

## GAS 320 ACE TECHNICAL INFORMATION

	285/5	335/6	430/7	500/8	575/9	650/10
<b>PERFORMANCE</b>						
Nominal heat output central heating operation @ 80/60°C kW (min-max)	51.1-260.7	64.8-326.7	78.6-394.8	91.5-461.0	105.5-530.4	118.7-600.9
Nominal heat output central heating operation @ 50/30°C kW (max)	278.8	350.3	424.5	497.1	573.5	651.5
Nominal input (Hi) (min-max)	54-266	68-333	82-402	95-469	109-539	122-610
<b>EFFICIENCY</b>						
SBEM seasonal efficiency GCV	96.38	96.23	96.09	95.95	95.81	95.66
Efficiency – full load 100% NCV	98%	98.1%	98.2%	98.3%	98.4%	98.5%
Efficiency – part load 30% NCV	109.2%	109%	108.8%	108.6%	108.3%	108.1%
Seasonal space htg Efficiency at nominal heat output	88.3	88.4	88.5	88.6	88.7	88.7
Seasonal space htg Efficiency at 30 % rated heat output	98.4	98.2	98	97.8	97.6	97.4
<b>GAS</b>						
Standard fuel	Natural gas	Natural gas	Natural gas	Natural gas	Natural gas	Natural gas
Max gas consumption m <sup>3</sup> /h	5.7 - 28.1	7.2 - 35.2	8.7 - 42.5	10.1 - 49.6	11.5 - 57.0	12.9- 64.6
Min/max gas inlet pressure mbar	17-25	17-25	17-25	17-25	17-25	17-25
<b>FLUE (SUPPLIED AS STANDARD FOR CONVENTIONAL FLUE, OPTION FOR ROOM-SEALED AVAILABLE)</b>						
Flue diameter mm I/D	250	250	250	250	250	250
Air inlet diameter mm I/D	250	250	250	250	250	250
Flue gas mass flow rate kg/h	91-448	115-561	138-677	160-790	184-907	205-1027
Flue gas temperature 0 °C	30-60	30-61	30-64	30-63	30-66	30-65
Residual fan duty Pa	130	120	130	150	150	150
<b>HYDRAULICS</b>						
Water content litres	49	60	71	82	93	104
Hydraulic resistance @ 40°C ΔT mbar (kPa)	34 (3.4Kpa)	33 (3.3Kpa)	36 (3.6Kpa)	33 (3.3Kpa)	38 (3.8Kpa)	39 (3.9Kpa)
Hydraulic resistance @ 30°C ΔT mbar (kPa)	60 (6 Kpa)	59 (5.9Kpa)	64 (6.4Kpa)	59 (5.9Kpa)	67 (6.7Kpa)	69 (6.9Kpa)
Hydraulic resistance @ 20°C ΔT mbar (kPa)	113 (11.3 kPa)	110 (11.0 kPa)	120 (12.0 kPa)	110 (11.0 kPa)	125 (12.5 kPa)	130 (13.0 kPa)
Hydraulic Resistance @ 11°C ΔT mbar (kPa)	374 (37.4 kPa)	364 (37.4 kPa)	397 (39.7 kPa)	364 (36.4 kPa)	413 (41.3 kPa)	435 (43.5 kPa)

## GAS 320 ACE TECHNICAL INFORMATION

	285/5	335/6	430/7	500/8	575/9	650/10
<b>HYDRAULICS</b>						
Nominal flow rate @ 40°C ΔT l/s	1.6	1.9	2.3	2.7	3.2	3.6
Nominal flow rate @ 30°C ΔT l/s	2.1	2.6	3.1	3.6	4.2	4.8
Nominal flow rate @ 20°C ΔT l/s	3.1	3.9	4.7	5.5	6.3	7.1
Nominal flow rate @11°C ΔT l/s	5.6	7.1	8.5	9.9	11.5	13.0
Standard operating temperature °C	20-90	20-90	20-90	20-90	20-90	20-90
Max operating temperature °C	90*	90*	90*	90*	90*	90*
High limit temperature °C	110	110	110	110	110	110
Max water operating pressure bar	7	7	7	7	7	7
Min water operating pressure bar	1	1	1	1	1	1
<b>GENERAL</b>						
Dry weight kg	366	400	435	497	533	570
Dimensions (WxHxD)	707x1550x1862	707x1550x1862	707x1550x1862	707x1550x2172	707x1550x2172	707x1550x2172
NOx Annual Emissions EN15502 G20	43	43	44	45	46	47
NOx Annual Emissions BREEAM G20	15	16	16	17	18	18
Noise levels dB(A) at 1 metre	61.2	61.2	64.8	64.8	64.8	64.8
ECODesignSoundPowerLevels LWA indoors dB	69	69	69	N/a	N/a	N/a
Standby heat loss with H.E insulation kit w	464	479	493	508	522	537
<b>ELECTRICAL (excluding pump)</b>						
Nominal power supply	230v-1ph-50hz	230v-1ph-50hz	230v-1ph-50hz	230v-1ph-50hz	230v-1ph-50hz	230v-1ph-50hz
Power consumption w	10-280	10-345	10-450	10-576	10-768	10-720
Modulating input v dc	0-10	0-10	0-10	0-10	0-10	0-10
Start current amps	4	4	4	4	4	4
Fuse rating amps	10	10	10	10	10	10
Controls voltage	24 (max 4va)	24 (max 4va)	24 (max 4va)	24 (max 4va)	24 (max 4va)	24 (max 4va)
Insulation class IP	X1	X1	X1	X1	X1	X1
Run current amps	1.4	1.4	1.4	1.4	1.4	1.4

\*When operating at >25°C ΔT maximum flow temperature is limited to 80°C

## GAS 620 ACE TECHNICAL INFORMATION

	570 (2x5 sections)	710 (2x6 sections)	860 (2x7 sections)	1000 (2x8 sections)	1150 (2x9 sections)	1300 (2x10 sections)
<b>PERFORMANCE</b>						
Nominal heat output central heating operation @ 80/60°C kW (min-max)	75.8-521.4	86.7-653.3	122.6-789.5	122.3-922.1	148.1-1060.8	165.4-1201.7
Nominal heat output central heating operation @ 50/30°C kW (max)	557.5	700.6	849	994.3	1147	1303
Nominal input (Hi) (min-max)	80-532	91-666	128-804	127-938	153-1078	170-1220
<b>EFFICIENCY</b>						
SBEM seasonal efficiency GCV	96.38	96.23	96.08	95.95	95.81	95.66
Efficiency – full load 100% NCV	98%	98.1%	98.2%	98.3%	98.4%	98.5%
Efficiency – part load 30% NCV	109.2%	109%	108.8%	108.6%	108.3%	108.1%
ECO Design useful efficiency @ 80/60°C (100% full load) GCV	N/a	N/a	N/a	N/a	N/a	N/a
ECO Design useful efficiency @ 50/30°C (30% part load) GCV	N/a	N/a	N/a	N/a	N/a	N/a
<b>GAS</b>						
Standard fuel	Natural gas	Natural gas	Natural gas	Natural gas	Natural gas	Natural gas
Max gas consumption m <sup>3</sup> /h	8.5 – 56.5	9.6 – 70.5	13.5 – 85.1	13.4 – 99.3	16.2 – 115.8	18 – 129.1
Min/max gas inlet pressure mbar	17 - 25	17 - 25	17 - 25	17 - 25	17 - 25	17 – 25
<b>FLUE (SUPPLIED AS STANDARD FOR CONVENTIONAL FLUE, OPTION FOR ROOM-SEALED AVAILABLE)</b>						
Flue diameter mm I/D	350	350	350	350	350	350
Air inlet diameter mm I/D	250/350*	250/350*	250/350*	250/350*	250/350*	250/350*
Mass flue gas flow rate kg/h	135-896	153-1121	216-1354	214-1579	258-1842	286-2054
Flue gas temperature (80/60°C) °C	30-60	30-61	30-64	30-63	30-66	30-65
Residual fan duty Pa	130	120	130	150	150	150
<b>HYDRAULICS</b>						
Water content litres (per module)	49	60	71	82	93	104
Hydraulic resistance (per module) @ 40°C ΔT mbar (Kpa)	34 (3.4Kpa)	33 (3.3Kpa)	36 (3.6Kpa)	33 (3.3Kpa)	38 (3.8Kpa)	39 (3.9Kpa)
Hydraulic resistance (per module) @ 30°C ΔT mbar (Kpa)	60 (6Kpa)	59 (5.9Kpa)	64 (6.4Kpa)	59 (5.9Kpa)	67 (6.7Kpa)	69 (6.9Kpa)
Hydraulic resistance (per module) @ 20°C ΔT mbar (Kpa)	113 (11.3 Kpa)	110 (11.0 Kpa)	120 (12.0 Kpa)	110 (11.0 Kpa)	125 (12.5 Kpa)	130 (13.0 Kpa)
Hydraulic Resistance (per module) @ 11°C ΔT mbar (Kpa)	374 (37.4 Kpa)	364 (36.4 Kpa)	397 (39.7 Kpa)	364 (36.4 Kpa)	413 (41.3 Kpa)	435 (43.5 Kpa)

## GAS 620 ACE TECHNICAL INFORMATION

	570 (2x5 sections)	710 (2x6 sections)	860 (2x7 sections)	1000 (2x8 sections)	1150 (2x9 sections)	1500 (2x10 sections)
<b>HYDRAULICS</b>						
Nominal flow rate @ 40°C ΔT l/s	16*	19*	23*	27*	32*	36*
Nominal flow rate @ 30°C ΔT l/s	21*	26*	31*	36*	42*	48*
Nominal flow rate @ 20°C ΔT l/s	3.1*	3.9*	4.7*	5.5*	6.3*	7.1*
Nominal flow rate @11°C ΔT l/s	5.6*	7.1*	8.5*	9.9*	11.5*	13.0*
Standard operating temperature °C	20-90	20-90	20-90	20-90	20-90	20-90
Max operating temperature °C	90*	90*	90	90	90	90
High limit temperature °C	110	110	110	110	110	110
Max water operating pressure bar	7	7	7	7	7	7
Min water operating pressure bar	1	1	1	1	1	1
<b>GENERAL</b>						
Dry weight kg	711	775	841	961	1029	1099
Dimensions (WxHxD)	1442x1550x1862	1442x1550x1862	1442x1550x1862	1442x1550x2172	1442x1550x2172	1442x1550x2172
NOx Annual Emissions EN15502 G20	43	43	44	45	46	47
NOx Annual Emissions BREEAM G20	15	16	16	17	18	18
Noise levels dB(A) at 1 metre	64.2	64.2	67.8	67.8	67.8	67.8
ECO Design Sound Power Levels LWA indoors dB	N/a	N/a	N/a	N/a	N/a	N/a
Standby heat loss with H.E insulation kit w	928	958	986	1016	1044	1074
<b>ELECTRICAL</b>						
Nominal power supply	2 x 230v-1ph-50hz	2 x 230v-1ph-50hz	2 x 230v-1ph-50hz	2 x 230v-1ph-50hz	2 x 230v-1ph-50hz	2 x 230v-1ph-50hz
Power consumption w	20-560	18-690	20-900	20-1152	20-1536	20-1440
Modulating input v dc	2 X 0 - 10	2 X 0 - 10	2 X 0 - 10	2 X 0 - 10	2 X 0 - 10	2 X 0 - 10
Start current amps	2 x 4	2 x 4	2 x 4	2 x 4	2 x 4	2 x 4
Fuse rating amps	2 x 10	2 x 10	2 x 10	2 x 10	2 x 10	2 x 10
Controls voltage	2 x 24 (max 4va)	2 x 24 (max 4va)	2 x 24 (max 4va)	2 x 24 (max 4va)	2 x 24 (max 4va)	2 x 24 (max 4va)
Insulation class IP	X1	X1	X1	X1	X1	X1
Run current amps	2 x 1.4	2 x 1.4	2 x 3.8	2 x 3.8	2 x 3.8	2 x 3.8

\*When operating at >25°C ΔT maximum flow temperature is limited to 80°