



GARMIRAN
MANUFACTURING GROUP

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Garmiran Manufacturing Group

Established in 1980, It was being produced two kinds of gas burners. Now there are over 240 models of different kinds of gas burner, oil burner, heavy oil burner, dual fuel burner, multiple fuel burner, pulverized coal burner, produced in this company in a wide capacity range of 20,000 kcal/hr to 30,000,000 kcal/hr.

From 1989 this company started manufacturing of die cast aluminum radiators in different models and aluminum filters of gas lines for up to 4" sizes and steel filters of gas lines for up to 14" sizes, and 2" and 3" Landis valves. Meanwhile some gas line equipment comprising special technologies have also been the subject of the company studies and production. Garmiran manufacturing group obtained Iranian national standard sign for the products and ISO 9001:2015, ISO 14001:2015, and OHSAS 18001:2007 certificate of CQC company in United Kingdom. This group is now one of the major manufacturers of burner with high efficiency and of different fuels, beside the aluminum radiators and combi boilers all over Iran.

R&D department of the factory has preserved and supported the combustion industry of the country and the environmental health for the citizen by upgrading product.



Riello company started producing different kinds of burners from 1920, nowadays is the most accredited manufacturing company for small, middle-size, and big burners, ranging from residential to industrial applications, complying with all the global standards. Low NOx burners design and manufacturing is one of the prominent approaches of this company. Garmiran and Riello managed to make contract of cooperation in 2012 after 5 years of negotiation. This cooperation is indeed production of Riello CKD burners under constant supervision of Riello which made a revolution regarding combustion industry.



Baxi company was established in 1948 and now is one of the 3 leading companies worldwide in producing wall hung boilers, floor standing boilers and condensing boilers.

In 2013 and after 4 years following up, Garmiran and Baxi companies made a contract for manufacturing cooperation to bring over the technology and produce boilers with efficiencies over 92%, which are now being produced in Garmiran production line.



GARMIRAN giving life
RIELLO giving future.

Garmiran - Riello

In 2012, Riello company from Italy, chose Garmiran manufacturing group as an industrial site for production of Riello burners according to Garmiran infrastructure, scientific and technical abilities. This contract, could bring a new era in Iran industry and an evolutionary step toward the optimization of the fuel combustion. It is obvious that Riello burner production in Iran will increase the customers expectations for qualified products which can lead to an improvement in the quality of the other national made products . The burners are ranging from a minimum capacity of 70,000 Kcal/hto a maximum capacity of 32,000,000 Kcal/h, burning natural gas, light oil and heavy oil, in single, double and triple fuel models.

2

RIELLO

EN
676

EN
267

EMC

CE

BUWAL
LRV.92

RS 250M Garmiran-Riello Gas Burner

Modulating Gas burner RS/M series

High efficiency

Application: hot water, steam boilers, power plants

Including two stages by means of a processor

Modular performance ability (as a request)

High safety is the competitive advantages of these burners

Using high quality components in the assemble of the burners

Completely tested in the factory

Compatible with remote control system

Low noise (due to the special design)

Having the least dimension and weight in comparison to other producers

LOW NOx

RS 250/M MZ 600/1250 ÷ 2650 kw

RS 28 Garmiran-Riello Gas Burner

Gas burners RS series

High efficiency

Application: hot water, steam boilers, power plants, paint lines, greenhouse, poultry

Including two stages by means of a processor

High safety is the competitive advantages of these burners

Using high quality components in the assemble of the burners

Completely tested in the factory

Compatible with remote control system

Low noise (due to the special design)

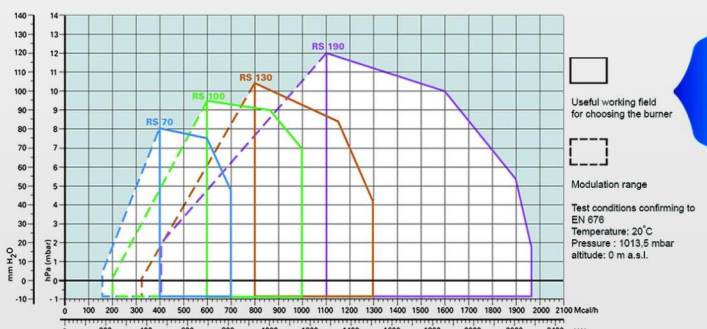
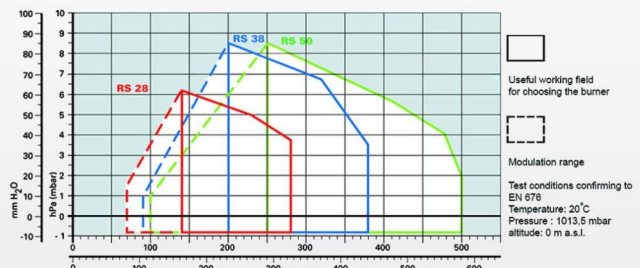
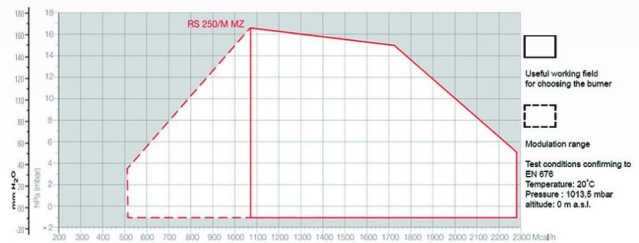
Having the least dimension and weight in comparison to other producers

Flame adjustment: using a CAM, the gas to air ratio will be adjusted

Confirmed by EN 676 and other valid European standards

LOW NOx

RS 28	81/163 ÷	325 kw
RS 38	105/232 ÷	440 kw
RS 50	115/290 ÷	600 kw
RS 70	192/465 ÷	814 kw
RS 100	232/698 ÷	1163 kw
RS 130	372/930 ÷	1512 kw
RS 190	470/1279 ÷	2290 kw

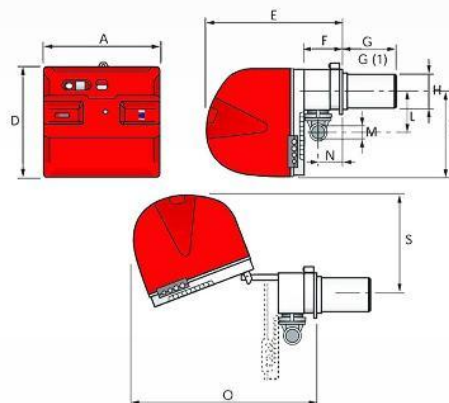


Overall Dimension(mm)

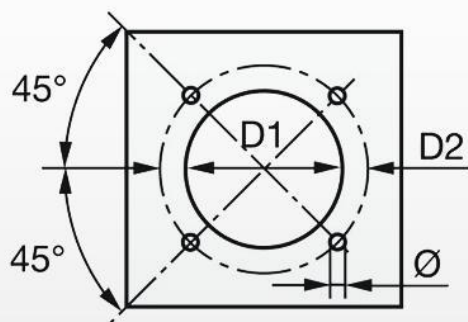
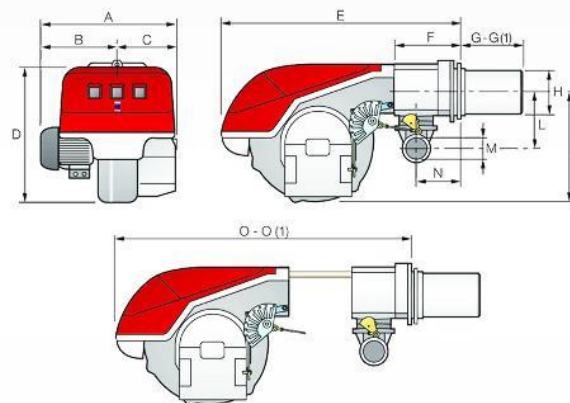
MODEL	A	D	E	F	G - G (1)	H	I	L	M	N	O	S
RS 28	476	474	580	164	216 - 351	140	352	168	1" 1/2	108	810	367
RS 38	476	474	580	164	216 - 351	140	352	168	1" 1/2	108	810	367
RS 50	476	474	580	164	216 - 351	140	352	168	1" 1/2	108	810	367

MODEL	A	B	C	D	E	F	G - G (1)	H	I	L	M	N	O - O (1)
RS 70	511	296	215	555	840	214	250 - 385	179	430	221	2"	134	1161 - 1296
RS 100	527	312	215	555	840	214	250 - 385	179	430	221	2"	134	1161 - 1296
RS 130	553	338	215	555	840	214	280 - 415	189	430	221	2"	134	1161 - 1296
RS 190	681	366	315	555	872	246	372 - 530	222	430	221	2"	150	1328 - -
RS 250/M MZ	732	427	305	555	872	230	370 - 520	222	430	221	2"	150	1328 - -

RS 28 - 38 - 50



RS 70 - 100 - 130 - 190

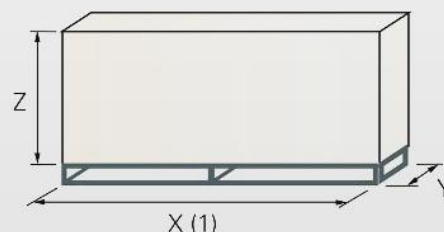


Burner-Boiler Mounting Flange (mm)

MODEL	D1	D2	Ø
RS 28	160	224	M8
RS 38	160	224	M8
RS 50	160	224	M8
RS 70	185	275-325	M12
RS 100	185	275-325	M12
RS 130	195	275-325	M12
RS 190	230	325-368	M16
RS 250/M MZ	230	325-368	M16

Packaging(mm)

MODEL	X (1)	Y	Z	kg
RS 28	1200	502	520	38
RS 38	1200	502	520	40
RS 50	1200	502	520	41
RS 70	1405	700	660	70
RS 100	1405	700	660	73
RS 130	1405	700	660	76
RS 190	1405 - 1420	1000	660	82
RS 250/M MZ	1405 - 1420	1000	660	117



RLS 100 Garmiran-Riello Dual Fuel Burner

Dual fuel burners RLS series

High efficiency

Application: hot water, steam boilers, power plants

Including two stages by means of a processor

High safety is the competitive advantages of these burners

Using high quality components in the assemble of the burners

Completely tested in the factory

Compatible with remote control system

Low noise (due to the special design)

Having the least dimension and weight in comparison to other producers

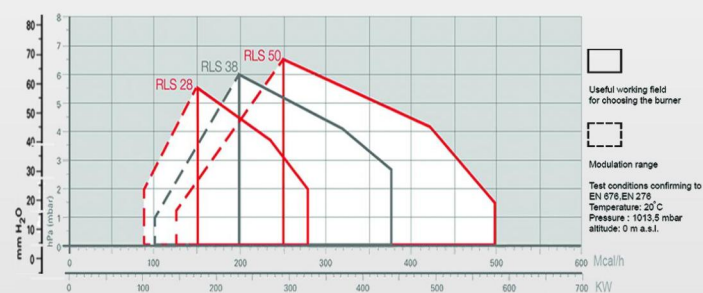
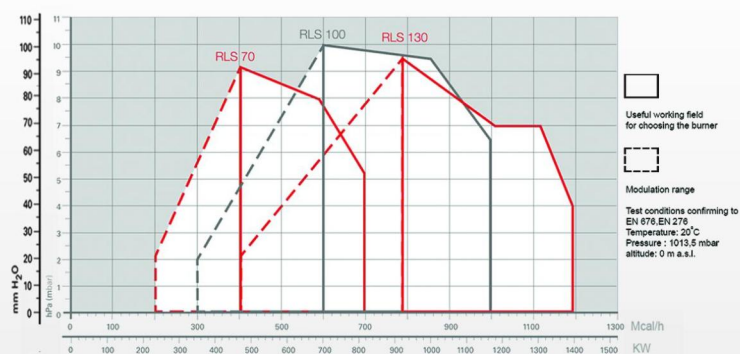
Easy installation and commissioning

Confirmed by EN 676, EN 267 and other valid European standards

LOW NOx



RLS 28	100/163 ÷ 325 kW
RLS 38	116/232 ÷ 442 kW
RLS 50	145/290 ÷ 581 kW
RLS 70	232/465 ÷ 814 kW
RLS 100	349/698 ÷ 1163 kW
RLS 130	465/930 ÷ 1395 kW



RLS 190/M MZ Garmiran-Riello Dual Fuel Burner

Dual fuel burner RLS/M MZ series

High efficiency

Modular performance ability (as a request)

Application: hot water, steam boilers, power plants

Including two stages by means of a processor

High safety is the competitive advantages of these burners.

Using high quality components in the assemble of the burners

Completely tested in the factory

Compatible with remote control system

Low noise (due to the special design)

Having the least dimension and weight in comparison to other producers

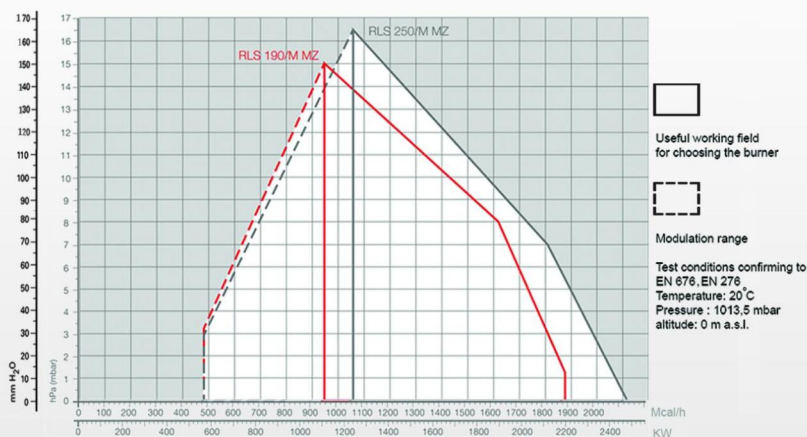
Easy installation and commissioning

Confirmed by EN 676, EN 276 and other valid European standards

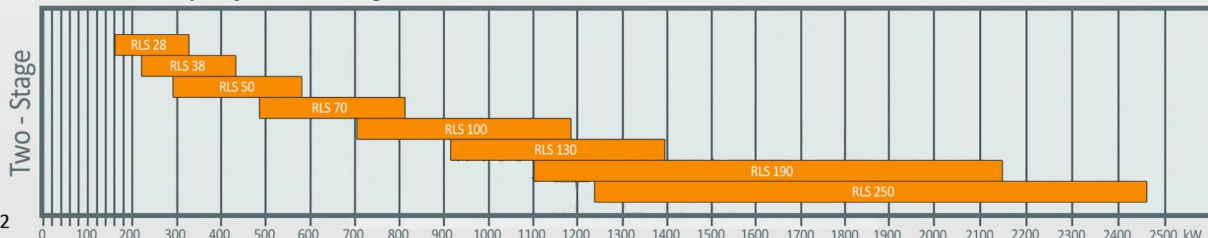
LOW NOx



RLS 190/M MZ	550/1100 ÷ 2150 kW
RLS 250/M MZ	550/1230 ÷ 2460 kW



Riello Burner Capacity Selection Diagram

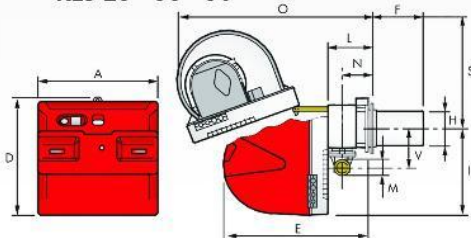


Overall Dimension (mm)

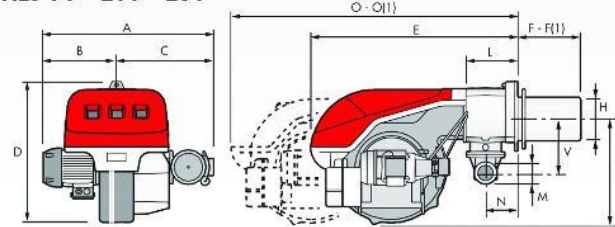
MODEL	A	B	C	D	E	F - F(1)	H	I	L	M	N	O - O(1)	S	V
RLS 28	476	-	-	474	580	191 - 326	140	352	164	1" 1/2	108	810 - 810	367	168
RLS 38	476	-	-	474	580	201 - 336	152	352	164	1" 1/2	108	810 - 810	367	168
RLS 50	476	-	-	474	580	216 - 351	152	352	164	1" 1/2	108	810 - 810	367	168
RLS 70	691	296	395	555	840	250 - 385	179	430	214	2"	134	1161 - 1361	-	221
RLS 100	707	312	395	555	840	250 - 385	189	430	214	2"	134	1161 - 1361	-	221
RLS 130	733	338	395	555	840	250 - 385	189	430	214	2"	134	1161 - 1361	-	221

MODEL	A	B	C	D	E	F - F(1)	H	I	L	M	N	O - O(1)	V
RLS 190/M MZ	843	366	477	555	863	412 - 542	222	430	430	Rp2	141	141	186
RLS 250/M MZ	904	427	477	555	863	412 - 542	222	435	435	Rp2	141	141	186

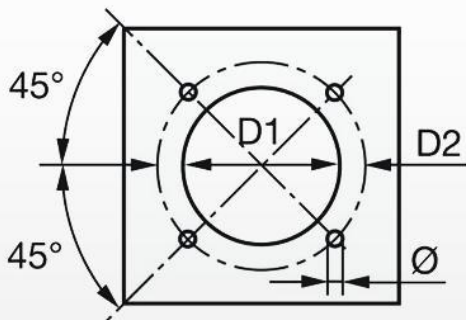
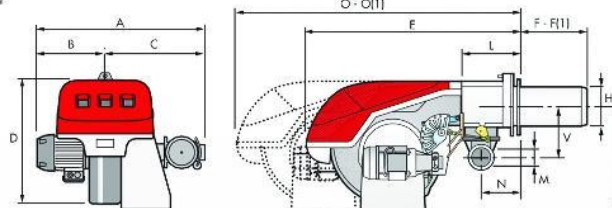
RLS 28 - 38 - 50



RLS 70 - 100 - 130



RLS 190/M MZ RLS 250/M MZ

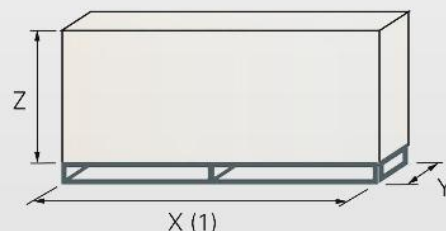


Burner- Boiler Mounting Flange (mm)

MODEL	D1	D2	Ø
RLS 28	160	224	M8
RLS 38	160	224	M8
RLS 50	160	224	M8
RLS 70	185	275-325	M12
RLS 100	195	275-325	M12
RLS 130	195	275-325	M12
RLS 190/M MZ	230	325-368	M16
RLS 250/M MZ	230	325-368	M16

Packaging(mm)

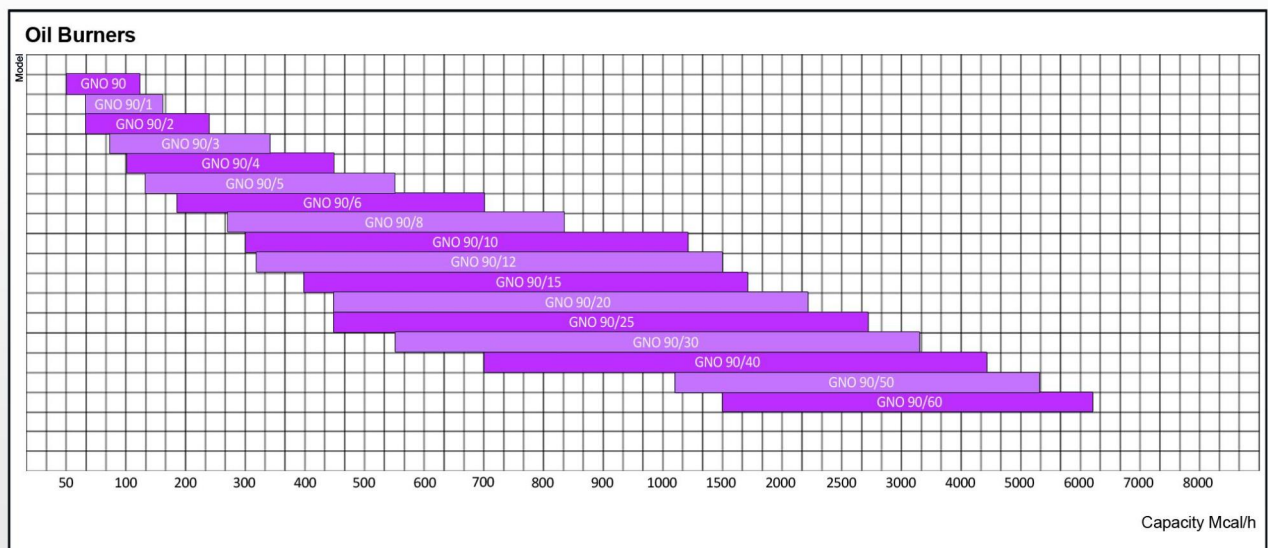
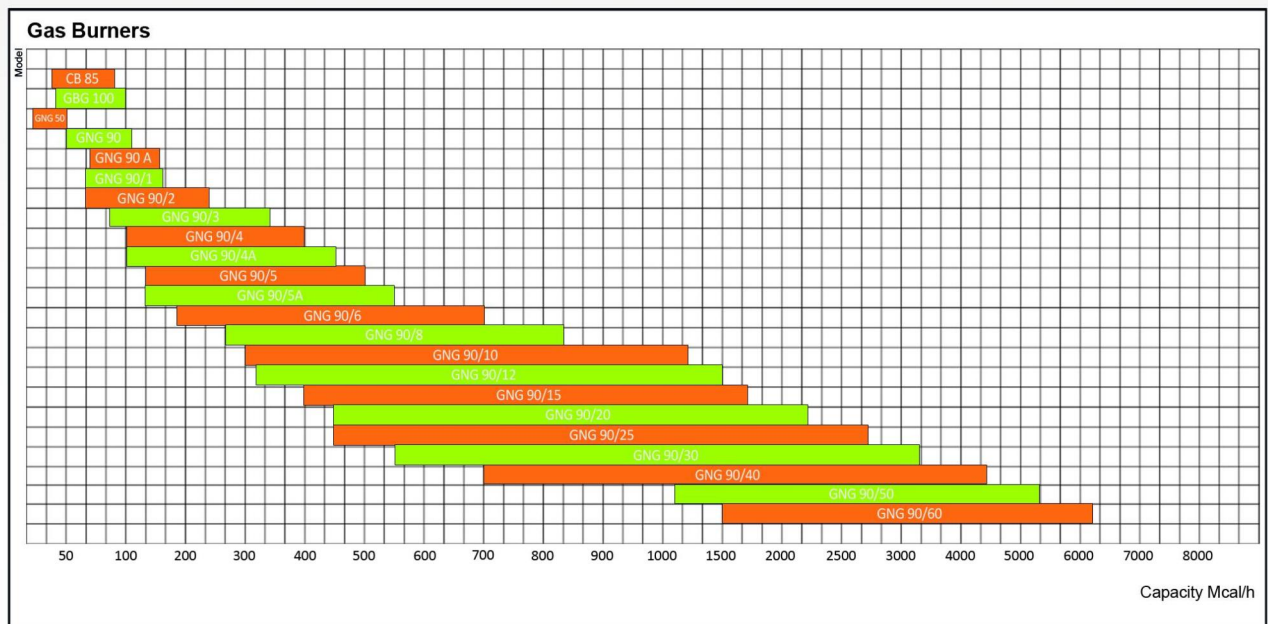
MODEL	X (1)	Y	Z	kg
RLS 28	1190	492	510	43
RLS 38	1190	492	510	45
RLS 50	1190	492	510	46
RLS 70	1405	1000	660	70
RLS 100	1405	1000	660	73
RLS 130	1405	1000	660	76
RLS 190/M MZ	1400	975	645	95
RLS 250/M MZ	1400	1000	765	100



Capacity Diagram

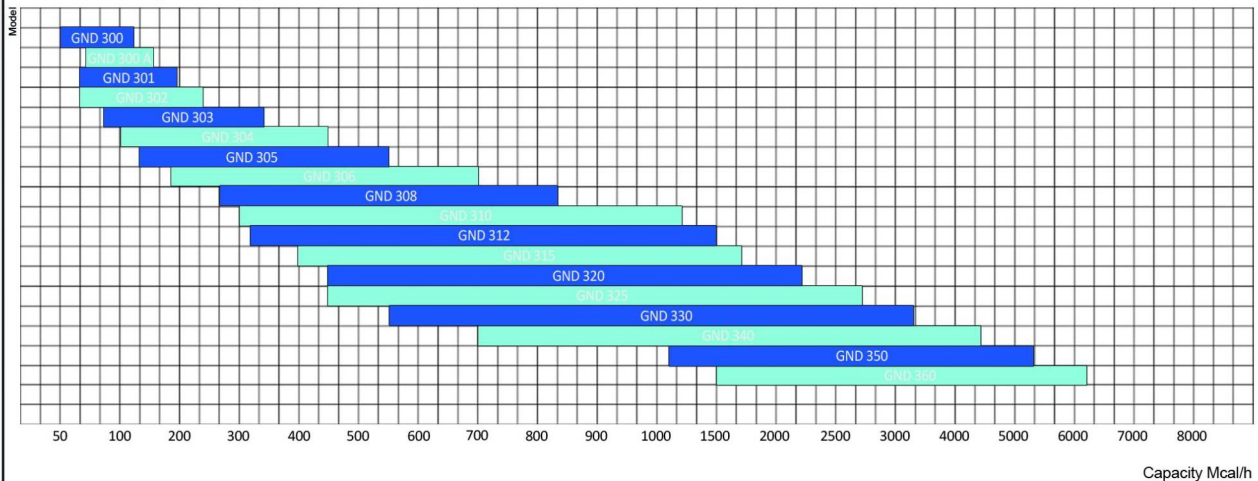
The diagrams let to choose the burners according to the requested capacity:

The horizontal axis of the diagrams shows the burner's capacities in Mcal/h. moving up vertically from the requested capacity, you will intersect the compatible burners of the specified capacity.

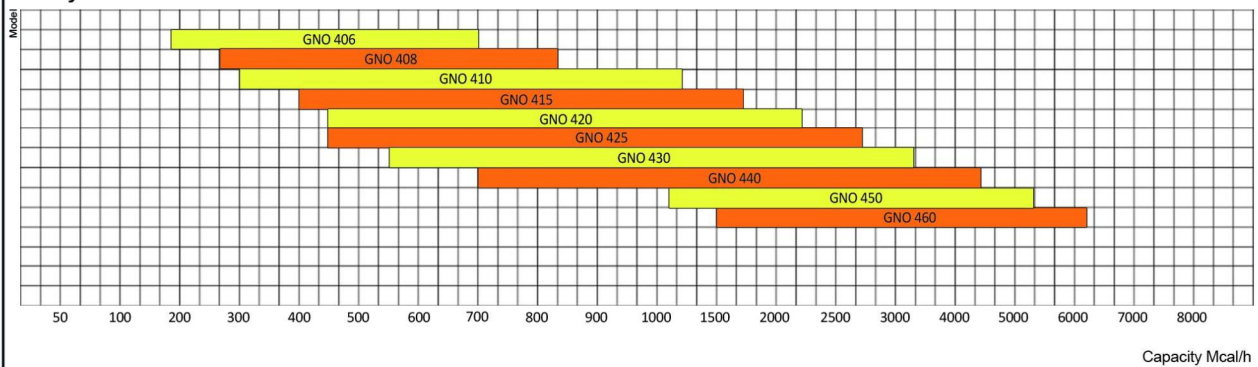


Capacity Diagram

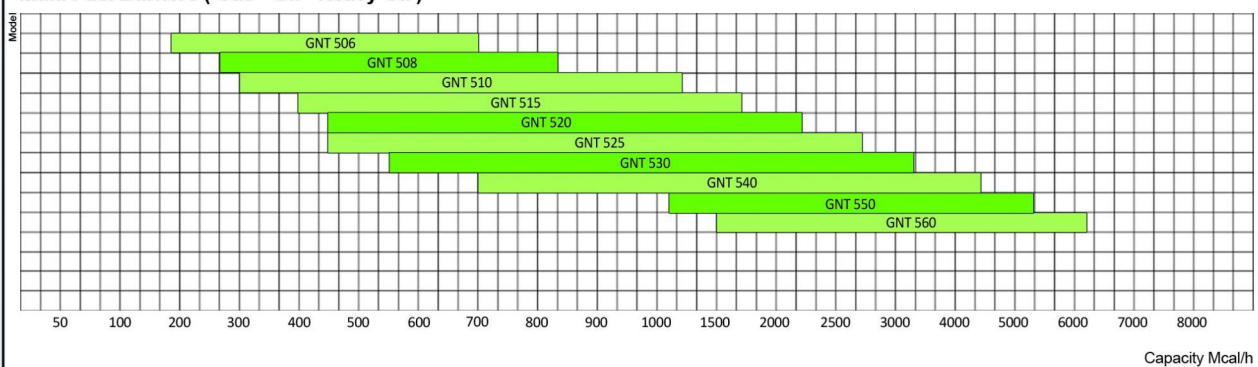
Dual Burners (Gas - Oil)



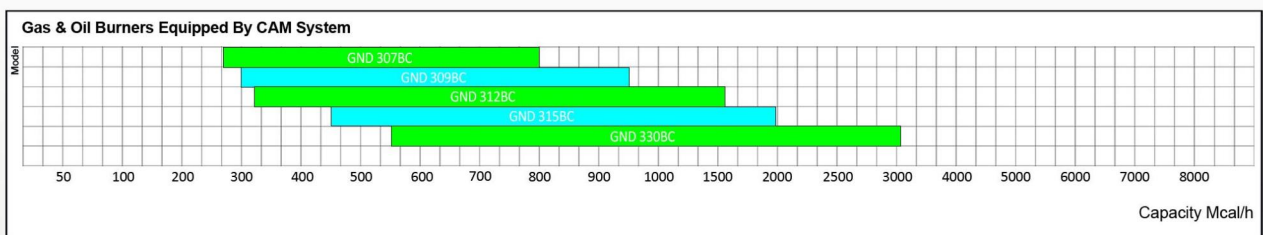
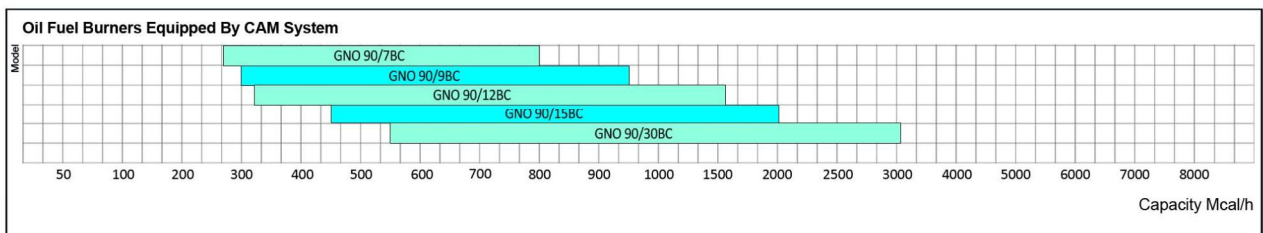
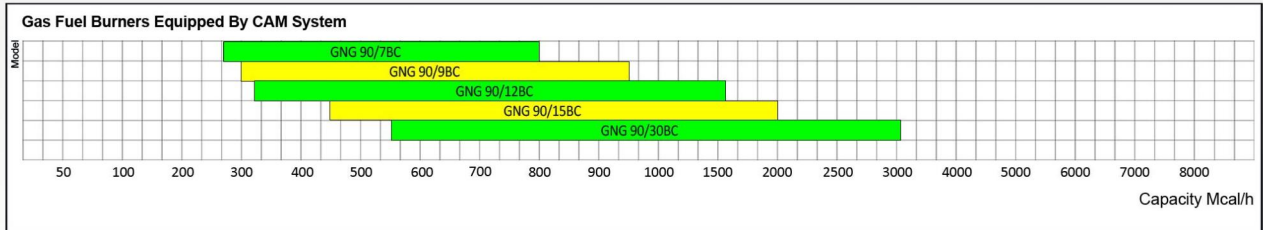
Heavy Oil Burners



Multi Fuel Burners (Gas - Oil - Heavy Oil)

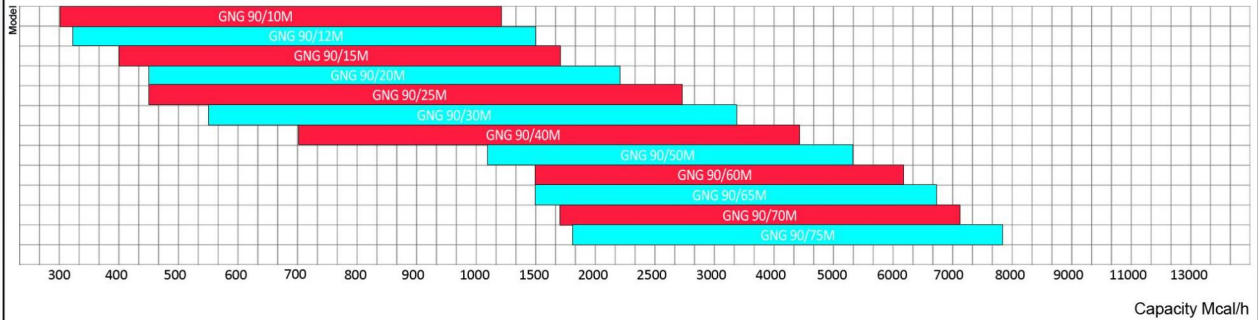


Capacity Diagram

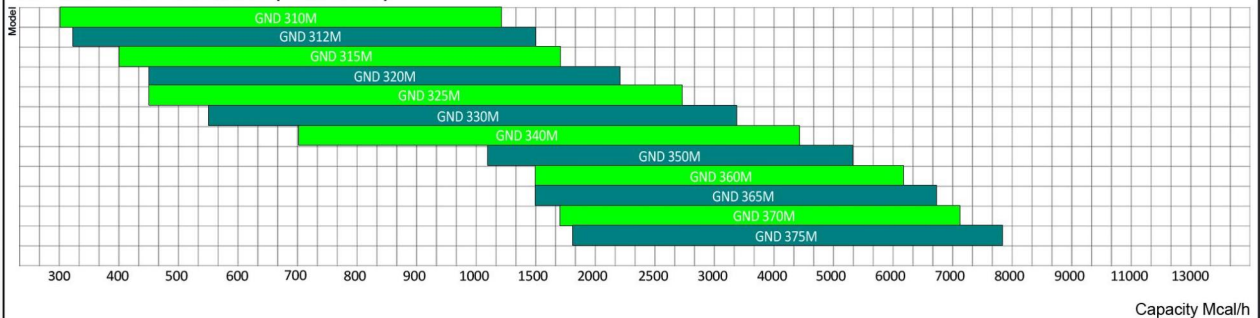


Capacity Diagram

Modular Gas Fuel Burner

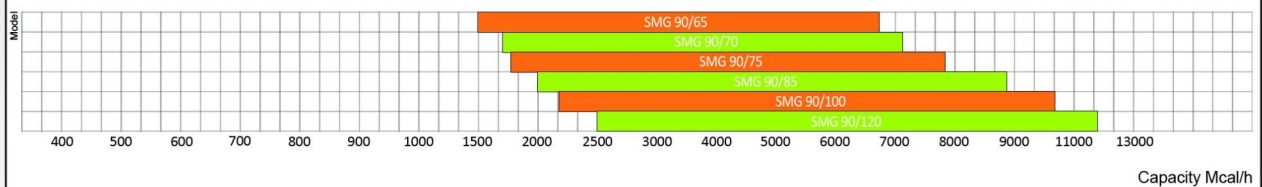


Modular Dual Fuel Brners (Gas & Oil)

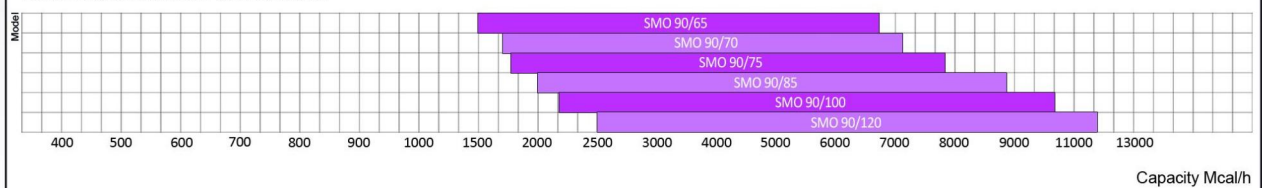


Capacity Diagram

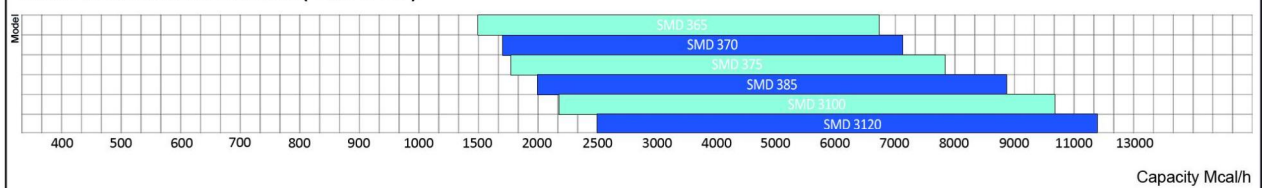
Dual Block Modular Gas Burners



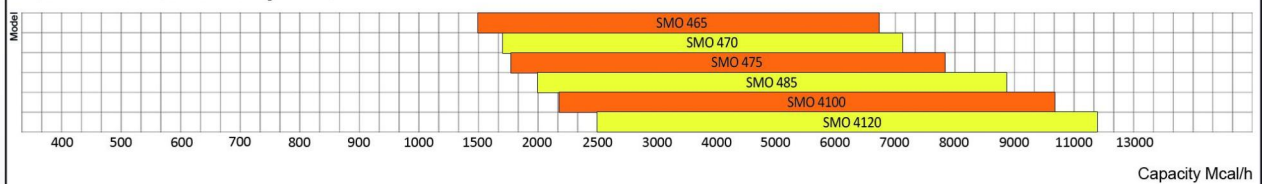
Dual Block Modular Oil Burners



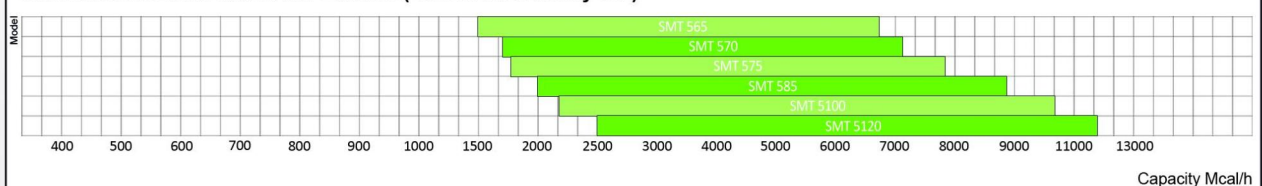
Dual Block Modular Burners (Gas & Oil)



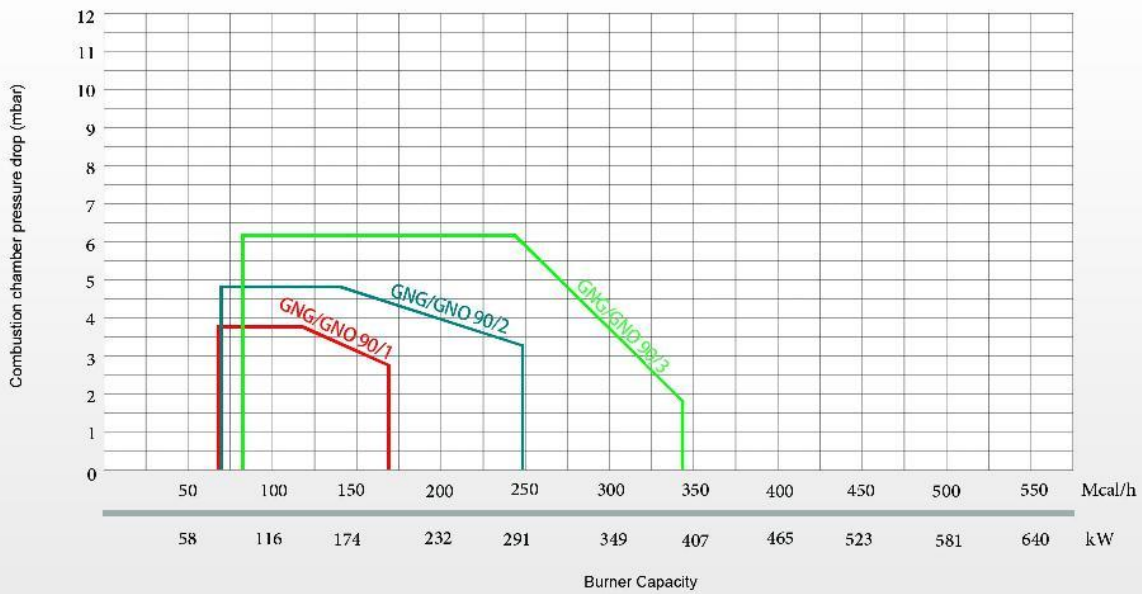
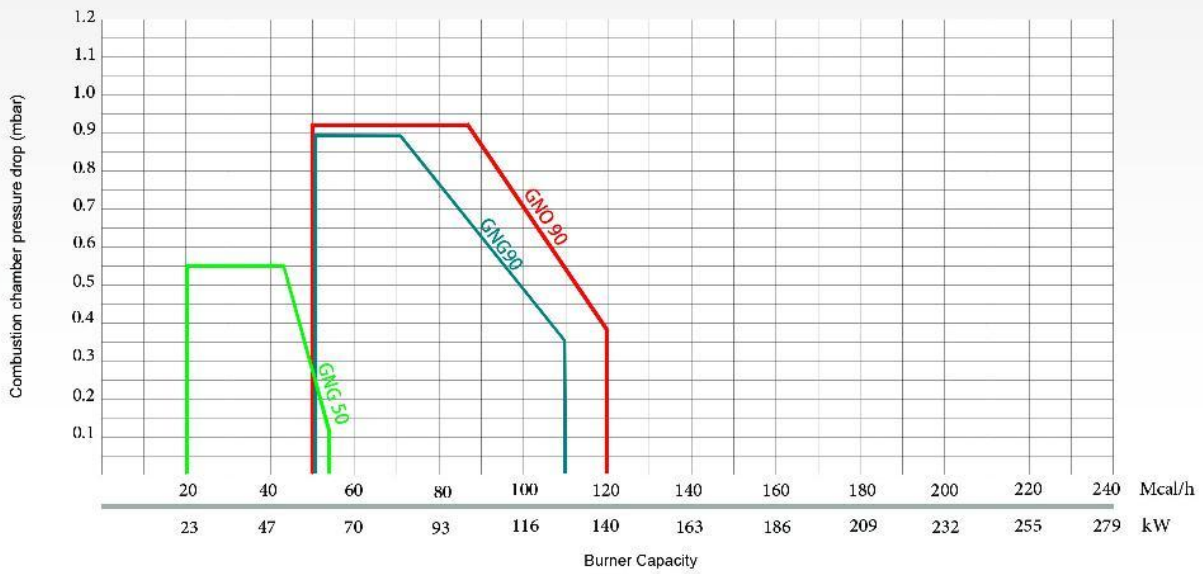
Dual Block Modular Heavy Oil Burners



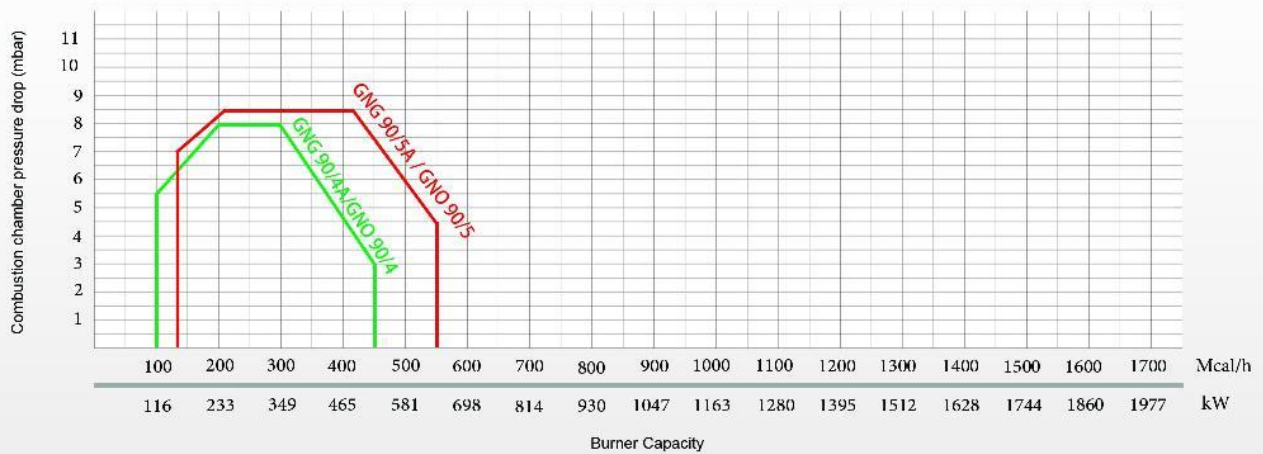
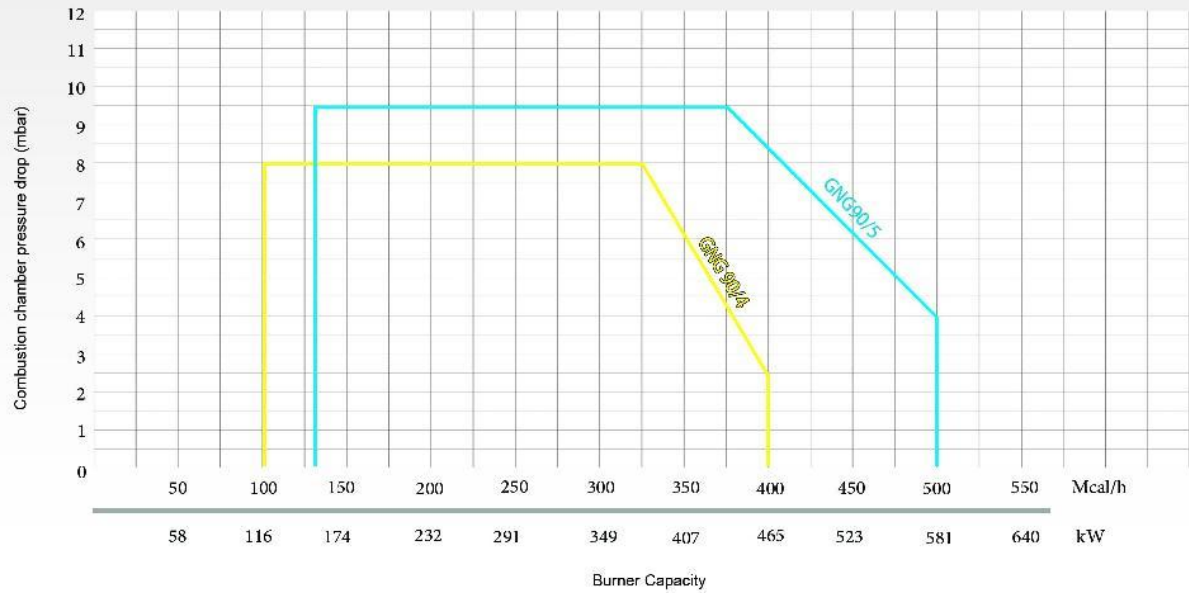
Dual Block Modular Multi Fuel Burners (Gas & Oil & Heavy Oil)



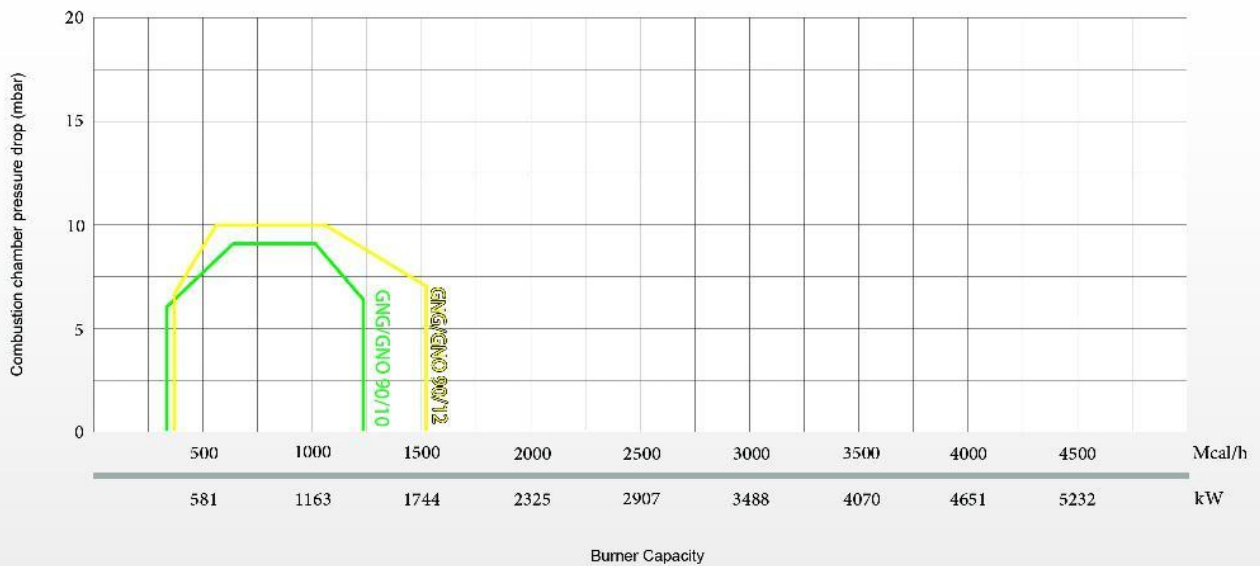
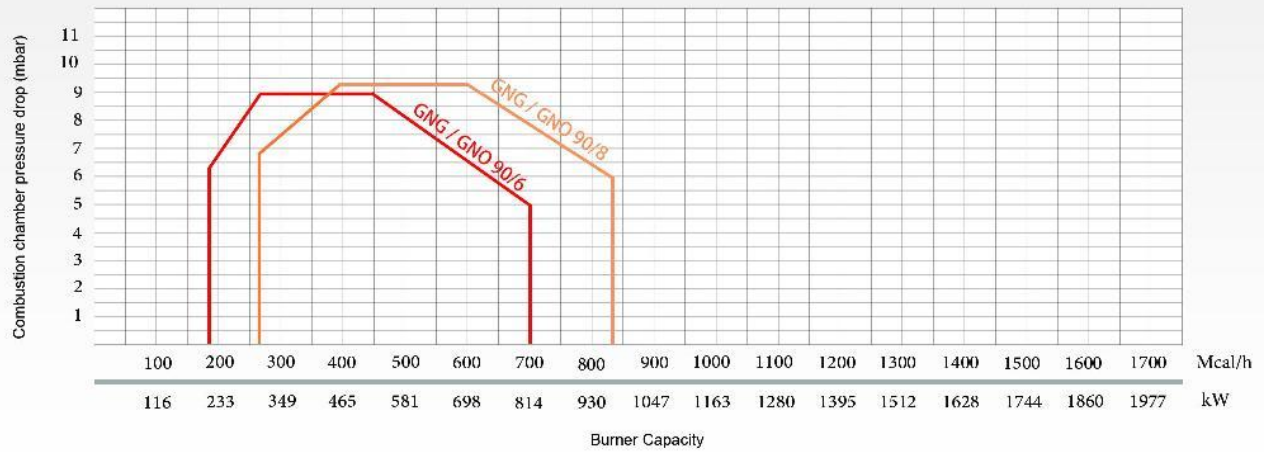
Combustion Diagram



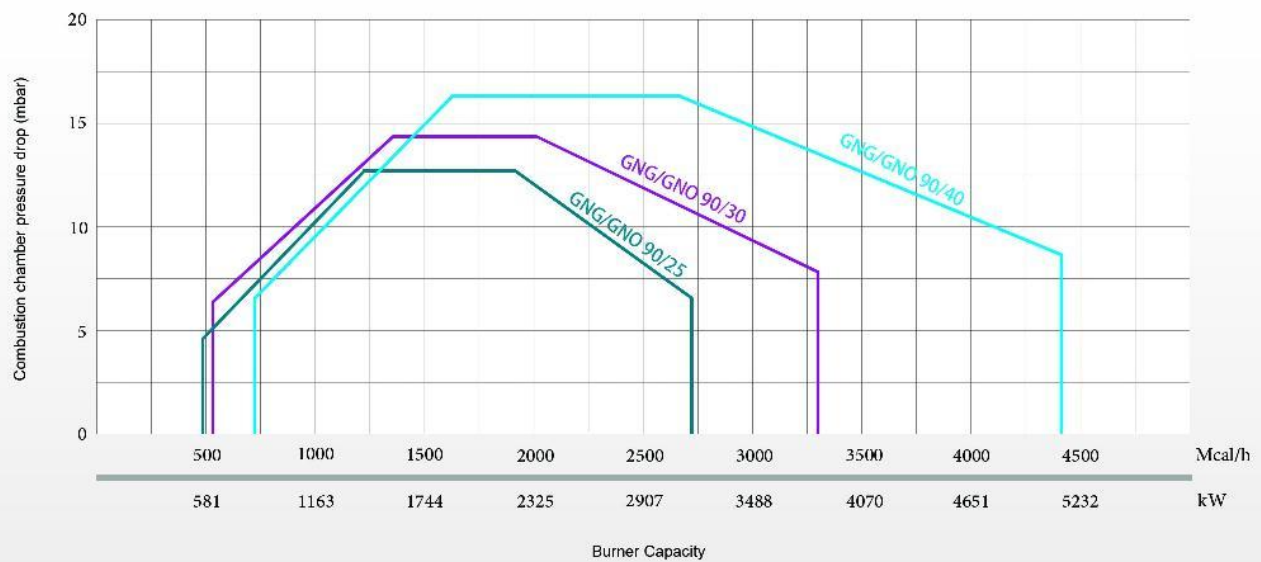
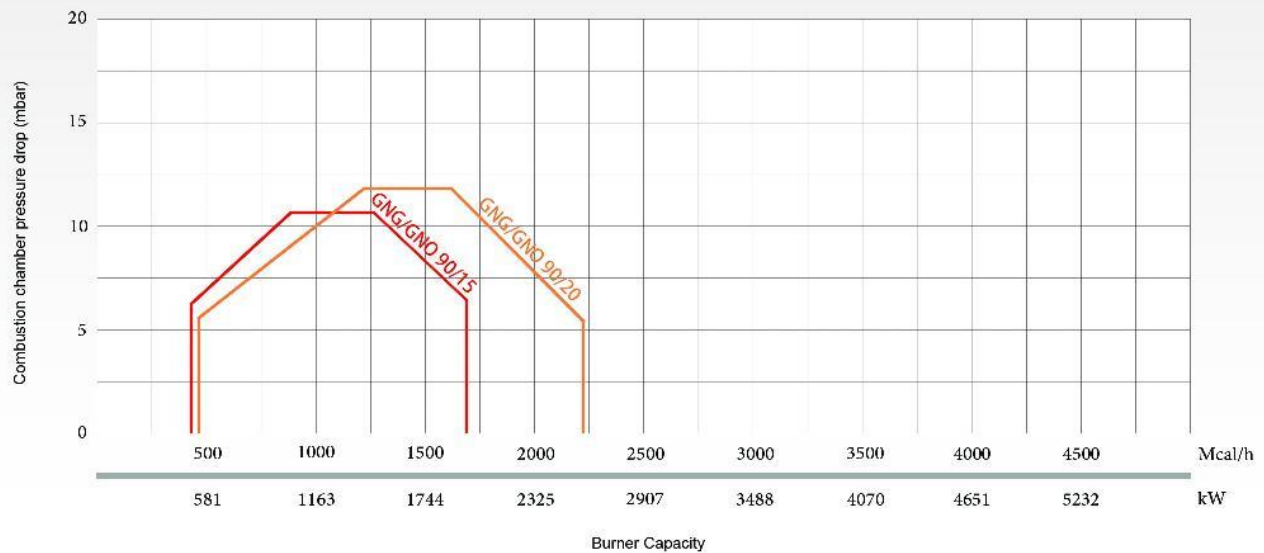
Combustion Diagram



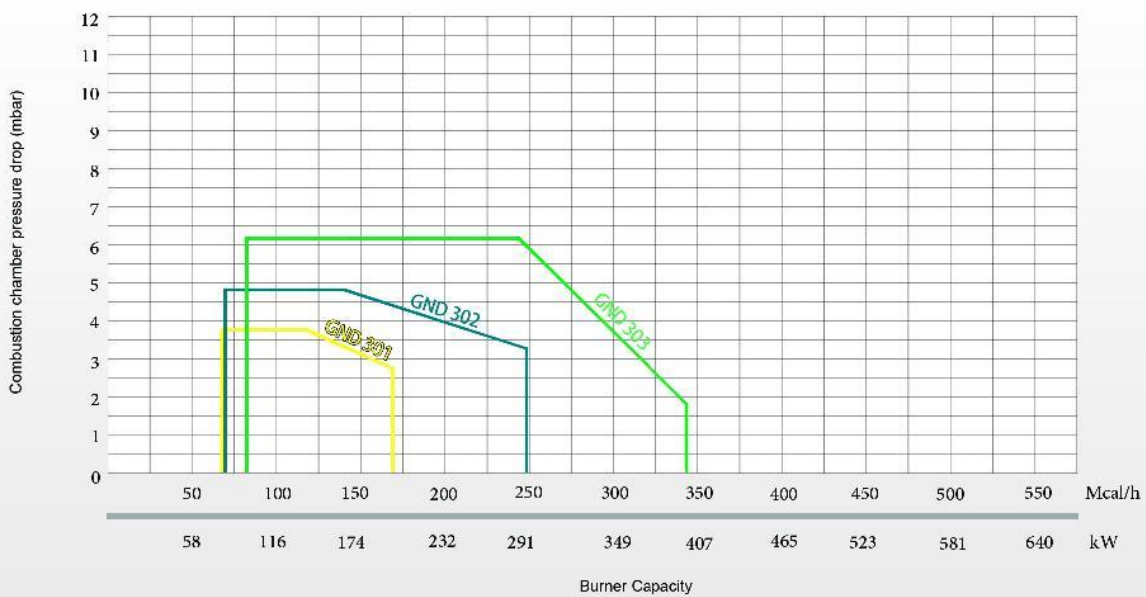
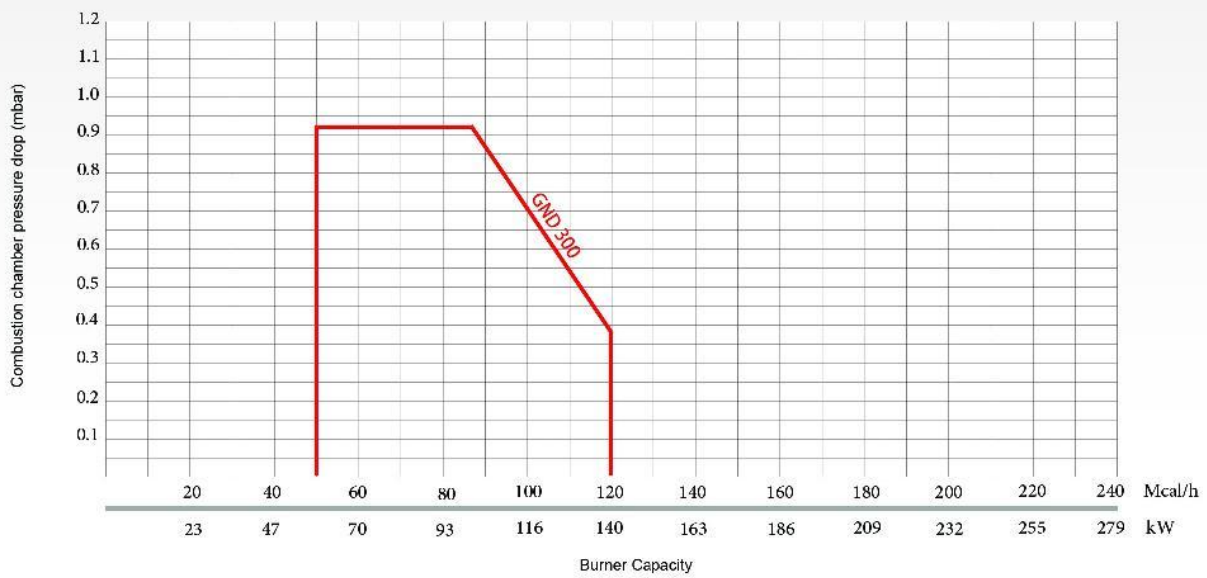
Combustion Diagram



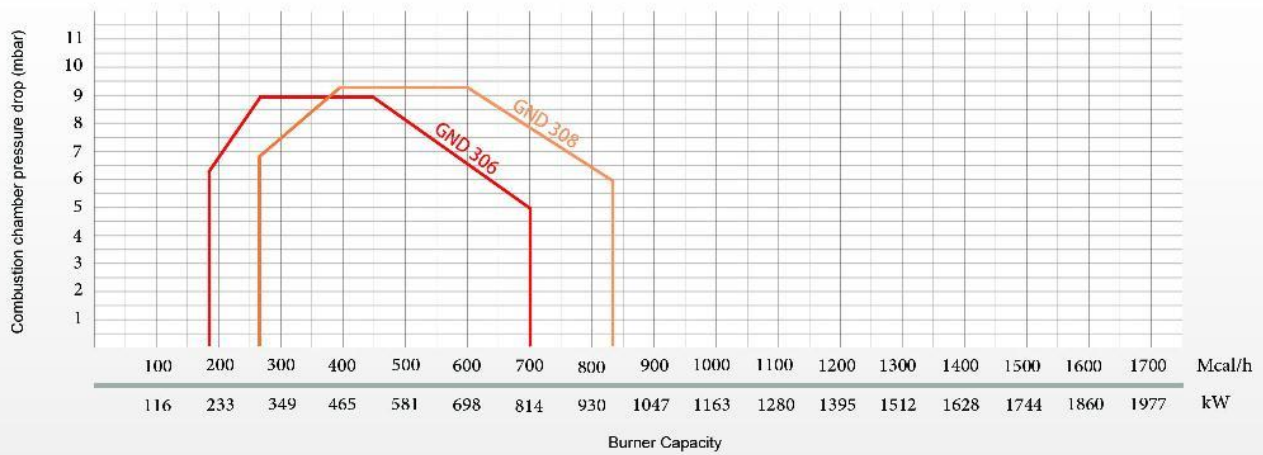
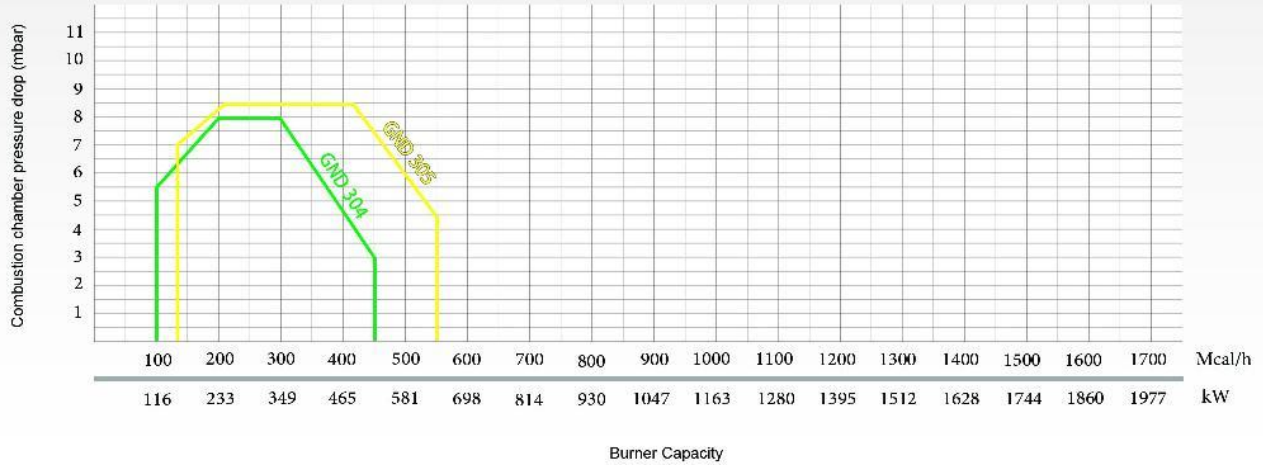
Combustion Diagram



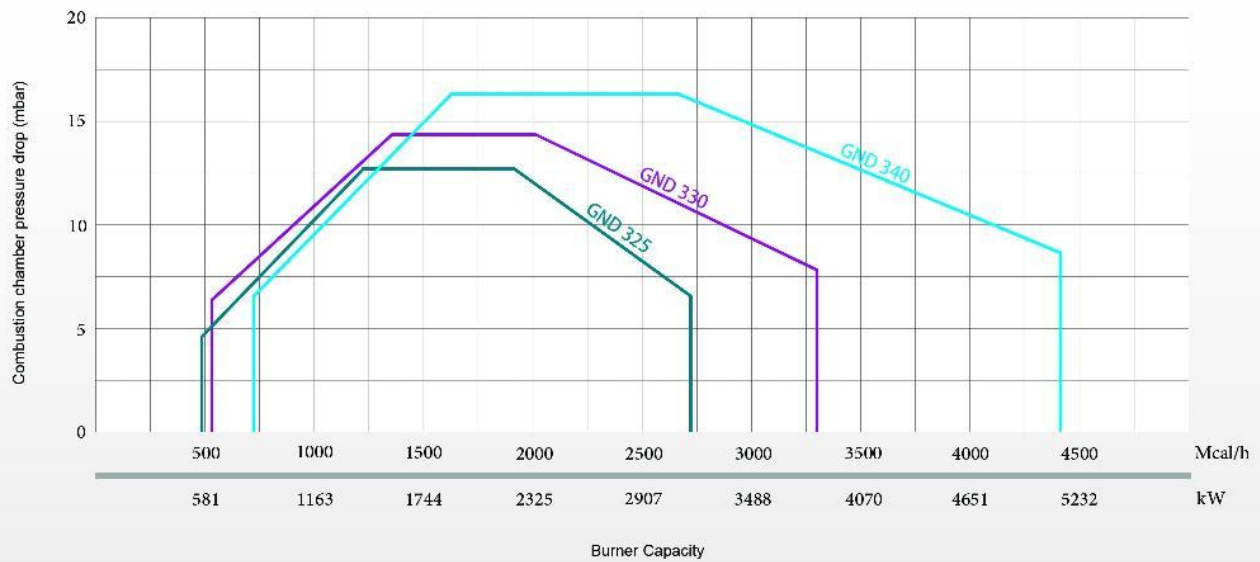
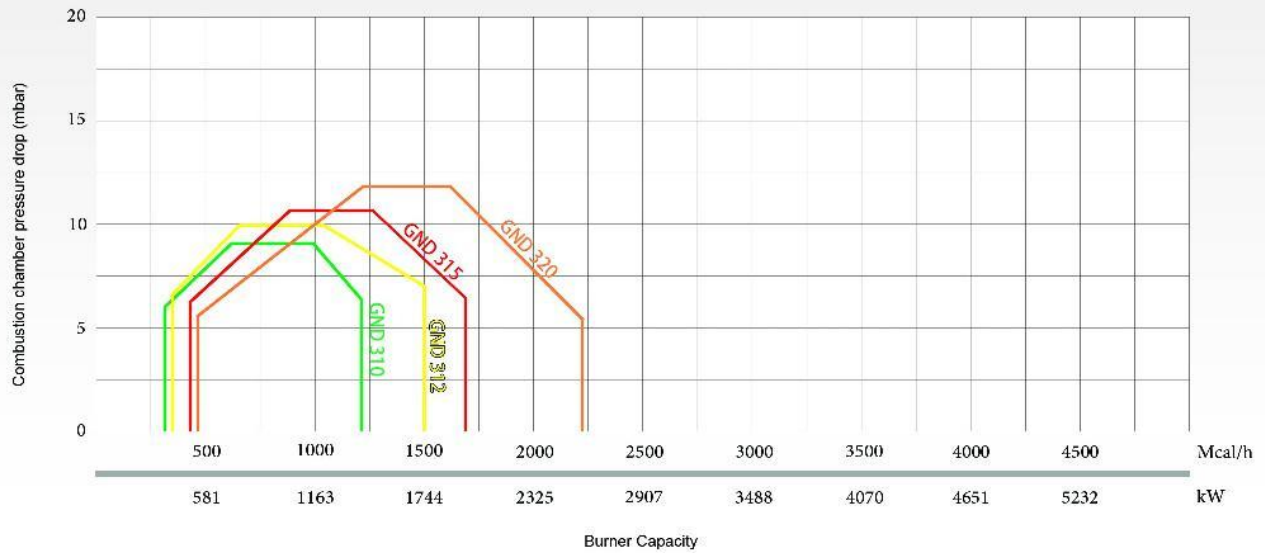
Combustion Diagram



Combustion Diagram



Combustion Diagram



Gas Burners

Gas Burners

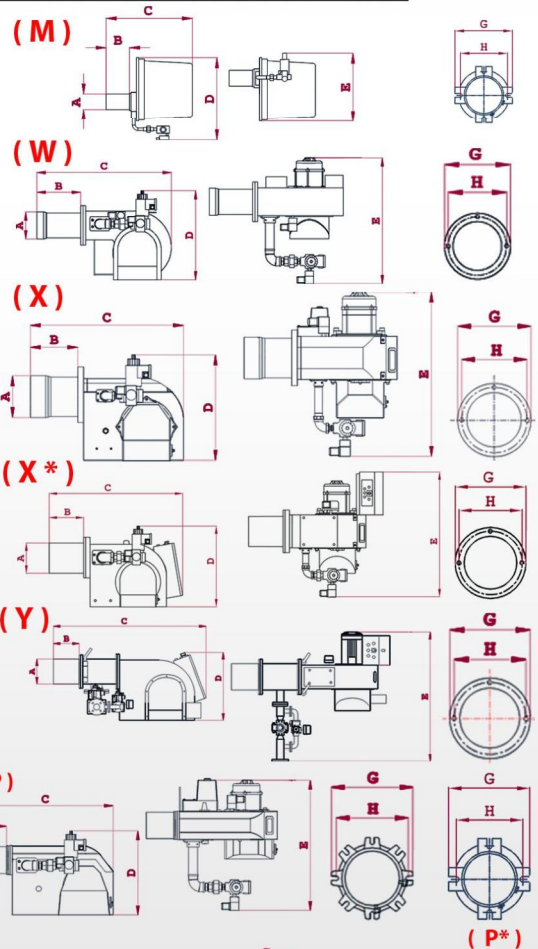
Technical Data

Model	Min Capacity	Max Capacity	Power (w)	Servo motor	Performance	Other components
GNG 50	20,000	53,000	100	-	1 stage	gas solenoid valve 1/2"
CB 85	35,000	85,000	100	-	1 stage	gas solenoid valve 1/2"
GBG 100	40,000	100,000	125	-	1 stage	gas solenoid valve 1/2"
GNG 90	50,000	110,000	125	-	1 stage	gas solenoid valve 1/2"
GNG 90A	65,000	155,000	175	-	1 stage	gas solenoid valve 1"
GNG 90/1	65,000	165,000	175	-	1 stage	gas solenoid valve 1"
GNG 90/2	65,000	240,000	240	-	1 stage	gas solenoid valve 1"
GNG 90/3	85,000	340,000	370	-	1 stage	gas solenoid valve 1"
GNG 90/4	100,000	400,000	450	-	1 stage	gas solenoid valve 1" 1/2"
GNG 90/5	130,000	500,000	750	-	1 stage	gas solenoid valve 1" 1/2"
GNG 90/4A	100,000	450,000	550	✓	2 stage	gas solenoid valve 1", 1/2"
GNG 90/5A	130,000	550,000	750	✓	2 stage	gas solenoid valve 1", 1/2"
GNG 90/6	180,000	700,000	1,100	✓	2 stage	gas line with complete control box
GNG 90/8	270,000	830,000	1,500	✓	2 stage	gas line with complete control box
GNG 90/10	300,000	1,200,000	2,200	✓	2 stage	gas line with complete control box
GNG 90/12	320,000	1,500,000	3,000	✓	2 stage	gas line with complete control box
GNG 90/15	400,000	1,700,000	4,000	✓	2 stage	gas line with complete control box
GNG 90/20	450,000	2,200,000	5,500	✓	2 stage	gas line with skp gas solenoid valve and complete control box
GNG 90/25	450,000	2,700,000	7,500	✓	2 stage	gas line with skp gas solenoid valve and complete control box
GNG 90/30	550,000	3,300,000	7,500	✓	2 stage	gas line with skp gas solenoid valve and complete control box
GNG 90/40	700,000	4,400,000	11,000	✓	3 stage	gas line with skp gas solenoid valve and complete control box
GNG 90/50	1,100,000	5,300,000	15,000	✓	3 stage	gas line with skp gas solenoid valve and complete control box
GNG 90/60	1,500,000	6,200,000	18,500	✓	3 stage	gas line with skp gas solenoid valve and complete control box

Overall dimension

Model	Dimension (mm)							Type
	A	B	C	D	E	G	H	
CB 85	80	105	425	300	365	186	132	P*
GBG 100	90	130	420	410	460	171	132	M
GNG 50	80	110	410	270	350	186	132	W
GNG 90	92	95	420	340	400	186	132	P*
GNG 90A	115	175	510	380	475	190	160	W
GNG 90/1	114	145	570	390	475	187	155	P
GNG 90/2	114	145	570	390	490	187	155	P
GNG 90/3	145	155	580	435	525	198	175	X
GNG 90/4	145	155	580	450	570	198	175	X
GNG 90/5	160	240	850	490	660	230	193	X*
GNG 90/4A	145	240	850	490	660	230	193	X
GNG 90/5A	160	240	850	490	660	230	193	Y
GNG 90/6	176	220	1070	540	900	260	215	Y
GNG 90/8	176	220	1070	540	945	260	215	Y
GNG 90/10	220	250	1150	630	1130	300	265	Y
GNG 90/12	220	250	1150	630	1160	300	265	Y
GNG 90/15	220	250	1150	630	1180	300	265	Y
GNG 90/20	255	250	1430	650	1745	360	305	Z
GNG 90/25	255	250	1525	650	1765	360	305	Z
GNG 90/30	255	250	1525	650	1780	360	305	Z
GNG 90/40	390	380	1750	850	2835	555	500	Z*
GNG 90/50	390	250	1680	1020	2835	650	580	Z*
GNG 90/60	415	210	1680	1150	2835	700	600	Z*

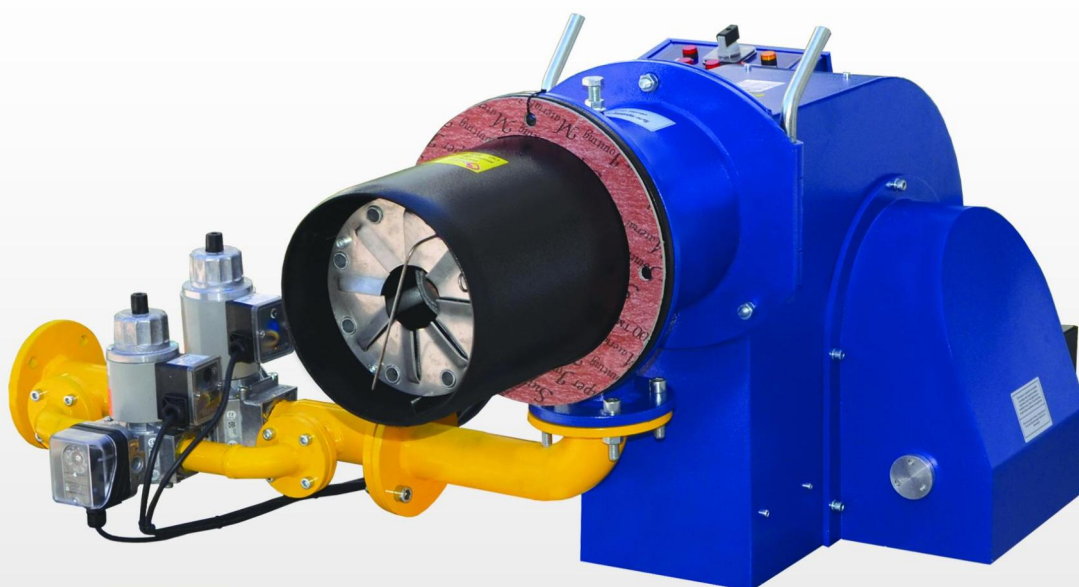
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GNG 90/20

Gas burner with capacity 450,000 - 2,200,000Kcal/h



GNG 90/10

Gas burner with capacity 300,000 -1,200,000Kcal/h

Oil Burners

Oil Burners

Technical Data

Model	Min Capacity	Max Capacity	Power (w)	Servo motor	Performance	Other components
CO 85	35,000	85,000	100	-	1 stage	Oil pump - solenoid valve 1/8"
GNO 50	-	53,000	100	-	1 stage	Oil pump - solenoid valve 1/8"
GNO 90	50,000	120,000	125	-	1 stage	Oil pump - solenoid valve 1/8"
GNO 90A	65,000	155,000	175	-	1 stage	Oil pump - solenoid valve 1/8"
GNO 90/1	65,000	165,000	175	-	1 stage	Oil pump - solenoid valve 1/8"
GNO 90/2	65,000	240,000	240	-	1 stage	Oil pump - solenoid valve 1/8"
GNO 90/3	85,000	340,000	370	-	1 stage	Oil pump - solenoid valve 1/8"
GNO 90/4	100,000	450,000	450	-	2 stage	Oil pump and 2 solenoid valves 1/8"
GNO 90/5	130,000	550,000	750	✓	2 stage	Oil pump and 2 solenoid valves 1/8"
GNO 90/6	180,000	700,000	1,100	✓	2 stage	complete control box - Oil pump and 2 solenoid valves 1/8"
GNO 90/8	270,000	830,000	1,500	✓	2 stage	complete control box - Oil pump and 2 solenoid valves 1/8"
GNO 90/10	300,000	1,200,000	2,200	✓	2 stage	complete control box - Oil pump and 2 solenoid valves 1/4"
GNO 90/12	320,000	1,500,000	3,000	✓	2 stage	complete control box - Oil pump and 2 solenoid valves 1/4"
GNO 90/15	400,000	1,700,000	4,000	✓	2 stage	complete control box - Oil pump and 2 solenoid valves 1/4"
GNO 90/20	450,000	2,200,000	5,500	✓	2 stage	complete control box - Oil pump and 3 solenoid valves 1/4"
GNO 90/25	450,000	2,700,000	7,500	✓	2 stage	complete control box - Oil pump and 3 solenoid valves 1/4"
GNO 90/30	550,000	3,300,000	7,500	✓	2 stage	complete control box - Oil pump and 3 solenoid valves 1/4"
GNO 90/40	700,000	4,400,000	11,000	✓	3 stage	complete control box - Oil pump and 5 solenoid valves 1/4"
GNO 90/50	1,100,000	5,300,000	15,000	✓	3 stage	complete control box - Oil pump and 5 solenoid valves 1/4"
GNO 90/60	1,500,000	6,200,000	18,500	✓	3 stage	complete control box - Oil pump and 5 solenoid valves 1/4"

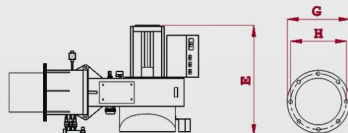
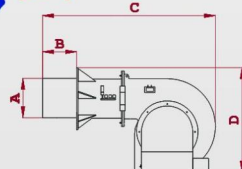
Overall dimension

Model	Dimension (mm)							Type
	A	B	C	D	E	G	H	
CO 85	80	95	420	195	340	186	132	P*
GNO 50	80	110	390	210	300	186	132	P*
GNO 90	90	95	420	240	365	186	132	P*
GNO 90A	115	175	510	290	400	190	160	W
GNO 90/1	110	120	540	263	385	187	155	P
GNO 90/2	110	120	540	263	400	187	155	P
GNO 90/3	145	155	585	350	455	198	175	X
GNO 90/4	145	155	585	350	570	198	175	X
GNO 90/5	160	240	740	490	645	198	175	X*
GNO 90/6	165	220	1070	460	650	260	215	Y
GNO 90/8	165	220	1070	470	650	260	215	Y
GNO 90/10	220	250	1150	560	790	300	265	Y
GNO 90/12	220	250	1150	560	820	300	265	Y
GNO 90/15	220	250	1150	560	840	300	265	Y
GNO 90/20	255	250	1430	650	930	360	305	Z
GNO 90/25	255	250	1525	650	870	360	305	Z
GNO 90/30	255	250	1525	650	870	360	305	Z
GNO 90/40	390	380	1750	850	1050	555	500	Z*
GNO 90/50	390	250	1680	1020	1050	650	580	Z*
GNO 90/60	415	210	1680	1150	1050	700	600	Z*

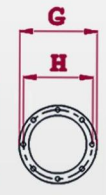
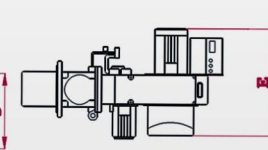
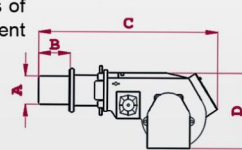
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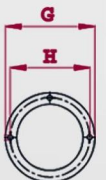
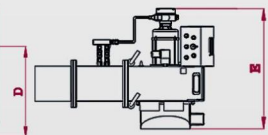
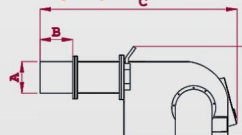
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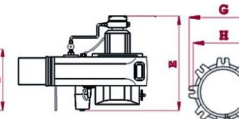
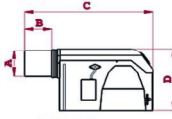
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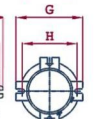
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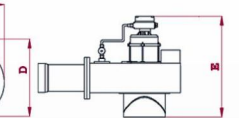
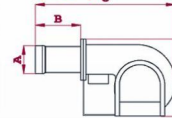
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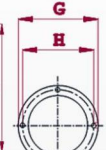
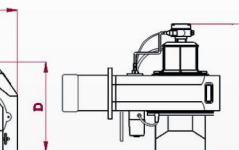
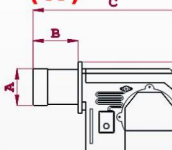
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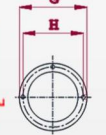
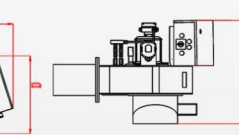
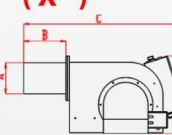
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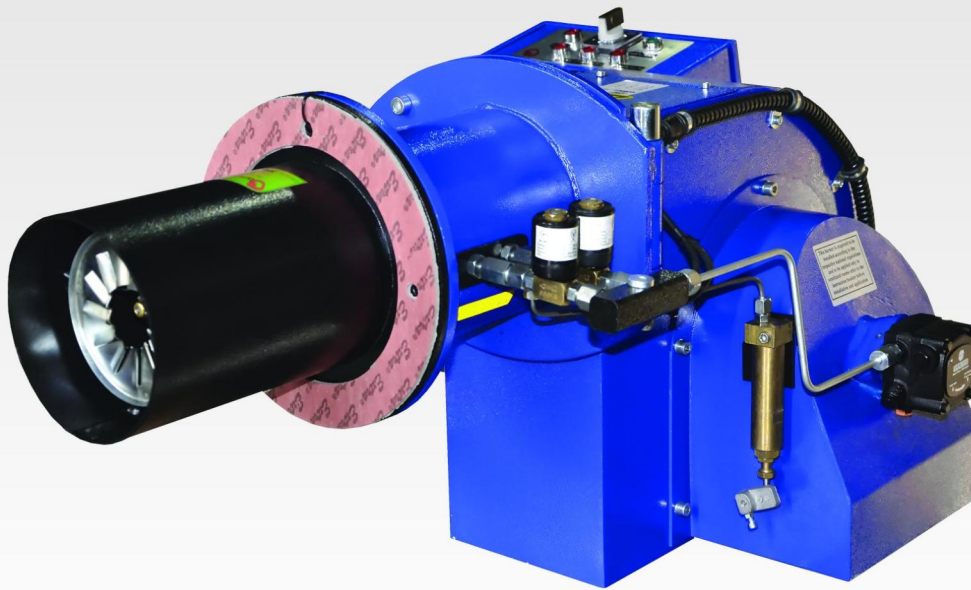


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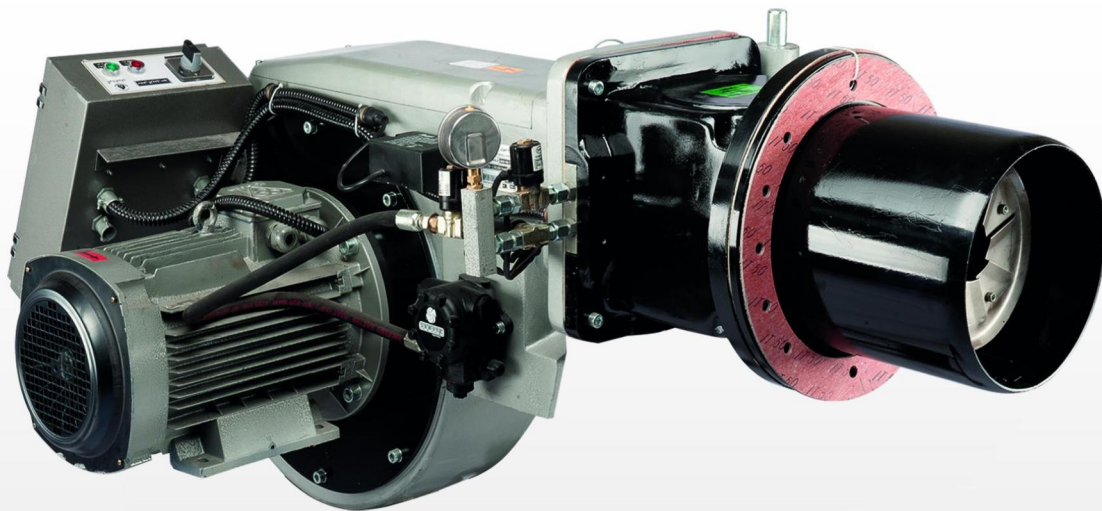
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GNO 90/8

Oil burner with capacity 270,000 - 830,000 Kcal/h



GNO 90/25

Oil burner with capacity 450,000 - 2,700,000 Kcal/h

Dual Fuel Burners

Gas & Oil Burners

Technical Data

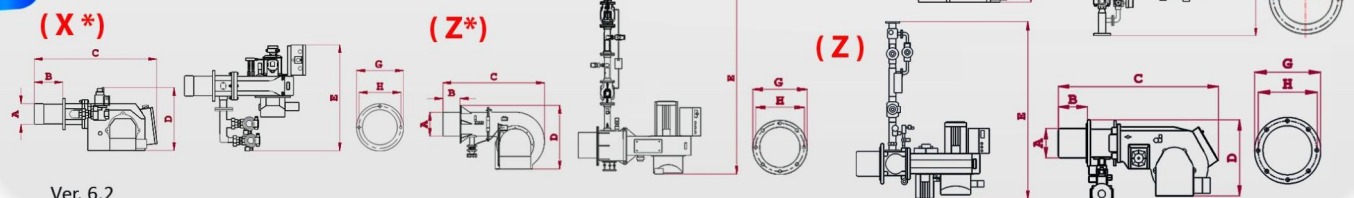
Model	Min Capacity	Max Capacity	Power (w)	Servo motor	Performance	Other components
GND 300	50,000	120,000	125	-	1 stage	gas solenoid valve 1/2" - oil pump - solenoid valve 1/8"
GND 300A	65,000	155,000	175	-	1 stage	gas solenoid valve 1" - oil pump - solenoid valve 1/8"
GND 301	65,000	192,000	175	-	1 stage	gas solenoid valve 1" - oil pump - solenoid valve 1/8"
GND 302	65,000	240,000	240	-	1 stage	gas solenoid valve 1" - oil pump - solenoid valve 1/8"
GND 303	85,000	340,000	370	-	1 stage	gas solenoid valve 1" - oil pump - 2 solenoid valves 1/8"
GND 304	100,000	450,000	450	✓	2 stage	gas solenoid valve 1", 1/2" - oil pump - 2 solenoid valves 1/8"
GND 305	130,000	550,000	750	✓	2 stage	gas solenoid valve 1", 1/2" - oil pump - 2 solenoid valves 1/8"
GND 306	180,000	700,000	1,100	✓	2 stage	gas line with complete control box - oil pump - 3 solenoid valves 1/8"
GND 308	270,000	830,000	1,500	✓	2 stage	gas line with complete control box - oil pump - 3 solenoid valves 1/8"
GND 310	300,000	1,200,000	2,200	✓	2 stage	gas line with complete control box - oil pump - 3 solenoid valves 1/4"
GND 312	320,000	1,500,000	3,000	✓	2 stage	gas line with complete control box - oil pump - 2 solenoid valves 1/4"
GND 315	400,000	1,700,000	4,000	✓	2 stage	gas line with complete control box - oil pump - 3 solenoid valves 1/4"
GND 320	450,000	2,200,000	5,500	✓	2 stage	gas line with complete control box - oil pump - 3 solenoid valves 1/4"
GND 325	450,000	2,700,000	7,500	✓	2 stage	gas line with skp valves - complete control box - oil pump - 3 solenoid valves 1/4"
GND 330	550,000	3,300,000	7,500	✓	2 stage	gas line with skp valves - complete control box - oil pump - 3 solenoid valves 1/4"
GND340	700,000	4,400,000	11,000	✓	3 stage	gas line with skp valves - complete control box - oil pump - 5 solenoid valves 1/4"
GND 350	1,100,000	5,300,000	15,000	✓	3 stage	gas line with skp valves - complete control box - oil pump - 5 solenoid valves 1/4"
GND 360	1,500,000	6,200,000	18,500	✓	3 stage	gas line with skp valves - complete control box - oil pump - 5 solenoid valves 1/4"

Overall dimension

Model	Dimension (mm)							Type
	A	B	C	D	E	G	H	
GND 300	90	95	500	340	470	186	132	P*
GND 300A	115	175	510	380	550	190	160	W
GND 301	110	115	545	390	530	187	155	P
GND 302	110	115	580	435	550	187	155	P
GND 303	145	190	585	440	570	198	175	X
GND 304	145	170	900	440	660	210	185	X*
GND 305	160	240	900	460	750	230	193	Y*
GND 306	176	220	1070	540	925	260	215	Y
GND 308	176	220	1070	540	970	260	215	Y
GND 310	220	250	1150	630	1130	300	265	Y
GND 312	220	250	1150	630	1180	300	265	Y
GND 315	220	250	1150	630	1210	300	265	Y
GND 320	255	250	1430	650	1945	360	305	Z
GND 325	255	250	1525	650	1815	360	305	Z
GND 330	255	250	1525	650	1860	360	305	Z
GND 340	390	380	1750	740	2835	555	580	Z*
GND 350	390	250	1680	1020	2835	650	580	Z*
GND 360	415	210	1680	1150	2835	700	600	Z*

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GND 306

Dual fuel burner with capacity 180,000 - 700,000Kcal/h



GND 304

Dual fuel burner with capacity 100,000 - 450,000Kcal/h

Heavy Oil Burners

Heavy Oil Burners

Technical Data

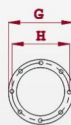
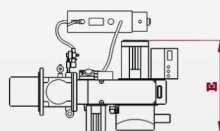
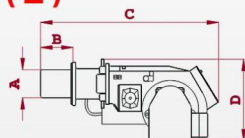
Model	Min Capacity	Max Capacity	Power (w)	Servo motor	Performance	Other components
GNO 406	180,000	700,000	1,100	✓	2 stage	complete control box - oil pump 3 solenoid valves 1/8" - oil pre-heater
GNO 408	270,000	830,000	1,500	✓	2 stage	complete control box - oil pump 3 solenoid valves 1/8" - oil pre-heater
GNO 410	300,000	1,200,000	2,200	✓	2 stage	complete control box - oil pump 3 solenoid valves 1/4" - oil pre-heater
GNO 412	320,000	1,500,000	3,000	✓	2 stage	complete control box - oil pump 3 solenoid valves 1/4" - oil pre-heater
GNO 415	400,000	1,700,000	4,000	✓	2 stage	complete control box - oil pump 3 solenoid valves 1/4" - oil pre-heater
GNO 420	450,000	2,200,000	5,500	✓	2 stage	complete control box - oil pump 3 solenoid valves 1/4" - oil pre-heater
GNO 425	450,000	2,700,000	7,500	✓	2 stage	complete control box - oil pump 3 solenoid valves 1/4" - oil pre-heater
GNO 430	550,000	3,300,000	7,500	✓	2 stage	complete control box - oil pump 3 solenoid valves 1/4" - oil pre-heater
GNO 440	700,000	4,400,000	11,000	✓	3 stage	complete control box - oil pump 5 solenoid valves 1/4" - oil pre-heater
GNO 450	1,100,000	5,300,000	15,000	✓	3 stage	complete control box - oil pump 5 solenoid valves 1/4" - oil pre-heater
GNO 460	1,500,000	6,200,000	18,500	✓	3 stage	complete control box - oil pump 5 solenoid valves 1/4" - oil pre-heater

Overall dimension

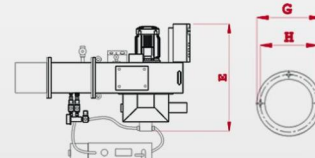
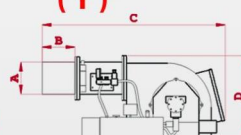
Model	Dimension (mm)							Type
	A	B	C	D	E	G	H	
GNO 406	165	220	1070	460	750	260	215	Y
GNO 408	165	220	1070	470	750	260	215	Y
GNO 410	220	250	1150	550	870	300	265	Y
GNO 412	220	250	1150	550	870	300	265	Y
GNO 415	220	250	1150	550	870	300	265	Y
GNO 420	255	250	1430	650	930	360	305	Z
GNO 425	255	250	1525	650	870	360	305	Z
GNO 430	255	250	1525	650	870	360	305	Z
GNO 440	390	380	1750	850	1050	555	500	Z*
GNO 450	390	250	1680	1020	1050	650	580	Z*
GNO 460	415	210	1680	1150	1050	700	600	Z*

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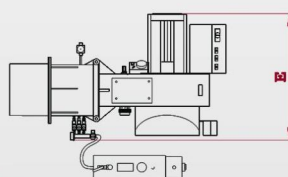
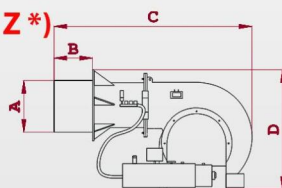
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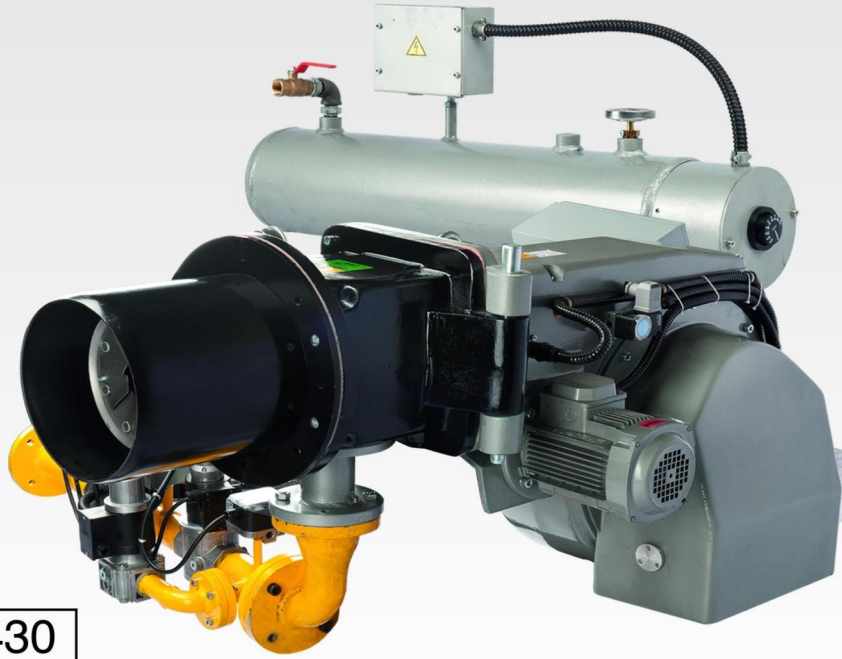


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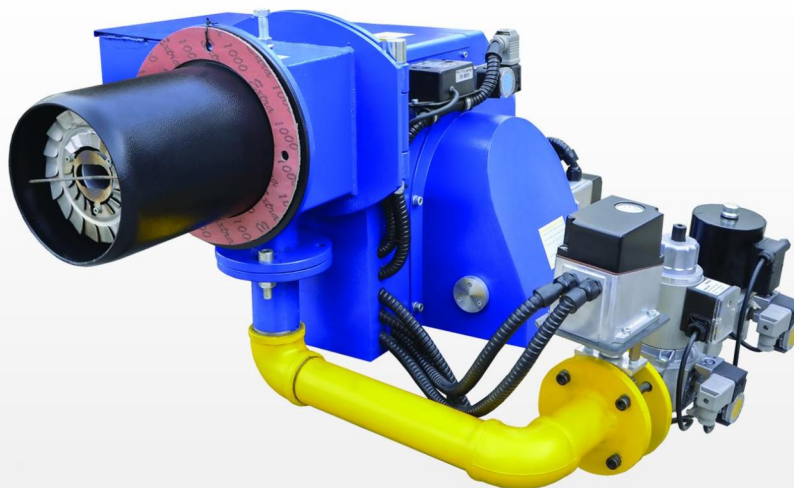
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GNO 430

Heavy oil burner with capacity 550,000 - 3,300,000 Kcal/h and mazut storage tank



GNG 90/8M

Gas burner with capacity 270,000 - 830,000 Kcal/h
Controlling air/fuel ratio automatically
Capability of displaying air/fuel ratio and pressure
Controlling pressure and temperature by PID controller

Multi Fuel Burners

Multi Fuel Burners

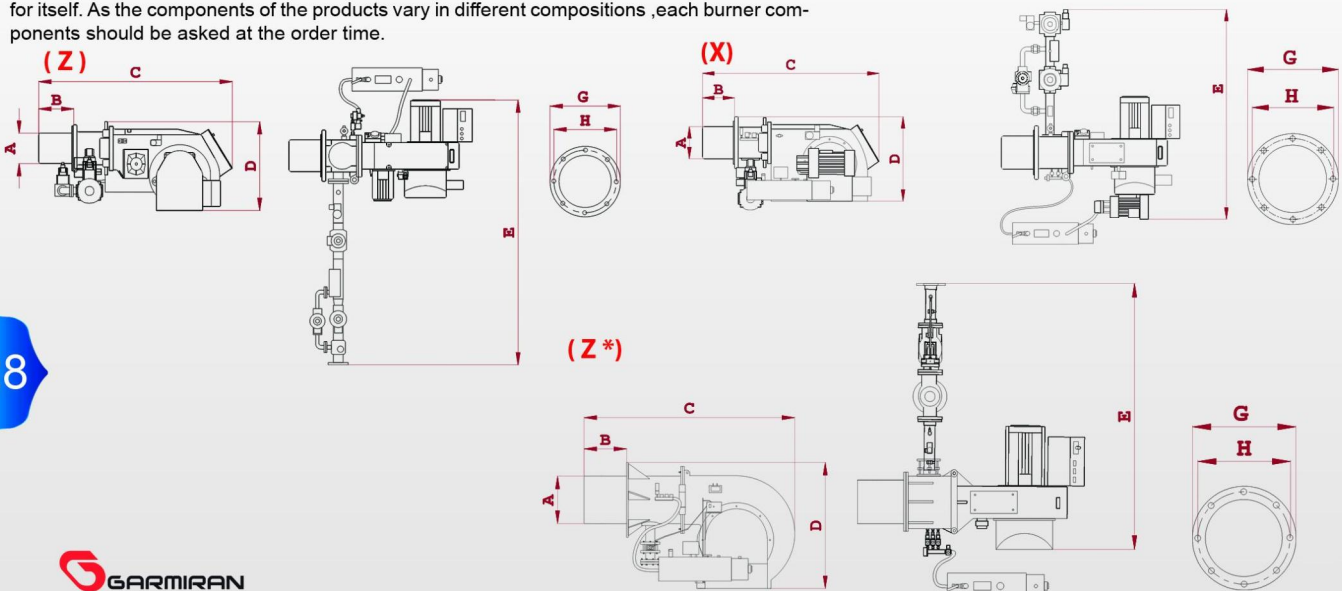
Technical Data

Model	Min Capacity	Max Capacity	Power (w)	Servo motor	Performance	Other components
GNT 506	180,000	700,000	1,100	✓	2 stage	gas line with complete control box - oil pump - 3 solenoid valves 1/8" - oil pre-heater
GNT 508	270,000	830,000	1,500	✓	2 stage	gas line with complete control box - oil pump - 3 solenoid valves 1/8" - oil pre-heater
GNT 510	300,000	1,200,000	2,200	✓	2 stage	gas line with complete control box - oil pump - 3 solenoid valves 1/4" - oil pre-heater
GNT 512	320,000	1,500,000	3,000	✓	2 stage	gas line with complete control box - oil pump - 3 solenoid valves 1/4" - oil pre-heater
GNT 515	400,000	1,700,000	4,000	✓	2 stage	gas line with complete control box - oil pump - 3 solenoid valves 1/4" - oil pre-heater
GNT 520	450,000	2,200,000	5,500	✓	2 stage	gas line with complete control box - oil pump - 3 solenoid valves 1/4" - oil pre-heater
GNT 525	450,000	2,700,000	7,500	✓	2 stage	gas line with complete control box - oil pump - 3 solenoid valves 1/4" - oil pre-heater
GNT 530	550,000	3,300,000	7,500	✓	2 stage	gas line with skp valves - complete control box - oil pump - 3 solenoid valves 1/4" - oil pre-heater
GNT 540	700,000	4,400,000	11,000	✓	3 stage	gas line with skp valves - complete control box - oil pump - 5 solenoid valves 1/4" - oil pre-heater
GNT 550	1,100,000	5,300,000	15,000	✓	3 stage	gas line with skp valves - complete control box - oil pump - 5 solenoid valves 1/4" - oil pre-heater
GNT 560	1,500,000	6,200,000	18,500	✓	3 stage	gas line with skp valves - complete control box - oil pump - 5 solenoid valves 1/4" - oil pre-heater

Overall dimension

Model	Dimension (mm)							Type
	A	B	C	D	E	G	H	
GNT 506	176	220	1070	540	925	260	215	X
GNT 508	176	220	1070	540	965	260	215	X
GNT 510	220	250	1150	640	1250	300	265	X
GNT 512	220	250	1150	640	1250	300	265	X
GNT 515	220	250	1150	650	1280	300	265	X
GNT 520	255	250	1430	650	1945	360	305	Z
GNT 525	255	250	1525	650	1815	360	305	Z
GNT 530	255	250	1525	650	1860	360	305	Z
GNT 540	390	380	1750	850	2835	550	500	Z*
GNT 550	390	250	1680	1020	2835	650	580	Z*
GNT 560	415	210	1680	1150	2835	700	600	Z*

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GNT 525

Multi fuel burner with capacity 450,000 - 2,700,000 Kcal/h



GNT 560

Multi fuel burner with capacity 1,500,000 - 6,200,000 Kcal/h

Burners

Equipped By CAM System

Gas fuel Burners with CAM

Technical Data

Model	Max Capacity	Min Capacity	Power (w)	Servo motor	Performance	Other components
GNG 90/7 BC	270,000	800,000	1,100	✓	Two Stages	Gas train - control box
GNG 90/9 BC	300,000	950,000	1,500	✓	Two Stages	Gas train - control box
GNG 90/12 BC	320,000	1,550,000	3,000	✓	Two Stages	Gas train - control box
GNG 90/15 BC	450,000	2,000,000	4,000	✓	Two Stages	Gas train - control box
GNG 90/30 BC	550,000	3,100,000	7,500	✓	Two Stages	Gas train - control box

Oil fuel Burners with CAM

Technical Data

Model	Max Capacity	Min Capacity	Power (w)	Servo motor	Performance	Other components
GNO 90/7 BC	270,000	800,000	1,100	✓	Two Stages	Control box
GNO 90/9 BC	300,000	950,000	1,500	✓	Two Stages	Control box
GNO 90/12 BC	320,000	1,550,000	3,000	✓	Two Stages	Control box
GNO 90/15 BC	450,000	2,000,000	4,000	✓	Two Stages	Control box
GNO 90/30 BC	550,000	3,100,000	7,500	✓	Two Stages	Control box

Gas & Oil Burners with CAM

Technical Data

Model	Max Capacity	Min Capacity	Power (w)	Servo motor	Performance	Other components
GND 307 BC	270,000	800,000	1,100	✓	Two Stages	Gas train - control box
GND 309 BC	300,000	950,000	1,500	✓	Two Stages	Gas train - control box
GND 312 BC	320,000	1,550,000	3,000	✓	Two Stages	Gas train - control box
GND 315 BC	450,000	2,000,000	4,000	✓	Two Stages	Gas train - control box
GND 330 BC	550,000	3,100,000	7,500	✓	Two Stages	Gas train - control box

Advantages of CAM equipped burners:

- A mechanical system for fuel/air ratio setting
- Higher quality of combustion
- Lower fuel consumption
- Higher efficiency
- Less environmental pollution

Modular Burners

Technical Data

Modular Gas fuel Burners

Model	Max Capacity (kg/hr)	Min Capacity (kg/hr)	Power (w)	Servo motor	Performance	Other components
GNG 90/10 M	300,000	1,200,000	2,200	✓	Modular	Gas train - control box
GNG 90/12 M	320,000	1,500,000	3,000	✓	Modular	Gas train - control box
GNG 90/15 M	400,000	1,700,000	4,000	✓	Modular	Gas train - control box
GNG 90/20 M	450,000	2,200,000	5,500	✓	Modular	Gas train - control box
GNG 90/25 M	450,000	2,700,000	7,500	✓	Modular	Gas train - control box
GNG 90/30 M	550,000	3,300,000	7,500	✓	Modular	Gas train - control box
GNG 90/40 M	700,000	4,400,000	11,000	✓	Modular	Gas train - control box
GNG 90/50 M	1,100,000	5,300,000	15,000	✓	Modular	Gas train - control box
GNG 90/60 M	1,500,000	6,200,000	18,500	✓	Modular	Gas train - control box
GNG 90/65 M	1,500,000	6,700,000	-	✓	Modular	Gas train - control box
GNG 90/70 M	1,700,000	7,100,000	-	✓	Modular	Gas train - control box
GNG 90/75 M	1,800,000	7,800,000	-	✓	Modular	Gas train - control box
GNG 90/85 M	2,000,000	8,800,000	-	✓	Modular	Gas train - control box
GNG 90/100 M	2,300,000	10,300,000	-	✓	Modular	Gas train - control box
GNG 90/120 M	2,500,000	11,800,000	-	✓	Modular	Gas train - control box

Technical Data

Modular Dual fuel Burners (Gas & Oil)

Model	Max Capacity (kg/hr)	Min Capacity (kg/hr)	Power (w)	Servo motor	Performance	Other components
GND 310 M	300,000	1,200,000	2,200	✓	Modular	Gas train - control box
GND 312 M	320,000	1,500,000	3,000	✓	Modular	Gas train - control box
GND 315 M	400,000	1,700,000	4,000	✓	Modular	Gas train - control box
GND 320 M	450,000	2,200,000	5,500	✓	Modular	Gas train - control box
GND 325 M	450,000	2,700,000	7,500	✓	Modular	Gas train - control box
GND 330 M	550,000	3,300,000	7,500	✓	Modular	Gas train - control box
GND 340 M	700,000	4,400,000	11,000	✓	Modular	Gas train - control box
GND 350 M	1,100,000	5,300,000	15,000	✓	Modular	Gas train - control box
GND 360 M	1,500,000	6,200,000	18,500	✓	Modular	Gas train - control box
GND 365 M	1,500,000	6,700,000	-	✓	Modular	Gas train - control box
GND 370 M	1,700,000	7,100,000	-	✓	Modular	Gas train - control box
GND 375 M	1,800,000	7,800,000	-	✓	Modular	Gas train - control box
GND 385 M	2,000,000	8,800,000	-	✓	Modular	Gas train - control box
GND 3100 M	2,300,000	10,300,000	-	✓	Modular	Gas train - control box
GND 3120 M	2,500,000	11,800,000	-	✓	Modular	Gas train - control box

Modular burners advantages:

- Equipped with an electronical intelligent system to control the fuel/air ratio
- Compatible BMS and remote control systems
- Higher quality combustion
- Lower fuel consumption
- Higher efficiency
- Less environmental pollution

Dual Block Modular Burners

Technical Data Dual Block Modular Gas Burners

Model	Max Capacity	Min Capacity	Power (kW)	Servo motor	Performance	Other components
SMG 90/65	1,500,000	6,700,000	18.5	✓	Modular	Gas train - control box
SMG 90/70	1,700,000	7,100,000	22	✓	Modular	Gas train - control box
SMG 90/75	1,800,000	7,800,000	22	✓	Modular	Gas train - control box
SMG 90/85	2,000,000	8,800,000	26	✓	Modular	Gas train - control box
SMG 90/100	2,300,000	10,300,000	28	✓	Modular	Gas train - control box
SMG 90/120	2,500,000	11,800,000	32	✓	Modular	Gas train - control box

Technical Data Dual Block Modular Oil Burners

Model	Max Capacity	Min Capacity	Power (kW)	Servo motor	Performance	Other components
SMO 90/65	1,500,000	6,700,000	18.5	✓	Modular	Gas train - control box
SMO 90/70	1,700,000	7,100,000	22	✓	Modular	Gas train - control box
SMO 90/75	1,800,000	7,800,000	22	✓	Modular	Gas train - control box
SMO 90/85	2,000,000	8,800,000	26	✓	Modular	Gas train - control box
SMO 90/100	2,300,000	10,300,000	28	✓	Modular	Gas train - control box
SMO 90/120	2,500,000	11,800,000	32	✓	Modular	Gas train - control box

Technical Data Dual Block Modular Dual Fuel Burners (Gas & Oil)

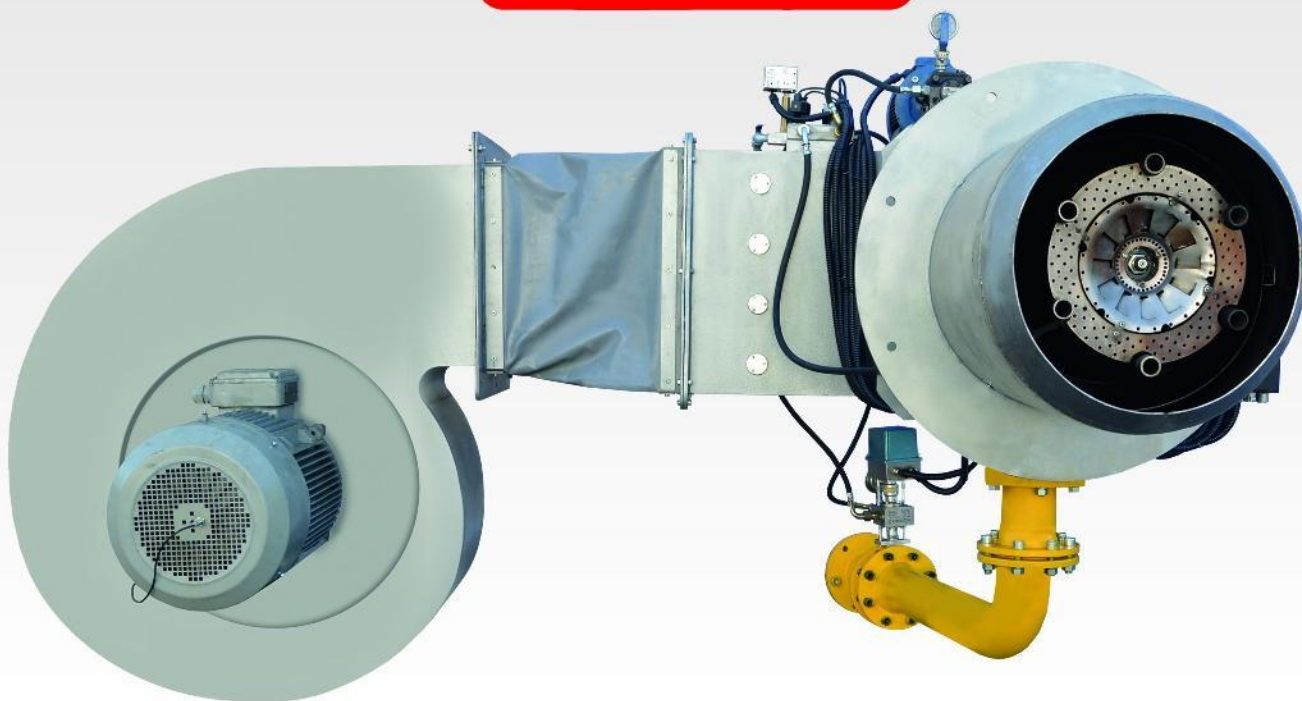
Model	Max Capacity	Min Capacity	Power (kW)	Servo motor	Performance	Other components
SMD 365	1,500,000	6,700,000	18.5	✓	Modular	Gas train - control box
SMD 370	1,700,000	7,100,000	22	✓	Modular	Gas train - control box
SMD 375	1,800,000	7,800,000	22	✓	Modular	Gas train - control box
SMD 385	2,000,000	8,800,000	26	✓	Modular	Gas train - control box
SMD 3100	2,300,000	10,300,000	28	✓	Modular	Gas train - control box
SMD 3120	2,500,000	11,800,000	32	✓	Modular	Gas train - control box

Technical Data Dual Block Modular Heavy Oil Burners

Model	Max Capacity	Min Capacity	Power (kW)	Servo motor	Performance	Other components
SMO 465	1,500,000	6,700,000	18.5	✓	Modular	Gas train - control box
SMO 470	1,700,000	7,100,000	22	✓	Modular	Gas train - control box
SMO 475	1,800,000	7,800,000	22	✓	Modular	Gas train - control box
SMO 485	2,000,000	8,800,000	26	✓	Modular	Gas train - control box
SMO 4100	2,300,000	10,300,000	28	✓	Modular	Gas train - control box
SMO 4120	2,500,000	11,800,000	32	✓	Modular	Gas train - control box

Technical Data Dual Block Modular Multi Fuel Burners (Gas & Oil & Heavy oil)

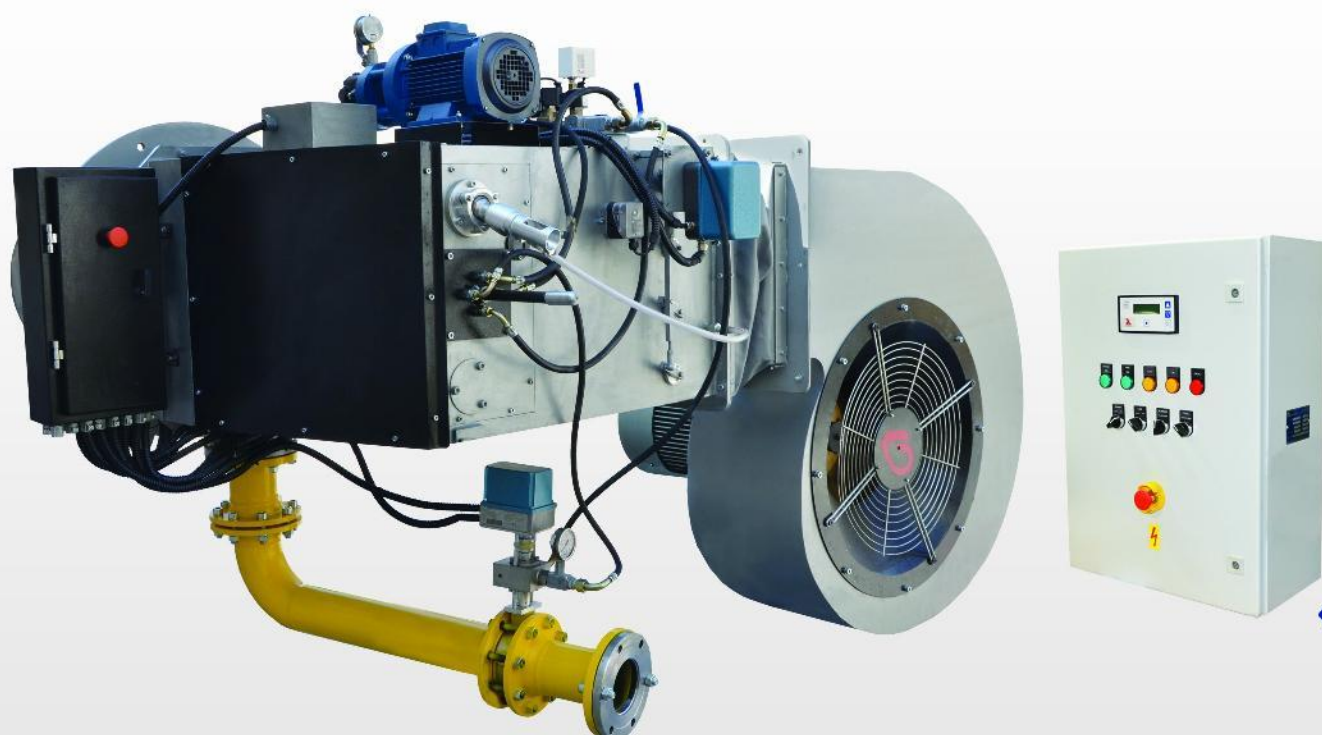
Model	Max Capacity	Min Capacity	Power (kW)	Servo motor	Performance	Other components
SMT 565	1,500,000	6,700,000	18.5	✓	Modular	Gas train - control box
SMT 570	1,700,000	7,100,000	22	✓	Modular	Gas train - control box
SMT 575	1,800,000	7,800,000	22	✓	Modular	Gas train - control box
SMT 585	2,000,000	8,800,000	26	✓	Modular	Gas train - control box
SMT 5100	2,300,000	10,300,000	28	✓	Modular	Gas train - control box
SMT 5120	2,500,000	11,800,000	32	✓	Modular	Gas train - control box



SMD 3100

Dual block dual-fuel burner

Capacity: 2,300,000 - 10,300,000 kcal/hr





HPW 80

Turbo burner

Capacity: 2,000,000 - 7,000,000 kcal/h

Fuel type: natural gas

Application: cement, asphalt, gypsum industries



HW 400

Atmospheric furnace burner with a new design, a steel diecast type which is applicable to preheat furnace of steel industry

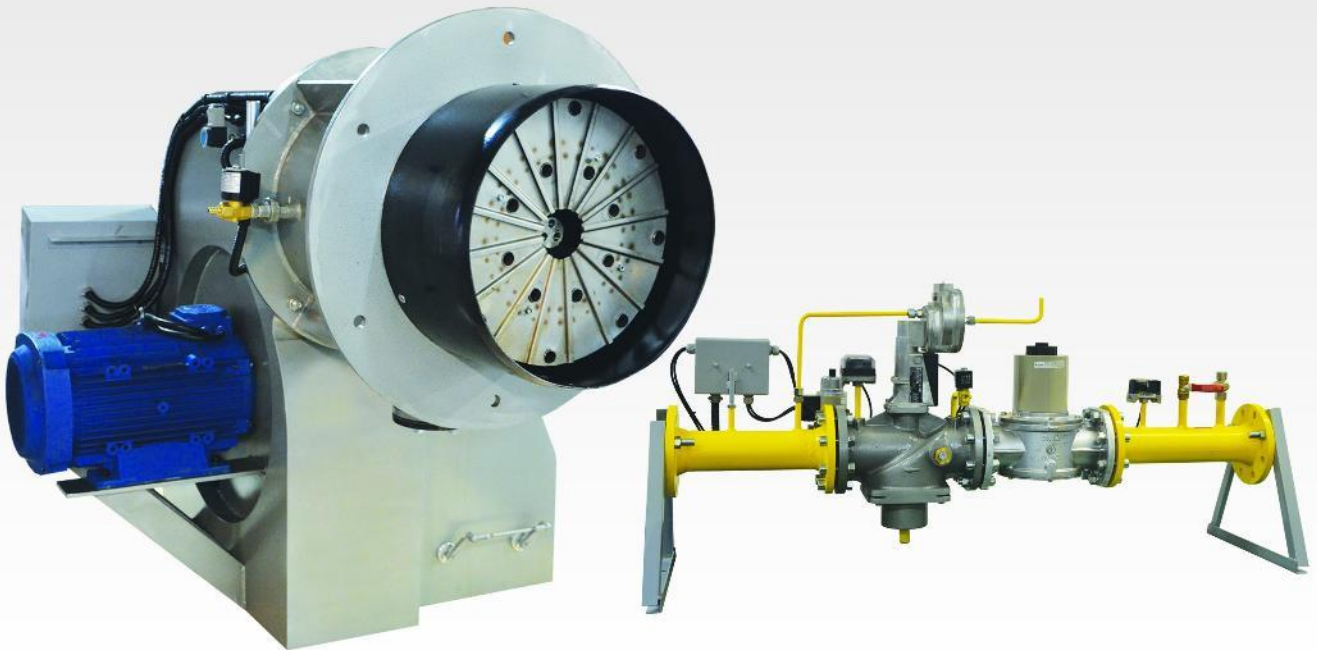
Capacity: 1,000,000 - 6,000,000 kcal/h

Fuel type: natural gas



SMD 385

Dual block, dual fuel, modular burner
Capacity: 2,000,000 - 8,800,000 kcal/h

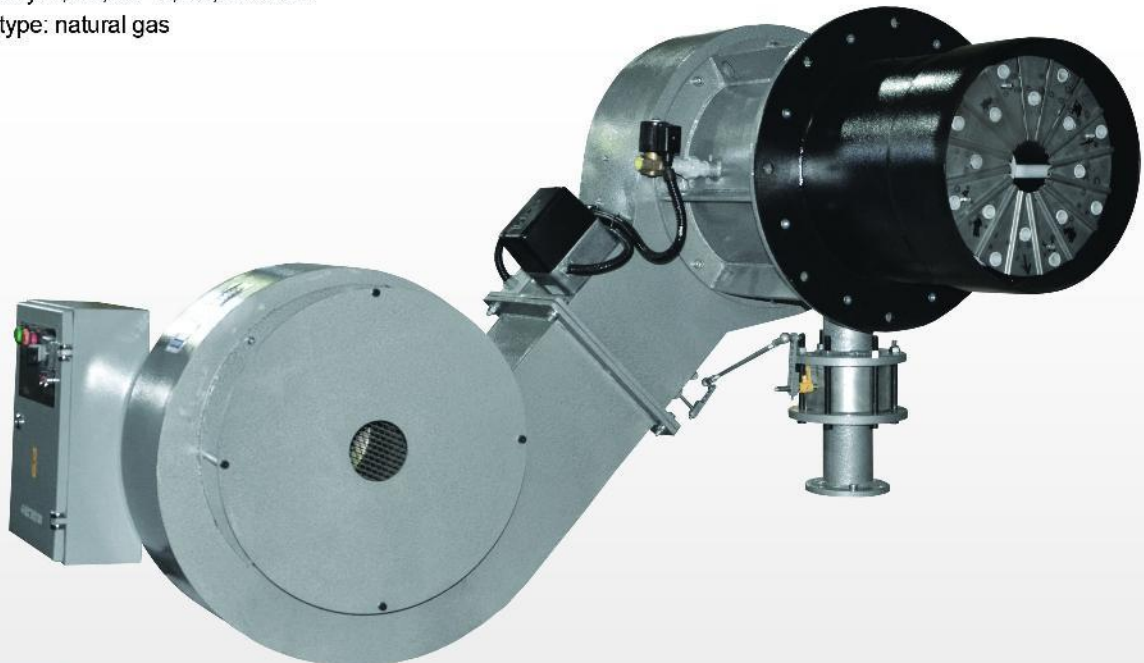


GNG 90/60

Gas burner

Capacity: 1,500,000 - 6,200,000 kcal/h

Fuel type: natural gas



GNG 90/40

Gas burner

Capacity: 700,000 - 4,400,000 kcal/h

Fuel type: gas



GPX 280

Furnace burner
Capacity: 100,000 – 10,000,000 kcal/h
Fuel type: heavy oil- oil – gas- recycled liquid fuel
Dual block structure
Easy and cheap maintenance and repair
Liquid/gas fuel modular performance
Fuel pump free system



GNG 90/12 BC

Capacity: 320,000 – 1,550,000 kcal/h
Fuel type: natural gas
Equipped by CAM mechanism for precise fuel/air ratio



GBG 100

Gas Burner

Capacity: 40,000 – 110,000 kcal/h

Fuel type: natural gas

Application: hot water boilers of small and middle size residential applications, small industries and steam boilers for washing and sterilizing in painting lines, farming and poultry applications.



GNOW 410

Pyrolysis oil burner

Capacity: 300,000 – 1,200,000 kcal/h

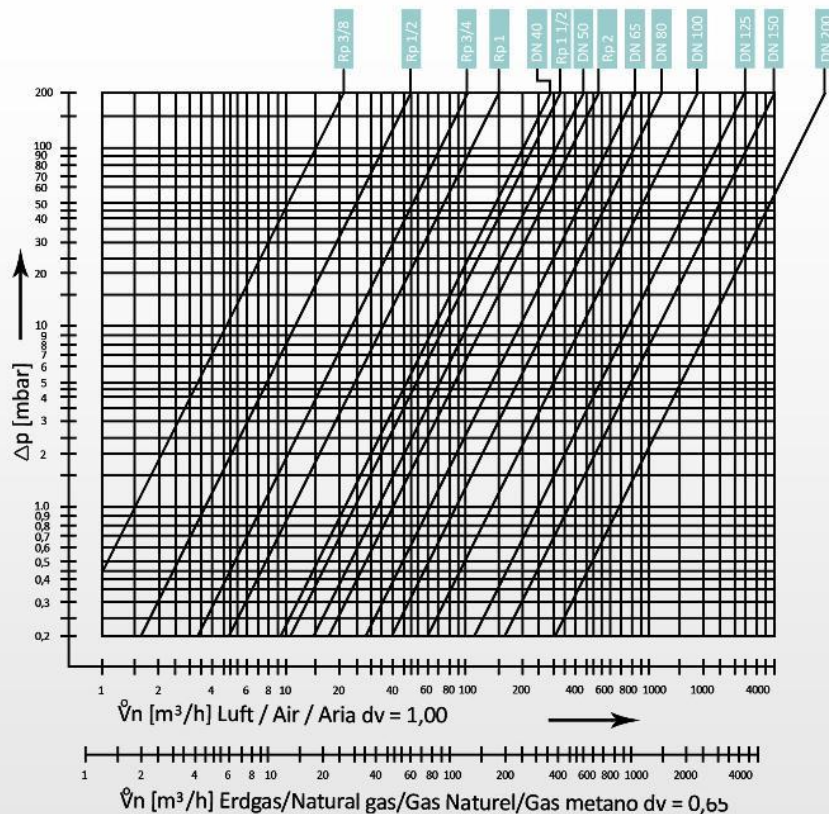
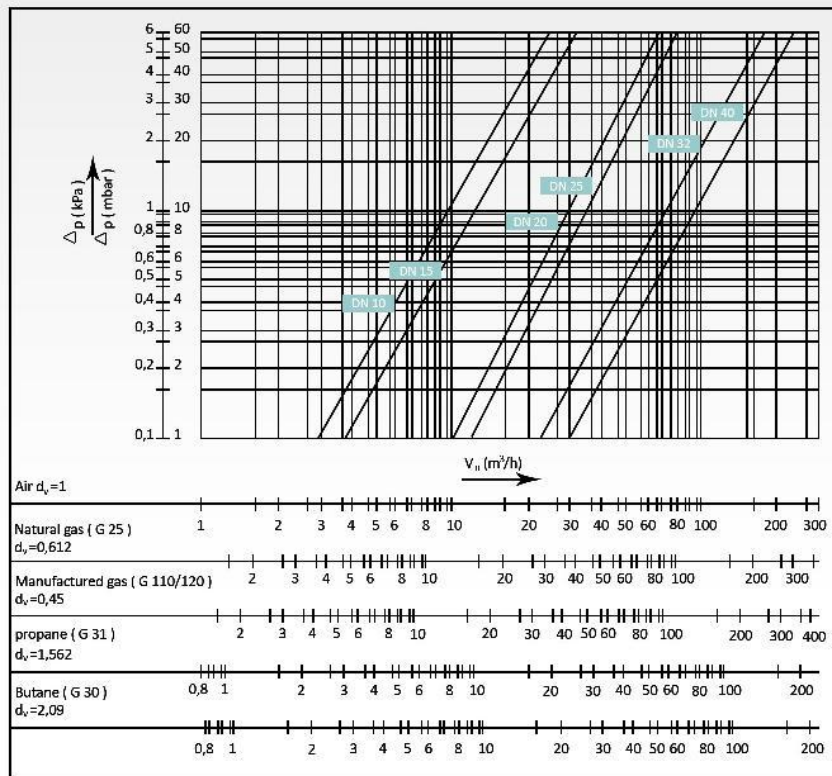
Fuel type: pyrolysis oil, waste oil, heavy oil and oil burners

Application: Available for Industrial applications requiring, medium to high volume spa and hot steam such as food processing (canning, tomato paste, pasta, etc.)

Flow Diagram of Gas Solenoid Valves

capacity in m³/h air at $\Delta p = 2,5$ mbar

3/8" DN 10	1/2" DN 15	3/4" DN 20	1" DN 25	1 1/4" DN 32	1 1/2" DN 40
5	6,4	14,8	16,7	38,5	47,1



Wall Hung Boiler

Technical data

ECO3

Description (category)	Unit	ECO3 240 Fi	ECO3 280 Fi
Maximum heat input	kW	25.8	30.1
Reduced heat input	kW	10.6	11.9
Maximum heat output	kW	24	28
Reduced heat output	kW	9.3	10.4
Max. efficiency in nominal load	%	95/21	95/1
Max. efficiency in reduced load	%	96/14	95/8
Central heating system max. pressure	bar	3	3
Useful efficiency according to 92/42/CEE directive		***	***
Expansion vessel capacity	L	8	10
Expansion vessel pressure	bar	1	1
DHW temp. range	°C	35/60	35/60
Central temp. range	°C	30/85	30/85
Floor heating temp. range	°C	30/45	30/45
DHW production at $\Delta T=25^{\circ}\text{C}$	l/min	13.7	16
DHW production at $\Delta T=35^{\circ}\text{C}$	l/min	9.8	11.4
DHW system min. output	l/min	2	2
DHW min. pressure	bar	0.15	0.15
DHW system max. pressure	bar	8	8
Dimension height	mm	763	763
Width	mm	450	450
Depth	mm	345	345
Coaxial Concentric flue/air duct diameter	mm	60/100	60/100
Type of gas used	-	LPG fuel / Gas fuel	LPG fuel / Gas fuel
Natural gas feeding pressure (G20)	mbar	20	20
Propane gas feeding pressure (G30/G31)	mbar	37	37
Power supply Voltage	V	230	230
Power consumption	W	135	165
Protection-limit against humidity and water leakages(*)	-	IPX5D	IPX5D
Net weight	kg	38	40

* Confirmed by EN 60529

The **eco3** wall hung boiler
Joint product of **Garmiran** and **BAXI**Italy



Made in IRAN

Compare our products only with the best brand's of the world

Wall Hung Boiler

Technical data

ECOFOUR

Description (category)	Unit	ECOFOUR
Maximum heat input	kW	25.8
Minimum heat input	kW	10.6
heat output	kW	24
heat output	kcal/h	20.600
Reduced heat output	kW	9.3
Reduced heat output	Kcal/h	8.000
Useful efficiency according to 92/42/CEE directive		***
Central heating system max. pressure	bar	3
Expansion vessel capacity	L	6
Expansion vessel pressure	bar	1
DHW system Maximum pressure	bar	8
DHW system Minimum daynamic pressure	bar	0.15
DHW system min. output	l/min	2
DHW production at $\Delta T=25^{\circ}\text{C}$	l/min	13.7
DHW production at $\Delta T=35^{\circ}\text{C}$	l/min	9.8
DHW production in compatible with EN 625	l/min	10.7
Central heating temp. range	$^{\circ}\text{C}$	30/85
DHW system temp. range	$^{\circ}\text{C}$	35/60
Type		C12-C32-C42-C52-C82-B22
Coaxial Concentric flue duct diameter	mm	60
Coaxial Concentric air duct diameter	mm	100
Flue duct diameter	mm	80
Air duct diameter	mm	80
Flue duct max. tempreture	$^{\circ}\text{C}$	146
Flue duct min. tempreture	$^{\circ}\text{C}$	116
NOx Class		3
Type of gas		LPG fuel / Gas fuel
Natural gas feeding pressure (G20)	mbar	20
Propane gas feeding pressure (G30/G31)	mbar	30
Power supply Voltage	V	230
Power consumption	W	130
Net weight	kg	33
Dimension height	mm	730
Width	mm	400
Depth	mm	299
Protection-limit against humidity and water leakages(*)		IP X5D

* Confirmed by EN 60529

New Product

Wall Hung Boiler ECOFOUR

Joint product of
Garmiran and BAXI



- New control panel and LCD
- Smaller dimensions (730*400*299 mm)
- Accessing to all settings through the new control panel
- Maximum possible efficiency for non-condensing room sealed boilers
- Brass hydraulic components and three-way valve
- DHW produced by stainless steel plate heat exchanger
- Compatible with solar systems
- Maximum IP rating IPX5D
- Enhanced heat exchanger to higher efficiency
- Trouble shooting system with error history access
- Electrical thermometer and automatic bypass
- Complete anti-frost equipment

Floor Standing Boiler Dacatech

- Fan assisted/atmospheric light cast iron fins
- Capacity: 24/000-62/000 kcal/h
- Fin numbers: 4-9 pcs.
- Thermostatic temprature control, DHW supply, limit thermostat
- SIT gas valve
- DHW return pump
- Without heating line circulation pump
- Minimum dimension and weight
- High efficiency
- Easy installation and commissioning



Technical Data of Garmiran floor standing boiler DACATECH Models

Description	Unit	With DHW pump, heat exchanger and thermostate					Without DHW pump, heat exchanger(heat-ing only) and thermostate				
		TW20	TW30	TW40	TW50	TW60	ATW20	ATW30	ATW40	ATW50	ATW60
Capacity	kW	28	35	47	56	72	28	35	47	56	72
	Kcal/h	24000	30000	40000	48000	62000	24000	30000	40000	48000	62000
Max input power	kW	31.1	38.8	52.8	62.2	80	31.1	38.8	52.8	62.2	80
Output power	kW	28	35	47	56	72	28	35	47	56	72
Number of fins		4	5	6	7	9	4	5	6	7	9
Max pressure of heating line	bar	3	3	3	3	3	3	3	3	3	3
Heating temp range	°C	30/85 30/45	30/85 30/45	30/85 30/45	30/85 30/45	30/85 30/45	30/85 30/45	30/85 30/45	30/85 30/45	30/85 30/45	30/85 30/45
DHW supply at $\Delta T=35^{\circ}\text{C}$	l/min	14	18	24	28	30	-	-	-	-	-
Max DHW pressure	bar	8	8	8	8	8	-	-	-	-	-
Flue pipe diameter	Ømm	130	140	160	160	180	130	140	160	160	180
Fuel type		Gas/LPG									
IP rating	-	IPX4D	IPX4D	IPX4D	IPX4D	IPX4D	IPX4D	IPX4D	IPX4D	IPX4D	IPX4D

All above models of DACATECH floor standing boilers are atmospheric (fan assisted models are TWF & ATWF)



Condensing Floor Standing Boiler



- Power HT-A1.650
- Normal output power : 601kW
- Dimension: 1526x762x2192mm
- Fuel type: Gas fuel / LPG fuel
- Weight: 674kg

Condensing Boiler

Product	Heat input		Heat output		Efficiency (Hi)			Maximum output			Not working burner chimney heat losses
	MAX	MIN	MAX	MIN	Combustion efficiency	30%	Stars number	Combustion efficiency	Chimney heat losses	Radiating heat losses	
	kW	kW	kW	kW	Pn 70 °C %	%	92/42/EEC	%	%	%	
LUNA PLATINIUM 1.12	12,4	2,1	12	2	97,7	108	★★★★★	98,2	1,8	0,5	0,1
LUNA PLATINIUM 1.18	17,4	2,1	16,9	2	97,6	108	★★★★★	98,1	1,9	0,5	0,1
LUNA PLATINIUM 1.24	24,7	2,5	24	2,4	97,6	107,6	★★★★★	98,1	1,9	0,5	0,1
LUNA PLATINIUM 1.32	33	3,3	32	3,2	97,6	107,6	★★★★★	98,1	1,9	0,5	0,1
LUNA DUO-TEC MP 1.50	46,3	5,1	45	5	97,4	107,6	★★★★★	98,0	2,0	0,6	0,1
LUNA DUO-TEC MP 1.60	56,6	6,3	55	6,1	97,2	107,6	★★★★★	97,8	2,2	0,6	0,1
LUNA DUO-TEC MP 1.70	66,9	7,4	65	7,2	97,2	107,6	★★★★★	97,8	2,2	0,6	0,1
LUNA DUO-TEC MP 1.90	87,4	9,7	85	9,4	97,3	107,3	★★★★★	97,9	2,1	0,6	0,1
LUNA DUO-TEC MP 1.110	104,9	11,7	102	11,4	97,2	107,4	★★★★★	97,8	2,2	0,6	0,1
LUNA HT 1.350	34,8	15	33,9	14,5	97,3	107,6	★★★★★	97,9	2,1	0,6	0,1
LUNA HT 1.450	46,4	15	45	14,5	97,3	107,6	★★★★★	97,9	2,1	0,6	0,1
LUNA HT 1.450 P	46,4	15	45	14,5	97,3	107,6	★★★★★	97,9	2,1	0,6	0,1
LUNA HT 1.550	56,7	16	55	15,5	97,4	107,5	★★★★★	98,0	2,0	0,6	0,1
LUNA HT 1.650	67	20	65	19,3	97,3	107,6	★★★★★	97,9	2,1	0,6	0,1
LUNA HT 1.850	87,2	26,4	85	25,7	97,5	107,3	★★★★★	98,1	1,9	0,6	0,1
LUNA HT 1.1000	105	29,8	102	29	97,4	107,4	★★★★★	98,0	2,0	0,6	0,1
POWER HT 1.450	46,4	12,2	45	11,8	97,3	107,6	★★★★★	97,9	2,1	0,6	0,1
POWER HT 1.650	67	13,8	65	13,4	97,3	107,6	★★★★★	97,9	2,1	0,6	0,1
POWER HT 1.850	87,2	33,1	85	32,2	97,5	107,3	★★★★★	98,1	1,9	0,6	0,1
POWER HT 1.1000	102,7	36,8	100	35,8	97,4	107,4	★★★★★	98,0	2,0	0,6	0,1
POWER HT 1.1150	115	40	115	39	97,4	107,5	★★★★★	98,0	2,0	0,6	0,1
POWER HT 1.1200	123,2	40	120	39	97,4	107,5	★★★★★	98,0	2,0	0,6	0,1
POWER HT 1.1500	154	41,5	150	40,4	97,4	107,2	★★★★★	98,0	2,0	0,6	0,1
POWER HT 1.230	215	35	210,1	33,5	97,3	105,4	★★★★★	97,9	1,7	2,5	0,0
POWER HT 1.280	260	42	254,5	40,2	97,4	105,6	★★★★★	98,0	1,7	2,5	0,0
POWER HT 1.320	300	48	294	45,9	97,4	105,7	★★★★★	98,0	1,7	2,6	0,0
POWER HT-A 1.430	400	84	392,8	77	98,2	105,6	★★★★★	98,0	2,0	2,5	0,0
POWER HT-A 1.500	470	99,8	462	91	98,3	106	★★★★★	98,0	2,0	2,5	0,0
POWER HT-A 1.570	540	115	531	105	98,4	106,4	★★★★★	98,0	2,0	2,6	0,0
POWER HT-A 1.650	610	130,4	601	119	98,5	106,8	★★★★★	98,0	2,0	2,6	0,0

Garmiran manufacturing group always reviews and optimizes the technical performance and aesthetics of the products.

Condensing Boiler

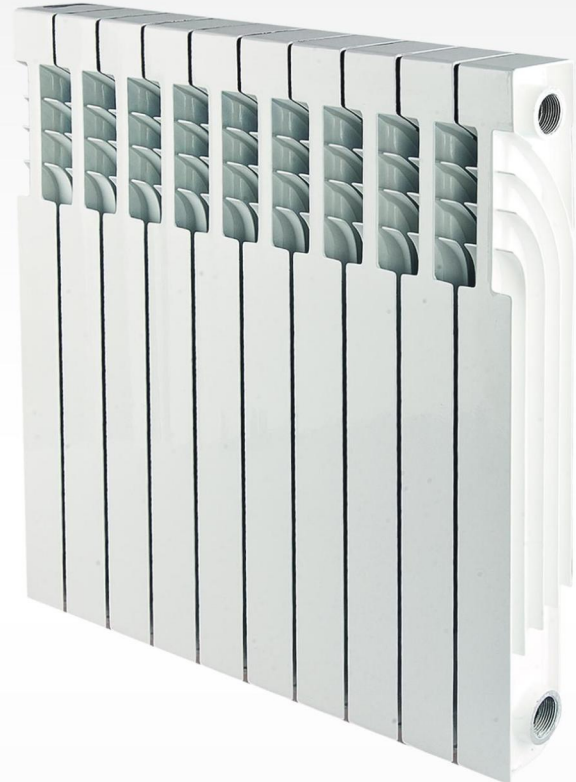
Product	Maximum output					Minimum output					Power consumption	
	Flue temp max	CO ₂	O ₂	Exceeding air and	Flue mass flow / rate	Flue temp max	CO ₂	O ₂	Exceeding air and	Flue mass flow / rate	Nominal boiler	Nominal pump
	°C	%	%	%	kg/s	°C	%	%	%	kg/s	W	W
LUNA PLATINIUM 1.12	75	9,0	4,8	30	0,006	55	9,0	4,8	30	0,001	95	75
LUNA PLATINIUM 1.18	75	9,0	4,8	30	0,008	55	9,0	4,8	30	0,001	110	75
LUNA PLATINIUM 1.24	80	9,0	4,8	30	0,011	55	9,0	4,8	30	0,001	120	75
LUNA PLATINIUM 1.32	80	9,0	4,8	30	0,015	55	9,0	4,8	30	0,002	130	75
LUNA DUO-TEC MP 1.50	92	9,0	4,8	30	0,021	58	8,5	5,7	38	0,002	190	115
LUNA DUO-TEC MP 1.60	96	9,0	4,8	30	0,026	59	9,0	4,8	30	0,003	210	120
LUNA DUO-TEC MP 1.70	76	9,0	4,8	30	0,031	55	8,5	5,7	38	0,004	210	125
LUNA DUO-TEC MP 1.90	75	9,0	4,8	30	0,040	55	8,5	5,7	38	0,005	275	165
LUNA DUO-TEC MP 1.110	74	9,2	4,5	27	0,047	55	9,0	4,8	30	0,005	320	170
LUNA HT 1.350	72	8,7	5,4	34	0,016	55	8,4	5,9	39	0,007	45	-
LUNA HT 1.450	74	8,7	5,4	34	0,022	55	8,4	5,9	39	0,007	75	-
LUNA HT 1.450 P	74	8,7	5,4	34	0,022	55	8,4	5,9	39	0,007	175	100
LUNA HT 1.550	78	8,7	5,4	34	0,027	55	8,4	5,9	39	0,008	80	-
LUNA HT 1.650	75	8,7	5,4	34	0,032	55	8,4	5,9	39	0,010	125	-
LUNA HT 1.850	75	8,7	5,4	34	0,041	55	8,4	5,9	39	0,013	150	-
LUNA HT 1.1000	74	8,7	5,4	34	0,050	55	8,4	5,9	39	0,015	200	-
POWER HT 1.450	75	8,7	5,4	34	0,022	55	8,4	5,9	39	0,006	900	-
POWER HT 1.650	75	8,9	5,0	31	0,031	55	8,4	5,9	39	0,007	110	-
POWER HT 1.850	78	8,7	5,4	34	0,041	56	8,6	5,6	36	0,016	100	-
POWER HT 1.1000	80	8,7	5,4	34	0,049	57	8,6	5,6	36	0,018	160	-
POWER HT 1.1150	72	8,7	5,4	34	0,054	55	8,4	5,9	39	0,019	128	-
POWER HT 1.1200	77	8,7	5,4	34	0,058	58	8,4	5,9	39	0,019	135	-
POWER HT 1.1500	75	8,7	5,4	34	0,073	58	8,4	5,9	39	0,020	235	-
POWER HT 1.230	61	9,3	4,3	26	0,097	57	9,3	4,3	26	0,016	330	-
POWER HT 1.280	61	9,3	4,3	26	0,118	57	9,3	4,3	26	0,019	350	-
POWER HT 1.320	61	9,3	4,3	26	0,136	57	9,3	4,3	26	0,021	410	-
POWER HT-A 1.430	60	9,5	4,5	30	0,188	56	9,5	4,5	30	0,038	463	-
POWER HT-A 1.500	60	9,5	4,5	30	0,220	56	9,5	4,5	30	0,044	583	-
POWER HT-A 1.570	60	9,5	4,5	30	0,253	56	9,5	4,5	30	0,050	790	-
POWER HT-A 1.650	60	9,5	4,5	30	0,286	56	9,5	4,5	30	0,057	750	-

Garmiran manufacturing group always reviews and optimizes the technical performance and aesthetics of the products.

Aluminium Radiator

Die-casting Aluminium Radiator

Termo Calor



Diecasting aluminum radiators
 Excellent design
 High efficiency
 Compatible with EN442
 Approved by the national standards
 the European standards including ISO14001, ISO9001
 , OHSAS18001
 7 bar pressure test
 Electrostatic Powder Coating
 Highly resistant to beat/strike
 Producing the least hydrogen gas according to
 Garmiran high-tech exclusive technology.
 Made of only LM2 ignots.

Heat Emission of Termo Calor Series Element to EN 442 2-1 Standard

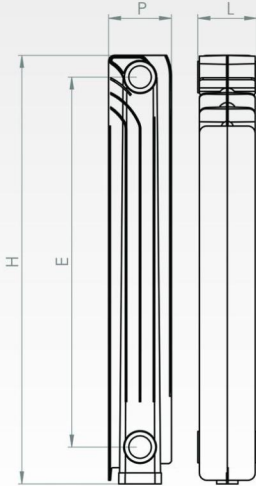
Dimensional Specifications					Heating Power Per Element in(Kcal/h) Standard EN 442 (part 2-1)	
Model	H mm	E mm	L mm	P mm	Water Content (liter)	Output in kcal/h
Termo Calor	585	500	58	90	0.45	124.8

It is obvious that the efficiency will increase if we reduce the radiator weight, it should be noted that using this method to increase the efficiency will decrease the quality and effect on the product durability. The weight can only be cut from the wet part of the diecast aluminum radiators, which is out of the customer's sights. By a small change in the thickness of this part 10% to 15% of the weight can be reduced while the hydrogen and the aluminum oxide are produced at this part of radiators and can make short or middle term consequences on the quality of the products. Garmiran manufacturing group uses accredited standards for the wet part thickness and by its own exclusive technique has the minimum chemical gas products in its radiators.

Aluminium Radiator

Die-casting Aluminium Radiator

elegance **NEW**



Diecasting aluminum radiators
Excellent design
High efficiency
Compatible with EN442
Approved by the national standards
the European standards including ISO14001, ISO9001
, OHSAS18001
7 bar pressure test
Electrostatic Powder Coating
Highly resistant to beat/strike
Producing the least hydrogen gas according to
Garmiran high-tech exclusive technology.
Made of only LM2 ignots.

Heat Emission of Elegance Series Element to EN 442 2-1 Standard

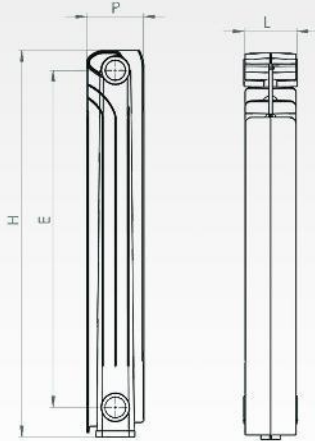
Dimensional Specifications					Heating Power Per Element in(Kcal/h) Standard EN 442 (part	
Model	H mm	E mm	L mm	P mm	Water Content (liter)	Output in kcal/h
<i>elegance</i> NEW	580	500	80	85	0.5	152

It is obvious that the efficiency will increase if we reduce the radiator weight, it should be noted that using this method to increase the efficiency will decrease the quality and effect on the product durability. The weight can only be cut from the wet part of the diecast aluminum radiators, which is out of the customer's sights. By a small change in the thickness of this part 10% to 15% of the weight can be reduced while the hydrogen and the aluminum oxide are produced at this part of radiators and can make short or middle term consequences on the quality of the products. Garmiran manufacturing group uses accredited standards for the wet part thickness and by its own exclusive technique has the minimum chemical gas products in its radiators.

Aluminium Radiator

Die-casting Aluminium Radiator

VERONA



Diecasting aluminum radiators
Excellent design
High efficiency
Compatible with EN442
Approved by the national standards
the European standards including ISO14001, ISO9001
, OHSAS18001
7 bar pressure test
Electrostatic Powder Coating
Highly resistant to beat/strike
Producing the least hydrogen gas according to
Garmiran high-tech exclusive technology.
Made of only LM2 ignots.

Heat Emission of Verona Series Element to EN 442 2-1 Standard

Dimensional Specifications					Heating Power Per Element in(Kcal/h) Standard EN 442 (part 1-2)	
Model	H mm	E mm	L mm	P mm	Water Content (liter)	Output in kcal/h
Verona	580	500	80	85	0.50	164

It is obvious that the efficiency will increase if we reduce the radiator weight, it should be noted that using this method to increase the efficiency will decrease the quality and effect on the product durability. The weight can only be cut from the wet part of the diecast aluminum radiators, which is out of the customer's sights. By a small change in the thickness of this part 10% to 15% of the weight can be reduced while the hydrogen and the aluminum oxide are produced at this part of radiators and can make short or middle term consequences on the quality of the products. Garmiran manufacturing group uses accredited standards for the wet part thickness and by its own exclusive technique has the minimum chemical gas products in its radiators.

Certificates

CERTIFICATES



Unit Conversion

Length

1 in = 25.4 mm
 = 0.0254 m
 1 ft 0.3048 m
 1 yd 0.9144 m
 1 m = 3.2808 ft
 = 1.0936 yd
 1 mm = 0.03937 in

Heat

1 Btu/h = 0.293 watt
 1 kW = 1000 J/s
 = 3.6 x 10⁶ J/h
 = 1.360 metric horse power
 = 737 ft lb/s
 = 3412 Btu/h
 = 860 kcal/h
 1 kcal/h = 1.16 x 10⁻³ kW
 1 Btu/ft² = 2.713 kcal/m²
 = 1.136 x 10⁴ J/m²
 1 Btu/ft² h = 3.155 W/m²
 1 Btu/ft³ h = 10.35 W/m³
 1 Btu/ft³ °F = 4.88 kcal/m³K
 = 2.043 x 10⁴ J/m³ K
 1 Btu/ft³ = 8.9 kcal/m³
 = 3.73 x 10⁴ J/m³
 = 0.295 x 10⁻¹ in mercury
 = 7.55 x 10⁻³ mm mercury
 = 0.1024 kg/m³
 = 0.993 x 10⁻¹ atm
 1 kN/m² = 1 x 10⁻² bar
 1 in water = 0.0361 lb/in²
 = 249 N/m²
 = 25.4 kg/m²
 = 0.0739 in mercury
 1 mm water = 1.42 x 10⁻³ lb/in²
 = 9.80 N/m²
 = 1 kg/m²
 = 0.0736 mm mercury
 = 0.9677 x 10⁻⁵ atm
 1 in mercury = 0.49 lb/in²
 = 3378 N/m²
 = 12.8 in water
 1 mm mercury = 0.0193 lb/in²
 = 133 N/m²
 = 12.8 mm water
 1 bar = 1 x 10⁵ N/m²
 = 14.52 lb/in²
 = 100 kN/m²
 10.4 mm w.g.
 1 Pa = 1 N/m²
 1 g/kg = 7.0 gr/lb
 1 gr/lb = 0.143 g/kg

Flow rate by volume

1 ft³/min = 0.00508 m³/s
 1 m³/s = 196.85 ft³/min
 1 kg/s (water) = 13.20 gal/min
 1 m³/s = 2118.9 ft³/min
 1 ft³/min = 1.7 m³/h
 = 0.47 l/s
 1 l/s = 792 gal/h
 = 13.2 gal/min

Mass and Weight

1 kg = 2.205 lb
 1 ton = 1000 kg
 = 0.984 tons
 1 grain = 0.000143 lb
 = 0.0648 g
 1 lb = 7000 grains
 = 0.4536 kg
 = 453.6 g
 1 Btu/lb = 0.556 kcal/kg
 = 2326 J/kg
 1 kcal/m² = 0.369 Btu/ft²
 1 kcal/m² K = 0.205 Btu/ft² °F
 1 kcal/m³ = 0.112 Btu/ft³
 1 kcal/kg = 1.800 Btu/lb
 1 ton refrigeration = 12.000 Btu/h
 = 3.516 kw
 1 ft² h °F/Btu = 0.18 m²K/w
 1 ft² h °F/btu in = 6.9 m K/w
 1 Btu/h ft² °F = 5.68 W/m² K

Power and Heat

1 joule = 1 watt second
 = 1 Nm
 = 0.74 ft lb
 = 9.478 x 10⁻⁴ Btu
 1 Btu = 1.055 x 10³ joule
 = 0.252 kcal
 = 778 ft lb
 0.293 watt hour
 1 kcal = 3.9683 Btu
 = 427 kg m
 = 4.187 x 10³ joule
 1 ft lb = 0.1383 kg m
 = 0.001286 Btu
 = 1.356 joule
 1 kg m = 7.233 ft lb
 = 0.00929 Btu
 = 9.806 joule

Density

1 lb/ft³ = 16.02 kg/m³
 1 kg/l = 62.43 lb/ft³
 1 kg/m³ = 0.0624 lb/ft³

Area

1 in² = 6.452 cm²
 = 6.452 x 10⁻⁴ m²
 1 ft² = 0.0929 m²
 1 yd² = 0.836 m²
 1 ac = 4840 yd²
 = 0.4047 ha
 1 mm² = 1.55 x 10⁻³ in²
 1 m² = 10.764 ft²
 = 1.196 yd²
 1 ha = 10⁴ m²
 = 2.471 ac

Volume

1 in³ = 16.39 cm³
 = 1.639 x 10⁻³ m³
 1 ft³ = 0.0283 m³
 = 6.23 gal
 1 yd³ = 0.7646 m³
 1 gal = 4.546 l
 = 4.546 x 10⁻³ m³
 = 0.16 ft³
 1 pint = 0.568 l
 1 U.S. gal 0.83 Imperial gal
 1 cm³ = 0.061 in³
 1 m³ = 35.31 ft³
 = 1.308 yd³
 = 220.0 gal
 1 l = 0.220 gal

Viscosity

1 poise¹ = 0.1 kg/ms
 = 0.1 N s/m²
 1 stoke² = 1 x 10⁻⁴ m²/s²

Force

1 N = 0.2248 lbf
 1 lbf = 4.448 N
 a mass of 1 kg has a weight of 1 kp³
 1 kp = 9.81 N
 G
 London = 32.2 ft/s²
 9.81 m/s²
 Equator = 32.1 ft/s²
 9.78 m/s²

pressure

1 atm = 1.033 x 10⁴ kg/m²
 = 1.033 kg/cm²
 = 1.013 x 10² kN/m²
 = 1.013 bar
 = 14.7 lb/in²
 = 407.1 in water at 62 °F
 = 10.33 m in water at 62 °F
 = 30 in mercury at 62 °F
 = 760 mm mercury at 62 °F
 1 lb/in² = 6895 N/m²
 = 6.895 x 10⁻² bar
 = 27.71 in water at 62 °F
 = 703.1 mm water at 62 °F
 = 2.0416 in mercury at 62 °F
 = 51.8 mm mercury at 62 °F
 = 703.6 kg/m²
 = 0.068 atm
 1 kg/m² = 1.422 x 10⁻¹ lb/in²
 = 9.81 N/m²
 = 0.0394 in water
 = 1 mm water
 = 0.0736 mm mercury
 = 0.9681 x 10⁻⁴ atm
 1 N/m² = 0.1450 x 10⁻¹ lb/in²
 = 1 x 10⁻² bar
 = 1 x 10⁻² mbar
 = 4.03 x 10⁻³ in water
 = 0.336 x 10⁻¹ ft water
 = 0.1024 mm water

Power

1 watt = 1 Nm/s
 1 horse power = 550 ft lb/s
 = 33,000 ft lb/m
 = 1.0139 metric horse⁴ power
 = 746 W
 = 2545 Btu/h
 1 metric horse⁴
 power = 736 W
 = 75 kg m/s
 = 0.986 English horse power

Temperature

°F = (°C) + 32
 °C = $\frac{5}{9}$ (°F - 32)
 1 deg F = 0.555 deg C
 1 deg C = 1.8 deg F

Fuel consumption rate calculation

Oil burners W = QB / (Cx E)
 W: burner fuel consumption (kg/hr)
 QB: burner heat capacity (kcal/hr)
 C: liquid (oil) fuel heat value (kcal/kg)
 E: burner efficiency

Gas burners W = QB / (Cx E)
 W: burner fuel consumption (m³/hr)
 QB: burner heat capacity (kcal/hr)
 C: Gas fuel heat value (kcal/m³)
 E: burner efficiency

گرمایران



GARMIRAN giving life ...

for more information, please see the web site : www.garmiran.com or send a message to info@garmiran.com



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[telegram.me/garmiran](https://t.me/garmiran)





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