



TECHNICAL DATA MANUAL

Master and Master plus Mono ATW Heat Pump

Model	For low - temperature application				
	Energy efficiency class	Unit sound power	average climate		
			Rated heat output	Seasonal space heating energy efficiency	For space heating, annual energy consumption
-	dB	kW	%	kWh	
Master plus 60	A+++	61	6,3	185,3	2599
Master plus 90	A+++	61	9,1	192,7	3780
Master plus 120	A+++	62	12,1	189,2	5234
Master plus 160	A+++	67	16,2	188,0	6983
Master plus 120-TRI	A+++	62	12,2	187,6	4872
Master plus 160-TRI	A+++	67	16,2	187,6	6926

Model	For medium - temperature application				
	Energy efficiency class	Unit sound power	average climate		
			Rated heat output	Seasonal space heating energy efficiency	For space heating, annual energy consumption
-	dB	kW	%	kWh	
Master plus 60	A++	62	6,6	145,5	3123
Master plus 90	A++	64	9,1	145,1	4781
Master plus 120	A++	65	11,9	148,5	6236
Master plus 160	A++	68	16,2	148,0	8651
Master plus 120-TRI	A++	65	12,2	146,2	6183
Master plus 160-TRI	A++	68	16,2	146,9	8701

Product fiche 1

Heat pump space heater		Model	Master plus 60	Master plus 90	Master plus 120	Master plus 160	Master plus 120-TRI	Master plus 160-TRI
Average climate (Design temperature = -10°C)								
Space heating 35°C	Prated (declared heating capacity) @ -10°C	[kW]	5,9	9,0	12,1	16,1	11,2	16,0
	Seasonal space heating efficiency (η_s)	[%]	185,3	192,7	189,2	188,0	187,6	187,6
	Annual energy consumption	[kWh]	2599	3.780	5.234	6.983	4872	6926
Space heating 55°C	Prated (declared heating capacity) @ -10°C	[kW]	5,6	8,6	11,4	15,8	11,2	15,8
	Seasonal space heating efficiency (η_s)	[%]	145,5	145,1	148,5	148,0	146,2	146,9
	Annual energy consumption	[kWh]	3.123	4.781	6.236	8.651	6.183	8.701
Part load conditions space heating average climate low temperature application								
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	5,24	10,77	14,27	9,94	14,13	14,13
	COPd (declared COP)	-	2,82	2,84	2,68	2,71	2,84	2,84
	Cdh(degradation coefficient)	-	0,90	0,90	0,90	0,90	0,90	0,90
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	3,29	6,56	8,70	6,13	8,70	8,70
	COPd (declared COP)	-	4,70	4,64	4,68	4,64	4,66	4,66
	Cdh(degradation coefficient)	-	0,90	0,90	0,90	0,90	0,90	0,90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	2,30	4,29	5,72	4,44	5,76	5,76
	COPd (declared COP)	-	6,24	6,73	6,86	6,87	6,70	6,70
	Cdh(degradation coefficient)	-	0,90	0,90	0,90	0,90	0,90	0,90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	2,70	4,77	6,68	5,09	6,62	6,62
	COPd (declared COP)	-	8,59	9,37	9,22	9,34	8,48	8,48
	Cdh(degradation coefficient)	-	0,90	0,90	0,90	0,90	0,90	0,90

Product fiche 2

Heat pump space heater		Model	Master plus 60	Master plus 90	Master plus 120	Master plus 160	Master plus 120-TRI	Master plus 160-TRI
(E) Tol (tem perature operating lim it)	Tol (tem perature operating lim it)	[°C]	- 10,00	- 10,00	- 10,00	- 10,00	- 10,00	- 10,00
	Pdh (declared heating capacity)	[kW]	5,52	7,24	9,74	13,12	9,89	13,06
	COPd (declared COP)	-	2,57	2,67	2,75	2,3	2,58	2,37
	WTOL (Heating w ater Operation Lim it)	[°C]	75,00	75,00	75,00	75	75	75
(F) Tbivalent tem perature	Tblv	[°C]	--7,00	--7,00	--7,00	-7	-7	-7
	Pdh (declared heating capacity)	[kW]	5,24	7,92	10,77	14,27	9,94	14,13
	COPd (declared COP)	-	2,82	2,89	2,84	2,68	2,71	2,84
Supplementary capacity at P_design	Psup (@Tdesignh : - 10°C)	[kW]	0,40	1,71	2,41	3,01	1,349	2,94
Part load conditions space heating ave rage climate medium tem perature application								
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	4,97	7,58	10,11	13,97	9,88	13,97
	COPd (declared COP)	-	2,15	2,26	2,29	2,11	2,21	2,27
	Cdh(degradation coefficient)	-	0,90	0,90	0,90	0,9	0,9	0,9
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	3,11	4,73	6,23	8,6	6,05	8,54
	COPd (declared COP)	-	3,71	3,65	3,67	3,52	3,64	3,58
	Cdh(degradation coefficient)	-	0,90	0,90	0,90	0,9	0,9	0,9
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	2,15	3,18	4,12	5,49	4,07	5,69
	COPd (declared COP)	-	5,02	4,91	5,16	6,04	5,11	5,27
	Cdh(degradation coefficient)	-	0,90	0,90	0,90	0,9	0,9	0,9
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	2,39	3,48	4,73	6,46	4,73	6,23
	COPd (declared COP)	-	6,95	6,91	7,24	7,38	7	7,27
	Cdh(degradation coefficient)	-	0,90	0,90	0,90	0,9	0,9	0,9
(E) Tol (tem perature operating lim it)	Tol (tem perature operating lim it)	[°C]	- 10,00	- 10,00	- 10,00	- 10,00	- 10,00	- 10,00
	Pdh (declared heating capacity)	[kW]	4,84	6,63	9,52	12,41	9,38	12,62
	COPd (declared COP)	-	1,92	1,98	2,08	1,79	2,01	1,89
	WTOL (Heating w ater Operation Lim it)	[°C]	75,00	75,00	75,00	75	75	75
(F) Tbivalent tem perature	Tblv	[°C]	--7,00	--7,00	--7,00	-7	-7	-7
	Pdh (declared heating capacity)	[kW]	4,97	7,58	10,11	13,97	9,88	13,96

	COPd (declared COP)	-	2,15	2.26	2.29	2.11	2,21	2,27
Supplementary capacity at P_design	Psup (@Tdesignh : – 10°C)	[kW]	0,76	1.94	1,92	3.39	1,786	3,18

Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals .

Product fiche data according to energy label directive 2010/30/EC regulation (EU) 811/2013.

Product fiche 3

Heat pump space heater		Model	Master plus 60	Master plus 90	Master plus 120	Master plus 160	Master plus 120-TRI	Master plus 160-TRI
Product description	Air -to-w ater heat pump	Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Other	Capacity control	-	Inverter	Inverter	Inverter	Inverter	Inverter	Inverter
	Pto (Power consumption Thermostat off mode)	[kW]	0,014	0,030	0,025	0,033	0,032	0,033
	Psb (Power consumption Standby mode)	[kW]	0,01	0,008	0,008	0,02	0,02	0,02
	PCK (Power consumption heater mode)	[kW]	0,035	0,043	0,032	0,045	0,044	0,045
	Poff (Power consumption Off mode)	[kW]	0,01	0,008	0,008	0,02	0,02	0,02

Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals .

Product fiche data according to energy label directive 2010/30/EC regulation (EU) 811/2013.