

# INSTALLATION Specification

## 17.8 Data table

Output details apply to new appliances with clean heat exchangers.

The power consumption figures for the integral auxiliary drives are maximum values and may vary subject to operating point.

The power consumption of the integral auxiliary drives is included in the output details of the heat pump (to EN 14511).

		HPA-0 3 CS Plus 238984	HPA-0 4 CS Plus 238985	HPA-0 6 CS Plus 238986	HPA-0 8 CS Plus 238987
<b>Heating output</b>					
Heating output at A7/W35 (min./max.)	kW	1.30/3.50	1.30/4.50	2.60/6.50	2.60/8.50
Heating output at A2/W35 (min./max.)	kW	1.00/3.50	1.00/4.50	2.00/6.50	2.00/8.50
Heating output at A-7/W35 (min./max.)	kW	1.00/3.20	1.00/4.06	3.00/6.00	3.00/7.80
Heating output at A15/W55 (EN 14511)	kW	2.48	2.48	5.32	5.32
Heating output at A15/W35 (EN 14511)	kW	2.90	2.90	5.90	5.90
Heating output at A7/W55 (EN 14511)	kW	1.92	1.92	4.31	4.31
Heating output at A7/W45 (EN 14511)	kW	4.16	4.16	5.28	5.28
Heating output at A7/W35 (EN 14511)	kW	2.73	2.73	4.86	4.86
Heating output at A2/W45 (EN 14511)	kW	3.22	3.22	5.02	6.01
Heating output at A2/W35 (EN 14511)	kW	2.08	2.58	5.30	5.30
Heating output at A-7/W35 (EN 14511)	kW	3.20	3.96	6.00	7.80
Heating output at A-7/W45 (EN 14511)	kW	3.01	3.88	5.70	8.20
Heating output at A-15/W35 (EN 14511)	kW	2.90	3.43	5.98	7.07
Max. heating output in silent mode at A-7/W35	kW	1.38	1.38	2.76	2.76
Heating output in silent mode at A-7/W35 (70 %)	kW	2.23	2.65	4.96	4.96
Max. cooling capacity at A35/W7	kW	2.00	3.00	5.00	6.00
Cooling capacity at A35/W7 partial load	kW	1.00	1.50	2.50	3.00
Max. cooling capacity at A35/W18	kW	2.00	3.00	5.00	6.00
Cooling capacity at A35/W18 partial load	kW	1.50	1.50	2.50	3.00
<b>Power consumption</b>					
Max. power consumption, fan heating	kW	0.03	0.03	0.1	0.1
Power consumption at A15/W55 (EN 14511)	kW	0.75	0.75	1.68	1.68
Power consumption at A15/W35 (EN 14511)	kW	0.49	0.49	1.05	1.05
Power consumption at A7/W55 (EN 14511)	kW	0.74	0.74	1.58	1.58
Power consumption at A7/W45 (EN 14511)	kW	1.23	1.23	1.52	1.52
Power consumption at A7/W35 (EN 14511)	kW	0.58	0.58	1.02	1.02
Power consumption at A2/W45 (EN 14511)	kW	1.14	1.14	1.71	2.06
Power consumption at A2/W35 (EN 14511)	kW	0.56	0.71	1.39	1.39
Power consumption at A-7/W35 (EN 14511)	kW	1.14	1.45	2.01	2.68
Power consumption at A-7/W45 (EN 14511)	kW	1.24	1.72	2.32	3.53
Power consumption at A-15/W35 (EN 14511)	kW	1.18	1.42	2.26	2.84
<b>Coefficient of performance</b>					
COP at A15/W55 (EN 14511)		3.31	3.31	3.17	3.17
COP at A15/W35 (EN 14511)		5.92	5.92	5.62	5.62
COP at A7/W55 (EN 14511)		2.59	2.59	2.73	2.73
COP at A7/W45 (EN 14511)		3.37	3.37	3.47	3.47
COP at A7/W35 (EN 14511)		4.70	4.70	4.76	4.76
COP at A2/W35 (EN 14511)		3.70	3.64	3.80	3.80
COP at A-7/W35 (EN 14511)		2.81	2.73	2.98	2.91
COP at A-7/W45 (EN 14511)		2.41	2.25	2.45	2.32
COP at A-15/W35 (EN 14511)		2.46	2.41	2.65	2.49
SCOP (EN 14825)		4.23	4.15	4.48	4.48
Max. cooling capacity factor at A35/W7		2.15	1.62	1.73	1.73
Cooling capacity factor at A35/W7 partial load		2.38	2.38	2.40	2.40
Max. cooling capacity factor at A35/W18		3.12	3.12	2.88	2.88
Cooling capacity factor at A35/W18 partial load		3.56	3.56	3.28	3.28
<b>Sound emissions</b>					
Sound power level (EN 12102)	dB(A)	52	52	57	57
Sound pressure level at 5 m in free field	dB(A)	30	30	35	35
Max. sound power level for outdoor installation	dB(A)	58	60	63	66
Sound power level for outdoor installation in silent mode 70 %	dB(A)	54	56	58	61
Max. sound power level for outdoor installation, silent mode	dB(A)	52	52	57	57

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		HPA-O 3 CS Plus	HPA-O 4 CS Plus	HPA-O 6 CS Plus	HPA-O 8 CS Plus
<b>Application limits</b>					
Min. application limit on the heating side	°C	15	15	15	15
Max. application limit on heating side	°C	60	60	60	60
Min. application limit, heat source	°C	-20	-20	-20	-20
Max. application limit, heat source	°C	40	40	40	40
<b>Energy data</b>					
Energy efficiency class		A+/A++	A+/A++	A+/A++	A+/A++
<b>Electrical data</b>					
Max. power consumption without emergency/booster heater	kW	2.2	2.2	4.6	4.6
Rated voltage, compressor	V	230	230	230	230
Rated voltage, control unit	V	230	230	230	230
Compressor phases		1/N/PE	1/N/PE	1/N/PE	1/N/PE
Control unit phases		1/N/PE	1/N/PE	1/N/PE	1/N/PE
Compressor fuse protection	A	1 x B 16	1 x B 16	1 x B 25	1 x B 25
Control unit fuse protection	A	1 x B 16	1 x B 16	1 x B 16	1 x B 16
Starting current	A	5	5	7	7
Max. operating current	A	9.6	9.6	20.0	20.0
<b>Versions</b>					
Refrigerant		R410A	R410A	R410A	R410A
Refrigerant charge	kg	1.1	1.1	2	2
CO <sub>2</sub> equivalent (CO <sub>2</sub> e)	t	2.3	2.3	4.18	4.18
Global warming potential of the refrigerant (GWP100)		2088	2088	2088	2088
IP rating		IP 14B	IP 14B	IP 14B	IP 14B
Condenser material		1.4401/Cu	1.4401/Cu	1.4401/Cu	1.4401/Cu
<b>Dimensions</b>					
Height	mm	740	740	812	812
Width	mm	1022	1022	1152	1152
Depth	mm	524	524	524	524
<b>Weights</b>					
Weight	kg	62	62	91	91
<b>Connections</b>					
Connection, heating flow/return		22 mm	22 mm	22 mm	22 mm
<b>Heating water quality requirements</b>					
Water hardness	°dH	≤3	≤3	≤3	≤3
pH value (with aluminium fittings)		8.0-8.5	8.0-8.5	8.0-8.5	8.0-8.5
pH value (without aluminium fittings)		8.0-10.0	8.0-10.0	8.0-10.0	8.0-10.0
Conductivity (softening)	µS/cm	<1000	<1000	<1000	<1000
Conductivity (desalination)	µS/cm	20-100	20-100	20-100	20-100
Chloride	mg/l	<30	<30	<30	<30
Oxygen 8-12 weeks after filling (softening)	mg/l	<0.02	<0.02	<0.02	<0.02
Oxygen 8-12 weeks after filling (desalination)	mg/l	<0.1	<0.1	<0.1	<0.1
<b>Values</b>					
Heating flow rate (EN 14511) at A7/W35, B0/W35 and 5 K	m <sup>3</sup> /h	0.4	0.4	0.8	0.8
Nominal flow rate of heating system at A-7/W35 and 5 K	m <sup>3</sup> /h	0.55	0.70	1.34	1.34
Min. heating flow rate	m <sup>3</sup> /h	0.4	0.4	0.6	0.6
Nominal internal pressure drop, heating	hPa	75	122	149	149
Flow rate on heat source side	m <sup>3</sup> /h	1300	1300	2200	2200
Permissible operating pressure, heating circuit	MPa	0.3	0.3	0.3	0.3

## Further details

		HPA-O 3 CS Plus	HPA-O 4 CS Plus	HPA-O 6 CS Plus	HPA-O 8 CS Plus
		238984	238985	238986	238987
Maximum altitude for installation	m	2000	2000	2000	2000

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## 14.4 Data table

		HM	HM Trend	HMS	HMS Trend
		233010	232805	233827	233826
<b>Power consumption</b>					
Power consumption, emergency/booster heater	kW	8.8	8.8	5.9	5.9
<b>Application limits</b>					
Max. permissible pressure	MPa	0.3	0.3	0.3	0.3
Min. application limit on the heating side	°C	7	7	7	7
Max. cooling application limit on the heating side	°C	70	70	70	70
<b>Hydraulic data</b>					
External available pressure differential at 1.5 m <sup>3</sup> /h	hPa	661	661	661	661
External available pressure differential at 2.5 m <sup>3</sup> /h	hPa	300	300	300	300
External available pressure differential at 2 m <sup>3</sup> /h	hPa	468	468	468	468
<b>Electrical data</b>					
Frequency	Hz	50	50	50	50
Rated voltage, control unit	V	230	230	230	230
Rated voltage, emergency/booster heater	V	400	400	230	230
Control unit phases		1/N/PE	1/N/PE	1/N/PE	1/N/PE
Emergency/booster heater phases		3/N/PE	3/N/PE	2/N/PE	2/N/PE
Control unit fuse protection	A	1 x B 16	1 x B 16	1 x B 16	1 x B 16
Fuse protection, emergency/booster heater	A	3 x B 16	3 x B 16	2 x B 16	2 x B 16
Power consumption, circulation pump	W	3-76	3-76	3-76	3-76
<b>Versions</b>					
Circulation pump type		Yonos PARA 25/7.5, highly efficient circulation pump	Yonos PARA 25/7.5, highly efficient circulation pump	Yonos PARA 25/7.5, highly efficient circulation pump	Yonos PARA 25/7.5, highly efficient circulation pump
IP rating		IP20	IP20	IP20	IP20
<b>Dimensions</b>					
Height	mm	896	896	896	896
Height incl. connector block	mm	1131	1131	1131	1131
Width	mm	590	590	590	590
Depth	mm	405	405	405	405
<b>Weights</b>					
Weight	kg	45	27	45	27
<b>Connections</b>					
Connection		G 1	G 1	G 1	G 1
<b>Heating water quality requirements</b>					
Water hardness	°dH	≤3	≤3	≤3	≤3
pH value (with aluminium fittings)		8.0-8.5	8.0-8.5	8.0-8.5	8.0-8.5
pH value (without aluminium fittings)		8.0-10.0	8.0-10.0	8.0-10.0	8.0-10.0
Conductivity (softening)	µS/cm	<1000	<1000	<1000	<1000
Conductivity (desalination)	µS/cm	20-100	20-100	20-100	20-100
Chloride	mg/l	<30	<30	<30	<30
Oxygen 8-12 weeks after filling (softening)	mg/l	<0.02	<0.02	<0.02	<0.02
Oxygen 8-12 weeks after filling (desalination)	mg/l	<0.1	<0.1	<0.1	<0.1
<b>Values</b>					
Expansion vessel volume	l	24	24	24	24