

Technical submittal



Products: Dorchester DR-SG 70-538, 80-538, 100-538, 120-538

Project:

Customer: Date:

- Storage tank, heat exchanger and coil all manufactured from stainless steel
- Enhanced durability under challenging water conditions
- NOx under 40 mg/kWh across the range (Class 6)
- Quick and easy burner access
- Operated via the popular Siemens LMS Mini controls platform
- Integrated flue non-return valve
- Ocan deliver flow rates to satisfy high demand environments
- Suitable for natural gas and LPG systems (conversion kit included).



Part Number. 70-538 80-538 100-538 AA031265 AAA031265 AA031265 AA031265		Model:		DR-SG	DR-SG	DR-SG	DR-SG
Max Heat Input (Gross) kW 69.9 80 100 120 Max Power Output (Net) kW 73.4 84 105 126 Building regulations Part L. EN89 100% efficiency (NCV) % 106 106 106 106 106 106 Building regulations Part L. EN89 100% efficiency (GCV) % 95.5 95.5 95.5 95.5 95.5 95.5 95.5 95.5 95.5 82 80 80 80 80 80 80 80		Part Number		70-538	80-538 AA031263	100-538	120-538 44031265
Max Power Output (Net) RW 73.4 84 105 126			kW				
Building regulations Part L, EN89 100% efficiency (NCV) % 106 1		· · · · · · · · · · · · · · · · · · ·					
Building regulations Part L, ENS9 100% efficiency (GCV) % 95.5 95.5 95.5 95.5 95.5		Building regulations Part L,	%	106	106	106	
Building regulations Part L, Maintenance Consumption (EN89) ErP efficiency rating Water Heater Efficiency (ErP) Building regulations Part L, Maintenance Consumption (EN89) ErP Efficiency rating Water Heater Efficiency (ErP) Water Heater Water (Indo Water Heater Efficiency (ErP) Water Heater Water (Indo Water Heater Water (Indo	93	Building regulations Part L,	%	95.5	95.5	95.5	95.5
Building regulations Part L, Maintenance Consumption (EN89) ErP efficiency rating Water Heater Efficiency (ErP) Building regulations Part L, Maintenance Consumption (EN89) ErP Efficiency rating Water Heater Efficiency (ErP) Water Heater Water (Indo Water Heater Efficiency (ErP) Water Heater Water (Indo Water Heater Water (Indo	ner	Standby Loss	kWh/day	3.2	3.2	3.2	3.2
Water Heater Efficiency (ErP)		3 3	kWh/day	5.6	5.6	5.6	5.6
Storage Capacity		ErP efficiency rating		А	n/a	n/a	n/a
Storage Capacity		Water Heater Efficiency (ErP)	%	92.7	91.3	90.8	90
1st 10 mins at ΔT 50°C I/10' 475 500 550 600 1st hour at ΔT 50°C I/60' 1500 1700 2000 2300 Continuous Flow at ΔT 50°C I/hr 1280 1460 1820 2190 Max DHW temperature setpoint °C 80 80 80 80 Max operating pressure (open vented) bar 7 7 7 7 Max operating pressure (unvented) bar 6.5 6.5 6.5 6.5 Heat-up time (mins) 50°C rise 26 23 18 15 Heat-up time (mins) 55°C rise 29 25 20 17 Gas Inlet Pressure (Nominal nat gas) mbar 20 20 20 20 Gas flow rate (Nominal nat gas) m³/hr 7.4 8.5 11 12.7 Gas flow rate (Nominal, LPG) m³/hr 7.4 8.5 11 12.7 Gas flow rate (LPG) m³/hr 2.7 3.1 4 4.7 Nominal flue gas operating temp		ErP Load Profile		3XL	3XL	3XL	3XL
1st hour at ΔT 50°C I/60' 1500 1700 2000 2300 Continuous Flow at ΔT 50°C I/hr 1280 1460 1820 2190 Max DHW temperature setpoint °C 80 80 80 80 Max operating pressure (open vented) bar 7 7 7 7 Max operating pressure (unvented) bar 6.5 6.5 6.5 6.5 Heat-up time (mins) 50°C rise 26 23 18 15 Heat-up time (mins) 50°C rise 29 25 20 17 Gas Inlet Pressure (Nominal nat gas) mbar 20 20 20 20 Gas flow rate (Nominal, LPG) mbar 37 <		Storage Capacity	L	538	538	538	538
Continuous Flow at ΔT 50°C		1st 10 mins at ΔT 50°C	1/10'	475	500	550	600
Max DHW temperature setpoint °C 80 80 80 80 80 Max operating pressure (open vented) bar 7 7 7 7 7 7 7 7 7		1st hour at ∆T 50°C	1/60'	1500	1700	2000	2300
Max operating pressure (open vented) bar 7 7 7 Max operating pressure (unvented) bar 6.5 6.5 6.5 Heat-up time (mins) 50°C rise 26 23 18 15 Heat-up time (mins) 55°C rise 29 25 20 17 Gas Inlet Pressure (Nominal nat gas) mbar 20 20 20 20 Gas Inlet Pressure (Nominal, LPG) mbar 37 <t< td=""><td>L</td><td>Continuous Flow at ΔT 50°C</td><td>l/hr</td><td>1280</td><td>1460</td><td>1820</td><td>2190</td></t<>	L	Continuous Flow at ΔT 50°C	l/hr	1280	1460	1820	2190
Max operating pressure (open vented) bar 7 7 7 Max operating pressure (unvented) bar 6.5 6.5 6.5 Heat-up time (mins) 50°C rise 26 23 18 15 Heat-up time (mins) 55°C rise 29 25 20 17 Gas Inlet Pressure (Nominal nat gas) mbar 20 20 20 20 Gas Inlet Pressure (Nominal, LPG) mbar 37 <t< td=""><td>/ate</td><td>Max DHW temperature setpoint</td><td>°C</td><td>80</td><td>80</td><td>80</td><td>80</td></t<>	/ate	Max DHW temperature setpoint	°C	80	80	80	80
Heat-up time (mins) 50°C rise Heat-up time (mins) 50°C rise Heat-up time (mins) 50°C rise 29 25 20 17 Gas Inlet Pressure (Nominal nat gas) Gas flow rate (Nominal nat gas) Max flue gas temperature Nominal flue gas operating temp Flue Gas Volume @15°C NOx emissions Pressure at flue outlet Air inlet/Flue outlet diameter Max system length – concentric flues Power consumption (maximum) W 69 90 160 270 Power consumption (standby) W 4.5 4.5 4.5	5	Max operating pressure (open vented)	bar	7	7	7	7
Heat-up time (mins) 55°C rise 29 25 20 17		Max operating pressure (unvented)	bar	6.5	6.5	6.5	6.5
Gas Inlet Pressure (Nominal nat gas) Gas flow rate (Nominal nat gas) Gas flow rate (Nominal nat gas) Gas flow rate (Nominal nat gas) Gas Inlet Pressure (Nominal, LPG) Gas Inlet Pressure (Nominal, LPG) Max flue gas temperature °C 100 Nominal flue gas operating temp °C 56.8 58.8 59.8 59.3 Flue Gas Volume @15°C kg/h 104.4 118.8 158.4 187.2 NOx emissions mg/kWh 39.5 39.5 Pressure at flue outlet Air inlet/Flue outlet diameter mm 130 130 130 130 Max system length – concentric flues m 20 20 20 20 Electrical Supply V230 V AC (+10%, -15%) 50Hz Fuse rating Power consumption (maximum) W 69 90 160 270 Power consumption (standby) W 4.5 4.5		Heat-up time (mins) 50°C rise		26	23	18	15
Gas flow rate (Nominal nat gas) Gas lnlet Pressure (Nominal, LPG) Max flue gas temperature Nominal flue gas operating temp Flue Gas Volume @15°C NOx emissions Pressure at flue outlet Air inlet/Flue outlet diameter Max system length – concentric flues Flue rating Power consumption (maximum) Power consumption (standby) Max flue (Nominal nat gas) m³/hr 7.4 8.5 11 12.7 8.5 11 12.7 8.5 11 12.7 8.5 11 12.7 8.5 11 12.7 8.5 11 12.7 8.5 11 12.7 8.5 11 12.7 8.5 11 12.7 8.5 10 100 100 100 100 100 100 10		Heat-up time (mins) 55°C rise		29	25	20	17
Gas Inlet Pressure (Nominal, LPG) mbar 37 37 37 37 37 37 Gas flow rate (LPG) m³/hr 2.7 3.1 4 4.7 Max flue gas temperature °C 100 100 100 100 100 Nominal flue gas operating temp °C 56.8 58.8 59.8 59.3 Flue Gas Volume @15°C kg/h 104.4 118.8 158.4 187.2 NOx emissions mg/kWh 39.5 39.5 39.5 39.5 Pressure at flue outlet Pa 65 95 155 200 Air inlet/Flue outlet diameter mm 130 130 130 130 Max system length – concentric flues m 20 20 20 20 Electrical Supply V230 V AC (+10%, -15%) 50Hz Fuse rating amp 6.3 6.3 6.3 6.3 Power consumption (maximum) W 69 90 160 270 Power consumption (standby) W 4.5 4.5 4.5 4.5		Gas Inlet Pressure (Nominal nat gas)	mbar	20	20	20	20
Gas finet Pressure (Nothinal, LPG) Gas flow rate (LPG) Max flue gas temperature °C 100 100 100 100 Nominal flue gas operating temp °C 56.8 58.8 59.8 59.3 Flue Gas Volume @15°C kg/h 104.4 118.8 158.4 187.2 NOx emissions mg/kWh 39.5 39.5 39.5 Pressure at flue outlet Pa 65 95 155 200 Air inlet/Flue outlet diameter mm 130 130 130 130 Max system length – concentric flues m 20 20 20 Electrical Supply V230 V AC (+10%, -15%) 50Hz Fuse rating Power consumption (maximum) W 69 90 160 270 Power consumption (standby) W 4.5 4.5	as	Gas flow rate (Nominal nat gas)	m³/hr	7.4	8.5	11	12.7
Max flue gas temperature Nominal flue gas operating temp C 56.8 58.8 59.8 59.3 Flue Gas Volume @15°C kg/h 104.4 118.8 158.4 187.2 NOx emissions mg/kWh 39.5 39.5 39.5 39.5 Pressure at flue outlet Air inlet/Flue outlet diameter mm 130 130 130 130 Max system length – concentric flues m 20 20 20 20 Electrical Supply V230 V AC (+10%, -15%) 50Hz Fuse rating amp 6.3 6.3 6.3 6.3 Power consumption (maximum) W 69 90 160 270 Power consumption (standby) W 4.5 4.5 4.5 4.5	Ü	Gas Inlet Pressure (Nominal, LPG)	mbar	37	37	37	37
Nominal flue gas operating temp °C 56.8 58.8 59.8 59.3 Flue Gas Volume @15°C kg/h 104.4 118.8 158.4 187.2 NOx emissions mg/kWh 39.5 39.5 39.5 39.5 Pressure at flue outlet Pa 65 95 155 200 Air inlet/Flue outlet diameter mm 130 130 130 130 Max system length – concentric flues m 20 20 20 20 Electrical Supply V230 V AC (+10%, -15%) 50Hz Fuse rating amp 6.3 6.3 6.3 6.3 Power consumption (maximum) W 69 90 160 270 Power consumption (standby) W 4.5 4.5 4.5 4.5		Gas flow rate (LPG)	m³/hr	2.7	3.1	4	4.7
Flue Gas Volume @15°C kg/h 104.4 118.8 158.4 187.2 NOx emissions mg/kWh 39.5 39.5 39.5 39.5 Pressure at flue outlet Pa 65 95 155 200 Air inlet/Flue outlet diameter mm 130 130 130 130 Max system length – concentric flues m 20 20 20 20 Electrical Supply V230 V AC (+10%, -15%) 50Hz Fuse rating amp 6.3 6.3 6.3 6.3 Power consumption (maximum) W 69 90 160 270 Power consumption (standby) W 4.5 4.5 4.5 4.5		Max flue gas temperature	°C	100	100	100	100
NOx emissions mg/kWh 39.5 39.5 39.5 39.5 39.5 Pressure at flue outlet Pa 65 95 155 200 Air inlet/Flue outlet diameter mm 130 130 130 130 130 Max system length – concentric flues m 20 20 20 20 Electrical Supply V230 V AC (+10%, -15%) 50Hz Fuse rating Power consumption (maximum) W 69 90 160 270 Power consumption (standby) W 4.5 4.5 4.5 4.5		Nominal flue gas operating temp	°C	56.8	58.8	59.8	59.3
Pressure at flue outlet Pa 65 95 155 200 Air inlet/Flue outlet diameter mm 130 130 130 130 Max system length – concentric flues m 20 20 20 20 Electrical Supply V230 V AC (+10%, -15%) 50Hz Fuse rating amp 6.3 6.3 6.3 Power consumption (maximum) W 69 90 160 270 Power consumption (standby) W 4.5 4.5 4.5	v	Flue Gas Volume @15°C	kg/h	104.4	118.8	158.4	187.2
Pressure at flue outlet Pa 65 95 155 200 Air inlet/Flue outlet diameter mm 130 130 130 130 Max system length – concentric flues m 20 20 20 20 Electrical Supply V230 V AC (+10%, -15%) 50Hz Fuse rating amp 6.3 6.3 6.3 Power consumption (maximum) W 69 90 160 270 Power consumption (standby) W 4.5 4.5 4.5	ine	NOx emissions	mg/kWh	39.5	39.5	39.5	39.5
Max system length – concentric flues m 20 20 20 20 Electrical Supply V230 V AC (+10%, -15%) 50Hz Fuse rating amp 6.3 6.3 6.3 6.3 Power consumption (maximum) W 69 90 160 270 Power consumption (standby) W 4.5 4.5 4.5	П	Pressure at flue outlet	Pa	65	95	155	200
Electrical Supply V230 V AC (+10%, -15%) 50Hz		Air inlet/Flue outlet diameter	mm	130	130	130	130
Fuse rating amp 6.3 6.3 6.3 6.3 Power consumption (maximum) W 69 90 160 270 Power consumption (standby) W 4.5 4.5 4.5 4.5		Max system length – concentric flues	m	20	20	20	20
Power consumption (maximum) W 69 90 160 270 Power consumption (standby) W 4.5 4.5 4.5		Electrical Supply		V2	230 V AC (+10)%, -15%) 50I	Hz
- construction (canaly)	e	Fuse rating	amp	6.3	6.3	6.3	6.3
- construction (canaly)	ğ	Power consumption (maximum)	W	69	90	160	270
Sounds Power Level (LWA) dBA 67 69 74 78	ä	Power consumption (standby)	W	4.5	4.5	4.5	4.5
		Sounds Power Level (LWA)	dBA	67	69	74	78
Number of Anodes 3 3 3	Misc	Number of Anodes		3	3	3	3
Dry weight kg 240 240 240 240		Dry weight	kg	240	240	240	240
Filled Weight kg 778 778 778		Filled Weight	kg	778	778	778	778

Every effort has been taken to ensure the details are accurate. Hamworthy Heating does not, however, guarantee the accuracy or completeness of any information nor does it accept liability for any errors or omissions in the information. Hamworthy Heating reserves the right to make changes and improvements which may necessitate alteration to product specification without prior notice.



Technical submittal

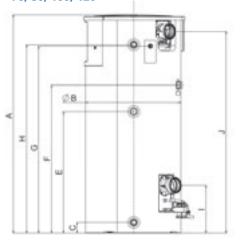


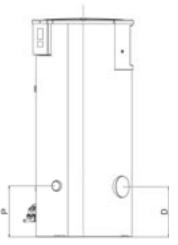
Products: **Dorchester DR-SG 70-538, 80-538, 100-538, 120-538**

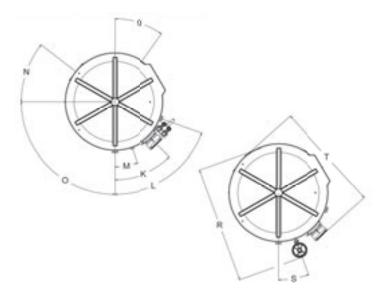
Project:

Customer: Date:

Dorchester DR-SG XX-538 70, 80, 100, 120







Connections

	Dorchester DR-SG XX-538			
	70	80	100	120
1 Hot water outlet	Rp 1"½			
2 Loop return		Rp	1"½	
3 Cold water inlet		Rp	1"½	
4 T&P valve		Rp	1"½	
5 Gas inlet		R	1"	
6 Air inlet		Ø 1	130	
7 Flue outlet		Ø 1	130	

Clearances

ALL MODELS		DR-SG
Clearance – front (service)	mm	Min 500
Clearance – sides	mm	500
Clearance – rear	mm	500
Clearance – top	mm	175

Dimensions

		DR-SG XX-538
Α	Overall height	2028
В	Diameter	Ø 890
C	Height to cold water inlet	100
D	Height to inspection hatch	467
Е	Height to secondary return	1129
F	Height to T&P valve connection	1373
G	Height to gas connection	1735
Н	Height to hot water outlet	1748
1	Height to flue outlet	442
J	Height to air inlet	1871
K	Angle position of flue outlet	45°
L	Angle position of T&P valve fitting	70°
M	Angle position of gas connection	20°
Ν	Angle position of inspection hatch	38°
0	Angle position of HMI	90°
Р	Height of lower anode fitting	470
Q	Angle position of lower anode fitting	35°
R	Overall width with LPG conversion kit	639
S	Angle position of gas connection with LPG conversion kit	20°
Т	Max installed width	1020
U	Height to condensate trap outlet	151

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