



Technical Catalogue

Air-Water heat pumps

Air-Air Heat pumps

Controlled Mechanical Ventilation

House Climate Control

Storage tanks

HR line R410A

Inverter Technology



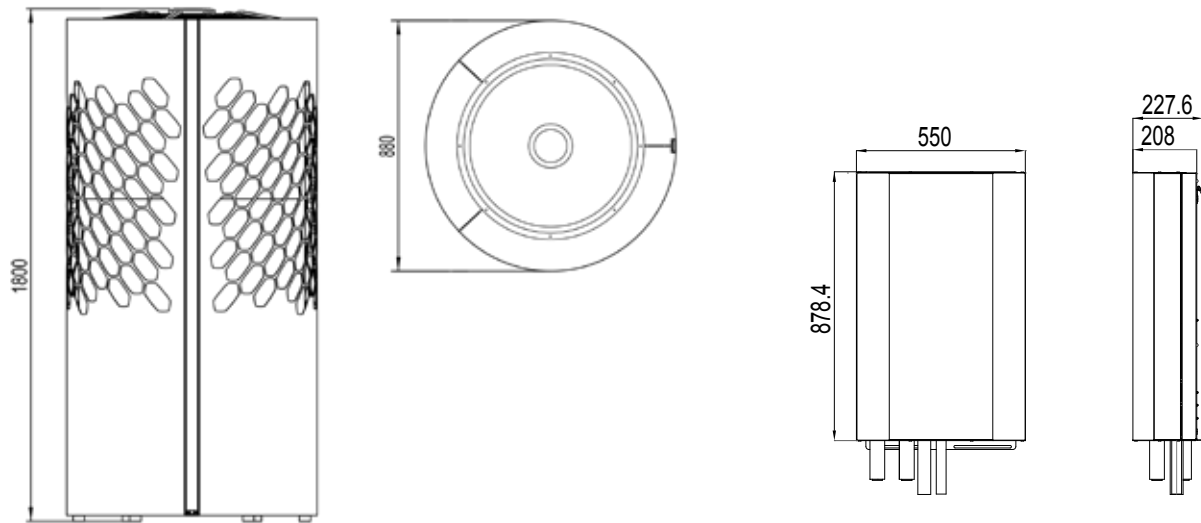
Monobloc



With K-Touch 7" panel.
For more information
see page 29.



Split



PARAMETER (For Monobloc and Split version)					KITA HR 10	KITA HR 12	KITA HR 14	KITA HR 14 Cold
Heating mode	Max power with full speed	Air 12°C	Thermal power	kW	10,50	12,60	14,55	14,55
		Water 35°C	COP		5,50	5,40	5,3	5,3
		Air 7°C	Thermal power	kW	9,90	12,16	14,30	14,30
		Water 35°C	COP		4,60	4,30	4,44	4,44
		Air 2°C	Thermal power	kW	8,81	10,79	13,09	14,00
		Water 35°C	COP		4,07	3,91	3,82	3,78
		Air -7°C	Thermal power	kW	7,03	8,44	10,70	14,00
		Water 35°C	COP		3,22	3,12	3,10	2,85
		Air -15°C	Thermal power	kW	5,70	6,60	9,10	13,30
		Water 35°C	COP		2,93	2,82	2,80	2,7
Domestic hot water		Air 2°C	Thermal power	kW	8,93	9,81	11,76	14,00
		Water 55°C	COP		2,75	2,59	3,10	2,49
Heating modulating	Optimal Conditions	Air 7°C	Thermal power	kW	5,27	6,59	7,82	7,82
		Water 35°C	COP		5,26	5,22	5,21	5,21
Cooling mode	Max power with full speed	Air 35°C	Cooling power	kW	9,13	10,04	12,45	12,45
		Water 7°C	EER		3,29	3,28	3,21	3,21
		Air 35°C	Cooling power	kW	11,86	13,06	16,23	16,23
		Water 18°C	EER		4,95	4,76	4,67	4,67
Energy class	Average climate				A+++			
Electrical supply	Power supply, Phase			V-Ph-Hz	230-1-50 / 400-3-50			
Sound level	Max sound pressure at 1 Meter			dB(A)	38			
Compressor	Type				Scroll Inverter			
	Driver				Vapour Injection			
Fan Data	Type				Inverter BLDC			
	Fan diameter			mm	630			
	Max speed			rpm	600			
Heat exchanger	Type				Plate Exchanger			
	Material				Inox			
Refrigerant	Type				R410A			
	Refrigerant charge			kg	6,5			
Hydraulic circuit	Pump type				EC			
Weight	Outdoor unit / Outdoor unit + indoor unit			kg	230 Monobloc / 210 + 50 Split			
Dimensions	Outdoor unit			mm	880 Ø - 1800 h			
	Indoor unit			mm	H878,4 x W550 x D208			

S line R410A



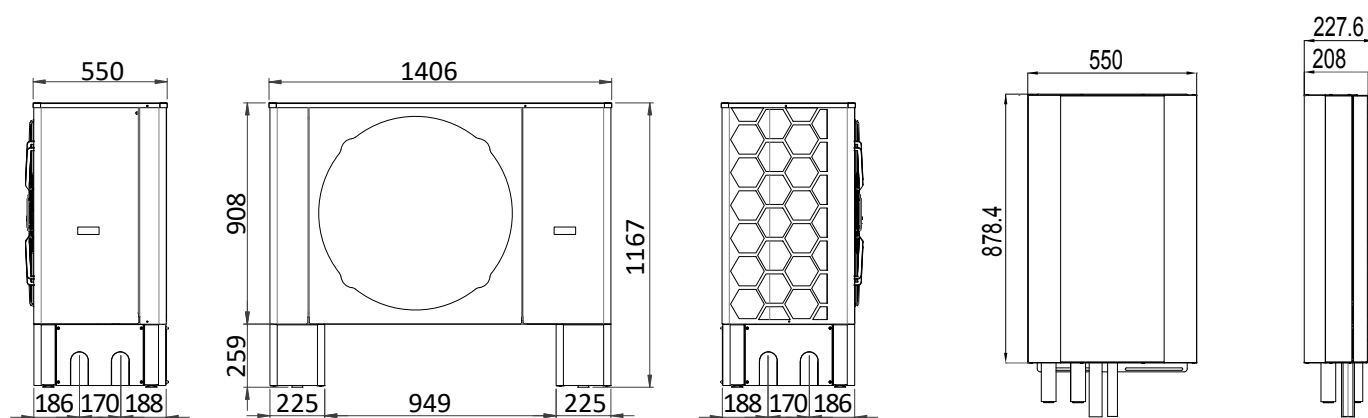
Monobloc



With K-Touch 7" panel.
For more information
see page 29.



Split



PARAMETER (For Monobloc and Split version)				KITA S / S3 Phase		KITA S Plus / S3 Phase Plus	
	Operating conditions		Me	Compressor load			
				Medium	Max.	Medium	Max
Heating mode	Air 12°C Water 35°C	Thermal power	kW	6,88	10,00	7,60	11,80
		COP		5,29	4,95	5,27	4,35
	Air 7°C Water 35°C	Thermal power	kW	4,98	10,00	6,18	12,00
		COP		5,16	4,25	5,14	4,00
	Air 2°C Water 35°C	Thermal power	kW	3,96	9,20	4,91	11,40
		COP		4,44	3,56	4,43	3,24
	Air -7°C Water 35°C	Thermal power	kW	2,70	6,30	3,35	9,00
		COP		3,30	2,80	3,26	2,52
Domestic hot water	Air -15°C Water 35°C	Thermal power	kW	2,15	4,85	2,80	6,00
		COP		2,86	2,71	2,84	2,50
	Air 2°C Water 55°C	Thermal power	kW	3,41	7,78	4,27	9,60
		COP		2,77	2,12	2,52	1,90
Cooling mode	Air 35°C Water 7°C	Cooling power	kW	3,83	7,40	5,07	8,35
		EER		3,27	2,92	3,11	2,81
	Air 35°C Water 18°C	Cooling power	kW	5,46	8,30	7,25	8,70
		EER		4,70	4,20	4,50	4,00
Energy class	Average climate			A+++			
Electrical supply	Power supply, Phase		V-Ph-Hz	230-1-50 / 400-3-50			
Sound level	Max sound pressure at 1 Meter		dB(A)	44			
Compressor	Type			Twin rotary			
	Driver			Inverter BLDC			
Fan Data	Type			Inverter BLDC			
	Fan diameter		mm	710			
	Max speed		rpm	600			
Evaporator	Fin spacing		mm	2,5			
Heat exchanger	Type			Plate Exchanger			
	Material			Inox			
Refrigerant	Type			R410A			
	Refrigerant charge		kg	5			
Hydraulic circuit	Pump type			EC			
Weight	Outdoor unit / Outdoor unit + indoor unit		kg	180 Monobloc / 160 + 50 Split			
Dimensions	Outdoor unit		mm	H908 x W1406 x D550			
	Indoor unit		mm	H878,4 x W550 x D208			

Si line Scroll Injection R410A

Inverter Technology



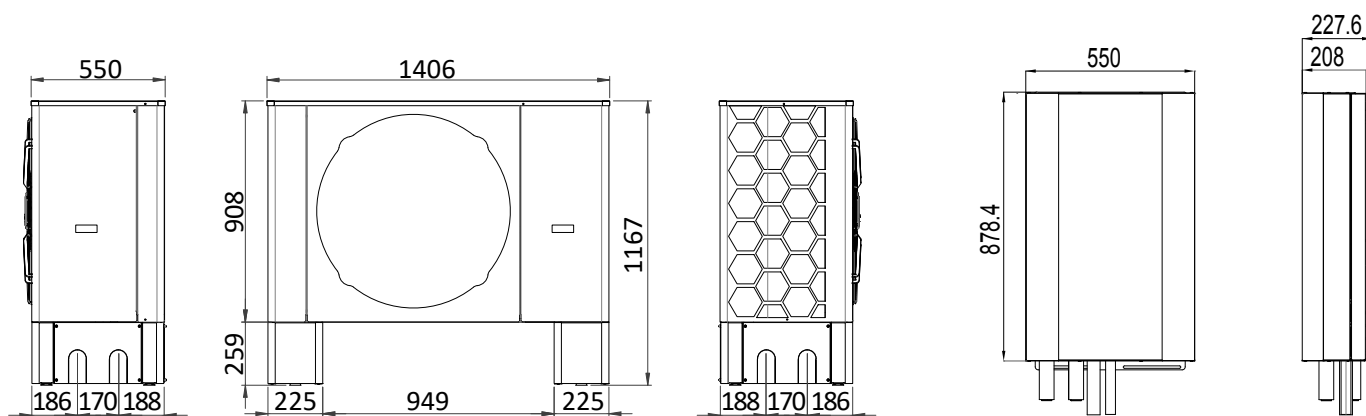
Monobloc



With K-Touch 7" panel.
For more information
see page 29.



Split



PARAMETER (For Monobloc and Split version)				KITA Si		KITA Si Cold		KITA Si Plus		KITA Si Plus Cold	
	Operating conditions		Me	Compressor load							
				Med.	Max.	Med.	Max.	Med.	Max.	Med.	Max.
Heating mode	Air 12°C	Thermal power	kW	7,00	11,12	7,00	10,00	7,40	12,57	7,40	12,00
	Water 35°C	COP		5,50	5,20	5,50	5,39	5,30	5,05	5,81	5,68
	Air 7°C	Thermal power	kW	6,72	10,00	6,72	10,00	7,11	12,48	7,11	12,00
	Water 35°C	COP		4,88	4,49	4,88	4,49	4,74	4,29	4,79	4,46
	Air 2°C	Thermal power	kW	5,96	8,83	5,96	10,00	6,30	10,10	6,30	12,00
	Water 35°C	COP		4,48	4,18	4,48	4,03	4,36	4,00	4,39	4,25
	Air -7°C	Thermal power	kW	4,76	7,05	4,76	10,00	5,03	8,05	5,03	12,00
	Water 35°C	COP		3,60	3,30	3,60	3,14	3,50	3,31	3,55	3,39
	Air -15°C	Thermal power	kW	3,94	5,84	3,94	9,30	4,17	6,60	4,17	12,00
	Water 35°C	COP		3,10	2,80	3,10	2,38	3,01	2,64	3,08	2,42
Domestic hot water	Air 2°C	Thermal power	kW	5,41	8,01	5,41	10,00	5,72	9,06	5,72	12,20
	Water 55°C	COP		2,64	2,45	2,64	2,35	2,56	2,39	2,58	2,53
Cooling mode	Air 35°C	Cooling power	kW	4,67	6,71	4,67	6,71	4,94	8,27	4,94	8,27
	Water 7°C	EER		3,50	3,48	3,50	3,48	3,41	3,32	3,45	3,32
	Air 35°C	Cooling power	kW	6,09	8,75	6,09	8,75	6,44	10,79	6,44	10,79
	Water 18°C	EER		4,78	4,48	4,78	4,48	4,64	4,29	4,69	4,29
Energy class	Average climate			A+++							
Electrical supply	Power supply, Phase		V-Ph-Hz	230-1-50 / 400-3-50							
Sound level	Max sound pressure at 1 Meter		dB(A)	44							
Compressor	Type			Scroll Inverter							
	Driver			Vapour Injection							
Fan Data	Type			Inverter BLDC							
	Fan diameter		mm	710							
	Max speed		rpm	600							
Evaporator	Fin spacing		mm	2,5							
Heat exchanger	Type			Plate Exchanger							
	Material			Inox							
Refrigerant	Type			R410A							
	Refrigerant charge		kg	5							
Hydraulic circuit	Pump type			EC							
Weight	Outdoor unit / Outdoor unit + indoor unit		kg	180 Monobloc / 160 + 50 Split							
Dimensions	Outdoor unit		mm	H908 x W1406 x D550							
	Indoor unit		mm	H878,4 x W550 x D208							

Mi line R410A

Inverter Technology

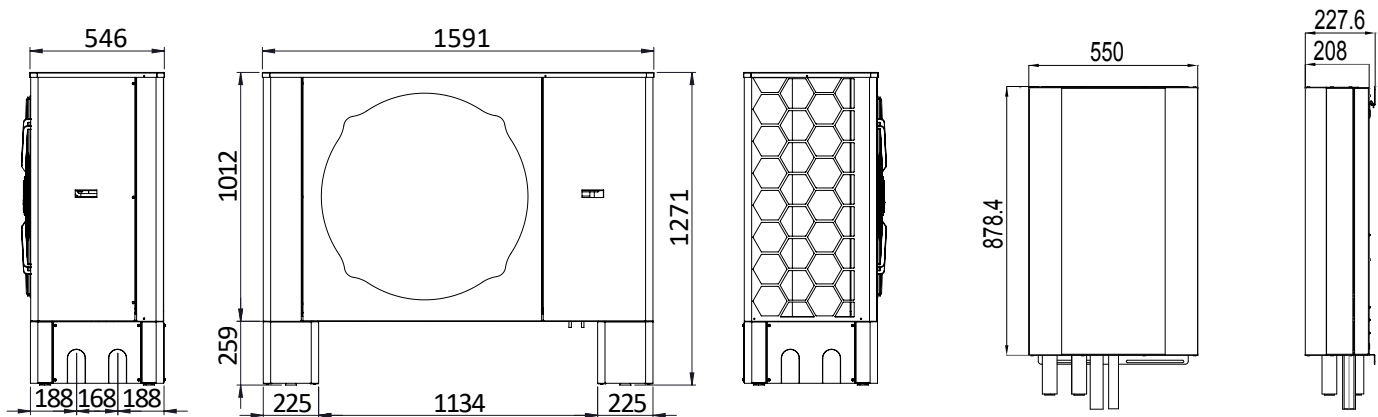


With K-Touch 7" panel.
For more information
see page 29.

Monobloc



Split



PARAMETER (For Monobloc and Split version)				KITA Mi		KITA Mi Cold		KITA Mi Plus		KITA Mi Plus Cold	
	Operating conditions		Me	Compressor load							
				Med.	Max.	Med.	Max.	Med.	Max.	Med.	Max.
Heating mode	Air 12°C	Thermal power	kW	8,10	16,80	8,10	15,00	10,60	20,50	10,60	18,00
	Water 35°C	COP		5,81	5,23	5,81	5,50	5,60	4,87	5,60	5,27
	Air 7°C	Thermal power	kW	7,76	16,60	7,76	15,00	10,62	20,20	10,62	18,00
	Water 35°C	COP		5,18	4,38	5,18	4,93	4,62	4,05	4,62	4,57
	Air 2°C	Thermal power	kW	6,88	13,7	6,88	15,00	9,41	17,50	9,41	18,00
	Water 35°C	COP		4,76	4,19	4,76	4,05	4,27	3,60	4,27	3,55
	Air -7°C	Thermal power	kW	5,49	11,00	5,49	15,00	7,52	14,60	7,52	18,00
	Water 35°C	COP		3,82	3,31	3,82	3,14	3,43	2,85	3,43	2,75
	Air -15°C	Thermal power	kW	4,55	9,07	4,55	13,80	6,23	12,40	6,23	16,00
	Water 35°C	COP		3,29	2,81	3,29	2,71	2,95	2,42	2,95	2,35
Domestic hot water	Air 2°C	Thermal power	kW	6,25	12,40	6,25	15,00	8,55	17,10	8,55	18,00
	Water 55°C	COP		3,02	2,67	3,02	2,52	2,71	2,30	2,71	2,25
Cooling mode	Air 35°C	Cooling power	kW	5,39	9,03	5,39	9,03	8,75	12,85	9,60	14,90
	Water 7°C	EER		3,72	3,63	3,72	3,63	3,34	3,15	3,90	3,80
	Air 35°C	Cooling power	kW	7,03	11,78	7,03	11,78	11,41	16,37	13,60	17,30
	Water 18°C	EER		5,07	4,68	5,07	4,68	4,72	4,33	5,70	5,64
Energy class	Average climate			A+++							
Electrical supply	Power supply, Phase		V-Ph-Hz	230-1-50 / 400-3-50						400-3-50	
Sound level	Max sound pressure at 1 Meter		dB(A)	45							
Compressor	Type			Scroll Inverter							
	Driver			Vapour Injection							
Fan Data	Type			Inverter BLDC							
	Fan diameter		mm	800							
	Max speed		rpm	500							
Evaporator	Fin spacing		mm	2,5							
Heat exchanger	Type			Plate Exchanger							
	Material			Inox							
Refrigerant	Type			R410A							
	Refrigerant charge		kg	6,5							
Hydraulic circuit	Pump type			EC							
Weight	Outdoor unit / Outdoor unit + indoor unit		kg	220 Monobloc / 200 + 50 Split							
Dimensions	Outdoor unit		mm	H1012 x W1591 x D546							
	Indoor unit		mm	H878,4 x W550 x D208							

L line R410A

Inverter Technology

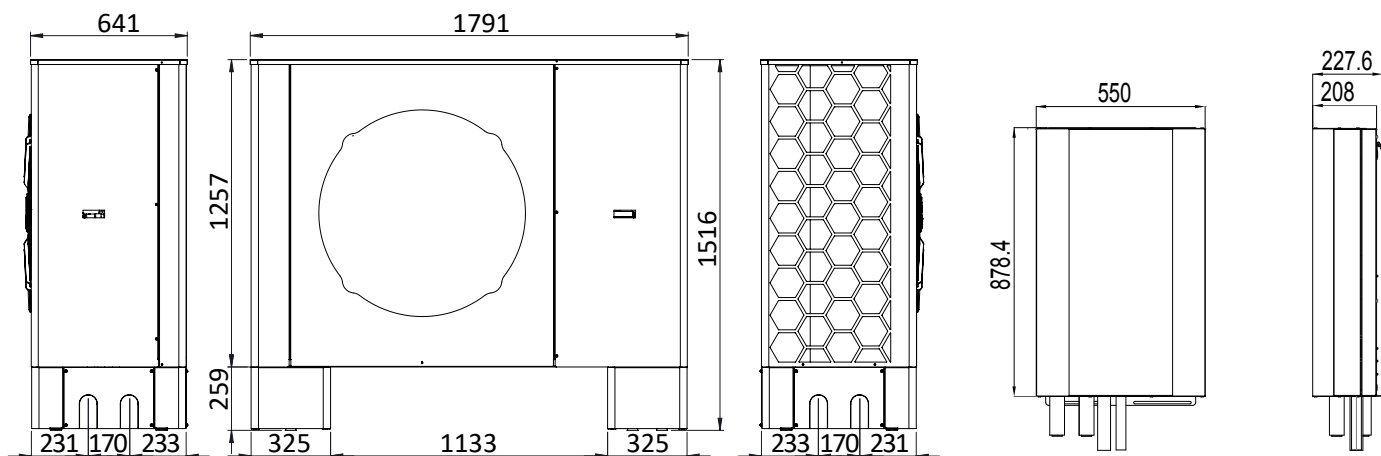


With K-Touch 7" panel.
For more information
see page 29.

Monobloc



Split



PARAMETER (For Monobloc and Split version)				KITA L33		KITA L42		KITA L66		KITA L Cold	
	Operating conditions		Me	Compressor load							
				Med.	Max.	Med.	Max.	Med.	Max.	Med.	Max.
Heating mode	Air 12°C	Thermal power	kW	16,50	27,10	20,40	33,50	23,60	35,50	23,60	35,00
	Water 35°C	COP		5,74	4,64	5,38	4,33	5,26	4,25	5,52	4,70
	Air 7°C	Thermal power	kW	15,52	25,52	19,40	31,90	21,28	35,00	21,28	35,00
	Water 35°C	COP		5,34	4,31	5,13	4,14	5,07	4,10	5,32	4,37
	Air 2°C	Thermal power	kW	15,05	24,50	18,81	29,88	20,64	32,80	20,64	35,00
	Water 35°C	COP		4,52	3,85	4,34	3,56	4,29	3,52	4,50	3,67
	Air -7°C	Thermal power	kW	10,94	20,10	13,68	23,86	16,30	28,40	16,30	35,00
	Water 35°C	COP		3,40	3,25	3,26	2,96	3,23	2,93	3,39	2,80
	Air -15°C	Thermal power	kW	8,12	17,50	10,15	19,25	12,18	23,10	12,18	34,20
	Water 35°C	COP		2,78	2,68	2,67	2,42	2,64	2,39	2,77	2,43
Domestic hot water	Air 2°C	Thermal power	kW	12,70	23,10	15,88	28,80	17,42	31,60	17,42	35,00
	Water 55°C	COP		3,44	2,37	3,30	2,69	3,27	2,66	3,43	2,70
	Air 35°C	Cooling power	kW	10,22	18,54	12,65	22,30	18,32	25,30	18,32	25,30
	Water 7°C	EER		3,66	3,28	3,45	3,09	3,53	3,16	3,71	3,25
Cooling mode	Air 35°C	Cooling power	kW	13,40	21,80	16,50	26,90	23,90	32,50	23,90	32,50
	Water 18°C	EER		5,04	4,75	4,74	4,48	4,85	4,62	5,09	4,76
Energy class	Average climate			A+++							
Electrical supply	Power supply, Phase		V-Ph-Hz	400-3-50							
Sound level	Max sound pressure at 1 Meter		dB(A)	52							
Compressor	Type			Scroll Inverter							
	Driver			Vapour Injection							
Fan Data	Type			Inverter BLDC							
	Fan diameter		mm	800				910			
	Max speed		rpm	600				610			
Evaporator	Fin spacing		mm	2,5							
Heat exchanger	Type			Plate Exchanger							
	Material			Inox							
Refrigerant	Type			R410A							
	Refrigerant charge		kg	8,5				8			
Hydraulic circuit	Pump type			EC							
Weight	Outdoor unit / Outdoor unit + indoor unit		kg	280 Monobloc / 260 + 50 Split							
Dimensions	Outdoor unit		mm	H1257 x W1791 x D641							
	Indoor unit		mm	H878,4 x W550 x D208							

Li Plus line R410A

Inverter Technology



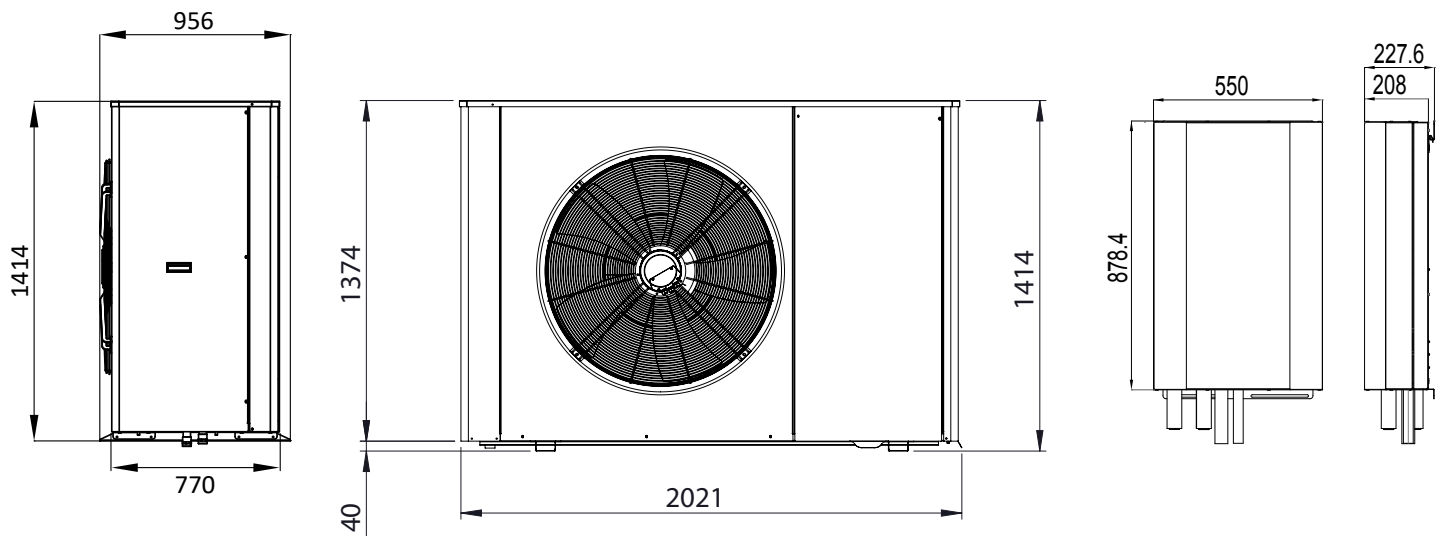
Monobloc



With K-Touch 7" panel.
For more information
see page 29.



Split



PARAMETER (For Monobloc and Split version)				KITA Li Plus	
	Operating conditions		Me	Compressor load	
				Medium	Max.
Heating mode	Air 7°C Water 35°C	Thermal power	kW	27,66	46,50
		COP		5,02	4,05
	Air 2°C Water 35°C	Thermal power	kW	26,83	45,70
		COP		4,25	3,60
	Air -7°C Water 35°C	Thermal power	kW	19,70	38,50
		COP		3,20	2,90
Domestic hot water	Air 2°C Water 55°C	Thermal power	kW	19,70	41,30
		COP		2,55	2,10
	Air 35°C Water 7°C	Cooling power	kW	23,82	35,15
		EER		3,50	3,13
Cooling mode	Air 35°C Water 18°C	Cooling power	kW	31,07	42,25
		EER		4,80	4,57
Energy class	Average climate			A+++	
Electrical supply	Power supply, Phase		V-Ph-Hz	400-3-50	
Sound level	Max sound pressure at 1 Meter		dB(A)	52	
Compressor	Type			Scroll Inverter	
	Driver			Vapour Injection	
Fan Data	Type			Inverter BLDC	
	Fan diameter		mm	910	
	Max speed		rpm	610	
Evaporator	Fin spacing		mm	2,5	
Heat exchanger	Type			Plate Exchanger	
	Material			Inox	
Refrigerant	Type			R410A	
	Refrigerant charge		kg	9	
Hydraulic circuit	Pump type			EC	
Weight	Outdoor unit / Outdoor unit + indoor unit		kg	320 Monobloc / 300 + 50 Split	
Dimensions	Outdoor unit		mm	H1414 x L2018 x P956	
	Indoor unit		mm	H878,4 x W550 x D208	

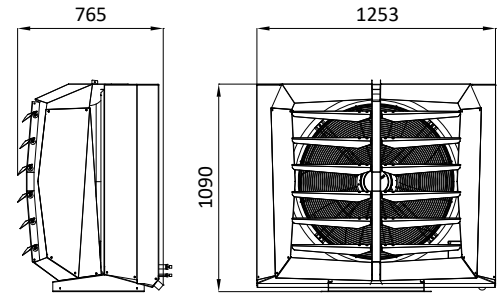
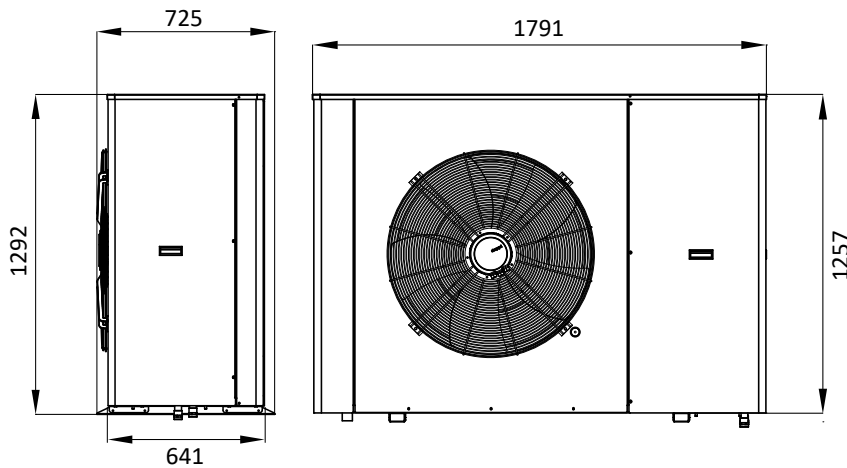
Air Line R410A

Inverter Technology



With K-Touch 7" panel.
For more information
see page 29.

Split

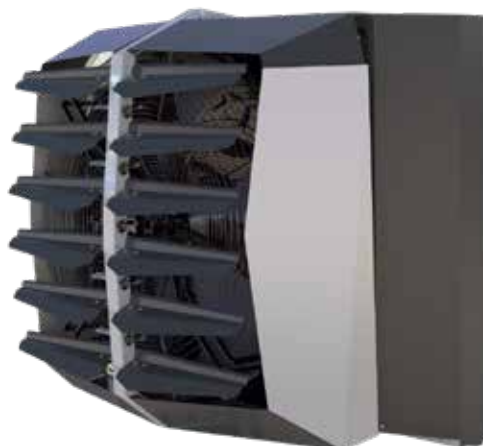


PARAMETER (Split version)				KITA AIR		KITA AIR Cold	
	Operating conditions		Unità	Compressor load			
				Medium	Max.	Medium	Max.
Heating mode	External Air 12°C Internal Air 20°C	Thermal power	kW	30,00	39,00	30,00	40,00
		COP		5,64	4,55	5,75	4,63
	External Air 7°C Internal Air 20°C	Thermal power	kW	26,50	39,00	29,15	40,00
		COP		5,40	4,34	5,30	4,36
	External Air 2°C Internal Air 20°C	Thermal power	kW	23,50	35,00	25,85	35,00
		COP		5,00	3,69	4,87	4,00
	External Air -7°C Internal Air 20°C	Thermal power	kW	19,00	32,00	20,90	35,00
		COP		4,00	3,15	3,89	3,10
	External Air -15°C Internal Air 20°C	Thermal power	kW	16,50	32,00	18,15	35,00
		COP		3,20	2,67	3,12	2,60
Cooling mode	External Air 35°C Internal Air 27°C	Cooling power	kW	25,00	35,00	27,00	37,00/40,00*
		EER		4,32	4,02	4,43	4,20
	Energy class	Average climate			A+++		
Power supply	Power supply		V-Ph-Hz	400-3-50			
	Maximum input power		kW	13,3			
	Maximum current		A	30			
Sound level	External max sound pressure at 5 Meters		dB(A)	38			
	Internal max sound pressure at 3 Meters		dB(A)	30			
Compressor	Type			Scroll Inverter			
	Criver			Vapour Injection			
Internal fan	Type			Inverter BLDC			
	Fan diameter		mm	800			
	Max speed		rpm	600			
External fan	Type			Inverter BLDC			
	Fan diameter		mm	910			
	Max speed		rpm	610			
External heat exchanger	Type			Plate Exchanger			
	Fin spacing		mm	2,5			
Intenal heat exchanger	Type			Plate Exchanger			
	Fin spacing		mm	1,8			
Refrigerant	Type			R410A			
	Quantity		kg	11			
Weight	Outdoor unit + Indoor unit		kg	280 + 130 Split			
Dimensions	Outdoor unit		mm	H1257 x W1791 x D641			
	Indoor unit		mm	H1090 x W1253 x D765			

* With booster kit (optional)

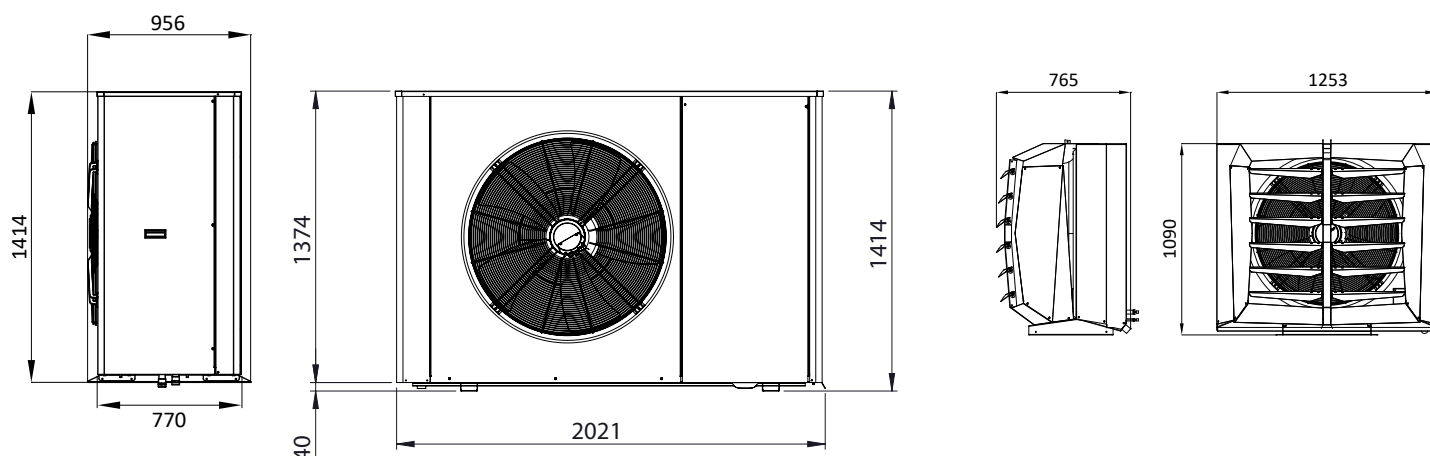
Air Plus Line R410A

Inverter Technology



With K-Touch 7" panel.
For more information
see page 29.

Split



PARAMETER (Split version)				KITA AIR Plus	
	Operating conditions		Unità	Compressor load	
				Medium	Max.
Heating mode	External Air 12°C Internal Air 20°C	Thermal power	kW	33,90	50,00
		COP		5,77	4,38
	External Air 7°C Internal Air 20°C	Thermal power	kW	32,33	46,70
		COP		5,31	4,03
	External Air 2°C Internal Air 20°C	Thermal power	kW	28,61	44,60
		COP		4,91	3,81
	External Air -7°C Internal Air 20°C	Thermal power	kW	23,18	39,80
		COP		3,89	3,25
Cooling mode	External Air -15°C Internal Air 20°C	Thermal power	kW	18,20	36,80
		COP		2,84	2,38
	External Air -20°C Internal Air 20°C	Thermal power	kW	16,00	32,50
		COP		2,54	2,13
	External Air 35°C Internal Air 27°C	Cooling power	kW	33,60	46,00
		EER		5,10	4,15
Energy class	Average climate			A+++	
Power supply	Power supply		V-Ph-Hz	400-3-50	
	Maximum input power		kW	16,7	
	Maximum current		A	40	
Sound level	External max sound pressure at 5 Meters		dB(A)	38	
	Internal max sound pressure at 3 Meters		dB(A)	30	
Compressor	Type			Scroll Inverter	
	Crivier			Vapour Injection	
Internal fan	Type			Inverter BLDC	
	Fan diameter		mm	800	
	Max speed		rpm	600	
External fan	Type			Inverter BLDC	
	Fan diameter		mm	910	
	Max speed		rpm	610	
External heat exchanger	Type			Plate Exchanger	
	Fin spacing		mm	2,5	
Intenal heat exchanger	Type			Plate Exchanger	
	Fin spacing		mm	1,8	
Refrigerant	Type			R410A	
	Quantity		kg	13	
Weight	Outdoor unit + Indoor unit		kg	320 + 140 Split	
Dimensions	Outdoor unit		mm	H1414 x L2021 x P956	
	Indoor unit		mm	H1090 x W1253 x D765	

EHPA Certification



EHPA (European Heat Pump Association)

It is the European center organization which brings together national associations of heat pumps.

The EHPA quality seal guarantees a high quality level of heat pumps; there are strict quality standards EN14511 and EN 16147 that ensure high energy efficiency and operational safety of the heat pumps. In order to obtain the European seal of quality, the machines must be certified by an independent institute accredited according to EN ISO 17025.

TEMPLARI is EHPA partner and got the certifications of its KITA heat pumps at the renowned WPZ certification center in Buchs, Switzerland.

Templari has also obtained the EHPA Quality Label, valid in 12 countries.

The test results are shown below by the reproduction of the original certificate.

In 2015 Templari represented the world record for modulating heat pumps using the inverter: COP A2/W35 = 4,29 and SCOP = 4,93.

Explanation: COP means "coefficient of performance", and it is the energy efficiency of the machine; A2 / W35 indicates the air temperature of 2°C and water of 35°C; SCOP means "seasonal coefficient of performance" and it is a value calculated through detection of several pairs of temperatures A / W.

The KITA heat pumps for heating, air conditioning and water heating production have demonstrated on the test bench that, on the basis of high performance and in the presence of minimal running costs, can even compete with geothermal heat pumps.

The COP value of 190.7% brings Kita in energy efficiency class A ++, the highest and most efficient, which also brings, together with the great cost savings, greater environmental protection.

Kita, with a certificate of SCOP 4.93 is the heat pump that combines the best of the maximum living comfort with the lowest operating cost.



Von der Schweizerischen Akkreditierungsstelle akkreditierte Prüfstelle
 Laboratoire d'essai accrédité par le Service d'Accréditation Suisse
 Testing Laboratory accredited by the Swiss Accreditation Service

Akkreditierungs-Nr.
 No. d'accréditation **STS 0499**
 Accreditation No.

The Swiss Testing Service is one of the signatories to the EAL
 Multilateral Agreement for the recognition of test certificates

Prüfnummer
 No. d'essai **LW-458-19-71**
 Test No. **Version 2**

Prüfzertifikat - Luft/Wasser-Wärmepumpe Certificat d'essai - Pompes à chaleur air-eau Test certificate - Air to water heat pump

Auftraggeber
 Client
 Customer
**Templari s.r.l.
 Via Pitagora 20/A
 I - 35030 Rubano (PD)**

Datum der Prüfung
 Date du test
 Date of test
05.12.2019 - 19.12.2019

Gerät
 Type
 Type
**KITA M15 3Phase SPLIT
 SN: K002151**

Bauart
 Type de construction
 Type of construction
**Splitwärmepumpe
 machine de split
 split heat pump**

Kältemittel
 Réfrigérant
 Refrigerant
R410A GWP(100) = 2088

Kältemittelfüllmenge
 Quantité de réfrigérant
 Capacity of refrigerant
6.0 kg

Prüfung wurde gemäss den folgenden Normen durchgeführt
 Mesures exécutées conformément aux normes
 Measurements according to the following standards

**EN 14511:2018 and EN 14825:2018
 EHPA test regulation V2.3 / HP Keymark regulation V7
 EN 12102-1:2017 and EN ISO 9614-1:2010**

Dieses Prüfzertifikat darf ohne schriftliche Zustimmung der Prüfstelle nicht auszugsweise vervielfältigt werden.
 Ce certificat d'essai ne doit pas être reproduit, sinon en entier, sans l'autorisation écrite du laboratoire d'essai.
 This test certificate shall not be reproduced except in full, without written approval of the testing laboratory.

Messresultate und Messunsicherheiten sind auf der folgenden Seite aufgeführt und sind Teil des Zertifikates.
 Les résultats et les incertitudes de mesure sont donnés aux page suivante et font partie du certificat.
 This measurements, the uncertainties are given on the following page and are part of the certificate.

Stempel und Datum
 Timbre et date
 Stamp and date

08.06.2021

Messort
 Site de mesure
 Measuring site
**Wärmepumpen-Testzentrum WPZ
 Werdenbergstrasse 4
 CH - 9471 Buchs (Switzerland)**

Prüfer
 Contrôleur
 Supervisor
R. Rankwiler, Messtechniker

Prüfstellenleiter
 Chef du Laboratoire
 Head of the Laboratory

M. Eschmann, Dipl. Ing. FH



Leistungen / Performances / Performances

LW-458-19-71 / Version 2

	Prüfbedingung Condition d'essai Test condition	Heizleistung Puis. chauff. moy. Heating capacity kW	elek. Leistung Puis. elec. moy. Input power kW	COP	Cdh	CR	T _{VL} T _{OUT} °C
1	A7 / W30-35 (87% r.H.)	6.462	1.306	4.95	-	-	-
2	A2 / Wxx-35 (84% r.H.)	6.482	1.571	4.13	-	-	-
3	A-7 / Wxx-35 (73% r.F.)	6.544	2.074	3.16	-	-	-
A	A-7 / Wxx-34 (73% r.H.)	11.112	3.509	3.17	0.994	1.00	34.0
B	A2 / Wxx-30 (84% r.H.)	6.790	1.415	4.80	0.985	1.00	30.1
C	A7 / Wxx-27 (87% r.H.)	6.023	0.950	6.34	0.978	0.72	28.3
D	A12 / Wxx-24 (89% r.H.)	7.026	0.873	8.05	0.976	0.28	27.9
E	A-10 / Wxx-35 (68% r.H.)	10.324	3.564	2.90	0.994	1.00	35.0
F	A-7 / Wxx-34 (73% r.H.)	11.112	3.509	3.17	0.994	1.00	34.0

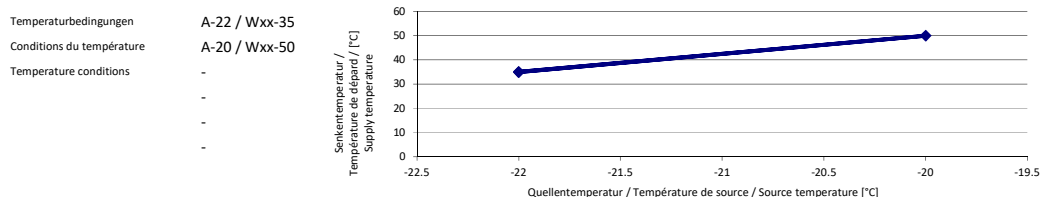
climate	average
Temperature application	low (35°C)
SCOP _{on}	4.90 SCOP 4.83
Labeling	A+++ / 190.1 %
Pdesignh [kW]	12.6
Q _{th} [kWh]	25951.8
Tbivalent [°C]	-7

	Prüfbedingung Condition d'essai Test condition	Heizleistung Puis. chauff. moy. Heating capacity kW	elek. Leistung Puis. elec. moy. Input power kW	COP	Cdh	CR	T _{VL} T _{OUT} °C
1	A7 / W47-55 (87% r.H.)	7.480	2.652	2.82	-	-	-
A	A-7 / Wxx-52 (73% r.H.)	10.863	4.637	2.34	0.996	1.00	52.0
B	A2 / Wxx-42 (84% r.H.)	6.679	1.943	3.44	0.989	0.99	42.1
C	A7 / Wxx-36 (87% r.H.)	4.650	0.999	4.66	0.979	0.91	36.4
D	A12 / Wxx-30 (89% r.H.)	6.620	1.075	6.16	0.981	0.29	35.1
E	A-10 / Wxx-55 (68% r.H.)	10.108	4.886	2.07	0.996	1.00	55.2
F	A-7 / Wxx-52 (73% r.H.)	10.863	4.637	2.34	0.996	1.00	52.0
1	A2 / Wxx-35 Tbiv warm	12.833	3.460	3.71	-	-	-
2	A-18 / Wxx-33.6 Tbiv cold	8.357	3.498	2.39	-	-	-
3	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-

climate	average
Temperature application	medium (55°C)
SCOP _{on}	3.59 SCOP 3.55
Labeling	A++ / 138.8 %
Pdesignh [kW]	12.3
Q _{th} [kWh]	25370.3
Tbivalent [°C]	-7

Thermostat aus	W	22.0	Stillstand	W	20.8	Ausgeschaltet	W	20.8	Carterheizung	W	-
Thermostat off			Standby			Off mode			Crankcase heater		

Einsatzgrenzen / Limites d'utilisation / Operating range



Sicherheitsprüfung nach	EN 14511-4 clause 4.4	bestanden / passé avec succès / passed
Test de sécurité aux	EN 14511-4 clause 4.5	bestanden / passé avec succès / passed
Safety test according to	EN 14511-4 clause 4.6	bestanden / passé avec succès / passed
	EN 14511-4 clause 4.7	bestanden / passé avec succès / passed

Schallleistungspegel bei / Niveau de puissance acoustique au / Sound power level at A7/W47-55

Innenmessung		Aussenmessung	
Mesure intérieure	dB(A)	Mesure extérieure	dB(A)
Indoor measurement	-	Outdoor measurement	52.9

Hinweis / Remarque / Notice

- changed the "equivalent active mode hours for heating H_{HE}" in the climate colder mode --> from 1400 hours to 2465 hours


Leistungen / Performances / Performances

LW-458-19-71 / Version 2

	Prüfbedingung Condition d'essai Test condition	Heizleistung Puis. chauff. moy. Heating capacity kW	elek. Leistung Puis. elec. moy. Input power kW	COP	Cdh	CR	T _{VL} T _{OUT} T _{OUT} °C
1	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-
G	A-15 / Wxx-32.5 (≈% r.H.)	7.700	2.935	2.62	0.993	0.99	32.6
A	A-7 / Wxx-30 (73% r.H.)	5.752	1.615	3.56	0.987	0.98	30.1
B	A2 / Wxx-27 (84% r.H.)	5.137	1.005	5.11	0.979	0.67	28.3
C	A7 / Wxx-25.4 (87% r.H.)	6.023	0.950	6.34	0.978	0.37	28.3
D	A12 / Wxx-24 (89% r.H.)	6.993	0.891	7.85	0.977	0.14	28.6
E	A-22 / Wxx-35 (≈% r.H.)	7.465	3.557	2.10	0.994	1.00	35.0
F	A-18 / Wxx-33.6 (≈% r.H.)	8.357	3.498	2.39	0.994	1.00	33.6
G	A-15 / Wxx-49 (≈% r.H.)	7.557	3.738	2.02	0.994	0.99	49.1
A	A-7 / Wxx-44 (73% r.H.)	5.651	2.213	2.55	0.991	0.98	44.1
B	A2 / Wxx-37 (84% r.H.)	4.576	1.220	3.75	0.983	0.74	38.3
C	A7 / Wxx-32 (87% r.H.)	5.601	1.147	4.89	0.982	0.39	35.7
D	A12 / Wxx-28 (89% r.H.)	6.668	1.052	6.34	0.980	0.14	34.2
E	A-22 / Wxx-55 (≈% r.H.)	7.421	4.800	1.55	0.996	1.00	55.0
F	A-18 / Wxx-52 (≈% r.H.)	8.218	4.514	1.82	0.995	1.00	52.2
1	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-

climate	colder
Temperature application	low (35°C)
SCOP _{on}	4.25 SCOP 4.21
Labeling	A++ / 165.3 %
Pdesignh [kW]	9.3
Q _{th} [kWh]	23023.5
Tbivalent [°C]	-18

climate	colder
Temperature application	medium (55°C)
SCOP _{on}	3.15 SCOP 3.13
Labeling	A+ / 122.2 %
Pdesignh [kW]	9.2
Q _{th} [kWh]	22640.6
Tbivalent [°C]	-18

Smart and reduced defrost

Patent certificate for industrial invention n. 0001418877

The Templari defrost control, unlike the most widespread process of adjustment which consists of a control through fixed and predetermined times and temperatures, has several advantages: the detection of the outside air temperature and the additional measuring points allow to modulate the process of defrosting in self-management and exclusively based on the actual presence of ice on the evaporator; in this way the defrosting cycle takes place only when the refrigeration cycle of the heat pump seems to have no meaning under an energy point of view.

This leads to the following advantages:

- Better values of COP and SCOP;
- Less wear of the compressor;
- More comfort thanks to a greater heating power;
- Longer life of the compressor;
- Absence of refrigerant liquid into the compressor;
- Few shutdowns;
- Compressor also turned on during defrost;
- Minor sound pressure through lower activation of the four-way valve.

UFFICIO VENETO BREVETTI - Via Sorio 116 - 35141 PADOVA - Tel. 049 871.54.20


Ministero dello Sviluppo Economico
Direzione generale per la lotta alla contraffazione
Ufficio Italiano Brevetti e Marchi
ATTESTATO DI BREVETTO PER INVENZIONE INDUSTRIALE
N. 0001418877
 Il presente brevetto viene concesso per l'invenzione della domanda sotto specificata:

num. domanda	anno	C.C.I.A.A.	data pres. domanda	classifica
000208	2013	PADOVA	25/07/2013	F24F11 00

TITOLARE/I **TEMPLARI SRL**
 RUBANO (PD)
MANDATARIO **ROCCHETTO ELENA**
INDIRIZZO **UFFICIO VENETO BREVETTI**
 VIA SORIO 116
 35141 PADOVA
TITOLO **POMPA DI CALORE INVERTIBILE CON FUNZIONE OTTIMIZZATA DI**
 SBRINAMENTO O "DEFROSTING" SECONDO LA VALUTAZIONE DI
 PARAMETRI CARATTERISTICI DI FUNZIONAMENTO
INVENTORE/I **MASIERO GIANLUCA**


21 GEN 2015

Roma, 26/10/2015

IL DIRIGENTE
Dr.ssa Loredana Guglielmetti

- 1 di 1 -

Certificate of defrost cycles frequency

© WPZ Suchs

Prüfbedingung
Test condition

A2 / W35

Prüfnummer
Test number

LW-246-15-18

Messgrößen Measured variables	Einheit Unit	Mittelwert Mean	Abweichung (deviation)	
			absolute	relative
1 Heizleistung Zyklus 1 (heating capacity cycle 1)	W	11067		
Abtaudauer (period of defrosting)	min	15.7		
Heizdauer (period of heating)	min	353.8		
Relative Abtaudauer (relative duration of defrosting period)	%	4.2		
2 Heizleistung Zyklus 2 (heating capacity cycle 2)	W	11150	83	0.75%
Abtaudauer (period of defrosting)	min	15.5		
Heizdauer (period of heating)	min	325.0		
Relative Abtaudauer (relative duration of defrosting period)	%	4.0		
3 Heizleistung Zyklus 3 (heating capacity cycle 3)	W	11172	22	0.20%
Abtaudauer (period of defrosting)	min	15.5		
Heizdauer (period of heating)	min	377.3		
Relative Abtaudauer (relative duration of defrosting period)	%	3.9		

Cycle	Heating Capacity (W)
Zyklus 1 (cycle 1)	11067
Zyklus 2 (cycle 2)	11150
Zyklus 3 (cycle 3)	11172

5 Prüfdauer (test duration)	hh:mm:ss	19:12:40		
Prüfbeginn (beginning of test)	hh:mm:ss	15:52:26	11.12.2015	2015-12-11
Prüfende (end of test)	hh:mm:ss	11:05:06	12.12.2015	2015-12-12

6 Bemerkung (remark)

7 Prüfer (supervisor)

T. Loop

Prüfnorm (test standard)

EN 14511-4 clause 4.6

EN 14511-4 clause 4.7

passed

passed

1/1

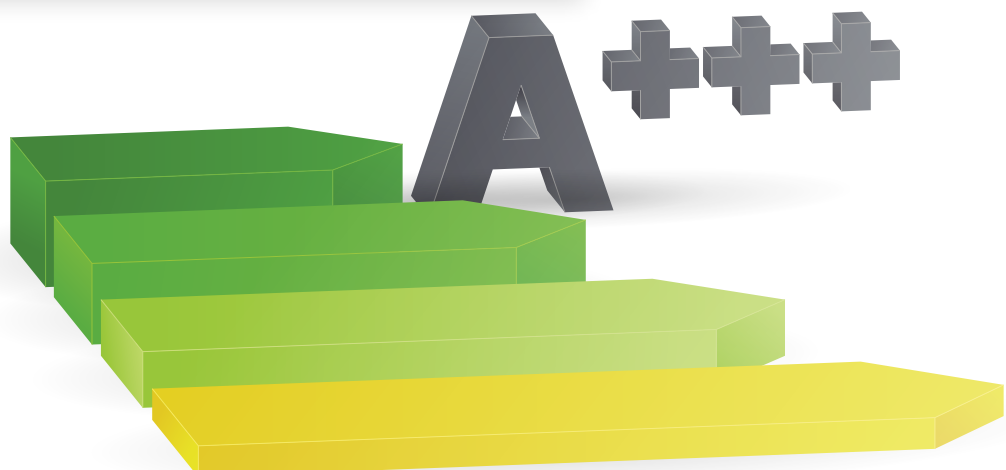
LW 246-15-18

16.12.2015

The WPZ test on defrost showed that the characteristics introduced in the KITA heat pumps have resulted in increased efficiency of the cycles.

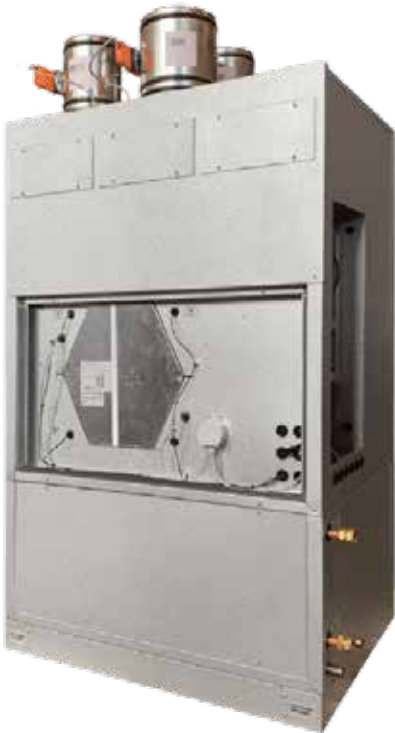
In particular, the test performed under the most favorable conditions for the formation of frost (air 2 °, relative humidity 87%) detects a time interval between defrosting cycles longer than 6 hours.

Therefore the energy lost due to the defrosting affects only 4% on the actual work, and then for 96% of the time the machine produces energy profits almost double the current standard. This makes it unnecessary to oversizing in the choice of the heat pump model suitable to satisfy the heat requirements of the building.

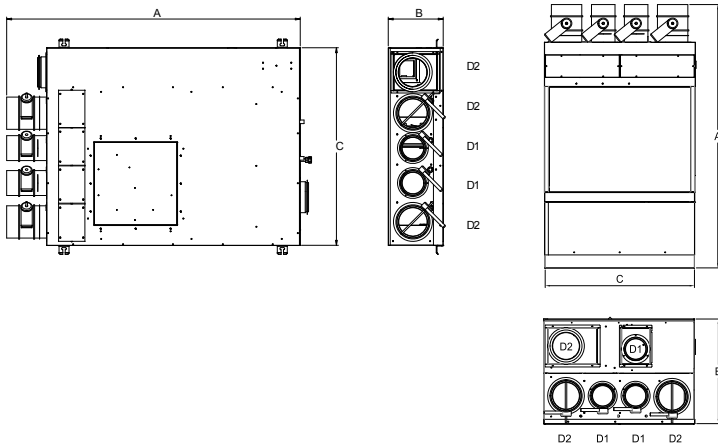


Ventilation system - VMC

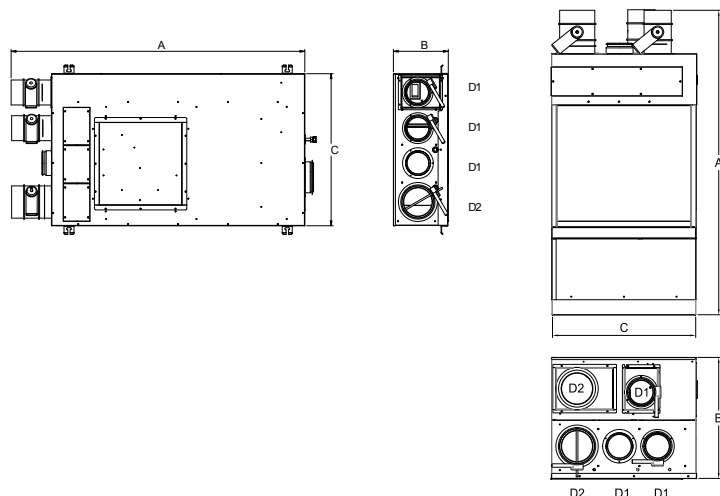
Dehumidifier with heat recovery for radiant air conditioning systems



Riluft



	Riluft-W 300H	Riluft-W 500H	Riluft-W 300V	Riluft-W 500V
A [mm]	1470	1800	1400	1600
B [mm]	275	400	550	630
C [mm]	760	950	660	890
D1 [mm]	125	160	125	160
D2 [mm]	160	200	160	200
Weight [kg]	80	120	100	140



	Riluft-A 300H	Riluft-A 500H	Riluft-A 300V	Riluft-A 500V
A [mm]	1470	1800	1400	1600
B [mm]	275	400	550	700
C [mm]	990	1190	800	1000
D1 [mm]	125	160	125	160
D2 [mm]	160	200	160	200
Weight [kg]	100	140	120	165

FANS			W 300/hv	W 500/hv	A 300/hv	A 500/hv
	Supply airflow rate	m ³ /h	150 - 300	250 - 500	150 - 300	250 - 500
	Fresh airflow rate	m ³ /h	0 - 160	0 - 300	0 - 160	0 - 300
	Exhaust airflow rate	m ³ /h	0 - 160	0 - 300	0 - 160	0 - 300
	Recirculated return airflow rate	m ³ /h	0 - 300	0 - 500	0 - 300	0 - 500
	Max supply E.S.P.	Pa	150	150	150	150
	Max exhaust E.S.P.	Pa	150	150	150	150
	Max current	A	1.5	3.0	1.5	3.0
	Max sound power level (LWA)	dB (A)	55	59	58	62
ELECTRICAL DATA						
	Power supply	V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50
	Input power	W	585	895	630	960
HEAT RECOVERY						
Winter mode ⁽¹⁾	Efficiency	%	90.5	91.6	90.5	91.6
	Saved Power	W	1238	2089	1238	2089
	Fresh air off	°C / UR%	17,4/15	17,7/14	17,4/15	17,7/14
Summer mode ⁽²⁾	Efficiency	%	84.4	86.2	84.4	86.2
	Saved Power	W	379	645	379	645
	Fresh air off	°C / UR%	27,4 / 77	27,2 / 78	27,4 / 77	27,2 / 78
DEHUMIDIFIER CIRCUIT						
	Summer room moisture removal ⁽³⁾	kg/24h	44	79	44	79
	Compressor nominal (max) current max input	W	2.7	3.8	2.7	3.8
	Compressor nominal (max) power input	W	480 (550)	640 (730)	480 (550)	640 (730)
	Cooling power supplied by water coil ⁽⁴⁾	W	1320	2320	1320	2320
	Cooling power supplied by water system	W	1930	3250		
	Coolant	-	R134A	R410A	R134A	R410A
	Water flow rate	m ³ /h	0.3	0.5	0.3	0.5
	Total water pressure drop	kPa	30	10	30	10
	Supply air	°C / %	26 / 50	26 / 49	26 / 50	26 / 49
WINTER HEATING CAPACITY ⁽⁴⁾						
	Heating power supplied by water coil ⁽⁵⁾	W	1620	2910	1620	2910
	Water flow rate	m ³ /h	0.30	0.50	0.30	0.50
	Supply air temperature	°C / UR%	34,6 / 13	36 / 12	34,6 / 13	36 / 12

⁽¹⁾ Nominal winter conditions: fresh air -7°C, RH 80%, room air 20°C, RH 50%, supply max airflow renewal 50%

⁽²⁾ Nominal summer conditions: fresh air 35°C, RH 50%, room air 26°C, RH 65%, supply max airflow renewal 50%

⁽³⁾ Referred to room air conditions (2), with max supply airflow and renewal airflow, recirculated airflow rate, 50% balanced

⁽⁴⁾ Water inlet temperature 15°C

⁽⁵⁾ Water inlet temperature 40°C



H O U S E
C L I M A T E
C O N T R O L

Energy saving and Comfort increasing



Advantages of HCC

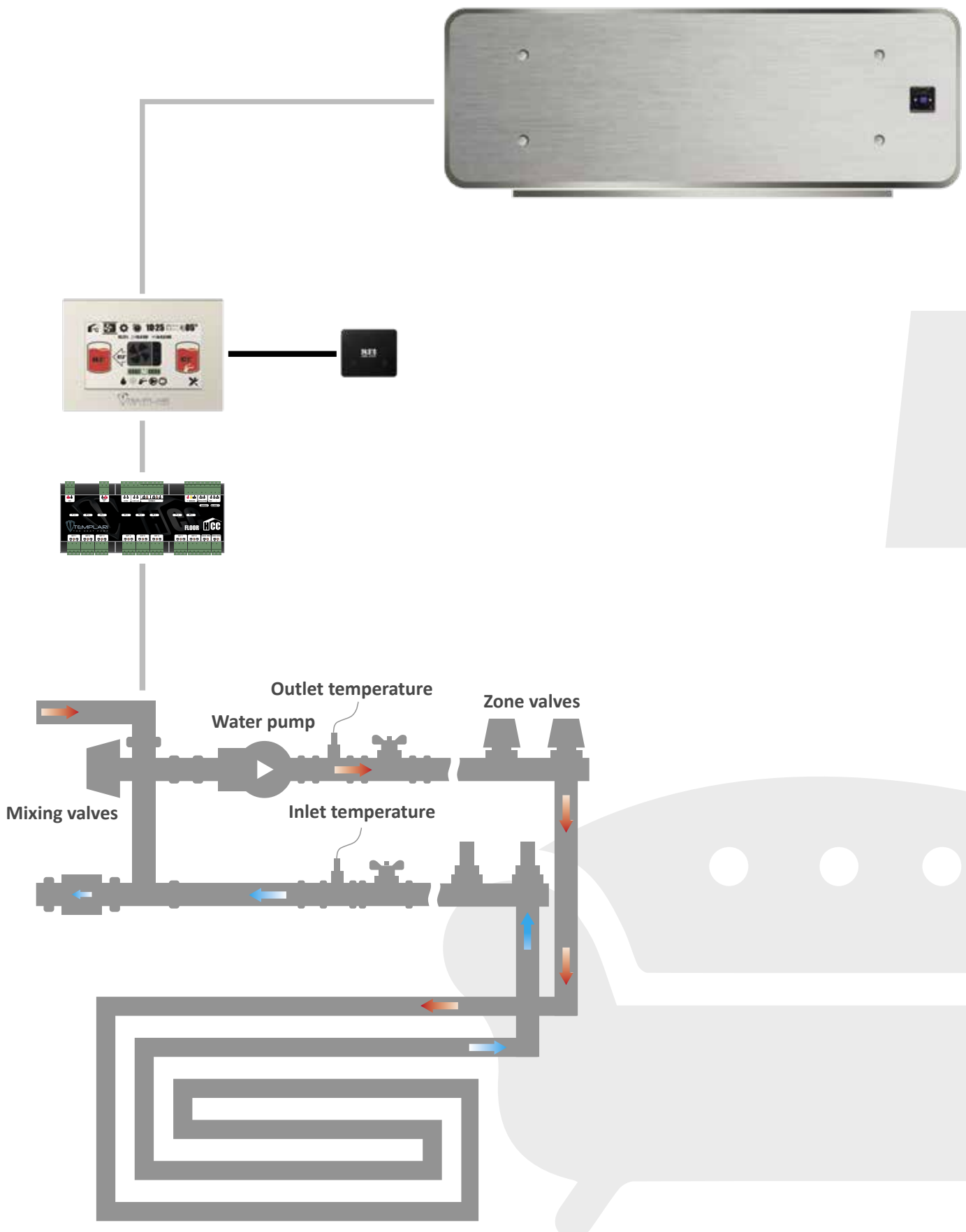
- Energy saving and increased comfort
- Weekly schedule program
- Up to four adjustable profiles
- Remote management

The HCC kit allows the management of the Kita heat pump via RTU-Modbus, integrating it with the building's thermal system.

From a single panel it will be possible to manage, thanks also to the additional accessories, heating, cooling, dehumidification and production of domestic hot water, as well as being able to control the temperature and humidity of domestic environments, control the revitalization pump, mixing valves and zone valves.

The kit can be customized according to the type of building system: up to 3 circuits with different outlet temperatures and up to 12 independent rooms.

The accessories that make up the kit are: Touch screen panel, I/O Floor board, Room temperature and humidity sensors. The Touch panel can be connected to the internet to be managed via remote devices such as smartphones, tablets or PCs.





Optimization of consumption of heat pump and living comfort

Easy to install

- The HCC system uses the RTU-Modbus communication standard. Robust, simple and universally established in the industrial and home automation world;
- Simple to wire and configure: the whole system uses a single power source, and through simple steps you can configure individual peripherals;
- Universality: Thermostats and Floorboards are able to drive loads of different nature, being able to interface with most of the mixing valves, heads, circulators and fancoil on the market.

Advantages of HCC

- Energy saving and increased comfort. A complete and functional system, capable of accommodating up to 12 ambient sensors and 3 mixing groups to share the thermal load according to environmental needs. Hcc allows real-time modulation of devices connected to the system, depending on the instant request.
- Time Programming Management to avoid energy waste based on daily living habits.

- Up to 4 adjustable profiles: echo day, night and manual.
- Remote management allows you to configure each aspect of HCC from a remote device.
- Every FLOOR card can manage until 8 independent sensors and their plantshead.

Components

- The system can consist of:
- Display Panel Touch HCC, which allows you to monitor and set all operating parameters of the system;
- KITA heat pump, which works to generate the ideal temperature;
- FLOOR boards, which handle mixers, heads and circulators for radiators;
- ROOM sensors, which measure the parameters of individual environments in real time.



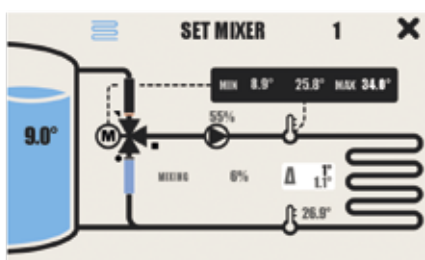
Heat pump supervision



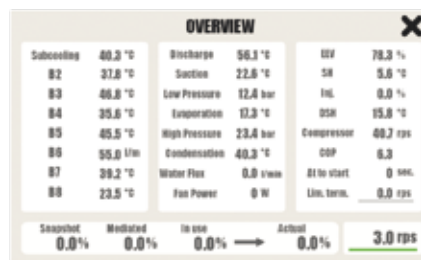
Heat pump settings



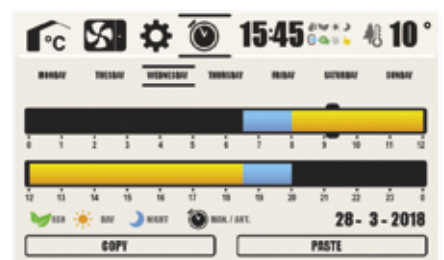
House control



Plant management



Base settings



Weekly schedule program

House Climate Control energy saving extra features

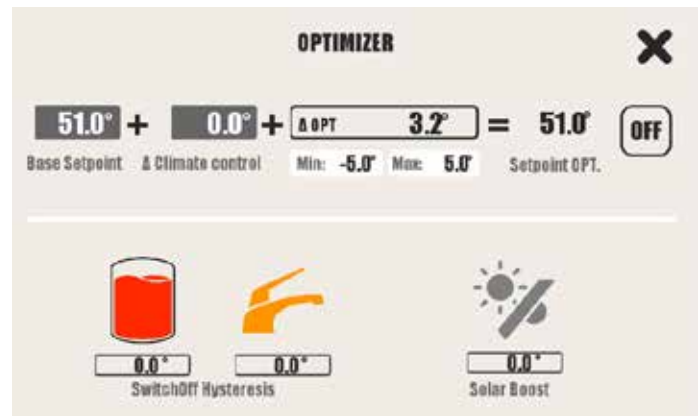


SET SQUARE METERS

LAB	TECNICO	
20 m ² 009.0% m2 100.0% 009.0%	100 m ² 045.4% m2 055.0% 024.9%	m ²
20 m ² 009.0% m2 100.0% 009.0%	m ²	80 m ² 036.3% m2 100.0% 036.3%
m ²	m ²	m ²
m ²	m ²	m ²

Δ Optimizer MAX **0.5** MIN **0.5** Δ **0.0**

Thanks to a simple and intuitive interface it's possible to input the squared meters of each area where the Room sensors are installed. The more an environment is extended, the more its demand will be important in calculating the final percentage request to be transmitted to the heat pump.



OPTIMIZER

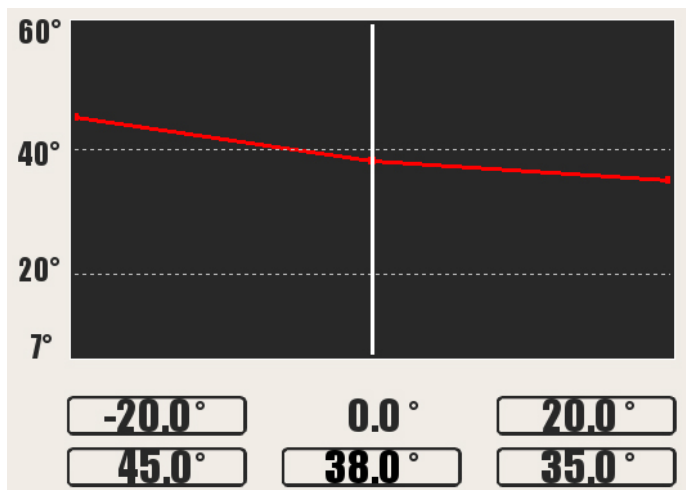
51.0° + 0.0° + Δ OPT 3.2° = 51.0° OFF

Base Setpoint : Δ Climate control Min: -5.0° Max: 5.0° Setpoint OPT.

0.0° 0.0° 0.0°

SwitchOff Hysteresis Solar Boost

The optimizer is a function that allows the heat pump setpoint to be varied based on the outside temperature, raising it when the outside temperature is higher, so it is more favorable to heat exchange, or lowering it when outside is colder, when the exchange heat is unfavorable.

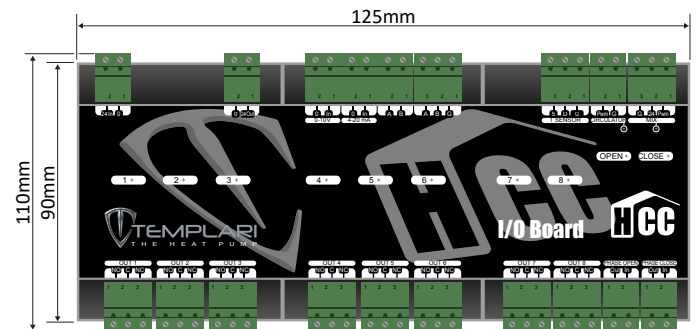


The climatic curve is a function to vary the setpoint in use based on the outside temperature, so that the heat pump works only when it is really needed. The climatic curve calculates a Delta that will be combined with the setpoint currently in use.



I/O Floor board

Electronic board that, manages the on/off of the devices that compose the building thermal system: modulating or on/off circulating pumps, mixing and zone head valves, dehumidifiers and hydronic fancoils.



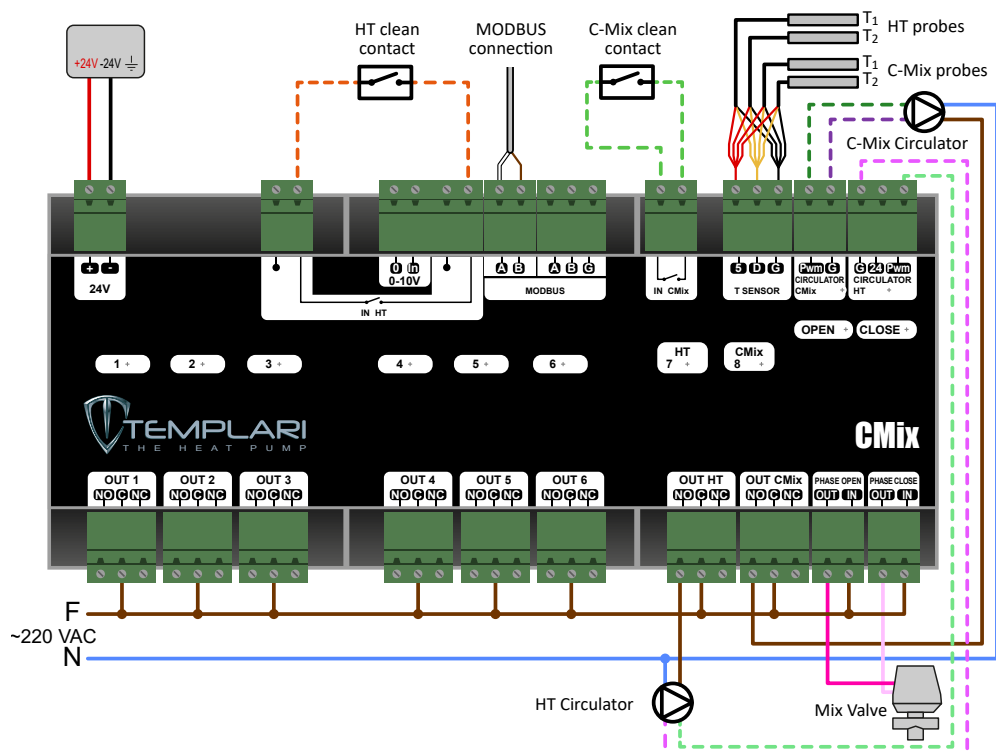
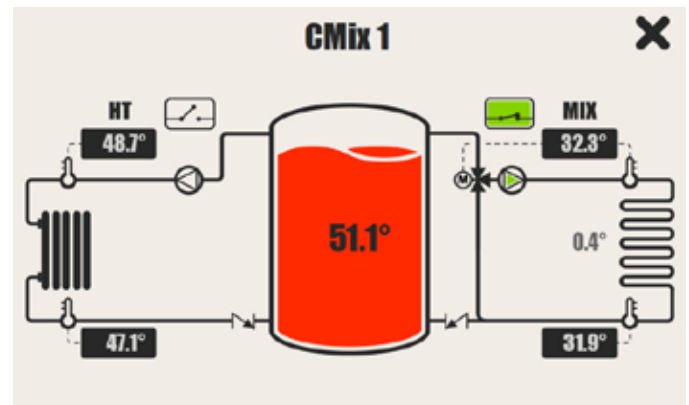
C-Mix card

The CMix card, derived from the FLOOR card, has a modified firmware that allows it to manage:

- 1 mixed circuit
- 1 direct drive circuit, unmixed (High Temperature, or HT)

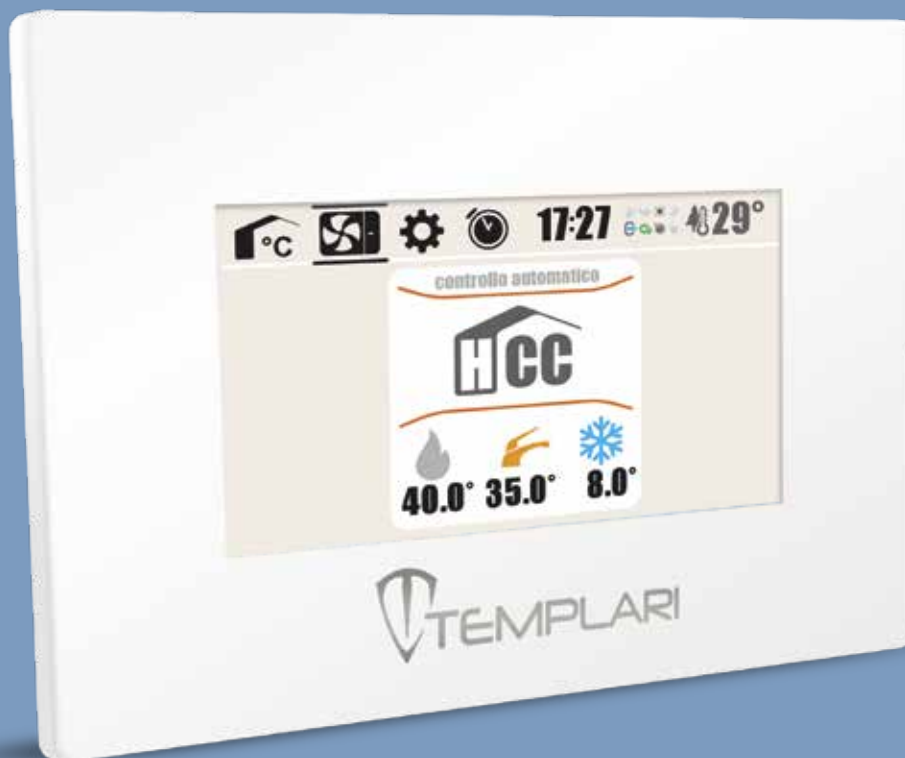
The commands to activate the two circuits are not transmitted via MODBUS but via 2 clean contacts.

In this way the CMix card allows the Kita heat pump to interface with traditional systems with a clean contact timer-thermostat.



Room sensors

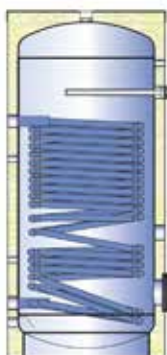
Temperature and humidity sensors communicating via MODBUS with the Touch Panel. In addition to displaying environmental information it can be used to change the setpoint of the individual environment. Are equipped with a relay for a possible direct drive of the zone valve connected with the ambient controlled by the sensor.



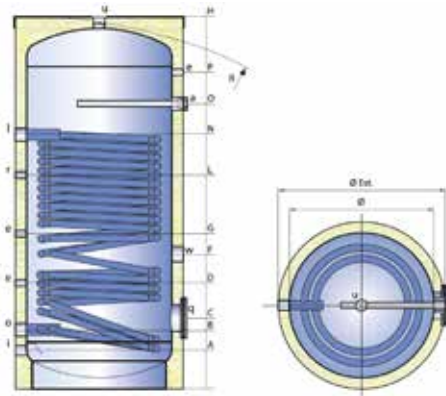
Hot water enamelled boilers



		BLR-PDC 300 R / BLR-PDC 500 R	BLR-PDC 600 R / BLR-PDC 1000 R
Sanitary	Material	S 235 Jr vetroporcellanato	
	Internal protective processing	Inorganic alimentary enamelling (DIN 4753.3)	
	External protective processing	Painting with anti rust and industrial glaze	
	Operation (P max. / T max.)	8 bar / 95°C	
	Cathodic protection	Magnesium anode	
Upper exchanger (heat pump)	Material	S 235 Jr enamelled	
	Internal protective processing	Rough	
	External protective processing	Inorganic alimentary enamelling (DIN 4753.3)	
	Typology	Fixed coil with a double parallel spiral	
	Operation (P max. / T max.)	12 bar / 95°C	
General characteristics	Capacity	300 - 1500 Lt	
	Warranty	5 years	
	Insulation	Rigid polyurethane + pvc: Fire resistance class B3 (DIN 4102)	
	Reference legislation	- PED 14/68/UE Art. 4 Par. 3 (Pressure equipment) - M.D. of 6th April 2004 N.174 (suitability of materials in contact with SHW) - Directive 2009/125/CE (Energy related Products)	
	ErP	B	C



BLR-PDC - Enamelled boiler for heat pumps Rigid Polyurethane insulation + pvc								
Article	Thickness (mm)	ErP	DHW Exchanger inox (Sq.M)					Amount of water in the first 10 min (Lt/10 ')
			Sq. m (Lt)	Lt/h (mca)	Tip (°C)	Production of Sanitary Hot Water		
						Tus=45°C		
						Power (kW)	Flow (Lt/h)	
BLR-PDC 300 R	50	B	3,5 (24,9)	2000 (0,2)	65	56,2	1380	568
					55	39,3	966	520
BLR-PDC 400 R	50	B	4,5 (32,0)	3000 (0,4)	65	75,2	1848	728
					55	52,4	1287	672
BLR-PDC 500 R	50	B	5,7 (40,5)	3000 (0,5)	65	88,9	2185	893
					55	62,4	1533	829
BLR-PDC 600 R	50	C	5,7 (40,5)	3000 (0,6)	65	88,9	2185	1018
					55	62,4	1533	957
BLR-PDC 800 R	100	C	6 (42,6)	3000 (0,7)	65	92,3	2267	1282
					55	64,8	1593	1224
BLR-PDC 1000 R	100	C	6 (42,6)	3000 (0,7)	65	92,3	2267	1535
					55	64,8	1593	1482
BLR-PDC 1500 R	100	C	7,5 (53,3)	4000 (1,2)	65	117,0	2876	2223
					55	82,1	2017	2167



Article	Dimensioni				Weight (Kg)
	Ø	H	Ø Ext ** Rigid flexible	R*	
BLR-PDC 300 R	500	1610	600	1730	110
BLR-PDC 400 R	650	1410	750	1610	133
BLR-PDC 500 R	650	1660	750	1835	159
BLR-PDC 600 R	650	1910	750	2065	167
BLR-PDC 800 R	790	1750	990/1050	1745	215
BLR-PDC 1000 R	790	2110	990/1050	2095	251
BLR-PDC 1500 R	1000	2115	1200/1260	2145	383

* For version from 300 to 600 Lt the diagonal of rollover it refers to the insulated tank.

** All insulations are removable except model from 300 to 600 Lt.

Article	Dimensions (mm)										Connections (gas)						
	A	B	C	D	F	G	L	N	O	P	a	l o	e	r	i u	w	q
BLR-PDC 300 R	120	210	300	320	495	780	925	1110	1160	1365	1"¼	1"¼	½"	½"	1"	1"½	120/180
BLR-PDC 400 R	145	240	310	340	525	680	870	1005	1030	1140	1"¼	1"¼	½"	½"	1"	1"½	120/180
BLR-PDC 500 R	145	240	310	350	570	810	1020	1250	1280	1390	1"¼	1"¼	½"	½"	1"	1"½	120/180
BLR-PDC 600 R	145	240	310	390	605	930	1070	1250	1510	1640	1"¼	1"¼	½"	½"	1"	1"½	120/180
BLR-PDC 800 R	150	275	345	405	620	840	1000	1170	1310	1425	1"¼	1"¼	½"	1"	1"½	1"½	120/180
BLR-PDC 1000 R	150	275	345	475	750	1000	1120	1275	1615	1770	1"¼	1"¼	½"	1"	1"½	1"½	120/180
BLR-PDC 1500 R	230	345	475	535	805	1030	1165	1325	1600	1740	1"¼	1"¼	½"	1"	2"	1"½	220/290

Bi Puffer

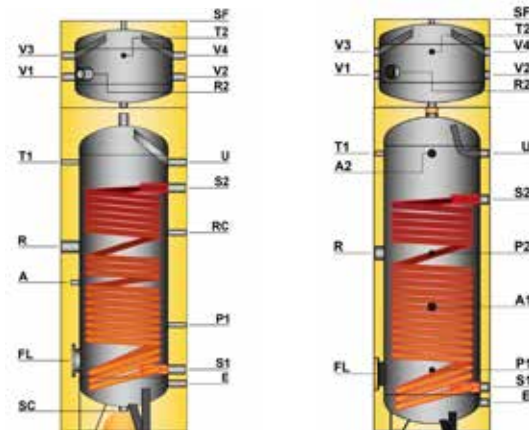


BI PUFFER		BI-PFF200A BI-PFF300A	BI-PFF200AX BI-PFF300AX	BI-PFF300C BI-PFF500C	BI-PFF300CX BI-PFF500CX
DHW tank general characteristics	Tank material	Carbon steel	Stainless steel AISI 316L	Carbon steel	Stainless steel AISI 316L
	Exchanger material	External vitrified carbon steel	Stainless steel AISI 316L	External vitrified carbon steel	Stainless steel AISI 316L
	Internal protective processing	Vitrification (DIN 4753.3)	Pickling and passivation	Vitrification (DIN 4753.3)	Pickling and passivation
	External protective processing	Anti-rust coating	Pickling and passivation	Anti-rust coating	Pickling and passivation
	Capacity	200/300 litres		300/500 litres	200/500 litres
	Version	Vertical			
	Connections	Threated			
	Insulation	Injected rigid polyurethane 105 mm		Injected rigid polyurethane 55mm	
	Finishing	Light grey RAL 7035 PVC			
	Anode	Electronic	-	Magnesium	-
	Standard accessories	Thermometer			
	ErP	A			C

UPPER TANK		for BI-PFF A and BI-PFF AX	for BI-PFF C and BI-PFF CX
Technical water tank general characteristics	Tank material	Carbon steel	
	External protective processing	Anti-rust coating	
	Capacity	90 litres	90 - 140 litres
	Version	Vertical	
	Connections	Threated	
	Insulation	Injected rigid polyurethane 80 mm	Injected rigid polyurethane 30 mm
	Finishing	Light grey RAL 7035 PVC	
	Standard accessories	Thermometer	
	ErP	A	C

Dimensions	Capacity	200+90 ErP A	300+90 ErP A	300+90 ErP C	500+140 ErP C
Bare tank diameter - DHW tank	mm	500	500	500	650
Bare tank diameter - Upper tank	mm	550	550	550	700
Insulated tank diameter	mm	710	710	610	760
Insulated tank height	mm	1949	2309	2150	2150
Insulated tank overturn height	mm	2080	2420	2240	2290

Bi Puffer



Connections DHW tank		Capacity	200+90 ErP A	300+90 ErP A	300+90 ErP C	300+90 ErP C (Inox)	500+140 ErP C	500+140 ErP C (Inox)
E	Cold water supply	mm Ø	269 1"	269 1"	150 1"	150 1"	170 1"	195 1"
U	Domestic Hot Water return	mm Ø	1154 1"	1819 1"	1450 1"	1395 1"	1460 1"	1440 1"
RC	Recirculation	mm Ø	969 3/4"	1119 3/4"	--	--	--	--
A	Electronic anode	mm Ø	629 1/2"	839 1/2"	--	--	--	--
A1	Spare fitting	mm Ø	--	--	650 1"	595 1"	575 1"	640 1"
A2	Magnesium anode	mm Ø	--	--	1450 1"	1395 1"	1375 1"	1440 1"
P1	Sensor	mm Ø	629 1/2"	599 1/2"	320 1/2"	325 1/2"	350 1/2"	375 1/2"
P2	Sensor	mm Ø	--	--	930 1/2"	920 1/2"	885 1/2"	920 1/2"
T1	Temperature gauge	mm Ø	1154 1/2"	1514 1/2"	1450 1/2"	1395 1/2"	1375 1/2"	1440 1/2"
FL	Inspection port	mm Ø	399 180x120	399 180x120	--	--	--	--
R	Electric heater	mm Ø	794 2"	1039 2"	930 2"	920 2"	885 2"	920 2"
S1	Lower coil return	mm Ø	349 1"1/4	349 1"1/4	230 1"1/4	235 1"1/4	260 1"	295 1"1/4
S2	Lower coil supply	mm Ø	1084 1"1/4	1371 1"1/4	1210 1"1/4	1215 1"1/4	1250 1"	1285 1"1/4
SC	Drain	mm Ø	114 1"1/4	114 1"1/4	--	--	--	--
FL	Inspection port / Magnesium anode	mm Ø	--	--	300 120x180	305 120x180	315 120x180	340 120x180
Connections Upper tank								
V1-V2	Fittings	mm Ø	1634 1"	1994 1"	1860 1"	1835 1"	1845 1"	1910 1"
V3-V4	Fittings	mm Ø	1754 1"	2114 1"	1980 1"	1955 1"	1965 1"	2030 1"
T2	Temperature gauge	mm Ø	1754 1/2"	2114 1/2"	1980 1/2"	1955 1"	1965 1/2"	2030 1/2"
R2	Electric heater	mm Ø	1649 2"	2009 2"	1875 2"	1850 2"	1860 2"	1925 2"
SF	Air vent	mm Ø	1949 1/2"	2309 1/2"	2150 1/2"	2110 1/2"	2150 1/2"	2230 1/2"
Performance								
DHW volume		litres	193		256		447	
Heating water volume		litres	88		88		145	
Coil surface area		m²	3,0		4,2		6,0	
Coil max. output (Primary 50/45°C - Secondary 10/45°C)		kW	21		29		42	
DHW flow at 45°C		l/h	516		720		1029	
Weight								
Empty weight		kg	174	190	180		240	

Note: Connection dimensions in mm to be read as height above the ground- Connection threads are female GAS type, unless otherwise stated

Combined thermal accumulator



Smart

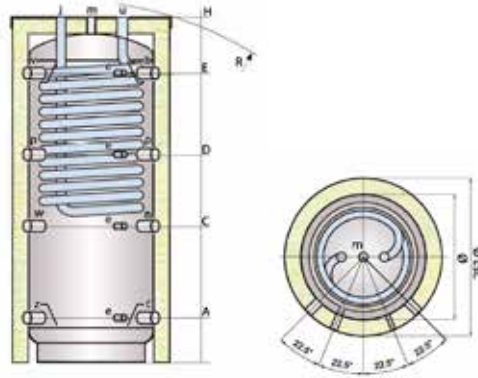


Maxi

		SMWR 300 - SMWR 400 Smart	MAWA 600 - MAWA 2000 Maxi
Sanitary	Material	Inox AISI 316L (1.4404)	
	Internal protective processing	Pickling and passivation	
	Exernal protective processing	Pickling and passivation	
	Typology	Corrugated fixed tube with high exchange surface	
	Operation (P max. / T max.)	6 bar / 95°C	
Puffer	Material	S 235 Jr	
	Internal protective processing	Rough	
	Exernal protective processing	Anti-rust coating and industrial glaze	
	Operation (P max. / T max.)	3 bar / 95°C	
Exchanger	Material	S 235 Jr	
	Internal protective processing	Rough	
	External protective processing	Rough	
	Tipology	Spiral fixed coil	
	Operation (P max. / T max.)	12 bar / 95°C	
General characteristics	Capacity	300 - 400 Lt	600 - 2000 Lt
	Warranty	5 years	
	Insulation	Rigid polyurethane + pvc: Fire resistance class B3 (DIN 4102)	• Rigid polyurethane + pvc: Fire resistance class B2 (DIN 4102) • Rigid insulation: - for 600/800/1000/1500/2000 Lt capacities in polyurethane: fire resistance class B3 (DIN 4102); - for 1250 Lt capacity in polyester (15mm)+polystyrene (85 mm) + PVC: fire resistance class B2 (DIN 4102).
	Reference legislation	• PED 14/68/UE Art. 4 Par. 3 (Pressure equipment) • M.D. of 6th April 2004 N.174 (suitability of materials in contact with SHW) • Directive 2009/125/CE (Energy related Products)	
	ErP	C	

Smart

- b heat source flow
- c heat source return
- e thermometer - probe
- i sanitary cold water inlet
- m vent puffer
- n heating system return
- p service connection
- u Sanitary Hot Water output
- v heating system flow
- w preparation for electrical resistance,
- z heating flow at low temperature



Article	Ø	Dimensions	Thickness (mm)	Lower heat exchanger (Mq)	Inox heat exchanger (Mq)	Power* (kW)	DHW flow rate* (lt/h)	Weight (Kg)
SMWR 300	500	1595 600 1720	50	1,20	3,6	32,4	796	70
SMWR 400	600	1610 700 1770	50	1,60	3,6	32,4	796	104

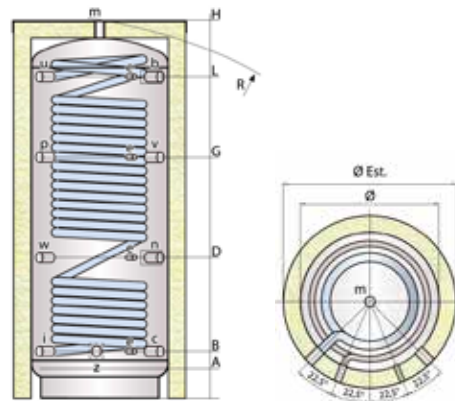
* Puffer tank average temperature: 65°C- DHW inlet temperature: 10°C- DHW outlet temperature: 45°C.

Article	Spiroid FE lower heat exchanger				
	Sq. M (Lt)	Power (kW)			
		ΔT*=10°C	ΔT*=15°C	ΔT*=20°C	ΔT*=25°C
SMWR 300	1,2 (8,5)	7,7	11,6	15,4	19,3
SMWR 400	1,6 (11,4)	10,2	15,3	20,4	25,5

Article	Dimensions (mm)				Connections (gas)		
	A	C	D	E	e m	i u	b c n p v w z
SMWR 300	215	580	1080	1350	1/2"	1" 1/4	1" 1/2
SMWR 400	230	610	1090	1365	1/2"	1" 1/4	1" 1/2

Maxi

- b biomass boiler flow
- c biomass boiler return
- e thermometer - probe
- i sanitary cold water inlet
- m vent puffer
- n heating system return
- p service connection
- u Sanitary Hot Water output
- v heating system flow
- w preparation for electrical resistance
- z heating flow at low temperature



Article	Dimensions				Thickness (mm)	Scambiatore (Mq)			DHW heat exchanger			Weight (Kg)
	Ø	H	Ø Ext**	R		lower	Upper	DHW exch. inox	Sq. M (Lt)	Power* (kW)	DHW flow rate* (lt/h)	
MAWA 600	650	1895	750	2050*	50	2,50	1,80	5,50	5,5 (27,5)	46,8	1149	175
MAWA 800	790	1750	990/1050	1745	100	2,50	2,00	7,00	7,0 (35,0)	67,2	1651	212
MAWA 1000	790	2110	990/1050	2095	100	3,50	2,50	7,50	7,5 (37,5)	74,3	1824	253
MAWA 1250	950	2075	1150/1210	2090	100	3,80	2,60	8,50	8,5 (42,5)	86,7	2130	289
MAWA 1500	1000	2115	1200/1260	2145	100	4,00	2,80	10,00	10 (50,0)	108,0	2654	316
MAWA 2000	1100	2380	1300/1360	2385	100	4,80	3,80	12,00	12 (60,0)	134,4	3302	371

* For the 600 Lt version the diagonal of rollover it refers to the insulated tank.

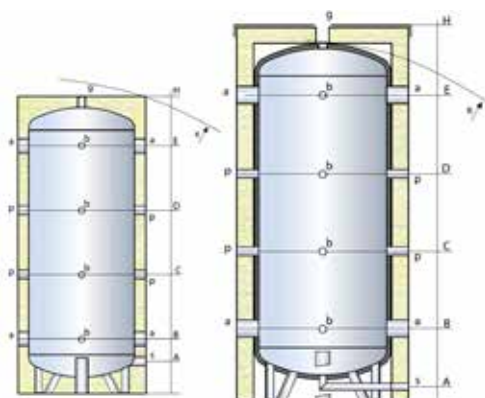
** All insulations are removable except model 600 Lt.

Hot Cold Storage



		ACF 200/500	ACF 800/1000	ACF 1500/2000
Tank	Material	S 235 Jr		
	Internal protective processing	Rough		
	External protective processing	Painting with anti rust and industrial enamel		
	Operation (P max. / T max.)	6 bar / da -10°C a +95°C		
General characteristics	Capacity	200 - 500 Lt	800 - 1000 Lt	1500 - 2000 Lt
	Warranty	5 years		
	Insulation	- Up to 1.000 Lt: rigid polyurethane 50 mm+ PVC: fire resistance class B3 (DIN 4102) - From 1500 to 2000 Lt: Pexl + flexible polyester + PVC: fire resistance class B2 (DIN 4102)		
	Reference legislation	- Directive 2014/68/UE (PED) Art. 4 Par. 3 (pressure equipment) - Directive 2009/125/CE (Energy related Products)		
	ErP	B	C	

- a in / out use
 b control instruments
 g safety valve
 p connection service
 s discharge



Article	Dimensions				Weight (Kg)
	Ø	H	Ø Est	R*	
ACF 200R	450	1330	550	1450	33
ACF 300R	500	1610	600	1730	42
ACF 500R	650	1665	750	1840	68
ACF 800R	790	1700	890	1930	86
ACF 1000R	790	2060	890	2255	102
ACF 1500F	1000	2145	1280	2235	147
ACF 2000F	1100	2395	1380	2465	212

* For capacities from 100 to 1000 Lt the diagonal of rollover is referred to the insulated tank Insulation not removable except for capacities 1500-2000 Lt (only 100 mm removable insulation).

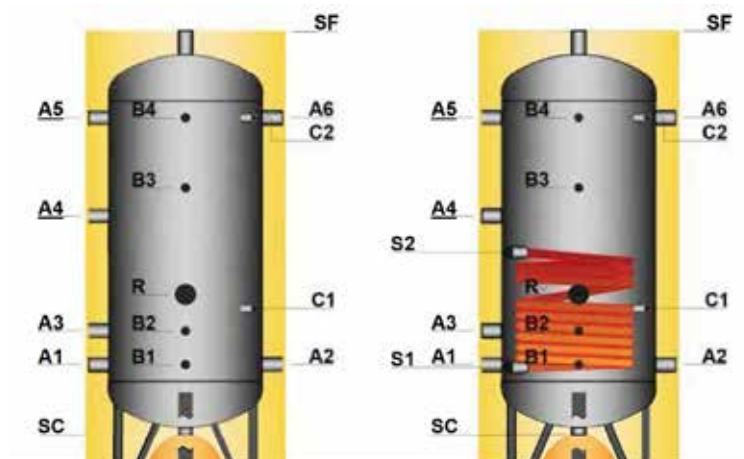
Article	Dimensions					Connections (gas)				
	A	B	C	D	E	a	b	g	p	s
ACF 200R	135	220	510	805	1095	1"1/2	1/2"	1"1/4	1"1/2	1"
ACF 300R	125	275	625	975	1320	2"	1/2"	1"1/4	1"1/2	1"
ACF 500R	155	305	655	1005	1350	3"	1/2"	1"1/4	1"1/2	1"
ACF 800R	170	320	670	1020	1365	3"	1/2"	1"1/2	1"1/2	1"
ACF 1000R	170	320	785	1250	1710	3"	1/2"	1"1/2	1"1/2	1"
ACF 1500F	110	485	915	1350	1780	3"	1/2"	1"1/2	1"1/2	1"
ACF 2000F	100	490	1020	1550	1985	3"	1/2"	1"1/2	1"1/2	1"

Erp class A hot cold storage



		ACF 200 / 500 A	ACF 200 / 500 AX	ACF 200/500 AS
General characteristics	Tank material	Carbon steel	Stainless steel AISI 316L	Carbon steel
	Exchanger material	-	-	Carbon steel
	Internal protective processing	Zinc galvanizing	-	-
	External protective processing	Zinc galvanizing	Pickling	Anti-rust coating
	Capacity	200/500 litres		
	Version	Vertical		
	Connections	Threated		
	Insulation 200-300 litres	Injected rigid polyurethane 80 mm		
	Insulation 500 litres	Injected rigid polyurethane 105 mm		
	Finishing	• Light grey RAL 7035 PVC • Aluminium		
	ErP	A		

Erp class A hot cold storage



Dimensions	Capacity	200	300	500
Uninsulated vessel diameter	mm	450	500	650
Insulated vessel diameter	mm	610	710	860
Insulated vessel Height	mm	1415	1550	1776
Insulated vessel overturn height	mm	1541	1704	1973

Connections	Capacity	200	300	500
A1-A2 Pipe coupling	mm Ø	240 11"	360 11"¼	336 11"¼
A3 Pipe coupling	mm Ø	360 11"	480 1"¼	586 1"¼
A4 Pipe coupling	mm Ø	770 11"	890 1"¼	1036 1"¼
A5-A6 Pipe coupling	mm Ø	1120 1"	1240 1"¼	1466 1"¼
B1 Sensor	mm Ø	240 ½"	360 ½"	336 ½"
B2 Sensor	mm Ø	360 ½"	480 ½"	586 ½"
B3 Sensor	mm Ø	880 ½"	990 ½"	1076 ½"
B4 Sensor	mm Ø	1120 ½"	1240 ½"	1466 ½"
C1 Spare fitting	mm Ø	440 ¾"	560 ¾"	786 ¾"
C2 Spare fitting	mm Ø	1120 ¾"	1240 ¾"	1466 ¾"
R Electric heater	mm Ø	615 2"	630 2"	736 2"
S1 Lower coil outlet	mm Ø	240 1"	350 1"	326 1"
S2 Lower coil inlet	mm Ø	860 1"	760 1"	856 1"
SF Air discharge	mm Ø	1380 1"¼	1550 1"¼	1776 1"¼
SC Drain	mm Ø	-	110 1"¼	101 1"¼

Performance	Capacity	200	300	500
Lower coil heat transfer area	m²	1,3	1,5	2,3
Lower coil power (Primary 80/60°C - Water storage temperature 60°C)	kW	12	14	21
Upper coil heat transfer area	m²	-	1,5	2,3
Upper coil power (Primary 80/60°C - Water storage temperature 60°C)	kW	-	14	21

Empty weights	Capacity	200	300	500
ACF 200 / 500 A - ACF 200 / 500 AX	kg	45	62	90
ACF 200/500 AS	kg	62	81	120

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A series of horizontal dashed lines spanning the width of the page, providing a template for handwriting practice.

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