

GASMASTER

RC300B RC400B RC500B High Efficient Condensing Boiler Submittal Sheet

Job Name:	Date:
Location:	
Engineer:	
Contractor:	
Model Number:	Gas Type:

PRODUCT FEATURES

- Certified to ANSI Z21.13/CSA 4.9-2017 gas-fired boiler standard
- SA240-S43932 Stainless Steel Heat Exchanger
- ASME "H" stamped boiler designed and constructed in compliance with the ASME Boiler and Pressure vessel code Section IV
- CSD-1 compliant, low NOx operation and direct spark ignition
- Fully modulating burner, 6 to 1 turndown ratio
- Vents via 3 in 1 included adapter: CPVC, PVC, PP or Stainless Steel
- Convertible from NG to LP (field replaceable orifice required)
- Direct vent sealed combustion or indoor intake air compatible
- Max operation pressure and temp: 80psi and 185°F
- **Maximum vent lengths: 69.5m (228') per side on a RC300B, 184.4m (605') on a RC500B**
- Cascade venting approved in Canada

CONTROL FEATURES

- Manual Reset High Limit (CSD-1)
- Manual Reset LWCO (CSD-1)
- External Alarm connection
- Domestic hot water priority via tank sensor or aquastat
- Outdoor reset & Cascade up to 16 units
- Freeze protection and Time and Date input
- 3 circulator outputs
- Two temp output: one for DHW and one for CH
- Integrated Modbus RTU for connection to BMS gateways
- Integrated 0-10v connection, error history with time & date



Included Items: 10k Outdoor sensor, 45psi ASME relief valve

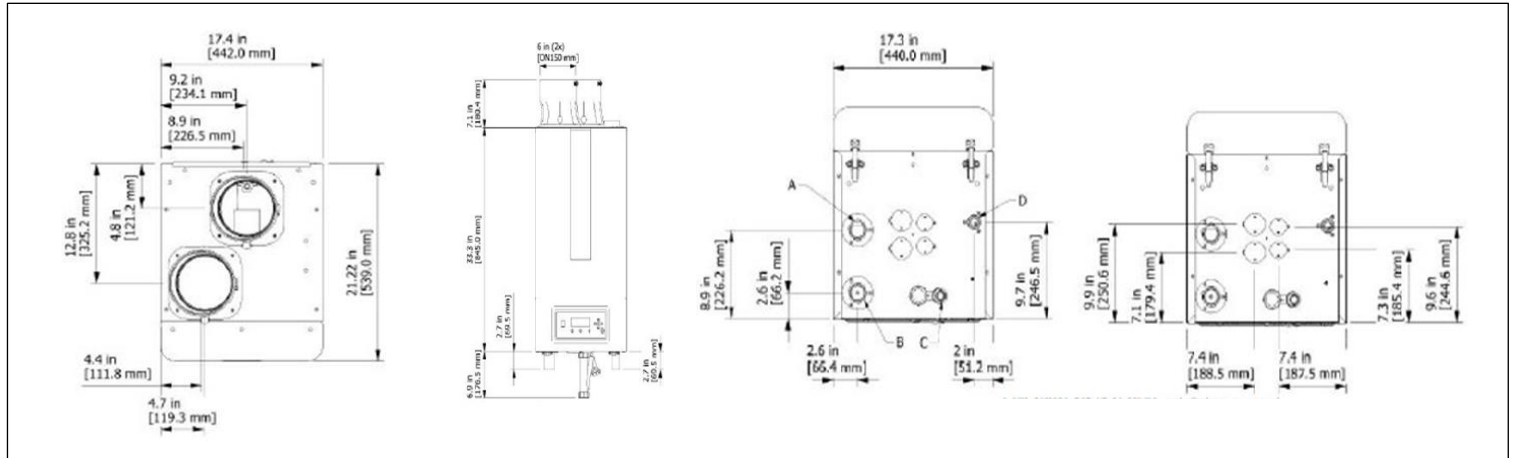
Optional Features: Wi-Fi control with mobile app and extra accessory, Racking systems for 1, 2, 3 or 4 boilers with or without low loss header

Model	Water Connections Inlet & Outlet cm (in)	Gas Connections NPT cm (in)	Exhaust/air- intake Pipe Diameter cm (in)	Max Vent length per side, /Total combined length m (ft)	Approximate weight empty Kg (lbs)	Water Content l (usg)
RC300B	3.81 (1 1/2)	2.54 (1)	10.16 (4)	69.5 (228)/ 8.99 (456)	35.8 (79)	6.7 (25.36)
RC400B	3.81 (1 1/2)	2.54 (1)	10.16 (4)	36.9 (121)/ 73.8 (242)	37.7 (83)	8.3 (31.42)
RC500B	3.81 (1 1/2)	2.54 (1)	15.24 (6)	184.4 (605) / 368.8 (1210)	38.6 (85)	10.4 (39.37)

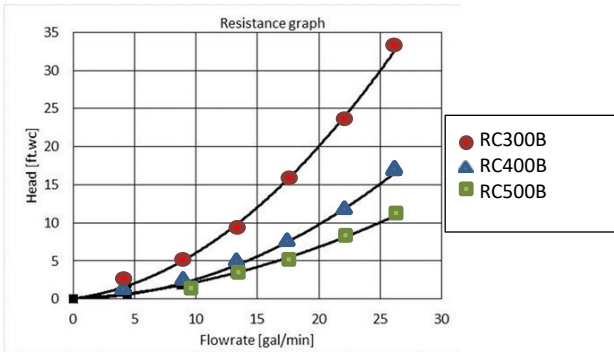
PERFORMANCE SPECIFICATIONS

Model	Input Modulation MBH	Gross Output Capacity MBH	AFUE Efficiency %	Combustion Efficiency %	Thermal Efficiency %	Heat Exchanger Surface Area Sq. M. (Sq. ft)
RC300B	59-295	274	95.1%			1.89 (20.34)
RC400B	80-396	378		95.5%	95.4%	2.24 (24.111)
RC500B	98-474	453		95.6%	95.1%	3.35 (36.0591)

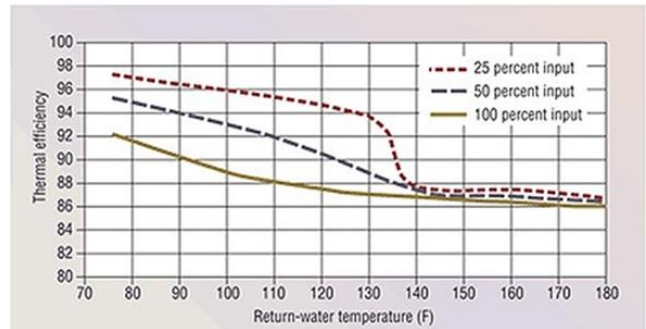
BOILER SPECIFICATIONS



Pump Sizing Chart



Boiler Efficiency Chart




ELECTRICAL CONNECTIONS

LOW VOLTAGE CONNECTIONS

29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
						-	+	-	+	Gnd				-	+			-	+	B	A	Gnd						
Safety Switch 2	Safety Switch 1	Gas Pressure Switch	LWCO Extern	AL-BUS Managing Boiler	Pump Control PWM	Flow Switch DHW	0-10 Vdc	On/Off stat Or Open Therm Heating Circuit	AL-BUS Depending Boiler	Modbus	DHW Sensor	System Sensor	Outdoor Sensor															

HIGH VOLTAGE CONNECTIONS

 Maximum Total Output 3.5 A Nominal	1	2	3	PE	4	5	PE	6	7	PE	8	9	PE	PE	10	11
	L1	N	L2	PE	L	N	PE	L	N	PE	L	N	PE	PE	L	N
	DHW PUMP DHW TWV (3-WAY VALVE)				SYSTEM PUMP			GENERAL PUMP Max 2 Amps			MAIN SUPPLY (input)				ALARM Max 50W	

Minimum and maximum allowable combined vent and air inlet length:

- Minimum venting length: 0.6096 metres (2 ft) for all boilers.
- Maximum venting length see table below.

VENTING LENGTHS

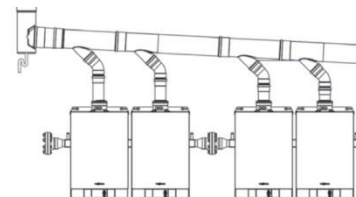
Maximum Exhaust Length/Maximum Combustion Air Intake Length			
cm (in)	RC300B m (ft)	RC400B m (ft)	RC500B m (ft)
10.16 (4)	69.5 (228) / 69.5 (228)	36.9 (121) / 36.9 (121)	28.0416 (92) / 28.0416 (92)
12.7 (5)			109.423 (359) / 109.423 (359)
15.24 (6)			184.404 (605) / 184.404 (605)

CASCADE VENTING

The RC300B and the RC400B have an internal flue gas valve for an overpressure system according to the table below.

This device is needed to prevent recirculation of the flue gases. The RC500B has no internal flue gas valve and needs to be calculated for a nil pressure common flue system or a separated flue system.

If separated flue systems cannot be applied ask a flue gas supplier to calculate a nil pressure common flue system.

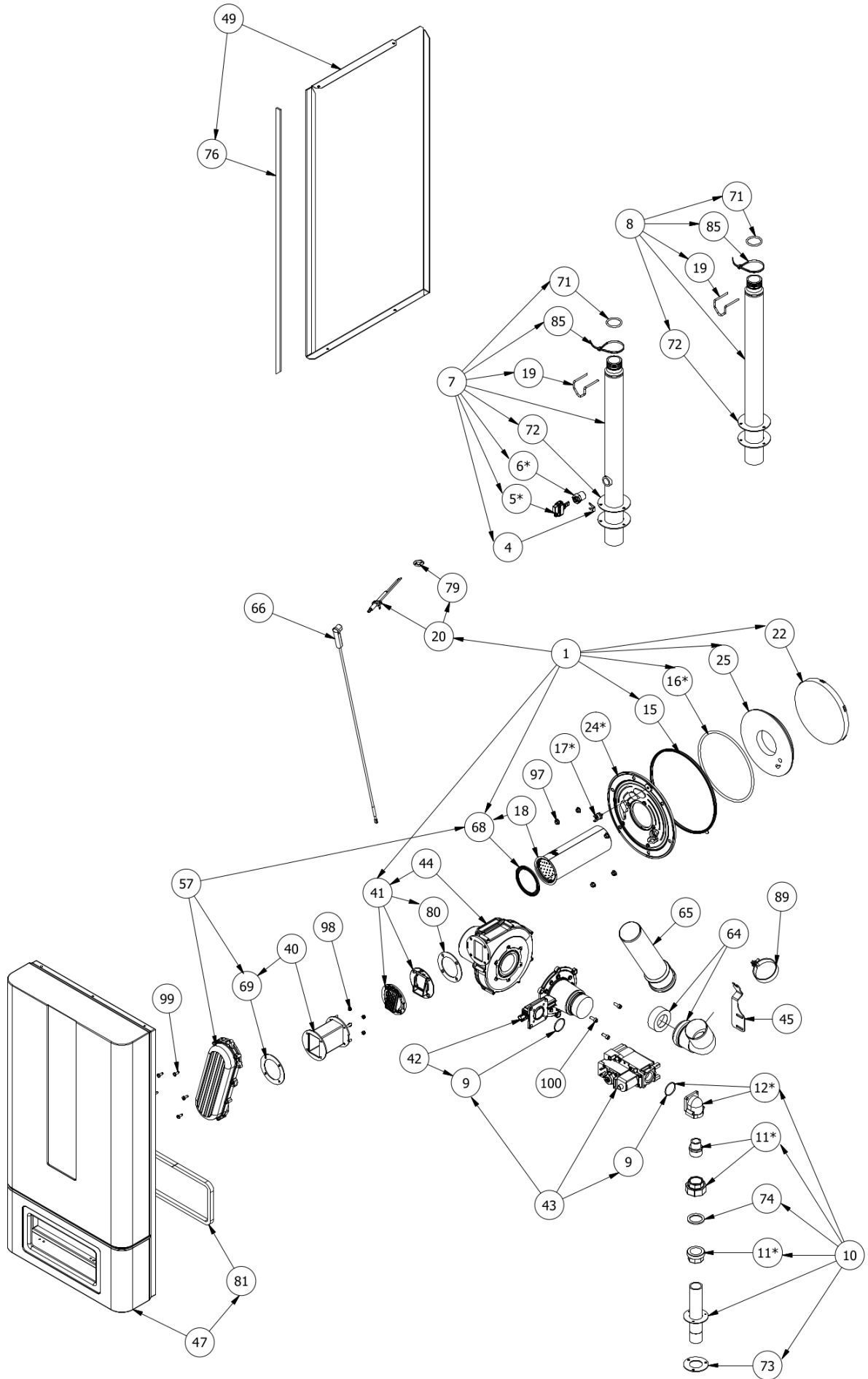


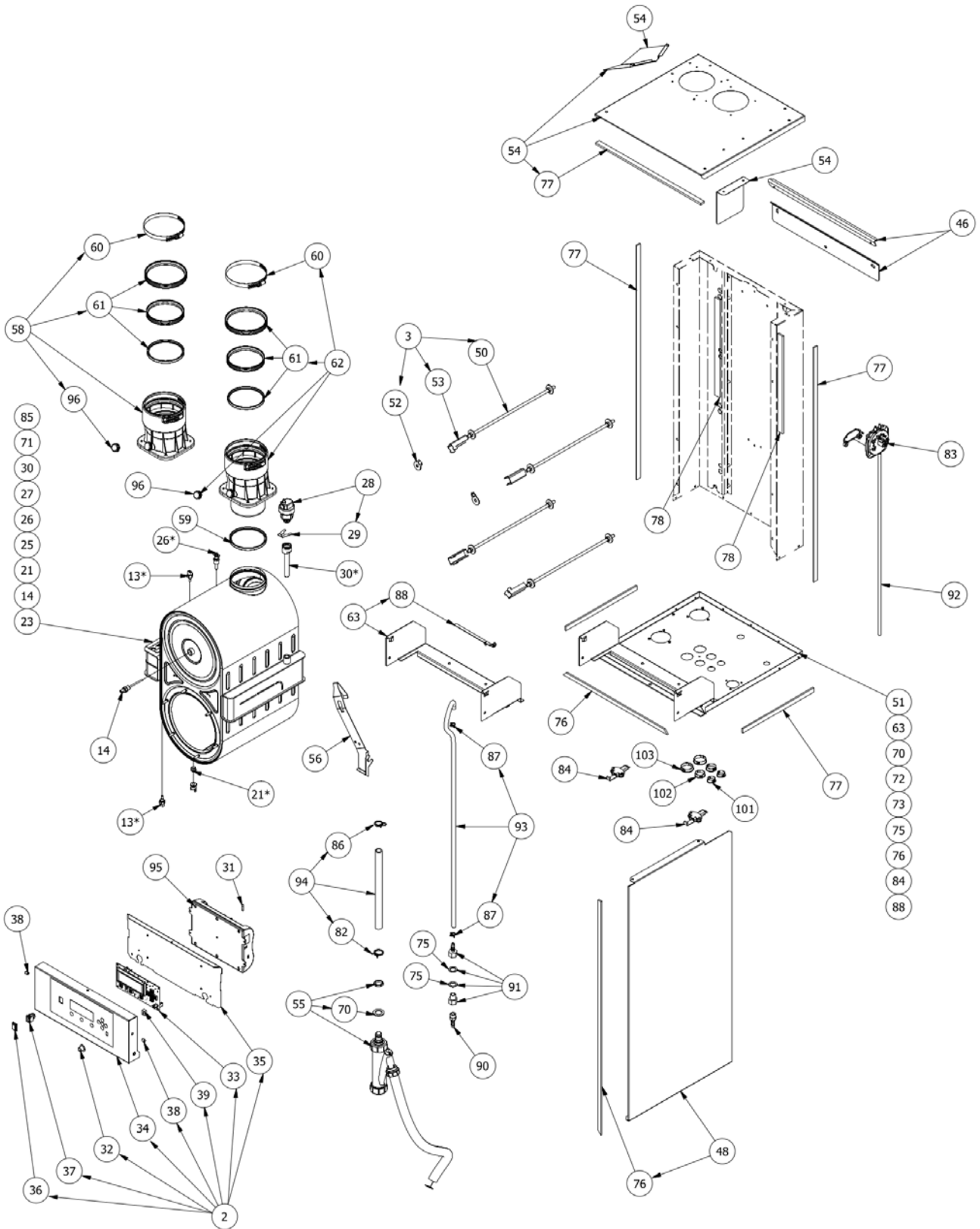
Maximum vertical length in m (ft) of venting					
Type of Boiler	Number of Appliances	DN150	DN150/200	DN200	DN200/300
RC300B	3	30 (100)	30 (100)	30 (100)	30 (100)
	5	11 (30)	30 (100)	30 (100)	30 (100)
	5		30 (100)	30 (100)	30 (100)
	6		5 (16)	30 (100)	30 (100)
RC400B	3	26 (85)	30 (100)	30 (100)	30 (100)
	4		30 (100)	30 (100)	30 (100)
	5		5 (16)	30 (100)	30 (100)
	6			30 (100)	30 (100)
RC500B	3		30 (100)	30 (100)	30 (100)
	4		20 (65)	30 (100)	30 (100)
	5			6 (20)	30 (100)
	6				30 (100)



Contact Gasmaster Industries Ltd for more information – gasmaster.ca

SPARE PARTS.





67 → Wiring harness

Remarks:

All parts are supplied with glued/bonded parts, such as grounding lips, strips, isolation, stickers. Also bolts and nuts are supplied if necessary.

*= installation additions (see sparepart list)

POS.	DESCRIPTION	Part Number	RC-300	RC-400	RC-500
1	Set. Universal maintenance kit *2)	GS000.500.001	X	X	X
2	Set. Electronics holder	GS000.500.002	X	X	X
3	Set. Anchoring bar RC-300	GS000.500.008	X	NA	NA
3	Set. Anchoring bar RC-400	GS000.500.009	NA	X	NA
3	Set. Anchoring bar RC-500	GS000.500.010	NA	NA	X
4	Clip for WPS 10bar	GS001.500.003	X	X	X
5	Water pressure sensor 10bar	GS001.500.004	X	X	X
6	Nipple for RPS D15 *1)	GS001.500.005	X	X	X
7	Flow pipe RC-300, 400	GS001.500.001	X	X	NA
7	Flow pipe RC-500	GS001.500.002	NA	NA	X
8	Return pipe RC-300, 400	GS002.500.001	X	X	NA
8	Return pipe RC-500	GS002.500.002	NA	NA	X
9	O-ring gas valve connection	GS003.100.007	X	X	X
10	Gas pipe RC-300, 400	GS003.500.008	X	X	NA
10	Gas pipe RC-500	GS003.500.009	NA	NA	X
11	Union flat seat Rp1 x Rp1 (4408) *1)	GS003.500.010	X	X	X
12	Hooked gas valve VR4615 con. *1)	GS003.500.006	X	X	X
13	NTC sensor 1/8" SS *1)	GS004.100.018	X	X	X
14	NTC flue gas sensor 1/4" 10 KOHM = R25 B=3977K t2	GS004.100.019	X	X	X
15	Seal Burner door	GS004.200.004	X	X	X
16	Insulation fiber braid burner door *2)	GS004.200.008	X	X	X
17	Burner door thermost. 260° C (M5) *1)	GS004.200.009	X	X	X
18	Burner RC-300	GS004.200.010	X	NA	NA
18	Burner RC-400	GS004.200.011	NA	X	NA
18	Burner RC-500	GS004.500.020	NA	NA	X
19	Spring fastconnection RC-300, 400	GS004.200.012	X	X	NA
19	Spring fastconnection RC-500	GS004.200.013	NA	NA	X
20	Electrode	GS004.500.002	X	X	X
21	Reducing coupling G1/4 x M5 *1)	GS004.500.003	X	X	X
22	Backwall isolation 16mm	GS004.500.004	X	X	X
23	Heat exchanger RC-400 *2)	GS004.500.005	NA	X	NA
23	Heat exchanger RC-500 *2)	GS004.500.006	NA	NA	X
23	Heat exchanger RC-300 *2)	GS004.500.007	X	NA	NA
24	Burner door right sided ignition (metal sheet burner) *2)	GS004.500.013	X	X	X
25	Burner door isolation right sided ignition hole Ø70,5	GS004.500.014	X	X	X
26	Sensor LWCO *1)	GS004.500.015	X	X	X
27	Temperature switch 90° C	GS004.500.016	X	X	X
28	Automatic air vent with clip connection *1)	GS005.500.002	X	X	X
29	Locking clip air vent	GS005.500.003	X	X	X
30	Extension pipe air vent	GS005.500.004	X	X	X
31	Box 10pcs Fuse 5 AT	GS006.200.001	X	X	X
32	Rubber plug Ø13	GS006.200.004	X	X	X
33	Pixel Button Display	GS006.500.001	X	X	X
34	Display front panel	GS006.500.002	X	X	X
35	Mounting plate burner control	GS006.500.003	X	X	X

***1) Install with GS022.000.001**

***2) Install with GS022.000.002**

POS.	DESCRIPTION	Part Number	RC-300	RC-400	RC-500
36	Dustcover ON/OFF switch	GS006.500.004	X	X	X
37	Main switch	GS006.500.005	X	X	X
38	Spring plunger 8mm	GS006.500.006	X	X	X
39	EPDM sealing for EBM 957	GS006.500.007	X	X	X
40	Offset piece RC-400	GS008.500.006	NA	X	NA
40	Offset piece RC-500	GS008.500.007	NA	NA	X
40	Offset piece RC-300	GS008.500.010	X	NA	NA
41	Check valve + seat	GS008.500.002	X	X	X
42	Venturi RC-300	GS008.500.004	X	NA	NA
42	Venturi RC-400	GS008.500.008	NA	X	NA
42	Venturi RC-500	GS008.500.009	NA	NA	X
43	Modulating gas valve VR4615 (120VAC)	GS008.500.005	X	X	X
44	Radial Blower RG148/300W (120VAC)	GS008.500.024	X	X	X
45	Mounting plate silencer	GS008.500.019	X	X	X
46	Wall mounting plate	GS009.100.001	X	X	X
47	Frontpanel	GS010.500.001	X	X	X
48	Side panel right	GS011.500.001	X	X	X
49	Side panel left	GS011.500.002	X	X	X
50	Anchoring bar RC-400	GS011.500.003	NA	X	NA
50	Anchoring bar RC-300	GS011.500.004	X	NA	NA
50	Anchoring bar RC-500	GS011.500.005	NA	NA	X
51	Bottom panel RC-500	GS011.500.018	NA	NA	X
51	Bottom panel RC-300, 400	GS011.500.019	X	X	NA
52	Special washer heat exchanger	GS011.500.013	X	X	X
53	Clamping bracket heat exchanger	SG011.500.014	X	X	X
54	Top panel RC-300, 400	GS011.500.015	X	X	NA
54	Top panel RC-500	GS011.500.016	NA	NA	X
55	Condensate drain assembly l=800	GS012.200.002	X	X	X
56	Backwall clixon	GS013.100.002	X	X	X
57	Gas-air mixing pipe	GS014.500.001	X	X	X
58	Boiler air connector RC-300, 400	GS015.500.001	X	X	NA
58	Boiler air connector RC-500	GS015.500.002	NA	NA	X
59	Seal EPDM RC-300, 400	GS016.100.011	X	X	NA
59	Seal EPDM RC-500	GS016.500.003	NA	NA	X
60	Clamp galvanised RC-300, 400	GS016.500.008	X	X	NA
60	Clamp galvanised RC-500	GS016.500.009	NA	NA	X
61	Set. Seal EPDM Adapter RC-300 400	GS016.500.010	X	X	NA
61	Set. Seal EPDM Adapter RC-500	GS016.500.011	NA	NA	X
62	Boiler flue gas connector RC-300, 400	GS016.500.012	X	X	NA
62	Boiler flue gas connector RC-500	GS016.500.014	NA	NA	X
63	Connection bar display holder	GS021.500.001	X	X	X
64	Elbow silencer RC-500	GS024.500.001	NA	NA	X
64	Elbow silencer RC-300	GS024.500.002	X	NA	NA
64	Elbow silencer RC-400	GS024.500.003	NA	X	NA
65	Extension pipe silencer	GS024.500.004	X	X	X
66	Ignition cable	GS031.200.001	X	X	X
67	Harness HV/LV	GS031.500.001	X	X	X
68	Gasket Burner & gas/air inlet pipe	GS032.200.001	X	X	X
69	Gasket gas/air inlet pipe & fan	GS032.200.002	X	X	X
70	Gasket siphon/bottom plate	GS032.200.003	X	X	X
71	O-ring flow/return pipe RC-500	GS032.200.005	NA	NA	X
71	O-ring flow/return pipe RC-300, 400	GS032.200.007	X	X	NA

POS.	DESCRIPTION	Part Number	RC-300	RC-400	RC-500
72	Gasket flow/return pipe 1½"	GS032.500.001	X	X	X
73	Gasket gas pipe	GS032.500.002	X	X	X
74	Gasket malleable coupling 12+6	GS032.500.018	X	X	X
75	Gasket Condensate drain/bottom plate	GS032.500.006	X	X	X
76	Silicone seal 13x5 self adhesive L=10m	GS032.500.008	X	X	X
77	EPDM seal 15x6 self adhesive L=5m	GS032.500.009	X	X	X
78	EPDM seal 20x5 self adhesive L=5m	GS032.500.010	X	X	X
79	Gasket electrode	GS032.500.011	X	X	X
80	Gasket gas/air mixing	GS032.500.012	X	X	X
81	EPDM seal 10x12 self adhesive L=5m	GS032.500.013	X	X	X
82	Hose clamp Ø23,83 (DW15)	GS033.500.001	X	X	X
83	Air pressure switch DL 2 ET with S-clip (US)	GS011.500.007	X	X	X
84	Quick-action clamp	GS033.500.003	X	X	X
85	Ty-Rap Hitte bestendig 3,5x200 mm	GS033.500.006	X	X	X
86	Hose clamp Ø20,62 (DW13)	GS033.500.007	X	X	X
87	Hose clamp Ø11,6-12,3	GS033.500.008	X	X	X
88	Cable tie with rivet	GS033.500.009	X	X	X
89	PVC bracket Ø60	GS033.500.010	X	X	X
90	NPT Male Connector 3/8	GS033.500.012	X	X	X
91	NPT Female Connector 3/8	GS033.500.013	X	X	X
92	Hose pressure switch	GS034.500.001	X	X	X
93	Hose air vent	GS034.500.002	X	X	X
94	Hose condensate trap RC-300, 400	GS034.500.003	X	X	NA
94	Hose condensate trap RC-500	GS034.500.004	NA	NA	X
95	Burner control RC-300, 400, 500	GS165020	X	X	X
96	Measuring Cap M20x2 Ral-9011	GS016.500.002	X	X	X
97	10x Flanging head nut M6	GS004.200.005	X	X	X
98	4x Nut M5 DIN985	GS008.500.003	X	X	X
99	5x Screw M5x14 DIN7500C	GS014.500.003	X	X	X
100	3x Screw M6x16 DIN912 (Venturi)	GS008.500.021	X	X	X
101	Knock Out Seal ½" nylon	GS011.600.004	X	X	X
102	Knock Out Seal ¾" nylon	GS011.600.005	X	X	X
103	Knock Out Seal 1" nylon	GS011.600.006	X	X	X