

3 Technical specifications

3.1 Homologations

3.1.1 Regulations and standards

Beside the general technical rules, the relevant standards, regulations, ordinances and guidelines should be followed:

- DIN 4109: Sound insulation in buildings
- DIN EN 12828: Heating systems in buildings –, planning domestic hot water heating systems
- Federal Immission Control Ordinance 1. BImSchV
- DVGW-TRGI 1986 (DVGW-worksheet G 600): Technical Rules for gas installation
- TRF: Technical Rules LPG
- DVGW-Data sheet G - 613 Gas appliances- Installation, maintenance and operating instructions
- DIN 18380: Installation of central heating systems and hot water supply systems (VOB)
- DIN EN 12831: Heating systems in buildings –, Method for calculation of the design heat load
- DIN 4753: Domestic hot water calorifiers. Domestic hot water heating system and storage tanks for heated water
- DIN 1988: Technical rules for drinking water installations (TRW)
- DIN EN 60335-2-102: Safety of electrical appliances for household use and similar purposes: Special requirements for gas-, oil- und solid fuel appliances with electrical connections
- Fuel Ordinance, State Ordinances
- Regulations of the local Electricity Board
- Obligation to register (possibly. Group Exemption Regulation)
- ATV-Code-of-practice M251 of the waste water technology association
- Regulations of the public authorities for the run-off of condensate.

3.2 Technical data

3.2.1 Technical data – Boiler space heaters

Tab.2 Technical parameters for boiler space heaters

Model			Paramount 30	Paramount 40
Condensing boiler			Yes	Yes
Low-temperature boiler ⁽¹⁾			No	No
B1 boiler			No	No
Cogeneration space heater			No	No
Combination heater			No	No
Rated heat output	<i>P_{rated}</i>	kW	29	37
Useful heat output at rated heat output and high temperature mode ⁽²⁾	<i>P₄</i>	kW	29.2	37.0
Useful heat output at 30% of rated heat output and low temperature mode ⁽¹⁾	<i>P₁</i>	kW	9.8	12.4
Seasonal space heating energy efficiency	η_s	%	93	93
Useful efficiency at rated heat output and high temperature mode ⁽²⁾⁽²⁾	η_4	%	87.6	87.7
Useful heat output at 30 % of rated heat output and low temperature mode ⁽¹⁾	η_1	%	97.9	97,8
Auxiliary electricity consumption				
At full load	<i>el_{max}</i>	kW	0.055	0.070
At part load	<i>el_{min}</i>	kW	0.021	0.025
In standby mode	<i>P_{SB}</i>	kW	0.003	0.003

Model			Paramount 30	Paramount 40
Other data				
Standby heat loss	P_{stby}	kW	0.055	0.055
Ignition burner power consumption	P_{ign}	kW	0.0	0.0
Annual energy consumption	Q_{HE}	GJ	91	115
Sound power level, indoors	L_{WA}	dB	51	54
Emissions of nitrogen oxides	NO_x	mg/kWh	23	23
(1) Low temperature means for condensing boilers 30°C, for low temperature boilers 37°C and for other heaters 50°C return temperature (at heater inlet).				
(2) High temperature mode means 60°C return temperature at heater inlet and 80°C feed temperature at heater outlet.				



See
Contact details on the back cover.

3.2.2 Technical data – Boiler space heaters

Tab.3 Technical parameters for boiler space heaters

Model			Paramount 50	Paramount 60	Paramount 80	Paramount 95	Paramount 115
Condensing boiler			Yes	Yes	Yes	Yes	Yes
Low-temperature boiler ⁽¹⁾			No	No	No	No	No
B1 boiler			No	No	No	No	No
Cogeneration space heater			No	No	No	No	No
Combination heater			No	No	No	No	No
Rated heat output	P_{rated}	kW	49	56	75	93	112
Useful heat output at rated heat output and high temperature mode ⁽²⁾	P_4	kW	48.7	56.4	74.9	92.5	111.7
Useful heat output at 30% of rated heat output and low temperature mode ⁽¹⁾	P_1	kW	16.3	18.9	25.1	31.0	37.4
Seasonal space heating energy efficiency	η_s	%	93	93	–	–	–
Useful efficiency at rated heat output and high temperature mode ⁽²⁾	η_4	%	87.7	87.7	87.7	87.8	87.6
Useful heat output at 30% of rated heat output and low temperature mode ⁽¹⁾	η_1	%	97.8	97.8	97.8	98.0	97.8
Auxiliary power consumption							
At full load	el_{max}	kW	0.088	0.100	0.112	0.170	0.200
At part load	el_{min}	kW	0.028	0.029	0.030	0.029	0.030
In standby mode	P_{SB}	kW	0.003	0.003	0.003	0.003	0.003
Other data							
Standby heat loss	P_{stby}	kW	0.060	0.060	0.065	0.070	0.070
Ignition burner power consumption	P_{ign}	kW	0.0	0.0	0.0	0.0	0.0
Annual energy consumption	Q_{HE}	GJ	151	175	–	–	–
Sound power level, indoors	L_{WA}	dB	56	55	55	58	60
Emissions of nitrogen oxides	NO_x	mg/kWh	18	21	23	25	30
(1) Low temperature means for condensing boilers 30°C, for low temperature boilers 37°C and for other heaters 50°C return temperature (at heater inlet).							
(2) High temperature mode means 60°C return temperature at heater inlet and 80°C feed temperature at heater outlet.							



See
Contact details on the back cover.

3.2.3 Technical data

Tab.4 Technical data

Model				Para- mount 30	Para- mount 40	Para- mount 50	Para- mount 60	Para- mount 80	Para- mount 95	Para- mount 115
Product ID no.				CE-0085BL0514						
IP rating				IPx4D						
Gas category				II ₂ H3+						
Appliance category				B _{23P} , B ₃₃ , C _{13X} , C _{33X} , C _{43X} , C ₅₃ , C _{53X} , C _{63X} , C ₈₃ , C _{93X}						
Software version				V 4.6						
Nominal input range	Natural gas E, LL	Heating mode	kW	5,6 - 30,0	9,0 - 38,0	10,0 - 50,0	14,0 - 58,0	21,0 - 77,0	20,0 - 95,0	25,0 - 115,0
Effective rated output range	Natural gas E, LL	80/60°C	kW	5,4 - 29,2	8,7 - 37,0	9,7 - 48,7	13,6 - 56,4	20,3 - 74,9	19,4 - 92,5	24,3 - 111,7
		50/30°C	kW	6,0 - 31,2	9,7 - 39,6	10,8 - 52,1	15,1 - 60,4	22,6 - 80,2	21,4 - 98,6	26,7 - 119,3
Standard operating efficiency		75/60°C		106						
pH value condensate			–	4 - 5	4 - 5	4-5	4-5	4-5	4 - 5	4 - 5
Volume condensate		40/30°C	l/h	0,83 - 3,00	1,19 - 2,84	1,60 - 4,68	1,78 - 4,71	2,53 - 6,46	2,75 - 8,42	3,85 - 9,61
NO _x concentration, weighted in accordance with EN 15502			mg/k Wh	23	23	23	21	23	25	30
NO _x class in accordance with EN 15502			-	6	6	6	6	6	6	6
Data for design of the chimney to DIN EN 13384 (room air-depending operation)										
Flue gas temperature	Part load/full load	80/60°C	°C	53/66	56/75	58/69	59/71	59/73	59/73	60/77
	Part load/full load	50/30°C	°C	33/46	35/53	33/50	34/54	35/54	32/51	33/57
Flue gas mass flow rate	Natural gas E, LL	80/60°C	g/s	2,8 - 14,8	4,4 - 18,7	4,9 - 24,6	6,9 - 28,5	10,3 - 37,9	9,8 - 46,7	12,3 - 56,6
With natural gas		50/30°C	g/s	2,5 - 14,1	4,1 - 18,0	4,5 - 23,5	6,4 - 27,4	9,7 - 36,4	9,1 - 44,8	11,3 - 54,4
Flue gas mass flow rate	Propane	80/60°C	g/s	2,6 - 14,1	4,2 - 17,8	5,6 - 23,5	6,6 - 27,2	9,8 - 36,1	14,1 - 44,6	16,4 - 53,9
for LPG		50/30°C	g/s	2,4 - 13,4	3,9 - 17,1	5,2 - 22,4	6,1 - 26,1	9,2 - 34,6	13,3 - 42,6	15,4 - 51,7
CO ₂ content natural gas	Natural gas E, LL		%	Paramount 30 - Paramount 60: 8,3 - 8,8 Paramount 80 - 115: 8,5 - 9,0						
CO ₂ content LPG	Propane		%	10,3 - 10,8						
Draft requirement			mbar	0						
Max. delivery pressure at flue gas outlet			mbar	1,1	1,1	1,1	1,1	1,1	1,5	1,8
Flue gas/air supply duct			mm	110 / 160						
Flue gas value group to DVGW G636			–	G6						
Heating water										
Adjustment range heating water temperature			°C	20 - 85	20 - 85	20 - 85	20 - 85	20 - 85	20 - 85	20 - 85
Max. flow temperature			°C	85						
Operating pressure	min.		bar	1,0	1,0	1,0	1,0	1,0	1,0	1,0
			MPa	0,1	0,1	0,1	0,1	0,1	0,1	0,1
	max.		bar	3,0	3,0	6,0	6,0	6,0	6,0	6,0
			MPa	0,3	0,3	0,6	0,6	0,6	0,6	0,6
Gas-connected loads										
Supply pressure for natural gas			mbar	G20: min. 17 - max. 25						

Model			Para- mount 30	Para- mount 40	Para- mount 50	Para- mount 60	Para- mount 80	Para- mount 95	Para- mount 115
Connection values	Natural gas E [H _{UB} 9,45 kWh/m ³]	m ³ /h	0,59 - 3,2	0,95 - 4,0	1,06 - 5,30	1,48 - 6,10	2,22 - 8,10	2,12 - 10,10	2,65 - 12,20
	Natural gas LL [H _{UB} 8,13 kWh/m ³]	m ³ /h	0,69 - 3,7	1,11 - 4,7	1,23 - 6,20	1,72 - 7,10	2,58 - 9,50	2,46 - 11,70	3,08 - 14,10
Connection pressure for propane		mbar	min. 25 - max. 45						
	Propane [H _U 12,87 kWh/kg]	kg/h	0,44 - 2,33	0,70 - 2,95	0,93 - 3,89	1,09 - 4,51	1,63 - 5,98	2,33 - 7,38	2,72 - 8,94
	Propane [H _U 24.64 kWh/m ³]	m ³ /h	0,23 - 1,22	0,37 - 1,54	0,49 - 2,03	0,57 - 2,35	0,85 - 3,13	1,22 - 3,86	1,42 - 4,67
Electrical power consumption									
Electrical connection		V/Hz	230 V / 50 Hz						
Max. electr. power consumption		W	55	70	88	100	112	170	200
Heating mode	Protection	W	3	3	3	3	3	3	3
Dimensions									
Weight of boiler		kg	53	53	61	61	72	84	84
Boiler water content		l	3,6	3,6	4,7	4,7	5,8	7,8	7,8
Height		mm	852						
Width		mm	480						
Depth		mm	407	407	447	447	542	570	570
Connections									
Gas connection			3/4"			1"			
Heating flow			1"			1 1/2"			
Heating return			1"			1 1/2"			



For more information, see

Power compensation for increasing the permissible flue gas piping lengths, page 42

3.2.4 Tables of sensor values

Tab.5 Resistance values for outside temperature sensor ATF

Temperature [°C]	Resistance [Ω]
-20	8194
-15	6256
-10	4825
-5	3758
0	2954
5	2342
10	1872
15	1508
20	1224
25	1000
30	823

Tab.6 Resistance values for flow sensor KVF, drinking water sensor TWF, return sensor KRF, Buffer sensor B41

Temperature [°C]	Resistance [Ω]
0	32555
5	25339
10	19873