–weishaupt–

product

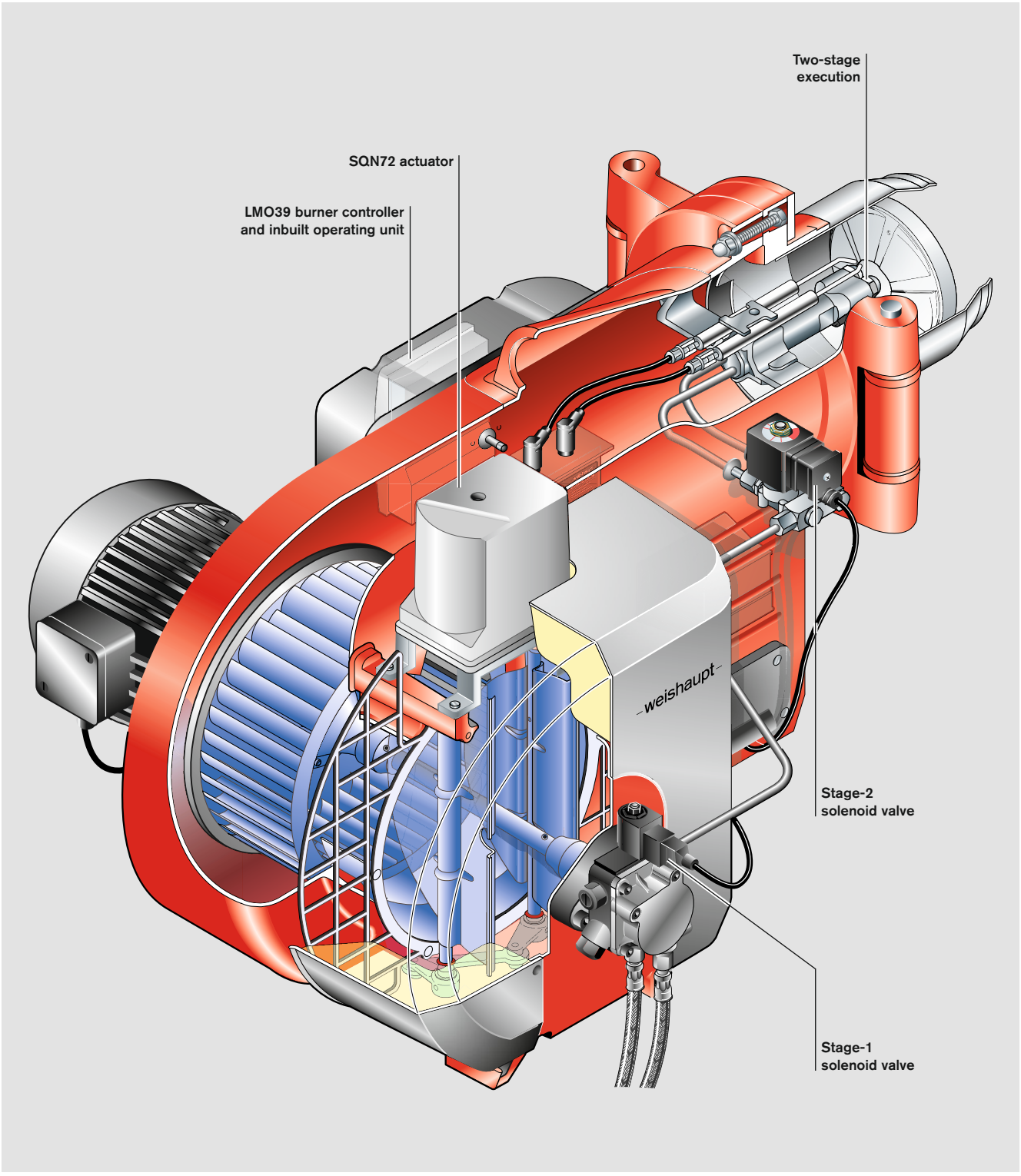
Information on oil burners



The two-stage burner

WM-L10 monarch® burners, version Z (75–600 kW)

WM-L10 two-stage Weishaupt monarch® burner



Description

The Weishaupt WM 10 monarch® burner is available as a two-stage, oil-fired unit, the WM-L10 Z.

The most fundamental difference is the burner's LMO39 controller and SQN72 actuator.

The two-stage version of the WM-L10 burner is only suitable for stand-alone combustion plant that does not have to interface with a communications system.

The burner is notable for its numerous interesting features, among which the following are particularly important:

- LMO39 digital burner controller for intermittent, single-fuel operation
- Undervoltage detection
- Remote control via operating unit
- Display of operating phase and error codes
- Digital signal processing for precise operational timings
- Automatic controlled restart after 24 hours of continuous operation
- BCI interface for operating unit or OCI interface
- QRB flame sensor
- Actuator with synchronous motor
- Capacity control via thermostats or two-position switching
- Removable operating unit with error code display
- Optional fuel meter
- Type tested

Simple operation
The LMO39 digital burner controller reduces burner settings to a minimum and allows site-specific adjustments to be made using the ABE operating and display unit.

The ABE also displays the burner's current operating phase and, in the event of a lockout, the relevant error code.

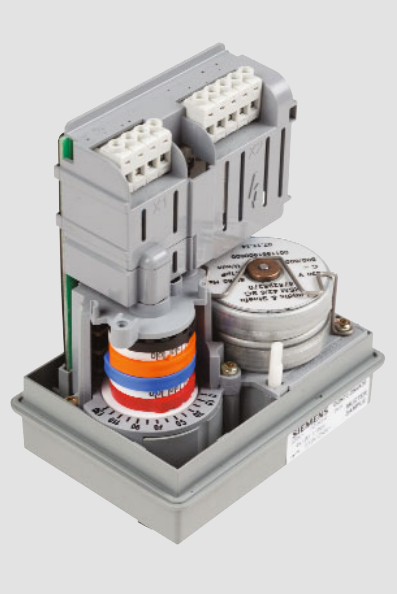
Optimising the burner for combustion at partial and full load is as straightfoward as you would expect. The air damper actuator has rotating cam switches which are used to adjust the air volume to suit the oil throughput.



The burner controller's operating unit



LMO39 digital burner controller


Actuator with synchronous motor and cam switches

Applications

Fuels
- Light oil (<6 mm²/s at 20 °C) in accordance with DIN 51 603, part 1
- 10 % biodiesel blends (B10) in accordance with DIN 51 603, part 6

The suitability of fuels of differing quality must be confirmed in advance with Weishaupt.

Applications
The EN 267-approved Weishaupt WM-L10 burner is suitable for:
- EN 303-compliant heat exchangers
- Hot-water plant
- Air heaters
- Intermittent operation
- Non-ducted combustion air supply

The combustion air must be free of aggressive substances (halogens, chlorides, fluorides etc.) and impurities (dust, debris, vapours etc.).

Permissible ambient conditions
- Ambient temperature during operation -10 to +40 °C
- Humidity: max. 80 % relative humidity, no condensation
- Suitable for operation indoors only
- For plant in unheated areas, certain further measures may be required (please enquire).

Use of the burner for other applications or in ambient conditions not detailed above is not permitted without the prior written agreement of Max Weishaupt GmbH. Service intervals will be reduced in accordance with the more extreme operational conditions.

Voltages and frequencies:
The burners are equipped as standard for three-phase alternating current, 400 V, 3 ~, 50 Hz. Other voltages and frequencies are available on application.

Standard burner motor:
IE3 premium efficiency, Class F insulation, IP 55 protection.

Emissions
The burner meets the Class 2 limits of EN 267.

Noise
Dual-number noise emission value in accordance with ISO 4871.

Measured sound power level in accordance with sound measurement standard ISO 9614-2.

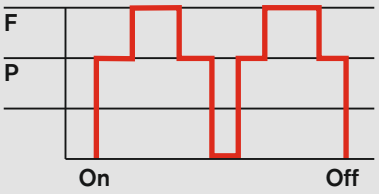
Sound pressure level measured at a distance of 1 m from the burner.

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

- EN 267
- Machinery Directive, 2006/42/EC
- Electromagnetic Compatibility Directive, 2004/108/EC
- Low Voltage Directive, 2006/95/EC
- The burners carry a CE mark

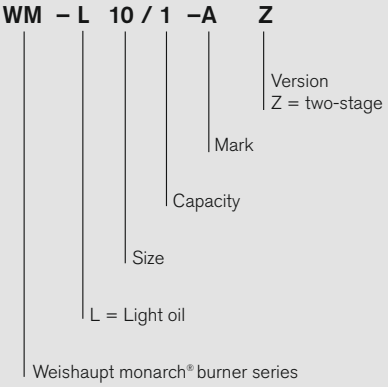
Two-stage operation (Z)
- Oil is released during start up by the opening of solenoid valve 1
- Full load is reached by the opening of solenoid valve 2

Two-stage

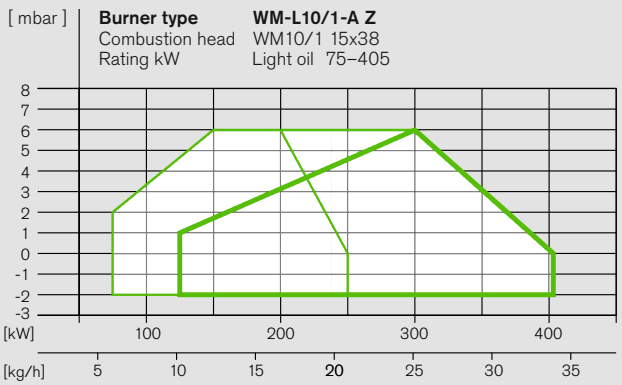


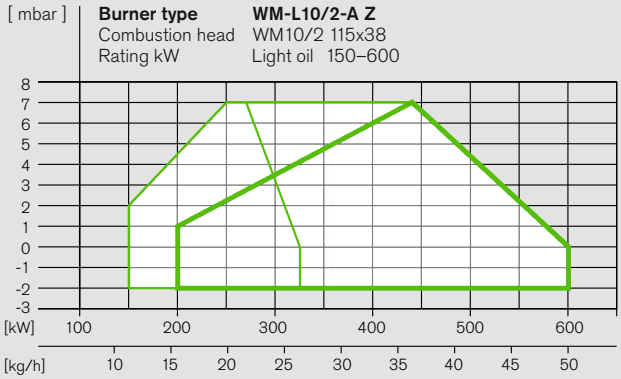
F = Full load (nominal load)
P = Partial load (min. load)

Model designation



Burner selection and technical data





Light oil: Capacity with combustion head
Closed
Open

Capacity graphs certified in accordance with EN 267.

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

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

DIN CERTCO certification:
The burners have been type approved by an independent body (TÜV-Süd) and certified by DIN CERTCO.

Technical data

Burner		WM-L10/1-A Z	WM-L10/2-A Z
Burner motor	Weishaupt type	D90/90-2/1K0	D90/90-2/1K0
Nominal rating	kW	1.1	1.1
Nominal current	A	2.2	2.2
Motor protection switch [1] or motor prefusing [1] (with overload protection)	Type (e.g.) A minimum	PKE12/XTU - 4 10A gG/T (by others)	PKE12/XTU - 4 10A gG/T (by others)
Speed (50 Hz)	rpm	2900	2900
Combustion manager	Type	LMO39	LMO39
Flame monitoring	Type	QRB	QRB
Air actuator	Type	SQN72	SQN72
Integral pump	Type	ALV75	ALV75
NOx Class per EN 267		2	2
Measured sound pressure level	dB(A) [2]	71	73
Oil hoses	DN / Length	8 / 1000	8 / 1000
Weight	kg (approx.)	51	51

[1] The necessary motor protection can be provided either by a motor protection switch (supplied and fitted into a panel by others), or with integral motor overload protection (see special equipment).

[2] Measured at a distance of 1 m from the burner. The measured sound level, plus a tolerance of 4 dB(A), is the upper limit value that can occur during measurement.

Order numbers, scope of delivery and special equipment

Order numbers

Two-stage burner type	Order No.
WM-L10/1-A Z	211 110 15

DIN CERTCO: 5G1010

Two-stage burner type	Order No.
WM-L10/2-A Z	211 110 25

DIN CERTCO: 5G1010

Scope of delivery

Description	WM-L10 Z
Burner housing, hinged flange, housing cover, Weishaupt burner motor, air inlet housing, fan wheel, combustion head, ignition unit, ignition cable, ignition electrodes, burner controller with operating unit, flame sensor, actuator, flange gasket limit switch on hinged flange, fixing screws	●
Digital burner controller LMO39	●
Preset, capacity-based mixing assembly	●
SQN72 air damper actuator	●
Oil pump fitted to burner	●
Oil hoses	●
2 oil solenoid valves, two-stage nozzle head with pre-installed oil nozzle 1 additional safety solenoid valve	● ○
DOL motor contactor, fitted to motor [1]	●
IP 54 protection	●

● Standard
○ Optional

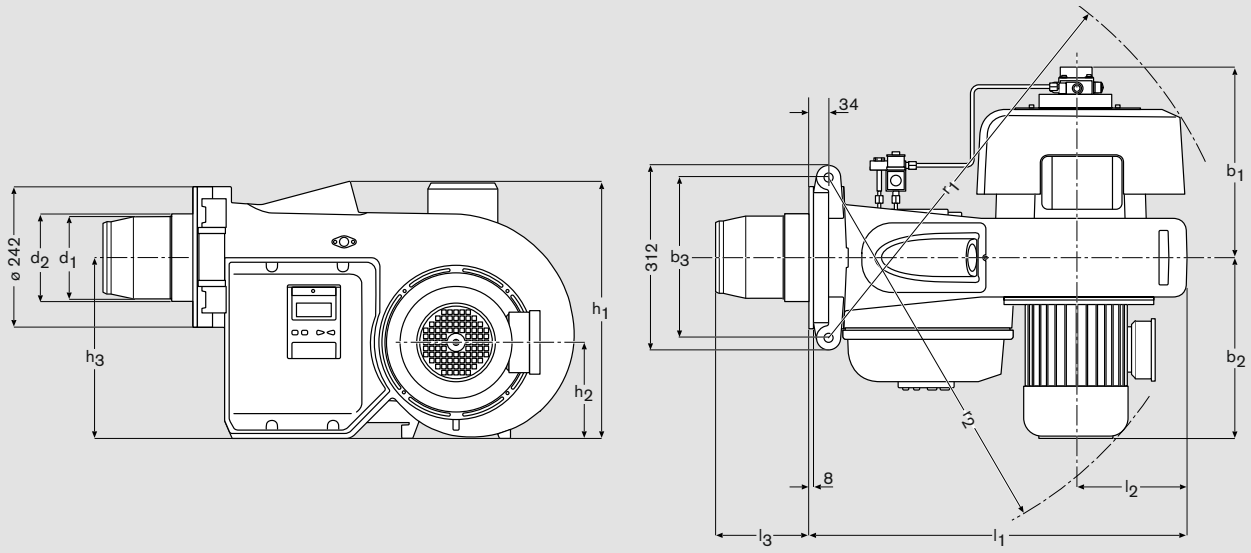
[1] The necessary motor protection can be provided either by a motor protection switch (supplied and fitted into a panel by others), or with integral motor overload protection (see special equipment).

Special equipment

Version Z (two-stage)		WM-L10/1-A	WM-L10/2-A
Pressure gauge with ball valve		210 030 18	210 030 18
Vacuum gauge with ball valve		210 030 19	210 030 19
Combustion head extension	by 100 mm by 200 mm	210 030 16 210 030 17	210 030 00 210 030 01
Oil hoses, 1300 mm in lieu of 1000 mm		210 003 00	210 003 00
VZO8 oil meter with additional safety shutoff device		210 030 07	210 030 07
VZO8 oil meter with low-frequency transmitter for external wiring and additional safety shutoff device		210 030 09	210 030 09
VZO8 oil meter with high-frequency transmitter for external wiring and additional safety shutoff device		210 031 10	210 031 10
D90 motor with 230 V contactor and overload protection		250 030 86	250 030 86
Solenoid valve as additional safety shutoff device		210 030 06	210 030 06
ST 18/7 and ST 18/4 plug connections		on application	on application

Dimensions and fuel system

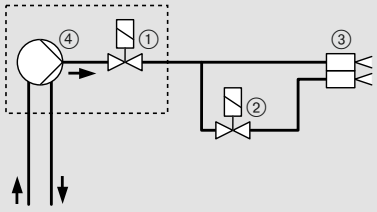
Dimensions



Burner type	Dimensions in mm l1	l2	l3	b1	b2	b3	h1	h2	h3	r1	r2	d1	d2	d3	d4	d5	d6
WM-L10/1-A Z	659	205	118 - 142	323	307	270	445	167	313	718	682	140	155	M10	165	186	170
WM-L10/2-A Z	659	205	127 - 152	323	307	270	445	167	313	718	682	140	155	M10	165	186	170

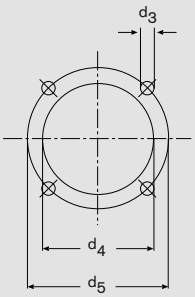
All dimensions are approximate. Weishaupt reserve the right to make changes in light of future developments.

Two-stage fuel system

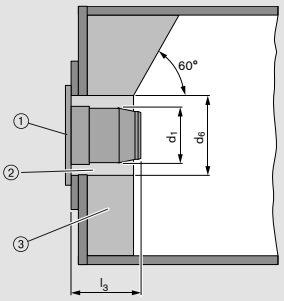


① Stage 1 solenoid valve on oil pump
② Stage 2 solenoid valve
③ Nozzle head with 2 oil atomising nozzles
④ Burner-mounted oil pump

Mounting-plate drilling dimensions



Heat exchanger preparation



The refractory ② must not protrude beyond the front edge of the combustion head. It may, however, be tapered (min. 60°).

① Flange gasket
② Refractory
③ Aperture

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Print No. 83**2163**02, November 2015
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