



High-Performance Packaged Boiler

Australia's largest certified
package boiler company.



**The Environmental
Group Limited**
Engineering a Sustainable Future

The Environmental Group Limited

www.environmental.com.au

Working across the Circular Economy

Our Purpose

Engineering a sustainable future.

Our Mission

To enable our clients to contribute to a cleaner environment by safely delivering pivotal solutions while generating value for our shareholders, staff, and partner industries.

Our Team

Our local experts are dedicated to reducing waste and boosting energy performance. Trusted worldwide to provide the highest standards of service and support.

Tomlinson Energy Services

Part of The Environmental Group

Tomlinson Energy Services is Australia's leading provider of packaged boiler solutions, delivering the highest combustion efficiency to keep operating costs low and performance high.

We specialise in custom design, installation, commissioning, and national servicing and repairs, complemented by our 24/7 emergency support.

With offices and a dedicated service team across Australia, Tomlinson Energy Services ensures boilers operate at peak performance for maximum efficiency and reliability.



WM 10 MONARCH® BURNERS VERSATILE PERFORMANCE (55–1250 KW)

– weishaupt –

Offering Industry Leading Burners

Weishaupt produces gas and oil-fired boilers, heat pumps, and burners. These top-quality products are characterised by their meticulous development, high-quality workmanship, outstanding operational reliability, and maximum Efficiency. Their unrivalled excellence extends equally to design and function.

Progress and tradition: The latest monarch[®] burner



The monarch[®] trademark has stood for power and quality for more than 60 years

For more than six decades, Weishaupt's monarch[®] series burners have been used on a wide variety of heat generators and industrial plant, and their success has helped underpin Weishaupt's outstanding reputation.

The latest monarch[®] series is writing the next chapter in this success story. The combination of state-of-the-art equipment and a compact design makes these powerful burners suitable for a wide range of applications.

Digital.

Digital combustion management enables economical and reliable burner operation. The equipment is simple to use.

Compact.

The aerodynamic housing and special air feed enable a higher capacity within smaller overall dimensions.

Quiet.

WM10 monarch burners operate with considerably reduced noise levels, thanks to their specially developed fan unit.



WM 10 monarch[®] burners

The right version for every application

The latest WM-series burners from Weishaupt are compact, powerful, and quiet. They are writing the next chapter in the 65-year-long success story of the legendary monarch[®] series.

Futuristic fan technology

From the very earliest stages of burner development, particular emphasis was placed on a compact, aerodynamic design and low operational noise levels.

A completely new air inlet and air damper control were developed to realise this goal. The special housing design with its self-opening air inlet and the new air-damper technology result in an increase in fan pressure and thus in greater capacity despite the burner's more compact form.

Air damper control provides a high degree of linearity even at the lower end of the burner's operating range and, combined with the sound-attenuated air inlet which is included as standard, ensures quieter operation.

Fast commissioning, simple servicing

All WM 10 burners are delivered with the mixing assembly preset for the required output of the burner, provided the relevant heat generator data are known. A final adjustment is made using the combustion manager's menu-controlled commissioning program.

All of the components, such as the mixing assembly, air damper, and combustion manager, are readily accessible despite the burner's compact form. This enables maintenance and servicing work to be carried out quickly and easily, aided by the standard hinged flange which provides a perfect servicing position.

Adjustments to suit different combustion chamber conditions can easily be made with the burner in its installed position. The integral sightglass provides a view of the flame.

Various burner versions are available, which meet differing operational requirements and emission limits:

ZM version

Burners with Weishaupt's standard, advanced design of mixing assembly for installations with Class 2 gas and oil-side NO_x emission limits.

LN version

Low-NO_x gas burners that provide a further improvement in NO_x emissions (to Class 3) compared to the standard mixing assembly. The reduction in NO_x is achieved through a more intensive recirculation of combustion gases in the combustion chamber.

Good emissions depend on combustion chamber geometry, thermal loading and on the combustion system (three-pass or reverse-flame).

ZMI version

Gas burners with an extended turndown range for special industrial applications.

3LN version

Low-NO_x gas, oil, and dual-fuel burners with multiflam[®] mixing assemblies that generate emissions below Class 3 NO_x limits for both gas and oil. The burners' very low NO_x emissions are achieved using a special fuel distribution system. 3LN-version burners can fire natural gas, LPG, or light oil, and are suitable for use on three-pass and through-pass boilers.

The most important advantages:

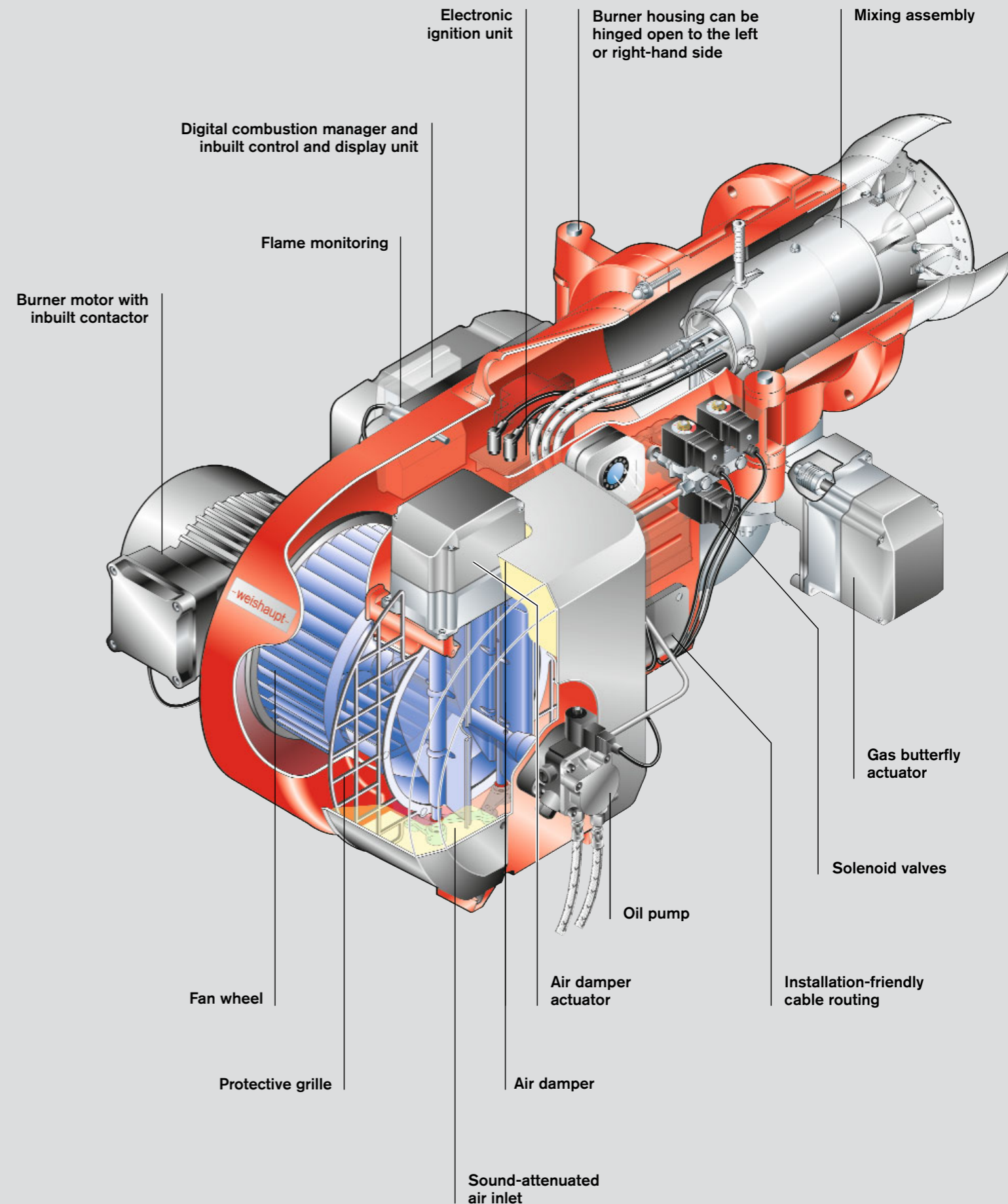
- Digital combustion management with electronic compound regulation.
- Compact design.
- Easy access to all components.
- Sound-attenuated air inlet as standard for quieter operation.
- IP 54 protection.
- Suitable for a wide range of gas types, such as natural gas, LPG, town gas, coke oven gas*, biogas*, or sewage gas* (*gas analysis required).
- Different mixing assemblies depending on emission limits.
- Suitable for operation with intermittent or continuous firing.
- Load control can be effected by means of thermostats, pressure controls, or current/voltage signals.
- Sliding-two-stage or modulating load control when firing on gas.
- Two-stage, three-stage, or sliding-two-stage / modulating load control when firing on oil, depending on the burner version and method of control.
- Where data are known, all WM-series burners are supplied with their mixing assembly preset for the required firing rate. WM-L burners are also supplied with ready-fitted oil nozzles.
- Electromagnetic clutch to disconnect the oil pump (optional extra on some models).
- Computer-controlled function test of each individual burner at the factory.
- Well-established, global service network.

Optional equipment:

- Variable speed drive for burners with modulating load control.
- Integral KS 20 load controller (in conjunction with W-FM50 / 54).
- Ducted air inlet.

Trademark protection

Weishaupt WM 10 monarch[®] burners are registered as a Community Trade Mark throughout Europe.



WM-GL 10 version ZM-T

That's flexibility: Numerous options to choose from

With the right selection of optional equipment, the best products can be made even better.

The familiar 7-pole and 4-pole plugs used on W-series burners can also be fitted to WM 10 burners, and many heat generators are equipped with the appropriate mating connectors. These optional plugs not only simplify the final connection of the control voltage, but also make it easy to electrically isolate the burners during servicing work.

Modulating burners need a load controller in order to modulate, and Weishaupt can fit one into the burner controls cover. The unit is pre-configured at the factory and supplied fitted and wired. An automatic adaption of the control parameters adjusts the controller to system characteristics.

The burner motor's large electrical junction box incorporates both a contactor and an overcurrent trip to protect the motor.

Optional efficiency, emissions, and safety optimisations are available for all industrial burners. Variable speed drive (VSD) offers a considerable reduction in energy costs and noise emissions when the burner is firing at partial load. O₂ trim and CO control increase both the safety and the efficiency of the plant. A flue gas temperature sensor indicates a limit value has been exceeded, which points to fouling of the heat generator.

Combustion head length is determined by the mounting depth of the heat generator, the design of the appliance, and the nature of the application. Standardised 100, 200, and 300 mm head extensions meet the requirements for virtually every project. Of course, longer extensions are available on request where necessary.

A continuously running fan stops high temperatures radiating back through the burner after firing has ended. During this phase, an electromagnetic clutch allows the oil pump to be disconnected from its drive. This has the benefit both of keeping the pump cool and reducing its wear. The burner motor's power consumption is also lower during the continuous fan phase.

In many installations, a supply of clean combustion air that is free of impurities cannot always be guaranteed. To overcome this, Weishaupt offers special air inlet housings for the WM 10 that enable the connection of a ducted air supply. The housings enable the ducted air supply to be connected to the burner from above, below, or the rear. By connecting an air duct, it is possible to draw combustion air from a "clean", temperate area. The air inlet system includes an additional air pressure switch as standard, which guards against low pressure and thus ensures an adequate supply of air to the burner.

The CAN bus system used by the W-FM 100 and W-FM 200 combustion managers means they can be mounted either on the burner or in a control panel. As a result, the installation is optimally matched to the ambient conditions on site.

Weishaupt sound-absorbing shrouds can reduce noise emissions by up to 25 dB(A), depending on the version employed. The typical 72 dB(A) sound pressure level of a WM-G10/1-A ZM-LN burner, for example, can be reduced to 47 dB(A) through the use of a sound absorbing shroud.



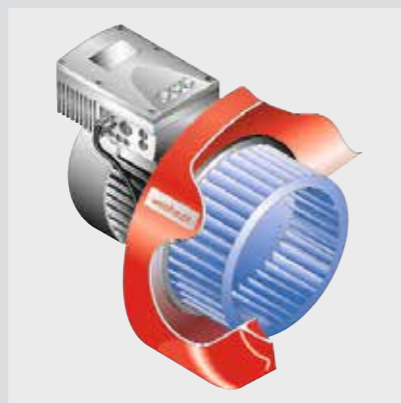
7-pole and 4-pole plugged connections



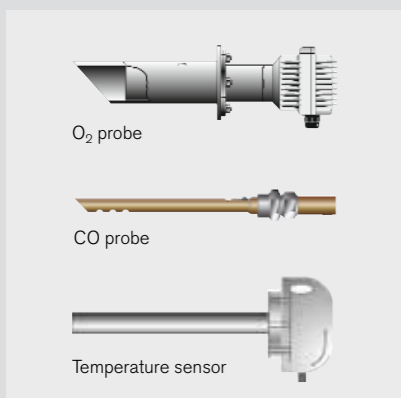
Integral KS20 load controller



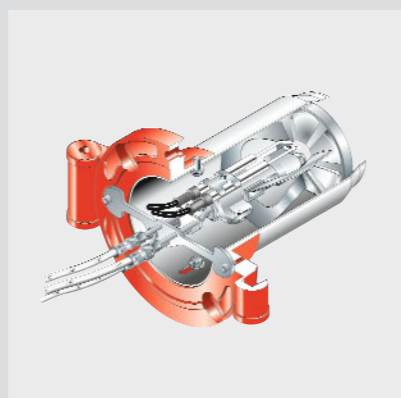
Expanded motor terminal box with contactor and electronic overload protection



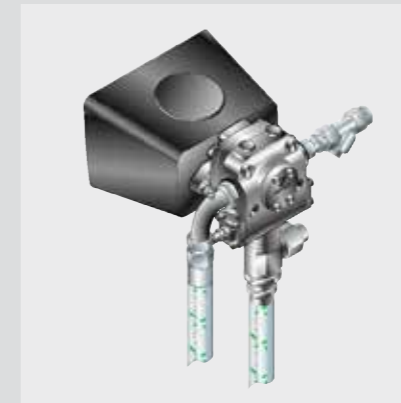
Integral frequency converter for VSD



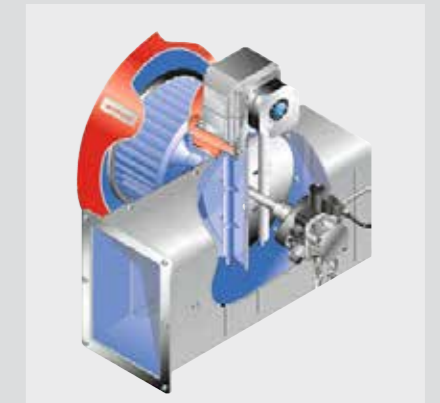
Monitoring and control of flue gases for O₂, CO, and temperature



Combustion head extensions to suit different boiler doors and insulation



Oil burners with continuously running fan have an electromagnetic clutch



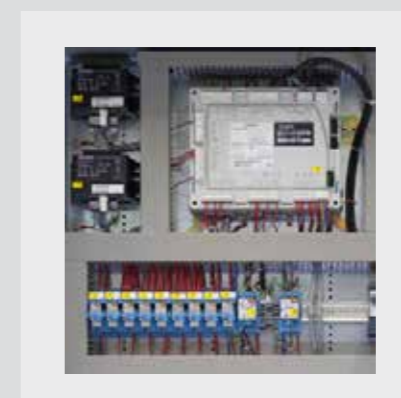
Air inlet connection for a ducted supply of clean air Example: WM-L10



W-FM 100 or W-FM 200 combustion manager mounted in the burner



ACS 410/ACS 450 servicing software



W-FM 100 or W-FM 200 combustion manager mounted in a control panel



Sound-absorbing shroud

Digital combustion management: Efficient and reliable

Digital combustion management means optimal combustion figures, continuously reproducible setpoints, and ease of use.

Weishaupt WM 10-series burners are all fully equipped with digital combustion management and electronic compound regulation. Combustion technologies in the modern age demand a precise and continually reproducible dosing of fuel and combustion air. This enables optimal combustion efficiency and saves fuel.

Simple operation

Setting and control of the burner is achieved using a control and display unit. The unit for the W-FM50 and W-FM54 has a language-neutral display that presents all operationally relevant parameters in an easy-to-understand manner. The unit for the W-FM 100 and W-FM 200 is equipped with a clear-text display with a choice of

languages. Both systems enable the precise setting of the burner, and retain data that provide information on the operational mode of the burner. Additional memory in the control and display unit stores system settings so that they can be quickly copied across to a new combustion manager.

Servicing software

Full documentation is an essential part of commissioning and servicing. Among other things, the servicing software provides access to combustion manager settings, which can be changed, saved, and printed out. That saves both time and money.

The most important advantages

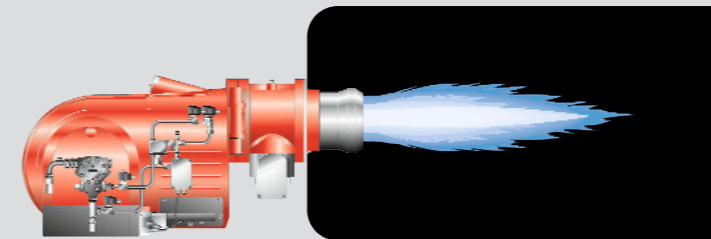
- Digital combustion management makes burner operation simple and reliable.
- No additional burner controls are necessary as control is effected by the combustion manager.
- Reduced installation expense: Each burner is factory tested and supplied as a complete unit.
- Commissioning and servicing takes less time. The burner's basic parameters are set at the factory. The combustion manager's menu-driven commissioning program is used to run through the final site-specific adjustments and the combustion emission checks.

| Digital combustion management Features | W-FM 50 | W-FM 54 | W-FM 100 | W-FM 200 |
|--|-----------------|-----------------|-----------------|-----------------|
| Single-fuel operation | ● | – | ● | ● |
| Dual-fuel operation | – | ● | ● | ● |
| Intermittent firing | ● | ● | ● | ● |
| Continuous firing >24 h | ● ²⁾ | – | ● | ● |
| Flame sensor for intermittent firing | ION/QRA2/QRB | QRA2 | ION/QRI/QRB/QRA | ION/QRI/QRB/QRA |
| Flame sensor for continuous firing | ION | – | ION/QRI/QRA 73 | ION/QRI/QRA 73 |
| Maximum number of actuators in electronic compound | 2 | 3 | 4 | 6 |
| Actuators with stepping motors | ● | ● | ● | ● |
| VSD available | ● | ● | – | ● |
| O ₂ trim available | – | – | – | ● |
| Gas valve proving | ● | ● | ● | ● |
| 4–20 mA input signal | ● | ● | Optional | ● |
| Integrated, self-checking PID controller for temperature or pressure | – | Optional | ● | |
| Removable ABE control unit (max. length of connecting line) | 20 m | 20 m | 100 m | 100 m |
| Fuel consumption meter (switchable) | ● ¹⁾ | ● ¹⁾ | – | ● |
| Combustion efficiency display | – | – | – | ● |
| eBUS/Modbus RTU interface | ● | ● | ● | ● |
| PC-supported commissioning | ● | ● | ● | ● |

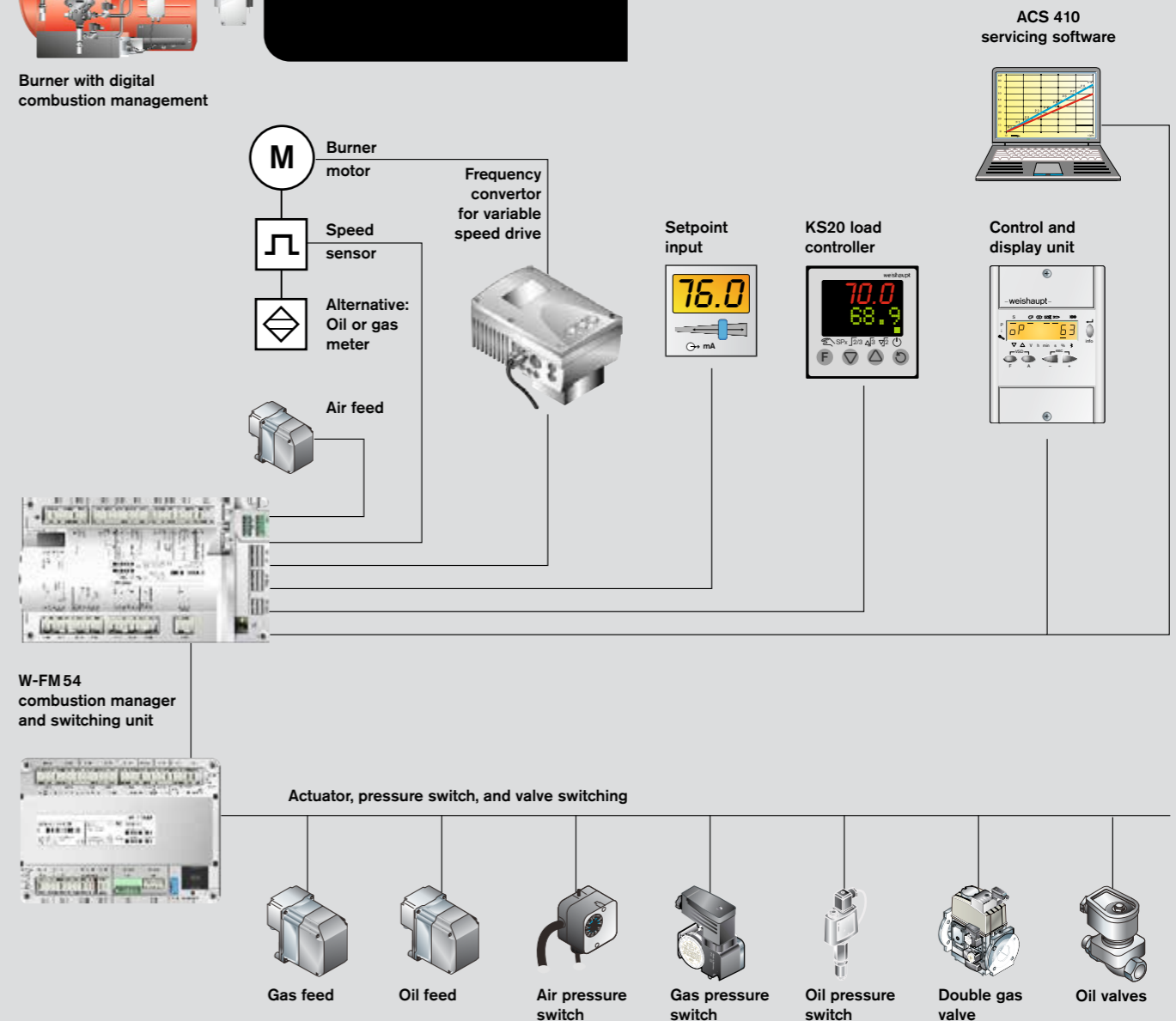
Please enquire regarding connections available for additional functions, e.g. flue gas dampers, oil shutoff assemblies, etc.

¹⁾ Not in conjunction with VSD

²⁾ Gas burner with ionisation probes only



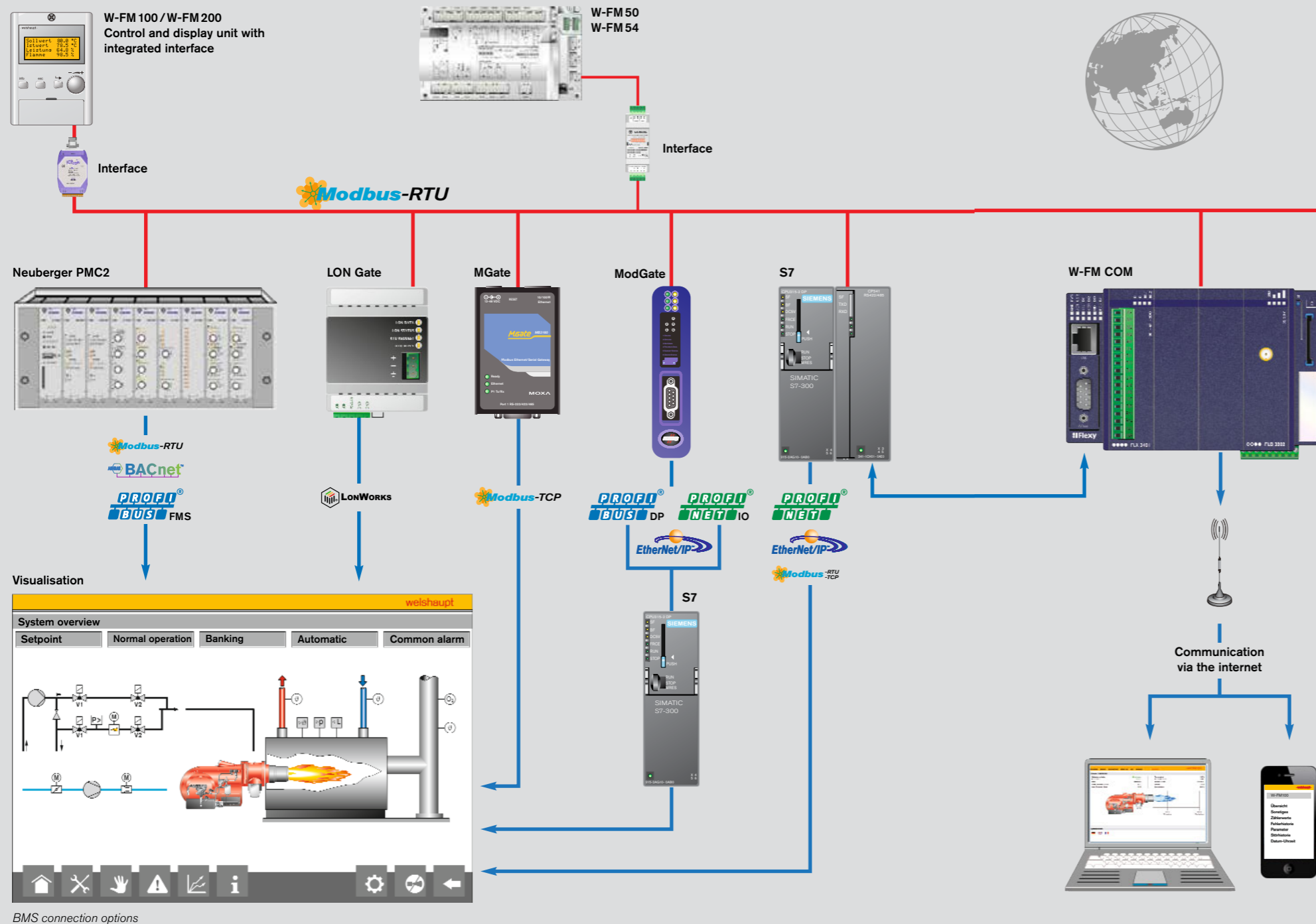
Burner with digital combustion management



W-FM 54 combustion manager and switching unit

Schematic representation with W-FM 54

Flexible communications: Compatible with building management systems



BMS connection options



Remote monitoring made easy via tablet or laptop

The digital combustion manager is the basis of communications with other superordinate systems. This is generally achieved using the eBus or Modbus protocols.

All the usual burner and boiler functions can be monitored and controlled through a direct connection with a building management system.

A graphical HMI is available as an option to provide a user-friendly overview of the boiler. The touchscreen display allows numerous functions to be adjusted and monitored, such as system parameters and setpoints of individual and multi-boiler plant and ancillary equipment.

The controls specialists, Neuberger, who are a part of the Weishaupt Group, are able to design and implement complex control solutions.

Further optional components enable connections to be made to systems with commonplace industrial standards, such as Profibus-DP, LON-Bus, and Modbus-RTU, and via network protocols such as Profinet I/O, Modbus-TCP, BacNet, etc.

A recent addition to Weishaupt's portfolio is the W-FM COM communications module. It transmits data securely over the internet so that it can be called up and displayed in a browser window on a computer, tablet, or smartphone, facilitating accurate service planning for example. Even away from the internet you can be kept up to date with the operation of the burner: In the event of a safety shutdown or other predefined trigger, an SMS text message is sent automatically.

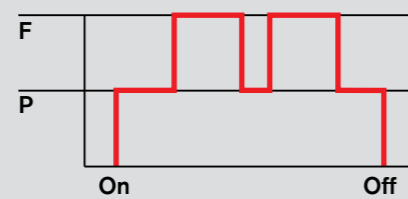
Overview of burner control Model designation

Gas and oil-fired operation

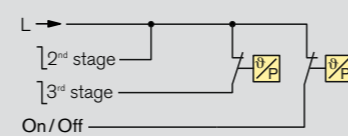
Two-stage control (Z)

- Two-term switching (e.g. temperature or pressure stat) causes actuators to drive the burner to partial load or full load in response to heat demand. Single-stage control with low-impact start can also be effected.

Two-stage



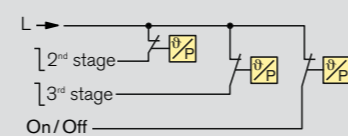
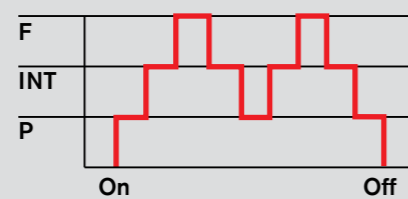
Control ¹⁾



Three-stage control (T)

- Two-term switching (e.g. temperature or pressure stat) for each load point causes actuators to drive the burner to partial load, intermediate load, or full load in response to heat demand. Two-stage control with low-impact start or changeover can also be effected.

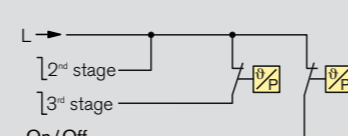
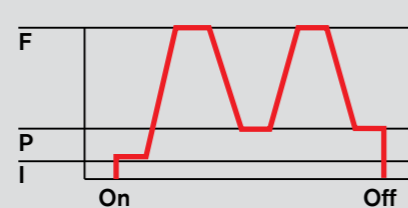
Three-stage



Sliding-two-stage control (ZM, R)

- Two-term switching (e.g. temperature or pressure stat) causes actuators to drive the burner to partial load or full load in response to heat demand. There is a gradual change between both load points. There are no sudden, large changes in fuel throughput.

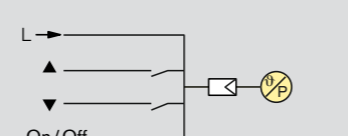
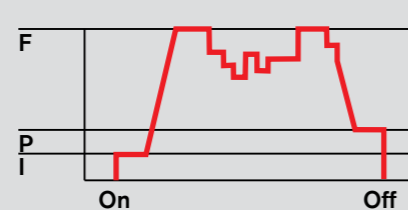
Sliding-two-stage



Modulating control (ZM, R)

- An electronic load controller causes actuators to make infinitely variable load adjustments in response to heat demand.
- Available modulation control options:
 - W-FM 100 with an optional integral load controller
 - W-FM 200 with its standard integral load controller
- Alternatively, a PID controller can be fitted into the burner controls cover or into a control panel.

Modulating

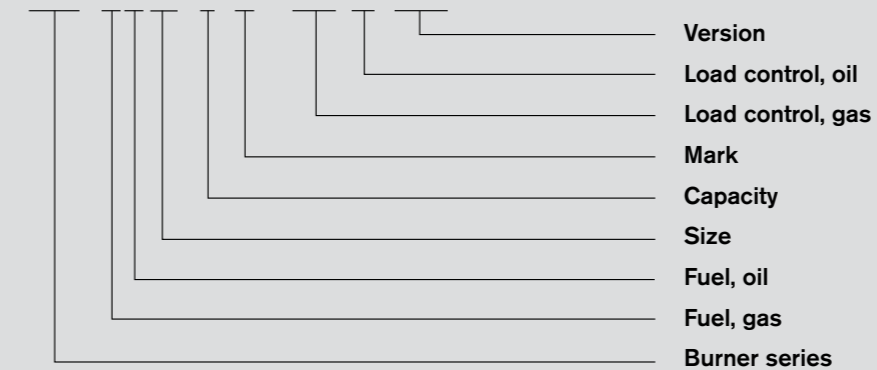


F = Full load (nominal load)
INT = Intermediate load
P = Partial load (minimum load)
I = Ignition load

¹⁾ Alternatively, staged control can also be effected by an electronic PID controller. In this case, appropriate temperature sensors or pressure transducers will be required.

Model designation

WM-GL10/2-A ZM-Z-3LN



| Details | Code | Meaning | Associated fuel |
|----------------|--------------------------|---|---------------------------------|
| Series | WM | Weishaupt monarch® burner | |
| Fuel * | G L | Gas Class D/Class A2 gas oil | |
| Load control * | Z T R ZM ZMI | Two-stage Three-stage Sliding-two-stage / modulating Sliding-two-stage / modulating ZM with extended turndown | Oil Oil Oil Gas Gas |
| Version | – LN 3LN | Standard Low-NO _x multiflam® | Gas / oil Gas Gas / oil |

*) Dual-fuel burners use a combination of codes (GL, ZM-T, ZM-R).

Use

Fuels

Natural gas
LPG
Class D gas oil per BS 2869/IS 251
Class A2 gas oil per BS 2869/IS 251
10 % biodiesel blends (B10)

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

Applications

Weishaupt WM 10 burners are suitable for intermittent firing and continuous firing on:

- EN 303-compliant heat generators
- LTHW boilers
- HTHW boilers
- Steam boilers
- Air heaters
- Certain process applications

Permissible ambient conditions

- Ambient temperature
-15 to + 40 °C for gas firing
-10 to + 40 °C for oil firing
- Maximum 80 % relative humidity, no condensation
- The combustion air must be free of aggressive substances (halogens, chlorides, fluorides etc.) and impurities (dust, debris, vapours, etc.)
- Adequate ventilation is required for operation in enclosed spaces
- For plant in unheated areas, certain further measures may be required

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. Burner service intervals will be reduced to accord with the more extreme operational conditions.

Protection Class
IP 54

Standards compliance

The burners are tested by an independent body and fulfil the applicable requirements of the following European Union directives and applied standards:

EMC EMC Directive
2014/30/EU

- Applied standards
- EN 61000-6-1 : 2007
 - EN 61000-6-2 : 2005
 - EN 61000-6-4 : 2007

LVD Low-Voltage Directive
2014/35/EU

- Applied standards
- EN 60335-1 : 2010
 - EN 60335-2-102 : 2010

MD Machinery Directive
2006/42/EC

- Applied standards
- EN 267 Annex J,
 - EN 676 Annex J,

GAR Gas Appliances Regulation
2016/426/EU

- Applied standards
- EN 676 : 2008

PED¹⁾ Pressure Equipment Directive
2014/68/EU

- Applied standards
- EN 267 Annex K,
 - EN 676 Annex K,
 - Conformity assessment procedure: Module B

¹⁾ With the selection of appropriate equipment.

The burners are labelled with

- CE Mark
- CE-PIN per 2009/142/EC
- Identification No. of the notified body

Gas supply

EN 88-compliant regulators with safety diaphragms are used for low-pressure supplies.

For high-pressure supplies, an EN 334-compliant high-pressure regulator should be selected from the following technical booklets:

- Regulators up to 4 bar, Print No. 83001202
- Regulators with safety devices, Print No. 83197902

Refer to the burner's rating plate for the maximum connection pressure.

Gas valve train design

Low-pressure valve trains are normally used for gas flow pressures up to a maximum of 300 mbar and a maximum operating pressure (MOP) of 500 mbar. This allows for pressure losses between the transfer station and the valve train. Furthermore, it is assumed that the transfer station utilises components (SSV, regulator) that are not of the highest class of accuracy. In individual cases, following consideration and approval by Weishaupt's headquarters, a gas flow pressure of up to 360 mbar can be approved if the appropriate conditions exist. The supplier must safeguard the gas flow pressure such that it cannot exceed the MOP of the burner's gas valve train.

High-pressure valve trains are normally used for gas flow pressures greater than 300 mbar. The supplier must safeguard the gas flow pressure such that, in the event of failure, it cannot exceed the maximum incidental pressure (MIP*) of the burner's gas valve train.

*MIP = MOP x 1.1

Gas / dual-fuel burner capacity graphs

The capacities as a function of combustion chamber pressure are maximum values measured in accordance with EN 676 on idealised flame tubes.

The burner capacity graphs are certified in accordance with EN 676. The stated ratings are based on an air temperature of 20 °C and an installation at sea level. For installations at higher altitudes, a reduction in capacity of 1 % per 100 m above sea level should be taken into account.

The combustion chamber pressure of the heat generator must be added to the flow pressure determined from the chart when sizing the gas valve train. Minimum flow pressure 15 mbar.

The LHV is referenced to 0 °C and 1013 mbar atmospheric pressure. All pressures are in mbar.

The LPG charts are based on propane, but may also be used for butane.

Double gas valve assemblies

Screwed

| | |
|------|-----------|
| R ¾ | W-MF507 |
| R 1 | W-MF512 |
| R 1½ | W-MF512 |
| R 2 | DMV525/12 |

Flanged

| | |
|--------|------------|
| DN 65 | DMV5065/12 |
| DN 80 | DMV5080/12 |
| DN 100 | DMV5100/12 |

Oil burner capacity graphs

The capacities as a function of combustion chamber pressure are maximum values measured in accordance with EN 267 on idealised flame tubes.

The burner capacity graphs are certified in accordance with EN 267. The stated ratings are based on an air temperature of 20 °C and an installation altitude of 500 m above sea level. For installations at higher altitudes, a reduction in capacity of 1 % per 100 m above sea level should be taken into account.

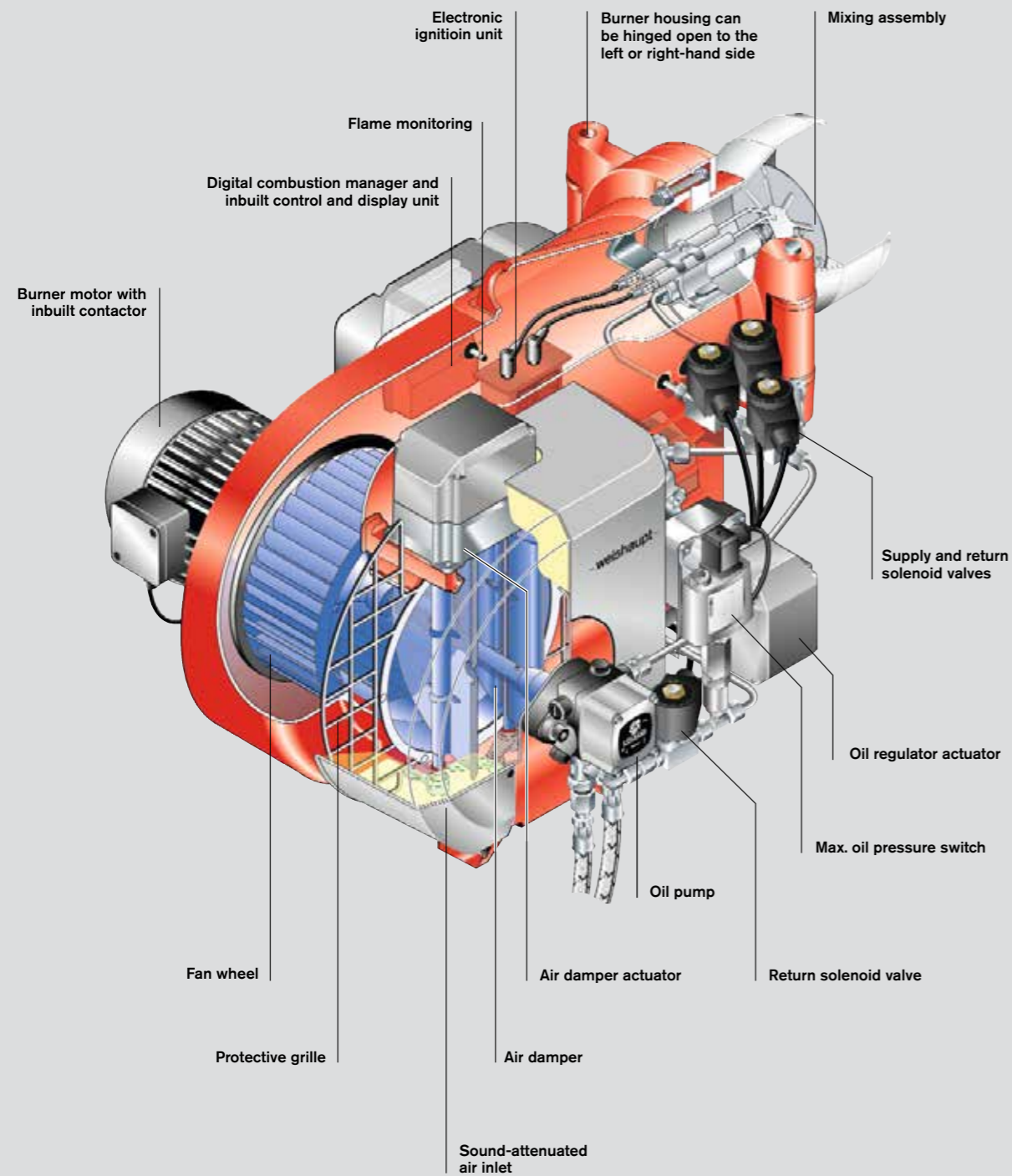
Stated oil throughputs are for gas oil with a LHV of 11.9 kWh/kg.

DIN CERTCO certification

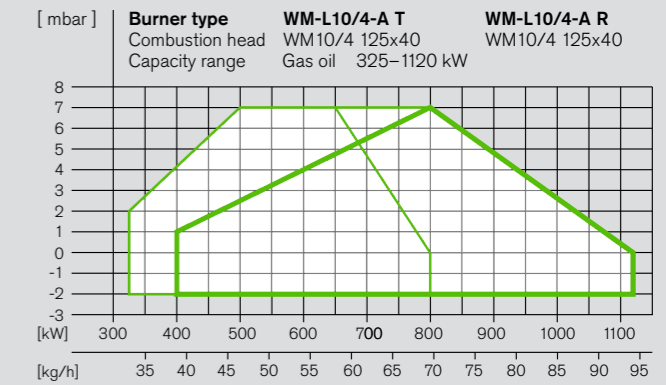
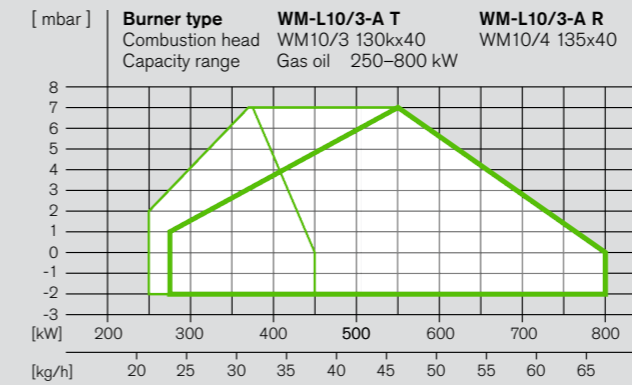
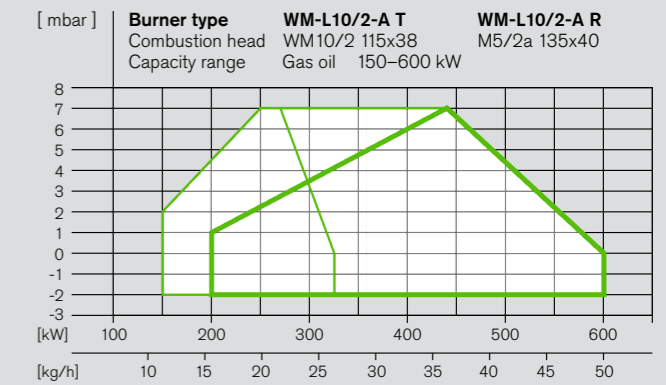
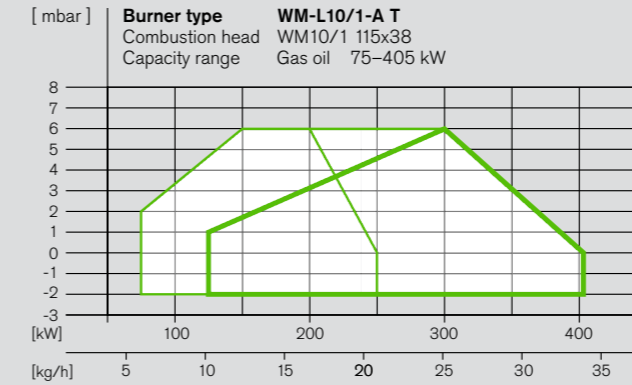
The burners have been type-tested by an independent body (TÜV-Süd) and certified by DIN CERTCO.

Modulating gas oil burner

Burner selection WM-L10, versions T and R



WM-L10 version R

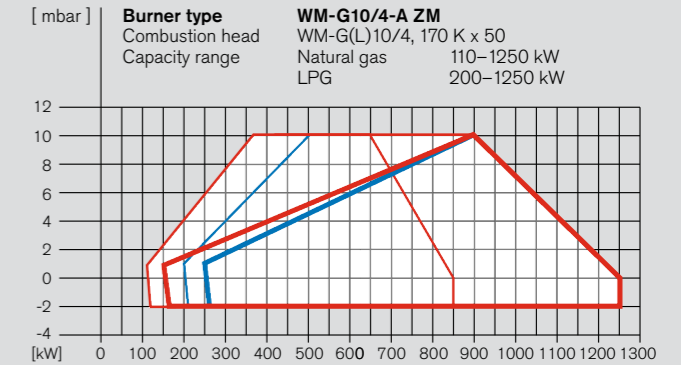
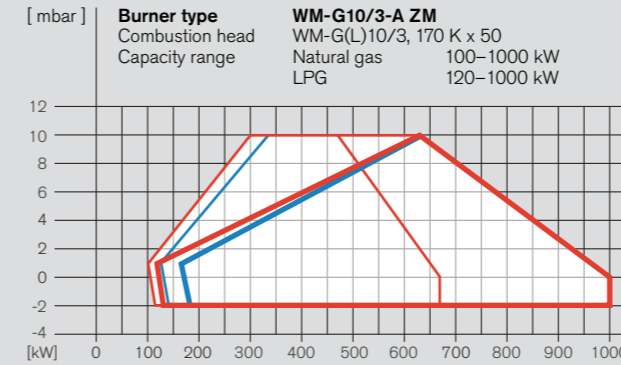
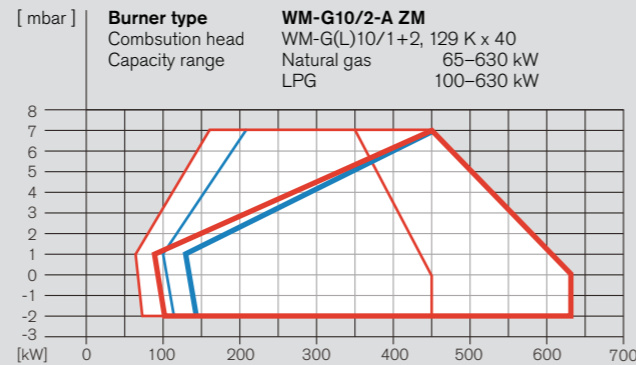
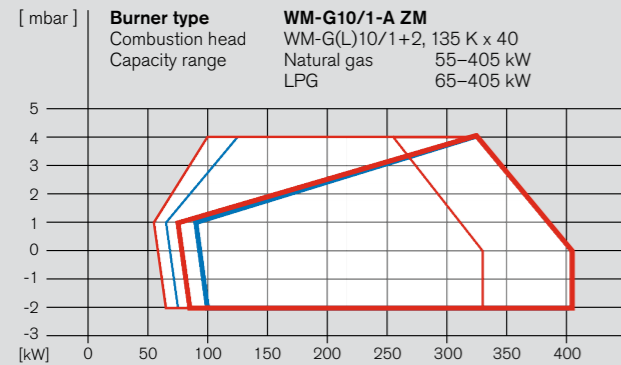


Gas oil: Capacity with combustion head
 Closed ———
 Open ———

Please refer to page 15 for notes on the capacity graphs.

Burner selection / gas valve train sizing

WM-G10, version ZM



WM-G10/1-A, version ZM

| Burner rating kW | Low-pressure supply (with FRS regulator) Flow pressure into shutoff valve | | | | High-pressure supply (with HP regulator) F. p. into double valve assembly | | | |
|------------------|--|----|--------|----|--|----|--------|----|
| | Nominal valve train diameter | | | | Nominal valve train diameter | | | |
| | 3/4" | 1" | 1 1/2" | 2" | 3/4" | 1" | 1 1/2" | 2" |
| | Nominal diameter of gas butterfly | | | | Nominal diameter of gas butterfly | | | |
| | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |

| Natural gas E | | LHV = 10.35 kWh/m ³ ; d = 0.606; W _i = 13.295 kWh/m ³ | |
|---------------|----|--|----|
| 150 | 12 | - | - |
| 175 | 14 | 9 | - |
| 200 | 16 | 10 | - |
| 225 | 19 | 11 | - |
| 250 | 22 | 12 | - |
| 275 | 26 | 14 | 8 |
| 300 | 31 | 16 | 9 |
| 350 | 41 | 20 | 12 |
| 405 | 53 | 25 | 14 |

| Natural gas LL | | LHV = 8.83 kWh/m ³ ; d = 0.641; W _i = 11.029 kWh/m ³ | |
|----------------|----|---|----|
| 150 | 15 | 10 | - |
| 175 | 18 | 11 | 8 |
| 200 | 22 | 12 | 9 |
| 225 | 26 | 14 | 9 |
| 250 | 31 | 16 | 10 |
| 275 | 37 | 18 | 11 |
| 300 | 43 | 21 | 12 |
| 350 | 57 | 27 | 15 |
| 405 | 75 | 35 | 19 |

| LPG | | LHV = 25.89 kWh/m ³ ; d = 1.555; W _i = 20.762 kWh/m ³ | |
|-----|----|--|----|
| 150 | 8 | - | - |
| 175 | 9 | - | - |
| 200 | 10 | - | - |
| 225 | 11 | - | - |
| 250 | 12 | 8 | - |
| 275 | 14 | 9 | - |
| 300 | 16 | 10 | - |
| 350 | 21 | 12 | 9 |
| 405 | 27 | 15 | 11 |

WM-G10/2-A, version ZM

| Burner rating kW | Low-pressure supply (with FRS regulator) Flow pressure into shutoff valve | | | | High-pressure supply (with HP regulator) F. p. into double valve assembly | | | |
|------------------|--|----|--------|----|--|----|--------|----|
| | Nominal valve train diameter | | | | Nominal valve train diameter | | | |
| | 3/4" | 1" | 1 1/2" | 2" | 3/4" | 1" | 1 1/2" | 2" |
| | Nominal diameter of gas butterfly | | | | Nominal diameter of gas butterfly | | | |
| | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |

| Natural gas E | | LHV = 10.35 kWh/m ³ ; d = 0.606; W _i = 13.295 kWh/m ³ | |
|---------------|-----|--|----|
| 300 | 29 | 14 | 8 |
| 350 | 39 | 19 | 11 |
| 400 | 51 | 24 | 13 |
| 450 | 63 | 29 | 16 |
| 500 | 77 | 35 | 18 |
| 550 | 92 | 41 | 21 |
| 600 | 109 | 48 | 24 |
| 630 | 119 | 53 | 26 |

| Natural gas LL | | LHV = 8.83 kWh/m ³ ; d = 0.641; W _i = 11.029 kWh/m ³ | |
|----------------|-----|---|----|
| 300 | 42 | 20 | 11 |
| 350 | 56 | 26 | 14 |
| 400 | 72 | 33 | 17 |
| 450 | 90 | 41 | 21 |
| 500 | 110 | 49 | 24 |
| 550 | 132 | 58 | 28 |
| 600 | 155 | 68 | 32 |
| 630 | 171 | 74 | 35 |

| LPG | | LHV = 25.89 kWh/m ³ ; d = 1.555; W _i = 20.762 kWh/m ³ | |
|-----|----|--|----|
| 300 | 15 | 9 | - |
| 350 | 20 | 11 | - |
| 400 | 25 | 14 | 8 |
| 450 | 31 | 17 | 11 |
| 500 | 37 | 20 | 13 |
| 550 | 44 | 23 | 14 |
| 600 | 51 | 26 | 16 |
| 630 | 55 | 28 | 17 |

WM-G10/3-A, version ZM

| Burner rating kW | Low-pressure supply (with FRS regulator) Flow pressure into shutoff valve | | | | High-pressure supply (with HP regulator) F. p. into double valve assembly | | | |
|------------------|--|----|--------|----|--|----|--------|----|
| | Nominal valve train diameter | | | | Nominal valve train diameter | | | |
| | 3/4" | 1" | 1 1/2" | 2" | 3/4" | 1" | 1 1/2" | 2" |
| | Nominal diameter of gas butterfly | | | | Nominal diameter of gas butterfly | | | |
| | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |

| Natural gas E | | LHV = 10.35 kWh/m ³ ; d = 0.606; W _i = 13.295 kWh/m ³ | |
|---------------|-----|--|----|
| 500 | 73 | 31 | 14 |
| 550 | 88 | 37 | 17 |
| 600 | 104 | 44 | 19 |
| 650 | 121 | 51 | 22 |
| 700 | 140 | 58 | 25 |
| 750 | 160 | 66 | 28 |
| 800 | 182 | 75 | 32 |
| 850 | 205 | 84 | 35 |
| 900 | 229 | 93 | 39 |
| 950 | 255 | 103 | 42 |
| 1000 | 282 | 114 | 46 |

| Natural gas LL | | LHV = 8.83 kWh/m ³ ; d = 0.641; W _i = 11.029 kWh/m ³ | |
|----------------|-----|---|----|
| 500 | 105 | 44 | 19 |
| 550 | 126 | 52 | 23 |
| 600 | 149 | 62 | 26 |
| 650 | 175 | 72 | 30 |
| 700 | 202 | 82 | 35 |
| 750 | 231 | 94 | 39 |
| 800 | 262 | 106 | 44 |
| 850 | 296 | 119 | 49 |
| 900 | 333 | 133 | 54 |
| 950 | 372 | 148 | 60 |
| 1000 | 414 | 163 | 65 |

| LPG | | LHV = 25.89 kWh/m ³ ; d = 1.555; W _i = 20.762 kWh/m ³ | |
|------|-----|--|----|
| 500 | 33 | 16 | 9 |
| 550 | 40 | 19 | 11 |
| 600 | 47 | 22 | 12 |
| 650 | 54 | 25 | 13 |
| 700 | 62 | 29 | 15 |
| 750 | 71 | 32 | 17 |
| 800 | 80 | 36 | 18 |
| 850 | 90 | 40 | 20 |
| 900 | 100 | 44 | 22 |
| 950 | 111 | 49 | 24 |
| 1000 | 122 | 53 | 26 |

WM-G10/4-A, version ZM

| Burner rating kW | Low-pressure supply (with FRS regulator) Flow pressure into shutoff valve | | | | High-pressure supply (with HP regulator) F. p. into double valve assembly | | | |
|------------------|--|--------|----|----|--|-----|----|--------|
| | Nominal valve train diameter | | | | Nominal valve train diameter | | | |
| | 1" | 1 1/2" | 2" | 65 | 80 | 100 | 1" | 1 1/2" |
| | Nominal diameter of gas butterfly | | | | Nominal diameter of gas butterfly | | | |
| | 50 | 50 | 50 | 50 | 50 | 50 | 40 | 50 |

| Natural gas E | | LHV = 10.35 kWh/m ³ ; d = 0.606; W _i = 13.295 kWh/m ³ | |
|---------------|-----|--|----|
| 600 | 45 | 20 | 12 |
| 700 | 60 | 27 | 15 |
| 800 | 77 | 34 | 19 |
| 900 | 95 | 41 | 21 |
| 1000 | 115 | 48 | 24 |
| 1100 | 137 | 55 | 26 |
| 1200 | 160 | 64 | 29 |
| 1250 | 173 | 68 | 31 |

| Natural gas LL | | LHV = 8.83 kWh/m ³ ; d = 0.641; W _i = 11.029 kWh/m ³ | |
|----------------|-----|---|----|
| 600 | 62 | 27 | 15 |
| 700 | 84 | 36 | 19 |
| 800 | 109 | 46 | 24 |
| 900 | 135 | 56 | 28 |
| 1000 | 164 | 66 | 31 |
| 1100 | 195 | 77 | 35 |
| 1200 | 230 | 90 | 40 |
| 1250 | 249 | 96 | 42 |

| LPG | | LHV = 25.89 kWh/m ³ ; d = 1.555; W _i = 20.762 kWh/m ³ | |
|------|----|--|----|
| 600 | 22 | 12 | 8 |
| 700 | 28 | 14 | 10 |
| 800 | 35 | 17 | 11 |
| 900 | 42 | 20 | 12 |
| 1000 | 51 | 23 | 13 |
| 1100 | 60 | 26 | 14 |
| 1200 | 69 | 30 | 16 |
| 1250 | 75 | 32 | 16 |

Nat. gas: Capacity with comb. head
Closed Open
LPG: Capacity with comb. head
Closed Open

Please refer to page 15 for notes on the gas supply.

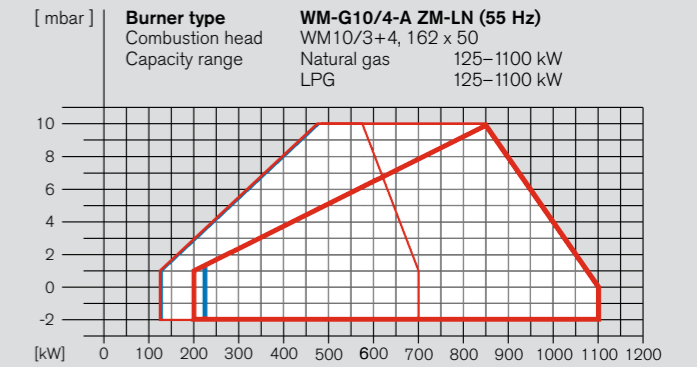
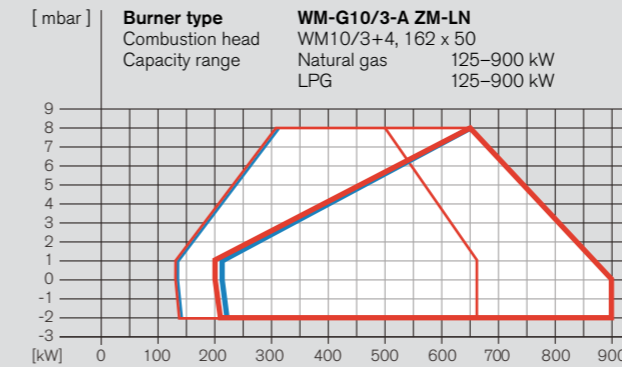
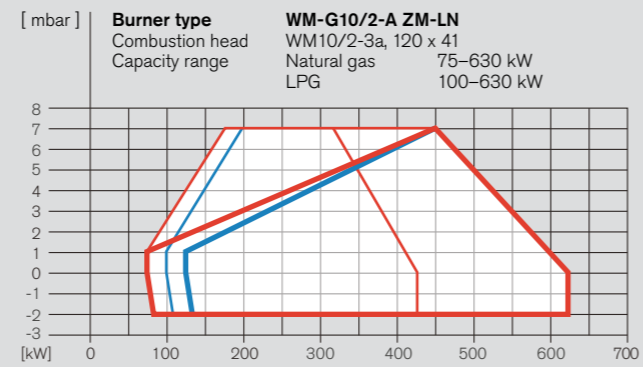
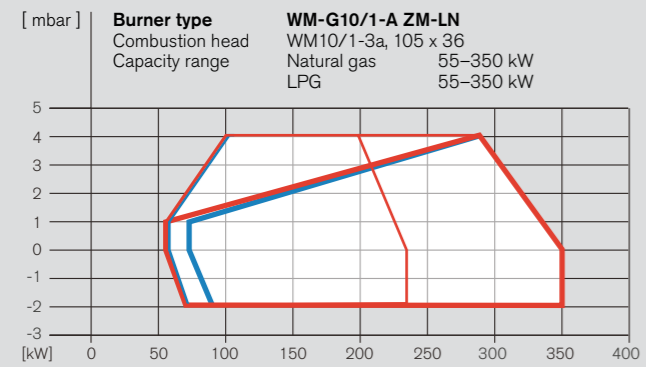
The LHV is referenced to 0 °C and 1013 mbar atmospheric. All pressures are in mbar.

Please refer to page 15 for notes on the gas supply.

The LHV is referenced to 0 °C and 1013 mbar atmospheric. All pressures are in mbar.

Burner selection / gas valve train sizing

WM-G10, version ZM-LN



WM-G10/1-A, version ZM-LN

| | | |
|-------------------------|--|--|
| Burner rating kW | Low-pressure supply (with FRS regulator) | High-pressure supply (with HP regulator) |
| | Flow pressure into shutoff valve | F. p. into double valve assembly |
| | Nominal valve train diameter | Nominal valve train diameter |
| | 3/4" 1" 1 1/2" 2" | 3/4" 1" 1 1/2" 2" |
| | Nominal diameter of gas butterfly | Nominal diameter of gas butterfly |
| | 25 25 25 25 | 25 25 25 25 |

| | | |
|----------------------|---|-------------|
| Natural gas E | LHV = 10.35 kWh/m³; d = 0.606; W _i = 13.295 kWh/m³ | |
| 150 | 12 9 - - | 6 4 - - |
| 175 | 16 11 9 - | 7 6 5 - |
| 200 | 19 13 10 9 | 9 7 7 6 |
| 225 | 23 14 11 10 | 11 8 8 7 |
| 250 | 27 16 12 10 | 12 9 8 8 |
| 275 | 31 18 13 11 | 14 10 9 8 |
| 300 | 35 20 14 12 | 16 11 10 9 |
| 325 | 40 22 15 13 | 18 12 11 10 |
| 350 | 45 25 16 14 | 20 13 12 10 |

| | | |
|-----------------------|--|-------------|
| Natural gas LL | LHV = 8.83 kWh/m³; d = 0.641; W _i = 11.029 kWh/m³ | |
| 150 | 16 11 8 - | 7 6 5 - |
| 175 | 20 13 10 9 | 10 7 7 6 |
| 200 | 25 15 12 10 | 12 9 8 7 |
| 225 | 30 18 13 11 | 14 10 9 8 |
| 250 | 35 20 14 12 | 16 11 10 9 |
| 275 | 41 23 16 13 | 18 12 11 10 |
| 300 | 48 26 17 14 | 21 13 12 11 |
| 325 | 55 29 19 15 | 24 15 14 12 |
| 350 | 62 32 20 16 | 26 16 15 12 |

| | | |
|------------|---|-----------|
| LPG | LHV = 25.89 kWh/m³; d = 1.555; W _i = 20.762 kWh/m³ | |
| 150 | 8 - - - | 4 - - - |
| 175 | 10 - - - | 5 - - - |
| 200 | 12 9 8 - | 6 5 5 - |
| 225 | 14 11 9 9 | 8 7 6 6 |
| 250 | 16 12 10 9 | 9 7 7 7 |
| 275 | 18 13 11 10 | 10 8 7 7 |
| 300 | 20 14 11 10 | 10 8 8 8 |
| 325 | 22 15 12 11 | 11 9 9 8 |
| 350 | 24 16 13 11 | 12 10 9 9 |

WM-G10/2-A, version ZM-LN

| | | |
|-------------------------|--|--|
| Burner rating kW | Low-pressure supply (with FRS regulator) | High-pressure supply (with HP regulator) |
| | Flow pressure into shutoff valve | F. p. into double valve assembly |
| | Nominal valve train diameter | Nominal valve train diameter |
| | 3/4" 1" 1 1/2" 2" 65 | 3/4" 1" 1 1/2" 2" 65 |
| | Nominal diameter of gas butterfly | Nominal diameter of gas butterfly |
| | 40 40 40 40 40 | 40 40 40 40 |

| | | |
|----------------------|---|----------------|
| Natural gas E | LHV = 10.35 kWh/m³; d = 0.606; W _i = 13.295 kWh/m³ | |
| 300 | 32 17 10 8 - | 12 7 6 5 - |
| 350 | 42 21 13 10 9 | 17 10 9 7 7 |
| 400 | 54 27 16 12 11 | 21 12 11 9 8 |
| 450 | 66 32 18 14 12 | 26 14 12 10 9 |
| 500 | 80 38 21 15 13 | 30 16 14 11 10 |
| 550 | 95 44 23 16 14 | 36 18 16 12 11 |
| 600 | 111 50 26 18 15 | 41 21 18 13 12 |
| 630 | 121 55 28 19 16 | 45 22 19 14 13 |

| | | |
|-----------------------|--|----------------|
| Natural gas LL | LHV = 8.83 kWh/m³; d = 0.641; W _i = 11.029 kWh/m³ | |
| 300 | 44 22 13 10 9 | 17 9 8 7 6 |
| 350 | 58 28 16 12 11 | 22 12 11 9 8 |
| 400 | 75 36 20 14 13 | 29 16 14 11 10 |
| 450 | 92 43 23 16 14 | 35 18 16 12 11 |
| 500 | 112 51 27 18 16 | 42 21 18 13 12 |
| 550 | 134 60 30 20 17 | 49 24 20 15 13 |
| 600 | 157 69 34 22 19 | 57 27 23 16 15 |
| 630 | 172 76 37 23 20 | 62 29 24 17 15 |

| | | |
|------------|---|--------------|
| LPG | LHV = 25.89 kWh/m³; d = 1.555; W _i = 20.762 kWh/m³ | |
| 300 | 16 10 - - - | 6 4 - - - |
| 350 | 21 12 9 - - | 9 6 5 - - |
| 400 | 27 16 11 10 9 | 12 8 8 7 7 |
| 450 | 31 17 12 10 9 | 13 9 8 7 7 |
| 500 | 37 19 13 10 9 | 15 9 8 7 7 |
| 550 | 42 22 13 10 10 | 17 10 9 7 7 |
| 600 | 49 24 14 11 10 | 19 10 9 7 7 |
| 630 | 53 26 15 11 10 | 20 11 10 7 7 |

WM-G10/3-A, version ZM-LN

| | | |
|-------------------------|--|--|
| Burner rating kW | Low-pressure supply (with FRS regulator) | High-pressure supply (with HP regulator) |
| | Flow pressure into shutoff valve | F. p. into double valve assembly |
| | Nominal valve train diameter | Nominal valve train diameter |
| | 3/4" 1" 1 1/2" 2" 65 80 100 | 3/4" 1" 1 1/2" 2" 65 80 100 |
| | Nominal diameter of gas butterfly | Nominal diameter of gas butterfly |
| | 50 50 50 50 50 50 50 | 50 50 50 50 50 50 50 |

| | | |
|----------------------|---|----------------------|
| Natural gas E | LHV = 10.35 kWh/m³; d = 0.606; W _i = 13.295 kWh/m³ | |
| 450 | 63 29 16 11 10 9 9 | 23 11 10 7 6 6 6 |
| 500 | 77 35 19 13 11 11 10 | 28 14 12 9 8 8 8 |
| 550 | 93 42 22 15 13 12 12 | 34 17 14 10 10 9 9 |
| 600 | 110 50 25 17 15 14 13 | 40 20 17 12 11 11 11 |
| 650 | 128 57 29 19 16 15 15 | 47 23 19 14 12 12 12 |
| 700 | 147 65 32 20 17 16 15 | 53 25 21 15 13 13 13 |
| 750 | 167 73 35 21 18 17 16 | 60 28 23 16 14 14 13 |
| 800 | 189 81 38 23 19 18 17 | 67 30 25 17 15 14 14 |
| 850 | 212 90 42 25 20 18 18 | 74 33 27 18 16 15 15 |
| 900 | 236 100 45 26 21 19 18 | 82 36 29 19 17 16 15 |

| | | |
|-----------------------|--|-----------------------|
| Natural gas LL | LHV = 8.83 kWh/m³; d = 0.641; W _i = 11.029 kWh/m³ | |
| 450 | 89 39 20 12 11 10 10 | 31 15 12 8 7 7 7 |
| 500 | 109 48 23 15 13 12 11 | 39 18 15 10 9 9 9 |
| 550 | 131 57 28 17 15 14 13 | 46 21 18 12 11 10 10 |
| 600 | 155 67 32 20 16 15 15 | 55 25 21 14 13 12 12 |
| 650 | 181 78 37 22 18 17 16 | 64 29 24 16 14 14 13 |
| 700 | 208 89 41 24 20 18 17 | 73 32 26 17 15 15 14 |
| 750 | 238 100 45 26 21 19 18 | 82 36 29 18 16 16 15 |
| 800 | 269 113 50 28 22 20 19 | 93 40 32 20 17 17 16 |
| 850 | - 126 55 30 24 21 20 | 103 44 35 21 18 18 17 |
| 900 | - 140 60 32 25 22 21 | 115 48 38 23 19 18 18 |

| | | |
|------------|---|----------------------|
| LPG | LHV = 25.89 kWh/m³; d = 1.555; W _i = 20.762 kWh/m³ | |
| 450 | 30 16 10 8 - - - | 12 7 6 5 - - - |
| 500 | 36 19 12 10 9 9 9 | 15 9 8 7 6 6 6 |
| 550 | 43 23 14 11 11 10 10 | 18 11 10 8 8 8 7 |
| 600 | 51 26 16 13 12 12 11 | 21 13 11 10 9 9 9 |
| 650 | 59 30 19 15 14 13 13 | 25 15 13 11 11 10 10 |
| 700 | 68 34 21 16 15 14 14 | 28 16 15 12 12 11 11 |
| 750 | 76 37 22 16 15 14 14 | 31 17 15 12 12 12 12 |
| 800 | 85 41 23 17 15 15 15 | 34 19 16 13 12 12 12 |
| 850 | 94 45 25 18 16 15 15 | 37 20 17 13 13 12 12 |
| 900 | 104 49 26 18 16 16 15 | 40 21 18 14 13 13 13 |

WM-G10/4-A, version ZM-LN

| | | |
|-------------------------|--|--|
| Burner rating kW | Low-pressure supply (with FRS regulator) | High-pressure supply (with HP regulator) |
| | Flow pressure into shutoff valve | F. p. into double valve assembly |
| | Nominal valve train diameter | Nominal valve train diameter |
| | 3/4" 1" 1 1/2" 2" 65 80 100 | 3/4" 1" 1 1/2" 2" 65 80 100 |
| | Nominal diameter of gas butterfly | Nominal diameter of gas butterfly |
| | 50 50 50 50 50 50 50 | 50 50 50 50 50 50 50 |

| | | |
|----------------------|---|-----------------------|
| Natural gas E | LHV = 10.35 kWh/m³; d = 0.606; W _i = 13.295 kWh/m³ | |
| 650 | 131 60 32 22 19 18 18 | 50 26 22 17 16 15 15 |
| 700 | 150 68 35 23 20 19 18 | 56 28 24 18 16 16 16 |
| 750 | 170 76 38 25 21 20 19 | 63 31 26 19 17 17 16 |
| 800 | 192 84 41 26 22 21 20 | 70 34 28 20 18 18 17 |
| 850 | 215 94 45 28 23 22 21 | 77 36 30 21 19 18 18 |
| 900 | 239 103 49 29 25 23 22 | 85 39 32 22 20 19 19 |
| 950 | 265 113 53 31 26 24 22 | 94 43 35 23 21 20 20 |
| 1000 | 292 124 57 33 27 25 23 | 103 46 37 24 22 21 20 |
| 1050 | - 135 61 35 28 26 24 | 112 49 40 26 23 22 21 |
| 1100 | - 147 66 37 29 27 25 | 122 53 42 27 24 23 22 |

| | | |
|-----------------------|--|-----------------------|
| Natural gas LL | LHV = 8.83 kWh/m³; d = 0.641; W _i = 11.029 kWh/m³ | |
| 650 | 185 82 41 26 22 21 20 | 68 33 28 20 18 18 17 |
| 700 | 212 93 45 28 24 22 21 | 77 36 30 21 19 19 18 |
| 750 | 242 104 50 30 25 23 22 | 87 40 33 23 20 20 19 |
| 800 | 273 117 54 32 27 24 23 | 97 44 36 24 21 21 20 |
| 850 | - 130 59 34 28 26 24 | 108 48 39 25 23 22 21 |
| 900 | - 144 65 37 30 27 25 | 119 52 42 27 24 23 22 |
| 950 | - 159 70 39 31 28 26 | 131 57 45 29 25 24 23 |
| 1000 | - 174 76 42 33 29 27 | - 61 49 30 26 25 24 |
| 1050 | - 190 82 44 34 31 29 | - 66 52 32 27 26 25 |
| 1100 | - 207 89 47 36 32 30 | - 71 56 33 29 27 26 |

| | | |
|------------|---|----------------------|
| LPG | LHV = 25.89 kWh/m³; d = 1.555; W _i = 20.762 kWh/m³ | |
| 650 | 62 33 21 17 16 16 16 | 27 17 16 14 13 13 13 |
| 700 | 70 36 23 18 17 16 16 | 30 18 17 14 14 13 13 |
| 750 | 78 40 24 19 17 16 16 | 33 20 18 15 14 14 14 |
| 800 | 87 43 26 19 17 17 17 | 36 21 19 15 15 14 14 |
| 850 | 97 47 27 20 18 18 17 | 39 22 20 16 15 15 15 |
| 900 | 107 51 29 21 19 18 18 | 42 23 21 16 15 15 15 |
| 950 | 117 55 30 22 19 18 18 | 46 25 22 17 16 16 16 |
| 1000 | 129 60 32 23 20 19 19 | 50 26 23 17 16 16 16 |
| 1050 | 140 65 34 23 21 20 19 | 53 28 24 18 17 17 16 |
| 1100 | 153 69 36 24 21 20 19 | 58 29 25 19 17 17 17 |

Nat. gas: Capacity with comb. head
 Closed — Open —
 LPG: Capacity with comb. head
 Closed — Open —

Please refer to page 15 for notes on the gas supply.

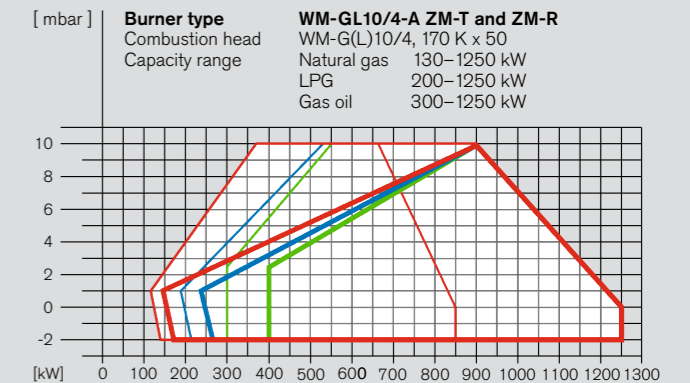
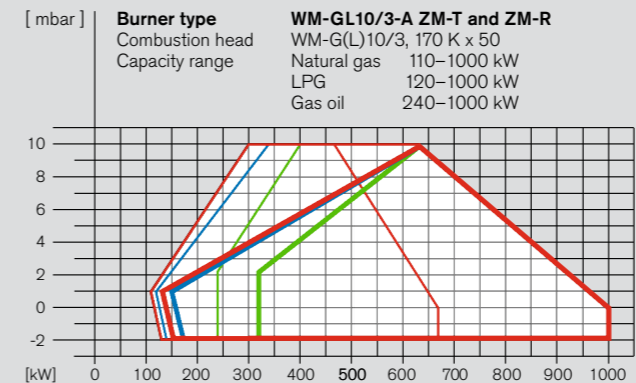
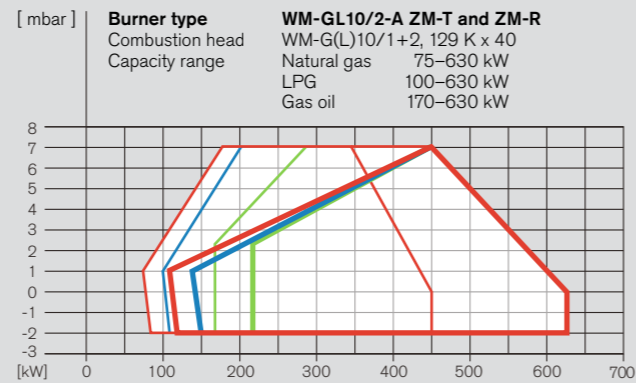
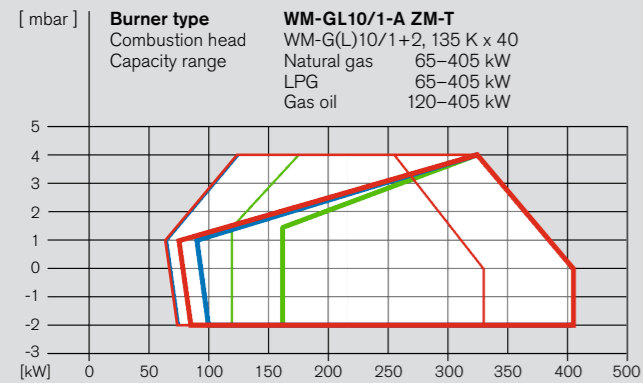
The LHV is referenced to 0 °C and 1013 mbar atmospheric. All pressures are in mbar.

Please refer to page 15 for notes on the gas supply.

The LHV is referenced to 0 °C and 1013 mbar atmospheric. All pressures are in mbar.

Burner selection / gas valve train sizing

WM-GL10, versions ZM-T and ZM-R



| WM-GL10/1-A, version ZM-T | | | | |
|--|--|-----------|--|-----------|
| Burner rating kW | Low-pressure supply (with FRS regulator) | | High-pressure supply (with HP regulator) | |
| | Flow pressure into shutoff valve | | F. p. into double valve assembly | |
| | Nominal valve train diameter | | Nominal valve train diameter | |
| | ¾" | 1" 1½" 2" | ¾" | 1" 1½" 2" |
| | Nominal diameter of gas butterfly | | Nominal diameter of gas butterfly | |
| | 40 | 40 40 40 | 40 | 40 40 40 |
| Natural gas E LHV = 10.35 kWh/m³; d = 0.606; W _i = 13.295 kWh/m³ | | | | |
| 150 | 12 | - | 5 | - |
| 175 | 14 | 9 | 6 | 4 |
| 200 | 16 | 10 | 6 | 4 |
| 225 | 19 | 11 | 7 | 4 |
| 250 | 22 | 12 | 8 | 5 |
| 275 | 26 | 14 | 10 | 5 |
| 300 | 31 | 16 | 11 | 6 |
| 350 | 41 | 20 | 15 | 8 |
| 405 | 53 | 25 | 20 | 11 |
| Natural gas LL LHV = 8.83 kWh/m³; d = 0.641; W _i = 11.029 kWh/m³ | | | | |
| 150 | 15 | 10 | 7 | 5 |
| 175 | 18 | 11 | 8 | 5 |
| 200 | 22 | 12 | 9 | 6 |
| 225 | 26 | 14 | 10 | 6 |
| 250 | 31 | 16 | 12 | 6 |
| 275 | 37 | 18 | 13 | 7 |
| 300 | 43 | 21 | 16 | 9 |
| 350 | 57 | 27 | 21 | 11 |
| 405 | 75 | 35 | 28 | 14 |
| LPG LHV = 25.89 kWh/m³; d = 1.555; W _i = 20.762 kWh/m³ | | | | |
| 150 | 8 | - | 4 | - |
| 175 | 9 | - | 4 | - |
| 200 | 10 | - | 4 | - |
| 225 | 11 | - | 5 | - |
| 250 | 12 | 8 | 5 | 4 |
| 275 | 14 | 9 | 6 | 4 |
| 300 | 16 | 10 | 7 | 5 |
| 350 | 21 | 12 | 9 | 6 |
| 405 | 27 | 15 | 12 | 8 |

| WM-GL10/2-A, versions ZM-T and ZM-R | | | | |
|--|--|-----------|--|-----------|
| Burner rating kW | Low-pressure supply (with FRS regulator) | | High-pressure supply (with HP regulator) | |
| | Flow pressure into shutoff valve | | F. p. into double valve assembly | |
| | Nominal valve train diameter | | Nominal valve train diameter | |
| | ¾" | 1" 1½" 2" | ¾" | 1" 1½" 2" |
| | Nominal diameter of gas butterfly | | Nominal diameter of gas butterfly | |
| | 40 | 40 40 40 | 40 | 40 40 40 |
| Natural gas E LHV = 10.35 kWh/m³; d = 0.606; W _i = 13.295 kWh/m³ | | | | |
| 300 | 29 | 14 | 10 | 5 |
| 350 | 39 | 19 | 14 | 7 |
| 400 | 51 | 24 | 18 | 9 |
| 450 | 63 | 29 | 23 | 12 |
| 500 | 77 | 35 | 28 | 14 |
| 550 | 92 | 41 | 33 | 16 |
| 600 | 109 | 48 | 39 | 18 |
| 630 | 119 | 53 | 43 | 20 |
| Natural gas LL LHV = 8.83 kWh/m³; d = 0.641; W _i = 11.029 kWh/m³ | | | | |
| 300 | 42 | 20 | 15 | 7 |
| 350 | 56 | 26 | 20 | 8 |
| 400 | 72 | 33 | 26 | 11 |
| 450 | 90 | 41 | 33 | 13 |
| 500 | 110 | 49 | 40 | 16 |
| 550 | 132 | 58 | 47 | 22 |
| 600 | 155 | 68 | 55 | 26 |
| 630 | 171 | 74 | 60 | 28 |
| LPG LHV = 25.89 kWh/m³; d = 1.555; W _i = 20.762 kWh/m³ | | | | |
| 300 | 15 | 9 | 6 | 3 |
| 350 | 20 | 11 | 8 | 5 |
| 400 | 25 | 14 | 10 | 7 |
| 450 | 31 | 17 | 13 | 8 |
| 500 | 37 | 20 | 15 | 9 |
| 550 | 44 | 23 | 18 | 11 |
| 600 | 51 | 26 | 21 | 12 |
| 630 | 55 | 28 | 23 | 13 |

| WM-GL10/3-A, versions ZM-T and ZM-R | | | | |
|--|--|-----------|--|-----------|
| Burner rating kW | Low-pressure supply (with FRS regulator) | | High-pressure supply (with HP regulator) | |
| | Flow pressure into shutoff valve | | F. p. into double valve assembly | |
| | Nominal valve train diameter | | Nominal valve train diameter | |
| | ¾" | 1" 1½" 2" | ¾" | 1" 1½" 2" |
| | Nominal diameter of gas butterfly | | Nominal diameter of gas butterfly | |
| | 50 | 50 50 50 | 50 | 50 50 50 |
| Natural gas E LHV = 10.35 kWh/m³; d = 0.606; W _i = 13.295 kWh/m³ | | | | |
| 500 | 73 | 31 | 24 | 10 |
| 550 | 88 | 37 | 29 | 12 |
| 600 | 104 | 44 | 34 | 14 |
| 650 | 121 | 51 | 40 | 16 |
| 700 | 140 | 58 | 46 | 19 |
| 750 | 160 | 66 | 53 | 21 |
| 800 | 182 | 75 | 60 | 24 |
| 850 | 205 | 84 | 67 | 26 |
| 900 | 229 | 93 | 75 | 29 |
| 950 | 255 | 103 | 84 | 32 |
| 1000 | 282 | 114 | 92 | 36 |
| Natural gas LL LHV = 8.83 kWh/m³; d = 0.641; W _i = 11.029 kWh/m³ | | | | |
| 500 | 105 | 44 | 34 | 14 |
| 550 | 126 | 52 | 41 | 17 |
| 600 | 149 | 62 | 49 | 20 |
| 650 | 175 | 72 | 58 | 23 |
| 700 | 202 | 82 | 67 | 26 |
| 750 | 231 | 94 | 76 | 30 |
| 800 | 262 | 106 | 86 | 34 |
| 850 | 296 | 119 | 97 | 37 |
| 900 | - | 133 | 108 | 42 |
| 950 | - | 148 | 120 | 46 |
| 1000 | - | 163 | 133 | 51 |
| LPG LHV = 25.89 kWh/m³; d = 1.555; W _i = 20.762 kWh/m³ | | | | |
| 500 | 33 | 16 | 12 | 6 |
| 550 | 40 | 19 | 14 | 7 |
| 600 | 47 | 22 | 17 | 8 |
| 650 | 54 | 25 | 19 | 9 |
| 700 | 62 | 29 | 22 | 11 |
| 750 | 71 | 32 | 25 | 12 |
| 800 | 80 | 36 | 29 | 14 |
| 850 | 90 | 40 | 32 | 15 |
| 900 | 100 | 44 | 35 | 17 |
| 950 | 111 | 49 | 39 | 18 |
| 1000 | 122 | 53 | 43 | 20 |

| WM-GL10/4-A, versions ZM-T and ZM-R | | | | |
|--|--|----------|--|----------|
| Burner rating kW | Low-pressure supply (with FRS regulator) | | High-pressure supply (with HP regulator) | |
| | Flow pressure into shutoff valve | | F. p. into double valve assembly | |
| | Nominal valve train diameter | | Nominal valve train diameter | |
| | 1" | 1½" 2" | 1" | 1½" 2" |
| | Nominal diameter of gas butterfly | | Nominal diameter of gas butterfly | |
| | 50 | 50 50 50 | 50 | 50 50 50 |
| Natural gas E LHV = 10.35 kWh/m³; d = 0.606; W _i = 13.295 kWh/m³ | | | | |
| 600 | 45 | 20 | 15 | 12 |
| 700 | 60 | 27 | 20 | 16 |
| 800 | 77 | 34 | 26 | 21 |
| 900 | 95 | 41 | 31 | 24 |
| 1000 | 115 | 48 | 37 | 28 |
| 1100 | 137 | 55 | 43 | 32 |
| 1200 | 160 | 64 | 49 | 37 |
| 1250 | 173 | 68 | 52 | 39 |
| Natural gas LL LHV = 8.83 kWh/m³; d = 0.641; W _i = 11.029 kWh/m³ | | | | |
| 600 | 62 | 27 | 20 | 16 |
| 700 | 84 | 36 | 28 | 22 |
| 800 | 109 | 46 | 36 | 28 |
| 900 | 135 | 56 | 43 | 33 |
| 1000 | 164 | 66 | 51 | 39 |
| 1100 | 195 | 77 | 60 | 45 |
| 1200 | 230 | 90 | 69 | 51 |
| 1250 | 249 | 96 | 74 | 55 |
| LPG LHV = 25.89 kWh/m³; d = 1.555; W _i = 20.762 kWh/m³ | | | | |
| 600 | 22 | 12 | 8 | 7 |
| 700 | 28 | 14 | 10 | 8 |
| 800 | 35 | 17 | 13 | 10 |
| 900 | 42 | 20 | 15 | 12 |
| 1000 | 51 | 23 | 17 | 14 |
| 1100 | 60 | 26 | 20 | 15 |
| 1200 | 69 | 30 | 22 | 17 |
| 1250 | 75 | 32 | 24 | 18 |

Nat. gas: Capacity with comb. head
Closed — (red line)
Open — (red line)

LPG: Capacity with comb. head
Closed — (blue line)
Open — (blue line)

Gas oil: Capacity with comb. head
Closed — (green line)
Open — (green line)

Please refer to page 15 for notes on the gas supply.

The LHV is referenced to 0 °C and 1013 mbar atmospheric. All pressures are in mbar.

Please refer to page 15 for notes on the gas supply.

The LHV is referenced to 0 °C and 1013 mbar atmospheric. All pressures are in mbar.

Scope of delivery

| Description | WM-L10 T | WM-L10 R | WM-G10 ZM WM-G10 ZM-LN | WM-GL10 ZM-T | WM-GL10 ZM-R |
|---|----------|----------|---------------------------|--------------|--------------|
| Burner housing, hinged flange, housing cover, Weishaupt burner motor, air inlet housing, fan wheel, combustion head, ignition unit, ignition cable, ignition electrodes, combustion manager with control unit, flame sensor, actuators, flange gasket, limit switch on hinged flange, fixing screws | ● | ● | ● | ● | ● |
| Digital combustion manager W-FM 50 | ● | ● | ● | - | - |
| W-FM 54 | - | - | - | ● | ● |
| W-FM 100 | ○ | ○ | ○ | ○ | ○ |
| W-FM 200 | ○ | ○ | ○ | ○ | ○ |
| Valve proving via pressure switch and W-FM | - | - | ● | ● | ● |
| Class-A double gas valve assembly | - | - | ● | ● | ● |
| Gas butterfly valve | - | - | ● | ● | ● |
| Air pressure switch | ○ | ○ | ● | ● | ● |
| Low gas pressure switch | - | - | ● | ● | ● |
| Preset, capacity-based mixing assembly | ● | ● | ● | ● | ● |
| Actuators for compound regulation of fuel and air via W-FM: | | | | | |
| Air damper actuator | ● | ● | ● | ● | ● |
| Gas butterfly valve actuator | - | - | ● | ● | ● |
| Oil regulator actuator | - | ● | - | - | ● |
| Oil pressure switch in return | - | ● | - | - | ● |
| Oil pump fitted to burner | ● | ● | - | ● | ● |
| Oil hoses | ● | ● | - | ● | ● |
| 4 oil solenoid valves, oil regulator, nozzle head with pre-installed regulating nozzle | - | ● | - | - | ● |
| 3 oil solenoid valves, three-stage nozzle head with pre-installed oil nozzles | ● | - | - | ● | - |
| 1 additional safety solenoid valve | ○ | - | - | ● | - |
| Electromagnetic clutch | ○ | ○ | - | ○ | ● |
| DOL motor contactor fitted to motor ¹⁾ | ● | ● | ● ²⁾ | ● | ● |
| IP 54 protection | ● | ● | ● | ● | ● |

EN 676 stipulates that ball valves, gas filters, and gas pressure regulators form part of the burner supply (see Weishaupt accessories list). Gas valve train handing should be confirmed at the time of order. If not otherwise specified, the burner will be supplied configured for a right-handed gas valve train. The burner can be altered for the opposite gas valve train handing through rotation of the gas butterfly valve and actuator.

Please enquire or see the special equipment section of this brochure for further burner executions.

- 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).

²⁾ The WM-G10/4-A ZM-LN is equipped with VSD as standard (55 Hz motor)

Order numbers

Oil burners, version T

| Burner type | Version | Order No. |
|-------------|---------|------------|
| WM-L10/1-A | T | 211 110 10 |
| WM-L10/2-A | T | 211 110 20 |
| WM-L10/3-A | T | 211 110 30 |
| WM-L10/4-A | T | 211 110 40 |

DIN CERTCO: 5G1010

Gas burners, version ZM-LN

| Burner type | Version | Gas valve assembly size | Order No. |
|-------------|------------|-------------------------|------------|
| WM-G10/1-A | ZM | R ¾ | 217 111 10 |
| | | R 1 | 217 111 11 |
| | | R 1½ | 217 111 12 |
| | | R 2 | 217 111 13 |
| WM-G10/2-A | ZM | R ¾ | 217 114 10 |
| | | R 1 | 217 114 11 |
| | | R 1½ | 217 114 12 |
| | | R 2 | 217 114 13 |
| | | DN 65 | 217 114 14 |
| WM-G10/3-A | ZM | R ¾ | 217 117 10 |
| | | R 1 | 217 117 11 |
| | | R 1½ | 217 117 12 |
| | | R 2 | 217 117 13 |
| | | DN 65 | 217 117 14 |
| | | DN 80 | 217 117 15 |
| WM-G10/4-A | ZM | DN 100 | 217 117 16 |
| | | R 1 | 217 120 11 |
| | | R 1½ | 217 120 12 |
| | | R 2 | 217 120 13 |
| | | DN 65 | 217 120 14 |
| DN 80 | 217 120 15 | | |
| DN 100 | 217 120 16 | | |

CE-PIN: CE 0085BQ0027

Oil burners, version R

| Burner type | Version | Order No. |
|-------------|---------|------------|
| WM-L10/2-A | R | 215 110 20 |
| WM-L10/3-A | R | 215 110 30 |
| WM-L10/4-A | R | 215 110 40 |

DIN CERTCO: 5G1010

Gas burners, version ZM

| Burner type | Version | Gas valve assembly size | Order No. |
|-------------|------------|-------------------------|------------|
| WM-G10/1-A | ZM-LN | R ¾ | 217 112 10 |
| | | R 1 | 217 112 11 |
| | | R 1½ | 217 112 12 |
| | | R 2 | 217 112 13 |
| WM-G10/2-A | ZM-LN | R ¾ | 217 115 10 |
| | | R 1 | 217 115 11 |
| | | R 1½ | 217 115 12 |
| | | R 2 | 217 115 13 |
| | | DN 65 | 217 115 14 |
| WM-G10/3-A | ZM-LN | R ¾ | 217 118 10 |
| | | R 1 | 217 118 11 |
| | | R 1½ | 217 118 12 |
| | | R 2 | 217 118 13 |
| | | DN 65 | 217 118 14 |
| | | DN 80 | 217 118 15 |
| WM-G10/4-A | ZM-LN | DN 100 | 217 118 16 |
| | | R ¾ | 217 127 10 |
| | | R 1 | 217 127 11 |
| | | R 1½ | 217 127 12 |
| | | R 2 | 217 127 13 |
| DN 65 | 217 127 14 | | |
| DN 80 | 217 127 15 | | |
| DN 100 | 217 127 16 | | |

CE-PIN: CE 0085BQ0027

Order numbers

Special equipment WM-L10, version T

Dual-fuel burners, version ZM-T

| Burner type | Version | Gas valve assembly size | Order No. |
|-------------|---------|-------------------------|------------|
| WM-GL10/1-A | ZM-T | R ¾ | 218 111 10 |
| | | R 1 | 218 111 11 |
| | | R 1½ | 218 111 12 |
| | | R 2 | 218 111 13 |
| WM-GL10/2-A | ZM-T | R ¾ | 218 112 10 |
| | | R 1 | 218 112 11 |
| | | R 1½ | 218 112 12 |
| | | R 2 | 218 112 13 |
| WM-GL10/3-A | ZM-T | DN 65 | 218 112 14 |
| | | R ¾ | 218 113 10 |
| | | R 1 | 218 113 11 |
| | | R 1½ | 218 113 12 |
| | | R 2 | 218 113 13 |
| WM-GL10/4-A | ZM-T | DN 65 | 218 113 14 |
| | | DN 80 | 218 113 15 |
| | | DN 100 | 218 113 16 |
| | | R 1 | 218 114 11 |
| | | R 1½ | 218 114 12 |
| WM-GL10/4-A | ZM-T | R 2 | 218 114 13 |
| | | DN 65 | 218 114 14 |
| | | DN 80 | 218 114 15 |
| | | DN 100 | 218 114 16 |

CE-PIN: CE 0085BR0136
DIN CERTCO: 5G1025M

Dual-fuel burners, version ZM-R

| Burner type | Version | Gas valve assembly size | Order No. |
|-------------|---------|-------------------------|------------|
| WM-GL10/2-A | ZM-R | R ¾ | 218 115 10 |
| | | R 1 | 218 115 11 |
| | | R 1½ | 218 115 12 |
| | | R 2 | 218 115 13 |
| WM-GL10/3-A | ZM-R | DN 65 | 218 115 14 |
| | | R ¾ | 218 116 10 |
| | | R 1 | 218 116 11 |
| | | R 1½ | 218 116 12 |
| WM-GL10/4-A | ZM-R | R 2 | 218 116 13 |
| | | DN 65 | 218 116 14 |
| | | DN 80 | 218 116 15 |
| | | DN 100 | 218 116 16 |
| WM-GL10/4-A | ZM-R | R 1 | 218 117 11 |
| | | R 1½ | 218 117 12 |
| | | R 2 | 218 117 13 |
| | | DN 65 | 218 117 14 |
| WM-GL10/4-A | ZM-R | DN 80 | 218 117 15 |
| | | DN 100 | 218 117 16 |

CE-PIN: CE 0085BR0136
DIN CERTCO: 5G1025M

| Oil burners, version T | WM-L10/1-A | WM-L10/2-A | WM-L10/3-A | WM-L10/4-A |
|---|--|----------------|----------------|----------------|
| Pressure gauge with ball valve | 210 030 18 | 210 030 18 | 210 030 18 | 210 030 18 |
| Vacuum gauge with ball valve | 210 030 19 | 210 030 19 | 210 030 19 | 210 030 19 |
| Combustion head extension | by 100 mm by 200 mm | 210 030 16 | 210 030 00 | 210 030 02 |
| | | 210 030 17 | 210 030 01 | 210 030 03 |
| Oil hoses, 1300 mm in lieu of 1000 mm | 210 003 00 | 210 003 00 | 210 003 00 | 210 003 00 |
| Two-stage operation with low-impact start or changeover | 210 030 31 | 210 030 31 | 210 030 31 | 210 030 31 |
| Air inlet flange for ducted-air connection with LGW air pressure switch (additional LGW 50 required) | for connection from rear for connection from above for connection from below | 210 030 20 | 210 030 20 | 210 030 20 |
| | | 250 034 10 | 250 034 10 | 250 034 10 |
| Air inlet flange for ducted-air connection with LGW air pressure switch (in conjunction with electromagnetic clutch) | for connection from rear for connection from above for connection from below | Please enquire | Please enquire | Please enquire |
| | | 250 032 94 | 250 032 94 | 250 032 94 |
| LGW 50 air pressure switch ²⁾ | | 250 033 89 | 250 033 89 | 250 033 89 |
| | | 254 034 89 | 254 034 89 | 254 034 89 |
| VZ08 oil meter with additional safety shutoff device | 210 030 08 | 210 030 08 | 210 030 08 | 210 030 08 |
| VZ08 oil meter with low-frequency transmitter for external wiring and additional safety shutoff device | 210 030 07 | 210 030 07 | 210 030 07 | 210 030 07 |
| VZ08 oil meter with high-frequency transmitter for internal wiring (W-FM50/200) | 210 031 19 | 210 031 19 | 210 031 19 | 210 031 19 |
| VZ08 oil meter with high-frequency transmitter for external wiring and additional safety shutoff device | 210 031 10 | 210 031 10 | 210 031 10 | 210 031 10 |
| ST 18/7 and ST 18/4 plug connections (W-FM50 / 100 / 200) | 210 030 13 | 210 030 13 | 210 030 13 | 210 030 13 |
| ST 18/7 plug connection (W-FM50 with KS20) | 250 031 06 | 250 031 06 | 250 031 06 | 250 031 06 |
| Burner-mounted KS20 controller (W-FM50) | 250 033 15 | 250 033 15 | 250 033 15 | 250 033 15 |
| W-FM 100 (suitable for continuous firing) in lieu of W-FM50 ²⁾ | burner-mounted supplied loose | 210 030 32 | 210 030 32 | 210 030 32 |
| | | 210 030 87 | 210 030 87 | 210 030 87 |
| Solenoid valve as additional safety shutoff device ²⁾ | 210 030 06 | 210 030 06 | 210 030 06 | 210 030 06 |
| DSB 158 oil pressure switch in supply ²⁾ | 210 030 23 | 210 030 23 | 210 030 23 | 210 030 23 |
| QRI flame sensor in lieu of QRB ²⁾ | 210 030 24 | 210 030 24 | 210 030 24 | 210 030 24 |
| Integral load controller and analogue signal convertor for W-FM 100 | 110 017 18 | 110 017 18 | 110 017 18 | 110 017 18 |
| W-FM200 in lieu of W-FM50, with integral load controller, analogue signal convertor, and VSD module with optional fuel metering | 210 030 10 | 210 030 10 | 210 030 10 | 210 030 10 |
| VSD with integral frequency convertor (W-FM50/200 required) | 210 030 11 | 210 030 11 | 210 030 11 | 210 030 11 |
| VSD with separate frequency convertor (W-FM200 required) (See accessories list for frequency convertor) | 210 030 12 | 210 030 12 | 210 030 12 | 210 030 12 |
| W-FM200 with extended CO / FGR functionality | 250 033 78 | 250 033 78 | 250 033 78 | 250 033 78 |
| WM-D90 motor with 230 V contactor and overload protection ¹⁾ | 250 030 86 | 250 030 86 | 250 030 86 | 250 030 86 |
| ABE with Chinese-character display, supplied loose (W-FM 100 / 200) | 110 018 53 | 110 018 53 | 110 018 53 | 110 018 53 |
| 110 V control voltage | 250 031 72 | 250 031 72 | 250 031 72 | 250 031 72 |

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⁾ Required for PED (2014/68/EU) compliance.

Country-specific executions and special voltages on application

Special equipment WM-L10, version R

| Oil burners, version R | WM-L10/2-A | WM-L10/3-A | WM-L10/4-A |
|---|--|--|--|
| Pressure gauge with ball valve on pump | 210 000 92 | 210 000 92 | 210 000 92 |
| Pressure gauge with ball valve in return | 210 002 64 | 210 002 64 | 210 002 64 |
| Combustion head extension | by 100 mm by 200 mm | 210 030 25 210 030 26 | 210 030 27 210 030 28 |
| Oil hoses, 1300 mm in lieu of 1000 mm | 210 003 00 | 210 003 00 | 210 003 00 |
| Air inlet flange for ducted-air connection with LGW air pressure switch (additional LGW 50 required) | for connection from rear for connection from above | 210 030 20 250 034 10 | 210 030 20 250 034 10 |
| Air inlet flange for ducted-air connection with LGW air pressure switch (in conjunction with electromagnetic clutch) | for connection from rear for connection from above for connection from below | 250 032 94 250 033 89 254 034 89 | 250 032 94 250 033 89 254 034 89 |
| LGW 50 air pressure switch ³⁾ | 210 030 08 | 210 030 08 | 210 030 08 |
| ST 18/7 and ST 18/4 plug connections (W-FM 50 / 100 / 200) | 210 030 13 | 210 030 13 | 210 030 13 |
| ST 18/7 plug connection (W-FM 50 with KS20) | 250 031 06 | 250 031 06 | 250 031 06 |
| Burner-mounted KS20 controller (W-FM 50) | 250 033 15 | 250 033 15 | 250 033 15 |
| W-FM 100 (suitable for continuous firing) in lieu of W-FM 50 ³⁾ | burner-mounted supplied loose | 210 030 38 210 030 87 | 210 030 38 210 030 87 |
| DSB 158 oil pressure switch in supply ³⁾ | 210 030 23 | 210 030 23 | 210 030 23 |
| QRI flame sensor in lieu of QRB ³⁾ | 210 030 24 | 210 030 24 | 210 030 24 |
| Integral load controller and analogue signal convertor for W-FM 100 | 110 017 18 | 110 017 18 | 110 017 18 |
| W-FM 200 in lieu of W-FM 50 with integral load controller, analogue signal convertor, and VSD module, with optional fuel metering | 210 030 39 | 210 030 39 | 210 030 39 |
| VSD with integral frequency convertor (W-FM 50 / 200 required) ¹⁾ | 210 030 11 | 210 030 11 | 210 030 11 |
| VSD with separate frequency convertor (W-FM 200 required) ¹⁾ (See accessories list for frequency convertor) | 210 030 12 | 210 030 12 | 210 030 12 |
| W-FM 200 with extended CO / FGR functionality | 250 033 78 | 250 033 78 | 250 033 78 |
| WM-D90 motor with 230 V contactor and overload protection ²⁾ | 250 030 86 | 250 030 86 | 250 030 86 |
| ABE with Chinese-character display, supplied loose (W-FM 100 / 200) | 110 018 53 | 110 018 53 | 110 018 53 |
| 110 V control voltage | 250 031 72 | 250 031 72 | 250 031 72 |

Country-specific executions and special voltages on application

¹⁾ VSD with R-version burners:
General conditions for modulating capacity regulation when firing on oil:
– Frequency: min. 35 Hz
– Turndown: max. 3:1 (limitations on burner size 10/4)

²⁾ 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).

³⁾ Required for PED (2014/68/EU) compliance.

Special equipment WM-G10, version ZM

| Gas burners, version ZM | WM-G10/1-A | WM-G10/2-A | WM-G10/3-A | WM-G10/4-A |
|---|--|--|--|--|
| Combustion head extension | by 100 mm by 200 mm by 300 mm | 250 030 00 250 030 01 250 030 02 | 250 030 03 250 030 04 250 030 05 | 250 030 06 250 030 07 250 030 08 |
| Solenoid valve for air pressure switch test with continuous-run fan or post-purge | 250 030 21 | 250 030 21 | 250 030 21 | 250 030 21 |
| High gas pressure switch ²⁾ (Screwed W-MF / DMV for low-pressure supplies) | GW 50 A6/1 GW 150 A6/1 GW 500 A6/1 | 250 033 30 250 033 31 250 033 32 | 250 033 30 250 033 31 250 033 32 | 250 033 30 250 033 31 250 033 32 |
| High gas pressure switch ²⁾ (Flanged DMV for low-pressure supplies) | GW 50 A6/1 GW 150 A6/1 GW 500 A6/1 | 150 017 49 150 017 50 150 017 51 | 150 017 49 150 017 50 150 017 51 | 150 017 49 150 017 50 150 017 51 |
| High gas pressure switch ²⁾ (Fitted to high-pressure regulator) | GW 50 A6/1 GW 150 A6/1 GW 500 A6/1 | 250 033 33 250 033 34 250 033 35 | 250 033 33 250 033 34 250 033 35 | 250 033 33 250 033 34 250 033 35 |
| ST 18/7 and ST 18/4 plug connections (W-FM 50 / 100 / 200) | 250 030 22 | 250 030 22 | 250 030 22 | 250 030 22 |
| ST 18/7 plug connection (W-FM 50 with KS20) | 250 031 06 | 250 031 06 | 250 031 06 | 250 031 06 |
| Air inlet flange for ducted-air connection with LGW air pressure switch | for connection from rear for connection from above for connection from below | 250 030 24 Please enquire 250 034 88 | 250 030 24 Please enquire 250 034 88 | 250 030 24 Please enquire 250 034 88 |
| ST 18/7 plug connection (W-FM 50 with KS20) | 250 033 15 | 250 033 15 | 250 033 15 | 250 033 15 |
| W-FM 100 in lieu of W-FM 50 | burner-mounted supplied loose | 250 030 74 250 030 45 | 250 030 74 250 030 45 | 250 030 74 250 030 45 |
| Integral load controller & analogue signal convertor for W-FM 100 | 110 017 18 | 110 017 18 | 110 017 18 | 110 017 18 |
| W-FM 200 in lieu of W-FM 50 with integral load controller, analogue signal convertor, and VSD module, with optional fuel metering | burner-mounted supplied loose | 250 030 75 250 030 48 | 250 030 75 250 030 48 | 250 030 75 250 030 48 |
| VSD with integral frequency convertor (W-FM 50 / 200 required) | 210 030 11 | 210 030 11 | 210 030 11 | 210 030 11 |
| VSD with separate frequency convertor (W-FM 200 required) (See accessories list for frequency convertor) | 210 030 12 | 210 030 12 | 210 030 12 | 210 030 12 |
| W-FM 200 with extended CO / FGR functionality | 250 033 78 | 250 033 78 | 250 033 78 | 250 033 78 |
| WM-D90 motor with 230 V contactor and overload protection ¹⁾ | 250 030 86 | 250 030 86 | 250 030 86 | 250 030 86 |
| ABE with Chinese-character display, supplied loose (W-FM 100 / 200) | 110 018 53 | 110 018 53 | 110 018 53 | 110 018 53 |
| 110 V control voltage | 250 031 72 | 250 031 72 | 250 031 72 | 250 031 72 |
| Offset gas butterfly valve and gas valve assembly for vertical firing | 250 032 96 | 250 032 96 | 250 032 96 | 250 032 96 |

Country-specific executions and special voltages on application

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⁾ Required for PED (2014/68/EU) compliance.

Special equipment WM-G10, version ZM-LN

| Gas burners, version ZM-LN | | WM-G10/1-A | WM-G10/2-A | WM-G10/3-A | WM-G10/4-A |
|---|--|------------------------------|------------------------------|------------------------------|------------------------------|
| Combustion head extension | by 100 mm | 250 030 12 | 250 030 15 | 250 030 18 | 250 030 18 |
| | by 200 mm | 250 030 13 | 250 030 16 | 250 030 19 | 250 030 19 |
| | by 300 mm | 250 030 14 | 250 030 17 | 250 030 20 | 250 030 20 |
| Solenoid valve for air pressure switch test with continuous-run fan or post-purge | | 250 030 21 | 250 030 21 | 250 030 21 | 250 030 21 |
| High gas pressure switch ²⁾ (Screwed W-MF / DMV for low-pressure supplies) | GW 50 A6/1 | 250 033 30 | 250 033 30 | 250 033 30 | 250 033 30 |
| | GW 150 A6/1 | 250 033 31 | 250 033 31 | 250 033 31 | 250 033 31 |
| | GW 500 A6/1 | 250 033 32 | 250 033 32 | 250 033 32 | 250 033 32 |
| High gas pressure switch ²⁾ (Flanged DMV for low-pressure supplies) | GW 50 A6/1 | 150 017 49 | 150 017 49 | 150 017 49 | 150 017 49 |
| | GW 150 A6/1 | 150 017 50 | 150 017 50 | 150 017 50 | 150 017 50 |
| | GW 500 A6/1 | 150 017 51 | 150 017 51 | 150 017 51 | 150 017 51 |
| High gas pressure switch ²⁾ (Fitted to high-pressure regulator) | GW 50 A6/1 | 250 033 33 | 250 033 33 | 250 033 33 | 250 033 33 |
| | GW 150 A6/1 | 250 033 34 | 250 033 34 | 250 033 34 | 250 033 34 |
| | GW 500 A6/1 | 250 033 35 | 250 033 35 | 250 033 35 | 250 033 35 |
| ST 18/7 and ST 18/4 plug connections (W-FM50 / 100 / 200) | | 250 030 22 | 250 030 22 | 250 030 22 | 250 030 22 |
| ST 18/7 plug connection (W-FM50 with KS20) | | 250 031 06 | 250 031 06 | 250 031 06 | 250 031 06 |
| Air inlet flange for ducted-air connection with LGW air pressure switch | for connection from rear | 250 030 24 | 250 030 24 | 250 030 24 | 250 030 24 |
| | for connection from above for connection from below | Please enquire 250 034 88 | Please enquire 250 034 88 | Please enquire 250 034 88 | Please enquire 250 034 88 |
| Burner-mounted KS20 controller (W-FM 50) | | 250 033 15 | 250 033 15 | 250 033 15 | 250 033 15 |
| W-FM 100 in lieu of W-FM 50 | burner-mounted | 250 030 74 | 250 030 74 | 250 030 74 | – |
| | supplied loose | 250 030 45 | 250 030 45 | 250 030 45 | – |
| Integral load controller & analogue signal convertor for W-FM 00 | | 110 017 18 | 110 017 18 | 110 017 18 | – |
| W-FM 200 in lieu of W-FM 50 with integral load controller, analogue signal convertor, and VSD module, with optional fuel metering | burner-mounted | 250 030 75 | 250 030 75 | 250 030 75 | 250 030 75 |
| | supplied loose | 250 030 48 | 250 030 48 | 250 030 48 | 250 030 48 |
| VSD with integral frequency convertor (W-FM 50 / 200 required) | | 210 030 11 | 210 030 11 | 210 030 11 | Standard |
| VSD with separate frequency convertor (W-FM 200 required) (See accessories list for frequency convertor) | | 210 030 12 | 210 030 12 | 210 030 12 | Please enquire |
| W-FM 200 with extended CO / FGR functionality | | 250 033 78 | 250 033 78 | 250 033 78 | 250 033 78 |
| WM-D90 motor with 230 V contactor and overload protection ¹⁾ | | 250 030 86 | 250 030 86 | 250 030 86 | – |
| ABE with Chinese-character display, loose (W-FM 100 / 200) | | 110 018 53 | 110 018 53 | 110 018 53 | 110 018 53 |
| 110 V control voltage | | 250 031 72 | 250 031 72 | 250 031 72 | 250 031 72 |
| Offset gas butterfly valve and gas valve assembly for vertical firing | | 250 032 96 | 250 032 96 | 250 032 96 | 250 032 96 |

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⁾ Required for PED (2014/68/EU) compliance.

Country-specific executions and special voltages on application

Special equipment WM-GL10, version ZM-T

| Dual-fuel burners, version ZM-T | | WM-GL10/1-A | WM-GL10/2-A | WM-GL10/3-A | WM-GL10/4-A |
|---|--|------------------------------|------------------------------|------------------------------|------------------------------|
| Combustion head extension | by 100 mm | 250 030 50 | 250 030 53 | 250 030 56 | 250 030 59 |
| | by 200 mm | 250 030 51 | 250 030 54 | 250 030 57 | 250 030 60 |
| | by 300 mm | 250 030 52 | 250 030 55 | 250 030 58 | 250 030 61 |
| Solenoid valve for air pressure switch test with continuous-run fan or post-purge | | 250 030 21 | 250 030 21 | 250 030 21 | 250 030 21 |
| High gas pressure switch ²⁾ (Screwed W-MF / DMV for low-pressure supplies) | GW 50 A6/1 | 250 033 30 | 250 033 30 | 250 033 30 | 250 033 30 |
| | GW 150 A6/1 | 250 033 31 | 250 033 31 | 250 033 31 | 250 033 31 |
| | GW 500 A6/1 | 250 033 32 | 250 033 32 | 250 033 32 | 250 033 32 |
| High gas pressure switch ²⁾ (Flanged DMV for low-pressure supplies) | GW 50 A6/1 | 150 017 49 | 150 017 49 | 150 017 49 | 150 017 49 |
| | GW 150 A6/1 | 150 017 50 | 150 017 50 | 150 017 50 | 150 017 50 |
| | GW 500 A6/1 | 150 017 51 | 150 017 51 | 150 017 51 | 150 017 51 |
| High gas pressure switch ²⁾ (Fitted to high-pressure regulator) | GW 50 A6/1 | 250 033 33 | 250 033 33 | 250 033 33 | 250 033 33 |
| | GW 150 A6/1 | 250 033 34 | 250 033 34 | 250 033 34 | 250 033 34 |
| | GW 500 A6/1 | 250 033 35 | 250 033 35 | 250 033 35 | 250 033 35 |
| ST 18/7 and ST 18/4 plug connections (W-FM 54) | | 250 031 99 | 250 031 99 | 250 031 99 | 250 031 99 |
| ST 18/7 and ST 18/4 plug connections (W-FM 100 / 200) | | 250 032 01 | 250 032 01 | 250 032 01 | 250 032 01 |
| Oil hoses, 1300 mm in lieu of 1000 mm | | 210 003 00 | 210 003 00 | 210 003 00 | 210 003 00 |
| VZ08 oil meter without transmitter with additional safety shutoff device | | 250 030 46 | 250 030 46 | 250 030 46 | 250 030 46 |
| VZ08 oil meter with low-frequency transmitter for external wiring | | 250 030 47 | 250 030 47 | 250 030 47 | 250 030 47 |
| VZ08 oil meter with high-frequency transmitter for internal wiring (W-FM 54 or W-FM 200) | | 250 032 50 | 250 032 50 | 250 032 50 | 250 032 50 |
| Two-stage in lieu of three-stage (low-impact start / changeover) | | 210 030 31 | 210 030 31 | 210 030 31 | 210 030 31 |
| Electromagnetic clutch | | 250 030 44 | 250 030 44 | 250 030 44 | 250 030 44 |
| Air inlet flange for ducted-air connection with LGW air pressure switch | for connection from rear | 210 030 20 | 210 030 20 | 210 030 20 | 210 030 20 |
| | for connection from above for connection from below | 250 034 10 Please enquire | 250 034 10 Please enquire | 250 034 10 Please enquire | 250 034 10 Please enquire |
| Air inlet flange for ducted-air connection (in conjunction with electromagnetic clutch) | for connection from rear | 250 032 94 | 250 032 94 | 250 032 94 | 250 032 94 |
| | for connection from above for connection from below | 250 033 89 254 034 89 | 250 033 89 254 034 89 | 250 033 89 254 034 89 | 250 033 89 254 034 89 |
| DSB 158 oil pressure switch in supply ²⁾ (W-FM 100 / 200 required) | | 250 030 82 | 250 030 82 | 250 030 82 | 250 030 82 |
| W-FM 100 (suitable for continuous firing) in lieu of W-FM 54, with integral load controller and analogue signal convertor ²⁾ | burner-mounted | 250 031 78 | 250 031 78 | 250 031 78 | 250 031 78 |
| | supplied loose | 250 031 93 | 250 031 93 | 250 031 93 | 250 031 93 |
| W-FM 200 in lieu of W-FM 54 with integral load controller, analogue signal convertor and VSD module, with optional fuel metering | burner-mounted | 250 031 77 | 250 031 77 | 250 031 77 | 250 031 77 |
| | supplied loose | 250 031 62 | 250 031 62 | 250 031 62 | 250 031 62 |
| VSD with integral frequency convertor (W-FM 54 / 200 required) | | 210 030 11 | 210 030 11 | 210 030 11 | 210 030 11 |
| VSD with separate frequency convertor (W-FM 200 required) (See accessories list for frequency convertor) | | 210 030 12 | 210 030 12 | 210 030 12 | 210 030 12 |
| W-FM 200 with extended CO / FGR functionality | | 250 033 78 | 250 033 78 | 250 033 78 | 250 033 78 |
| WM-D90 motor with 230 V contactor and overload protection ¹⁾ | | 250 030 86 | 250 030 86 | 250 030 86 | 250 030 86 |
| ABE with Chinese-character display, loose (W-FM 100 / 200) | | 110 018 53 | 110 018 53 | 110 018 53 | 110 018 53 |
| 110 V control voltage (W-FM 100 / 200 only) | | 250 031 72 | 250 031 72 | 250 031 72 | 250 031 72 |
| Offset gas butterfly valve and gas valve assembly for vertical firing | | 250 032 96 | 250 032 96 | 250 032 96 | 250 032 96 |

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⁾ Required for PED (2014/68/EU) compliance.

Country-specific executions and special voltages on application

Special equipment WM-GL10, version ZM-R

| Dual-fuel burners, version ZM-R | | WM-GL10/2-A | WM-GL10/3-A | WM-GL10/4-A |
|---|---------------------------|-------------|-------------|-------------|
| Combustion head extension | by 100 mm | 250 030 62 | 250 030 65 | 250 030 68 |
| | by 200 mm | 250 030 63 | 250 030 66 | 250 030 69 |
| | by 300 mm | 250 030 64 | 250 030 67 | 250 030 70 |
| Solenoid valve for air pressure switch test with continuous-run fan or post-purge | | 250 030 21 | 250 030 21 | 250 030 21 |
| High gas pressure switch ³⁾ (Screwed W-MF / DMV for low-pressure supplies) | GW 50 A6/1 | 250 033 30 | 250 033 30 | 250 033 30 |
| | GW 150 A6/1 | 250 033 31 | 250 033 31 | 250 033 31 |
| | GW 500 A6/1 | 250 033 32 | 250 033 32 | 250 033 32 |
| High gas pressure switch ³⁾ (Flanged DMV / VGD for low-pressure supplies) | GW 50 A6/1 | 150 017 49 | 150 017 49 | 150 017 49 |
| | GW 150 A6/1 | 150 017 50 | 150 017 50 | 150 017 50 |
| | GW 500 A6/1 | 150 017 51 | 150 017 51 | 150 017 51 |
| High gas pressure switch ³⁾ (Fitted to high-pressure regulator) | GW 50 A6/1 | 250 033 33 | 250 033 33 | 250 033 33 |
| | GW 150 A6/1 | 250 033 34 | 250 033 34 | 250 033 34 |
| | GW 500 A6/1 | 250 033 35 | 250 033 35 | 250 033 35 |
| ST 18/7 and ST 18/4 plug connections (W-FM 54 / 100 / 200) | | 250 030 22 | 250 030 22 | 250 030 22 |
| Oil hoses, 1300 mm in lieu of 1000 mm | | 210 003 00 | 210 003 00 | 210 003 00 |
| Air inlet flange for ducted-air connection (in conjunction with electromagnetic clutch) | for connection from rear | 250 032 94 | 250 032 94 | 250 032 94 |
| | for connection from above | 250 033 89 | 250 033 89 | 250 033 89 |
| | for connection from below | 250 034 89 | 250 034 89 | 250 034 89 |
| DSB 158 oil pressure switch in supply ³⁾ (W-FM 100 / 200 required) | | 210 030 23 | 210 030 23 | 210 030 23 |
| W-FM 100 (suitable for continuous firing) ³⁾ in lieu of W-FM 54 | burner-mounted | 250 031 76 | 250 031 76 | 250 031 76 |
| | supplied loose | 250 031 82 | 250 031 82 | 250 031 82 |
| Integral load controller and analogue signal convertor for W-FM 100 | | 110 017 18 | 110 017 18 | 110 017 18 |
| W-FM200 in lieu of W-FM54 with integral load controller, analogue signal convertor and VSD module with optional fuel metering | burner-mounted | 250 031 77 | 250 031 77 | 250 031 77 |
| | supplied loose | 250 031 63 | 250 031 63 | 250 031 63 |
| VSD with integral frequency convertor (W-FM 54 / 200 required) ¹⁾ | | 210 030 11 | 210 030 11 | 210 030 11 |
| VSD with separate frequency convertor (W-FM 200 required) ¹⁾ (See accessories list for frequency convertor) | | 210 030 12 | 210 030 12 | 210 030 12 |
| W-FM200 with extended CO / FGR functionality | | 250 033 78 | 250 033 78 | 250 033 78 |
| WM-D90 motor with 230 V contactor and overload protection ²⁾ | | 250 030 86 | 250 030 86 | 250 030 86 |
| ABE with Chinese-character display, supplied loose (W-FM 100 / 200) | | 110 018 53 | 110 018 53 | 110 018 53 |
| 110 V control voltage (W-FM 100 / 200 only) | | 250 031 72 | 250 031 72 | 250 031 72 |
| Offset gas butterfly valve and gas valve assembly for vertical firing | | 250 032 96 | 250 032 96 | 250 032 96 |

Country-specific executions and special voltages on application

- ¹⁾ VSD with R-version burners:
General conditions for modulating capacity regulation when firing on oil:
– Frequency: min. 35 Hz
– Turndown: max. 3:1 (limitations on burner sizes 10/3 & 10/4)

- ²⁾ 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).

- ³⁾ Required for PED (2014/68/EU) compliance.

Technical data Oil burners

| Oil burners | | WM-L10/1-A T | WM-L10/2-A T WM-L10/2-A R | WM-L10/3-A T WM-L10/3-A R | WM-L10/4-A T WM-L10/4-A R |
|--|----------------|-----------------------|------------------------------|------------------------------|------------------------------|
| Burner motor | Weishaupt type | WM-D 90/90-2/1K0 | WM-D 90/90-2/1K0 | WM-D 90/110-2/1K5 | WM-D 90/110-2/1K5 |
| Motor power output | kW | 0.9 | 0.9 | 1.5 | 1.5 |
| Nominal current | A | 2.2 | 2.2 | 3.2 | 3.2 |
| Burner without VSD: Motor protection switch ¹⁾ or motor prefusing ¹⁾ (with overload protection) | type (e.g.) | PKE12/XTU - 4 | PKE12/XTU - 4 | PKE12/XTU - 4 | PKE12/XTU - 4 |
| | A minimum | 10 A gG/T (by others) | 10 A gG/T (by others) | 16 A gG/T (by others) | 16 A gG/T (by others) |
| Burner with VSD: Motor protection switch ²⁾ or motor prefusing ²⁾ | type (e.g.) | PKE12/XTU - 4 | PKE12/XTU - 4 | PKE12/XTU - 12 | PKE12/XTU - 12 |
| | A minimum | 10 A gG/T (by others) | 10 A gG/T (by others) | 10 A gG/T (by others) | 10 A gG/T (by others) |
| Speed (50 Hz) | rpm | 2900 | 2900 | 2900 | 2900 |
| Combustion manager | type | W-FM50 | W-FM50 | W-FM50 | W-FM50 |
| Flame monitoring | type | QRB | QRB | QRB | QRB |
| Air damper / oil actuator | type | STE 50 | STE 50 | STE 50 | STE 50 |
| Integral pump max. flow rate | type | AL 75C | AL 75C | AL 95C | AL 95C |
| | l/h | 130 | 130 | 130 | 150 |
| | type | – | AJV4 | AJV6 | AJV6 |
| | l/h | – | 200 | 290 | 290 |
| NO _x Class per EN 267 | | 2 | 2 | 2 | 2 |
| Oil hoses | DN / length | 8 / 1000 | 8 / 1000 | 8 / 1000 | 8 / 1000 |
| Mass | kg (T) | approx. 51 | approx. 51 | approx. 54 | approx. 54 |
| | (R) | – | approx. 59 | approx. 62 | approx. 62 |

- 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⁾ The necessary motor protection can be provided either by a motor protection switch or with motor prefusing (supplied and fitted into a panel by others).

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:

Insulation Class F, IP 55 protection.
IE3 Premium Efficiency.

Technical data Gas burners

| Gas burners | | WM-G10/1-A ZM | WM-G10/2-A ZM | WM-G10/3-A ZM | WM-G10/4-A ZM |
|--|--------------------------|--|--|---|---|
| Burner motor | Weishaupt type | WM-D 90/90-2/1K0 | WM-D 90/90-2/1K0 | WM-D 90/110-2/1K5 | WM-D 90/110-2/1K5 |
| Motor power output | kW | 0.9 | 0.9 | 1.5 | 1.5 |
| Nominal current | A | 2.2 | 2.2 | 3.2 | 3.2 |
| Burner without VSD: Motor protection switch ¹⁾ or motor prefusing ¹⁾ (with overload protection) | type (e.g.) A minimum | PKE12/XTU - 4 10 A gG/T (by others) | PKE12/XTU - 4 10 A gG/T (by others) | PKE12/XTU - 4 16 A gG/T (by others) | PKE12/XTU - 4 16 A gG/T (by others) |
| Burner with VSD: Motor protection switch ²⁾ or motor prefusing ²⁾ | type (e.g.) A minimum | PKE12/XTU - 4 10 A gG/T (by others) | PKE12/XTU - 4 10 A gG/T (by others) | PKE12/XTU - 12 10 A gG/T (by others) | PKE12/XTU - 12 10 A gG/T (by others) |
| Speed (50 Hz) | rpm | 2900 | 2900 | 2900 | 2900 |
| Combustion manager | type | W-FM50 | W-FM50 | W-FM50 | W-FM50 |
| Flame monitoring | type | ION | ION | ION | ION |
| Air damper / oil actuator | type | STE 50 | STE 50 | STE 50 | STE 50 |
| NO _x Class per EN 676 | ZM | 2 | 2 | 2 | 2 |
| Mass | kg | approx. 55 | approx. 55 | approx. 60 | approx. 60 |

| Gas burners | | WM-G10/1-A ZM-LN | WM-G10/2-A ZM-LN | WM-G10/3-A ZM-LN | WM-G10/4-A ZM-LN |
|--|--------------------------|--|--|---|---|
| Burner motor | Weishaupt type | WM-D 90/90-2/1K0 | WM-D 90/90-2/1K0 | WM-D 90/110-2/1K5 | WM-D 90/110-2/1K9 |
| Motor power output | kW | 0.9 | 0.9 | 1.5 | 1.9 |
| Nominal current | A | 2.2 | 2.2 | 3.2 | 3.7 |
| Burner without VSD: Motor protection switch ¹⁾ or motor prefusing ¹⁾ (with overload protection) | type (e.g.) A minimum | PKE12/XTU - 4 10 A gG/T (by others) | PKE12/XTU - 4 10 A gG/T (by others) | PKE12/XTU - 4 16 A gG/T (by others) | - - |
| Burner with VSD: Motor protection switch ²⁾ or motor prefusing ²⁾ | type (e.g.) A minimum | PKE12/XTU - 4 10 A gG/T (by others) | PKE12/XTU - 4 10 A gG/T (by others) | PKE12/XTU - 12 10 A gG/T (by others) | PKE12/XTU - 12 10 A gG/T (by others) |
| Speed (50 Hz) | rpm | 2900 | 2900 | 2900 | 3120 (55 Hz) |
| Combustion manager | type | W-FM50 | W-FM50 | W-FM50 | W-FM50 |
| Flame monitoring | type | ION | ION | ION | ION |
| Air damper / oil actuator | type | STE 50 | STE 50 | STE 50 | STE 50 |
| NO _x Class per EN 676 | ZM-LN | 3 | 3 | 3 | 3 |
| Mass | kg | approx. 55 | approx. 55 | approx. 60 | approx. 60 |

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⁾ The necessary motor protection can be provided either by a motor protection switch or with motor prefusing (supplied and fitted into a panel by others).

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:

Insulation Class F, IP 55 protection.
IE3 Premium Efficiency.

Technical data Dual-fuel burners

| Dual-fuel burners | | WM-GL10/1-A ZM-T | WM-GL10/2-A ZM-T | WM-GL10/3-A ZM-T | WM-GL10/4-A ZM-T |
|--|--------------------------|--|--|---|---|
| Burner motor | Weishaupt type | WM-D 90/90-2/1K0 | WM-D 90/90-2/1K0 | WM-D 90/110-2/1K5 | WM-D 90/110-2/1K5 |
| Motor power output | kW | 0.9 | 0.9 | 1.5 | 1.5 |
| Nominal current | A | 2.2 | 2.2 | 3.2 | 3.2 |
| Burner without VSD: Motor protection switch ¹⁾ or motor prefusing ¹⁾ (with overload protection) | type (e.g.) A minimum | PKE12/XTU - 4 10 A gG/T (by others) | PKE12/XTU - 4 10 A gG/T (by others) | PKE12/XTU - 4 16 A gG/T (by others) | PKE12/XTU - 4 16 A gG/T (by others) |
| Burner with VSD: Motor protection switch ²⁾ or motor prefusing ²⁾ | type (e.g.) A minimum | PKE12/XTU - 4 10 A gG/T (by others) | PKE12/XTU - 4 10 A gG/T (by others) | PKE12/XTU - 12 10 A gG/T (by others) | PKE12/XTU - 12 10 A gG/T (by others) |
| Speed (50 Hz) | rpm | 2900 | 2900 | 2900 | 2900 |
| Combustion manager | type | W-FM54 | W-FM54 | W-FM54 | W-FM54 |
| Flame monitoring | type | QRA2 | QRA2 | QRA2 | QRA2 |
| Air damper / oil actuator | type | STE 50 | STE 50 | STE 50 | STE 50 |
| NO _x Class per EN 267 / EN 676 | | 2 / 2 | 2 / 2 | 2 / 2 | 2 / 2 |
| Mass | kg | approx. 65 | approx. 65 | approx. 70 | approx. 70 |
| Integral pump max. flow rate | type l/h | AL75 130 | AL75 130 | AL95 150 | AJ6 290 |
| Oil hoses | DN / length | 8 / 1000 | 8 / 1000 | 8 / 1000 | 8 / 1000 |

| Dual-fuel burners | | WM-GL10/2-A ZM-R | WM-GL10/3-A ZM-R | WM-GL10/4-A ZM-R |
|--|--------------------------|--|---|---|
| Burner motor | Weishaupt type | WM-D 90/90-2/1K0 | WM-D 90/110-2/1K5 | WM-D 90/110-2/1K5 |
| Motor power output | kW | 1.0 | 1.5 | 1.5 |
| Nominal current | A | 2.2 | 3.2 | 3.2 |
| Burner without VSD: Motor protection switch ¹⁾ or motor prefusing ¹⁾ (with overload protection) | type (e.g.) A minimum | PKE12/XTU - 4 10 A gG/T (by others) | PKE12/XTU - 4 16 A gG/T (by others) | PKE12/XTU - 4 16 A gG/T (by others) |
| Burner with VSD: Motor protection switch ²⁾ or motor prefusing ²⁾ | type (e.g.) A minimum | PKE12/XTU - 4 10 A gG/T (by others) | PKE12/XTU - 12 10 A gG/T (by others) | PKE12/XTU - 12 10 A gG/T (by others) |
| Speed (50 Hz) | rpm | 2900 | 2900 | 2900 |
| Combustion manager | type | W-FM54 | W-FM54 | W-FM54 |
| Flame monitoring | type | QRA2 | QRA2 | QRA2 |
| Air damper / oil actuator | type | STE 50 | STE 50 | STE 50 |
| NO _x Class per EN 676 / EN 267 | | 2 / 2 | 2 / 2 | 2 / 2 |
| Mass | kg | approx. 74 | approx. 79 | approx. 79 |
| Integral pump max. flow rate | type l/h | AJV4 200 | AJV6 290 | AJV6 290 |
| Oil hoses | DN / length | 8 / 1000 | 8 / 1000 | 8 / 1000 |

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⁾ The necessary motor protection can be provided either by a motor protection switch or with motor prefusing (supplied and fitted into a panel by others).

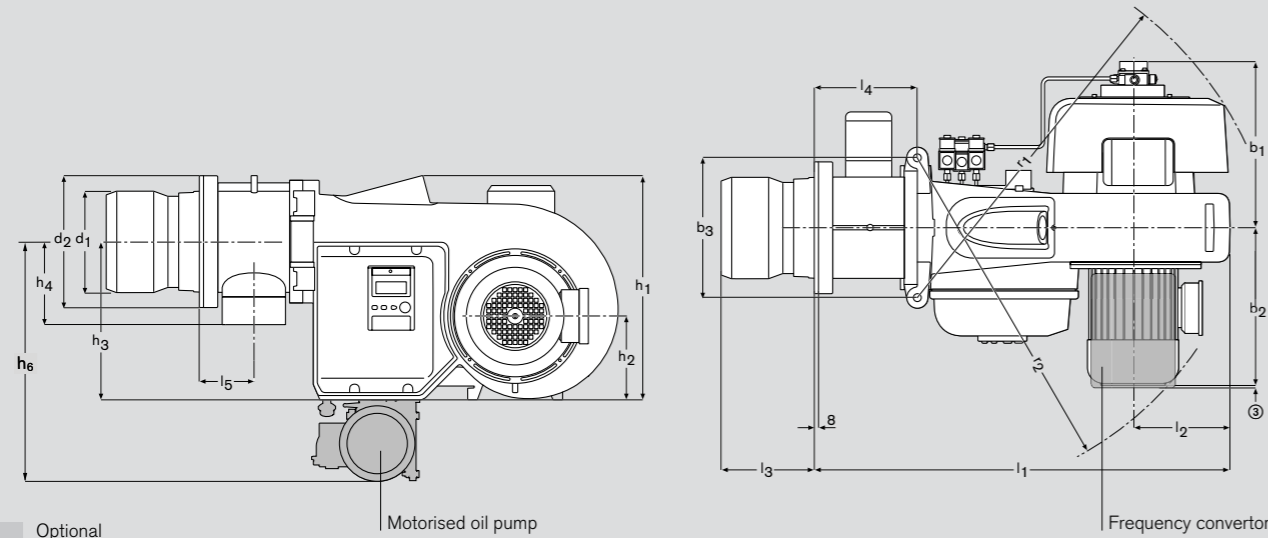
Voltages and frequencies:

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:

Insulation Class F, IP 55 protection.
IE3 Premium Efficiency.

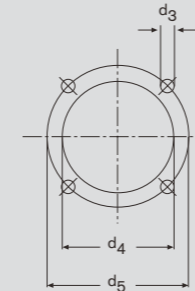
Dimensions



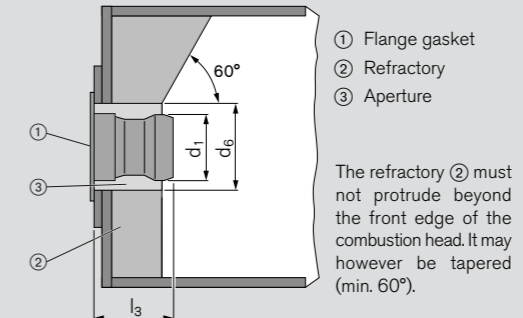
| Burner type | Dimensions in mm | | | | | | | | | | | | | |
|------------------|------------------|----------------|----------------|----------------|----------------|-----------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | l ₁ | l ₂ | l ₃ | l ₄ | l ₅ | b ₁ ^① | b ₂ | b ₃ | h ₁ | h ₂ | h ₃ | h ₄ | h ₅ | h ₆ |
| WM-L10/1-A T | 659 | 205 | 118-138 | 38 | - | 323 | 307 | 270 | 445 | 167 | 313 | - | 153 | 470 |
| WM-L10/2-A T | 659 | 205 | 127-147 | 38 | - | 323 | 307 | 270 | 445 | 167 | 313 | - | 153 | 470 |
| WM-L10/3-A T | 659 | 205 | 147-167 | 38 | - | 323 | 335 | 270 | 445 | 167 | 313 | - | 153 | 470 |
| WM-L10/4-A T | 659 | 205 | 148-168 | 38 | - | 323 | 335 | 270 | 445 | 167 | 313 | - | 153 | 470 |
| WM-L10/2-A R | 659 | 205 | 131-146 | 38 | - | 352 | 307 | 270 | 445 | 167 | 313 | - | 153 | 480 |
| WM-L10/3-A R | 659 | 205 | 156-171 | 38 | - | 352 | 335 | 270 | 445 | 167 | 313 | - | 153 | 480 |
| WM-L10/4-A R | 659 | 205 | 151-166 | 38 | - | 352 | 335 | 270 | 445 | 167 | 313 | - | 153 | 490 |
| WM-G10/1-A ZM | 813 | 205 | 171-178 | 188 | 98 | 279 | 307 | 270 | 445 | 167 | 313 | 140 | 153 | - |
| WM-G10/2-A ZM | 813 | 205 | 158-178 | 188 | 98 | 279 | 307 | 270 | 445 | 167 | 313 | 140 | 153 | - |
| WM-G10/3-A ZM | 833 | 205 | 199-224 | 208 | 108 | 279 | 335 | 270 | 445 | 167 | 313 | 162 | 153 | - |
| WM-G10/4-A ZM | 833 | 205 | 199-224 | 208 | 108 | 279 | 335 | 270 | 445 | 167 | 313 | 162 | 153 | - |
| WM-G10/1-A ZM-LN | 793 | 205 | 129-144 | 169 | 88 | 279 | 307 | 270 | 445 | 167 | 313 | 130 | 153 | - |
| WM-G10/2-A ZM-LN | 813 | 205 | 132-143 | 188 | 98 | 279 | 307 | 270 | 445 | 167 | 313 | 140 | 153 | - |
| WM-G10/3-A ZM-LN | 833 | 205 | 177-197 | 208 | 108 | 279 | 335 | 270 | 445 | 167 | 313 | 162 | 153 | - |
| WM-G10/4-A ZM-LN | 833 | 205 | 177-197 | 208 | 108 | 279 | 335 | 270 | 445 | 167 | 313 | 162 | 153 | - |
| WM-GL10/1-A ZM-T | 813 | 205 | 171-178 | 188 | 98 | 323 | 307 | 270 | 445 | 167 | 313 | 140 | 153 | 470 |
| WM-GL10/2-A ZM-T | 813 | 205 | 158-178 | 188 | 98 | 323 | 307 | 270 | 445 | 167 | 313 | 140 | 153 | 470 |
| WM-GL10/3-A ZM-T | 833 | 205 | 199-224 | 208 | 108 | 323 | 335 | 270 | 445 | 167 | 313 | 162 | 153 | 470 |
| WM-GL10/4-A ZM-T | 833 | 205 | 199-224 | 208 | 108 | 323 | 335 | 270 | 445 | 167 | 313 | 162 | 153 | 470 |
| WM-GL10/2-A ZM-R | 813 | 205 | 158-178 | 188 | 98 | 482 ^② | 307 | 270 | 445 | 167 | 313 | 140 | 153 | 480 |
| WM-GL10/3-A ZM-R | 833 | 205 | 199-224 | 208 | 108 | 482 ^② | 335 | 270 | 445 | 167 | 313 | 162 | 153 | 480 |
| WM-GL10/4-A ZM-R | 833 | 205 | 199-224 | 208 | 108 | 482 ^② | 335 | 270 | 445 | 167 | 313 | 162 | 153 | 490 |

① Excluding electromagnetic clutch (pump with electromagnetic clutch: plus 130 mm) ② Including electromagnetic clutch ③ Projection of frequency convertor approx. 20 mm

Mounting-plate drilling dimensions



Heat generator preparation



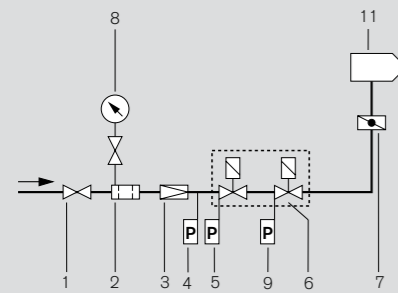
| Burner type | Dimensions in mm | | | | | | | | Nominal diameter of gas butterfly |
|------------------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------------------------|
| | r ₁ | r ₂ | d ₁ | d ₂ | d ₃ | d ₄ | d ₅ | d ₆ | |
| WM-L10/1-A T | 718 | 682 | 140 | 242 | M10 | 165 | 186 | 170 | - |
| WM-L10/2-A T | 718 | 682 | 140 | 242 | M10 | 165 | 186 | 170 | - |
| WM-L10/3-A T | 718 | 698 | 160 | 242 | M10 | 185 | 210 | 190 | - |
| WM-L10/4-A T | 718 | 698 | 180 | 242 | M10 | 185 | 210 | 220 | - |
| WM-L10/2-A R | 718 | 682 | 160 | 242 | M10 | 165 | 186 | 170 | - |
| WM-L10/3-A R | 718 | 698 | 180 | 242 | M10 | 185 | 210 | 190 | - |
| WM-L10/4-A R | 718 | 698 | 180 | 242 | M10 | 185 | 210 | 220 | - |
| WM-G10/1-A ZM | 718 | 682 | 160 | 212 | M10 | 165 | 186 | 190 | DN40 |
| WM-G10/2-A ZM | 718 | 682 | 160 | 212 | M10 | 165 | 186 | 190 | DN40 |
| WM-G10/3-A ZM | 718 | 698 | 200 | 260 | M10 | 210 | 235 | 240 | DN50 |
| WM-G10/4-A ZM | 718 | 698 | 218 | 260 | M10 | 220 | 235 | 250 | DN50 |
| WM-G10/1-A ZM-LN | 718 | 682 | 127 | 195 | M8 | 135 | 160 - 170 | 160 | DN25 |
| WM-G10/2-A ZM-LN | 718 | 682 | 160 | 212 | M10 | 165 | 186 | 190 | DN40 |
| WM-G10/3-A ZM-LN | 718 | 698 | 200 | 260 | M10 | 210 | 235 | 240 | DN50 |
| WM-G10/4-A ZM-LN | 718 | 698 | 200 | 260 | M10 | 210 | 235 | 240 | DN50 |
| WM-GL10/1-A ZM-T | 718 | 682 | 160 | 212 | M10 | 165 | 186 | 190 | DN40 |
| WM-GL10/2-A ZM-T | 718 | 682 | 160 | 212 | M10 | 165 | 186 | 190 | DN40 |
| WM-GL10/3-A ZM-T | 718 | 698 | 200 | 260 | M10 | 210 | 235 | 240 | DN50 |
| WM-GL10/4-A ZM-T | 718 | 698 | 218 | 260 | M10 | 220 | 235 | 250 | DN50 |
| WM-GL10/2-A ZM-R | 764 | 682 | 160 | 212 | M10 | 165 | 186 | 190 | DN40 |
| WM-GL10/3-A ZM-R | 764 | 698 | 200 | 260 | M10 | 210 | 235 | 240 | DN50 |
| WM-GL10/4-A ZM-R | 764 | 698 | 218 | 260 | M10 | 220 | 235 | 250 | DN50 |

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

Fuel systems

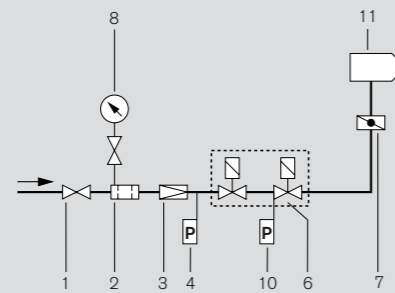
Gas side fuel system

W-FM 50 / 100 / 200



- 1 Ball valve *
- 2 Gas filter *
- 3 Pressure regulator, (LP) or (HP) *
- 4 High gas pressure switch *
- 5 Low gas pressure switch
- 6 Double gas valve assembly
- 7 Gas butterfly valve
- 8 Pressure gauge with push-button valve *
- 9 Valve-proving pressure switch
- 10 Low gas / valve-proving pressure switch
- 11 Burner

W-FM 54



- * Not included in burner price
- Mounting position of the high gas pressure switch:
 - On the regulator outlet of HP trains
 - After the regulator of screwed LP trains
 - On the valve assembly inlet of flanged LP trains
- Cable length approx. 2.5 m.

Layout of the gas valve train

On boilers with hinged doors, the gas valve train must be mounted on the opposite side to the boiler-door hinges.

Compensator

To enable a tension-free mounting of the gas valve train, the fitting of a compensator is strongly recommended.

Break points in the gas valve train

Break points in the gas valve train should be provided to enable the door of the heat generator to be swung open. It is best to separate the main gas line at the compensator.

Support of the gas valve train

The gas valve train should be properly supported in accordance with the site conditions. Please see the Weishaupt accessories list for various gas valve train support components.

Gas meter

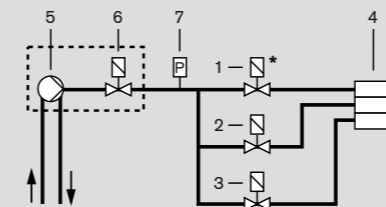
A gas meter must be installed to measure gas consumption during commissioning and servicing.

Optional thermal shutoff (if required by local regulations)

The thermal shutoff is integrated into the ball valve of screwed gas valve trains. On flanged gas valve trains the thermal shutoff is a separate component with HTB seals, and is fitted before the ball valve.

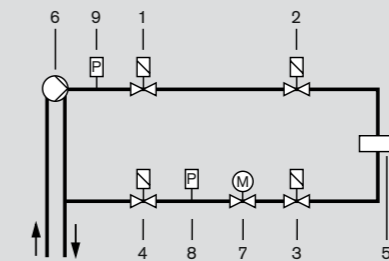
Oil side fuel system

Version



- 1 Stage 1 solenoid valve
- 2 Stage 2 solenoid valve
- 3 Stage 3 solenoid valve
- 4 Nozzle head with 3 oil atomising nozzles
- 5 Burner-mounted oil pump
- 6 Separate safety solenoid valve – WM-GL10/4 only
- 7 Pressure switch in supply (optional)
- * Standard on dual-fuel burners, optional on single-fuel oil burners

Version (ZM-)R



- 1 Normally closed solenoid valve 1st shut-off device in supply
- 2 Normally closed solenoid valve 2nd shut-off device in supply
- 3 Normally closed solenoid valve 1st shut-off device in return
- 4 Normally closed solenoid valve 2nd shut-off device in return
- 5 Nozzle head with regulating nozzle
- 6 Burner-mounted oil pump
- 7 Oil regulator
- 8 Pressure switch in return
- 9 Pressure switch in supply (optional)

ZMI-version Weishaupt monarch[®] burners

More power in compact form



The ZMI version of the Weishaupt WM-G10 monarch[®] burner was developed especially with industrial applications in mind. This burner, with its large turndown range, is designed for use on process plant.

The burner can achieve a turndown of up to 15:1 and its output is matched – within its operating range – to current heat demand.

Zero governor

The ZMI-version WM-G10 gas burner is additionally equipped with a zero governor, which is connected to the burner's airflow upstream of the fan by a flexible impulse line. The zero governor compensates for the drop in gas pressure between partial and full load.

Notes on operation

ZMI-version burners are only suitable for use on process plant when the following fundamental conditions are met:

- The flame must not be impeded within the combustion chamber by process-specific flue gas circulation or by secondary air.
- There must be a flue gas sampling point available prior to dilution by any other sources.
- A flame viewing port must be available.
- A gas flow meter / throughput indicator is essential for setting the burner.
- Additional requirements can be found on datasheet 8-1 in the Weishaupt technical folder.

Use

Fuels

Natural gas
LPG

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

Applications

Weishaupt ZMI-version WM-G10 burners are suitable for intermittent firing and continuous firing on:

- EN 303-compliant heat generators
- LTHW boilers
- HTHW boilers
- Steam boilers
- Air heaters
- Process applications

Type approval

The ZMI version of the Weishaupt WM-G10 burner is not type approved. The burner's safety equipment meets the requirements of EN 676.

If an approval inspection is required, this should be arranged with the appropriate body by the plant operator.

Permissible ambient conditions

- Ambient temperature
-15 to +40 °C for gas firing
- Maximum 80 % relative humidity, no condensation
- The combustion air must be free of aggressive substances (halogens, chlorides, fluorides etc.) and impurities (dust, debris, vapours, etc.)
- Adequate ventilation is required for operation in enclosed spaces
- For plant in unheated areas, certain further measures may be required

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. Burner service intervals will be

reduced to accord with the more extreme operational conditions.

Protection Class

IP 54

Gas supply

EN 88-compliant regulators with safety diaphragms are used for low-pressure supplies.

For high-pressure supplies, an EN 334-compliant high-pressure regulator should be selected from the following technical booklets:

- Regulators up to 4 bar, Print No. 83001202
- Regulators with safety devices, Print No. 83197902

Refer to the burner's rating plate for the maximum connection pressure.

Gas valve train design

Low-pressure valve trains are normally used for gas flow pressures up to a maximum of 300 mbar and a maximum operating pressure (MOP) of 500 mbar. This allows for pressure losses between the transfer station and the valve train. Furthermore, it is assumed that the transfer station utilises components (SSV, regulator) that are not of the highest class of accuracy. In individual cases, following consideration and approval by Weishaupt's headquarters, a gas flow pressure of up to 360 mbar can be approved if the appropriate conditions exist.

The supplier must safeguard the gas flow pressure such that it cannot exceed the MOP of the burner's gas valve train.

High-pressure valve trains are normally used for gas flow pressures greater than 300 mbar.

The supplier must safeguard the gas flow pressure such that, in the event of failure, it cannot exceed the maximum incidental pressure (MIP*) of the burner's gas valve train.

* MIP = MOP x 1.1

Standards compliance

The burners are tested by an independent body and fulfil the applicable requirements of the following European Union directives and applied standards:

EMC EMC Directive 2014/30/EU

- Applied standards
- EN 61000-6-1 : 2007
 - EN 61000-6-2 : 2005
 - EN 61000-6-4 : 2007

LVD Low-Voltage Directive 2014/35/EU

- Applied standards
- EN 60335-1 : 2010
 - EN 60335-2-102 : 2010

MD Machinery Directive 2006/42/EC

- Applied standards
- EN 267 Annex J,
 - EN 676 Annex J,

PED¹⁾ Pressure Equipment Directive 2014/68/EU

- Applied standards
- EN 267 Annex K,
 - EN 676 Annex K,
 - Conformity assessment procedure: Module B

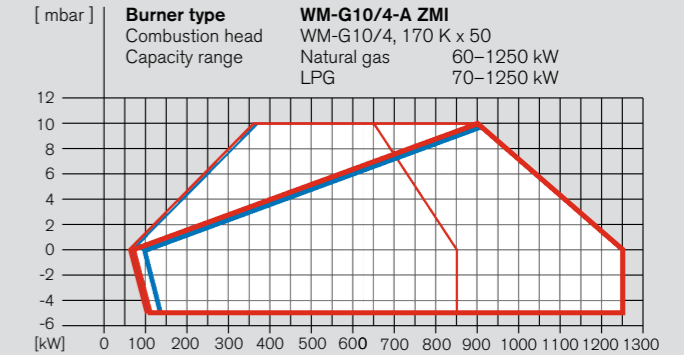
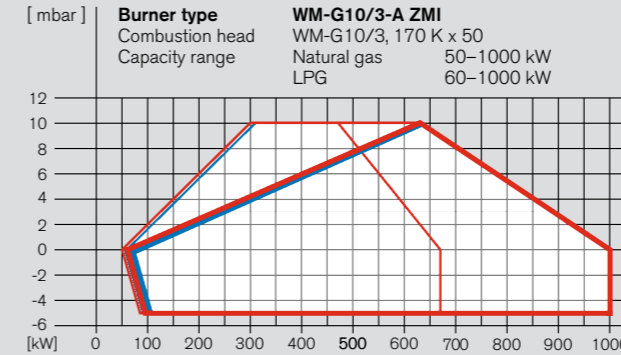
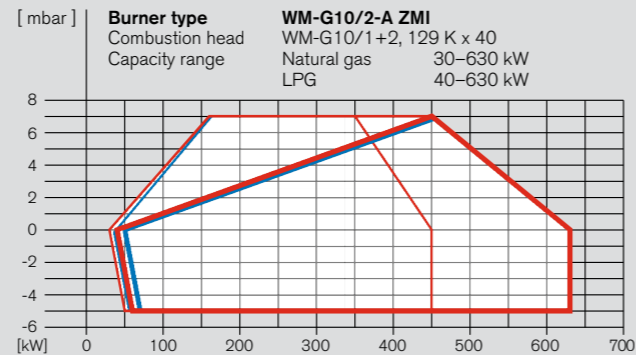
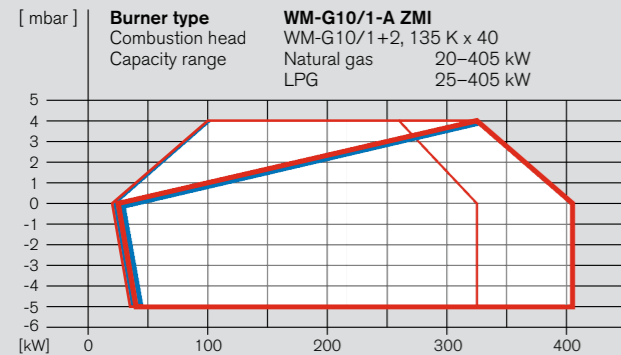
¹⁾ With the selection of appropriate equipment.

The burners are labelled with:

- CE Mark

Burner selection / gas valve train sizing

WM-G10, version ZMI



WM-G10/1-A, version ZMI

| Burner rating kW | Press. at gas-b/fly at full-load | Low-pressure supply (with FRS regulator) | | | | High-pressure supply (with HP regulator) | | | |
|------------------|----------------------------------|--|----|--------|----|--|----|--------|----|
| | | Flow pressure into shutoff valve | | | | F. p. into double valve assembly | | | |
| | | Nominal valve train diameter | | | | Nominal valve train diameter | | | |
| | | 3/4" | 1" | 1 1/2" | 2" | 3/4" | 1" | 1 1/2" | 2" |
| | | Nom. diameter of gas butterfly | | | | Nom. diameter of gas butterfly | | | |
| | | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |

| Natural gas E | | LHV = 10.35 kWh/m ³ ; d = 0.606; W _i = 13.295 kWh/m ³ | | | | | | | |
|---------------|---|--|----|----|----|----|----|----|----|
| 150 | 4 | 15 | 10 | - | - | 11 | 8 | 7 | 7 |
| 175 | 4 | 19 | 11 | 8 | - | 13 | 9 | 8 | 7 |
| 200 | 4 | 22 | 12 | 8 | - | 15 | 9 | 8 | 7 |
| 225 | 5 | 27 | 15 | 10 | - | 18 | 11 | 9 | 8 |
| 250 | 6 | 33 | 17 | 11 | 9 | 21 | 12 | 10 | 9 |
| 275 | 6 | 39 | 20 | 13 | 10 | 25 | 14 | 11 | 10 |
| 300 | 7 | 45 | 23 | 14 | 11 | 29 | 16 | 13 | 11 |
| 325 | 8 | 52 | 26 | 16 | 12 | 33 | 18 | 14 | 12 |
| 350 | 8 | 59 | 29 | 17 | 13 | 36 | 20 | 15 | 12 |
| 375 | 8 | 66 | 32 | 18 | 13 | 40 | 21 | 15 | 12 |
| 405 | 9 | 76 | 35 | 19 | 13 | 45 | 23 | 16 | 12 |

| Natural gas LL | | LHV = 8.83 kWh/m ³ ; d = 0.641; W _i = 11.029 kWh/m ³ | | | | | | | |
|----------------|----|---|----|----|----|----|----|----|----|
| 150 | 4 | 19 | 11 | 8 | - | 13 | 9 | 8 | 7 |
| 175 | 4 | 24 | 13 | 9 | - | 16 | 10 | 8 | 7 |
| 200 | 5 | 30 | 16 | 10 | - | 19 | 11 | 9 | 8 |
| 225 | 5 | 37 | 19 | 11 | 9 | 23 | 13 | 10 | 9 |
| 250 | 6 | 45 | 22 | 13 | 10 | 28 | 15 | 12 | 10 |
| 275 | 7 | 53 | 26 | 15 | 12 | 33 | 18 | 13 | 11 |
| 300 | 8 | 62 | 30 | 17 | 13 | 38 | 20 | 15 | 12 |
| 325 | 9 | 72 | 34 | 19 | 14 | 44 | 23 | 17 | 13 |
| 350 | 10 | 82 | 38 | 20 | 15 | 49 | 25 | 17 | 14 |
| 375 | 10 | 93 | 42 | 22 | 15 | 55 | 27 | 18 | 14 |
| 405 | 10 | 106 | 47 | 24 | 16 | 62 | 29 | 20 | 14 |

| LPG | | LHV = 25.89 kWh/m ³ ; d = 1.555; W _i = 20.762 kWh/m ³ | | | | | | | |
|-----|---|--|----|----|----|----|----|----|----|
| 150 | 4 | 10 | - | - | - | 8 | 7 | 7 | 7 |
| 175 | 4 | 11 | 8 | - | - | 9 | 7 | 7 | 7 |
| 200 | 4 | 13 | 9 | - | - | 10 | 8 | 7 | 7 |
| 225 | 4 | 15 | 10 | - | - | 11 | 8 | 7 | 7 |
| 250 | 4 | 17 | 11 | 8 | - | 12 | 9 | 8 | 7 |
| 275 | 5 | 20 | 12 | 9 | 8 | 14 | 10 | 9 | 8 |
| 300 | 6 | 23 | 14 | 10 | 9 | 16 | 11 | 10 | 9 |
| 325 | 7 | 26 | 16 | 11 | 10 | 18 | 12 | 11 | 10 |
| 350 | 7 | 29 | 17 | 12 | 10 | 20 | 13 | 11 | 10 |
| 375 | 7 | 32 | 18 | 12 | 10 | 21 | 13 | 11 | 10 |
| 405 | 7 | 36 | 19 | 12 | 10 | 23 | 14 | 11 | 10 |

Nat. gas: Capacity with comb. head
 Closed Open
 LPG: Capacity with comb. head
 Closed Open

Please refer to page 15 for notes on the gas supply.

WM-G10/2-A, version ZMI

| Burner rating kW | Press. at gas-b/fly at full-load | Low-pressure supply (with FRS regulator) | | | | High-pressure supply (with HP regulator) | | | |
|------------------|----------------------------------|--|----|--------|----|--|----|--------|----|
| | | Flow pressure into shutoff valve | | | | F. p. into double valve assembly | | | |
| | | Nominal valve train diameter | | | | Nominal valve train diameter | | | |
| | | 3/4" | 1" | 1 1/2" | 2" | 3/4" | 1" | 1 1/2" | 2" |
| | | Nom. diameter of gas butterfly | | | | Nom. diameter of gas butterfly | | | |
| | | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |

| Natural gas E | | LHV = 10.35 kWh/m ³ ; d = 0.606; W _i = 13.295 kWh/m ³ | | | | | | | | | |
|---------------|----|--|----|----|----|----|----|----|----|----|----|
| 300 | 6 | 44 | 22 | 13 | 10 | 9 | 27 | 15 | 11 | 9 | 6 |
| 350 | 8 | 58 | 28 | 16 | 12 | 11 | 35 | 19 | 14 | 11 | 8 |
| 400 | 9 | 75 | 35 | 19 | 14 | 12 | 45 | 23 | 16 | 13 | 10 |
| 450 | 11 | 93 | 43 | 23 | 16 | 14 | 55 | 27 | 19 | 15 | 11 |
| 500 | 11 | 112 | 50 | 25 | 17 | 15 | 65 | 31 | 21 | 15 | 11 |
| 550 | 11 | 132 | 58 | 28 | 18 | 15 | 76 | 35 | 22 | 16 | 12 |
| 600 | 11 | 155 | 66 | 31 | 19 | 16 | 88 | 39 | 24 | 17 | 12 |
| 630 | 11 | 170 | 72 | 32 | 19 | 16 | 96 | 42 | 26 | 17 | 12 |

| Natural gas LL | | LHV = 8.83 kWh/m ³ ; d = 0.641; W _i = 11.029 kWh/m ³ | | | | | | | | | |
|----------------|----|---|-----|----|----|----|-----|----|----|----|----|
| 300 | 7 | 61 | 29 | 16 | 12 | 11 | 37 | 19 | 14 | 11 | 8 |
| 350 | 9 | 82 | 38 | 20 | 14 | 13 | 48 | 24 | 17 | 13 | 10 |
| 400 | 11 | 105 | 47 | 24 | 17 | 15 | 61 | 30 | 20 | 15 | 12 |
| 450 | 12 | 130 | 58 | 28 | 19 | 16 | 75 | 35 | 23 | 17 | 13 |
| 500 | 12 | 158 | 68 | 32 | 20 | 17 | 90 | 40 | 26 | 18 | 13 |
| 550 | 12 | 188 | 79 | 36 | 21 | 17 | 106 | 46 | 28 | 19 | 14 |
| 600 | 13 | 221 | 92 | 40 | 23 | 18 | 123 | 52 | 31 | 20 | 14 |
| 630 | 13 | 242 | 100 | 43 | 24 | 19 | 135 | 56 | 33 | 20 | 15 |

| LPG | | LHV = 25.89 kWh/m ³ ; d = 1.555; W _i = 20.762 kWh/m ³ | | | | | | | | | |
|-----|---|--|----|----|----|----|----|----|----|----|---|
| 300 | 4 | 22 | 12 | 9 | - | 15 | 10 | 8 | 7 | - | |
| 350 | 6 | 28 | 15 | 10 | 9 | 8 | 18 | 12 | 10 | 8 | 6 |
| 400 | 7 | 35 | 19 | 12 | 10 | 9 | 23 | 14 | 11 | 10 | 7 |
| 450 | 8 | 43 | 23 | 14 | 12 | 11 | 28 | 16 | 13 | 11 | 8 |
| 500 | 8 | 51 | 25 | 15 | 12 | 11 | 32 | 18 | 14 | 11 | 8 |
| 550 | 8 | 59 | 29 | 16 | 12 | 11 | 36 | 19 | 14 | 12 | 8 |
| 600 | 8 | 69 | 32 | 18 | 13 | 11 | 41 | 21 | 15 | 12 | 9 |
| 630 | 8 | 75 | 34 | 18 | 13 | 12 | 44 | 22 | 16 | 12 | 9 |

The LHV is referenced to 0 °C and 1013 mbar atmospheric. All pressures are in mbar.

WM-G10/3-A, version ZMI

| Burner rating kW | Press. at gas-b/fly at full-load | Low-pressure supply (with FRS regulator) | | | | High-pressure supply (with HP regulator) | | | |
|------------------|----------------------------------|--|----|--------|----|--|----|--------|----|
| | | Flow pressure into shutoff valve | | | | F. p. into double valve assembly | | | |
| | | Nominal valve train diameter | | | | Nominal valve train diameter | | | |
| | | 3/4" | 1" | 1 1/2" | 2" | 3/4" | 1" | 1 1/2" | 2" |
| | | Nom. diameter of gas butterfly | | | | Nom. diameter of gas butterfly | | | |
| | | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |

| Natural gas E | | LHV = 10.35 kWh/m ³ ; d = 0.606; W _i = 13.295 kWh/m ³ | | | | | | | | | | | |
|---------------|----|--|-----|----|----|----|----|-----|----|----|----|----|----|
| 500 | 7 | 108 | 46 | 21 | 13 | 11 | 10 | 61 | 27 | 17 | 12 | 8 | 7 |
| 550 | 8 | 130 | 55 | 25 | 15 | 12 | 12 | 73 | 32 | 20 | 13 | 5 | 9 |
| 600 | 9 | 154 | 64 | 29 | 17 | 14 | 13 | 86 | 37 | 23 | 15 | 10 | 10 |
| 650 | 10 | 179 | 75 | 33 | 19 | 15 | 14 | 100 | 43 | 26 | 17 | 12 | 11 |
| 700 | 11 | 206 | 85 | 36 | 21 | 16 | 15 | 115 | 48 | 28 | 18 | 12 | 11 |
| 750 | 11 | 235 | 96 | 40 | 22 | 17 | 15 | 130 | 53 | 30 | 18 | 13 | 12 |
| 800 | 11 | - | 107 | 44 | 23 | 17 | 15 | - | 59 | 33 | 19 | 13 | 12 |
| 850 | 11 | - | 119 | 48 | 24 | 18 | 15 | - | 65 | 35 | 20 | 13 | 12 |
| 900 | 11 | - | 132 | 52 | 26 | 18 | 16 | - | 71 | 38 | 21 | 14 | 12 |
| 950 | 11 | - | 146 | 56 | 27 | 19 | 16 | - | 78 | 41 | 22 | 14 | 13 |
| 1000 | 11 | - | 160 | 61 | 29 | 20 | 17 | - | 85 | 44 | 23 | 14 | 13 |

| Natural gas LL | | LHV = 8.83 kWh/m ³ ; d = 0.641; W _i = 11.029 kWh/m ³ | | | | | | | | | | | |
|----------------|----|---|-----|----|----|----|----|-----|-----|----|----|----|----|
| 500 | 8 | 154 | 64 | 28 | 16 | 13 | 12 | 86 | 36 | 22 | 14 | 9 | 9 |
| 550 | 9 | 185 | 76 | 33 | 18 | 14 | 13 | 103 | 43 | 25 | 16 | 11 | 10 |
| 600 | 11 | 219 | 90 | 38 | 21 | 16 | 15 | 122 | 50 | 29 | 18 | 12 | 11 |
| 650 | 12 | - | 104 | 43 | 24 | 18 | 16 | - | 58 | 33 | 20 | 14 | 13 |
| 700 | 12 | - | 119 | 48 | 25 | 19 | 16 | - | 65 | 36 | 21 | 14 | 13 |
| 750 | 12 | - | 134 | 53 | 27 | 19 | 17 | - | 72 | 39 | 22 | 15 | 13 |
| 800 | 12 | - | 151 | 59 | 29 | 20 | 17 | - | 81 | 43 | 23 | 15 | 14 |
| 850 | 13 | - | 169 | 65 | 31 | 21 | 18 | - | 89 | 47 | 24 | 16 | 14 |
| 900 | 13 | - | 188 | 71 | 33 | 22 | 19 | - | 99 | 51 | 26 | 17 | 15 |
| 950 | 13 | - | 208 | 78 | 35 | 23 | 19 | - | 108 | 55 | 27 | 17 | 15 |
| 1000 | 13 | - | 229 | 85 | 38 | 24 | 20 | - | 119 | 60 | 29 | 18 | 16 |

| LPG | | LHV = 25.89 kWh/m ³ ; d = 1.555; W _i = 20.762 kWh/m ³ | | | | | | | | | | | |
|------|---|--|----|----|----|----|----|----|----|----|----|----|---|
| 500 | 6 | 48 | 23 | 13 | 10 | 9 | 8 | 29 | 15 | 11 | 9 | 6 | 6 |
| 550 | 7 | 58 | 27 | 15 | 11 | 10 | 9 | 35 | 18 | 13 | 10 | 7 | 7 |
| 600 | 7 | 68 | 32 | 17 | 12 | 11 | 10 | 40 | 20 | 14 | 11 | 8 | 8 |
| 650 | 8 | 79 | 36 | 19 | 13 | 12 | 11 | 47 | 23 | 16 | 12 | 9 | 9 |
| 700 | 9 | 91 | 41 | 21 | 14 | 13 | 12 | 53 | 26 | 17 | 13 | 10 | 9 |
| 750 | 9 | 102 | 45 | 22 | 15 | 13 | 12 | 59 | 28 | 18 | 13 | 10 | 9 |
| 800 | 9 | 115 | 50 | 24 | 15 | 13 | 12 | 66 | 30 | 19 | 14 | 10 | 9 |
| 850 | 9 | 128 | 55 | 25 | 16 | 13 | 12 | 73 | 32 | 20 | 14 | 10 | 9 |
| 900 | 9 | 142 | 60 | 27 | 16 | 13 | 12 | 80 | 35 | 21 | 14 | 10 | 9 |
| 950 | 9 | 157 | 65 | 29 | 17 | 13 | 12 | 88 | 37 | 22 | 14 | 10 | 9 |
| 1000 | 9 | 173 | 71 | 31 | 17 | 14 | 12 | 96 | 40 | 24 | 15 | 10 | 9 |

Please refer to page 15 for notes on the gas supply.

WM-G10/4-A, version ZMI

| Burner rating kW | Press. at gas-b/fly at full-load | Low-pressure supply (with FRS regulator) | | | | High-pressure supply (with HP regulator) | | | | | |
|------------------|----------------------------------|--|--------|----|----|--|----|--------|----|----|----|
| | | Flow pressure into shutoff valve | | | | F. p. into double valve assembly | | | | | |
| | | Nominal valve train diameter | | | | Nominal valve train diameter | | | | | |
| | | 1" | 1 1/2" | 2" | 65 | 80 | 1" | 1 1/2" | 2" | 65 | 80 |
| | | Nom. diameter of gas butterfly | | | | Nom. diameter of gas butterfly | | | | | |
| | | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |

| Natural gas E | | LHV = 10.35 kWh/m ³ ; d = 0.606; W _i = 13.295 kWh/m ³ | | | | | | | | | |
|---------------|----|--|----|----|----|----|-----|----|----|----|----|
| 600 | 7 | 62 | 26 | 15 | 12 | 10 | 35 | 20 | 13 | 8 | 8 |
| 700 | 9 | 83 | 34 | 19 | 14 | 13 | 46 | 26 | 16 | 10 | 10 |
| 800 | 11 | 107 | 43 | 23 | 17 | 15 | 58 | 32 | 19 | 13 | 12 |
| 900 | 12 | 133 | 53 | 27 | 20 | 17 | 72 | 39 | 22 | 15 | 14 |
| 1000 | 14 | 163 | 64 | 31 | 22 | 19 | 87 | 46 | 25 | 17 | 15 |
| 1100 | 14 | 194 | 74 | 35 | 24 | 20 | 102 | 53 | 27 | 18 | 16 |
| 1200 | | | | | | | | | | | |

Scope of delivery Order numbers

| Description | WM-G10 ZMI |
|---|------------|
| Burner housing, hinged flange, housing cover, Weishaupt burner motor, air inlet housing, fan wheel, combustion head, ignition unit, ignition cable, ignition electrodes, combustion manager with control unit, flame sensor, actuators, flange gasket, limit switch on hinged flange, fixing screws | ● |
| Digital combustion manager | ● |
| W-FM50 | ○ |
| W-FM100 | ○ |
| W-FM200 | ○ |
| Valve proving via pressure switch and W-FM | ● |
| Class-A double gas valve assembly | ● |
| Gas butterfly valve | ● |
| Air pressure switch | ● |
| Low gas pressure switch | ● |
| Preset, capacity-based mixing assembly | ● |
| Actuators for compound regulation of fuel and air via W-FM: | |
| Air damper actuator | ● |
| Gas butterfly valve actuator | ● |
| DOL motor contactor fitted to motor ¹⁾ | ● |
| IP 54 protection | ● |

EN 676 stipulates that ball valves, gas filters, and gas pressure regulators form part of the burner supply (see Weishaupt accessories list). Gas valve train handing should be confirmed at the time of order. If not otherwise specified, the burner will be supplied configured for a right-handed gas valve train. The burner can be altered for the opposite gas valve train handing through rotation of the gas butterfly valve and actuator.

Please enquire or see the special equipment section of this brochure for further burner executions.

- 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).

| Burner type | Version | Gas valve assembly size | Order No. |
|-------------|---------|-------------------------|------------|
| WM-G10/1-A | ZMI | R ¾ | 217 113 10 |
| | | R 1 | 217 113 11 |
| | | R 1½ | 217 113 12 |
| | | R 2 | 217 113 13 |
| WM-G10/2-A | ZMI | R ¾ | 217 116 10 |
| | | R 1 | 217 116 11 |
| | | R 1½ | 217 116 12 |
| | | R 2 | 217 116 13 |
| | | DN 65 | 217 116 14 |
| WM-G10/3-A | ZMI | R ¾ | 217 119 10 |
| | | R 1 | 217 119 11 |
| | | R 1½ | 217 119 12 |
| | | R 2 | 217 119 13 |
| | | DN 65 | 217 119 14 |
| WM-G10/4-A | ZMI | DN 80 | 217 119 15 |
| | | R 1 | 217 121 11 |
| | | R 1½ | 217 121 12 |
| | | R 2 | 217 121 13 |
| | | DN 65 | 217 121 14 |
| | | DN 80 | 217 121 15 |

Special equipment Technical data

| Gas burners, version ZMI | | WM-G10/1-A | WM-G10/2-A | WM-G10/3-A | WM-G10/4-A |
|---|---------------------------|----------------|----------------|----------------|----------------|
| Combustion head extension | by 100 mm | 250 030 00 | 250 030 03 | 250 030 06 | 250 030 09 |
| | by 200 mm | 250 030 01 | 250 030 04 | 250 030 07 | 250 030 10 |
| | by 300 mm | 250 030 02 | 250 030 05 | 250 030 08 | 250 030 11 |
| Solenoid valve for air pressure switch test with continuous-run fan or post purge | | 250 030 21 | 250 030 21 | 250 030 21 | 250 030 21 |
| High gas pressure switch fitted to flanged elbow | GW 50 A6/1 | 250 007 59 | 250 007 59 | 250 007 59 | 250 007 59 |
| ST 18/7 and ST 18/4 plug connections | | 250 030 22 | 250 030 22 | 250 030 22 | 250 030 22 |
| Air inlet flange for ducted-air connection with LGW air pressure switch | for connection from rear | 250 030 24 | 250 030 24 | 250 030 24 | 250 030 24 |
| | for connection from above | Please enquire | Please enquire | Please enquire | Please enquire |
| | for connection from below | 250 034 88 | 250 034 88 | 250 034 88 | 250 034 88 |
| W-FM 100 in lieu of W-FM 50 | burner-mounted | 250 034 35 | 250 034 35 | 250 034 35 | 250 034 35 |
| | supplied loose | 250 034 36 | 250 034 36 | 250 034 36 | 250 034 36 |
| Integral load controller and analogue signal convertor for W-FM 100 | | 110 017 18 | 110 017 18 | 110 017 18 | 110 017 18 |
| W-FM 200 in lieu of W-FM 50 with integral load controller, analogue signal convertor, and VSD module, with optional fuel metering | burner-mounted | 250 034 37 | 250 034 37 | 250 034 37 | 250 034 37 |
| | supplied loose | 250 034 38 | 250 034 38 | 250 034 38 | 250 034 38 |
| | | 210 030 11 | 210 030 11 | 210 030 11 | 210 030 11 |
| VSD with integral frequency convertor (W-FM 50 / 200 required) | | 210 030 11 | 210 030 11 | 210 030 11 | 210 030 11 |
| VSD with separate frequency convertor (W-FM 200 required) (See accessories list for frequency convertor) | | 210 030 12 | 210 030 12 | 210 030 12 | 210 030 12 |
| W-FM 200 with extended CO / FGR functionality | | 250 033 78 | 250 033 78 | 250 033 78 | 250 033 78 |
| WM-D90 motor with 230 V contactor and overload protection ¹⁾ | | 250 030 86 | 250 030 86 | 250 030 86 | 250 030 86 |
| ABE with Chinese-character display, supplied loose | | 110 018 53 | 110 018 53 | 110 018 53 | 110 018 53 |
| 110 V control voltage | | 250 031 72 | 250 031 72 | 250 031 72 | 250 031 72 |

Country-specific executions and special voltages on application

| Technical data | | WM-G10/1-A ZMI | WM-G10/2-A ZMI | WM-G10/3-A ZMI | WM-G10/4-A ZMI |
|--|----------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Burner motor | Weishaupt type | WM-D 90/90-2/1K0 | WM-D 90/90-2/1K0 | WM-D 90/110-2/1K5 | WM-D 90/110-2/1K5 |
| Motor power output | kW | 0.9 | 0.9 | 1.5 | 1.5 |
| Nominal current | A | 2.2 | 2.2 | 3.2 | 3.2 |
| Burner without VSD: Motor protection switch ¹⁾ or motor prefusing ¹⁾ (with overload protection) | type (e.g.) | PKE12/XTU - 4 | PKE12/XTU - 4 | PKE12/XTU - 4 | PKE12/XTU - 4 |
| | A minimum | 10 A gG/T (by others) | 10 A gG/T (by others) | 16 A gG/T (by others) | 16 A gG/T (by others) |
| Burner with VSD Motor protection switch ²⁾ or motor prefusing ²⁾ | type (e.g.) | PKE12/XTU - 4 | PKE12/XTU - 4 | PKE12/XTU - 12 | PKE12/XTU - 12 |
| | A minimum | 10 A gG/T (by others) | 10 A gG/T (by others) | 10 A gG/T (by others) | 10 A gG/T (by others) |
| Speed (50 Hz) | rpm | 2900 | 2900 | 2900 | 2900 |
| Combustion manager | type | W-FM 50 | W-FM 50 | W-FM 50 | W-FM 50 |
| Flame monitoring | type | ION | ION | ION | ION |
| Air damper / gas actuator | type | STE 50 | STE 50 | STE 50 | STE 50 |
| Mass (excl. double gas valve assembly, zero governor, and fittings) | kg | approx. 55 | approx. 55 | approx. 60 | approx. 60 |

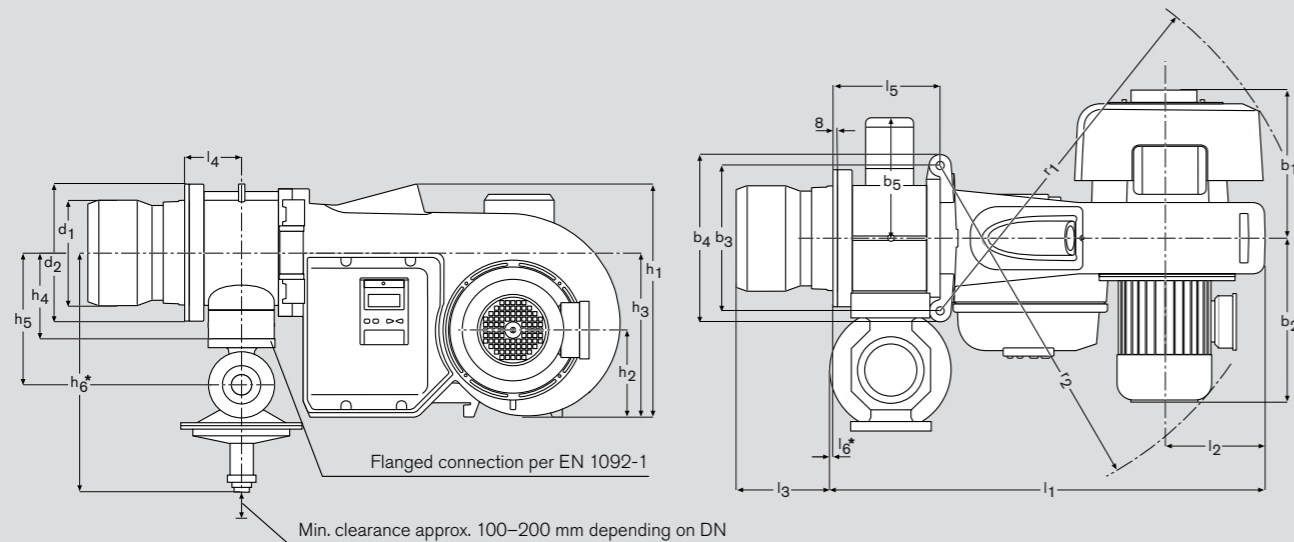
¹⁾ The necessary motor protection can be provided either by a motor protection switch (supplied and fitted into a panel by others), or with integral motor overload protection (see special equipment).

²⁾ The necessary motor protection can be provided either by a motor protection switch or with motor prefusing (supplied and fitted into a panel by others).

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:
Insulation Class F, IP 55 protection.
IE3 Premium Efficiency.

Dimensions

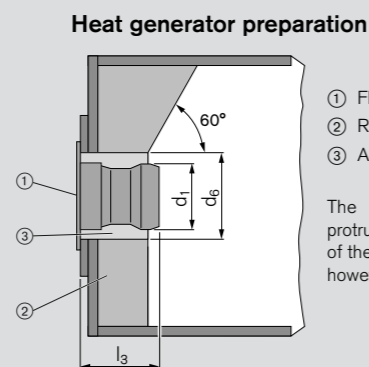


| Size | Dimensions in mm | | | | | | | | | | | | | |
|------|------------------|-------|---------|-------|-------|------------------------------|----|----|-------|-------|-------|-------|-------|--|
| | l_1 | l_2 | l_3 | l_4 | l_5 | l_6^* for nominal diameter | | | h_1 | h_2 | h_3 | h_4 | h_5 | |
| | | | | | | R 2 | 65 | 80 | | | | | | |
| 10/1 | 813 | 205 | 171-178 | 98 | 188 | 27 | 45 | 45 | 445 | 167 | 313 | 140 | 252 | |
| 10/2 | 813 | 205 | 158-178 | 98 | 188 | 27 | 45 | 45 | 445 | 167 | 313 | 140 | 252 | |
| 10/3 | 833 | 205 | 199-224 | 108 | 208 | 17 | 35 | 35 | 445 | 167 | 313 | 162 | 284 | |
| 10/4 | 833 | 205 | 199-224 | 108 | 228 | 17 | 35 | 35 | 445 | 167 | 313 | 162 | 284 | |

| Size | Dimensions in mm | | | | | | | | | | | | | | | | | | |
|------|------------------------------|------|----------|------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| | h_6^* for nominal diameter | | | | | b_1 | b_2 | b_3 | b_4 | b_5 | r_1 | r_2 | d_1 | d_2 | d_3 | d_4 | d_5 | d_6 | |
| | Rp 3/4 | Rp 1 | Rp 1 1/2 | Rp 2 | 65 | 80 | | | | | | | | | | | | | |
| 10/1 | 360 | 380 | 433 | 486 | - | - | 279 | 307 | 270 | 312 | 232 | 718 | 682 | 160 | 212 | M10 | 165 | 186 | 190 |
| 10/2 | 391 | 411 | 464 | 517 | 562 | - | 279 | 307 | 270 | 312 | 232 | 718 | 682 | 160 | 212 | M10 | 165 | 186 | 190 |
| 10/3 | 435 | 455 | 508 | 561 | 594 | 594 | 279 | 335 | 270 | 312 | 240 | 718 | 698 | 200 | 260 | M10 | 210 | 235 | 240 |
| 10/4 | - | 455 | 508 | 561 | 594 | 594 | 279 | 335 | 270 | 312 | 240 | 718 | 698 | 218 | 260 | M10 | 220 | 235 | 250 |

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

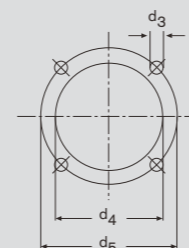
* If the protrusion of the zero governor may foul the appliance mounting plate, then a spacer ring must be interposed between the plate and the burner flange (see accessories list). It should be noted that combustion head dimension l_3 is thereby reduced by the depth of the spacer ring.



- ① Flange gasket
- ② Refractory
- ③ Aperture

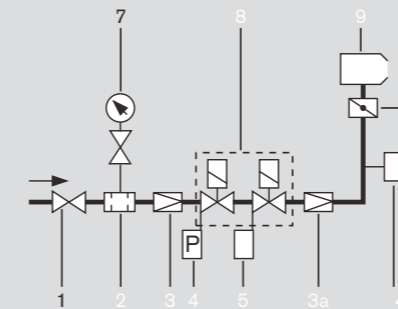
The refractory ② must not protrude beyond the front edge of the combustion head. It may however be tapered (min. 60°).

Mounting-plate drilling dimensions



Fuel system

Layout of the valve train



Legend:

- 1 Ball valve *
- 2 Gas filter *
- 3 Pressure regulator, (LP) or (HP) *
- 3a Zero governor with impulse line
- 4 Low gas pressure switch
- 4a High gas pressure switch *
- 5 Valve-proving pressure switch
- 6 Gas butterfly valve
- 7 Pressure gauge with push-button valve *
- 8 Double gas valve assembly
- 9 Burner

* Not included in burner price

Layout of the valve train

On boilers with hinged doors, the valve train must be mounted on the opposite side to the boiler-door hinges.

Compensator

To enable a tension free mounting of the valve train, the fitting of a compensator is strongly recommended.

Break points in the valve train

Break points in the valve train should be provided to enable the door of the heat generator to be swung open. The main gas line is best separated at the compensator.

Support of the valve train

The valve train should be properly supported in accordance with the site conditions. Please refer to the Weishaupt accessories list for various valve train support components.

Gas meter

A gas meter must be installed to measure gas consumption during commissioning and servicing.

Optional thermal shutoff

(when required by local regulations)
Integrated into the ball valve of screwed valve trains. A separate component with HTB seals fitted before the ball valve on flanged valve trains.

Saving fuel, reducing emissions: Patented multiflam® technology



Weishaupt's patented multiflam® technology enables large combustion plant to meet very low emission limits without the need for expensive additional equipment. This reduction in emissions is achieved by using an innovative mixing assembly and fuel distribution system.

Weishaupt multiflam® burners have been proving themselves in the field for 20 years.

The latest monarch® burners bring this technology to medium-capacity ranges, combining flexibility with extremely low emissions.

Flexibility

Gas, oil, and dual-fuel versions of the mixing assembly have been developed. Gas-fired burners have modulating load control, while load control on oil-fired burners is multi-staged.

Exemplary emissions

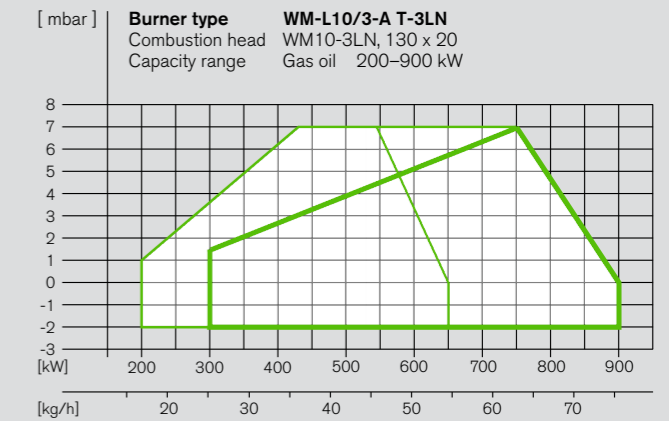
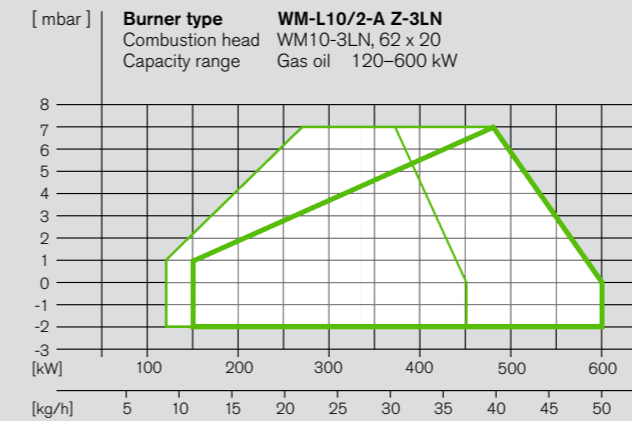
The NO_x emissions produced by a 3LN-version multiflam® mixing assembly will be considerably lower than those of a standard-version mixing assembly under the same operating conditions. Key is the distribution of fuel among several nozzles and, consequently, its combustion in a primary and a secondary flame. This avoids extremely hot zones in the flame's core which, in turn, greatly reduces the formation of thermal NO_x.

However, the achievement of good combustion figures depends on more than just the burner. Numerous additional parameters, such as the design of the heat generator, and the geometry and the thermal loading of its combustion chamber, are also important. Furthermore, medium temperature, combustion air temperature, and air humidity play a decisive role. When NO_x emissions for a particular application are guaranteed, it will always be with reference to certain constraints and system parameters.

Use

See page 14.

Burner selection WM-L10, versions Z-3LN and T-3LN (multiflam®)



Gas oil: Capacity with combustion head

Closed

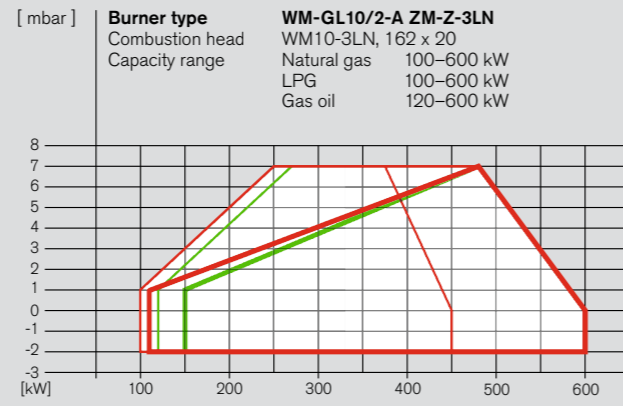
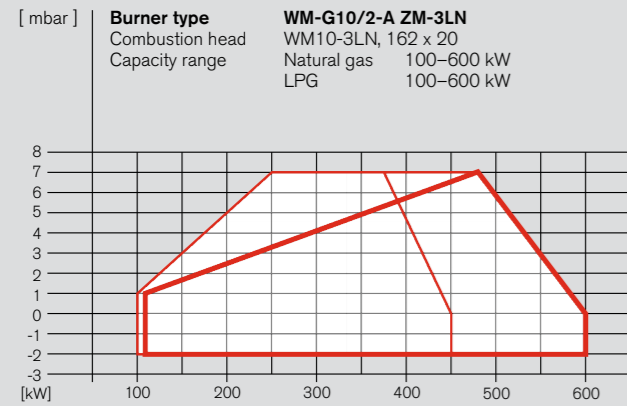
Open

Turndown:

Gas oil max. 3:1

Please refer to page 15 for notes on the capacity graphs.

Burner selection WM-G(L)10, version ZM(-Z)-3LN (multiflam®)



WM-G(L)10/2-A, version ZM(-Z)-3LN (multiflam®)

| | | |
|------------------------------|--|--|
| Burner rating kW | Low-pressure supply (with FRS regulator) | High-pressure supply (with HP regulator) |
| | Flow pressure into shutoff valve | F. p. into double valve assembly |
| Nominal valve-train diameter | 3/4" 1" 1 1/2" 2" 65 | 3/4" 1" 1 1/2" 2" 65 |
| | Nominal diameter of gas butterfly | Nominal diameter of gas butterfly |
| | 50 50 50 50 50 | 50 50 50 50 50 |

| | |
|--|-----------------|
| Natural gas E LHV = 10.35 kWh/m³; d = 0.606; W _i = 13.295 kWh/m³ | |
| 300 | 31 16 10 - - |
| 350 | 42 21 13 10 9 |
| 400 | 53 27 16 12 11 |
| 450 | 66 32 19 14 13 |
| 500 | 81 39 22 16 14 |
| 550 | 96 45 25 18 16 |
| 600 | 113 52 28 20 18 |

| | |
|--|-----------------|
| Natural gas LL LHV = 8.83 kWh/m³; d = 0.641; W _i = 11.029 kWh/m³ | |
| 300 | 43 21 13 10 9 |
| 350 | 58 28 16 12 11 |
| 400 | 75 36 20 14 13 |
| 450 | 93 44 24 17 15 |
| 500 | 114 53 29 20 18 |
| 550 | 137 63 33 23 20 |
| 600 | 161 74 39 26 23 |

| | |
|--|----------------|
| LPG LHV = 25.89 kWh/m³; d = 1.555; W _i = 20.762 kWh/m³ | |
| 300 | 17 11 9 - - |
| 350 | 22 14 10 9 9 |
| 400 | 28 17 13 11 11 |
| 450 | 35 21 15 13 13 |
| 500 | 42 25 18 16 15 |
| 550 | 50 30 21 18 18 |
| 600 | 62 38 28 24 23 |

Natural gas: Capacity with combustion head

Closed Open

Gas oil: Capacity with combustion head

Closed Open

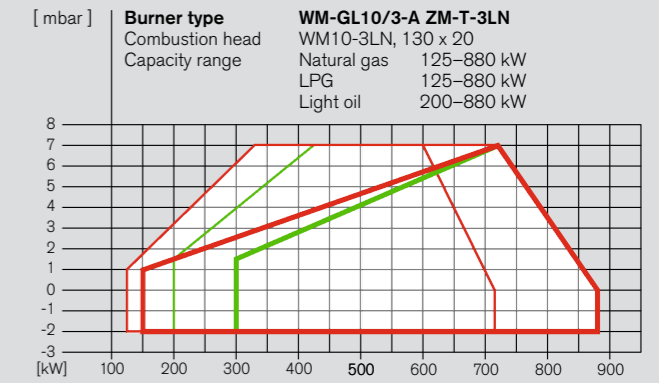
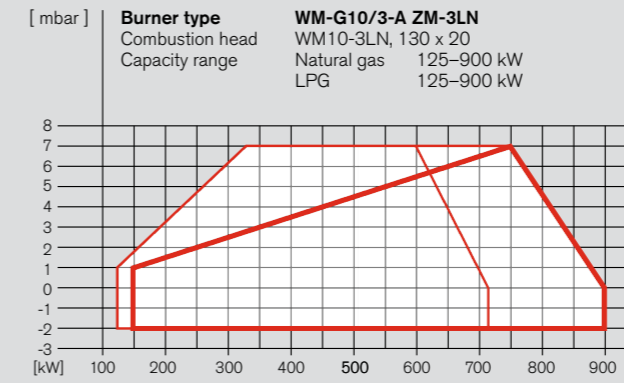
Turndown:

Gas max. 6:1
 Gas oil max. 3:1

Please refer to page 15 for notes on the gas supply.

The LHV is referenced to 0 °C and 1013 mbar atmospheric. All pressures are in mbar.

Burner selection WM-G(L)10, version ZM(-T)-3LN (multiflam®)



WM-G(L)10/3-A, version ZM(-T)-3LN (multiflam®)

| | | |
|------------------------------|--|--|
| Burner rating kW | Low-pressure supply (with FRS regulator) | High-pressure supply (with HP regulator) |
| | Flow pressure into shutoff valve | F. p. into double valve assembly |
| Nominal valve-train diameter | 3/4" 1" 1 1/2" 2" 65 80 100 | 3/4" 1" 1 1/2" 2" 65 80 100 |
| | Nominal diameter of gas butterfly | Nominal diameter of gas butterfly |
| | 50 50 50 50 50 50 50 | 50 50 50 50 50 50 50 |

| | |
|--|------------------------|
| Natural gas E LHV = 10.35 kWh/m³; d = 0.606; W _i = 13.295 kWh/m³ | |
| 450 | 66 32 18 14 12 12 12 |
| 500 | 80 38 21 15 14 13 13 |
| 550 | 95 45 24 17 15 15 14 |
| 600 | 112 52 28 19 17 16 16 |
| 650 | 130 59 31 21 18 17 17 |
| 700 | 150 68 35 23 20 19 18 |
| 750 | 171 76 38 25 22 20 20 |
| 800 | 193 85 42 27 23 22 21 |
| 850 | 215 94 45 28 23 22 21 |
| 900 | 238 103 48 29 24 22 21 |

| | |
|--|------------------------|
| Natural gas LL LHV = 8.83 kWh/m³; d = 0.641; W _i = 11.029 kWh/m³ | |
| 450 | 66 32 18 14 12 12 12 |
| 500 | 80 38 21 15 14 13 13 |
| 550 | 95 45 24 17 15 15 14 |
| 600 | 112 52 28 19 17 16 16 |
| 650 | 130 59 31 21 18 17 17 |
| 700 | 150 68 35 23 20 19 18 |
| 750 | 171 76 38 25 22 20 20 |
| 800 | 193 85 42 27 23 22 21 |
| 850 | 215 94 45 28 23 22 21 |
| 900 | 238 103 48 29 24 22 21 |

| | |
|--|-----------------------|
| LPG LHV = 25.89 kWh/m³; d = 1.555; W _i = 20.762 kWh/m³ | |
| 450 | 34 20 15 13 12 12 12 |
| 500 | 42 25 18 15 15 14 14 |
| 550 | 50 29 21 18 17 17 17 |
| 600 | 58 34 24 20 19 19 19 |
| 650 | 68 39 27 23 22 21 21 |
| 700 | 77 43 29 25 23 23 23 |
| 750 | 85 46 31 25 24 23 23 |
| 800 | 94 50 32 26 24 24 23 |
| 850 | 103 53 33 26 25 24 23 |
| 900 | 113 57 35 27 25 24 24 |

Natural gas: Capacity with combustion head

Closed Open

Gas oil: Capacity with combustion head

Closed Open

Turndown:

Gas max. 6:1
 Gas oil max. 3:1

Please refer to page 15 for notes on the gas supply.

The LHV is referenced to 0 °C and 1013 mbar atmospheric. All pressures are in mbar.

Scope of delivery

| Description | WM-L10 3LN | WM-G10 3LN | WM-GL10 3LN |
|---|------------|------------|-------------|
| Burner housing, hinged flange, housing cover, Weishaupt burner motor, air inlet housing, fan wheel, combustion head, ignition unit, ignition cable, ignition electrodes, combustion manager with control unit, flame sensor, actuators, flange gasket, limit switch on hinged flange, fixing screws | ● | ● | ● |
| Digital combustion manager W-FM50 W-FM54 | ● – | ● – | – ● |
| Valve proving via pressure switch and W-FM | – | ● | ● |
| Class-A double gas valve assembly | – | ● | ● |
| Gas butterfly valve | – | ● | ● |
| Air pressure switch | ○ | ● | ● |
| Low gas pressure switch | – | ● | ● |
| Preset, capacity-based mixing assembly | ● | ● | ● |
| Actuators for compound regulation of fuel and air via W-FM: Air damper actuator Gas butterfly valve actuator | ● – | ● ● | ● ● |
| Oil pump fitted to burner | ● | – | ● |
| Oil hoses | ● | – | ● |
| 2 (Z-3LN) / 3 (T-3LN) oil solenoid valves, nozzle head with pre-installed oil nozzles, 1 additional oil safety solenoid valve | ● | – | ● |
| DOL motor contactor fitted to motor ¹⁾ | ● | ● | ● |
| IP 54 protection | ● | ● | ● |
| Electromagnetic clutch | ○ | – | ○ |

EN 676 stipulates that ball valves, gas filters, and gas pressure regulators form part of the burner supply (see Weishaupt accessories list).
Gas valve train handing should be confirmed at the time of order.
If not otherwise specified, the burner will be supplied configured for a right-handed gas valve train.
The burner can be altered for the opposite gas valve train handing through rotation of the gas butterfly valve and actuator.

Please enquire or see the special equipment section of this brochure for further burner executions.

- 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).

Order numbers

Oil burners

| Burner type | Version | Order No. |
|-------------|---------|------------|
| WM-L10/2-A | Z-3LN | 211 110 26 |
| WM-L10/3-A | T-3LN | 211 110 34 |

DIN CERTCO: 5G1010

Dual-fuel burners

| Burner type | Version | Gas valve assembly size | Order No. |
|-------------|----------|-------------------------|------------|
| WM-GL10/2-A | ZM-Z-3LN | R ¾ | 218 124 10 |
| | | R 1 | 218 124 11 |
| | | R 1½ | 218 124 12 |
| | | R 2 | 218 124 13 |
| | | DN 65 | 218 124 14 |
| WM-GL10/3-A | ZM-T-3LN | R ¾ | 218 122 10 |
| | | R 1 | 218 122 11 |
| | | R 1½ | 218 122 12 |
| | | R 2 | 218 122 13 |
| | | DN 65 | 218 122 14 |
| | | DN 80 | 218 122 15 |
| | | DN 100 | 218 122 16 |

CE-PIN: CE 0085BR0136
DIN CERTCO: 5G1025M

Gas burners

| Burner type | Version | Gas valve assembly size | Order No. |
|-------------|---------|-------------------------|------------|
| WM-G10/2-A | ZM-3LN | R ¾ | 217 123 10 |
| | | R 1 | 217 123 11 |
| | | R 1½ | 217 123 12 |
| | | R 2 | 217 123 13 |
| | | DN 65 | 217 123 14 |
| WM-G10/3-A | ZM-3LN | R ¾ | 217 122 10 |
| | | R 1 | 217 122 11 |
| | | R 1½ | 217 122 12 |
| | | R 2 | 217 122 13 |
| | | DN 65 | 217 122 14 |
| | | DN 80 | 217 122 15 |
| | | DN 100 | 217 122 16 |

CE-PIN: CE 0085BQ0027

Special equipment WM-L10, version 3LN (multiflam®)

| Oil burners, versions Z-3LN and T-3LN | WM-L10/2-A | WM-L10/3-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 | Please enquire 250 030 85 210 030 86 |
| Oil hoses, 1300 mm in lieu of 1000 mm | 210 003 00 | 210 003 00 |
| Electromagnetic clutch | 250 030 44 | 250 030 44 |
| Air inlet flange for ducted air connection with LGW air pressure switch (additional LGW 50 required) | for connection from rear for connection from above for connection from below | 210 030 20 250 034 10 Please enquire |
| Air inlet flange for ducted air connection with LGW air pressure switch (in conjunction with electromagnetic clutch) | for connection from rear for connection from above for connection from below | 250 032 94 250 033 89 254 034 89 |
| VZ08 oil meter without transmitter | 250 030 46 | 250 030 46 |
| VZ08 oil meter with low-frequency transmitter for external wiring | 250 030 47 | 250 030 47 |
| ST 18/7 and ST 18/4 plug connections (W-FM50 / 100 / 200) | 210 030 13 | 210 030 13 |
| ST 18/7 plug connection (W-FM50 with KS20) | 250 031 06 | 250 031 06 |
| Burner-mounted KS20 controller (W-FM50) | 250 033 15 | 250 033 15 |
| W-FM 100 (suitable for continuous firing) in lieu of W-FM50 ²⁾ | 210 030 32 | 210 030 32 |
| DSB 158 oil pressure switch in supply ²⁾ | 210 030 23 | 210 030 23 |
| QRA 73 flame sensor in lieu of QRA 2 ²⁾ | 210 031 63 | 210 031 63 |
| LGW 50 air-pressure switch ²⁾ | 210 030 08 | 210 030 08 |
| Integral load controller and analogue signal convertor for W-FM 100 | 110 017 18 | 110 017 18 |
| W-FM200 in lieu of W-FM50 with integral load controller, analogue signal convertor, and VSD module, with optional fuel metering | 210 030 10 | 210 030 10 |
| W-FM200 with extended CO / FGR functionality | 250 033 78 | 250 033 78 |
| WM-D90 motor with 230 V contactor and overload protection ¹⁾ | 250 030 86 | 250 030 86 |
| ABE with Chinese-character display, supplied loose (W-FM 100 / 200) | 110 018 53 | 110 018 53 |
| 110 V control voltage | Please enquire | 250 031 72 |

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⁾ Required for PED (2014/68/EU) compliance.

Country-specific executions and special voltages on application

Special equipment WM-G10, version 3LN (multiflam®)

| Gas burners, version ZM-3LN | WM-G10/2-A | WM-G10/3-A |
|---|--|--|
| Combustion head extension | by 100 mm by 200 mm | Please enquire 250 031 57 Please enquire 250 031 58 |
| Solenoid valve for air-pressure switch test with continuous-run fan or post purge | | 250 030 21 250 030 21 |
| High gas pressure switch ²⁾ (Screwed W-MF / DMV for low-pressure supplies) | GW 50 A6/1 GW 150 A6/1 GW 500 A6/1 | 250 033 30 250 033 31 250 033 32 250 033 30 250 033 31 250 033 32 |
| High gas pressure switch ²⁾ (Flanged DMV for low-pressure supplies) | GW 50 A6/1 GW 150 A6/1 GW 500 A6/1 | 150 017 49 150 017 50 150 017 51 150 017 49 150 017 50 150 017 51 |
| High gas pressure switch ²⁾ (Fitted to high-pressure regulator) | GW 50 A6/1 GW 150 A6/1 GW 500 A6/1 | 250 033 33 250 033 34 250 033 35 250 033 33 250 033 34 250 033 35 |
| ST 18/7 and ST 18/4 plug connections (W-FM50/100/200) | | 250 030 22 250 030 22 |
| Air inlet flange for ducted-air connection with LGW air pressure switch | for connection from rear for connection from above for connection from below | 250 030 24 Please enquire 250 034 88 250 030 24 Please enquire 250 034 88 |
| Burner-mounted KS20 controller (W-FM50) | | 250 033 15 250 033 15 |
| W-FM 100 (suitable for continuous firing) in lieu of W-FM50 ²⁾ | | 250 030 74 250 030 74 |
| Integral load controller and analogue signal convertor for W-FM 100 | | 110 017 18 110 017 18 |
| W-FM200 in lieu of W-FM50 with integral load controller, analogue signal convertor, and VSD module, with optional fuel metering | | 250 030 75 250 030 75 |
| VSD with integral frequency convertor (W-FM50/200 required) ¹⁾ | | 210 030 11 210 030 11 |
| VSD with separate frequency convertor (W-FM200 required) (See accessories list for frequency convertor) ¹⁾ | | 210 030 12 210 030 12 |
| W-FM200 with extended CO / FGR functionality | | 250 033 78 250 033 78 |
| WM-D90 motor with 230 V contactor and overload protection ²⁾ | | 250 030 86 250 030 86 |
| ABE with Chinese-character display, supplied loose (W-FM 100 / 200) | | 110 018 53 110 018 53 |
| 110 V control voltage | | Please enquire 250 031 72 |

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⁾ Required for PED (2014/68/EU) compliance.

Country-specific executions and special voltages on application

Special equipment WM-GL10, version 3LN (multiflam®)

| Dual-fuel burners, versions ZM-Z-3LN and ZM-T-3LN | | WM-GL10/2-A | WM-GL10/3-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 | Please enquire | 250 031 59 |
| | by 200 mm | Please enquire | 250 031 60 |
| Solenoid valve for air-pressure switch test with continuous-run fan or post purge | | 250 030 21 | 250 030 21 |
| High gas pressure switch ²⁾ (Screwed W-MF / DMV for low-pressure supplies) | GW 50 A6/1 GW 150 A6/1 GW 500 A6/1 | 250 033 30 250 033 31 250 033 32 | 250 033 30 250 033 31 250 033 32 |
| High gas pressure switch ²⁾ (Flanged DMV for low-pressure supplies) | GW 50 A6/1 GW 150 A6/1 GW 500 A6/1 | 150 017 49 150 017 50 150 017 51 | 150 017 49 150 017 50 150 017 51 |
| High gas pressure switch ²⁾ (Fitted to high-pressure regulator) | GW 50 A6/1 GW 150 A6/1 GW 500 A6/1 | 250 033 33 250 033 34 250 033 35 | 250 033 33 250 033 34 250 033 35 |
| Oil hoses, 1300 mm in lieu of 1000 mm | | 210 003 00 | 210 003 00 |
| VZ08 oil meter without transmitter | | 250 030 46 | 250 030 46 |
| VZ08 oil meter with low-frequency transmitter for external wiring | | 250 030 47 | 250 030 47 |
| Electromagnetic clutch | | 250 030 44 | 250 030 44 |
| ST 18/7 and ST 18/4 plug connections(W-FM54) | | 250 031 99 | 250 031 99 |
| ST 18/7 plug connection (W-FM 100 / 200) | | 250 032 01 | 250 032 01 |
| Air inlet flange for ducted air connection with LGW air pressure switch (additional LGW 50 required) | for connection from rear for connection from above for connection from below | 210 030 20 250 034 10 Please enquire | 210 030 20 250 034 10 Please enquire |
| Air inlet flange for ducted air connection with LGW air pressure switch (in conjunction with electromagnetic clutch) | for connection from rear for connection from above for connection from below | 250 032 94 250 033 89 254 034 89 | 250 032 94 250 033 89 254 034 89 |
| DSB 158 oil pressure switch in supply ²⁾ | | 250 030 82 | 250 030 82 |
| QRA 73 flame sensor in lieu of QRA 2 ²⁾ | | 210 031 63 | 210 031 63 |
| W-FM 100 (suitable for continuous firing) in lieu of W-FM54, with integral load controller and analogue signal convertor | burner-mounted supplied loose | 250 033 67 250 033 68 | 250 033 67 250 033 68 |
| W-FM200 in lieu of W-FM54 with integral load controller, analogue signal convertor, and VSD module, with optional fuel metering | burner-mounted supplied loose | 250 033 69 250 033 70 | 250 033 69 250 033 70 |
| VSD with integral frequency convertor (W-FM200 required) | | 210 030 11 | 210 030 11 |
| VSD with separate frequency convertor (W-FM200 required) (See accessories list for frequency convertor) | | 210 030 12 | 210 030 12 |
| W-FM200 with extended CO / FGR functionality | | 250 033 78 | 250 033 78 |
| WM-D90 motor with 230 V contactor and overload protection ¹⁾ | | 250 030 86 | 250 030 86 |
| ABE with Chinese-character display, supplied loose (W-FM 100 / 200) | | 110 018 53 | 110 018 53 |
| 110 V control voltage (W-FM50 / 100 / 200) | | Please enquire | 250 031 72 |

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⁾ Required for PED (2014/68/EU) compliance.

Country-specific executions and special voltages on application

Technical data WM-L10, version 3LN (multiflam®)

| Oil burners | | WM-L10/2-A Z-3LN | WM-L10/3-A T-3LN |
|---|--------------------------|--|--|
| Burner motor | Weishaupt type | WM-D 90/90-2/1K0 | WM-D 90/110-2/1K5 |
| Motor power output | kW | 0.9 | 1.5 |
| Nominal current | A | 2.2 | 3.2 |
| Burner without VSD Motor protection switch ¹⁾ or motor prefusing ¹⁾ (with overload protection) | type (e.g.) A minimum | PKE12/XTU - 4 10 A gG/T (by others) | PKE12/XTU - 4 16 A gG/T (by others) |
| Burner with VSD Motor protection switch ²⁾ or motor prefusing ²⁾ | type (e.g.) A minimum | PKE12/XTU - 4 10 A gG/T (by others) | PPKE12/XTU - 12 10 A gG/T (by others) |
| Speed (50 Hz) | rpm | 2900 | 2900 |
| Combustion manager | type | W-FM 50 | W-FM 50 |
| Flame monitoring | type | QRA2 | QRA2 |
| Integral pump max. flow rate | type l/h | AL 75C 130 | AL 95C 150 |
| NOx Class per EN 267 | | 3 | 3 |
| Oil hoses | DN/length | 8 / 1000 | 8 / 1000 |
| Mass | kg | approx. 65 | approx. 68 |

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⁾ The necessary motor protection can be provided either by a motor protection switch or with motor prefusing (supplied and fitted into a panel by others).

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:

Insulation Class F, IP 55 protection.
IE3 Premium Efficiency.

Technical data WM-G 10, version 3LN (multiflam®)

| Gas burners | | WM-G10/2-A ZM-3LN | WM-G10/3-A ZM-3LN |
|---|--------------------------|--|--|
| Burner motor | Weishaupt type | WM-D 90/90-2/1K0 | WM-D 90/110-2/1K5 |
| Motor power output | kW | 0.9 | 1.5 |
| Nominal current | A | 2.2 | 3.2 |
| Burner without VSD | | | |
| Motor protection switch ¹⁾ or motor prefusing ¹⁾ (with overload protection) | type (e.g.) A minimum | PKE12/XTU - 4 10 A gG/T (by others) | PKE12/XTU - 4 16 A gG/T (by others) |
| Burner with VSD | | | |
| Motor protection switch ²⁾ or motor prefusing ²⁾ | type (e.g.) A minimum | PKE12/XTU - 4 10 A gG/T (by others) | PPKE12/XTU - 12 10 A gG/T (by others) |
| Speed (50 Hz) | rpm | 2900 | 2900 |
| Combustion manager | type | W-FM50 | W-FM50 |
| Flame monitoring | type | ION | ION |
| Air damper / oil actuator | type | STE 50 | STE 50 |
| NO _x Class per EN 676 | | 3 | 3 |
| Mass (excl. double gas valve assembly and fittings) | kg | approx. 60 | approx. 63 |

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⁾ The necessary motor protection can be provided either by a motor protection switch or with motor prefusing (supplied and fitted into a panel by others).

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:

Insulation Class F, IP 55 protection.
IE3 Premium Efficiency.

Technical data WM-GL 10, version 3LN (multiflam®)

| Dual-fuel burners | | WM-GL10/2-A ZM-Z-3LN | WM-GL10/3-A ZM-T-3LN |
|---|--------------------------|--|--|
| Burner motor | Weishaupt type | WM-D 90/90-2/1K0 | WM-D 90/110-2/1K5 |
| Motor power output | kW | 0.9 | 1.5 |
| Nominal current | A | 2.2 | 3.2 |
| Burner without VSD | | | |
| Motor protection switch ¹⁾ or motor prefusing ¹⁾ (with overload protection) | type (e.g.) A minimum | PKE12/XTU - 4 10 A gG/T (by others) | PKE12/XTU - 4 16 A gG/T (by others) |
| Burner with VSD | | | |
| Motor protection switch ²⁾ or motor prefusing ²⁾ | type (e.g.) A minimum | PKE12/XTU - 4 10 A gG/T (by others) | PPKE12/XTU - 12 10 A gG/T (by others) |
| Speed (50 Hz) | rpm | 2900 | 2900 |
| Combustion manager | type | W-FM54 | W-FM54 |
| Flame monitoring type | | QRA2 | QRA2 |
| Air damper / oil actuator | type | STE 50 | STE 50 |
| Integral pump | type | AL 75C | AL 95C |
| max. flow rate | l/h | 130 | 150 |
| NO _x Class per EN 267 / EN 676 | | 3 | 3 |
| Oil hoses | DN / length | 8 / 1000 | 8 / 1000 |
| Mass (excl. double gas valve assembly and fittings) | kg | approx. 70 | approx. 73 |

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⁾ The necessary motor protection can be provided either by a motor protection switch or with motor prefusing (supplied and fitted into a panel by others).

Voltages and frequencies:

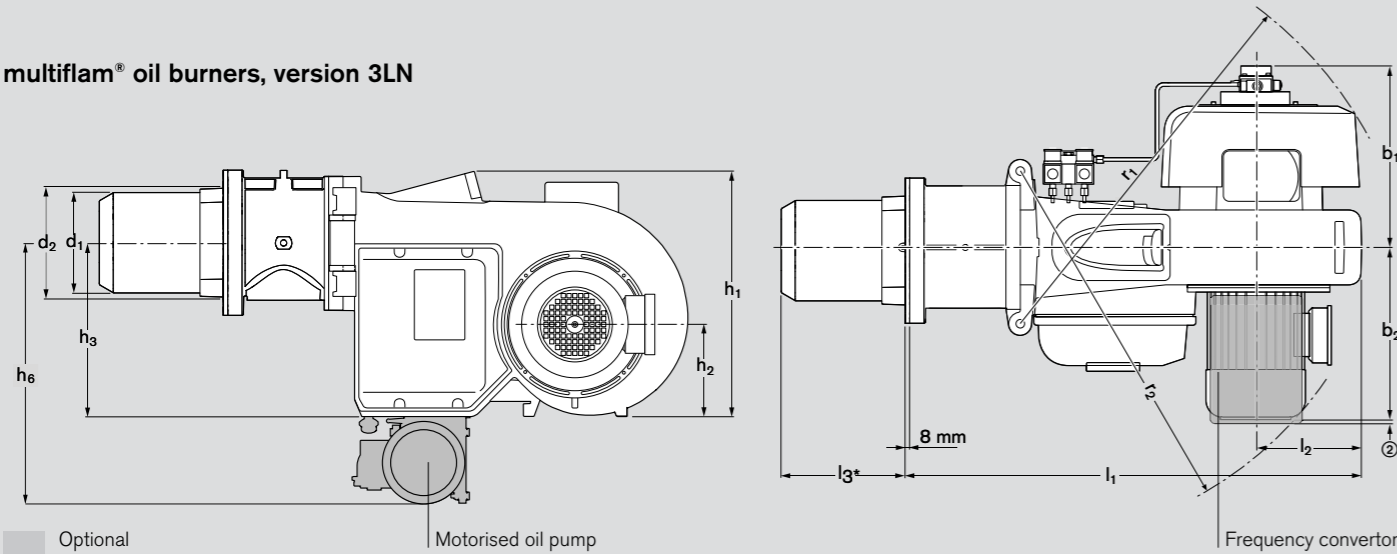
The burners are equipped as standard for three-phase alternating current, 400 V, 3 ~, 50 Hz. Other voltages and frequencies are available on application.

Standard burner motor:

Insulation Class F, IP 55 protection.
IE3 Premium Efficiency.

Dimensions

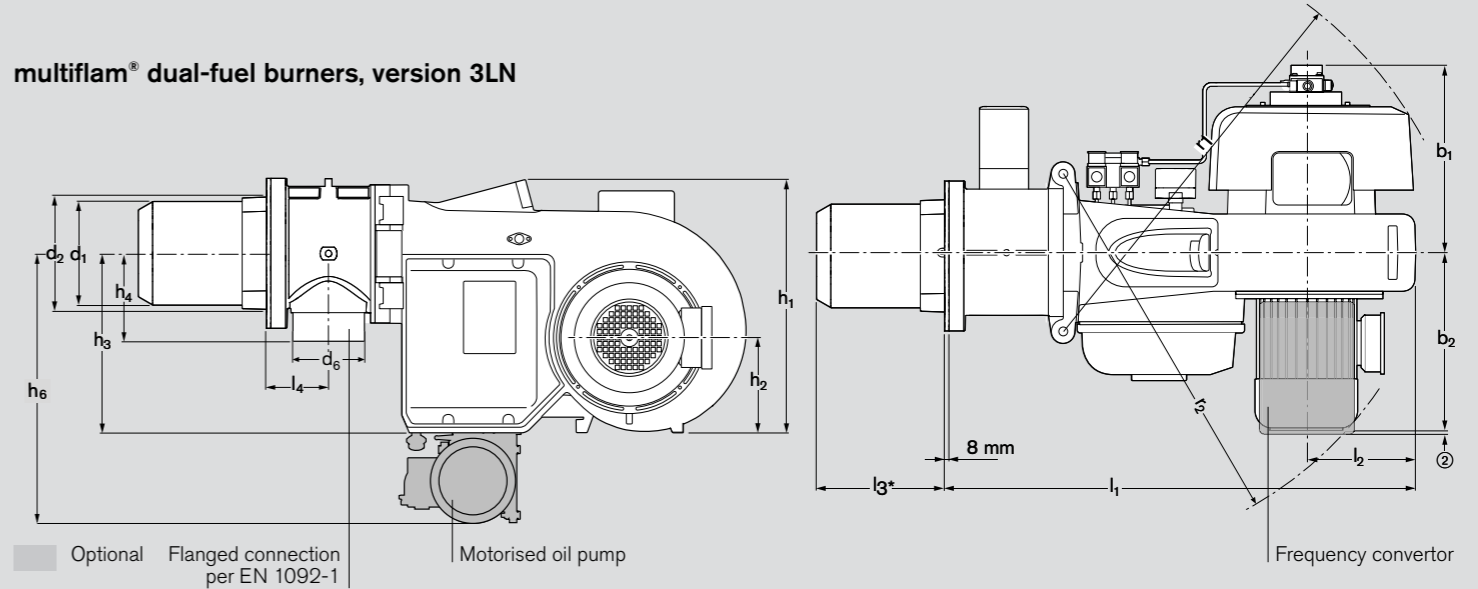
multiflam® oil burners, version 3LN



| Burner type | Dimensions in mm | | | | | | | | | | | | | |
|----------------|------------------|----------------|----------------|-----------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--|
| | l ₁ | l ₂ | l ₃ | b ₁ ^① | b ₂ | h ₁ | h ₂ | h ₃ | h ₆ | r ₁ | r ₂ | d ₁ | d ₂ | |
| WM-L10/2 Z-3LN | 833 | 205 | 209-219 | 323 | 307 | 445 | 167 | 313 | 470 | 718 | 682 | 180 | 199 | |
| WM-L10/3 T-3LN | 833 | 205 | 207-222 | 323 | 335 | 445 | 167 | 313 | 470 | 718 | 698 | 180 | 199 | |

- ① Excluding electromagnetic clutch (pump with electromagnetic clutch: plus 130 mm)
- ② Projection of frequency convertor approx. 20 mm

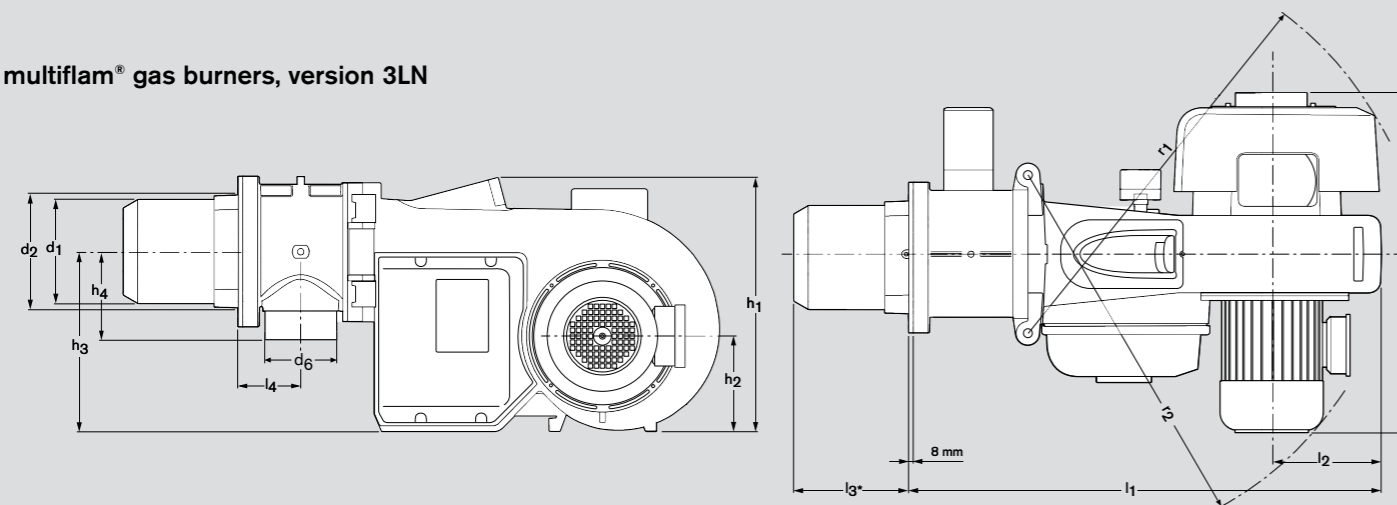
multiflam® dual-fuel burners, version 3LN



| Burner type | Dimensions in mm | | | | | | | | | | | | | | | |
|--------------------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | l ₁ | l ₂ | l ₃ | l ₄ | b ₁ | b ₂ | h ₁ | h ₂ | h ₃ | h ₄ | h ₆ | r ₁ | r ₂ | d ₁ | d ₂ | d ₆ |
| WM-GL10/2 ZM-Z-3LN | 833 | 205 | 209-219 | 108 | 323 | 307 | 445 | 167 | 313 | 161 | 470 | 718 | 682 | 180 | 199 | DN50 |
| WM-GL10/3 ZM-T-3LN | 833 | 205 | 212-222 | 108 | 323 | 335 | 445 | 167 | 313 | 161 | 470 | 718 | 698 | 180 | 199 | DN50 |

- ① Excluding electromagnetic clutch (pump with electromagnetic clutch: plus 130 mm)
- ② Projection of frequency convertor approx. 20 mm

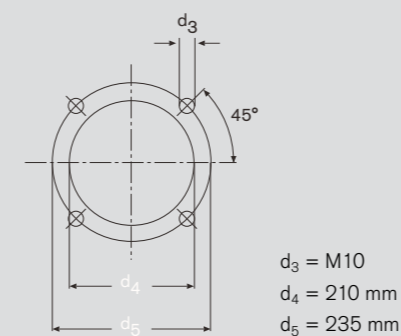
multiflam® gas burners, version 3LN



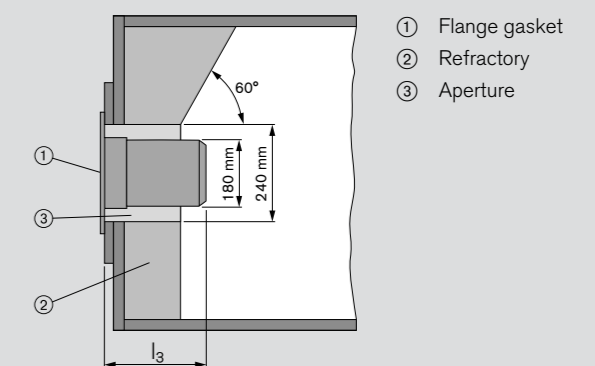
| Burner type | Dimensions in mm | | | | | | | | | | | | | | | |
|-----------------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--|
| | l ₁ | l ₂ | l ₃ | l ₄ | b ₁ | b ₂ | h ₁ | h ₂ | h ₃ | h ₄ | r ₁ | r ₂ | d ₁ | d ₂ | d ₆ | |
| WM-G10/2 ZM-3LN | 833 | 205 | 209-219 | 108 | 279 | 307 | 445 | 167 | 313 | 161 | 718 | 682 | 180 | 199 | DN50 | |
| WM-G10/3 ZM-3LN | 833 | 205 | 212-222 | 108 | 279 | 335 | 445 | 167 | 313 | 161 | 718 | 698 | 180 | 199 | DN50 | |

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

Mounting-plate drilling dimensions



Heat generator preparation



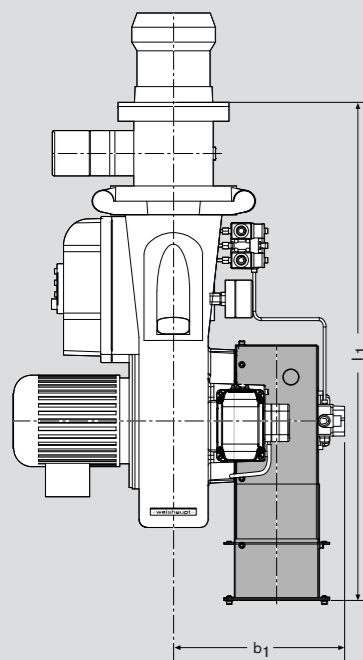
The leading edge of the combustion head must protrude approx. 50 mm beyond the refractory ②. The refractory may be tapered (min. 60°).

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

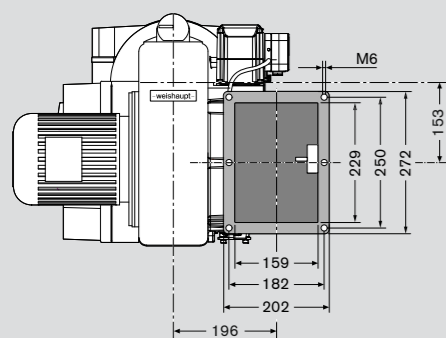
Dimensions of ducted-air connection

Gas, oil, and dual-fuel burners

Connection from rear

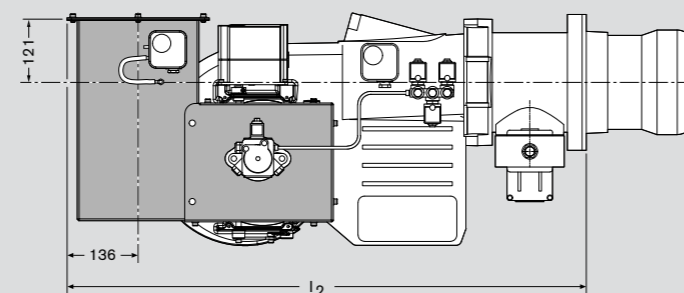


Dimension b₁ identical to standard air inlet housing

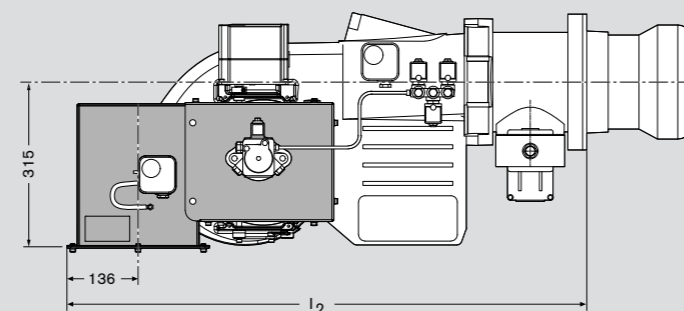


Inlet flange dimensions identical for all versions.

Connection from above



Connection from below



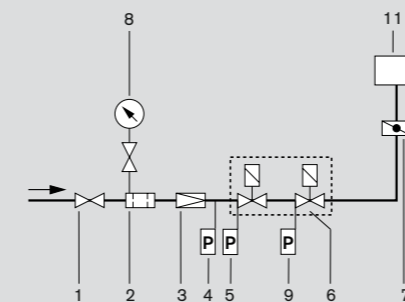
| Burner type | Version | Dimensions in mm | |
|---------------------|---------|------------------|----------------|
| | | l ₁ | l ₂ |
| WM-L10/2 to 10/3 | 3LN | 970 | 994 |
| WM-L10/1 to 10/4 | | 796 | 820 |
| WM-G10/1 | LN | 930 | 954 |
| WM-G(L)10/2 | 3LN | 970 | 994 |
| WM-G(L)10/1 to 10/2 | | 950 | 974 |
| WM-G(L)10/3 to 10/4 | | 970 | 994 |

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

Fuel systems

Gas-side fuel system

W-FM 50 / 100 / 200



- 1 Ball valve *
- 2 Gas filter *
- 3 Pressure regulator, (LP) or (HP) *
- 4 High gas pressure switch *
- 5 Low gas pressure switch
- 6 Double gas valve assembly
- 7 Gas butterfly valve
- 8 Pressure gauge with push-button valve *
- 9 Valve-proving pressure switch
- 10 Low gas / valve-proving pressure switch
- 11 Burner

Layout of the valve train

On boilers with hinged doors, the valve train must be mounted on the opposite side to the boiler-door hinges.

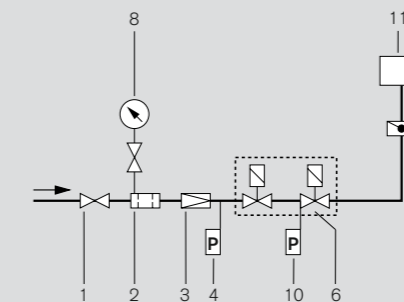
Compensator

To enable a tension free mounting of the valve train, the fitting of a compensator is strongly recommended.

Break points in the valve train

Break points in the valve train should be provided to enable the door of the heat generator to be swung open. The main gas line is best separated at the compensator.

W-FM 54



* Not included in burner price

Mounting position of the high gas pressure switch:
 ▪ On the regulator outlet of HP trains
 ▪ After the regulator of screwed LP trains
 ▪ On the valve assembly inlet of flanged LP trains

Cable length approx. 2.5 m.

Support of the valve train

The valve train should be properly supported in accordance with the site conditions. Please refer to the Weishaupt accessories list for various valve train support components.

Gas meter

A gas meter must be installed to measure gas consumption during commissioning and servicing.

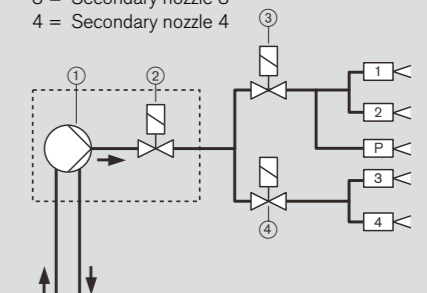
Optional thermal shutoff (when required by local regulations)

Integrated into the ball valve of screwed valve trains. A separate component with HTB seals fitted before the ball valve on flanged valve trains.

Oil-side fuel system

WM-(G)L10/2-A (ZM-)Z-3LN:

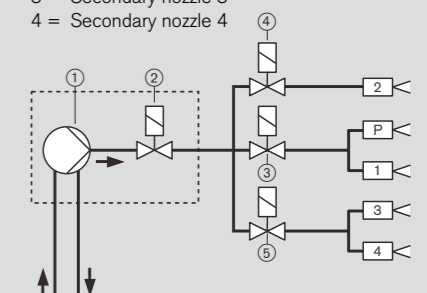
- P = Primary nozzle
- 1 = Secondary nozzle 1
- 2 = Secondary nozzle 2
- 3 = Secondary nozzle 3
- 4 = Secondary nozzle 4



- ① Burner-mounted oil pump
- ② Oil pump solenoid valve
- ③ Ignition load / stage1 solenoid valve (three-nozzle ignition)
- ④ Stage 2 solenoid valve

WM-(G)L10/3-A (ZM-)T-3LN:

- P = Primary nozzle
- 1 = Secondary nozzle 1
- 2 = Secondary nozzle 2
- 3 = Secondary nozzle 3
- 4 = Secondary nozzle 4



- ① Burner-mounted oil pump
- ② Oil pump solenoid valve
- ③ Ignition load solenoid valve (two-nozzle ignition)
- ④ Stage 1 solenoid valve
- ⑤ Stage 2 solenoid valve

Contact Us



Maximising Energy Efficiencies for a Sustainable Future

admin@egl.com.au

www.environmental.com.au

03 9541 8699

Office Locations



Melbourne

Tomlinson Energy Services
Suite 2.01 | Level 2
315 Ferntree Gully Road
Mount Waverley VIC 3149

P: 03 8560 0416

E: energyservice.melbourne@tomlinsonenergy.com.au

Sydney

Tomlinson Energy Services
A2, 26 Power Road
Seven Hills NSW 2417

P: 02 9681 4177

E: energyservice.sydney@tomlinsonenergy.com.au

Brisbane

Tomlinson Energy Services
1/48 Commerce Circuit
Yatala QLD 4207

P: 07 3462 0159

E: energyservice.brisbane@tomlinsonenergy.com.au

South Australia

Tomlinson Energy Services
26 Phillips Street
Thebarton SA 5031

P: 08 8297 9688

E: energyservice.adelaide@tomlinsonenergy.com.au

Western Australia

Tomlinson Energy Services
40 Sorbonne Crescent
Canning Vale WA 6155

P: 08 9455 5511

E: energyservice.perth@tomlinsonenergy.com.au



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