to WL40, standard version

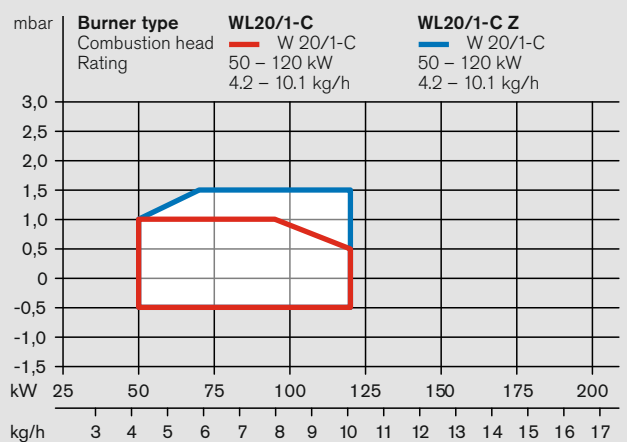
### WL10/2-D



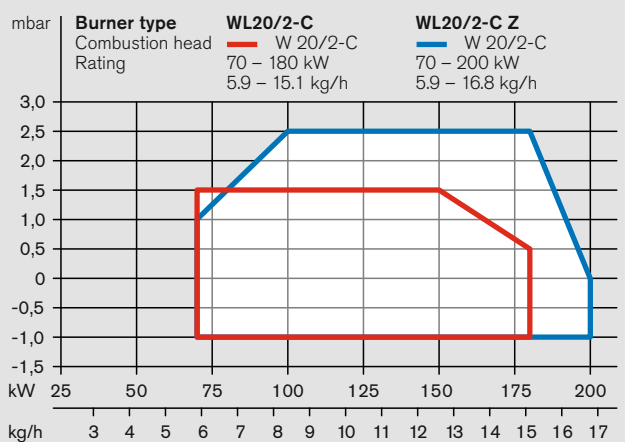
### WL10/3-D



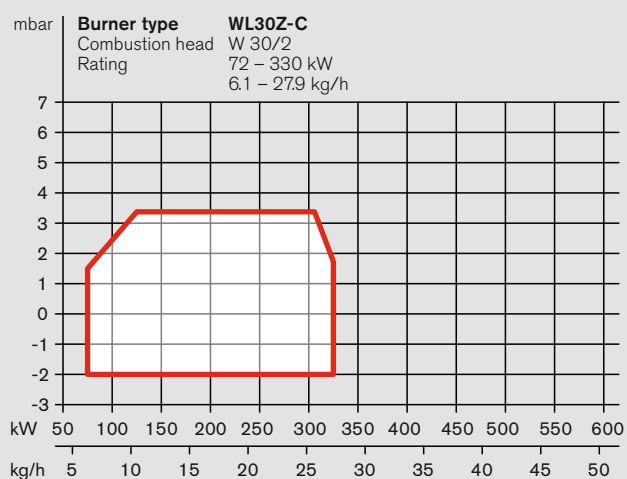
### WL20/1-C



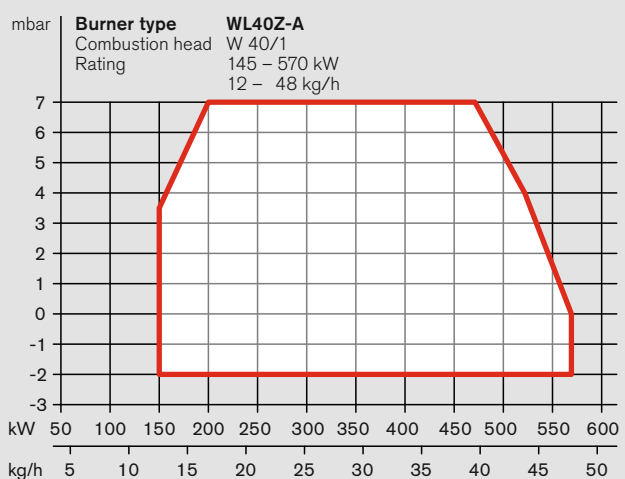
### WL20/2-C



### WL30Z-C



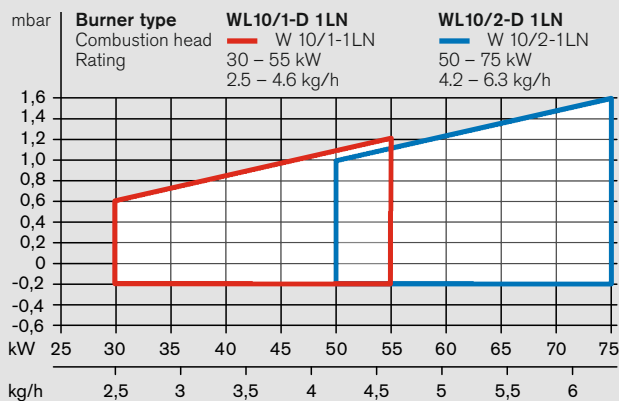
### WL40Z-A



# Burner selection

## WL10 to WL40, Low NO<sub>x</sub> version

### WL10/...-D 1LN

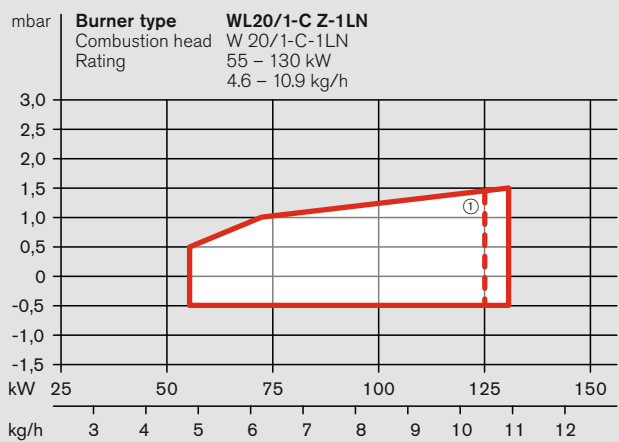


Capacity graphs are certified in accordance with EN 267.

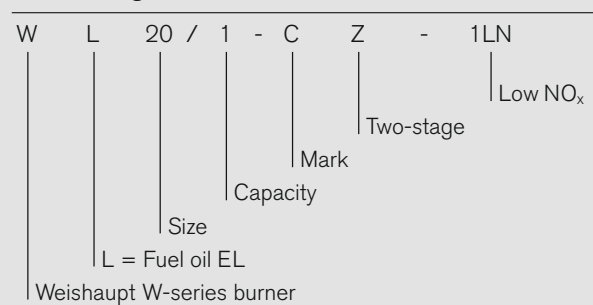
Stated ratings are based on an air temperature of 20°C and an installation of 500 m above sea level.

Stated oil throughputs are based on a calorific value of 11.91 kWh/kg for fuel oil EL.

### WL20/1-C Z-1LN

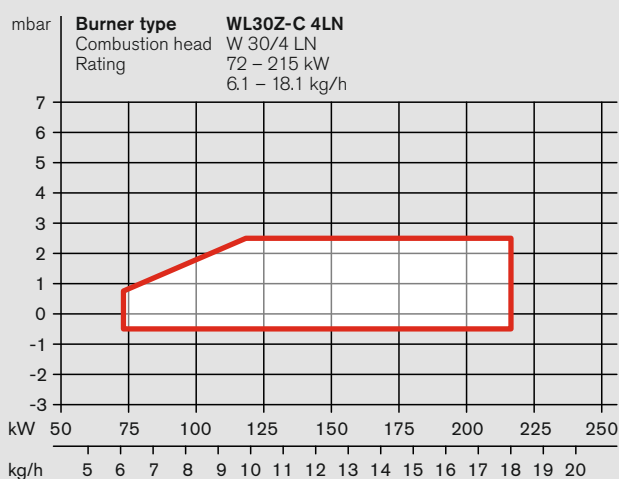


### Model designation

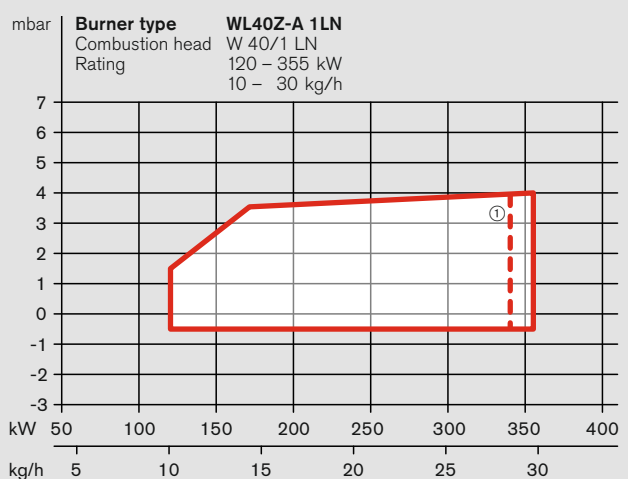


① Limitation for Switzerland:  
For use with three-pass heat exchangers only.

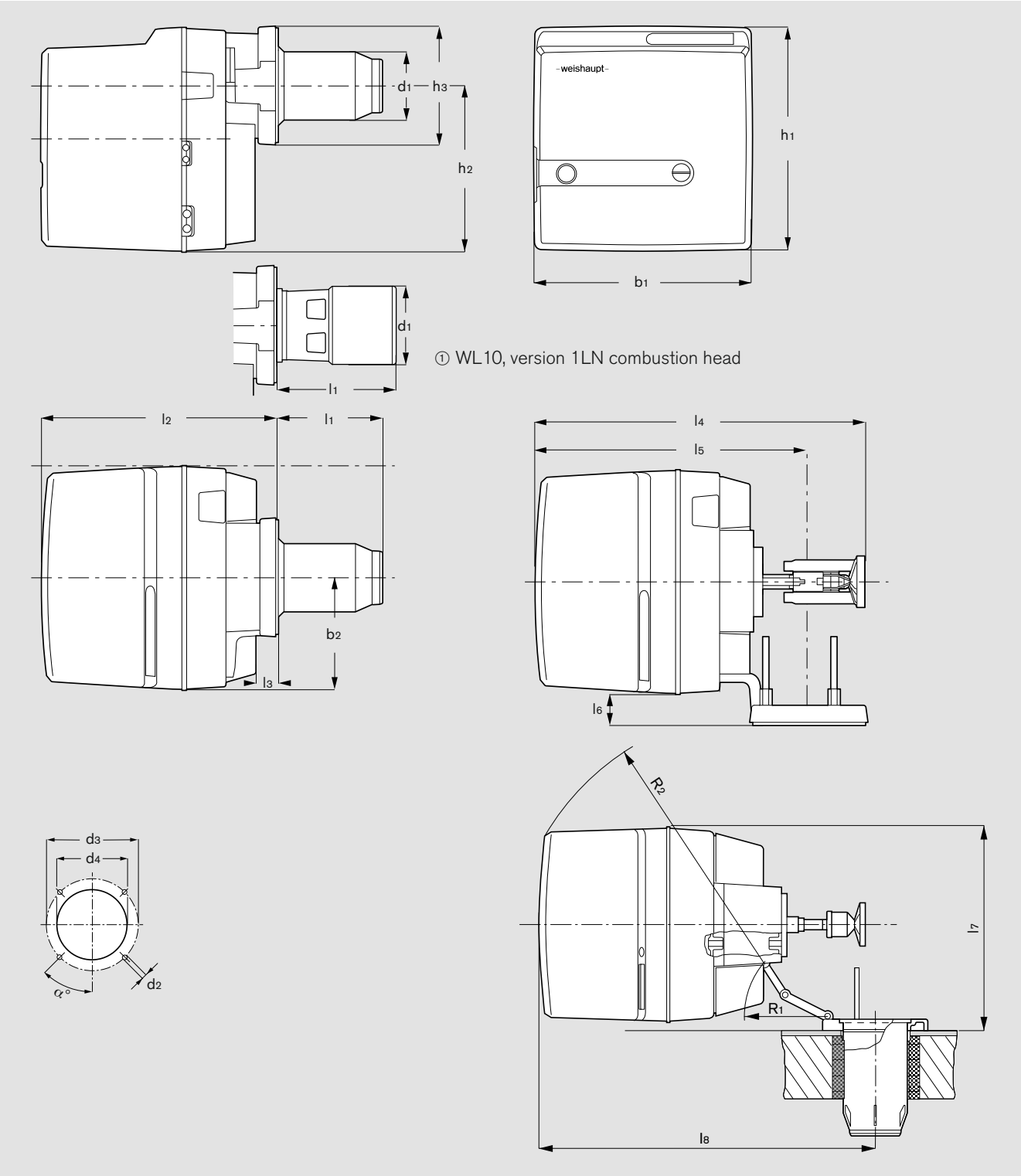
### WL30Z-C 4LN



### WL40Z-A 1LN



# Dimensions





## Burner dimensions

Burner type	Dimensions in mm																								
	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	l <sub>5</sub>	l <sub>6</sub>	l <sub>7</sub>	l <sub>8</sub>	b <sub>1</sub>	b <sub>2</sub>	b <sub>3</sub>	h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>	h <sub>4</sub>	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>		d <sub>4</sub>	d <sub>5</sub>	d <sub>6</sub>	R <sub>1</sub>	R <sub>2</sub>	α°
Standard																									
WL10/2-D	137	344	32	476	398	51	–	–	330	165	–	353	270	165	–	99	M8	150 – 170	110	–	–	–	–	–	–
WL10/3-D	140	344	32	476	398	51	–	–	330	165	–	353	270	165	–	108	M8	150 – 170	110	–	–	–	–	–	–
WL20/1-C	140	393	32	525	434	73	–	–	358	179	–	376	285	182	183	108	M8	170		130	123	150	–	–	–
WL20/2-C	174	393	32	558	434	73	–	–	358	179	–	376	285	182	183	120	M8	170		130	123	150	–	–	–
WL30Z-C	172	480	62	640	600	62	460	600	420	226	100	460	342	–	–	127	M8	170 – 186	130	–	–	158	490	45	
WL40Z-A	242	577	72	801,5	615	72	480	615	450	245	108	480	360	–	–	151	M10	186 – 200	160	–	–	185	570	45	
Low NO <sub>x</sub>																									
WL10/1-D 1LN	①	344	31,5	476	398	51	–	–	330	165	–	353	270	165	–	100	M8	150 – 170	110	–	–	–	–	–	–
WL10/2-D 1LN	②	344	31,5	476	398	51	–	–	330	165	–	353	270	165	–	108	M8	150 – 170	110	–	–	–	–	–	–
	① 232 - 252    ② 232 - 257																								
WL20/1-C 1LN	141	393	32	532	434	73	–	–	358	179	–	376	285	182	183	108	M8	170		130	123	150	–	–	–
WL30Z-C 4LN	170	480	62	639	600	62	460	600	420	226	100	460	342	–	–	127	M8	170 – 186	130	–	–	158	490	45	
WL40Z-A 1LN	238	577	72	795	615	72	480	615	450	245	108	480	360	–	–	151	M10	186 – 200	160	–	–	185	570	45	

# – weishaupt –

Max Weishaupt GmbH  
88475 Schwendi  
Tel +49 7353 830  
Fax +49 7353 83358  
[www.weishaupt.de](http://www.weishaupt.de)

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Neachells Lane, Willenhall, WV13 3RG  
Tel (01902) 609841  
Fax (01902) 633343

## We're right where you need us

### **The security of a comprehensive service network**

Weishaupt equipment is available from good HVAC specialists, with whom Weishaupt works in close partnership. To support the specialists, Weishaupt maintains a large sales and service network, ensuring equipment, spares and service are always available.

Weishaupt are there when you need them. The service department is available to Weishaupt customers around the clock, 365 days a year. A Weishaupt office near you is standing by to answer all your heating questions.

