

2.3 - PERFORMANCE DATA

BOILER TYPE	MODULEX	100	150	200	250	300	350
Appliance category	II _{2H3P}						
Nominal Heat Input on P.C.I. Q_n	kW	100	150	200	250	300	348
Minimum Heat Input on P.C.I. Q_{min}	kW	12	12	12	12	12	12
Nominal Output (Tr 60 / Tm 80 °C) P_n	kW	97,2	146,1	195,2	244,5	294,0	342,2
Minimum Output (Tr 60 / Tm 80 °C) $P_{n min}$	kW	11,7	11,7	11,7	11,7	11,7	11,7
Nominal Output (Tr 30 / Tm 50 °C) P_{cond}	kW	100,1	150,0	200,4	251,3	302,7	354,6
Minimum Output (Tr 30 / Tm 50 °C) $P_{cond min}$	kW	12,5	12,5	12,5	12,5	12,5	12,5
Efficiency at max. output (Tr 60 / Tm 80°C)	%	97,2	97,4	97,6	97,8	98,0	98,2
Efficiency at min. output (Tr 60 / Tm 80°C)	%	97,16	97,16	97,16	97,16	97,16	97,16
Efficiency at max. output (Tr 30 / Tm 50°C)	%	100,1	100,8	100,2	100,5	100,9	101,9
Efficiency at min. output (Tr 30 / Tm 50°C)	%	106,5	106,5	106,5	106,5	106,5	106,5
Efficiency Class acc. to Directive 92/42 CEE		4	4	4	4	4	4
Combustion efficiency at nominal load	%	97,8	97,8	97,8	98,0	98,1	98,3
Combustion efficiency at part load	%	98,3	98,3	98,3	98,3	98,3	98,3
Stand-by losses with burner in operation	%	0,6	0,4	0,2	0,2	0,1	0,1
Stand-by losses with burner off	%	0,1	0,1	0,1	0,1	0,1	0,1
Flue gas temperature $t_f - t_a$ (max)	°C	44,2	45,1	46,5	47,3	48,2	49,1
Flue gas mass flow rate (max)	kg/h	163,4	245,2	326,9	408,6	490,3	572
Excess of air λ	%	25,5	25,5	25,5	25,5	25,5	25,5
(**) CO_2 at min/max. output)	%	-	-	-	-	-	-
NO_x (value according EN 297/A3 + EN 483)	mg/kWh	53,8	53,8	53,8	53,8	53,8	53,8
NO_x class		5	5	5	5	5	5
Flue losses with burner off (max)	%	2,2	2,2	2,2	2,0	1,9	1,7
Min. water flow rate in CH circuit (ΔT 20°C)	l/h	4180	6282	8394	10514	12642	14784
Minimum pressure in CH circuit	bar	0,5	0,5	0,5	0,5	0,5	0,5
Maximum pressure in CH circuit	bar	8	8	8	8	8	8
Water content	l	10,1	14,2	18,3	22,4	26,5	30,6
Gas Consumption Natural gas G 20 (20 mbar) Q_n	m ³ /h	10,6	15,9	21,1	26,4	31,7	37,0
Gas Consumption Natural gas G 20 (20 mbar) Q_{min}	m ³ /h	1,3	1,3	1,3	1,3	1,3	1,3
Gas Consumption G25 (supply pressure 25 mbar) Q_n	m ³ /h	12,3	18,4	24,6	30,7	36,9	43,0
Gas Consumption G25 (supply pressure 25 mbar) Q_{min}	m ³ /h	1,5	1,5	1,5	1,5	1,5	1,5
Gas Consumption G31 (supply pressure 37/50 mbar) Q_n	kg/h	7,8	11,6	15,5	19,4	23,3	27,2
Gas Consumption G31 (supply pressure 37/50 mbar) Q_{min}	kg/h	0,9	0,9	0,9	0,9	0,9	0,9
Max. available pressure at the chimney base	Pa	100	100	100	100	100	100
Condensate production max	kg/h	15,3	23	30,6	38,3	45,9	53,6
Emissions							
CO with 0% of O_2 in the flue system	ppm	<77	<77	<77	<77	<77	<77
NO_x with 0% of O_2 in the flue system	ppm	<44	<44	<44	<44	<44	<44
Sound level	dBA	<49	<49	<49	<49	<49	<49
Electrical Data							
Voltage / Frequency	V/Hz	230/50	230/50	230/50	230/50	230/50	230/50
Fuse on main supply	A (F)	4	4	4	4	4	4
Max power absorbed	W	145	210	290	362	435	507
Insulation degree	IP	44	44	44	44	44	44
Standby Consumption	W	10	10	10	10	10	10



- (*) Room Temperature = 20°C
 (**) See paragraph "INJECTORS – PRESURES"
 (***) The protection IP X5D is obtained with cap down.



The Technical data plate is placed under the casing over the forehead stirrup.

Technical features and dimensions

2.3 - PERFORMANCE DATA

BOILER TYPE	MODULEX	440	550	660	770	900
Appliance category	II _{2H3P}					
Nominal Heat Input on P.C.I. Q_n	kW	432	540	648	756	864
Minimum Heat Input on P.C.I. Q_{min}	kW	22	22	22	22	22
Nominal Output (Tr 60 / Tm 80 °C) P_n	kW	424,35	530,44	636,53	742,62	849,05
Minimum Output (Tr 60 / Tm 80 °C) $P_n min$	kW	20,57	20,57	20,57	20,57	20,57
Nominal Output (Tr 30 / Tm 50 °C) P_{cond}	kW	445,0	557,8	670,1	783,2	900,3
Minimum Output (Tr 30 / Tm 50 °C) $P_{cond min}$	kW	23,94	23,94	23,94	23,94	23,94
Efficiency at max. output (Tr 60 / Tm 80°C)	%	98,23	98,23	98,23	98,23	98,27
Efficiency at min. output (Tr 60 / Tm 80°C)	%	93,5	93,5	93,5	93,5	93,5
Efficiency at max. output (Tr 30 / Tm 50°C)	%	~104				
Efficiency at min. output (Tr 30 / Tm 50°C)	%	~109				
Efficiency Class acc. to Directive 92/42 CEE		4	4	4	4	4
Combustion efficiency at nominal load	%	97,8	97,8	97,8	97,8	97,8
Combustion efficiency at part load	%	98,5	98,5	98,5	98,5	98,5
Stand-by losses with burner in operation	%	0,2	0,2	0,2	0,2	0,2
Flue losses with burner with burner off	%	0,1	0,1	0,1	0,1	0,1
Flue losses with burner with burner in operation	%	2,58	2,53	2,51	2,58	2,58
Flue gas temperature t_f-t_a (max)	°C	46,7	46,7	46,7	46,7	45,8
Flue gas mass flow rate (max)	kg/h	693	866	1040	1213	1386
Excess of air λ	%	24,25	24,25	24,25	24,25	24,25
(**) CO ₂ at min/max. output)	%	-	-	-	-	-
NO _x (value according EN 297/A3 + EN 483)	mg/kWh	49	49	49	49	49
NO _x class		5	5	5	5	5
Min. water flow rate in CH circuit (ΔT 20°C)	l/h	18247	22809	27371	31933	36509
Minimum pressure in CH circuit	bar	0,5	0,5	0,5	0,5	0,5
Maximum pressure in CH circuit	bar	6	6	6	6	6
Water content	l	67	80	94	108	122
Gas Consumption Natural gas G 20 (20 mbar) Q_n	m ³ /h	45,68	57,10	68,52	79,94	91,36
Gas Consumption Natural gas G 20 (20 mbar) Q_{min}	m ³ /h	2,33	2,33	2,33	2,33	2,33
Gas Consumption G25 (supply pressure 25 mbar) Q_n	m ³ /h	53,13	66,41	79,69	92,97	106,25
Gas Consumption G25 (supply pressure 25 mbar) Q_{min}	m ³ /h	2,71	2,71	2,71	2,71	2,71
Gas Consumption G31 (supply pressure 37/50 mbar) Q_n	kg/h	33,53	41,92	50,30	58,68	67,07
Gas Consumption G31 (supply pressure 37/50 mbar) Q_{min}	kg/h	1,71	1,71	1,71	1,71	1,71
Max. available pressure at the chimney base	Pa	100	100	100	100	100
Condensate production max	kg/h	73,4	91,7	110	128,4	146,7
Emissions						
CO with 0% of O ₂ in the flue system	ppm	<95	<95	<95	<95	<95
NO _x with 0% of O ₂ in the flue system	ppm	<30	<30	<30	<30	<30
Sound level	dBA	<49	<49	<49	<49	<49
Electrical Data						
Voltage / Frequency	V/Hz	230/50	230/50	230/50	230/50	230/50
Fuse on main supply	A (F)	4	4	4	4	4
Max power absorbed	W	626	783	940	1096	1252
(***) Insulation degree	IP	X5D	X5D	X5D	X5D	X5D
Standby Consumption	W	20	20	20	20	20



- (*) Room Temperature = 20°C
 (**) See paragraph "INJECTORS – PRESURES"
 (***) The protection IP X5D is obtained with cap down.



The Technical data plate is placed under the casing and is positioned near to the BCM.