oilon®

Capacity
100 - 13300 kW

Oil, Gas and Dual Fuel Monoblock Burners

Low Emission Combustion Technology

Table of contents

19-38 Gas Burners
100 - 13300 kW

39-56 Dual Fuel Burners
Gas/Light Fuel Oil
100 - 13300 kW

59-72 Light Fuel Oil Burners
200 - 13300 kW

73-78 Heavy Fuel Oil Burners
390 - 9500 kW

79-84 Dual Fuel Burners
Gas/Heavy Fuel Oil
Burners
370 - 9500 kW

For over half a century, we have developed and produced environmentally friendly and energy efficient combustion solutions for our customers.

During this time, the customer has always been at the center of our business. Perhaps this is the reason why we are known for our company slogan "Oilon-the warm way".

We are a family-owned technology company, founded in 1961. We are known for our combustion systems, industrial heat pumps and cooling units, ground source heat pumps and solar heat collectors.

We are a global company, with offices, production facilities and distributors around the world. Our headquarters is located in Lahti, Finland.

A modern Research and Development Centre, located in Lahti Finland, is equipped with the latest technology for running diverse combustion tests and collecting data. In addition to testing, we use computer modelling of combustion processes, using computational fluid dynamics (CFD).

We are especially committed to reducing nitrogen oxides (NOx) and particulate emissions.


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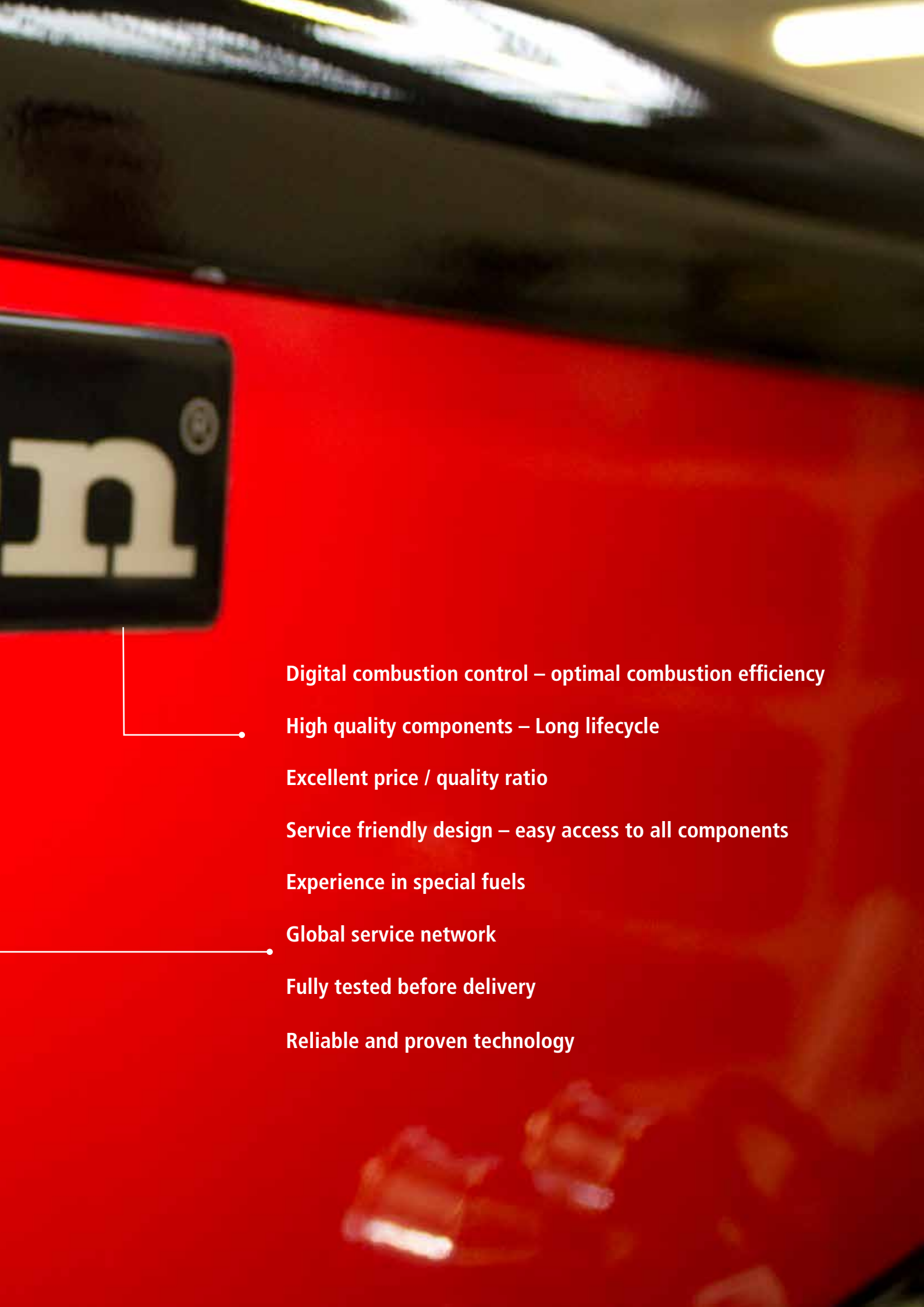


Digital combustion control – optimal combustion efficiency

High quality components – Long lifecycle

Excellent price / quality ratio

Service friendly design – easy access to all components

Experience in special fuels

Global service network

Fully tested before delivery

Reliable and proven technology

Oilon Burners

Oilon gas, oil and dual fuel burners are fully automatic, safe, and reliable. The burners are equipped with the latest digital technology.

Design

Oilon burners are designed for easy operation and maintenance without forgetting environmental friendliness and safety.

Applications

Oilon burners are suitable for various applications, such as hot water boilers, steam boilers, air heaters and different process applications.

Fuels

Oilon burners are suitable for various liquid and gaseous fuels such as light fuel oil, heavy fuel oil for viscosities up to 700 mm^2/s at 50 °C, natural gas (2^{nd} family gases, groups H and E) and LPG. Burners using other fuels are available on request.

Connectivity

Digital combustion management enables communication with external systems. Remote monitoring and diagnostics optimize operational efficiency.

Standards

Gas burners comply with the EN 676 standard, oil burners with the EN 298 and EN 267 standards, and dual fuel burners with all of these. Burners are EU type tested. Burners complying with marine classification society requirements, such as ABS, BV, CCS, DNV, GL, KR, LR, NKK, RINA and RS, are also available.

Oilon burner is your choice!

Choosing the burner

A. Procedure

1 Define relevant boiler and application information
- boiler capacity and efficiency, or required burner capacity
- furnace back pressure
- fuel/fuels to be used
- burner inlet fuel pressure
- burner capacity control method

2 Calculate the burner capacity. Burner capacity =

boiler capacity / efficiency

Example: boiler capacity of 2,500 kW, efficiency of 90 % → burner capacity = 2,500 kW / 0.9 = 2,780 kW

3 Gas burners: Required gas flow [m³n/h] = (burner capacity [kW] x 3.6) / gas's calorific value [MJ/m³n].
Example: required burner capacity = 2,780 kW → required gas flow = (2,780 kW x 3.6) / 35.8 MJ/m³n = 280 m³n/h, where 35.8 MJ/m³n is the calorific value of natural gas.
Oil burners: Calculate the required oil flow [kg/h]. Required oil flow [kg/h] = (burner capacity [kW] x 3.6) / the oil's calorific value [MJ/kg]. Example: required burner capacity = 2,780 kW → required oil flow = (2,780 kW x 3.6) / 42.7 MJ/kg = 234 kg/h, where 42.7 MJ/kg is the calorific value of light oil.

4. See working diagrams for burner operating range. The graphs indicate the burner operating range. For example, the boiler back pressure with a burner capacity of 2,780 kW is 12 mbar. Looking at the adjoining diagram, see your burner capacity along the horizontal axis. On the vertical axis figure out your boiler back-pressure. The point, where the two lines meet, defines the required burner type. The optimum burner is best chosen by ensuring that the defined operating point is as close as possible to the right hand edge of the graph. Note that different fuels and capacity control methods require separate graphs.

5. Gas and dual fuel burner valve selection: Select a suitable valve, using the gas valve selection table. Note that the values in the selection table apply when the furnace back pressure is 0 mbar. Therefore, you must subtract the furnace back pressure from the actual gas inlet pressure and choose the valve according to this value. The ratings shown in the table apply to natural gas.

   For example, using a gas inlet pressure of 70 mbar, a boiler back pressure of 12 mbar, a required burner capacity of 2,780 kW, the effective pressure will be 70 mbar - 12 mbar = 58 mbar. For the GP-280 M burner, for example, you should choose a valve allowing a minimum burner capacity of 2,780 kW with 58 mbar gas inlet pressure → in this case, valve DN 65.

6. Check that the outer dimensions of the burner, especially those of the combustion head, are suitable for the application.

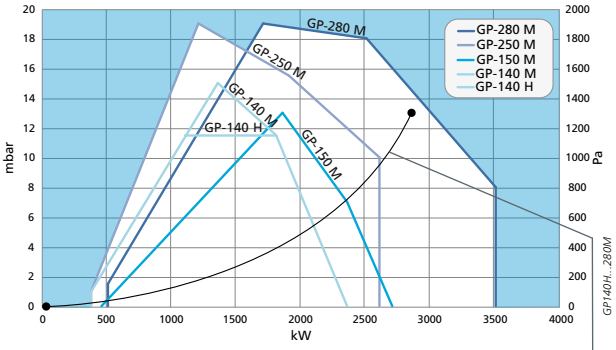
7. Check the flame dimensions in the flame dimension table. Please note that the flame must not come in to contact with the walls of the furnace. For modulating light fuel oil burners, when delivered without deaerator, select supply pumping unit capacity according to burner atomizing pump capacity + 15 %.

8. Optional equipment, such as gas pressure regulator, oil pumping unit and boiler thermostats/pressostats must also be taken into consideration.

B. Equations and rules of thumb

1. Burner capacity = boiler capacity / 0.9 (when boiler efficiency is 90 %)
2. Steam boilers: 1 ton/h steam ≈ 700 kW boiler capacity
3. Light oil: 1 kg/h ≈ 11.86 kW burner capacity with calorific value 42.7 MJ/kg
4. Heavy oil: 1 kg/h ≈ 11.22 kW burner capacity with calorific value 40.5 MJ/kg
5. Natural gas: 1 m³n/h ≈ 10 kW burner capacity with calorific value 35.84 MJ/m³n
6. The amount of combustion air:
   - Gas burners: required amount of combustion air for each 10 kW of burner capacity is 12 to 13 m³/h.
   - Oil burners: required amount of combustion air for each kilo of oil burned [kg/h] is 13.5 m³/h.
7. Oil pumping, filtering, and preheating unit (Oilon HotBox) is required with heavy fuel oil. The required minimum pump output [kg/h] can be calculated as follows:
   Required minimum output [kg/h] = (oil flow to be burned in kg/h + 150 to 200 kg/h)* 1.25 to 1.3, where the expression inside the parentheses indicates the preheated oil flow to each burner.

An example of burner selection



Boiler pressure loss graph as function burner capacity.

The max. capacity of a hot water boiler is 2,500 kW, efficiency 0.9, and the corresponding burner capacity 2,500 kW / 0.9 = 2,780 kW. The graph indicates that a suitable gas burner for this capacity is the GP-280 M, as the pressure loss value for the boiler is located inside the area for the GP-280 M burner on the working diagram. The GP-250 M can also be used for this application, provided that the full boiler capacity is not required. Remember to take efficiency into account when relating the boiler pressure loss information to the burner working diagram.

NOx emissions

Nitrogen oxides (NOx) are compounds of nitrogen and oxygen, the most important of which are NO and NO2. Small amounts of nitrogen oxides also occur in nature, but the majority of them originate from human actions, mainly from logistics and energy production.

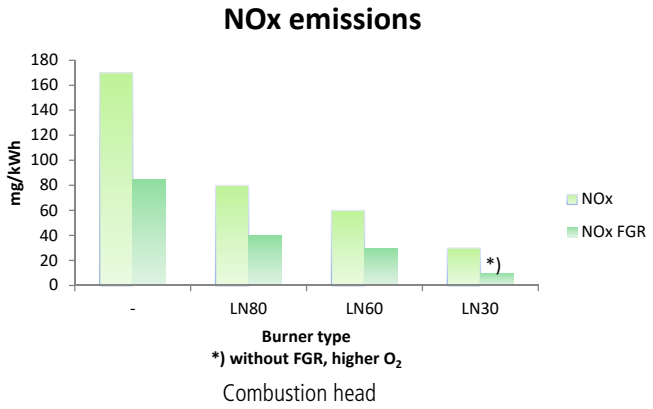
Nitrogen oxides form during all combustion processes, when the nitrogen present in the combustion air and/or fuel and the oxygen present in the combustion air, react at high temperatures.

Nitrogen oxides are harmful to humans and the environment in many ways. They are toxic and harmful to the respiratory system. Nitrogen oxides cause acidification and eutrophication of the environment, form ground-level ozone and harmful particulate emissions.

Increasingly stringent emission limits are being imposed all over the world to mitigate the adverse effects of nitrogen oxide emissions. The reduction of nitrogen oxides is the key priority in lowering emissions from traffic and energy production.

We are especially committed on reducing nitrous oxide (NOx) and particulate emissions. One of our most important goals when developing our products is to lower emission levels.

Effect of combustion head on NOx emissions, natural gas



Oilon Low-NOx natural gas burners for 80 mg/kWh fulfill the requirements of emission class 3 (EN 676) and natural gas burners for 60 mg/kWh fulfill the requirements of emission class 4 (FprEN676).

Low NOx emissions are achieved by innovative gas and air distribution and staging in the combustion head.

NOx emissions are also reduced with the use of internal/external FGR in order to reduce flame peak temperatures and combustion reaction speed. Emission values depend on the furnace geometry, the furnace load and the temperature of the boiler medium. Low NOx levels are mainly achieved on standard 2- or 3-pass boilers.

When the burner is designed to operate on 2nd family gases and/or 3rd family gases and/or LFO, the maximum NOx-values shall be according to the table.

Class	NOx-emissions in standard conditions, mg/kWh		
	Gas		LFO
	2nd family groups H,E and L	3rd family	-
1	≤ 170	≤ 230	≤ 250
2	≤ 120	≤ 180	≤ 185
3	≤ 80	≤ 140	≤ 120
4 (FprEN676)	≤ 60	≤ 110	-

Note that the calculated NOx-value shall not exceed 170 mg/kWh for 2nd family gases nor 230 mg/kWh for 3rd family gases.

FGR - Flue Gas Recirculation

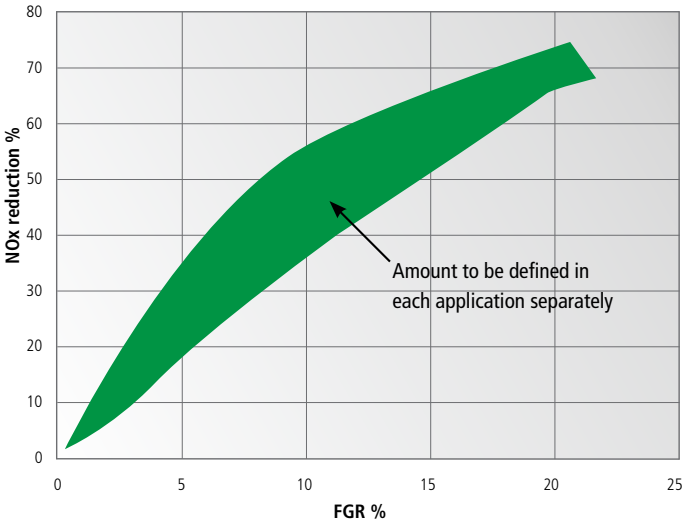
External Flue Gas Recirculation, FGR, is an effective low cost solution to achieve very low NOx emissions with various fuels.

A certain proportion of flue gas is led back to the furnace through burner. This causes the flame peak temperatures to cool down and combustion reactions to slow down, which reduces NOx emissions.

Achievable reduction depends on many factors including burner type, boiler, combustion air temperature and the amount of recirculated flue gas, see relevant curve. When designing the assembly, it is important to notice the reduction of the burner maximum output caused by flue gas recirculation, depending on the FGR rate and flue gas temperature.

Flue gas recirculation is available as an option for a variety of new burners, or in many cases, as a retrofit to an existing burner.

The effect of FGR in natural gas combustion



Gas mixture temperature in FGR, standard application

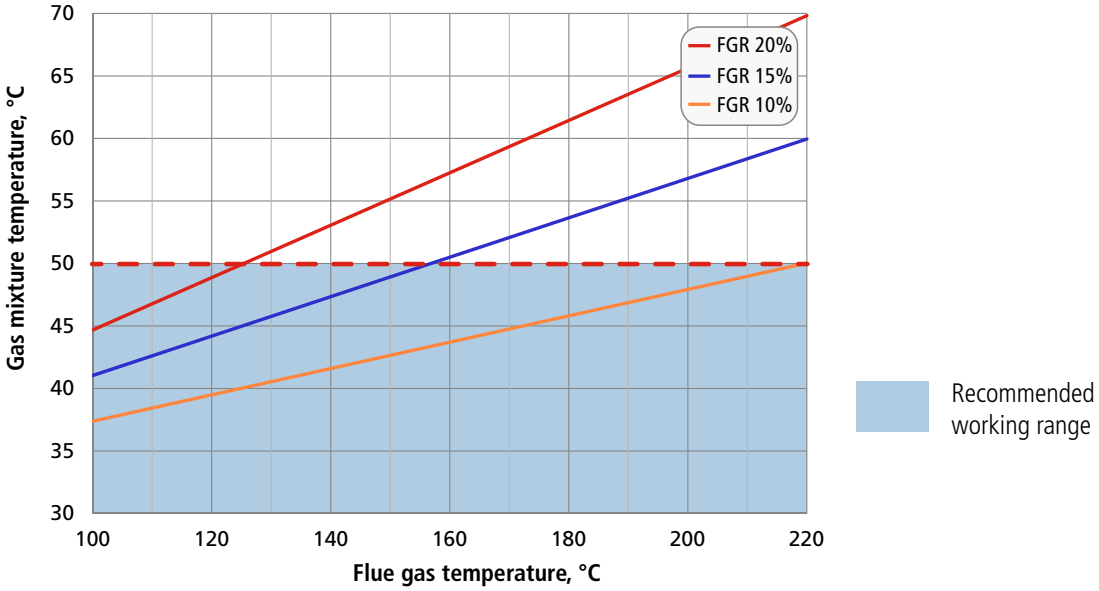
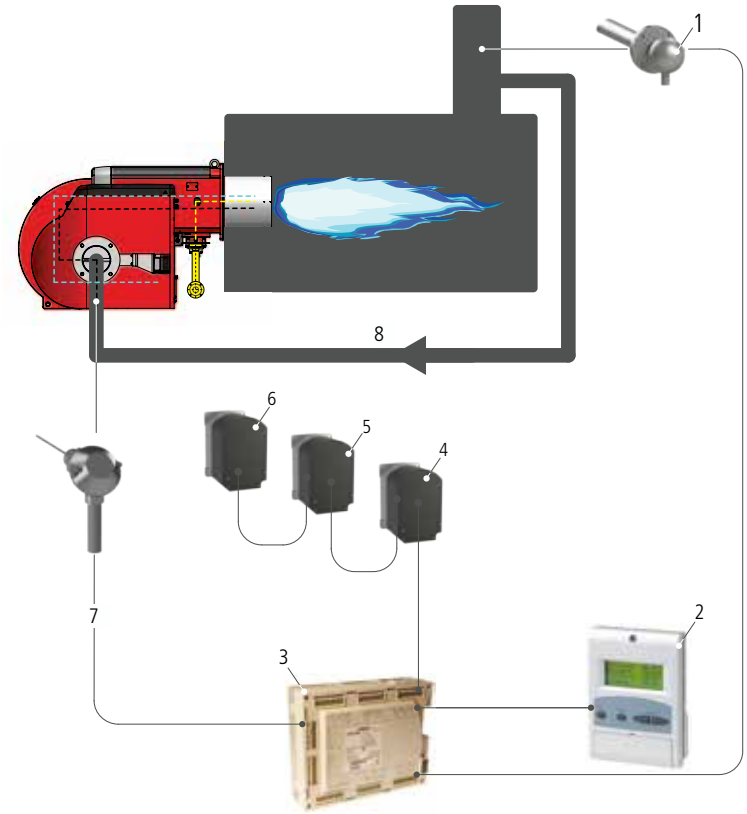


Diagram valid for 30 °C combustion air

Oilon burner FGR application



Minimum required components:
- WD200 burner control system
- Flue gas damper with servomotor
- Flue gas inlet adapter
- Recirculation pipe (in customer scope)

1. O_2 sensor (option)
2. User interface
3. Control Unit
4. Gas damper
5. Air damper
6. Flue gas damper
7. Temperature sensor
8. Recirculation pipe

Example of application

Burner control systems

BURNER SERIES	CONTROL	INTERMITTENT USE	CONTINUOUS USE	GAS	OIL	DUAL FUEL
50/80 H	INTERNAL	X	-	LME	LAL	-
50...150 H	INTERNAL	X	-	LME	LAL	-
	INTERNAL	-	X	LGK	LOK	-
50...90 M/MH	INTERNAL	X	X	WD3x	WD3x	WD3x
130...280 M/MH	INTERNAL	X	X	WD3x	WD3x	WD3x
	EXTERNAL	X	X	WDx00	WDx00	WDx00
300...700 M-III	INTERNAL	X	X	WD3x	WD3x	WD3x
	EXTERNAL	X	X	WDx00	WDx00	WDx00
1000...1200 M	EXTERNAL	X	X	WDx00	WDx00	WDx00

Check the burner specific automation options on the burner's technical data pages.

Oilon WiseDrive - High efficiency with advanced automation

Oilon WiseDrive is an electronic fuel/air ratio control system. In the WiseDrive system separate servomotors are installed for combustion air dampers, fuel regulator(s) and optionally for combustion head control to control air flow in the combustion head. The ratio between fuel, combustion air and combustion head air flow is adjusted electronically. The WiseDrive system also takes care of burner control and safety functions.

High efficiency

Electronic fuel/air ratio control improves combustion efficiency and lowers emissions. The greatest benefits are achieved in dual fuel burners where the combustion of both the main and reserve fuels can be adjusted optimally and the O_2 control is in use. Significant energy savings can also be achieved by using variable speed drive (VSD) in the combustion air fan.

A versatile system

Oilon WiseDrive system can be connected to external systems via fieldbus connection. Data regarding burner status and combustion process can be read remotely. Also remote control (start, stop, reset) and settings (capacity controller, fuel selection) can be performed via fieldbus.

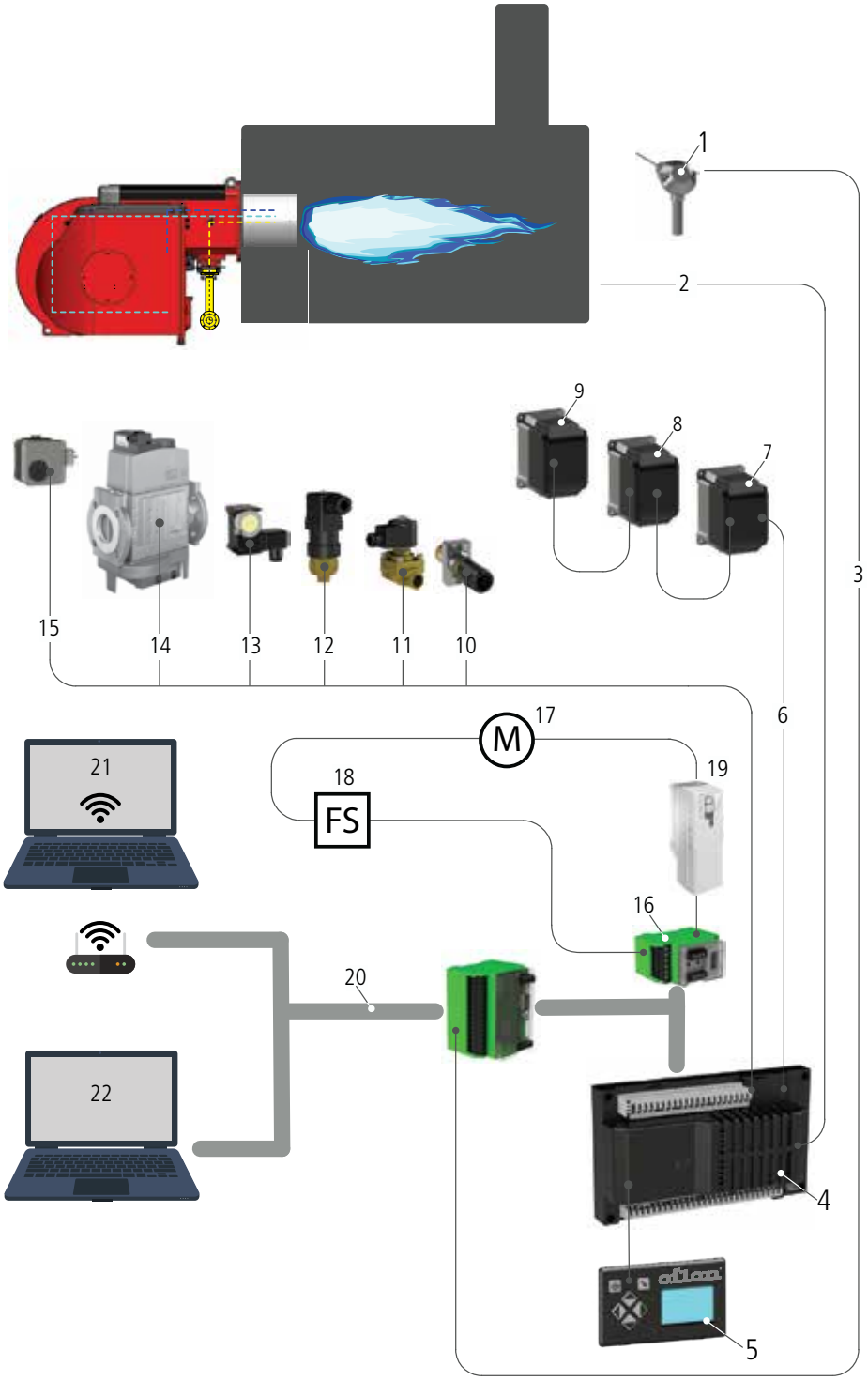
CONTROL SYSTEMS	WD33	WD34	WD100	WD200
Operation principle	Electronic fuel/air	Electronic fuel/air	Electronic fuel/air	Electronic fuel/air
Control unit	Lamtec BT330	Lamtec BT340	Siemens LMV 51	Siemens LMV 52
Available for fuels	LFO (KP) - GAS (GP) - -	LFO (KP) - GAS (GP) GAS/LFO (GKP) -	LFO (KP) HFO (RP) GAS (GP) GAS/LFO (GKP) GAS/HFO (GRP)	LFO (KP) HFO (RP) GAS (GP) GAS/LFO (GKP) GAS/HFO (GRP)
O_2 control	Optional	Optional	Not available	Standard
CO control	Optional	Optional	Not available	Not available
VSD control	Optional	Optional	Not available	Standard
Control panel interface	Symbol display	Symbol display	Text display	Text display
External communication	Hardwired + Modbus (Optional)	Hardwired + Modbus (Optional)	Hardwired + Modbus Profibus (Optional)	Hardwired + Modbus Profibus (Optional)
Capacity control	Lamtec LCM100 4…20 mA output signal	Lamtec LCM100 4…20 mA output signal	Built in LMV51 4…20 mA output signal	Built in LMV52 4…20 mA output signal
FGR	Not available	Not available	Not available	Available

WiseDrive (WD), an electronic regulator for controlling the fuel/air ratio – an energy-efficient and environmentally friendly solution

Electronic fuel/air ratio control of the burner brings the benefits of lower flue gas emissions, decreased consumption of energy and improved technical characteristics of the burner, such as more accurate regulation.

WiseDrive includes control sequences, fuel/air ratio and capacity control as well as leak testing of gas valves and much more in a single package.

Example of Oilon WiseDrive WD34 + frequency converter

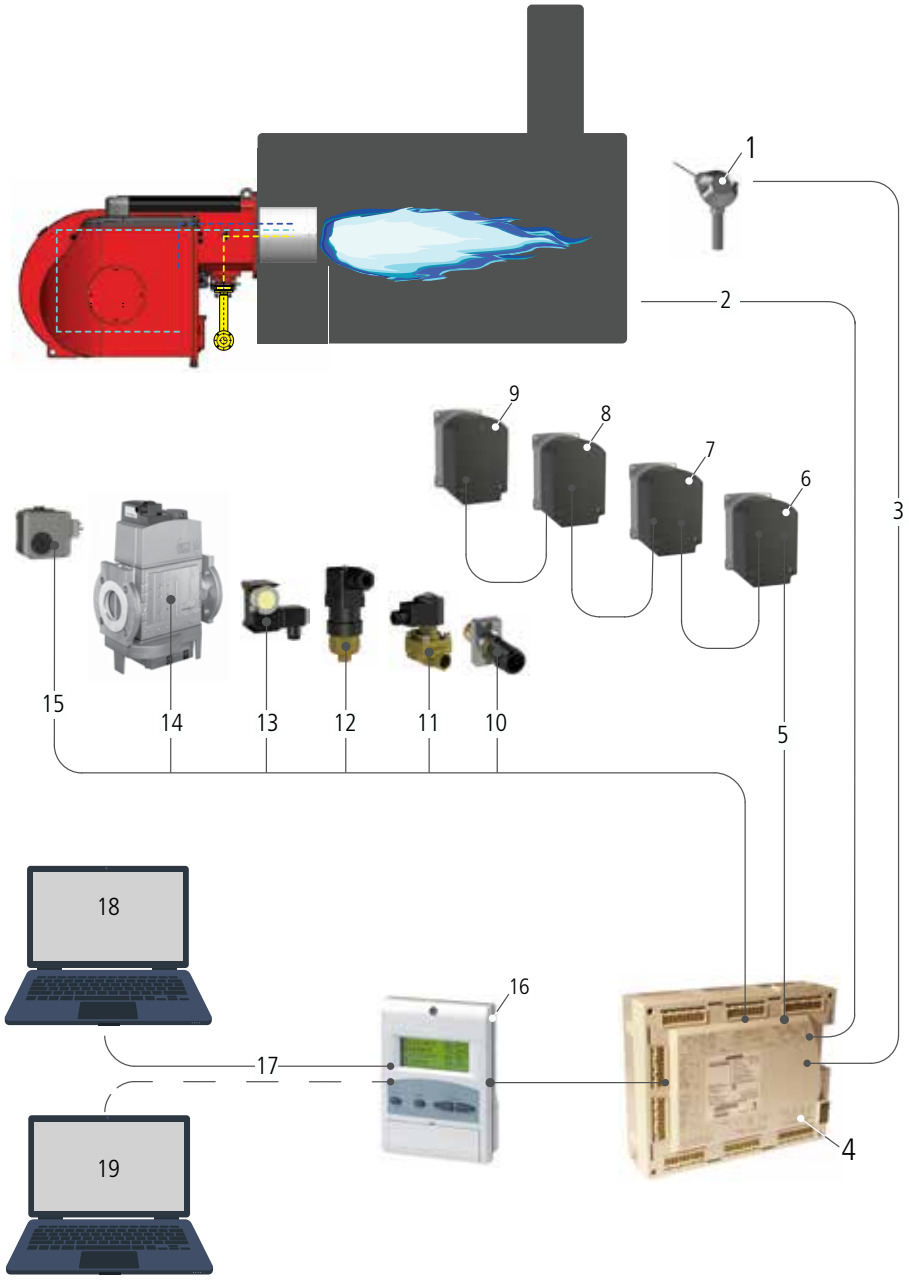


Examples of the WiseDrive's functions:

- Control sequences and safety functions
- Fuel/air ratio control
- Load control with inbuilt PID controller, control also by an external 4...20 mA signal
- Can be connected with external plant automation via bus (option)
- Different access levels
- Input of parameters via text display operating panel or/and PC (check software and hardware requirements)

1. Boiler pressure/ Boiler temperature
2. Safety devices
3. CAN BUS
4. Control unit
5. User interface
6. CAN BUS - Servomotor
7. Gas damper
8. Air damper
9. Oil regulator
10. Flame detector
11. Oil valves
12. Oil pressure switch
13. Gas pressure switch
14. Gas valves
15. Air pressure switch
16. VSM100
17. Motor
18. Speed sensor
19. Frequency converter for variable speed drive
20. SYSTEM-BUS
21. Remote Vision Control
22. Control System

Example of Oilon WiseDrive WD100
Electronic fuel/air ratio control system

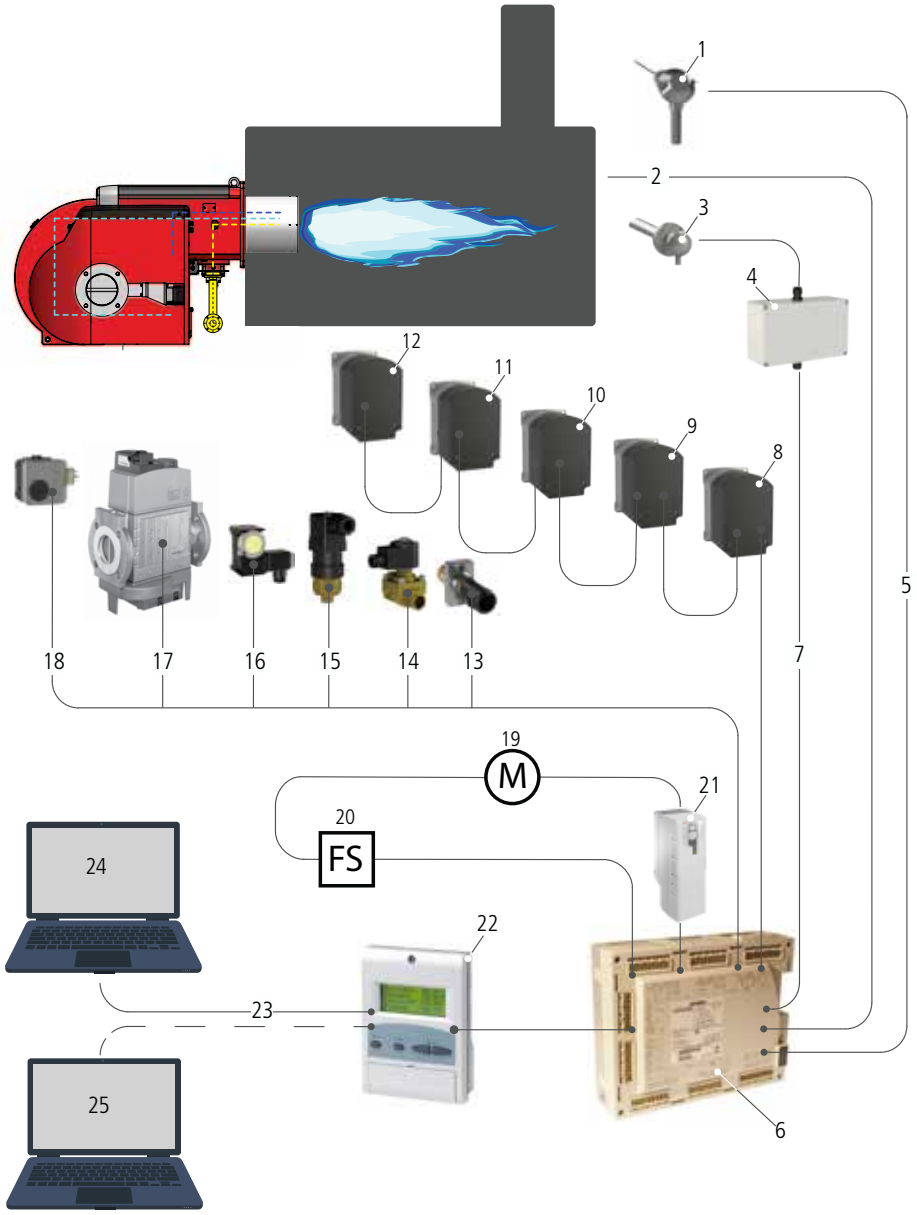


Examples of WiseDrive's functions:

- Control sequences and safety functions
- Fuel/air ratio control
- Combustion head control (option)
- Load control with inbuilt PID controller, control also by an external 4...20 mA signal
- Can be connected with external plant automation via bus. Modbus RTU as standard.
- Different access levels
- Input of parameters via text display operating panel or/and PC (check software and hardware requirements)

1. Boiler pressure/ Boiler temperature
2. Safety devices
3. CAN BUS
4. Control unit
5. CAN BUS - Servomotor
6. Gas damper
7. Air damper
8. Oil regulator
9. Combustion head regulator - Gas/Oil flame plate positioning
10. Flame detector
11. Oil valves
12. Oil pressure switch
13. Gas pressure switch
14. Gas valves
15. Air pressure switch
16. User interface
17. MOD-BUS
18. Control room
19. Service computer

Example of Oilon WiseDrive WD200 Electronic fuel/air ratio control system with O_2 control and variable speed drive (VSD)



Examples of WiseDrive's functions

- Control sequences and safety functions
- Fuel/air ratio control
- Combustion head control (option)
- Load control with inbuilt PID controller, control also by an external 4...20 mA signal
- Can be connected with external plant automation via bus. Modbus RTU as standard.
- Different access levels
- Input of parameters via text display operating panel or/and PC (check software and hardware requirements)
- Fuel consumption reading (requires flow meter)
- Frequency converter control (requires rotation speed sensor)
- O_2 control (requires O_2 module and O_2 sensor)
- Flue gas temperature reading (requires temperature sensor)
- Combustion air temperature reading (requires temperature sensor)

1. Boiler temperature
2. Safety devices
3. O_2 sensor (option)
4. O_2 module
5. CAN BUS
6. Control unit
7. CAN BUS - Servomotor
8. Gas damper
9. Oil regulator
10. Combustion head regulation/ Gas/Oil flame disc positioning
11. Air damper
12. Flue gas damper
13. Flame detector
14. Oil valves
15. Oil pressure switch
16. Gas pressure switch
17. Gas valves
18. Air pressure switch
19. Motor
20. Speed sensor
21. Frequency converter for variable speed drive
22. User interface
23. MOD-BUS
24. Control room
25. Service computer

Example of cost savings using O_2 control

Example values

- Boiler capacity	5 MW
- Average operating time	4000 h/year
- Average capacity	60 %
- Price of light fuel oil	0.55 €/l
- Price of natural gas	0.30 €/m³n
- Price of electricity	0.10 €/kWh

1. Effect of O_2 control on the combustion efficiency

In a traditional burner, the O_2 level of flue gases is usually adjusted to about 4 %. When using WD200, a 2 % O_2 level can be reached. Two percent reduction in O_2 level means 1 % rise in efficiency.

The resulting annual savings are:
- with light fuel oil 6550 €
- with natural gas 3600 €

2. Effect of VSD in fan motor on electricity consumption

Burner without VSD:
- electricity consumption 31600 kWh/year
- cost 3160 €

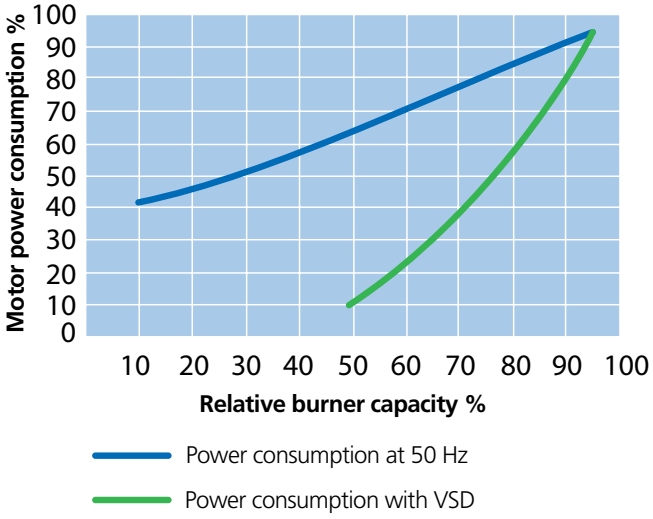
Burner equipped with VSD:
- electricity consumption 9600 kWh/year
- cost 960 €

Savings/year 3160 € - 960 € = 2200 €

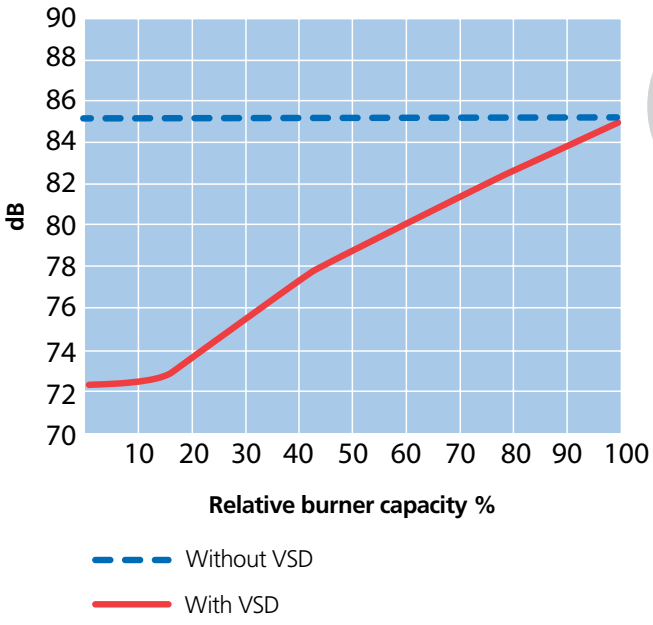
3. When using O_2 control and VSD in fan motor the annual cost savings are:

- with light fuel oil 8750 €
- with natural gas 5800 €

Motor power consumption in 5 MW burner



Noise level with VSD and without VSD



Type labeling

GKP-700 M-II WD200 LN80 C2

Fuel:
- GP = Gas
- GKP = Gas, light fuel oil
- KP = Light fuel oil
- RP = Heavy fuel oil
- GRP = Gas, heavy fuel oil

Burner frame size categorization:
- 50…1200

Method of control:
- H = Two-stage
- M = Modulating
- MH = Modulating gas, two-stage oil

Burner capacity size categorization:
- -
- I
- II
- III

Control system (additional code):
- -
- WD3x = Lamtec
- WDx00 = Siemens

NOx-emissions (additional code):
- -
- LN80 = 80mg/kWh
- LN60 = 60mg/kWh
- LN30 = 30mg/kWh

Combustion head length (additional code):
- -
- C1
- C2

Gas Burners

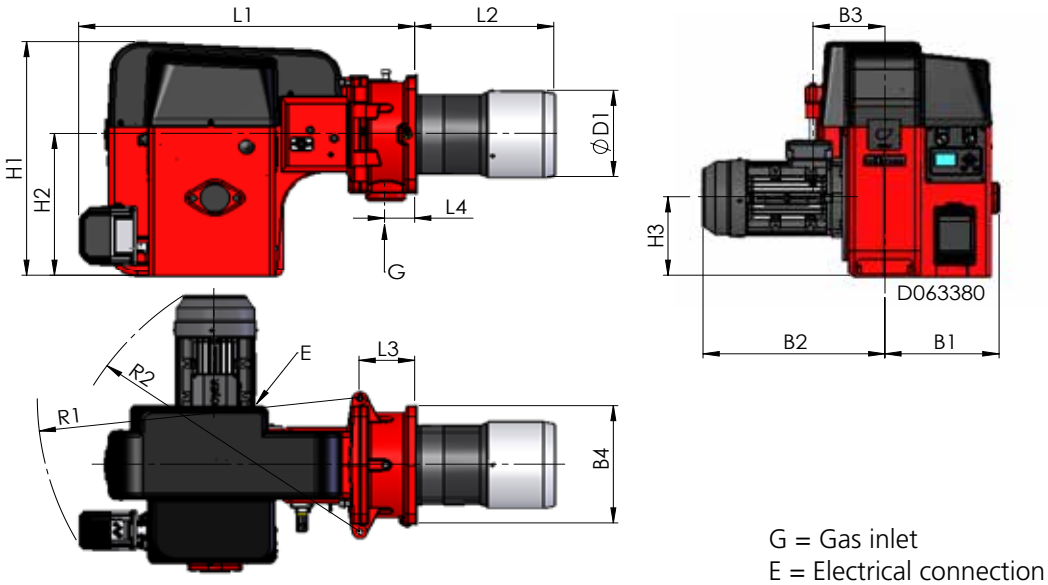
100 - 13 300 kW

GP-50...90 H/M

Technical Data

BURNER	GP-50 H	GP-80 H	GP-90 H	GP-50 M	GP-90 M
Capacity kW	200 - 800	350 - 1000	350 - 1500	100 - 800	250 - 1500
Burner motor 3~ 400 V 50 Hz Capacity kW Current A Speed r/min	 0,75 2,0 2900	 1,5 3,2 2900	 2,2 4,4 2900	 0,75 2,0 2900	 2,2 4,4 2900
Control unit	LME	LME	LME/LGK	WD33	WD33
NOx class	1	1	1	1	1
Weight kg	40	63	63	40	63

Dimensions

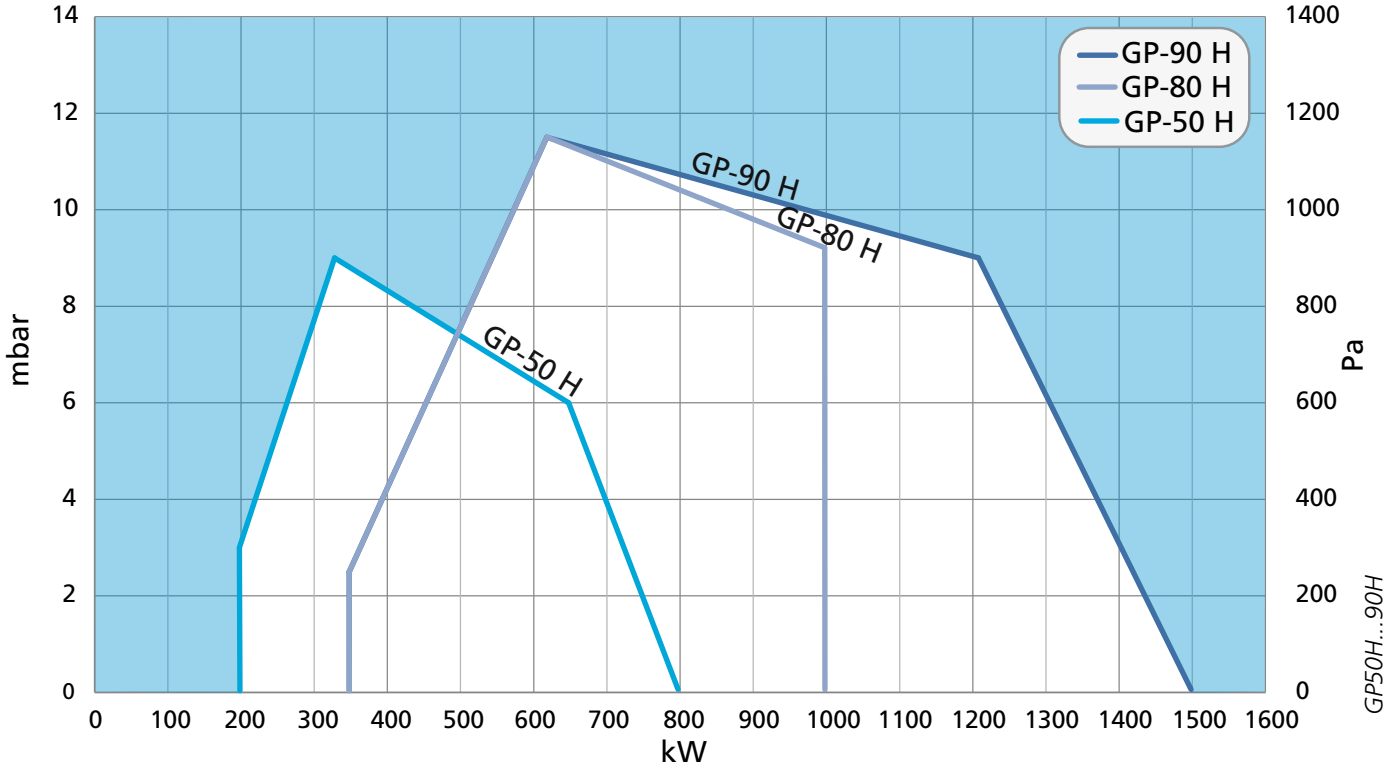


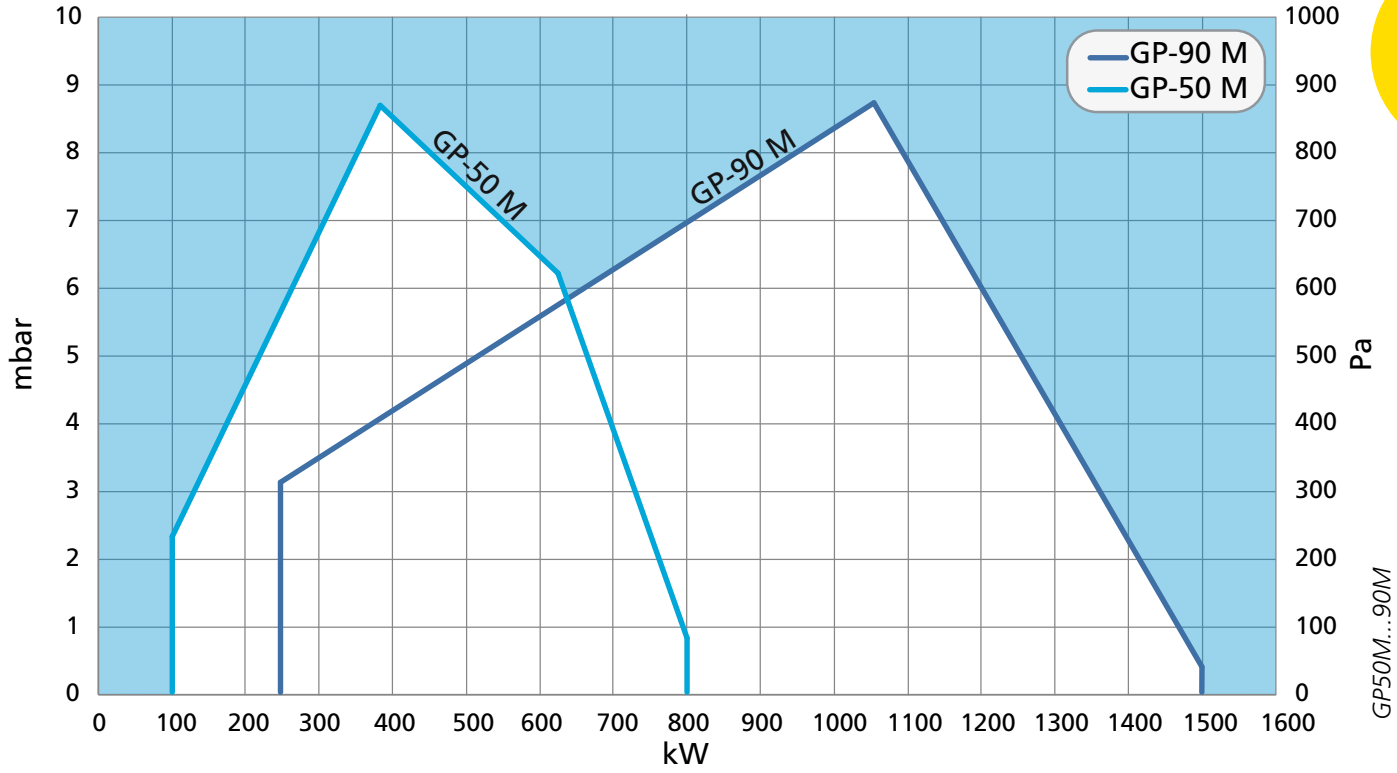
G = Gas inlet
E = Electrical connection

BURNER	L1	L2	L3	L4	H1	H2	H3	B1	B2	B3	B4	ØD1	R1	R2
GP-50 H	710	240	185	90	445	325	165	210	310	131	240	160	605	-
GP-80 H	690	300	120	65	480	330	182	246	360	155	272	200	665	640
GP-90 H	690	300	120	65	480	330	182	246	395	155	272	200	665	665
GP-50 M	745	240	185	90	510	325	165	210	310	131	240	160	635	-
GP-90 M	725	300	120	65	545	330	182	246	395	155	272	200	695	665

Dimensions in mm.

Working Diagram



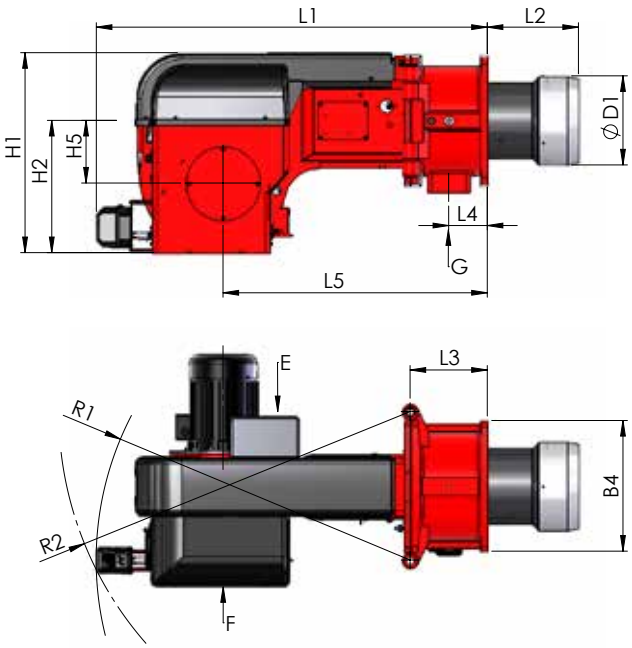


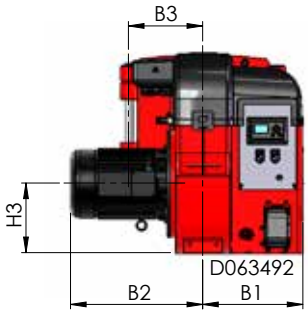
GP-140 H, GP-140...280 M,GP-140...280 M LN80

Technical Data

BURNER	GP-140 H	GP-140 M	GP-150 M	GP-250 M	GP-280 M	GP-140 M LN80	GP-250 M LN80	GP-280 M LN80
Capacity kW	410 - 2350	390 - 2350	450 - 2700	370 - 2600	500 - 3500	380 - 1700	350 - 2100	450 - 2500
Burner motor 3~ 400 V 50 Hz Output kW Current A Speed rpm	 4,0 7,2 2900	 4,0 7,2 2900	 5,5 9,8 2900	 5,5 9,8 2900	 7,5 13,0 2900	 4,0 7,2 2900	 7,5 13,0 2900	 7,5 13,0 2900
Control unit	LME	WD33	WD33	WD33	WD33	WD33/WDx00	WD33/WDx00	WD33/WDx00
NOx class	1	1	1	1	1	3	3	3
Weight kg	110	121	130	160	210	125	165	215

Dimensions





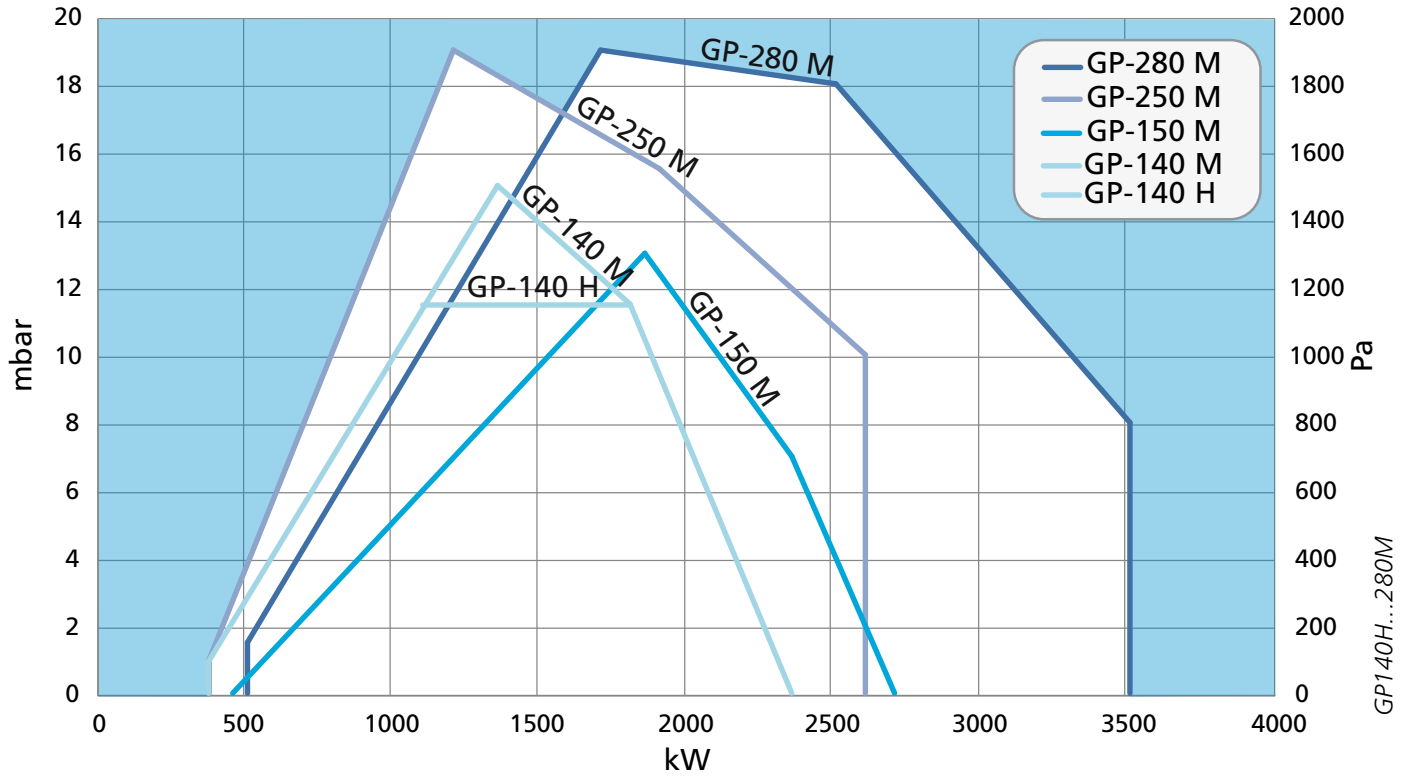
G = Gas inlet
E = Electrical connection
F = FGR - Flue Gas Recirculation

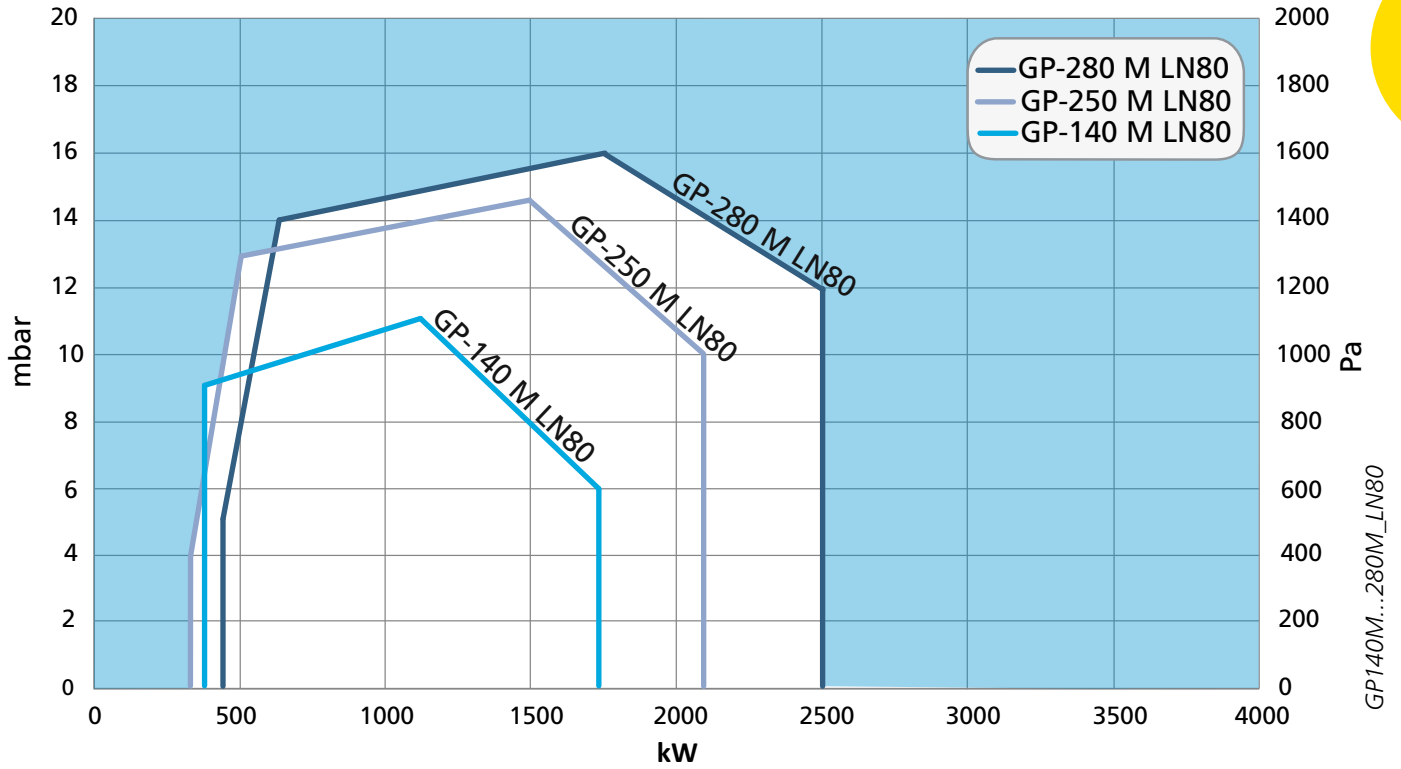
BURNER	L1	L2	L2		L3	L4	L5
			C1	C2			
GP-140 H	1230	220	-	-	260	129	880
GP-140 M	1285	220	-	-	260	129	880
GP-150 M	1285	230	-	-	260	129	880
GP-250 M	1320	300	-	-	260	130	890
GP-280 M	1320	312	-	-	260	130	890
GP-140 M LN80	1285	-	-	430	260	129	880
GP-250 M LN80	1320	-	420	550	260	130	890
GP-280 M LN80	1320	-	420	550	260	130	890

BURNER	H1	H2	H3	H5	B1	B2	B3	B4	ØD1	R1	R2
GP-140 H	625	400	210	195	305	430	210	360	240	1000	1000
GP-140 M	625	400	210	195	305	430	210	360	240	1050	1150
GP-150 M	625	400	210	195	305	480	210	360	270	1050	1150
GP-250 M	675	446	235	215	340	490	250	440	270	1100	1200
GP-280 M	675	446	235	215	340	490	250	440	300	1100	1200
GP-140 M LN80	625	400	210	195	305	430	210	360	240	1050	1150
GP-250 M LN80	675	446	235	215	340	490	250	440	256	1100	1200
GP-280 M LN80	675	446	235	215	340	490	250	440	276	1100	1200

Dimensions in mm.

Working Diagram



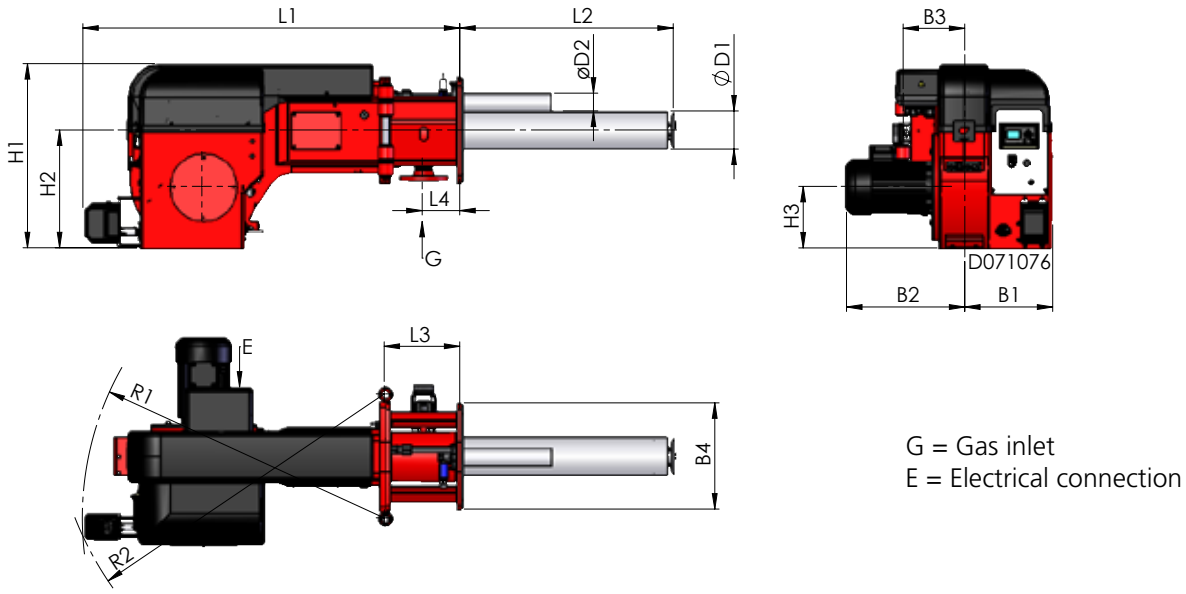


GP-130/250 M LN30

Technical Data

BURNER	GP-130 M LN30	GP-250 M LN30
Capacity kW	270 - 895	400 - 1790
Burner motor 3~ 400 V 50 Hz Output kW Current A Speed rpm	 4 7,2 2900	 5,5 9,8 2900
Control unit	WD33/ WDx00	WD33/ WDx00
Weight kg	154	192

Dimensions



G = Gas inlet
E = Electrical connection

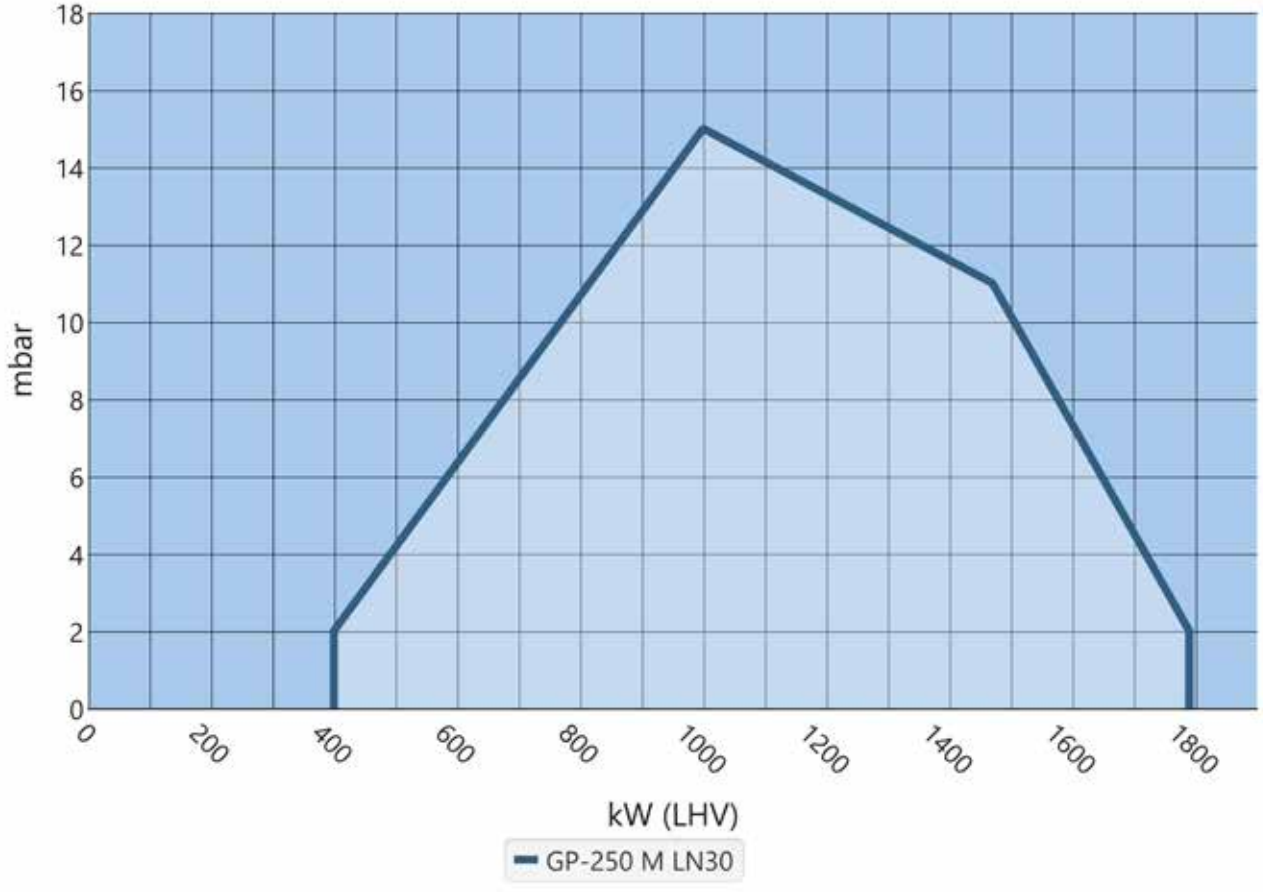
BURNER	L1	L2		L3	L4
		Standard	Extended		
GP-130 M LN30	1285	728	1078	258	129
GP-250 M LN30	1320	907	1207	258	129

BURNER	H1	H2	H3	H5	B1	B2	B3	B4	ØD1	ØD2	R1	R2
GP-130 M LN30	625	400	210	195	305	430	210	360	129	60	1050	1150
GP-250 M LN30	675	446	235	215	340	500	250	440	205	60	1100	1200

Dimensions in mm.

Working Diagram

NO_x emissions, required residual O_2 and the working diagram will vary depending on furnace geometry and conditions. Please check Oilon Selection Tool from detailed working diagram depending on your application.



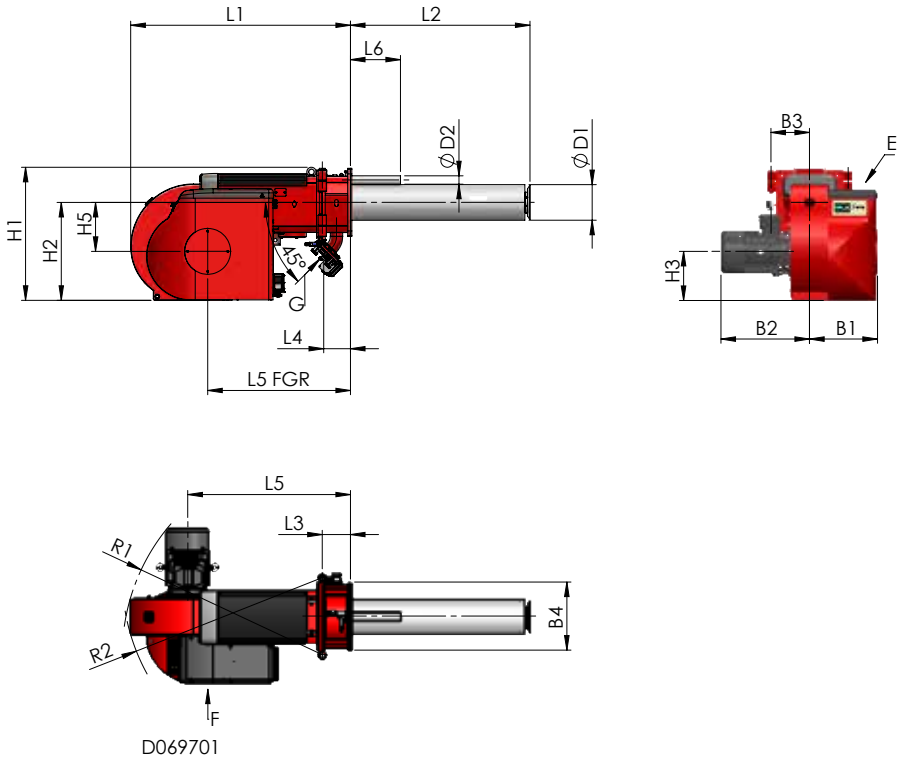
NO_x emissions, required residual O_2 and the working diagram will vary depending on furnace geometry and conditions. Please check Oilon Selection Tool from detailed working diagram depending on your application.

GP-320 M LN30

Technical Data

BURNER	GP-320 M LN30
Capacity kW	1100 - 3000
Burner motor 3~ 400 V 50 Hz Output kW Current A Speed rpm	 11 19.5 2900
Control unit	WD33/WDx00
Weight kg	533

Dimensions



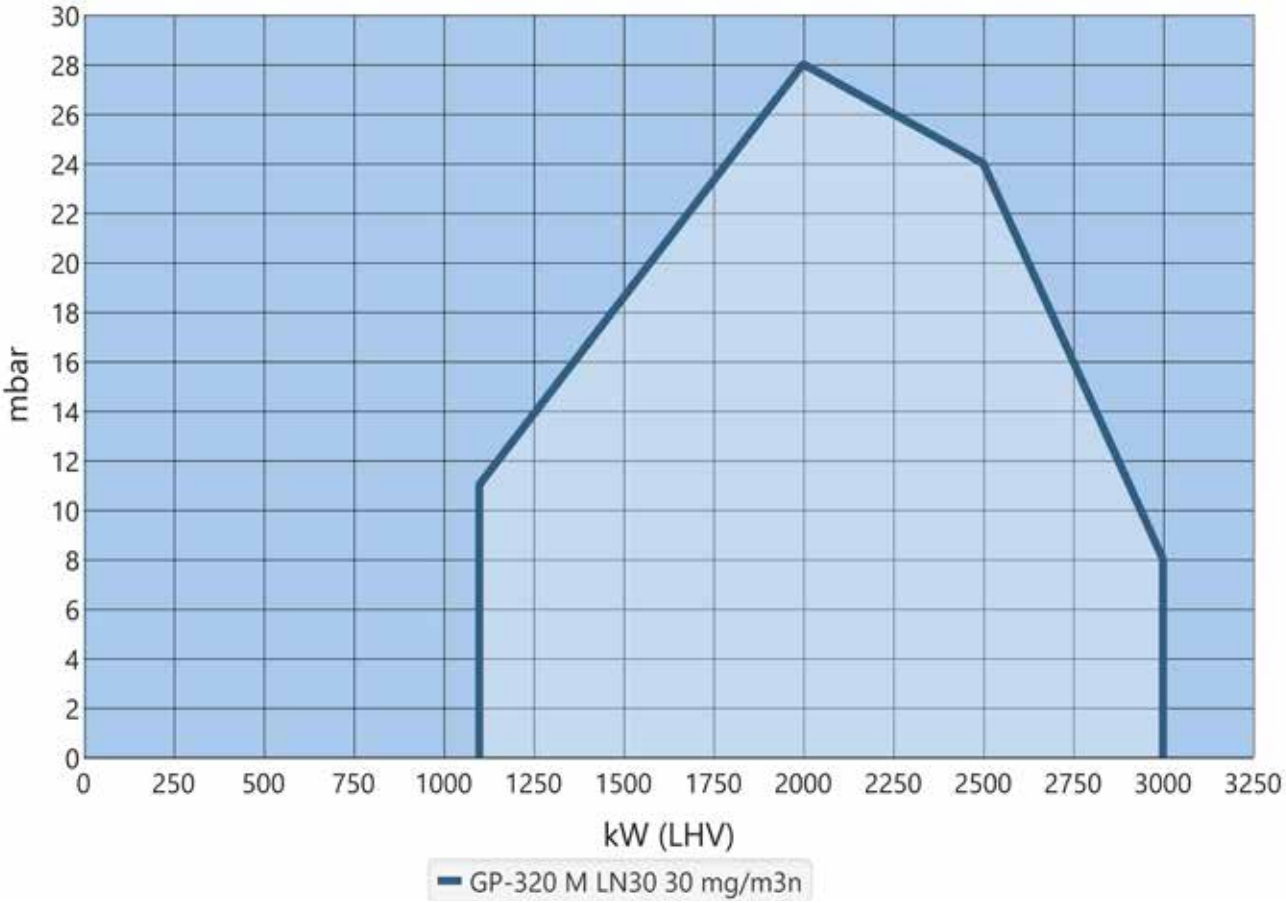
D069701

BURNER	L1	L2		L3	L4
		Standard	Extended		
GP-320 M LN30	1582	1293	1593	203	193

BURNER	H1	H2	H3	H5	B1	B2	B3	B4	ØD1	ØD2	R1	R2
GP-320 M LN30	350	958	706	353	489	638	228	490	256	60	1440	1440

Dimensions in mm.

Working Diagram



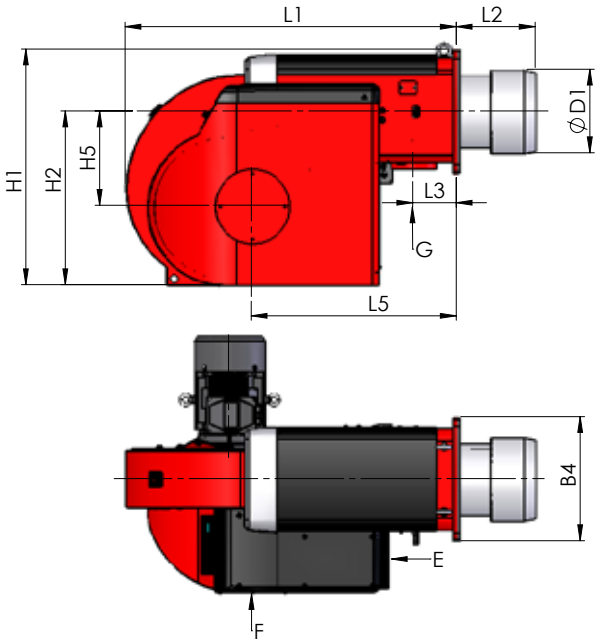
NO_x emissions, required residual O_2 and the working diagram will vary depending on furnace geometry and conditions. Please check Oilon Selection Tool from detailed working diagram depending on your application.

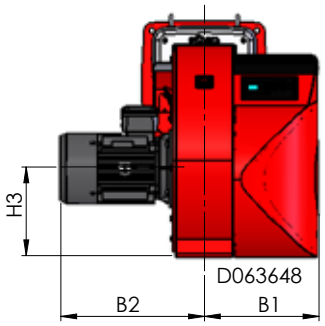
GP-350/450 M, GP-320...450 M LN80

Technical Data

BURNER	GP-350 M	GP-450 M	GP-320 M LN80	GP-350 M LN80	GP-450 M LN80
Capacity kW	700 - 4250	850 - 5500	530 - 3200	910 - 4000	930 - 5200
Fan motor 3~ 400 V 50 Hz Output kW Current A Speed rpm	 7,5 13,0 2900	 11,0 19,5 2900	 7,5 13,0 2900	 7,5 13,0 2900	 15,0 26 2900
Control unit	WD33	WD33	WD33/WDx00	WD33/WDx00	WD33/WDx00
NOx class	2	1	3	3	3
Weight kg	320	450	320	325	464

Dimensions



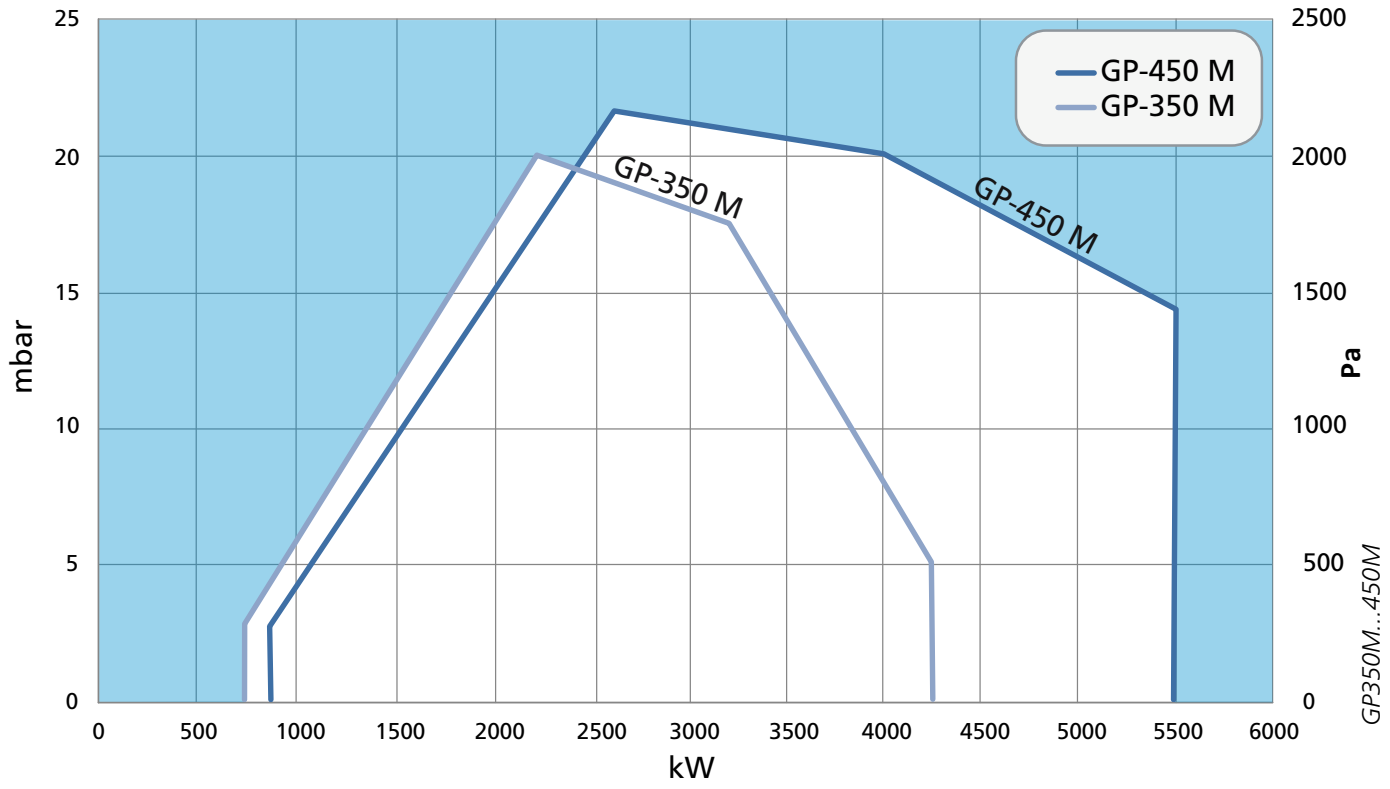


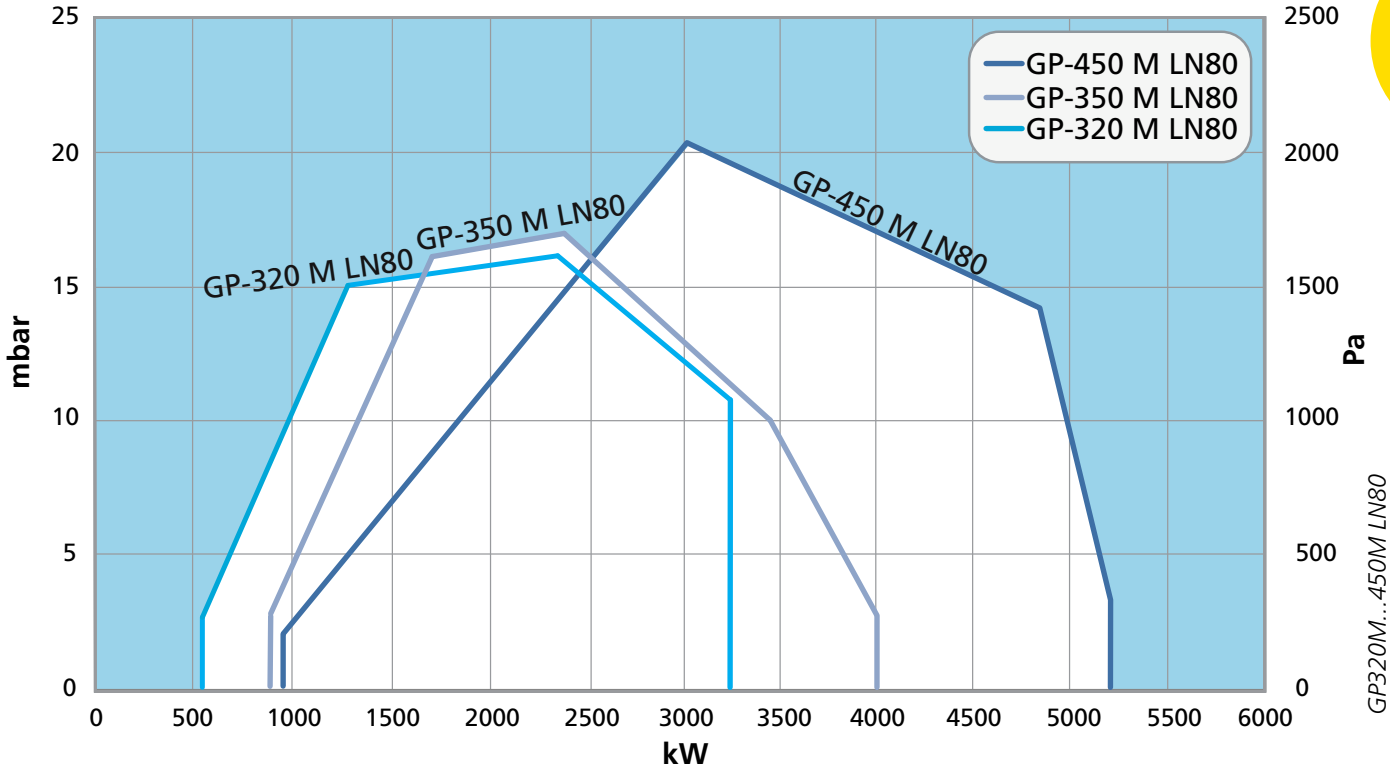
G = Gas inlet
E = Electrical connection
F = FGR - Flue Gas Recirculation

BURNER	L1	L2	L3	L5	H1	H2	H3	H5	B1	B2	B4	ØD1
GP-350 M	1360	350	195	810	940	695	355	345	490	580	490	320
GP-450 M	1470	350	195	910	1050	770	395	420	510	650	550	370
GP-320 M LN80	1360	500	195	810	940	695	355	345	490	490	490	302
GP-350 M LN80	1360	480	195	810	940	695	355	345	490	580	490	324
GP-450 M LN80	1470	480	195	910	1050	770	395	420	510	650	550	324

Dimensions in mm.

Working Diagram



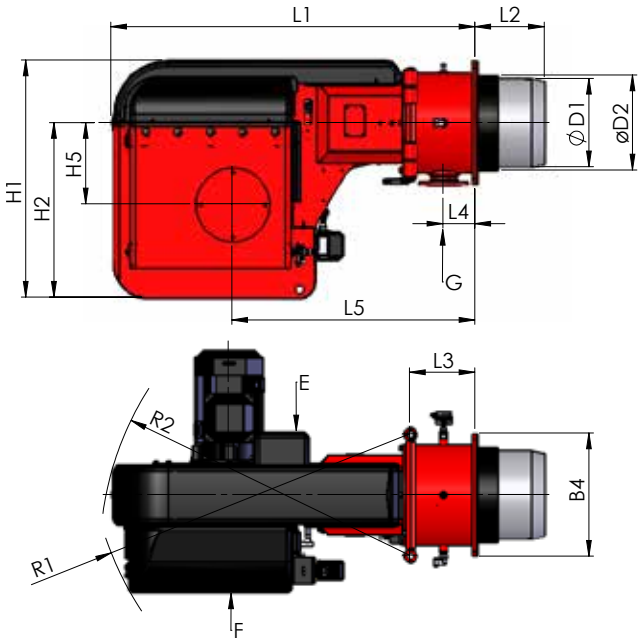


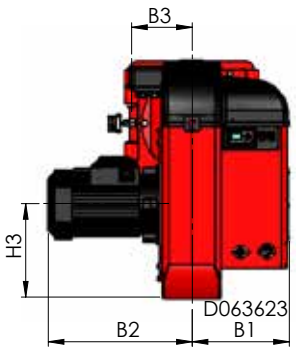
GP-500 M...700 M-III

Technical Data

BURNER	GP-500 M	GP-600 M	GP-700 M	GP-700 M-II	GP-700 M-III
Capacity kW	870 - 6070	970 - 6750	1200 - 8400	1350 - 9500	1500 - 10 500
Fan motor 3~ 400 V 50 Hz Output kW Current A Speed rpm	 11,0 19,5 2900	 15,0 26,0 2900	 18,5 34,0 2900	 22,0 38,0 2900	 30,0 52,0 2900
Control unit	WD33	WD33	WD33	WD33	WD33
NOx class	1	1	1	1	1
Weight kg	450	460	535	565	675

Dimensions





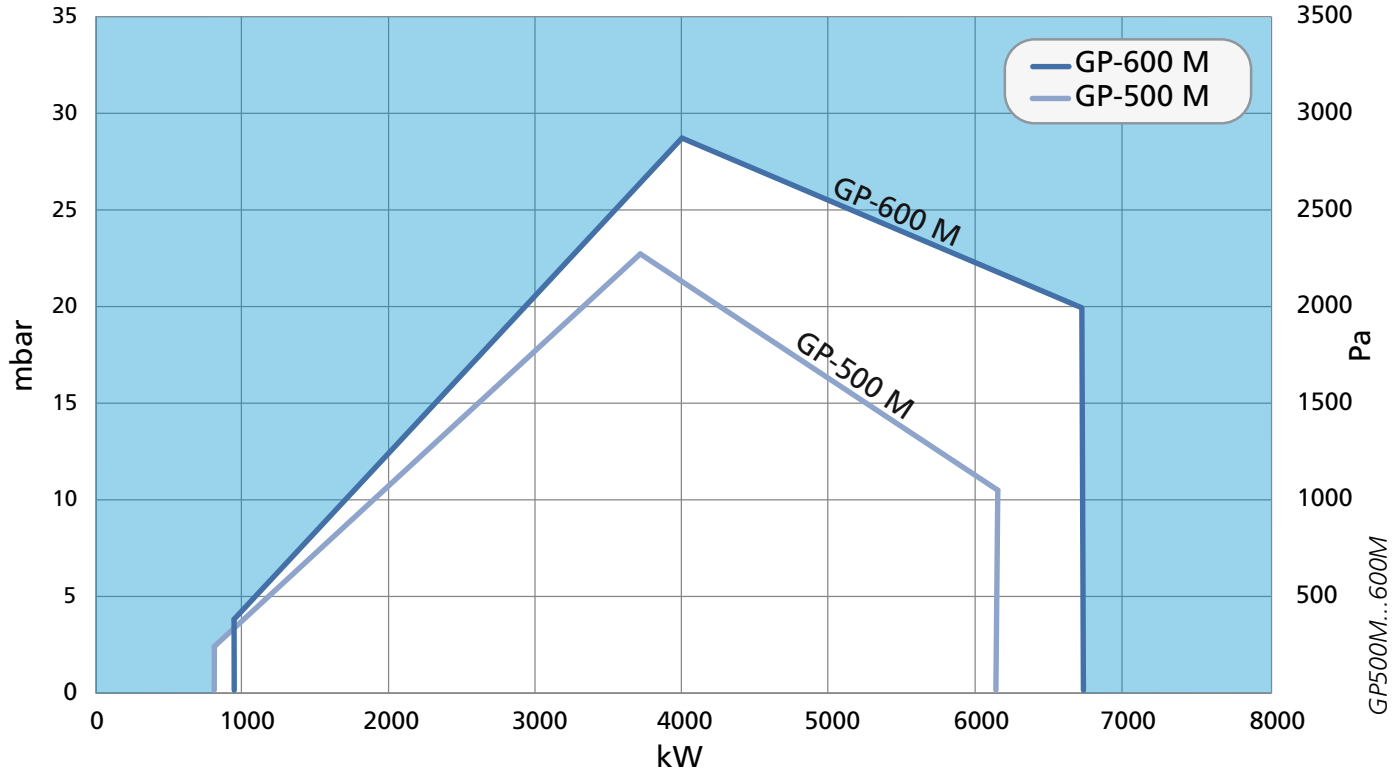
G = Gas inlet
E = Electrical connection
F = FGR - Flue Gas Recirculation

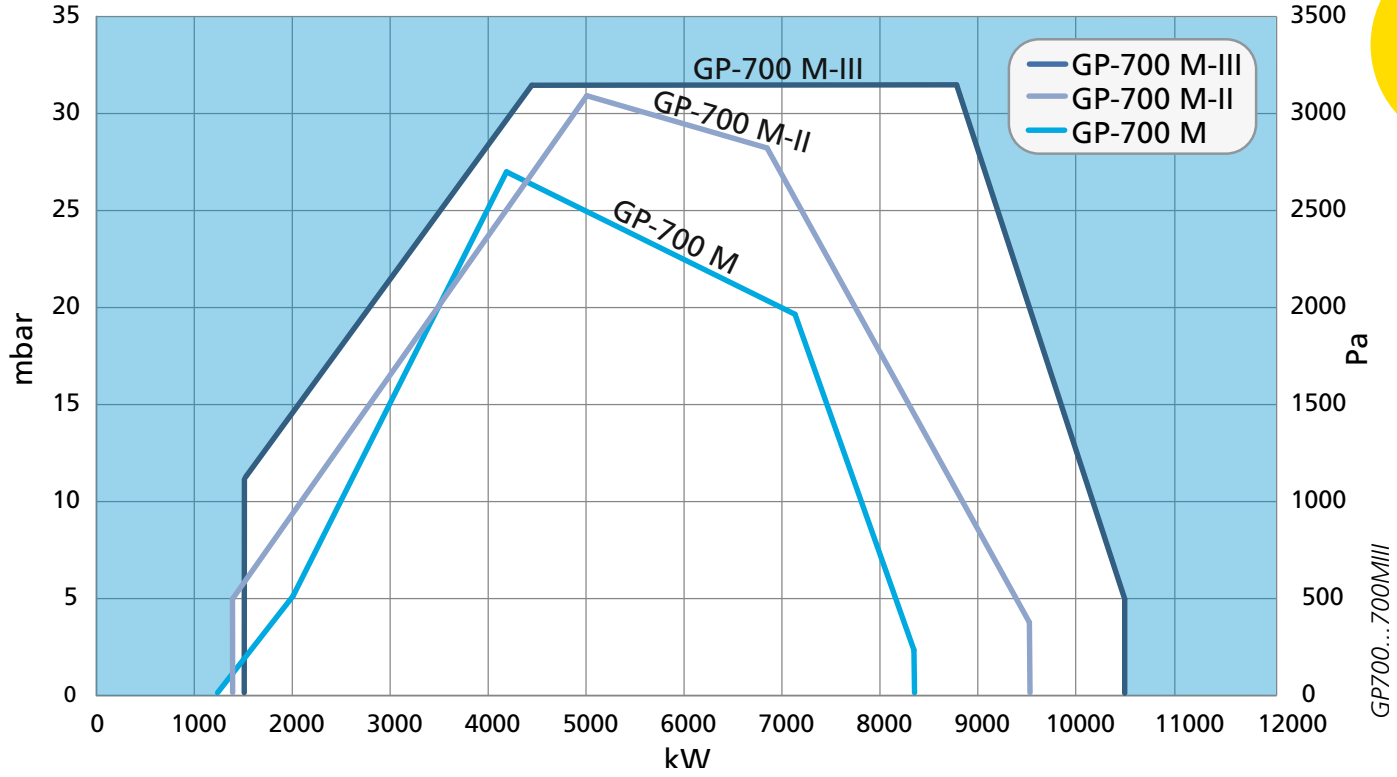
BURNER	L1	L2	L3	L4	L5
GP-500 M	1650	290	295	145	1090
GP-600 M	1650	310	295	145	1090
GP-700 M	1650	310	295	145	1090
GP-700 M-II	1650	310	295	145	1090
GP-700 M-III	1650	400	295	145	1090

BURNER	H1	H2	H3	H5	B1	B2	B3	B4	ØD1	ØD2	R1	R2
GP-500 M	1060	780	420	365	435	645	270	550	370	425	1440	1400
GP-600 M	1060	780	420	365	435	645	270	550	395	425	1440	1400
GP-700 M	1060	780	420	365	490	700	270	550	395	425	1460	1400
GP-700 M-II	1060	780	420	365	490	760	270	550	395	425	1460	1400
GP-700 M-III	1060	780	420	365	490	845	270	550	425	-	1460	1400

Dimensions in mm.

Working Diagram



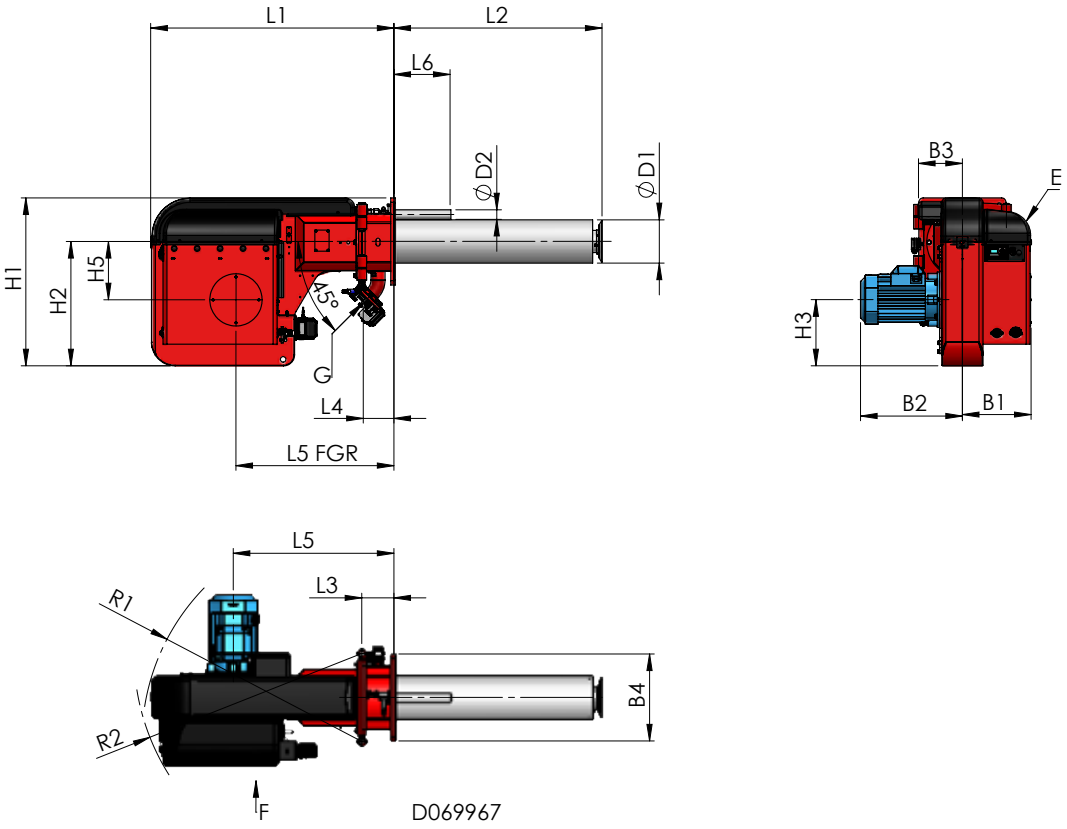


GP-600 M LN30

Technical Data

BURNER	GP-600 M LN30
Capacity kW	1200 - 4900
Burner motor 3~ 400 V 50 Hz Output kW Current A Speed rpm	 15 26 2900
Control unit	WD33/WDx00
Weight kg	500

Dimensions



BURNER	L1	L2		L3	L4
		Standard	Extended		
GP-600 M LN30	1536	1315	1715	203	194

BURNER	H1	H2	H3	H5	B1	B2	B3	B4	ØD1	ØD2	R1	R2
GP-600 M LN30	1061	786	418	369	434	644	228	550	273	60	1390	1440

Dimensions in mm.

Working Diagram

NOx emissions, required residual O_2 and the working diagram will vary depending on furnace geometry and conditions. Please check Oilon Selection Tool from detailed working diagram depending on your application.

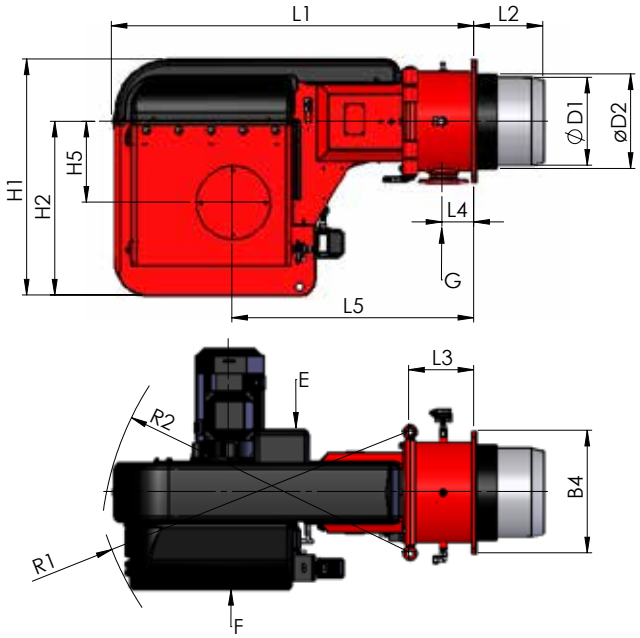
GP-600/700 M LN60, GP-600...700 M-III LN80

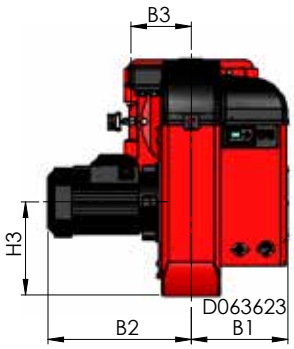
Technical Data

BURNER	GP-600 M LN60	GP-700 M-III LN60	GP-600 M LN80	GP-700 M-II LN80	GP-700 M-III LN80
Capacity kW	800 - 6500	1370 - 7500	950 - 6700	1200 - 7600	1500 – 8800
Fan motor 3~ 400 V 50 Hz Output kW Current A Speed rpm	 18,5 34,0 2900	 30,0 52,0 2900	 15,0 26,0 2900	 22,0 38,0 2900	 30,0 52,0 2900
Control unit	WDx00	WDx00	WD33/WDx00	WD33/WDx00	WD33/WDx00
NOx class	4*	4*	3	3	3
Weight kg	485	685	465	680	700

*) FprEN676

Dimensions





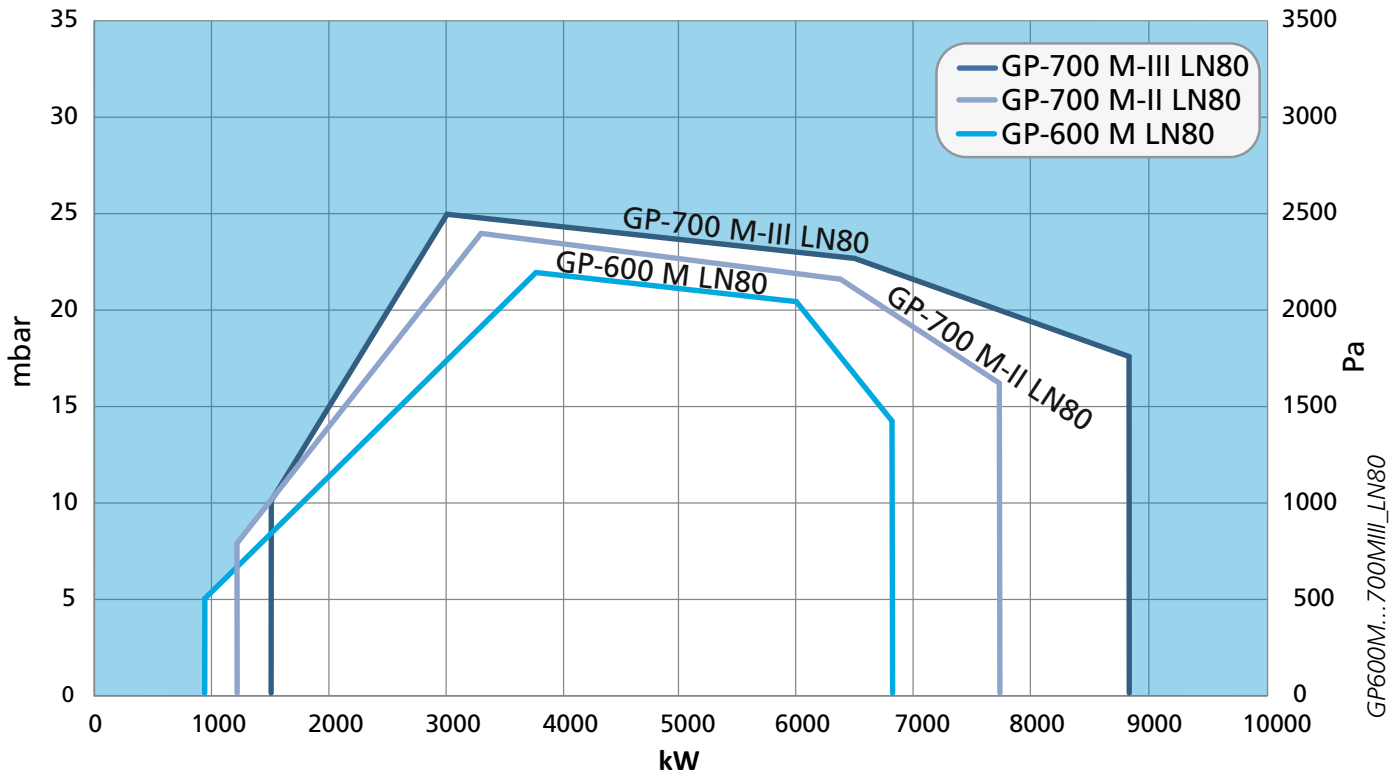
G = Gas inlet
E = Electrical connection
F = FGR - Flue Gas Recirculation

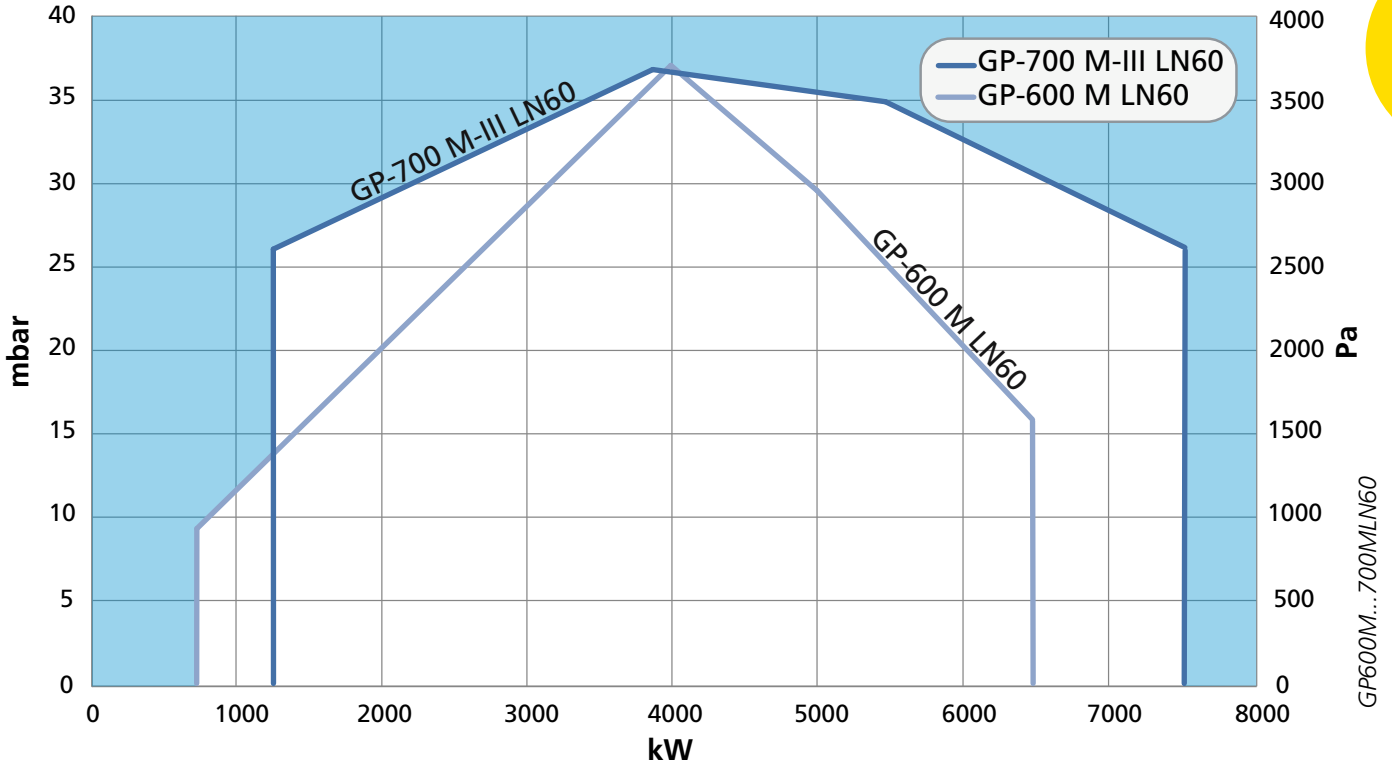
BURNER	L1	L2	L3	L4	L5
GP-600 M LN60	1650	530	295	145	1090
GP-700 M-III LN60	1650	610	295	145	1090
GP-600 M LN80	1650	530	295	145	1090
GP-700 M-II LN80	1650	530	295	145	1090
GP-700 M-III LN80	1650	610	295	145	1090

BURNER	H1	H2	H3	H5	B1	B2	B3	B4	ØD1	ØD2	R1	R2
GP-600 M LN60	1060	780	420	365	435	645	270	550	408	-	1440	1400
GP-700 M-III LN60	1060	780	420	365	490	845	270	550	445	-	1460	1400
GP-600 M LN80	1060	780	420	365	435	645	270	550	384	-	1440	1400
GP-700 M-II LN80	1060	780	420	365	490	760	270	550	406	-	1460	1400
GP-700 M-III LN80	1060	780	420	365	490	845	270	550	406	-	1460	1400

Dimensions in mm.

Working Diagram



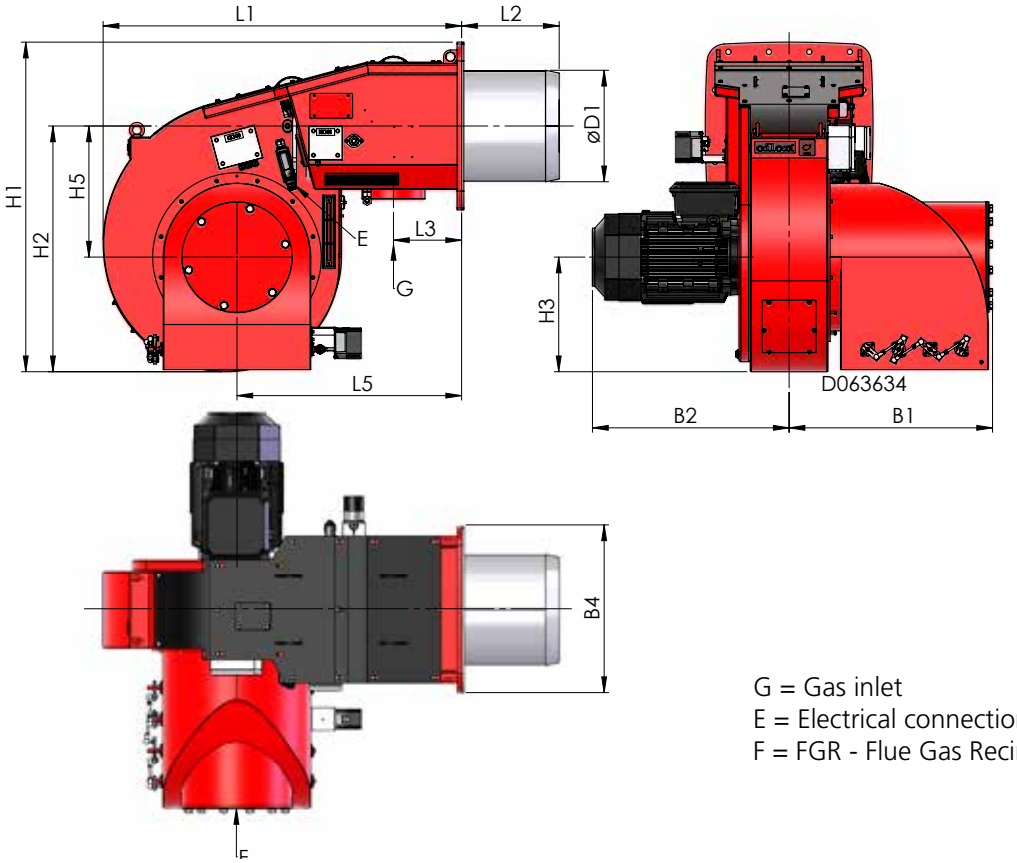


GP-1000/1200 M, GP-1000 M LN80

Technical Data

BURNER	GP-1000 M	GP-1200 M	GP-1000 M LN80
Capacity kW	1800 – 11100	2200 – 13300	1800 - 11000
Fan motor 3~ 400 V 50 Hz Output kW Current A Speed rpm	 37 65 2900	 45 77 2900	 37 65 2900
Control unit	WDX00	WDX00	WDX00
NOx class	1	1	3
Weight kg	780	830	790

Dimensions

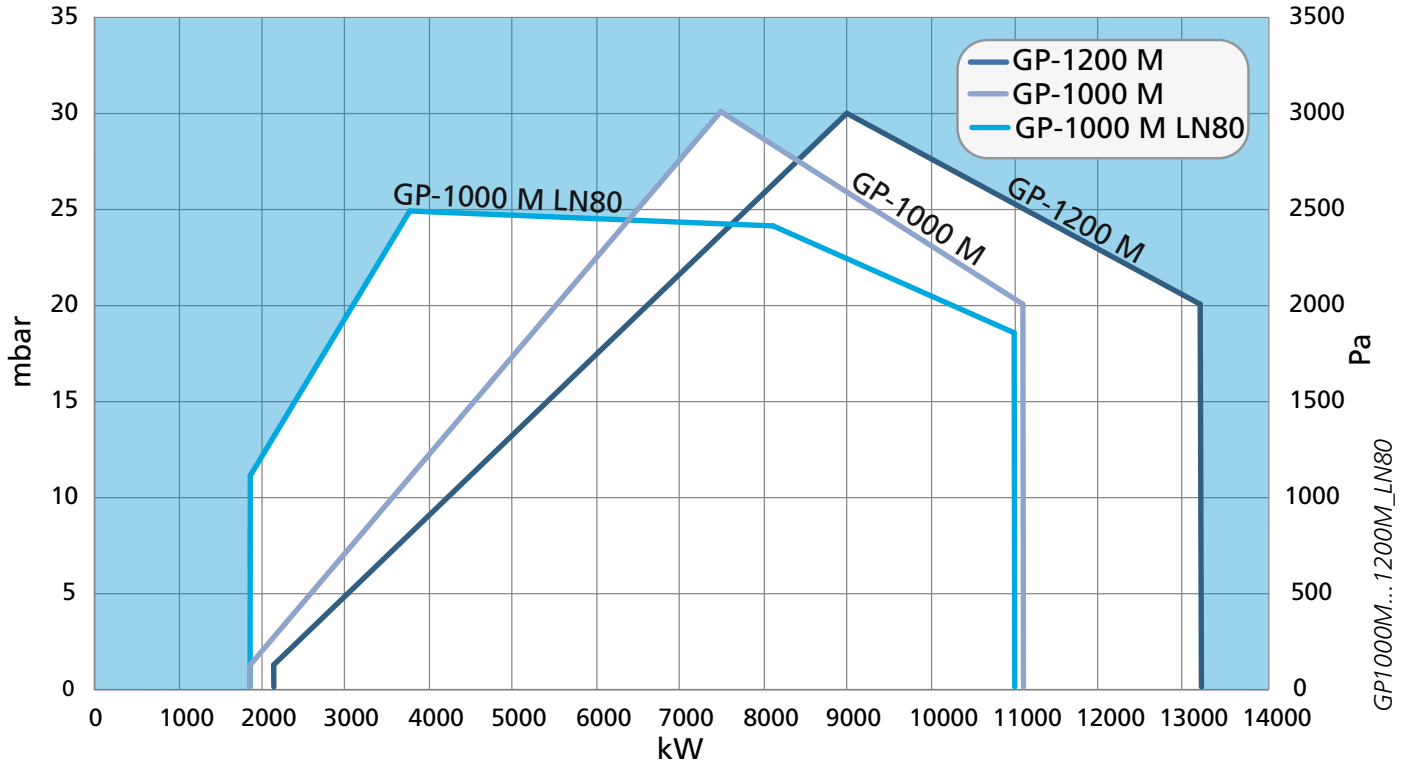


G = Gas inlet
E = Electrical connection
F = FGR - Flue Gas Recirculation

BURNER	L1	L2	L3	L5	H1	H2	H3	H5	B1	B2	B4	ØD1
GP-1000 M	1600	434	303	1000	1470	1100	510	585	905	880	750	496
GP-1200 M	1600	434	303	1000	1470	1100	510	585	905	930	750	520
GP-1000 M LN80	1600	650	303	1000	1470	1100	510	585	905	880	750	454

Dimensions in mm.

Working Diagram



Scope of Delivery GP-50...1200

	50/80 H	90/140 H	50/90 M	130...280 M	320...450 M	500...700 M	1000/1200 M
Hinge flange with limit switch	•	•	•	•	-	•	-
Burner flange gasket	•	•	•	•	•	•	•
WiseDrive (electronic ratio control) ***	-	-	•	•	•	•	•
Ignition transformer	•	•	•	•	•	•	•
Ignition cables and electrodes	•	•	•	•	•	•	•
Flame sensor:							
- LME/QRC	•	•	-	-	-	-	-
- WD3x/Ionization electrode (continuous operation)	-	-	•	•	•	-	-
- WD3x/QRA (intermittent operation)	-	-	-	-	-	•	-
- WDx00/QRI (continuous operation)	-	-	-	•	•	•	•
- WDx00/QRI+ionization electrode, LN60 burners (continuous operation)	-	-	-	-	-	•	-
- WD3x/KLC, LN30 burners (intermittent operation)	-	-	-	•	-	-	-
- WD3x/FFS08, LN30 burners (continuous operation)	-	-	-	-	•	•	-
Inbuilt combustion air fan	•	•	•	•	•	•	•
Air damper with servomotor	•	•	•	•	•	•	•
Combustion head optimizer with servomotor, WDx00	-	-	-	-	-	•	-
Gas damper with servomotor	-	-	•	•	•	•	•
Gas nozzle	•	•	•	•	•	•	•
Connection for measuring the pressure in gas nozzle	•	•	•	•	•	•	•
Gas pressure switch, max.	-	-	•****	•	•	•	•
Differential air pressure switch	•	•	•	•	•	•	•
Elbow 90°	•	•	•	•	•	•	•
Double solenoid valve for gas	•	•	•	•	•	•	•
Pressure regulation valve for gas:							
- MB-ZRDLE valve	•	•	-	-	-	-	-
- DMV valve	-	-	-	-	-	-	-
- VGD valve	-	-	•	•	•	•	•
Ignition gas valve and piping *	-	-	-	-	-	•	•
Pressure switch for gas, min.	•	•	•	•	•	•	•
Automatic valve leak testing for gas **	-	•	•	•	•	•	•
Manual	•	•	•	•	•	•	•

• Standard
*) Not in 50/80 burners
**) Always in LN80 burners
***) See more information from Oilon WiseDrive –chapter.
****) Not standard with VGD valve

Options:

	50/80 H	90/140 H	50/90 M	130...280 M	320...450 M	500...700 M	1000/1200 M
FGR equipment	-	-	-	•	•	•	•
Fan pressure gauge	•	•	•	•	•	•	•
Continuous operation, WD3x	-	-	-	-	-	•	-
VSD equipment	-	-	•	•	•	•	•
Extended combustion head *	•	•	•	•	•	•	-
Ignition gas valve and piping **	-	•***	•	•	•	-	-
Gas pressure switch, max.	•	•	-	-	-	-	-
Gas pressure gauge	-	-	-	•	•	•	•
LPG gas nozzle	•	•	•	•	•	•	•

*) Not in LN80 and LN60 burners
**) Always in LN80 burners
***) Not in 90H burners

Dual Fuel Burners
Gas/Light Fuel Oil

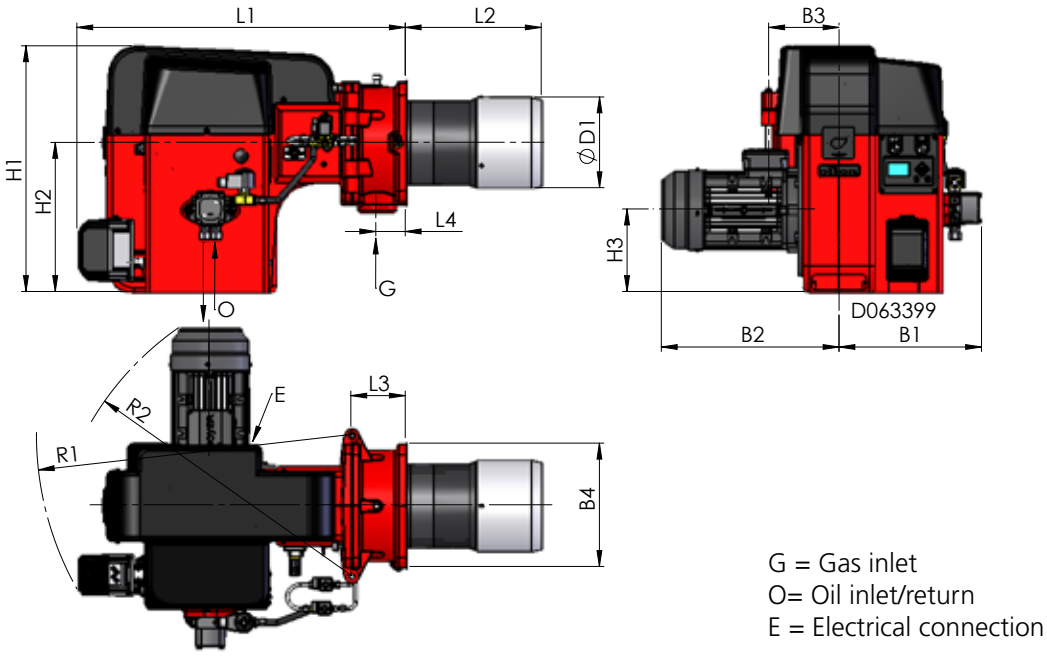
100 - 13300 kW

GKP-50/90 H, GKP-50/90 MH

Technical Data

BURNER	GKP-50 H	GKP-90 H	GKP-50 MH	GKP-90 MH
Capacity, oil, kg/h	17 - 68	30 - 130	17 - 68	30 - 130
oil, kW	200 - 800	355 - 1500	200 - 800	355 - 1500
gas, kW	200 - 800	350 - 1500	100 - 800	250 - 1500
Burner motor 3~ 400 V 50 Hz				
Capacity kW	0,75	2,2	0,75	2,2
Current A	2,0	4,4	2,0	4,4
Speed r/min	2900	2900	2900	2900
Oil hose connection				
- suction	R ⅜"	R ½"	R ⅜"	R ½"
- return	R ⅜"	R ½"	R ⅜"	R ½"
Oil pump	AJ4	AJ6	AJ4	AJ6
Control unit	LMO	LMO	WD34	WD34
NOx class				
oil	1	1	1	1
gas	1	1	1	1
Weight kg	44	65	44	65

Dimensions

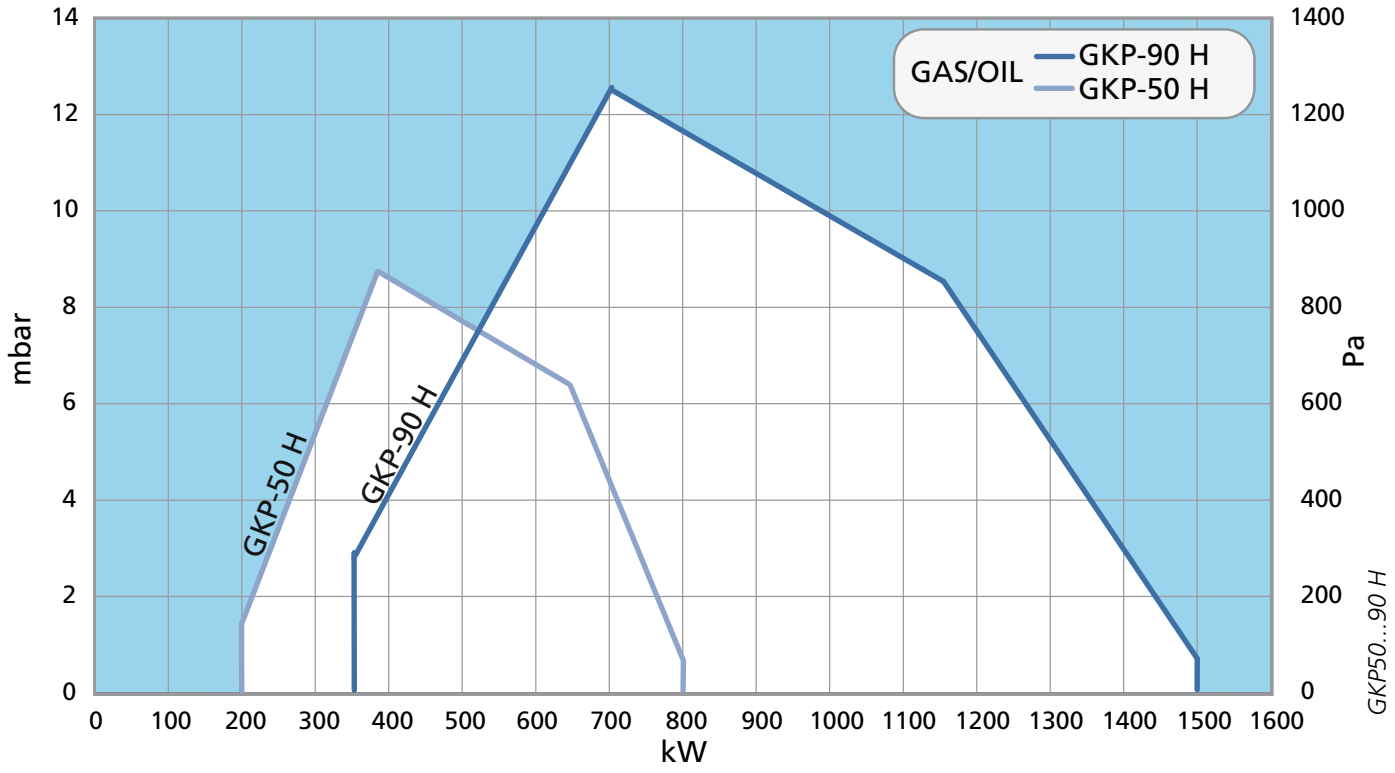


G = Gas inlet
O= Oil inlet/return
E = Electrical connection

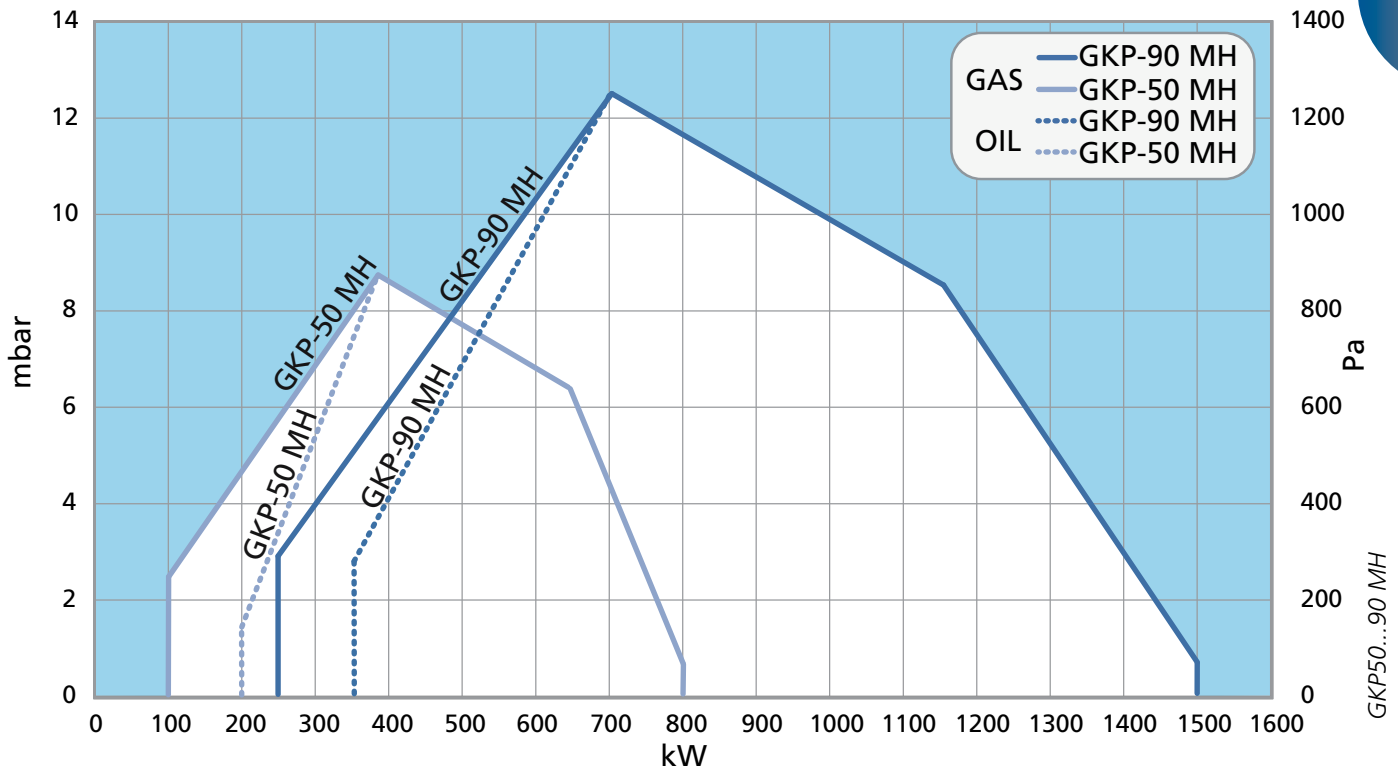
BURNER	L1	L2	L3	L4	H1	H2	H3	B1	B2	B3	B4	ØD1	R1	R2
GKP-50 H	745	240	185	90	510	325	165	275	310	131	240	160	635	-
GKP-90 H	725	300	120	65	545	330	182	315	395	155	272	200	695	665
GKP-50 MH	745	240	185	90	510	325	165	275	310	131	240	160	635	-
GKP-90 MH	725	300	120	65	545	330	182	315	395	155	272	200	695	665

Dimensions in mm.

Working Diagram



GKP50...90 H



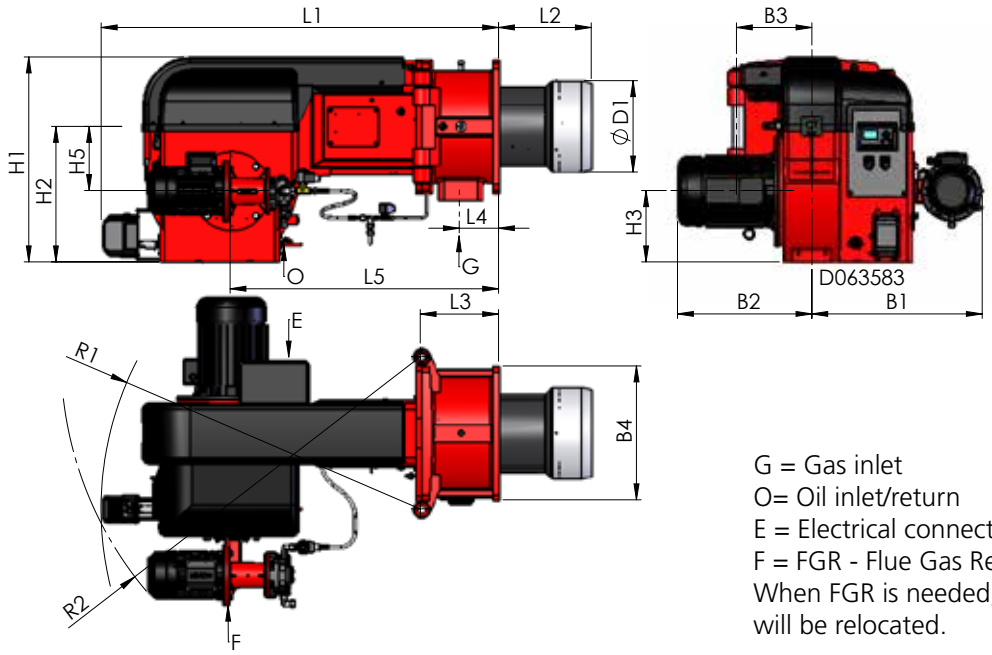
GKP50...90 MH

GKP-140 M…280 M

Technical Data

BURNER	GKP-140 M	GKP-150 M	GKP-250 M	GKP-280 M
Capacity oil, kg/h	47 - 200	56 - 227	55 - 220	76 - 295
oil, kW	550 - 2350	660 - 2700	650 - 2600	900 - 3500
gas, kW	410 - 2350	450 - 2700	370 - 2600	500 - 3500
Fan motor 3~ 400 V 50 Hz				
Output kW	4,0	5,5	5,5	7,5
Current A	7,2	9,8	9,8	13,0
Speed rpm	2900	2900	2900	2900
Control unit	WD34	WD34	WD34	WD34
NOx class				
oil	1	1	1	1
gas	1	1	1	1
Oil hose connection				
- suction	R ½"	R ½"	R ¾"	R ¾"
- return	R ½"	R ½"	R ½"	R ½"
Oil pump	TAR2	TAR2	TAR2	TAR2
- Motor 3~ 400 V 50 Hz				
Output kW	1,5	1,5	1,5	1,5
Current A	3,2	3,2	3,2	3,2
Speed rpm	2900	2900	2900	2900
Weight kg	162	164	270	278

Dimensions



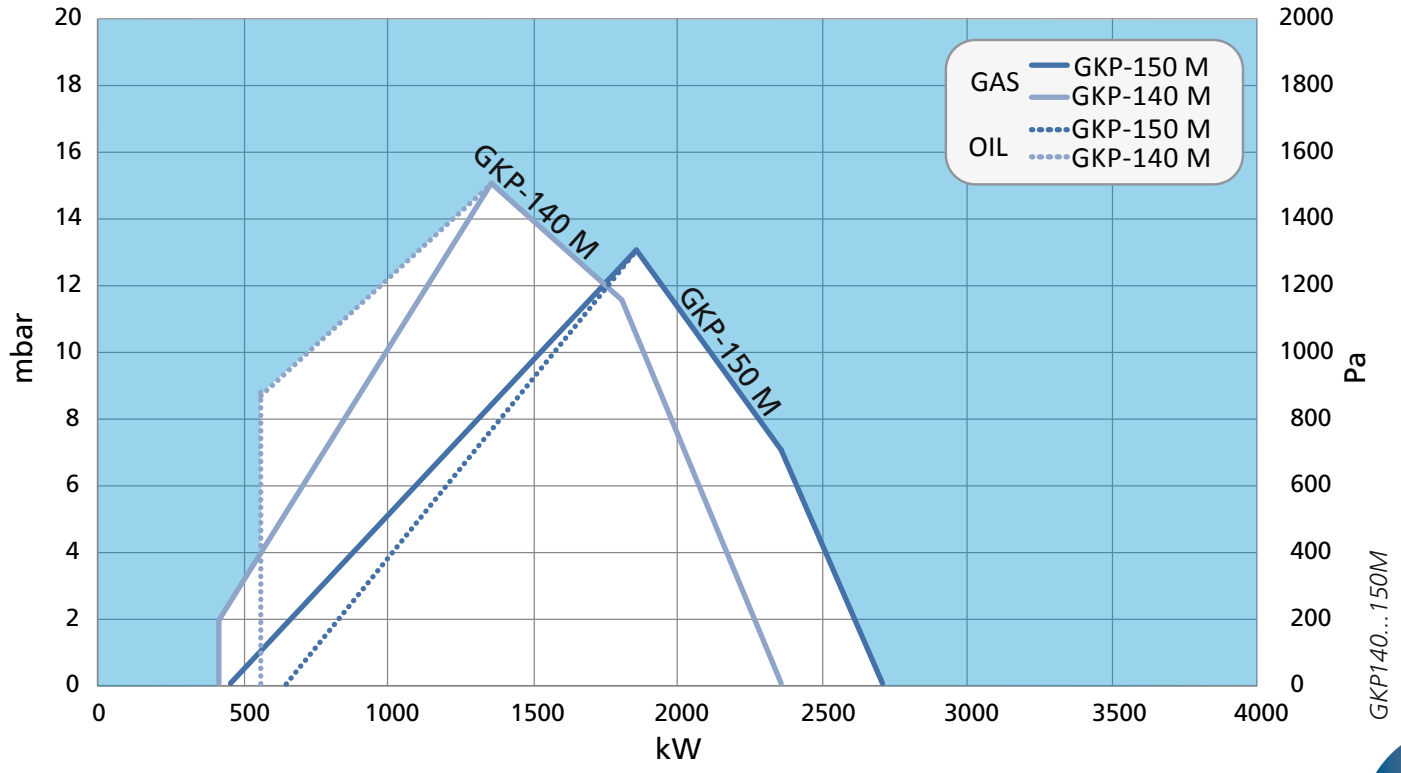
G = Gas inlet
O= Oil inlet/return
E = Electrical connection
F = FGR - Flue Gas Recirculation
When FGR is needed, oil pump unit will be relocated.

BURNER	L1	L2	L2		L3	L4	L5
			C1	C2			
GKP-140 M	1285	220	-	-	260	129	880
GKP-150 M	1285	230	-	-	260	129	880
GKP-250 M	1320	300	-	-	260	130	890
GKP-280 M	1320	312	-	-	260	130	890

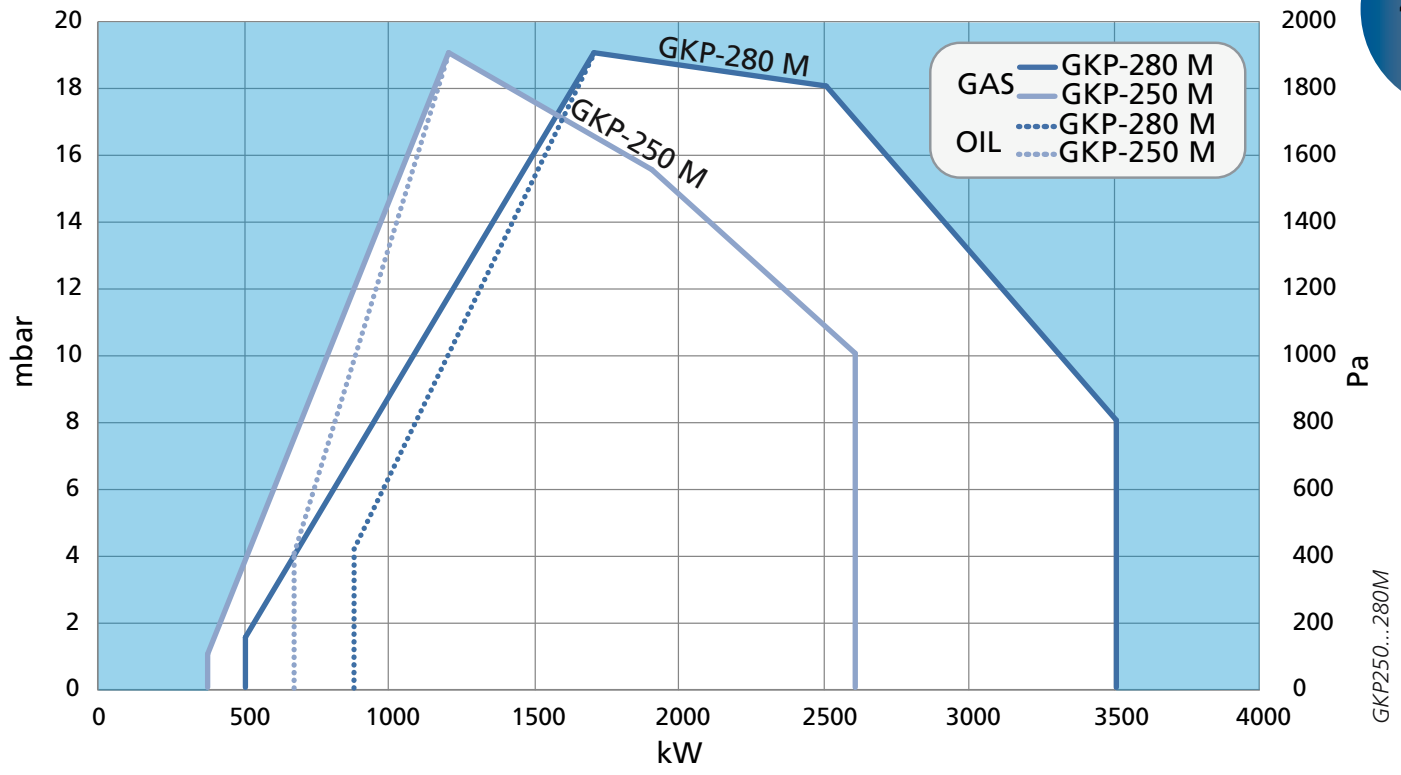
BURNER	H1	H2	H3	H5	B1	B2	B3	B4	ØD1	R1	R2
GKP-140 M	625	400	210	195	570	430	210	360	240	1050	1150
GKP-150 M	625	400	210	195	570	480	210	360	270	1050	1150
GKP-250 M	675	446	235	215	605	490	250	440	270	1100	1200
GKP-280 M	675	446	235	215	605	490	250	440	300	1100	1200

Dimensions in mm.

Working Diagram



GKP140...150M



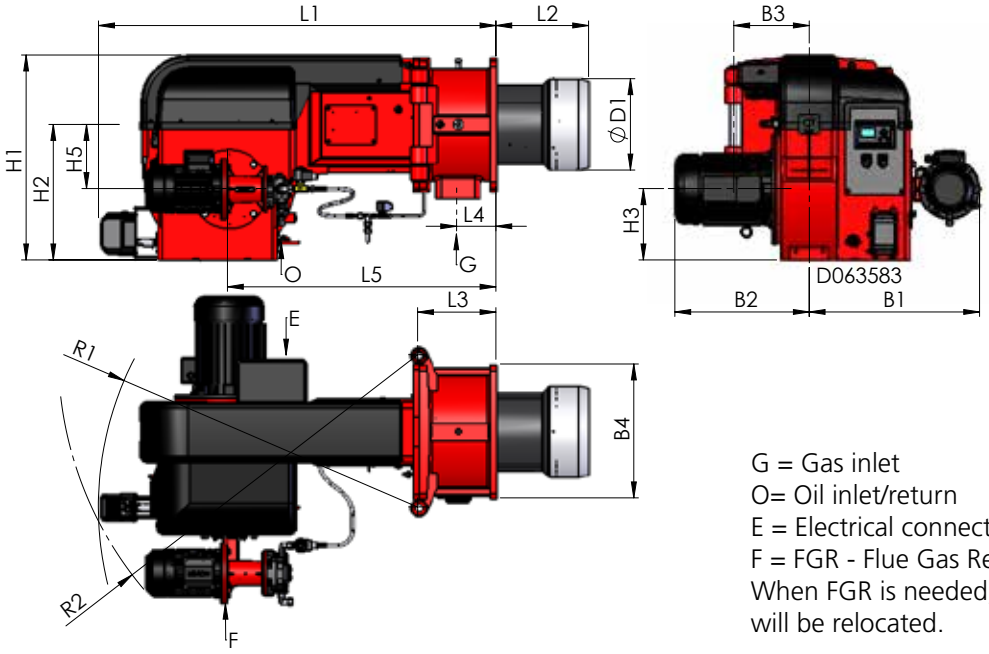
GKP250...280M

GKP-140…280 MH, GKP-140/250 M LN80

Technical Data

BURNER	GKP-140 MH	GKP-150 MH	GKP-250 MH	GKP-280 MH	GKP-140 M LN80	GKP-250 M LN80
Capacity oil, kg/h	47 - 200	56 - 227	55 - 220	76 - 295	32 - 143	68 - 177
oil, kW	550 - 2350	660 - 2700	650 - 2600	900 - 3500	380 - 1700	800 - 2100
gas, kW	410 - 2350	450 - 2700	370 - 2600	500 - 3500	380 - 1700	350 - 2100
Fan motor 3~ 400 V 50 Hz						
Output kW	4,0	5,5	5,5	7,5	4,0	7,5
Current A	7,2	9,8	9,8	13,0	7,2	13,0
Speed rpm	2900	2900	2900	2900	2900	2900
Control unit	WD34	WD34	WD34	WD34	WDx00	WDx00
NOx class						
oil	1	1	1	1	1	1
gas	1	1	1	1	3	3
Oil hose connection						
- suction	R ½"	R ½"	R ¾"	R ¾"	R ½"	R ¾"
- return	R ½"	R ½"	R ½"	R ½"	R ½"	R ½"
Oil pump	J7	J7	J7	TAR2	TAR2	TAR3
- Motor 3~ 400 V 50 Hz						
Output kW	0,75	0,75	0,75	0,75	1,5	1,5
Current A	2,0	2,0	2,0	2,0	3,2	3,2
Speed rpm	2900	2900	2900	2900	2900	2900
Weight kg	162	164	270	278	165	274

Dimensions



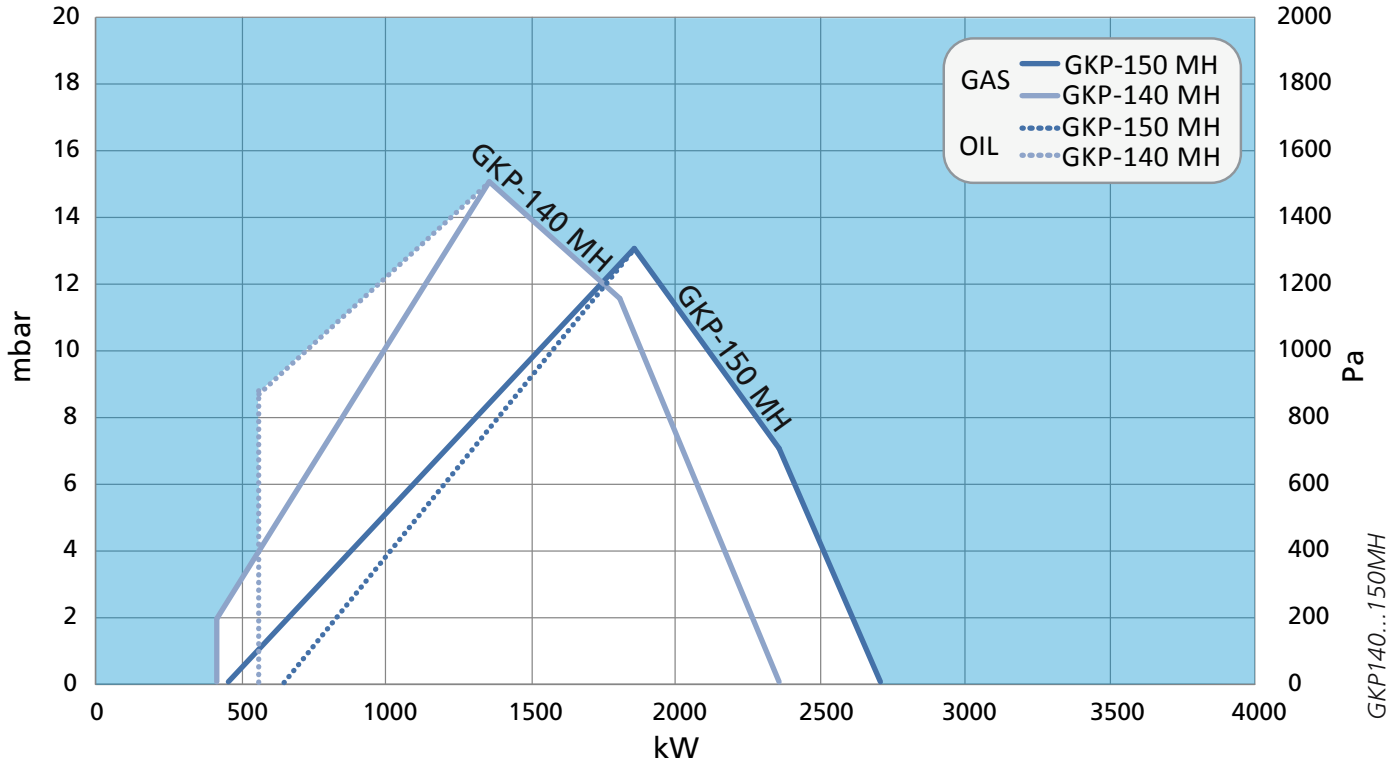
G = Gas inlet
O= Oil inlet/return
E = Electrical connection
F = FGR - Flue Gas Recirculation
When FGR is needed, oil pump unit will be relocated.

BURNER	L1	L2	L2		L3	L4	L5
			C1	C2			
GKP-140 MH	1285	220	-	-	260	129	880
GKP-150 MH	1285	230	-	-	260	129	880
GKP-250 MH	1320	300	-	-	260	130	890
GKP-280 MH	1320	312	-	-	260	130	890
GKP-140 M LN80	1285	430	-	-	260	129	880
GKP-250 M LN80	1320	-	420	550	260	130	890

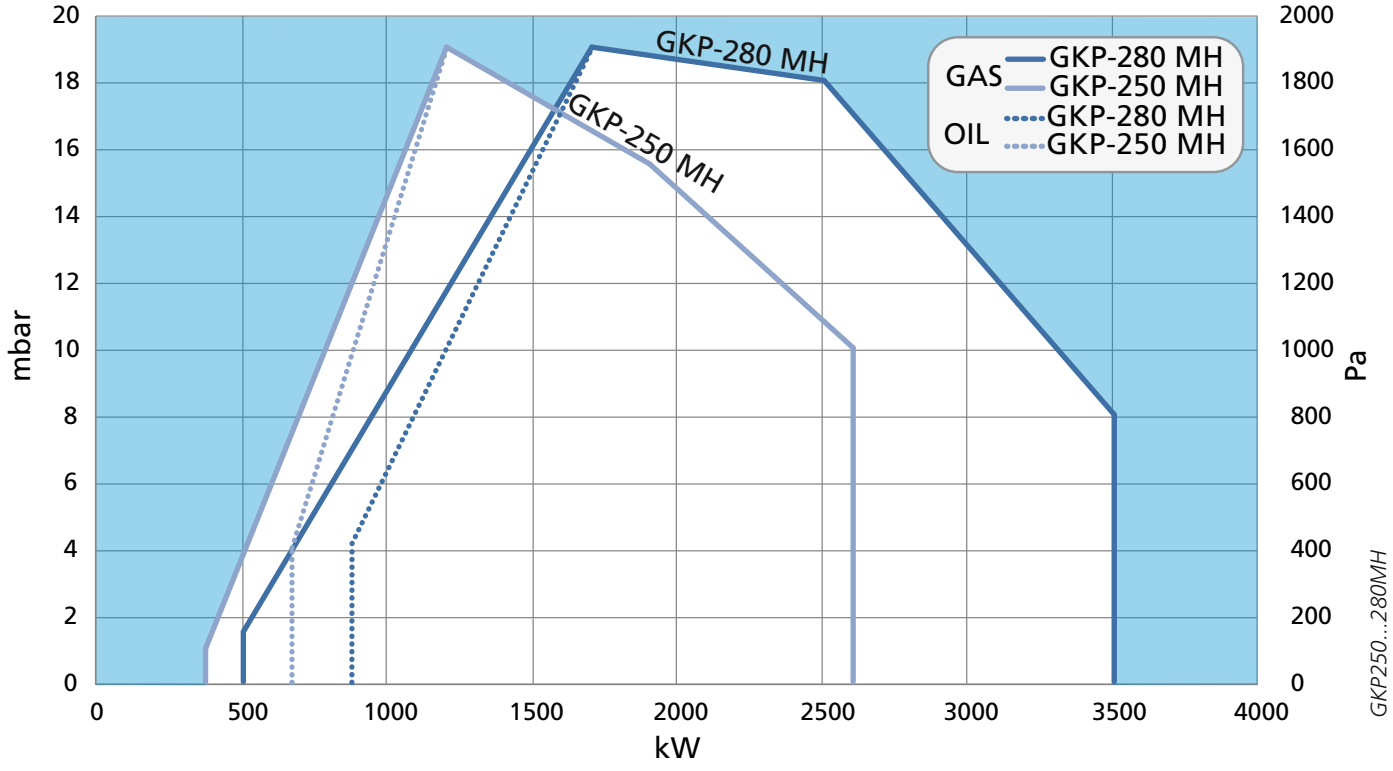
BURNER	H1	H2	H3	H5	B1	B2	B3	B4	ØD1	R1	R2
GKP-140 MH	625	400	210	195	570	430	210	360	240	1050	1150
GKP-150 MH	625	400	210	195	570	480	210	360	270	1050	1150
GKP-250 MH	675	446	235	215	605	490	250	440	270	1100	1200
GKP-280 MH	675	446	235	215	605	490	250	440	300	1100	1200
GKP-140 M LN80	625	400	210	195	570	430	210	360	240	1050	1150
GKP-250 M LN80	675	446	235	215	605	490	250	440	256	1100	1200

Dimensions in mm.

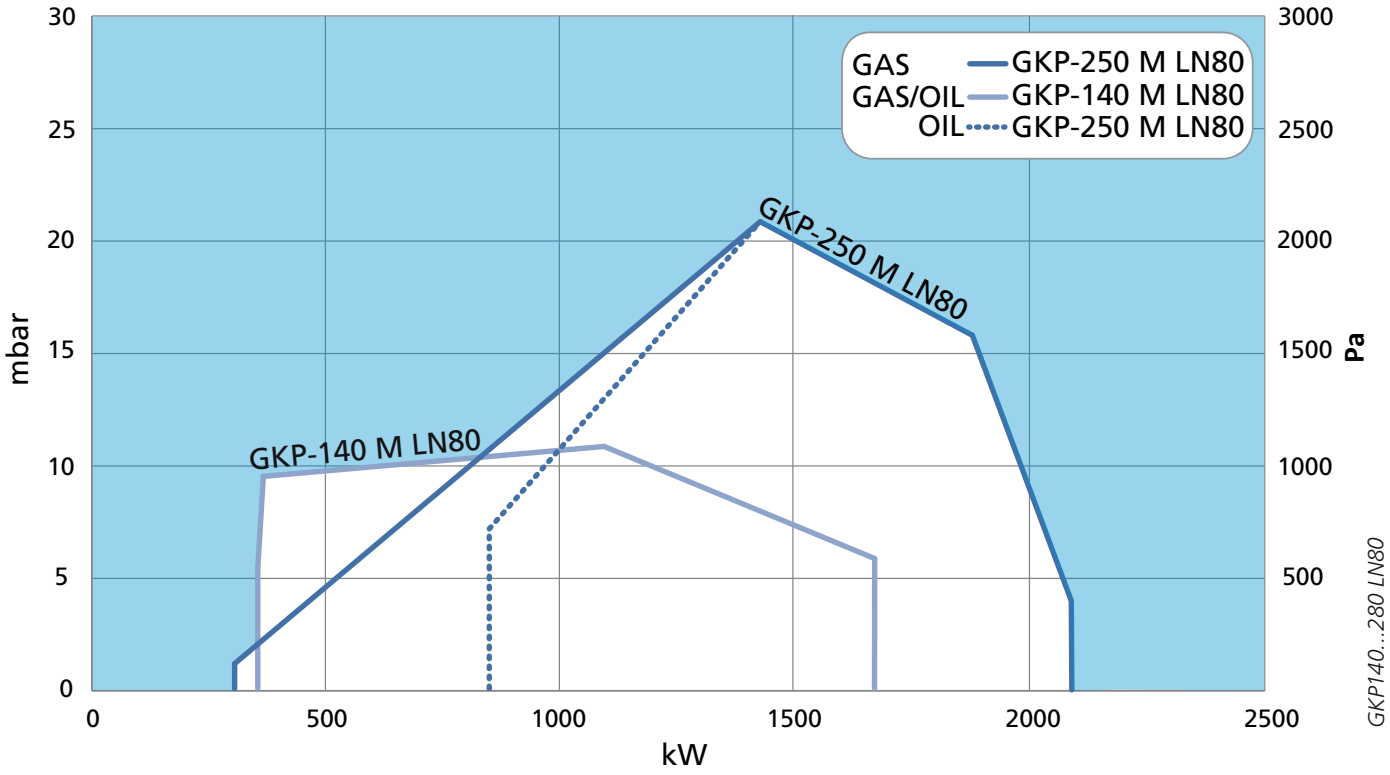
Working Diagram



GKP140...150MH



GKP250...280MH

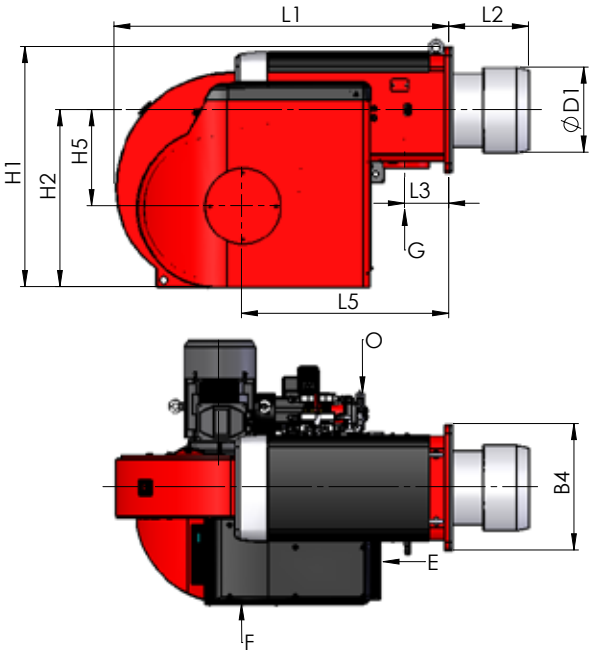

GAS
GAS/OIL
OIL
GKP-250 M LN80
GKP-140 M LN80
GKP-250 M LN80
mbar
Pa
kW
0
5
10
15
20
25
30
500
1000
1500
2000
2500
3000

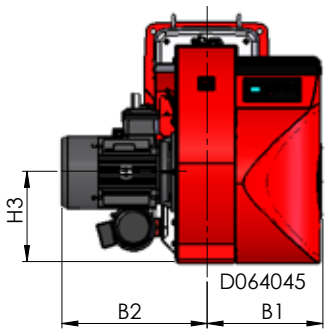
GKP-350/450 M, GKP-320/450 M LN80

Technical Data

BURNER	GKP-350 M	GKP-450 M	GKP-320 M LN80	GKP-450 M LN80
Capacity oil, kg/h	135 - 360	185 - 460	70 - 270	125 - 435
oil, kW	1600 - 4250	2200 - 5500	830 - 3200	1500 - 5200
gas, kW	700 - 4250	850 - 5500	530 - 3200	930 - 5200
Fan motor				
3~ 400 V 50 Hz				
Output kW	7,5	11,0	7,5	15,0
Current A	13,0	19,5	13,0	26,0
Speed r/min	2900	2900	2900	2900
Oil hose connection				
- suction	R 1"	R 1"	R 1"	R 1"
- return	R 1"	R 1"	R 1"	R 1"
Oil pump	TAR4	TAR4	TAR4	TAR4
- Motor				
3~ 400 V 50 Hz				
Output kW	1,5	1,5	1,5	1,5
Current A	3,2	3,2	3,2	3,2
Speed r/min	2900	2900	2900	2900
Control unit	WD34	WD34	WDx00	WDx00
NOx class				
oil	1	1	1	1
gas	1	1	3	3
Weight kg	390	505	395	510

Dimensions



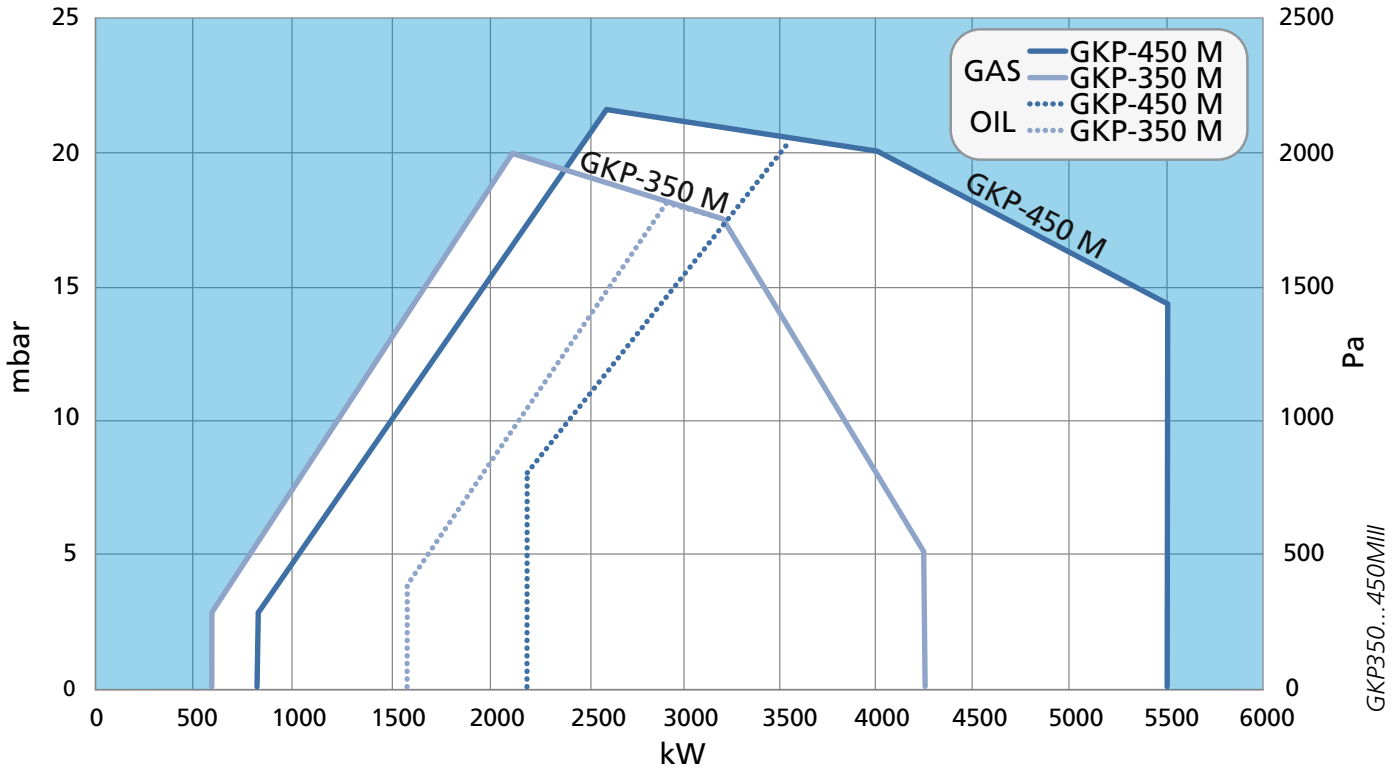


G = Gas inlet
O= Oil inlet/return
E = Electrical connection
F = FGR - Flue Gas Recirculation

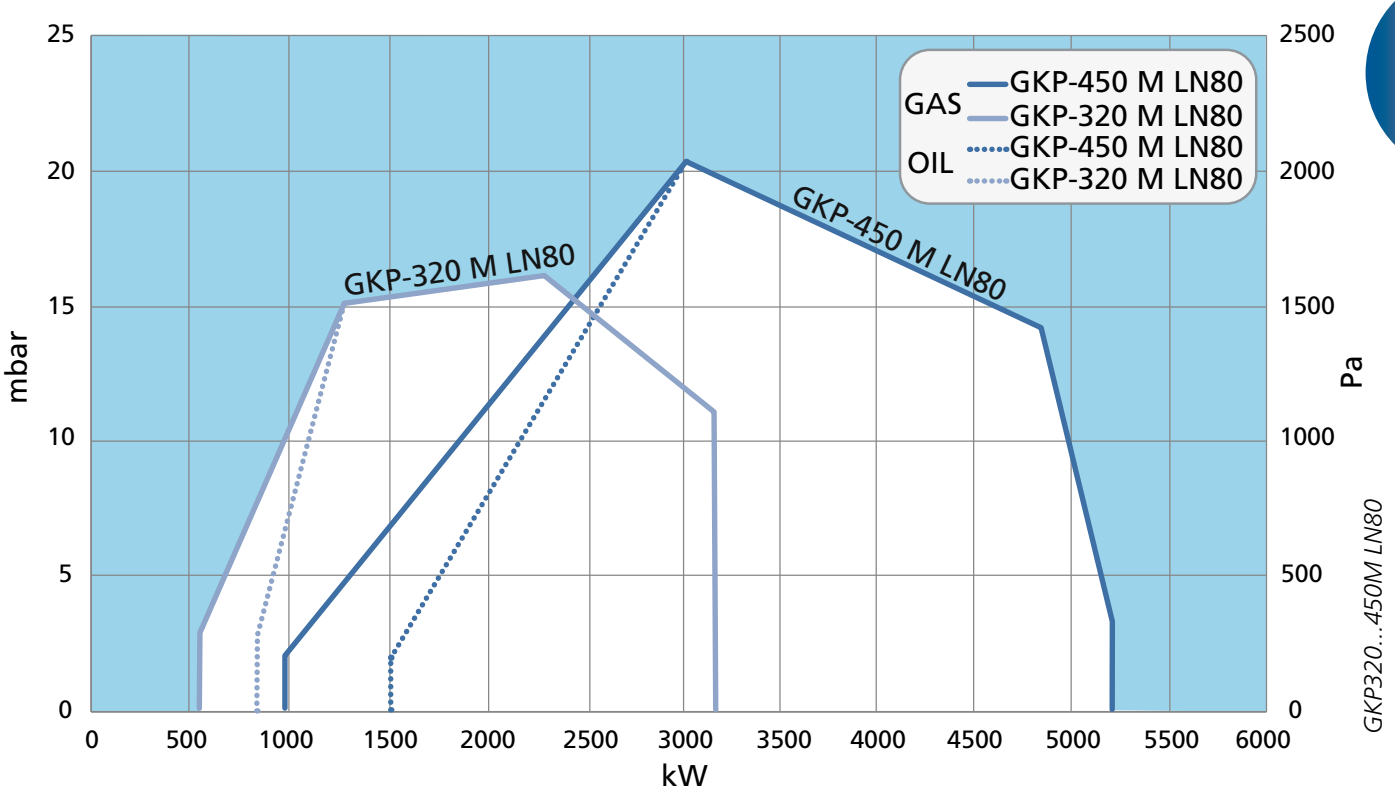
BURNER	L1	L2	L3	L5	H1	H2	H3	H5	B1	B2	B4	ØD1
GKP-350 M	1360	350	195	810	940	695	355	345	490	580	490	320
GKP-450 M	1470	350	195	910	1050	770	395	420	510	650	550	370
GKP-320 M LN80	1360	500	195	810	940	695	355	345	490	580	490	302
GKP-450 M LN80	1470	480	195	910	1050	770	395	420	510	650	550	324

Dimensions in mm.

Working Diagram



GKP350...450MIII



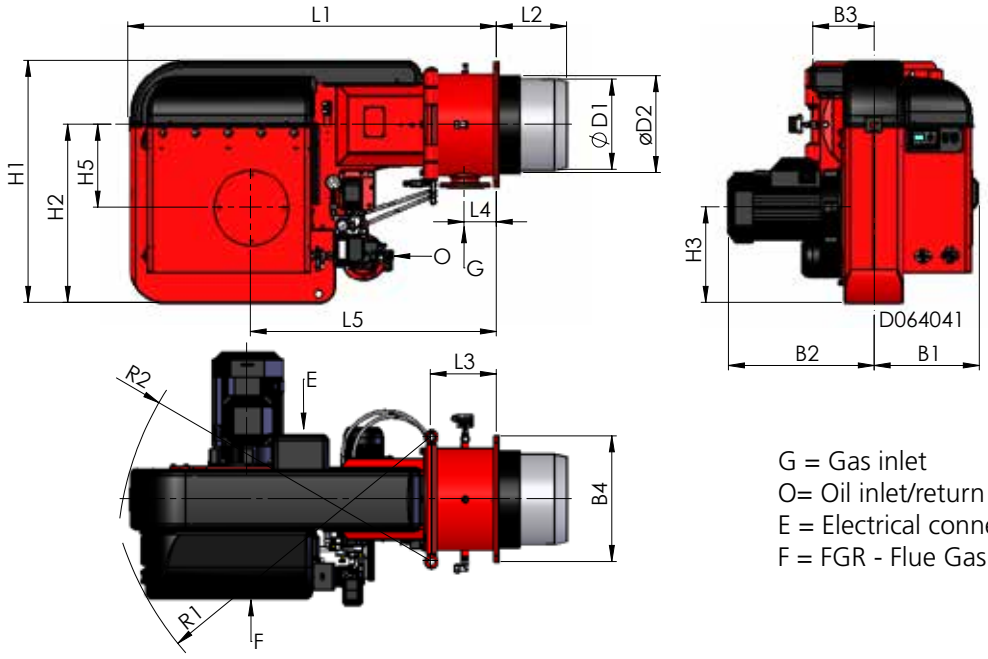
GKP320...450M LN80

GKP-500 M...700 M-III

Technical Data

BURNER	GKP-500 M	GKP-600 M	GKP-700 M	GKP-700 M-II	GKP-700 M-III
Capacity oil, kg/h	120 - 515	120 - 570	170 - 710	180 - 821	230 - 868
oil, kW	1400 - 6070	1400 - 6750	2000 - 8400	2100 - 9500	2100 - 10500
gas, kW	870 - 6070	970 - 6750	1200 - 8400	1350 - 9500	1500 - 10500
Fan motor					
3~ 400 V 50 Hz					
Output kW	11,0	15,0	18,5	22,0	30,0
Current A	19,5	26,0	34,0	38,0	52,0
Speed rpm	2900	2900	2900	2900	2900
Oil hose connection					
- suction	R 1"	R 1"	R 1"	R 1"	R 1"
- return	R 1"	R 1"	R 1"	R 1"	R 1"
Oil pump	TAR5	TAR5	T3	T4	T4
- Motor					
3~ 400 V 50 Hz					
Output kW	2,2	2,2	4,0	4,0	4,0
Current A	4,4	4,4	7,2	7,2	7,2
Speed rpm	2900	2900	2900	2900	2900
Regulating valve	-	-	TV4001	TV4001	TV4001
Control unit	WD34	WD34	WD34	WD34	WD34
NOx class					
oil	1	1	1	1	1
gas	1	1	1	1	1
Weight kg	510	520	565	680	685

Dimensions



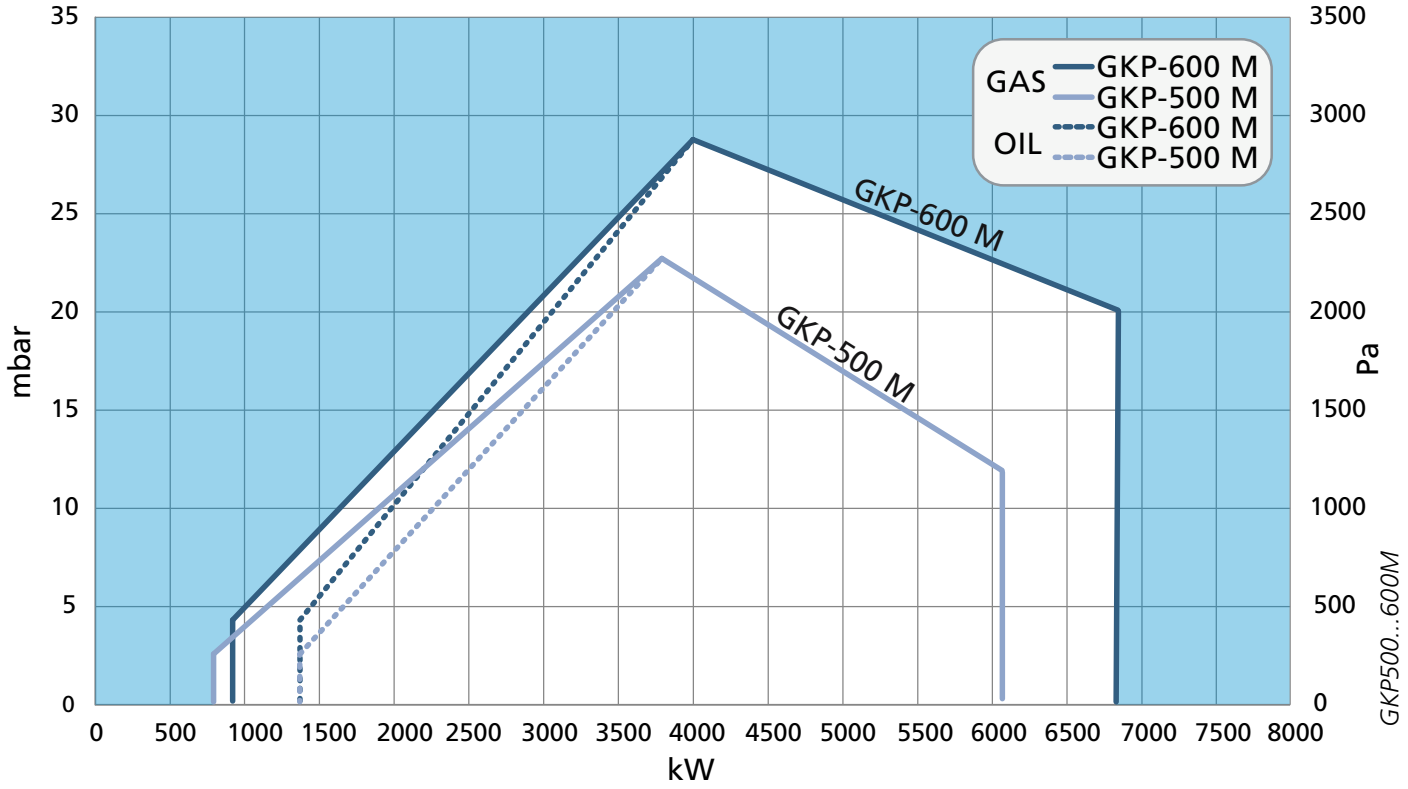
G = Gas inlet
O= Oil inlet/return
E = Electrical connection
F = FGR - Flue Gas Recirculation

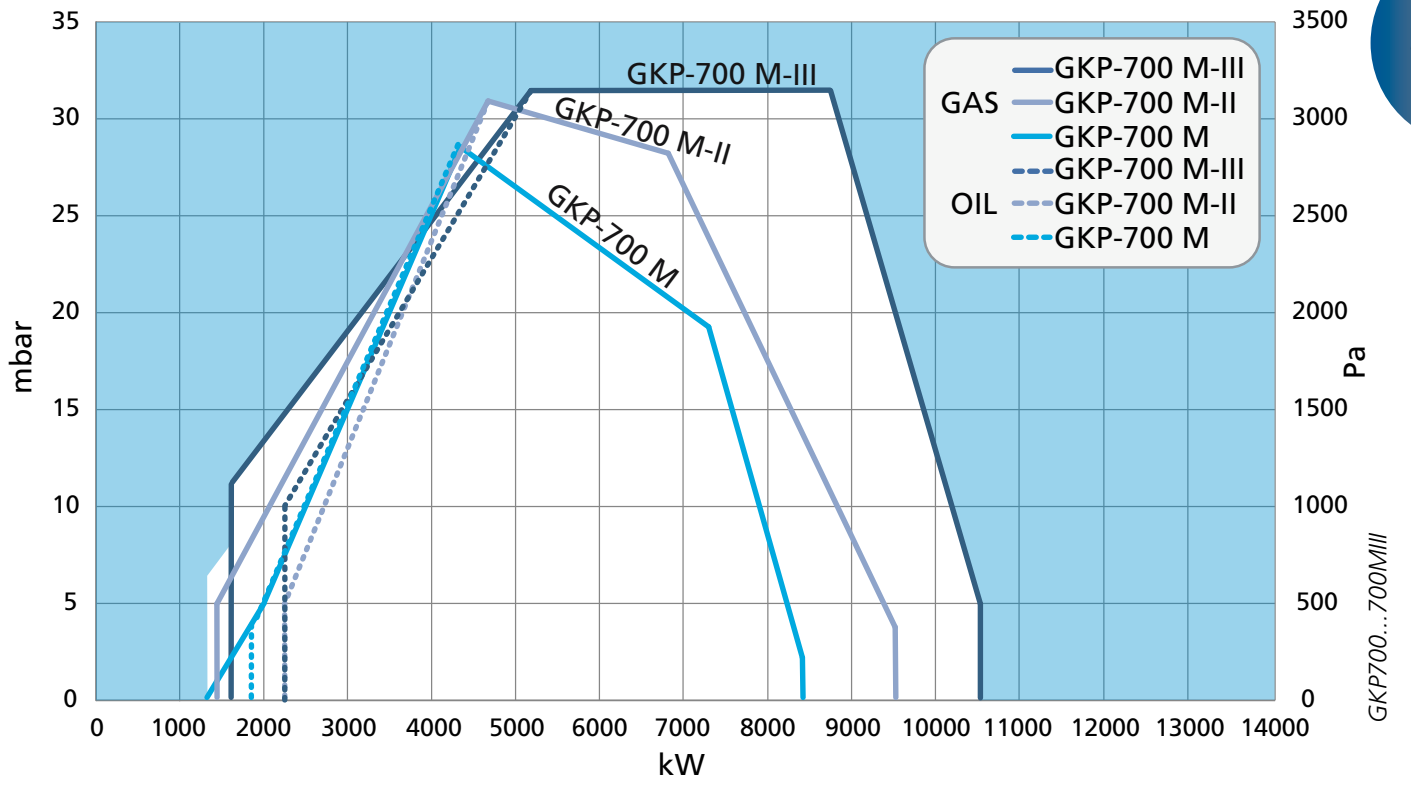
BURNER	L1	L2	L3	L4	L5
GKP-500 M	1650	290	295	145	1090
GKP-600 M	1650	310	295	145	1090
GKP-700 M	1650	310	295	145	1090
GKP-700 M-II	1650	310	295	145	1090
GKP-700 M-III	1650	400	295	145	1090

Dimensions in mm.

BURNER	H1	H2	H3	H5	B1	B2	B3	B4	ØD1	ØD2	R1	R2
GKP-500 M	1060	780	420	365	465	645	270	550	370	425	1440	1400
GKP-600 M	1060	780	420	365	465	645	270	550	395	425	1440	1400
GKP-700 M	1060	780	420	365	515	700	270	550	395	425	1460	1400
GKP-700 M-II	1060	780	420	365	515	760	270	550	395	425	1460	1400
GKP-700 M-III	1060	780	420	365	515	845	270	550	425	-	1460	1400

Working Diagram



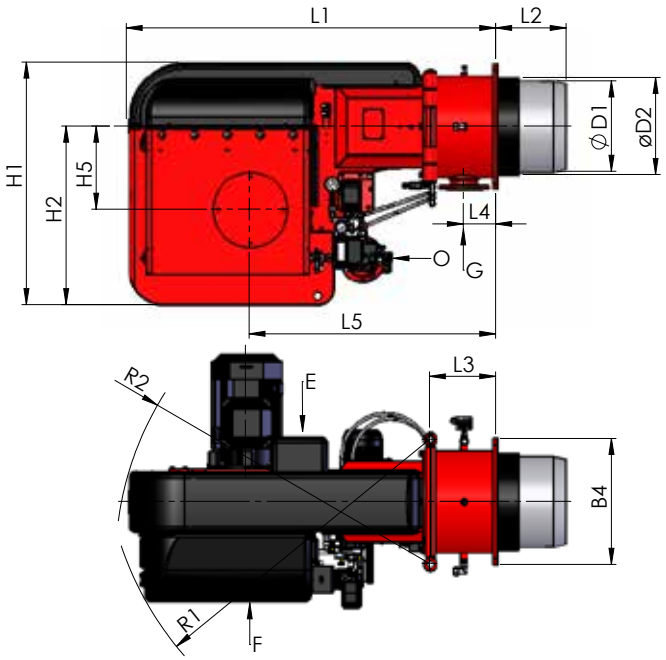


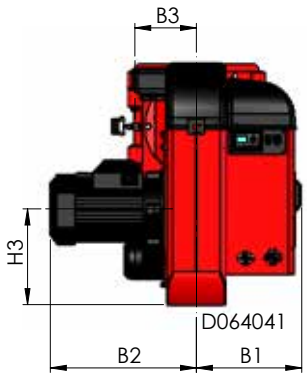
GKP-600 M LN80... GKP-700 M-III LN80

Technical Data

BURNER	GKP-600 M LN80	GKP-700 M-II LN80	GKP-700 M-III LN80
Capacity oil, kg/h	130 - 565	100 - 640	140 - 742
oil, kW	1550 - 6700	1180 - 7600	1670 - 8800
gas, kW	1000- 6450	1200 - 7600	1500 - 8800
Fan motor 3~ 400 V 50 Hz			
Output kW	18,5	22,0	30,0
Current A	34,0	38,0	52,0
Speed rpm	2900	2900	2900
Oil hose connection			
- suction	R 1"	R 1"	R 1"
- return	R 1"	R 1"	R 1"
Oil pump	TAR5	T4	T4
- Motor 3~ 400 V 50 Hz			
Output kW	2,2	4,0	4,0
Current A	4,4	7,2	7,2
Speed rpm	2900	2900	2900
Regulating valve	-	TV4001	TV4001
Control unit	WDx00	WDx00	WDx00
NOx class			
oil	1	1	1
gas	3	3	3
Weight kg	625	785	805

Dimensions





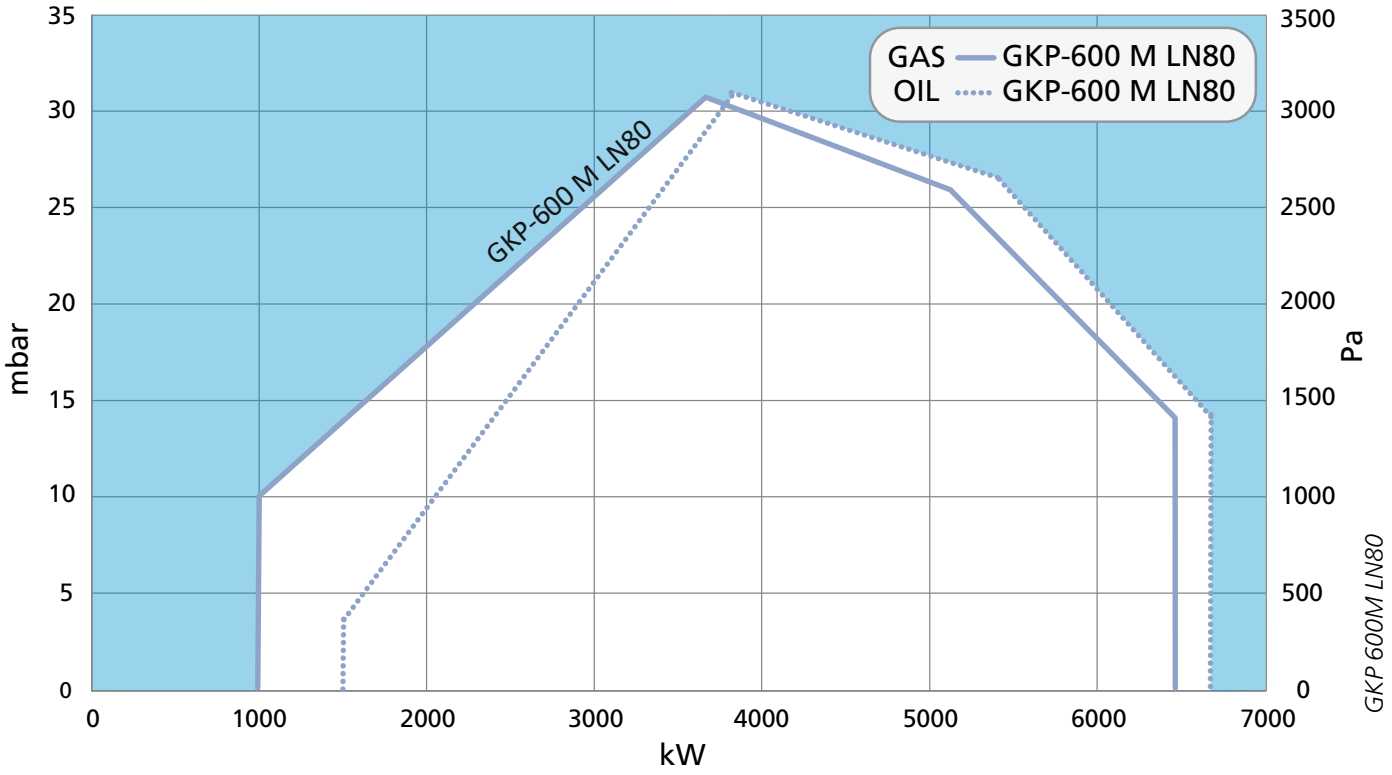
G = Gas inlet
O= Oil inlet/return
E = Electrical connection
F = FGR - Flue Gas Recirculation

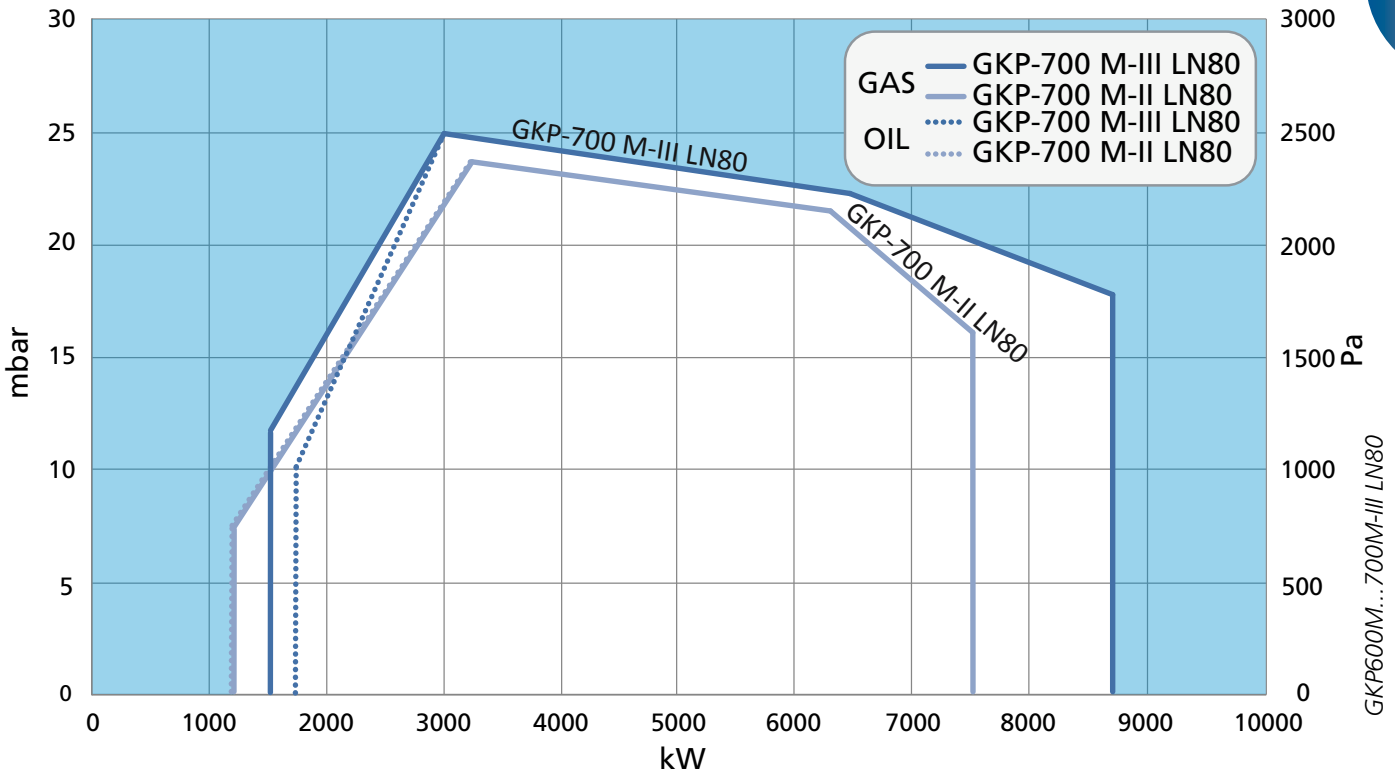
BURNER	L1	L2	L3	L4	L5
GKP-600 M LN80	1650	530	295	145	1090
GKP-700 M-II LN80	1650	530	295	145	1090
GKP-700 M-III LN80	1650	610	295	145	1090

BURNER	H1	H2	H3	H5	B1	B2	B3	B4	ØD1	ØD2	R1	R2
GKP-600 M LN80	1060	780	420	365	465	645	270	550	384	-	1440	1400
GKP-700 M-II LN80	1060	780	420	365	515	760	270	550	406	-	1460	1400
GKP-700 M-III LN80	1060	780	420	365	515	845	270	550	406	-	1460	1400

Dimensions in mm.

Working Diagram



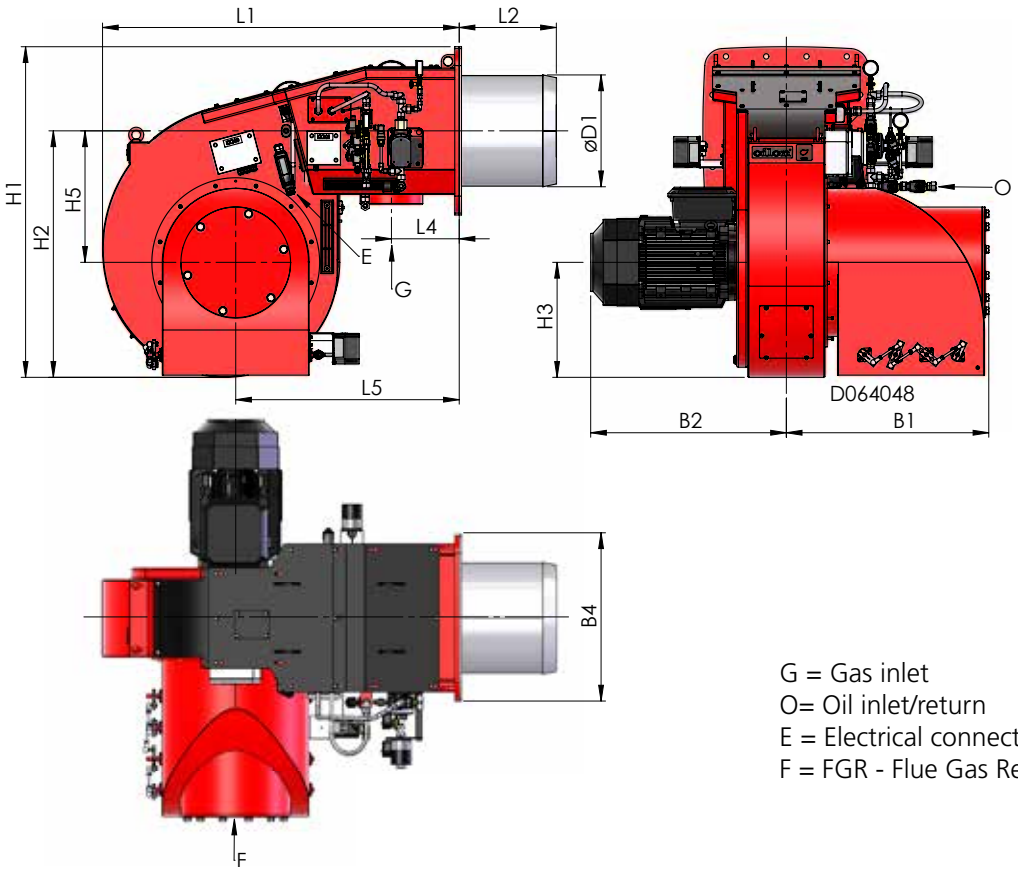


GKP-1000/1200 M

Technical Data

BURNER	GKP-1000 M	GKP-1200 M
Capacity oil, kg/h	152 - 935	185 - 1120
oil, kW	1800 - 11100	2200 - 13300
gas, kW	1800 - 11100	2200 - 13300
Fan motor		
3~ 400 V 50 Hz		
Output kW	37,0	45,0
Current A	65,0	77,0
Speed rpm	2900	2900
Oil pipe connections	2 x Ø 22	2 x Ø 22
Control unit	WDx00	WDx00
NOx class		
oil	1	1
gas	1	1
Weight kg	780	830

Dimensions

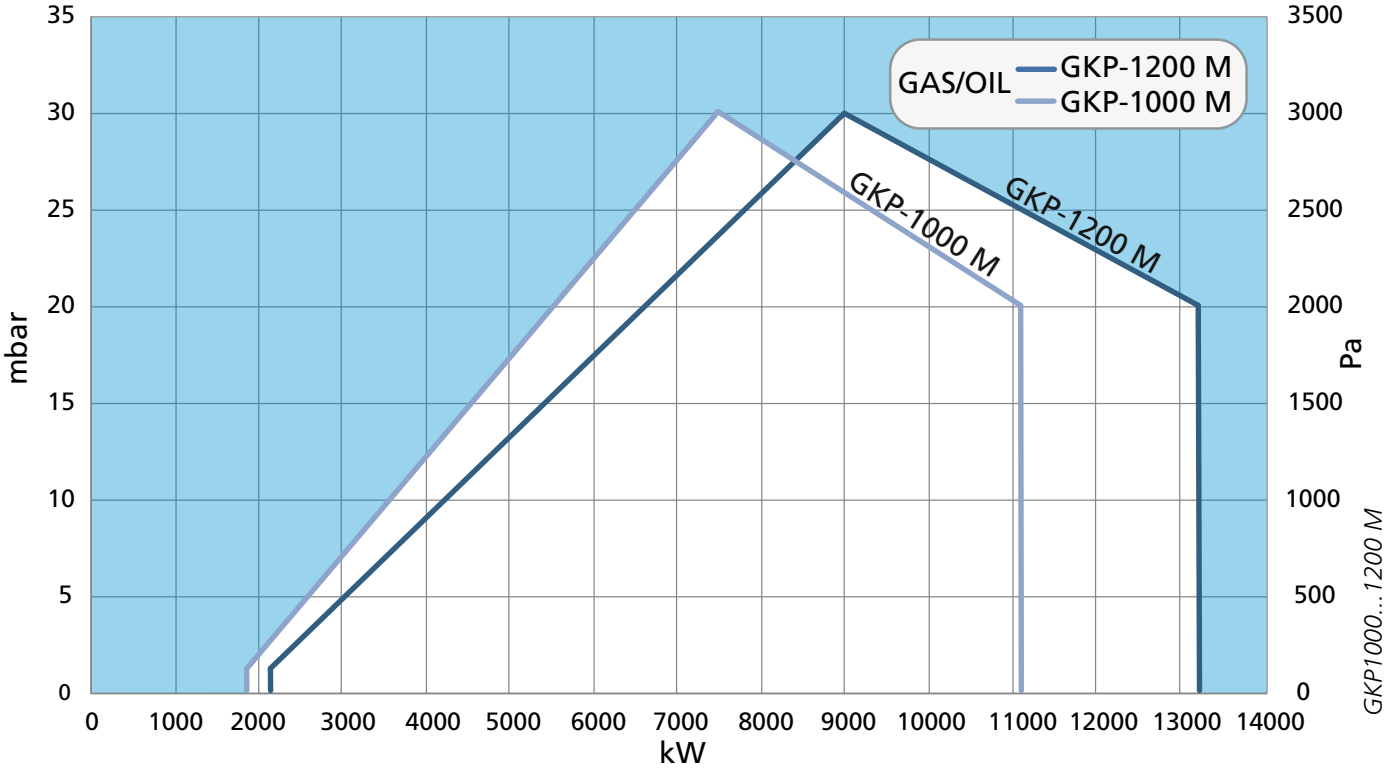


G = Gas inlet
O= Oil inlet/return
E = Electrical connection
F = FGR - Flue Gas Recirculation

BURNER	L1	L2	L4	L5	H1	H2	H3	H5	B1	B2	B4	ØD1
GKP-1000 M	1600	434	303	1000	1470	1100	510	585	905	880	750	496
GKP-1200 M	1600	434	303	1000	1470	1100	510	585	905	930	750	520

Dimensions in mm.

Working Diagram



Scope of Delivery GKP-50...1200

	50 H	90 H	50/90 MH	140...280 MH	140...280 M	320...450	500...700	1000...1200
Hinge flange with limit switch	•	•	•	•	•	-	•	-
Burner flange gasket	•	•	•	•	•	•	•	•
WiseDrive (electronic ratio control) ***	-	-	•	•	•	•	•	•
Ignition transformer	•	•	•	•	•	•	•	•
Ignition cables and electrodes	•	•	•	•	•	•	•	•
Flame sensor: - LME/QRC - WD3x/QRA (intermittent operation) - WDx00/QRI (continuous operation)	 • - -	 • - -	 - • -	 - • -	 - • •	 - • •	 - • •	 - - •
Inbuilt combustion air fan	•	•	•	•	•	•	•	•
Air damper with servomotor	•	•	•	•	•	•	•	•
Combustion head optimizer with servomotor, WDx00	-	-	-	-	-	-	•	•
Gas damper with servomotor	-	-	•	•	•	•	•	•
Gas nozzle	•	•	•	•	•	•	•	•
Connection for measuring the pressure in gas nozzle	•	•	•	•	•	•	•	•
Gas pressure switch, max.	-	-	•****	•	•	•	•	•
Differential air pressure switch	•	•	•	•	•	•	•	•
Elbow 90°	•	•	•	•	•	•	•	•
Double solenoid valve for gas	•	•	•	•	•	•	•	•
Pressure regulation valve for gas: - MB-ZRDLE valve - DMV valve - VGD valve	 • - .	 • - .	 - - •	 - - •	 - - •	 - - •	 - - •	 - - •
Ignition gas valve and piping *	-	-	-	-	-	-	•	•
Pressure switch for gas, min.	•	•	•	•	•	•	•	•
Automatic valve leak testing for gas **	-	•	•	•	•	•	•	•
Oil nozzle	•	•	•	•	•	•	•	•
Solenoid valves for oil	•	•	•	•	•	•	•	-
Oil pump with pressure regulation valve	•	•	•	•	•	•	•	-
Oil regulating valve with servomotor	-	-	-	-	-	•	•	•
Separate motor for oil pump	-	-	-	•	•	•	•	•
Pressure gauge/gauges for oil	-	-	-	-	•	•	•	•
Pressure switch for return oil	-	-	-	-	•	•	•	•
2 oil hoses, 1000mm (50/90 M), 2000mm (140…1200 M)	•	•	•	•	•	•	•	*****
Oil filter	•	•	•	•	•	•	•	-
Manual	•	•	•	•	•	•	•	•

• Standard
*) Not in 50/90 burners
**) Always in LN80 burners
***) See more information from Oilon WiseDrive –chapter.
****) Optional with VGD valve
*****) Separate booster unit PKYK

Options:

	50/90 H	50/90 MH	140...280 MH	140...280 M	320...450	500...700	1000...1200
FGR equipment	-	-	•	•	•	•	•
Fan pressure gauge	•	•	•	•	•	•	•
Continuous operation, WD3x	-	-	•	-	•	•	-
VSD equipment	-	•	•	•	•	•	•
Extended combustion head *	•	•	•	•	•	•	-
Ignition gas valve and piping **	-	-	•	•	•	-	-
Gas pressure switch, max.	•	-	-	-	-	-	-
Gas pressure gauge	-	-	•	•	•	•	•
LPG gas nozzle	•	•	•	•	•	•	•
Deaerator for oil	-	-	•	•	•	•	-
Pressure gauge for monitoring of inlet oil pressure	-	-	•	•	•	•	•
Pressure switch for monitoring of inlet oil pressure	-	-	•	•	•	•	•
Oil pressure (nozzle and return) transmitter	-	-	-	•	•	•	•

*) Not in LN80 and LN60 burners
**) Always in LN80 burners

Light Fuel Oil Burners

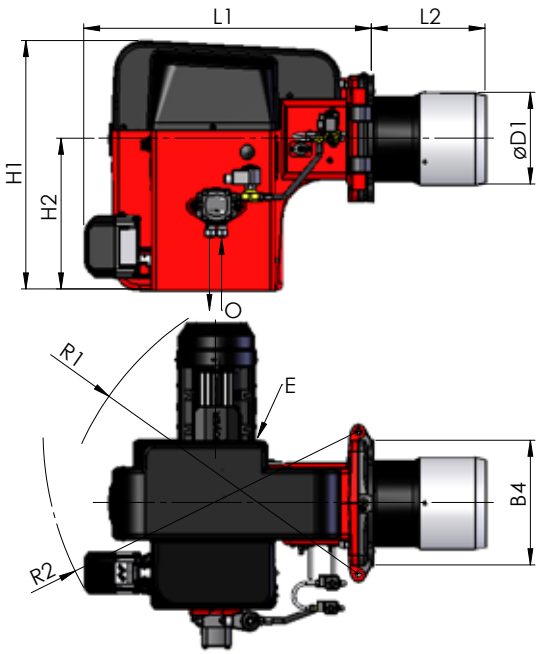
200 - 13300 kW

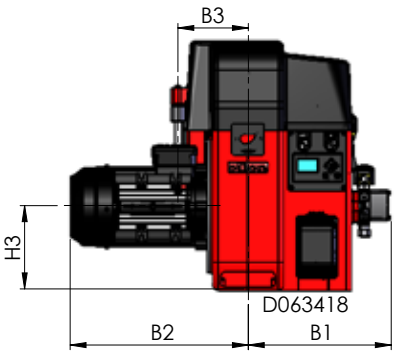
KP-50/90 H

Technical Data

BURNER	KP-50 H	KP-90 H
Capacity kg/h kW	17 - 70 200 - 830	30 - 130 350 - 1540
Burner motor 3~ 400 V 50 Hz Output kW Current A Speed rpm	 0,75 2,0 2900	 2,2 4,4 2900
Oil hose connection - suction - return	 R ⅜" R ⅜"	 R ½" R ½"
Oil pump	AJ4	AJ6
Control unit	LAL	LAL/LOK
NOx class	1	1
Weight kg	32	51

Dimensions





O= Oil inlet/return
E = Electrical connection

BURNER	L1	L2	H1	H2	H3	B1	B2	B3	B4	ØD1	R1	R2
KP-50 H	590	160	510	325	165	275	310	110	225	160	605	-
KP-90 H	635	250	545	330	185	315	395	155	272	200	665	695

Dimensions in mm.

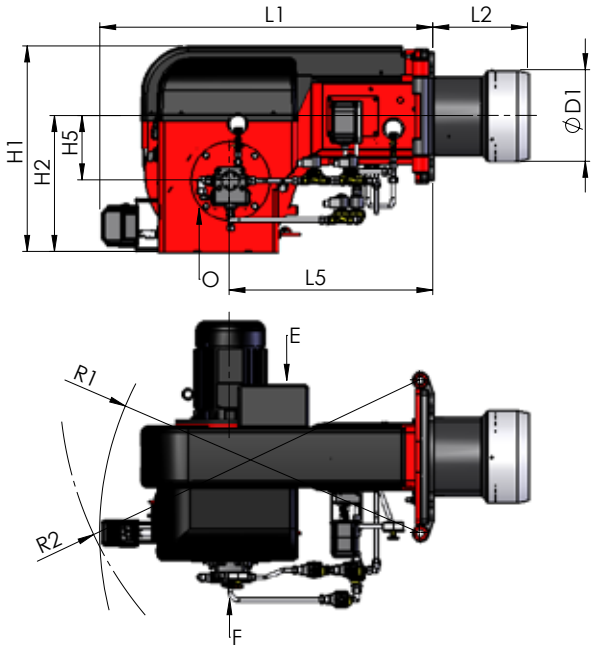
Working Diagram

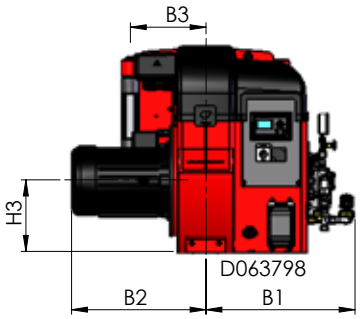
KP-140...150 H/M

Technical Data

BURNER	KP-140 H	KP-140 M	KP-150 M
Capacity kg/h kW	47 - 200 550 - 2350	47 - 200 550 - 2350	56 - 240 660 - 2850
Fan motor 3~ 400 V 50 Hz Output kW Current A Speed r/min	 4,0 7,2 2900	 4,0 7,2 2900	 5,5 9,8 2900
Oil hose connection - suction - return	 R ½" R ½"	 R ½" R ½"	 R ½" R ½"
Oil pump	J7	TAR2	TAR2
Control unit	LMO	WD3X	WD3X
NOx class	1	1	1
Weight kg	107	118	128

Dimensions



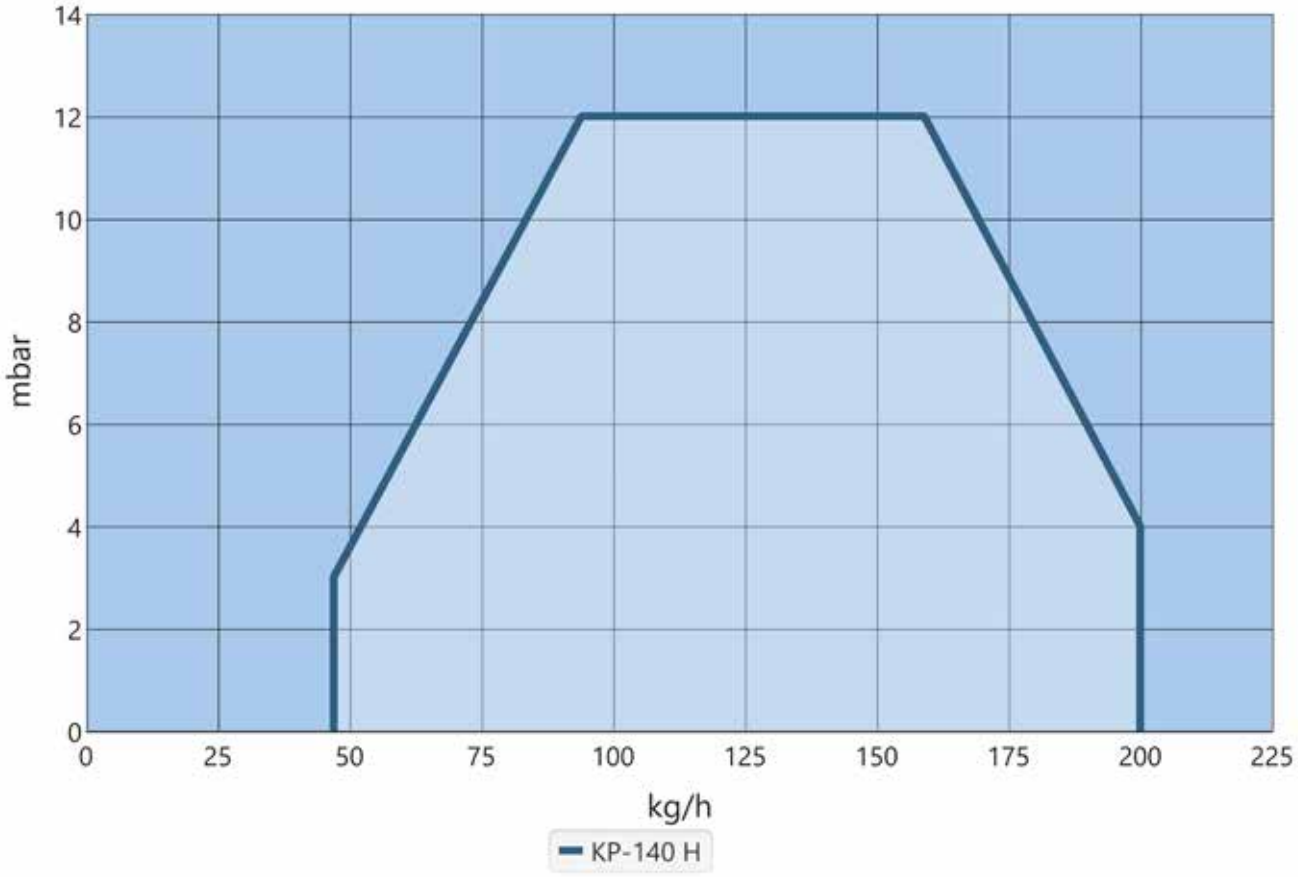


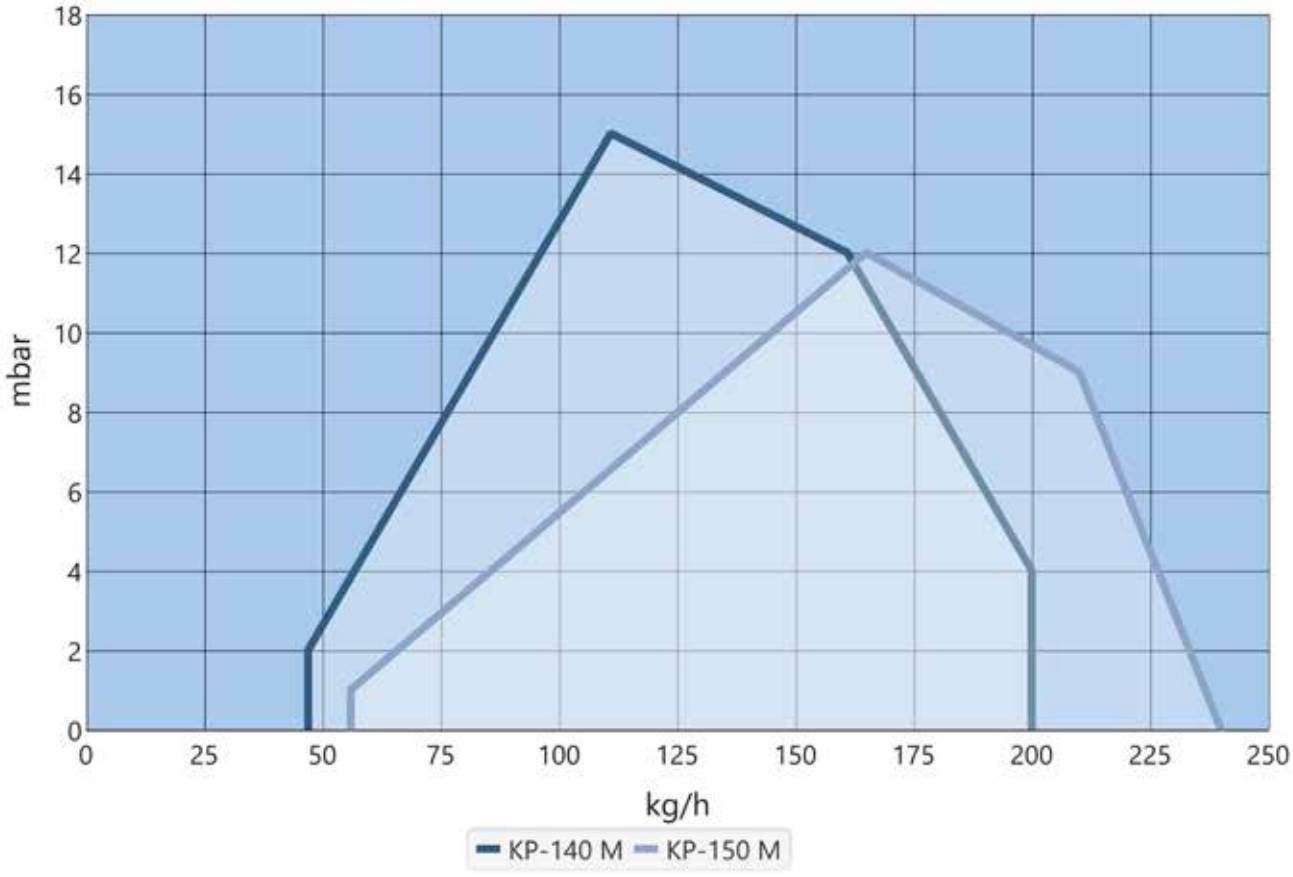
O= Oil inlet/return
E = Electrical connection
F = FGR - Flue Gas Recirculation
When FGR is needed, oil pump unit will be relocated.

BURNER	L1	L2	L5	H1	H2	H3	H5	B1	B2	B3	ØD1	R1	R2
KP-140 H	1075	220	668	625	400	210	195	410	430	210	240	1030	1150
KP-140 M	1075	220	668	625	400	210	195	410	430	210	240	1030	1150
KP-150 M	1075	230	668	625	400	210	195	410	480	210	270	1030	1150

Dimensions in mm.

Working Diagram



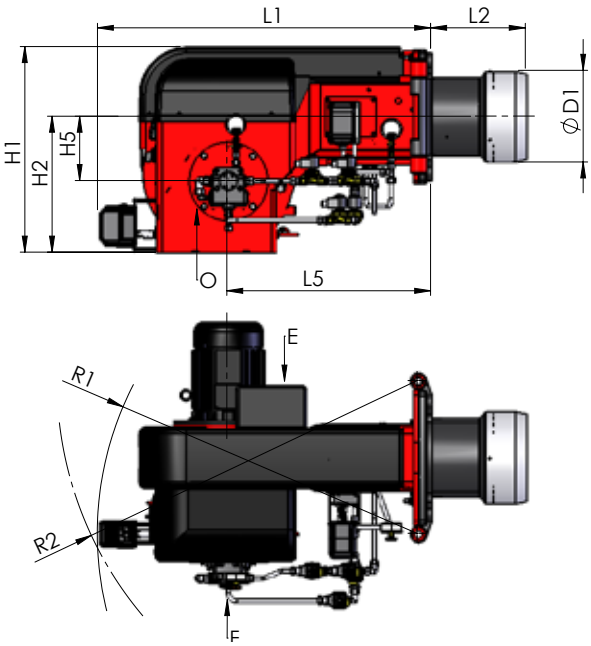


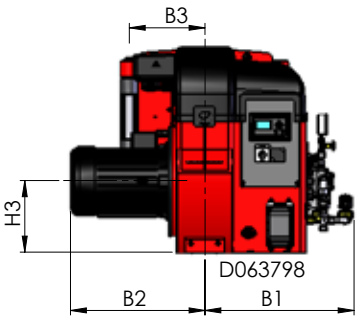
KP-250/280 M

Technical Data

BURNER	KP-250 M	KP-280 M
Capacity kg/h kW	55 - 220 655 - 2600	76 - 295 900 - 3500
Fan motor 3~ 400 V 50 Hz Output kW Current A Speed r/min	 7,5 13,0 2900	 7,5 13,0 2900
Oil hose connection - suction - return	 R ¾" R ½"	 R ¾" R ½"
Oil pump	TAR3	TAR3
Control unit	WD3X	WD3X
NOx class	1	1
Weight kg	146	150

Dimensions





O= Oil inlet/return
E = Electrical connection
F = FGR - Flue Gas Recirculation
When FGR is needed, oil pump unit will be relocated.

BURNER	L1	L2	L5	H1	H2	H3	H5	B1	B2	B3	ØD1	R1	R2
KP-250 M	1100	300	675	675	446	235	215	495	490	250	270	1050	1200
KP-280 M	1100	312	675	675	446	235	215	495	490	250	300	1050	1200

Dimensions in mm.

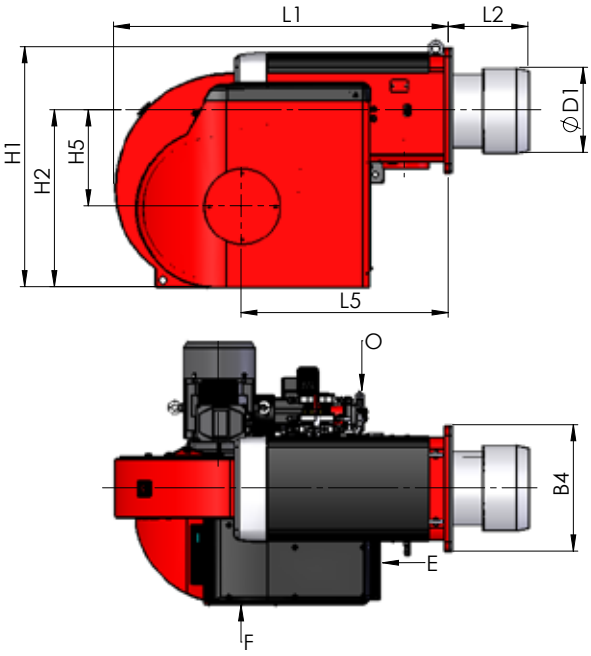
Working Diagram

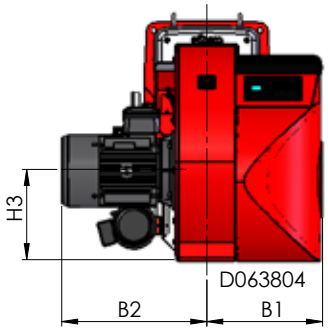
KP-350/450 M

Technical Data

BURNER	KP-350 M	KP-450 M
Capacity kg/h kW	135-360 1600-4250	185 - 460 2200 - 5500
Fan motor 3~ 400 V 50 Hz Output kW Current A Speed r/min	 7,5 13,0 2900	 11,0 19,5 2900
Oil hose connection - suction - return	 R 1" R 1"	 R 1" R 1"
Oil pump - Motor 3~ 400 V 50 Hz Output kW Current A Speed r/min	TAR4 1,5 3,2 2900	TAR4 1,5 3,2 2900
Control unit	WD3X	WD3X
NOx class	1	1
Weight kg	340	470

Dimensions



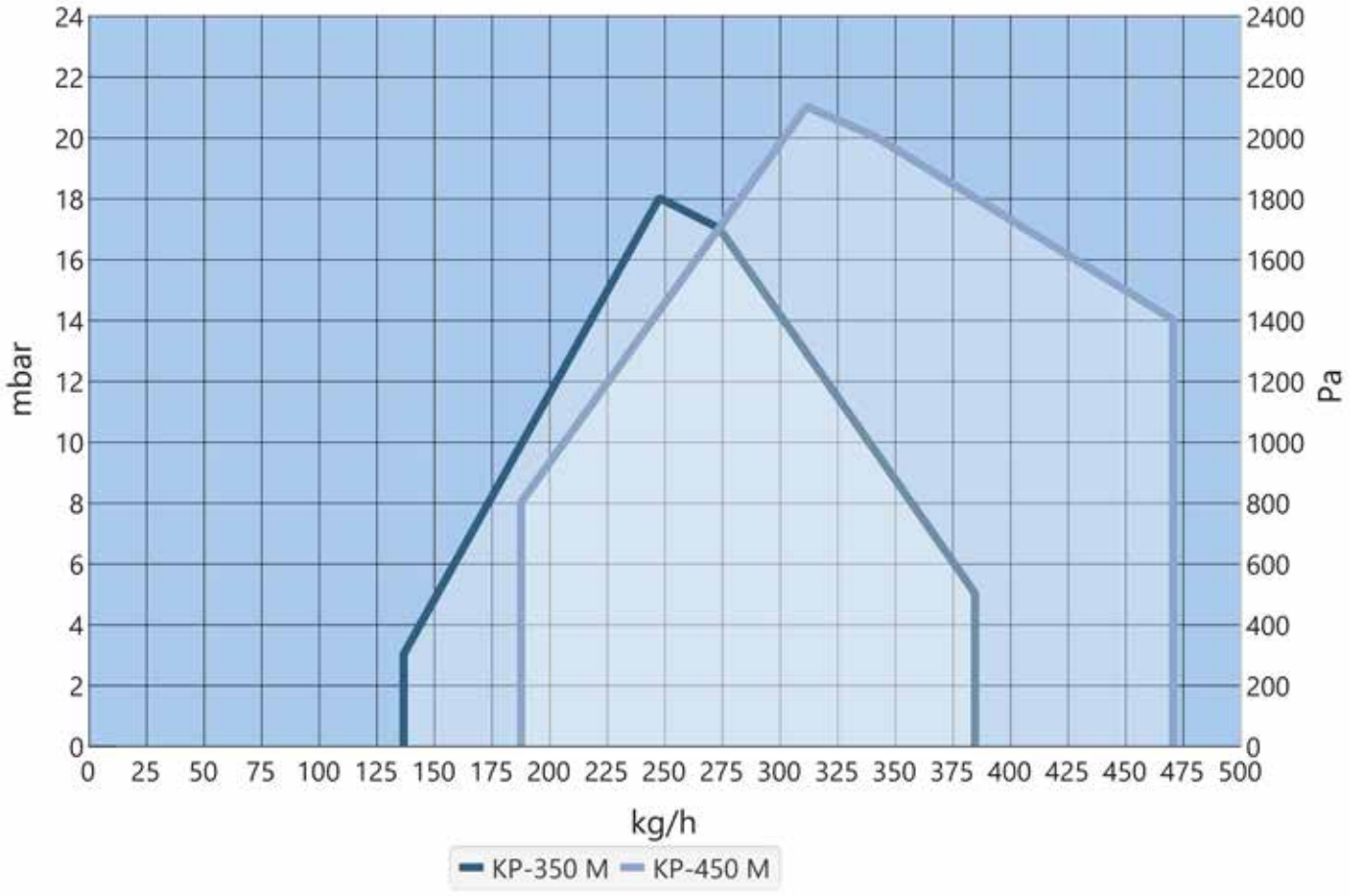


O= Oil inlet/return
E = Electrical connection
F = FGR - Flue Gas Recirculation

BURNER	L1	L2	L5	H1	H2	H3	H5	B1	B2	B4	ØD1
KP-350 M	1360	350	810	940	695	355	345	490	530	490	320
KP-450 M	1470	350	910	1050	770	395	420	510	650	550	370

Dimensions in mm.

Working Diagram

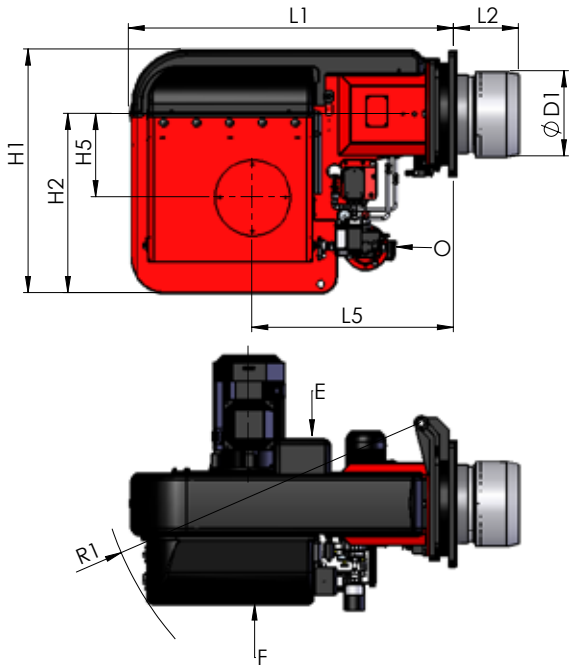


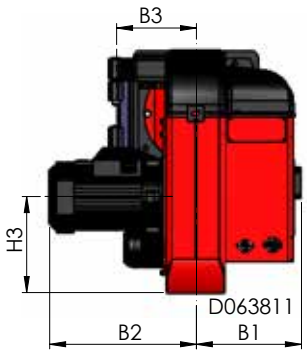
KP-500 M...700 M-II

Technical Data

BURNER	KP-500 M	KP-600 M	KP-700 M	KP-700 M-II
Capacity kg/h kW	120 - 515 1400 - 6070	120 - 570 1400 - 6750	170 - 710 2000 - 8400	170 - 821 2000 - 9700
Fan motor 3~ 400 V 50 Hz Output kW Current A Speed r/min	 11,0 19,5 2900	 15,0 26,0 2900	 18,5 34,0 2900	 22,0 38,0 2900
Oil hose connection - suction - return	 R 1" R 1"	 R 1" R 1"	 R 1" R 1"	 R 1" R 1"
Oil pump - Motor 3~ 400 V 50 Hz Output kW Current A Speed r/min	TAR5 2,2 4,4 2900	TAR5 2,2 4,4 2900	T3 4,0 7,2 2900	T4 4,0 7,2 2900
Control unit	WDx00	WDx00	WDx00	WDx00
NOx class	1	1	1	1
Weight kg	470	480	500	535

Dimensions



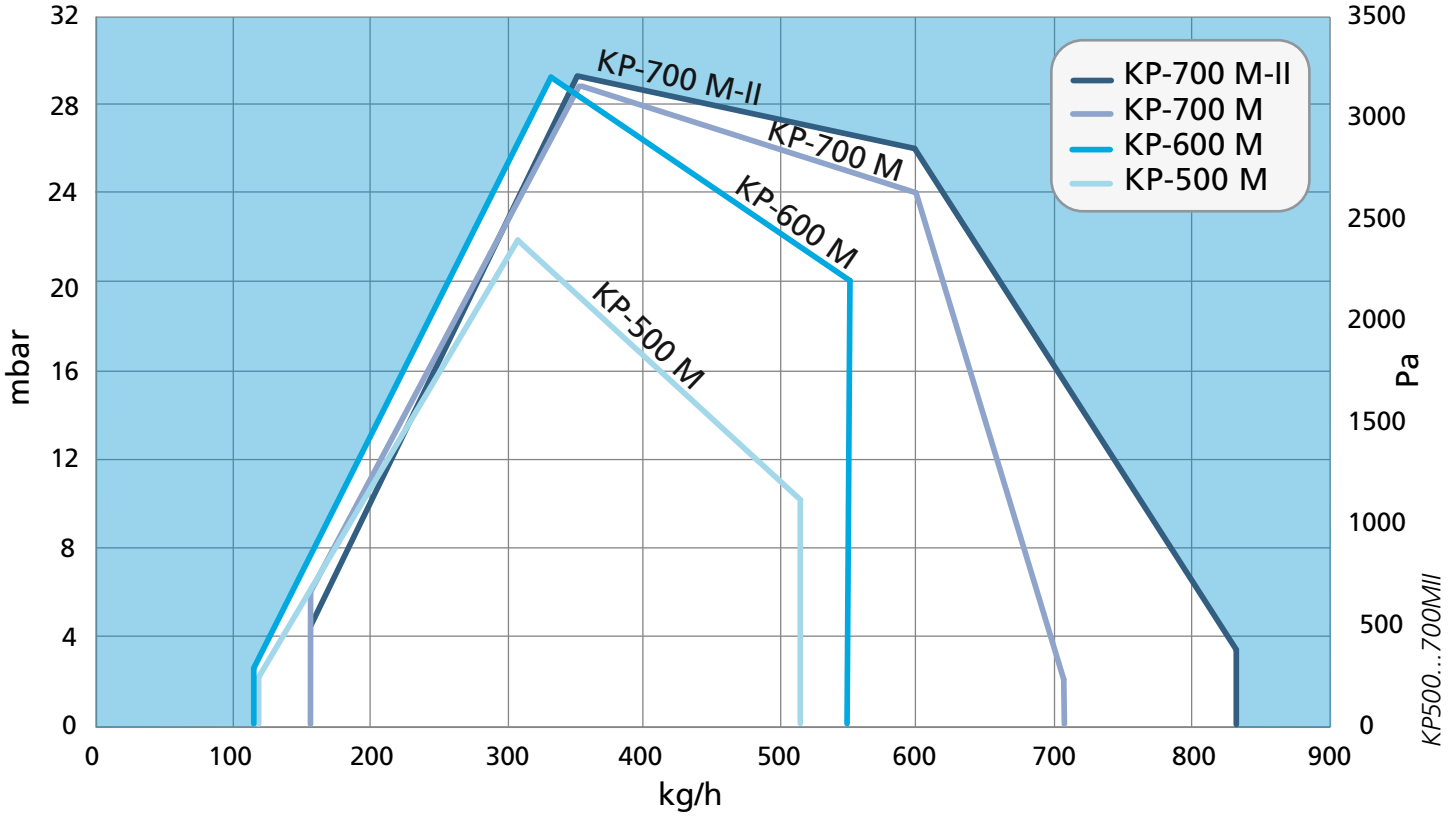


O= Oil inlet/return
E = Electrical connection
F = FGR - Flue Gas Recirculation

BURNER	L1	L2	L5	H1	H2	H3	H5	B1	B2	B3	ØD1	R1
KP-500 M	1450	264	885	1060	780	420	365	440	640	350	340	1450
KP-600 M	1450	290	885	1060	780	420	365	440	640	350	370	1450
KP-700 M	1450	310	985	1075	800	420	335	520	700	350	395	1450
KP-700 M-II	1450	310	985	1075	800	420	335	520	765	350	395	1450

Dimensions in mm.

Working Diagram

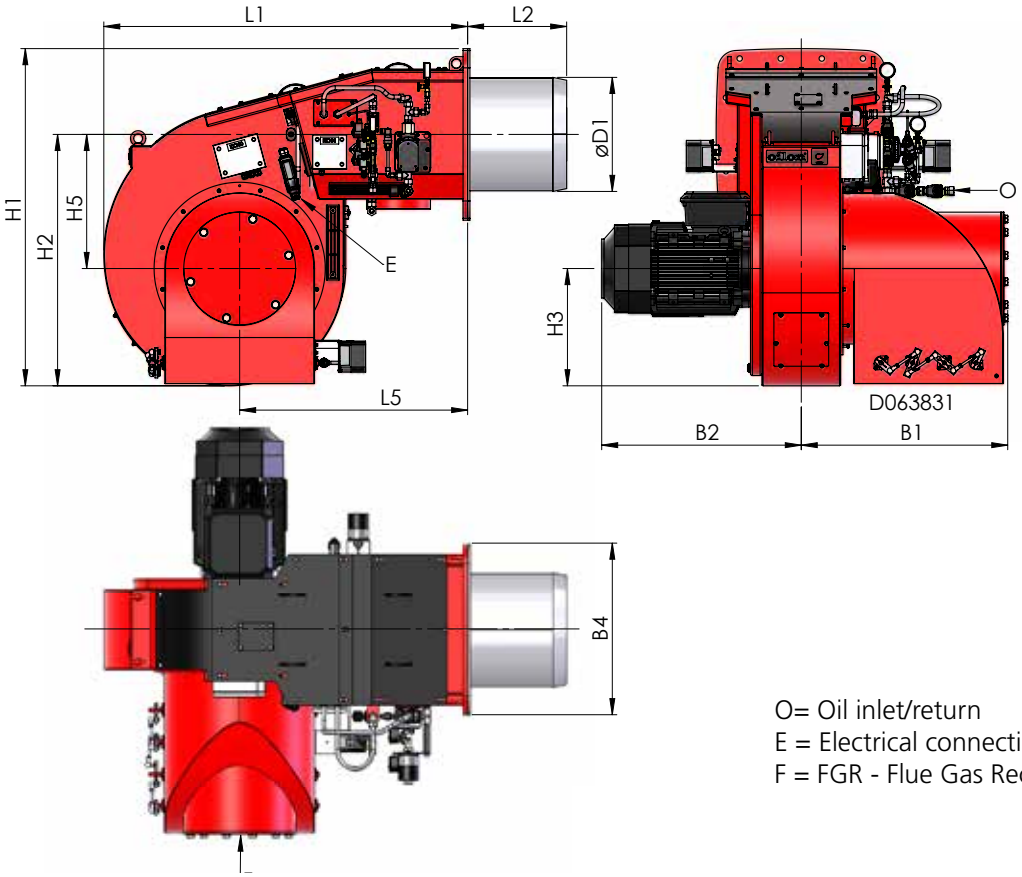


KP-1000/1200 M

Technical Data

BURNER	KP-1000 M	KP-1200 M
Capacity kg/h kW	152 - 935 1800 - 11100	185 - 1120 2200 - 13300
Fan motor 3~ 400 V 50 Hz Output kW Current A Speed rpm	 37,0 65,0 2900	 45,0 77,0 2900
Control unit	WDx00	WDx00
NOx class	1	1
Weight kg	780	830

Dimensions

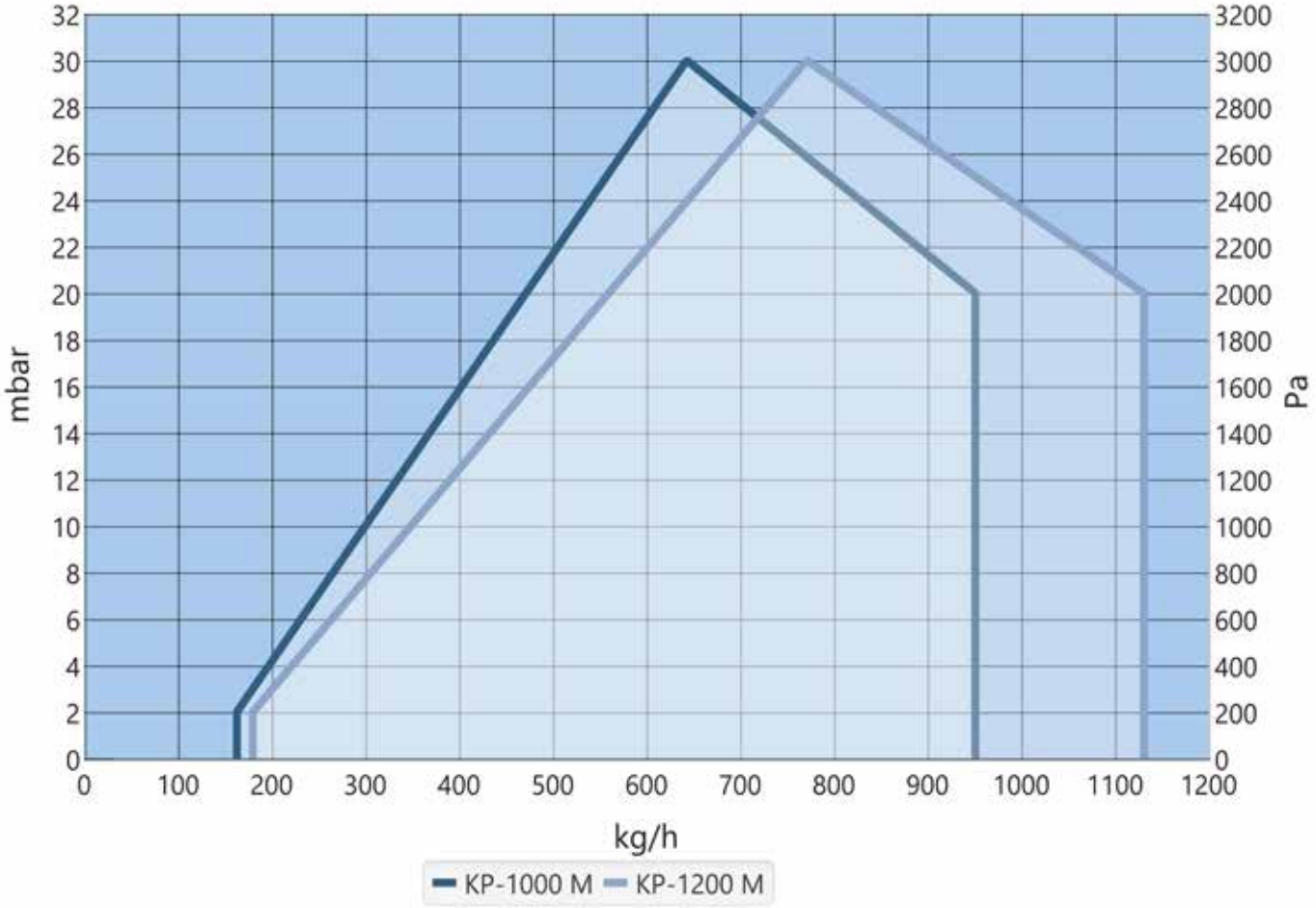


O= Oil inlet/return
E = Electrical connection
F = FGR - Flue Gas Recirculation

BURNER	L1	L2	L5	H1	H2	H3	H5	B1	B2	B4	ØD1
KP-1000 M	1600	434	1000	1470	1100	510	585	905	880	750	496
KP-1200 M	1600	434	1000	1470	1100	510	585	905	930	750	520

Dimensions in mm.

Working Diagram



Scope of Delivery KP-50...1200

	50...150 H	140...280	350...450	500...700	1000...1200
Hinge flange with limit switch	•	•	-	•	-
Burner flange gasket	•	•	•	•	•
WiseDrive (electronic ratio control) **	-	•	•	•	•
Ignition transformer	•	•	•	•	•
Ignition cables and electrodes	•	•	•	•	•
Flame sensor: - LMO/QRB - WD3x/QRA (intermittent operation) - WDx00/QRI (continuous operation)	 • - -	 - • -	 - • -	 - • •	 - - •
Inbuilt combustion air fan	•	•	•	•	•
Air damper with servomotor	•	•	•	•	•
Combustion head optimizer with servomotor, WDx00	-	-	-	•	-
Differential air pressure switch	-	•	•	•	•
Oil nozzle	-	•	•	•	•
Solenoid valves for oil	-	•	•	•	•
Oil pump with pressure regulation valve	-	•	•	•	-
Oil regulating valve with servomotor	-	-	•	•	•
Separate motor for oil pump	-	•	•	•	-
Pressure gauge/gauges for oil	-	•	•	•	•
Pressure switch for return oil	-	•	•	•	•
2 oil hoses, 1000mm (50/90 M), 2000mm (140…1200 M)	-	•	•	•	•
Oil filter	-	•	•	•	*
Manual	•	•	•	•	•

• Standard
*) Separate booster unit PKYK
**) See more information from Oilon WiseDrive –chapter.

Options:

	50...150 H	140...280	350...450	500...700	1000...1200
Fan pressure gauge	•	•	•	•	•
FGR equipment	-	•	•	•	•
Extended combustion head	•	•	•	•	-
Continuous operation, WD3x	-	•	•	•	-
VSD equipment	-	•	•	•	•
Deaerator for oil	-	•	•	•	-
Pressure gauge for monitoring of inlet oil pressure	-	•	•	•	•
Pressure switch for monitoring of inlet oil pressure	-	•	•	•	•
Oil pressure (nozzle and return) transmitter	-	•	•	•	•

Heavy Fuel Oil Burners

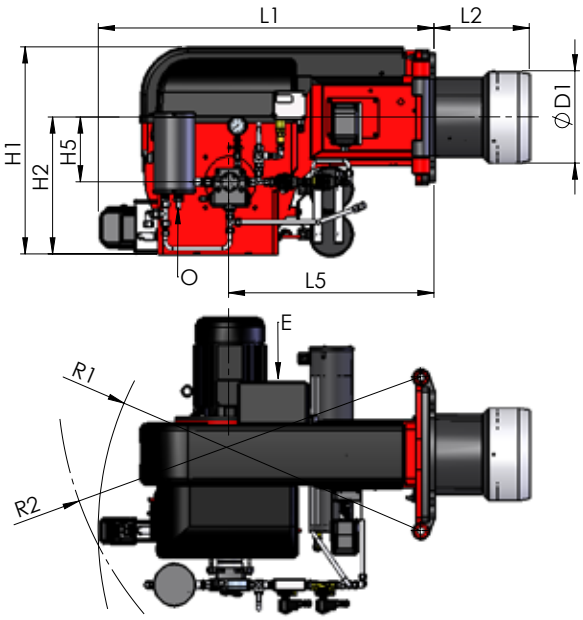
390 - 9500 kW

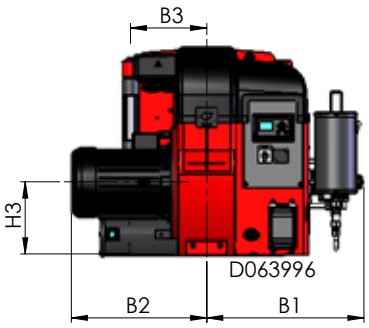
RP-130 M...280 M

Technical Data

BURNER	RP-130 M	RP-140 M	RP-150 M	RP-250 M	RP-280 M
Capacity kg/h kW	34 - 121 390 - 1370	50 - 180 560 - 2040	60 - 240 680 - 2700	58 - 230 650 - 2600	80 - 308 900 - 3500
Burner motor 3~ 400 V 50 Hz Output kW Current A Speed rpm	 3,0 5,6 2900	 4,0 7,2 2900	 5,5 9,8 2900	 7,5 13,0 2900	 7,5 13,0 2900
Oil hose connection - suction - return	 R ½" R ½"	 R ½" R ½"	 R ½" R ½"	 R ¾" R ½"	 R ¾" R ½"
Oil pump	E7	TAR2	TAR2	TAR3	TAR3
Preheater 3~ 400 V 50 Hz Capacity kW	 6	 6	 12	 12	 12
Control unit	WDx00	WDx00	WDx00	WDx00	WDx00
Weight kg	115	139	167	195	196

Dimensions



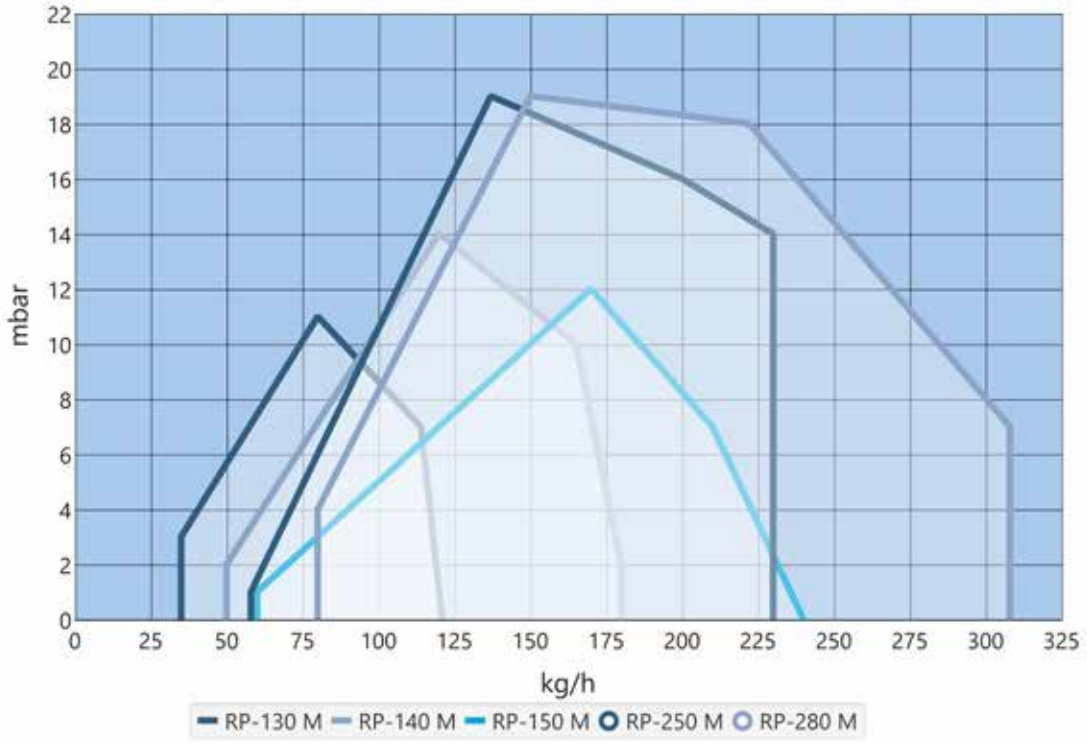


O= Oil inlet/return
E = Electrical connection

BURNER	L1	L2	L5	H1	H2	H3	H5	B1	B2	B3	ØD1	R1	R2
RP-130 M	1075	220	668	625	400	210	195	500	430	210	200	1030	1150
RP-140 M	1075	220	668	625	400	210	195	500	430	210	240	1030	1150
RP-150 M	1075	230	668	700	470	230	195	500	480	210	270	1030	1150
RP-250 M	1100	300	675	675	450	235	215	540	490	250	270	1050	1200
RP-280 M	1100	312	675	675	450	235	215	540	490	250	300	1050	1200

Dimensions in mm.

Working Diagram

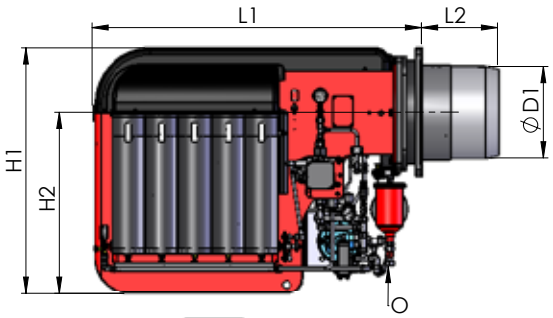


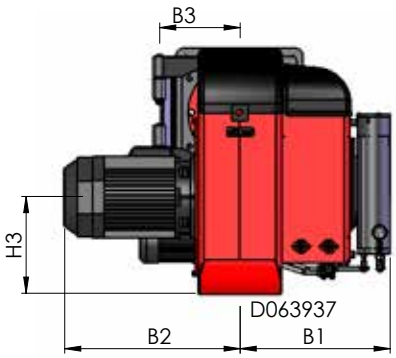
RP-300 M-II...700 M-II

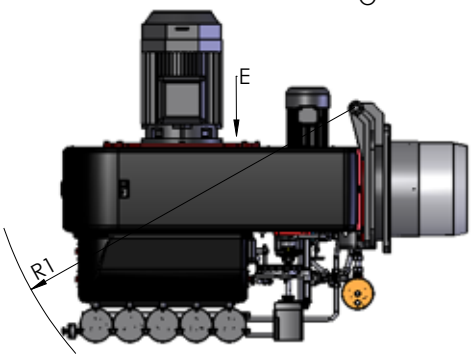
Technical Data

BURNER	RP-300 M-II	RP-400 M-I	RP-500 M	RP-600 M	RP-700 M	RP-700 M-II
Capacity kg/h kW	80 - 380 900 - 4200	110 - 420 1300 - 4700	140 - 535 1585 - 6060	125 - 600 1400 - 6750	170 - 710 1900 - 7900	170 - 850 1900 - 9500
Fan motor 3~ 400 V 50 Hz Output kW Current A Speed rpm	 7,5 13,0 2900	 11,0 19,5 2900	 11,0 19,5 2900	 15,0 26,0 2900	 18,5 34,0 2900	 22,0 38,0 2900
Oil hose connection - suction - return	 R 1" R ½"	 R 1" R ½"	 R 1" R ½"	 R 1" R ½"	 R 1" R ½"	 R 1" R ½"
Oil pump - Motor 3~ 400 V 50 Hz Output kW Current A Speed rpm	AFI10R46 1,5 3,2 2900	AFI10R56 2,2 4,4 2900	AFI10R56 2,2 4,4 2900	AFI20R38 2,2 4,4 2900	AFI20R56 4,0 4,4 2900	AFI20R56 4,0 4,4 2900
Preheater 3~ 400 V 50 Hz Output kW	 12	 18	 18	 18	 24	 30
Control unit	WDx00	WDx00	WDx00	WDx00	WDx00	WDx00
Weight kg	390	540	540	545	610	655

Dimensions





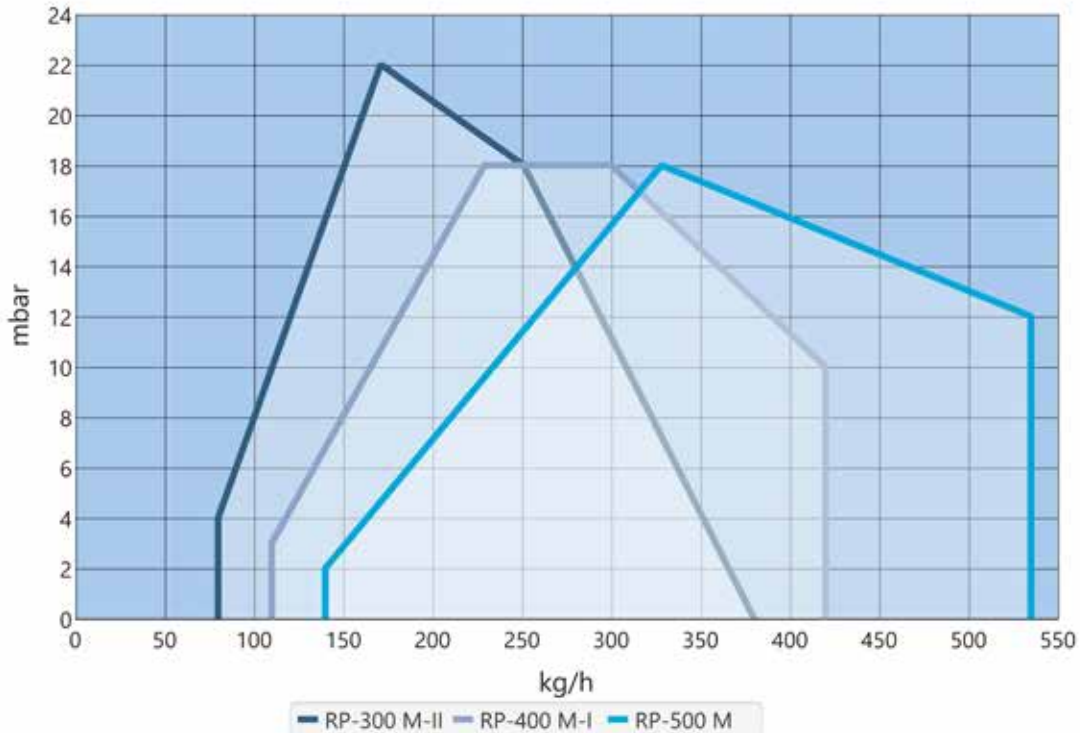


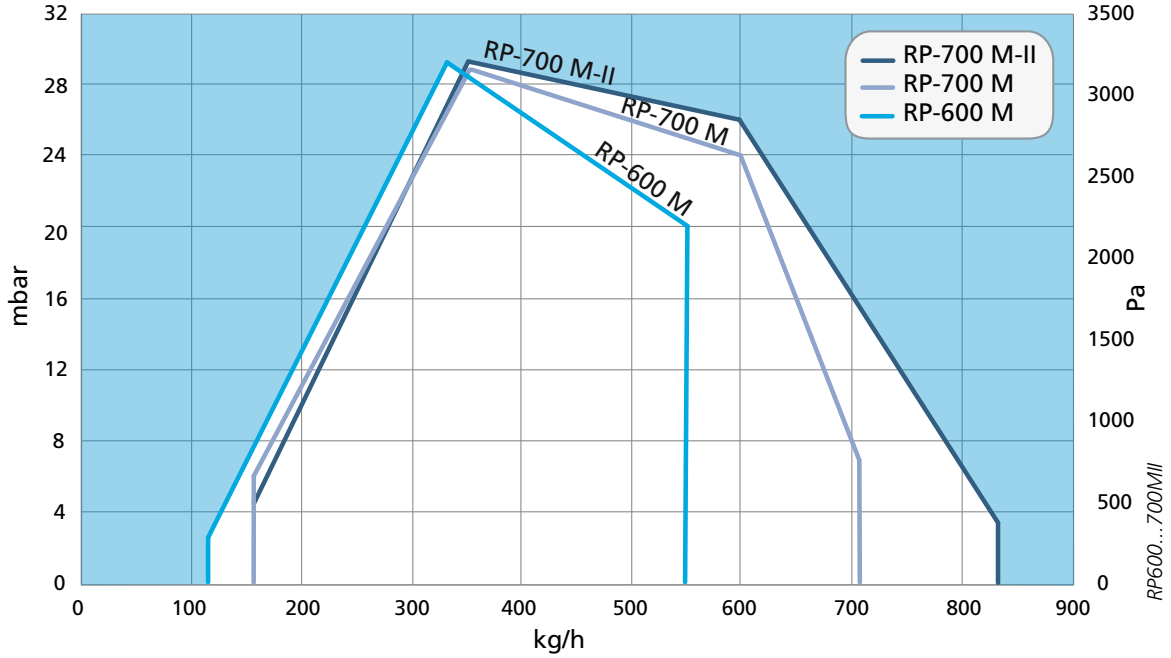
O= Oil inlet/return
E = Electrical connection

BURNER	L1	L2	H1	H2	H3	B1	B2	B3	ØD1	R1
RP-300 M-II	1350	200	925	665	360	590	580	300	300	1400
RP-400 M-I	1450	264	1060	780	420	655	640	350	340	1450
RP-500 M	1450	264	1060	780	420	655	640	350	340	1450
RP-600 M	1450	290	1060	780	420	655	640	350	370	1450
RP-700 M	1450	310	1060	780	420	655	730	350	395	1470
RP-700 M-II	1450	310	1060	780	420	655	765	350	395	1620

Dimensions in mm.

Working Diagram





Scope of Delivery RP-130...700

	130...280	300...700
Hinge flange with limit switch	•	•
Burner flange gasket	•	•
WiseDrive (electronic ratio control) *	•	•
Ignition transformer	•	•
Ignition cables and electrodes	•	•
Flame sensor: - WDx00/QRI (continuous operation)	•	•
Inbuilt combustion air fan	•	•
Air damper with servomotor	•	•
Combustion head optimizer with servomotor, WDx00	-	•
Oil nozzle	•	•
Solenoid valves for oil	•	•
Oil pump with pressure regulation valve	•	•
Oil regulating valve with servomotor	-	•
Separate motor for oil pump	•	•
Non-return valve	•	•
Pressure gauge/gauges for oil	•	•
Pressure switch for return oil	•	•
2 oil hoses, 2000 mm	•	•
Oil filter	•	•
Deaerator for oil	•	•
Heating cartridge for solenoid valve	•	•
Thermometer	•	•
Electric preheater incl: limit thermostat, temperature sensor	•	•
Manual	•	•

• Standard
*) See more information from Oilon WiseDrive –chapter.

Options:

	130...280	300...700
Fan pressure gauge	•	•
Continuous operation, WD3x	-	-
VSD equipment	•	•
Extended combustion head	•	•
Pressure gauge for monitoring of inlet oil pressure	•	•
Pressure switch for monitoring of inlet oil pressure	•	•
Oil pressure (nozzle and return) transmitter	•	•
Oil temperature (nozzle and return) transmitter	•	•
Heating cartridge for oil nozzle and oil pump	•	•
Electric trace heating for oil pipeline	•	•
Electric trace heating for oil hoses	•	•

Dual Fuel Burners
Gas/Heavy Fuel Oil

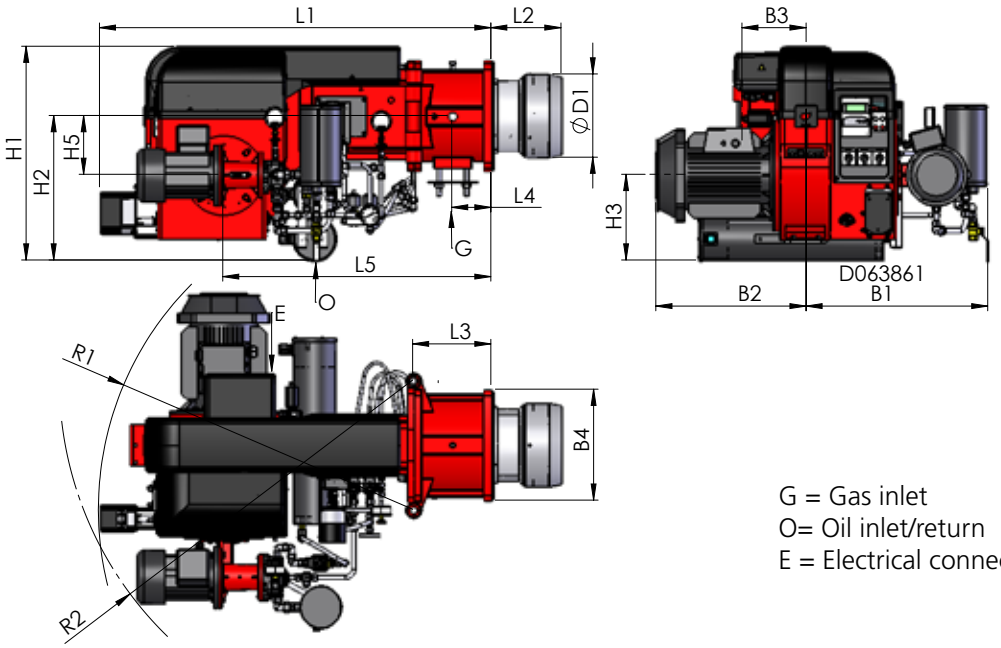
370 - 9500 kW

GRP-130 M...280 M

Technical Data

BURNER	GRP-130 M	GRP-140 M	GRP-150 M	GRP-250 M	GRP-280 M
Capacity oil, kg/h	34 - 132	50 - 180	60 - 240	58 - 230	80 - 308
oil, kW	390 - 1500	560 - 2040	680 - 2700	650 - 2600	900 - 3500
gas, kW	390 - 1500	410 - 2040	450 - 2700	370 - 2600	500 - 3500
Fan motor					
3~ 400 V 50 Hz					
Output kW	3,0	4,0	5,5	5,5	7,5
Current A	5,6	7,2	9,8	9,8	13,0
Speed rpm	2900	2900	2900	2900	2900
Oil hose connection					
- suction	R ½"	R ½"	R ½"	R ¾"	R ¾"
- return	R ½"	R ½"	R ½"	R ½"	R ½"
Oil pump	TAR2	TAR2	TAR2	TAR3	TAR3
- Motor 3~ 400 V 50 Hz					
Output kW	1,5	1,5	1,5	1,5	1,5
Current A	3,2	3,2	3,2	3,2	3,2
Speed rpm	2900	2900	2900	2900	2900
Preheater					
3~ 400 V 50 Hz					
Capacity kW	6	6	12	12	12
Control unit	WDx00	WDx00	WDx00	WDx00	WDx00
NOx class					
gas	1	1	1	1	1
Weight kg	167	174	198	233	238

Dimensions



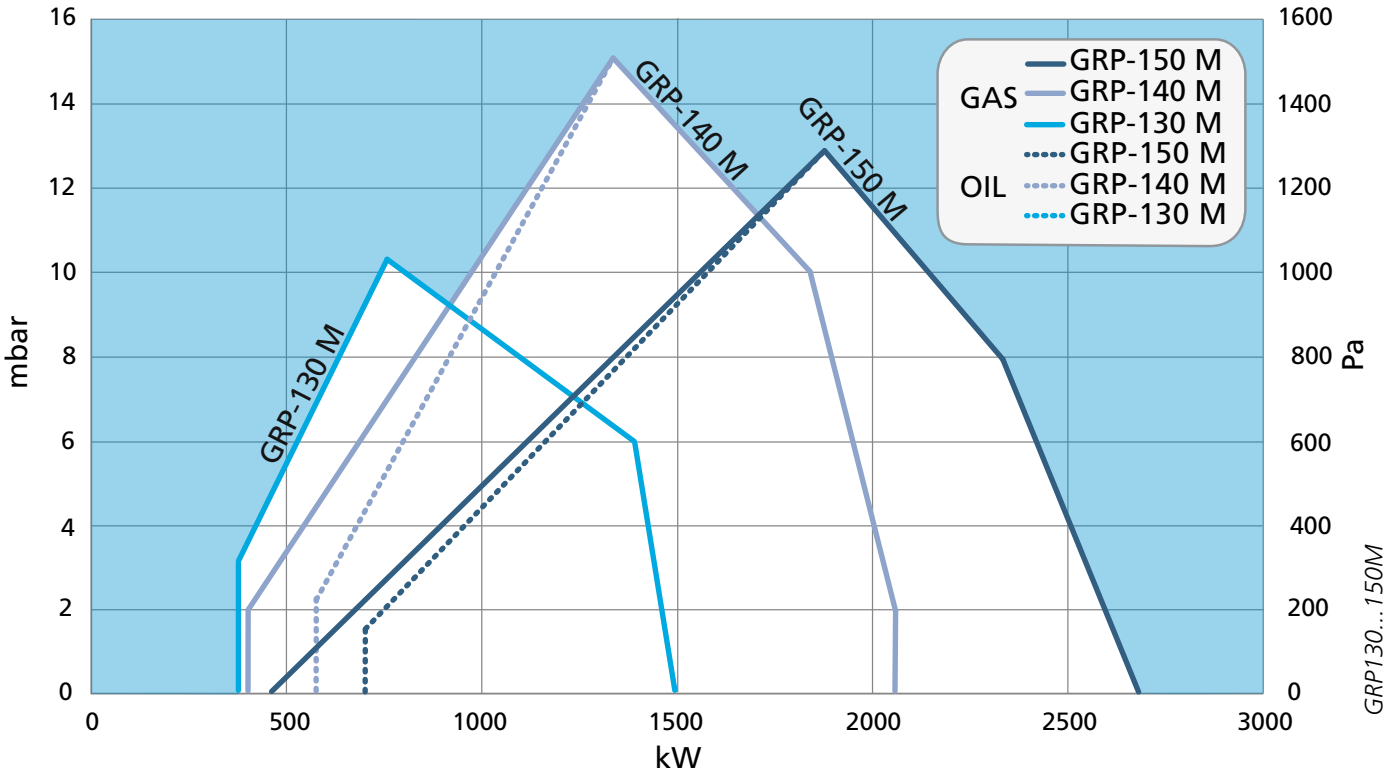
G = Gas inlet
O= Oil inlet/return
E = Electrical connection

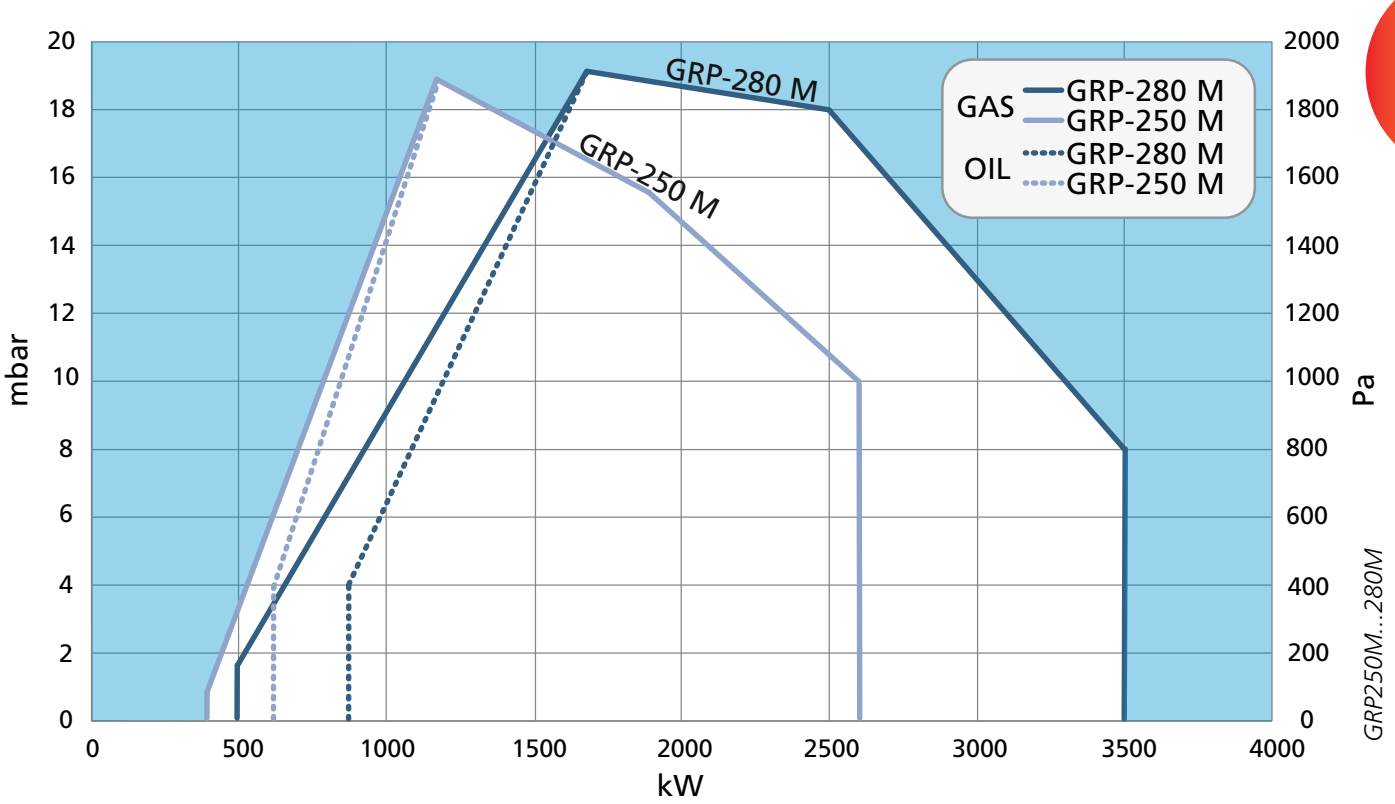
BURNER	L1	L2	L3	L4	L5	H1	H2	H3	H5
GRP-130 M	1285	200	260	129	880	625	400	210	195
GRP-140 M	1285	220	260	129	880	625	400	210	195
GRP-150 M	1285	230	260	129	880	700	470	230	195
GRP-250 M	1320	300	260	130	890	675	450	235	215
GRP-280 M	1320	312	260	130	890	675	450	235	215

BURNER	B1	B2	B3	B4	ØD1	R1	R2
GRP-130 M	600	430	210	360	200	1050	1160
GRP-140 M	600	430	210	360	240	1050	1160
GRP-150 M	600	480	210	360	270	1050	1160
GRP-250 M	635	490	250	440	270	1100	1200
GRP-280 M	635	490	250	440	300	1100	1200

Dimensions in mm.

Working Diagram



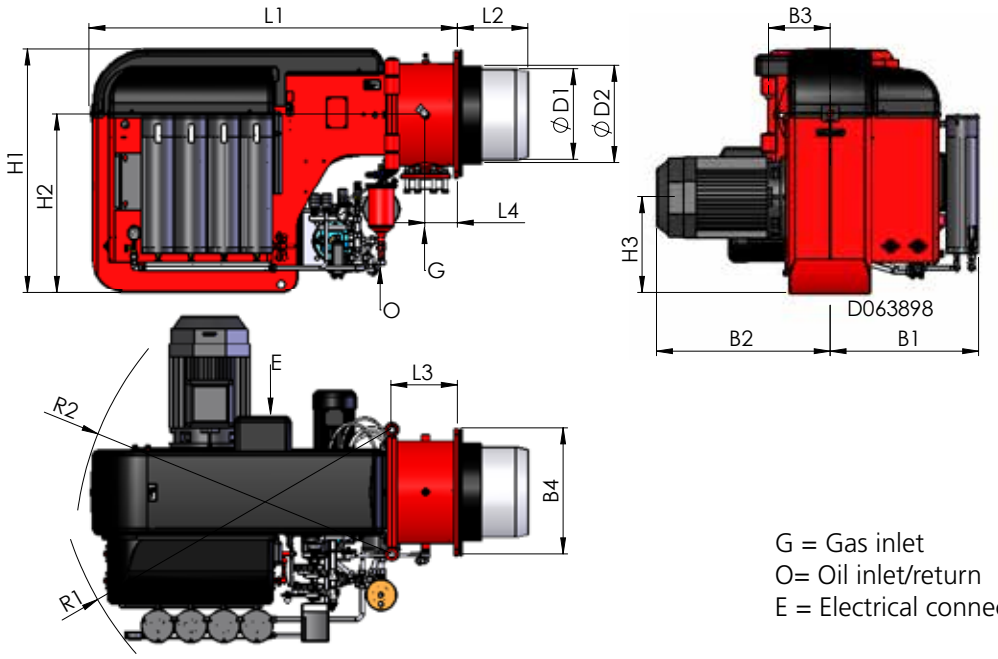


GRP-300 M-II...700 M-II

Technical Data

BURNER	GRP-300 M-II	GRP-400 M-I	GRP-500 M	GRP-600 M	GRP-700 M	GRP-700 M-II
Capacity oil, kg/h oil, kW gas, kW	80 - 380 900 - 4200 900 - 4200	110 - 420 1300 - 4700 1300 - 4700	140 - 535 1585 - 6050 1585 - 6050	125 - 600 1400 - 6750 1400 - 6750	170 - 710 1900 - 7900 1900 - 7900	170 - 850 1900 - 9500 1900 - 9500
Fan motor 3~ 400 V 50 Hz Output kW Current A Speed rpm	 7,5 13,0 2900	 11,0 19,5 2900	 11,0 19,5 2900	 15,0 26,0 2900	 18,5 34,0 2900	 22,0 38,0 2900
Oil hose connection - suction - return	 R 1" R ½"	 R 1" R ½"	 R 1" R ½"	 R 1" R ½"	 R 1" R ½"	 R 1" R ½"
Oil pump - Motor 3~ 400 V 50 Hz Output kW Current A Speed rpm	AFI10R46 1,5 3,2 2900	AFI10R56 2,2 4,4 2900	AFI10R56 2,2 4,4 2900	AFI20R38 2,2 4,4 2900	AFI120R56 4,0 7,2 2900	AFI20R56 4,0 7,2 2900
Preheater 3~ 400 V 50 Hz Capacity kW	 12	 18	 18	 18	 24	 30
Control unit	WDx00	WDx00	WDx00	WDx00	WDx00	WDx00
NOx class gas	 1	 1	 1	 1	 1	 1
Weight kg	440	570	575	590	660	710

Dimensions

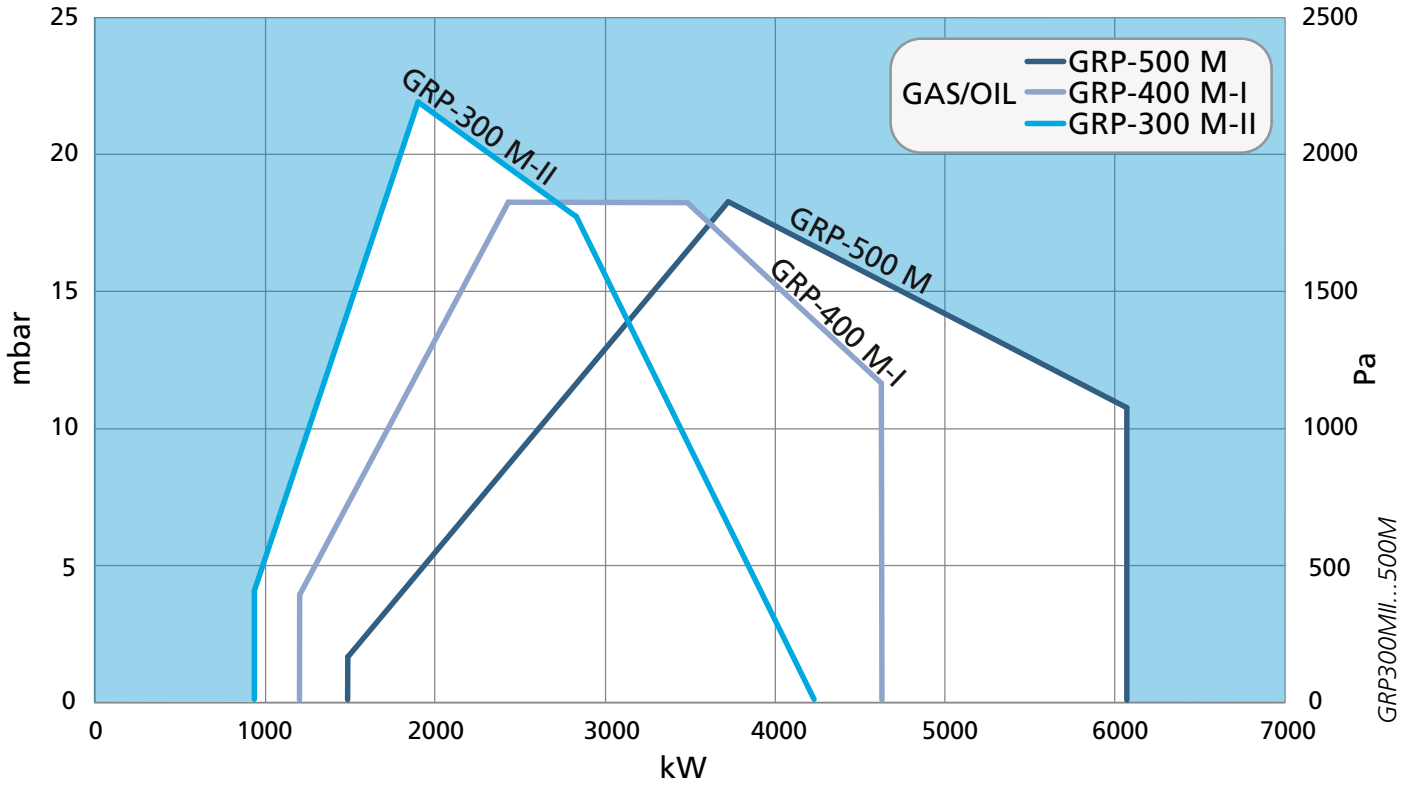


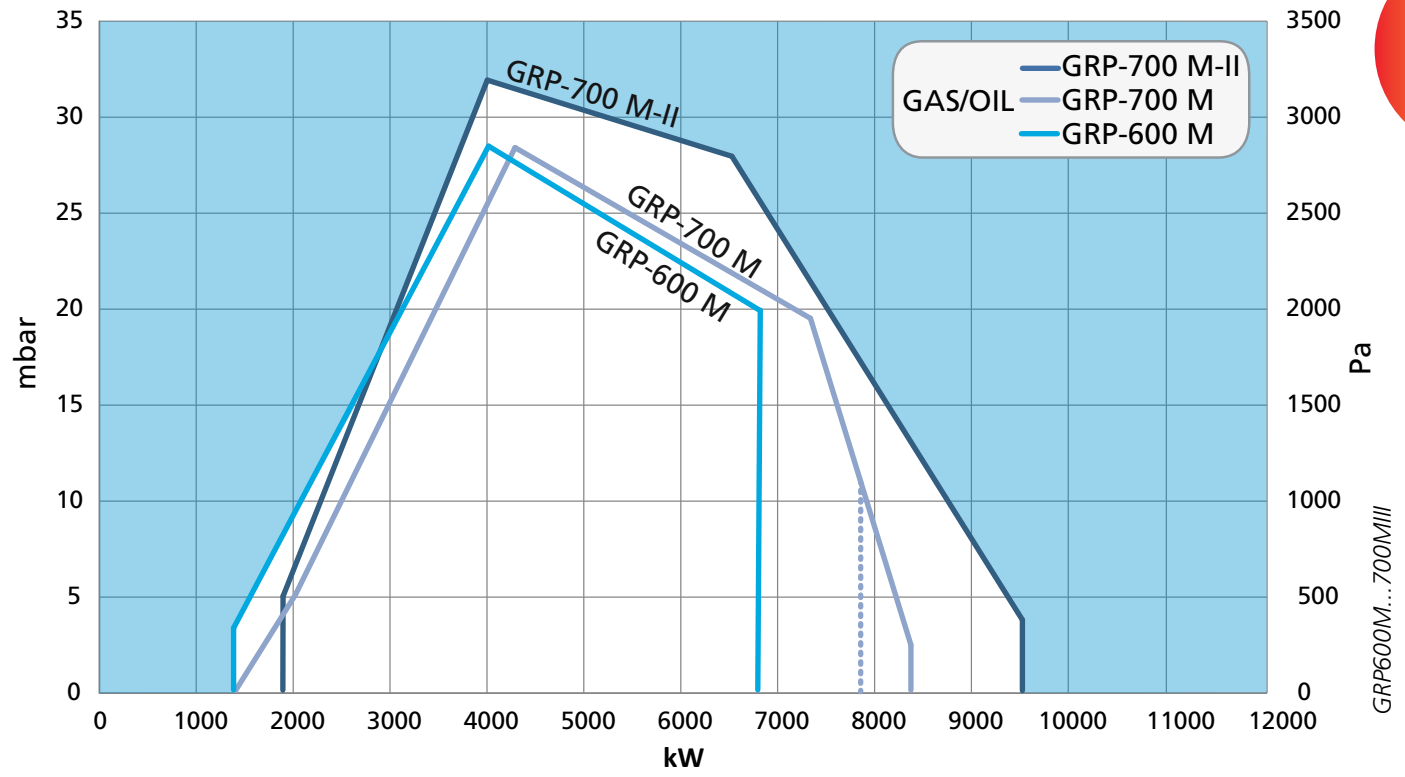
G = Gas inlet
O= Oil inlet/return
E = Electrical connection

Dimensions in mm.

Burner	L1	L2	L3	L4	H1	H2	H3	B1	B2	B3	B4	ØD1	ØD2	R1	R2
GRP-300 M-II	1500	246	270	135	900	640	360	590	580	225	450	320	-	1400	1300
GRP-400 M-I	1620	290	295	145	1065	780	420	655	630	270	550	370	425	1500	1400
GRP-500 M	1620	290	295	145	1065	780	420	655	630	270	550	370	425	1500	1400
GRP-600 M	1620	310	295	145	1065	780	420	655	630	270	550	395	425	1500	1400
GRP-700 M	1620	310	295	145	1065	780	420	655	730	270	550	395	425	1500	1400
GRP-700 M-II	1620	310	295	145	1065	780	420	655	765	270	550	395	425	1500	1400

Working Diagram





Scope of Delivery GRP-130...700

	130...280	300...700
Hinge flange with limit switch	•	•
Burner flange gasket	•	•
WiseDrive (electronic ratio control) *	•	•
Ignition transformer	•	•
Ignition cables and electrodes	•	•
Flame sensor: - WDx00/QRI (continuous operation)	•	•
Inbuilt combustion air fan	•	•
Air damper with servomotor	•	•
Combustion head optimizer with servomotor, WDx00	-	•
Gas damper with servomotor	•	•
Gas nozzle	•	•
Connection for measuring the pressure in gas nozzle	•	•
Gas pressure switch, max.	•	•
Differential air pressure switch	•	•
Elbow 90°	•	•
Double solenoid valve for gas	•	•
Pressure regulation valve for gas: - DMV valve - VGD valve	 - •	 - •
Ignition gas valve and piping	-	•
Pressure switch for gas, min.	•	•
Automatic valve leak testing for gas	•	•
Oil nozzle	•	•
Solenoid valves for oil	•	•
Oil pump with pressure regulation valve	•	•
Oil regulating valve with servomotor	•	•
Separate motor for oil pump	•	•
Non-return valve	•	•
Pressure gauge/gauges for oil	•	•
Pressure switch for return oil	•	•
2 oil hoses, 2000 mm	•	•
Oil filter	•	•
Deaerator for oil	•	•
Heating cartridge for solenoid valve	•	•
Thermometer	•	•
Electric preheater incl: limit thermostat, temperature sensor	•	•
Manual	•	•

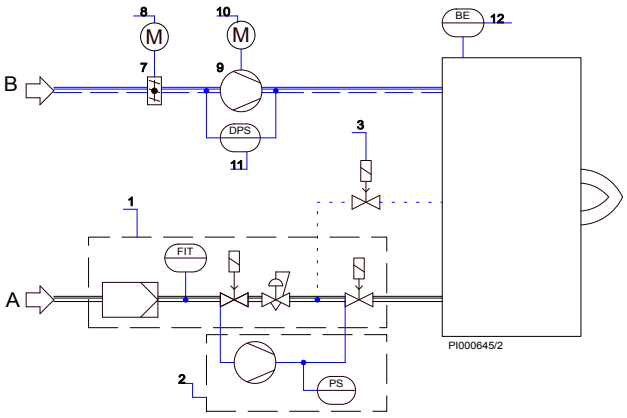
• Standard
*) See more information from Oilon WiseDrive –chapter.

Options:

	130...280	300...700
Fan pressure gauge	•	•
Continuous operation, WD3x	-	-
VSD equipment	•	•
Extended combustion head	•	•
Ignition gas valve and piping	•	-
Gas pressure gauge	•	•
LPG gas nozzle	•	•
Pressure gauge for monitoring of inlet oil pressure	•	•
Pressure switch for monitoring of inlet oil pressure	•	•
Oil pressure (nozzle and return) transmitter	•	•
Oil temperature (nozzle and return) transmitter	•	•
Heating cartridge for oil nozzle and oil pump	•	•
Electric trace heating for oil pipeline	•	•
Electric trace heating for oil hoses	•	•

PI Diagrams

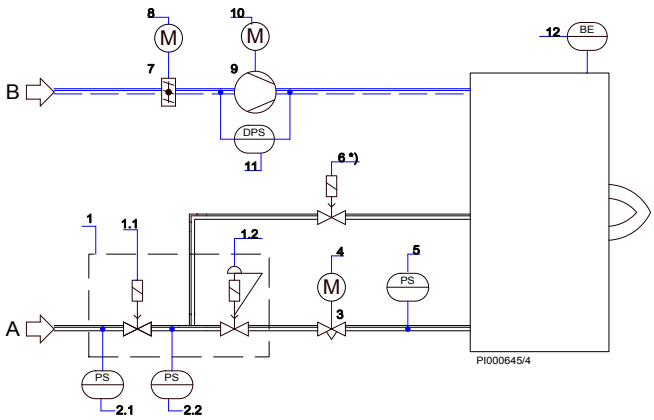
GAS, MB-ZRDLE, H BURNERS



1. Gas valve
   - filter
   - pressure switch min.
   - main gas valve
   - pressure regulator
   - gas valve, 2-stage
2. Valve leak tester (burner capacity > 1200 kW)
3. Solenoid valve, ignition gas, on request
7. Air damper
8. Servomotor
9. Combustion air fan
10. Electric motor
11. Differential air pressure switch
12. Flame detector

A = Gas supply
B = Air supply

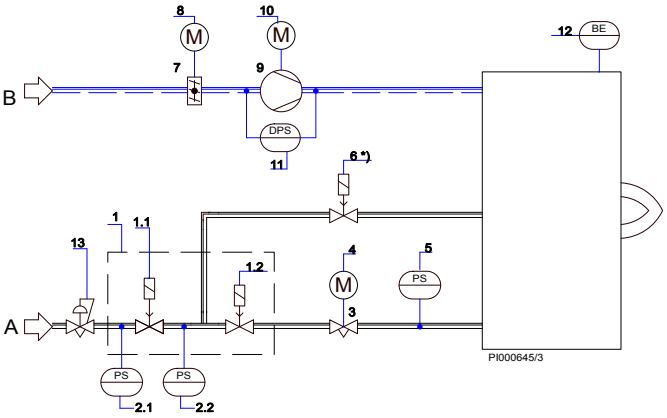
GAS, VGD VALVE, M BURNERS



1. Double solenoid valve
   1.1 Solenoid valve
   1.2 Pressure regulation valve
2. Pressure switch
   2.1 Pressure switch (only burner type WDx00)
   2.2 Pressure switch (burner types WDx00 and WD3x)
3. Gas butterfly valve
4. Servomotor
5. Pressure switch, max.
6. Solenoid valve, ignition gas,
   *) depends on burner`s type
7. Air damper
8. Servomotor
9. Combustion air fan
10. Electric motor
11. Differential air pressure switch
12. Flame detector

A = Gas supply
B = Air supply

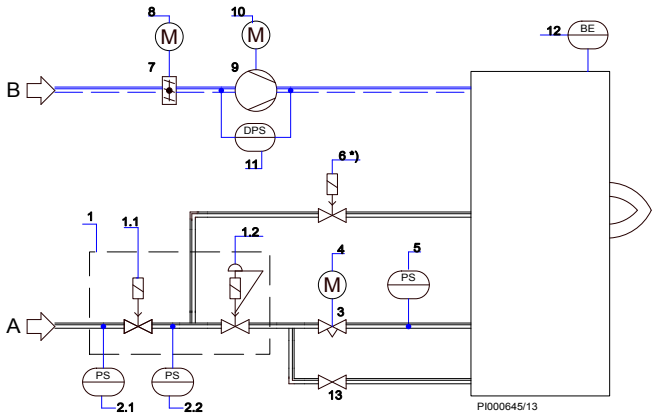
GAS, DMV VALVE, M BURNERS



1. Double solenoid valve
   1.1 Solenoid valve
   1.2 Solenoid valve
2. Pressure switch
   2.1 Pressure switch (only burner type WDx00)
   2.2 Pressure switch (burner types WDx00 and WD3x)
3. Gas butterfly valve
4. Servomotor
5. Pressure switch, max.
6. Solenoid valve, ignition gas,
   *) depends on burner`s type
7. Air damper
8. Servomotor
9. Combustion air fan
10. Electric motor
11. Differential air pressure switch
12. Flame detector
13. Pressure regulator (EN88-1), option

A = Gas supply line
B = Air supply line

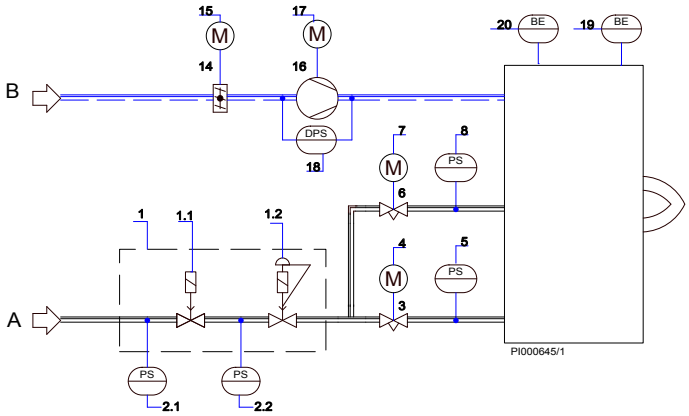
GAS, VGD VALVE, M LN30 BURNERS



1. Double solenoid valve
   1.1 Solenoid valve
   1.2 Pressure regulation valve
2. Pressure switch
   2.1 Pressure switch (burner type WDx00)
   2.2 Pressure switch (burner types WDx00 and WD3x)
3. Gas butterfly valve
4. Servomotor
5. Pressure switch, max.
6. Solenoid valve, ignition gas (depends on burner type)
7. Air damper
8. Servomotor
9. Combustion air fan
10. Electric motor
11. Differential air pressure switch
12. Flame detector
13. Hand valve, stabilization gas

A = Gas supply
B = Air supply

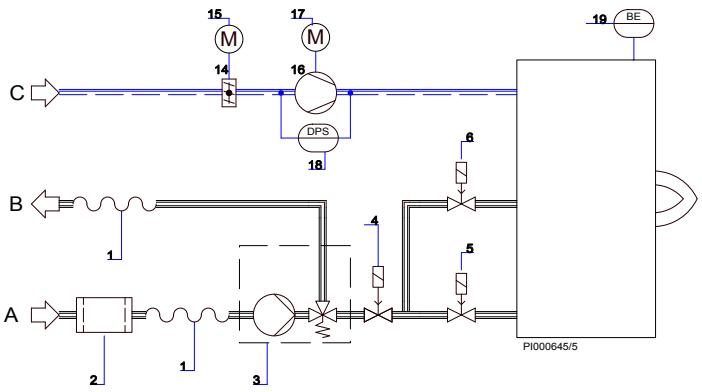
GAS, VGD VALVE, M LN60 BURNERS



1. Double solenoid valve
   1.1 Solenoid valve
   1.2 Pressure regulation valve
2. Pressure switch
   2.1 Pressure switch (burner type WDx00)
   2.2 Pressure switch (burner types WDx00 and WD3x)
3. Gas butterfly valve, primary gas
4. Servomotor, primary gas
5. Pressure switch, max., primary gas
6. Gas butterfly valve, tertiary gas
7. Servomotor, tertiary gas
8. Pressure switch, max., tertiary gas
14. Air damper
15. Servomotor
16. Combustion air fan
17. Electric motor
18. Differential air pressure switch
19. Flame detector
20. Flame detector

A = Gas supply
B = Air supply

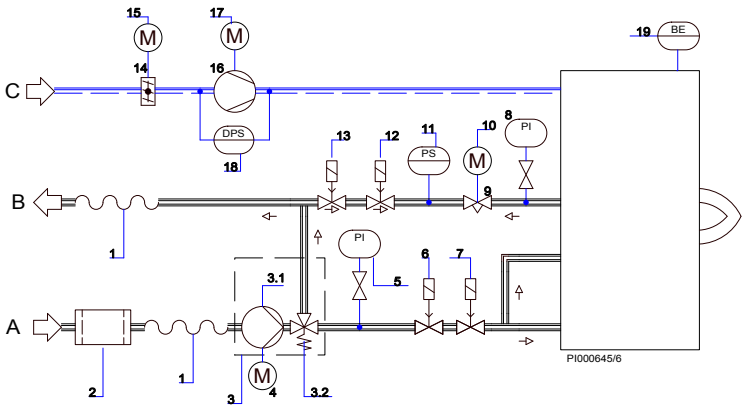
LIGHT FUEL OIL, H BURNERS



1. Oil hose, loose delivery
2. Oil filter, loose delivery
3. Oil pump
4. Solenoid valve, NC
5. Solenoid valve, NC
6. Solenoid valve, NC
14. Air damper
15. Servomotor
16. Combustion air fan
17. Electric motor
18. Differential air pressure switch, not for KP-50...150 H burners
19. Flame detector

A = Oil supply 0...5 bar
B = Oil return
C = Air supply

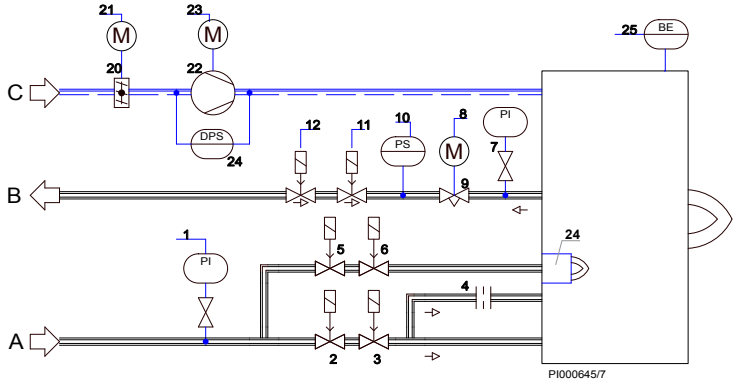
LIGHT FUEL OIL, M BURNER SERIES 140...700



1. Oil hose, loose delivery
2. Oil filter, loose delivery
3. Oil pump
   3.1 Oil pump
   3.2 Oil regulation valve
4. Electric motor
5. Pressure gauge
6. Solenoid valve 1, NC (115 v)
7. Solenoid valve 2, NC (115 v)
8. Pressure gauge
9. Oil regulator valve
10. Servomotor
11. Pressure switch
12. Solenoid valve 1, NC (115 v)
13. Solenoid valve 2, NC (115 v)
14. Air damper
15. Servomotor
16. Combustion air fan
17. Electric motor
18. Differential air pressure switch, not for KP-130...280 M burners
19. Flame detector

A = Oil supply 0...5 bar
B = Oil return
C = Air supply

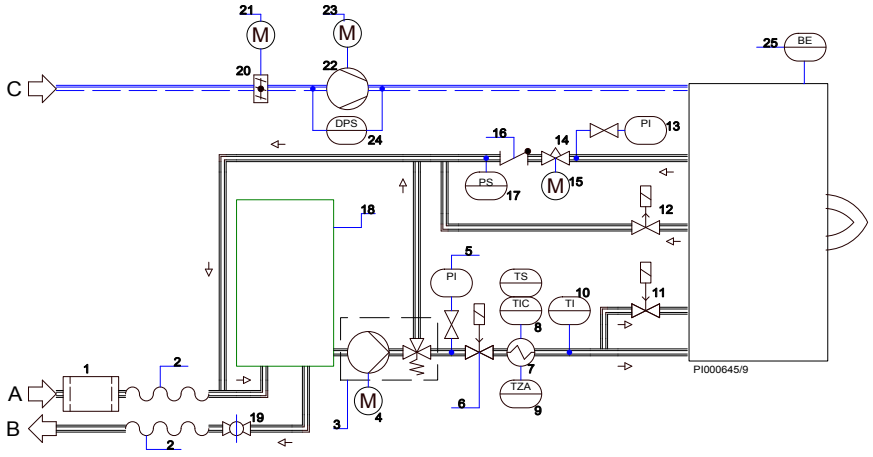
LIGHT FUEL OIL, M BURNER SERIES 1000/1200



1. Pressure gauge
2. Solenoid valve 1, NC (115V)
3. Solenoid valve 2, NC (115V)
4. Throttle plug
5. Solenoid valve, ignition oil, NC
6. Solenoid valve, ignition oil, NC
7. Pressure gauge
8. Servomotor
9. Oil regulator valve
10. Pressure switch
11. Solenoid valve 1, NC (115V)
12. Solenoid valve 2, NC (115V)
20. Air damper
21. Servomotor
22. Combustion air fan
23. Electric motor
24. Differential air pressure switch
25. Flame detector

A = Oil supply
B = Oil return
C = Air supply

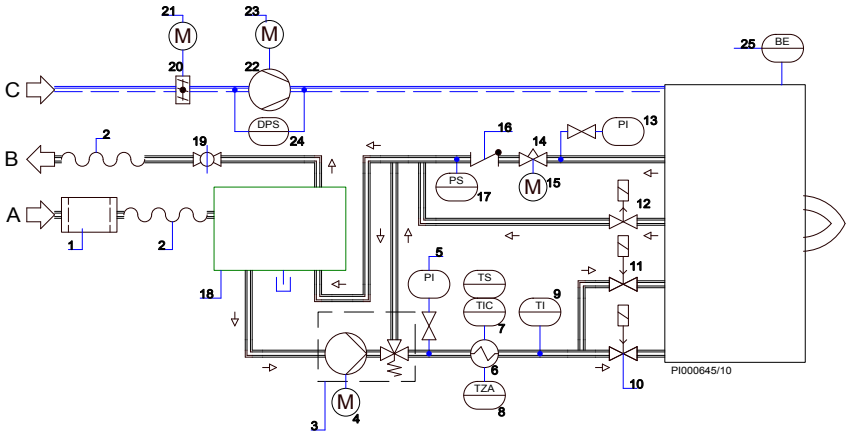
HEAVY FUEL OIL, M BURNER SERIES 130...280



1. Oil filter, loose delivery
2. Oil hose, loose delivery
3. Oil pump, plugged
4. Electric motor
5. Pressure gauge
6. Solenoid valve, NC
7. Preheater
8. Temperature regulation / lower limit
9. Limit thermostat
10. Thermometer
11. Solenoid valve, NC
12. Solenoid valve, NO
13. Pressure qauge
14. Oil regulator valve
15. Servomotor
16. Non-return valve
17. Pressure switch, max.
18. Deaerator
19. Drilled ball valve
20. Air damper
21. Servomotor
22. Combustion air fan
23. Electric motor
24. Differential air pressure switch, only GRP burners
25. Flame detector

A = Oil supply
B = Oil return
C = Air supply

HEAVY FUEL OIL, M BURNER SERIES 300...700

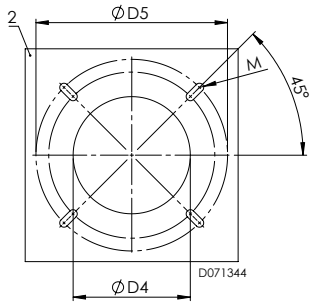


1. Oil filter, loose delivery
2. Oil hose, loose delivery
3. Oil pump, plugged
4. Electric motor
5. Pressure gauge
6. Preheater
7. Temperature regulation / lower limit
8. Limit thermostat
9. Thermometer
10. Solenoid valve, NC
11. Solenoid valve, NC
12. Solenoid valve, NO
13. Pressure qauge
14. Oil regulator valve
15. Servomotor
16. Non-return valve
17. Pressure switch, max.
18. Deaerator
19. Drilled ball valve
20. Air damper
21. Servomotor
22. Combustion air fan
23. Electric motor
24. Differential air pressure switch
25. Flame detector

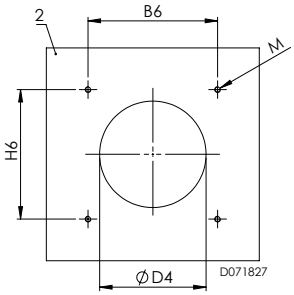
A = Oil supply
B = Oil return
C = Air supply

Combustion head and masonry dimensions

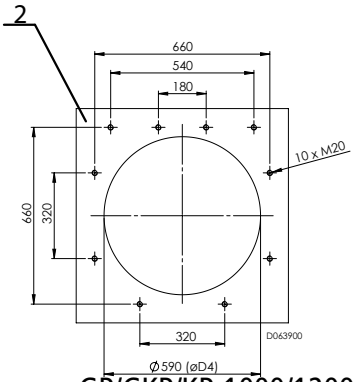
Mounting plate



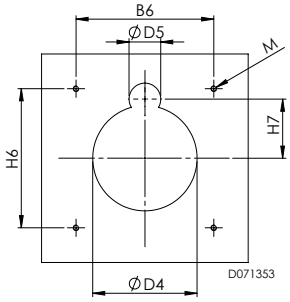
GP/GKP-50 H/M/MH



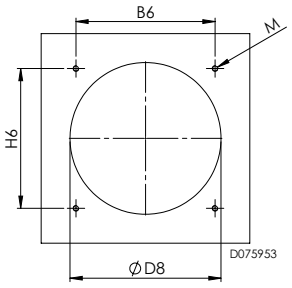
KP-50 H...-700M-II
GP/GKP-80M/MH...-700 M-III
RP/GRP-130 M...-700 M-II



GP/GKP/KP-1000/1200 M



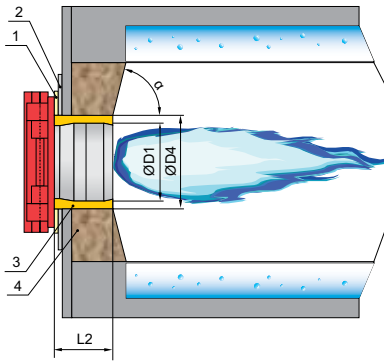
LN30 (For standard mounting)
Masonry opening corresponds to the mounting plate dimensions.



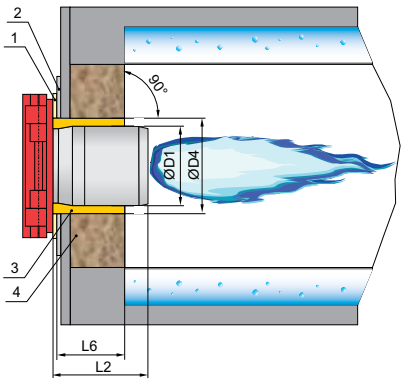
LN30
(For recommended mounting)

Dimensions in mm.

Burner mounting

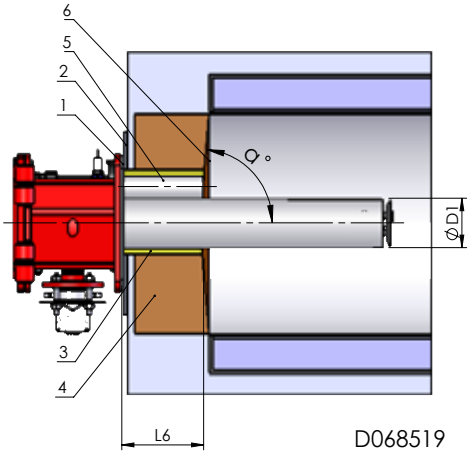


Standard burner

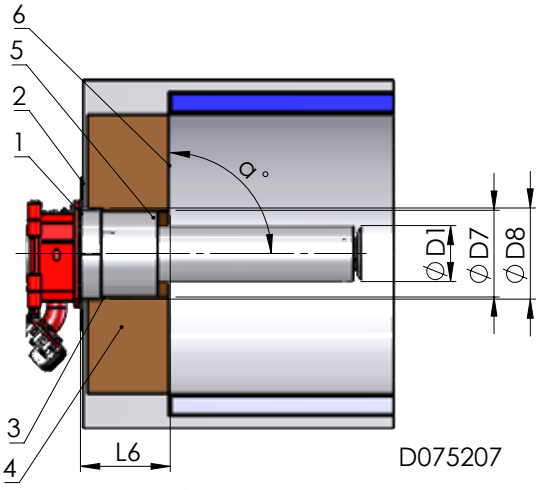


Low NOx burner LN60/LN80

1. Gasket, thickness 8 mm
2. Mounting plate
3. Ceramic wool or equivalent
4. Masonry



Low NOx burner LN30
(Standard mounting)
Masonry opening corresponds to the mounting plate dimensions.



Low NOx burner LN30
(Recommended mounting)

1. Gasket, thickness 8 mm
2. Mounting plate
3. Ceramic wool or equivalent
4. Masonry
5. Flame detector sight pipe
6. Boiler wall edge

Standard combustion head mounting dimensions

BURNER SERIE	B6	H6	ØD4	ØD5	M	ØD1	L2	α
KP-50 H	175	110	165	-	4xM10	160	160/240	60° - 90°
GP/GKP-50 H/M/MH	-	-	165	234-270	4xM10	160	240/300	60° - 90°
KP-90 H	216	216	210	-	4xM10	200	250/400	60° - 90°
GP/GKP/KP-80/90 M/MH	216	216	210	-	4xM10	200	300/400	60° - 90°
GP/GKP/KP/RP/GRP-130 H/M/MH	275	275	230	-	4xM16	200	200	60° - 90°
GP/GKP/KP/RP/GRP-140 H/M/MH	275	275	270	-	4xM16	240	220	60° - 90°
GP/GKP/KP/RP/GRP-150 H/M/MH	275	275	300	-	4xM16	270	230	60° - 90°
KP/RP-250 M	365	365	300	-	4xM16	270	300	60° - 90°
GP/GKP/GRP-250 M/MH	365	365	300	-	4xM16	270	300	60° - 90°
KP/RP-280 M	365	365	330	-	4xM16	300	312	60° - 90°
GP/GKP/GRP-280 M/MH	365	365	330	-	4xM16	300	312	60° - 90°
GP/GKP/KP-350 M	400	400	380	-	4xM20	320	350	60° - 90°
GP/GKP/KP-450 M	465	465	440	-	4xM20	370	350	60° - 90°
RP-300 M-II	365	365	320	-	4xM20	300	200	60° - 90°
GRP-300 M-II	365	365	380	-	4xM20	320	246	60° - 90°
RP-400 M-I	465	465	400	-	4xM20	340	264	60° - 90°
GRP-400 M-I	465	465	440	-	4xM20	370	290	60° - 90°
GP/GKP/GRP-500 M	465	465	440	-	4xM20	370	290	60° - 90°
KP/RP-500 M	465	465	400	--	4xM20	340	264	60° - 90°
GP/GKP/GRP-600 M	465	465	455	-	4xM20	395	310	60° - 90°
KP/RP-600 M	465	465	430	-	4xM20	370	290	60° - 90°
GP/GKP/GRP-700 M	465	465	455	-	4xM20	395	310	60° - 90°
KP/RP-700 M	465	465	455	-	4xM20	395	310	60° - 90°
GP/GKP/GRP-700 M-II	465	465	455	-	4xM20	395	310	60° - 90°
KP/RP-700 M-II	465	465	455	-	4xM20	395	310	60° - 90°
GP/GKP-700 M-III	465	465	480	-	4xM20	425	400	60° - 90°
GP/GKP/KP-1000 M	See figure mounting plate 1000/1200					496	434	60° - 90°
GP/GKP/KP-1200 M	See figure mounting plate 1000/1200					520	434	60° - 90°

Dimensions in mm.

Low NOx combustion head mounting dimensions, LN60/LN80

There are 1-2 combustion head length options (C1, C2) for each burner model. Choose correct combustion head lenght according to the boiler front wall thickness (L6). The front wall thicknesses are labeled in ranges with corresponding combustion head lengths (L2) in the table below.

						L2		L6	
BURNER SERIE	B6	H6	ØD4	M	ØD1	C1	C2	C1	C2
GP/GKP-140 M LN80	275	275	270	4xM16	240	-	430	-	240-380
GP/GKP-250 M LN80	365	365	290	4xM16	256	420	550	240-365	365-495
GP-280 M LN80	365	365	310	4xM16	276	420	550	240-365	365-495
GP/GKP-320 M LN80	400	400	360	4xM20	302	-	500	-	260-440
GP-350 M LN80	400	400	380	4xM20	324	-	480	-	260-440
GP/GKP-450 M LN80	465	465	380	4xM20	324	-	480	-	260-440
GP/GKP-600 M LN80	465	465	455	4xM20	384	-	530	-	260-440
GP/GKP-700 M-II LN80	465	465	455	4xM20	406	-	530	-	260-440
GP/GKP-700 M-III LN80	465	465	446	4xM20	406	-	610	-	290-535
GP-600 M LN60	465	465	420	4xM20	408	-	530	-	260-449
GP-700 M-III LN60	465	465	502	4xM20	420	-	610	-	290-522
GP-1000 LN80	See figure mounting plate 1000/1200				454	-	650	-	290-570

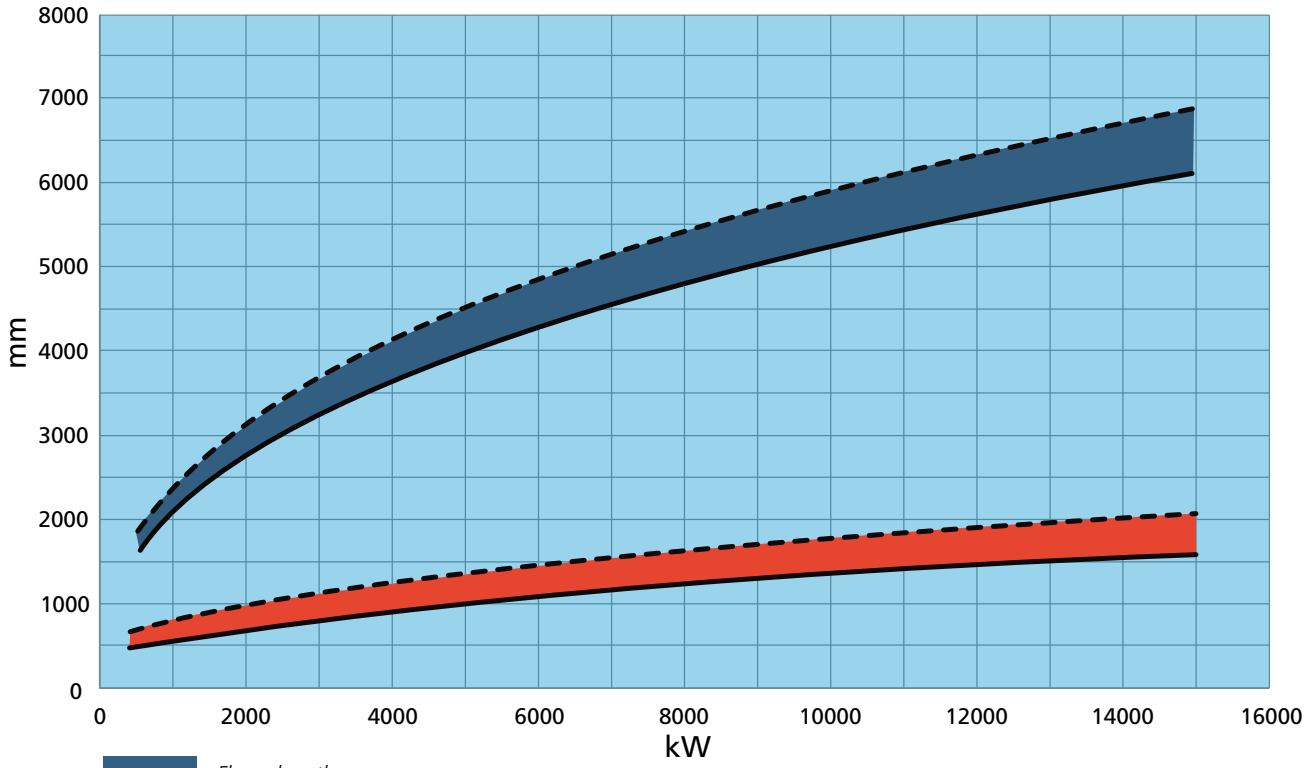
Dimensions in mm.

Low NOx combustion head mounting dimensions, LN30

									L6 max			
BURNER SERIE	B6	H6	H7	ØD1	ØD4	ØD5	ØD8	ØD7	Standard	Extended	M	α
GP-130 M LN30	275	275	95	129	160	92	285	265	250	500	4xM16	90°
GP-250 M LN30	365	365	136	205	236	92	366	346	250	500	4xM16	90°
GP-320 M LN30	400	400	161	256	284	92	416	396	300	500	4xM20	90°
GP-600 M LN30	465	465	170	273	301	92	433	413	300	500	4XM20	90°

Dimensions in mm.

Flame dimensions for standard combustion head

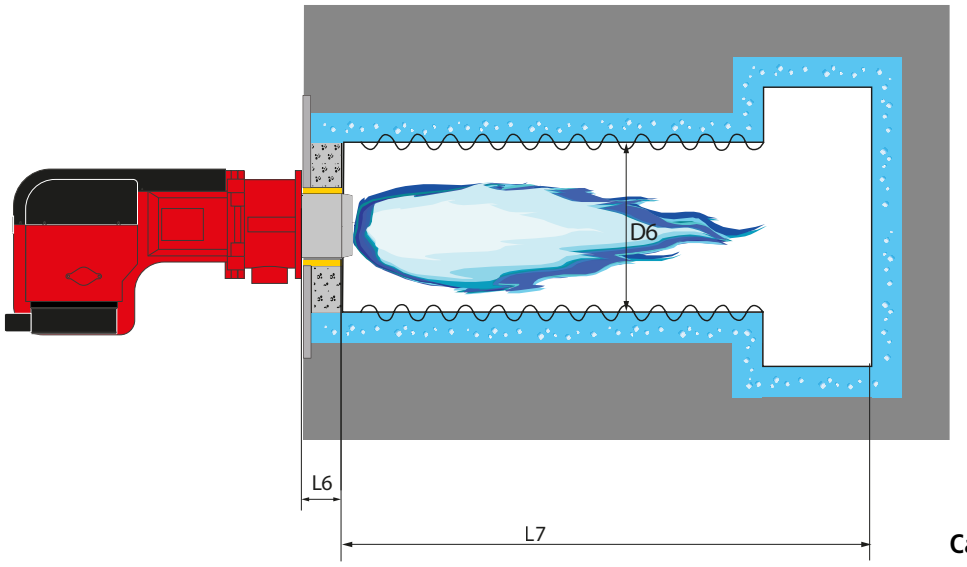


_____ *Lower diagrams for NG and LFO, _ _ _ _ _ upper diagrams for HFO.*

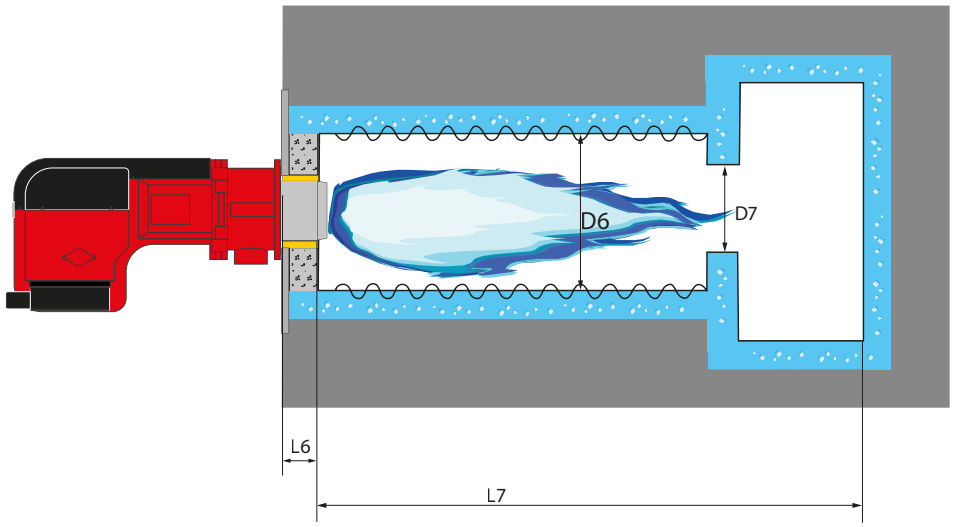
The diagram shows the flame dimension of an Oilon burner in a regular firetube boiler.

Combustion chamber dimensions for LN60 and LN80 burners

Case 1



Case 2



Minimum dimensions to meet EN676 class 3 NOx emissions (LN80) and FprEN676 class 4 NOx emissions (LN60).

BURNER SERIE	GP-600 M LN60	GP-700 M-III LN60	GP/ GKP-140 M LN80	GP/ GKP-250 M LN80	GP-280 M LN80	GP/ GKP-320 M LN80	GP/ GKP-350 M LN80	GP-450 M LN80	GP/GKP-600 M LN80	GP/GKP-700 M-II LN80	GP-700 M-III LN80	GP-1000 M LN80
D6 minimum *	1100	1190	680	750	800	890	950	980	1150	1200	1260	1370
D6 minimum **	1150	1240	720	800	850	940	1000	1040	1220	1270	1340	1460
L7 minimum ***	4600	5000	2500	2900	3200	3500	3800	4500	5000	5200	5500	5900

Dimensions in mm.

D7 minimum ≥ D6 * 0.7

L6 is an overall boiler front wall thickness, including refractory, steel front wall and a possible burner mounting plate.

* For hot water boiler (medium temperature max. +130°).

** For steam boiler (medium temperature max +210°C).

*** May require longer furnace, if diameter is very wide.

Fuels: Natural gas, 2nd family gases, groups H and E (equipment category I_{2R}).

Combustion chamber dimensions for LN30 burners

BURNER	GP-130 M LN30	GP-250 M LN30	GP-320 M LN30	GP-600 M LN30
Suitable furnace inner diameter, mm	450 - 700	650 - 990	825 - 1300	1100 - 1600
Minimum furnace lenght, mm*	2150	2500	3000	3500

*) If extended combustion head is used, flame length is increased according to L2 measure.

Gas valves

Note! Values apply when using natural gas (2nd family gases, groups H and E) and LPG.

GP/GKP-50 H/M/MH...90 H/M/MH

BURNER	GAS VALVE		BURNER MAX. CAPACITY kW*) GAS INLET PRESSURE mbar			
	SIZE	TYPE **)	20	30	50	100
GP-50 H, GKP-50 H	R1½"	MB-ZRDLE 415	680	800	800	800
	R2"	MB-ZRDLE 420	720	800	800	800
GP-50 M, GKP-50 MH	R1"	DMV-D 507	-	-	490	700
	R1 ½"	DMV-D 512	590	720	800	800
	R2"	DMV-D 520	700	800	800	800
	R1 1/2"	VGD20.4011	670	800	800	800
	R2"	VGD20.5011	730	800	800	800
GP-80 H	R1½"	MB-ZRDLE 415	810	1000	1000	1000
	R2"	MB-ZRDLE 420	870	1000	1000	1000
GP-90 H, GKP-90 H	R1½"	MB-ZRDLE 415	820	1000	1320	1500
	R2"	MB-ZRDLE 420	880	1100	1400	1500
GP-90 M, GKP-90 MH	R1½"	DMV-D 512	700	850	1100	1500
	R2"	DMV-D 520	900	1100	1400	1500
	R1 1/2"	VGD20.4011	840	1000	1350	1500
	R2"	VGD20.5011	980	1200	1500	1500

NOTE! When the burner is firing other gases than previously mentioned or when the gas inlet pressure is below 20 mbar every case must be checked separately.

*) The max. capacities given in the table are achieved at a boiler backpressure of 0 and air pressure of 1013 mbar.

**) or corresponding type

Gas inlet pressure (Pmax) at burner
- max. 360 mbar when using MB valve
- max. 500 mbar when using DMV-D and VGD valves

GP/GKP/GRP-130 M...280 M/MH

BURNER	GAS VALVE		BURNER MAX. CAPACITY kW *)				
			GAS INLET PRESSURE, mbar				
	SIZE	TYPE **)	20	30	50	100	150
GRP-130 M	DN50	DMV-D5050/11	940	1160	1500	1500	1500
	DN65	DMV-5065/11	1110	1360	1500	1500	1500
	DN80	DMV-5080/11	1210	1490	1500	1500	1500
GP-140 H	R2"	MB-ZRDLE	860	1060	1390	2010	2350
GP/GKP/GRP-140 M/MH	DN50	DMV-D5050/11	1110	1370	1800	2350	2350
	DN65	DMV-5065/11	1430	1770	2300	2350	2350
	DN80	DMV-5080/11	1670	2060	2350	2350	2350
GP/GKP/GRP-150 M/MH	DN50	DMV-D5050/11	1140	1400	1840	2670	2670
	DN65	DMV-5065/11	1500	1840	2140	2700	2700
	DN80	DMV-5080/11	1770	2190	2700	2700	2700
GP/GKP/GRP-250 M/MH	DN50	DMV-D5050/11	1250	1540	2020	2600	2600
	DN65	DMV-5065/11	1760	2170	2600	2600	2600
	DN80	DMV-5080/11	2270	2600	2600	2600	2600
	DN100	DMV-5100/11	2530	2600	2600	2600	2600
	DN125	DMV-5125/11	2600	2600	2600	2600	2600
GP/GKP/GRP-280 M/MH	DN50	DMV-D5050/11	1260	1550	2030	2950	3500
	DN65	DMV-5065/11	1780	2200	2860	3500	3500
	DN80	DMV-5080/11	2340	2880	3500	3500	3500
	DN100	DMV-5100/11	2630	3230	3500	3500	3500
	DN125	DMV-5125/11	2900	3500	3500	3500	3500

GP/GKP/GRP-130 M...280 M/MH

BURNER	GAS VALVE		BURNER MAX. CAPACITY kW *)				
			GAS INLET PRESSURE, mbar				
	SIZE	TYPE **)	20	30	50	100	150
GRP-130 M	DN50	VGD40.050	1040	1220	1500	1500	1500
	DN65	VGD40.065	1170	1450	1500	1500	1500
	DN80	VGD40.080	1230	1500	1500	1500	1500
GP/GKP/GRP-140 M/MH	DN50	VGD40.050	1280	1590	2070	2350	2350
	DN65	VGD40.065	1580	1950	2350	2350	2350
	DN80	VGD40.080	1750	2150	2350	2350	2350
GP/GKP/GRP-150 M/MH	DN50	VGD40.050	1340	1640	2150	2700	2700
	DN65	VGD40.065	1660	2060	2700	2700	2700
	DN80	VGD40.080	1860	2290	2700	2700	2700
GP/GKP/GRP-250 M/MH	DN50	VGD40.050	1510	1870	2240	2600	2600
	DN65	VGD40.065	2060	2530	2600	2600	2600
	DN80	VGD40.080	2440	2600	2600	2600	2600
	DN100	VGD40.100	2600	2600	2600	2600	2600
	DN125	VGD40.125	2600	2600	2600	2600	2600
GP/GKP/GRP-280 M/MH	DN50	VGD40.050	1530	1890	2470	3500	3500
	DN65	VGD40.065	2110	2590	3380	3500	3500
	DN80	VGD40.080	2520	3110	3500	3500	3500
	DN100	VGD40.100	2825	3450	3500	3500	3500
	DN125	VGD40.125	2950	3500	3500	3500	3500

NOTE! When the burner is firing other gases than previously mentioned or when the gas inlet pressure is below 20 mbar every case must be checked separately.

*) The max. capacities given in the table are achieved at a boiler back pressure of 0 and air pressure of 1013 mbar.
Natural gas 1 $m^3n/h \approx 10$ kW

**) or corresponding type

Gas inlet pressure (Pmax) at burner
- max. 500 mbar when using DMV-D and VGD valve
- max. 360 mbar when using MB valve

GP/GKP-140 M...280 M LN80

BURNER	GAS VALVE		BURNER MAX. CAPACITY kW*			
			GAS INLET PRESSURE, mbar			
	SIZE	TYPE**	20	30	50	150
GP/GKP-140 M LN80	DN50	VGD40.050	1000	1250	1600	1600
	DN65	VGD40.065	1130	1400	1600	1600
	DN80	VGD40.080	1190	1470	1600	1600
GP/GKP-250 M LN80	DN50	VGD40.050	1060	1310	1710	2100
	DN65	VGD40.065	1200	1490	1940	2100
	DN80	VGD40.080	1270	1570	2050	2100
GP/GKP-280 M LN80	DN50	VGD40.050	1150	1420	1860	2500
	DN65	VGD40.065	1340	1660	2170	2500
	DN80	VGD40.080	1440	1780	2320	2500

NOTE! When the burner is firing other gases than previously mentioned or when the gas inlet pressure is below 20 mbar every case must be checked separately.

*) The max. capacities given in the table are achieved at a boiler back pressure of 0 and air pressure of 1013 mbar.
Natural gas 1 $m^3n/h \approx 10$ kW

**) or corresponding type

Gas inlet pressure (Pmax) at burner
- max. 500 mbar when using VGD valve.

GP-130 /250 M LN30

BURNER	GAS VALVE		BURNER MAX. CAPACITY kW*			
			GAS INLET PRESSURE, mbar			
	SIZE	TYPE**	20	30	50	150
GP-130 M LN30	**DN50**	**VGD40.050**	**540**	**670**	**870**	**895**
	DN65	**VGD40.065**	**560**	**690**	**895**	**895**
	DN80	**VGD40.080**	**565**	**700**	**895**	**895**
GP-250 M LN30	DN50	VGD40.050	**820**	**1020**	**1330**	**1790**
	DN65	VGD40.065	**900**	**1100**	**1440**	**1790**
	DN80	VGD40.080	**920**	**1135**	**1490**	**1790**
	DN100	VGD40.100	**935**	**1150**	**1510**	**1790**
	DN125	VGD40.125	**940**	**1160**	**1515**	**1790**

NOTE! When the burner is firing other gases than previously mentioned or when the gas inlet pressure is below 20 mbar every case must be checked separately.

*) The max. capacities given in the table are achieved at a boiler back pressure of 0 and air pressure of 1013 mbar.
Natural gas 1 $m^3n/h \approx 10$ kW

**) or corresponding type

Gas inlet pressure (Pmax) at burner
- max. 500 mbar when using VGD valve.

GP/GKP-350 M...450 M

BURNER	GAS VALVE		BURNER MAX. CAPACITY kW*)				
			GAS INLET PRESSURE mbar				
	SIZE	TYPE **)	20	30	50	100	150
GP/GKP-350 M	DN50	DMV-D5050/11	-	1530	2010	2930	3660
	DN65	DMV-5065/11	1760	2170	2840	4000	4250
	DN80	DMV-5080/11	2290	2830	3690	4250	4250
	DN100	DMV-5100/11	2570	3170	4120	4250	4250
	DN125	DMV-5125/11	2820	3480	4250	4250	4250
GP/GKP-450 M	DN50	DMV-D5050/11	-	-	2060	3000	3760
	DN65	DMV-5065/11	-	2200	3000	4330	5410
	DN80	DMV-5080/11	2520	3090	4050	5500	5500
	DN100	DMV-5100/11	2900	3580	4660	5500	5500
	DN125	DMV-5125/11	3270	4050	5280	5500	5500

NOTE! When the burner is firing other gases than previously mentioned or when the gas inlet pressure is below 20 mbar every case must be checked separately.

*) The max. capacities given in the table are achieved at a boiler back pressure of 0 and air pressure of 1013 mbar.
Natural gas 1 $m^3n/h \approx 10$ kW

**) or corresponding type

Gas inlet pressure (Pmax) at burner
- max. 500 mbar when using DMV valve.

GP/GKP-350 M...450 M

BURNER	GAS VALVE		BURNER MAX. CAPACITY kW*)				
			GAS INLET PRESSURE mbar				
	SIZE	TYPE **)	20	30	50	100	150
GP/GKP-350 M	DN50	VGD40.050	1510	1870	2440	3530	4250
	DN65	VGD40.065	2070	2560	3340	4250	4250
	DN80	VGD40.080	2470	3050	3980	4250	4250
	DN100	VGD40.100	2730	3380	4250	4250	4250
	DN125	VGD40.125	2840	3500	4250	4250	4250
GP/GKP-450 M	DN50	VGD40.050	-	-	2530	3670	4570
	DN65	VGD40.065	2220	2750	3590	5200	5500
	DN80	VGD40.080	2760	3400	4450	5500	5500
	DN100	VGD40.100	3140	3380	5070	5500	5500
	DN125	VGD40.125	3330	4120	5370	5500	5500

NOTE! When the burner is firing other gases than previously mentioned or when the gas inlet pressure is below 20 mbar every case must be checked separately.

*) The max. capacities given in the table are achieved at a boiler back pressure of 0 and air pressure of 1013 mbar.
Natural gas 1 $m^3n/h \approx 10$ kW

**) or corresponding type

Gas inlet pressure (Pmax) at burner
- max. 500 mbar when using VGD valve

GP-320 M LN30

BURNER	GAS VALVE		BURNER MAX. CAPACITY kW*)				
			GAS INLET PRESSURE mbar				
	SIZE	TYPE **)	20	30	50	100	150
GP-320 M LN30	DN50	VGD40.050	1220	1480	1950	3000	3000
	DN65	VGD40.065	1480	1830	2380	3000	3000
	DN80	VGD40.080	1610	1980	2590	3000	3000
	DN100	VGD40.100	1670	2070	2700	3000	3000
	DN125	VGD40.125	1700	2100	2750	3000	3000

GP/GKP-320 M...450 M LN80

BURNER	GAS VALVE		BURNER MAX. CAPACITY kW*				
			GAS INLET PRESSURE, mbar				
	SIZE	TYPE**	50	100	150	250	350
GP/GKP-320 M LN80	DN50	VGD40.050	1250	1530	2010	2900	3200
	DN65	VGD40.065	1500	1850	2420	3200	3200
	DN80	VGD40.080	1640	2030	2640	3200	3200
GP-350 M LN80	DN50	VGD40.050	-	1870	2450	3520	4000
	DN65	VGD40.065	2070	2560	3340	4000	4000
	DN80	VGD40.080	2480	3050	4000	4000	4000
	DN100	VGD40.100	2740	3370	4000	4000	4000
GP/GKP-450 M LN80	DN50	VGD40.050	-	-	2520	3670	4580
	DN65	VGD40.065	2220	2760	3590	5200	5200
	DN80	VGD40.080	2770	3410	4450	5200	5200
	DN100	VGD40.100	3140	3880	5060	5200	5200

NOTE! When the burner is firing other gases than previously mentioned or when the gas inlet pressure is below 50 mbar every case must be checked separately.

*) The max. capacities given in the table are achieved at a boiler back pressure of 0 and air pressure of 1013 mbar. Natural gas 1 $m^3n/h \approx 10$ kW

**) or corresponding type

Gas inlet pressure (Pmax) at burner
- max. 500 mbar when using VGD valve.

GP/GKP/GRP-300 M-II...700 M-II

BURNER	GAS VALVE		BURNER MAX. CAPACITY kW *)				
			GAS INLET PRESSURE mbar				
	SIZE	TYPE **)	20	30	50	100	150
GRP-300 M-II	DN50	DMV-D5050/11	-	-	2000	2900	3630
	DN65	DMV-5065/11	1750	2100	2800	4050	4200
	DN80	DMV-5080/11	2250	2750	3600	4200	4200
	DN100	DMV-5100/11	2500	3050	4000	4200	4200
	DN125	DMV-5125/11	2750	3350	4200	4200	4200
GRP-400 M-I	DN50	DMV-D5050/11	-	-	2100	3050	3850
	DN65	DMV-5065/11	-	2400	3150	4550	4700
	DN80	DMV-5080/11	2750	3400	4450	4700	4700
	DN100	DMV-5100/11	3300	4100	4700	4700	4700
	DN125	DMV-5125/11	3900	4700	4700	4700	4700
GP/GKP/GRP-500 M	DN65	DMV-5065/11	2050	2500	3250	4750	5950
	DN80	DMV-5080/11	3000	3700	4850	6070	6070
	DN100	DMV-5100/11	3750	4600	6070	6070	6070
	DN125	DMV-5125/11	4650	5750	6070	6070	6070
GP/GKP/GRP-600 M	DN65	DMV-5065/11	2050	2500	3250	4700	5950
	DN80	DMV-5080/11	3000	3700	4850	6750	6750
	DN100	DMV-5100/11	3750	4600	6000	6750	6750
	DN125	DMV-5125/11	4650	5750	6750	6750	6750
GP/GKP/GRP-700 M	DN80	DMV-5080/11	3000	3700	4850	7000	8400
	DN100	DMV-5100/11	3700	4600	6000	8400	8400
	DN125	DMV-5125/11	4650	5700	7500	8400	8400
GP/GKP/GRP-700 M-II	DN80	DMV-5080/11	3050	3550	4800	7000	8700
	DN100	DMV-5100/11	3700	4550	6000	8650	9500
	DN125	DMV-5125/11	4600	5700	7500	9500	9500
GP/GKP-700 M-III	DN80	DMV-5080/11	-	3600	4800	7000	8700
	DN100	DMV-5100/11	3700	3900	6000	8650	10500
	DN125	DMV-5125/11	4600	5700	7450	10500	10500

NOTE! When the burner is firing other gases than previously mentioned or when the gas inlet pressure is below 20 mbar every case must be checked separately.

*) The max. capacities given in the table are achieved at a boiler back pressure of 0 and air pressure of 1013 mbar. Natural gas 1 $m^3n/h \approx 10$ kW

**) or corresponding type

Gas inlet pressure (Pmax) at burner
- max. 500 mbar when using DMV valve.

GP/GKP/GRP-300 M-II...700 M-II

BURNER	GAS VALVE		BURNER MAX. CAPACITY kW *)				
			GAS INLET PRESSURE mbar				
	SIZE	TYPE **)	20	30	50	100	150
GRP-300 M-II	DN50	VGD40.050	1500	1850	2400	3500	4200
	DN65	VGD40.065	2000	2500	3250	4200	4200
	DN80	VGD40.080	2400	2950	3850	4200	4200
	DN100	VGD40.100	2650	3250	4200	4200	4200
	DN125	VGD40.125	2750	3390	4200	4200	4200
GRP-400 M-I	DN50	VGD40.050	-	2000	2600	3800	4700
	DN65	VGD40.065	2400	3000	3850	4700	4700
	DN80	VGD40.080	3100	3850	4700	4700	4700
	DN100	VGD40.100	3700	4550	4700	4700	4700
	DN125	VGD40.125	3960	4700	4700	4700	4700
GP/GKP/GRP-500 M	DN65	VGD40.065	2250	3150	4100	5950	6070
	DN80	VGD40.080	3500	4300	5600	6070	6070
	DN100	VGD40.100	4300	5300	6070	6070	6070
	DN125	VGD40.125	4750	5850	6070	6070	6070
GP/GKP/GRP-600 M	DN65	VGD40.065	5550	3150	4100	5950	6750
	DN80	VGD40.080	3500	4250	5550	6750	6750
	DN100	VGD40.100	4300	5300	6750	6750	6750
	DN125	VGD40.125	4740	5850	6750	6750	6750
GP/GKP/GRP-700 M	DN65	VGD40.065	2550	3050	4050	5950	7400
	DN80	VGD40.080	3450	4250	5550	8050	8400
	DN100	VGD40.100	4300	5300	6950	8400	8400
	DN125	VGD40.125	4880	6010	7840	8400	8400
GP/GKP/GRP-700 M-II	DN65	VGD40.065	-	3100	4050	5950	7400
	DN80	VGD40.080	3400	4200	5550	8000	9500
	DN100	VGD40.100	4250	5300	6900	9500	9500
	DN125	VGD40.125	4870	6000	7840	9500	9500
GP/GKP-700 M-III	DN80	VGD40.080	3600	4150	5500	8000	10000
	DN100	VGD40.100	4250	5250	6900	9950	10500
	DN125	VGD40.125	4880	6010	7850	10500	10500

NOTE! When the burner is firing other gases than previously mentioned or when the gas inlet pressure is below 20 mbar every case must be checked separately.

*) The max. capacities given in the table are achieved at a boiler back pressure of 0 and air pressure of 1013 mbar.
Natural gas 1 $m^3n/h \approx 10$ kW

**) or corresponding type

Gas inlet pressure (Pmax) at burner
- max. 500 mbar when using VGD valve.

GP-600 M LN30

BURNER	GAS VALVE		BURNER MAX. CAPACITY kW*)			
			GAS INLET PRESSURE mbar			
	SIZE	TYPE **)	20	30	50	100
GP-600 M LN30	DN50	VGD40.050	1470	1810	2300	3310
	DN65	VGD40.065	1930	2370	3090	4430
	DN80	VGD40.080	2200	2720	3550	4900
	DN100	VGD40.100	2430	2960	3840	4900
	DN125	VGD40.125	2510	3070	3980	4900

GP/GKP-600 M...700 M-III LN80

BURNER	GAS VALVE		BURNER MAX. CAPACITY kW*			
			GAS INLET PRESSURE, mbar			
	SIZE	TYPE**	50	100	150	200
GP-600 M LN80	DN65	VGD40.065	3600	5200	6500	6700
	DN80	VGD40.080	4500	6450	6700	6700
	DN100	VGD40.100	5100	6700	6700	6700
	DN125	VGD40.125	5430	6700	6700	6700
GKP-600 M LN80	DN65	VGD40.065	3600	5200	6450	6450
	DN80	VGD40.080	4500	6450	6450	6450
	DN100	VGD40.100	5100	6450	6450	6450
	DN125	VGD40.125	5430	6450	6450	6450
GP/GKP-700 M-II LN80	DN65	VGD40.065	3650	5250	6550	7600
	DN80	VGD40.080	4550	6600	7600	7600
	DN100	VGD40.100	5250	7600	7600	7600
	DN125	VGD40.125	5630	7600	7600	7600
GP/GKP-700 M-III LN80	DN80	VGD40.080	5100	7350	8800	8800
	DN100	VGD40.100	6050	8800	8800	8800
	DN125	VGD40.125	6670	8800	8800	8800

NOTE! When the burner is firing other gases than previously mentioned or when the gas inlet pressure is below 50 mbar every case must be checked separately.
*) The max. capacities given in the table are achieved at a boiler back pressure of 0 and air pressure of 1013 mbar.
Natural gas 1 $m^3n/h \approx 10$ kW
**) or corresponding type

Gas inlet pressure (Pmax) at burner
- max. 500 mbar when using VGD valve.

GP-600 M/700 M-III LN60

BURNER	GAS VALVE		BURNER MAX. CAPACITY kW*					
			GAS INLET PRESSURE, mbar					
	SIZE	TYPE**	100	200	300	400	500	600
GP-600 M LN60	DN65	VGD40.065	2800	4100	5200	6150	6500	6500
	DN80	VGD40.080	3000	4350	5500	6500	6500	6500
	DN100	VGD40.100	3050	4500	5650	6500	6500	6500
GP-700 M-III LN60	DN80	VGD40.080	3400	4950	6250	7400	7500	7500
	DN100	VGD40.100	3500	5100	6500	7500	7500	7500
	DN125	VGD40.125	3550	5200	6600	7500	7500	7500

NOTE! When the burner is firing other gases than previously mentioned or when the gas inlet pressure is below 100 mbar every case must be checked separately.
*) The max. capacities given in the table are achieved at a boiler back pressure of 0 and air pressure of 1013 mbar.
Natural gas 1 $m^3n/h \approx 10$ kW
**) or corresponding type

Gas inlet pressure (Pmax) at burner
- max. 600 mbar when using VGD valve

GP/GKP-1000 M...1200 M

BURNER	GAS VALVE		BURNER MAX. CAPACITY kW*)			
			GAS INLET PRESSURE mbar			
	SIZE	TYPE**)	50	100	150	200
GP/GKP-1000 M	DN100	DMV-5100/11	5700	8300	10400	11100
	DN125	DMV-5125/11	7000	10200	11100	11100
GP/GKP-1200 M	DN100	DMV-5100/11	7000	10100	12700	13300
	DN125	DMV-5125/11	9800	13300	13300	13300

GP/GKP-1000 M...1200 M

BURNER	GAS VALVE		BURNER MAX. CAPACITY kW*)			
			GAS INLET PRESSURE mbar			
	SIZE	TYPE**)	50	100	150	200
GP/GKP-1000 M	DN100	VGD40.100	6500	9500	11100	11100
	DN125	VGD40.125	7400	10700	11100	11100
GP/GKP-1200 M	DN100	VGD40.100	8600	12400	13300	13300
	DN125	VGD40.125	10700	13300	13300	13300

NOTE! When the burner is firing other gases than previously mentioned or when the gas inlet pressure is below 50 mbar every case must be checked separately.

*) The max. capacities given in the table are achieved at a boiler backpressure of 0 and air pressure of 1013 mbar.
Natural gas 1 $m^3n/h \approx 10$ kW

**) or corresponding type

Gas inlet pressure (Pmax) at burner
- max. 500 mbar when using DMV or VDG valve

GP-1000 M LN80

BURNER	GAS VALVE		BURNER MAX. CAPACITY kW*			
			GAS INLET PRESSURE, mbar			
	SIZE	TYPE**	50	100	150	200
GP/GKP-1000 M	DN80	VGD40.080	5300	7600	9600	11000
	DN100	VGD40.100	6500	9300	11000	11000
GP/GKP-1200 M	DN125	VGD40.125	7200	10500	11000	11000
	DN125	VGD40.125	11200	13300	13300	13300

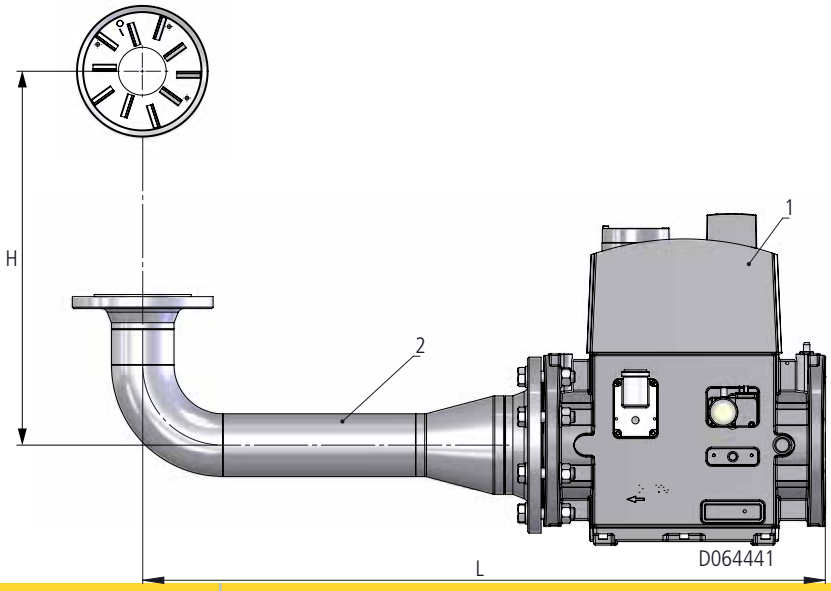
NOTE! When the burner is firing other gases than previously mentioned or when the gas inlet pressure is below 50 mbar every case must be checked separately.

*) The max. capacities given in the table are achieved at a boiler backpressure of 0 and air pressure of 1013 mbar.
Natural gas 1 $m^3n/h \approx 10$ kW

**) or corresponding type

Gas inlet pressure (Pmax) at burner
- max. 500 mbar when using VGD valve

Gas elbow



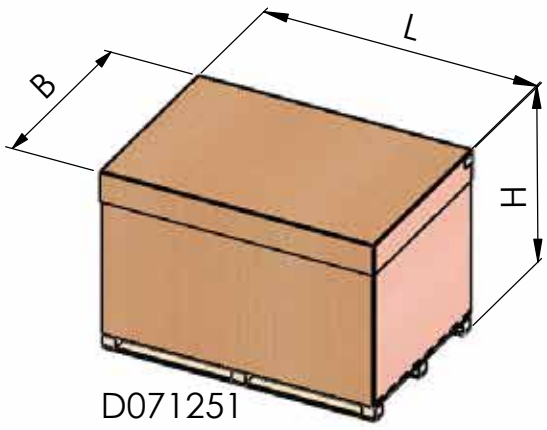
1. Gas valve
2. Gas elbow

	GAS ELBOW DIMENSIONS WITH DIFFERENT VALVES							
		R11/2"	R2"	DN50	DN65	DN80	DN100	DN125
	H	L	L	L	L	L	L	L
GP/GKP-50 H/M/MH	240	650	655	-	-	-	-	-
GP/GKP-80/90 H/M/MH	285	755	780	-	-	-	-	-
GP/GKP/GRP-130…150 H/M/MH	450	-	435	465	505	530	580	750
GP/GKP/GRP-250…280 M/MH	460	-	-	510	560	615	665	745
GP/GKP/GRP-320…350 M	505	-	-	735	860	880	920	970
GP/GKP/GRP-450 M	525	-	-	735	860	880	920	970
GP/GRP-300 M	495	-	-	735	860	880	920	970
GP/GKP/GRP-400…700 M-II	535	-	-	640	690	715	660	735
GP/GKP/GRP-700 M-III	535	-	-	-	-	715	660	735
GP-600/700 M/M-III LN60	595	-	-	-	-	1040	1080	-
GP/GKP-1000…1200 M	660	-	-	-	-	1240	1280	1330

Dimensions in mm.

Other dimensions available on special request

Packing



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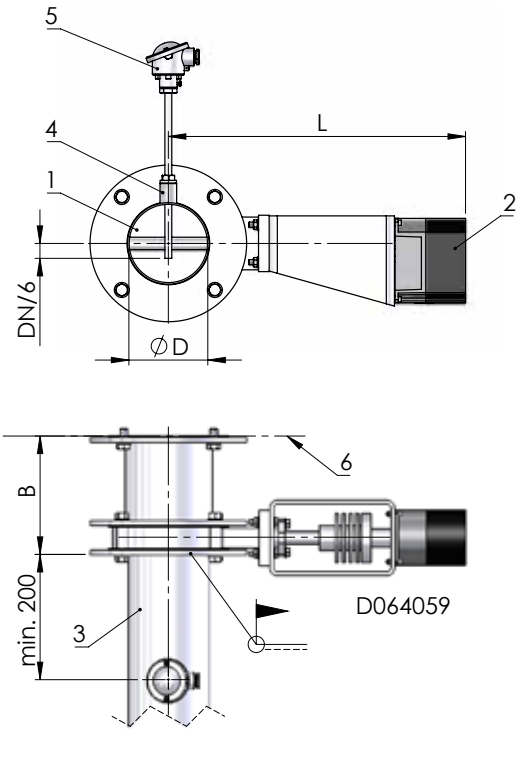
	Dimensions			Weight kg	Material standard
BURNER SERIE	L	B	H		
GP-50 M	1020	550	450	5	Board
GP-90 M	1040	690	480	7	Board
GP-140…280 M…	1640	1220	880	55	Board
GP-350/450 M…	2040	1380	1240	63	Board
GP-600 M…	2040	1380	1240	63	Board
GP-700 M..700 M-III…	2240	1630	1240	73	Board
GP-1000/1200 M…	2180	1870	1830	240	Wood
GKP-50 MH	1020	550	450	5	Board
GKP-90 MH	1040	690	480	7	Board
GKP-140…280 M…	1640	1220	880	55	Board
GKP-350/450 M…	2040	1380	1240	63	Board
GKP-500/600 M…	2040	1380	1240	63	Board
GKP-700 M..700 M-III…	2240	1630	1240	73	Board
GKP-1000/1200 M…	2180	1870	1830	240	Wood
KP-50 H	810	550	450	5	Board
KP-90 H	1040	690	480	7	Board
KP-140…280 M…	1470	1150	880	47	Board
KP-350/450 M…	2040	1380	1240	63	Board

Dimensions in mm.

Accessories

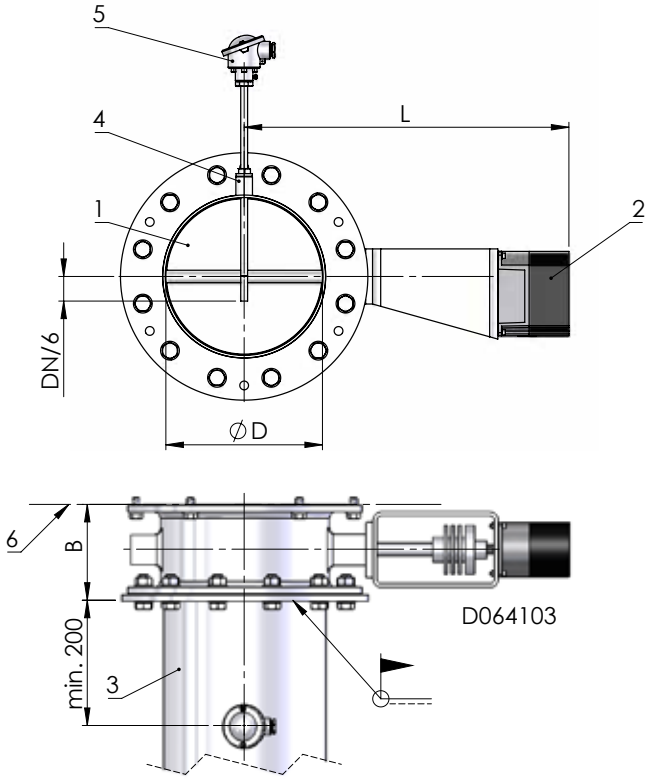
FGR - Butterfly valve dimension

FGR max. temperature 250 °C



1. Butterfly valve FGR
2. Servomotor
3. FGR pipe, not included in the delivery
4. Sleeve 1/2", not included in the delivery
5. Temperature sensor
6. Burner

Burner	ØD	L	B
130...150	DN125	475	190
250...280	DN150	490	190
320...600	DN200	530	125



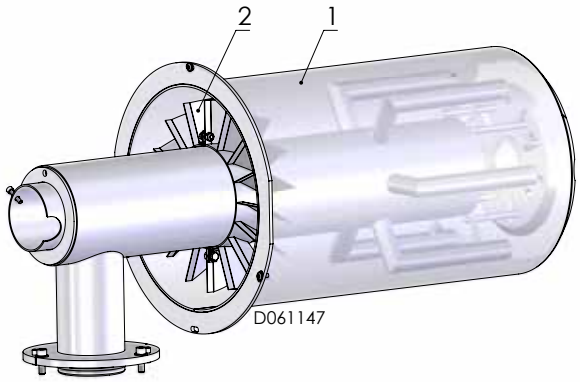
1. Butterfly valve FGR
2. Servomotor
3. FGR pipe, not included in the delivery
4. Sleeve 1/2", not included in the delivery
5. Temperature sensor
6. Burner

Burner	ØD	L	B
700	DN250	520	155
1000	DN350	585	183
1200	DN350	585	183

Dimensions in mm.

Turbo combustion head for flame shaping

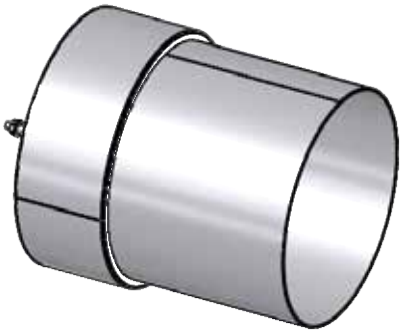
Example

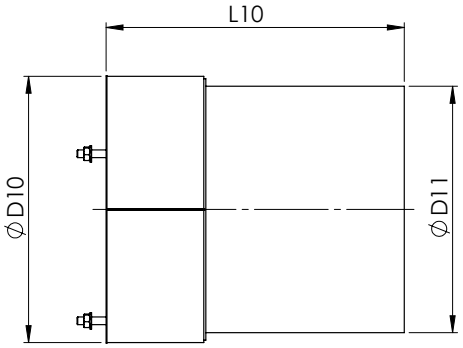


1. Combustion head
2. Turbo

Burner refractory attachment for LN30

Example





The burner refractory attachment must be cut shorter than the masonry depth.

Recommended to be used to reduce boiler front wall high temperature. Please read installation instructions from the product manual.

Burner	ØD10	ØD11	L10
GP-130 M LN30	275	254	308
GP-250 M LN30	356	335	308
GP-320 M LN30	406	387	360
GP-600 M LN30	423	404	360

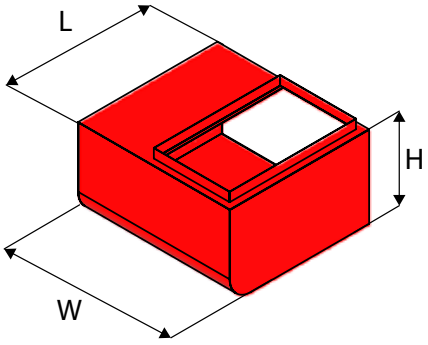
Dimensions in mm.

Silencer

Air intake silencer

Construction

The silencer is made of steel plate lined with fire-proof dampening wool. The silencer is connected to the burner's suction side via a screw connection. The silencer reduces the high-pitched sound produced by the air flow.



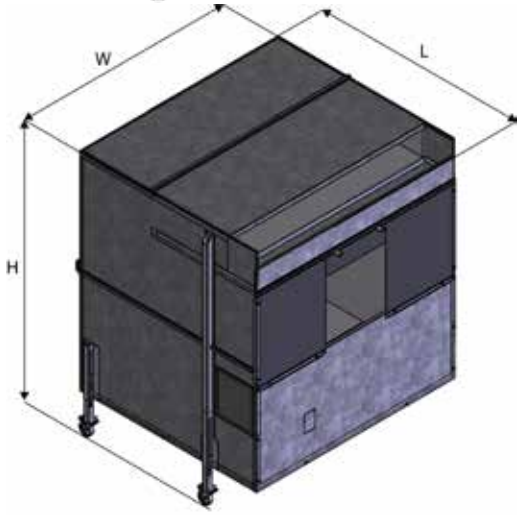
Burner	W	L	H
80/90	320	320	160
130/140/150	427	392	230
250/280	427	392	230
300	530	610	290
700	560	722	330
1000/1200	525	800	665

Dimensions in mm.

Hood silencer

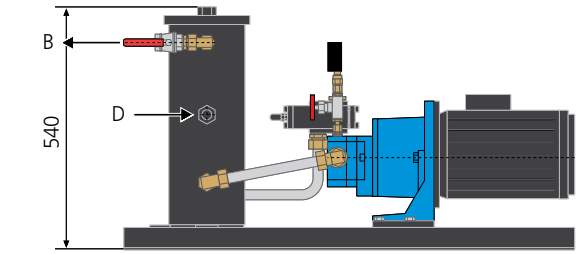
Construction

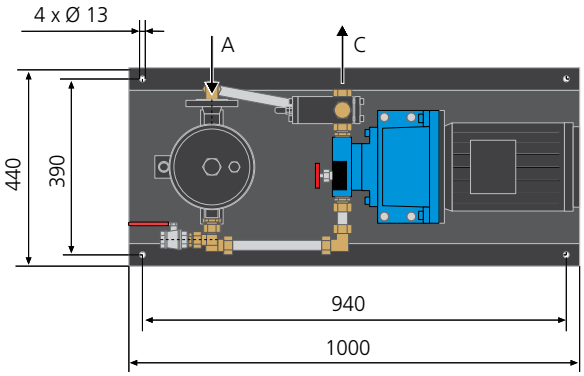
The silencer is made of steel plate lined with fireproof dampening wool. This wheel-equipped silencer isolates the burner from four sides. Silencer reduces the sounds produced when the burner operates. Delivered in plate parts.

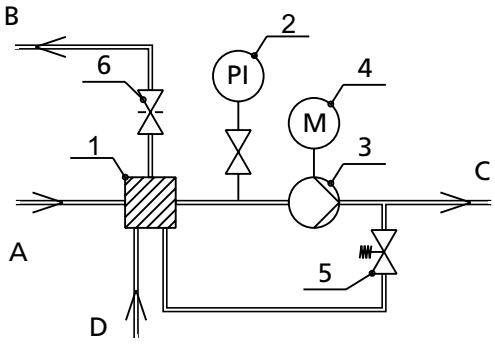


Burner	W	L	H
130...280	1330	1525	1425-1935
300...700	1670	1845	1910-2420
1000/1200	2210	1970	2485-2995

Booster unit







1 Oil filter
2. Pressure gauge
3. Oil pump
4. Electric motor
5. Pressure regulating valve
6. Drilled ball valve

A. Inlet to the booster unit DN25, 1...5 bar 4...12 mm²/s
B. Return from the booster unit R1/2"
C. Inlet to the burner Ø 22
D. Return from the burner Ø 22

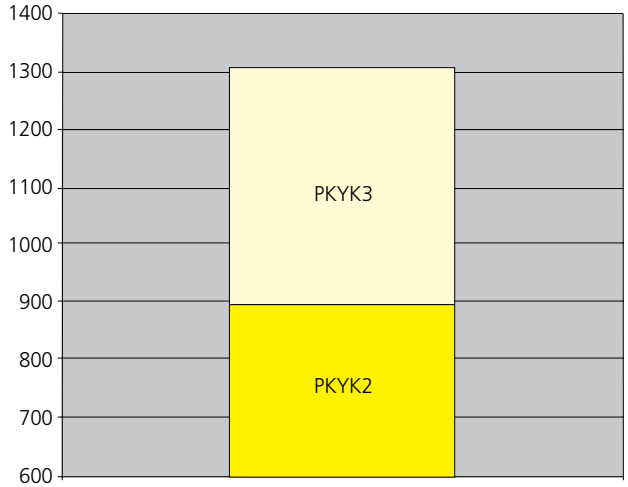
Dimensions in mm.

The booster unit is used for pumping light fuel oil with viscosity of 4...12 mm²/s +20 °C. The oil coming to the booster unit must be filtered, max. filtration degree is 150 µm.

Booster unit	Motor 400 V/50 Hz		Oil pump	Pump output 12 mm²/s 25 bar
	kW	r/min	Type	kg/h
PKYK 2	4	3000	T4 C	1980
PKYK 3	4	3000	T5 C	2900

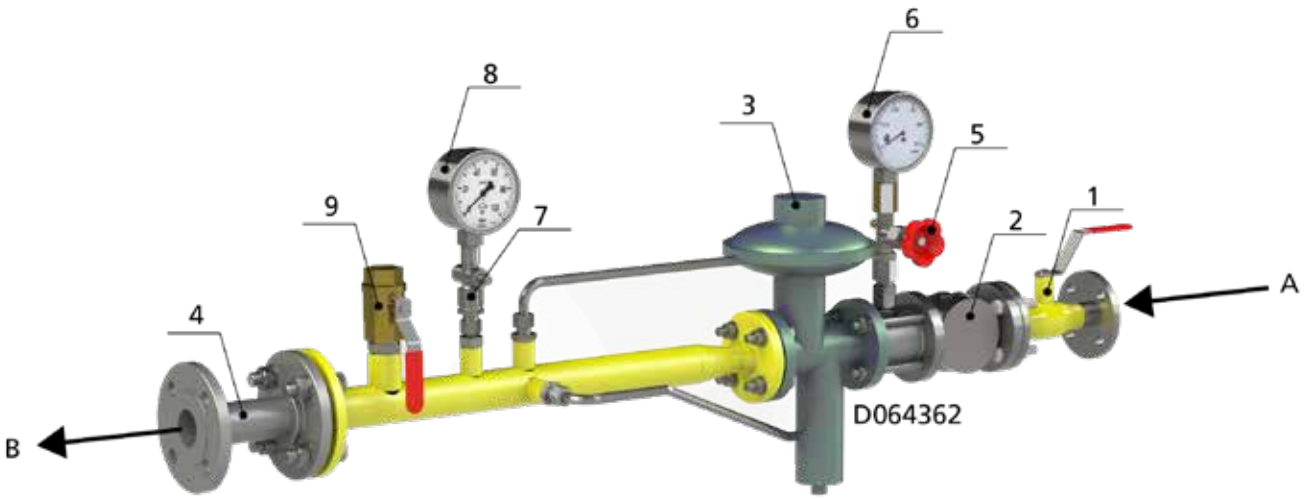
The output has been calculated using a density of 850 kg/m³ for the light fuel oil.

Diagram 1
Selection of the booster unit for light fuel oil



Gas pressure control assembly

Example



1. Ball valve
2. Gas filter
3. Pressure regulator with safety shut-off valve and safety relief valve
4. Bellows compensator/gas hose
5. Pressure gauge valve
6. Pressure gauge, high pressure
7. Pressure gauge valve
8. Pressure gauge, low pressure
9. Ball valve, blow-off

A Gas inlet
B Gas to burner

Oilon customer service and webshop

Commissioning and maintenance services

We have extensive expertise in burner technology and processes. We offer reliable commissioning, maintenance, and training services for all needs. With the help of our services, you can design a system that will meet environmental legislation and operate at optimal efficiency.

Technical support

The technical support service is for retailers, maintenance companies, and end clients. You can contact us with any questions about technical problems or warranty issues. We also design and implement updates for your burner systems with full expertise.

Spare part services

Our spare part services provide our clients with support throughout the equipment's lifecycle.

- spare part recommendations for both new and old systems
- spare parts for servicing and maintenance

Spare parts store

Maintenance companies and retailers can easily obtain spare parts directly from our online store. Contact our spare parts sales service and we will provide you with a password to access our spare parts store.

Please visit our spare parts store
http://webshop.oilon.com

Modern training facilities

We provide high level training on our products, and the goal of our product training is to improve the professional skills of installation and maintenance companies.

On theory lessons we provide important facts on the burner's operating environment and components. Practical exercises include burner adjustment and fault diagnostics, among many other things. We also underline the importance of low emission values for the environment.

Our Sales and Service Network

During our extensive years of operation, we have evolved from a small traditional burner manufacturer into an internationally well-known energy and environmental technology company.

Our strong commitment to research and development has resulted in growing staff know-how and a rapid increase in the product range.

We have production facilities and sales offices in Finland, USA, Russia, Brazil and China and resellers all over the world.

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