



High-Performance Packaged Boiler

Australia's largest certified package boiler company.



www.environmental.com.au

Working across the Circular Economy

Our Purpose

Engineering a sustainable future.

Our Mission

To enable our clients to contribute to a cleaner environment by safely delivering pivotal solutions while generating value for our shareholders, staff, and partner industries.

Our Team

Our local experts are dedicated to reducing waste and boosting energy performance. Trusted worldwide to provide the highest standards of service and support.

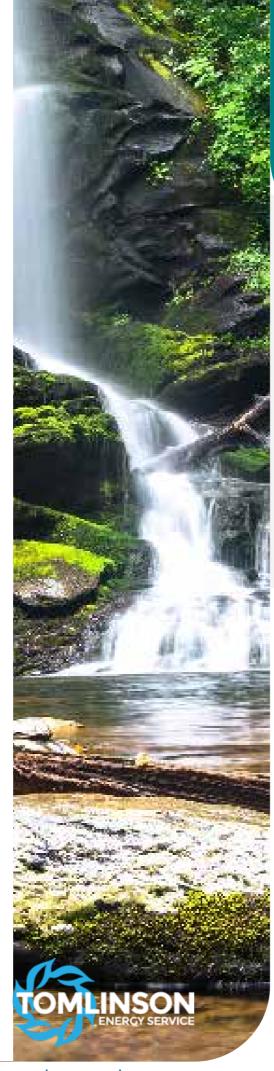
Tomlinson Enegery Services

Part of The Environmental Group

Tomlinson Energy Services is Australia's leading provider of packaged boiler solutions, delivering the highest combustion efficiency to keep operating costs low and performance high.

We specialise in custom design, installation, commissioning, and national servicing and repairs, complemented by our 24/7 emergency support.

With offices and a dedicated service team across Australia, Tomlinson Energy Services ensures boilers operate at peak performance for maximum efficiency and reliability.







Offering Industry

Leading Burners

Weishaupt produces gas and oil-fired boilers, heat pumps, and burners. These top-quality products are characterised by their meticulous development, high-quality workmanship, outstanding operational reliability, and maximum Efficiency. Their unrivalled excellence extends equally to design and function.

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WEISHAUPT **DUAL FUEL BURNERS** WGL30-C AND WGL40-A



A hallmark of practical combustion technology

A safe investment in the future

Reliable and economical: The million-fold success of Weishaupt's compact burners is the result of an unrelenting orientation towards quality and customer satisfaction. The equipment has been continually developed and improved over decades.

The latest production methods and very stringent quality checks of all products ensure Weishaupt's reputation for quality. In choosing Weishaupt you are making a safe investment in the future.

The WGL slots seamlessly into the range of W-series burners, bringing all the advantages of that product family together with additional fuel flexibility.

Large capacity range

The burners' capacity ranges of 70 to 340 kW and 125 to 550 kW make them both suitable for a wide range of heat generators.

Digital combustion management for reliability and ease of use

Weishaupt is a pioneer in this field. Digital combustion management offers greater ease of use, simple servicing, even greater reliability in operation, and, last but not least, an extremely attractive price to capacity ratio. Furthermore, this intelligent technology enables the burner to be integrated with complex building management systems.

Electronic ignition

The ignition unit used on all Weishaupt W-series burners is very energy efficient and extremely reliable.

Flame monitoring

Flame monitoring systems are responsible for the high operational readiness and maximal safety of the burner.

Weishaupt WGL burners use an infrared flicker detector that can monitor both gas and oil flames.

Gas multifunction assembly

The burner's gas multifunction assembly incorporates the following components

- Servo-controlled governor to ensure a continual gas pressure
- 2 Class-A solenoid valves
- Filter
- Gas pressure switch

If the gas pressure falls too low, a low gas pressure program is started. The gas pressure switch also provides automatic valve proving.

Valve proving as standard with the W-FM 25 combustion manager

The low gas pressure switch is used to check the tightness of the gas valves, thereby providing valve proving without the need for any additional components

O₂ trim

The various options available with the W-FM25 series of combustion managers bring the latest technology to the compact burner segment. Innovative technology enables efficiency-optimising measures such as O_2 trim to be produced more cost effectively. With these technologies it is possible for investments in burners to be quickly amortised.

Diagnosis via laptop

A laptop computer can be connected to the combustion manager, offering easy combustion optimisation and fault analysis. A package of interrogation software and connection cables is available for this.

Outstanding service

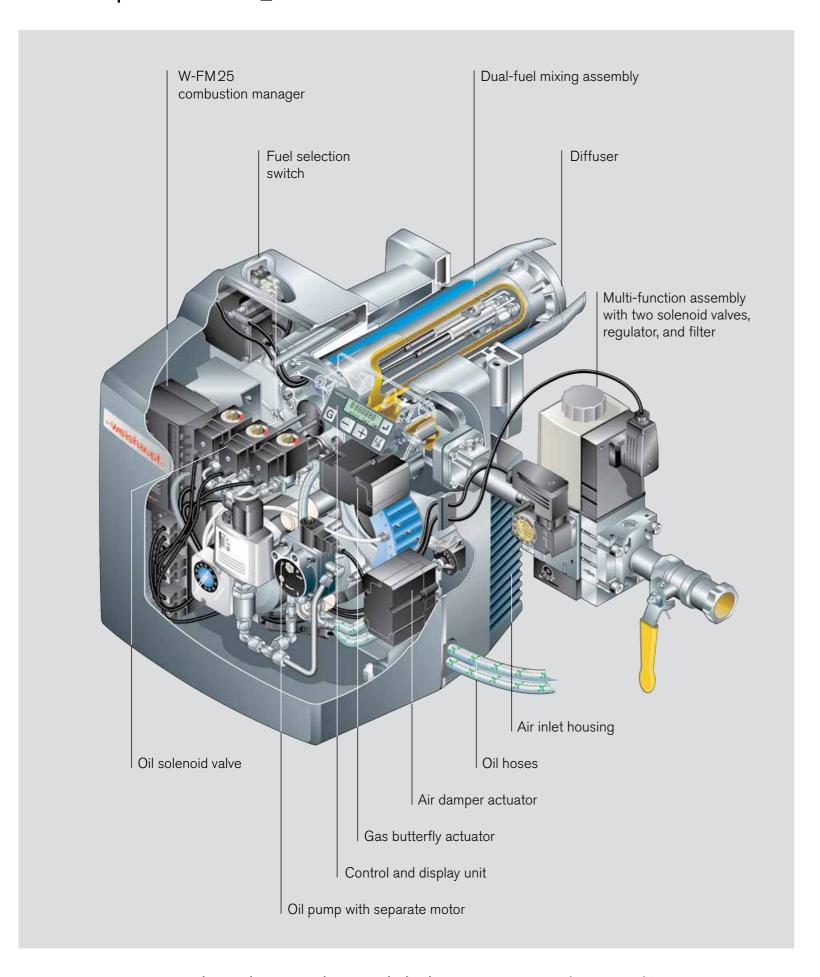
Weishaupt has an extensive worldwide sales and service network. Customer service is available around the clock. Weishaupt's optimal in-house training ensures service technicians are of the highest calibre.

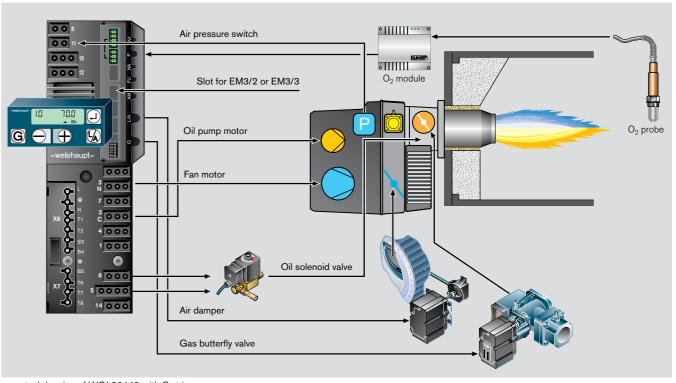
The key points:

- Fully electronic control and diagnosis
- Sliding-two-stage or modulating load control when firing on gas, two-stage load control when firing on oil
- The separately motorised oil pump is decoupled while the burner is firing on
- Microprocessor-controlled combustion manager
- Burner set via control unit with LCD
- Integrated gas valve proving
- Optional O₂ trim
- Optional expansion module to provide a Modbus / Profibus interface
- Error message display
- Hours run meter with burner start counter
- Electronic gas/air compound with separate stepping motor actuators
- The diffuser can be adjusted during setup
- Fuel selection switch

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WGL30/40 dual-fuel burners with optional O₂ trim





onceptual drawing of WGL30/40 with O2 trim

ne key points:

Sliding-two-stage or modulating load control when firing on gas, two-stage load control when firing on oil W-FM25 $\rm O_2$ for $\rm O_2$ trim

The separately motorised oil pump is decoupled while the burner is firing on gas

Fuel changeover via selection switch or field bus module

Non-interchangeable plugs ensure the correct electrical connection of all components

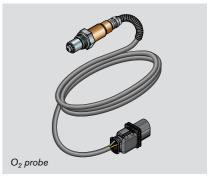
Safety is ensured by the reciprocal monitoring of two microprocessors Fully electronic control and diagnosis Flame monitoring via KLC/FLW infrared flicker detector

Electrical remote reset is possible Optional expansion modules with either a Modbus interface or analogue and digital inputs and outputs

The separate PC connection offers,

through the use of the Vision Box software, additional options such as:

- Setting of the pre-purge time
- Display of the operational sequence and the adjustment of functional parameters
- Simplified, display led commissioning
- LCD screen with interrogation, service, and parameterisation functions. The burner can be set directly via the operating keys
- Available with Canadian and US type approvals and 120 V/60 Hz electrics





Digital combustion management: reliable and easy to use

Combustion r Fuels	nanager	W-FM 2
Gaseous		
Liquid (distillate		
Gaseous/liqui		
Features	u (uistillate)	
Intermittent firi	na	
Integrated gas		
Number of actu		2
	stepping motor	2
	npound settings	2
Flame monitori		KLC/FL\
Fuel metering v		KLC/TL
Service softwar		Vision Bo
Efficiency opt		VISIOII DO
O ₂ trim	misauon	O 1)
Control		0.
	a innuta	
Stage switching (thermostat/pi	ressure control)	•
Three-term swi		•
0/4-20 mA oi		
analogue input	/output	O 2)
Bus systems		
Modbus RTU		O 3)
Profibus		O 3)
Controls posi	tioning	
Burner-mounte		
combustion ma	-	•
Removable cor	ntrol unit	10 m
Electrical sup		
120 V, 50 Hz/		•
230 V, 50 Hz/	60 Hz	•
Approvals		
Europe	CE (230 V/50 Hz)	•
Australia	AGA (240 V / 50 Hz)	•
USA/Canada	CSA (120 V / 60 Hz)	•
StandardOptional		
	n expansion module expansion module	

Digital combustion management for reliability and ease of use

Weishaupt is a pioneer in this field. Digital combustion management offers greater ease of use, simple servicing, even greater reliability in operation, and, last but not least, an extremely attractive price to capacity ratio. Furthermore, this intelligent technology enables the burner to be integrated with complex building management systems.

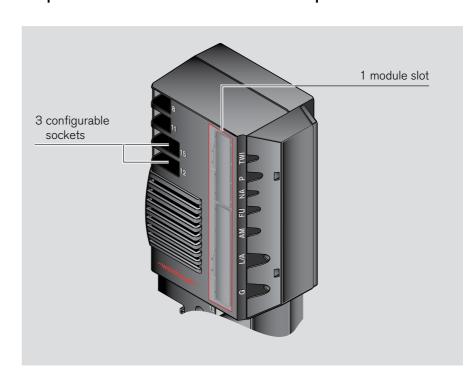
All of Weishaupt's W-series burners are fitted as standard with a digital combustion manager. The unit's microprocessors control and monitor all burner functions. As a result, Weishaupt burners are easy to use, precise, and reliable.

The digital combustion manager also offers the possibility of communicating with other systems via an integrated bus connection. This allows a technician to monitor the operation of the burner and remotely diagnose any errors.

The key points:

- Non-interchangeable plugs ensure the correct electrical connection of all components
- Safety is ensured by the reciprocal monitoring of two microprocessors
- Simplified, display led commissioning
- LCD screen with interrogation, service, and parameterisation functions. The burner can be set directly via the operating keys
- Flame monitoring via KLC/FLW infrared flicker detector
- Electrical remote reset is possible
- The optional bus connection offers functions such as:
- Interfacing with building management systems
- Remote monitoring and diagnosis via self-dialling modem
- The separate PC connection offers, through the use of the Vision Box software, additional options such as:
- Setting of the pre-purge time
- Display of the operational sequence and the adjustment of functional parameters

Optional W-FM25 expansion modules



W-FM 25 combustion manager

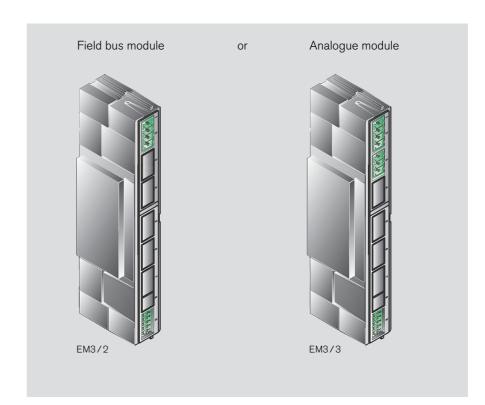
- Configurable inputs (summary)
 Socket 12
- VPS valve proving
- Proof of valve closure (POC)

Socket 14

- Remote reset
- Start release
- Contact-dependent post-purge

Socket 15

- High gas pressure switch
- Extraneous air pressure switch



Field bus module – Modbus/Profibus

By way of example, the following data can be read or changed:

- Burner ON/OFF
- Fuel changeover
- Current degree of modulation
- Required degree of modulation
- Heat demand present
- Flame signal
- Hardware inputs and outputs
- Operating phase
- OperatingHours run
- Fan speed with VSD
- Lan speed with v
- Actuator positionsFuel throughputs
- Etc.

Analogue module - input/output

Input: Required burner load 0-20 mA / 4-20 mA 0-10 V / 2-10 V

Output: Current burner load 0-20 mA/4-20 mA 0-10 V/2-10 V

Overview of burner control Model designation

Gas and oil-fired operation

Two-stage (Z)

• Two-term switching (e.g. temperature or pressure stat) causes actuators to drive the burner to partial load or full load in response to heat demand. Single-stage control with low-impact start can also be effected.

Sliding-two-stage (ZM)

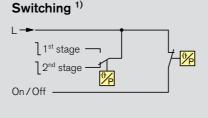
 Two-term switching (e.g. temperature or pressure stat) causes actuators to drive the burner to partial load or full load in response to heat demand. The combustion values between load points are CO and smoke free.

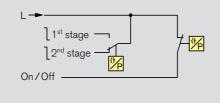
Modulating (ZM)

- An electronic load controller causes actuators to make infinitely variable load adjustments in response to heat demand.
- Available modulation control options for the W-FM25 combustion manager:
- Three-term switching for an optional external load controller
- Optional EM3/3 expansion module for an external load controller with an analogue output signal
- Optional EM3/2 expansion module for a Modbus connection

Two-stage (oil) P







Modulating (gas)

Sliding-two-stage (gas)

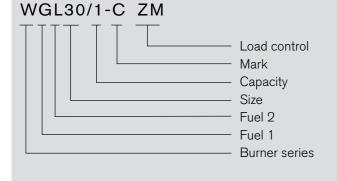




F = Full load (nominal load) P = Partial load (minimum load) I = Ignition load

1) Modulating gas control with staged oil control requires an electronic PID controller. In this case, an appropriate temperature sensor or pressure transducer will be required.

Model designation



Details	Code-	Associated fuel	
Series	W	Weishaupt compact burner	
Fuel	G L	Gas Class D / A2 oil	
Load control	Z ZM	Two-stage Sliding-2-stage/ modulating	Oil Gas

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Use

Fuels

Natural gas LPG

Class D gas oil per BS 2869/IS 251 Class A2 gas oil per BS 2869/IS 251 10 % biodiesel blends (B10)

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

Applications

Weishaupt WGL30 and WGL40 burners with W-FM25 combustion manager are suitable for intermittent firing on:

- EN 303-compliant heat generators
- LTHW boilers
- Air heaters
- Group II and III steam boilers
- Certain process applications

Permissible ambient conditions

- Ambient temperature -15 to + 40 °C for gas firing
- -10 to + 40 °C for oil firing
- Maximum 80 % relative humidity, no condensation
- The combustion air must be free of aggressive substances (halogens, chlorides, fluorides etc.) and impurities (dust, debris, vapours, etc.)
- Adequate ventilation is required for operation in enclosed spaces
- · For plant in unheated areas, certain further measures may be required

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

Protection Class

IP 40

EN 88-compliant regulators with safety diaphragms are used for low-pressure supplies.

For high-pressure supplies, an EN 334compliant high-pressure regulator

should be selected from the following technical booklets:

- Regulators up to 4 bar, Print No. 83001202
- Regulators with safety devices, Print No. 83197902

Maximum Operating Pressure (MOP)

The supplier must safeguard the gas flow pressure such that it cannot exceed the MOP of the burner's gas valve train.

Gas valve train design

Low-pressure valve trains are normally used for gas flow pressures up to a maximum of 300 mbar and a maximum operating pressure (MOP) of 500 mbar. This allows for pressure losses between the transfer station and the valve train. Furthermore, it is assumed that the transfer station utilises components (SSV, regulator) that are not of the highest class of accuracy. In individual cases, following consideration and approval by Weishaupt's headquarters, a gas flow pressure of up to 360 mbar can be approved if the appropriate conditions

High-pressure valve trains are normally used for gas flow pressures greater than 300 mbar.

Standards compliance

The burners are tested by an independent body and fulfil the applicable requirements of the following European Union directives and applied standards:

EMC EMC Directive 2014/30/EU

Applied standards

- EN 61000-6-1:2007 • EN 61000-6-3:2007
- Low-Voltage Directive 2014/35/EU
 - Applied standards
 - EN 60335-1:2010
 - EN 60335-2-102 : 2010 Machinery Directive
- 2006/42/EC Applied standards ■ EN 676 Annex J
- GAR Gas Appliances Regulation 2016/426/EU
 - Applied standards
 - EN 676 : 2008
- PED¹⁾ Pressure Equipment Directive 2014/68/EU
 - Applied standards • EN 676 Annex K
 - EN 267 Annex K
 - Conformity assessment procedure: Module B

The burners are labelled with

- CE Mark
- CE-PIN per 2009/142/EC
- Identification No. of the notified body

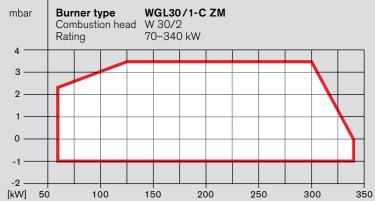
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¹⁾ With the selection of appropriate equipment.

Burner selection / gas valve train sizing WGL30

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WGL30 capacity graph



The capacities as a function of combustion chamber pressure are maximum values measured in accordance with EN 676 and EN 267 on idealised flame

The burner capacity graphs are certified in accordance with EN 676 and EN 267. The stated ratings are based on an air temperature of 20 °C and an installation at sea level. For installations at higher altitudes, a reduction in capacity of 1 % per 100 m above sea level should be taken into account.

The combustion chamber pressure of the heat generator must be added to the flow pressure determined from the chart when sizing the gas valve train. Minimum flow pressure 15 mbar.

Minimum 125 kW full-load firing rate for two-stage operation

Burner rating	(flow pres	Low-pressure supply (flow pressure in mbar into shutoff valve, p _i max = 300 mbar) W-MF 507 Nom. diameter of gas ball valve									
[kW]	3/4"	1"	1"	11/2"							
Nat. gas E	, LHV = 10.35	kWh/m³ (37.26 MJ	I/m³), d = 0.606, V	V _i = 13.295 kWh/m ³							
125	16	15	15	14							
145	16	15	15	14							
165	17	16	15	14							
185	18	16	15	14							
200	18	17	15	15							
220	19	18	16	15							
240	21	19	16	15							
260	22	20	17	15							
280	24	21	18	15							
300	26	22	19	16							
320	28	24	20	17							
340	30	26	21	18							

Nat. gas LL,	Nat. gas LL , LHV = 8.83 kWh/m^3 (31.79 MJ/m^3), $d = 0.641$, $W_i = 11.029 \text{ kWh/m}^3$									
125	18	17	17	16						
145	19	18	17	16						
165	20	18	18	17						
185	21	19	18	17						
200	22	20	19	17						
220	24	21	19	17						
240	26	23	20	17						
260	28	24	21	17						
280	31	26	22	18						
300	33	28	24	18						
320	36	31	25	20						
340	40	33	27	21						

LPG^{\star} , LHV = 25.89 kWh/m³ (93.20 MJ/m³), d = 1.555, W _i = 20.762 kWh/m³											
125	11	11	11	11							
145	12	12	11	11							
165	12	12	12	11							
185	13	13	12	12							
200	13	13	12	12							
220	14	13	13	12							
240	15	14	13	13							
260	16	14	13	13							
280	16	15	14	13							
300	17	16	14	14							
320	18	16	15	14							
340	19	17	15	14							

The LHV is referenced to 0 °C and 1013 mbar atmospheric. All pressures are in mbar.

Please note that an FRS regulator is required at additional cost for gas connection pressures > 150 mbar.

Shaded areas of the valve train table do not meet TRGI ball valve sizing requirements. For TRGI compliance use the non-shaded area and note additional price of larger ball valve.

Burner selection / gas valve train sizing WGL40

WGL40 capacity graph Burner type WGL40/1-A ZM 125-550 kW

The capacities as a function of combustion chamber pressure are maximum. values measured in accordance with EN 676 and EN 267 on idealised flame

The burner capacity graphs are certified in accordance with EN 676 and EN 267. The stated ratings are based on an air temperature of 20 °C and an installation at sea level. For installations at higher altitudes, a reduction in capacity of 1 % per 100 m above sea level should be taken into account.

The combustion chamber pressure of the heat generator must be added to the flow pressure determined from the chart when sizing the gas valve train. Minimum flow pressure 15 mbar.

Minimum 200 kW full-load firing rate for two-stage operation

Burner rating		Low-pressure supply (flow pressure in mbar into shutoff valve, p _i max = 300 mbar)										
.ag	W-MF 507	W-MF 512	512	DMV 525/ 12	DMV 5065/ 12	DMV 5080/						
[kW]	Nom. dian	neter of ga 1 "	s ball valve	2"	DN65	DN80						
Nat. gas E	, LHV = 10.3	5 kWh/m³	(37.26 MJ/n	n³), d = 0.60	6, W _i = 13.29	5 kWh/m						
200	18	14	13	11	11	11						
225	20	15	14	12	11	11						
250	22	16	15	12	12	12						
275	25	18	16	13	13	13						
300	28	19	18	14	14	14						
325	32	22	20	16	15	15						
375	41	27	24	20	19	19						
400	45	29	25	21	20	20						
425	48	30	26	21	20	20						
450	52	31	26	22	21	20						
500	60	34	28	23	21	21						
550	69	38	31	24	23	22						
Nat. gas L	L , LHV = 8.8	3 kWh/m³	(31.79 MJ/m	³), d = 0.641	$W_i = 11.029$	kWh/m³						
200	23	17	16	14	14	14						
225	26	18	17	15	15	14						
250	29	20	18	16	15	15						
275	33	22	19	17	16	16						
300	37	24	21	18	17	17						
325	42	26	23	20	19	19						
375	53	33	29	24	23	22						
400	58	35	30	25	24	23						
425	63	37	32	26	24	23						
450	69	39	33	26	25	24						
500	81	44	37	28	26	25						
550	94	50	41	31	29	27						
			MJ/m^3), $d = 1$	$.555, W_i = 20$	0.762 kWh/m	3						
200	10	9	8	_	-	-						
225	12	10	9	-	-	_						
250	13	11	10	_	-	_						
275	15	12	12	_	_	_						
300	17	14	13	-	_	- - -						
325	20	15	15	_	_	_						
375	25	19	18	_	_	_						
400	27	21	20	-	_	-						
425 450	29	21	20	_	_	_						
450	30 34	22	20	_	_	_						
500 550	38	24 26	22 23			_						
JUU	30	20	23	_	-	I -						

Please note that an FRS regulator is required at additional cost for gas connection pressures > 150 mbar.

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

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

Order numbers Extra equipment

Burner						
Burner type	Version	Operation Natural gas / LPG	Gas oil	Valve tr R/DN	ain Type	Order No.
WGL30/1-C	ZM	Sliding-two-stage/modulating Sliding-two-stage/modulating Sliding-two-stage/modulating	Two-stage Two-stage Two-stage	3/4" 1" 11/2"	W-MF 507 SE W-MF 512 SE W-MF 512 SE	235 316 21 235 316 31 235 316 41
WGL40/1-A	ZM	Sliding-two-stage / modulating Sliding-two-stage / modulating Sliding-two-stage / modulating Sliding-two-stage / modulating Sliding-two-stage / modulating Sliding-two-stage / modulating	Two-stage Two-stage Two-stage Two-stage Two-stage Two-stage Two-stage	3/4" 1" 11/2" 2" DN65 DN80	W-MF 507 SE W-MF 512 SE W-MF 512 SE DMV 525/12 DMV 5065/12 DMV 5080/12	235 416 21 235 416 31 235 416 41 235 416 61 235 426 31 235 426 41

Extra equipment

Description	Order No. WGL30	WGL40	
Additional 3/4" FRS governor for gas supply p Additional 1" FRS governor for gas supply pr Additional 11/2" FRS governor for gas supply	essures > 150 mbar	230 011 04 230 011 63 230 011 64	230 011 05 230 011 63 230 011 64
W-MF 507 with 1" ball valve & TAE for TRGI	230 010 92	230 010 92	
Combustion head extension	by 100 mm by 200 mm by 300 mm	230 010 36 230 010 37 230 010 38	230 010 80 230 010 81 -
Solenoid valve for air pressure switch test for	230 010 46	230 010 46	
Air inlet flange for duct connection, with air p	230 010 32	230 008 36	
Burner rotated through 180°	230 010 28	230 010 28	
W-FM 25 O2 combustion manager for O ₂ trim	1	230 012 36	230 012 36
GW50 high gas pressure switch with connec GW50 high gas pressure switch with connec	230 011 42	230 011 42 230 011 43	
${\rm O_2}$ trim set, comprising ${\rm O_2}$ module, ${\rm O_2}$ probe,	probe flange, and connection cables with plugs	230 012 34	230 012 34
EM 3/3 analogue expansion module		230 011 51	230 011 51
EM 3/2 field bus expansion module (Profibus	230 011 52	230 011 52	
Remote reset		230 011 48	230 011 48

Please enquire regarding other items of extra equipment

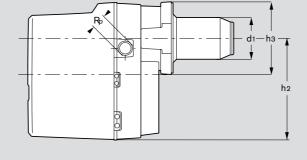
Technical data Dimensions

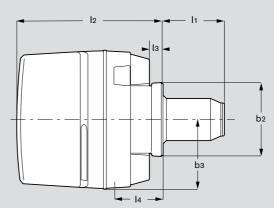
Technical of	Technical data												
Burner type	Combustion manager	Fan motor	Pump motor	Actuator / Oil pump	Monitoring	Burner mass ^①	Gas valv	e train Type	Mass ^①	Noise emission ^②			
WGL30/1-C	W-FM 25	ECK 05/A-2 230 V; 50 Hz Cap. 12 μF 2.3 A; 380 W 2890 rpm	ECK 02/F-2P 230 V; 50 Hz Cap. 3 μF 0.63 A; 75 W 2810 rpm	STE 4,5 * B0.36/6-01L ALV 65 C 75 I/h	Air pressure LGW 10A2 Flame FLW	39 kg	3/4" 1" 11/2"	W-MF 507 SE W-MF 512 SE W-MF 512 SE	6.0 kg 9.0 kg 11.5 kg	72 dB(A)			
WGL40/1-A	W-FM 25	ECK 06/A-2 230 V; 50 Hz Cap. 16 μF 3.2 A; 530 W 2900 rpm	ECK 02/F-2P 230 V; 50 Hz Cap. 3 μF 0.63 A; 75 W 2810 rpm	STE 4,5 * B0.36/6-01L ALV 65 C 75 I/h	Air pressure LGW 10A2 Flame FLW	47 kg	3/4" 1" 11/2" 2" DN65 DN80	W-MF 507 SE W-MF 512 SE W-MF 512 SE DMV 525/12 DMV 5065/12 DMV 5080/12	5.5 kg 9.0 kg 13.5 kg 17.5 kg 50.0 kg 67.0 kg	73 dB(A)			

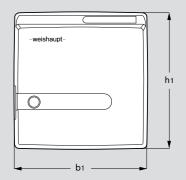
^① All masses are approximate.

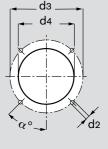
Burner dimensions

Burner type	Dimer	nsions ir	n mm													
	l ₁	l 2	lз	l 4	b ₁	b ₂	рз	h1	h ₂	hз	d1	d ₂	dз	d4	Rp	α°
WGL30	169	480	62	197	420	226	196	460	342	226	127	M8	170-186	130	1 1/2"	45°
WGL40	235	577	72	235	450	245	207	480	360	245	154	M10	186-200	160	1 1/2"	45°









² Measured sound pressure level – Values in the field are subject to variation according to the characteristics of the entire acoustic system.

Contact Us



Maximising Energy Efficiencies for a Sustainable Future

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