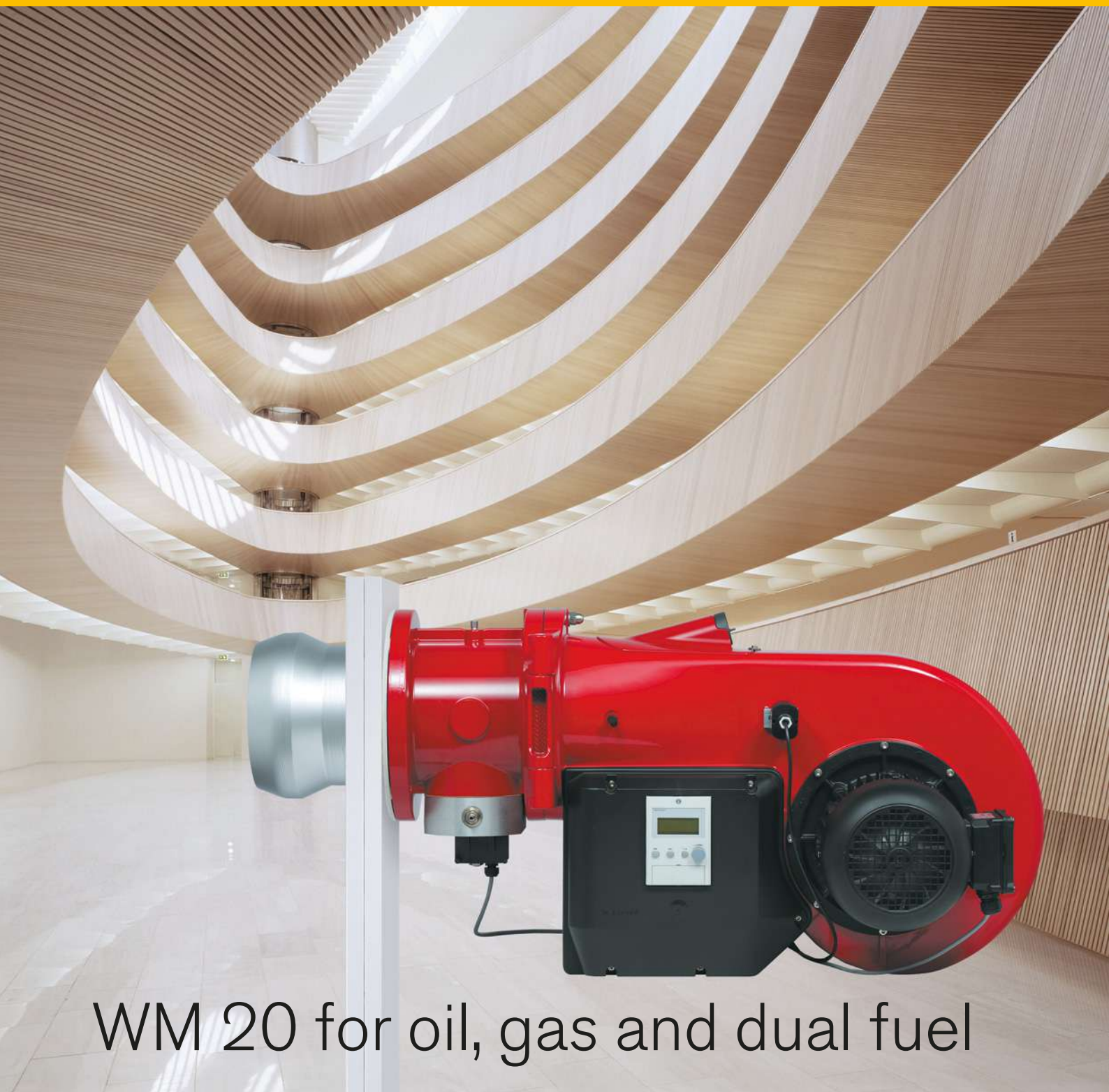
–weishaupt–

product

Information on oil, gas and dual fuel burners



WM 20 for oil, gas and dual fuel

monarch® burners WM 20 (150 – 2600 kW) • compact and powerful

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 the new monarch®. Ultra-modern technology in conjunction with a compact construction make this a powerful burner universally employed.

Digital.

Digital combustion management for economical and safe 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 gas and dual fuel burners series WM 20 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.

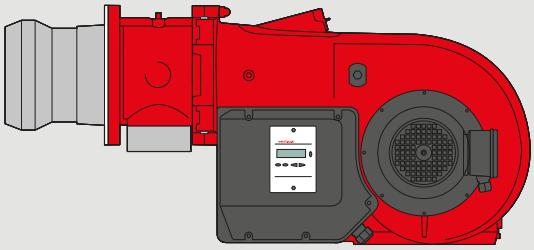
New technology advantages
Digital combustion management makes burner operation simple and reliable. The most important advantages:

- 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.

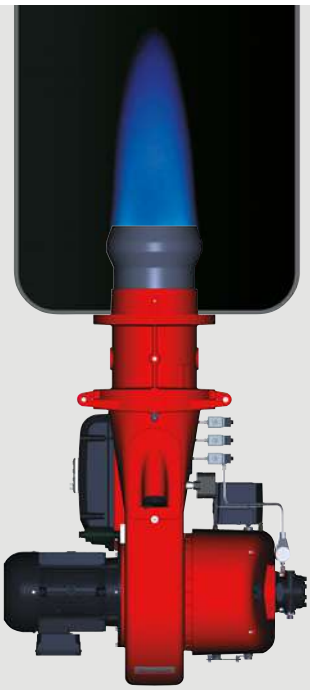
System overview Digital combustion management	W-FM 50	W-FM 54	W-FM 100	W-FM 200
Single fuel operation	●		●	●
Dual fuel operation		●	●	●
Combustion manager for intermittent operation	●	●	●	●
Combustion manager for continuous operation			●	●
Flame sensor for intermittent operation	ION/QRA2/QRB	QRA2	ION/QRI/QRB/QRA	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 motors	●	●	●	●
Speed control available	●	●		●
O_2 trim available				●
Valve proving for gas valves	●	●	●	●
Input signal 4-20 mA	●	●	optional	●
Integrated self-checking PID controller for temperature or pressure			optional	●
Removeable operating unit (max. possible distance)	20 m	20 m	100 m	100 m
Fuel metering (optional)	●[1)]	●[1)]		●
Display of combustion efficiency				●
eBUS / MOD BUS interface	●	●	●	●
PC supported commissioning	●	●	●	●

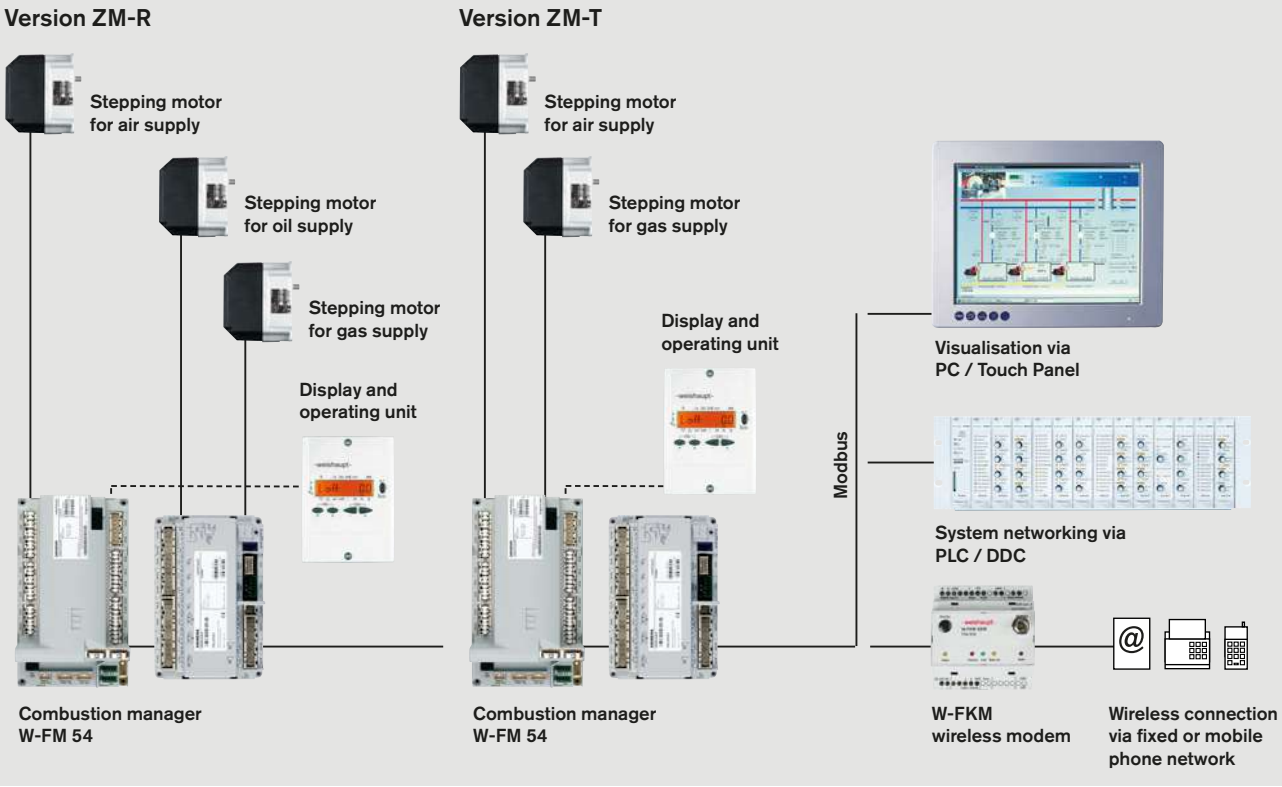
Connection possibilities for additional functions such as flue gas valves, oil shut off devices etc. on request

[1)] Not in conjunction with speed control



Burner with inbuilt digital combustion manager





Example with W-FM 54

Compact and quiet

The newly developed Weishaupt burner monarch® 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 20 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 enure 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).

Fuels
Natural Gas E
Natural Gas LL
LPG B/P
Fuel oil EL (<6 mm^2/s at 20°C)
to DIN 51 603, T1

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

Applications
The EN 267 and EN 676 approved Weishaupt oil, gas and dual fuel burners WM 20 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 an extraneous air supply 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:

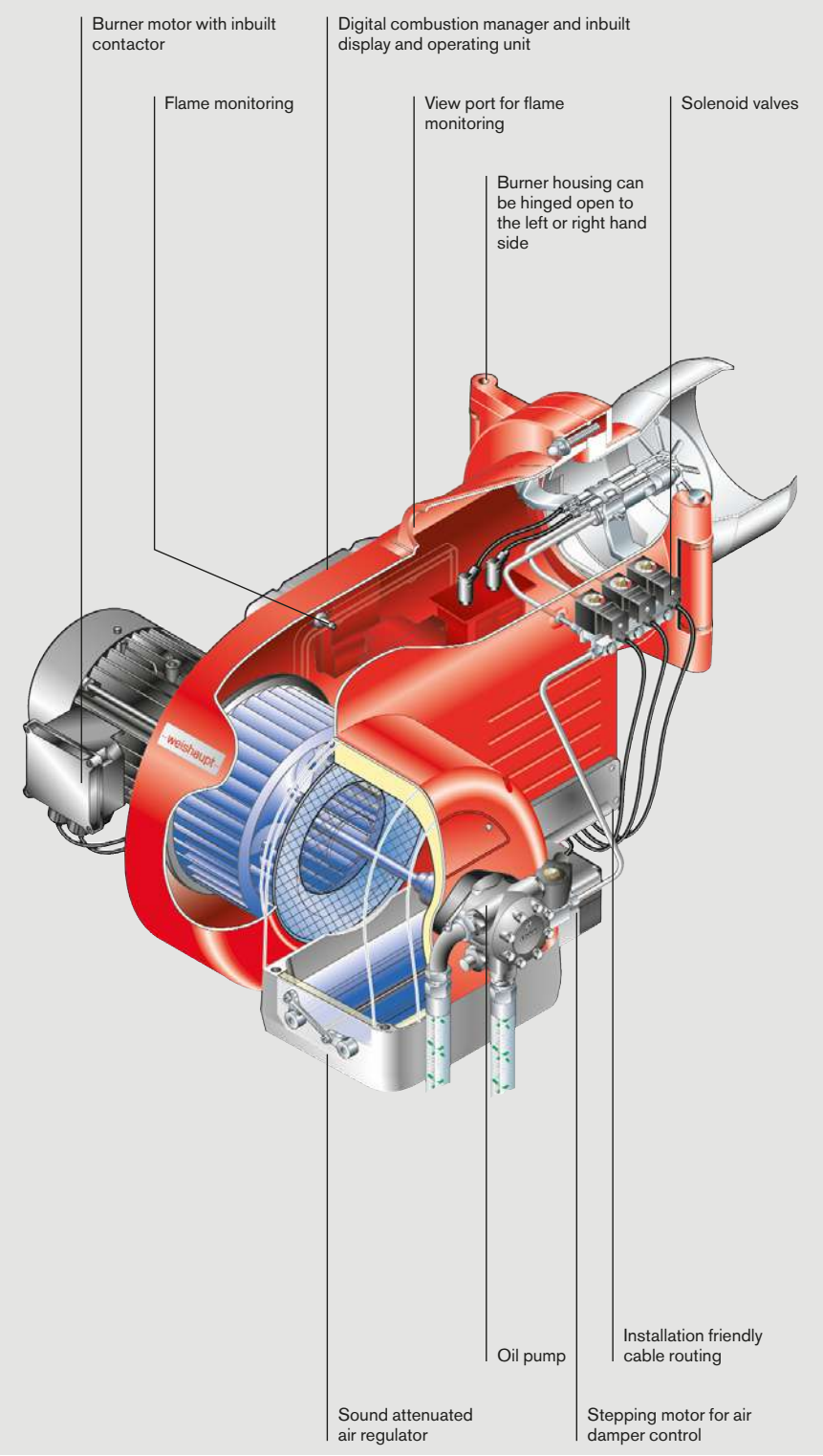
- EN 267 and EN 676
- Machinery Directive 2006/42/EU
- Electromagnetic Compatibility EMV 2004/108/EU
- Low Voltage Directive 2006/95/EU
- Pressure Vessel Directive 97/23/EU
- The burners carry the CE and CE-PIN label

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 20 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 20 monarch® burners are registered as a trademark throughout Europe.



WM-L 20 version T

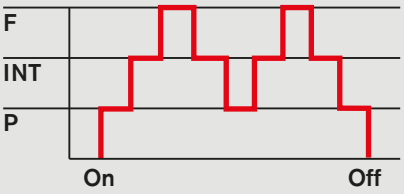
Overview of control variations
Type key

Oil fired operation

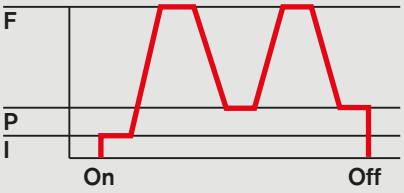
3 stage (T) operation
- Oil is released during start up by the opening of solenoid valve 1 and the safety solenoid valve
- Full load is reached by the opening of solenoid valves 2 and 3
- Load control is achieved by opening and closing solenoid valves 2 and 3

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 W-FM 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.

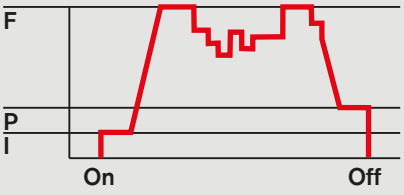
3 stage



sliding tow stage



modulating



Gas fired operation

ZM capacity regulation (sliding multi stage or modulating)
- Stepping motors adjust the capacity 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 W-FM 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 multi-stage	modulating	sliding multi-stage	modulating
ZM				●	●
ZM-T	●			●	●
ZM-R		●	●	●	●

Type key

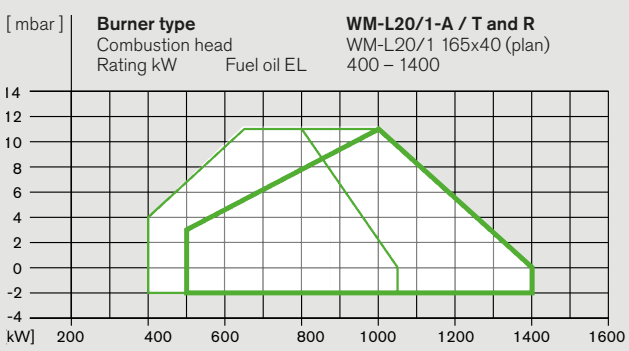
WM – L 20 / 3 –A / T
R

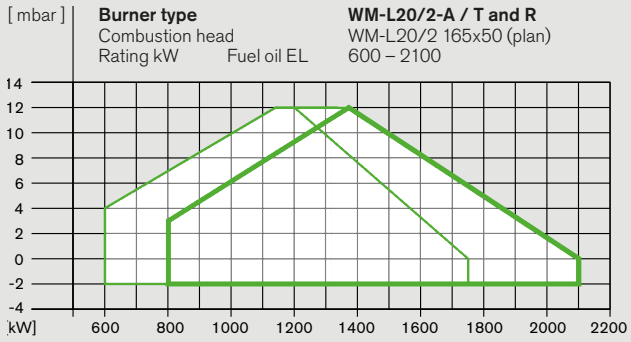
- Version
  T = 3 stage
  R = modulating
- Construction
- Capacity
- Size
- L = Fuel oil
- Weishaupt monarch® burner series

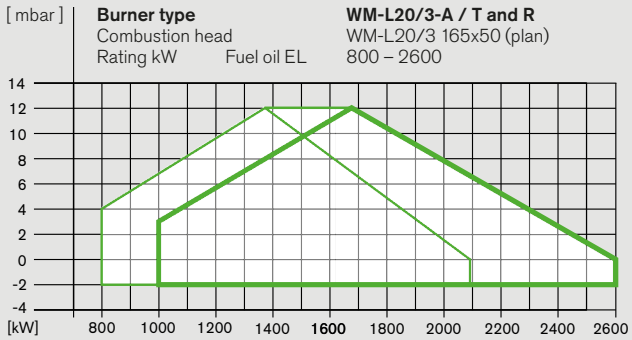
WM – GL 20 / 3 –A / ZM – T
ZM – R

- Version
  ZM / ZM-T = sliding multi-stage / 3 stage
  ZM-R = modulating
- Construction
- Capacity
- Size
- G = Gas
  L = Fuel oil
- Weishaupt monarch® burner series

Burner selection
Oil burners WM-L 20 version T/R







Fuel oil EL capacity with combustion head
Closed
Open

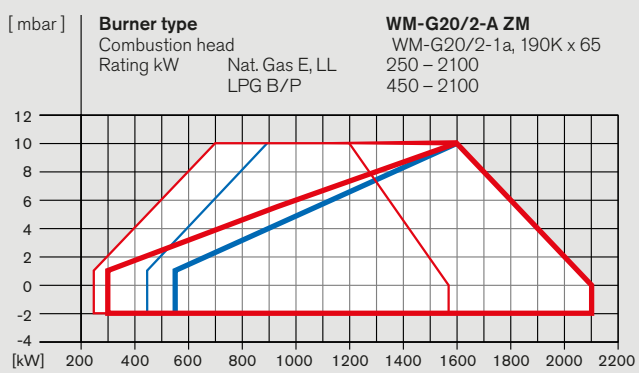
The capacity graphs are type tested to EN 267.

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.

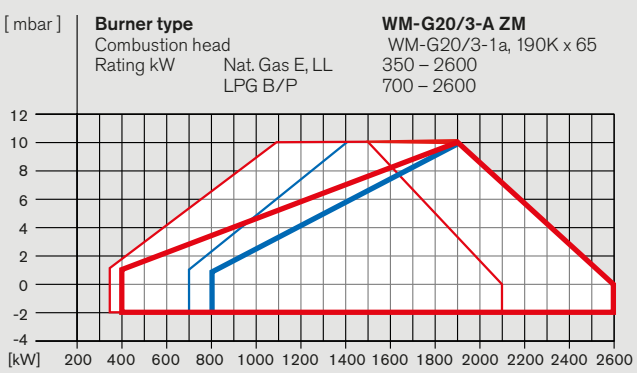
DIN CERTCO certification:
The burners have been type tested by an independent body (TÜV-Süd) and certified by DIN CERTCO.

Burner selection WM-G 20
Gas burners version ZM



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.

Gas valve train sizing
Gas burners version ZM

WM-G20/2, vers. ZM

Burner rating kW	Low pressure supply (with FRS) (flow pressure in mbar into shut off valve, $p_{e,max}$ = 300 mbar) **Nominal diameter of valve train** 1"1 1/2" 2" 65 80 100 125 Nominal diameter gas butterfly 65 65 65 65 65 65 65	High pressure supply (with HP controller) (flow pressure in mbar into double gas valve) **Nominal diameter of v/train** 1"1 1/2" 2" 65 80 100 125 Nominal diameter gas butterfly 65 65 65 65 65 65 65
Natural Gas E (N) H_i = 10.35 kWh/mn³; d = 0.606		
800	69 26 11 – – – –	18 13 – – – – –
900	87 33 13 8 – – –	23 16 6 – – – –
1000	107 40 16 10 – – –	29 20 7 – – – –
1100	129 47 19 11 8 – –	35 24 9 5 – – –
1200	153 56 21 13 9 – –	41 29 10 6 5 – –
1300	178 65 25 14 10 8 –	48 34 12 7 6 – –
1400	206 75 28 16 11 9 8	56 39 13 8 7 5 5
1500	236 85 31 18 13 10 9	64 44 15 9 7 6 6
1700	– 109 40 22 16 12 11	82 57 20 12 10 8 8
1900	– 135 49 27 19 14 13	102 71 24 15 12 10 9
2100	– 164 59 33 22 17 15	125 87 30 18 14 12 11
Natural Gas LL (N) H_i = 8.83 kWh/mn³; d = 0.641		
800	100 37 15 10 – – –	27 19 7 – – – –
900	126 47 19 11 9 – –	34 24 9 6 – – –
1000	155 57 22 13 10 8 –	42 30 11 7 6 – –
1100	186 68 26 16 11 9 8	51 36 13 8 7 6 6
1200	221 80 30 18 13 10 9	60 42 15 10 8 7 6
1300	259 94 35 20 14 11 10	70 49 17 11 9 8 7
1400	299 108 40 23 16 12 11	81 57 20 12 10 9 8
1500	– 123 45 25 18 14 12	93 65 23 14 11 9 9
1700	– 158 58 32 23 17 16	120 84 29 18 15 13 12
1900	– 197 72 40 28 21 19	– 105 37 23 19 16 15
2100	– 239 87 48 33 25 22	– 127 45 28 22 19 18
LPG B/P (F) H_i = 25.89 kWh/mn³; d = 1.555		
800	30 13 – – – – –	8 6 – – – – –
900	38 15 – – – – –	10 7 – – – – –
1000	46 18 8 – – – –	12 9 – – – – –
1100	55 21 10 – – – –	15 10 – – – – –
1200	65 25 11 – – – –	17 12 – – – – –
1300	75 29 12 – – – –	20 14 5 – – – –
1400	87 33 14 9 – – –	23 16 6 – – – –
1500	99 37 15 9 – – –	27 19 7 – – – –
1700	126 47 18 11 8 – –	34 24 9 6 – – –
1900	157 58 22 14 10 8 –	43 30 11 7 6 – –
2100	192 70 27 16 12 9 9	52 37 13 8 7 6 6

WM-G20/3, vers. ZM

Burner rating kW	Low pressure supply (with FRS) (flow pressure in mbar into shut off valve, $p_{e,max}$ = 300 mbar) **Nominal diameter of valve train** 1"1 1/2" 2" 65 80 100 125 Nominal diameter gas butterfly 65 65 65 65 65 65 65	High pressure supply (with HP controller) (flow pressure in mbar into double gas valve) **Nominal diameter of v/train** 1"1 1/2" 2" 65 80 100 125 Nominal diameter gas butterfly 65 65 65 65 65 65 65
Natural Gas E (N) H_i = 10.35 kWh/mn³; d = 0.606		
1100	129 47 19 11 8 – –	35 24 9 5 – – –
1200	153 56 22 13 9 – –	41 29 10 6 5 – –
1300	179 65 25 15 11 9 –	48 34 12 7 6 5 –
1400	207 75 28 16 12 9 9	56 39 14 9 7 6 6
1500	237 86 32 18 13 10 9	64 45 16 10 8 7 6
1600	269 97 36 20 14 11 10	73 51 18 11 9 7 7
1800	– 122 44 25 17 13 12	92 64 22 13 11 9 9
2000	– 150 54 30 21 16 14	113 79 27 17 13 11 10
2200	– 180 65 36 24 18 16	137 95 33 20 16 13 13
2400	– 214 77 42 28 21 19	– 113 39 23 19 16 15
2600	– 250 89 48 32 24 21	– 132 45 27 22 18 17
Natural Gas LL (N) H_i = 8.83 kWh/mn³; d = 0.641		
1100	186 68 26 15 11 9 8	50 35 12 8 6 5 5
1200	221 80 30 17 13 10 9	60 42 15 9 7 6 6
1300	258 93 35 20 14 11 10	70 49 17 11 9 7 7
1400	299 108 40 23 16 12 11	81 57 20 12 10 8 8
1500	– 123 45 25 18 14 12	93 65 23 14 11 9 9
1600	– 139 51 28 20 15 13	106 73 25 16 13 10 10
1800	– 175 63 35 23 17 16	133 92 32 19 15 13 12
2000	– 216 77 42 29 21 19	– 114 39 24 19 16 15
2200	– 260 93 50 34 25 22	– 138 47 28 23 19 18
2400	– – 110 59 39 29 25	– – 56 33 27 22 21
2600	– – 128 68 45 33 29	– – 65 39 31 25 24
LPG B/P (F) H_i = 25.89 kWh/mn³; d = 1.555		
1100	55 21 9 – – – –	15 10 – – – – –
1200	64 25 11 – – – –	17 12 – – – – –
1300	75 29 12 – – – –	20 14 5 – – – –
1400	87 33 13 9 – – –	23 16 6 – – – –
1500	99 37 15 9 – – –	27 19 7 – – – –
1600	112 42 17 10 – – –	30 21 8 – – – –
1800	141 52 20 12 9 – –	38 26 9 6 – – –
2000	174 63 24 14 11 9 –	47 33 12 7 6 5 –
2200	210 76 29 17 12 10 9	57 40 14 9 7 6 6
2400	249 90 34 20 14 11 10	68 48 17 11 9 8 7
2600	292 106 40 23 16 13 12	80 56 20 13 10 9 8

Screwed		**Flanged**	
R1	W-MF512	DN65	DMV5065/12
R 1 1/2	W-MF512	DN80	DMV5080/12
R2	DMV525/12	DN100	DMV5100/12
		DN125	VGD40.125

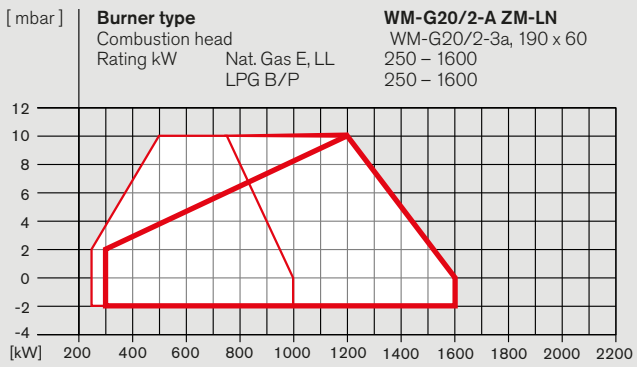
The combustion chamber pressure in mbar must be added to the minimum gas pressure required. The minimum gas pressure should not be less than 15 mbar.

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.

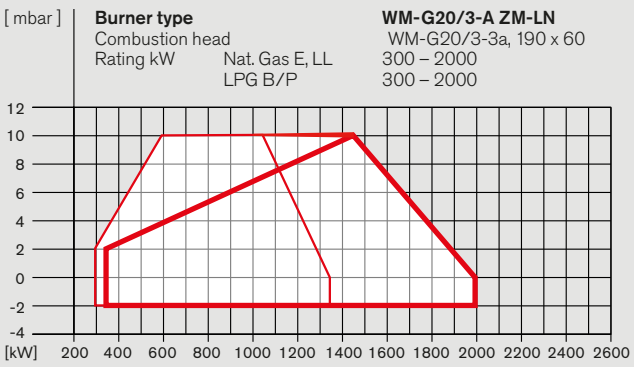
For high pressure supplies, high pressure regulators to EN 334 can be selected from the brochure "Pressure regulators with safety devices for Weishaupt gas and dual fuel burners". This details high gas pressure sets for supply pressures of up to 4 bar.

See burner name plate for maximum connection pressure.

Burner selection WM-G 20
Gas burners versions ZM-LN



Natural Gas and LPG capacity with combustion 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.

Valve train sizing
Gas burners version ZM-LN

WM-G20/2, vers. ZM-LN

Burner rating kW	Low pressure supply (with FRS) (flow pressure in mbar into shut off valve, $p_{e,max}$ = 300 mbar) **Nominal diameter of valve train** 1"1 1/2" 2" 65 80 100 125 Nominal diameter gas butterfly 65 65 65 65 65 65 65							High pressure supply (with HP controller) (flow pressure in mbar into double gas valve) **Nominal diameter of v/train** 1"1 1/2" 2" 65 80 100 125 Nominal diameter gas butterfly 65 65 65 65 65 65 65						
Natural Gas E (N) H_i = 10.35 kWh/mn³; d = 0.606														
700	59	26	14	11	10	9	9	19	15	9	7	7	7	6
800	76	33	17	14	12	11	11	25	19	11	9	9	8	8
900	95	40	21	16	14	13	13	31	24	13	11	11	10	10
1000	116	49	25	19	16	15	15	38	29	16	13	13	12	12
1100	139	58	29	21	19	17	17	45	34	19	16	15	14	14
1200	163	66	32	23	20	18	18	52	39	21	17	16	15	15
1300	190	76	36	26	22	20	19	59	45	23	19	17	16	16
1400	218	87	40	28	23	21	20	68	51	25	20	19	17	17
1500	249	98	44	31	25	22	21	76	57	28	22	20	19	18
1600	282	110	49	33	27	24	23	86	63	30	24	21	20	20
Natural Gas LL (N) H_i = 8.83 kWh/mn³; d = 0.641														
700	82	34	17	13	11	10	10	26	19	10	8	8	7	7
800	106	44	22	16	14	13	12	33	25	13	11	10	10	9
900	133	54	26	19	16	15	14	42	32	16	13	12	12	12
1000	163	66	31	22	19	17	17	51	38	20	16	15	14	14
1100	197	78	36	26	22	19	19	61	46	23	18	17	16	16
1200	232	91	41	29	24	21	20	71	53	26	20	19	18	17
1300	270	105	47	32	26	23	22	82	61	29	23	21	19	19
1400	–	120	52	35	28	25	24	94	69	32	25	22	21	20
1500	–	136	58	38	31	27	25	106	78	36	27	24	22	22
1600	–	153	64	42	33	29	27	119	87	39	29	26	24	24
LPG B/P (F) H_i = 25.89 kWh/mn³; d = 1.555														
700	28	15	10	9	8	–	–	10	9	6	5	5	5	5
800	36	18	12	10	10	10	9	14	11	8	7	7	7	7
900	45	22	14	12	12	11	11	17	14	10	9	9	9	9
1000	54	27	17	14	14	13	13	21	17	12	11	11	10	10
1100	65	31	20	17	15	15	15	25	20	14	13	12	12	12
1200	75	35	21	17	16	15	15	28	23	15	13	13	13	12
1300	86	39	23	19	17	16	16	31	25	16	14	14	13	13
1400	98	44	24	20	18	17	16	34	27	17	15	14	14	14
1500	110	48	26	21	19	17	17	38	30	18	16	15	14	14
1600	124	53	28	22	19	18	18	42	33	19	17	16	15	15

WM-G20/3, vers. ZM-LN

Burner rating kW	Low pressure supply (with FRS) (flow pressure in mbar into shut off valve, $p_{e,max}$ = 300 mbar) **Nominal diameter of valve train** 1"1 1/2" 2" 65 80 100 125 Nominal diameter gas butterfly 65 65 65 65 65 65 65							High pressure supply (with HP controller) (flow pressure in mbar into double gas valve) **Nominal diameter of v/train** 1"1 1/2" 2" 65 80 100 125 Nominal diameter gas butterfly 65 65 65 65 65 65 65						
Natural Gas E (N) H_i = 10.35 kWh/mn³; d = 0.606														
1000	114	46	23	17	14	13	13	36	27	14	11	10	10	10
1100	137	55	26	19	16	15	14	43	32	17	13	12	12	11
1200	162	65	31	22	18	17	16	50	38	19	15	14	13	13
1300	189	75	35	25	21	19	18	58	44	22	17	16	15	15
1400	218	86	39	27	23	20	20	67	50	25	20	18	17	17
1500	249	97	44	30	25	22	21	76	56	27	21	19	18	18
1600	281	109	48	33	27	23	22	85	63	30	23	21	20	19
1700	–	122	53	35	29	25	24	95	70	33	25	23	21	20
1800	–	135	58	38	31	26	25	105	77	35	27	24	22	22
2000	–	163	68	44	35	30	28	127	93	41	30	27	25	24
Natural Gas LL (N) H_i = 8.83 kWh/mn³; d = 0.641														
1000	161	63	29	20	17	15	14	49	36	17	14	12	12	11
1100	194	76	34	23	19	17	16	59	43	21	16	15	14	13
1200	230	89	39	27	22	19	18	69	51	24	19	17	16	15
1300	269	104	45	30	25	22	21	81	59	28	21	19	18	17
1400	–	119	51	34	27	24	23	93	68	31	24	21	20	19
1500	–	135	58	38	30	26	25	105	77	35	26	24	22	21
1600	–	152	64	41	33	28	26	119	87	38	29	26	23	23
1700	–	171	70	45	35	30	28	133	96	42	31	28	25	25
1800	–	190	77	49	38	32	30	–	107	46	33	30	27	26
2000	–	231	92	57	43	36	34	–	129	54	39	34	31	30
LPG B/P (F) H_i = 25.89 kWh/mn³; d = 1.555														
1000	52	24	14	12	11	10	10	18	15	9	8	8	8	8
1100	62	28	17	14	12	12	12	22	17	11	10	9	9	9
1200	73	33	19	15	14	13	13	26	20	13	11	11	10	10
1300	85	38	21	17	16	15	14	30	24	15	13	12	12	12
1400	97	43	24	19	17	16	16	34	27	17	14	14	13	13
1500	110	48	26	20	18	17	17	38	30	18	15	14	14	14
1600	124	53	28	22	19	18	17	42	33	19	16	15	15	15
1700	138	58	30	23	20	19	18	46	36	20	17	16	16	15
1800	153	64	32	24	21	19	19	50	39	22	18	17	16	16
2000	186	76	37	27	23	21	21	60	46	24	20	19	18	18

Screwed		**Flanged**	
R1	W-MF512	DN65	DMV5065/12
R 1 1/2	W-MF512	DN80	DMV5080/12
R2	DMV525/12	DN100	DMV5100/12
		DN125	VGD40.125

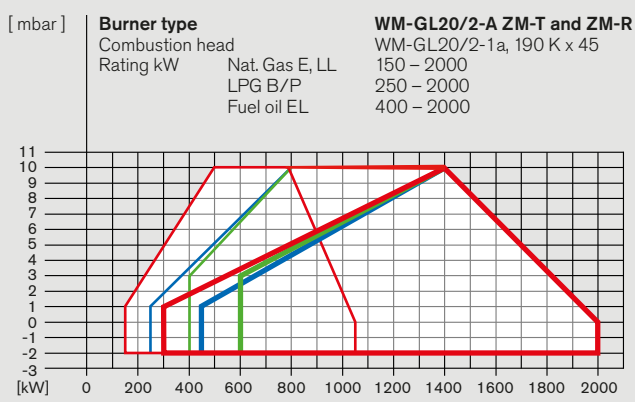
The combustion chamber pressure in mbar must be added to the minimum gas pressure required. The minimum gas pressure should not be less than 15 mbar.

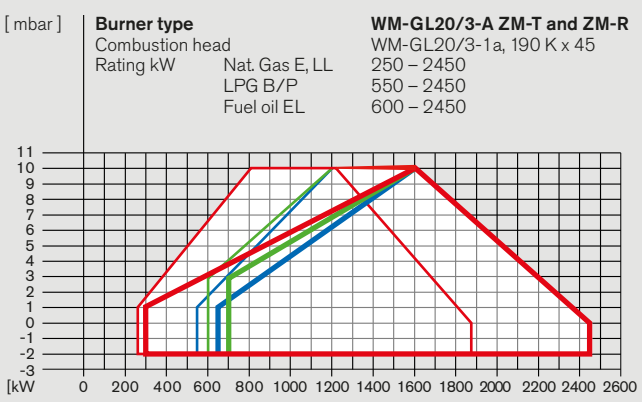
For low pressure supplies, pressure regulating devices with safety membrane in accordance with EN 88 are used. The maximum permissible supply pressure into the shut off valve for low pressure installations is 300 mbar.

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.

Burner selection WM-GL 20
Dual fuel burners version ZM-T and ZM-R





Nat. Gas capacity with comb. head
Closed
Open

LPG capacity with comb. head
Closed
Open

Fuel oil EL capacity with comb. head
Closed
Open

The capacity graphs are type tested to EN 267 and 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.

Valve train selection
Dual fuel burners version ZM-T and ZM-R

WM-GL20/2-A, vers. ZM-T and ZM-R

Burner rating kW	Low pressure supply (with FRS) (flow pressure in mbar into shut off valve, $p_{e,max}$ = 300 mbar) **Nominal diameter of valve train**							High pressure supply (with HP controller) (flow pressure in mbar into double gas valve) **Nominal diameter of v/train**						
	1"	**1 ½"**	**2"**	**65**	**80**	**100**	**125**	**1"**	**1 ½"**	**2"**	**65**	**80**	**100**	**125**
	Nominal diameter gas butterfly							Nominal diameter gas butterfly						
	65	65	65	65	65	65	65	65	65	65	65	65	65	65
Natural Gas E (N) H_i = 10.35 kWh/mn³; d = 0.606														
800	72	29	14	10	8	–	–	21	16	7	6	5	–	–
900	90	36	17	12	10	9	9	27	20	9	7	6	6	6
1000	111	44	20	14	11	10	10	33	24	11	9	8	7	7
1200	157	60	26	17	14	12	12	46	33	15	11	10	9	9
1400	211	79	32	20	16	13	12	60	43	18	12	11	10	9
1600	272	100	39	23	17	14	13	76	54	21	14	12	1010	
1800	–	124	47	27	19	15	14	94	66	24	16	13	11	11
2000	–	150	55	31	22	16	15	114	80	28	17	14	12	11
Natural Gas LL (N) H_i = 8.83 kWh/mn³; d = 0.641														
800	102	40	18	12	10	9	8	29	21	9	7	6	6	5
900	129	49	21	14	12	10	10	37	27	12	9	8	7	7
1000	158	60	26	17	13	12	11	45	33	14	10	9	8	8
1200	225	84	34	22	17	14	13	64	46	19	13	12	10	10
1400	–	111	43	26	19	16	14	84	60	23	15	13	12	11
1600	–	142	53	31	22	17	16	108	76	28	18	15	13	12
1800	–	177	64	36	25	19	17	135	94	33	20	17	14	13
2000	–	215	77	42	28	21	19	–	114	39	23	19	15	15
LPG B/P (F) H_i = 25.89 kWh/mn³; d = 1.555														
800	33	15	9	–	–	–	–	10	8	–	–	–	–	–
900	41	18	10	8	–	–	–	13	10	6	5	–	–	–
1000	50	22	12	10	9	8	8	16	13	7	6	6	6	5
1200	69	30	15	12	10	10	10	22	17	9	8	7	7	7
1400	91	37	18	13	11	10	10	28	21	10	8	8	7	7
1600	116	46	21	14	12	10	10	34	25	12	9	8	7	7
1800	145	55	24	16	13	11	10	42	30	13	10	8	8	8
2000	177	66	27	17	13	11	11	50	36	15	10	9	8	8

WM-GL20/3-A, vers. ZM-T and ZM-R

Burner rating kW	Low pressure supply (with FRS) (flow pressure in mbar into shut off valve, $p_{e,max}$ = 300 mbar) **Nominal diameter of valve train**							High pressure supply (with HP controller) (flow pressure in mbar into double gas valve) **Nominal diameter of v/train**						
	1"	**1½"**	**2"**	**65**	**80**	**100**	**125**	**1"**	**1½"**	**2"**	**65**	**80**	**100**	**125**
	Nominal diameter gas butterfly							Nominal diameter gas butterfly						
	65	65	65	65	65	65	65	65	65	65	65	65	65	65
Natural Gas E (N) H_i = 10.35 kWh/mn³; d = 0.606														
1200	154	57	23	14	11	9	8	42	30	11	8	6	6	5
1400	208	77	30	18	13	11	10	58	41	15	10	9	8	7
1600	271	99	38	23	17	13	12	75	53	20	13	11	10	9
1800	–	124	47	27	20	16	14	94	66	25	16	13	12	11
2000	–	151	56	31	22	17	15	115	80	29	18	15	12	12
2200	–	181	65	36	25	19	17	137	96	33	20	16	14	13
2300	–	196	70	38	26	19	17	–	104	35	21	17	14	13
2450	–	221	78	42	28	20	18	–	117	39	23	18	15	14
Natural Gas LL (N) H_i = 8.83 kWh/mn³; d = 0.641														
1200	222	81	31	18	14	11	10	61	43	16	10	8	7	7
1400	–	109	41	24	17	14	12	83	58	21	14	11	10	9
1600	–	141	52	30	21	16	15	107	75	27	17	14	12	11
1800	–	177	65	36	25	19	18	135	94	33	21	17	14	14
2000	–	216	78	42	29	21	19	–	114	39	24	19	16	15
2200	–	259	91	49	32	23	21	–	137	46	27	21	17	16
2300	–	282	99	52	34	25	21	–	–	49	29	22	18	17
2450	–	–	111	58	37	26	23	–	–	54	31	24	19	18
LPG B/P (F) H_i = 25.89 kWh/mn³; d = 1.555														
1200	66	27	12	9	–	–	–	19	14	6	–	–	–	–
1400	89	35	16	11	9	8	–	26	19	9	6	6	5	5
1600	115	45	20	14	11	10	9	34	24	11	8	7	7	7
1800	145	56	24	16	13	11	11	42	31	13	10	9	8	8
2000	177	67	28	18	14	12	11	51	36	15	11	9	9	8
2200	212	79	32	20	15	13	12	60	43	17	12	10	9	9
2300	231	85	34	21	16	13	12	65	46	18	12	10	9	9
2450	261	96	37	22	16	13	12	73	51	19	13	11	10	9

Screwed		**Flanged**	
R1	W-MF512	DN65	DMV5065/12
R 1 1/2	W-MF512	DN80	DMV5080/12
R2	DMV525/12	DN100	DMV5100/12
		DN125	VGD40.125

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-L20-T	WM-L20-R	WM-G20 ZM/LN	WM-GL20 ZM-T	WM-GL20 ZM-R
Burner housing, hinge flange, housing cover, Weishaupt burner motor, air intake 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	●	●	●	●	●
Digital combustion manager W-FM 50	●	●	●	–	–
W-FM 54	–	–	–	●	●
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 valves, 1 safety valve, three stage nozzle head with premounted oil nozzle	●	–	–	●	–
Magnetic coupling	○	○	–	○	● [2]
Contactor 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).

[2] from second quarter 2011

Order Numbers

Oil burners version T

Burner type three stage	Order No.
WM-L20/1-A / T	211 210 10
WM-L20/2-A / T	211 210 20
WM-L20/3-A / T	211 210 30

DIN CERTCO: 5G1031/07

Oil burners version R

Burner type sliding multi-stage or modulating	Order No.
WM-L20/1-A / R	215 210 10
WM-L20/2-A /R	215 210 20
WM-L20/3-A / R	215 210 30

DIN CERTCO: 5G1031/07

Gas burners version ZM

Burner type	Vers.	Nominal diameter	Order No.
WM-G20/2	ZM	R1	217 211 11
	ZM	R1 1/2	217 211 12
	ZM	R2	217 211 13
	ZM	DN65	217 211 14
	ZM	DN80	217 211 15
	ZM	DN100	217 211 16
	ZM	DN125	217 211 17
WM-G20/3	ZM	R1	217 213 11
	ZM	R1 1/2	217 213 12
	ZM	R2	217 213 13
	ZM	DN65	217 213 14
	ZM	DN80	217 213 15
	ZM	DN100	217 213 16
	ZM	DN125	217 213 17

CE-PIN: CE 0085BS0032

Dual fuel burners version ZM-T

Burner type	Vers.	Nominal diameter	Order No.
WM-GL20/2-A	ZM-T	R1	218 212 11
	ZM-T	R1 1/2	218 212 12
	ZM-T	R2	218 212 13
	ZM-T	DN65	218 212 14
	ZM-T	DN80	218 212 15
	ZM-T	DN100	218 212 16
	ZM-T	DN125	218 212 17
WM-GL20/3-A	ZM-T	R1	218 213 11
	ZM-T	R1 1/2	218 213 12
	ZM-T	R2	218 213 13
	ZM-T	DN65	218 213 14
	ZM-T	DN80	218 213 15
	ZM-T	DN100	218 213 16
	ZM-T	DN125	218 213 17

DIN CERTCO: 5G1032/08M
CE-PIN: CE - 0085BT0133

Gas burners version ZM-LN

Burner type	Vers.	Nominal diameter	Order No.
WM-G20/2	ZM-LN	R1	217 212 11
	ZM-LN	R1 1/2	217 212 12
	ZM-LN	R2	217 212 13
	ZM-LN	DN65	217 212 14
	ZM-LN	DN80	217 212 15
	ZM-LN	DN100	217 212 16
	ZM-LN	DN125	217 212 17
WM-G20/3	ZM-LN	1"	217 214 11
	ZM-LN	1 1/2"	217 214 12
	ZM-LN	2"	217 214 13
	ZM-LN	DN 65	217 214 14
	ZM-LN	DN 80	217 214 15
	ZM-LN	DN 100	217 214 16
	ZM-LN	DN 125	217 214 17

CE-PIN: CE 0085BS0032

Dual fuel burners version ZM-R

Burner type	Vers.	Nominal diameter	Order No.
WM-GL20/2-A	ZM-R	R1	218 215 11
	ZM-R	R1 1/2	218 215 12
	ZM-R	R2	218 215 13
	ZM-R	DN65	218 215 14
	ZM-R	DN80	218 215 15
	ZM-R	DN100	218 215 16
	ZM-R	DN125	218 215 17
WM-GL20/3-A	ZM-R	R1	218 216 11
	ZM-R	R1 1/2	218 216 12
	ZM-R	R2	218 216 13
	ZM-R	DN65	218 216 14
	ZM-R	DN80	218 216 15
	ZM-R	DN100	218 216 16
	ZM-R	DN125	218 216 17

DIN CERTCO: 5G1032/08M
CE-PIN: CE - 0085BT0133

Special equipment
Oil burners WM-L 20 version T

Version T (3 stage)			WM-L20/1-A / T	WM-L20/2-A / T	WM-L20/3-A / T
Pressure gauge with ball valve			110 000 79	110 000 79	110 000 79
Vacuum gauge with ball valve			110 005 69	110 005 69	110 005 69
Combustion head extension		by 100 mm	210 030 49	210 030 52	210 030 55
		by 200 mm	210 030 50	210 030 53	210 030 56
		by 300 mm	210 030 51	210 030 54	210 030 57
Oil hoses 1300 mm in lieu of 1000 mm			110 000 72	110 000 72	110 000 72
2 stage operation with low impact start or change-over release			210 030 31	210 030 31	210 030 31
Ducted air intake with LGW 10 pressure switch (LGW 50 required additionally)			210 030 47	210 030 47	210 030 47
LGW 50 pressure switch			210 030 08	210 030 08	210 030 08
Oil meter	up to 150 kg	VZ 08	210 030 42	210 030 42	210 030 42
		VZ 08 with remote transmitter NF (W-FM 200 required)	210 030 43	210 030 43	210 030 43
	from 150 kg	VZ 020	210 030 44	210 030 44	210 030 44
		VZ 020 with remote transmitter NF (W-FM 200 required)	210 030 45	210 030 45	210 030 45
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 67	210 030 67	210 030 67
W-FM 100 (suitable for continuous operation) in lieu of W-FM 50		fitted	210 030 32	210 030 32	210 030 32
		loose	210 030 88	210 030 88	210 030 88
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	210 030 10	210 030 10	210 030 10
		loose	on request	on request	on request
DSA58 pressure switch vers. TRD 72 h			210 030 46	210 030 46	210 030 46
Flame sensor QRI in lieu of QRB (required for ver. TRD)			210 030 24	210 030 24	210 030 24
Analogue module with load controller for W-FM 100			110 017 18	110 017 18	110 017 18
Motor D112 with contactor 230 V and overload protection [1]			250 030 95	250 030 95	250 030 95
ABE with Chinese calligraphy (W-FM 100/200)			110 018 53	110 018 53	110 018 53
Special voltage (on request only)			210 030 69	210 030 69	210 030 69
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
Oil burners WM-L 20 version R

Version R (sliding multi-stage or modulating)		WM-L20/1-A / R	WM-L20/2-A / R	WM-L20/3-A / R
Pressure gauge with ball valve on pump		110 002 82	110 002 82	110 002 82
Pressure gauge with ball valve in return		110 011 50	110 011 50	110 011 50
Vacuum meter with ball valve		on request	on request	on request
Combustion head extension	by 100 mm	210 030 58	210 030 61	210 030 64
	by 200 mm	210 030 59	210 030 62	210 030 65
	by 300 mm	210 030 60	210 030 63	210 030 66
Oil hoses 1300 mm in lieu of 1000 mm		110 001 59	110 001 59	110 001 59
Ducted air intake with LGW 10 pressure switch (LGW 50 required additionally)		210 030 47	210 030 47	210 030 47
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 82	210 030 82	210 030 82
W-FM 100 (suitable for continuous operation) in lieu of W-FM 50	fitted	210 030 38	210 030 38	210 030 38
	loose	210 030 87	210 030 87	210 030 87
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	210 030 39	210 030 39	210 030 39
	loose	on request	on request	on request
DSA 58 pressure switch (vers. TRD 72 h)		210 030 46	210 030 46	210 030 46
Analogue module with load controller for W-FM 100		110 017 18	110 017 18	110 017 18
Speed control with frequency converter fitted to burner (W-FM 50/200 required)		210 030 40	210 030 40	210 030 40
Speed control fro frequency converter loose (FC from accessories) (W-FM 200 required)		on request	on request	on request
Motor D112 with contactor 230 V and overload protection [1]		250 030 95	250 030 95	250 030 95
ABE with Chinese calligraphy (W-FM 100/200)		110 018 53	110 018 53	110 018 53
Special volatage (on request only)		210 030 69	210 030 69	210 030 69
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 20 versions ZM, ZM-LN

Versions ZM, ZM-LN		WM-G20/2-A ZM	WM-G20/3-A ZM	WM-G20/2-A ZM-LN	WM-G20/3-A ZM-LN
Combustion head ext.	by 100 mm	250 030 79	250 030 79	250 030 87	250 030 87
	by 200 mm	250 030 80	250 030 80	250 030 88	250 030 88
	by 300 mm	250 030 81	250 030 81	250 030 89	250 030 89
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 pressures 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 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		210 030 47	210 030 47	210 030 47	210 030 47
KS40 controller fitted to burner (W-FM 50)		250 030 90	250 030 90	250 030 90	250 030 90
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	250 031 43	250 031 43	250 031 43	250 031 43
W-FM 200 in lieu of W-FM 50 with module for load control, analogue signal converter and sped control module with optional 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 incl. inductive proximity switch and LGW 10 in lieu of LGW 50 (W-FM 50 or 200 required)		210 030 40	210 030 40	210 030 40	210 030 40
Speed control with frequency converter loose (FC from accessories) (W-FM 200 required)		210 030 41	210 030 41	210 030 41	210 030 41
Analogue module with load controller for W-FM 100		110 017 18	110 017 18	110 017 18	110 017 18
Motor D112 with contactor 230 V and overload protection [1)]		250 030 95	250 030 95	250 030 95	250 030 95
ABE with Chinese calligraphy (W-FM 100/200)		110 018 53	110 018 53	110 018 53	110 018 53
Special voltage (on request only		250 031 02	250 031 02	250 031 02	250 031 02
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
Dual fuel burners WM-GL 20 version ZM-T

Version ZM-T			WM-GL20/2-A	WM-GL20/3-A
Combustion head ext.	by 100 mm		250 031 17	250 031 20
	by 200 mm		250 031 18	250 031 21
	by 300 mm		250 031 19	250 031 22
Solenoid valve for air pressure switch test for continuous run fan or post-purge			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
	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
Plug connection ST 18/7 and ST 18/4 (W-FM 54)			250 031 99	250 031 99
Plug connection ST 18/7 (W-FM 100/200)			250 032 01	250 032 01
Plug connection ST 18/7 (W-FM 100/200)			250 032 01	250 032 01
Electromagnetic coupling			250 031 16	250 031 16
Ducted air intake with LGW pressure switch			210 030 47	210 030 47
Oil meter	up to 150 kg	VZ08	250 031 33	250 031 33
		VZ08 with remote transmitter NF and external wiring	250 031 31	250 031 31
		VZ08 w. remote transm. NF and internal wiring (W-FM 200 req.)	250 031 32	250 031 32
	from 150 kg	VZ020	250 031 34	250 031 34
		VZ020 with remote transmitter NF and external wiring	250 031 35	250 031 35
Min. Pressure switch DSA58 in supply (vers. TRD 72h in conjunction with W-FM 100/200)			210 030 46	210 030 46
Analogue module with load controller for W-FM 100			included	included
W-FM 100 (suitable for continuous operation) in lieu of W-FM 54 with module for load control and analogue signal converter				
	fitted		250 031 78	250 031 78
	loose		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 with optional fuel metering				
	fitted		250 031 77	250 031 77
	loose		250 031 62	250 031 62
Oil hose 1300 mm in lieu of 1000 mm			110 000 72	110 000 72
Motor D112 with contactor 230 V and overload protection [1]			210 030 71	210 030 71
Speed control with frequency converter fitted to burner [2] (W-FM 54 or 200 required)			210 030 40	210 030 40
Speed control for frequency converter loose (FC form accessories) [2] (W-FM 200 required)			on request	on request
ABE (loose) with Chinese calligraphy (W-FM 100/200)			110 018 53	110 018 53
Special voltage (on request)			210 030 69	210 030 69
Control voltage 110 V	(W-FM 50/100/200)		250 031 72	250 031 72
	(W-FM 54)		on request	on request

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).

[2] FC operation vers. ZM-T: It is recommended to operate the multi stage oil part at 100% speed

Special equipment
Dual fuel burners WM-GL 20 version ZM-R

Version ZM-R		WM-GL20/2-A	WM-GL20/3-A
Combustion head ext.	by 100 mm	250 031 23	250 031 26
	by 200 mm	250 031 24	250 031 27
	by 300 mm	250 031 25	250 031 28
Solenoid valve for air pressure switch test for continuous run fan or post-purge		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
	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
Plug connection ST 18/7 and ST 18/4 (W-FM 54/100/200)		250 030 22	250 030 22
Electromagnetic coupling		250 031 29	250 031 29
Ducted air intake with LGW pressure switch		210 030 47	210 030 47
Min. pressure switch DSA58 in supply (vers. TRD 72h in conjunction with W-FM 100/200)		210 030 46	210 030 46
Analogue module with load controller for W-FM 100		110 017 18	110 017 18
W-FM 100 (suitable for continuous operation) in lieu of W-FM 54			
	fitted	250 031 76	250 031 76
	loose	250 031 82	250 031 82
W-FM 200 instead 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
	loose	250 031 63	250 031 63
Oil hose 1300 mm in lieu of 1000 mm		110 001 59	110 001 59
Motor D112 with contactor 230 V and overload protection [1]		210 030 71	210 030 71
Speed control with frequency converter fitted to burner [2] (W-FM 54 or 200 required)		210 030 40	210 030 40
Speed control with frequency converter loose (FC from accessories) [2] (W-FM 200 required)		on request	on request
ABE (loose) with Chinese calligraphy (W-FM 100/200)		110 018 53	110 018 53
Special voltage (on request only)		210 030 69	210 030 69
Control voltage 110 V	(W-FM 50/100/200)	250 031 72	250 031 72
	(W-FM 54)	on request	on request

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).

[2] FC operation vers. ZM-R: General conditions for regulating oil operation
– Frequency: min. 35 Hz
– Turndown: max. 3:1

Technical data
Oil burners

Oil burners		WM-L20/1-A / T	WM-L20/2-A / T	WM-L20/3-A / T
Burner motor [1]	Type Weishaupt	WM-D 112/110-2/3K0	WM-D 112/110-2/3K5	WM-D 112/140-2/4K5
Nominal load	kW	3	3.5	4.5
Nominal current	A	6.0	6.6	9.5
Motor protection switch [2] or motor prefusing [2] (with overload protection)	Type (e. g.)	MS132 - 6.3	MS132 - 10	MS132 - 10
	A minimum	20 AT (external)	20 AT (external)	25 AT (external)
Speed (50 Hz)	rpm	2900	2900	2900
Combustion manager	Type	W-FM 50	W-FM 50	W-FM 50
Flame monitoring	Type	QRB	QRB	QRB
Stepping motor Air / Oil	Type	STE 50	STE 50	STE 50
Pump fitted max. flow rate	Type l/h	J6 290	J6 290	J7 392
NO_x Class to EN 267		2	2	2
Oil hoses	DN / Length	13 / 1000	13 / 1000	13 / 1000
Weight	kg	approx. 80	approx. 80	approx. 80

Oil burners		WM-L20/1-A / R	WM-L20/2-A / R	WM-L20/3-A / R
Burner motor [1]	Type Weishaupt	WM-D 112/110-2/3K0	WM-D 112/110-2/3K5	WM-D 112/140-2/4K5
Nominal load	kW	3	3.5	4.5
Nominal current	A	6.0	6.6	9.5
Motor protection switch [2] or motor presuming [2] (with overload protection)	Type (e. g.)	MS132 - 6.3	MS132 - 10	MS132 - 10
	A minimum	20 AT (external)	20 AT (external)	25 AT (external)
Speed (50 Hz)	rpm	2900	2900	2900
Combustion manager	Type	W-FM 50	W-FM 50	W-FM 50
Flame monitoring	Type	QRB	QRB	QRB
Stepping motor Air / Oil	Type	STE 50	STE 50	STE 50
Pump fitted max. flow rate	Type l/h	TA2 525	TA2 525	TA3 785
NO_x Class to EN 267		2	2	2
Oil hoses	DN / Length	20 / 1000	20 / 1000	20 / 1000
Weight	kg	approx. 80	approx. 80	approx. 80

[1] From mid 2011
(The electric motors comply with the efficiency level IEZ 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 and dual fuel burners

Gas burners		WM-G20/2-A ZM	WM-G20/3-A ZM
Burner motor [1]	Type Weishaupt	WM-D 112/110-2/3K0	WM-D 112/110-2/3K5
Nominal load	kW	3.0	3.5
Nominal current	A	6.0	6.6
Motor protection switch [2] or motor prefusing [2] (with overload protection)	Type (e. g.) A minimum	MS132 - 6,3 20 AT (external)	MS132 - 10 20 AT (external)
Speed (50 Hz)	rpm	2900	2900
Combustion manager	Type	W-FM 50	W-FM 50
Stepping motor Air / Gas	Type	STE 50	STE 50
Flame monitoring	Type	ION	ION
NO_x Class to EN 676	ZM / ZM-LN	2 / 3	2 / 3
Weight (without gas valve train)	kg	approx. 85	approx. 85

Dual fuel burners version ZM-T		WM-GL20/2-A	WM-GL20/3-A
Burner motor [1]	Type Weishaupt	WM-D 112/110-2/3K5	WM-D 112/140-2/4K5
Nominal load	kW	3.5	4.5
Nominal current	A	6.6	9.5
Motor protection switch [2] or motor prefusing [2] (with overload protection)	Type (e. g.) A minimum	MS132 - 10 20 AT (external)	MS132 - 10 25 AT (external)
Speed (50 Hz)	rpm	2900	2900
Combustion manager	Type	W-FM 54	W-FM 54
Stepping motor Air / Gas	Type	STE 50	STE 50
NO_x Class to EN 267 / EN 676		2/2	2/2
Weight (without gas valve train)	kg	approx. 101	approx. 101
Pump fitted max. flow rate	Type l/h	J6 290	J7 392
Oil hoses	DN / Length	13 / 1000	13 / 1000

Dual fuel burners version ZM-R		WM-GL20/2-A	WM-GL20/3-A
Burner motor [1]	Type Weishaupt	WM-D 112/110-2/3K5	WM-D 112/140-2/4K5
Nominal load	kW	3.5	4.5
Nominal current	A	6.6	9.5
Motor protection switch [2] or motor prefusing [2] (with overload protection)	Type (e. g.) A minimum	MS132 - 10 20 AT (external)	MS132 - 10 25 AT (external)
Speed (50 Hz)	rpm	2900	2900
Combustion manager	Type	W-FM 54	W-FM 54
Stepping motor Air/Gas/Oil	Type	STE 50	STE 50
NO_x Class to EN 267 / EN 676		2/2	2/2
Weight (without valve train)	kg	approx. 105	approx. 105
Pump fitted max. flow rate	Type l/h	TA2 525	TA3 785
Oil hoses	DN / Length	20 / 1000	20 / 1000

[1] From mid 2011
(The electric motors comply with the efficiency level IEZ 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).

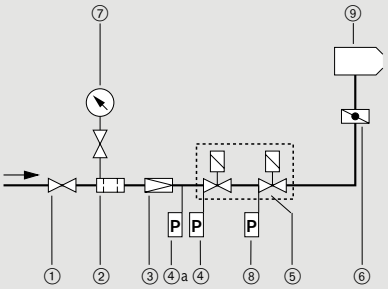
Voltages and frequencies:
The burners are equipped as standard for three phase alternating current (D) 400V, 3~, 50 Hz. Other voltages and frequencies are available on request.

Standard burner motor:
Insulation Class F, Type of protection IP 54.

Fuel systems

Gas fuel system

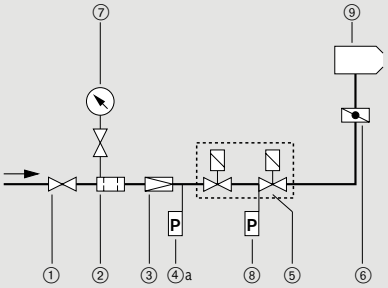
W-FM 50/100/200



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

[1)] Not included in burner price

W-FM 54



① Ball valve *
② Gas filter *
③ Pressure switch (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.

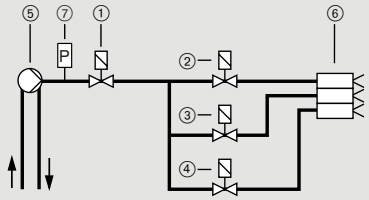
Supporting the valve train assembly
The valve train should be properly supported in accordance with the site conditions. See Weishaupt accessories list for various valve train support components.

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. Sparate component with HTB seals in front of ball valve for flanged valve trains.

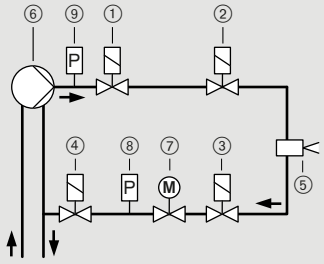
Oil fuel system

Version (ZM-)T



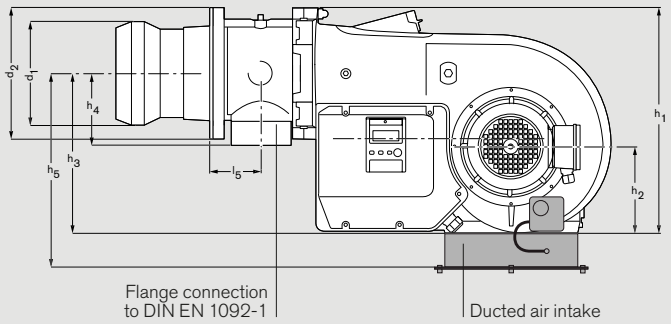
① Safety solenoid valve
② Solenoid valve stage 1
③ Solenoid valve stage 2
④ Solenoid valve stage 3
⑤ Oil pump fitted to burner
⑥ Nozzle head with 3 oil atomising nozzles
⑦ Pressure switch in supply (optional)

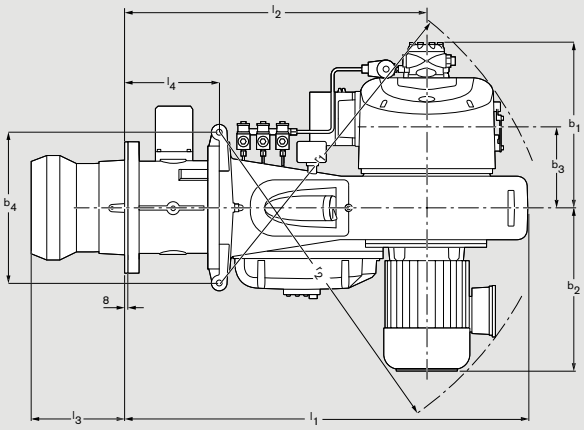
Version (ZM-)R



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)

Dimensions

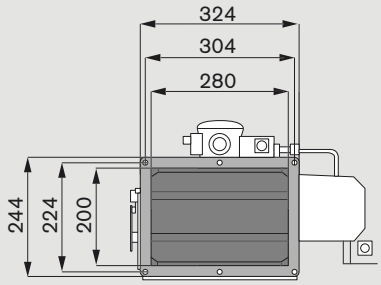




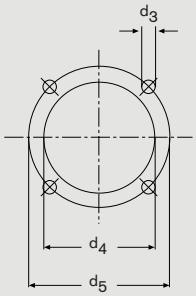
Burner type	Dimensions in mm l_1	l_2	l_3	l_4	l_5	b_1 ①	b_2	b_3	b_4	h_1	h_2	h_3	h_4	h_5
WM-L20/1 / T	810	557	217 - 232	38	–	411	406	209	380	573	225	408	–	470
WM-L20/2 / T	810	557	227 - 247	38	–	411	406	209	380	573	225	408	–	470
WM-L20/3 / T	810	557	237 - 257	38	–	411	406	209	380	573	225	408	–	470
WM-L20/1 / R	810	557	217 - 232	38	–	409	406	209	380	573	225	408	–	470
WM-L20/2 / R	810	557	227 - 247	38	–	409	406	209	380	573	225	408	–	470
WM-L20/3 / R	810	557	237 - 257	38	–	414	406	209	380	573	225	408	–	470
WM-G20/2 ZM	1010	757	231-256	238	128	333	406	209	380	573	225	408	182	470
WM-G20/3 ZM	1010	757	231-256	238	128	333	406	209	380	573	225	408	182	470
WM-G20/2 ZM-LN	1010	757	247-267	238	128	333	406	209	380	573	225	408	182	470
WM-G20/3 ZM-LN	1010	757	247-272	238	128	333	406	209	380	573	225	408	182	470
WM-GL20/2 ZM-T	1010	757	231 – 266	238	128	411	406	209	380	573	225	408	182	470
WM-GL20/3 ZM-T	1010	757	231 – 256	238	128	411	406	209	380	573	225	408	182	470
WM-GL20/2 ZM-R	1010	757	231 – 266	238	128	414	406	209	380	573	225	408	182	470
WM-GL20/3 ZM-R	1010	757	231 – 256	238	128	414	406	209	380	573	225	408	182	470

① without electromagnetic coupling pump with magnetic coupling plus 116 mm with vers. ZM-T, 131 mm with vers. ZM-R)

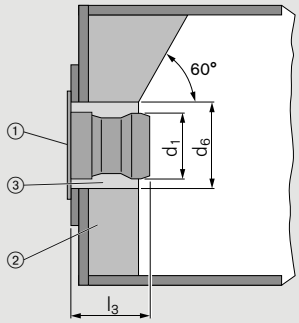
Ducted air intake bottom



Burner plate drilling dimensions



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 type	Dimensions in mm r_1	r_2	d_1	d_2	d_3	d_4	d_5	d_6	Nominal diameter gas butterfly
WM-L20/1 / T	840	858	200	330	M12	270	298	240	–
WM-L20/2 / T	840	858	220	330	M12	270	298	260	–
WM-L20/3 / T	840	858	240	330	M12	270	298	280	–
WM-L20/1 / R	840	858	200	330	M12	270	298	240	–
WM-L20/2 / R	840	858	220	330	M12	270	298	260	–
WM-L20/3 / R	840	858	240	330	M12	270	298	280	–
WM-G20/2 ZM	840	858	250	330	M12	270	298	290	DN65
WM-G20/3 ZM	840	858	260	330	M12	270	298	290	DN65
WM-G20/2 ZM-LN	840	858	250	330	M12	270	298	290	DN65
WM-G20/3 ZM-LN	840	858	260	330	M12	270	298	290	DN65
WM-GL20/2 ZM-T	840	858	250	330	M12	270	298	290	DN65
WM-GL20/3 ZM-T	840	858	260	330	M12	270	298	290	DN65
WM-GL20/2 ZM-R	840	858	250	330	M12	270	298	290	DN65
WM-GL20/3 ZM-R	840	858	260	330	M12	270	298	290	DN65

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

–weishaupt–

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Print No. 83**2115**02, February 2011

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We're right where you need us

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.

Even in an emergency, Weishaupt is on call. The service department is available to Weishaupt customers around the clock, 365 days a year. A Weishaupt branch office or agency near you can answer all your questions on heating and Weishaupt burners.