–weishaupt–

product

Information on gas, oil, and dual-fuel burners

WM 10 for gas, oil, and dual-fuel

WM 10 monarch® burners (55–1250 kW) • versatile performance

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 for 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 dimensions.

Quiet.

The latest monarch burners operate with considerably reduced noise levels, thanks to the specially developed fan unit.

Digital

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

Weishaupt WM 10-series burners are equipped as standard with electronic compound regulation and digital combustion management. Modern combustion technologies demand a precise and continually reproducible dosing of fuel and combustion air. This optimises combustion efficiency and saves fuel.

Simple operation
Setting and control of the burner is achieved using a control and display unit. This is linked to the combustion manager via a bus system, enabling the user-friendly setting of the burner.

Flexible communication options
The integrated interface enables all necessary data and functions to be relayed to a master control system. If required, a modem can be installed to allow for remote operation, monitoring, and diagnosis.

Bus communication with external controls and building managment
Several bus systems are available if data from the burner are to be exchanged with a PLC unit, or if control of the burner is to be integrated with a building management system.

For the control and management levels, Weishaupt offers ProGraf NT, a real-time software product that meets any and all requirements.

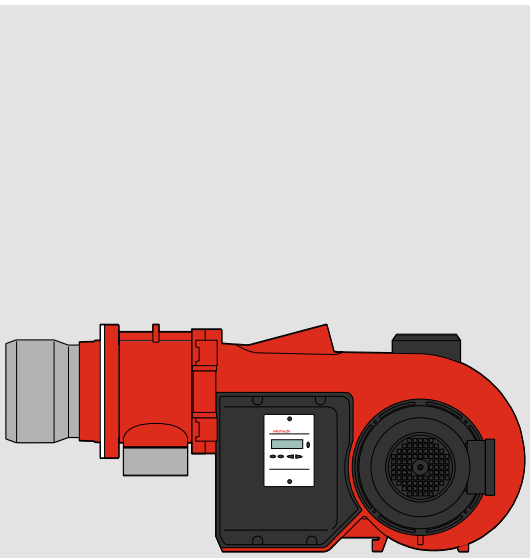
Technological edge
Digital combustion management makes burner operation simple and reliable. The most important advantages:
- No additional burner controls are necessary as control is effected by the combustion manager. The only additional requirements are a motor protection switch for the burner motor and external control fuses.
- 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	2	3	4	6
Actuators with stepping motors	●	●	●	●
VSD available	●	●	–	●
O_2 trim available	–	–	–	●
Gas valve proving	●	●	●	●
4–20 mA input signal	●	●	○	●
Integrated, self-checking PID controller for temperature or pressure, 0 / 2–10 V and 0 / 4–20 mA included	–	–	○	●
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 in conjunction with O_2 trim	–	–	–	●
eBUS / Modbus RTU interface	●	●	●	●
PC-supported commissioning	●	●	●	●

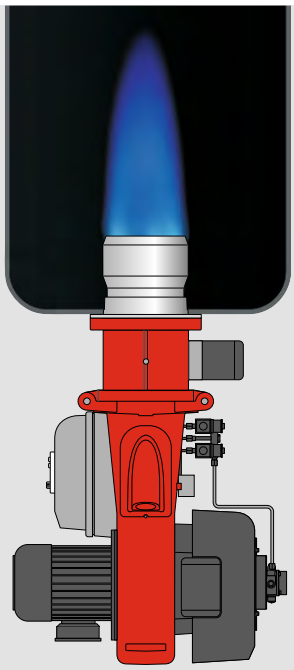
● Standard
○ Optional

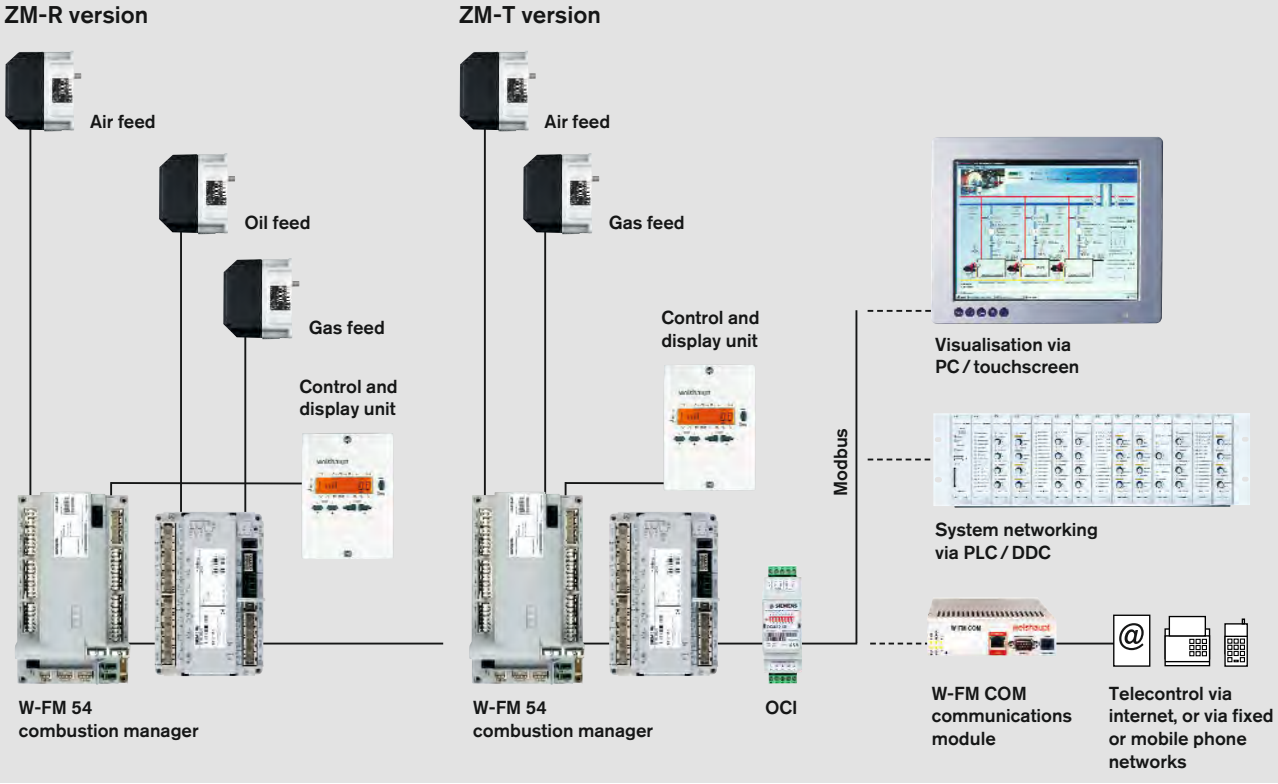
Please enquire regarding connections available for additional functions, e.g. flue gas dampers, oil shutoff assemblies, etc.

[1] Not in conjunction with VSD
[2] Gas burner with ionisation probes only



Burner with digital
combustion management





Schematic representation with W-FM 54

Compact and quiet

The latest Weishaupt WM-series monarch® burners are compact, powerful, and quiet. They are writing the next chapter in the 60-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.

To realise this goal a completely new air inlet and air damper control were developed. This special housing design with its self-opening air inlet and the new air-damper technology result in increased 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. A final adjustment is made using the combustion manager's menu-controlled commissioning program.

All of the burner's components, such as the mixing assembly, air damper, and combustion manager, are readily accessible despite its 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.

Adjustment to suit different combustion chamber conditions can easily be made with the burner in its installed position. The integral sightglass enables ignition behaviour and the flame to be observed.

Control
The following methods of regulation are available for Weishaupt WM 10 burners:
Gas: Sliding-two-stage or modulating (ZM), depending on the method of load control employed.
Oil: Two-stage (Z).
Three-stage or two-stage with low-impact start or changeover (T).
Sliding-two-stage or modulating (R), depending on the method of load control employed.

The output of a modulating burner is matched – within its operating range – to current heat demand.

These multiple control options make the burner suitable for a wide range of applications and ensure a gentle and problem-free start up, along with a high degree of operational reliability.

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

ZM version
Burners with the standard, advanced-design mixing assembly for installations with Class 2 oil and gas-side NO_x emission limits.

LN version
Low-NO_x gas burners for installations with Class 3 NO_x emission limits. The reduction in NO_x is achieved through a more intensive recirculation of the 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.

Fuels
Natural gas
LPG
Light oil (35 s gas oil)
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. Service intervals will be reduced in accordance with the more extreme operational conditions.

Protection Class
IP 54 per EN 60529.

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

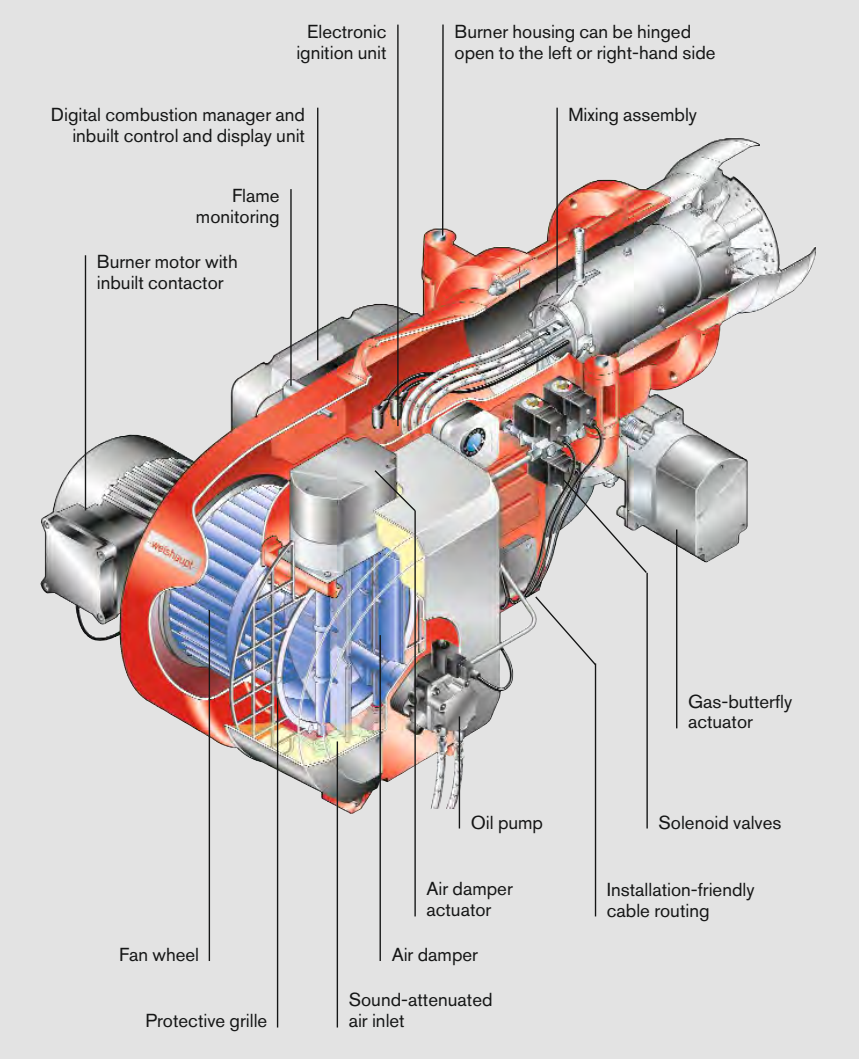
MD Machinery Directive 2006/42/EC
Applied standards:
- EN 267 Annex J,
- EN 676 Annex J,

GAD Gas Appliance Directive 2009/142/EC
Applied standards:
- EN 676 : 2008

PED[1)] Pressure Equipment Directive 2014/68/EU
Applied standards:
- EN 267 Annex K,
- EN 676 Annex K,
- Conformity assessment procedure: Module B

The burners are labelled with
- CE Mark,
- CE-PIN per 2009/142/EC
- Identification No. of the notified body

1) With the appropriate choice of equipment.



WM-GL 10, version ZM-T

The most important advantages:
- Easy changeover between gas and oil on dual-fuel burners
- Digital combustion management with electronic compound regulation at all ratings
- Compact design
- Sound-attenuated air inlet as standard for quieter operation
- Powerful fan with specially developed fan geometry and air damper control
- All WM 10 burners are delivered with the mixing assembly preset for the required output of the burner
- IP 54 protection as standard
- Easy access to all components, such as the mixing assembly, air damper and combustion manager
- Reliable operation with three-stage, sliding-two-stage, or modulating operation, depending on the burner version and method of load control
- Computer-controlled function test of each individual burner at the factory
- Burners can be supplied with pre-wired plug connections
- Excellent price / capacity relationship
- Well-established, global service network

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

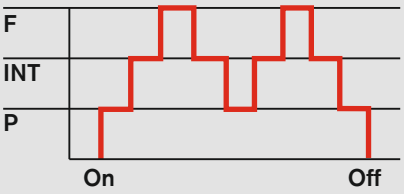
Overview of burner regulation
Model designation

Oil-fired operation

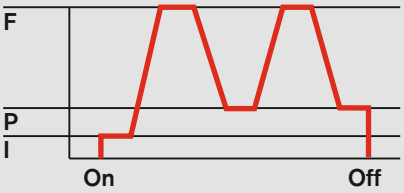
Three-stage operation (T)
- Oil is released during start up by the opening of solenoid valve 1 and the safety solenoid valve.
- Full load is reached by the opening of solenoid valves 2 and 3.
- Load control is achieved by opening and closing solenoid valves 2 and 3.

Sliding-two-stage or modulating operation (R)
- On opening the solenoid valves the correct rate of oil for start up is released.
- An actuator sets the oil regulator to full load.
- Load control is achieved through the opening and closing of the oil regulator.
- Modulating operation:
  - W-FM 50 or W-FM 54 with KS20 controller
  - W-FM 100 with load controller
  - W-FM 200
- Alternatively, a PID controller can be fitted into the control panel

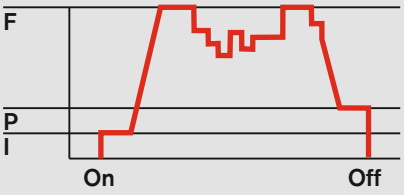
Three-stage



Sliding-two-stage



Modulating



Gas-fired operation

Sliding-two-stage or modulating operation (ZM)
- Actuators 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.
- Modulating operation:
  - W-FM 50 or W-FM 54 with KS20 controller
  - W-FM 100 with load controller
  - W-FM 200
- Alternatively, a PID controller can be fitted into the control panel

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

Fuel / Version	Oil			Gas	
	three-stage	sliding-two-stage	modulating	sliding-two-stage	modulating
ZM				●	●
ZM-T	●			●	●
ZM-R		●	●	●	●

Model designation

WM – L 10 / 3 –A T …R

- T = three-stage
  R = sliding-two-stage / modulating
- Mark
- Capacity
- Size
- L = Light oil
- Weishaupt monarch® burner series

WM – GL 10 / 3 –A ZM – T …ZM– R

- ZM = sliding-two-stage / modulating on gas side
  T = three-stage on oil side
  R = sliding-two-stage / modulating on oil side
- Mark
- Capacity
- Size
- G = Gas
  L = Light oil
- Weishaupt monarch® burner series

Burner selection
WM-L10, versions T and R

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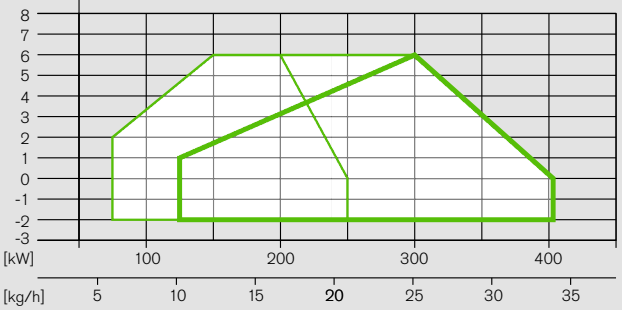
Burner type **WM-L10/1-A T**
Combustion head WM10/1 115x38
Capacity range Light oil 75–405 kW



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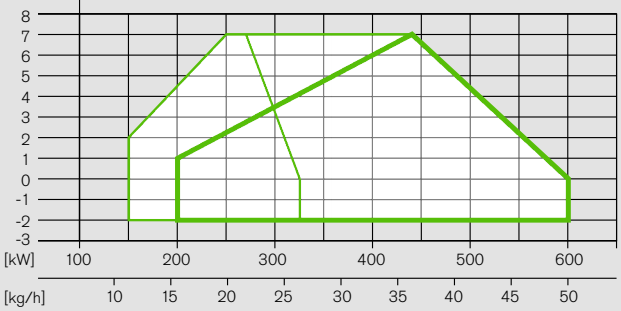
Burner type **WM-L10/2-A T** **WM-L10/2-A R**
Combustion head WM10/2 115x38 M5/2a 135x40
Capacity range Light oil 150–600 kW



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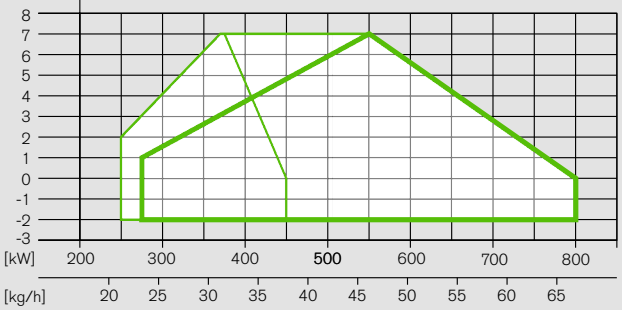
Burner type **WM-L10/3-A T** **WM-L10/3-A R**
Combustion head WM10/3 130kx40 WM10/4 135x40
Capacity range Light oil 250–800 kW



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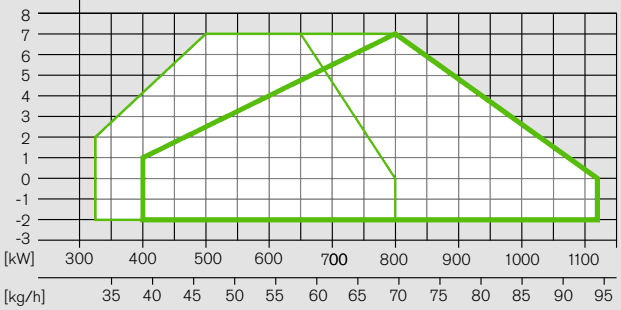
Burner type **WM-L10/4-A T** **WM-L10/4-A R**
Combustion head WM10/4 125x40 WM10/4 125x40
Capacity range Light oil 325–1120 kW



Light oil: Capacity with combustion head
Closed
Open

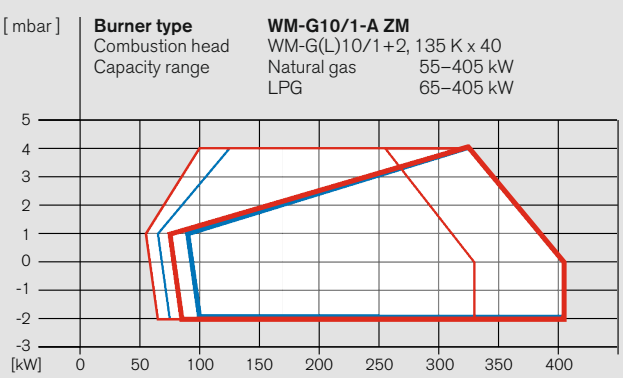
Capacity graphs for oil burners certified in accordance with EN 267.

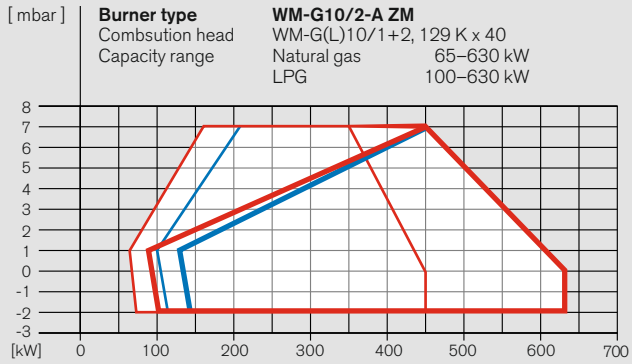
Stated ratings are based on an air temperature of 20 °C and an installation altitude of 500 m above sea level.

Stated oil throughputs are based on a nett calorific value (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.

Burner selection / gas valve train sizing
WM-G10, version ZM





WM-G10/1-A, version ZM

Burner rating kW	Low-pressure supply (with FRS) (flow pressure in mbar into shut-off valve, $P_i \leq 300$ mbar) **Nominal valve train diameter** ¾" 1" 1½" 2" Nominal diameter of gas butterfly 40 40 40 40				High-pressure supply (with HP regulator) (flow pressure in mbar into gas valve assembly) **Nominal valve train diameter** ¾" 1" 1½" 2" Nominal diameter of gas butterfly 40 40 40 40			
Natural gas E LHV = 10.35 kWh/Nm³; d = 0.606								
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	8	–	10	5	5	–
300	31	16	9	–	11	6	5	–
350	41	20	12	9	15	8	7	6
405	53	25	14	11	20	11	9	7
Natural gas LL LHV = 8.83 kWh/Nm³; d = 0.641								
150	15	10	–	–	7	5	–	–
175	18	11	8	–	8	5	5	–
200	22	12	9	–	9	6	5	–
225	26	14	9	–	10	6	5	–
250	31	16	10	–	12	6	6	–
275	37	18	11	8	13	7	6	5
300	43	21	12	9	16	9	7	6
350	57	27	15	11	21	11	10	7
405	75	35	19	13	28	14	12	9
LPG* LHV = 25.89 kWh/Nm³; d = 1.555								
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	–	9	6	6	–
405	27	15	11	9	12	8	7	6

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

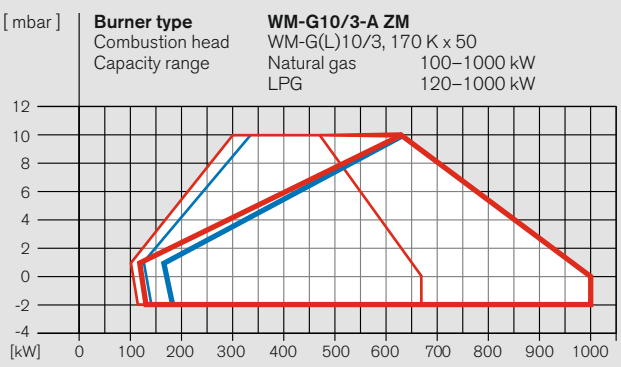
WM-G10/2-A, version ZM

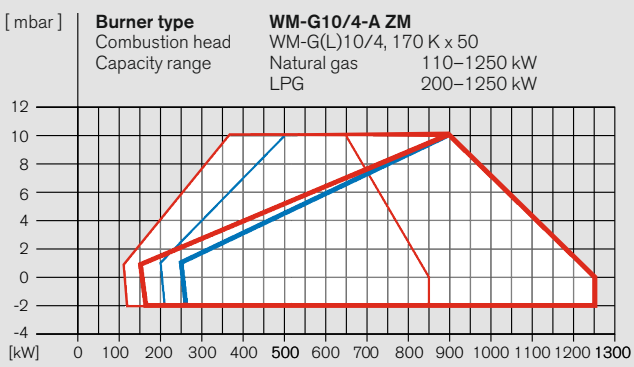
Burner rating kW	Low-pressure supply (with FRS) (flow pressure in mbar into shut-off valve, $P_i \leq 300$ mbar) **Nominal valve train diameter** ¾" 1" 1½" 2" 65 Nominal diameter of gas butterfly 40 40 40 40 40					High-pressure supply (with HP regulator) (flow pressure in mbar into gas valve assembly) **Nominal valve train diameter** ¾" 1" 1½" 2" 65 Nominal diameter of gas butterfly 40 40 40 40 40				
Natural gas E LHV = 10.35 kWh/Nm³; d = 0.606										
300	29	14	8	–	–	10	5	4	–	–
350	39	19	11	–	–	14	7	6	–	–
400	51	24	13	9	8	18	9	8	6	5
450	63	29	16	11	10	23	12	10	7	7
500	77	35	18	12	11	28	14	12	8	8
550	92	41	21	14	12	33	16	13	9	9
600	109	48	24	15	13	39	18	15	11	10
630	119	53	26	16	14	43	20	17	11	10
Natural gas LL LHV = 8.83 kWh/Nm³; d = 0.641										
300	42	20	11	–	–	15	7	6	–	–
350	56	26	14	10	9	20	10	8	6	6
400	72	33	17	12	10	26	13	11	8	7
450	90	41	21	14	12	33	16	13	10	9
500	110	49	24	16	14	40	19	16	11	10
550	132	58	28	18	15	47	22	18	13	11
600	155	68	32	20	17	55	26	21	14	13
630	171	74	35	21	18	60	28	23	15	14
LPG* LHV = 25.89 kWh/Nm³; d = 1.555										
300	15	9	–	–	–	6	3	–	–	–
350	20	11	–	–	–	8	5	–	–	–
400	25	14	10	8	–	10	7	6	5	–
450	31	17	11	9	9	13	8	7	6	6
500	37	20	13	10	10	15	9	9	7	7
550	44	23	14	12	11	18	11	10	8	8
600	51	26	16	13	12	21	12	11	9	9
630	55	28	17	13	12	23	13	12	10	9

Nat. gas: Capacity with comb. head
Closed
Open

LPG: Capacity with comb. head
Closed
Open

Screwed		**Flanged**	
R ¾	W-MF 507	DN 65	DMV 5065/12
R 1	W-MF 512	DN 80	DMV 5080/12
R 1½	W-MF 512	DN 100	DMV 5100/12
R 2	DMV 525/12		





WM-G10/3-A, version ZM

Burner rating kW	Low-pressure supply (with FRS) (flow pressure in mbar into shut-off valve, $P_i \leq 300$ mbar) Nominal valve train diameter ¾"	1"	1½"	2"	65	80	100	High-pressure supply (with HP regulator) (flow pressure in mbar into gas valve assembly) Nominal valve train diameter ¾"	1"	1½"	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/Nm³; d = 0.606														
500	73	31	14	8	–	–	–	24	10	8	4	–	–	–
550	88	37	17	10	–	–	–	29	12	9	5	–	–	–
600	104	44	19	11	9	–	–	34	14	11	6	5	–	–
650	121	51	22	12	10	9	8	40	16	12	7	6	6	5
700	140	58	25	13	10	9	9	46	19	14	8	7	6	6
750	160	66	28	15	11	10	9	53	21	16	9	7	7	7
800	182	75	32	16	12	11	10	60	24	18	10	8	8	7
850	205	84	35	18	13	12	11	67	26	20	11	9	8	8
900	229	93	39	19	14	13	12	75	29	22	12	10	9	9
950	255	103	42	21	16	13	12	84	32	25	13	11	10	9
1000	282	114	46	23	17	14	13	92	36	27	14	11	11	10
Natural gas LL LHV = 8.83 kWh/Nm³; d = 0.641														
500	105	44	19	11	8	–	–	34	14	11	6	5	–	–
550	126	52	23	12	10	9	–	41	17	13	7	6	6	–
600	149	62	26	14	11	10	9	49	20	15	8	7	6	6
650	175	72	30	16	12	11	10	58	23	17	9	8	7	7
700	202	82	35	18	13	12	11	67	26	20	11	9	8	8
750	231	94	39	20	15	13	12	76	30	23	12	10	9	9
800	262	106	44	22	16	14	13	86	34	25	13	11	10	10
850	296	119	49	24	17	15	14	97	37	28	15	12	11	11
900	–	133	54	26	19	16	15	108	42	31	16	13	12	12
950	–	148	60	28	20	17	16	120	46	35	18	14	13	12
1000	–	163	65	31	22	18	17	133	51	38	19	15	14	13
LPG* LHV = 25.89 kWh/Nm³; d = 1.555														
500	33	16	9	–	–	–	–	12	6	5	–	–	–	–
550	40	19	11	–	–	–	–	14	7	6	–	–	–	–
600	47	22	12	8	–	–	–	17	8	7	5	–	–	–
650	54	25	13	9	8	–	–	19	9	8	6	5	–	–
700	62	29	15	10	9	9	8	22	11	9	6	6	6	6
750	71	32	17	11	10	9	9	25	12	10	7	7	6	6
800	80	36	18	12	10	10	10	29	14	11	8	7	7	7
850	90	40	20	13	11	11	10	32	15	13	9	8	8	8
900	100	44	22	14	12	11	11	35	17	14	9	9	8	8
950	111	49	24	15	13	12	11	39	18	15	10	9	9	9
1000	122	53	26	16	14	13	12	43	20	16	11	10	10	9

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

Capacity graphs for gas and dual-fuel burners certified in accordance with EN 676 and EN 267.

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.

WM-G10/4-A, version ZM

Burner rating kW	Low-pressure supply (with FRS) (flow pressure in mbar into shut-off valve, $P_i \leq 300$ mbar) Nominal valve train diameter 1"	1½"	2"	65	80	100	High-pressure supply (with HP regulator) (flow pressure in mbar into gas valve assembly) Nominal valve train diameter 1"	1½"	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
Natural gas E LHV = 10.35 kWh/Nm³; d = 0.606												
600	45	20	12	10	9	8	15	12	7	6	6	6
700	60	27	15	12	11	11	20	16	10	9	8	8
800	77	34	19	15	14	13	26	21	13	11	10	10
900	95	41	21	17	15	14	31	24	14	12	11	11
1000	115	48	24	18	15	14	37	28	15	13	12	11
1100	137	55	26	19	16	15	43	32	17	13	12	12
1200	160	64	29	21	17	15	49	37	18	14	13	12
1250	173	68	31	21	18	16	52	39	19	15	13	12
Natural gas LL LHV = 8.83 kWh/Nm³; d = 0.641												
600	62	27	15	12	10	10	20	16	9	8	7	7
700	84	36	19	15	13	12	28	22	12	10	10	9
800	109	46	24	18	16	15	36	28	16	13	13	12
900	135	56	28	21	18	16	43	33	18	15	14	13
1000	164	66	31	23	19	17	51	39	20	16	15	14
1100	195	77	35	25	21	18	60	45	22	17	16	15
1200	230	90	40	27	22	19	69	51	24	19	17	16
1250	249	96	42	28	23	20	74	55	25	19	18	16
LPG* LHV = 25.89 kWh/Nm³; d = 1.555												
600	22	12	8	–	–	–	8	7	5	–	–	–
700	28	14	10	8	–	–	10	8	6	5	–	–
800	35	17	11	9	9	8	13	10	7	6	6	6
900	42	20	12	10	9	9	15	12	8	7	7	6
1000	51	23	13	11	10	9	17	14	8	7	7	7
1100	60	26	14	11	10	10	20	15	9	8	7	7
1200	69	30	16	12	11	10	22	17	9	8	7	7
1250	75	32	16	12	11	10	24	18	10	8	8	7

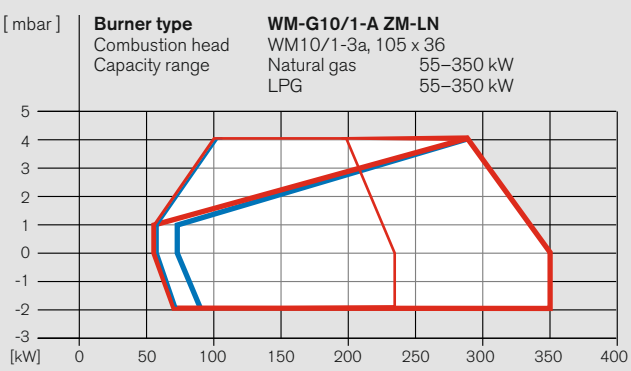
Stated flow pressures are based on a combustion chamber resistance of 0 mbar. The combustion chamber pressure of the heat generator must be added to the figure determined from the above chart when sizing the gas valve train. Minimum flow pressure 15 mbar.

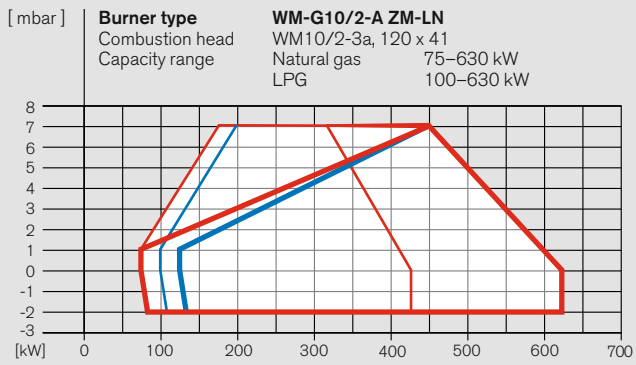
For low-pressure supplies, EN 88-compliant governors with safety diaphragms are used.

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.

Burner selection / gas valve train sizing
WM-G10, version ZM-LN





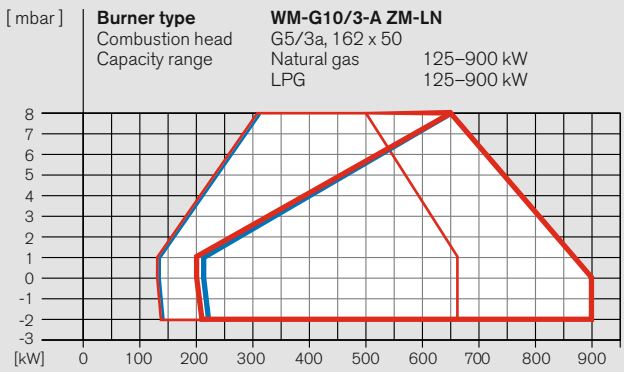
WM-G10/1-A, version ZM-LN

Burner rating kW	Low-pressure supply (with FRS) (flow pressure in mbar into shut-off valve, $P_i \leq 300$ mbar) **Nominal valve-train diameter** ¾" 1" 1½" 2" Nominal diameter of gas butterfly				High-pressure supply (with HP regulator) (flow pressure in mbar into gas valve assembly) **Nominal valve-train diameter** ¾" 1" 1½" 2" Nominal diameter of gas butterfly			
	25	25	25	25	25	25	25	25
Natural gas E LHV = 10.35 kWh/Nm³; d = 0.606								
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/Nm³; d = 0.641								
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/Nm³; d = 1.555								
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

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

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

Burner rating kW	Low-pressure supply (with FRS) (flow pressure in mbar into shut-off valve, $P_i \leq 300$ mbar) **Nominal valve-train diameter** ¾" 1" 1½" 2" 65 Nominal diameter of gas butterfly					High-pressure supply (with HP regulator) (flow pressure in mbar into gas valve assembly) **Nominal valve-train diameter** ¾" 1" 1½" 2" 65 Nominal diameter of gas butterfly				
	40	40	40	40	40	40	40	40	40	40
Natural gas E LHV = 10.35 kWh/Nm³; d = 0.606										
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/Nm³; d = 0.641										
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/Nm³; d = 1.555										
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) (flow pressure in mbar into shut-off valve, $P_i \leq 300$ mbar) Nominal valve-train diameter ¾"	1"	1½"	2"	65	80	100	High-pressure supply (with HP regulator) (flow pressure in mbar into gas valve assembly) Nominal valve-train diameter ¾"	1"	1½"	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/Nm³; d = 0.606														
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/Nm³; d = 0.641														
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	19	18
LPG* LHV = 25.89 kWh/Nm³; d = 1.555														
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

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

Nat. gas: Capacity with comb. head
Closed
Open

LPG: Capacity with comb. head
Closed
Open

Capacity graphs for gas and dual-fuel burners certified in accordance with EN 676 and EN 267.

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.

Screwed		**Flanged**	
R ¾	W-MF 507	DN 65	DMV 5065/12
R 1	W-MF 512	DN 80	DMV 5080/12
R 1½	W-MF 512	DN 100	DMV 5100/12
R 2	DMV 525/12		

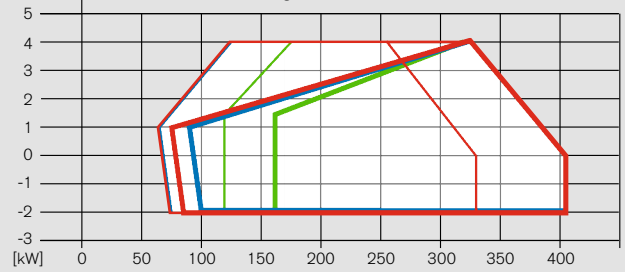
Stated flow pressures are based on a combustion chamber resistance of 0 mbar. The combustion chamber pressure of the heat generator must be added to the figure determined from the above chart when sizing the gas valve train. Minimum flow pressure 15 mbar.

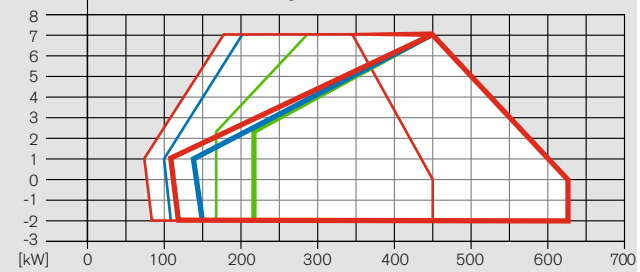
For low-pressure supplies, EN 88-compliant governors with safety diaphragms are used.

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.

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) (flow pressure in mbar into shut-off valve, $P_i \leq 300$ mbar) **Nominal valve-train diameter** ¾" 1" 1½" 2" Nominal diameter of gas butterfly				High-pressure supply (with HP regulator) (flow pressure in mbar into gas valve assembly) **Nominal valve-train diameter** ¾" 1" 1½" 2" Nominal diameter of gas butterfly			
	40	40	40	40	40	40	40	40
Natural gas E LHV = 10.35 kWh/Nm³; d = 0.606								
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	8	–	10	5	5	–
300	31	16	9	–	11	6	5	–
350	41	20	12	9	15	8	7	6
405	53	25	14	11	20	11	9	7
Natural gas LL LHV = 8.83 kWh/Nm³; d = 0.641								
150	15	10	–	–	7	5	–	–
175	18	11	8	–	8	5	5	–
200	22	12	9	–	9	6	5	–
225	26	14	9	–	10	6	5	–
250	31	16	10	–	12	6	6	–
275	37	18	11	8	13	7	6	5
300	43	21	12	9	16	9	7	6
350	57	27	15	11	21	11	10	7
405	75	35	19	13	28	14	12	9
LPG* LHV = 25.89 kWh/Nm³; d = 1.555								
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	–	9	6	6	–
405	27	15	11	9	12	8	7	6

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

WM-GL10/2-A, versions ZM-T and ZM-R

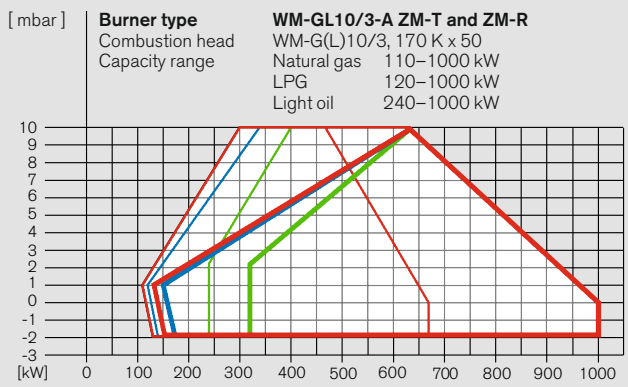
Burner rating kW	Low-pressure supply (with FRS) (flow pressure in mbar into shut-off valve, $P_i \leq 300$ mbar) **Nominal valve-train diameter** ¾" 1" 1½" 2" 65 Nominal diameter of gas butterfly					High-pressure supply (with HP regulator) (flow pressure in mbar into gas valve assembly) **Nominal valve-train diameter** ¾" 1" 1½" 2" 65 Nominal diameter of gas butterfly				
	40	40	40	40	40	40	40	40	40	40
Natural gas E LHV = 10.35 kWh/Nm³; d = 0.606										
300	29	14	8	–	–	10	5	4	–	–
350	39	19	11	–	–	14	7	6	–	–
400	51	24	13	9	8	18	9	8	6	5
450	63	29	16	11	10	23	12	10	7	7
500	77	35	18	12	11	28	14	12	8	8
550	92	41	21	14	12	33	16	13	9	9
600	109	48	24	15	13	39	18	15	11	10
630	119	53	26	16	14	43	20	17	11	10
Natural gas LL LHV = 8.83 kWh/Nm³; d = 0.641										
300	42	20	11	–	–	15	7	6	–	–
350	56	26	14	10	9	20	10	8	6	6
400	72	33	17	12	10	26	13	11	8	7
450	90	41	21	14	12	33	16	13	10	9
500	110	49	24	16	14	40	19	16	11	10
550	132	58	28	18	15	47	22	18	13	11
600	155	68	32	20	17	55	26	21	14	13
630	171	74	35	21	18	60	28	23	15	14
LPG* LHV = 25.89 kWh/Nm³; d = 1.555										
300	15	9	–	–	–	6	3	–	–	–
350	20	11	–	–	–	8	5	–	–	–
400	25	14	10	8	–	10	7	6	5	–
450	31	17	11	9	9	13	8	7	6	6
500	37	20	13	10	10	15	9	9	7	7
550	44	23	14	12	11	18	11	10	8	8
600	51	26	16	13	12	21	12	11	9	9
630	55	28	17	13	12	23	13	12	10	9

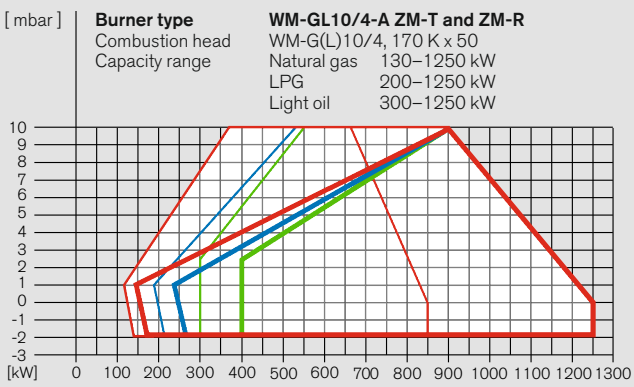
Nat. gas: Capacity with comb. head
Closed
Open

LPG: Capacity with comb. head
Closed
Open

Light oil: Capacity with comb. head
Closed
Open

Screwed		**Flanged**	
R ¾	W-MF 507	DN 65	DMV 5065/12
R 1	W-MF 512	DN 80	DMV 5080/12
R 1½	W-MF 512	DN 100	DMV 5100/12
R 2	DMV 525/12		





WM-GL10/3-A, versions ZM-T and ZM-R

Burner rating kW	Low-pressure supply (with FRS) (flow pressure in mbar into shut-off valve, $P_i \leq 300$ mbar) Nominal valve-train diameter ¾"	1"	1½"	2"	65	80	100	High-pressure supply (with HP regulator) (flow pressure in mbar into gas valve assembly) Nominal valve-train diameter ¾"	1"	1½"	2"	65	80	100
	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/Nm³; d = 0.606														
500	73	31	14	8	–	–	–	24	10	8	4	–	–	–
550	88	37	17	10	–	–	–	29	12	9	5	–	–	–
600	104	44	19	11	9	–	–	34	14	11	6	5	–	–
650	121	51	22	12	10	9	8	40	16	12	7	6	6	5
700	140	58	25	13	10	9	9	46	19	14	8	7	6	6
750	160	66	28	15	11	10	9	53	21	16	9	7	7	7
800	182	75	32	16	12	11	10	60	24	18	10	8	8	7
850	205	84	35	18	13	12	11	67	26	20	11	9	8	8
900	229	93	39	19	14	13	12	75	29	22	12	10	9	9
950	255	103	42	21	16	13	12	84	32	25	13	11	10	9
1000	282	114	46	23	17	14	13	92	36	27	14	11	11	10
Natural gas LL LHV = 8.83 kWh/Nm³; d = 0.641														
500	105	44	19	11	8	–	–	34	14	11	6	5	–	–
550	126	52	23	12	10	9	–	41	17	13	7	6	6	–
600	149	62	26	14	11	10	9	49	20	15	8	7	6	6
650	175	72	30	16	12	11	10	58	23	17	9	8	7	7
700	202	82	35	18	13	12	11	67	26	20	11	9	8	8
750	231	94	39	20	15	13	12	76	30	23	12	10	9	9
800	262	106	44	22	16	14	13	86	34	25	13	11	10	10
850	296	119	49	24	17	15	14	97	37	28	15	12	11	11
900	–	133	54	26	19	16	15	108	42	31	16	13	12	12
950	–	148	60	28	20	17	16	120	46	35	18	14	13	12
1000	–	163	65	31	22	18	17	133	51	38	19	15	14	13
LPG* LHV = 25.89 kWh/Nm³; d = 1.555														
500	33	16	9	–	–	–	–	12	6	5	–	–	–	–
550	40	19	11	–	–	–	–	14	7	6	–	–	–	–
600	47	22	12	8	–	–	–	17	8	7	5	–	–	–
650	54	25	13	9	8	–	–	19	9	8	6	5	–	–
700	62	29	15	10	9	9	8	22	11	9	6	6	6	6
750	71	32	17	11	10	9	9	25	12	10	7	7	6	6
800	80	36	18	12	10	10	10	29	14	11	8	7	7	7
850	90	40	20	13	11	11	10	32	15	13	9	8	8	8
900	100	44	22	14	12	11	11	35	17	14	9	9	8	8
950	111	49	24	15	13	12	11	39	18	15	10	9	9	9
1000	122	53	26	16	14	13	12	43	20	16	11	10	10	9

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

Capacity graphs for gas and dual-fuel burners certified in accordance with EN 676 and EN 267.

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.

WM-GL10/4-A, versions ZM-T and ZM-R

Burner rating kW	Low-pressure supply (with FRS) (flow pressure in mbar into shut-off valve, $P_i \leq 300$ mbar) Nominal valve-train diameter 1"	1½"	2"	65	80	100	High-pressure supply (with HP regulator) (flow pressure in mbar into gas valve assembly) Nominal valve-train diameter 1"	1½"	2"	65	80	100
	Nominal diameter of gas butterfly 50	50	50	50	50	50	50	50	50	50	50	50
Natural gas E LHV = 10.35 kWh/Nm³; d = 0.606												
600	45	20	12	10	9	8	15	12	7	6	6	6
700	60	27	15	12	11	11	20	16	10	9	8	8
800	77	34	19	15	14	13	26	21	13	11	10	10
900	95	41	21	17	15	14	31	24	14	12	11	11
1000	115	48	24	18	15	14	37	28	15	13	12	11
1100	137	55	26	19	16	15	43	32	17	13	12	12
1200	160	64	29	21	17	15	49	37	18	14	13	12
1250	173	68	31	21	18	16	52	39	19	15	13	12
Natural gas LL LHV = 8.83 kWh/Nm³; d = 0.641												
600	62	27	15	12	10	10	20	16	9	8	7	7
700	84	36	19	15	13	12	28	22	12	10	10	9
800	109	46	24	18	16	15	36	28	16	13	13	12
900	135	56	28	21	18	16	43	33	18	15	14	13
1000	164	66	31	23	19	17	51	39	20	16	15	14
1100	195	77	35	25	21	18	60	45	22	17	16	15
1200	230	90	40	27	22	19	69	51	24	19	17	16
1250	249	96	42	28	23	20	74	55	25	19	18	16
LPG* LHV = 25.89 kWh/Nm³; d = 1.555												
600	22	12	8	–	–	–	8	7	5	–	–	–
700	28	14	10	8	–	–	10	8	6	5	–	–
800	35	17	11	9	9	8	13	10	7	6	6	6
900	42	20	12	10	9	9	15	12	8	7	7	6
1000	51	23	13	11	10	9	17	14	8	7	7	7
1100	60	26	14	11	10	10	20	15	9	8	7	7
1200	69	30	16	12	11	10	22	17	9	8	7	7
1250	75	32	16	12	11	10	24	18	10	8	8	7

Stated flow pressures are based on a combustion chamber resistance of 0 mbar. The combustion chamber pressure of the heat generator must be added to the figure determined from the above chart when sizing the gas valve train. Minimum flow pressure 15 mbar.

For low-pressure supplies, EN 88-compliant governors with safety diaphragms are used.

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.

Scope of delivery

Description	WM-L10 T	WM-L10 R	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 the combustion manager	–	–	●	●	●
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 premounted regulating nozzle	–	●	–	–	●
3 oil solenoid valves, three-stage nozzle head with preinstalled oil nozzles	●	–	–	●	–
1 additional safety solenoid valve	○			●	
Electromagnetic clutch	○	○	–	○	●
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). 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, 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

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-LN

Burner type	Version	DMV 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
		DN 100	217 118 16

CE-PIN: CE 0085BQ0027

Gas burners, version ZM

Burner type	Version	DMV 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
		DN 100	217 117 16
WM-G10/4-A	ZM	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

Order numbers

Dual-fuel burners, version ZM-T

Burner type	Version	DMV 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
		DN 65	218 112 14
WM-GL10/3-A	ZM-T	R ¾	218 113 10
		R 1	218 113 11
		R 1½	218 113 12
		R 2	218 113 13
		DN 65	218 113 14
		DN 80	218 113 15
		DN 100	218 113 16
WM-GL10/4-A	ZM-T	R 1	218 114 11
		R 1½	218 114 12
		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	DMV size	Order No.
WM-GL10/2-A	ZM-R	R ¾	218 115 10
		R 1	218 115 11
		R1½	218 115 12
		R 2	218 115 13
		DN 65	218 115 14
WM-GL10/3-A	ZM-R	R ¾	218 116 10
		R 1	218 116 11
		R 1½	218 116 12
		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
		DN 80	218 117 15
		DN 100	218 117 16

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

Special equipment WM-L10, version T

Version T (three-stage)		WM-L10/1-A	WM - L10/2-A	WM - L10/3-A	WM - L10/4-A T
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	210 030 16	210 030 00	210 030 02	210 030 04
	by 200 mm	210 030 17	210 030 01	210 030 03	210 030 05
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 10 air pressure switch (LGW 50 also required)		210 030 20	210 030 20	210 030 20	210 030 20
LGW 50 air pressure switch [2]		210 030 08	210 030 08	210 030 08	210 030 08
VZO8 oil meter with additional safety shutoff device		210 030 07	210 030 07	210 030 07	210 030 07
VZO8 oil meter with low-frequency transmitter for external wiring and additional safety shutoff device		210 030 09	210 030 09	210 030 09	210 030 09
VZO8 oil meter with high-frequency transmitter for internal wiring (W-FM 50 / 200)		210 031 19	210 031 19	210 031 19	210 031 19
VZO8 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-FM 50 / 100 / 200)		210 030 13	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	250 031 06
Burner-mounted KS20 controller (W-FM 50)		250 033 15	250 033 15	250 033 15	250 033 15
W-FM 100 (suitable for continuous firing) in lieu of W-FM 50 [2]	burner-mounted	210 030 32	210 030 32	210 030 32	210 030 32
	supplied loose	210 030 87	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-FM 200 in lieu of W-FM 50, 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-FM 50 / 200 required) [1]		210 030 11	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	210 030 12
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

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-L10, version R

Version R (sliding-two-stage or modulating)		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	210 030 25	210 030 27	210 030 29
	by 200 mm	210 030 26	210 030 28	210 030 30
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 10 air pressure switch (LGW 50 also required)		210 030 20	210 030 20	210 030 20
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	210 030 38	210 030 38	210 030 38
	supplied loose	210 030 87	210 030 87	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
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

Version ZM		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 [2]	GW 50 A6/1	250 033 30	250 033 30	250 033 30	250 033 30
(Screwed W-MF / DMV for low-pressure supplies)	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]	GW 50 A6/1	150 017 49	150 017 49	150 017 49	150 017 49
(Flanged DMV / VGD for low-pressure supplies)	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]	GW 50 A6/1	250 033 33	250 033 33	250 033 33	250 033 33
(Fitted to high-pressure regulator)	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 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		250 030 24	250 030 24	250 030 24	250 030 24
Burner-mounted KS20 controller (W-FM 50)		250 033 15	250 033 15	250 033 15	250 033 15
W-FM 100 (suitable for continuous firing) in lieu of W-FM 50 [2]	burner-mounted	250 030 74	250 030 74	250 030 74	250 030 74
	supplied loose	250 030 45	250 030 45	250 030 45	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	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	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
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		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

Version ZM-LN		WM-G10/1-A	WM-G10/2-A	WM-G10/3-A
Combustion head extension	by 100 mm	250 030 12	250 030 15	250 030 18
	by 200 mm	250 030 13	250 030 16	250 030 19
	by 300 mm	250 030 14	250 030 17	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
High gas pressure switch [2]	GW 50 A6/1	250 033 30	250 033 30	250 033 30
(Screwed W-MF / DMV for low-pressure supplies)	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 [2]	GW 50 A6/1	150 017 49	150 017 49	150 017 49
(Flanged DMV / VGD for low-pressure supplies)	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 [2]	GW 50 A6/1	250 033 33	250 033 33	250 033 33
(Fitted to high-pressure regulator)	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 50 / 100 / 200)		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
Air inlet flange for ducted-air connection, with LGW air pressure switch		250 030 24	250 030 24	250 030 24
Burner-mounted KS20 controller (W-FM 50)		250 033 15	250 033 15	250 033 15
W-FM 100 (suitable for continuous firing) [2] 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 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	burner-mounted	250 030 75	250 030 75	250 030 75
	supplied loose	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
VSD with separate frequency convertor (W-FM 200 required) (See accessories list for frequency convertor)		210 030 12	210 030 12	210 030 12
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 V control voltage		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] 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-GL10, version ZM-T

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]	GW 50 A6/1	250 033 30	250 033 30	250 033 30	250 033 30
(Screwed W-MF / DMV for low-pressure supplies)	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]	GW 50 A6/1	150 017 49	150 017 49	150 017 49	150 017 49
(Flanged DMV/VGD for low-pressure supplies)	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]	GW 50 A6/1	250 033 33	250 033 33	250 033 33	250 033 33
(Fitted to high-pressure regulator)	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
VZO8 oil meter with additional safety shutoff device		250 030 46	250 030 46	250 030 46	250 030 46
VZO8 oil meter with low-frequency transmitter for external wiring		250 030 47	250 030 47	250 030 47	250 030 47
VZO8 oli meter with high-frequency transmitter for internal wiring (W-FM 54 / 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		210 030 20	210 030 20	210 030 20	210 030 20
Air inlet flange for ducted-air connection, with LGW air pressure switch (in conjunction with electromagnetic clutch)		250 032 94	250 032 94	250 032 94	250 032 94
DSB 158 oil pressure switch in supply [2]		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
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) (W-FM 54)		250 031 72 Please enquire	250 031 72 Please enquire	250 031 72 Please enquire	250 031 72 Please enquire
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-GL10, version ZM-R

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]	GW 50 A6/1	250 033 30	250 033 30	250 033 30
(Screwed W-MF / DMV for low-pressure supplies)	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]	GW 50 A6/1	150 017 49	150 017 49	150 017 49
(Flanged DMV / VGD for low-pressure supplies)	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]	GW 50 A6/1	250 033 33	250 033 33	250 033 33
(Fitted to high-pressure regulator)	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, with LGW air pressure switch		210 030 20	210 030 20	210 030 20
DSB 158 oil pressure switch in supply [3]		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 93	250 031 93	250 031 93
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 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
	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) (See accessories list for frequency convertor) [1]		210 030 12	210 030 12	210 030 12
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)		250 031 72	250 031 72	250 031 72
(W-FM 54)		Please enquire	Please enquire	Please enquire
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 ZM-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
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)
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	QRB	QRB	QRB	QRB
Air damper / oil actuator	type	STE 50	STE 50	STE 50	STE 50
Integral pump max. flow rate	type l/h	AL 75C 130	AL 75C 130	AL 95C 130	AL 95C 150
	type l/h	– –	AJV4 200	AJV6 290	AJV6 290
NO_x Class per EN 267		2	2	2	2
Oil hoses	DN / length	8 / 1000	8 / 000	8 / 1000	8 / 000
Mass	kg (T) (R)	approx. 51 –	approx. 51 approx. 59	approx 54 approx. 62	approx. 54 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).

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-G10/1-A ZM-LN	WM-G10/2-A ZM WM-G10/2-A ZM-LN	WM-G10/3-A ZM WM-G10/3-A ZM-LN	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
Motor protection switch [1] or motor prefusing [1]	type (e.g.)	PKE12/XTU - 4	PKE12/XTU - 4	PKE12/XTU - 4	PKE12/XTU - 4
(with overload protection)	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)
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
NO_x Class per EN 676	ZM / ZM-LN	2 / 3	2 / 3	2 / 3	2 / –
Mass	type	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).

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, version ZM-T		WM-GL10/1-A	WM-GL10/2-A	WM-GL10/3-A	WM-GL10/4-A
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
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)
Speed (50 Hz)	rpm	2900	2900	2900	2900
Combustion manager	type	W-FM 54	W-FM 54	W-FM 54	W-FM 54
Flame monitoring		QRA2	QRA2	QRA2	QRA2
Air damper / gas actuator	type	STE50	STE50	STE50	STE50
NO_x Class per EN 676 / EN 267		2 / 2	2 / 2	2 / 2	2 / 2
Mass	type	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

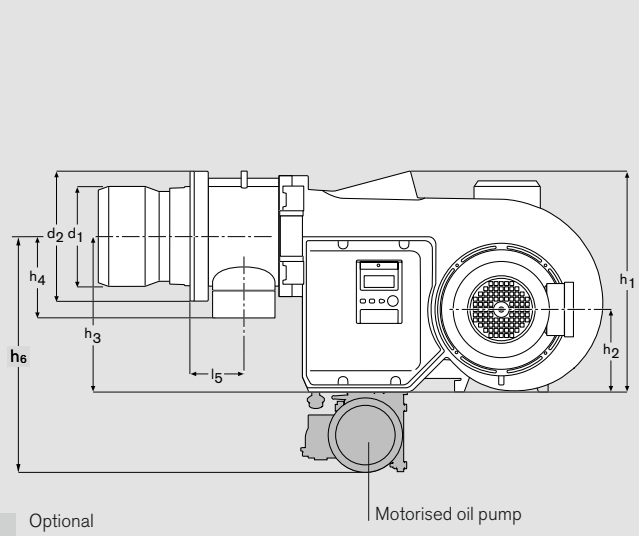
Dual-fuel burners, version ZM-R		WM-GL10/2-A	WM-GL10/3-A	WM-GL10/4-A
Burner motor	Weishaupt type	WM-D 90/90-2/1K0	WM-D 90/110-2/1K5	WM-D 90/110-2/1K5
Motor power output	kW	1.0	1.5	1.5
Nominal current	A	2.2	3.2	3.2
Motor protection switch [1)] or motor prefusing [1)] (with overload protection)	type (e.g.) 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)
Speed (50 Hz)	rpm	2900	2900	2900
Combustion manager	type	W-FM 54	W-FM 54	W-FM 54
Flame monitoring		QRA2	QRA2	QRA2
Air damper / gas / oil actuator	type	STE50	STE50	STE50
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

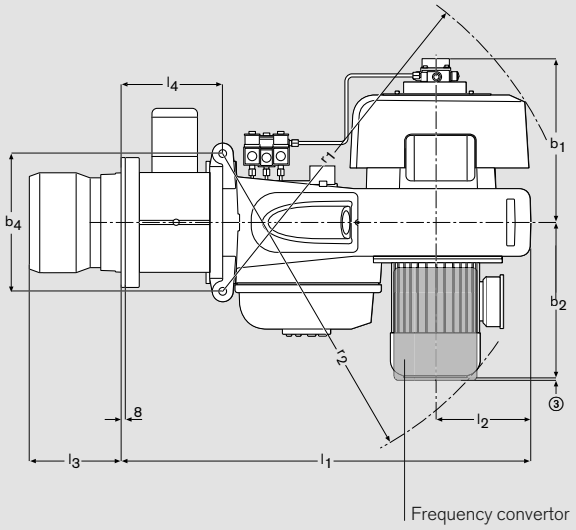
[1)] The necessary motor protection can be provided either by a motor protection switch (supplied and fitted into a panel by others), or with integral motor overload protection (see special equipment).

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



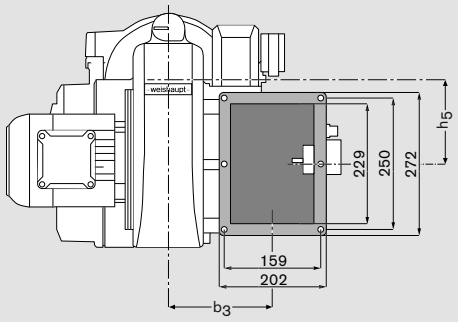


Optional

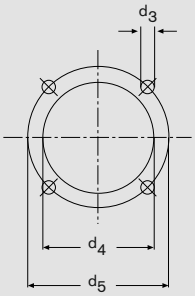
Burner type	Dimensions in mm l_1	l_2	l_3	l_4	l_5	b_1 ①	b_2	b_3	b_4	h_1	h_2	h_3	h_4	h_5	h_6
WM-L10/1-A T	659	205	118–138	38	–	323	307	197	270	445	167	313	–	153	470
WM-L10/2-A T	659	205	127–147	38	–	323	307	197	270	445	167	313	–	153	470
WM-L10/3-A T	659	205	147–167	38	–	323	335	197	270	445	167	313	–	153	470
WM-L10/4-A T	659	205	148–168	38	–	323	335	197	270	445	167	313	–	153	470
WM-L10/2-A R	659	205	131–146	38	–	352	307	197	270	445	167	313	–	153	480
WM-L10/3-A R	659	205	156–171	38	–	352	335	197	270	445	167	313	–	153	480
WM-L10/4-A R	659	205	151–166	38	–	352	335	197	270	445	167	313	–	153	490
WM-G10/1-A ZM	813	205	171–178	188	98	279	307	197	270	445	167	313	140	153	–
WM-G10/2-A ZM	813	205	158–178	188	98	279	307	197	270	445	167	313	140	153	–
WM-G10/3-A ZM	833	205	199–224	208	108	279	335	197	270	445	167	313	162	153	–
WM-G10/4-A ZM	833	205	199–224	208	108	279	335	197	270	445	167	313	162	153	–
WM-G10/1-A ZM-LN	793	205	129–144	169	88	279	307	197	270	445	167	313	130	153	–
WM-G10/2-A ZM-LN	813	205	132–143	188	98	279	307	197	270	445	167	313	140	153	–
WM-G10/3-A ZM-LN	833	205	177–197	208	108	279	335	197	270	445	167	313	162	153	–
WM-GL10/1-A ZM-T	813	205	171–178	188	98	323	307	197	270	445	167	313	140	153	470
WM-GL10/2-A ZM-T	813	205	158–178	188	98	323	307	197	270	445	167	313	140	153	470
WM-GL10/3-A ZM-T	833	205	199–224	208	108	323	335	197	270	445	167	313	162	153	470
WM-GL10/4-A ZM-T	833	205	199–224	208	108	323	335	197	270	445	167	313	162	153	470
WM-GL10/2-A ZM-R	813	205	158–178	188	98	482 ②	307	197	270	445	167	313	140	153	480
WM-GL10/3-A ZM-R	833	205	199–224	208	108	482 ②	335	197	270	445	167	313	162	153	480
WM-GL10/4-A ZM-R	833	205	199–224	208	108	482 ②	335	197	270	445	167	313	162	153	490

① Excluding electromagnetic clutch (pump with electromagnetic clutch: plus130 mm)
② Including electromagnetic clutch
③ Projection of frequency convertor approx. 20 mm

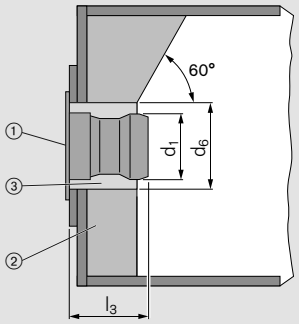
Rear of ducted-air flange



Mounting-plate drilling dimensions



Heat generator preparation



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°).

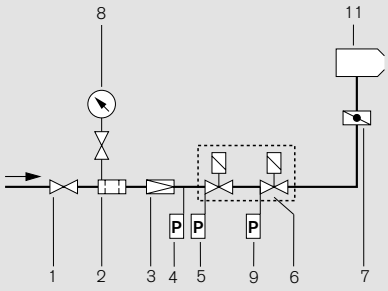
Burner type	Dimensions in mm r_1	r_2	d_1	d_2	d_3	d_4	d_5	d_6	Nominal diameter of gas butterfly
WM-L10/1-A T	718	682	140	242	M10	165	186	170	–
WM-L10/2-A T	718	682	140	242	M10	165	186	170	–
WM-L10/3-A T	718	698	160	242	M10	185	210	190	–
WM-L10/4-A T	718	698	180	242	M10	185	210	220	–
WM-L10/2-A R	718	682	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-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

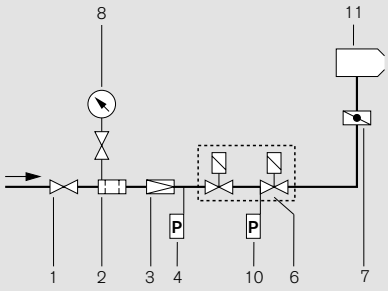
Gas-side fuel system

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 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.

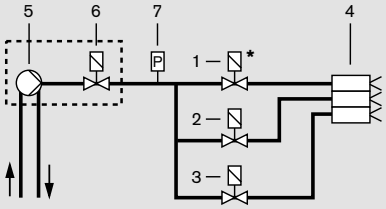
Support of the valve train
The valve train should be properly supported in accordance with the site conditions. See the Weishaupt accessories list for various valve train support components.

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.

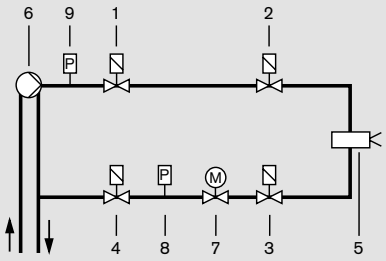
Oil-side fuel system

Version (ZM-)T



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.

Fuels
Natural gas
LPG

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

Notes on operation
ZMI-version burners are only suitable for use on process plant if the following fundamental conditions are met:
- The flame must not be impeded in the combustion chamber by process-specific flue gas circulation or by secondary air.
- A flue gas sampling point must be 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.

Zero governor
The ZMI version of the Weishaupt WM-G10 gas burner is additionally equipped with a zero governor. The zero governor is connected to the burner's airflow upstream of the fan by a flexible impulse line.

A higher pressure from the burner's fan results in a higher gas pressure at the outlet of the zero governor. A lower fan pressure results in a lower gas pressure at the outlet of the zero governor.

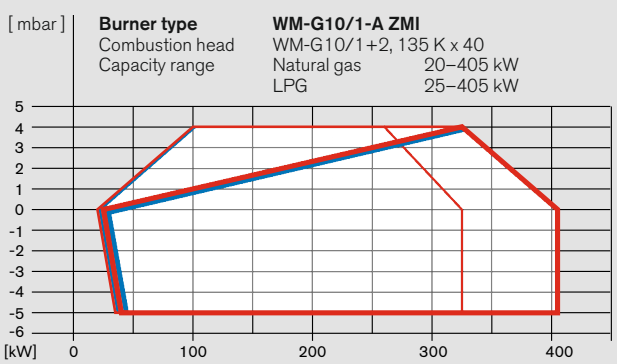
Standards compliance
The ZMI version of the Weishaupt WM-G10 burner is not type approved. The burner's safety equipment meets the requirements of EN 676.

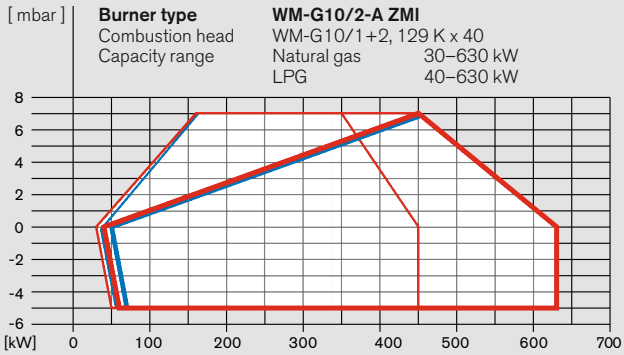
If an approval inspection is required, this should be arranged with the appropriate body by the plant operator.

The burners are labelled with a CE mark and fulfil the requirements of the following EU directives:

MD	Machinery Directive 2006/42/EC
EMC	EMC Directive 2014/30/EU
LVD	Low Voltage Directive 2014/35/EU
PED	Pressure Equipment Directive 2014/68/EU

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 mbar	Low-pressure supply (with FRS) (flow pressure in mbar into shut-off valve, $P_i \leq 300$ mbar) **Nominal valve-train diameter** ¾"	1"	1½"	2"	High-pressure supply (with HP regulator) (flow pressure in mbar into gas valve assembly) **Nominal valve-train diameter** ¾"	1"	1½"	2"
		Nom. diameter of gas butterfly 40	40	40	40	Nom. diameter of gas butterfly 40	40	40	40
Natural gas E LHV = 10.35 kWh/Nm³; d = 0.606									
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/Nm³; d = 0.641									
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/Nm³; d = 1.555									
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

WM-G10/2-A, version ZMI

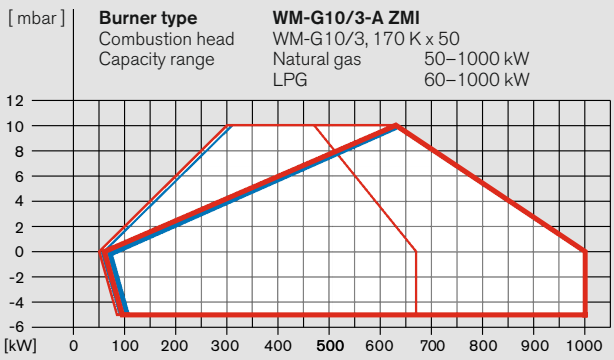
Burner rating kW	Press. at gas-b/fly at full-last mbar	Low-pressure supply (with FRS) (flow pressure in mbar into shut-off valve, $P_i \leq 300$ mbar) **Nominal valve-train diameter** ¾"	1"	1½"	2"	65	High-pressure supply (with HP regulator) (flow pressure in mbar into gas valve assembly) **Nominal valve-train diameter** ¾"	1"	1½"	2"	65
		Nom. diameter of gas butterfly 40	40	40	40	40	Nom. diameter of gas butterfly 40	40	40	40	40
Natural gas E LHV = 10.35 kWh/Nm³; d = 0.606											
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/Nm³; d = 0.641											
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/Nm³; d = 1.555											
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

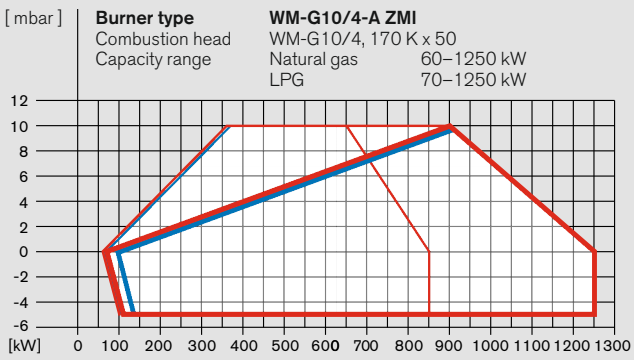
* The LPG charts are based on propane, but may also be used for butane.

Nat. gas: Capacity with comb. head
Closed
Open

LPG: Capacity with comb. head
Closed
Open

Screwed		**Flanged**	
R ¾	W-MF 507	DN 65	DMV 5065/12
R 1	W-MF 512	DN 80	DMV 5080/12
R 1½	W-MF 512		
R 2	DMV 525/12		





WM-G10/3-A, version ZMI

Burner rating kW	Press. at gas-b/fly at full-load mbar	Low-pressure supply (with FRS) (flow pressure in mbar into shut-off valve, $P_i \leq 300$ mbar) Nominal valve-train diameter ¾"	1"	1½"	2"	65	80	High-pressure supply (with HP regulator) (flow pressure in mbar into gas valve assembly) Nominal valve-train diameter ¾"	1"	1½"	2"	65	80
		Nom. diameter of gas butterfly 50	50	50	50	50	50	50	50	50	50	50	50
Natural gas E LHV = 10.35 kWh/Nm³; d = 0.606													
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/Nm³; d = 0.641													
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/Nm³; d = 1.555													
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

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

Capacity graphs for gas and dual-fuel burners certified in accordance with EN 676 and EN 267.

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.

WM-G10/4-A, version ZMI

Burner rating kW	Press. at gas-b/fly at full-load mbar	Low-pressure supply (with FRS) (flow pressure in mbar into shut-off valve, $P_i \leq 300$ mbar) Nominal valve-train diameter 1"	1½"	2"	65	80	High-pressure supply (with HP regulator) (flow pressure in mbar into gas valve assembly) Nominal valve-train diameter 1"	1½"	2"	65	80
		Nom. diameter of gas butterfly 50	50	50	50	50	50	50	50	50	50
Natural gas E LHV = 10.35 kWh/Nm³; d = 0.606											
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	15	228	86	39	26	21	119	61	30	19	17
1250	15	247	92	41	27	22	128	65	31	20	18
Natural gas LL LHV = 8.83 kWh/Nm³; d = 0.641											
600	8	87	35	18	14	12	48	26	15	10	9
700	10	117	46	23	17	15	63	34	19	12	11
800	12	151	59	29	20	17	81	43	23	15	14
900	15	189	73	35	24	20	100	53	27	18	16
1000	16	231	87	40	27	23	121	62	31	21	18
1100	17	–	103	46	30	24	–	73	35	22	20
1200	18	–	119	52	33	26	–	84	39	24	21
1250	18	–	128	55	34	27	–	90	41	25	22
LPG* LHV = 25.89 kWh/Nm³; d = 1.555											
600	5	29	14	10	8	–	18	12	9	5	5
700	6	38	18	12	10	9	23	15	11	7	7
800	8	48	22	14	12	11	29	18	12	8	8
900	9	60	27	16	13	12	35	21	14	10	9
1000	10	72	32	18	15	13	41	25	16	11	10
1100	10	85	36	20	15	14	47	27	17	11	11
1200	10	99	40	21	16	14	54	30	18	12	11
1250	10	106	43	22	16	14	58	32	18	12	11

Stated flow pressures are based on a combustion chamber resistance of 0 mbar. The combustion chamber pressure of the heat generator must be added to the figure determined from the above chart when sizing the gas valve train. Minimum flow pressure 15 mbar.

For low-pressure supplies, EN 88-compliant governors with safety diaphragms are used.

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.

Order numbers

Burner Type	Version	DMV 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
		DN 80	217 119 15
WM-G10/4-A	ZMI	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

See page 16 for scope of delivery

Special equipment
Technical data

Special equipment		WM-G10/1-A ZMI	WM-G10/2-A ZMI	WM-G10/3-A ZMI	WM-G10/4-A ZMI
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		250 030 24	250 030 24	250 030 24	250 030 24
W-FM 100 (suitable for continuous firing) 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
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
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

[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).

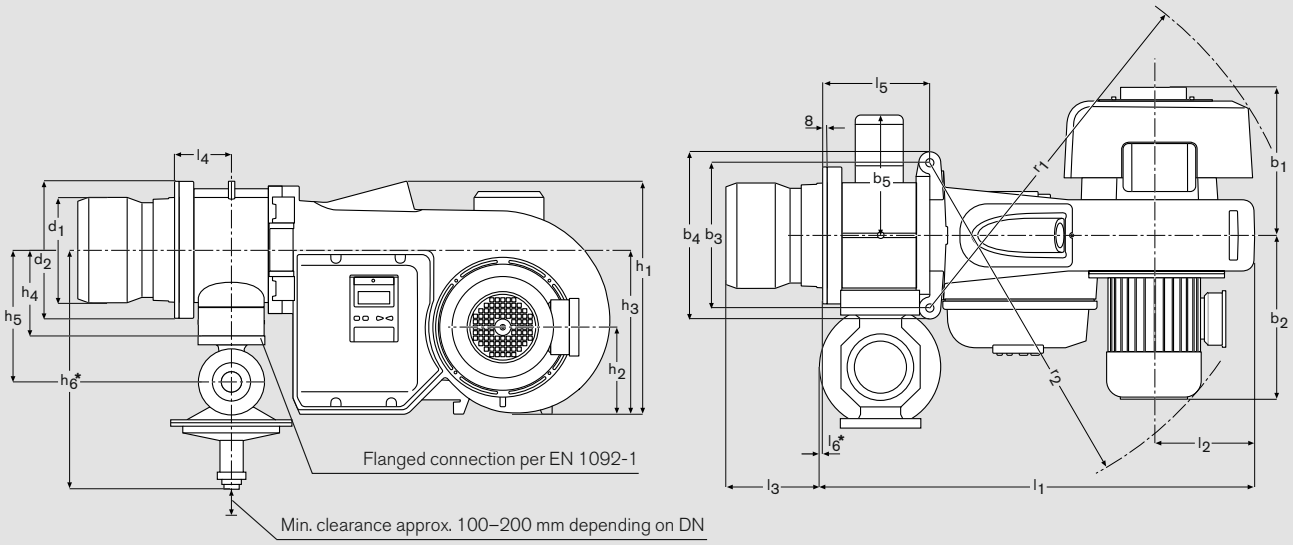
Technical data		WM-G10/1-A ZMI	WM-G10/2-A ZMI	WM-G10/3-A ZMI	WM-G10/4-A ZMI
Burner motor	Weishaupt type	WM-D 90/90-2/1K0	WM-D 90/90-2/1K0	WM-D 90/110-2/1K5	WM-D 90/110-2/1K5
Motor power output	kW	0.9	0.9	1.5	1.5
Nominal current	A	2.2	2.2	3.2	3.2
Motor protection switch [1] or motor prefusing [1]	type (e.g.)	PKE12/XTU - 4	PKE12/XTU - 4	PKE12/XTU - 4	PKE12/XTU - 4
(with overload protection)	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)
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).

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



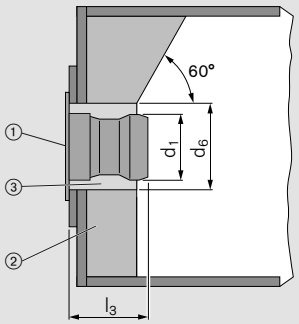
Size	Dimensions in mm																
	l_1	l_2	l_3	l_4	l_5	l_6* for DN Rp ¾	Rp 1	Rp 1½	Rp 2	65	80	h_1	h_2	h_3	h_4	h_5	
10/1	813	205	171–178	98	188	–	–	–	27	45	45	445	167	313	140	252	
10/2	813	205	158–178	98	188	–	–	–	27	45	45	445	167	313	140	252	
10/3	833	205	199–224	108	208	–	–	–	17	35	35	445	167	313	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 DN Rp ¾	Rp 1	Rp 1½	Rp 2	65	80	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
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 l3 is thereby reduced by the depth of the spacer ring.

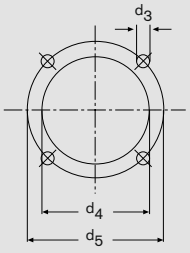
Heat generator preparation



① Flange gasket
② Refractory
③ Aperture

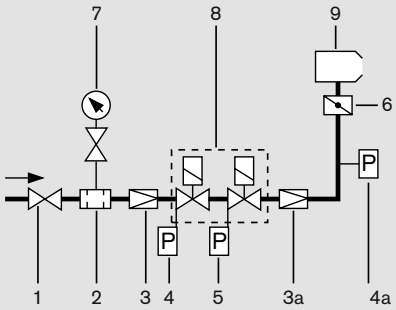
The refractory ② must not protrude beyond the front edge of the combustion head. It may however be tapered (min. 60°).

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. See 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.

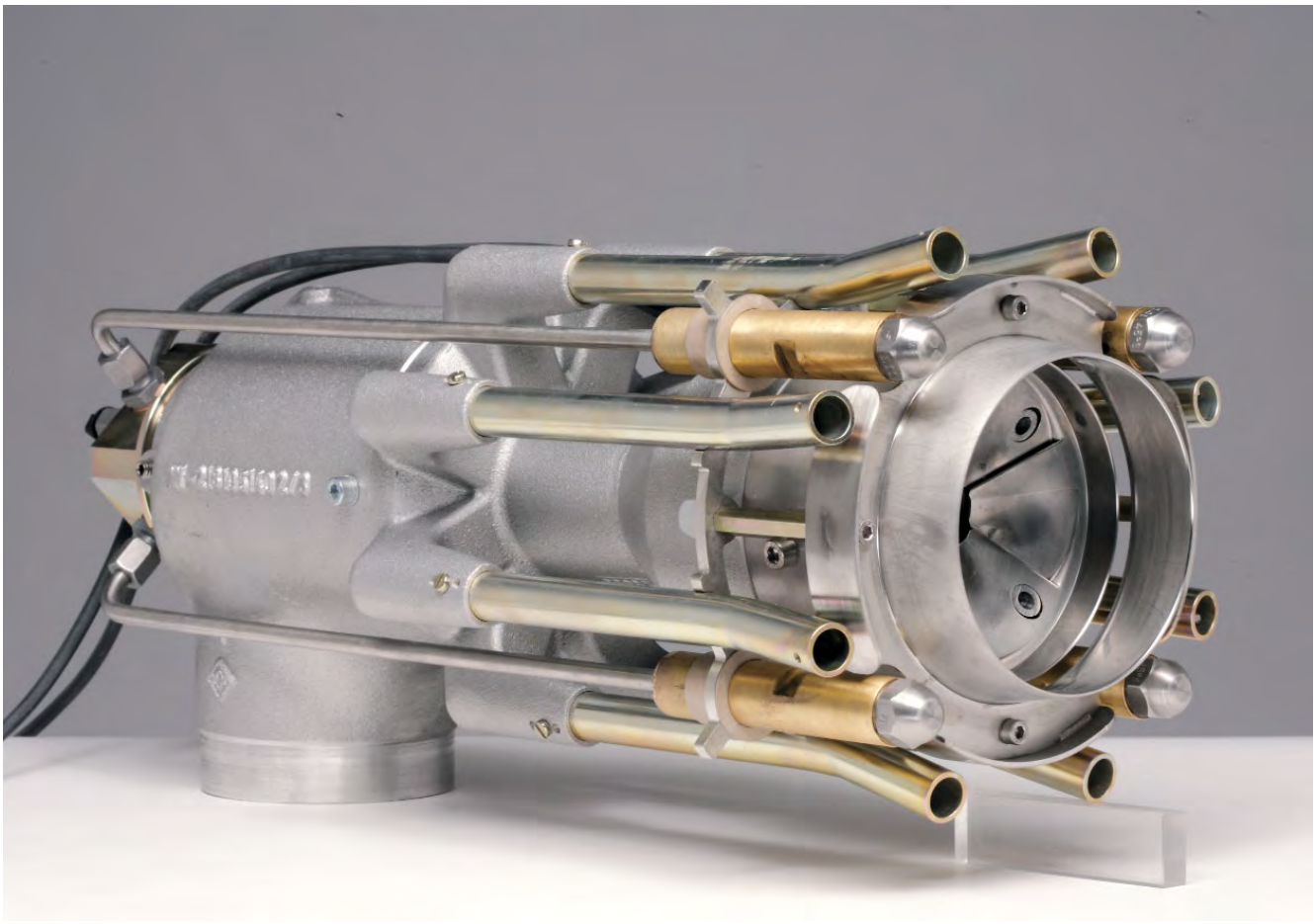
Optional thermal shutoff (when required by local regulations)
Integrated into the ball valve of screwed valve trains. A separate component with HTB seals fitted before the ball valve on flanged valve trains.

Model designation

WM– G 10 / 3 – A ZMI

- ZM = Sliding-two-stage operation
  I = Turndown approx.18:1
  No CE PIN.
- Mark
- Capacity
- Size
- G = Gas
- Weishaupt monarch® burner series

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.

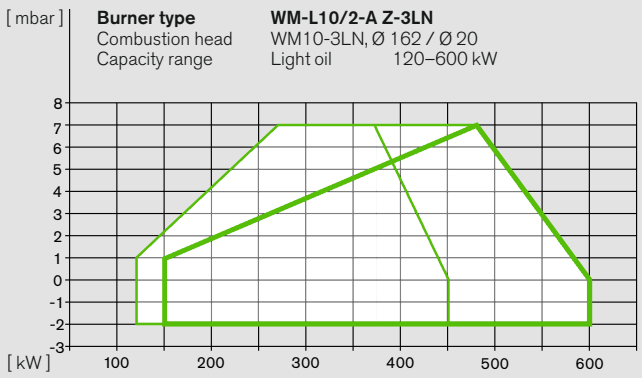
Weishaupt multiflam® burners have been proving themselves in the field for more than 10 years. They are especially suited to markets with stringent emission limits.

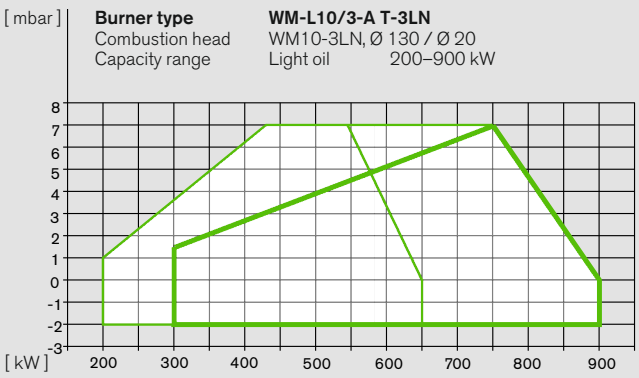
Monarch® burners bring this technology to medium-capacity ranges, combining flexibility with extremely low emissions.

Exemplary emissions
At the heart of Weishaupt's multiflam® technology lies a special mixing assembly design. Fuel is distributed among several nozzles and combusted in a primary and a secondary flame. Temperature in the flame's core is considerably reduced, resulting in an effective reduction of nitrogen oxides.

Good combustion figures also depend on combustion chamber geometry, volumetric loading and boiler design (three-pass type). Certain conditions (including, for example, combustion chamber loading, measurement tolerances, temperature, pressure, humidity etc.) must be observed in order for a guarantee of emission levels to be given.

Burner selection
WM-L10, version 3LN (multiflam®)





Light oil: Capacity with combustion head
Closed
Open

Capacity graphs for oil burners certified in accordance with EN 267.

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

Stated oil throughputs are based on a nett calorific value (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.

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.

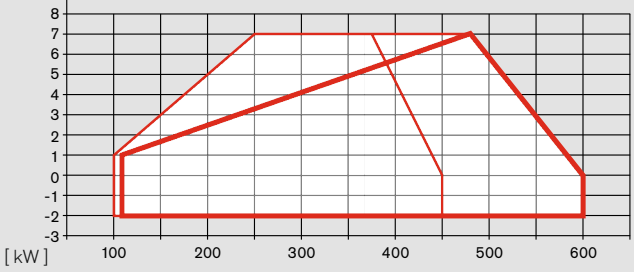
Standard burner motor:
Insulation Class F, IP 55 protection.
IE3 Premium Efficiency.

Turndown:
Light oil max. 3:1

Burner selection
WM-G10 and WM-GL10, vers. 3LN (multiflam®)

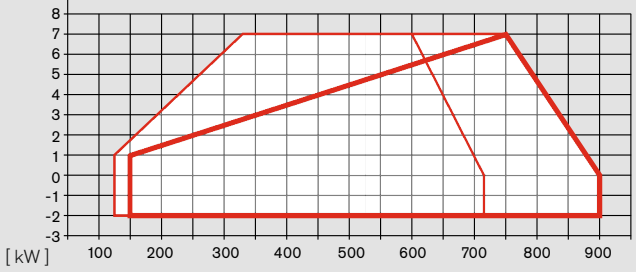
[mbar]

Burner type **WM-G10/2-A ZM-3LN**
Combustion head WM10-3LN, Ø 162 / Ø 20
Capacity range
Natural gas 100–600 kW
LPG 100–600 kW



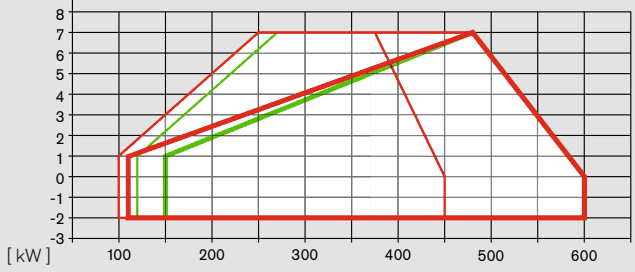
[mbar]

Burner type **WM-G10/3-A ZM-3LN**
Combustion head WM10-3LN, Ø 130 / Ø 20
Capacity range
Natural gas 125–900 kW
LPG 125–900 kW



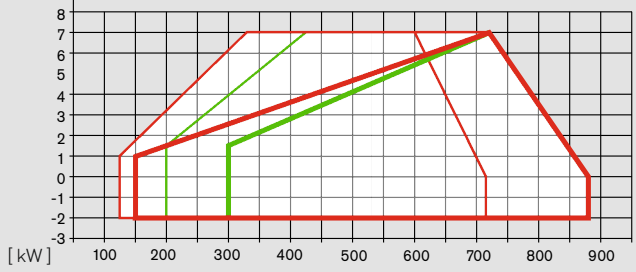
[mbar]

Burner type **WM-GL10/2-A ZM-Z-3LN**
Combustion head WM10-3LN, Ø 162 / Ø 20
Capacity range
Natural gas 100–600 kW
LPG 100–600 kW
Light oil 120–600 kW



[mbar]

Burner type **WM-GL10/3-A ZM-T-3LN**
Combustion head WM10-3LN, Ø 130 / Ø 20
Capacity range
Natural gas 125–880 kW
LPG 125–880 kW
Light oil 200–880 kW



Natural gas: Capacity with combustion head
Closed
Open

Light oil: Capacity with combustion head
Closed
Open

Capacity graphs for gas and dual-fuel burners certified in accordance with EN 676 and EN 267.

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.

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

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.

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

Gas valve train sizing
WM-G10 and WM-GL10, vers. 3LN (multiflam®)

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

Burner rating kW	Low pressure supply (with FRS) (flow pressure in mbar into shut off valve, $P_i \leq 300$ mbar) **Nominal valve train diameter** ¾" 1" 1½" 2" 65 Nominal diameter of gas butterfly 50 50 50 50 50					High pressure supply (with HP regulator) (flow pressure in mbar into gas valve assembly) **Nominal valve train diameter** ¾" 1" 1½" 2" 65 Nominal diameter of gas butterfly 50 50 50 50 50				
Natural gas E LHV = 10.35 kWh/Nm³; d = 0.606										
300	31	16	10	-	-	12	7	6	-	-
350	42	21	13	10	9	16	9	8	7	6
400	53	27	16	12	11	21	12	11	9	8
450	66	32	19	14	13	26	15	13	10	10
500	81	39	22	16	14	31	17	15	12	11
550	96	45	25	18	16	37	20	17	13	13
600	113	52	28	20	18	43	23	20	15	14
Natural gas LL LHV = 8.83 kWh/Nm³; d = 0.641										
300	43	21	13	10	9	16	9	8	6	6
350	58	28	16	12	11	22	12	11	8	8
400	75	36	20	14	13	29	16	14	11	10
450	93	44	24	17	15	36	19	17	13	12
500	114	53	29	20	18	44	23	20	15	14
550	137	63	33	23	20	52	27	23	18	17
600	161	74	39	26	23	61	32	27	20	19
LPG* LHV = 25.89 kWh/Nm³; d = 1.555										
300	17	11	9	-	-	8	6	5	-	-
350	22	14	10	9	9	10	8	7	6	6
400	28	17	13	11	11	13	10	9	8	8
450	35	21	15	13	13	17	12	11	10	10
500	42	25	18	16	15	20	15	14	12	12
550	50	30	21	18	18	25	18	17	15	15
600	62	38	28	24	23	32	24	23	21	20

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

Screwed		**Flanged**	
R ¾	W-MF 507	DN 65	DMV 5065/12
R 1	W-MF 512	DN 80	DMV 5080/12
R 1½	W-MF 512	DN 100	DMV 5100/12
R 2	DMV 525/12		

Stated flow pressures are based on a combustion chamber resistance of 0 mbar. The combustion chamber pressure of the heat generator must be added to the figure determined from the above chart when sizing the gas valve train. Minimum flow pressure 15 mbar.

For low-pressure supplies, EN 88-compliant governors with safety diaphragms are used.

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.

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

Burner rating kW	Low pressure supply (with FRS) (flow pressure in mbar into shut-off valve, $P_i \leq 300$ mbar) **Nominal valve train diameter** ¾" 1" 1½" 2" 65 80 100 Nominal diameter of gas butterfly 50 50 50 50 50 50 50							High pressure supply (with HP regulator) (flow pressure in mbar into gas valve assembly) **Nominal valve train diameter** ¾" 1" 1½" 2" 65 80 100 Nominal diameter of gas butterfly 50 50 50 50 50 50 50						
Natural gas E LHV = 10.35 kWh/Nm³; d = 0.606														
450	66	32	18	14	12	12	12	26	14	12	10	9	9	9
500	80	38	21	15	14	13	13	31	17	15	11	11	10	10
550	95	45	24	17	15	15	14	37	19	17	13	12	12	12
600	112	52	28	19	17	16	16	43	22	19	14	13	13	13
650	130	59	31	21	18	17	17	49	25	21	16	15	14	14
700	150	68	35	23	20	19	18	56	28	24	18	16	16	16
750	171	76	38	25	22	20	20	63	31	26	19	18	17	17
800	193	85	42	27	23	22	21	71	35	29	21	19	19	18
850	215	94	45	28	23	22	21	77	36	30	21	19	18	18
900	238	103	48	29	24	22	21	85	39	32	21	19	18	18
Natural gas LL LHV = 8.83 kWh/Nm³; d = 0.641														
450	92	42	23	16	14	13	13	34	18	15	11	11	10	10
500	112	51	27	18	16	15	14	42	21	18	13	12	12	12
550	134	60	31	20	18	17	16	49	25	21	15	14	13	13
600	158	70	35	23	19	18	18	58	28	24	17	16	15	15
650	184	81	40	25	21	20	19	67	32	27	19	17	17	16
700	212	93	45	28	23	22	21	77	36	30	21	19	18	18
750	242	105	50	30	25	24	22	87	40	33	23	21	20	20
800	274	118	55	33	28	25	24	98	45	37	25	22	22	21
850	-	130	59	34	28	26	24	108	48	39	25	23	22	21
900	-	143	64	36	29	26	24	118	52	41	26	23	22	21
LPG* LHV = 25.89 kWh/Nm³; d = 1.555														
450	34	20	15	13	12	12	12	16	12	11	10	10	9	9
500	42	25	18	15	15	14	14	20	14	13	12	12	12	12
550	50	29	21	18	17	17	17	24	17	16	14	14	14	14
600	58	34	24	20	19	19	19	28	20	19	17	16	16	16
650	68	39	27	23	22	21	21	33	23	21	19	19	19	19
700	77	43	29	25	23	23	23	37	25	23	21	20	20	20
750	85	46	31	25	24	23	23	39	26	24	21	21	20	20
800	94	50	32	26	24	24	23	42	27	25	22	21	21	21
850	103	53	33	26	25	24	23	45	28	26	22	21	21	21
900	113	57	35	27	25	24	24	48	30	27	22	22	21	21

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 the combustion manager	–	●	●
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 preinstalled 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). 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

Gas burners

Burner type	Version	DMV 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

Dual-fuel burners

Burner type	Version	DMV size	Order No.
WM-GL10/2-A	ZM-Z-3LN	R ¾	218 124 10
		R1	218 124 11
		R 1½	218 124 12
		R2	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

Special equipment
WM-L10 and WM-G10, 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	Please enquire	210 030 85
	by 200 mm	Please enquire	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		Please enquire	210 030 20
VZO8 oil meter without transmitter		250 030 46	250 030 46
VZO8 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-FM 50 / 100 / 200)		210 030 13	210 030 13
ST 18/7 plug connection (W-FM 50 with KS20)		250 031 06	250 031 06
Burner-mounted KS20 controller (W-FM 50)		250 033 15	250 033 15
W-FM 100 (suitable for continuous firing) in lieu of W-FM 50 [2]		210 030 32	210 030 32
DSB 158 oil pressure switch in supply [2]		Please enquire	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-FM 200 in lieu of W-FM 50 with integral load controller, analogue signal convertor, and VSD module, with optional fuel metering		210 030 10	210 030 10
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

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.

Gas burners, version ZM-3LN		WM-G10/2-A	WM-G10/3-A
Combustion head extension	by 100 mm	Please enquire	250 031 57
	by 200 mm	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]	GW 50 A6/1	250 033 30	250 033 30
(Screwed W-MF / DMV for low-press. supplies)	GW 150 A6/1	250 033 31	250 033 31
	GW 500 A6/1	250 033 32	250 033 32
High gas pressure switch [2]	GW 50 A6/1	150 017 49	150 017 49
(flanged DMV / VGD for low-pressure supplies)	GW 150 A6/1	150 017 50	150 017 50
	GW 500 A6/1	150 017 51	150 017 51
High gas pressure switch [2]	GW 50 A6/1	250 033 33	250 033 33
(Fitted to high-pressure regulator)	GW 150 A6/1	250 033 34	250 033 34
	GW 500 A6/1	250 033 35	250 033 35
ST 18/7 and ST 18/4 plug connections (W-FM 50 / 100 / 200)		250 030 22	250 030 22
Air inlet flange for ducted-air connection, with LGW air pressure switch		250 030 24	250 030 24
Burner-mounted KS20 controller (W-FM 50)		250 033 15	250 033 15
W-FM 100 (suitable for continuous firing) in lieu of W-FM 50 [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-FM 200 in lieu of W-FM 50 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-FM 50 / 200 required) [1]		210 030 11	210 030 11
VSD with separate frequency convertor (W-FM 200 required) (See accessories list for frequency convertor) [1]		210 030 12	210 030 12
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

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-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]	GW 50 A6/1	250 033 30	250 033 30
(Screwed W-MF / DMVfor low-press. supplies)	GW 150 A6/1	250 033 31	250 033 31
	GW 500 A6/1	250 033 32	250 033 32
High gas pressure switch [2]	GW 50 A6/1	150 017 49	150 017 49
(flanged DMV/VGD for low-pressure supplies)	GW 150 A6/1	150 017 50	150 017 50
	GW 500 A6/1	150 017 51	150 017 51
High gas pressure switch [2]	GW 50 A6/1	250 033 33	250 033 33
(Fitted to high-pressure regulator)	GW 150 A6/1	250 033 34	250 033 34
	GW 500 A6/1	250 033 35	250 033 35
Oil hoses, 1300 mm in lieu of 1000 mm		210 003 00	210 003 00
VZO8 oil meter without transmitter		250 030 46	250 030 46
VZO8 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-FM 54)		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		210 030 20	210 030 20
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-FM 54, with integral load controller and analogue signal convertor [2]	burner-mounted	250 033 67	250 033 67
	supplied loose	250 033 68	250 033 68
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	250 033 69	250 033 69
	supplied loose	250 033 70	250 033 70
VSD with integral frequency convertor (W-FM 200 required)		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
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-FM 50 / 100 / 200)	Please enquire	250 031 72
	(W-FM 54)	Please enquire	Please enquire

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.

Technical data
WM 10, 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
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)
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
NO_x Class per EN 267		3	3
Oil hoses	DN / length	8 / 1000	8 / 1000
Mass	kg	approx. 65	approx. 68

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
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)
Speed (50 Hz)	rpm	2900	2900
Combustion manager	type	W-FM 50	W-FM 50
Flame monitoring	type	ION	ION
Air damper / gas 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

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
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)
Speed (50 Hz)	rpm	2900	2900
Combustion manager	type	W-FM 54	W-FM 54
Flame monitoring	type	QRA2	QRA2
Air damper / gas actuator	type	STE 50	STE 50
Integral pump max. flow rate	type l/h	AL 75C 130	AL 95C 150
NO_x Class per EN 676 / EN 267		3	3
Oil hoses	DN / length	8 / 1000	8 / 1000
Mass (excl. double gas valve assembly and fittings)	kg	approx. 70	approx. 73

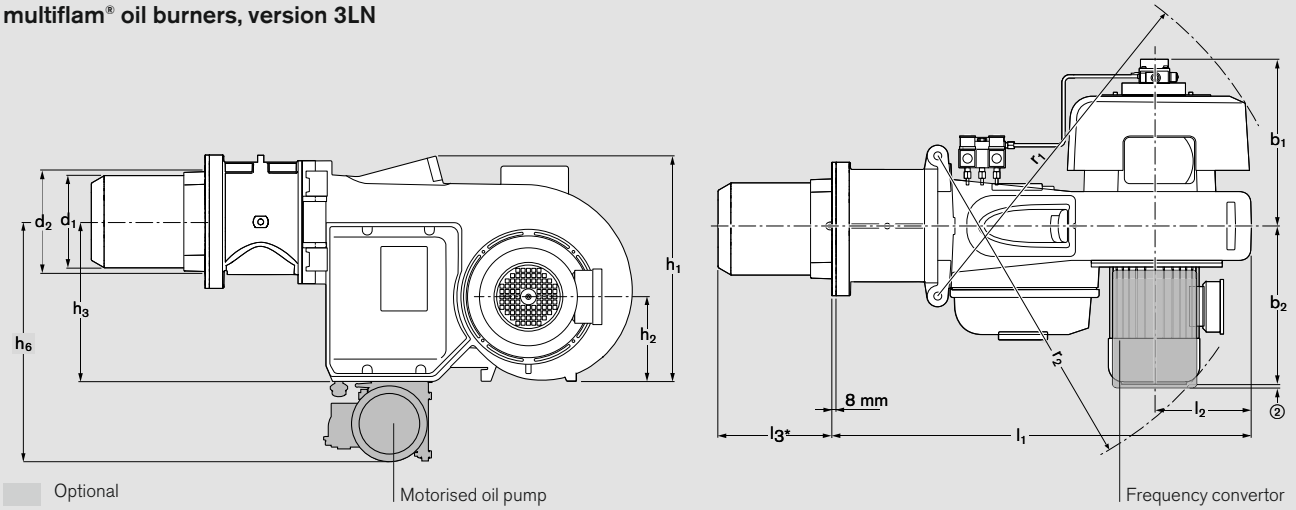
[1] The necessary motor protection can be provided either by a motor protection switch (supplied and fitted into a panel by others), or with integral motor overload protection (see special equipment).

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

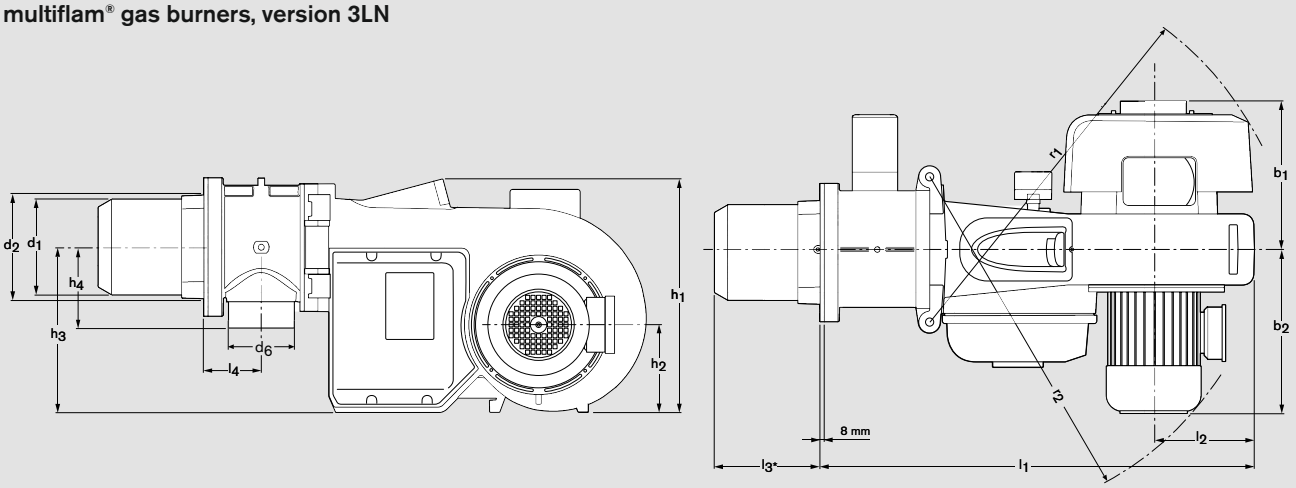
multiflam® oil burners, version 3LN



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-A Z-3LN	833	205	209–219	323	307	445	167	313	470	718	682	180	199
WM-L10/3-A T-3LN	833	205	207–222	323	335	445	167	313	470	718	698	180	199

① Excluding electromagnetic clutch (pump with electromagnetic clutch: plus130 mm)
② Projection of frequency convertor approx. 20 mm

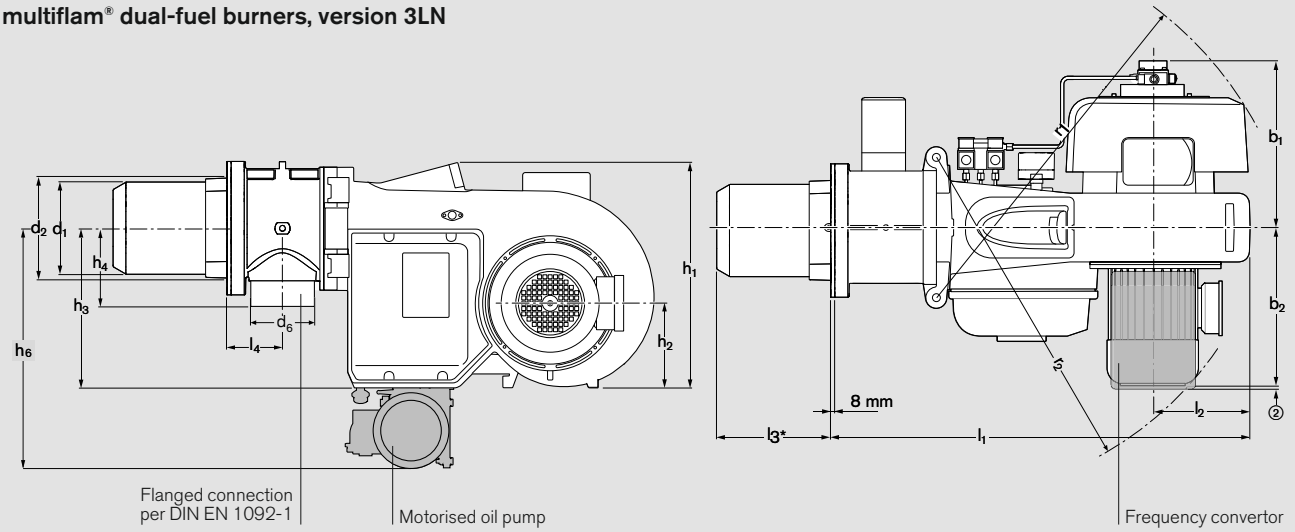
multiflam® gas burners, version 3LN



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-A ZM-3LN	833	205	209–219	108	279	307	445	167	313	161	718	682	180	199	DN50
WM-G10/3-A 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.

multiflam® dual-fuel burners, version 3LN



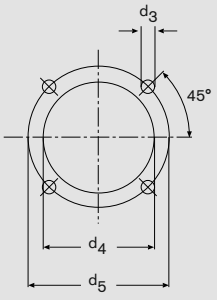
Optional

Burner type	Dimensions in mm l1	l2	l3	l4	b1	b2	h1	h2	h3	h4	h_6	r1	r2	d1	d2	d6
WM-GL10/2-A ZM-Z-3LN	833	205	209–219	108	323	307	445	167	313	161	470	718	682	180	199	DN50
WM-GL10/3-A 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: plus130 mm)
② Projection of frequency convertor approx. 20 mm

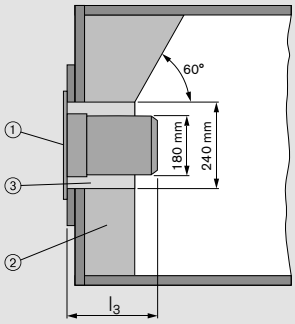
All dimensions are approximate.
Weishaupt reserve the right to make changes in light of future developments.

Mounting-plate drilling dimensions



d_3 = M10
d_4 = 210 mm
d_5 = 235 mm

Heat generator preparation



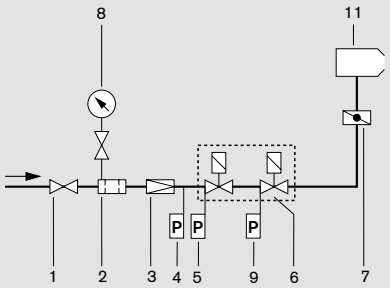
① Flange gasket
② Refractory
③ Aperture

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

Fuel systems

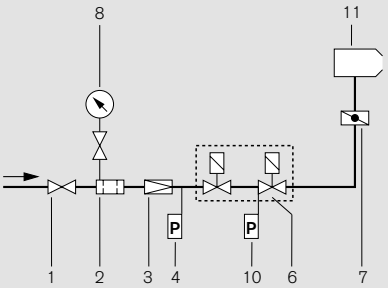
Gas-side fuel system

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 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. See the Weishaupt accessories list for various valve train support components.

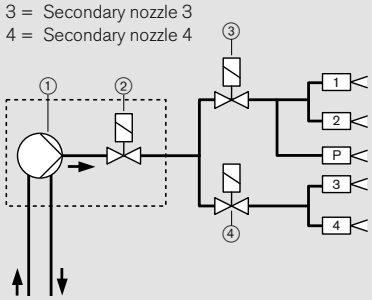
Gas meter
A gas meter must be installed to measure gas consumption during commissioning and servicing.

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

Version (ZM-)Z-3LN:

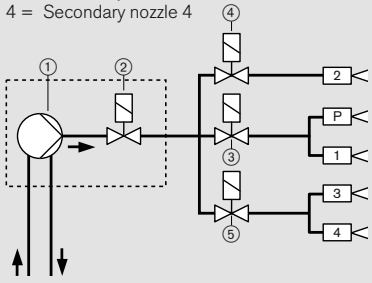
P = Primary nozzle
1 = Secondary nozzle 1
2 = Secondary nozzle 2
3 = Secondary nozzle 3
4 = Secondary nozzle 4



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

Version (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