RÜTLI
SWISS BURNER

Doing more for clean environment and energy saving

Rütli Burners Switzerland AG is a worldwide leading industrial burner solution supplier. Our head quarter is located in Schaffhausen, Switzerland – one of the most industrial areas of the world. We can provide gas, oil and coal dust burners for steam and hot water boiler, thermal oil boiler, power plant boiler, asphalt mixing plant and other process firing systems. Our products assembly lines are in Switzerland and several European countries. It keeps our products in a high quality with European level. All of our products are approved in accordance with European standards.

Years of experience with mixing of combustion air and fuel have led us to design an accurate combustion head and optimized burner construction. All products not only guarantee a pure and stable combustion but also give high efficiency, low NOx emissions, low noises and maximum savings.

To satisfy the most stringent restrictions on pollutant emissions, we develop ultra low NOx burners on fuel gas firing, with or without Flue Gas Recirculation (FGR). The excellent design can guarantee NOx emission to 50mg/Nm^3 even lower.

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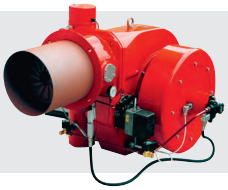
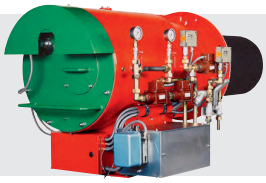
Products

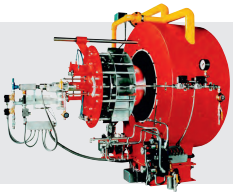
Monoblock Burner
45 kW to 11 MW



Monoblock Burner
Low NOx
45 kW to 11 MW



Duoblock Burner
2.5 MW to 32 MW



Power Burner
Low NOx
Up to 80 MW

Ultra Low NOx Burner
Up to 80 MW

Coal Powder Burner
Up to 100 MW

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Data Base

Model

Example: MG300-E-LN

- M = Monoblock burner;
  D = Duoblock burner;
  P = Power burner;
  U = Ultra low NOx burner ;
  C = Coal powder burner
- G = Gas
  H = heavy oil;
  L = light oil;
  GH = dual fuel (gas/heavy oil)
  GL = dual fuel(gas/light oil)
- 300 = number specifying the burner capacity (÷10KW)
- E = Electrical modulating method (without E means mechanical modulating)
- LN = Low NOx (without LN means standard burner)

NOx emissions

Monoblock Burner	NOx <=120mg/m^3 (natural gas);
Monoblock Burner-Low NOx	NOx <=80mg/m^3 (natural gas);
Duoblock Burner	NOx <=120mg/m^3 (natural gas);
Power Burner-Low NOx	NOx <=80mg/m^3 (natural gas);
Ultra Low NOx Burner	NOx <=50mg/m^3 (natural gas);
Coal Powder Burner	NOx <=250mg/m^3 (coal powder);

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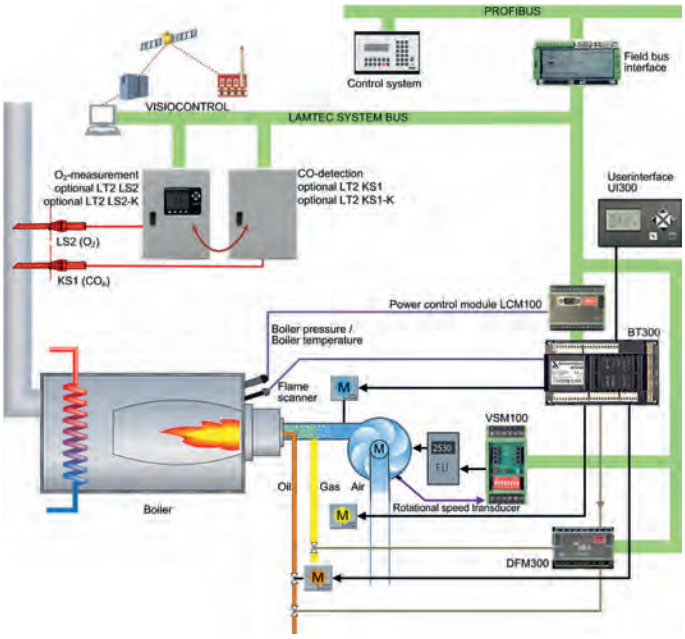
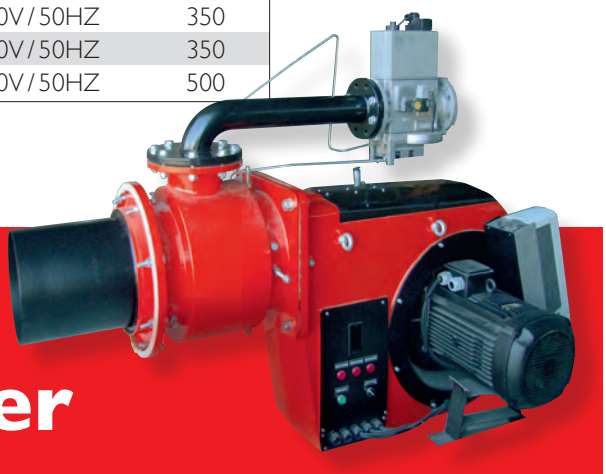
Specification

- Electrical modulating operation
- Compatible with all the boilers
- Optimum fuel air mixture with special gas nozzle
- High output operation at each boiler due to adjustment of air flow rate both from suction and from flame tube
- Accessibility to all equipment without dismounting the burner from boiler
- Production in conformity with EN 676 standards
- High-pressure light fan design
- Conformity with any size of boiler through adjustable boiler connection flange
- High safety and stabilized operation due to difference air pressure switch
- Multi-block bearing safety, operation solenoids, min and max air pressure switches, filters and regulators on it
- Automatic control equipment in conformity with the European standard EN 298
- Easy installation and operation
- Low noise level due to light and aerodynamic body produced of high quality aluminum



Model and data base

Type	Capacity (KW)	Fan motor power (KW)	Voltage	Weight (Kg)
MG45-E	200-750	0.75	220V/380V/50HZ	40
MG80-E	185-1050	1.1	220V/380V/50HZ	40
MG100-E	185-1226	1.5	220V/380V/50HZ	40
MG120-E	250-1500	2.2	220V/380V/50HZ	105
MG130-E	300-2000	3.0	220V/380V/50HZ	105
MG160-E	300-2500	3.0	220V/380V/50HZ	105
MG200-E	430-3000	4.0	220V/380V/50HZ	190
MG250-E	500-3500	5.5	220V/380V/50HZ	200
MG280-E	580-4070	7.5	220V/380V/50HZ	200
MG300-E	1150-5580	11	220V/380V/50HZ	270
MG400-E	1150-5800	11	220V/380V/50HZ	350
MG500-E	1150-6700	15	220V/380V/50HZ	350
MG600-E	1150-7200	15	220V/380V/50HZ	350
MG800-E	3000-11500	22	220V/380V/50HZ	500

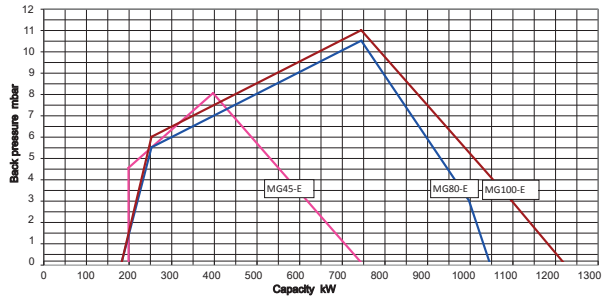


Monoblock Burner

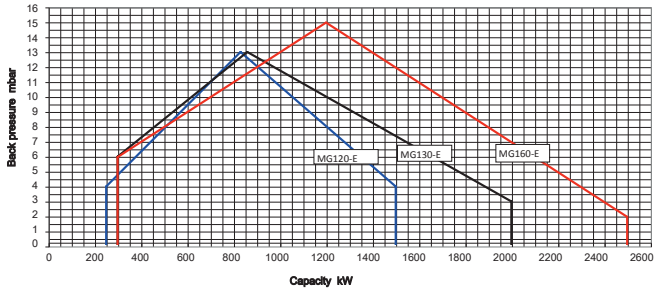
Gas Burner MG-E

Capacity Curve

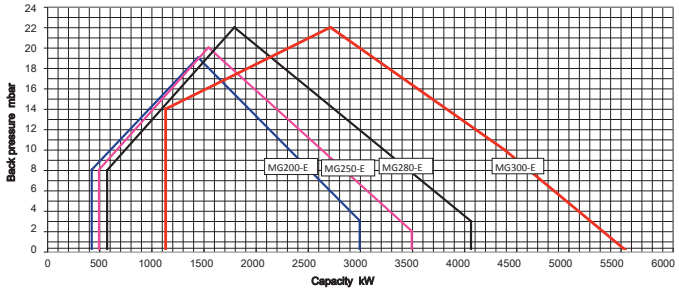
MG45-E
MG80-E
MG100-E



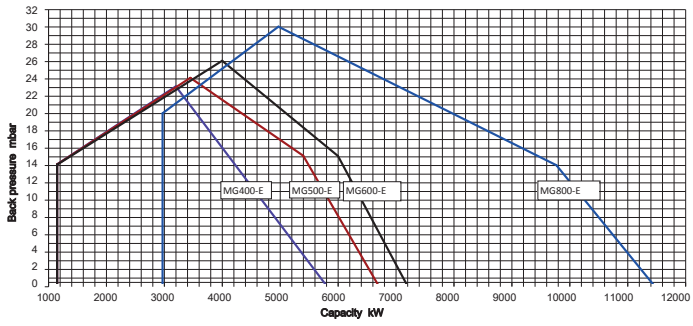
MG120-E
MG130-E
MG160-E



MG200-E
MG250-E
MG280-E
MG300-E



MG400-E
MG500-E
MG600-E
MG800-E



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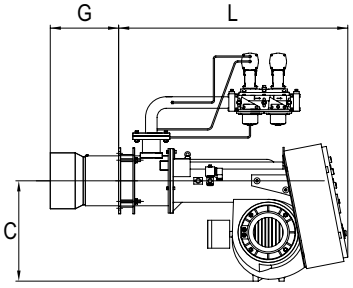
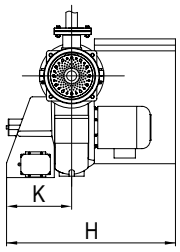
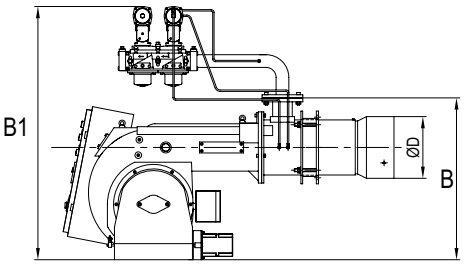
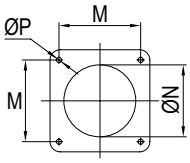
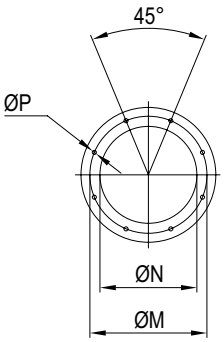
Dimensions



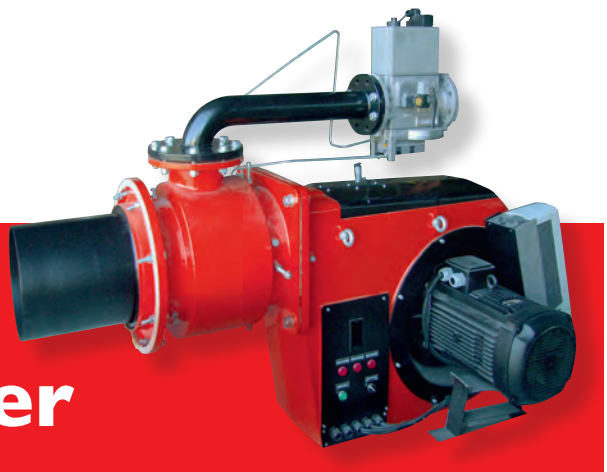








	Capacity (KW)	L	Gmin	Gmax	H	K	B	B1	C	ØN	ØP	M	ØD
MG45-E	200-750	690	150	350	500	190	340	-	345	149	11	180	174
MG80-E	185-1050	690	150	350	500	190	340	-	345	149	11	180	174
MG100-E	185-1226	690	150	350	500	190	340	-	345	149	11	180	174
MG120-E	250-1500	980	280	500	580	250	610	1050	420	230	18	275	236
MG130-E	300-2000	980	280	500	580	250	610	1050	420	230	18	275	236
MG160-E	300-2500	980	280	500	580	250	610	1050	420	230	18	275	236
MG200-E	430-3000	1000	200	375	880	340	680	1040	500	240	18	275	240
MG250-E	500-3500	1000	200	375	880	340	680	1040	500	250	18	275	280
MG280-E	580-4070	1000	200	375	880	340	680	1040	500	250	18	275	284
MG300-E	1150-5580	1200	200	375	970	355	795	1300	525	300	22	335	300
MG400-E	1150-5800	1530	320	320	1020	420	860	1400	640	377	15	360	375
MG500-E	1150-6700	1530	320	320	1130	530	860	1400	640	377	15	360	375
MG600-E	1150-7200	1530	320	320	1130	530	860	1400	640	377	15	360	375
MG800-E	3000-11500	1500	350	350	1290	610	1100	1780	826	560	15	Ø630	492

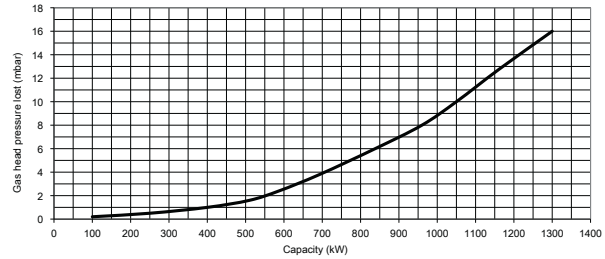


Monoblock Burner

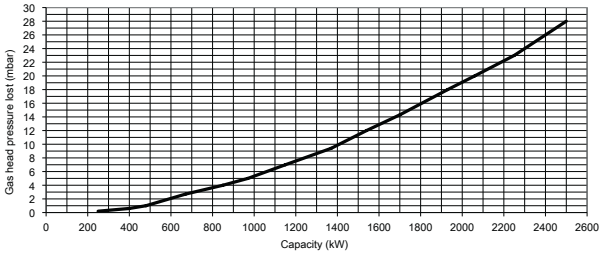
Gas Burner MG-E

Burner head pressure lost

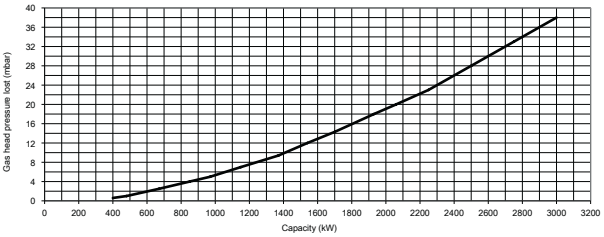
MG45/80/100-E



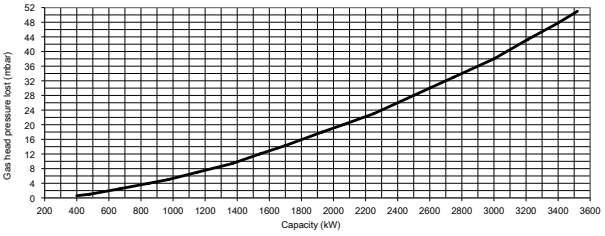
MG120/130/160-E



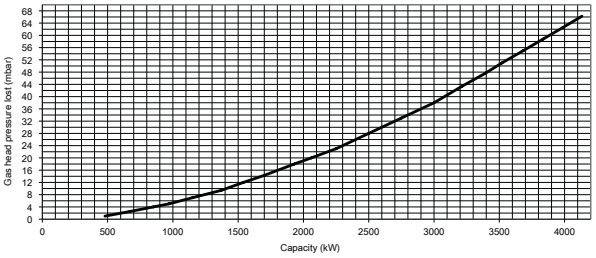
MG200-E



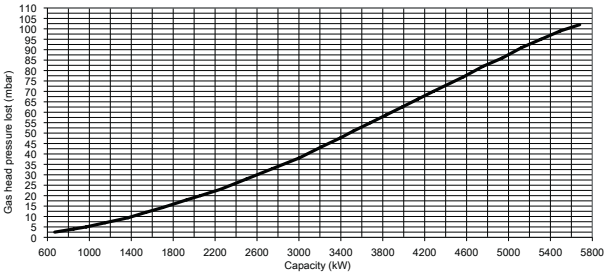
MG250-E



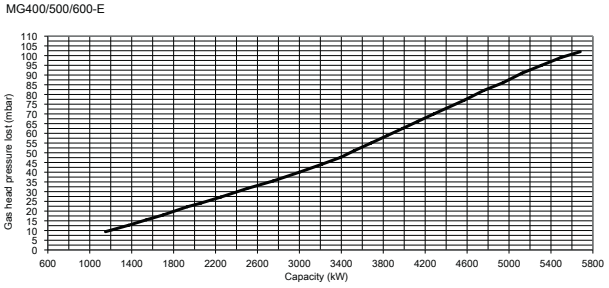
MG280-E



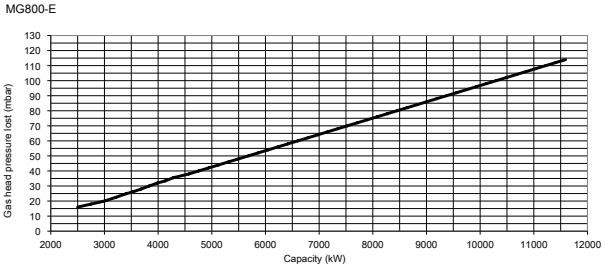
MG300-E



MG400/500/600-E



MG800-E



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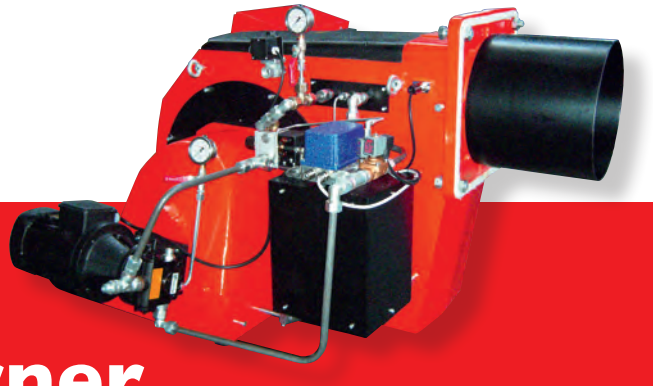
Specification

- Electrical modulating operation
- Providing optimum combustion by adjusting the air rate through air inlet and combustion head
- Capacity to disassemble hydraulic unit and ignition system without any need to separate burner from boiler
- Fuel inlet-outlet hoses are provided with boiler connection flange, sealing gasket and fixing bolts.
- Light aluminum-alloy frame
- High performance fan
- Air flow rate adjustment at combustion air inlet
- Stainless steel nozzle and adjustable flame tube with steel flame disc
- Electric servomotor with mechanical cam to adjust burning air and fuel simultaneously
- Pressure adjustable gear pump
- Automatic control equipment of burner in conformity with the European standard EN 230
- Flame control through photocell
- Easy installation and operation
- Hydraulic system in conformity with EN 267

Model and data base

Type	Oil consumption Kg/h	Fan motor power (KW)	Oil Pump Power (KW)	Voltage	Weight (Kg)
ML90	22-105	1.5	-	220V/380V/50HZ	40
ML120	35-140	2.2	-	220V/380V/50HZ	100
ML140	40-180	3.0	-	220V/380V/50HZ	100
ML160	35-220	3.0	-	220V/380V/50HZ	100
ML200	62-267	4.0	0.75	220V/380V/50HZ	190
ML250	76-312	5.5	0.75	220V/380V/50HZ	200
ML280	95-363	7.5	0.75	220V/380V/50HZ	200
ML380	104-500	11	1.5	220V/380V/50HZ	270
ML400	104-500	11	2.2	220V/380V/50HZ	300
ML500	167-550	15	2.2	220V/380V/50HZ	300
ML550	183-600	15	3.0	220V/380V/50HZ	300
ML800	317-1025	22	4.0	220V/380V/50HZ	500

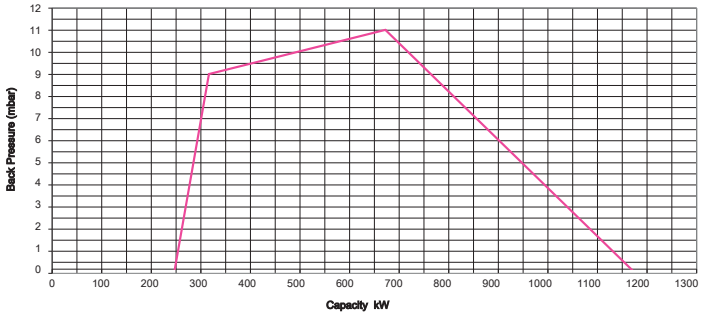


Monoblock Burner

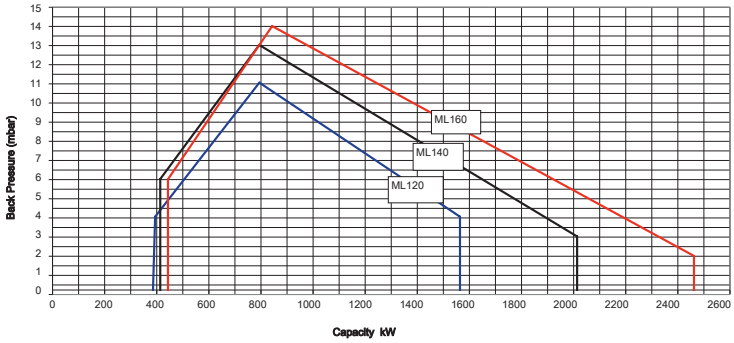
Light Oil Burner ML

Capacity Curve

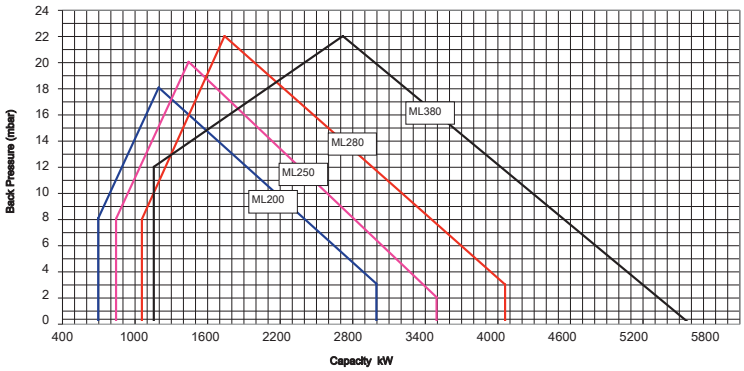
ML90



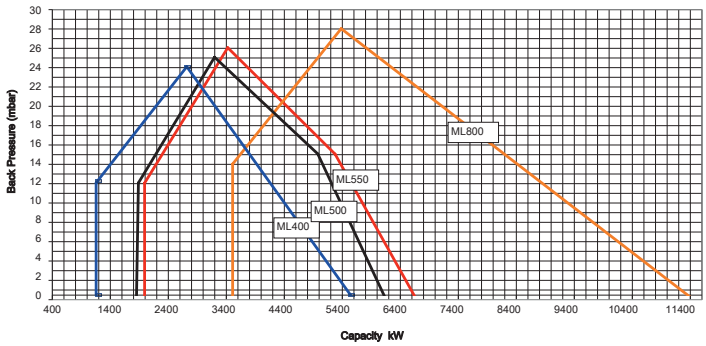
ML120
ML140
ML160



ML200
ML250
ML280
ML380

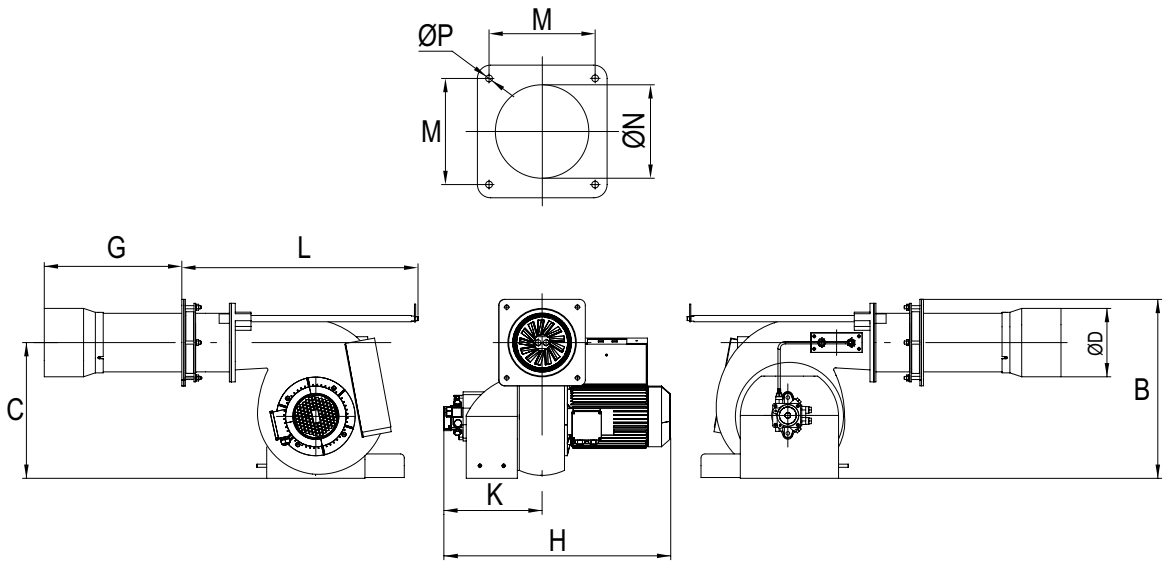


ML400
ML500
ML550
ML800

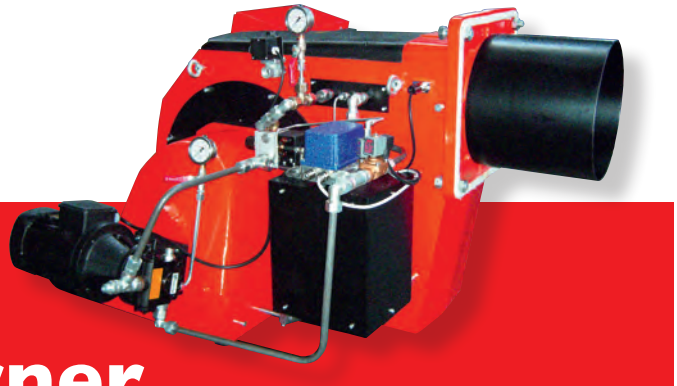


RÜTLI SWISS BURNER

Dimensions



	Oil consumption Kg/h	L	Gmin	Gmax	H	K	B	C	ØN	ØP	M	ØD
ML90	22-105	625	150	350	585	275	455	345	149	11	180	174
ML120	35-140	680	280	500	750	360	590	420	230	18	275	236
ML140	40-180	680	280	500	750	360	590	420	230	18	275	236
ML160	35-220	680	280	500	750	360	590	420	230	18	275	236
ML200	62-267	970	200	275	880	340	670	500	240	18	275	240
ML250	76-312	1000	200	465	880	340	670	500	250	18	275	280
ML280	95-363	1000	200	465	880	340	670	500	250	18	275	280
ML380	104-500	1200	200	375	970	355	720	525	300	22	335	300
ML400	104-500	1400	320	320	1080	530	870	640	377	23	360	338
ML500	167-550	1400	320	320	1080	530	870	640	377	23	360	338
ML550	183-600	1400	320	320	1080	530	870	640	377	23	360	338
ML800	317-1025	1500	350	350	1290	610	1100	826	560	23	630	492



Monoblock Burner

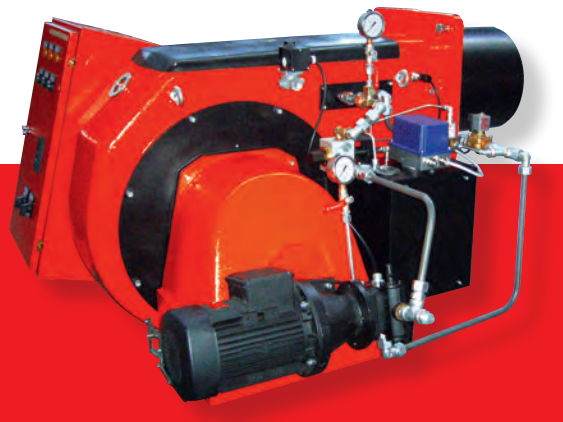
Light Oil Burner ML

Specification

- Modulating operation
- Operation in conformity with all kinds of boilers
- Operation by atomizing the fuel mechanically with high pressure from nozzle
- Providing optimum combustion by adjusting the air rate through air inlet and combustion head
- Disassembling the hydraulic unit and the ignition system without dismounting the burner from boiler
- Minimum and maximum air flow rate setting at first and second stages through and electric servomotor interruption at short stops in order to prevent heat loss from funnel
- Fuel inlet-outlet hoses are provided with boiler connection flange, sealing gasket and fixing bolts
- High performance fan
- Adjustable air flow rate at combustion air inlet
- Adjustable flame tube with stainless steel nozzle and steel flame disc
- Electric servomotor with mechanical cam to adjust burning air and fuel simultaneously
- Pressure adjustable gear pump
- Automatic control equipment of burner in conformity with the European standard EN 230
- Flame control with photocell
- Easy installation and operation
- Terminal for electric and thermostat connections of burner and for connection of second stage control or electronic output regulator
- Hydraulic system in conformity with EN 267

Model and data base

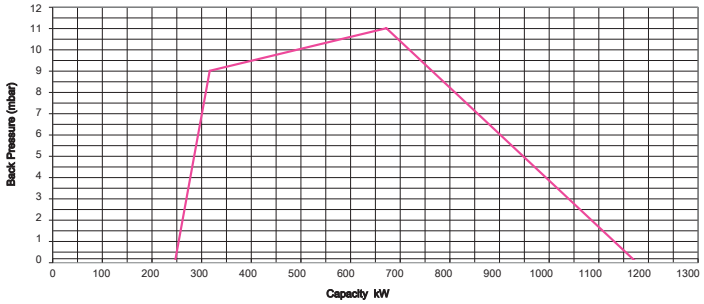
Type	Oil consumption Kg/h	Fan motor power (KW)	Oil Pump Power (KW)	Oil Heater (KW)	Voltage	Weight (Kg)
MH90	22-105	1.5	-	6.0	220V/380V/50HZ	40
MH120	35-140	2.2	-	9.0	220V/380V/50HZ	105
MH140	40-180	3.0	-	14.0	220V/380V/50HZ	180
MH160	40-220	3.0	-	14.0	220V/380V/50HZ	180
MH200	62-267	4.0	0.75	14	220V/380V/50HZ	260
MH250	76-312	5.5	0.75	18	220V/380V/50HZ	270
MH280	95-363	7.5	0.75	18	220V/380V/50HZ	270
MH380	104-500	11	1.5	28	220V/380V/50HZ	340
MH400	104-500	11	2.2	28	220V/380V/50HZ	450
MH500	167-550	15	2.2	32	220V/380V/50HZ	450
MH550	183-600	15	2.2	32	220V/380V/50HZ	450
MH800	317-1025	22	4.0	37	220V/380V/50HZ	1100



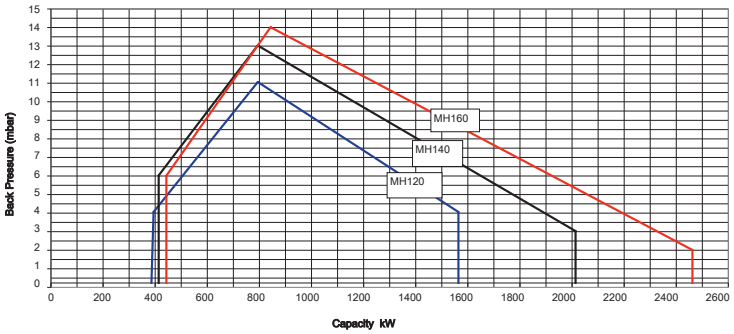
Monoblock Burner
Heavy Oil Burner MH

Capacity Curve

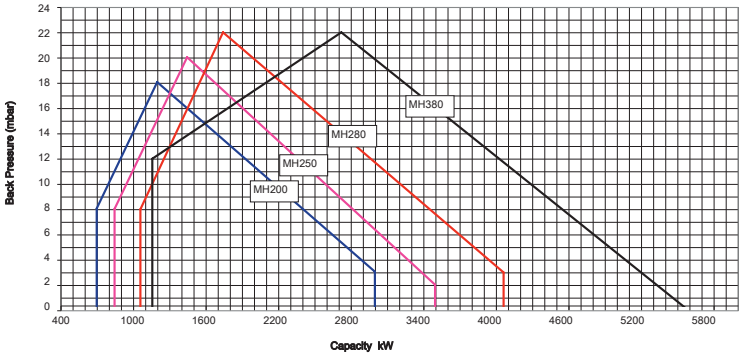
MH90



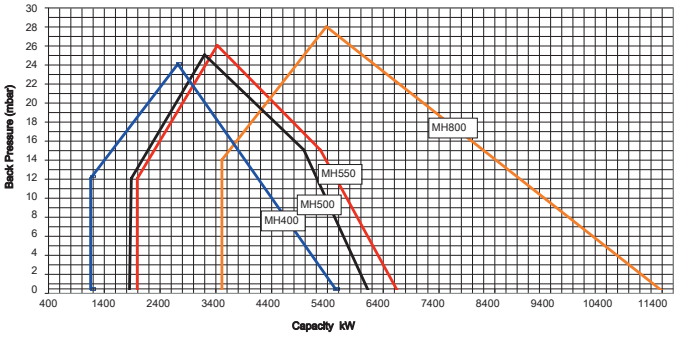
MH120
MH140
MH160



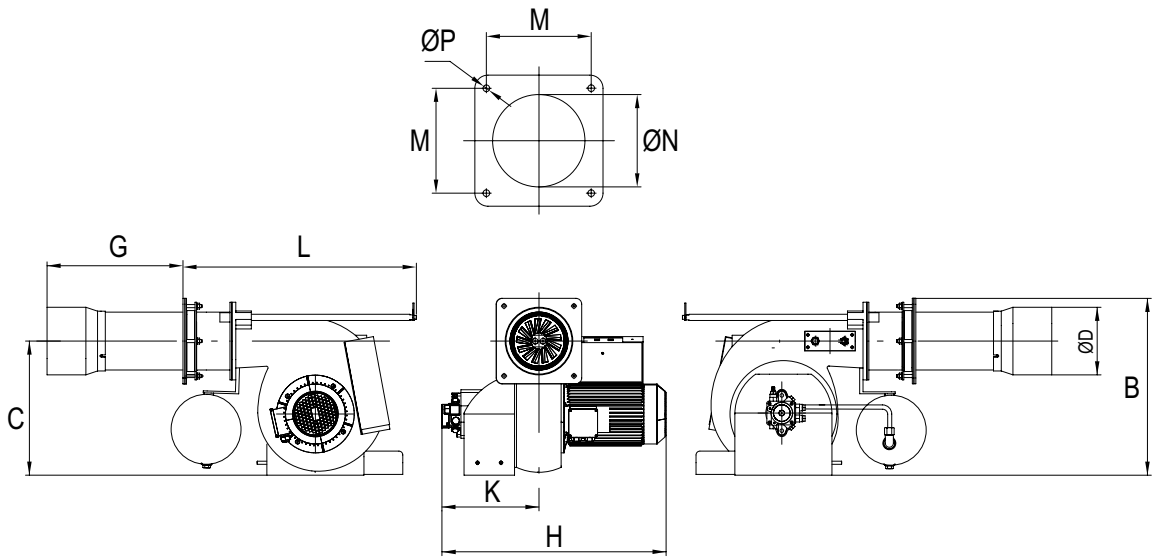
MH200
MH250
MH280
MH380



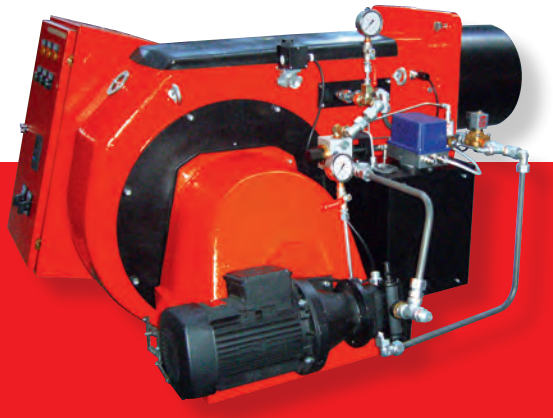
MH400
MH500
MH550
MH800



Dimensions



	Oil consumption Kg/h	L	Gmin	Gmax	H	K	B	C	ØN	ØP	M	ØD
MH90	22-105	625	150	350	585	275	455	345	149	11	180	174
MH120	35-140	680	280	500	750	360	590	420	230	18	275	236
MH140	40-180	680	280	500	750	360	590	420	230	18	275	236
MH160	40-220	680	280	500	750	360	590	420	230	18	275	236
MH200	62-267	970	200	275	740	340	670	500	240	18	275	240
MH250	76-312	1000	200	465	740	340	670	500	250	18	275	280
MH280	95-363	1000	200	465	740	340	670	500	250	18	275	280
MH380	104-500	1200	200	375	970	355	720	525	300	22	335	300
MH400	104-500	1400	320	320	1080	530	870	640	377	23	360	338
MH500	167-550	1400	320	320	1080	530	870	640	377	23	360	338
MH550	163-600	1400	320	320	1080	530	870	640	377	23	360	338
MH800	317-1025	1500	350	350	1290	610	1100	826	560	23	630	492



Monoblock Burner

Heavy Oil Burner MH

RÜTLI
SWISS BURNER

Specification

- Modulating operation
- Compatible with all kinds of boilers
- Optimum fuel air mixture with special gas head and operation by atomizing the fuel mechanically with high pressure from nozzle
- High output operation at each boiler due to adjustment of air flow rate both from suction and from flame tube
- Accessibility to all equipment without dismounting the burner from boiler
- Production in conformity with DIN 4788 and EN 676 standards
- High pressure light weight fan design
- Multi-block bearing safety, operation solenoids, min air pressure switches, filters and regulators on it
- Electrical servomotor with mechanical cam for adjustment of combustion air and fuel simultaneously
- Compact pre-heater specially designed for fuel oil, safety and operation thermostat, second safety surface thermostat, analogue thermometer
- Flame control with photocell
- Hydraulic system in conformity with EN 267
- Automatic control equipment of burner in conformity with the European standard EN 298 and EN 230
- Easy installation and operation
- Low noise level due to light and aerodynamic frame manufactured of high quality aluminum

Model and data base

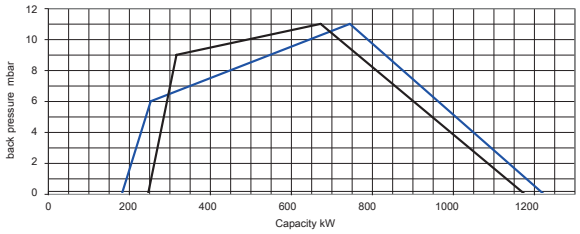
Type	Gas capacity (KW)	Oil consumption Kg/h	Fan motor power (KW)	Oil Pump Power (KW)	Oil Heater* (KW)	Weight (Kg)
MGL / MGH90	200-1200	22-105	1.5	0.75	6	45
MGL / MGH120	250-1500	35-140	2.2	0.75	9	120
MGL / MGH140	300-2000	40-180	3.0	1.1	14	120
MGL / MGH160	300-2500	40-220	3.0	1.1	14	120
MGL / MGH200	430-3000	62-267	4.0	1.1	14	250
MGL / MGH250	500-3500	76-312	5.5	1.5	18	250
MGL / MGH280	580-4070	95-363	7.5	1.5	18	250
MGL / MGH380	798-5581	104-500	11	1.5	28	270
MGL / MGH400	1150-5800	104-500	11	2.2	28	450
MGL / MGH500	1150-6700	167-550	15	2.2	32	450
MGL / MGH550	1150-7200	183-600	15	2.2	32	450
MGL / MGH800	3000-11500	317-1025	22	4.0	37	600

Heater* for GH burner.
Voltage: 220V / 380V / 50HZ

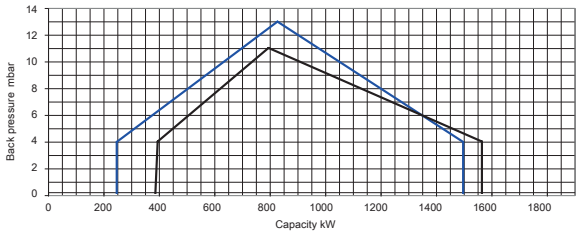
Monoblock Burner
Dual Burner MGL / MGH

Capacity Curve

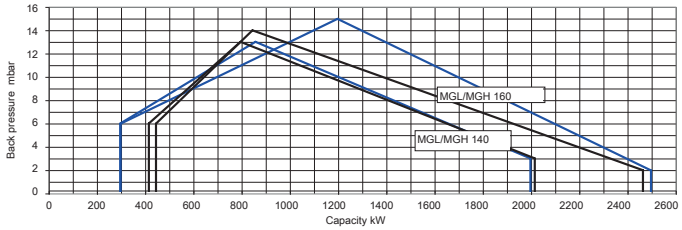
MGL/MGH90



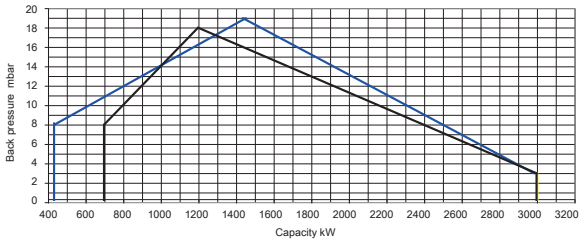
MGL/MGH120



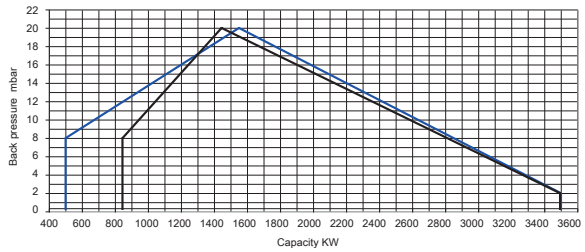
MGL/MGH140
MGL/MGH160



MGL/MGH200



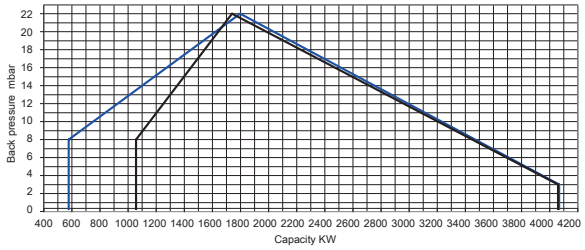
MGL/MGH250



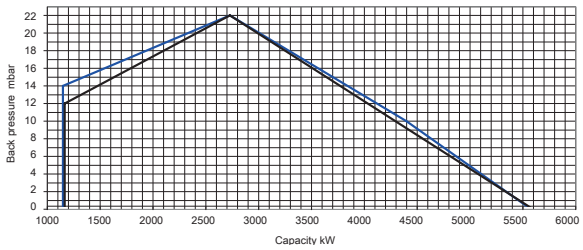
Gas
Oil

RÜTLI SWISS BURNER

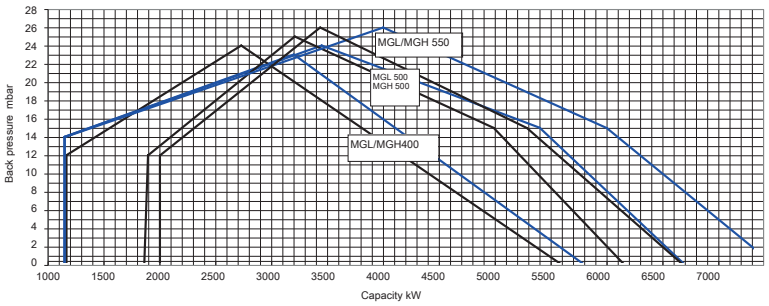
MGL / MGH280



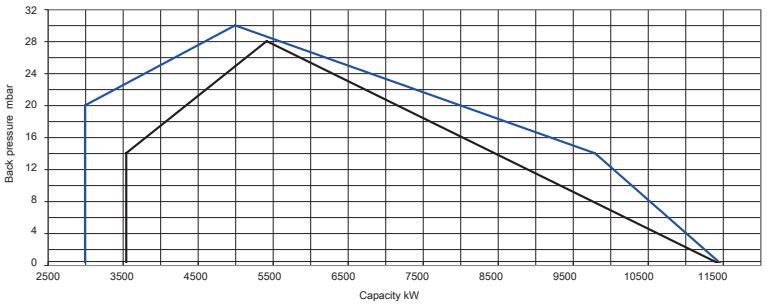
MGL / MGH380



MGL / MGH400
MGL / MGH500
MGL / MGH550

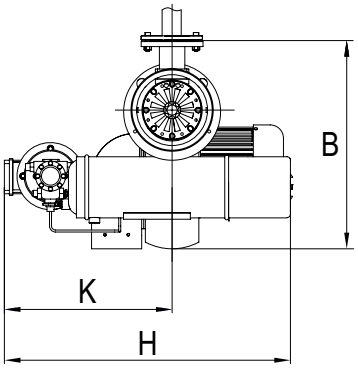


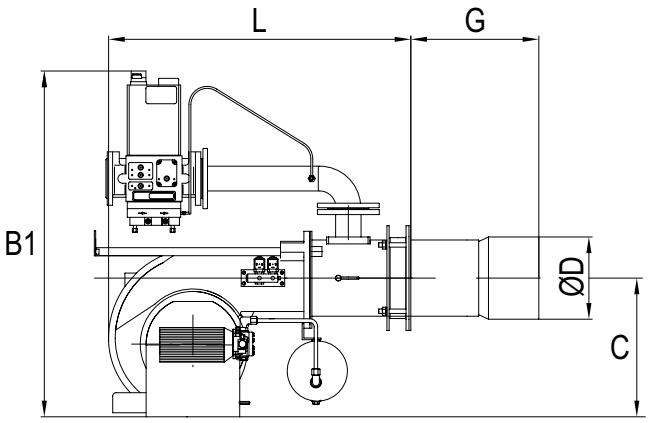
MGL / MGH800

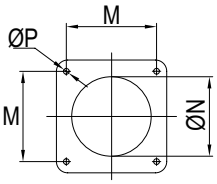


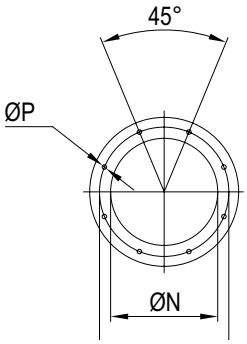
Gas
Oil

Dimensions









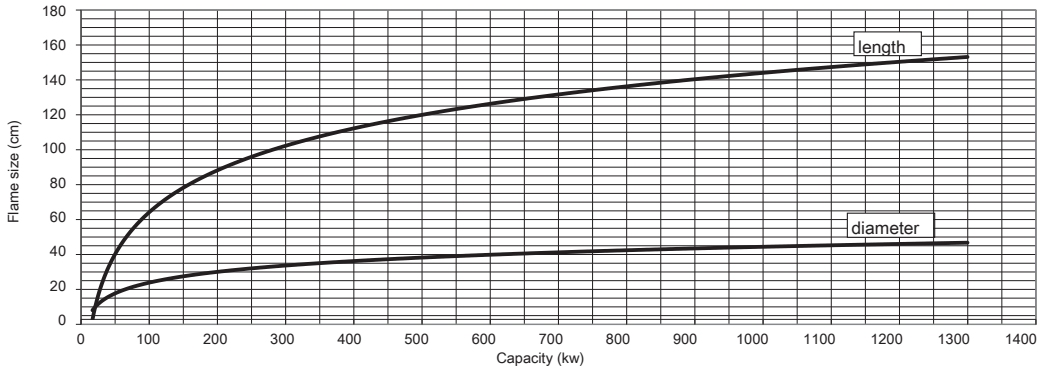
	Gas capacity (KW)	Oil consumption Kg/h	L	Gmin	Gmax	H	K	B	B1	C	ØN	ØP	M	ØD
MGL/MGH90	200-1200	22-105	800	150	350	780	420	455	-	360	149	11	180	200
MGL/MGH120	250-1500	35-140	920	280	500	900	500	615	1020	420	230	18	275	236
MGL/MGH140	300-2000	40-180	920	280	500	900	500	615	1020	420	230	18	275	236
MGL/MGH160	300-2500	40-220	920	280	500	900	500	615	1020	420	230	18	275	236
MGL/MGH200	430-3000	62-267	1000	200	375	1100	550	680	1040	500	240	18	275	240
MGL/MGH250	500-3500	76-312	1000	200	375	1100	550	680	1040	500	250	18	275	280
MGL/MGH280	580-4070	95-363	1000	200	375	1100	550	680	1040	500	250	18	275	280
MGL/MGH380	798-5581	104-500	1200	200	375	970	355	795	1300	525	300	22	335	300
MGL/MGH400	1150-5800	104-500	1400	320	320	1080	530	940	1450	640	377	15	360	375
MGL/MGH500	1150-6700	167-550	1400	320	320	1080	530	940	1450	640	377	15	360	375
MGL/MGH550	1150-7200	163-600	1400	320	320	1080	530	940	1450	640	377	15	360	375
MGL/MGH800	3000-11500	317-1025	1500	350	350	1290	610	1100	1780	826	560	15	Ø630	492

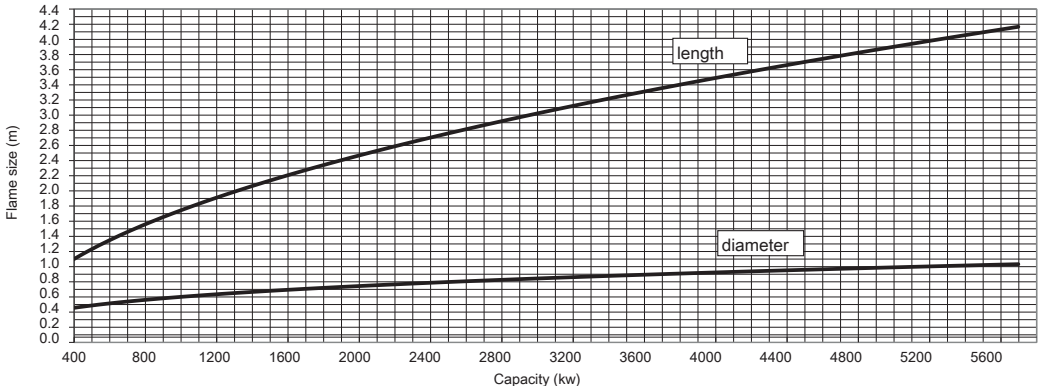
Monoblock Burner

Dual Burner MGL/MGH

RÜTLI SWISS BURNER

Flame size





Specification

- Capacity range from 45 to 11000 kW
- Modern design with aluminum body
- Electrical (wise-drive) modulating
- Designed to natural gas, town gas, biogas and mine gas etc.
- EN 676 as standard
- High reliability and lifetime

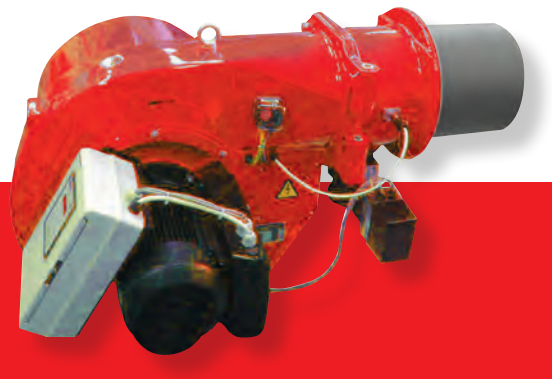
EMISSIONS

Burner	NOx [mg/m³]	CO [mg/m³]
Low-emission (Low NOx)	50 ÷ 90	< 50
With flue gas recirculation	*30 ÷ 70	< 20

* Burner's maximal heat outputs (characteristics) decrease of 15 %

Model and data base

Type	Capacity (KW)	Weight* (Kg)	Motor (Kw)
MG40-E-LN	90-500	39	0,7
MG80-E-LN	250-1100	64	0,9
MG100-E-LN	320-1600	73	1,4
MG160-E-LN	500-2600	100	2,6
MG400-E-LN	800-4800	205	6
MG400/I-E-LN	1100-5000	228	8
MG700-E-LN	1700-8000	470	11
MG900-E-LN	2500-11000	500-580	20÷35



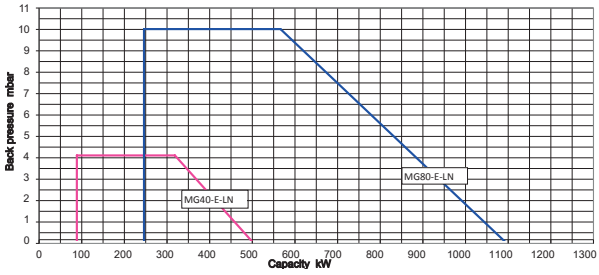
Monoblock Burner – Low NOx

Gas Burner MG-E-LN

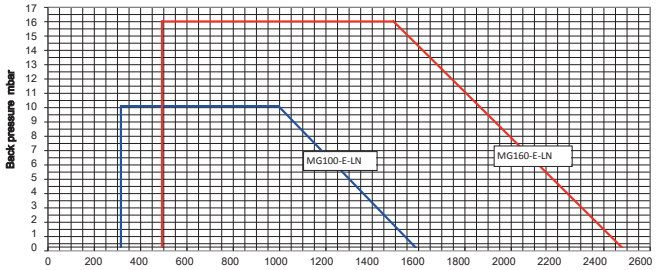
RÜTLI SWISS BURNER

Capacity Curve

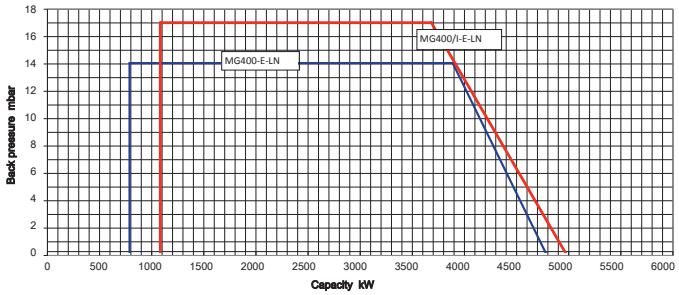
MG40-E-LN
MG80-E-LN



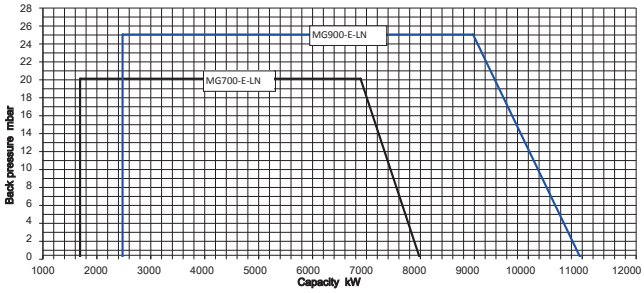
MG100-E-LN
MG160-E-LN



MG400-E-LN
MG400-I-E-LN

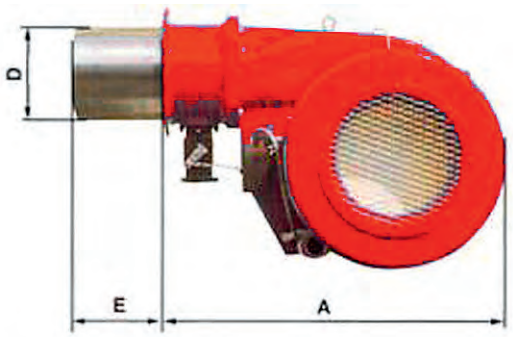


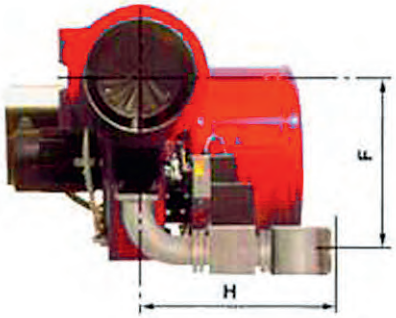
MG700-E-LN
MG900-E-LN

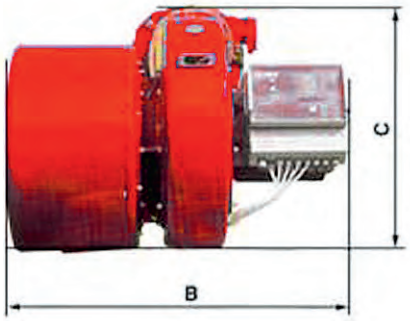


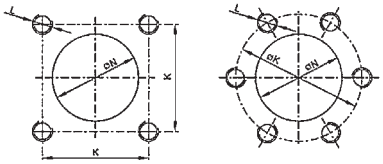
Dimensions

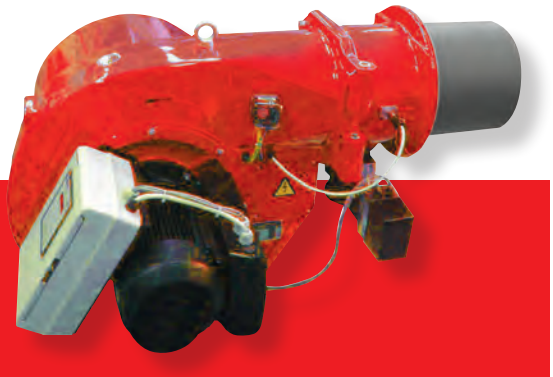
Type	A	B	C	D	E	F	H	K	L
	mm	mm	mm	mm	mm	mm	mm	mm	
MG40-E-LN	651	630	390	ø 156	240	309	550-600	140	4 x M 10
MG80-E-LN	801	790	512	ø 206	240	375	600	180	4 x M 12
MG100-E-LN	833	880	588	ø 250	300	395	600	216	4 x M 12
MG160-E-LN	953	880	711	ø 286	300	407	1000-1039	254	4 x M 16
MG400/400-I -E-LN	1103	1040	839	ø 330	300	547	725-1039	272	4 x M 16
MG700/900-E-LN	1516	1282	1166	ø 476	400	783	1039	ø 540	6 x M 20











Monoblock Burner – Low NOx

Gas Burner MG-E-LN

RÜTLI SWISS BURNER

Specification

- Capacity range from 45 to 11000 kW
- Modern design with aluminum body
- Electrical (wise-drive) modulating
- Designed to light oil and heavy oil
- EN 230 and EN 267 as standard
- High reliability and lifetime

* MH series are equipped with an oil heater securing a fast fuel heating up to a required atomization temperature

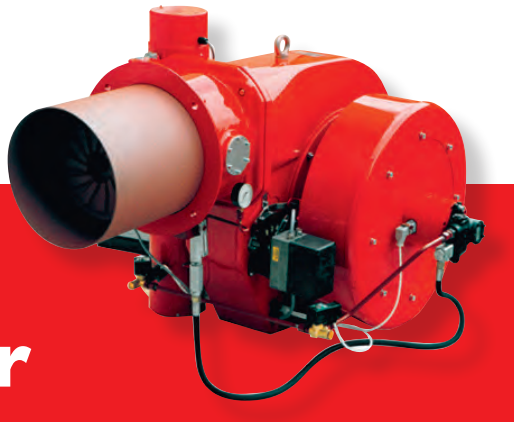
EMISSIONS

Burner	NOx [mg/m³]	CO [mg/m³]
Standard	150 ÷ 220	< 70
With flue gas recirculation	** 80 ÷ 120	< 30

* Burner's maximal heat outputs (characteristics) decrease of ca 15%

Model and data base

Type	Oil consumption Kg/h	Weight (kg)	Motor Power (KW)
MH40-LN	7.2-56.6	47	2,55
ML40-LN	7.2-56.1	40	0,95
MH80-LN	20-78.3	77	4,15
ML80-LN	19.8-77.6	65	1,15
MH100-LN	28.5-125.6	88	4,9
ML100-LN	28.2-124.4	75	1,9
MH160-LN	46.4-204.3	120	5,6
ML160-LN	45.9-202.4	102	2,6
MH400-LN	89.4-408.5	246	14,9
ML400-LN	88.5-404.7	209	9,9
MH700-LN	170.3-680.8	490	17,9
ML700-LN	168.6-674.5	475	12,9

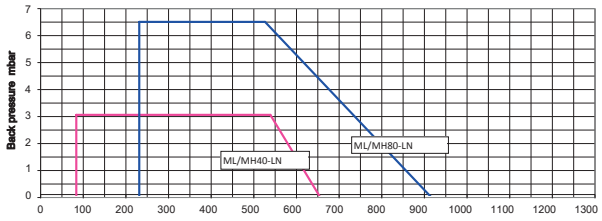


Monoblock Burner – Low NOx

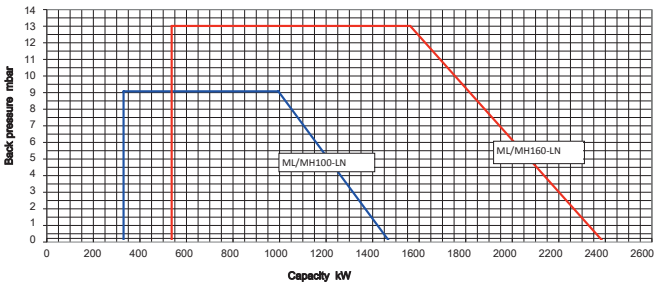
Oil Burners ML-E-LN / MH-E-LN

Capacity Curve

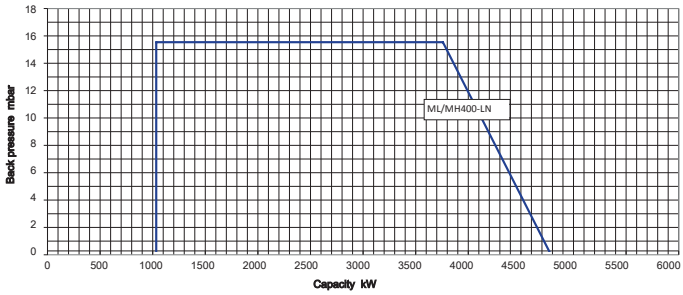
ML/MH40-LN
ML/MH80-LN



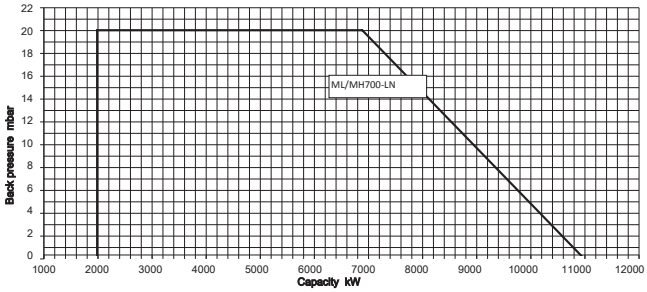
ML/MH100-LN
ML/MH160-LN

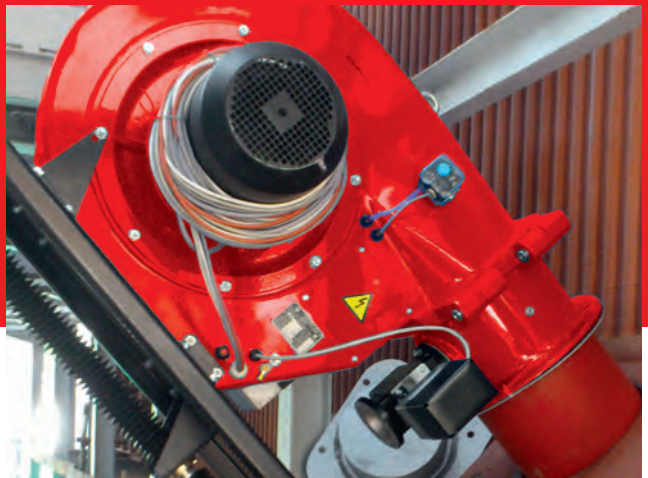


ML/MH400-LN



ML/MH700-LN

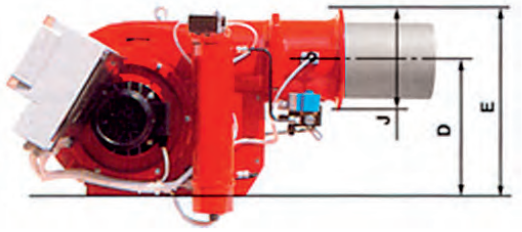


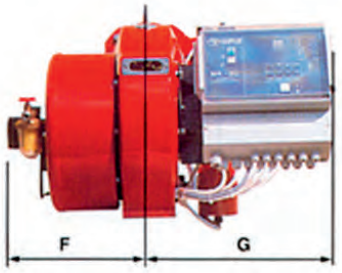


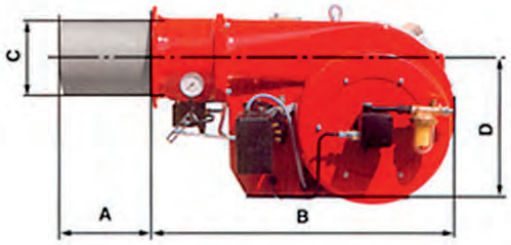
RÜTLI SWISS BURNER

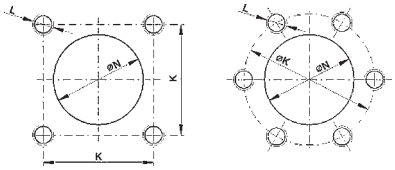
Dimensions

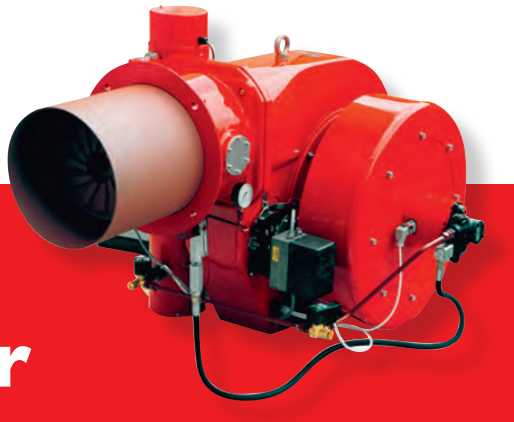
Type	A mm	B mm	C mm	D mm	E mm	F mm	G mm	J mm	K mm	L	N mm	Inner diameter supply hose	Inner diameter supply hose
ML/MH40-LN	240	668	ø156	247	347	312	395	200x200	145	4x M10	ø165	DN 10	DN 8
ML/MH80-LN	240	802	ø206	372	512	344	415	ø280	180	4x M12	ø215	DN 10	DN 8
ML/MH100-LN	300	832	ø250	402	570	457	422	ø336	216	4x M12	ø260	DN 10	DN 8
ML/MH160-LN	300	954	ø286	511	711	568	427	ø400	254	4x M16	ø295	DN 13	DN 10
ML/MH400-LN	300	1104	ø330	619	839	709	440	ø440	272	4x M16	ø340	DN 13	DN 10
ML/MH700-LN	400	1516	ø476	864	1166	792	505	600	ø540	6x M20	ø490	DN 15	DN 15











Monoblock Burner – Low NOx

Oil Burners ML-E-LN / MH-E-LN

Specification

- Capacity range from 250 to 11000 kW
- Modern design with aluminum body
- Electrical (wise-drive) modulating
- Designed to dual fuel (gas and light oil or heavy oil)
- EN 230 and EN 267 as standard
- High reliability and lifetime

* MGH series are equipped with an oil heater securing a fast fuel heating up to a required automization temperature

EMISSIONS

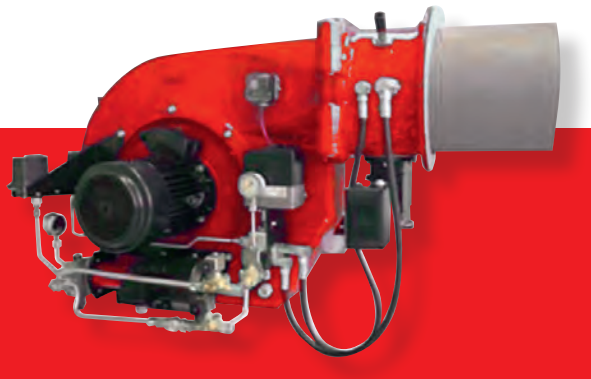
Burner	NOx [mg/m^3]	CO [mg/m^3]
Standard	150 ÷ 220	< 70
With flue gas recirculation	* 80 ÷ 120	< 30

* Burner's maximal heat outputs (characteristics) decrease of 15%

Model and data base

Type	Capacity (KW)	Oil consumption (Kg/h)	Fan motor power (KW)
MGL/MGH80-E-LN	250-1000	19,8-77,6	1,2
MGL/MGH100-E-LN	320-1600	28,2-124,4	1,9
MGL/MGH160-E-LN	500-2600	45,9-202,4	2,6
MGL/MGH400-E-LN	800-4800	88,5-404,7	10
MGL/MGH700-E-LN	2000-11000	144-678	13

* 3 ~380V/400V 50 Hz,
Capacity-Natural gas as fuel

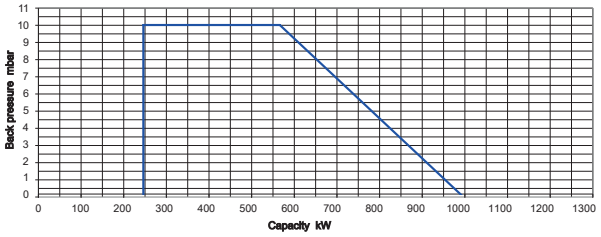


Monoblock Burner – Low NOx

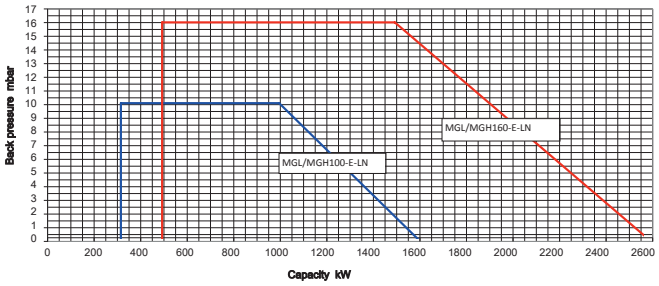
Gas/Oil Dual Fuel Burner MGL-E-LN/MGH-E-LN

Capacity Curve

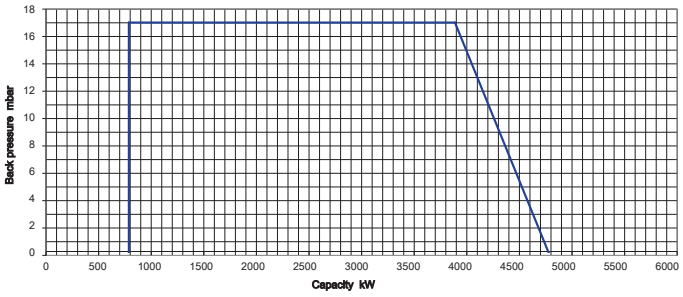
MGL/MGH80-E-LN



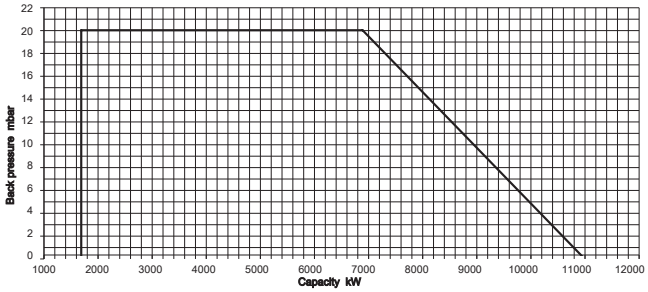
MGL/MGH100-E-LN
MGL/MGH160-E-LN

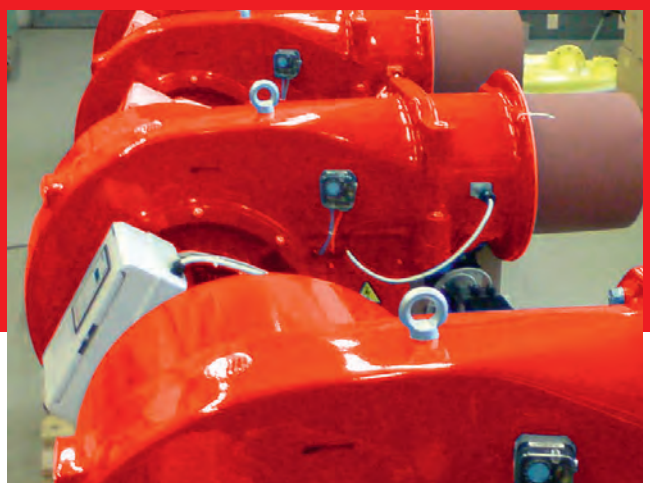


MGL/MGH400-E-LN

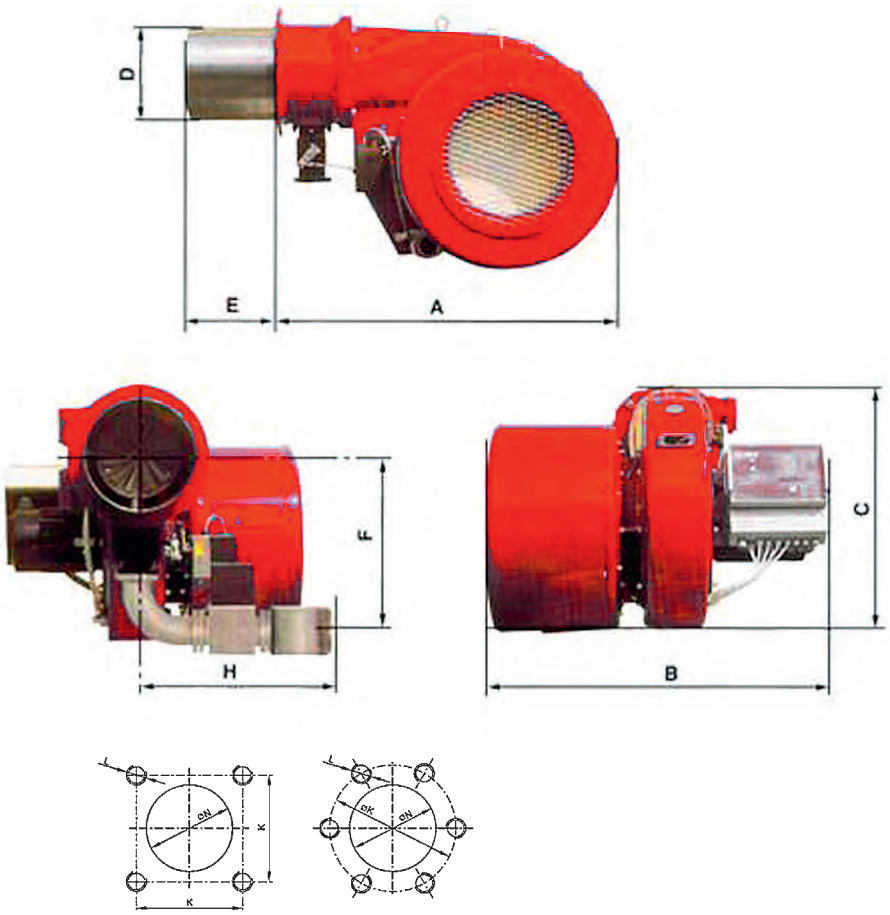


MGL/MGH700-E-LN

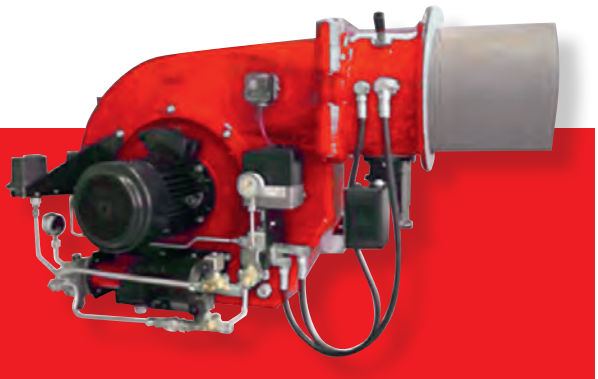




Dimensions



Type	A mm	B mm	C mm	D mm	E mm	F mm	H mm	K mm	L
MGL/MGH80-E-LN	801	790	512	ø206	240	345÷406	600÷1039	180	4×M12
MGL/MGH100-E-LN	833	880	588	ø250	300	431	1039	216	4×M12
MGL/MGH160-E-LN	953	880	711	ø286	300	443	1039	254	4×M16
MGL/MGH400-E-LN	1103	1040	839	ø330	300	547	1039	272	4×M16
MGL/MGH700-E-LN	1516	1282	1166	ø476	400	783	1039	ø540	6×M20



Monoblock Burner – Low NOx

Gas/Oil Dual Fuel Burner MGL-E-LN/MGH-E-LN

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Specification

- Electrical modulating types
- Provides long service life under extreme conditions with its robust and durable body construction
- Provides high efficiency, energy-saving and is environmental-friendly
- Has low emission values
- Compatible with electronic and mechanical modulating systems
- Suitable for operation according to the steam atomizing system at high or low pressure
- Quiet operation thanks to its special technology
- Suitable for operation with hot air
- Turn down ratio-Gas: 1:6 Oil: 1:4

EMISSIONS

Burner	NOx [ppm]	CO [ppm]
Gas standard	<=60	<10
Oil standard	75 ÷ 110	< 35

Model and data base

Type	Max Capacity* (KW)	Oil Consumption (Kg/h)
DG/DL/DH/DGL/DGH320-E	~3200	~270
DG/DL/DH/DGL/DGH400-E	~4000	~337
DG/DL/DH/DGL/DGH480-E	~4800	~404
DG/DL/DH/DGL/DGH590-E	~5900	~498
DG/DL/DH/DGL/DGH700-E	~7000	~590
DG/DL/DH/DGL/DGH780-E	~7800	~658
DG/DL/DH/DGL/DGH850-E	~8500	~717
DG/DL/DH/DGL/DGH930-E	~9300	~785
DG/DL/DH/DGL/DGH1100-E	~11000	~930
DG/DL/DH/DGL/DGH1200-E	~12400	~1045
DG/DL/DH/DGL/DGH1400-E	~13900	~1170
DG/DL/DH/DGL/DGH1500-E	~15500	~1305
DG/DL/DH/DGL/DGH1600-E	~17100	~1440
DG/DL/DH/DGL/DGH1800-E	~18600	~1570
DG/DL/DH/DGL/DGH2000-E	~20000	~1690
DG/DL/DH/DGL/DGH2250-E	~22500	~1900
DG/DL/DH/DGL/DGH2400-E	~24000	~2025
DG/DL/DH/DGL/DGH3200-E	~32000	~2700

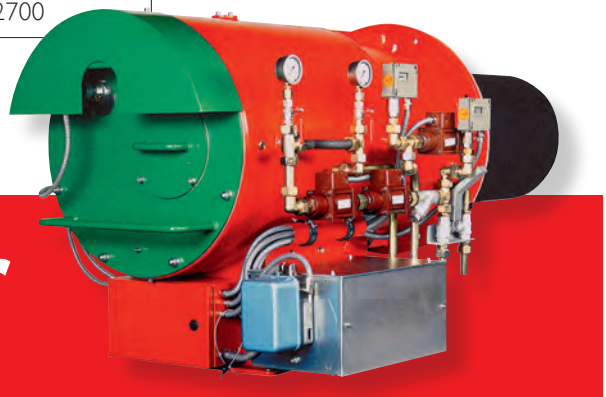
*capacity shows gas as fuel

Fuel: Heating oil, HV = 42.7 MJ/kg
Natural gas, HV = 36.0 MJ/Nm

Oil consumption shows light oil as fuel, it has little change when oil changes to heavy oil.

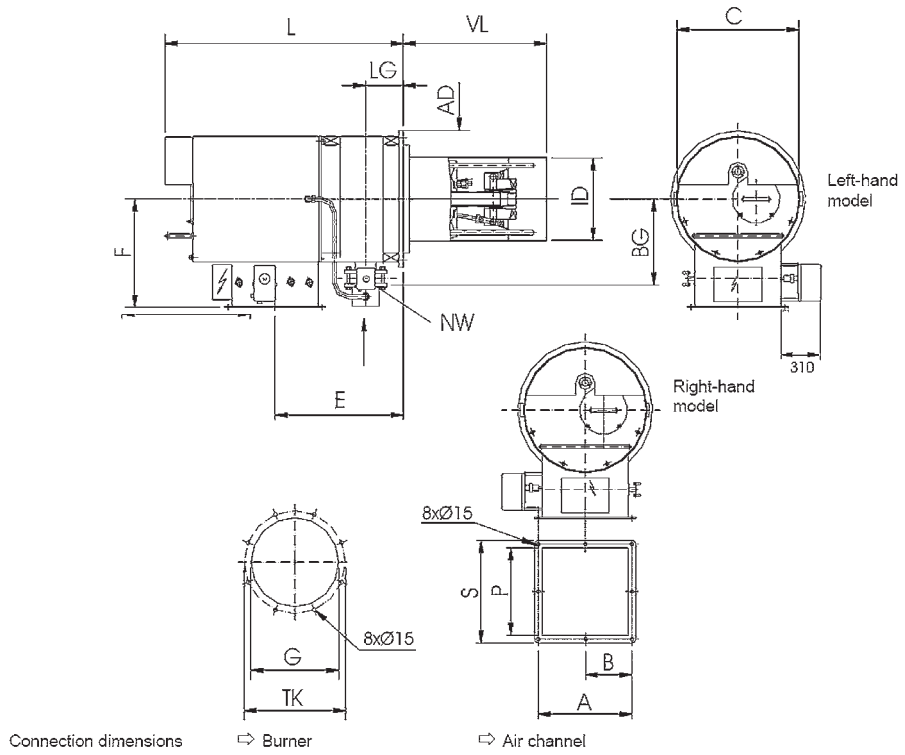
Gas pressures:
In front of the gas valve 150 mbar;
in the burner head approx. 80 - 100 mbar at max. power.

Central gas burner:
Tapped off before the gas valve.



Duoblock Burner
Gas Burner DG-E
Oil Burner DL-E/DH-E
Dual Fuel Burner DGL-E/DGH-E

Dimensions



Connection dimensions ⇨ Burner ⇨ Air channel

DG / DL / DH / DGL / DGH

Type	L	C	AD	ID	F	E	VL	TK	G	BG	LG	NW	A	B	S	P	Weight
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
320E	1270	550	503	-	550	630	570	430	380	450	197	100	400	200	436	356	450
400E	1270	550	503	270	550	630	570	430	380	450	197	100	400	200	436	356	450
480E	1270	550	555	-	550	630	670	430	430	450	197	100	400	200	436	356	450
590E	1270	550	555	315	550	630	670	480	430	450	197	100	400	200	436	356	450
700E	1270	550	555	335	550	630	670	480	430	450	197	100	400	200	436	356	450
780E	1270	550	605	350	550	605	670	530	480	450	197	100	450	225	506	406	450
850E	1270	550	605	365	550	605	670	530	480	450	197	100	450	225	506	406	450
930E	1270	550	605	380	550	605	670	530	480	450	197	100	450	225	506	406	510
1100E	1270	650	705	400	600	680	750	630	580	516	197	150	500	250	556	456	510
1200E	1270	650	705	425	600	680	750	630	580	516	197	150	500	250	556	456	510
1400E	1270	650	705	445	600	680	750	630	580	516	197	150	500	250	556	456	510
1500E	1625	822	805	475	690	770	870	710	660	566	227	150	550	275	608	508	620
1600E	1625	822	805	495	690	770	870	710	660	566	227	150	550	275	608	508	620
1800E	1625	822	805	515	690	770	870	710	660	566	227	150	550	275	608	508	620
2000E	1625	822	865	545	690	820	870	792	740	566	227	150	660	330	708	608	620
2250E	1625	822	865	560	690	820	870	792	740	566	227	150	660	330	708	608	620
2400E	1625	822	865	580	690	820	870	792	740	566	227	150	660	330	708	608	620

Duoblock Burner

Gas DG-E

Oil DL-E/DH-E

Dual Fuel DGL-E/DGH-E

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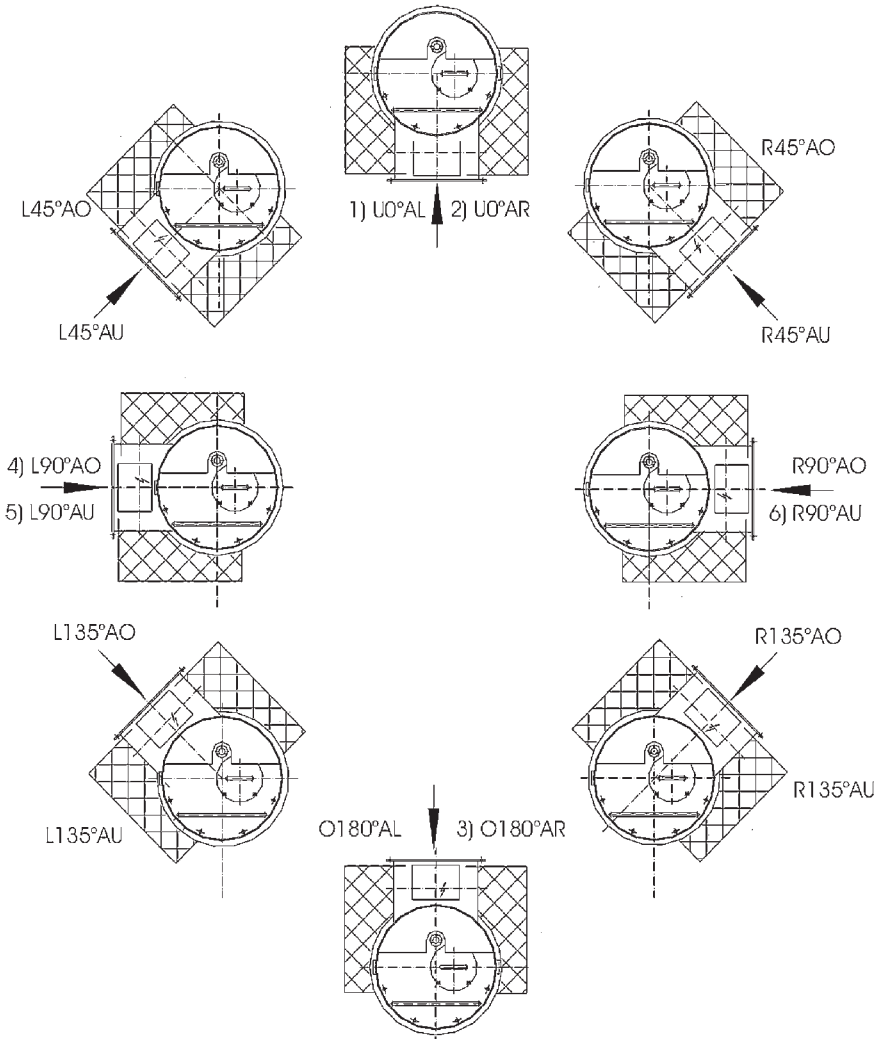
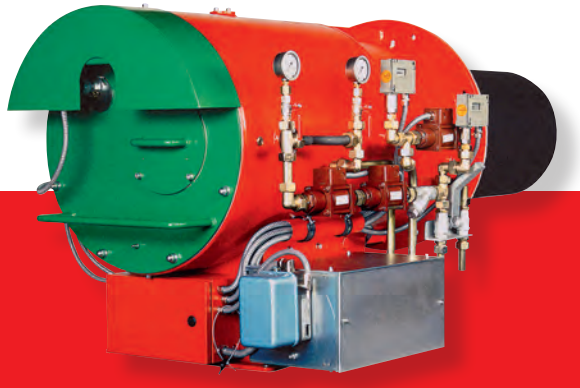
Lay-out of combustion air supply

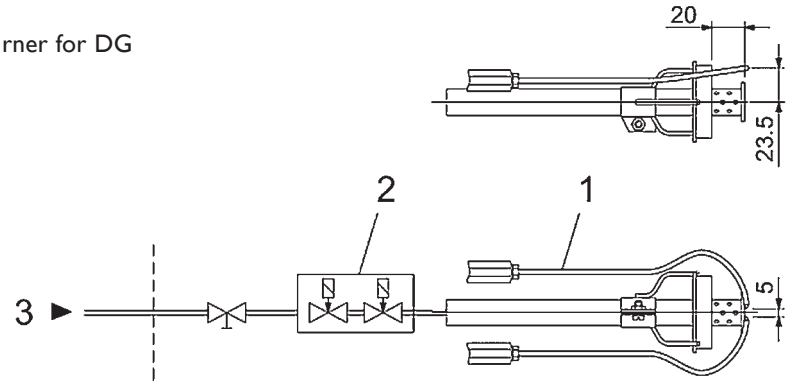


- Air in direction of arrow
- Gas connection on drive side
- In the case of electronic combined regulation, the gas connection can be freely selected.



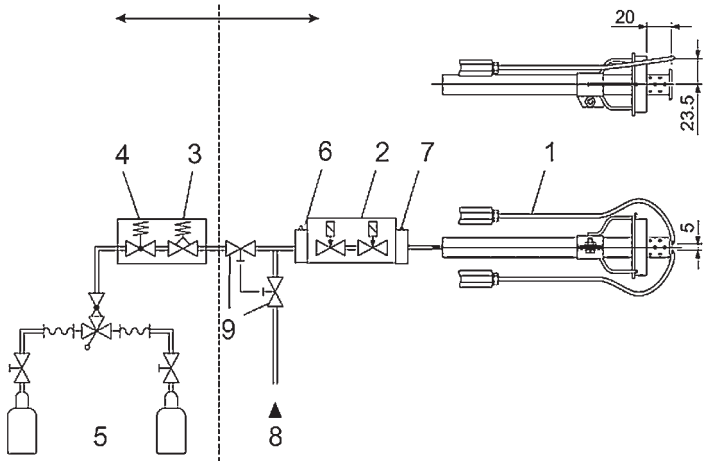
Pilot burners

Pilot burner for DG



1. Pilot gas burner
2. Dual solenoid valve including gas filter and quantity regulation
3. Natural gas

Pilot burner for DL/DH and DGL/DGH



1. Pilot gas burner
2. Dual solenoid valve including gas filter and quantity regulation
3. Twin ball valve
4. Gas pressure controller
5. Safety shut-off valves (SAV)
6. Propane gas dual-bottle installation
7. Natural gas

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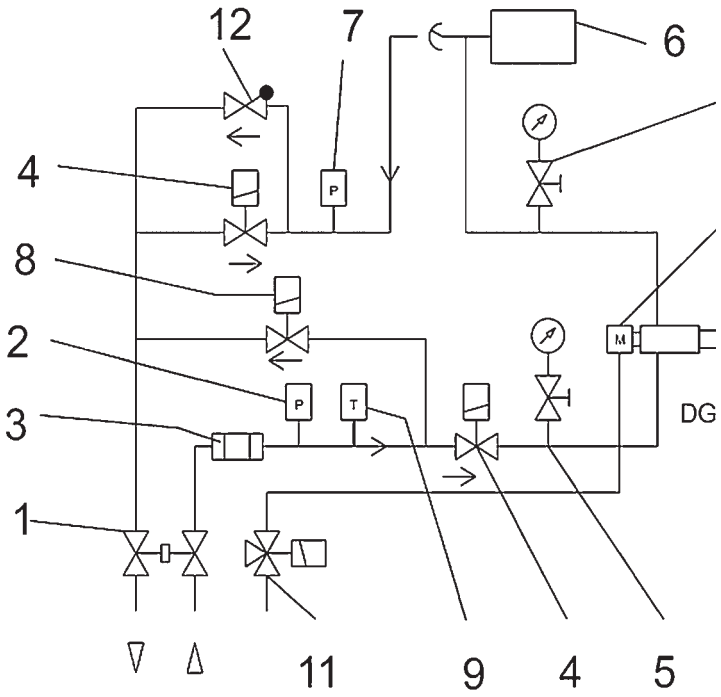
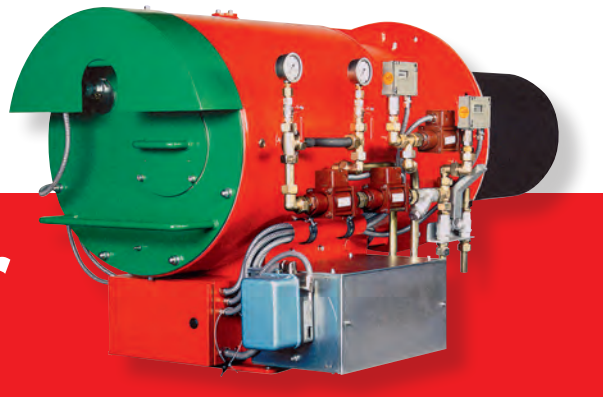
Hydraulics / Hydraulic circuit for oil (DL / DH / DGL / DGH)



1. Dual ball valve
2. Pressure switch, min.
3. Filter
4. Solenoid valve
5. Pressure gauge with shut-off cock
6. MVR with oil return controller
7. Pressure switch, max.
8. Solenoid valve
9. Thermostat
10. Pneumatic 0-connection
11. 3/2-way valve (compressed air)
12. Non-return valve



Duoblock Burner

Gas DG-E

Oil DL-E / DH-E

Dual Fuel DGL-E / DGH-E

Specification

The P type and U type burners are designed to satisfy the most stringent restrictions on pollutant emissions on fuel gas firing, with or without Flue Gas Recirculation (FGR) while providing high combustion efficiency and reliability with all kinds of gaseous fuels.

Two air registers control combustion air flow. Each register is consisting of an axially moving drum controlling primary/secondary air rations. Strong combustion air vorticity is achieved by means of primary and secondary air swirlers whose position is set during the start-up and commissioning phases to provide the proper air turbulence, which ensures optimal mixing with the gas.

- Turn down ratio-Gas: 1:8 Oil: 1:4

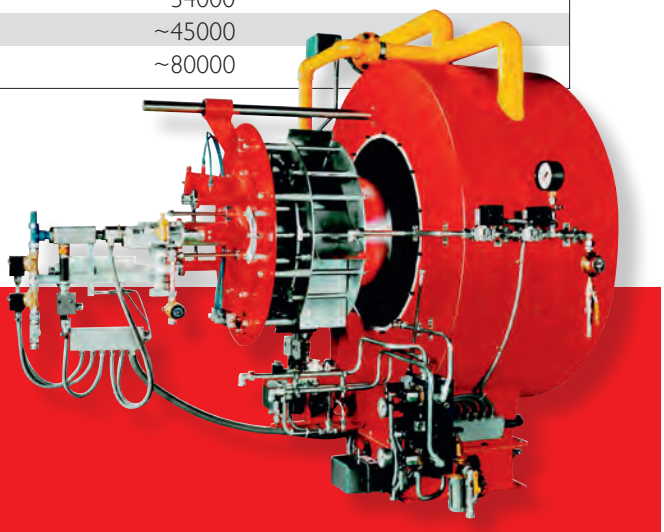
EMISSIONS

Power Burner	Type	NOx [ppm]	CO [ppm]
Low NOx	PG	<40	<10
	PL/PH	<60	<10
Ultra Low NOx	UG	25	<10

Guaranteed emission values (for installation, see guaranteed emission values supplied to customer) (at 3% oxygen content in the flue gas) max 1.2 MW combustion chamber loading

Model and data base

Burner	Type	Max Capacity (KW)	Oil Consumption (Kg/h)
Power Burner - Low NOx	PG/PL/PH/PGL/PGH900-E-LN	~9000	~759
	PG/PL/PH/PGL/PGH1050-E-LN	~10500	~886
	PG/PL/PH/PGL/PGH1280-E-LN	~12800	~1080
	PG/PL/PH/PGL/PGH1500-E-LN	~15000	~1266
	PG/PL/PH/PGL/PGH1780-E-LN	~17800	~1502
	PG/PL/PH/PGL/PGH2000-E-LN	~20000	~1688
	PG/PL/PH/PGL/PGH2400-E-LN	~24000	~2025
	PG/PL/PH/PGL/PGH2800-E-LN	~28000	~2363
	PG/PL/PH/PGL/PGH3400-E-LN	~34000	~2869
	PG/PL/PH/PGL/PGH4500-E-LN	~45000	~3797
	PG/PL/PH/PGL/PGH8000-E-LN	~80000	~6750
Ultra Low NOx	UG3400-E	~34000	
	UG4500-E	~45000	
	UG8000-E	~80000	



Power Burner

Max 80 MW

Low NOx PG/PL/PH/PGL/PGH-E

Ultra Low NOx UG-E

RÜTLI
SWISS BURNER

Specification

Model and data base

Rütli coal powder burner (Single-fuel, Dual-fuel and Multi-fuel)
for different applications such as:

- Asphalt dryer
- Hot air generators
- Boiler
- Lime kilns (annular shaft kilns)
- Melting furnaces
- Turn down ratio-Gas: 1:6 Oil: 1:4

Coal powder burner can be designed case by case

Fuel Flow min/max

Type	Capacity	Coal powder (Kg/h)		Light oil (Kg/h)		Heavy oil (Kg/h)		Natural gas (Nm3/h)	
C320	3,2 MW	130	630	50	260	50	270	40	300
C400	4,0 MW	165	800	60	340	60	350	50	380
C500	5,0 MW	205	1000	75	420	75	440	65	480
C630	6,3 MW	255	1260	90	530	95	550	80	600
C710	7,1 MW	290	1420	105	600	110	620	90	680
C800	8,0 MW	325	1600	115	680	120	700	100	770
C1000	10,0 MW	405	2010	145	850	150	880	125	960
C1250	12,5 MW	505	2510	180	1070	185	1100	155	1200
C1600	16,0 MW	645	3210	230	1370	240	1410	195	1540
C1800	18,0 MW	725	3620	260	1.540	270	1590	220	1730
C2000	20,0 MW	805	4020	290	1710	300	1760	245	1930
C2240	22,4 MW	905	4500	325	1910	335	1980	275	2160
C2500	25,0 MW	1010	5020	360	2140	370	2210	305	2410
C2800	28,0 MW	1130	5630	405	2390	415	2470	340	2700
C3100	31,0 MW	1270	6330	450	2690	465	2780	385	3040
C3550	35,5 MW	1430	7130	510	3040	525	3140	430	3420
C4000	40,0 MW	1610	8040	575	3420	595	3530	485	3860
C4500	45,0 MW	1815	9050	645	3850	665	3980	545	4340
C5000	50,0 MW	2015	10050	715	4280	740	4420	605	4820
C5600	56,0 MW	2255	11260	805	4790	830	4950	680	5400
C6300	63,0 MW	2535	12670	900	5390	930	5570	765	6080
C7100	71,0 MW	2860	14270	1015	6080	1050	6280	860	6850
C8000	80,0 MW	3220	16090	1145	6850	1185	7070	970	7720
C10000	100,0 MW	4025	20110	1430	8560	1480	8840	1210	9650

Heating value: Coal powder: 17.9 MJ/Kg; Light oil: 42.01 MJ/Kg; Heavy oil: 40.68 MJ/Kg; NG: 37.3 MJ/Nm^3

Coal Powder Burner

Max 100 MW

RÜTLI
SWISS BURNER

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