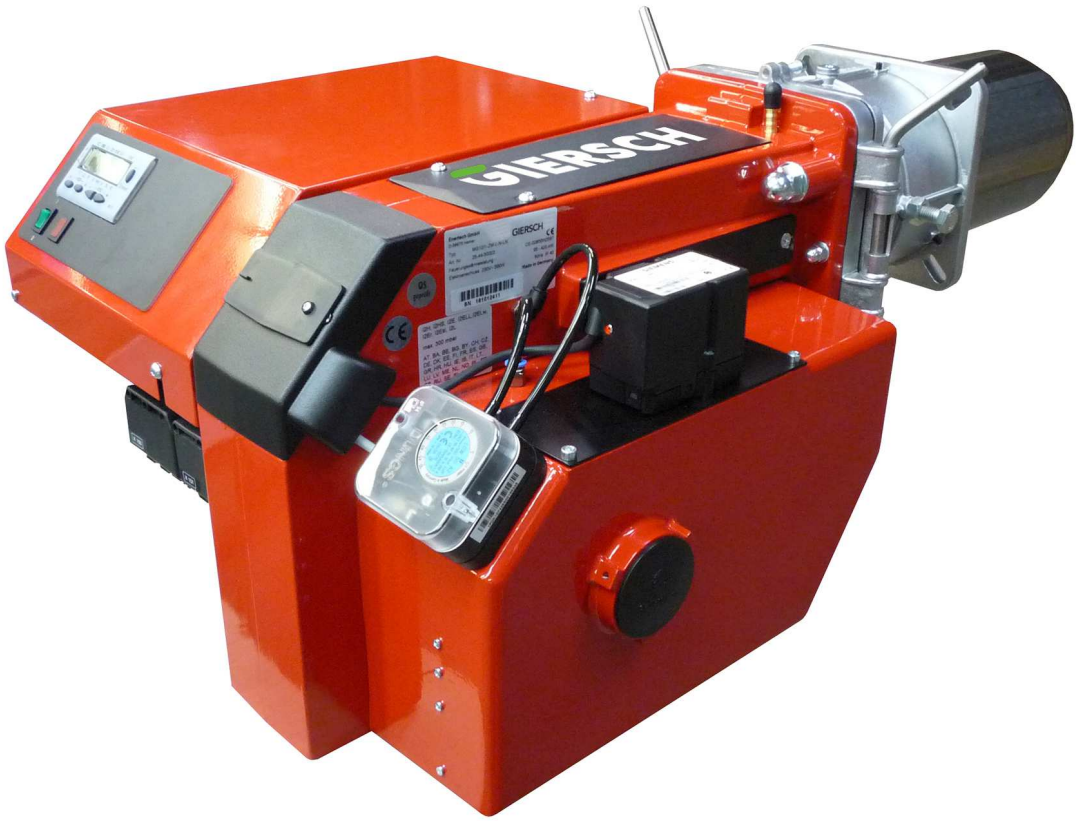
GIERSCH

Technical Information • Installation Instructions

MG10-ZM-L-N

Gas

Issued in September 2023
Subject to tech. modifications
to improve the product!



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1 General information

Installation of a gas-fired heating system must be performed in accordance with the applicable regulations and guidelines. It is therefore the duty of the installer to be fully familiar with all regulations. Installation, start-up and maintenance must be performed with utmost care.

The burner must not be operated in rooms with high levels of air humidity (laundry rooms), dust or corrosive vapours. The boiler room must be ventilated accordingly with ventilation air.

Giersch MG Series gas burners are suitable for combustion of natural gas in accordance with DIN EN 437 and are in compliance with the DIN EN 676 European standard.

2 Checking scope of supply and electrical ratings

Before installing the gas burner, please check the scope of delivery.

Scope of delivery:
burner housing, gas jacket with burner pipe, mounting kit, documentation and gas train.

Gas installation and commissioning are subject to the applicable national regulations, e.g. in Germany the Technical Regulations of the DVGW (DVGW-TR-GI).

The following must be observed for Switzerland: SVGW Gas Provisions G1, G3: Gas installation EKAS Form.
1942: Liquefied gas regulation, Part 2 Regulations of cantonal authorities (e. g. fire department regulations).

The gas pipe must be designed to conform to the flow rate and the available gas flow pressure and routed with the lowest pressure loss over the shortest distance to the burner.

The loss of gas pressure via the gas train and the burner as well as the resistance on the fuel gas side of the heat generator must be less than the connection flow pressure.

Caution !
Observe sequence and through-flow direction of valves and fittings.

3 Maintenance and customer service

The complete system should be checked once a year for proper functioning and leak tightness by an authorised representative of the manufacturer or by another expert.

Only qualified personnel may open only for maintenance, not during on-going operation. Prior to opening/swinging out, de-energise the burner and let it cool down. After completion of work, close the burner again.

Wear protective clothing|/hearing protection when working in the boiler house

We accept no liability for consequential damage in cases of incorrect installation or repair, the fitting of non-genuine parts or where the equipment has been used for purposes for which it was not intended.

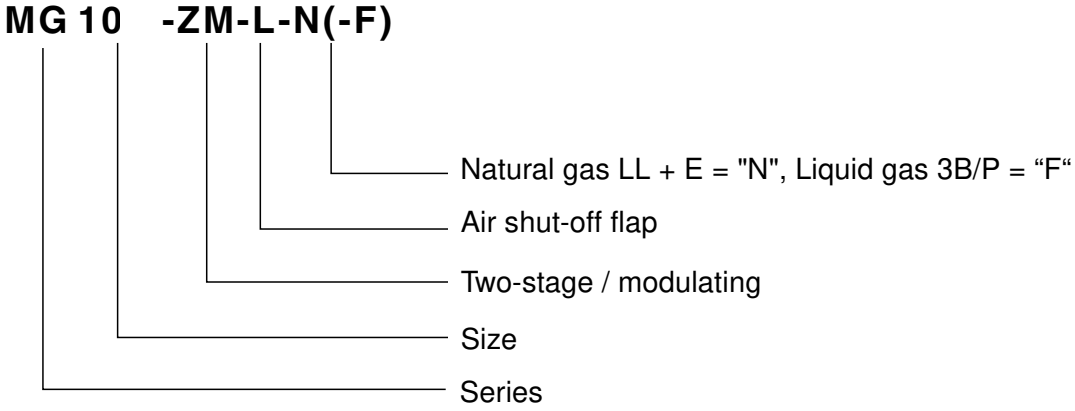
4 Operating instructions

The operating instructions together with this technical information leaflet must be displayed in a clearly visible position in the boiler room. The address of the nearest customer service centre must be displayed on the back of the operating instructions.

5 Instruction of operating personnel

Failures are often caused by operator error. The operating personnel must be properly instructed in how the burner works. In the event of recurring faults, Customer Service should be notified.

6 Key for code designation



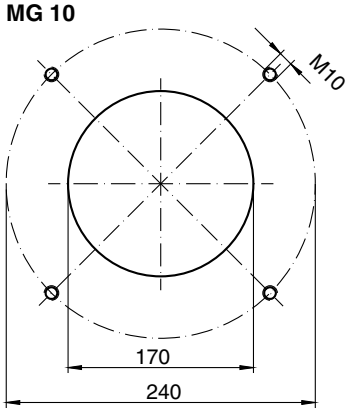
7 Technical specifications

	Burner type
Technical specifications	**MG 10**
Burner output min. in kW	110
Burner output max. in kW	420
Gas type	Natural gas LL + E= "N", liquid gas 3B/P = "F"
Mode of operation	two-stage or modulating
Voltage	1 / N / PE / ~ 50 Hz / 230 V
Max. power consumption at start / during operation	4 A max. / 2 A eff.
Electric motor power (at 2800rpm) in kW	0,370
Flame control	Ionisation
Burner management system	LMV 27
Air pressure switch	LGW 50
Weight in kg	45
Noise emission in db(A)	≤ 75
Gas burner class	1
NOx limit	120 - 170 mg/kWh

8 Boiler connection dimensions

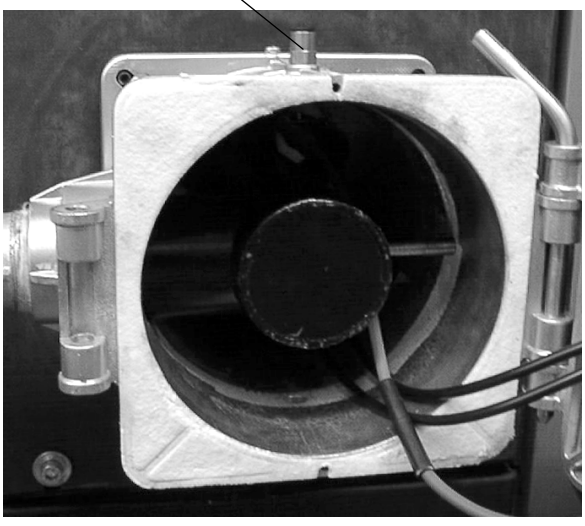
Dimensions in mm

MG 10



9 Mounting the gas jacket on the boiler

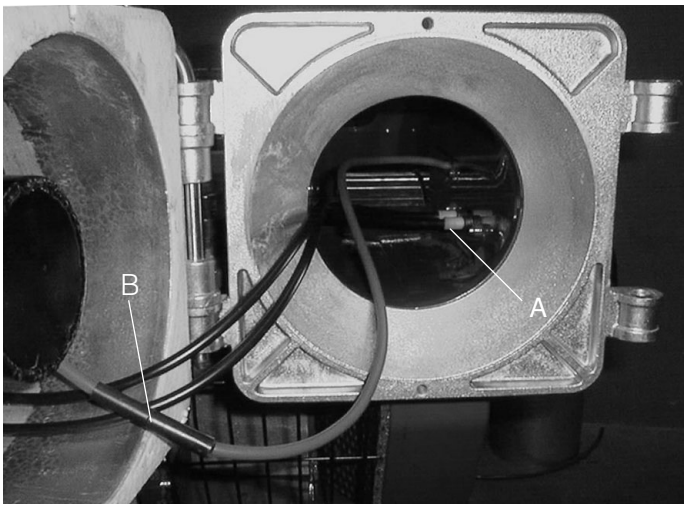
Air pressure connection



The seal must be glued to the gas jacket. be glued.

The boiler connection plate must be prepared according to the "8 Boiler connection dimensions".
The gas jacket seal can be used as a marking template. Screw the gas jacket to the boiler using the 4 M 10 fastening screws with washers and an Allen key SW 8.
Screw in the air pressure connection at the top of the compact unit KEV.

10 Mounting the burner housing on the gas jacket (service position)



Place the burner housing in the gas jacket hinge and secure it with a fastening rod. The burner is now in the service position.

Plug the ignition cables "A" into the ignition transformer.

Connect the plug-in connection of the ionisation "B".

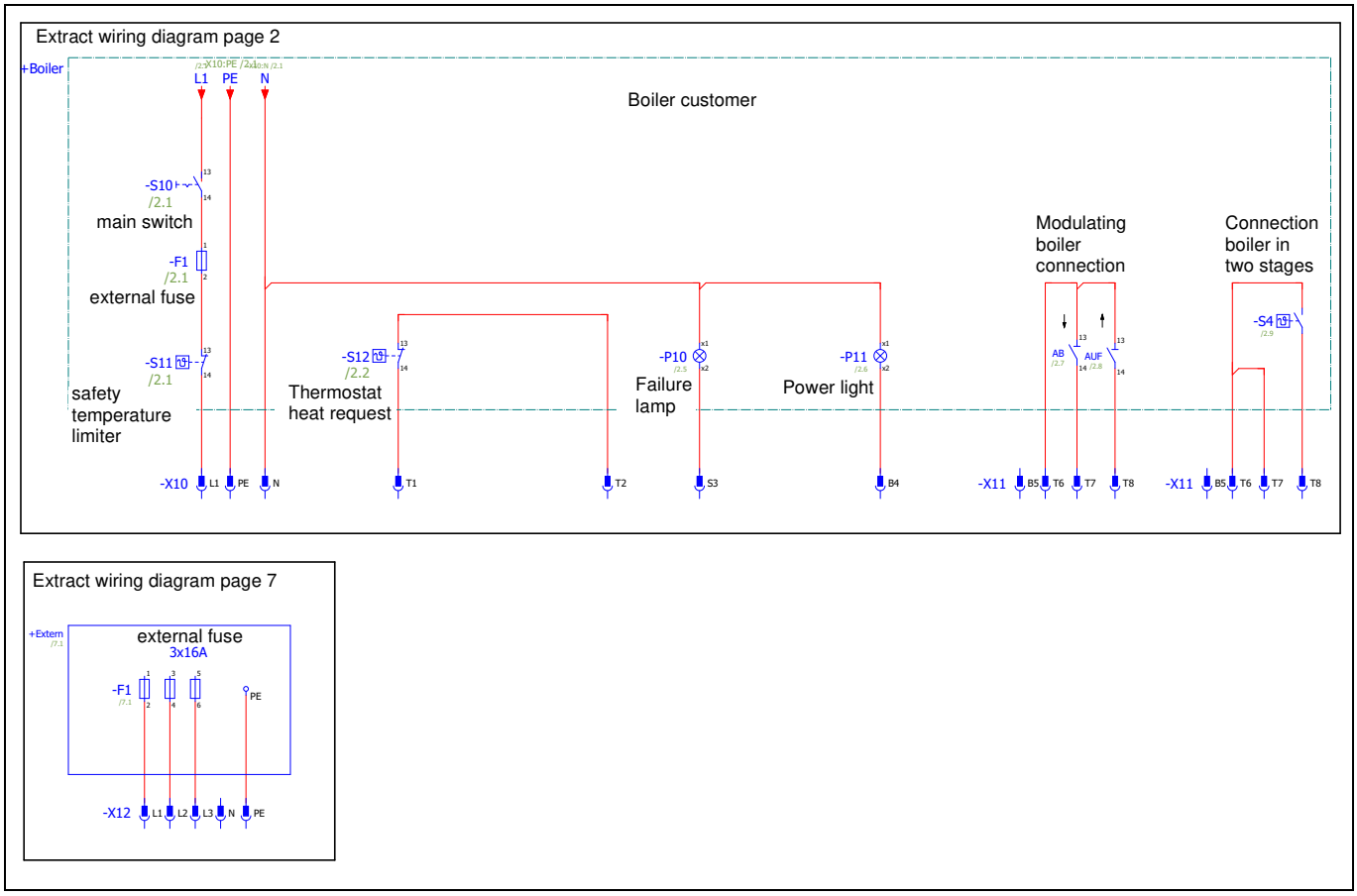
Make sure that the seal is correctly seated between the gas jacket and the burner housing!

Swivel the burner closed and insert the second fastening rod into the hinge. Secure the burner housing at the top with the locking screw.

11 Terminal diagram - connector pin assignments

If the male connector has already been wired: check the connections according to the connection diagram!

The electrical connection of the burner must be made in the male connector included according to the connection diagram, taking account of the local regulations.
The supply cable must be fused with max. 10 A fast blow or 6.3 A slow blow and must be routed using flexible cable.

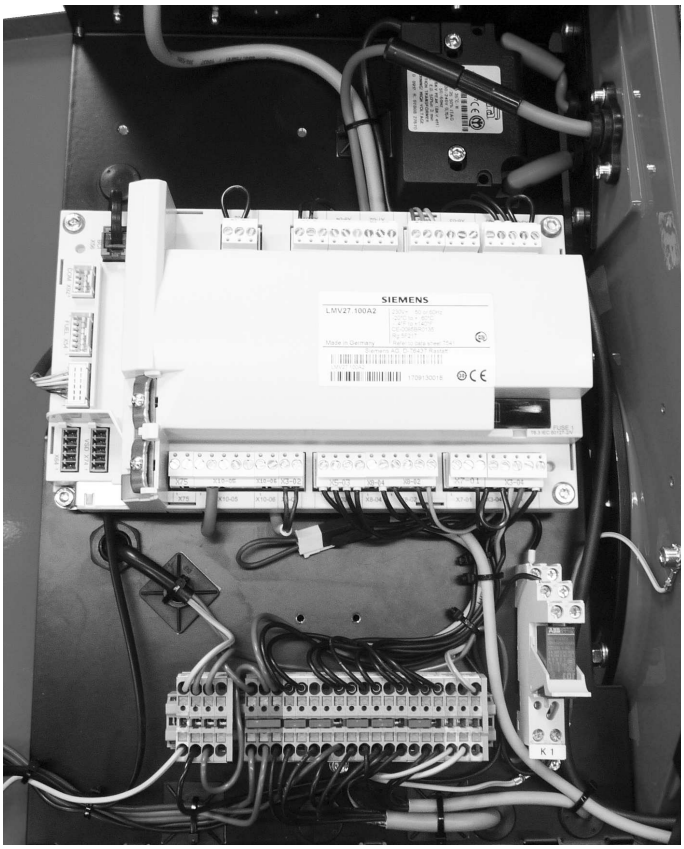


12 Electrical connection

De-energise the burner when carrying out connection work and removing electrical parts!

The burner must be connected to the electricity supply in accordance with the wiring diagram. This work must be performed by trained, qualified electricians. The supply cable to the burner must be of the flexible type.

To access the automatic burner control unit, the cover must be moved to the service position. To do this, unscrew the fastening screws (1) and fold the cover down to the left.



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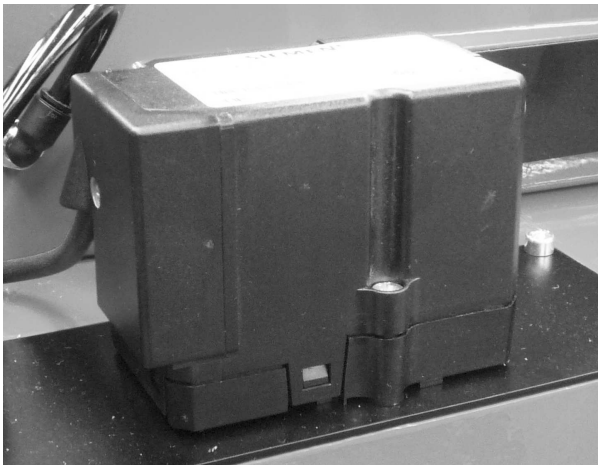
13 Air flap positioning motor



The air flap positioning motor is designed for air flap adjustment on progressive two-stage burners or modulating burners. The motor is activated electronically via the microprocessor-controlled control box.

Do not open the air flap actuator while it is under voltage. The internal optics would be destroyed. No warranty if the seal is broken!

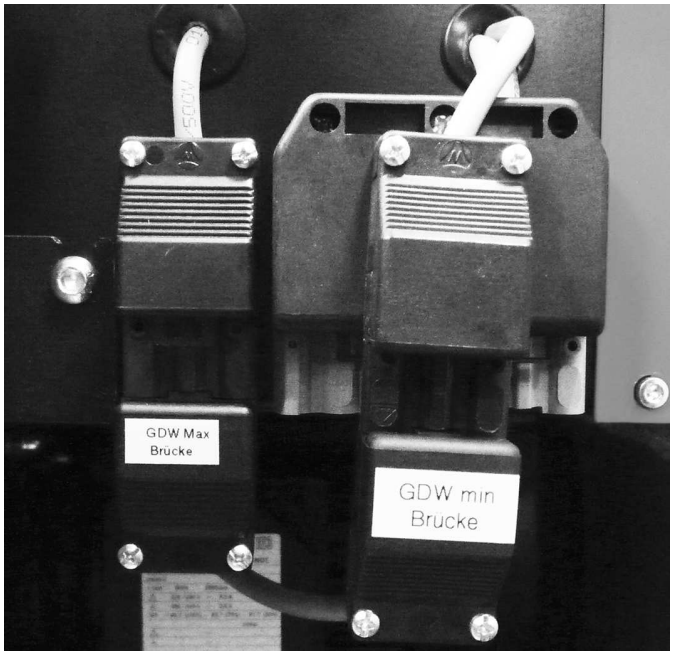
14 Air pressure monitor

The air pressure switch is a differential pressure switch and monitors the air pressure at the forced-air burner.

The air pressure switch is pre-set at the factory.

15 Gas pressure monitor

15.1 Gas pressure switch min.



The **gas pressure switch MIN** at the gas fitting serves to monitor the gas inlet pressure. If the minimum gas inlet pressure is not reached (factory setting), the burner is switched off. The burner automatically starts again when the minimum pressure is exceeded. The gas pressure monitor as **density control DK** generally serves to check the valves and must be set to 50% of the static gas inlet pressure.

The monitoring of the gas inlet pressure and the tightness control are either carried out only with the gas pressure monitor DK **(the jumper GDW MIN must not be removed)** or with the gas pressure switch MIN and the gas pressure switch DK **(the GDW MIN jumper has to be replaced with the connection of the gas pressure switch MIN)**.

When using the gas cycle MB-VEF 412, the connection is made via the 7-pin connector and is only evaluated as DK MIN. The plug bridge must not be removed

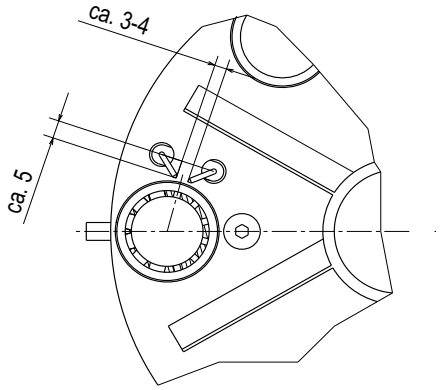
Additional parameterization of the LMV is not required here.

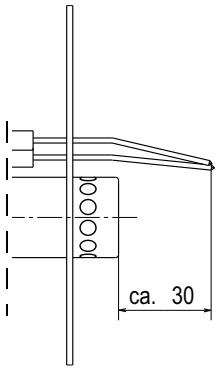
15.2 Gas pressure switch max.

Optionally a gas pressure switch max. can be incorporated.
The LMV and the wiring have been prepared such that only the jumper in the socket part (brown) at the burner needs to be removed. In addition, the male connector and the gas pressure switch max. must be wired in accordance with the circuit diagram. If the gas pressure switch max. has tripped, a fault is shown in the display (AZL).
First, the gas pressure switch max. must be unlocked; to do this the lid of the gas pressure switch max. must be unscrewed and the red button pressed.
Then, the fault in the display can be deleted (press the **i**/**reset** button for 3 sec.).

16 Set the electrodes

The electrodes are preset at the factory. The dimensions given are for checking purposes. .





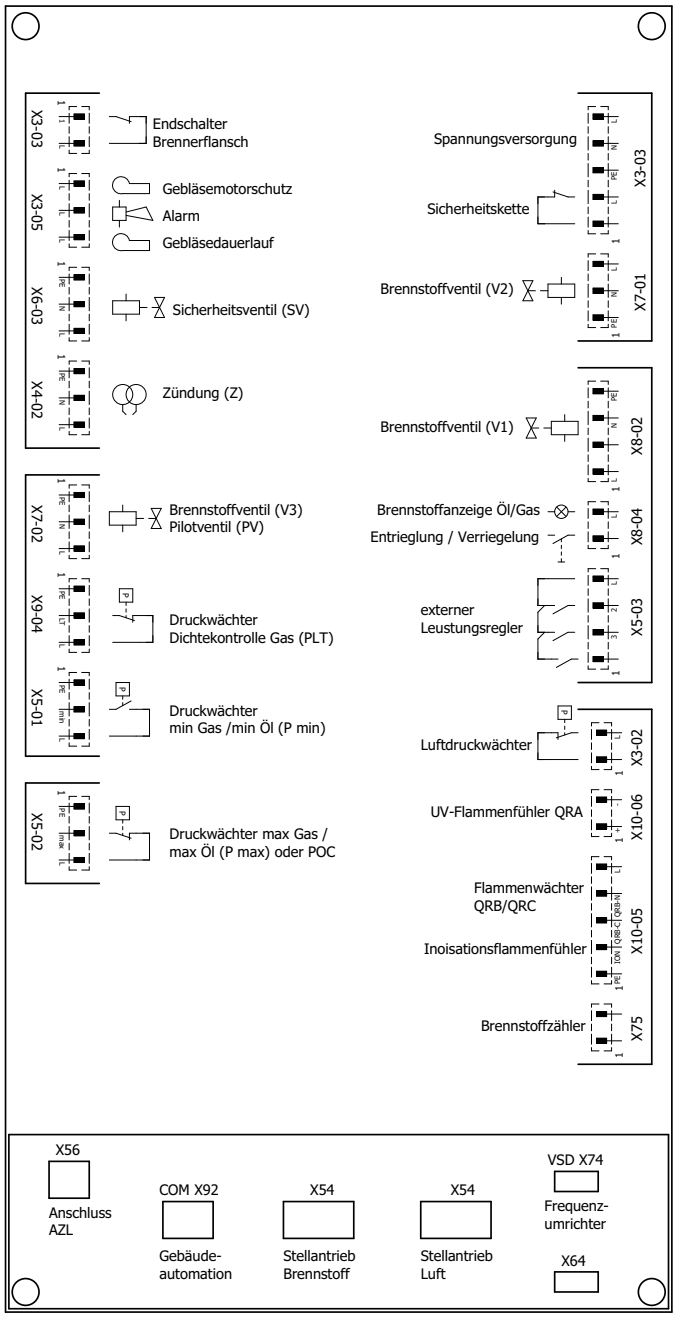
17 Flame monitor with ionisation control

If an AC current is applied between the burner and the ionisation rod, a DC current flows due to the rectifying effect of the flame. This ionisation current forms the flame signal and is amplified and passed to control box. A flame cannot be faked because the rectifying effect no longer works if there is a short-circuit between the sensor electrode and the burner.

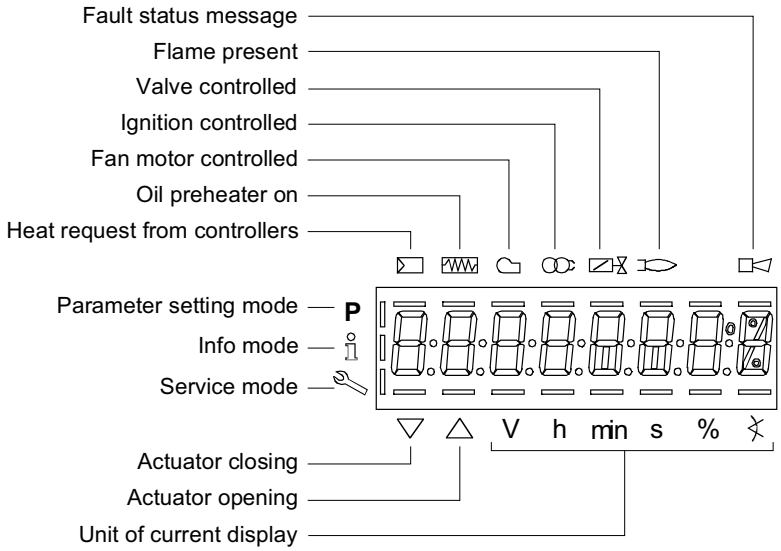
Measuring the ionisation current

The ionisation current must be measured during burner start-up and maintenance or after a fault indication in the control box. This done by disconnecting the plug in the ionisation cable and connecting it to the ionisation measuring cable.
The measurement must be carried out directly after post-ignition during the safety time!
The ionisation current must be at least
1.5 µA. Values below 1.5 µA will result in unreliable operation or a direct fault shut-down. In this case, the ionisation rod and the baffle plate must be cleaned. Bend ionisation rod if necessary. If the ionisation rod is defective, replace it. Possibly reverse the polarity of the ignition transformer on the primary side. Check the cable for moisture and dry it if necessary.

18 Wiring diagram LMV27



19 Operating instructions and equipment description LMV



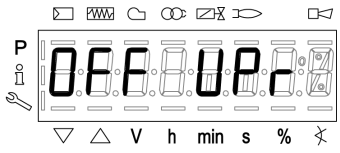
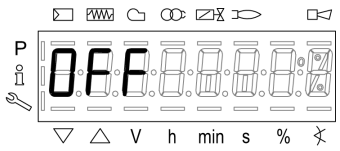
Button	Function
F	**F button** - To adjust the fuel drive (Hold down the **F button** and set the value with the **- or + button**)
A	A button - To adjust the air drive (Hold down the **A button** and set the value with the **- or + button**)
VSD F A	**F and A button** - To shift to parametrisation mode **P** (**F and A button** press simultaneously with **- or + button**) - To adjust the speed for frequency converter operation (FC) (**F and A button** press simultaneously with **- or + button**)
i/reset	**Information and enter button** - To navigate in information and service mode * Selection (flashing symbol) increment (press button < 1 s) * To switch to a lower menu level (press button < 1 ... 3 s) * To switch to a lower menu level (press button < 3 ... 8 s) * To switch the operating mode (press button > 8 s) - **Enter** in parametrisation mode - **Unlock** in case of fault - One menu level down
-	**- Button** - Reduce value - For navigating in curve setting, information and service mode
+	**+ Button** - Increase value - For navigating in curve setting, information and service mode
ESC - +	**- and + button: Escape function** (Press **- and + button** simultaneously) - Do not accept the value - One menu level higher

20 Start-up and calibration

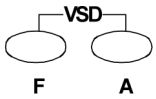
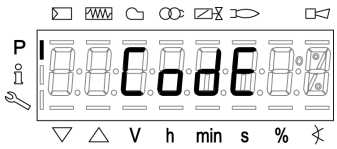
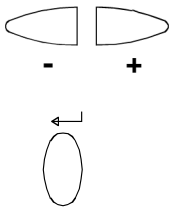
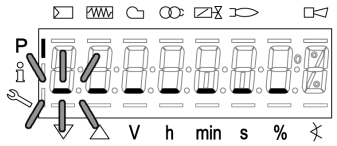
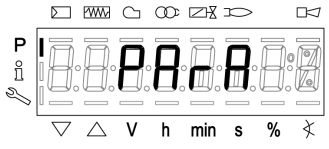
Determine burner capacity according to table on page 23. P0 = Start stage, P1 = 1st stage / min. output, P9 = 2nd stage / max. output.
Normally P0 = P1. For condensing boilers, P0 must be set higher than P1. The setting depends on the boiler. The mixing head must be set according to the table.
To enter this setting mode, the burner must be in standby.

Standby means that the burner is supplied with voltage, gas pressure is built up and there is no heat demand.

The firing managers are parameterised at the factory. OFF UPr appears in the display during initial commissioning.

Action button	Display	Description
		**OFF UPr** means burner off and non-programmed.
		**OFF** means burner off and programmed.

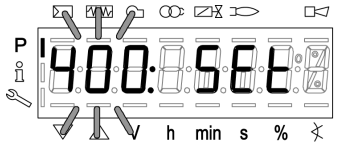
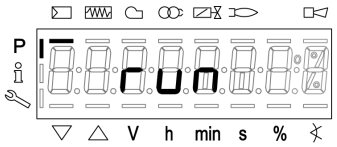
Enter password

Action button	Display	Description
		Press **F and A button** simultaneously. The display **CodE** appears
		After releasing the buttons, 7 bars appear and the first one flashes. Use the **- or + button** to select a number or letter. Confirm each value with **i/reset**.
		Confirm the password **1234** with **i/reset** after the last input.
		After correct input, the following appears for a max. of two seconds

Switch on burner

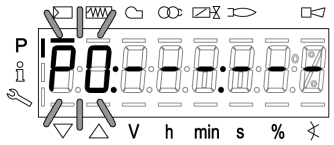
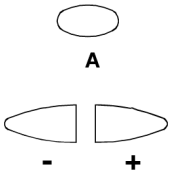
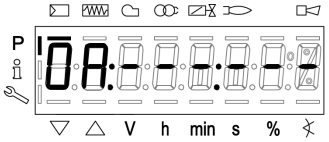
A heat request is required throughout for further commissioning!

LMV programmed

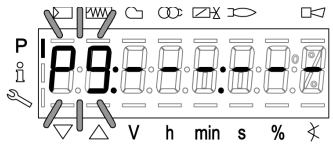
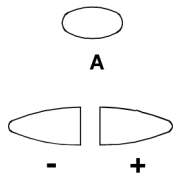
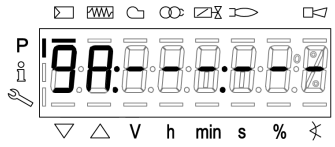
Action button	Display	Description
		
		If the automatic burner control is programmed, run is displayed. With i/reset the next steps are skipped and with section Start of warm- setting with curve point P1 small load continue.

Default setting for start load

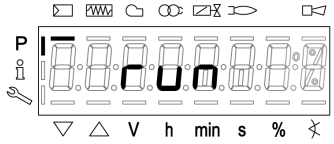
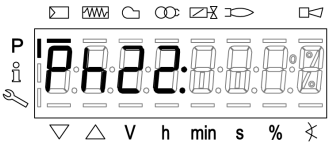
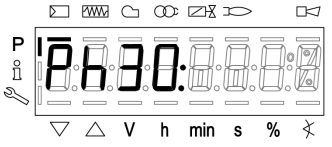
Use the values from the setting tables for the default setting.

Action button	Display	Description
		Set the start position air flap.
		Hold down **key - A** and use the **- or + key** to set the value.
		Move to the next curve point.

Preset large load

Action button	Display	Description
		Set the high load air flap.
		Hold down **button A** and set the value with the **- or + button**.
		Continue to the next curve point.

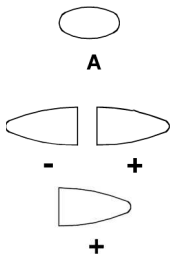
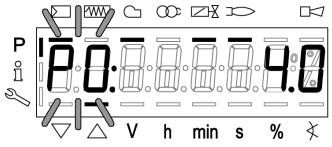
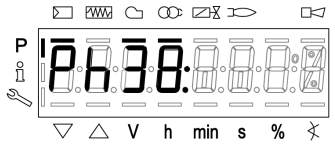
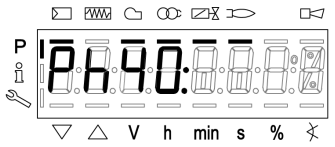
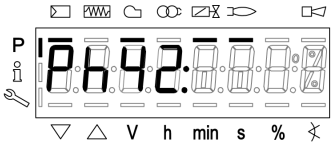
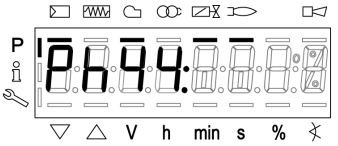
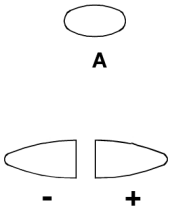
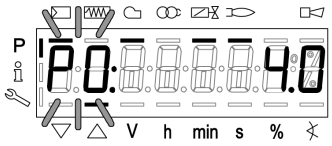
Start identifier for curve programming - Adjustment with flame

Action button	Display	Description
		If there is a heat requirement. Confirm with the i/reset button.
		Burner starts with pre-ventilation.
		Fan run-up and safety valve ON
		Driving in pre-ventilation position
		Pre-ventilation

f the leakage check is activated, Ph80, Ph81, Ph82 and Ph83 are displayed first.

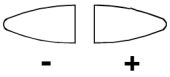
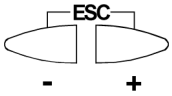
Action button	Display	Description
		Driving in ignition position

Start of the warm setting

Action button	Display	Description
		The **ignition position P0** can only be extinguished the symbols ▼ ▲ are corrected. Hold down **button A** and set the value with the **- or + button.** Press **+ key** to confirm.
		Ignition ON
		Valves ON
		Ignition OFF
		Flame in start position
		**CALC** appears briefly during the first transition from **P1 to P2.** The curve points **P2 to P9** are automatically calculated as a straight line.
		Press the **+ key** to confirm all curve points until curve point **P9** is reached. At curve point **P9**, set the excess air for the large load at the gas fitting with the **"V" or "large flame"** adjustment screw. The CO2 value should be 9-10% for natural gas..

Action button	Display	Description
		Select curve point **P1** with the key. At curve point **P1**, set the excess air for the small load at the gas fitting with the adjustment screw **"N" or "small flame".** The CO2 value should be 9-10% for natural gas.
		Press the **+ key** to select curve point **P9** again. At curve point P9, check the excess air for the large load and, if necessary, correct it at the gas fitting with the **"V" or "large flame"** adjustment screw.

Setting the power in high and low load

Action button	Display	Description
 		Check the high-load setting via the gas flow at the gas meter or compare the nozzle pressure with the values stated in the adjustment tables. Hold down **A button** and use the **- or + button** to set the output for curve point **P9**. The air surplus is not affected by this adjustment.
		Use the **- button** to select curve point P1. Check the low-load setting via the gas flow at the gas meter or compare the nozzle pressure with the values stated in the adjustment tables.
		Back to curve point **P9**
		After setting all curve points, the burner is ready for operation. Press the **ESC button briefly 3x** to save all curve points and access automatic mode

LMV phase display

Display	Description
Ph00	Fault phase
Ph01	Safety phase
Ph10	Go home
Ph12	Standby (stationary)
Ph22	Blower start-up time (blower motor = ON, safety valve = ON)
Ph24	Run in pre-air position
Ph30	Pre-air time
Ph36	Run in ignition position
Ph38	Pre-ignition phase
Ph39	Leakage check filling time (test pressure switch min for installation between fuel valve 1 and fuel valve 2)
Ph40	First safety time (ignition transformer ON)
Ph42	First safety time (ignition transformer OFF)
Ph44	Interval 1
Ph50	Second safety time
Ph52	Interval 2
Ph60	Operation 1 (stationary)
Ph62	Maximum time small-load setting (operation 2, preparation decommissioning, run in small-load setting)
Ph70	After-burn time
Ph72	Run in post-ventilation position
PH74	Post-ventilation time (no external leak test)
Ph78	Post-ventilation time (abort when power controller ON)
Ph80	Leakage check idle time
Ph81	Leakage check test time atmospheric pressure, atmosphere test
Ph82	Leakage check filling test, filling
Ph83	Leakage check test time gas pressure, pressure test
Ph90	Gas shortage waiting time

21 Gas burner with gas train

Installation of the gas train	
Installation position	only in horizontal line, not tilted.
Minimum distance to masonry	20 mm

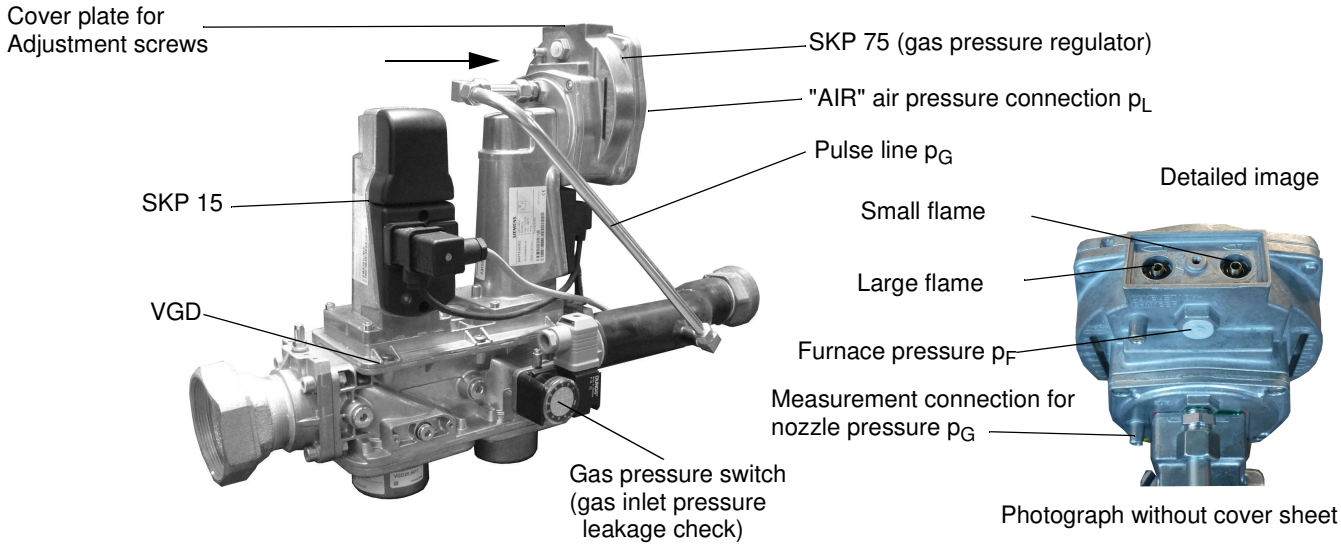
The nipple for the compressed air connection P_L must be screwed in at the top of the gas jacket (see 9. Mounting the gas jacket at the boiler).

Connect the blue hose at the "AIR" connection of the gas train and at the air pressure connection at the gas jacket. The blue hose serves as a control line for the gas train and must be routed in a loose loop without kinking.

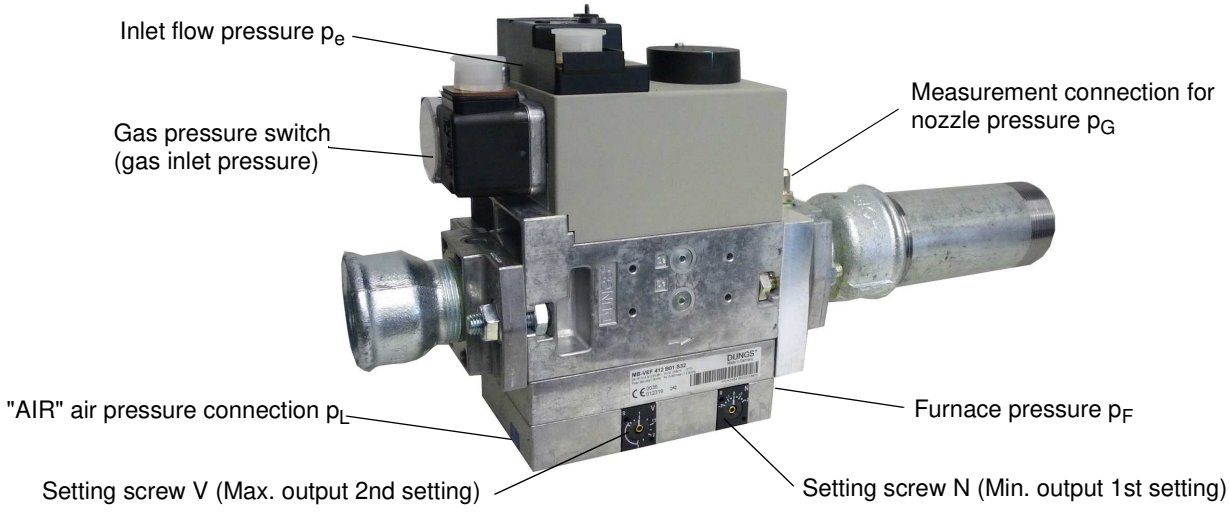
Burner start:

If the burner does not go into operation, turn adjusting screw **N** or small flame slightly in the direction "**+**" and repeat start.

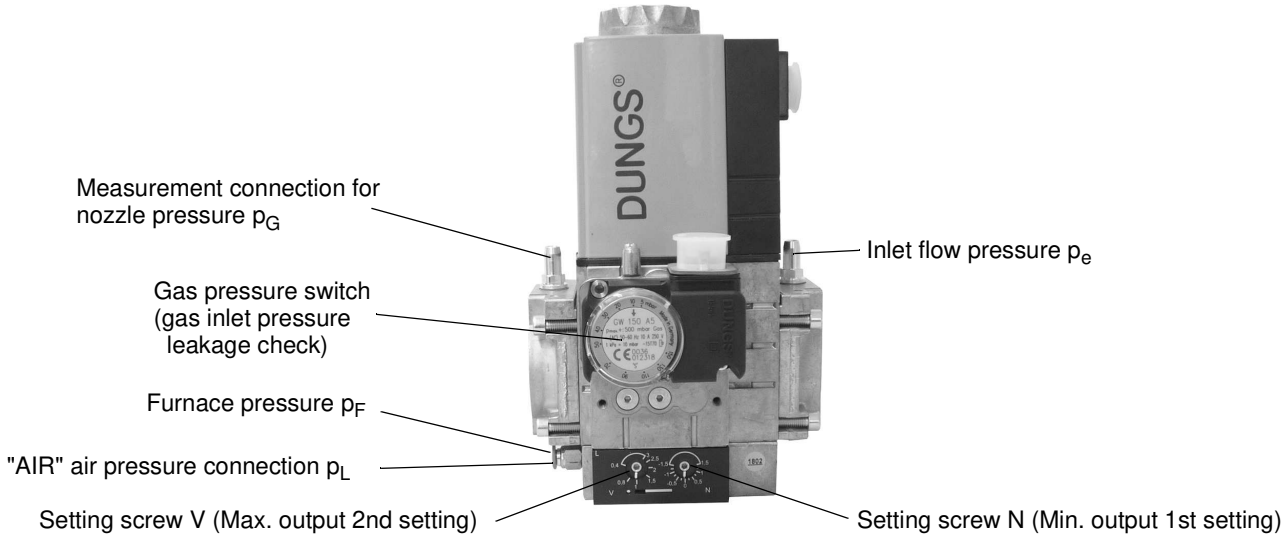
KEV_{II} 1 ½" (VGD20.40 ... with SKP15/75)



KEV 407 ¾", KEV 412 1 ½" (MB-VEF 407, MB-VEF 412)



KEV 300 1" (MBC-300-VEF)



Large flame / "V" setting	Exhaust gas analysis values	
Change in "+" direction if:	CO_2 too low	O_2 too high
Change in "-" direction if:	CO_2 too high	O_2 too low

Small flame /"N" setting	Exhaust gas analysis values	
Change in "+" direction if:	CO_2 too low	O_2 too high
Change in "-" direction if:	CO_2 too high	O_2 too low

Caution !
Difference between baffle plate pressure p_L - furnace pressure p_F must be at least 0.3 mbar.

22 Calculation principles for gas burner adjustment

The values given in the tables are setting values for start-up.
The necessary system adjustment must be newly determined in each case.

General:
The calorific value ($H_{i,n}$) of fuel gases is generally specified for the normal state (0°C, 1013 mbar).

Natural gas type E	$H_{i,n}$ = 10.4 kWh/m^3
Natural gas type LL	$H_{i,n}$ = 9.3 kWh/m^3

Gas counters measure the volume of gas in the operational state.

Gas flow determination:
To allow the heat generator load to be adjusted correctly, the gas flow rate must be determined in advance.

Example:

Height above sea level	230 m
Atmospheric pressure B (acc. to Tab.)	989 mbar
Gas pressure P_G at gas meter	20 mbar
Gas temperature ϑ_G	16°C
Boiler output Q_n	220 kW
Efficiency η_K (assumed)	92%

Gas flow in standard state (V_n)

$$V_n = \frac{Q_n}{\eta_k \times H_{i,n}} = \frac{220kW}{0,92 \times 10,4 \frac{kWh}{m^3}} = 23\frac{m^3}{h}$$

Gas flow in operating state (V_B)

$$V_B = \frac{V_n}{f} = \frac{23\frac{m^3}{h}}{0,94} = 24\frac{m^3}{h}$$

Conversion factor (f)

$$f = \frac{B + P_G}{1013} \times \frac{273}{273 + \vartheta_G}$$

Annual average air pressure

Average geodetic altitude of the supply region above sea level [m]	from		1	51	101	151	201	251	301	351	401	451	501	551	601	651	701
	to	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750
Annual average of air pressure	(mbar)	1016	1013	1007	1001	995	989	983	977	971	965	959	953	947	942	936	930

Legend:

Q_n =	boiler output [kW]
η_K =	efficiency [%]
$H_{i,n}$ =	lower standard calorific value [kWh/m^3]
f =	conversion factor
B =	atmospheric pressure [mbar]
p_G =	gas pressure at gas meter [mbar]
ϑ_G =	gas temperature at gas meter [°C]

23 Adjustment tables

The values given in the tables are only setting values for commissioning. The system setting required in each case must be re-determined in the event of deviating data such as boiler output, calorific value and altitude.

In any case, readjustment is necessary depending on the system.

Burner output		Boiler output η= 92%		Air flap position		**Natural gas LL Hi,n = 9.3 [kWh/m³]**			
Stage 2	Stage 1	Stage 2	Stage 1	ST2 P9	ST1 P1	Gas nozzle pressure Stage 2	Gas nozzle pressure Stage 1	Gas flow rate Stage 2	Gas flow rate Stage 1
[kW]	[kW]	[kW]	[kW]	[°]	[°]	[mbar]	[mbar]	[m³/h]	[m³/h]
220	110	202	101	14	5	3,5	1,4	25,4	12,7
282	141	259	130	20	7	6,7	2,4	32,6	16,2
356	178	326	164	30	10	9,9	3,8	41,0	20,5
390	195	359	179	40	12	12,0	4,3	45,4	22,5
420	210	386	193	50	13	12,8	4,7	48,0	24,2

Burner output		Boiler output η= 92%		Air flap position		**Natural gas E $H_{i,n}$ = 10.4 [kWh/m³]**			
Stage 2	Stage 1	Stage 2	Stage 1	ST2 P9	ST1 P1	Gas nozzle pressure Stage 2	Gas nozzle pressure Stage 1	Gas flow rate Stage 2	Gas flow rate Stage 1
[kW]	[kW]	[kW]	[kW]	[°]	[°]	[mbar]	[mbar]	[m³/h]	[m³/h]
220	110	202	101	14	5	2,7	1,1	23,6	11,8
282	141	259	130	20	7	5,1	2,0	30,0	15,0
356	178	326	164	30	10	7,5	3,0	38,0	19,0
390	195	359	179	40	12	9,1	3,3	41,6	20,8
420	210	386	193	50	13	9,7	3,6	44,8	22,4

Burner output		Boiler output η= 92%		Air flap position		**LPG $H_{i,n}$ = 25.89 [kWh/m³]**			
Stage 2	Stage 1	Stage 2	Stage 1	ST2 P9	ST1 P1	Gas nozzle pressure Stage 2	Gas nozzle pressure Stage 1	Gas flow rate Stage 2	Gas flow rate Stage 1
[kW]	[kW]	[kW]	[kW]	[°]	[°]	[mbar]	[mbar]	[m³/h]	[m³/h]
220	110	202	101	14	5	3,3	1,0	9,0	4,5
282	141	259	130	20	7	5,5	1,4	11,5	5,7
356	178	328	164	30	10	8,8	2,2	14,5	7,3
390	195	359	179	40	12	10,5	2,6	15,9	8,0
420	210	386	193	50	13	12,2	3,1	17,1	8,6

24 Error code list LMV

To reset the error, press the **i/reset button** for two seconds.

loc.C:	loc.d:	Description	Measure
		No communication between basic unit LMV27... and AZL2…	Check wiring for interruptions/loose contacts
2	1 - 4	No flame at the end of the safety time	
3	0 - 84	Compressed air fault	No compressed air
4	0 - 86	External light	
7	0 - 255	flame cut-off	
12	0	Fuel valve 1 leaking (fuel valve 2 for leakage check 9	For leakage check via X5-01 (gas pressure switch min) - Check whether valve on burner side is leaking - Check whether pressure switch for leakage check is closed when gas pressure is applied - Check wiring for short-circuit
	1	Fuel valve 2 leaking (fuel valve 1 for leakage check via X5-01)	For leakage check via X5-01 (gas pressure switch min) - Check whether valve on gas side is leaking - Check wiring for short-circuit
	2- 5	Leakage check not possible	Leakage check activated but no input assigned
	81	V1 leaking	Check whether valve on gas side is leaking Check the wiring for interruptions
	83	V2 leaking	Check whether the valve on the burner side is leaking Check whether the pressure switch for the leak test is closed when gas pressure is applied Check wiring for short-circuit
14	0	POC open	Check whether valve NC contact is closed
	1	POC closed	Check wiring Check whether valve NC contact opens when he valve is activated
	64	POC open start prevention	Check wiring for interruptions Check whether valve NC contact is closed
19	80	Combustion pressure, POC start prevention	Check whether the pressure switch is closed without combustion pressure being present Check wiring for short-circuit
20	0 - 1	Pressure switch min no minimum gas pressure/oil pressure	Check wiring for interruption
21	0- 64	Pressure switch max/POC	Check wiring for interruption. POC: Check whether valve NC contact is closed
22 OFF S	0 - 87	Safety chain	
23	0 - 2	Gas pressure switch min (Pmin)	Check wiring for interruption (X5-01)
50 - 67	#	Internal error	
70	26 - 26	Error group	Set all curve points for gas and air actuators, and for the FC
71	0 - 3	Special position undefined	Parametrise actuators
75-84		Internal fault group	
85	0	Error group fuel drive	Referencing of fuel drive not possible. Unable to reach reference point. 1. Check whether the drives have been exchanged 2. Check whether the drive is blocked or overloaded

loc.C:	loc.d:	Description	Measure
85	1	Error group air drive	Referencing of fuel drive not successful. Unable to reach reference point. 1. Check whether the drives have been exchanged 2. Check whether the drive is blocked or overloaded
86	0 - 1	Error group fuel drive	Unable to achieve the target position within the required tolerance. -> Check whether the drive is blocked or overloaded. A line break was detected at the drive connections. -> Check wiring (voltage X54 between Pin 5 or 6 and Pin 2 >0.5 V).
87	0 - 4	Error air drive	Unable to achieve the target position within the required tolerance. -> Check whether the drive is blocked or overloaded. A line break was detected at the drive connections. -> Check wiring (voltage X53 between Pin 5 or 6 and Pin 2 >0.5 V).
90 - 92	#	Internal fault group	
93	3	Short-circuit of probe	Short-circuit at QRB... 1. Check wiring 2. Flame probe possible defective
95	3 Ignition transformer 4 Fuel valve 1 5 Fuel valve 2 6 Fuel valve 3	External supply NOC	Check wiring
96	3 Ignition transformer 4 Fuel valve 1 5 Fuel valve 2 6 Fuel valve 3	Relay welded	Measure the contacts: 1. Device at voltage: Blower output must be de-energised 2. Deactivated voltage: Disconnect blower. There must be no ohmic connection between blower output and N. If one of the two tests fails, replace the unit, since the contacts are definitely welded and safety can no longer be guaranteed.
97	0	Safety relay welded or external voltage at safety contact	Measure the contacts: 1. Device at voltage: Blower output must be de-energised 2. Deactivated voltage: Disconnect blower. There must be no ohmic connection between blower output and N. If one of the two tests fails, replace the unit, since the contacts are definitely welded and safety can no longer be guaranteed.
98	2 Safety valve 3 Ignition transformer 4 Fuel valve 1 5 Fuel valve 2 6 Fuel valve 3	Replay does not pick up	Unlock; if it recurs, replace the unit
99 - 250	#	Internal error	

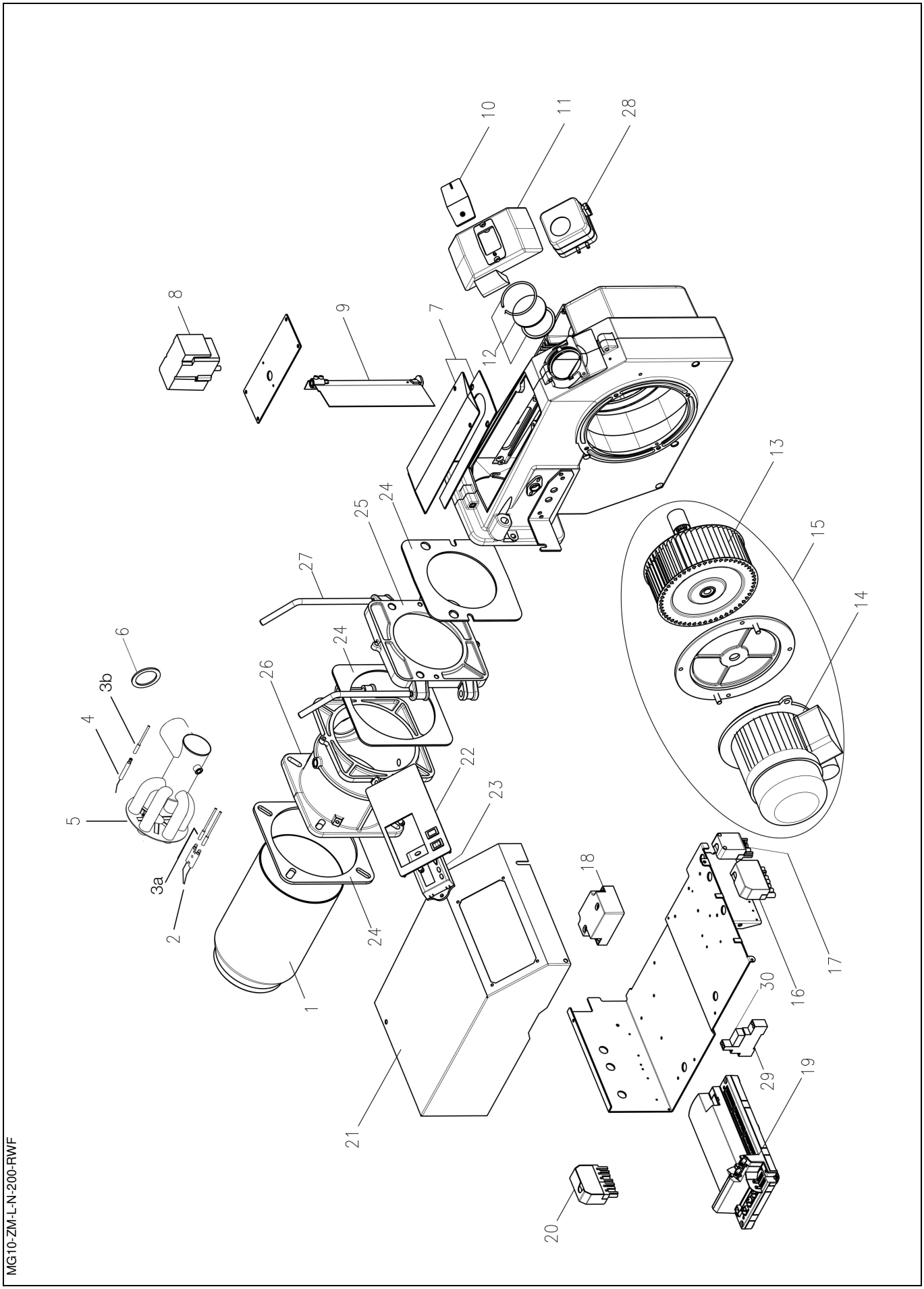
25 Adjustments log

Please enter the measured values into the Adjustments log.

Boiler type	Gas fitting

Measured values		min.	max.	Date
P0 (start point)				
P1 (min load)				
P9 (max load)				
Flue gas temperature	°C			
Carbon dioxide (CO_2 level)	%			
O_2 content	%			
CO level	%			
Flue	mbar			
Nozzle pressure	mbar			
Boiler pressure	mbar			
Room temperature	°C			
Gas type				
Setting value **V** at the fitting				
Setting value **N** at the fitting				

26 Exploded view drawing / spare parts list



Position	Designation	VE	Art. no.
1	Burner tube für MG10		46-90-11906
1	Burner tube for MG10, 100 mm extended		46-90-12031
1	Burner tube for MG10, 200 mm extended		46-90-12032
2/4	Ignition and ionisation electrode set		47-90-27365
3a/3b	Spare parts set ignition and ionisation cable		47-90-27990
3a/3b	Spare parts set ignition and ionisation cable, 100 mm extended		47-90-27991
3a/3b	Spare parts set ignition and ionisation cable, 200 mm extended		47-90-27992
5	Gas nozzle cpl.		36-90-12052
5	Gas nozzle cpl., 100 mm extended		47-90-24628
5	Gas nozzle cpl., 200 mm extended		47-90-24629
6	Gas nozzle-gas jacket seal	10	46-50-11465
7	Lid with seal		47-90-10667
8	Actuator SQN13		47-90-29095
9	Air flap cpl.		47-90-29473
10	Cover for sight glass	5	47-50-12106
11	Cover		47-90-21939
12	Sight glass with seal		36-90-11544
13	Fan wheel Ø180 x 75 for MG10		46-90-12997
14	Motor 230 V / 50 Hz 0.37 kW for MG10		47-90-12998
15	Motor cpl. with fan wheel for MG10		47-90-27600
16	Socket part 7-pin black/brown		37-90-20731
17	Socket part 4-pin green		37-90-20774
18	Ignition transformer		47-90-25267
19	Burner management system LMV27		47-90-29079-01
19	Burner management system LMV37 continuous operation		47-90-29606-01
20	Socket part 7-pin green		37-90-10831
21	Cover electrical box		47-90-29452
22	Aperture		47-90-29089
23	Display and control unit AZL		47-90-29098
24	Gasket set MG10		47-90-11761
25	Gas jacket MG10 part 2 for MG10		47-90-20209
26	Gas jacket MG10 part 1 for MG10		47-90-24953
27	Mounting rod for MG10	2	46-50-21085
28	Differential pressure monitor		44-90-20793
29	Sockel CR-PLSX		47-90-26713
30	Relais CR-P230AC2		47-90-25199
-	Digital controller RWF50, temperature (optional)		47-90-28819-01
-	Digital controller RWF 50, pressure (optional)		47-90-28819-02
-	Inlet nozzle		46-90-13005
-	Protective grille		46-90-13000
-	Bridges Plug part 3-pin brown Gas Max.		47-90-27382
-	Bridges Plug part 3-pin black Gas Min		47-90-27399
-	Socket part 3-pin brown		47-90-27203
-	Socket part 3-pin black		37-90-20739
-	Measuring tube combustion chamber pressure for KEV (CG and MBC)	1	47-90-30200

27 Declaration of Conformity for Gas Burners

Enertech GmbH, Postfach 3063, 58662 Hemer
0 23 72/965-0 0 23 72/6 1240 info@giersch.de www.giersch.de

Declaration of Conformity for Gas Burners

We, Enertech GmbH, Adjutantenkamp 18 in D-58675 Hemer declare under our responsibility that

gas burner type **MG10/..**

is conform with the regulations of these directives

MD2006/42/EG
EMC2014/30/EU
GAD 2016/426/EU
LVD2014/35/EU
RoHS 2011/65/EU
DIN EN 676

and is marked with:

CE

CE-0085

Hemer, 16.01.2018

ppa. i.V.

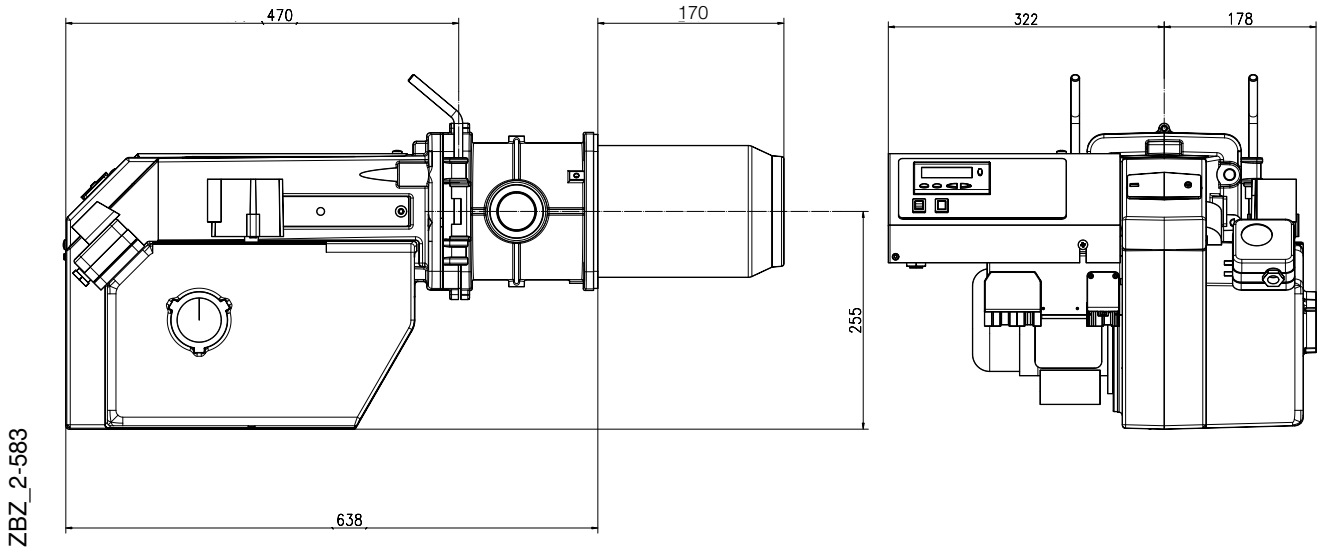
Wendel
Sales director

Rebbe
Technical management

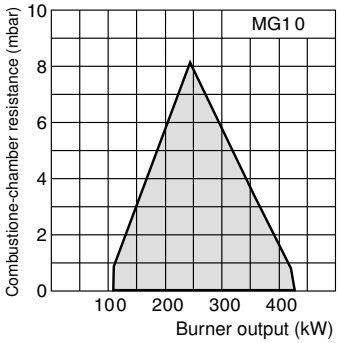
Art.-Nr. 89-10--80675 Druck-Nr. 4/2017

28 Dimensions

(all dimensions are given in mm)



29 Working range



Working range acc. to DIN EN 676. The working range is referred to 15°C and 1013 mbar.

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09-2023 • Art.-Nr. 70-25-58101-GB • Printed in Germany • Enertech GmbH