

Weishaupt WL 10 and WL20 oil burners

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New W series capacity range

The Weishaupt WL10 and WL20 oil burners join the WL5, WL30 and WL40 to complete the line-up of products successfully introduced over the course of the last few years.

As with all new W series Weishaupt burners, the WL10 and WL20 burners also use the latest microprocessor technology for the control and monitoring of all burner functions. As a result not only do they offer improved precision and ease of use, but they also represent fantastic value for money.

Economical

The best technology, functional design and proven quality have always been the hallmarks of Weishaupt products. With the WL10 and WL20 oil burners, we are introducing new burners that continue this tradition in an exemplary fashion. They fulfil the demand for economical and environmentally friendly operation combined with a low purchase cost.

Fully automatic operation

The burners function fully automatically. They reliably cater for multifarious heat exchangers for heating and hot water.

Compact construction

All of the new burner type's components are brought together into a compact space.

The fuel and air regulating components are clearly laid out and easily accessible. The mixing head can be accessed from behind and completely removed. The burner can be hung on the right hand side of the casing during servicing. This enables easy access to the fan in particular. An easily removable cover protects all the components and electrics.

Noteworthy points: the radial fan, the sound absorbing air inlet housing, the air damper for suction side air regulation (servomotor optional on single stage burners) and the microprocessor controlled combustion manager. The W-ZG 01 electronic ignition unit, which has replaced the ignition transformer on all W series Weishaupt burners, provides reliable ignition.

Error-free plug connection

Coded plug connections ensure the correct electrical connection of all components.

Applications

Standard version WL10 and WL20 burners are suitable for a very wide range of heat exchangers and without alteration they are also suitable, for example, for air heaters.

Operational safety and reliability.

Proven technology makes the new oil burners safe and reliable. The individual components as well as the completed product are comprehensively tested, guaranteeing safe operation for many years.

Fuel

The burners fire light oil #2 in accordance with ASTM D396.

Test procedures

The WL10 and WL20 oil burners comply with European and North American applicable standards, including:

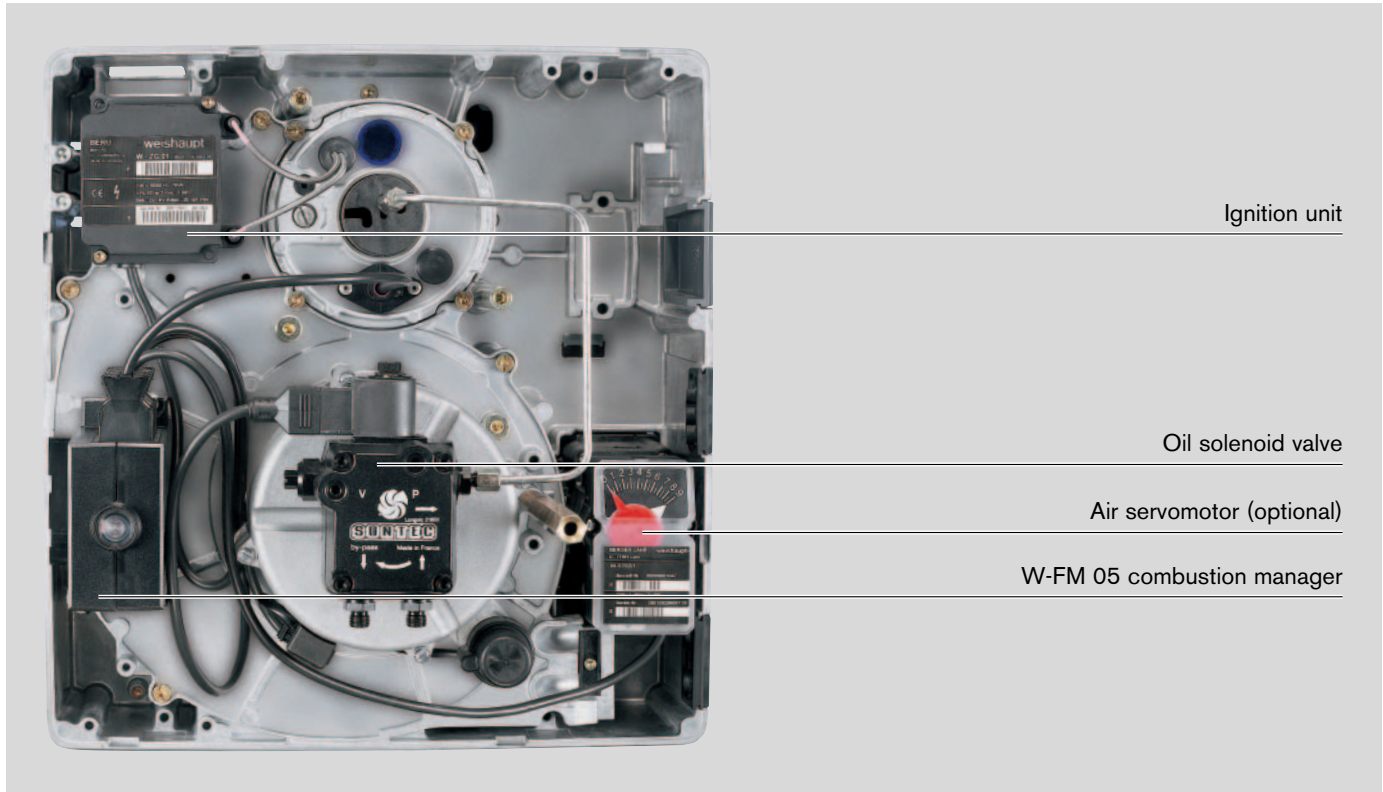
- UL std 296-1995
- CAN/CSA std B140.2.1-M90
- CAN/CSA std B140.0-M87
- CAN/CSA std C22.2 No.3-1988

In standard version the burners are only suitable for indoor operation.



Single stage operation with W-FM 05 combustion manager

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Single stage operation with servomotor

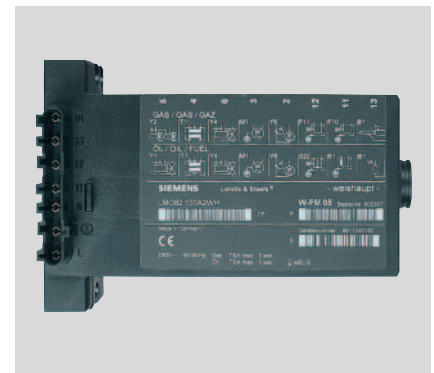
W-FM 05 combustion manager

The W-FM 05 combustion manager independently monitors and controls all of the burner's functions.

Digital combustion management makes communication with other systems possible. The Bus connection allows the engineer to monitor the sequence of operations and diagnose any fault conditions.

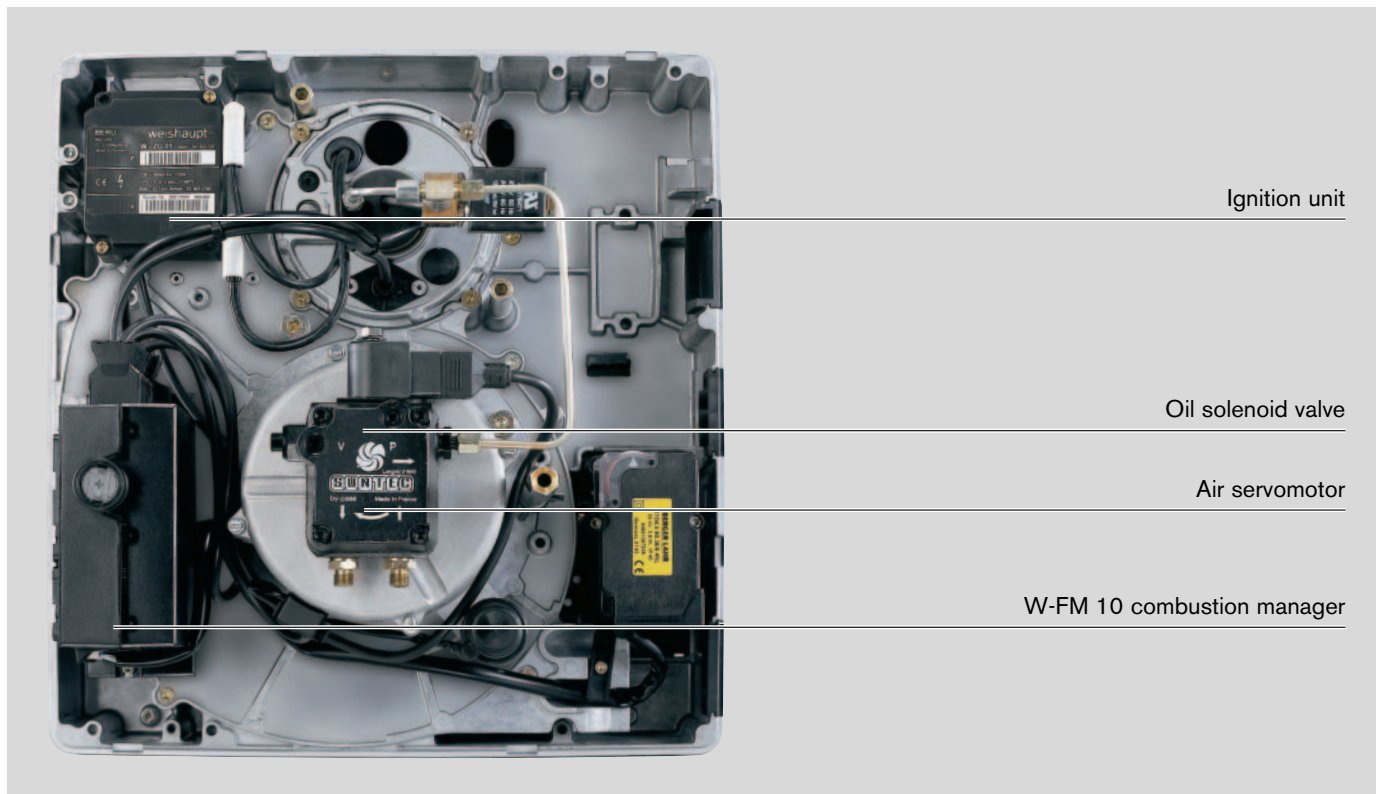
The main details:

- Microprocessor controlled combustion manager for single stage operation
- Identical for both oil and gas burners
- Oil burner with photocell
- 7 pole connection plug integrated into burner housing
- Electrical remote reset
- Bus connection
- Prepurge time can be set by computer via the Bus
- Safety via two microprocessors (reciprocal monitoring)
- Multi color LED annunciation to indicate operational stage and fault conditions
- Suitable for hot water plant, including continuous operation (After 24 h operation a necessary short shutdown takes place automatically)
- Suitable for hot air heaters and steam boilers



W-FM 05 combustion manager

Two stage operation with W-FM 10 combustion manager



Two stage operation via the pump (WL20/1) or second nozzle (WL20/2)

W-FM 10 combustion manager

The W-FM 10 combustion manager independently monitors and controls all of the burner's functions.

Digital combustion management makes communication with other systems possible. The Bus connection allows the engineer to monitor the sequence of operations and diagnose any fault conditions.

The main details:

- Microprocessor controlled combustion manager for two stage operation
- Identical for both oil and gas burners
- Oil burner with photocell
- 7 + 4 pole connection plug integrated into burner housing
- Electrical remote reset
- Bus connection
- Prepurge time can be set by computer via the Bus
- Safety via two microprocessors (reciprocal monitoring)
- Multi color LED annunciation to indicate operational stage and fault conditions
- Suitable for hot water plant, including continuous operation (After 24 h operation a necessary short shutdown takes place automatically)
- Suitable for air heaters and steam boilers



W-FM 10 combustion manager

Installation, setting and service: Easier, quicker and more precise than ever before

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Time is money

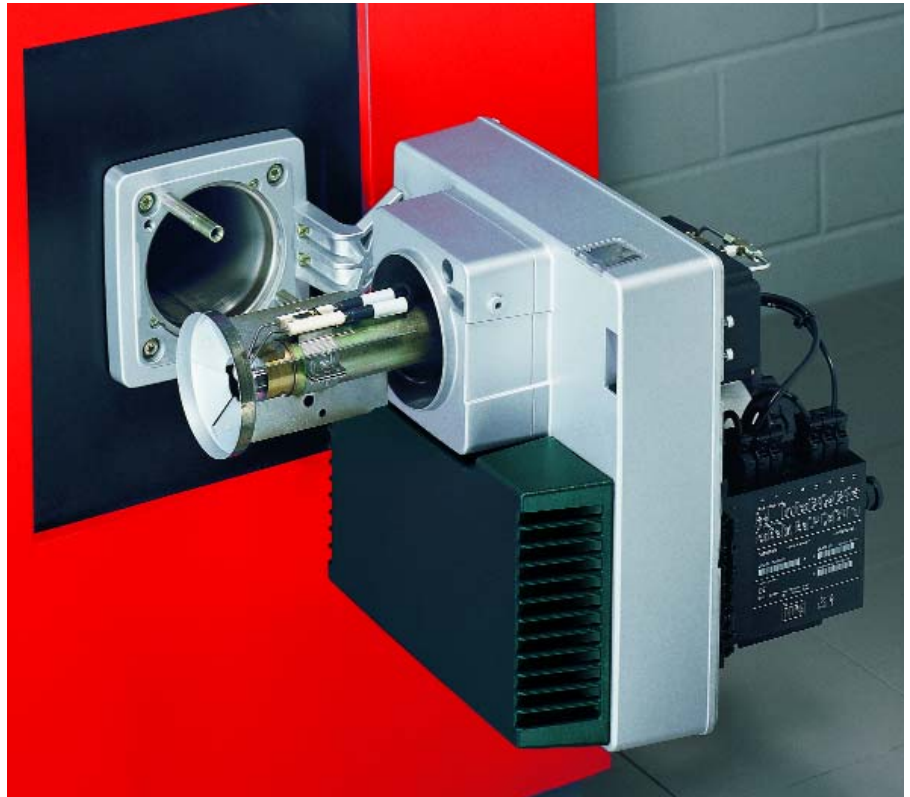
Weishaupt burners of this rating are also easy to install. It is possible for one person to mount the burner on the boiler.

Optimum accessibility

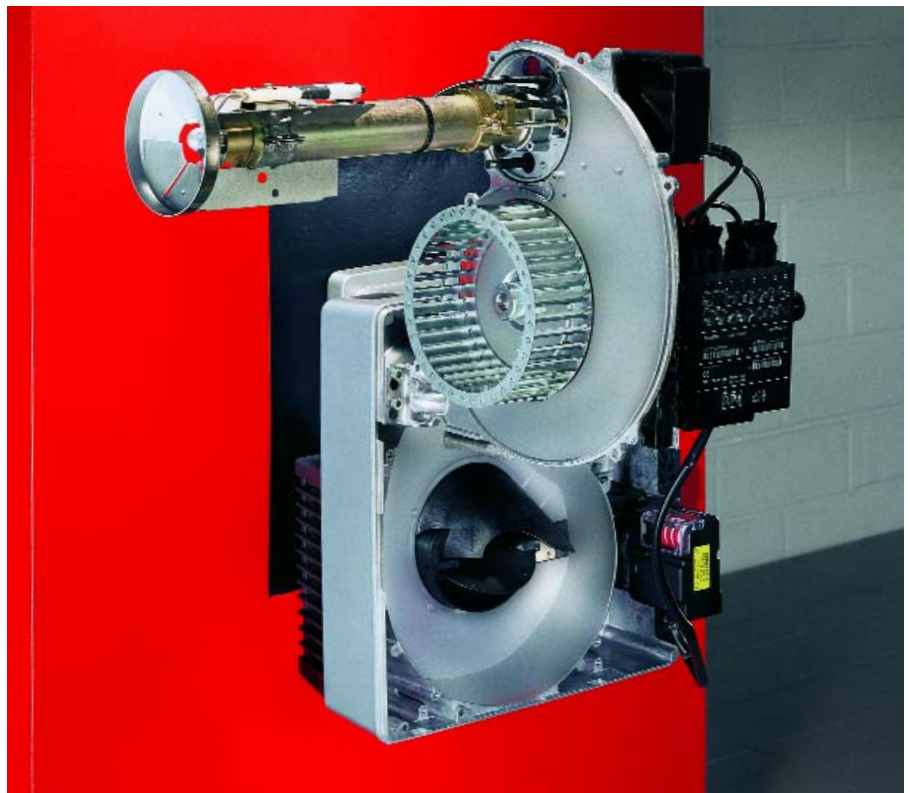
Optimum accessibility becomes apparent the moment the cover is removed. All the components are clearly laid out, electrical connection is unmistakable. The components are also easily accessible for servicing. This state of the art technology is typical of Weishaupt products.

The burner can be easily hinged open to carry out service work on the mixing head.

The fan housing cover and the components fixed to it can be removed and placed into a service position to allow easy access for servicing the fan. Every service engineer benefits from this accommodating construction.



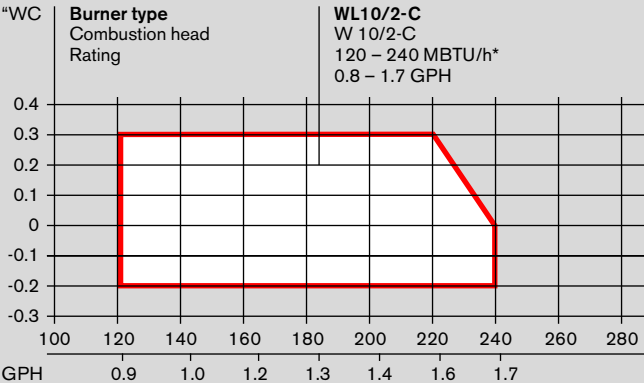
Burner hinged open for easy access to the mixing head



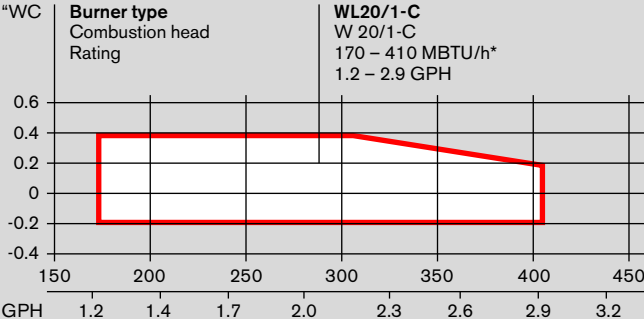
The service position allows good access to the fan

Technical Data

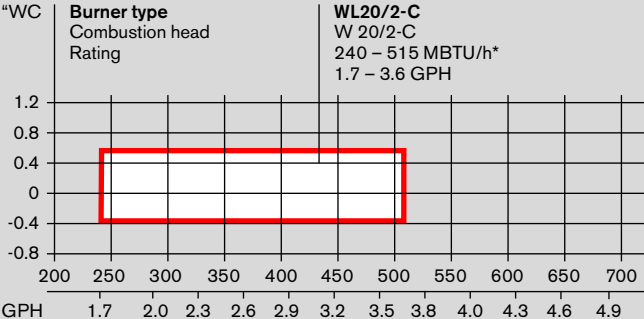
Capacity graph: WL10.../2-C single and two stage



Capacity graph: WL20.../1-C, single stage



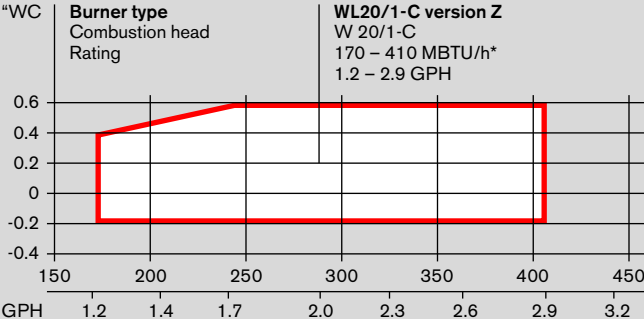
Capacity graph: WL20.../2-C, single stage



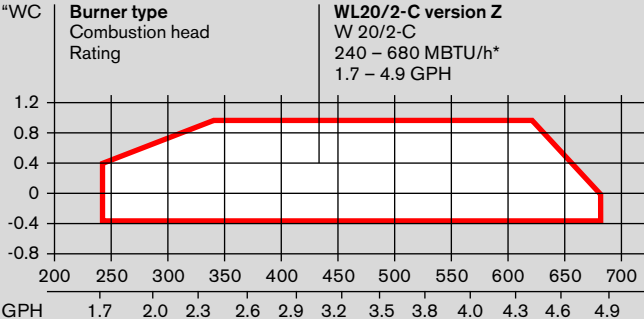
The ratings depending on combustion chamber pressure are limit values, which have been measured on idealized test flame tubes.

All ratings data given relate to 68°F air temperature and an altitude of 1,640 ft. Depending on installation altitude, a ratings reduction of approx. 1% per 328 ft. above sea level must be taken into account. Oil throughput figures are based on light oil #2 with a calorific value of 140,000 BTU/gallon.

Capacity graph: WL20.../1-C version Z, two stage



Capacity graph: WL20.../2-C version Z, two stage



Explanation of designation

W	L	20	/	1	-	C	version Z
							Two stage
							Index
							Capacity range
							Size
							L = #2 light oil
							Weishaupt W series burner

Model Overview

Burner type	Mode of operation	Order number	Rating MBTU/h*	Oil throughput GPH	Combustion head
Distillate oil burner for light oil up to 6mm ² /s at 68°F in accordance with ASTM D396					
WL10/2-C	Single stage	241 110 22	120 – 240	0.8 – 1.7	W 10/2-C
WL10/2-C	Single stage with servomotor	241 110 20	120 – 240	0.8 – 1.7	W 10/2-C
WL10/2-C version Z	Two stage	241 110 23	120 – 240	0.8 – 1.7	W 10/2-C
WL20/1-C	Single stage	241 210 21	170 – 410	1.2 – 2.9	W 20/1-C
WL20/1-C	Single stage with servomotor	241 210 11	170 – 410	1.2 – 2.9	W 20/1-C
WL20/1-C version Z	Two stage	241 213 21	170 – 410	1.2 – 2.9	W 20/1-C
WL20/2-C	Single stage	241 210 22	240 – 515	1.7 – 3.6	W 20/2-C
WL20/2-C	Single stage with servomotor	241 210 12	240 – 515	1.7 – 3.6	W 20/2-C
WL20/2-C version Z	Two stage	241 213 22	240 – 680	1.7 – 4.9	W 20/2-C

Optional equipment

		WL10/2-C Order number	WL20/1-C Order number	WL20/2-C Order number
Head extension	by 4" (100mm)	on request	240 003 84	240 003 84
Head extension	by 8" (200mm)	on request	240 003 85	240 003 85
Head extension	by 12" (300mm)	on request	240 003 86	240 003 86
Solenoid valve	as additional shut off device	on request	240 003 87	240 003 87
Spacer ring	for ratings < 240 MBTU/h	on request	240 003 72	–

Technical Data

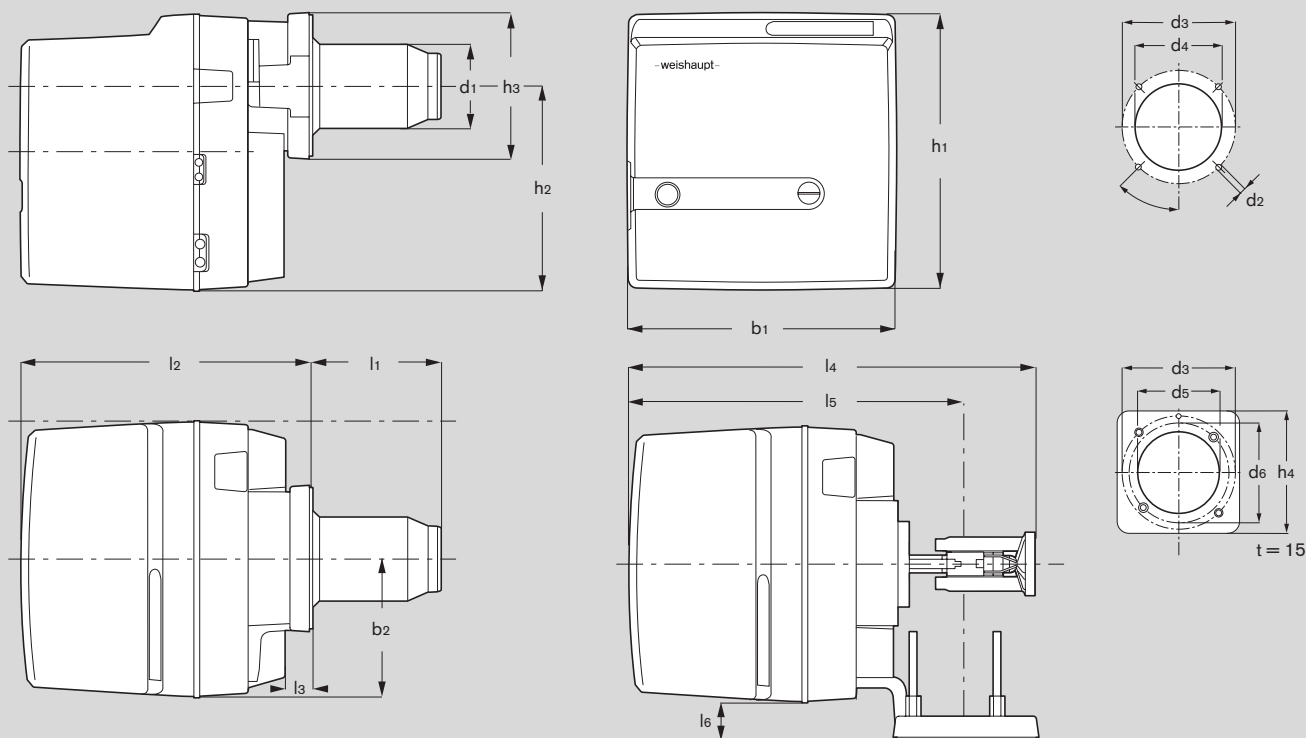
Burner type	Combustion manager	Motor	Stepping motor	Fan	Ignition unit	Oil pump	Oil hoses	Weight lb (approx)	Flame sensor
WL10/2-C	W-FM 05 110 V	ECK 03/F – 2 110 V, 60 Hz 0.13 kW, 0.95 A cap. 4 µF	W-St 02/2 (optional)	146 x 40	W-ZG 01	AL 30 C	DN 4 mm 1200 mm (47") connection G 3/8	32 lbs.	QRB1B photo resistor
WL10/2-C version Z	W-FM 10 110 V	ECK 03/F – 2 110 V, 60 Hz 0.13 kW, 0.95 A cap. 4 µF	W-STD 4.5	146 x 40	W-ZG 01	AT 45 C	DN 4 mm 1200 mm (47") connection G 3/8	32 lbs.	QRB1B photo resistor
WL20/1-C WL20/2-C	W-FM 05 110 V	ECK 04/F – 2 110 V, 60 Hz 0.25 kW, 1.5 A cap. 8 µF	W-St 02/2 (optional)	160 x 60	W-ZG 01	AL 30 C	DN 4 mm 1200 mm (47") connection G 3/8	45 lbs.	QRB1B photo resistor
WL20/1-C version Z WL20/2-C version Z	W-FM 10 110 V	ECK 04/F – 2 110 V, 60 Hz 0.25 kW, 1.5 A cap. 8 µF	W-STD 4.5	160 x 60	W-ZG 01	AT 45 C AL 30 C	DN 4 mm 1200 mm (47") connection G 3/8	47 lbs.	QRB1B photo resistor

* The burner ratings are based on lower calorific value

Dimensions

Scope of delivery

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Burner type	Dimensions in inches				l5	l6	b1	b2	h1	h2	h3	h4	d1	d2	d3	d4	d5	d6
	l1	l2	l3	l4														
WL10/2-C	5.5	13.6	1.1	18.7	15.7	2.0	13.0	6.5	13.9	10.6	6.5	–	3.9	M8	5.9-6.7	4.3	–	–
WL10/2-C, version Z	5.5	13.6	1.1	18.7	15.7	2.0	13.0	6.5	13.9	10.6	6.5	–	3.9	M8	5.9-6.7	4.3	–	–
WL20/1-C	5.7	15.5	1.2	20.7	17.1	2.9	14.1	7.0	14.8	11.2	7.2	7.2	4.3	M8	6.7	5.1	4.8	5.9
WL20/2-C	6.9	15.5	1.2	22.0	17.1	2.9	14.1	7.0	14.8	11.2	7.2	7.2	4.7	M8	6.7	5.1	4.8	5.9

Scope of delivery

- Burner with sound absorbing inlet housing
- Housing with burner motor, oil pump and fan wheel
- Flange with servicing bracket, fixing screws and gasket
- Single stage version
 - Air regulation housing with air damper setting motor (optional)
- Two stage version
 - Air regulation housing with servo-motor
 - Nozzle assembly with diffuser and ignition electrodes
 - Combustion head
- W-ZG 01 electronic ignition unit with shielded ignition line
- Microprocessor controlled W-FM 05 (single stage) W-FM 10 (two stage) combustion manager with integrated plug console and externally accessible 7 pole Bus connection
- Cover
- Oil hoses
- For further detailed information please refer to the technical documentation provided with the burner

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