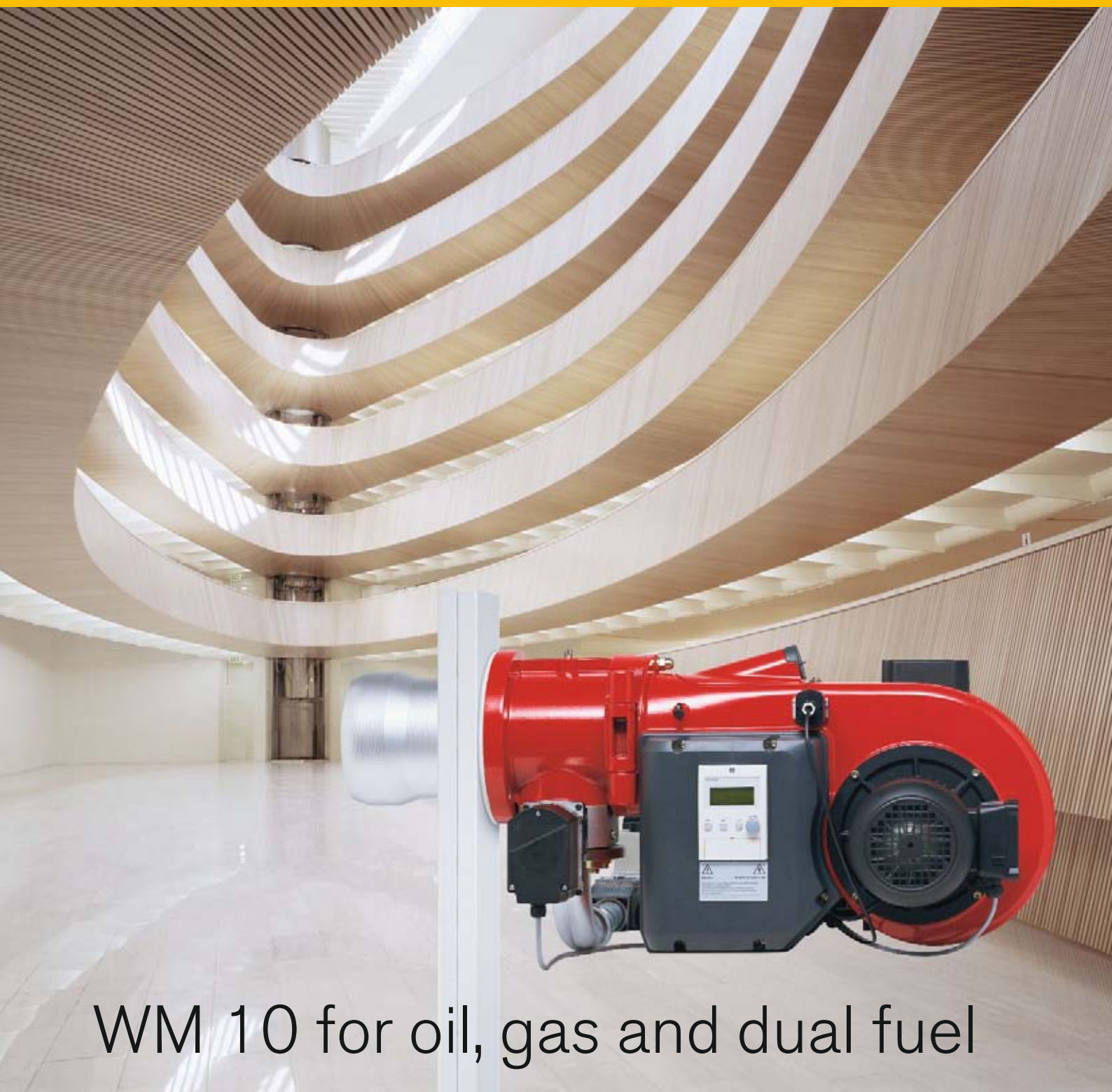


– weishaupt –

product

Information on oil, gas and dual fuel burners



WM 10 for oil, gas and dual fuel

monarch® burners WM 10 (55 – 1250 kW) • flexible application

Progress and tradition: The new monarch[®] burner



For more than 50 years the monarch[®] trademark has stood for power and quality

For more than five decades Weishaupt's monarch[®] series burners have been used on a wide variety of heat exchangers and industrial plant, forming the basis of Weishaupt's outstanding reputation.

This successful series is now continued with new monarch[®] burners. Ultra-modern technology in conjunction with a compact construction make this a powerful burner universally employed.

Digital.

Digital combustion management for economical and reliable burner operation. The controls are easy to use.

Compact.

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

Quiet.

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



Digital

Digital combustion management means optimal combustion figures, continually reproducible setting figures and ease of use.

Weishaupt oil, gas and dual fuel burners series WM 10 are equipped as standard with electronic compound regulation and digital combustion management. Modern combustion technologies demand a precise, continually reproducible dosing of fuel and combustion air. Only in this way can optimal combustion figures be ensured over extended periods.

Simple operation

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

Flexible communication possibilities

The integral interface enables all necessary information and functions to be relayed to a superordinate control system. If required, a modem enables a telephone connection to be installed for remote operation, monitoring and diagnosis.

Bus communication with external systems and building management systems

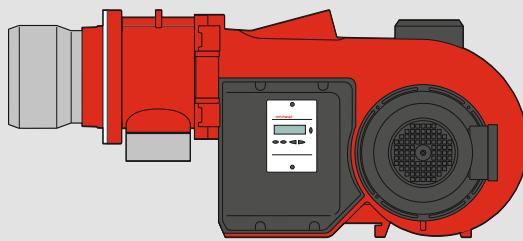
Several bus systems are available via E-Gate or Mod-Gate if data from the burners are to be exchanged with a PLC unit, or if the control of the burners is to be integrated into a building management system. For the control and management levels Weishaupt offers ProGraf NT, a real time software product to meet any and all requirements.

New technology advantages

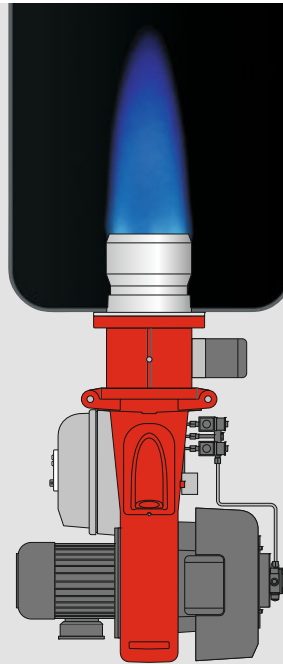
Digital combustion management makes burner operation simple and reliable. The most important advantages:

- No additional burner controls are necessary as control is effected by the combustion manager. Only a motor protection switch for burner motor and control fusing are required externally.
- Reduced installation expense: Each burner is tested and supplied by the factory as a complete unit.
- Commissioning and service work takes less time. The burner's basic parameters are set at the factory. Adjustment to site conditions and combustion emission checks are effected via the combustion manager's menu controlled commissioning program.

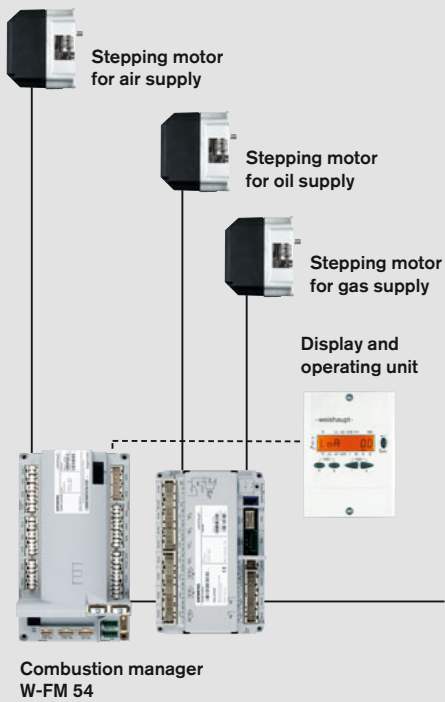
System overview	W-FM 50	W-FM 54	W-FM 100	W-FM 200
Digital combustion management				
Single fuel operation	●		●	●
Dual fuel operation		●	●	●
Combustion manager for intermittent operation	●	●	●	●
Combustion manager for continuous operation			●	●
Flame sensor for intermittent operation	ION/QRA2/QRB	QRA2	ION/QRI/QRB/QRA	ION/QRI/QRB/QRA
Flame sensor for continuous operation			ION/QRI	ION/QRI
Servomotors in electronic compound (max.)	2 off	3 off	4 off	6 off
Servomotors with stepping motor	●	●	●	●
Speed control available	●	●		●
O ₂ Trim available				●
Valve proving of gas valves	●	●	●	●
Input signal 4-20 mA	●	●	optional	●
Integrated self-checking PID controller for temperature or pressure			optional	●
Removeable operating unit (max. distance)	20 m	20 m	100 m	100 m
Fuel consumption meter	● ¹⁾	● ¹⁾		●
Display of combustion efficiency				●
eBUS / MOD BUS interface	●	●	●	●
PC supported commissioning	●	●	●	●
Connection possibilities for additional functions such as flue gas valves, oil shut off devices etc. on request				
¹⁾ Not in conjunction with speed control				



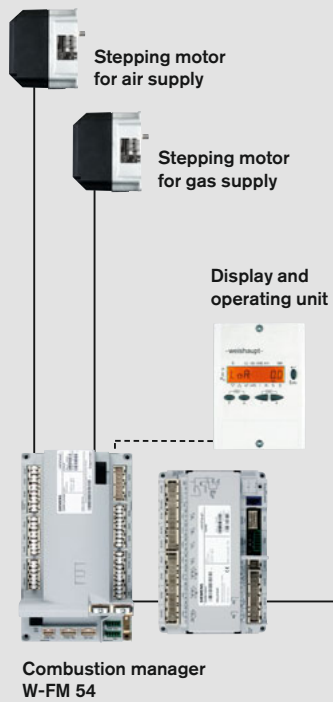
Burner with inbuilt digital combustion manager



Version ZM-R



Version ZM-T



Visualisation via PC / Touch Panel



System networking via PLC / DDC



Wireless connection via fixed or mobile phone network

Modbus

Compact and quiet

The newly developed Weishaupt burner monarch® WM 10 is compact, powerful and quiet. It continues the 50 year long success story of the legendary monarch® series.

Futuristic fan technology

Right from the earliest developmental stages of this new burner generation, particular emphasis was placed on a compact, aerodynamic construction and low operational noise levels.

To realise this goal, a completely new air inlet and air damper control were developed. The special housing design with the self opening air inlet, together with the new air damper technology, results in increased fan pressure and thus more capacity from a more compact form.

The air damper control provides a high degree of linearity even at the lower end of the 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 head preset for the required output of the burner. Individual adjustments are made using the combustion manager's menu controlled commissioning program.

All the burner's components, such as the mixing head, air damper and combustion manager, are readily accessible despite its compact construction, enabling maintenance and servicing work to be carried out quickly and easily. This is further helped by the standard hinged flange, which provides a perfect servicing position for the burner. Adjustments to suit different combustion chamber conditions can be easily carried out on the burner in its installed position. The integral sight glass enables ignition and flame to be observed.

Control variations

Weishaupt WM burners are available in the following control variations:

- Oil: 3 stage (T)
(or 2 stage with low impact start and change-over release)
modulating (R)
- Gas: sliding two stage or modulating (ZM)
depending on the type of load control: Within its operating range, the burner's output is matched to the current heat demand.

This provides numerous control possibilities making the burner universally employable. Both version ensure a gentle, problem free start up and high operational reliability.

A number of variations are available to meet the different emission and operating requirements:

Version ZM

Gas and dual fuel burners with advanced, standard mixing head for installations with oil and gas side NO_x requirements to NO_x Emission Class 2.

Version LN (LowNO_x)

In comparison to the standard mixing head NO_x emissions are further reduced (Emission Class 3). This is achieved due to the an increased recirculation of the combustion gases in the combustion chamber.

Good emission values depend on combustion chamber geometry, volume loading and on the combustion system (3 pass or reverse flame).

Version ZMI

Gas burner with increased capacity range for special industrial applications.

Version 3LN

LowNO_x oil/gas/dual fuel burners with multiflam mixing head for installations with extremely low NO_x requirements (only for boilers of the three pass or burn-through principle). Extremely low NO_x values achieved by fuel division.

Suitable for distillate oil, natural gas, liquid petroleum gas to NO_x Class 3.

Fuels

Natural gas E
Natural gas LL
Liquid petroleum gas B/P
Fuel oil EL (<6 mm²/s at 20°C)
to DIN 51 603, T1
The suitability of differing fuel qualities must be confirmed in advance by Weishaupt.

Application range

The EN 267 and EN 676 approved Weishaupt oil, gas and dual fuel burners WM 10 are suitable for:

- installation on heat exchangers to EN 303
- warm water plant
- steam boilers and hot water plant
- intermittent and continuous operation
- installation on air heaters

The combustion air must be free of aggressive substances (Halogens, Chlorides, Fluorides etc.) and impurities (dust, debris, vapours etc.). For many applications the use of ducted air intake is recommended (additional cost).

Permissible ambient conditions

- Ambient temperature during operation -10 to + 40 °C (oil/dual fuel burners)
-15 to + 40 °C (gas burners)
- Humidity: max. 80% relative humidity, no dewpoint
- Suitable for use indoors only
- For plant in unheated areas certain additional measures may be required (please enquire)

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

Certification

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

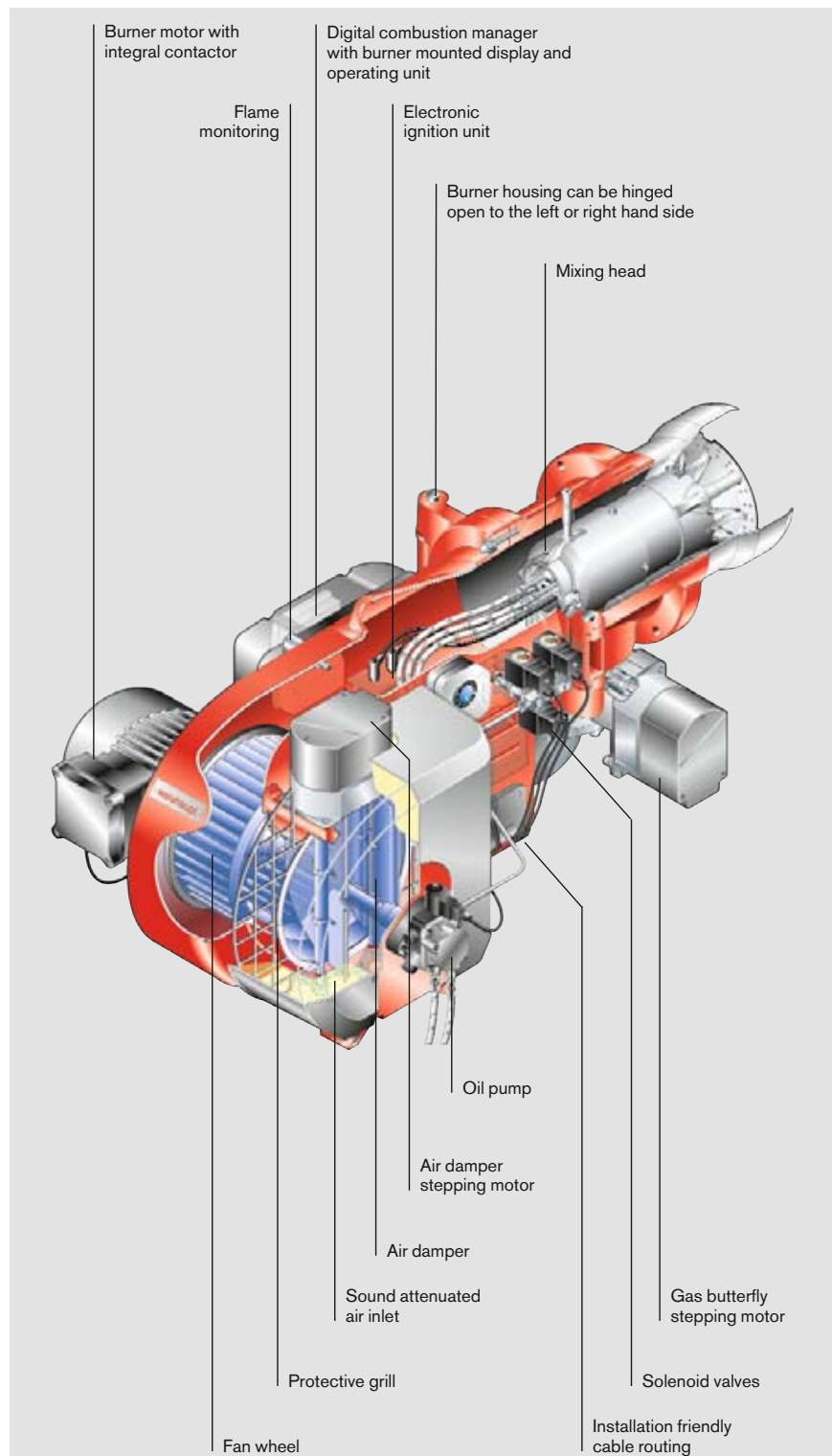
- EN 267 and EN 676
- Machinery Directive 2006/42/EU
- Electromagnetic Compatibility EMV 2004/108/EU
- Low Voltage Directive 2006/95/EU
- Pressure Vessel Directive 97/23/EU
- The burners carry the CE and CE-PIN label

The most important advantages:

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

Trademark

Weishaupt WM 10 monarch® burners are registered as a trademark throughout Europe.



WM-GL 10 version ZM-T

Overview of control variations

Type key

Oil fired operation

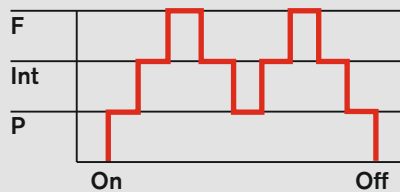
3 stage (T) operation

- 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

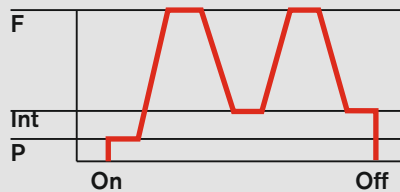
Modulating (R) operation

- On opening the solenoid valves the correct rate of oil for start up is released
- A digital stepping motor sets the oil regulator to full load
- Load control between partial and full load through the opening and closing of the oil regulator
- Modulating operation:
 - W-FM 50 or WFM 54 with additional load controller
 - W-FM 100 with integrated analogue module
 - W-FM 200
- Alternatively, a regulator can be fitted into the control panel.

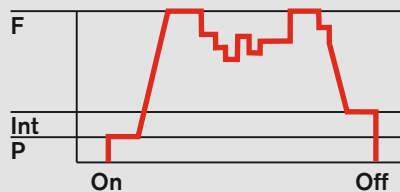
3 stage



sliding tow stage



modulating



Gas fired operation

Sliding two stage or modulating (ZM) operation

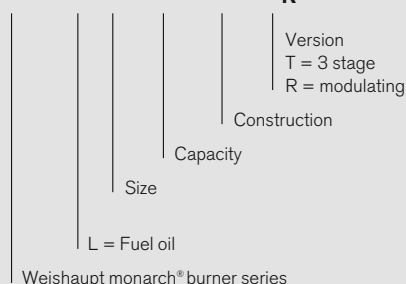
- Stepping motors adjust the load between partial load and full load depending on the heat demand
- There is a gradual change between both load points. There are no sudden large changes in fuel throughput.
- Possible modulating operation:
 - W-FM 50 or WFM 54 with additional load controller
 - W-FM 100 with integrated analogue module
 - W-FM 200
- Alternatively, a regulator can be fitted into the control panel.

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

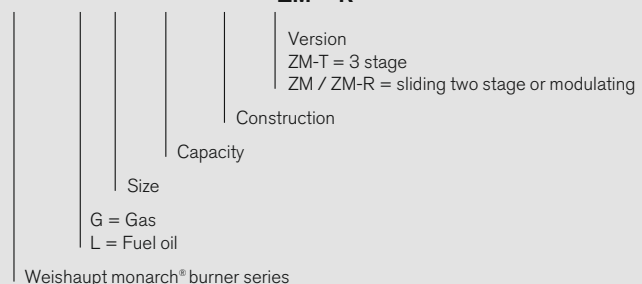
Fuel Version	Oil			Gas	
	3 stage	sliding two stage	modulating	sliding two stage	modulating
ZM				●	●
ZM-T	●			●	●
ZM-R		●	●	●	●

Type key

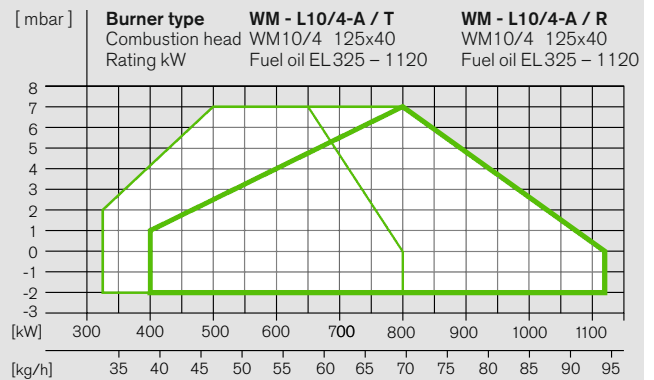
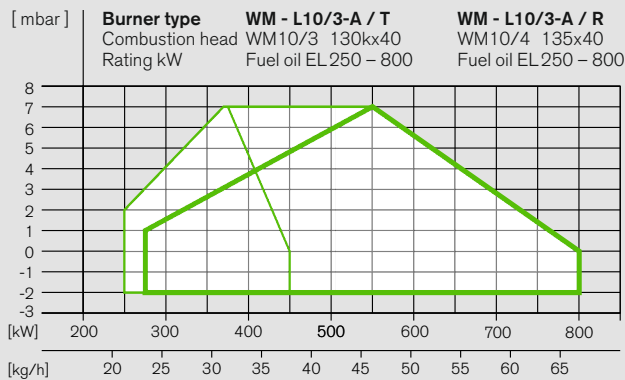
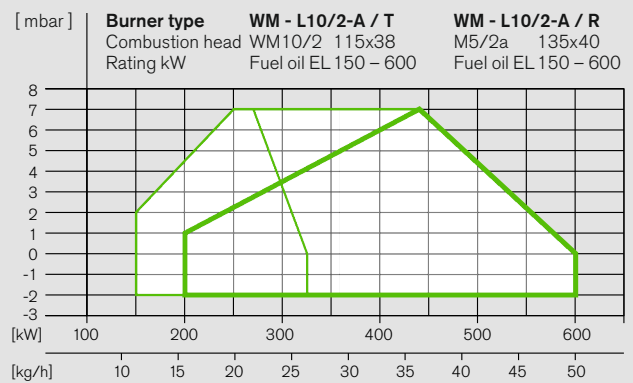
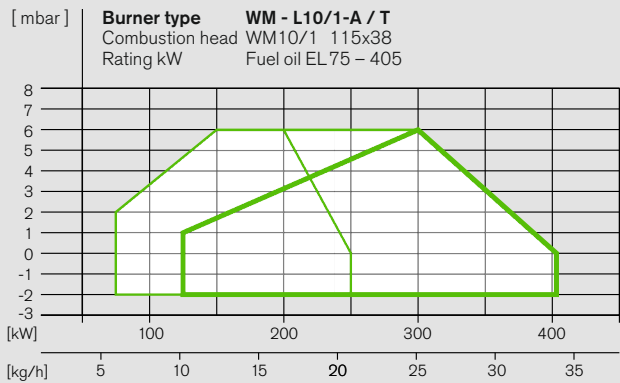
WM - L 10 / 3 -A / T R



WM - GL10 / 3 -A / ZM - T ZM - R



Burner selection WM-L 10 Oil burners version T / R



Fuel oil EL capacity with combustion head

Closed
Open

The capacity graphs are type tested to EN 267. All ratings given are based on an air temperature of 20°C and an installation altitude of 500 m above sea level.

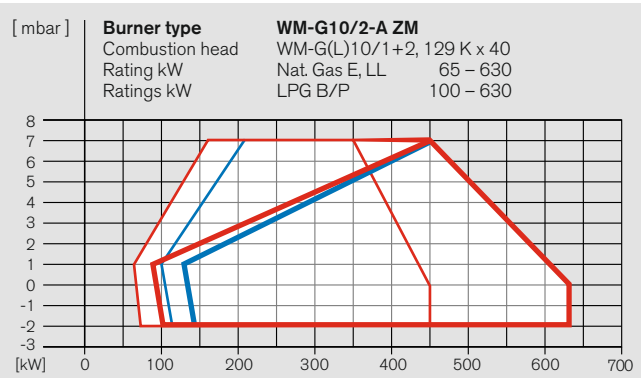
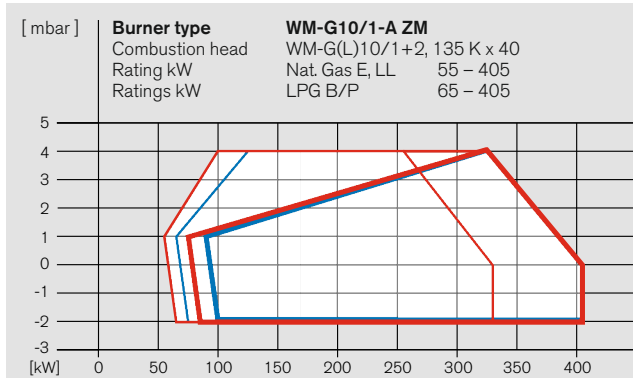
The stated oil throughputs refer to a calorific value of 11.91 kWh/kg for distillate oil EL.

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-G 10

Gas burners version ZM



WM-G10/1-A, vers. ZM

Burner rating kW	Low pressure supply (with FRS) (flow pressure in mbar into shut off valve, $p_{e,max} = 300$ mbar)			High pressure supply (with HP controller) (flow pressure in mbar into double gas valve)		
	Nominal diameter of valve train 3/4" 1" 1 1/2" 2"			Nominal diameter of v/train 3/4" 1" 1 1/2" 2"		
	Nominal diameter gas butterfly			Nominal diameter gas butterfly		
	40	40	40	40	40	40

Natural Gas E (N) $H_i = 10.35$ kWh/m ³ ; $d = 0.606$; $W_i = 13.295$ kWh/m ³						
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	15	8	7
405	53	25	14	20	11	9

Natural Gas LL (N) $H_i = 8.83$ kWh/m ³ ; $d = 0.641$; $W_i = 11.029$ kWh/m ³						
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	13	7	6
300	43	21	12	16	9	7
350	57	27	15	21	11	10
405	75	35	19	28	14	12

LPG B/P (F) $H_i = 25.89$ kWh/m ³ ; $d = 1.555$; $W_i = 20.762$ kWh/m ³						
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	12	8	7

WM-G10/2-A, vers. ZM

Burner rating kW	Low pressure supply (with FRS) (flow pressure in mbar into shut off valve, $p_{e,max} = 300$ mbar)			High pressure supply (with HP controller) (flow pressure in mbar into double gas valve)		
	Nominal diameter of valve train 3/4" 1" 1 1/2" 2" 65			Nominal diameter of v/train 3/4" 1" 1 1/2" 2" 65		
	Nominal diameter gas butterfly			Nominal diameter gas butterfly		
	40	40	40	40	40	40

Natural Gas E (N) $H_i = 10.35$ kWh/m ³ ; $d = 0.606$; $W_i = 13.295$ kWh/m ³						
300	29	14	8	-	-	-
350	39	19	11	-	-	-
400	51	24	13	9	8	-
450	63	29	16	11	10	-
500	77	35	18	12	11	-
550	92	41	21	14	12	-
600	109	48	24	15	13	-
630	119	53	26	16	14	-

Natural Gas LL (N) $H_i = 8.83$ kWh/m ³ ; $d = 0.641$; $W_i = 11.029$ kWh/m ³						
300	42	20	11	-	-	-
350	56	26	14	10	9	-
400	72	33	17	12	10	-
450	90	41	21	14	12	-
500	110	49	24	16	14	-
550	132	58	28	18	15	-
600	155	68	32	20	17	-
630	171	74	35	21	18	-

LPG B/P (F) $H_i = 25.89$ kWh/m ³ ; $d = 1.555$; $W_i = 20.762$ kWh/m ³						
300	15	9	-	-	-	6
350	20	11	-	-	-	8
400	25	14	10	8	-	10
450	31	17	11	9	9	13
500	37	20	13	10	10	15
550	44	23	14	12	11	18
600	51	26	16	13	12	21
630	55	28	17	13	12	23

Nat. Gas capacity with comb. head
 Closed
 Open

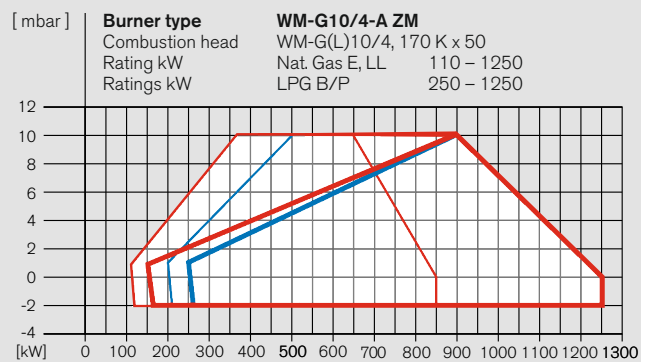
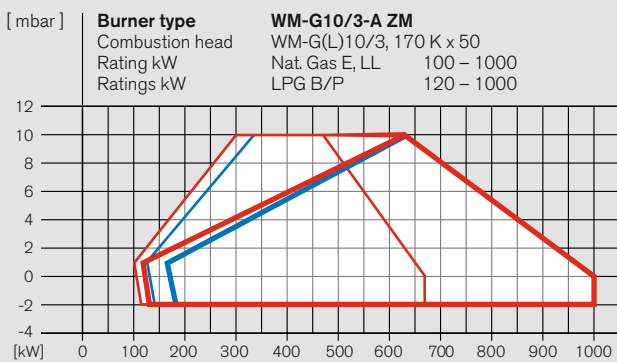
LPG capacity with comb. head
 Closed
 Open

Screwed

R3/4	W-MF507
R1	W-MF512
R1 1/2	W-MF512
R2	DMV525/12

Flanged

DN65	DMV5065/12
DN80	DMV5080/12
DN100	DMV5100/12



WM-G10/3-A, vers. ZM

Burner rating kW	Low pressure supply (with FRS) (flow pressure in mbar into shut off valve, $p_{e,max} = 300$ mbar)	High pressure supply (with HP controller) (flow pressure in mbar into double gas valve)
	Nominal diameter of valve train 3/4" 1" 1 1/2" 2" 65 80 100 Nominal diameter gas butterfly 50 50 50 50 50 50	Nominal diameter of v/train 3/4" 1" 1 1/2" 2" 65 80 100 Nominal diameter gas butterfly 50 50 50 50 50 50

Natural Gas E (N)	$H_i = 10.35$ kWh/mn ³ ; $d = 0.606$; $W_i = 13.295$ kWh/mn ³
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 (N)	$H_i = 8.83$ kWh/mn ³ ; $d = 0.641$; $W_i = 11.029$ kWh/mn ³
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 B/P (F)	$H_i = 25.89$ kWh/mn ³ ; $d = 1.555$; $W_i = 20.762$ kWh/mn ³
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

WM-G10/4-A, vers. ZM

Burner rating kW	Low pressure supply (with FRS) (flow pressure in mbar into shut off valve, $p_{e,max} = 300$ mbar)	High pressure supply (with HP controller) (flow pressure in mbar into double gas valve)
	Nominal diameter of valve train 1" 1 1/2" 2" 65 80 100 Nominal diameter gas butterfly 50 50 50 50 50	Nominal diameter of v/train 1" 1 1/2" 2" 65 80 100 Nominal diameter gas butterfly 50 50 50 50 50

Natural Gas E (N)	$H_i = 10.35$ kWh/mn ³ ; $d = 0.606$; $W_i = 13.295$ kWh/mn ³
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 (N)	$H_i = 8.83$ kWh/mn ³ ; $d = 0.641$; $W_i = 11.029$ kWh/mn ³
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 B/P (F)	$H_i = 25.89$ kWh/mn ³ ; $d = 1.555$; $W_i = 20.762$ kWh/mn ³
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

For low pressure supplies, pressure regulating devices with safety membrane in accordance with EN 88 are used.

The maximum permissible supply pressure into the shut off valve for low pressure installations is 300 mbar.

For high pressure supplies, high pressure regulators to EN 334 can be selected from the brochure "Pressure regulators with safety devices for Weishaupt gas and dual fuel burners". This details high gas pressure sets for supply pressures of up to 4 bar.

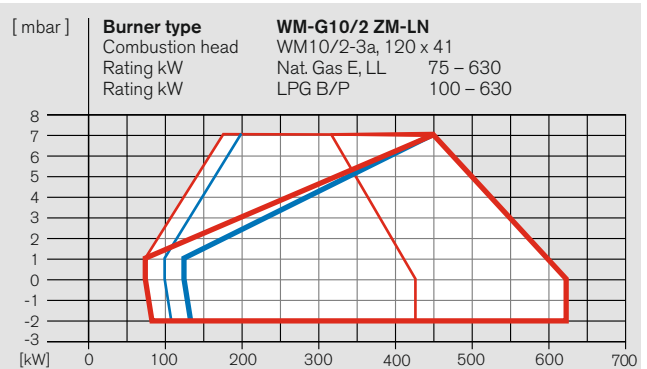
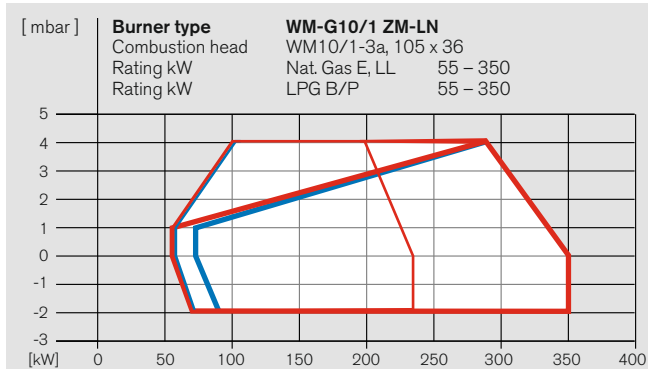
See burner name plate for maximum connection pressure.

The capacity graphs are type tested to EN 676. The ratings given are based on installation altitude of 0 m. Depending on the altitude of the installation, a reduction of capacity of 1% for every 100 m above sea level should be taken into account.

The combustion chamber pressure in mbar must be added to the minimum gas pressure required. The minimum gas pressure should not be less than 15 mbar.

Burner selection / gas valve train sizing WM-G 10

Gas burners vers. ZM-LN



WM-G10/1, vers. ZM-LN

Burner rating kW	Low pressure supply (with FRS) (flow pressure in mbar into shut off valve, $p_{e,max} = 300$ mbar)	High pressure supply (with HP controller) (flow pressure in mbar into double gas valve)
	Nominal diameter of valve train 3/4" 1" 1 1/2" 2"	Nominal diameter of v/train 3/4" 1" 1 1/2" 2"
	Nominal diameter gas butterfly 25 25 25 25	Nominal diameter gas butterfly 25 25 25 25

Natural Gas E (N)		$H_i = 10.35 \text{ kWh/mn}^3$; $d = 0.606$; $W_i = 13.295 \text{ kWh/mn}^3$	
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 (N)		$H_i = 8.83 \text{ kWh/mn}^3$; $d = 0.641$; $W_i = 11.029 \text{ kWh/mn}^3$	
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 B/P (F)		$H_i = 25.89 \text{ kWh/mn}^3$; $d = 1.555$; $W_i = 20.762 \text{ kWh/mn}^3$	
150	8 - - -	4 - - -	
175	10 - - -	5 - - -	
200	12 9 8 -	6 5 5 -	
225	14 11 9 9	8 7 6 6	
250	16 12 10 9	9 7 7 7	
275	18 13 11 10	10 8 7 7	
300	20 14 11 10	10 8 8 8	
325	22 15 12 11	11 9 9 8	
350	24 16 13 11	12 10 9 9	

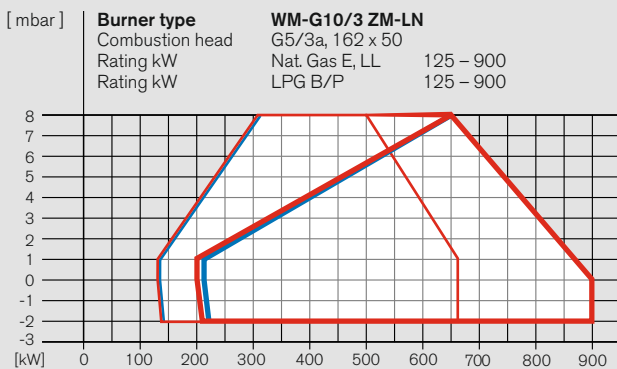
WM-G10/2, vers. ZM-LN

Burner rating kW	Low pressure supply (with FRS) (flow pressure in mbar into shut off valve, $p_{e,max} = 300$ mbar)	High pressure supply (with HP controller) (flow pressure in mbar into double gas valve)
	Nominal diameter of valve train 3/4" 1" 1 1/2" 2" 65	Nominal diameter of v/train 3/4" 1" 1 1/2" 2" 65
	Nominal diameter gas butterfly 40 40 40 40	Nominal diameter gas butterfly 40 40 40 40

Natural Gas E (N)		$H_i = 10.35 \text{ kWh/mn}^3$; $d = 0.606$; $W_i = 13.295 \text{ kWh/mn}^3$	
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 (N)		$H_i = 8.83 \text{ kWh/mn}^3$; $d = 0.641$; $W_i = 11.029 \text{ kWh/mn}^3$	
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 B/P (F)		$H_i = 25.89 \text{ kWh/mn}^3$; $d = 1.555$; $W_i = 20.762 \text{ kWh/mn}^3$	
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, vers. ZM-LN

Burner rating kW	Low pressure supply (with FRS) (flow pressure in mbar into shut off valve, $p_{e,max} = 300$ mbar)	High pressure supply (with HP controller) (flow pressure in mbar into double gas valve)
	Nominal diameter of valve train 3/4" 1" 1 1/2" 2" 65 80 100 Nominal diameter gas butterfly 50 50 50 50 50 50 50	Nominal diameter of v/train 3/4" 1" 1 1/2" 2" 65 80 100 Nominal diameter gas butterfly 50 50 50 50 50 50 50

Nat. Gas capacity with comb. head

Closed Open

LPG capacity with comb. head

Closed Open

The capacity graphs are type tested to EN 676.

The ratings given are based on installation altitude of 0 m. Depending on the altitude of the installation, a reduction of capacity of 1% for every 100 m above sea level should be taken into account.

The combustion chamber pressure in mbar must be added to the minimum gas pressure required. The minimum gas pressure should not be less than 15 mbar.

Screwed

R3/4	W-MF507
R1	W-MF512
R1 1/2	W-MF512
R2	DMV525/12

Flanged

DN65	DMV5065/12
DN80	DMV5080/12
DN100	DMV5100/12

For low pressure supplies, pressure regulating devices with safety membrane in accordance with EN 88 are used. The maximum permissible supply pressure into the shut off valve for low pressure installations is 300 mbar.

For high pressure supplies, high pressure regulators to EN 334 can be selected from the brochure "Pressure regulators with safety devices for Weishaupt gas and dual fuel burners". This details high gas pressure sets for supply pressures of up to 4 bar.

See burner name plate for maximum connection pressure.

Natural Gas E (N) $H_i = 10.35 \text{ kWh/m}^3$; $d = 0.606$; $W_i = 13.295 \text{ kWh/m}^3$

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

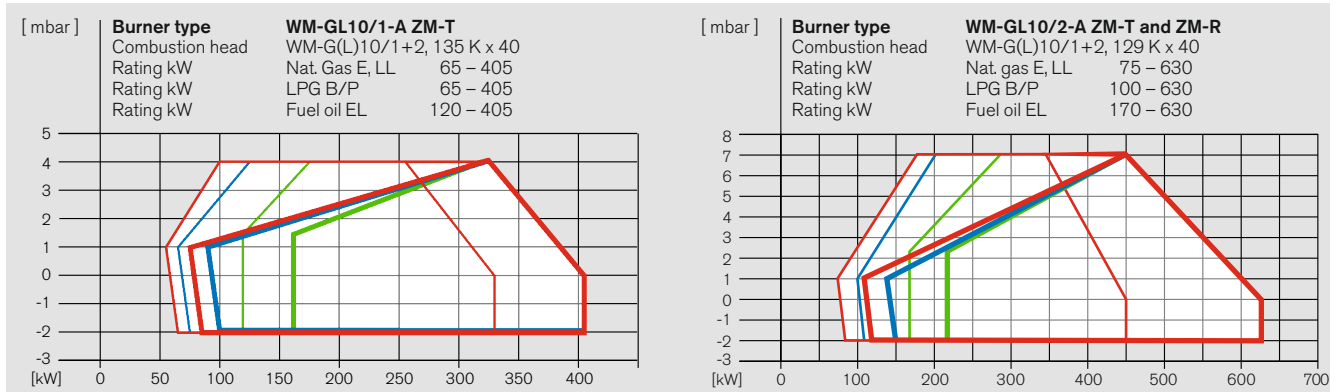
Natural Gas LL (N) $H_i = 8.83 \text{ kWh/m}^3$; $d = 0.641$; $W_i = 11.029 \text{ kWh/m}^3$

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 B/P (F) $H_i = 25.89 \text{ kWh/m}^3$; $d = 1.555$; $W_i = 20.762 \text{ kWh/m}^3$

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

Burner selection / gas valve train sizing WM-GL10 Dual fuel burners vers. ZM-T / ZM-R



WM-GL10/1-A, vers. ZM (T)

Burner rating kW	Low pressure supply (with FRS) (flow pressure in mbar into shut off valve, $p_{e,max} = 300$ mbar)	High pressure supply (with HP controller) (flow pressure in mbar into double gas valve)
	Nominal diameter of valve train 3/4" 1" 1 1/2" 2"	Nominal diameter of v/train 3/4" 1" 1 1/2" 2"
	Nominal diameter gas butterfly 40 40 40 40	Nominal diameter gas butterfly 40 40 40 40

Natural Gas E (N)	$H_i = 10,35 \text{ kWh/mn}^3$; $d = 0,606$; $W_i = 13,295 \text{ kWh/mn}^3$
150	12 - - -
175	14 9 - -
200	16 10 - -
225	19 11 - -
250	22 12 - -
275	26 14 8 -
300	31 16 9 -
350	41 20 12 9
405	53 25 14 11

Natural Gas LL (N)	$H_i = 8,83 \text{ kWh/mn}^3$; $d = 0,641$; $W_i = 11,029 \text{ kWh/mn}^3$
150	15 10 - -
175	18 11 8 -
200	22 12 9 -
225	26 14 9 -
250	31 16 10 -
275	37 18 11 8
300	43 21 12 9
350	57 27 15 11
405	75 35 19 13

LPG B/P (F)	$H_i = 25,89 \text{ kWh/mn}^3$; $d = 1,555$; $W_i = 20,762 \text{ kWh/mn}^3$
150	8 - - -
175	9 - - -
200	10 - - -
225	11 - - -
250	12 8 - -
275	14 9 - -
300	16 10 - -
350	21 12 9 -
405	27 15 11 9

WM-GL10/2-A, vers. ZM (T / R)

Burner rating kW	Low pressure supply (with FRS) (flow pressure in mbar into shut off valve, $p_{e,max} = 300$ mbar)	High pressure supply (with HP controller) (flow pressure in mbar into double gas valve)
	Nominal diameter of valve train 3/4" 1" 1 1/2" 2" 65	Nominal diameter of v/train 3/4" 1" 1 1/2" 2" 65
	Nominal diameter gas butterfly 40 40 40 40	Nominal diameter gas butterfly 40 40 40 40

Natural Gas E (N)	$H_i = 10,35 \text{ kWh/mn}^3$; $d = 0,606$; $W_i = 13,295 \text{ kWh/mn}^3$
300	29 14 8 - -
350	39 19 11 - -
400	51 24 13 9 8
450	63 29 16 11 10
500	77 35 18 12 11
550	92 41 21 14 12
600	109 48 24 15 13
630	119 53 26 16 14

Natural Gas LL (N)	$H_i = 8,83 \text{ kWh/mn}^3$; $d = 0,641$; $W_i = 11,029 \text{ kWh/mn}^3$
300	42 20 11 - -
350	56 26 14 10 9
400	72 33 17 12 10
450	90 41 21 14 12
500	110 49 24 16 14
550	132 58 28 18 15
600	155 68 32 20 17
630	171 74 35 21 18

LPG B/P (F)	$H_i = 25,89 \text{ kWh/mn}^3$; $d = 1,555$; $W_i = 20,762 \text{ kWh/mn}^3$
300	15 9 - - -
350	20 11 - - -
400	25 14 10 8 -
450	31 17 11 9 9
500	37 20 13 10 10
550	44 23 14 12 11
600	51 26 16 13 12
630	55 28 17 13 12

Nat. Gas capacity with comb. head

Closed —
Open —

LPG capacity with comb. head

Closed —
Open —

Fuel oil EL capacity with combustion head

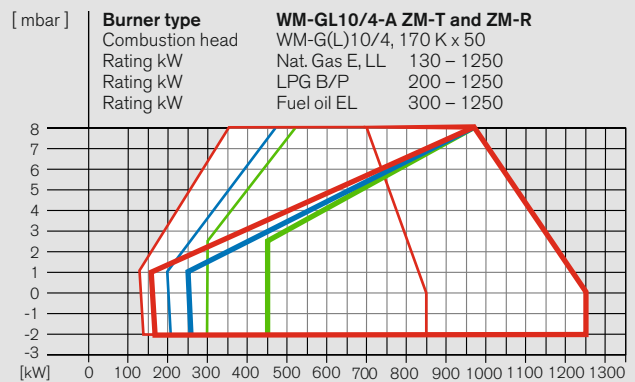
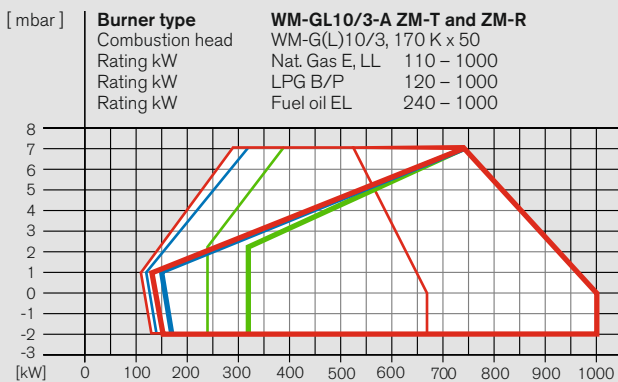
Closed —
Open —

Screwed

R3/4 W-MF507
R1 W-MF512
R1 1/2 W-MF512
R2 DMV525/12

Flanged

DN65 DMV5065/12
DN80 DMV5080/12
DN100 DMV5100/12



WM-GL10/3-A, vers. ZM (T / R)

Burner rating kW	Low pressure supply (with FRS) (flow pressure in mbar into shut off valve, $p_{e,max} = 300$ mbar)	High pressure supply (with HP controller) (flow pressure in mbar into double gas valve)
	Nominal diameter of valve train 3/4" 1" 1 1/2" 2" 65 80 100 Nominal diameter gas butterfly 50 50 50 50 50 50	Nominal diameter of v/train 3/4" 1" 1 1/2" 2" 65 80 100 Nominal diameter gas butterfly 50 50 50 50 50 50

Natural Gas E (N)	$H_i = 10.35$ kWh/mn ³ ; $d = 0.606$; $W_i = 13.295$ kWh/mn ³
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 (N)	$H_i = 8.83$ kWh/mn ³ ; $d = 0.641$; $W_i = 11.029$ kWh/mn ³
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 B/P (F)	$H_i = 25.89$ kWh/mn ³ ; $d = 1.555$; $W_i = 20.762$ kWh/mn ³
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 capacity graphs are type tested to EN 676. The ratings given are based on installation altitude of 0 m. Depending on the altitude of the installation, a reduction of capacity of 1% for every 100 m above sea level should be taken into account. The combustion chamber pressure in mbar must be added to the minimum gas pressure required. The minimum gas pressure should not be less than 15 mbar.

WM-GL10/4-A, vers. ZM (T / R)

Burner rating kW	Low pressure supply (with FRS) (flow pressure in mbar into shut off valve, $p_{e,max} = 300$ mbar)	High pressure supply (with HP controller) (flow pressure in mbar into double gas valve)
	Nominal diameter of valve train 1" 1 1/2" 2" 65 80 100 Nominal diameter gas butterfly 50 50 50 50 50	Nominal diameter of v/train 1" 1 1/2" 2" 65 80 100 Nominal diameter gas butterfly 50 50 50 50 50

Natural Gas E (N)	$H_i = 10.35$ kWh/mn ³ ; $d = 0.606$; $W_i = 13.295$ kWh/mn ³
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 (N)	$H_i = 8.83$ kWh/mn ³ ; $d = 0.641$; $W_i = 11.029$ kWh/mn ³
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 17 16

LPG B/P (F)	$H_i = 25.89$ kWh/mn ³ ; $d = 1.555$; $W_i = 20.762$ kWh/mn ³
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

For low pressure supplies, pressure regulating devices with safety membrane in accordance with EN 88 are used. The maximum permissible supply pressure into the shut off valve for low pressure installations is 300 mbar.

For high pressure supplies, high pressure regulators to EN 334 can be selected from the brochure "Pressure regulators with safety devices for Weishaupt gas and dual fuel burners". This details high gas pressure sets for supply pressures of up to 4 bar.

See burner name plate for 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, hinge flange, housing cover, Weishaupt burner motor, air intake housing, fan wheel, combustion head, ignition unit, ignition cable, ignition electrode, combustion manager with operating unit, flame sensor, stepping motors, flange gasket, limit switch on hinge flange, fixing screws	●	●	●	●	●
Digital combustion manager W-FM 50	●	●	●	-	-
W-FM 54	-	-	-	●	●
W-FM 100	○	○	○ [●ZM]	○	○
Valve proving via W-FM and pressure switch with electronic compound	-	-	●	●	●
Class A double gas valve	-	-	●	●	●
Gas butterfly valve	-	-	●	●	●
Air pressure switch	-	-	●	●	●
Low gas pressure switch	-	-	●	●	●
Capacity based mixing head, preset	●	●	●	●	●
Stepping motor for fuel air/ compound regulation with W-FM:					
Stepping motor for air regulator	●	●	●	●	●
Stepping motor for gas butterfly valve	-	-	●	●	●
Stepping motor for oil regulator	-	●	-	-	●
Oil pressure switch in return	-	●	-	-	●
Oil pump fitted to burner	●	●	-	●	●
Oil hoses	●	●	-	●	●
4 oil solenoid valves, oil regulator, nozzle head with premounted spill type nozzle	-	●	-	-	●
3 oil solenoid valve, three stage nozzle head with premounted oil nozzle	●	-	-	●	-
1 additional oil safety solenoid valve	○	-	-	●	-
Magnetic coupling	○	○	-	○	●
Contact for direct start fitted to motor ¹⁾	●	●	●	●	●
Type of protection IP 54	●	●	●	●	●

According to EN 676 gas filters and gas pressure regulators form part of the burner equipment (see Weishaupt accessories list). Additional burner equipment such as TRD 604, 24 hrs. / 72 hrs. etc. can be found under Special equipment or obtained on request.

- 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 three stage	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: 5G1010/10

Gas burner version ZM-LN

Burner type	Vers.	Nominal diameter	Order No.
WM-G10/1	ZM-LN	R3/4	217 112 10
		R1	217 112 11
		R1 1/2	217 112 12
		R2	217 112 13
WM-G10/2	ZM-LN	R3/4	217 115 10
		R1	217 115 11
		R1 1/2	217 115 12
		R2	217 115 13
		DN65	217 115 14
WM-G10/3	ZM-LN	R3/4	217 118 10
		R1	217 118 11
		R1 1/2	217 118 12
		R2	217 118 13
		DN65	217 118 14
		DN80	217 118 15
		DN100	217 118 16

CE-PIN: CE 0085BQ0027

Oil burners version R

Burner type modulating	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: 5G1010/10

Gas burner version ZM

Burner type	Vers.	Nominal diameter	Order No.
WM-G10/1	ZM	R3/4	217 111 10
		R1	217 111 11
		R1 1/2	217 111 12
		R2	217 111 13
WM-G10/2	ZM	R3/4	217 114 10
		R1	217 114 11
		R1 1/2	217 114 12
		R2	217 114 13
		DN 65	217 114 14
WM-G10/3	ZM	R3/4	217 117 10
		R1	217 117 11
		R1 1/2	217 117 12
		R2	217 117 13
		DN65	217 117 14
		DN80	217 117 15
		DN100	217 117 16
WM-G10/4	ZM	R1	217 120 11
		R1 1/2	217 120 12
		R2	217 120 13
		DN65	217 120 14
		DN80	217 120 15
		DN100	217 120 16

CE-PIN: CE 0085BQ0027

Order Numbers

Dual fuel burners version ZM-T

Burner type	Vers.	Nominal diameter	Order No.
WM-GL10/1	ZM-T	R3/4	218 111 10
		R1	218 111 11
		R1 1/2	218 111 12
		R2	218 111 13
WM-GL10/2	ZM-T	R3/4	218 112 10
		R1	218 112 11
		R1 1/2	218 112 12
		R2	218 112 13
WM-GL10/3	ZM-T	R3/4	218 113 10
		R1	218 113 11
		R1 1/2	218 113 12
		R2	218 113 13
		DN65	218 113 14
		DN80	218 113 15
WM-GL10/4	ZM-T	R1	218 114 11
		R1 1/2	218 114 12
		R2	218 114 13
		DN65	218 114 14
		DN80	218 114 15
		DN100	218 114 16

CE-PIN: CE 0085BR0136
DIN CERTCO: 5G1025/06M

Dual fuel burners version ZM-R

Burner type	Vers.	Nominal diameter	Order No.
WM-GL10/2	ZM-R	R3/4	218 115 10
		R1	218 115 11
		R1 1/2	218 115 12
		R2	218 115 13
		DN65	218 115 14
WM-GL10/3	ZM-R	R3/4	218 116 10
		R1	218 116 11
		R1 1/2	218 116 12
		R2	218 116 13
		DN65	218 116 14
WM-GL10/4	ZM-R	DN80	218 116 15
		DN100	218 116 16
		R1	218 117 11
		R1 1/2	218 117 12
WM-GL10/4	ZM-R	R2	218 117 13
		DN65	218 117 14
		DN80	218 117 15
WM-GL10/4	ZM-R	DN100	218 117 16

CE-PIN: CE 0085BR0136
DIN CERTCO: 5G1025/06M

Special equipment Oil burner WM-L 10 version T

Version T (3 stage)	WM-L10/1-A/T	WM - L10/2-A / T	WM - L10/3-A / T	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 by 200 mm	210 030 16 210 030 17	210 030 00 210 030 01	210 030 02 210 030 03
Oil hoses 1300 mm in lieu of 1000 mm	210 003 00	210 003 00	210 003 00	210 003 00
2 stage operation with low impact start or change-over release	210 030 31	210 030 31	210 030 31	210 030 31
Ducted air intake with LGW 10 pressure switch (LGW 50 required additionally)	210 030 20	210 030 20	210 030 20	210 030 20
LGW 50 pressure switch	210 030 08	210 030 08	210 030 08	210 030 08
Oil meter VZ08 with add. safety shut off device	210 030 07	210 030 07	210 030 07	210 030 07
Oil meter VZ08 with remote transmitter HF for internal wiring	210 031 19	210 031 19	210 031 19	210 031 19
Oil meter VZ08 with remote transmitter NF for external wiring	210 030 09	210 030 09	210 030 09	210 030 09
Oil meter VZ08 with remote transmitter HF for external wiring	210 031 10	210 031 10	210 031 10	210 031 10
Plug connection ST 18/7 and ST 18/4 (W-FM 50/100/200)	210 030 13	210 030 13	210 030 13	210 030 13
Plug connection ST 18/7 (W-FM 50 with KS40)	250 031 06	250 031 06	250 031 06	250 031 06
KS40 controller fitted to burner (W-FM50)	210 030 48	210 030 48	210 030 48	210 030 48
W-FM 100 (suitable for continuous operation) in lieu of W-FM 50	fitted loose	210 030 32 210 030 87	210 030 32 210 030 87	210 030 32 210 030 87
Analogue module with load controller 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 module for load control, analogue signal converter and speed control module with optional fuel metering	210 030 10	210 030 10	210 030 10	210 030 10
Solenoid valve as additional safety shut off device (required for vers. TRD)	210 030 06	210 030 06	210 030 06	210 030 06
DSA58 Pressure switch vers. TRD 72 h	210 030 23	210 030 23	210 030 23	210 030 23
Flame sensor QRI in lieu of QRB (required for vers. TRD)	210 030 24	210 030 24	210 030 24	210 030 24
Motor D90 with contactor 230 V and overload protection ¹⁾	250 030 86	250 030 86	250 030 86	250 030 86
ABE with Chinese calligraphy (W-FM 100/200)	110 018 53	110 018 53	110 018 53	110 018 53
Control voltage 110 V	250 031 72	250 031 72	250 031 72	250 031 72

Country specific versions and special voltages on request

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

Special equipment

Oil burner WM-L 10 version R

Version R (sliding tow stage or modulating)	WM-L10/2-A / R	WM-L10/3-A / R	WM-L10/4-A / R
Pressure gauge with ball valve on pump	210 000 92	210 000 92	210 000 92
Pressure gauge with ball valve in return	210 002 64	210 002 64	210 002 64
Combustion head extension	by 100 mm by 200 mm	210 030 25 210 030 26	210 030 27 210 030 28
Oil hoses 1300 mm in lieu of 1000 mm	210 003 00	210 003 00	210 003 00
Ducted air intake with LGW 10 pressure switch (LGW 50 required additionally)	210 030 20	210 030 20	210 030 20
LGW 50 pressure switch	210 030 08	210 030 08	210 030 08
Plug connection ST 18/7 and ST 18/4 (W-FM 50/100/200)	210 030 13	210 030 13	210 030 13
Plug connection ST 18/7 (W-FM 50 with KS40)	250 031 06	250 031 06	250 031 06
KS40 controller fitted to burner (W-FM50)	210 030 68	210 030 68	210 030 68
W-FM 100 (suitable for continuous operation) in lieu of W-FM 50	fitted loose	210 030 38 210 030 87	210 030 38 210 030 87
Analogue module with load controller for W-FM 100	110 017 18	110 017 18	110 017 18
W-FM 200 in lieu of W-FM 50 with module for load control, analogue signal converter and speed control module with optional fuel metering	210 030 39	210 030 39	210 030 39
DSA58 pressure switch ver. TRD 72 h	210 030 23	210 030 23	210 030 23
Flame sensor QRI in lieu of QRB (required for vers. TRD)	210 030 24	210 030 24	210 030 24
Speed control with frequency converter fitted to burner (W-FM 50/200 required)	210 030 11	210 030 11	210 030 11
Speed control for frequency converter loose (FC from accessories) (W-FM 200 required)	210 030 12	210 030 12	210 030 12
Motor D90 with contactor 230 V and overload protection ¹⁾	250 030 86	250 030 86	250 030 86
ABE with Chinese calligraphy	110 018 53	110 018 53	110 018 53
Control voltage 110 V	250 031 72	250 031 72	250 031 72

Country specific versions and special voltages on request

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

Special equipment Gas burners WM-G 10 version ZM

Version ZM		WM-G10/1-A / ZM	WM-G10/2-A / ZM	WM-G10/3-A / ZM	WM-G10/4-A / ZM
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 for continuous run fan or post-purge		250 030 21	250 030 21	250 030 21	250 030 21
High gas pressure switch (screwed W-MF) R 3/4" to R 1 1/2"	GW 50 A6/1	250 031 40	250 031 40	250 031 40	250 031 40
	GW 150 A6/1	250 031 41	250 031 41	250 031 41	250 031 41
	GW 500 A6/1	250 031 42	250 031 42	250 031 42	250 031 42
High gas pressure switch (for screwed DMV) R 2"	GW 50 A6/1	150 017 52	150 017 52	150 017 52	150 017 52
	GW 150 A6/1	150 017 53	150 017 53	150 017 53	150 017 53
	GW 500 A6/1	150 017 54	150 017 54	150 017 54	150 017 54
High gas pressure switch (for flanged DMV)	GW 50 A6/1	150 017 49	150 017 49	150 017 49	150 017 49
	GW 150 A6/1	150 017 50	150 017 50	150 017 50	150 017 50
	GW 500 A6/1	150 017 51	150 017 51	150 017 51	150 017 51
Plug connection ST 18/7 and ST 18/4 (W-FM 50/100/200)		250 030 22	250 030 22	250 030 22	250 030 22
Plug connection ST 18/7 (W-FM 50 with KS40)		250 031 06	250 031 06	250 031 06	250 031 06
Ducted air intake with LGW pressure switch		250 030 24	250 030 24	250 030 24	250 030 24
KS40 controller fitted to burner (W-FM 50)		250 030 99	250 030 99	250 030 99	250 030 99
W-FM 100 (suitable for continuous operation) in lieu of W-FM 50	fitted	250 030 74	250 030 74	250 030 74	250 030 74
	loose	250 030 45	250 030 45	250 030 45	250 030 45
Analogue module with load controller 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 module for load control, analogue signal converter and speed control module with option fuel metering	fitted	250 030 75	250 030 75	250 030 75	250 030 75
	loose	250 030 48	250 030 48	250 030 48	250 030 48
Speed control with frequency converter fitted to burner (W-FM 50/200 required)		210 030 11	210 030 11	210 030 11	210 030 11
Speed control for frequency converter loose (FC from accessories) (W-FM 200 required)		210 030 12	210 030 12	210 030 12	210 030 12
Motor D90 with contactor 230 V and overload protection ¹⁾		250 030 86	250 030 86	250 030 86	250 030 86
ABE (loose) with Chinese calligraphy (W-FM 100/200)		110 018 53	110 018 53	110 018 53	110 018 53
Control voltage 110 V		250 031 72	250 031 72	250 031 72	250 031 72

Country specific versions and special voltages on request

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

Special equipment

Gas burners WM-G 10 version ZM-LN

Version ZM-LN		WM-G10/1-A / ZM-LN	WM-G10/2-A / ZM-LN	WM-G10/3-A / ZM-LN
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 for continuous run fan or post-purge		250 030 21	250 030 21	250 030 21
High gas pressure switch (screwed W-MF) R 3/4" to R 1 1/2"	GW 50 A6/1	250 031 40	250 031 40	250 031 40
	GW 150 A6/1	250 031 41	250 031 41	250 031 41
	GW 500 A6/1	250 031 42	250 031 42	250 031 42
High gas pressure switch (for screwed DMV) R 2"	GW 50 A6/1	150 017 52	150 017 52	150 017 52
	GW 150 A6/1	150 017 53	150 017 53	150 017 53
	GW 500 A6/1	150 017 54	150 017 54	150 017 54
High gas pressure switch (for flanged DMV)	GW 50 A6/1	150 017 49	150 017 49	150 017 49
	GW 150 A6/1	150 017 50	150 017 50	150 017 50
	GW 500 A6/1	150 017 51	150 017 51	150 017 51
Plug connection ST 18/7 and ST 18/4 (W-FM 50/100/200)		250 030 22	250 030 22	250 030 22
Plug connection ST 18/7 (W-FM 50 with KS40)		250 031 06	250 031 06	250 031 06
Ducted air intake with LGW pressure switch		250 030 24	250 030 24	250 030 24
KS40 controller fitted to burner (W-FM 50)		250 030 99	250 030 99	250 030 99
W-FM 100 (suitable for continuous operation) in lieu of W-FM 50	fitted	250 030 74	250 030 74	250 030 74
	loose	250 030 45	250 030 45	250 030 45
Analogue module with load controller for W-FM 100		110 017 18	110 017 18	110 017 18
W-FM 200 in lieu of W-FM 50 with module for load control, analogue signal converter and speed control module with optional fuel metering	fitted	250 030 75	250 030 75	250 030 75
	loose	250 030 48	250 030 48	250 030 48
Speed control with frequency converter fitted to burner (W-FM 50/200 required)		210 030 11	210 030 11	210 030 11
Speed control for frequency converter loose (FC from accessories) (W-FM 200 required)		210 030 12	210 030 12	210 030 12
Motor D90 with contactor 230 V and overload protection ¹⁾		250 030 86	250 030 86	250 030 86
ABE (loose) with Chinese calligraphy (W-FM 100/200)		110 018 53	110 018 53	110 018 53
Control voltage 110 V		250 031 72	250 031 72	250 031 72

Country specific versions and special voltages on request

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

Special equipment

Dual fuel burners 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 for continuous run fan or post-purge		250 030 21	250 030 21	250 030 21	250 030 21
High gas pressure switch (screwed W-MF) R 3/4" to R 1 1/2"	GW 50 A6/1	250 031 40	250 031 40	250 031 40	250 031 40
	GW 150 A6/1	250 031 41	250 031 41	250 031 41	250 031 41
	GW 500 A6/1	250 031 42	250 031 42	250 031 42	250 031 42
High gas pressure switch (screwed DMV) R 2"	GW 50 A6/1	150 017 52	150 017 52	150 017 52	150 017 52
	GW 150 A6/1	150 017 53	150 017 53	150 017 53	150 017 53
	GW 500 A6/1	150 017 54	150 017 54	150 017 54	150 017 54
High gas pressure switch (flanged DMV)	GW 50 A6/1	150 017 49	150 017 49	150 017 49	150 017 49
	GW 150 A6/1	150 017 50	150 017 50	150 017 50	150 017 50
	GW 500 A6/1	150 017 51	150 017 51	150 017 51	150 017 51
Plug connection ST 18/7 and ST 18/4 (W-FM 54)		250 031 99	250 031 99	250 031 99	250 031 99
Plug connection ST 18/7 and ST 18/4 (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
Oil meter VZ08 with add. safety shut off device		250 030 46	250 030 46	250 030 46	250 030 46
Oil meter VZ08 with remote transmitter HF for internal wiring		250 032 50	250 032 50	250 032 50	250 032 50
Oil meter VZ08 with remote transmitter NF for external wiring		250 030 47	250 030 47	250 030 47	250 030 47
Oil meter VZ08 with remote transmitter HF for external wiring		on request	on request	on request	on request
2 stage in lieu of 3 stage (low impact start/change-over release)		210 030 31	210 030 31	210 030 31	210 030 31
Electromagnetic coupling		250 030 44	250 030 44	250 030 44	250 030 44
Ducted air intake with LGW pressure switch		210 030 20	210 030 20	210 030 20	210 030 20
Min. pressure switch DSA58 (TRD 72h) in conjunction with W-FM 100/200		250 030 82	250 030 82	250 030 82	250 030 82
W-FM 100 in lieu of W-FM 54 suitable (for continuous operation) with module for load control and analogue signal converter	fitted	250 031 78	250 031 78	250 031 78	250 031 78
	loose	250 031 93	250 031 93	250 031 93	250 031 93
W-FM 200 in lieu of W-FM 54 with module for load control, analogue signal converter and speed control module with optional fuel metering	fitted	250 031 77	250 031 77	250 031 77	250 031 77
	loose	250 031 62	250 031 62	250 031 62	250 031 62
Speed control with frequency converter fitted to burner (W-FM 54/200 required) ¹⁾		210 030 11	210 030 11	210 030 11	210 030 11
Speed control for frequency converter loose (FC from accessories) (W-FM 200 required) ¹⁾		210 030 12	210 030 12	210 030 12	210 030 12
Motor D90 with contactor 230 V and overload protection ²⁾		250 030 86	250 030 86	250 030 86	250 030 86
ABE (loose) with Chinese calligraphy (W-FM 100/200)		110 018 53	110 018 53	110 018 53	110 018 53
Control voltage 110 V (W-FM 100/200) (W-FM 54)		250 031 72	250 031 72	250 031 72	250 031 72
		on request	on request	on request	on request

Country specific versions and special voltages on request

¹⁾ FC operation ver. ZM-T: It is recommended to operate the multi stage oil side at 100% speed

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).

Special version

Dual fuel burners 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 for continuous run fan or post-purge		250 030 21	250 030 21	250 030 21
High gas pressure switch (screwed W-MF) R 3/4" to R 1 1/2"	GW 50 A6/1	250 031 40	250 031 40	250 031 40
	GW 150 A6/1	250 031 41	250 031 41	250 031 41
	GW 500 A6/1	250 031 42	250 031 42	250 031 42
High gas pressure switch (screwed DMV) R 2"	GW 50 A6/1	150 017 52	150 017 52	150 017 52
	GW 150 A6/1	150 017 53	150 017 53	150 017 53
	GW 500 A6/1	150 017 54	150 017 54	150 017 54
High gas pressure switch (flanged DMV)	GW 50 A6/1	150 017 49	150 017 49	150 017 49
	GW 150 A6/1	150 017 50	150 017 50	150 017 50
	GW 500 A6/1	150 017 51	150 017 51	150 017 51
Plug connection ST 18/7 and ST 18/4 (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
Ducted air intake with LGW pressure switch		210 030 20	210 030 20	210 030 20
Min. pressure switch DSA58 (TRD 72h) in conjunction with W-FM 100/200		210 030 23	210 030 23	210 030 23
Analogue module with load controller for W-FM 100		110 017 18	110 017 18	110 017 18
W-FM 100 in lieu of W-FM 54 (suitable for continuous operation)	fitted	250 031 76	250 031 76	250 031 76
	loose	250 031 93	250 031 93	250 031 93
W-FM 200 in lieu of W-FM 54 with module for load control, analogue signal converter and speed control module with optional fuel metering	fitted	250 031 77	250 031 77	250 031 77
	loose	250 031 63	250 031 63	250 031 63
Speed control with frequency converter fitted to burner (W-FM 54/200 required) ¹⁾		210 030 11	210 030 11	210 030 11
Speed control for frequency converter loose (FC from accessories) (W-FM 200 required) ¹⁾		210 030 12	210 030 12	210 030 12
Motor D90 with contactor 230 V and overload protection ²⁾		250 030 86	250 030 86	250 030 86
ABE (loose) with Chinese calligraphy (W-FM 100/200)		110 018 53	110 018 53	110 018 53
Control voltage 110 V (W-FM 100/200) (W-FM 54)		250 031 72	250 031 72	250 031 72
		on request	on request	on request

Country specific versions and special voltages on request

¹⁾FC operation vers. ZM-R: General conditions for regulating oil operation
 – Frequency: min. 35 Hz
 – Turndown: max. 3:1 (limits for 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).

Technical data

Oil burners

Oil burners versions	T / R	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 ¹⁾	Type Weishaupt	WM-D 90/90-2/1K0	WM-D 90/90-2/1K0	WM-D 90/90-2/1K5	WM-D 90/90-2/1K5
Nominal load	kW	1.0	1.0	1.5	1.5
Nominal current	A	2.2	2.2	3.5	3.5
Motor protection switch ²⁾ or motor pre-fusing ²⁾ (with overload protection)	Type (e. g.) A minimum	MS132 - 2.5 10 AT (external)	MS132 - 2.5 10 AT (external)	MS132 - 4.0 10 AT (external)	MS132 - 4.0 10 AT (external)
Speed (50 Hz)	rpm	2850	2850	2800	2800
Combustion manager	Type	W-FM 50	W-FM 50	W-FM 50	W-FM 50
Flame monitoring	Type	QRB	QRB	QRB	QRB
Stepping motor Air / Oil	Type	STE 50	STE 50	STE 50	STE 50
Pump fitted max. flow rate	Type l/h	AL 75C 130	AL 75C 130	AL 95C 130	AL 95C 150
	Type l/h	– –	AJ6 290	AJ6 290	AJ6 290
NO _x Class to EN 267		2	2	2	2
Oil hoses	DN / Length	8 / 1000	8 / 1000	8 / 1000	8 / 1000
Weight	kg	approx. 50	approx. 50	approx. 50	approx. 50

¹⁾ The electric motors comply with the efficiency level IE2 to regulation (EU) No. 640/2009.

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).

Voltages and frequencies:

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

Standard burner motor:

Insulation Class F, Type of protection IP 54.

Technical data

Gas burners

Gas burners version	ZM / ZM-LN		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 ¹⁾	Type Weishaupt		WM-D 90/90-2/1K0	WM-D 90/90-2/1K0	WM-D 90/90-2/1K5	WM-D 90/90-2/1K5
Nominal load	kW		1.0	1.0	1.5	1.5
Nominal current	A		2.2	2.2	3.5	3.5
Motor protection switch ²⁾ or motor pre-fusing ²⁾ (with overload protection)	Type (e. g.)		MS132 - 2.5	MS132 - 2.5	MS132 - 4.0	MS132 - 4.0
	A minimum		10 AT (external)	10 AT (external)	10 AT (external)	10 AT (external)
Speed (50 Hz)	rpm		2850	2850	2800	2800
Combustion manager	Type		W-FM 50	W-FM 50	W-FM 50	W-FM 50
Flame monitoring	Type		ION	ION	ION	ION
Stepping motor Air/Gas	Type		STE 50	STE 50	STE 50	STE 50
NO _x Class to EN 676	ZM / ZM-LN		2 / 3	2 / 3	2 / 3	2 / -
Weight	kg		approx. 54	approx. 54	approx. 56	approx. 56

¹⁾ The electric motors comply with the efficiency level IE2 to regulation (EU) No. 640/2009.

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).

Voltages and frequencies:

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

Standard burner motor:

Insulation Class F, Type of protection IP 54.

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 ¹⁾	Type Weishaupt	WM-D 90/90-2/1K0	WM-D 90/90-2/1K0	WM-D 90/90-2/1K5	WM-D 90/90-2/1K5
Nominal load	kW	1.0	1.0	1.5	1.5
Nominal current	A	2.2	2.2	3.5	3.5
Motor protection switch ²⁾ or motor pre-fusing ²⁾ (with overload protection)	Type (e. g.)	MS132 - 2.5	MS132 - 2.5	MS132 - 4.0	MS132 - 4.0
	A minimum	10 AT (external)	10 AT (external)	10 AT (external)	10 AT (external)
Speed (50 Hz)	rpm	2850	2850	2800	2800
Combustion manager	Type	W-FM 54	W-FM 54	W-FM 54	W-FM 54
Flame monitoring	Type	QRA2	QRA2	QRA2	QRA2
Stepping motor Air/Gas	Type	STE50	STE50	STE50	STE50
NO _x Class to EN 267 / EN 676		2/2	2/2	2/2	2/2
Weight	kg	approx. 58	approx. 58	approx. 58	approx. 58
Pump fitted maximum 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 ¹⁾	Type Weishaupt	WM-D 90/90-2/1K0	WM-D 90/90-2/1K5	WM-D 90/90-2/1K5
Nominal load	kW	1.0	1.5	1.5
Nominal current	A	2.2	3.5	3.5
Motor protection switch ²⁾ or motor pre-fusing ²⁾ (with overload protection)	Type (e. g.)	MS132 - 2.5	MS132 - 4.0	MS132 - 4.0
	A minimum	10 AT (external)	10 AT (external)	10 AT (external)
Speed (50 Hz)	rpm	2850	2800	2800
Combustion manager	Type	W-FM 54	W-FM 54	W-FM 54
Flame monitoring	Type	QRA2	QRA2	QRA2
Stepping motor Air/Gas/Oil	Type	STE50	STE50	STE50
NO _x Class to EN 267 / EN 676		2/2	2/2	2/2
Weight	kg	approx. 58	approx. 58	approx. 58
Pump fitted maximum flow rate	Type l/h	AJ6 290	AJ6 290	AJ6 290
Oil hoses	DN/Length	8/1000	8/1000	8/1000

¹⁾ The electric motors comply with the efficiency level IE2 to regulation (EU) No. 640/2009.

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).

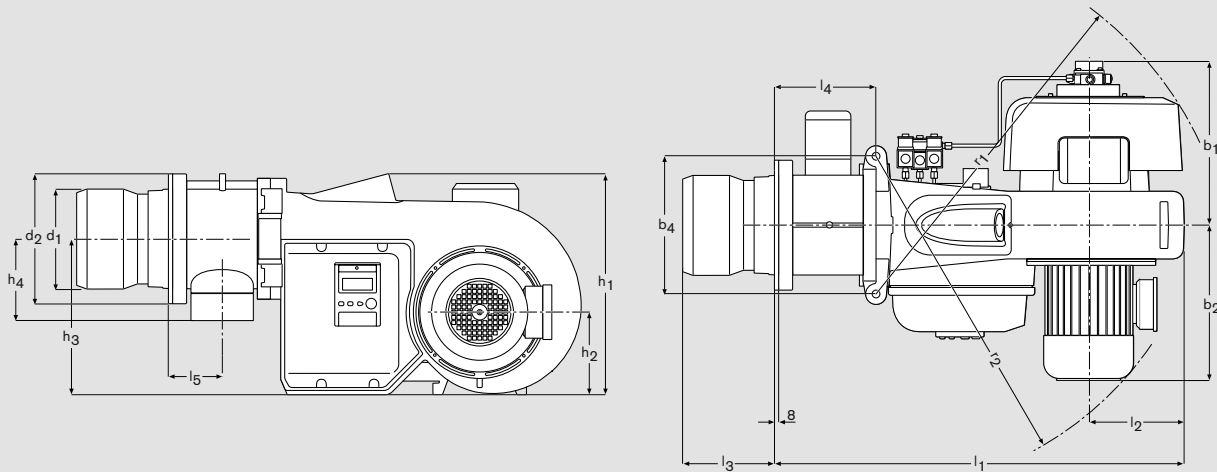
Voltages and frequencies:

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

Standard burner motor:

Insulation Class F, Type of protection IP 54.

Dimensions

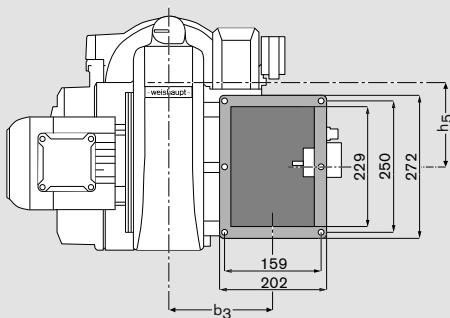


Burner type	Dimension in mm														
	l ₁	l ₂	l ₃	l ₄	l ₅	b ₁ ¹⁾	b ₂	b ₃	b ₄	h ₁	h ₂	h ₃	h ₄	h ₅	
WM-L10/1-A / T	659	205	118 - 138	38	-	323	307	197	270	445	167	313	-	153	
WM-L10/2-A / T	659	205	127 - 147	38	-	323	307	197	270	445	167	313	-	153	
WM-L10/3-A / T	659	205	147 - 167	38	-	323	307	197	270	445	167	313	-	153	
WM-L10/4-A / T	659	205	148 - 168	38	-	323	307	197	270	445	167	313	-	153	
WM-L10/2-A / R	659	205	131 - 146	38	-	352	307	197	270	445	167	313	-	153	
WM-L10/3-A / R	659	205	156 - 171	38	-	352	307	197	270	445	167	313	-	153	
WM-L10/4-A / R	659	205	151 - 166	38	-	352	307	197	270	445	167	313	-	153	
WM-G10/1 ZM	813	205	171 - 178	188	98	279	307	197	270	445	167	313	140	153	
WM-G10/2 ZM	813	205	158 - 178	188	98	279	307	197	270	445	167	313	140	153	
WM-G10/3 ZM	833	205	199 - 224	208	108	279	307	197	270	445	167	313	162	153	
WM-G10/4 ZM	833	205	199 - 224	208	108	279	307	197	270	445	167	313	162	153	
WM-G10/1 ZM-LN	793	205	129 - 144	169	88	279	307	197	270	445	167	313	130	153	
WM-G10/2 ZM-LN	813	205	132 - 143	188	98	279	307	197	270	445	167	313	140	153	
WM-G10/3 ZM-LN	833	205	177 - 197	208	108	279	307	197	270	445	167	313	162	153	
WM-GL10/1 ZM-T	813	205	171 - 178	188	98	323	307	197	270	445	167	313	140	153	
WM-GL10/2 ZM-T	813	205	158 - 178	188	98	323	307	197	270	445	167	313	140	153	
WM-GL10/3 ZM-T	833	205	199 - 224	208	108	323	307	197	270	445	167	313	162	153	
WM-GL10/4 ZM-T	833	205	199 - 224	208	108	347	307	197	270	445	167	313	162	153	
WM-GL10/2 ZM-R	813	205	158 - 178	188	98	482 ²⁾	307	197	270	445	167	313	140	153	
WM-GL10/3 ZM-R	833	205	199 - 224	208	108	482 ²⁾	307	197	270	445	167	313	162	153	
WM-GL10/4 ZM-R	833	205	199 - 224	208	108	482 ²⁾	307	197	270	445	167	313	162	153	

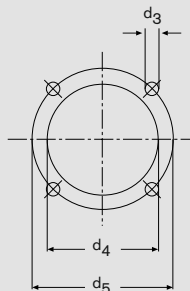
¹⁾ without electromagnetic coupling (pump with magnetic coupling plus 130 mm)

²⁾ including magnetic coupling

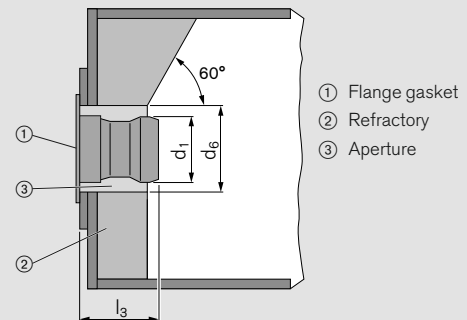
Ducted air intake rear



Burner plate drilling dimensions



Preparing the heat exchanger



The refractory ② must not protrude beyond the front edge of the combustion head, it can however, take a conical shape (in. 60°).

Burner type	Dimension in mm									Nominal diameter gas butterfly
	r ₁	r ₂	d ₁	d ₂	d ₃	d ₄	d ₅	d ₆		
WM-L10/1-A / T	718	682	140	242	M10	165	186	170	–	
WM-L10/2-A / T	718	682	140	242	M10	165	186	170	–	
WM-L10/3-A / T	718	682	160	242	M10	185	210	190	–	
WM-L10/4-A / T	718	682	180	242	M10	185	210	220	–	
WM-L10/2-A / R	718	682	160	155	M10	165	186	170	–	
WM-L10/3-A / R	718	682	180	155	M10	185	210	190	–	
WM-L10/4-A / R	718	682	180	155	M10	185	210	220	–	
WM-G10/1 ZM	718	682	160	212	M10	165	186	190	DN40	
WM-G10/2 ZM	718	682	160	212	M10	165	186	190	DN40	
WM-G10/3 ZM	718	682	200	260	M10	210	235	240	DN50	
WM-G10/4 ZM	718	682	218	260	M10	220	235	250	DN50	
WM-G10/1 ZM-LN	718	682	127	195	M8	135	160 – 170	160	DN25	
WM-G10/2 ZM-LN	718	682	160	212	M10	165	186	190	DN40	
WM-G10/3 ZM-LN	718	682	200	260	M10	210	235	240	DN50	
WM-GL10/1 ZM-T	718	682	160	212	M10	165	186	190	DN40	
WM-GL10/2 ZM-T	718	682	160	212	M10	165	186	190	DN40	
WM-GL10/3 ZM-T	718	682	200	260	M10	210	235	240	DN50	
WM-GL10/4 ZM-T	718	682	218	260	M10	220	235	250	DN50	
WM-GL10/2 ZM-R	718	682	160	212	M10	165	186	190	DN40	
WM-GL10/3 ZM-R	718	682	200	260	M10	210	235	240	DN50	
WM-GL10/4 ZM-R	718	682	218	260	M10	220	235	250	DN50	

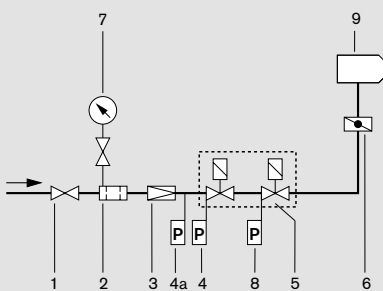
All dimensions are approximate.

Weishaupt reserve the right to make changes in light of future developments.

Fuel system

Gas fuel system

W-FM 50/100/200



- 1 Ball valve *
- 2 Gas filter *
- 3 Pressure regulator (LP) or (HP) *
- 4 Low gas pressure switch
- 4a High gas pressure switch (for TRD) *
- 5 Double solenoid valve (DMV)
- 6 Gas butterfly valve
- 7 Pressure gauge with push button valve *
- 8 Valve proving gas pressure switch
- 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.

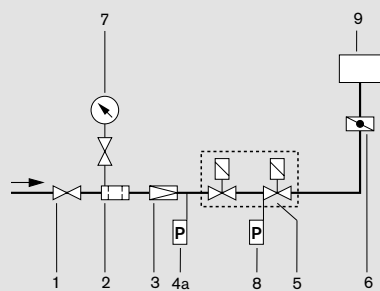
Compensator

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

Break points in the valve train

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

W-FM 54



- 1 Ball valve *
- 2 Gas filter *
- 3 Pressure regulator (LP) or (HP) *
- 4a High gas pressure switch (for TRD) *
- 5 Double solenoid valve (DMV)
- 6 Gas butterfly valve
- 7 Pressure gauge with push button valve *
- 8 Low/valve proving gas pressure switch
- 9 Burner

Supporting the valve train assembly

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

Gas meter

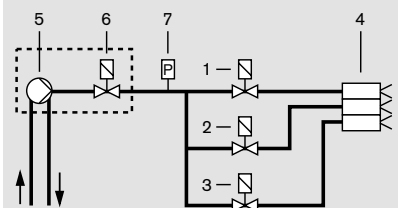
A gas meter must be installed to measure gas consumption during commissioning.

Thermal shut off device (TAE) optional depending on regulations

Integrated into the ball valve on screwed valve trains. Separate component with HTB seals in front of ball valve for flanged valve trains.

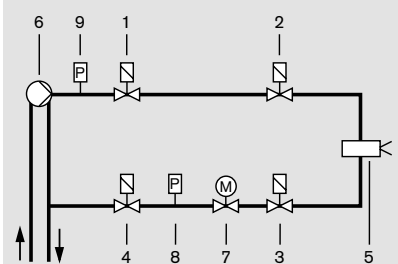
Oil fuel system

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 Oil pump fitted to burner
- 6 Safety solenoid valve separate – GL 10/4 only
- 7 Pressure switch in supply (optional)

Version ZM-R



- 1 Solenoid valve normally closed 1. shut off device in supply
- 2 Solenoid valve normally closed 2. shut off device in supply
- 3 Solenoid valve normally closed 1. shut off device in return
- 4 Solenoid valve normally closed 2. shut off device in return
- 5 Nozzle head with spill type nozzle
- 6 Oil pump fitted to burner
- 7 Oil regulator
- 8 Pressure switch in return
- 9 Pressure switch in supply (optional)

Weishaupt monarch[®] burner WM-G 10 ZMI

More power in compact form

The Weishaupt monarch[®] burner WM-G10 in version ZMI was specially developed for industrial applications. Due to the much larger turndown ratio of up to 18:1 these burners are particularly suitable for process plant.

The rating can be matched any heat demand within the turndown ratio of up to 18:1.

Fuels

Natural Gas E
Natural Gas LL
Liquid Petroleum Gas B/P

The suitability of differing fuel qualities must be confirmed in advance by Weishaupt.

Information regarding the operation

The following prerequisites must be met if ZMI burners are to be used on process equipment:

- The flame should be able to burn unimpeded in a combustion chamber which is not influenced by plant specific flue gas recirculation or secondary air.
- It should be possible to take undiluted flue gas measurements from a flue gas sampling point provided.
- A view port for flame monitoring must be available.
- A gas flow meter is essential for burner adjustment.
- See work sheet 8-1 in the technical folder for additional requirements

Controller or pressure regulator

Weishaupt WM-G 10 gas burners in version ZMI are equipped with an additional controller.

The controller is linked to the fan pressure of the burner via flexible impulse line.

High fan pressure causes high gas pressure at the controller output and low fan pressure causes low gas pressure at the controller output.



Type testing

Weishaupt ZMI burners WM-G 10 have not been EU type tested. The safety equipment meets the requirements of EN 676.

If testing is required on site, this should be initiated by the operator and carried out by a qualified person.

The following EU directives are met:

- Machinery Directive 2006/42/EU
- Electromagnetic Compatibility EMV 2004/108/EU
- Low Voltage Directive 2006/95/EU
- Pressure Vessel Directive 97/23/EU
- The burners carry the CE label

Burner selection / gas valve train sizing WM-G 10

Gas burners version ZMI

WM-G10/1-A ZMI

Combustion head WM-G10/1+2, 135 K x 40
 Rating kW Nat. Gas E, LL 20 – 405
 Rating kW LPG B/P 25 – 405

WM-G10/2-A ZMI

Combustion head WM-G10/1+2, 129 K x 40
 Rating kW Nat. Gas E, LL 30 – 630
 Rating kW LPG B/P 40 – 630

WM-G10/1, vers. 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, $p_{e,max} = 300$ mbar)				High pressure supply (with HD controller) (flow pressure in mbar into double gas valve)			
		Nominal diameter of v/train				Nominal diameter of v/train			
		3/4"	1"	1 1/2"	2"	3/4"	1"	1 1/2"	2"
		Nominal diameter gas butterfly				Nominal diameter gas butterfly			
		40	40	40	40	40	40	40	40

Natural Gas E (N) $H_i = 10.35$ kWh/mn³; $d = 0.606$; $W_i = 13.295$ kWh/mn³

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 (N) $H_i = 8.83$ kWh/mn³; $d = 0.641$; $W_i = 11.029$ kWh/mn³

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 B/P (F) $H_i = 25.89$ kWh/mn³; $d = 1.555$; $W_i = 20.762$ kWh/mn³

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, vers. 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, $p_{e,max} = 300$ mbar)				High pressure supply (with HD controller) (flow pressure in mbar into double gas valve)			
		Nominal diameter of v/train				Nominal diameter of v/train			
		3/4"	1"	1 1/2"	2"	3/4"	1"	1 1/2"	2"
		Nominal diameter gas butterfly				Nominal diameter gas butterfly			
		40	40	40	40	40	40	40	40

Natural Gas E (N) $H_i = 10.35$ kWh/mn³; $d = 0.606$; $W_i = 13.295$ kWh/mn³

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

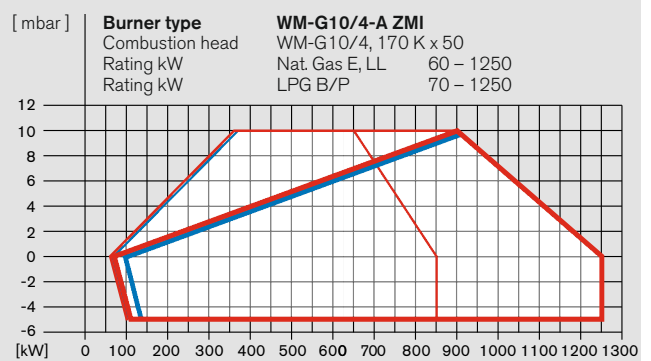
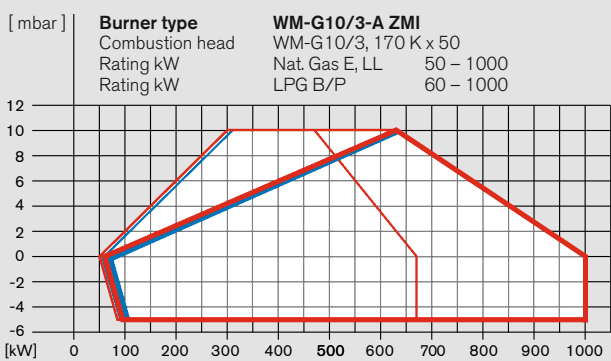
Natural Gas LL (N) $H_i = 8.83$ kWh/mn³; $d = 0.641$; $W_i = 11.029$ kWh/mn³

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 B/P (F) $H_i = 25.89$ kWh/mn³; $d = 1.555$; $W_i = 20.762$ kWh/mn³

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

Nat. Gas capacity with comb. head	LPG capacity with comb. head	Screwed	Flanged
Closed —	Closed —	R3/4 W-MF507	DN65 DMV5065/12
Open —	Open —	R1 W-MF512	DN80 DMV5080/12
		R1 1/2 W-MF512	
		R2 DMV525/12	



WM-G10/3, vers. 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, $p_{e,max} = 300$ mbar)					High pressure supply (with HD controller) (flow pressure in mbar into double gas valve)						
		Nominal diameter of v/train					Nominal diameter of v/train						
		3/4"	1"	1 1/2"	2"	65	80	3/4"	1"	1 1/2"	2"	65	80
		Nominal diameter gas butterfly					Nominal diameter gas butterfly						
		50	50	50	50	50	50	50	50	50	50	50	50

Natural Gas E (N) $H_i = 10.35 \text{ kWh/mn}^3$; $d = 0.606$; $W_i = 13.295 \text{ kWh/mn}^{33}$

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 (N) $H_i = 8.83 \text{ kWh/mn}^3$; $d = 0.641$; $W_i = 11.029 \text{ kWh/mn}^3$

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

LPG B/P (F) $H_i = 25.89 \text{ kWh/mn}^3$; $d = 1.555$; $W_i = 20.762 \text{ kWh/mn}^3$

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

The capacity graphs are type tested to EN 676.
 The ratings given are based on installation altitude of 0 m. Depending on the altitude of the installation, a reduction of capacity of 1% for every 100 m above sea level should be taken into account.
 The combustion chamber pressure in mbar must be added to the minimum gas pressure required. The minimum gas pressure should not be less than 15 mbar.

WM-G10/4, vers. 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, $p_{e,max} = 300$ mbar)					High pressure supply (with HD controller) (flow pressure in mbar into double gas valve)				
		Nominal diameter of v/train					Nominal diameter of v/train				
		1"	1 1/2"	2"	65	80	1"	1 1/2"	2"	65	80
		Nominal diameter gas butterfly					Nominal diameter gas butterfly				
		50	50	50	50	50	50	50	50	50	50

Natural Gas E (N) $H_i = 10.35 \text{ kWh/mn}^3$; $d = 0.606$; $W_i = 13.295 \text{ kWh/mn}^{33}$

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 (N) $H_i = 8.83 \text{ kWh/mn}^3$; $d = 0.641$; $W_i = 11.029 \text{ kWh/mn}^3$

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 B/P (F) $H_i = 25.89 \text{ kWh/mn}^3$; $d = 1.555$; $W_i = 20.762 \text{ kWh/mn}^3$

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

For low pressure supplies, pressure regulating devices with safety membrane in accordance with EN 88 are used.

The maximum permissible supply pressure into the shut off valve for low pressure installations is 300 mbar.

For high pressure supplies, high pressure regulators to EN 334 can be selected from the brochure "Pressure regulators with safety devices for Weishaupt gas and dual fuel burners". This details high gas pressure sets for supply pressures of up to 4 bar.

See burner name plate for maximum connection pressure.

Order Numbers

Burner type	Vers.	Nominal diameter	Order No.
WM-G10/1	ZMI	R3/4	217 113 10
		R1	217 113 11
		R1 1/2	217 113 12
		R2	217 113 13
WM-G10/2	ZMI	R3/4	217 116 10
		R1	217 116 11
		R1 1/2	217 116 12
		R2	217 116 13
		DN 65	217 116 14
WM-G10/3	ZMI	R3/4	217 119 10
		R1	217 119 11
		R1 1/2	217 119 12
		R2	217 119 13
		DN65	217 119 14
		DN80	217 119 15
WM-G10/4	ZMI	R1	217 121 11
		R1 1/2	217 121 12
		R2	217 121 13
		DN65	217 121 14
		DN80	217 121 15

CE-PIN: CE 0085BQ0027

Scope of delivery see page 16

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 test for continuous run fan or pst-purge		250 030 21	250 030 21	250 030 21	250 030 21
High gas pressure fitted to flange elbow	GW 50 A6/1	250 031 40	250 031 40	250 031 40	250 031 40
Ducted air intake with LGW pressure switch		250 030 24	250 030 24	250 030 24	250 030 24
Analogue module with load controller for W-FM 100		110 017 18	110 017 18	110 017 18	110 017 18
W-FM 200 in lieu of W-FM 100 with module for load control, analogue signal converter and speed control module with optional fuel metering		250 030 72	250 030 72	250 030 72	250 030 72
Frequency converter for speed control fitted, incl. inductive proximity switch and LGW 10 in lieu of LGW 50 (W-FM 200 required)		210 030 11	210 030 11	210 030 11	210 030 11
Motor D90 with contactor 230 V and overload protection ¹⁾		250 030 86	250 030 86	250 030 86	250 030 86
ABE with Chinese calligraphy (W-FM 100/200)		110 018 53	110 018 53	110 018 53	110 018 53

Country specific versions and special voltages on request

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	WM-G10/2-A	WM-G10/3-A	WM-G10/4-A
Burner motor ¹⁾	Type Weishaupt	WM-D 90/90-2/1K0	WM-D 90/90-2/1K0	WM-D 90/90-2/1K5	WM-D 90/90-2/1K5
Nominal load	kW	1.0	1.0	1.5	1.5
Nominal current	A	2.2	2.2	3.5	3.5
Motor protection switch ²⁾ or motor pre-fusing ²⁾ (with overload protection)	Type (e. g.) A minimum	MS132 - 2.5 10 AT (external)	MS132 - 2.5 10 AT (external)	MS132 - 4.0 10 AT (external)	MS132 - 4.0 10 AT (external)
Speed (50 Hz)	rpm	2850	2850	2800	2800
Combustion manager	Type	W-FM 100	W-FM 100	W-FM 100	W-FM 100
Flame monitoring	Type	ION	ION	ION	ION
Stepping motor Air / Gas	Type	SQM 45	SQM 45	SQM 45	SQM 45
Weight (without controller + valve train)	kg	approx. 54	approx. 54	approx. 56	approx. 56

¹⁾ The electric motors comply with the efficiency level IE2 to regulation (EU) No. 640/2009.

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).

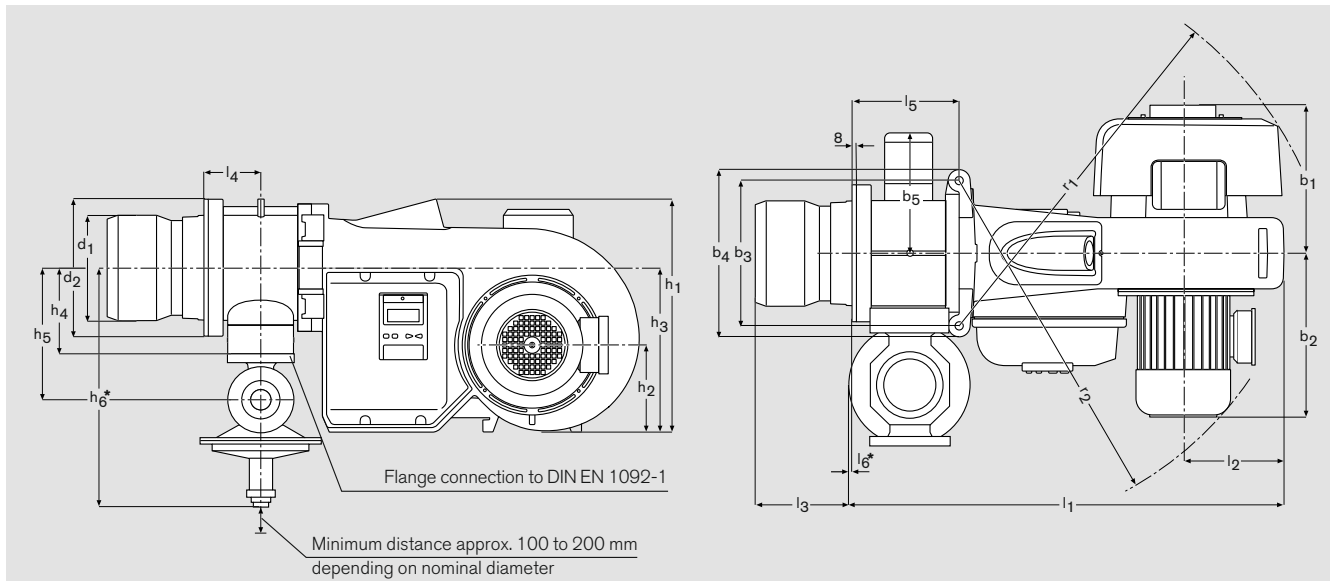
Voltages and frequencies:

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

Standard burner motor:

Insulation Class F, Type of protection IP 54.

Dimensions



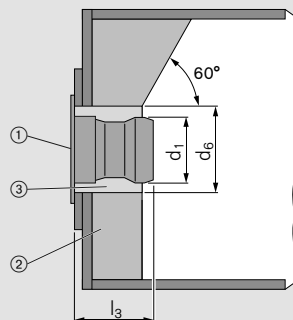
Size	Dimensions in mm											h ₁	h ₂	h ₃	h ₄	h ₅	
	l ₁	l ₂	l ₃	l ₄	l ₅	Rp %	Rp 1	l ₆ * with DN			screw.					flange.	
10/1	813	205	171-178	98	188	-	-	-	27	45	45	445	167	313	140	254	252
10/2	813	205	158-178	98	188	-	-	-	27	45	45	445	167	313	140	254	252
10/3	833	205	199-224	108	208	-	-	-	17	35	35	445	167	313	162	298	284
10/4	833	205	199-224	108	228	-	-	-	17	35	35	445	167	313	162	298	284

Size	Dimension in mm						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
	h ₆ * for DN																		
	Rp %	Rp 1	Rp 1 ½	Rp 2	65	80													
10/1	360	380	433	486	-	-	279	307	270	312	232	718	682	160	212	M10	165	186	190
10/2	391	411	464	517	562	-	279	307	270	312	232	718	682	160	212	M10	165	186	190
10/3	435	455	508	561	594	594	279	307	270	312	240	718	682	200	260	M10	210	235	240
10/4	-	455	508	561	594	594	279	307	270	312	240	718	682	218	260	M10	220	235	250

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

* If the pressure regulator protrudes beyond the burner mounting flange, depending on the boiler front plate, a spacer ring should be fitted between burner flange and boiler plate (see accessories list). Please note that dimension l₅ of the combustion head will then be reduced by the width of the spacer ring.

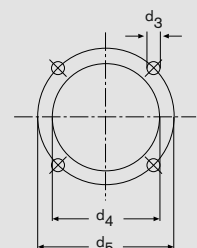
Preparing the heat exchanger



- ① Flange gasket
- ② Refractory
- ③ Aperture

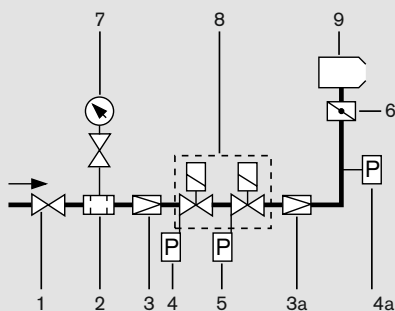
The refractory ② must not protrude beyond the front edge of the combustion head, it can however, take a conical shape (in. 60°).

Burner plate drilling dimensions



Fuel system

Layout of gas valve train



Legend:

- 1 Ball valve *
- 2 Gas filter
- 3 Pressure regulator (LP) * or (HP) *
- 3a Controller with impulse line
- 4 Low gas pressure switch
- 4a High gas pressure switch (with TRD) *
- 5 Low/valve proving gas pressure switch
- 6 Gas butterfly
- 7 Pressure gauge with push button valve *
- 8 Double solenoid valve (DMV)
- 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 tension free mounting of the valve train, the fitting of a compensator is recommended.

Break points in the valve train

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

Supporting the valve train assembly

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

Gas meter

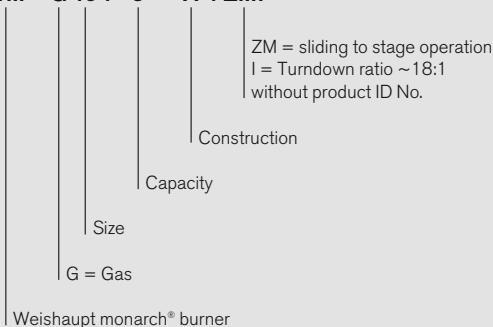
A gas meter must be installed to measure gas consumption during commissioning.

Thermal shut off device (TAE) optional depending on regulations

Integrated into the ball valve on screwed valve trains. Separate component with HTB seals in front of ball valve for flanged valve trains.

Type key

WM- G 10 / 3 - A /ZMI



Saving fuel, reducing emissions: The patented multiflam[®] technology



Patented multiflam[®] technology enables compliance with very low emission values on large combustion plants without expensive additional equipment. The emission reduction is achieved with an innovative mixing head with fuel distribution facility.

Weishaupt multiflam[®] burners have proven themselves in practice for more than 10 years. They are especially suitable for markets with stringent emission requirements.

With the new monarch[®] burners this technology is now also available for medium capacity ranges, combining flexibility with low emission values.

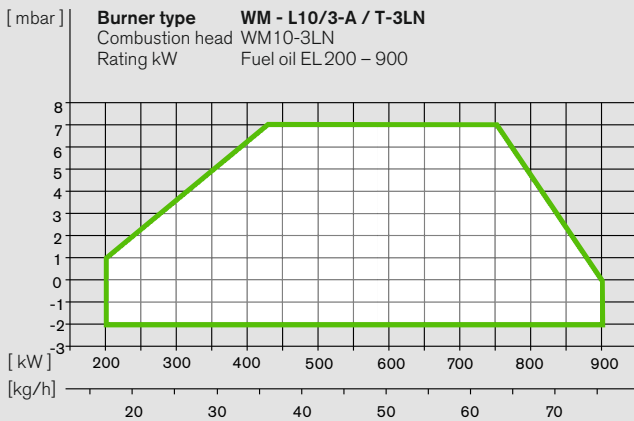
Exemplary emission values

In comparison to standard mixing heads NOx emissions are reduced even further when using version 3LN multiflam. This is achieved by a special mixing head with fuel distribution.

Good emission values also depend on the particular combustion chamber geometry, the volume load and the combustion system (3 pass principle). Conditions for measurement and assessment, such as combustion chamber loading, measurement tolerances, temperature, pressure, humidity etc. must be observed in order for emission values to be guaranteed.

Burner selection

WM 10 multiflam[®] burners version 3LN



For oil:

The capacity graphs are type tested to EN 267. All ratings given relate to an air temperature of 20 °C and an installation elevation of 500 m above sea level.

The oil throughput data relates to a calorific value of 11.91 kWh/kg for fuel oil EL.

For gas:

The capacity graphs are type tested to EN 676. The ratings given relate to an installation elevation at sea level. Depending on the elevation of the installation, a reduction on capacity of 1% for every 100 m above seal level should be taken into account.

Voltages and frequencies:

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

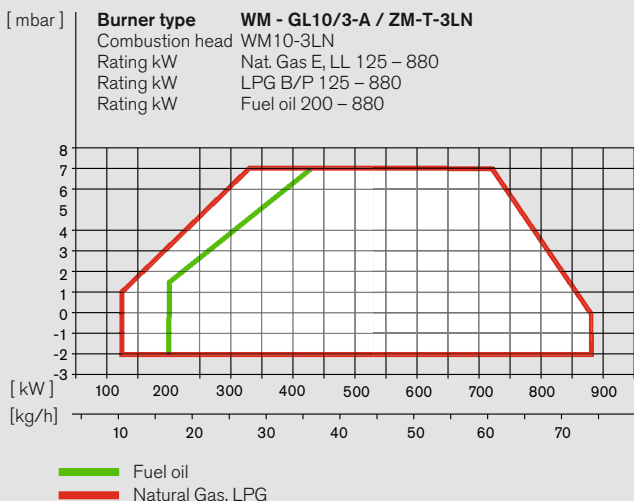
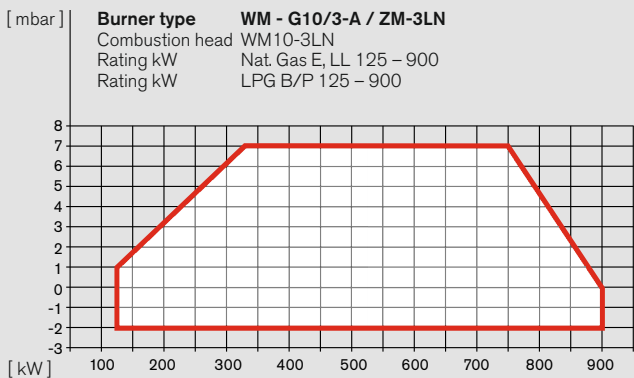
Standard burner motor:

Insulation Class F, Type of protection IP 54.

DIN CERTCO Certification:

The burners have been type test at an independent body (TÜV Süd) and have been certificated by DIN CERTCO.

Turndown ratio Gas max 6 : 1
EL max 3 : 1



— Fuel oil
 — Natural Gas, LPG

Gas valve train sizing

Burner WM 10 multiflam[®] version 3LN

WM-G(L)10/3-A, vers. ZM-3LN multiflam[®]

Burner rating kW	Low pressure supply (with FRS) (flow pressure in mbar into shut off valve, $p_{e, max} = 300$ mbar)	High pressure supply (with HP controller) (flow pressure in mbar into double gas valve)
	Nominal diameter of valve train 3/4" 1" 1 1/2" 2" 65 80 100 Nominal diameter gas butterfly 50 50 50 50 50 50 50	Nominal diameter of v/train 3/4" 1" 1 1/2" 2" 65 80 100 Nominal diameter gas butterfly 50 50 50 50 50 50 50

Natural Gas E (N) $H_i = 10,35$ kWh/mn ³ ; $d = 0,606$; $W_i = 13,295$ kWh/mn ³	
450	66 32 18 14 12 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 (N) $H_i = 8,83$ kWh/mn ³ ; $d = 0,641$; $W_i = 11,029$ kWh/mn ³	
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 B/P (F) $H_i = 25,89$ kWh/mn ³ ; $d = 1,555$; $W_i = 20,762$ kWh/mn ³	
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

Screwed	Flanged
R3/4 W-MF507	DN65 DMV5065/12
R1 W-MF512	DN80 DMV5080/12
R 1 1/2 W-MF512	DN100 DMV5100/12
R2 DMV525/12	

The combustion chamber pressure in mbar must be added to the minimum gas pressure required. The minimum gas pressure should not be less than 15 mbar.

For low pressure supplies, pressure regulating devices with safety membrane in accordance with EN 88 are used. The maximum permissible supply pressure into the shut off valve for low pressure installations is 300 mbar.

For high pressure supplies, high pressure regulators to EN 334 can be selected from the brochure "Pressure regulators with safety devices for Weishaupt gas and dual fuel burners". This details high gas pressure sets for supply pressures of up to 4 bar.

See burner name plate for maximum connection pressure.

Scope of delivery

Description	WM-L10-T-3LN	WM-G10 ZM-3LN	WM-GL10 ZM-T-3LN
Burner housing, hinge flange, housing cover, Weishaupt burner motor, air regulator housing, fan wheel, combustion head, ignition unit, ignition cable, ignition electrodes, combustion manager with operating unit, flame sensor, stepping motors, flange gasket, limit switch on hinge flange, fixing screws	●	●	●
Combustion manager W-FM50 W-FM54	● –	● –	– ●
Valve proving via W-FM and pressure switch with electronic compound	–	●	●
Class A double gas valve	–	●	●
Gas butterfly	–	●	●
Air pressure switch	–	●	●
Low gas pressure switch.	–	●	●
Capacity based mixing head, preset	●	●	●
Stepping motor for fuel/air compound regulation with W-FM: Stepping motor for air regulator Stepping motor for gas butterfly valve	● – –	● ● ●	● ● ●
Oil pump fitted to burner	●	–	●
Oil hoses	●	–	●
3 oil solenoid valves, three stage nozzle head with premounted oil nozzle 1 additional oil safety solenoid valve	●	–	●
Contactora for direct start fitted to motor ¹⁾	●	●	●
Type of protection IP 54	●	●	●

**According to EN 676 gas filters and gas pressure regulators form part of the burner equipment (see Weishaupt accessories list).
Additional burner equipment such as TRD 604, 24 hrs. / 72 hrs. etc. can be found under Special equipment
or obtained on request.**

- 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

Special equipment

Oil burner

Burner type	Vers.	Nominal diameter	Order No.
WM-L10/3	T-3LN		211 110 34

DIN CERTCO: 5G1025/06M

Gas burner

Burner type	Vers.	Nominal diameter	Order No.
WM-G10/3	ZM-3LN	R3/4	217 122 10
		R1	217 122 11
		R1 1/2	217 122 12
		R2	217 122 13
		DN 65	217 122 14
		DN 80	217 122 15
		DN 100	217 122 16

CE-PIN: CE 0085BQ0027

Dual fuel burner

Burner type	Vers.	Nominal diameter	Order No.
WM-GL10/3	ZM-T-3LN	R3/4	218 122 10
		R1	218 122 11
		R1 1/2	218 122 12
		R2	218 122 13
		DN 65	218 122 14
		DN 80	218 122 15
		DN 100	218 122 16

CE-PIN: CE 0085BQ0027
DIN CERTCO: 5G1025/06M

Special equipment WM 10 multiflam® burner version 3LN

Oil burner	WM-L10/3 T-3LN
Pressure gauge with ball valve 0-25 bar	210 030 18
Vacuum gauge with ball valve -1 / +9 bar	210 030 19
Combustion head extension	by 100 mm 210 030 85
	by 200 mm 210 030 86
Oil hoses 1300 mm in lieu of 1000 mm	210 003 00
Electromagnetic coupling	250 030 44
Ducted air intake with LGW pressure switch	210 030 20
Oil meter VZ08 fitted	210 030 07
Plug connection	ST 18/7 & ST 18/4 (W-FM 50/100/200) 210 030 13
	ST 18/7 (W-FM 50 with KS 40) 250 031 06
Solenoid valve for air pressure switch test for continuous run fan or post-purge	250 030 21
KS40 controller fitted to burner (W-FM 50)	210 030 48
W-FM 100 in lieu of W-FM 50 (suitable for continuous operation)	210 030 32
W-FM 200 in lieu of W-FM 50 with module for load control, analogue signal converter and speed control module, with optional fuel metering	210 030 10
DSA58 pressure switch (vers. TRD 72 h) (QRI included)	210 030 23
Flame sensor QRI in lieu of QRA (required for vers. TRD)	on request
Analogue module with load controller for W-FM 100	110 017 18
Motor D90 with contactor 230 V and overload protection ¹⁾	250 030 86
ABE with Chinese calligraphy (W-FM 100/200)	110 018 53
Control voltage	110 V (W-FM 50/100/200) 250 031 72

Country specific versions and special voltages on request

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

Special equipment

WM 10 multiflam[®] burners version 3LN

Gas and dual fuel burners		WM-G10/3 ZM-3LN	WM-GL10/3 ZM-T-3LN
Pressure gauge with ball valve 0-25 bar		–	210 030 18
Vacuum gauge with ball valve -1 / +9 bar		–	210 030 19
Combustion head extension	by 100 mm	250 031 57	250 031 59
	by 200 mm	250 031 58	250 031 60
High gas pressure switch (screwed W-MF) R 3/4" to R 1 1/2"	GW 50 A6/1	250 031 40	250 031 40
	GW 150 A6/1	250 031 41	250 031 41
	GW 500 A6/1	250 031 42	250 031 42
High gas pressure switch (screwed DMV) R 2"	GW 50 A6/1	150 017 52	150 017 52
	GW 150 A6/1	150 017 53	150 017 53
	GW 500 A6/1	150 017 54	150 017 54
High gas pressure switch (flanged DMV)	GW 50 A6/1	150 017 49	150 017 49
	GW 150 A6/1	150 017 50	150 017 50
	GW 500 A6/1	150 017 51	150 017 51
Oil hoses 1300 mm in lieu of 1000 mm		–	210 003 00
Electromagnetic coupling			250 030 44
Ducted air intake with LGW pressure switch		250 030 24	210 030 20
Oil meter VZ08 fitted		–	250 030 46
Oil meter VZ08 with remote transmitter NF, fitted (external wiring of NF req.)		–	250 030 47
Plug connection	ST 18/7 & ST 18/4 (W-FM 50/100/200)	250 030 22	–
	ST 18/7 & ST 18/4 (W-FM 54)	–	250 031 99
	ST 18/7 (W-FM 100/200)	–	250 032 01
Solenoid valve for air pressure switch test for continuous run fan or post-purge		250 030 21	250 030 21
KS40 controller fitted to burner (W-FM 50)		250 030 99	–
W-FM 100 in lieu of W-FM 50 (suitable for continuous operation)		250 030 74	–
W-FM 200 in lieu of W-FM 50 with module for load control, analogue signal converter and speed control module, with optional fuel metering		250 030 75	–
W-FM 100 in lieu of W-FM 54 (suitable for continuous operation) with module for load control, analogue signal converter	fitted	–	250 031 78
	loose	–	250 031 93
W-FM 200 in lieu of W-FM 54 with module for load control, analogue signal converter and speed control module, with optional fuel metering	fitted	–	250 031 77
	loose	–	on request
DSA58 pressure switch (vers. TRD 72 h) (QRI included)		–	250 030 82
Analogue module with load controller for W-FM 100		110 017 18	110 017 18
Speed control with frequency converter fitted to burner (W-FM 50/54/200 required)		210 030 11	210 030 11 ¹⁾
Speed control with frequency converter loose (FC from accessories) (W-FM 200 required)		210 030 12	210 030 12 ¹⁾
Motor D90 with contactor 230 V and overload protection ²⁾		250 030 86	250 030 86
ABE with Chinese calligraphy (W-FM 100/200)		110 018 53	110 018 53
Control voltage	110 V (W-FM 50/100/200)	250 031 72	250 031 72
	110 V (W-FM 54)	–	on request

Country specific versions and special voltages on request

¹⁾ It is recommended to operate the multi stage oil part at 100% speed

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).

Technical data

WM 10 multiflam[®] burners version 3LN

Oil burner		WM-L10/3-A / T 3LN
Burner motor ¹⁾	Type Weishaupt	WM-D 90/90-2/1K5
Nominal load	kW	1.5
Nominal current	A	3.5
Motor protection switch ²⁾ or motor pre-fusing ²⁾ (with overload protection)	Type (e. g.) A minimum	MS132 - 4.0 10 AT (external)
Speed (50 Hz)	rpm	2800
Combustion manager	Type	W-FM 50
Flame monitoring	Type	QRA2
Pump fitted maximum flow rate	Type l/h	AL 95C 150
NO _x Class to EN 267		3
Oil hoses	DN / Length	8 / 1000
Weight	kg	approx. 55
Gas burner		WM-G10/3-A / ZM-3LN
Burner motor ¹⁾	Type Weishaupt	WM-D 90/90-2/1K5
Nominal load	kW	1.5
Nominal current	A	3.5
Motor protection switch ²⁾ or motor pre-fusing ²⁾ (with overload protection)	Type (e. g.) A minimum	MS132 - 4.0 10 AT (external)
Speed (50 Hz)	rpm	2800
Combustion manager	Type	W-FM 50
Flame monitoring	Type	ION
Stepping motor Air/Gas	Type	STE 50
NO _x Class to EN 676		3
Weight (without gas valve train)	kg	approx. 56
Dual fuel burner		WM-GL10/3-A / ZM-T 3 LN
Burner motor ¹⁾	Type Weishaupt	WM-D 90/90-2/1K5
Nominal load	kW	1.5
Nominal current	A	3.5
Motor protection switch ²⁾ or motor pre-fusing ²⁾ (with overload protection)	Type (e. g.) A minimum	MS132 - 4.0 10 AT (external)
Speed (50 Hz)	rpm	2800
Combustion manager	Type	W-FM 54
Flame monitoring	Type	QRA2
Stepping motor Air/Gas	Type	STE 50
Pump fitted maximum flow rate	Type l/h	AL 95C 150
NO _x Class to EN 267 / EN 676		3
Oil hoses	DN / Length	8 / 1000
Weight (without gas valve train)	kg	approx. 58

¹⁾ The electric motors comply with the efficiency level IE2 to regulation (EU) No. 640/2009.

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).

Voltages and frequencies:

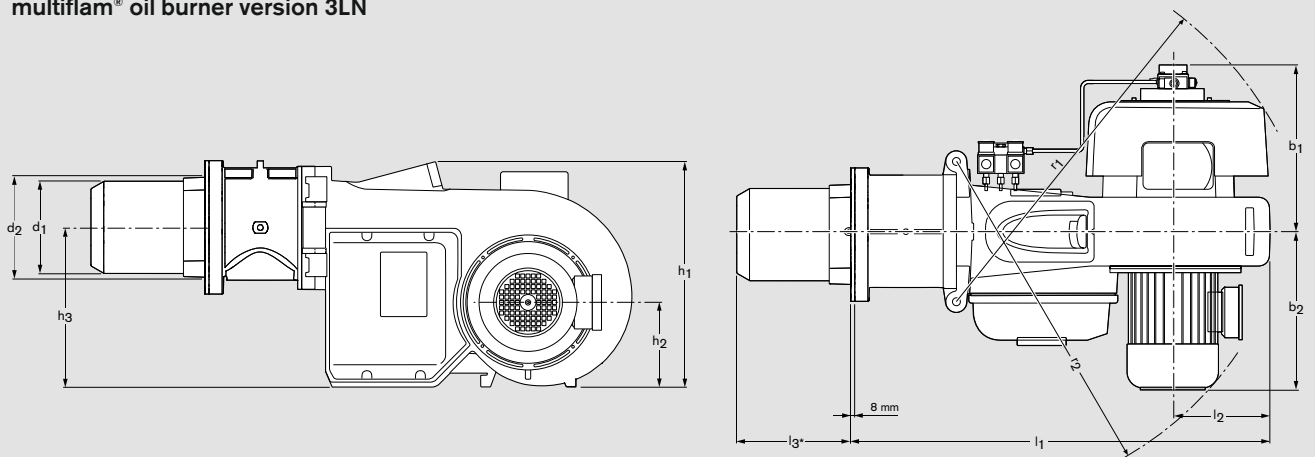
The burners are equipped as standard for three phase alternating current (D) 400V, 3~, 50 Hz. Other voltages and frequencies are available on request.

Standard burner motor:

Insulation Class F, Type of protection IP 54.

Dimensions

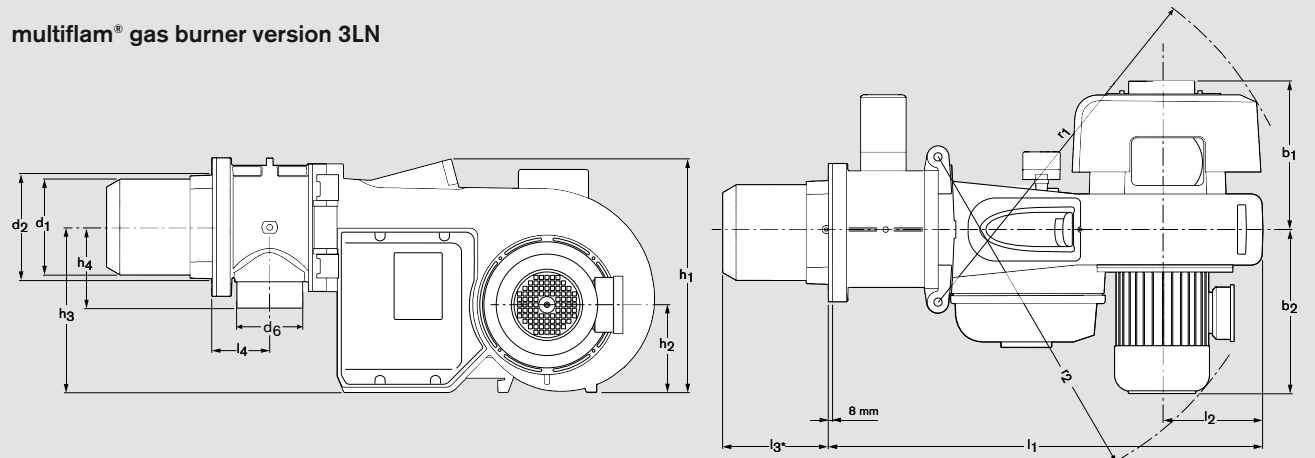
multiflam® oil burner version 3LN



Burner type	Dimensions in mm			b1	b2	h1	h2	h3	r1	r2	d1	d2
	l1	l2	l3 ¹⁾									
WM-L10/3 T-3LN	833	205	207 – 222	323	307	445	167	313	718	682	180	199

- ¹⁾ 207 – 222 mm without combustion head extension
 307 – 322 mm with combustion head extension (100 mm)
 407 – 422 mm with combustion head extension (200 mm)

multiflam® gas burner version 3LN



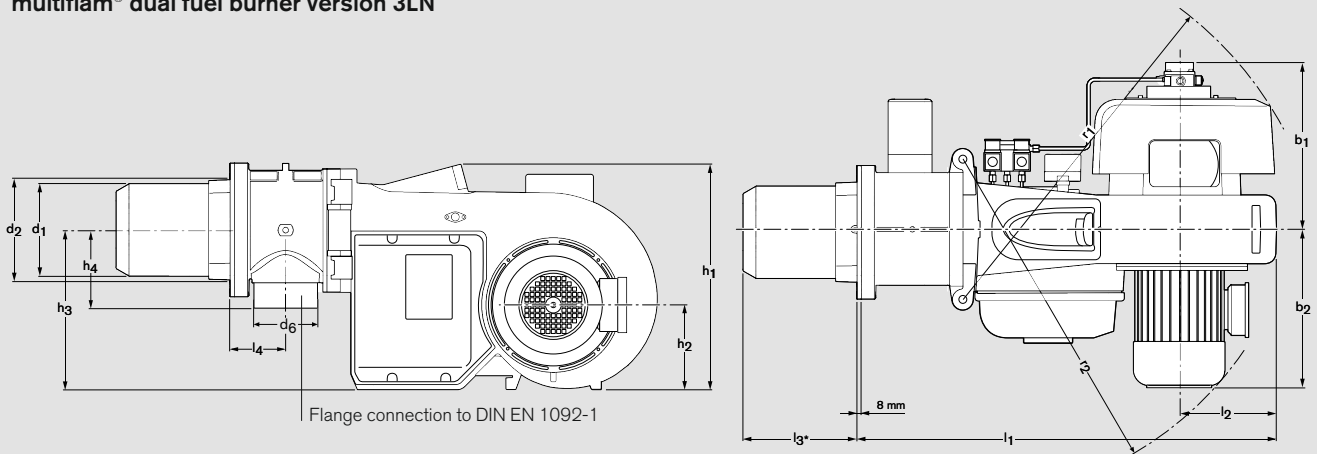
Burner type	Dimensions in mm			l4	b1	b2	h1	h2	h3	h4	r1	r2	d1	d2	d6
	l1	l2	l3 ²⁾												
WM-G10/3 ZM-3LN	833	205	212 – 222	108	279	307	445	167	313	161	718	682	180	199	DN50

- ²⁾ 212 – 222 mm without combustion head extension
 312 – 322 mm with combustion head extension (100 mm)
 412 – 422 mm with combustion head extension (200 mm)

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

Dimensions

multiflam® dual fuel burner version 3LN

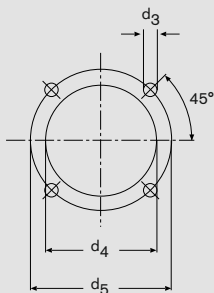


Burner type	Dimensions in mm			l4	b1	b2	h1	h2	h3	h4	r1	r2	d1	d2	d6
	l1	l2	l3 ¹⁾												
WM-GL10/3 ZM-T 3LN	833	205	212 – 222	108	323	307	445	167	313	161	718	682	180	199	DN50

- ¹⁾ 212 – 222 mm without combustion head extension
 312 – 322 mm with combustion head extension (100 mm)
 412 – 422 mm with combustion head extension (200 mm)

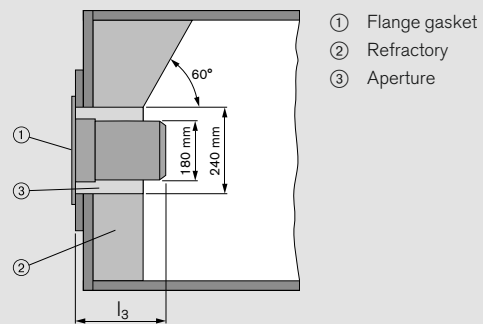
All dimensions are approximate.
 Weishaupt reserve the right to make changes in light of future developments.

Burner plate drilling dimensions



$d_3 = M10$
 $d_4 = 210 \text{ mm}$
 $d_5 = 235 \text{ mm}$

Preparing the heat exchanger

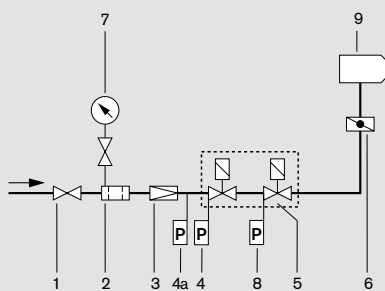


The refractory ② must not protrude beyond the front edge of the combustion head, it can however, take a conical shape (min 60°).

Fuel systems

Gas fuel system

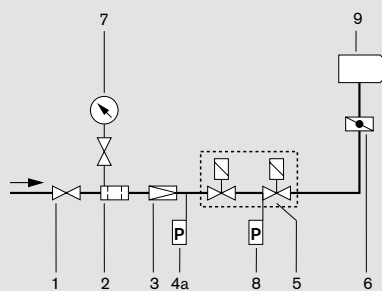
W-FM 50/100/200



- 1 Ball valve *
- 2 Gas filter *
- 3 Pressure regulator (LP) or (HP) *
- 4 Low gas pressure switch
- 4a High gas pressure switch (for TRD) *
- 5 Double solenoid valve (DMV)
- 6 Gas butterfly valve
- 7 Pressure gauge with push button valve *
- 8 Valve proving gas pressure switch
- 9 Burner

* Not included in burner price

W-FM 54



- 1 Ball valve *
- 2 Gas filter *
- 3 Pressure regulator (LP) or (HP) *
- 4a High gas pressure switch (for TRD) *
- 5 Double solenoid valve (DMV)
- 6 Gas butterfly valve
- 7 Pressure gauge with push button valve *
- 8 Low/valve proving gas pressure switch
- 9 Burner

Layout of the valve train

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

Compensator

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

Break points in the valve train

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

Supporting the valve train assembly

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

Gas meter

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

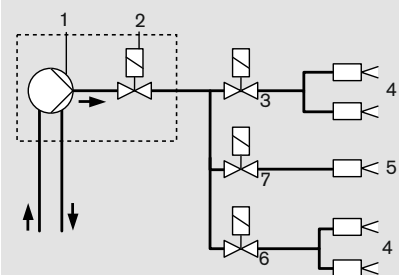
Thermal shut off device (TAE) optional depending on regulations

Integrated into the ball valve on screwed valve trains. Separate component with HTB seals in front of ball valve for flanged valve trains.

Oil fuel system

Version ZM-T

(two stage with ignition load)



- 1 Oil pump on burner
- 2 Solenoid valve on oil pump
- 3 Solenoid valve operating stage 1
- 4 Secondary nozzles
- 5 Primary nozzles
- 6 Solenoid valve operating stage 2
- 7 Solenoid valve ignition stage

- weishaupt -

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A strong service network gives peace of mind

Weishaupt equipment is available from good heating companies, with whom Weishaupt works in partnership. To support the specialists, Weishaupt maintains a large sales and service network. Delivery, spares and service are thus continually ensured.

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