

– weishaupt –

product

Information on oil, gas and dual-fuel burners



WM 20 for oil, gas and dual-fuel

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

Progress and tradition: The latest monarch[®] burner



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

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

The latest monarch[®] series is writing the next chapter in this success story. Its combination of ultra-modern technology and compact construction helps to make this burner universally employable.

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



Digital

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

Weishaupt WM 20-series oil, gas, and dual-fuel burners are equipped as standard with electronic compound regulation and digital combustion management. Modern combustion technologies demand a precise and continually reproducible dosing of fuel and combustion air. This is the only way optimal combustion figures can 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 a bus system, enabling the user-friendly setting of the burner.

Flexible communication options

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

Bus communication with external controls and building management

Several bus systems are available via E-Gate or Mod-Gate if data from the burner are to be exchanged with a PLC unit, or if control of the burner is to be integrated into a building management system.

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

Technological edge

Digital combustion management makes burner operation simple and reliable.

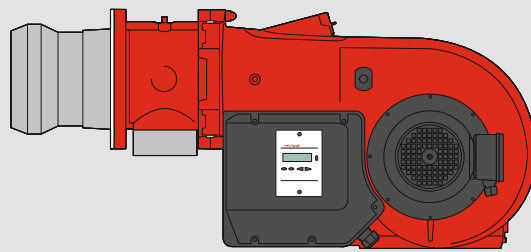
The most important advantages:

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

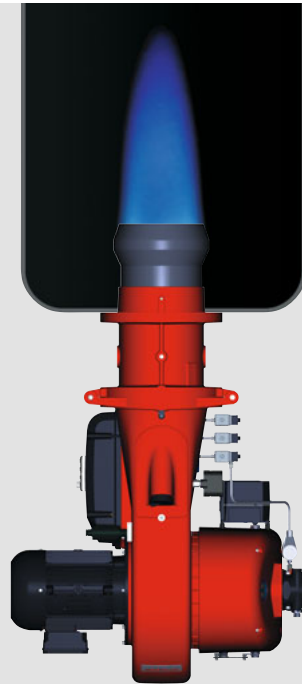
Digital combustion management General system overview	W-FM 50	W-FM 54	W-FM 100	W-FM 200
Single-fuel operation	●		●	●
Dual-fuel operation		●	●	●
Controller for intermittent operation	●	●	●	●
Controller for continuous operation			●	●
Flame sensor for intermittent operation	ION/QRA2/QRB	QRA2	ION/QRI/QRB/QRA	ION/QRI/QRB/QRA
Flame sensor for continuous operation			ION/QRI	ION/QRI
Servomotors in electronic compound (max.)	x 2	x 3	x 4	x 6
Servomotors with stepping motors	●	●	●	●
Variable speed drive available	●	●		●
O ₂ trim available				●
Gas valve proving	●	●	●	●
4-20 mA input signal	●	●	optional	●
Integrated, self-checking PID controller for temperature or pressure			optional	●
Removable operating unit (max. distance)	20 m	20 m	100 m	100 m
Fuel consumption meter (switchable)	● ¹⁾	● ¹⁾		●
Combustion efficiency display				●
eBUS / Modbus interface	●	●	●	●
PC-supported commissioning	●	●	●	●

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

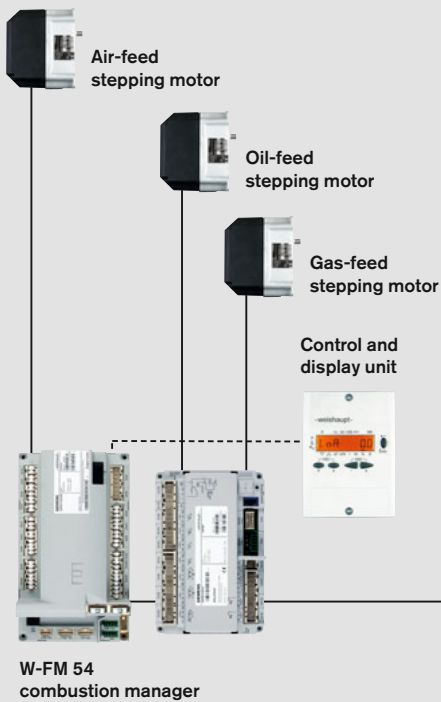
¹⁾ Not in conjunction with variable speed drive



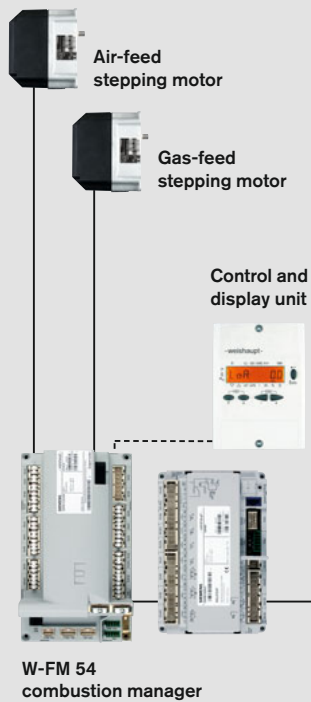
Burner with inbuilt digital combustion manager



ZM-R version



ZM-T version



PC / touchscreen visualisation



System networking via PLC / DDC



W-FKM telecontrol modem



Telecontrol via fixed or mobile phone networks

Modbus

Compact and quiet

The latest Weishaupt WM-series monarch® burners are compact, powerful, and quiet. They are writing the next chapter in the 50-year-long success story of the legendary monarch® series.

Futuristic fan technology

From the very earliest stages of development, 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. This special housing design with its self-opening air inlet and the new air-damper technology result in increased fan pressure and thus in greater capacity despite the burner's more compact form.

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

Fast commissioning, simple servicing

All WM 20 burners are delivered with the mixing assembly preset for the required output of the burner. A final adjustment is made using the combustion manager's menu-controlled commissioning program.

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

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

Regulation

The following methods of regulation are available for Weishaupt WM burners:

- Oil: Three-stage (T)
(or two-stage with low-impact start or change-over)
modulating (R)
- Gas: Sliding-two-stage or modulating (ZM), depending on the type of capacity regulation: Within its operating range, the burner's output is matched to the current heat demand.

These multiple control options make the burner universally employable. Both versions ensure a gentle, problem-free start up and high degree of operational reliability.

A number of executions are available to meet differing emission level and operational requirements:

ZM version

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

LN version (Low-NO_x)

Compared to burners with the standard mixing assembly, LN-version burners achieve a further reduction in NO_x emissions (Class 3). This is achieved through a more intensive recirculation of the combustion gases in the combustion chamber.

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

ZMI version

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

3LN version

Ultra-Low-NO_x oil, gas, and dual-fuel burners with multiflam mixing assemblies for installations with extremely low NO_x emission limits (suitable for three-pass and through-pass boilers only). The

burners' extremely low NO_x emissions are achieved using a special fuel distribution system. Suitable for light oil, natural gas, and LPG, 3LN-burners meet NO_x Class 3 requirements.

Fuels

Natural Gas E
Natural Gas LL
LPG B/P
Fuel oil EL (<6 mm²/s at 20 °C) in accordance with DIN 51 603, part 1

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

Applications

EN 267 and EN 676-approved Weishaupt WM 20 burners are suitable for:

- Installation on EN 303-compliant heat exchangers
- Hot-water plant
- Steam boilers and high-temperature 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 condensation
- Suitable for operation indoors only
- For plant in unheated areas, certain further measures may be required (please enquire).

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

Certification

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

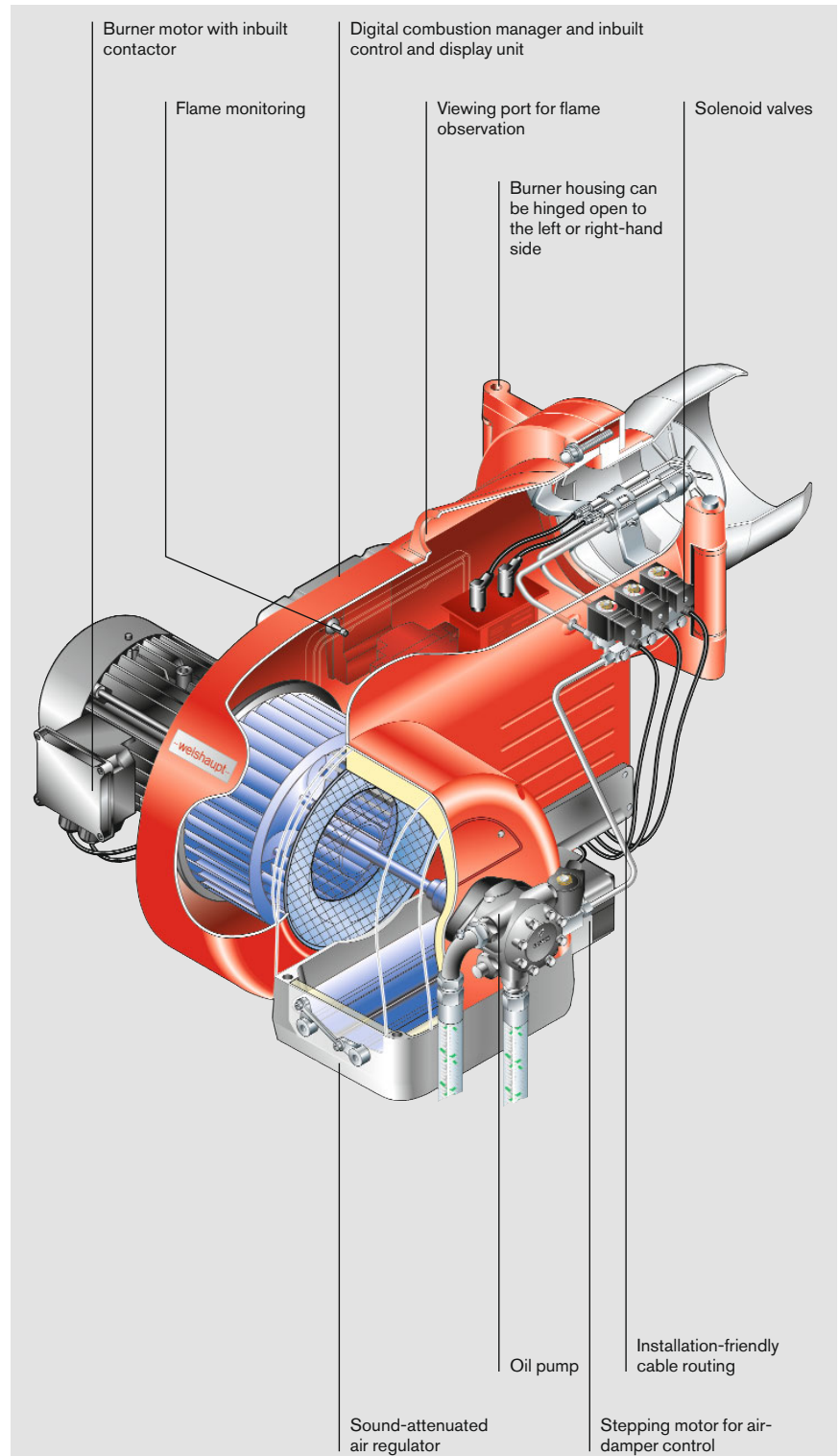
- EN 267 and EN 676
- Machinery Directive, 2006/42/EC
- Electromagnetic Compatibility Directive, 2004/108/EC
- Low Voltage Directive, 2006/95/EC
- Pressure Equipment Directive, 97/23/EC
- The burners carry CE and CE-PIN marks

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 with specially developed fan geometry and air-damper control
- All WM 20 burners are delivered with the mixing assembly preset for the required output of the burner
- IP 54 protection as standard
- Easy access to all components, such as the mixing head, air damper and combustion manager
- Reliable operation with three-stage, sliding-two-stage or modulating operation, depending on version and method of capacity regulation
- Computer-controlled function test of each individual burner at the factory
- Burners can be supplied with pre-wired 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 burner regulation

Model designation

Oil-fired operation

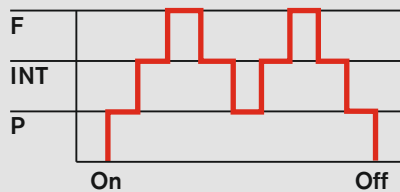
Three-stage operation (T)

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

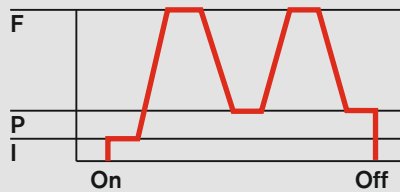
Modulating operation (R)

- 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
- Capacity regulation between partial and full load through the opening and closing of the oil regulator
- Modulating operation:
 - W-FM 50 or W-FM 54 with a separate capacity regulator
 - W-FM 100 with integral capacity controller
 - W-FM 200
- Alternatively, a regulator can be fitted into a control panel.

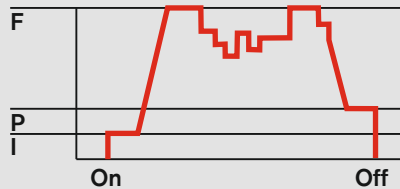
Three-stage



Sliding-two-stage



Modulating



Gas-fired operation

Sliding-two-stage or modulating operation (ZM)

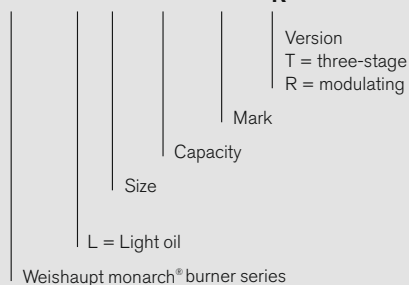
- Stepping motors adjust the capacity between partial load and full load depending on the heat demand
- There is a gradual change between both load points. There are no sudden, large changes in fuel throughput.
- Modulating operation:
 - W-FM 50 or W-FM 54 with a separate capacity regulator
 - W-FM 100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

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

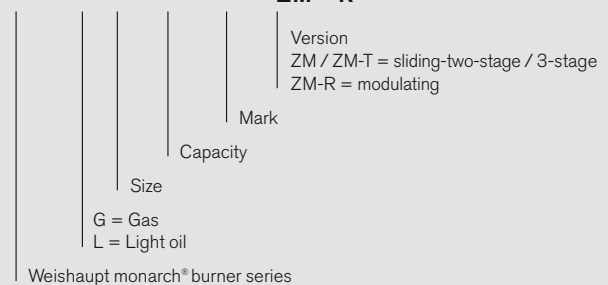
Fuel Version	Oil			Gas	
	three-stage	sliding-two-stage	modulating	sliding-two-stage	modulating
ZM				●	●
ZM-T	●			●	●
ZM-R		●	●	●	●

Model designation

WM - L 20 / 3 -A / T R

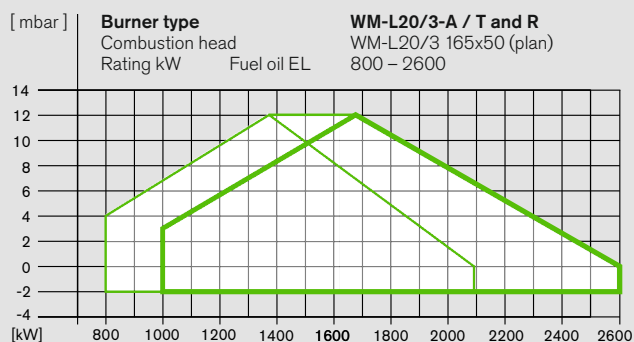
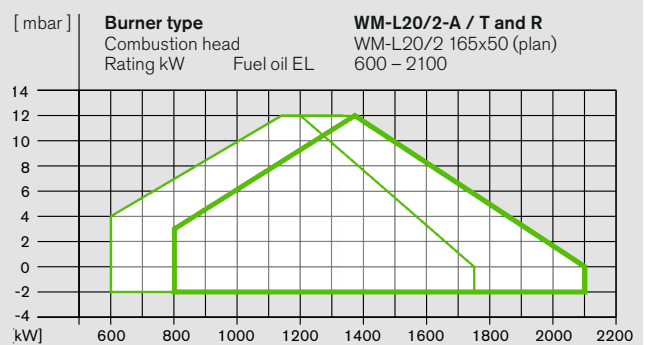
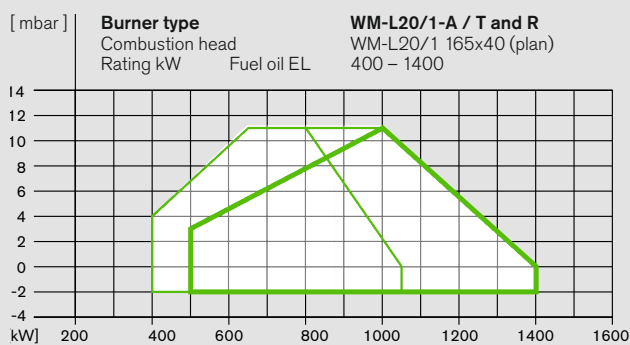


WM - GL 20 / 3 -A / ZM - T ZM - R



Burner selection

WM-L20, versions T and R



Fuel oil EL: Capacity with combustion head
 Closed
 Open

Capacity graphs certified in accordance with EN 267.

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

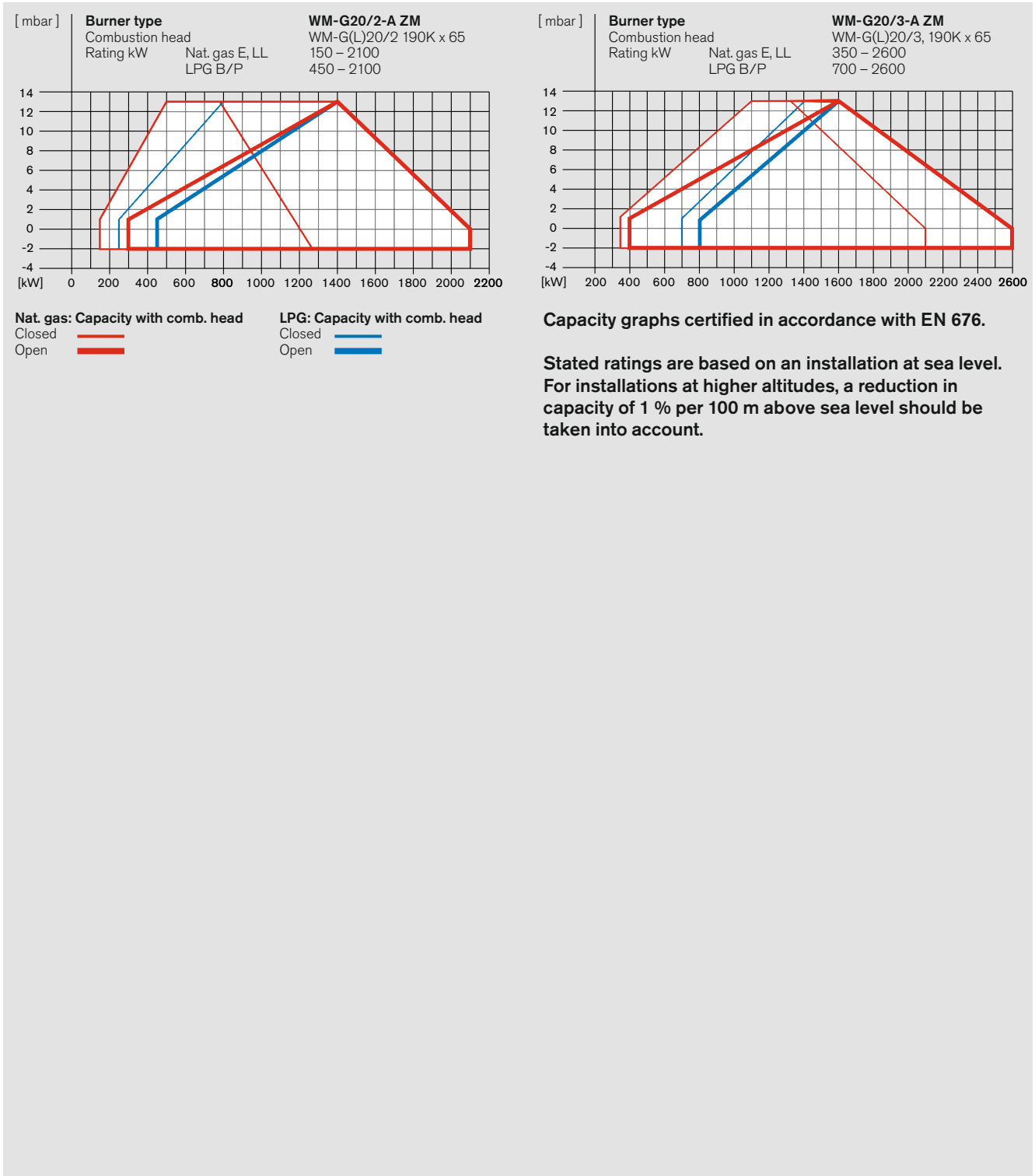
Stated oil throughputs are based on a calorific value of 11.91 kWh/kg for fuel oil EL.

DIN CERTCO certification:

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

Burner selection

WM-G20, version ZM



Gas valve train sizing WM-G20, version ZM

WM-G20/2-A, version ZM

Burner rating kW	Low-pressure supply (with FRS) (flow pressure in mbar into shut-off valve, pe, max = 300 mbar)	High-pressure supply (with HP regulator) (flow pressure in mbar into double solenoid valve)
	Nominal valve-train diameter	Nominal valve-train diameter
	1" 1½" 2" 65 80 100 125	1" 1½" 2" 65 80 100 125
	Nominal diameter of gas butterfly	Nominal diameter of gas butterfly
	65 65 65 65 65 65 65	65 65 65 65 65 65 65

Natural gas E LHV = 10.35 kWh/mn ³ ; d = 0.606	
500	28 - - - - - 7 - - - - -
700	54 21 - - - - - 14 10 - - - - -
900	87 33 13 - - - - - 23 16 6 - - - - -
1100	129 47 19 11 - - - - - 35 24 9 5 - - - - -
1300	178 65 25 14 10 - - - - - 48 34 12 7 6 - - - - -
1500	236 85 31 18 13 10 9 64 44 15 9 7 6 6
1800	- 122 44 25 17 13 12 92 64 22 13 11 9 8
2100	- 164 59 33 22 17 15 125 87 30 18 14 12 11

Natural gas LL LHV = 8.83 kWh/mn ³ ; d = 0.641	
500	40 16 - - - - - 10 7 - - - - -
700	77 29 12 - - - - - 21 14 5 - - - - -
900	126 47 19 11 - - - - - 34 24 9 6 - - - - -
1100	186 68 26 16 11 9 8 51 36 13 8 7 6 6
1300	259 94 35 20 14 11 10 70 49 17 11 9 8 7
1500	- 123 45 25 18 14 12 93 65 23 14 11 9 9
1800	- 177 65 36 25 19 17 135 94 33 21 17 14 13
2100	- 239 87 48 33 25 22 - 127 45 28 22 19 18

LPG LHV = 25.89 kWh/mn ³ ; d = 1.555	
500	13 - - - - - 5 - - - - -
700	24 - - - - - 6 - - - - -
900	38 15 - - - - - 10 7 - - - - -
1100	55 21 - - - - - 15 10 - - - - -
1300	75 29 12 - - - - - 20 14 5 - - - - -
1500	99 37 15 - - - - - 27 19 7 - - - - -
1800	141 52 20 12 9 - - - - - 38 27 10 6 5 - - - - -
2100	192 70 27 16 12 9 9 52 37 13 8 7 6 6

Screwed		Flanged	
R 1	W-MF 512	DN 65	DMV 5065/12
R 1½	W-MF 512	DN 80	DMV 5080/12
R 2	DMV 525/12	DN 100	DMV 5100/12
		DN 125	VDG 40.125

The combustion chamber pressure in mbar must be added to the minimum gas pressure determined from the above chart. Minimum gas pressure should not be less than 15 mbar.

For low-pressure supplies, EN 88-compliant governors with safety diaphragms are used. The maximum permissible supply pressure into the shut-off valve for low-pressure installations is 300 mbar.

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

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

WM-G20/3-A, version ZM

Burner rating kW	Low-pressure supply (with FRS) (flow pressure in mbar into shut-off valve, pe, max = 300 mbar)	High-pressure supply (with HP regulator) (flow pressure in mbar into double solenoid valve)
	Nominal valve-train diameter	Nominal valve-train diameter
	1" 1½" 2" 65 80 100 125	1" 1½" 2" 65 80 100 125
	Nominal diameter of gas butterfly	Nominal diameter of gas butterfly
	65 65 65 65 65 65 65	65 65 65 65 65 65 65

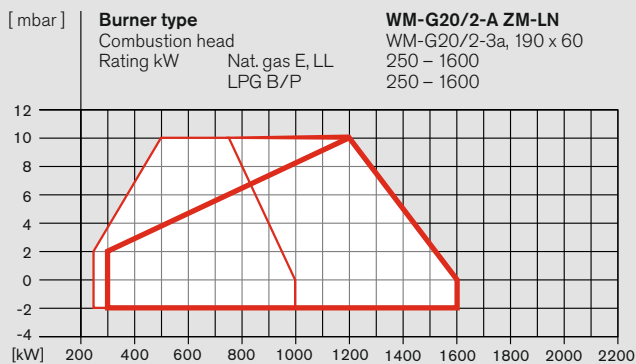
Natural gas E LHV = 10.35 kWh/mn ³ ; d = 0.606	
1100	129 47 19 11 8 - - 35 24 9 5 - - -
1300	179 65 25 15 11 9 - 48 34 12 7 6 5 -
1500	237 86 32 18 13 10 9 64 45 16 10 8 7 6
1700	- 109 40 23 16 12 11 82 57 20 12 10 8 8
1900	- 135 49 27 19 14 13 102 71 25 15 12 10 9
2100	- 165 60 33 23 17 15 125 87 30 18 15 12 12
2300	- 197 71 39 26 20 17 - 104 36 22 17 14 14
2600	- 250 89 48 32 24 21 - 132 45 27 22 18 17



Natural gas LL LHV = 8.83 kWh/mn ³ ; d = 0.641	
1100	186 68 26 15 11 9 8 50 35 12 8 6 5 5
1300	258 93 35 20 14 11 10 70 49 17 11 9 7 7
1500	- 123 45 25 18 14 12 93 65 23 14 11 9 9
1700	- 157 57 31 21 16 14 119 83 28 17 14 12 11
1900	- 195 70 38 26 19 17 - 103 35 21 17 14 13
2100	- 238 85 46 31 23 20 - 126 43 26 21 17 16
2300	- 284 101 55 37 27 24 - - 51 31 25 20 19
2600	- - 128 68 45 33 29 - - 65 39 31 25 24

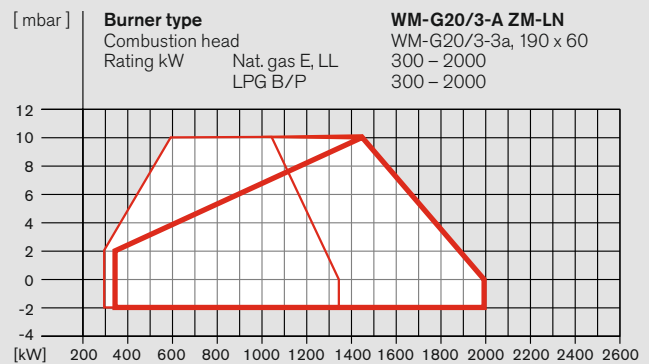
LPG LHV = 25.89 kWh/mn ³ ; d = 1.555	
1100	55 21 - - - - - 15 10 - - - - -
1300	75 29 12 - - - - - 20 14 5 - - - - -
1500	99 37 15 9 - - - - - 27 19 7 - - - - -
1700	126 46 18 11 8 - - - - - 34 24 8 5 - - - - -
1900	157 57 22 13 10 - - - - - 43 30 11 7 5 - - - - -
2100	191 70 27 16 12 9 8 52 36 13 8 7 6 6
2300	229 83 32 18 13 11 10 62 44 16 10 8 7 7
2600	292 106 40 23 16 13 12 80 56 20 13 10 9 8

Burner selection

WM-G20, version ZM-LN



Natural gas and LPG: Capacity with combustion head
 Closed 
 Open 



Capacity graphs certified in accordance with EN 676.

Stated ratings are based on an installation at sea level.
 For installations at higher altitudes, a reduction in capacity of 1 % per 100 m above sea level should be taken into account.

Gas valve train sizing WM-G20, version ZM-LN

WM-G20/2-A, version ZM-LN

Burner rating kW	Low-pressure supply (with FRS) (flow pressure in mbar into shut-off valve, p_a max = 300 mbar)						High-pressure supply (with HP regulator) (flow pressure in mbar into double solenoid valve)					
	Nominal valve-train diameter						Nominal valve-train diameter					
	1" 1½"	2"	65	80	100	125	1" 1½"	2"	65	80	100	125

Natural gas E LHV = 10,35 kWh/mn ³ ; d = 0.606												
500	33	16	10	9	8	-	11	9	6	5	5	5
600	45	21	13	11	10	9	16	13	8	7	7	6
700	60	27	15	13	11	11	21	16	10	9	8	8
800	77	34	18	15	13	12	26	20	12	10	9	9
900	95	41	22	17	15	14	32	25	14	12	11	11
1000	116	49	25	19	17	15	38	29	16	14	13	12
1100	139	58	29	21	19	17	45	34	19	16	15	14
1200	163	66	32	23	20	18	52	39	21	17	16	15
1400	218	87	40	28	23	21	68	51	25	20	19	17
1600	282	110	49	33	27	24	86	63	30	24	21	20

Natural gas LL LHV = 8,83 kWh/mn ³ ; d = 0.641												
500	45	20	12	9	8	-	15	11	7	6	6	5
600	63	27	15	12	10	10	20	16	9	8	7	7
700	83	36	19	14	13	12	27	21	12	10	9	9
800	107	45	23	17	15	14	34	26	14	12	11	10
900	134	55	27	20	17	16	43	32	17	14	13	12
1000	164	66	32	23	19	17	51	39	20	16	15	14
1100	197	78	36	26	22	19	61	46	23	18	17	16
1200	232	91	41	29	24	21	71	53	26	20	19	18
1400	-	120	52	35	28	25	94	69	32	25	22	21
1600	-	153	64	42	33	29	119	87	39	29	26	24

LPG LHV = 25,89 kWh/mn ³ ; d = 1.555												
500	17	10	-	-	-	-	7	6	-	-	-	-
600	23	13	9	8	8	-	9	8	6	6	5	5
700	30	16	11	10	10	9	12	10	7	7	7	7
800	37	19	13	12	11	11	15	12	9	8	8	8
900	45	23	15	13	12	12	18	15	11	10	10	9
1000	55	27	17	15	14	13	21	18	12	11	11	11
1100	65	31	20	17	15	15	25	20	14	13	12	12
1200	75	35	21	17	16	15	28	23	15	13	13	12
1400	98	44	24	20	18	17	34	27	17	15	14	14
1600	124	53	28	22	19	18	42	33	19	17	16	15

Screwed		Flanged	
R 1	W-MF 512	DN 65	DMV 5065/12
R 1½	W-MF 512	DN 80	DMV 5080/12
R 2	DMV 525/12	DN 100	DMV 5100/12
		DN 125	VGD 40.125

The combustion chamber pressure in mbar must be added to the minimum gas pressure determined from the above chart. Minimum gas pressure should not be less than 15 mbar.

For low-pressure supplies, EN 88-compliant governors with safety diaphragms are used. The maximum permissible supply pressure into the shut-off valve for low-pressure installations is 300 mbar.

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

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

WM-G20/3-A, version ZM-LN

Burner rating kW	Low-pressure supply (with FRS) (flow pressure in mbar into shut-off valve, p_a max = 300 mbar)						High-pressure supply (with HP regulator) (flow pressure in mbar into double solenoid valve)					
	Nominal valve-train diameter						Nominal valve-train diameter					
	1" 1½"	2"	65	80	100	125	1" 1½"	2"	65	80	100	125

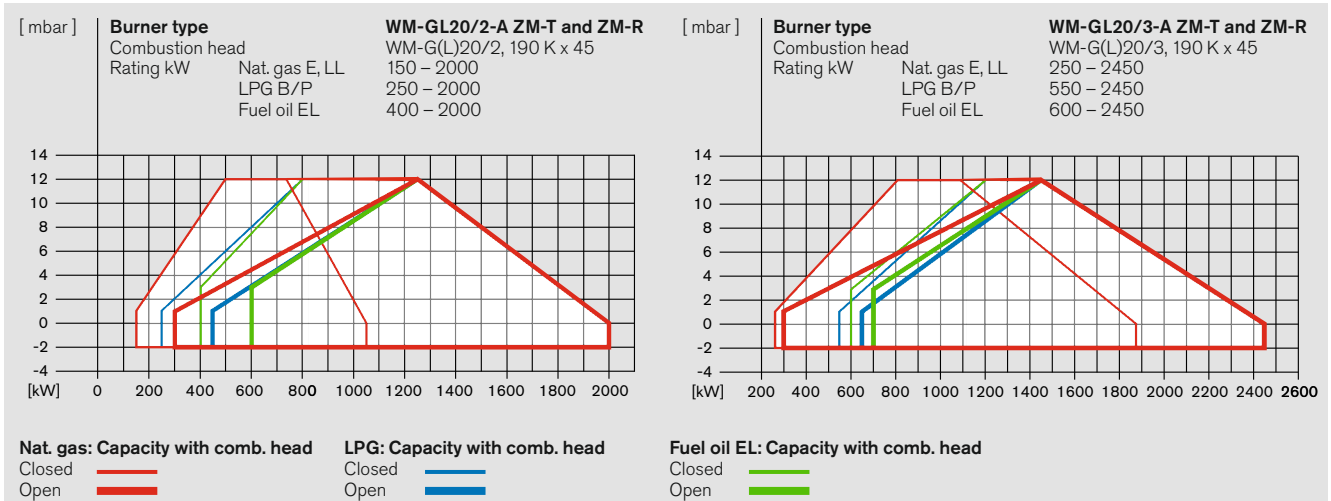
Natural gas E LHV = 10,35 kWh/mn ³ ; d = 0.606												
600	44	20	11	9	8	-	14	11	7	6	5	5
700	59	26	14	11	10	9	19	15	9	8	7	7
800	76	33	18	14	12	11	25	19	11	10	9	9
900	95	40	21	16	14	13	31	24	14	12	11	10
1000	116	49	25	19	17	15	38	29	16	14	13	12
1200	164	67	33	24	21	19	53	40	22	18	17	16
1400	221	89	42	30	26	23	70	53	27	22	21	20
1600	281	109	48	33	27	23	85	63	30	23	21	20
1800	-	135	58	38	31	26	105	77	35	27	24	22
2000	-	163	68	44	35	30	127	93	41	30	27	25

Natural gas LL LHV = 8,83 kWh/mn ³ ; d = 0.641												
600	60	25	13	10	8	-	18	14	7	6	5	-
700	81	33	16	12	10	9	25	18	9	7	6	6
800	105	42	20	14	12	11	32	24	12	9	8	8
900	131	52	24	17	14	13	40	29	14	11	10	9
1000	161	63	28	19	16	14	48	36	17	13	12	11
1200	228	88	38	25	20	18	68	50	23	17	15	14
1400	-	117	49	32	25	21	90	66	29	21	19	17
1600	-	152	64	41	33	28	119	87	38	29	26	23
1800	-	190	77	49	38	32	150	107	46	33	30	27
2000	-	231	92	57	43	36	186	129	54	39	34	31

LPG LHV = 25,89 kWh/mn ³ ; d = 1.555												
600	21	11	-	-	-	-	8	6	-	-	-	-
700	28	14	10	8	-	-	10	8	6	5	5	-
800	35	18	11	10	9	9	13	11	7	7	6	6
900	43	21	13	11	10	10	16	13	9	8	8	7
1000	53	25	15	13	12	11	19	15	10	9	9	8
1200	73	33	19	16	14	13	26	21	13	12	11	11
1400	97	43	24	19	17	16	34	27	16	14	14	13
1600	124	53	28	22	19	18	42	33	19	16	15	15
1800	153	64	32	24	21	19	50	39	22	18	17	16
2000	186	76	37	27	23	21	60	46	24	20	19	18

Burner selection

WM-GL20, versions ZM-T and ZM-R



Capacity graphs certified in accordance with EN 267 and EN 676.

Stated ratings are based on an installation at sea level. For installations at higher altitudes, a reduction in capacity of 1 % per 100 m above sea level should be taken into account.

Gas valve train sizing WM-GL20, versions ZM-T and ZM-R

WM-GL20/2-A, versions ZM-T and ZM-R

Burner rating kW	Low-pressure supply (with FRS) (flow pressure in mbar into shut-off valve, p_a max = 300 mbar)						High-pressure supply (with HP regulator) (flow pressure in mbar into double solenoid valve)					
	Nominal valve-train diameter						Nominal valve-train diameter					
	1" 1½"	2"	65	80	100	125	1" 1½"	2"	65	80	100	125
	Nominal diameter of gas butterfly						Nominal diameter of gas butterfly					
	65	65	65	65	65	65	65	65	65	65	65	65

Natural gas E LHV = 10,35 kWh/mn³; d = 0.606

500	29	12	-	-	-	-	7	5	-	-	-	-	-
700	56	23	11	-	-	-	16	12	5	-	-	-	-
900	90	36	17	12	10	9	27	20	9	7	6	6	6
1100	133	52	23	16	13	12	39	29	13	10	9	8	8
1300	183	69	29	19	15	13	53	38	16	12	10	9	9
1500	240	89	35	22	17	14	68	48	19	13	11	10	10
1750	-	118	45	26	19	15	89	63	23	15	13	11	10
2000	-	150	55	31	22	16	114	80	28	17	14	12	11

Natural gas LL LHV = 8,83 kWh/mn³; d = 0.641

500	41	16	-	-	-	-	11	8	-	-	-	-	-
700	79	31	14	10	-	-	22	16	7	5	-	-	-
900	129	49	21	14	12	10	37	27	12	9	8	7	7
1100	190	72	30	19	15	13	55	39	17	12	11	10	9
1300	262	97	38	24	18	15	74	53	21	14	12	11	11
1500	-	126	48	28	21	16	96	68	25	17	14	12	12
1750	-	168	62	35	24	19	128	89	32	20	16	14	13
2000	-	215	77	42	28	21	174	114	39	23	19	15	15

LPG LHV = 25,89 kWh/mn³; d = 1,555

500	15	-	-	-	-	-	5	-	-	-	-	-	-
700	25	12	-	-	-	-	8	6	-	-	-	-	-
900	41	18	10	8	-	-	13	10	6	5	-	-	-
1100	59	26	14	11	10	9	19	15	9	7	7	7	6
1300	80	33	17	12	11	10	25	19	10	8	7	7	7
1500	103	41	19	14	11	10	31	23	11	9	8	7	7
1750	137	53	23	15	12	11	40	29	13	9	8	8	7
2000	177	66	27	17	13	11	50	36	15	10	9	8	8

Screwed		Flanged	
R 1	W-MF 512	DN 65	DMV 5065/12
R 1½	W-MF 512	DN 80	DMV 5080/12
R 2	DMV 525/12	DN 100	DMV 5100/12
		DN 125	VDG 40.125

The combustion chamber pressure in mbar must be added to the minimum gas pressure determined from the above chart. Minimum gas pressure should not be less than 15 mbar.

For low-pressure supplies, EN 88-compliant governors with safety diaphragms are used. The maximum permissible supply pressure into the shut-off valve for low-pressure installations is 300 mbar.

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

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

WM-GL20/3-A, versions ZM-T and ZM-R

Burner rating kW	Low-pressure supply (with FRS) (flow pressure in mbar into shut-off valve, p_a max = 300 mbar)						High-pressure supply (with HP regulator) (flow pressure in mbar into double solenoid valve)					
	Nominal valve-train diameter						Nominal valve-train diameter					
	1" 1½"	2"	65	80	100	125	1" 1½"	2"	65	80	100	125
	Nominal diameter of gas butterfly						Nominal diameter of gas butterfly					
	65	65	65	65	65	65	65	65	65	65	65	65

Natural gas E LHV = 10,35 kWh/mn³; d = 0.606

500	69	26	-	-	-	-	18	13	-	-	-	-	-
700	107	40	16	10	-	-	29	21	8	-	-	-	-
900	154	57	23	14	11	9	42	30	11	8	6	6	5
1100	208	77	30	18	13	11	58	41	15	10	9	8	7
1300	271	99	38	23	17	13	75	53	20	13	11	10	9
1500	-	124	47	27	20	16	94	66	25	16	13	12	11
1750	-	165	60	34	23	18	126	88	31	19	15	13	12
2000	-	221	78	42	28	20	174	117	39	23	18	15	14

Natural gas LL LHV = 8,83 kWh/mn³; d = 0.641

500	99	37	15	-	-	-	27	19	7	-	-	-	-
700	155	57	22	14	10	8	42	30	11	7	6	5	-
900	222	81	31	18	14	11	61	43	16	10	8	7	7
1100	-	109	41	24	17	14	83	58	21	14	11	10	9
1300	-	141	52	30	21	16	107	75	27	17	14	12	11
1500	-	177	65	36	25	19	135	94	33	21	17	14	14
1750	-	237	84	46	31	22	184	125	42	25	20	17	16
2000	-	321	111	58	37	26	246	164	54	31	24	19	18

LPG LHV = 25,89 kWh/mn³; d = 1,555

500	30	13	-	-	-	-	8	6	-	-	-	-	-
700	47	19	-	-	-	-	13	10	-	-	-	-	-
900	66	27	12	-	-	-	19	14	6	-	-	-	-
1100	89	35	16	11	9	8	26	19	9	6	6	5	5
1300	115	45	20	14	11	10	34	24	11	8	7	7	7
1500	145	56	24	16	13	11	42	31	13	10	9	8	8
1750	194	73	30	19	14	12	55	39	16	11	10	9	9
2000	261	96	37	22	16	13	73	51	19	13	11	10	9

Scope of delivery

Description	WM-L20 T	WM-L20 R	WM-G20 ZM/LN	WM-GL20 ZM-T	WM-GL20 ZM-R
Burner housing, hinged flange, housing cover, Weishaupt burner motor, air-inlet housing, fan wheel, combustion head, ignition unit, ignition cable, ignition electrodes, combustion manager with control unit, flame sensor, stepping motors, flange gasket, limit switch on hinged flange, fixing screws	●	●	●	●	●
Digital combustion manager W-FM 50	●	●	●	-	-
W-FM 54	-	-	-	●	●
W-FM 100	○	○	○ [● ZMI]	○	○
Valve proving via W-FM and pressure switch with electronic compound	-	-	●	●	●
Class A double gas solenoid valve	-	-	●	●	●
Gas butterfly valve	-	-	●	●	●
Air-pressure switch	-	-	●	●	●
Low-gas-pressure switch	-	-	●	●	●
Preset, capacity-based mixing assembly	●	●	●	●	●
Stepping motor for compound regulation of fuel and air 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	●	-	-	●	-
Electromagnetic clutch	○	○	-	○	●
DOL motor contactor fitted to motor ¹⁾	●	●	●	●	●
IP 54 protection	●	●	●	●	●

EN 676 stipulates that gas filters and gas pressure regulators form part of the burner supply (see Weishaupt accessories list). Please enquire or see the special equipment section of this brochure for further burner executions.

● Standard
○ Optional

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

Order numbers

Oil burners, version T

Three-stage burner type	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: 5G1031/12

Gas burners, version ZM

Burner type	Version	DMV size	Order No.
WM-G20/2-A	ZM	R 1	217 211 11
	ZM	R 1½	217 211 12
	ZM	R 2	217 211 13
	ZM	DN 65	217 211 14
	ZM	DN 80	217 211 15
	ZM	DN 100	217 211 16
	ZM	DN 125	217 211 17
WM-G20/3-A	ZM	R 1	217 213 11
	ZM	R 1½	217 213 12
	ZM	R 2	217 213 13
	ZM	DN 65	217 213 14
	ZM	DN 80	217 213 15
	ZM	DN 100	217 213 16
	ZM	DN 125	217 213 17

CE-PIN: CE 0085BS0032

Gas burners, version ZM-LN

Burner type	Version	DMV size	Order No.
WM-G20/2-A	ZM-LN	R 1	217 212 11
	ZM-LN	R 1½	217 212 12
	ZM-LN	R 2	217 212 13
	ZM-LN	DN 65	217 212 14
	ZM-LN	DN 80	217 212 15
	ZM-LN	DN 100	217 212 16
	ZM-LN	DN 125	217 212 17
WM-G20/3-A	ZM-LN	R 1	217 214 11
	ZM-LN	R 1½	217 214 12
	ZM-LN	R 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

Oil burners, version R

Sliding-two-stage or modulating burner type	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: 5G1031/12

Dual-fuel burners, version ZM-T

Burner type	Version	DMV size	Order No.
WM-GL20/2-A	ZM-T	R 1	218 212 11
	ZM-T	R 1½	218 212 12
	ZM-T	R 2	218 212 13
	ZM-T	DN 65	218 212 14
	ZM-T	DN 80	218 212 15
	ZM-T	DN 100	218 212 16
	ZM-T	DN 125	218 212 17
WM-GL20/3-A	ZM-T	R 1	218 213 11
	ZM-T	R 1½	218 213 12
	ZM-T	R 2	218 213 13
	ZM-T	DN 65	218 213 14
	ZM-T	DN 80	218 213 15
	ZM-T	DN 100	218 213 16
	ZM-T	DN 125	218 213 17

DIN CERTCO: 5G1032/08M

CE-PIN: CE - 0085BT0133

Dual-fuel burners, version ZM-R

Burner type	Version	DMV size	Order No.
WM-GL20/2-A	ZM-R	R 1	218 215 11
	ZM-R	R 1½	218 215 12
	ZM-R	R 2	218 215 13
	ZM-R	DN 65	218 215 14
	ZM-R	DN 80	218 215 15
	ZM-R	DN 100	218 215 16
	ZM-R	DN 125	218 215 17
WM-GL20/3-A	ZM-R	R 1	218 216 11
	ZM-R	R 1½	218 216 12
	ZM-R	R 2	218 216 13
	ZM-R	DN 65	218 216 14
	ZM-R	DN 80	218 216 15
	ZM-R	DN 100	218 216 16
	ZM-R	DN 125	218 216 17

DIN CERTCO: 5G1032/08M

CE-PIN: CE - 0085BT0133

Special equipment WM-L20, version T

Version T (three-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
		by 200 mm	210 030 50	210 030 53
		by 300 mm	210 030 51	210 030 54
Oil hoses, 1300 mm in lieu of 1000 mm		110 000 72	110 000 72	110 000 72
Two-stage operation with low-impact start or change-over		210 030 31	210 030 31	210 030 31
Air-inlet flange for duct connection, with LGW 10 air-pressure switch (LGW 50 also required)		210 030 47	210 030 47	210 030 47
LGW 50 air-pressure switch ²⁾		210 030 08	210 030 08	210 030 08
Oil meter	up to 150 kg	VZO8 without transmitter	210 030 42	210 030 42
		VZO8 with low-frequency transmitter for external wiring	210 030 43	210 030 43
	from 150 kg	VZO20 without transmitter	210 030 44	210 030 44
		VZO20 with low-frequency transmitter for external wiring	210 030 45	210 030 45
ST 18/7 and ST 18/4 plug connections (W-FM 50/100/200)		210 030 13	210 030 13	210 030 13
ST 18/7 plug connection (W-FM 50 with KS20)		250 031 06	250 031 06	250 031 06
KS20 controller fitted to burner (W-FM 50)		250 033 15	250 033 15	250 033 15
W-FM 100 (suitable for continuous operation) in lieu of W-FM 50 ²⁾		fitted	210 030 32	210 030 32
		loose	210 030 88	210 030 88
DSA58 pressure switch ²⁾		210 030 46	210 030 46	210 030 46
QRI flame sensor in lieu of QRB ²⁾		210 030 24	210 030 24	210 030 24
Integral capacity controller and analogue signal convertor for W-FM 100		110 017 18	110 017 18	110 017 18
W-FM 200 in lieu of W-FM 50, with integral capacity controller, analogue signal convertor, and VSD module, with optional fuel metering		fitted	210 030 10	210 030 10
		loose	on application	on application
D112 motor with 230 V contactor and overload protection ¹⁾		250 030 95	250 030 95	250 030 95
ABE with Chinese-character display, supplied loose (W-FM 100/200)		110 018 53	110 018 53	110 018 53
Special voltage (on application only)		210 030 69	210 030 69	210 030 69
110 V control voltage		250 031 72	250 031 72	250 031 72

Country-specific executions and special voltages on application

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

²⁾ Required for PED (97/23/EC) compliance

Special equipment WM-L20, version R

Version R (sliding-two-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 application	on application	on application
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
Air-inlet flange for duct connection, with LGW 10 air-pressure switch (LGW 50 also required)		210 030 47	210 030 47	210 030 47
LGW 50 air-pressure switch ²⁾		210 030 08	210 030 08	210 030 08
ST 18/7 and ST 18/4 plug connections (W-FM 50/100/200)		210 030 13	210 030 13	210 030 13
ST 18/7 plug connection (W-FM 50 with KS20)		250 031 06	250 031 06	250 031 06
KS20 controller fitted to burner (W-FM 50)		250 033 15	250 033 15	250 033 15
W-FM 100 (suitable for continuous operation) in lieu of W-FM 50 ²⁾	fitted	210 030 38	210 030 38	210 030 38
	loose	210 030 87	210 030 87	210 030 87
DSA 58 pressure switch ²⁾		210 030 46	210 030 46	210 030 46
Integral capacity controller and analogue signal convertor for W-FM 100		110 017 18	110 017 18	110 017 18
W-FM 200 in lieu of W-FM 50 with integral capacity controller, analogue signal convertor, and VSD module, with optional fuel metering	fitted	210 030 39	210 030 39	210 030 39
	loose	on application	on application	on application
VSD with integral frequency convertor (W-FM 50/200 required)		210 030 40	210 030 40	210 030 40
VSD with separate frequency convertor (W-FM 200 required) (See accessories list for frequency convertor)		on application	on application	on application
D112 motor with 230 V contactor and overload protection ¹⁾		250 030 95	250 030 95	250 030 95
ABE with Chinese-character display, supplied loose (W-FM 100/200)		110 018 53	110 018 53	110 018 53
Special voltage (on application only)		210 030 69	210 030 69	210 030 69
110 V control voltage		250 031 72	250 031 72	250 031 72

Country-specific executions and special voltages on application

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

²⁾ Required for PED (97/23/EC) compliance

Special equipment

WM-G20, versions ZM and ZM-LN

Versions ZM and 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 ¹⁾ (R ³ / ₄ to R2 for low-pressure supplies)	GW 50 A6/1	250 033 30	250 033 30	250 033 30	250 033 30
	GW 150 A6/1	250 033 31	250 033 31	250 033 31	250 033 31
	GW 500 A6/1	250 033 32	250 033 32	250 033 32	250 033 32
High-gas-pressure switch ¹⁾ (flanged DMV/VGD for low-pressure supplies)	GW 50 A6/1	150 017 49	150 017 49	150 017 49	150 017 49
	GW 150 A6/1	150 017 50	150 017 50	150 017 50	150 017 50
	GW 500 A6/1	150 017 51	150 017 51	150 017 51	150 017 51
High-gas-pressure switch ¹⁾ (Fitted to high-pressure regulator)	GW 50 A6/1	250 033 33	250 033 33	250 033 33	250 033 33
	GW 150 A6/1	250 033 34	250 033 34	250 033 34	250 033 34
	GW 500 A6/1	250 033 35	250 033 35	250 033 35	250 033 35
ST 18/7 and ST 18/4 plug connections (W-FM 50/100/200)		250 030 22	250 030 22	250 030 22	250 030 22
ST 18/7 plug connection (W-FM 50 with KS20)		250 031 06	250 031 06	250 031 06	250 031 06
Air-inlet flange for duct connection, with LGW air-pressure switch		210 030 47	210 030 47	210 030 47	210 030 47
KS20 controller fitted to burner (W-FM 50) ¹⁾		250 033 15	250 033 15	250 033 15	250 033 15
W-FM 100 (suitable for continuous operation) in lieu of W-FM 50 ¹⁾	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
Int. capacity controller & analogue signal convertor for W-FM 100		110 017 18	110 017 18	110 017 18	110 017 18
W-FM 200 in lieu of W-FM 50 with integral capacity controller, analogue signal convertor, and VSD 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
VSD with integral frequency convertor, including 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
VSD with separate frequency convertor (W-FM 200 required) (See accessories list for frequency convertor)		210 030 41	210 030 41	210 030 41	210 030 41
D 112 motor with 230 V contactor and overload protection		250 030 95	250 030 95	250 030 95	250 030 95
ABE with Chinese-character display, loose (W-FM 100/200)		110 018 53	110 018 53	110 018 53	110 018 53
Special voltage (on application only)		250 031 02	250 031 02	250 031 02	250 031 02
110 V control voltage		250 031 72	250 031 72	250 031 72	250 031 72
Offset gas butterfly valve and DMV for vertical firing		250 032 95	250 032 95	250 032 95	250 032 95

Country-specific executions and special voltages on application

¹⁾ Required for PED (97/23/EC) compliance

Special equipment WM-GL20, 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 ³⁾ (R ³ / ₄ to R2 for low-pressure supplies)	GW 50 A6/1 250 033 30 GW 150 A6/1 250 033 31 GW 500 A6/1 250 033 32	250 033 30 250 033 31 250 033 32
High-gas-pressure switch ³⁾ (flanged DMV/VGD for low-pressure supplies)	GW 50 A6/1 150 017 49 GW 150 A6/1 150 017 50 GW 500 A6/1 150 017 51	150 017 49 150 017 50 150 017 51
High-gas-pressure switch ³⁾ (Fitted to high-pressure regulator)	GW 50 A6/1 250 033 33 GW 150 A6/1 250 033 34 GW 500 A6/1 250 033 35	250 033 33 250 033 34 250 033 35
ST 18/7 and ST 18/4 plug connections (W-FM 54)	250 031 99	250 031 99
ST 18/7 plug connection (W-FM 100/200)	250 032 01	250 032 01
Electromagnetic clutch	250 031 16	250 031 16
Air-inlet flange for duct connection, with LGW air-pressure switch	210 030 47	210 030 47
Oil meter up to 150 kg	VZO8 without transmitter 250 031 33	250 031 33
	VZO8 with low-frequency transmitter for external wiring 250 031 31	250 031 31
from 150 kg	VZO20 without transmitter 250 031 34	250 031 34
	VZO20 with low-frequency transmitter for external wiring 250 031 35	250 031 35
	VZO20 with low-frequency transmitter for external wiring (W-FM 50 and 54 or W-FM 200) 210 031 24	210 031 24
DSA58 minimum-pressure switch in supply ³⁾ (in conjunction with W-FM 100/200)	210 030 46	210 030 46
W-FM 100 (suitable for continuous operation) in lieu of W-FM 54 ³⁾ with integral capacity controller and analogue signal convertor	fitted 250 031 78	250 031 78
	loose 250 031 93	250 031 93
W-FM 200 in lieu of W-FM 54 with integral capacity controller, analogue signal convertor and VSD module, with optional fuel metering	fitted 250 031 77	250 031 77
	loose 250 031 62	250 031 62
Oil hoses, 1300 mm in lieu of 1000 mm	110 000 72	110 000 72
D112 motor with 230 V contactor and overload protection ¹⁾	250 030 95	250 030 95
VSD with integral frequency convertor (W-FM 54/200 required) ²⁾	210 030 40	210 030 40
VSD with separate frequency convertor (W-FM 200 required) ²⁾ (See accessories list for frequency convertor)	on application	on application
ABE with Chinese-character display, supplied loose (W-FM 100/200)	110 018 53	110 018 53
Special voltage (on application only)	210 030 69	210 030 69
110 V control voltage (W-FM 50/100/200)	250 031 72	250 031 72
(W-FM 54)	on application	on application
Offset gas butterfly valve and DMV for vertical firing	250 032 95	250 032 95

Country-specific executions and special voltages on application

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

²⁾ VSD with ZM-T version burners: When firing on oil (i.e. without modulating capacity regulation), operation at 100 % speed is recommended.

³⁾ Required for PED (97/23/EC) compliance

Special equipment

WM-GL20, 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 ³⁾ (R ³ / ₄ to R2 for low-pressure supplies)	GW 50 A6/1	250 033 30	250 033 30
	GW 150 A6/1	250 033 31	250 033 31
	GW 500 A6/1	250 033 32	250 033 32
High-gas-pressure switch ³⁾ (flanged DMV/VGD for low-pressure supplies)	GW 50 A6/1	150 017 49	150 017 49
	GW 150 A6/1	150 017 50	150 017 50
	GW 500 A6/1	150 017 51	150 017 51
High-gas-pressure switch ³⁾ (Fitted to high-pressure regulator)	GW 50 A6/1	250 033 33	250 033 33
	GW 150 A6/1	250 033 34	250 033 34
	GW 500 A6/1	250 033 35	250 033 35
ST 18/7 and ST 18/4 plug connections (W-FM 54/100/200)		250 030 22	250 030 22
Electromagnetic clutch		standard	standard
Air-inlet flange for duct connection, with LGW air-pressure switch		210 030 47	210 030 47
DSA58 minimum-pressure switch in supply ³⁾ (in conjunction with W-FM 100/200)		210 030 46	210 030 46
W-FM 100 (suitable for continuous operation) in lieu of W-FM 54 ³⁾	fitted	250 031 76	250 031 76
	loose	250 031 82	250 031 82
Integral capacity controller and analogue signal convertor for W-FM 100		110 017 18	110 017 18
W-FM 200 in lieu of W-FM 54 with integral capacity controller, analogue signal convertor and VSD module with optional fuel metering	fitted	250 031 77	250 031 77
	loose	250 031 63	250 031 63
Oil hoses, 1300 mm in lieu of 1000 mm		110 001 59	110 001 59
D112 motor with 230 V contactor and overload protection ¹⁾		250 030 95	250 030 95
VSD with integral frequency convertor (W-FM 54/200 required) ²⁾		210 030 40	210 030 40
VSD with separate frequency convertor (W-FM 200 required) ²⁾ (See accessories list for frequency convertor)		210 030 41	210 030 41
ABE with Chinese-character display, supplied loose (W-FM 100/200)		110 018 53	110 018 53
Special voltage (on application only)		210 030 69	210 030 69
110 V control voltage (W-FM 50/100/200) (W-FM 54)		250 031 72	250 031 72
		on application	on application
Offset gas butterfly valve and DMV for vertical firing		250 032 95	250 032 95

Country-specific executions and special voltages on application

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

²⁾ VSD with ZM-R version burners: General conditions for modulating capacity regulation when firing on oil
 – Frequency: min. 35 Hz
 – Turndown: max. 3:1

³⁾ Required for PED (97/23/EC) compliance

Technical data

Oil burners

Oil burners		WM-L20/1-A / T	WM-L20/2-A / T	WM-L20/3-A / T
Burner motor ¹⁾	Weishaupt type	WM-D 112/110-2/3K0	WM-D 112/110-2/3K5	WM-D 112/140-2/4K5
Nominal rating	kW	3	3.5	4.5
Nominal current	A	6.0	7.0	9.1
Motor protection switch ²⁾ or motor prefusing ²⁾ (with overload protection)	Type (e.g.) A minimum	MS132 - 6,3 16A gG/T (external)	MS132 - 10 20A gG/T (external)	MS132 - 10 25A gG/T (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
Air/oil stepping motor	Type	STE 50	STE 50	STE 50
Integral pump max. flow rate	Type l/h	J6 290	J6 290	J7 392
NO _x Class per 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⁾	Weishaupt type	WM-D 112/110-2/3K0	WM-D 112/110-2/3K5	WM-D 112/140-2/4K5
Nominal rating	kW	3	3.5	4.5
Nominal current	A	6.0	7.0	9.1
Motor protection switch ²⁾ or motor prefusing ²⁾ (with overload protection)	Type (e.g.) A minimum	MS132 - 6,3 16A gG/T (external)	MS132 - 10 20A gG/T (external)	MS132 - 10 25A gG/T (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
Air/oil stepping motor	Type	STE 50	STE 50	STE 50
Integral pump max. flow rate	Type l/h	TA2 525	TA2 525	TA3 785
NO _x Class per EN 267		2	2	2
Oil hoses	DN / Length	20 / 1000	20 / 1000	20 / 1000
Weight	kg	approx. 87	approx. 87	approx. 87

¹⁾ The electrical motors are high-efficiency IE2 motors in accordance with Commission Regulation (EC) 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, 400 V, 3 ~, 50 Hz. Other voltages and frequencies are available on application.

Standard burner motor:

Insulation Class F, IP 54 protection.

Technical data

Gas and dual-fuel burners

Gas burners		WM-G20/2-A ZM	WM-G20/3-A ZM
Burner motor ¹⁾	Weishaupt type	WM-D 112/110-2/3K0	WM-D 112/110-2/3K5
Nominal rating	kW	3.0	3.5
Nominal current	A	6.0	7.0
Motor protection switch ²⁾ or motor prefusing ²⁾ (with overload protection)	Type (e.g.) A minimum	MS132 - 6,3 16A gG/T (external)	MS132 - 10 20A gG/T (external)
Speed (50 Hz)	rpm	2900	2900
Combustion manager	Type	W-FM 50	W-FM 50
Flame monitoring	Type	ION	ION
Air/gas stepping motor	Type	STE 50	STE 50
NO _x Class per EN 676	ZM / ZM-LN	2 / 3	2 / 3
Weight (excluding DMV and fittings)	kg	approx. 86	approx. 91
Dual-fuel burners version ZM-T		WM-GL20/2-A	WM-GL20/3-A
Burner motor ¹⁾	Weishaupt type	WM-D 112/110-2/3K5	WM-D 112/140-2/4K5
Nominal rating	kW	3.5	4.5
Nominal current	A	7.0	9.1
Motor protection switch ²⁾ or motor prefusing ^{2)al} (with overload protection)	Type (e.g.) A minimum	MS132 - 10 20A gG/T (external)	MS132 - 10 25A gG/T (external)
Speed (50 Hz)	rpm	2900	2900
Combustion manager	Type	W-FM 54	W-FM 54
Flame monitoring	Type	QRA2	QRA2
Air/gas stepping motor	Type	STE 50	STE 50
NO _x Class per EN 267 / EN 676		2 / 2	2 / 2
Weight (excluding DMV and fittings)	kg	approx. 106	approx. 106
Integral pump 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⁾	Weishaupt type	WM-D 112/110-2/3K5	WM-D 112/140-2/4K5
Nominal load	kW	3.5	4.5
Nominal current	A	7.0	9.1
Motor protection switch ²⁾ or motor prefusing ²⁾ (with overload protection)	Type (e.g.) A minimum	MS132 - 10 20A gG/T (external)	MS132 - 10 25A gG/T (external)
Speed (50 Hz)	rpm	2900	2900
Combustion manager	Type	W-FM 54	W-FM 54
Flame monitoring	Type	QRA2	QRA2
Air/gas stepping motor	Type	STE 50	STE 50
NO _x Class per EN 267 / EN 676		2 / 2	2 / 2
Weight (excluding DMV and fittings)	kg	approx. 110	approx. 110
Integral pump max. flow rate	Type l/h	TA2 525	TA3 785
Oil hoses	DN / Length	20 / 1000	20 / 1000

¹⁾ The electrical motors are high-efficiency IE2 motors in accordance with Commission Regulation (EC) 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).

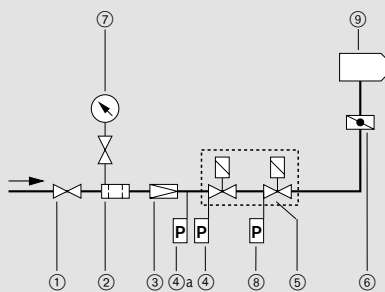
Voltages and frequencies:
The burners are equipped as standard for three-phase alternating current, 400 V, 3 ~, 50 Hz. Other voltages and frequencies are available on application.

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

Fuel systems

Gas-side fuel system

W-FM 50/100/200



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

¹⁾ Not included in burner price

Layout of the valve train

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

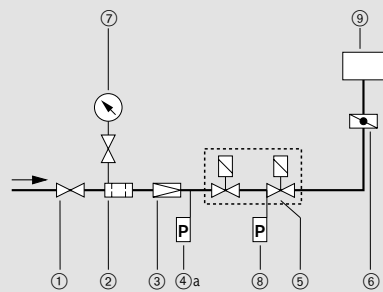
Compensator

To enable a tension free mounting of the valve train, the fitting of a compensator is 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 ¹⁾
- ② Gas filter ¹⁾
- ③ Pressure regulator, (LP) or (HP) ¹⁾
- ④a High-gas-pressure switch ¹⁾
- ⑤ Double solenoid valve (DMV)
- ⑥ Gas butterfly valve
- ⑦ Pressure gauge with push-button valve ¹⁾
- ⑧ Valve-proving/low-gas-pressure switch
- ⑨ Burner

Support of the valve train

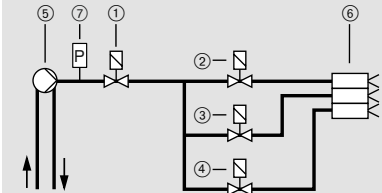
The valve train should be properly supported in accordance with the site conditions. See the Weishaupt accessories list for various valve-train-support components.

Gas meter

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

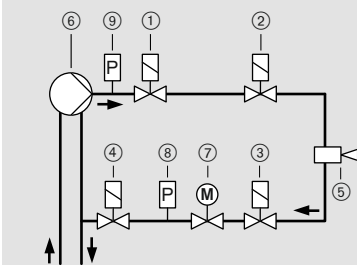
Oil-side fuel system

Version (ZM-T)



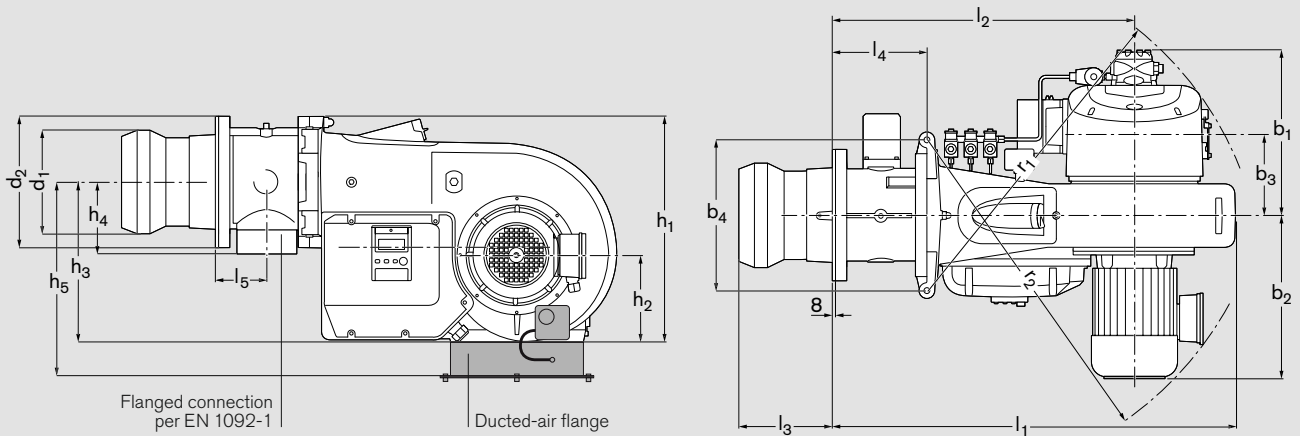
- ① Safety solenoid valve
- ② Stage 1 solenoid valve
- ③ Stage 2 solenoid valve
- ④ Stage 3 solenoid valve
- ⑤ Burner-mounted oil pump
- ⑥ Nozzle head with 3 oil atomising nozzles
- ⑦ Pressure switch in supply (optional)

Version (ZM-R)



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

Dimensions

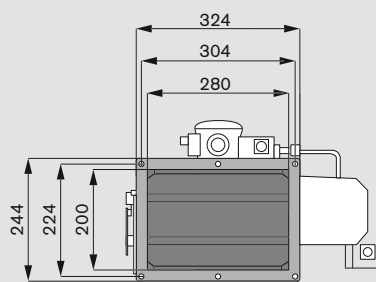


Burner type	Dimensions in mm														
	l ₁	l ₂	l ₃	l ₄	l ₅	b ₁ ^①	b ₂	b ₃	b ₄	h ₁	h ₂	h ₃	h ₄	h ₅	
WM-L20/1-A / T	810	557	217 - 232	38	-	411	406	209	380	573	225	408	-	470	
WM-L20/2-A / T	810	557	227 - 247	38	-	411	406	209	380	573	225	408	-	470	
WM-L20/3-A / T	810	557	237 - 257	38	-	411	424	209	380	573	225	408	-	470	
WM-L20/1-A / R	810	557	217 - 232	38	-	409	406	209	380	573	225	408	-	470	
WM-L20/2-A / R	810	557	227 - 247	38	-	409	406	209	380	573	225	408	-	470	
WM-L20/3-A / R	810	557	237 - 257	38	-	414	424	209	380	573	225	408	-	470	
WM-G20/2-A ZM	1010	757	231-266	238	128	326	406	209	380	573	225	408	182	470	
WM-G20/3-A ZM	1010	757	231-256	238	128	326	406	209	380	573	225	408	182	470	
WM-G20/2-A ZM-LN	1010	757	247-267	238	128	326	406	209	380	573	225	408	182	470	
WM-G20/3-A ZM-LN	1010	757	247-272	238	128	326	406	209	380	573	225	408	182	470	
WM-GL20/2-A ZM-T	1010	757	231 - 266	238	128	411	406	209	380	573	225	408	182	470	
WM-GL20/3-A ZM-T	1010	757	231 - 256	238	128	411	424	209	380	573	225	408	182	470	
WM-GL20/2-A ZM-R	1010	757	231 - 266	238	128	545 ^②	406	209	380	573	225	408	182	470	
WM-GL20/3-A ZM-R	1010	757	231 - 256	238	128	545 ^②	424	209	380	573	225	408	182	470	

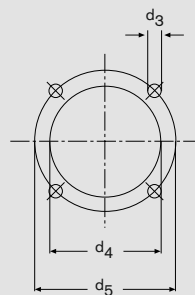
① Excluding electromagnetic clutch (pump with electromagnetic clutch: plus 116 mm for versions T and R)

② Including electromagnetic clutch

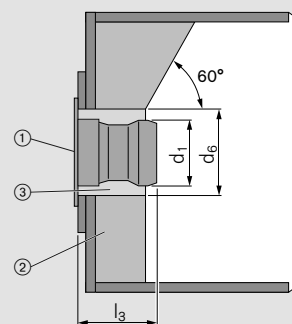
Underside of ducted-air flange



Mounting-plate drilling dimensions



Heat-exchanger preparation



- ① Flange gasket
- ② Refractory
- ③ Aperture

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

Burner type	Dimensions in mm								Nominal diameter of gas butterfly	
	r ₁	r ₂	d ₁	d ₂	d ₃	d ₄	d ₅	d ₆		
WM-L20/1-A / T	840	858	200	330	M12	240	298	240	–	
WM-L20/2-A / T	840	858	220	330	M12	260	298	260	–	
WM-L20/3-A / T	840	858	240	330	M12	270	298	280	–	
WM-L20/1-A / R	840	858	200	330	M12	240	298	240	–	
WM-L20/2-A / R	840	858	220	330	M12	260	298	260	–	
WM-L20/3-A / R	840	858	240	330	M12	270	298	280	–	
WM-G20/2-A ZM	840	858	250	330	M12	270	298	290	DN65	
WM-G20/3-A ZM	840	858	260	330	M12	270	298	290	DN65	
WM-G20/2-A ZM-LN	840	858	250	330	M12	270	298	290	DN65	
WM-G20/3-A ZM-LN	840	858	260	330	M12	270	298	290	DN65	
WM-GL20/2-A ZM-T	840	858	250	330	M12	270	298	290	DN65	
WM-GL20/3-A ZM-T	840	858	260	330	M12	270	298	290	DN65	
WM-GL20/2-A ZM-R	840	925	250	330	M12	270	298	290	DN65	
WM-GL20/3-A ZM-R	840	925	260	330	M12	270	298	290	DN65	

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

ZMI-version Weishaupt monarch[®] burners

More power in compact form

The ZMI version of the Weishaupt WM-G20 monarch[®] burner was developed especially with industrial applications in mind. This burner, with its large turndown range, is designed for use on process plant.

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

Fuels

Natural Gas E
Natural Gas LL
LPG B/P

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

Notes on operation

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

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

Zero governor

The ZMI version of the Weishaupt WM-G20 gas burner is additionally equipped with a zero governor. The zero governor is connected to the burner's airflow upstream of the fan by a flexible impulse line.

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



Certification

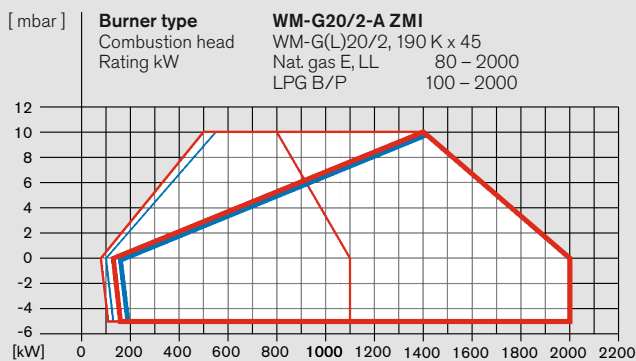
Weishaupt WM-G20 ZMI burners are not type-tested. The burner's safety equipment meets the requirements of EN 676.

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

The burners conform to the following EU directives:

- Machinery Directive 2006/42/EC
- Electromagnetic Compatibility Directive 2004/108/EC
- Low Voltage Directive 2006/95/EC
- Pressure Equipment Directive 97/23/EC
- The burners carry a CE mark

Burner selection, valve train sizing, order numbers WM-G20, version ZMI



Burner type WM-G20/2-A ZMI
Combustion head WM-G(L)20/2, 190 K x 45
Rating kW Nat. gas E, LL 80 – 2000
 LPG B/P 100 – 2000

Order numbers

Burner Type	Version	DMV size	Order No.
WM-G20/2-A	ZMI	R 1	217 217 11
		R 1½	217 217 12
		R 2	217 217 13
		DN 65	217 217 14
		DN 80	217 217 15
		DN 100	217 217 16
		DN 125	217 217 17

See page 16 for scope of delivery

WM-G20/2-A, version ZMI

Burner rating kW	Press. at gas-b/fly at full-load mbar	Low-pressure supply (with FRS) (flow pressure in mbar into shut-off valve, $p_{e, max} = 300$ mbar)					High-pressure supply (with HP regulator) (flow pressure in mbar into double solenoid valve)				
		Nominal valve-train diameter					Nominal valve-train diameter				
		1" 65	1½" 65	2" 65	2½" 65	1" 65	1½" 65	2" 65	2½" 65	3" 65	3½" 65
		Nominal diameter of gas butterfly					Nominal diameter of gas butterfly				
		65	65	65	65	65	65	65	65	65	65

Natural gas E LHV = 10.35 kWh/m³; d = 0.606

500	4	32	15	9	-	-	-	22	12	6	-	-	-	-
700	5	58	25	13	10	9	8	8	40	20	10	7	6	6
900	7	91	37	18	13	11	10	10	64	31	14	9	8	7
1100	8	134	52	23	16	13	12	11	94	45	19	12	10	9
1300	9	-	69	29	19	15	13	12	128	60	23	14	11	10
1500	9	-	89	35	22	17	14	13	-	77	29	16	13	11
1700	10	-	111	43	25	18	15	14	-	97	35	19	14	12
2000	11	-	150	55	31	22	16	15	-	131	45	23	16	13

Natural gas LL LHV = 8.83 kWh/m³; d = 0.641

500	4	43	19	10	-	-	-	30	15	7	-	-	-	-
700	6	80	33	16	11	10	9	8	56	27	12	8	7	6
900	7	130	50	22	15	12	11	10	91	43	18	11	9	8
1100	9	190	72	30	20	15	13	13	134	62	25	15	12	10
1300	10	-	97	38	24	18	15	14	-	84	32	18	14	12
1500	11	-	126	48	28	21	16	15	-	110	40	21	16	13
1700	12	-	-	59	33	23	18	16	-	139	49	25	18	15
2000	14	-	-	77	42	28	21	19	-	-	64	31	22	17

LPG LHV = 25.89 kWh/m³; d = 1.555;

500	4	17	10	-	-	-	-	11	7	5	-	-	-	-
700	5	28	14	10	8	-	-	19	11	7	6	5	5	-
900	6	42	20	12	10	9	8	29	16	9	7	6	6	6
1100	7	59	26	14	11	10	9	42	22	11	8	7	7	7
1300	7	80	33	17	12	11	10	56	28	13	9	8	7	7
1500	7	103	41	19	14	11	10	72	35	15	10	8	8	7
1700	7	130	50	22	15	12	11	91	43	18	11	9	8	8
2000	7	177	66	27	17	13	11	123	57	22	13	10	8	8

Nat. gas: Capacity with comb. head

Closed Open

LPG: Capacity with comb. head

Closed Open

Screwed

R 1	W-MF 512
R 1½	W-M F512
R 2	DMV 525/12

Flanged

DN 65	DMV 5065/12
DN 80	DMV 5080/12
DN 100	DMV 5100/12
DN 125	VDG 40.125

Capacity graphs certified in accordance with EN 676.

Stated ratings are based on an installation at sea level. For installations at higher altitudes, a reduction in capacity of 1 % per 100 m above sea level should be taken into account.

The combustion chamber pressure in mbar must be added to the minimum gas pressure determined from the above chart. Minimum gas pressure should not be less than 15 mbar.

For low-pressure supplies, EN 88-compliant governors with safety diaphragms are used. The maximum permissible supply pressure into the shut-off valve for low-pressure installations is 300 mbar.

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

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

Special equipment

Technical data

Special equipment		WM-G20/2-A ZMI
Combustion-head extension	by 100 mm by 200 mm by 300 mm	on application on application on application
Solenoid valve for air-pressure switch test for continuous-run fan or post purge		250 030 21
High-gas-pressure switch fitted to flanged elbow	GW 50 A6/1	250 007 59
Air-inlet flange for duct connection, with LGW air-pressure switch		210 030 47
ST 18/7 and ST 18/4 plug connections (W-FM 100/200)		250 030 22
Integral capacity controller and analogue signal convertor for W-FM 100		110 017 18
W-FM 100 supplied loose		250 031 10
W-FM 200 in lieu of W-FM 100 with integral capacity controller, analogue signal convertor, and VSD module with optional fuel metering	fitted loose	250 030 72 on application
VSD with integral frequency convertor, including inductive proximity switch and LGW 10 in lieu of LGW 50 (W-FM 200 required)		210 030 40
D 112 motor with 230 V contactor and overload protection ¹⁾		250 030 95
ABE with Chinese-character display (W-FM 100/200)		110 018 53

Country-specific executions and special voltages on application

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

Technical data	WM-G20/2-A ZMI	
Burner motor ¹⁾	Weishaupt type	WM-D112/110-2/3KO
Nominal rating	kW	3.0
Nominal current	A	6.0
Motor protection switch ²⁾ or motor prefusing ²⁾ (with overload protection)	Type (e.g.) A minimum	MS132 - 6,3 16A gG/T (external)
Speed (50 Hz)	rpm	2900
Combustion manager	Type	W-FM 100
Flame monitoring	Type	ION
Air/gas stepping motor	Type	SQM45
Weight (excl. DMV, zero governor, & fittings)	kg	approx. 86

¹⁾ The electrical motors are high-efficiency IE2 motors in accordance with Commission Regulation (EC) 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).

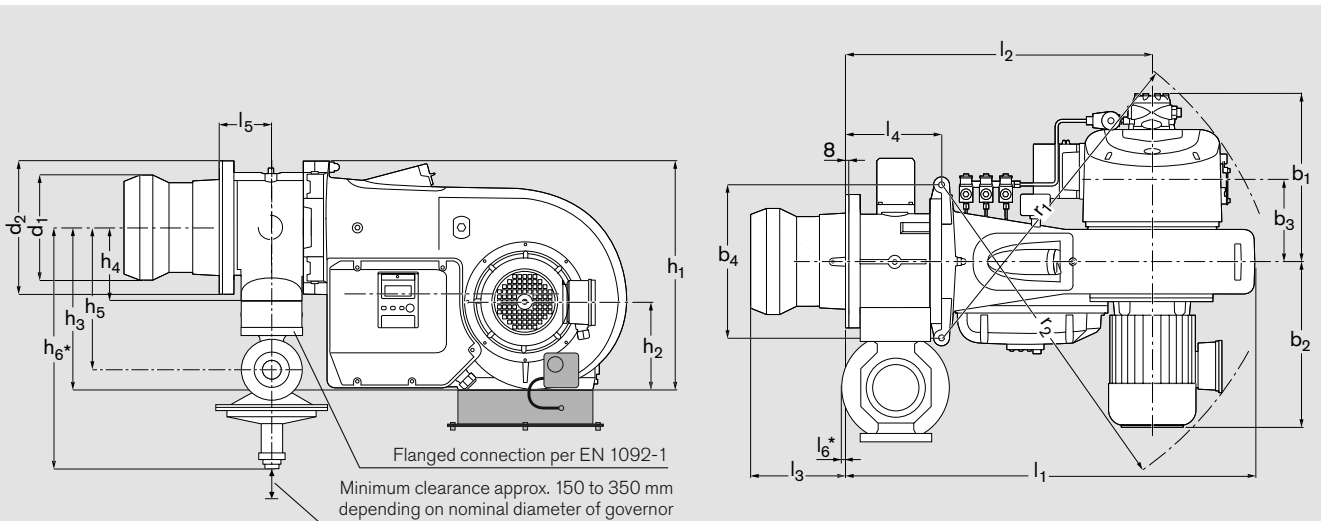
Voltages and frequencies:

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

Standard burner motor:

Insulation Class F, IP 54 protection.

Dimensions



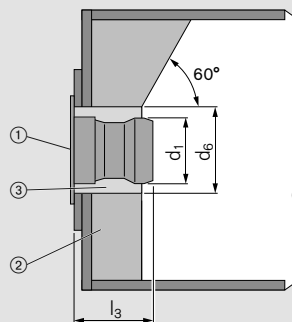
Size	Dimensions in mm					l_6^* for DN				h_1	h_2	h_3	h_4	h_5			
	l_1	l_2	l_3	l_4	l_5	Rp 1	Rp 1½	Rp 2	65						80	100	125
20/2	1010	757	231-266	238	128	-	-	-	15	15	47	72	573	225	408	182	324

Size	Dimensions in mm												d_1	d_2	d_3	d_4	d_5	d_6	
	h_6^* for DN	Rp 1	Rp 1½	Rp 2	65	80	100	125	b_1	b_2	b_3	b_4							
20/2	481	534	587	637	629	709	834	326	406	209	380	840	858	250	330	M12	270	298	290

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

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

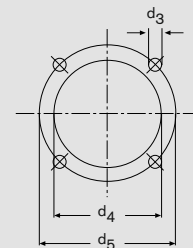
Heat-exchanger preparation



- ① Flange gasket
- ② Refractory
- ③ Aperture

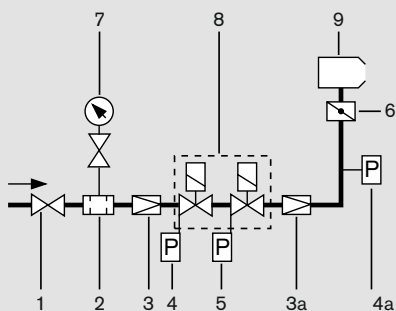
The refractory ② must not protrude beyond the front edge of the combustion head. It may however be tapered (min. 60°).

Mounting-plate drilling dimensions



Fuel system

Layout of the valve train



Legend:

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

Support of the valve train

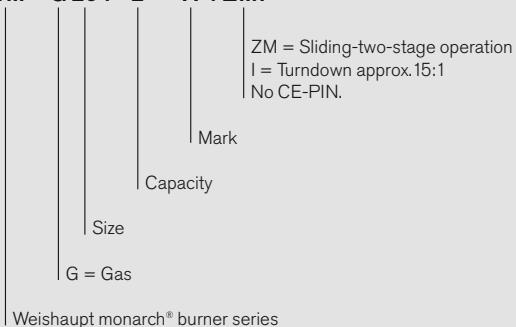
The valve train should be properly supported in accordance with the site conditions. See the Weishaupt accessories list for various valve-train-support components.

Gas meter

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

Model designation

WM- G 20 / 2 - A /ZMI



Saving fuel, reducing emissions: Patented multiflam[®] technology



Weishaupt's patented multiflam[®] technology enables large combustion plant to comply with very low emission limits without the need for expensive additional equipment. This reduction in emissions is achieved through the use of an innovative mixing assembly and fuel distribution.

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

The latest monarch[®] burners are now bringing this technology to medium-capacity ranges, combining flexibility with extremely low emissions.

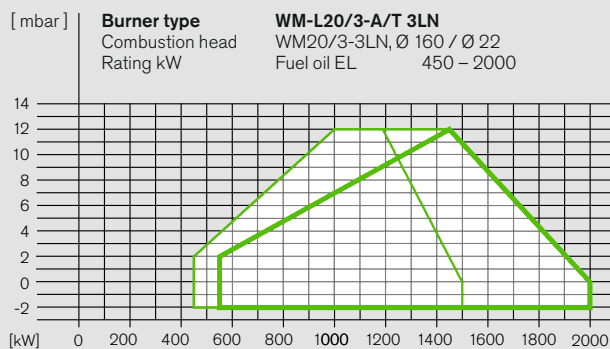
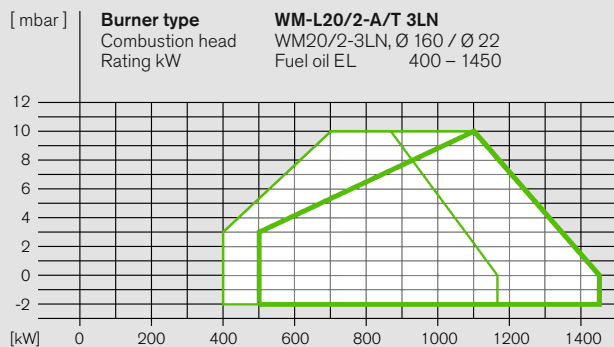
Exemplary emissions

3LN, multiflam[®]-version burners reduce NO_x emissions below the already good levels that can be achieved with a standard mixing assembly. These additional reductions are achieved using a special mixing assembly with fuel distribution.

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

Burner selection

WM-L20, version 3LN (multiflam®)



Fuel oil EL: Capacity with combustion head

Closed
 Open

Turndown, EL max 3:1

Capacity graphs certified in accordance with EN 267.

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

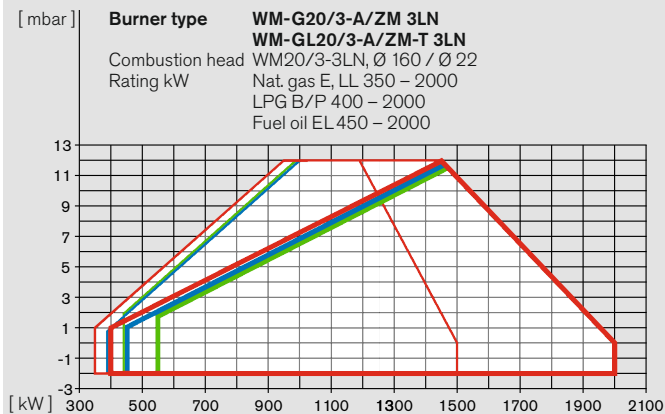
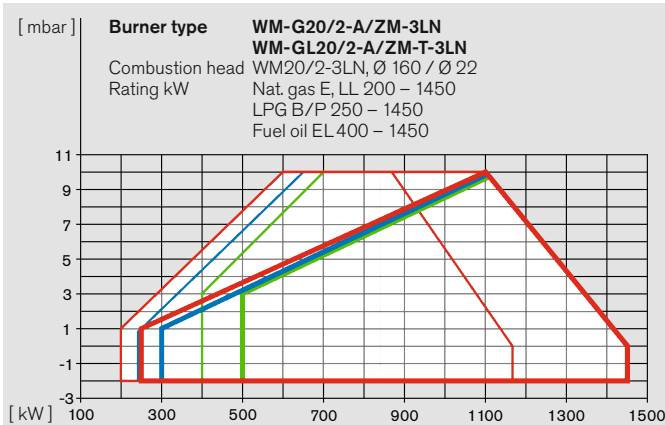
Stated oil throughputs are based on a calorific value of 11.91 kWh/kg for fuel oil EL.

DIN CERTCO certification:

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

Burner selection

WM-G20 and WM-GL20, vers. 3LN (multiflam®)



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

Fuel oil EL: Capacity with comb. head
 Closed
 Open

Turndown, Gas **max. 5:1**
EL **max. 3:1**

The capacity graphs are certified in accordance with EN 267 and EN 676.

Stated ratings are based on an installation at sea level.
 For installations at higher altitudes, a reduction in capacity of 1 % per 100 m above sea level should be taken into account.

Gas valve train sizing

WM-G20 and WM-GL20, vers. 3LN (multiflam®)

WM-G(L)20/2-A, version ZM-3LN (multiflam®)

Burner rating kW	Low pressure supply (with FRS) (flow pressure in mbar into shut-off valve, p_s max = 300 mbar)					High pressure supply (with HP regulator) (flow pressure in mbar into double solenoid valve)				
	Nominal valve train diameter					Nominal valve train diameter				
	1"1/2"	2"	65	80	100 125	1"1/2"	2"	65	80	100 125
	Nominal diameter of gas butterfly					Nominal diameter of gas butterfly				
	65	65	65	65	65	65	65	65	65	65

Natural gas E LHV = 10.35 kWh/mn ³ ; d = 0.606; W _i = 13.295 kWh/mn ³														
600	45	21	13	10	10	9	9	16	12	8	7	7	6	6
700	62	29	17	14	13	13	12	22	18	12	11	10	10	10
800	81	38	22	19	17	16	16	30	24	16	14	14	13	13
900	101	47	28	23	21	20	20	38	31	20	18	17	17	17
1000	123	56	32	26	24	23	22	45	37	24	21	20	20	19
1100	146	65	36	28	26	24	24	52	42	26	23	22	21	21
1200	170	73	39	30	27	25	24	58	46	27	24	22	22	21
1300	195	82	42	31	27	25	25	65	50	29	24	23	22	22
1450	237	96	46	33	28	26	25	76	58	31	25	23	22	22

Natural gas LL LHV = 8.83 kWh/mn ³ ; d = 0.641; W _i = 11.029 kWh/mn ³														
600	63	27	15	12	11	10	10	20	16	9	8	7	7	7
700	86	38	21	17	15	14	14	29	23	14	12	12	11	11
800	112	49	27	22	20	18	18	39	31	19	17	16	15	15
900	141	62	34	27	24	23	22	50	39	24	21	20	20	19
1000	172	74	40	31	27	26	25	60	47	28	24	23	22	22
1100	204	86	44	33	29	27	26	69	53	31	26	25	24	23
1200	238	98	48	35	30	28	27	78	60	33	27	26	24	24
1300	275	110	52	37	31	28	27	87	66	34	28	26	24	24
1450	-	132	59	40	33	29	28	103	77	38	29	27	25	25

LPG LHV = 25.89 kWh/mn ³ ; d = 1.555; W _i = 20.762 kWh/mn ³														
600	23	13	10	9	9	8	8	10	8	6	6	6	6	6
700	31	18	13	12	11	11	11	14	12	9	9	9	9	9
800	41	23	17	15	14	14	14	18	16	13	12	12	12	11
900	51	28	20	18	18	17	17	23	20	16	15	15	14	14
1000	62	34	24	22	21	21	20	28	25	19	18	18	18	18
1100	72	39	27	24	23	22	22	32	28	22	20	20	20	20
1200	82	43	29	25	24	23	23	35	30	23	21	21	20	20
1300	93	46	30	26	24	23	23	38	32	23	21	21	20	20
1450	110	52	32	27	25	24	23	43	35	24	22	21	21	21

Screwed		Flanged	
R 1	W-MF 512	DN 65	DMV 5065/12
R 1 1/2	W-MF 512	DN 80	DMV 5080/12
R 2	DMV 525/12	DN 100	DMV 5100/12
		DN 125	VDG 40.125

The combustion chamber pressure in mbar must be added to the minimum gas pressure determined from the above chart. Minimum gas pressure should not be less than 15 mbar.

WM-G(L)20/3-A, version ZM-3LN (multiflam®)

Burner rating kW	Low pressure supply (with FRS) (flow pressure in mbar into shut-off valve, p_s max = 300 mbar)					High pressure supply (with HP regulator) (flow pressure in mbar into double solenoid valve)				
	Nominal valve train diameter					Nominal valve train diameter				
	1"1/2"	2"	65	80	100 125	1"1/2"	2"	65	80	100 125
	Nominal diameter of gas butterfly					Nominal diameter of gas butterfly				
	65	65	65	65	65	65	65	65	65	65

Natural gas E LHV = 10.35 kWh/mn ³ ; d = 0.606; W _i = 13.295 kWh/mn ³														
950	103	42	21	15	13	12	12	32	24	13	10	10	9	9
1000	114	47	23	17	15	14	13	36	28	15	12	11	11	11
1100	139	58	29	22	19	17	17	45	35	19	16	15	14	14
1200	166	69	34	26	22	21	20	54	42	23	19	18	17	17
1300	194	81	40	30	26	24	23	64	49	27	23	22	21	20
1400	225	93	46	34	30	27	27	74	57	32	27	25	24	24
1500	255	104	50	36	31	28	27	82	63	34	28	26	25	24
1600	286	114	53	38	32	29	28	90	68	35	28	26	25	24
1800	-	138	61	41	33	29	28	108	80	38	30	27	25	25
2000	-	164	69	45	35	30	29	128	93	42	31	28	26	25

Natural gas LL LHV = 8.83 kWh/mn ³ ; d = 0.641; W _i = 11.029 kWh/mn ³														
950	146	58	26	18	15	14	13	44	33	16	12	11	10	10
1000	162	64	30	21	18	16	15	50	37	18	14	13	12	12
1100	197	79	37	26	22	20	19	62	46	24	19	18	17	16
1200	235	94	44	32	27	24	23	74	56	29	24	22	21	20
1300	276	111	52	37	32	29	28	88	66	35	28	26	25	24
1400	-	127	59	42	36	32	31	101	76	39	32	30	28	28
1500	-	142	65	45	37	33	32	112	84	42	33	31	29	28
1600	-	158	70	47	39	34	32	125	93	44	35	32	29	29
1800	-	194	81	53	42	36	34	-	111	50	37	34	31	30
2000	-	233	94	59	46	38	36	-	131	56	41	36	33	32

LPG LHV = 25.89 kWh/mn ³ ; d = 1.555; W _i = 20.762 kWh/mn ³														
950	48	23	14	12	11	10	10	17	14	9	8	8	8	7
1000	53	25	16	13	12	12	11	19	16	10	9	9	9	9
1100	64	31	19	16	15	14	14	24	20	13	12	12	11	11
1200	76	37	22	19	18	17	17	29	24	16	15	14	14	14
1300	89	43	26	22	20	19	19	34	28	19	17	17	17	16
1400	103	49	30	25	23	22	22	40	33	22	20	20	19	19
1500	116	54	32	27	25	23	23	44	36	24	22	21	20	20
1600	129	59	34	27	25	24	23	47	38	25	22	21	21	20
1800	158	68	37	29	26	24	23	55	43	26	23	22	21	21
2000	190	79	40	30	26	24	24	63	49	28	23	22	21	21

For low-pressure supplies, EN 88-compliant governors with safety diaphragms are used. the maximum permissible supply pressure into the shut-off valve for low-pressure installations is 300 mbar.

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

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

Scope of delivery

Description	WM-L20 T-3LN	WM-G20 ZM-3LN	WM-GL20 ZM-T-3LN
Burner housing, hinged flange, housing cover, Weishaupt burner motor, air inlet housing, fan wheel, combustion head, ignition unit, ignition cable, ignition electrodes, combustion manager with control unit, flame sensor, stepping motors, flange gasket, limit switch on hinged flange, fixing screws	●	●	●
Digital combustion manager W-FM 50 W-FM 54	● –	● –	– ●
Valve proving via W-FM and pressure switch with electronic compound	–	●	●
Double gas solenoid valve (Class A)	–	●	●
Gas butterfly valve	–	●	●
Air-pressure switch	–	●	●
Low-gas-pressure switch	–	●	●
Preset, capacity-based mixing assembly	●	●	●
Stepping motor for compound regulation of fuel and air 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 nozzles, 1 additional oil safety solenoid valve	●	–	●
DOL motor contactor fitted to motor ¹⁾	●	●	●
IP 54 protection	●	●	●

EN 676 stipulates that gas filters and gas pressure regulators form part of the burner supply (see Weishaupt accessories list). Please enquire or see the special equipment section of this brochure for further burner executions.

- Standard
- Optional

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

Order numbers

Oil burners

Burner Type	Version	Order No.
WM-L20/2-A	T-3LN	211 210 24
WM-L20/3-A	T-3LN	211 210 34

DIN CERTCO: 5G1031/12

Gas burners

Burner Type	Version	DMV size	Order No.
WM-G20/2-A	ZM-3LN	R 1	217 215 11
		R 1½	217 215 12
		R 2	217 215 13
		DN 65	217 215 14
		DN 80	217 215 15
		DN 100	217 215 16
		DN 125	217 215 17
WM-G20/3-A	ZM-3LN	R 1	217 216 11
		R 1½	217 216 12
		R 2	217 216 13
		DN 65	217 216 14
		DN 80	217 216 15
		DN 100	217 216 16
		DN 125	217 216 17

CE-PIN: CE 0085BQ0032

Dual-fuel burners

Burner Type	Version	DMV size	Order No.
WM-GL20/2-A	ZM-T-3LN	R 1	218 214 11
		R 1½	218 214 12
		R 2	218 214 13
		DN 65	218 214 14
		DN 80	218 214 15
		DN 100	218 214 16
		DN 125	218 214 17
WM-GL20/3-A	ZM-T-3LN	R 1	218 217 11
		R 1½	218 217 12
		R 2	218 217 13
		DN 65	218 217 14
		DN 80	218 217 15
		DN 100	218 217 16
		DN 125	218 217 17

CE-PIN: CE 0085BT0133

DIN CERTCO: 5G1032/08M

Special equipment WM-L20, version 3LN (multiflam®)

Oil burners		WM-L20/2-A T-3LN	WM-L20/3-A T-3LN
Pressure gauge with ball valve		110 000 79	110 000 79
Vacuum gauge with ball valve		110 005 69	110 005 69
Combustion-head extension	by 100 mm	210 031 36	210 031 36
	by 200 mm	210 031 37	210 031 37
	by 300 mm	210 031 38	210 031 38
Oil hoses, 1300 mm in lieu of 1000 mm		110 000 72	110 000 72
Two-stage operation with low-impact start or change-over		210 030 31	210 030 31
Solenoid valve for air-pressure switch test for continuous-run fan or post purge		250 030 21	250 030 21
Air-inlet flange for duct connection, with LGW10 air-pressure switch (LGW 50 also required)		210 030 47	210 030 47
LGW 50 air-pressure switch ³⁾		210 030 08	210 030 08
Oil meter ²⁾ up to 150 kg: VZO8		210 030 42	210 030 42
from 150 kg: VZO20		210 030 44	210 030 44
ST 18/7 and ST 18/4 plug connections (W-FM 50/100/200)		210 030 13	210 030 13
ST 18/7 plug connection (W-FM 50 with KS20)		250 031 06	250 031 06
KS20 controller fitted to burner (W-FM 50)		250 033 15	250 033 15
W-FM 100 (suitable for continuous operation) ³⁾			
in lieu of W-FM 50	fitted	210 030 32	210 030 32
	loose	210 030 88	210 030 88
Integral capacity controller and analogue signal convertor for W-FM 100		110 017 18	110 017 18
W-FM 200 in lieu of W-FM 50 with integral capacity controller, analogue signal convertor, and VSD module with optional fuel metering		210 030 10	210 030 10
DSA58 pressure switch ³⁾		210 030 46	210 030 46
QRI flame sensor in lieu of QRA ³⁾		210 030 24	210 030 24
D112 motor with 230 V contactor and overload protection ¹⁾		250 030 95	250 030 95
ABE with Chinese-character display (W-FM 100/200)		110 018 53	110 018 53
Special voltage (on application only)		on application	on application
110 V control voltage		on application	on application

Country-specific executions and special voltages on application

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

²⁾ Oil meter with low or high-frequency transmitter on application.

³⁾ Required for PED (97/23/EC) compliance

Special equipment

WM-G20 and WM-GL20, vers. 3LN (multiflam[®])

Gas and dual-fuel burners		WM-G20/2-A ZM-3LN	WM-G20/3-A ZM-3LN	WM-GL20/2-A ZM-T-3LN	WM-GL20/3-A ZM-T-3LN
Pressure gauge with ball valve		–	–	110 000 79	110 000 79
Vacuum gauge with ball valve		–	–	110 005 69	110 005 69
Combustion-head extension	by 100 mm	250 032 77	250 032 77	250 032 80	250 032 80
	by 200 mm	250 032 78	250 032 78	250 032 81	250 032 81
	by 300 mm	250 032 79	250 032 79	250 032 82	250 032 82
High-gas-pressure switch ⁴⁾ (R ³ / ₄ to R2 for low-pressure supplies)	GW 50 A6/1	250 033 30	250 033 30	250 033 30	250 033 30
	GW 150 A6/1	250 033 31	250 033 31	250 033 31	250 033 31
	GW 500 A6/1	250 033 32	250 033 32	250 033 32	250 033 32
High-gas-pressure switch ⁴⁾ (flanged DMV/VGD for low-pressure supplies)	GW 50 A6/1	150 017 49	150 017 49	150 017 49	150 017 49
	GW 150 A6/1	150 017 50	150 017 50	150 017 50	150 017 50
	GW 500 A6/1	150 017 51	150 017 51	150 017 51	150 017 51
High-gas-pressure switch ⁴⁾ (Fitted to high-pressure regulator)	GW 50 A6/1	250 033 33	250 033 33	250 033 33	250 033 33
	GW 150 A6/1	250 033 34	250 033 34	250 033 34	250 033 34
	GW 500 A6/1	250 033 35	250 033 35	250 033 35	250 033 35
Oil hoses, 1300 mm in lieu of 1000 mm		–	–	110 000 72	110 000 72
Electromagnetic clutch		–	–	250 031 16	250 031 16
Air-inlet flange for duct connection, with LGW air-pressure switch		210 030 47	210 030 47	210 030 47	210 030 47
Oil meter ²⁾ up to 150 kg: VZO8		–	–	250 031 33	250 031 33
	from 150 kg: VZO20	–	–	250 031 34	250 031 34
Plug connection(s)	ST 18/7 and ST 18/4 (W-FM 50/100/200)	250 030 22	250 030 22	250 030 22	250 030 22
	ST 18/7 (W-FM 50 with KS20)	250 031 06	250 031 06	–	–
	ST 18/7 and ST 18/4 (W-FM 54)	–	–	250 031 99	250 031 99
	ST 18/7 (W-FM 100/200)	–	–	250 032 01	250 032 01
KS20 controller fitted to burner (W-FM 50)		250 033 15	250 033 15	–	–
W-FM 100 (suitable for continuous operation) ⁴⁾ in lieu of W-FM 50	fitted	250 030 74	250 030 74	–	–
	loose	250 031 43	250 031 43	–	–
Integral capacity controller and analogue signal convertor for W-FM 100		110 017 18	110 017 18	included	included
W-FM 100 (suitable for continuous operation) ⁴⁾ in lieu of W-FM 54 with integral capacity controller and analogue signal convertor	fitted	–	–	250 031 78	250 031 78
	loose	–	–	250 031 93	250 031 93
W-FM 200 in lieu of W-FM 50 with integral capacity controller, analogue signal convertor, and VSD module with optional fuel metering	fitted	250 030 75	250 030 75	250 031 77	250 031 77
	loose	250 030 48	250 030 48	250 031 62	250 031 62
DSA58 pressure switch ⁴⁾		–	–	210 030 46	210 030 46

Gas and dual-fuel burners	WM-G20/2-A ZM-3LN	WM-G20/3-A ZM-3LN	WM-GL20/2-A ZM-T-3LN	WM-GL20/3-A ZM-T-3LN
VSD with integral frequency convertor (W-FM 50/54/200 required)	210 030 40	210 030 40	210 030 40	210 030 40
VSD with separate frequency convertor (W-FM 200 required) (See accessories list for frequency convertor)	210 030 41	210 030 41	210 030 41	210 030 41
D112 motor with 230 V contactor and overload protection ³⁾	210 030 95	210 030 95	210 030 95	210 030 95
ABE with Chinese-character display (W-FM 100/200)	110 018 53	110 018 53	110 018 53	110 018 53
Control voltage	110 V (W-FM 50/100/200)	on application	on application	on application
	110 V (W-FM 54)	on application	on application	on application

Country-specific executions and special voltages on application

- ¹⁾ 100 % speed is recommended for non-modulating oil-side operation.
- ²⁾ Oil meter with low or high-frequency transmitter on application.
- ³⁾ 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).
- ⁴⁾ Required for PED (97/23/EC) compliance

Technical data

WM 20, version 3LN (multiflam®)

Oil burners		WM-L20/2-A T-3LN	WM-L20/3-A T-3LN
Burner motor ¹⁾	Weishaupt type	WM-D112/110-2/3K0	WM-D112/140-2/4K5
Nominal rating	kW	3	4.5
Nominal current	A	6.0	9.1
Motor protection switch ²⁾ or motor prefusing ²⁾ (with overload protection)	Type (e.g.) A minimum	MS132 - 6,3 16A gG/T (external)	MS132 - 10 25A gG/T (external)
Speed (50 Hz)	rpm	2900	2900
Combustion manager	Type	W-FM 50	W-FM 50
Flame monitoring	Type	QRA 2	QRA 2
Integral pump max. flow rate	Type l/h	J6 290	J6 290
NO _x Class per EN 267		3	3
Oil hoses	DN / Length	13 / 1000	13 / 1000
Weight	kg	approx. 100	approx. 105
Gas burners			
Gas burners		WM-G20/2-A ZM-3LN	WM-G20/3-A ZM-3LN
Burner motor ¹⁾	Weishaupt type	WM-D112/110-2/3K0	WM-D112/140-2/4K5
Nominal rating	kW	3	4.5
Nominal current	A	6.0	9.1
Motor protection switch ²⁾ or motor prefusing ²⁾ (with overload protection)	Type (e.g.) A minimum	MS132 - 6,3 16A gG/T (external)	MS132 - 10 25A gG/T (external)
Speed (50 Hz)	rpm	2900	2900
Combustion manager	Type	W-FM 50	W-FM 50
Flame monitoring	Type	Ionisation	Ionisation
Air/gas stepping motor	Type	STE 50	STE 50
NO _x Class per EN 676		3	3
Weight (excluding DMV and fittings)	kg	approx. 95	approx. 100
Dual-fuel burners			
Dual-fuel burners		WM-GL20/2-A ZM-T-3LN	WM-GL20/3-A ZM-T-3LN
Burner motor ¹⁾	Weishaupt type	WM-D112/110-2/3K0	WM-D112/140-2/4K5
Nominal rating	kW	3	4.5
Nominal current	A	6.0	9.1
Motor protection switch ²⁾ or motor prefusing ²⁾ (with overload protection)	Type (e.g.) A minimum	MS132 - 6,3 16A gG/T (external)	MS132 - 10 25A gG/T (external)
Speed (50 Hz)	rpm	2900	2900
Combustion manager	Type	W-FM 54	W-FM 54
Flame monitoring	Type	QRA 2	QRA 2
Air/gas stepping motor	Type	STE 50	STE 50
Integral pump max. flow rate	Type l/h	J6 290	J6 290
NO _x Class per EN 267 / EN 676		3	3
Oil hoses	DN / Length	13 / 1000	13 / 1000
Weight (excluding DMV and fittings)	kg	approx. 105	approx. 110

¹⁾ The electrical motors are high-efficiency IE2 motors in accordance with Commission Regulation (EC) 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:

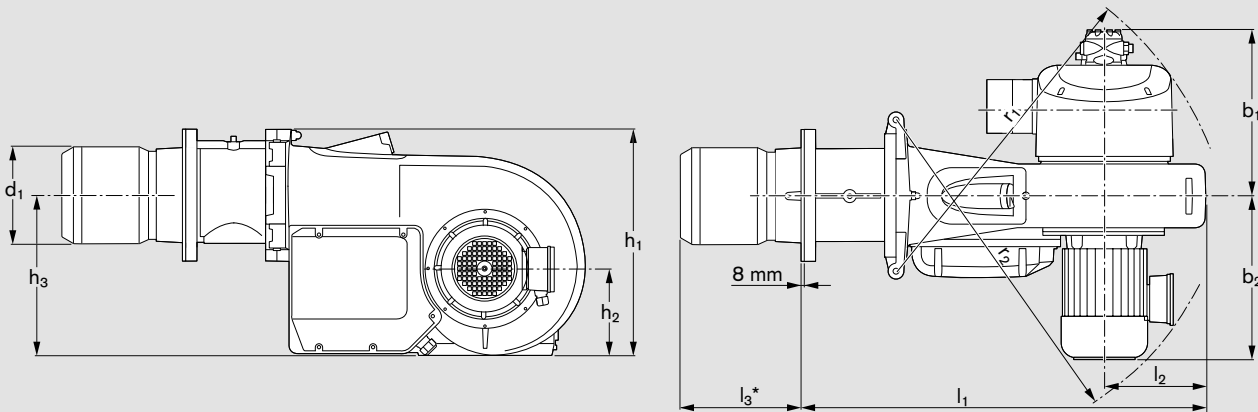
The burners are equipped as standard for three-phase alternating current, 400 V, 3 ~, 50 Hz. Other voltages and frequencies are available on application.

Standard burner motor:

Insulation Class F, IP 54 protection.

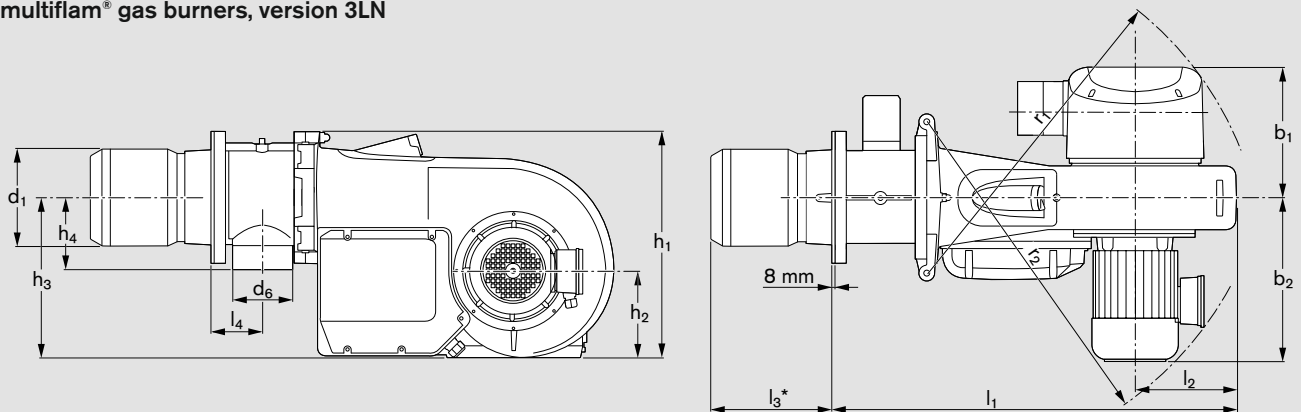
Dimensions

multiflam® oil burners, version 3LN



Burner Type	Dimensions in mm											
	l_1	l_2	l_3	b_1	b_2	h_1	h_2	h_3	r_1	r_2	d_1	
WM-L20/2-A T-3LN	1010	254	295 – 310	411	406	573	225	408	840	858	242	
WM-L20/3-A T-3LN	1010	254	295 – 320	411	424	573	225	408	840	858	242	

multiflam® gas burners, version 3LN

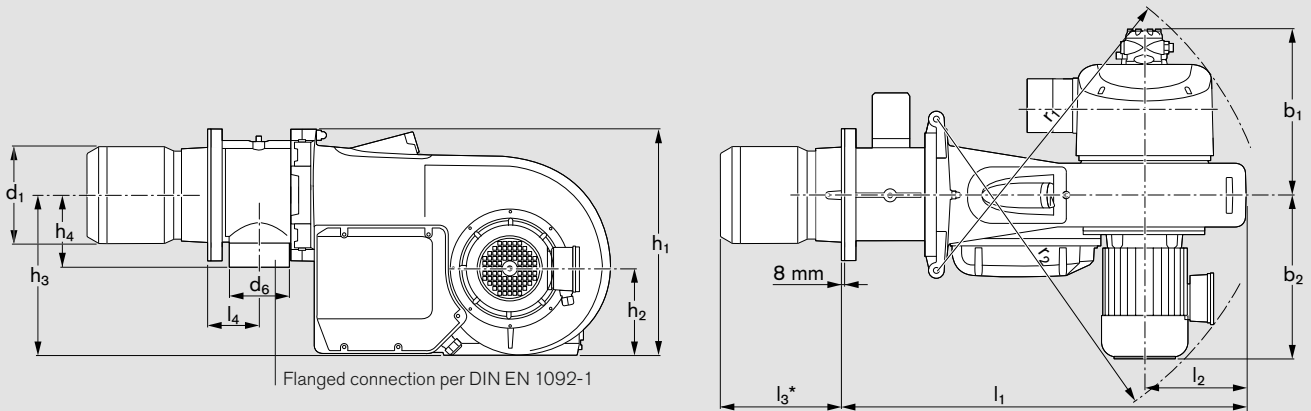


Burner Type	Dimensions in mm															
	l_1	l_2	l_3	l_4	b_1	b_2	h_1	h_2	h_3	h_4	r_1	r_2	d_1	d_6		
WM-G20/2-A ZM-3LN	1010	254	295 – 310	128	326	406	573	225	408	182	840	858	242	DN65		
WM-G20/3-A ZM-3LN	1010	254	295 – 320	128	326	424	573	225	408	182	840	858	242	DN65		

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

Dimensions

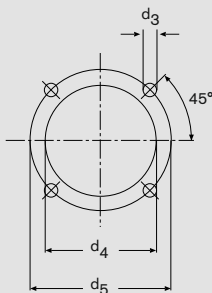
multiflam® dual-fuel burners, version 3LN



Burner Type	Dimensions in mm			l ₄	b ₁	b ₂	h ₁	h ₂	h ₃	h ₄	r ₁	r ₂	d ₁	d ₆
	l ₁	l ₂	l ₃ ¹⁾											
WM-GL20/2-A ZM-T-3LN	1010	254	295 – 310	128	411	406	573	225	408	182	840	858	242	DN65
WM-GL20/3-A ZM-T-3LN	1010	254	295 – 325	128	411	424	573	225	408	182	840	858	242	DN65

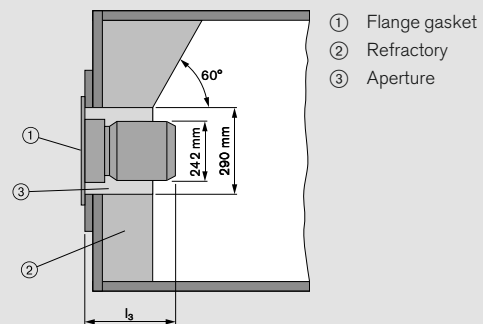
All dimensions are approximate.
Weishaupt reserve the right to make changes in light of future developments.

Mounting-plate drilling dimensions



d₃ = M12
d₄ = 270 mm
d₅ = 298 mm

Heat-exchanger preparation

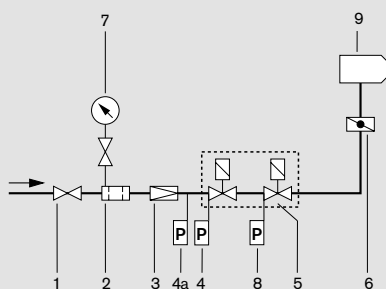


The leading edge of the combustion head must protrude approx. 50 mm beyond the refractory ②. The refractory may be tapered (min. 60°).

Fuel systems

Gas fuel system

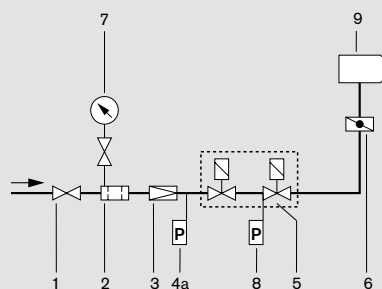
W-FM 50/100/200



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

* Not included in burner price

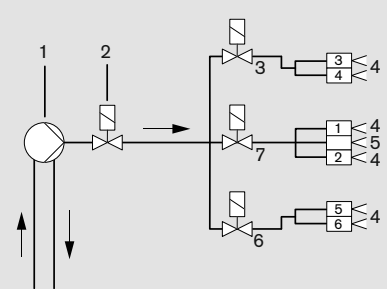
W-FM 54



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

Oil fuel system

Version (ZM-T)



- 1 Burner-mounted oil pump
- 2 Safety solenoid valve
- 3 Solenoid valve, secondary nozzles 3 and 4
- 4 Secondary nozzles
- 5 Primary nozzles
- 6 Solenoid valve, secondary nozzles 5 and 6
- 7 Solenoid valve, primary nozzle and secondary nozzles 1 and 2

Layout of the valve train

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

Compensator

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

Support of the valve train

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

Gas meter

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

That's no façade. That's reliability.

Weishaupt is reliability.

The family-owned business from Schwendi in southern Germany was founded by Max Weishaupt in 1932. It is a global player, with branch offices and subsidiaries in 60 countries across the world, and is a market leader for burners, heating and condensing boiler systems, solar technology, heat pumps, and building management systems.

The pioneering Max Weishaupt endowed his business with the core values of trust, quality, customer service, innovation, and experience. That, summed up in a single word, is reliability; something for which Weishaupt stands to this day.



The Weishaupt Forum in Schwendi



- weishaupt -

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