

## HEAT PUMPS

# i-FX-W (1+i) /H 1402 - 4652

Water to water high efficiency heat pump, reversible on hydraulic side  
532-1784 kW



### Version

CA High energy efficiency units

### Configurations

H Function with heat pump, reversible on hydraulic side

### Features

#### HIGH EFFICIENCY

Unit with high efficiency and reduced energy consumption, thanks to the inverter technology, contributing to lower operating costs and therefore achieving a quick return on investment.

#### FLEXIBILITY

Unit featured by remarkable application flexibility thanks to the inverter technology which allows to obtain, taking in consideration the cooling capacity needed, the best result about costs/performance and maximum efficiency.

#### TOTAL VERSATILITY

Unit designed gathering in a single circuit a compressor with step regulation and one working with inverter, in order to guarantee the best answer to plant necessities both at full and at part loads.

#### MAXIMUM COMPACTNESS

Maximum compactness to achieve a very high flexibility in the design process and installation operations, offering a premium solution in case of reduced clearances or when retrofitting existing installations.

### Accessory

- Touch Screen visual display
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Several devices for condensation's control

Single circuit indoor unit for the production of chilled/hot water, with fixed speed and variable speed (Inverter Driven) screw compressors optimized for R134a, electronic expansion valve, high performing shell and tube condenser and shell and tube flooded evaporator, both designed and produced by Climaveneta. These technological solutions enhance the EER values over 5,7 at Eurovent standard conditions. The resulting unit is extremely compact, thanks to the strategic layout, designed without base, frame and panels.

### Controls

#### W3000TE

The brand new W3000TE controller offers advanced functions and algorithms. The large format keyboard and the wide LCD display favour an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. The led icons immediately show the operating status of the circuits, as well as of the fans and of the water pumps (if present). An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements.

The diagnostics comprises a complete alarm management system, with "black box" (via PC) and alarm log functions (via display or also PC) for a better analysis of the unit performance.

For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices.

Consumption metering and performance measurement are possible as well. Supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet-over-IP, Echelon LonWorks, Bacnet MS/TP protocols.

Compatibility with the remote keyboard managing up to 8 units.

The presence of the programmable timer allows the creation of an operating profile containing up to 4 typical days and 10 time bands.

The control is characterized by the continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Optionally (VPF package), capacity modulation can be integrated with hydraulic flow modulation, thanks to inverter-driven pumps and to specific resources for the hydraulic circuit.





i-FX-W (1+i) /H			1402	1752	1902	2152	2602
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
<b>PERFORMANCE</b>							
<b>COOLING ONLY (GROSS VALUE)</b>							
Cooling capacity	(1)	kW	532	665	721	819	999
Total power input	(1)	kW	97,9	120	130	148	182
EER	(1)	kW/kW	5,44	5,56	5,55	5,52	5,50
ESEER	(1)	kW/kW	8,52	8,57	8,47	8,62	8,63
<b>COOLING ONLY (EN14511 VALUE)</b>							
Cooling capacity	(1)(2)	kW	531	663	719	817	996
EER	(1)(2)	kW/kW	5,22	5,34	5,32	5,30	5,28
ESEER	(1)(2)	kW/kW	7,46	7,51	7,40	7,53	7,53
Cooling energy class			-	-	-	-	-
<b>HEATING ONLY (GROSS VALUE)</b>							
Total heating capacity	(3)	kW	588	725	795	903	1089
Total power input	(3)	kW	124	151	165	188	227
COP		kW/kW	4,75	4,81	4,83	4,81	4,80
<b>HEATING ONLY (EN14511 VALUE)</b>							
Total heating capacity	(3)(2)	kW	590	727	798	906	1092
COP	(3)(2)	kW/kW	4,57	4,65	4,65	4,64	4,63
Cooling energy class			-	-	-	-	-
<b>ENERGY EFFICIENCY</b>							
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)</b>							
<b>Ambient refrigeration</b>							
Prated,c	(10)	kW	487	608	659	750	914
SEER	(10)(11)		7,30	7,25	7,17	7,31	7,44
Performance ηs	(10)(12)	%	284	282	279	284	289
<b>SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)</b>							
PDesign	(4)	kW	-	-	-	-	-
SCOP	(4)(13)		-	-	-	-	-
Performance ηs	(4)(14)	%	-	-	-	-	-
Seasonal efficiency class	(4)		-	-	-	-	-
<b>EXCHANGERS</b>							
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>							
Water flow	(1)	l/s	25,45	31,80	34,48	39,18	47,76
Pressure drop	(1)	kPa	36,3	41,3	40,2	39,4	44,0
<b>HEAT EXCHANGER USER SIDE IN HEATING</b>							
Water flow	(3)	l/s	34,17	38,89	44,44	50,00	59,72
Pressure drop	(3)	kPa	65,4	61,7	66,8	64,2	68,9
<b>HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION</b>							
Water flow	(1)	l/s	30,03	37,40	40,56	46,13	56,27
Pressure drop	(1)	kPa	44,8	42,4	49,9	49,6	46,4
<b>HEAT EXCHANGER SOURCE SIDE IN HEATING</b>							
Water flow	(3)	l/s	28,37	35,00	38,37	43,61	52,56
Pressure drop	(3)	kPa	40,0	37,2	44,7	44,4	40,5
<b>REFRIGERANT CIRCUIT</b>							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	118	160	164	177	258
<b>NOISE LEVEL</b>							
Sound Pressure	(5)	dB(A)	82	82	81	83	83
Sound power level in cooling	(6)(7)	dB(A)	100	100	100	102	102
Sound power level in heating	(6)(8)	dB(A)	100	100	100	102	102
<b>SIZE AND WEIGHT</b>							
A	(9)	mm	2950	3310	3310	3310	4475
B	(9)	mm	1320	1425	1445	1480	1410
H	(9)	mm	1805	1935	2000	2150	2250
Operating weight	(9)	kg	3350	4280	4410	4830	6630

Notes:

- 1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
  - 2 Values in compliance with EN14511-3:2013.
  - 3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/6,7°C
  - 4 Seasonal space heating energy efficiency class LOW TEMPERATURE in AVERAGE climate conditions [REGULATION (EU) N. 813/2013]
  - 5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
  - 6 Sound power on the basis of measurements made in compliance with ISO 9614.
  - 7 Sound power level in cooling, indoors.
  - 8 Sound power level in heating, indoors.
  - 9 Unit in standard configuration/execution, without optional accessories.
  - 10 Seasonal energy efficiency of the cooling environment [REGULATION (EU) N. 2016/2281]
  - 11 Seasonal space heating energy index
  - 12 Seasonal energy efficiency of the space cooling
  - 13 Seasonal performance coefficient
  - 14 Seasonal space heating energy efficiency
- The units highlighted in this publication contain HFC R134a [GWP<sub>100</sub> 1430] fluorinated greenhouse gases.

i-FX-W (1+i) /H			3002	3402	3852	4252	4652
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
<b>PERFORMANCE</b>							
<b>COOLING ONLY (GROSS VALUE)</b>							
Cooling capacity	(1)	kW	1143	1296	1472	1607	1784
Total power input	(1)	kW	207	233	265	292	330
EER	(1)	kW/kW	5,51	5,56	5,57	5,51	5,41
ESEER	(1)	kW/kW	8,55	8,56	8,60	8,44	8,39
<b>COOLING ONLY (EN14511 VALUE)</b>							
Cooling capacity	(1)(2)	kW	1139	1293	1468	1602	1778
EER	(1)(2)	kW/kW	5,32	5,36	5,39	5,31	5,22
ESEER	(1)(2)	kW/kW	7,59	7,65	7,74	7,49	7,44
Cooling energy class			-	-	-	-	-
<b>HEATING ONLY (GROSS VALUE)</b>							
Total heating capacity	(3)	kW	1245	1433	1627	1758	1932
Total power input	(3)	kW	259	292	330	362	407
COP		kW/kW	4,81	4,91	4,92	4,85	4,75
<b>HEATING ONLY (EN14511 VALUE)</b>							
Total heating capacity	(3)(2)	kW	1248	1437	1631	1763	1936
COP	(3)(2)	kW/kW	4,65	4,73	4,76	4,69	4,61
Cooling energy class							
<b>ENERGY EFFICIENCY</b>							
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)</b>							
<b>Ambient refrigeration</b>							
Prated,c	(10)	kW	1046	1186	1348	1482	1632
SEER	(10)(11)		7,58	7,55	7,67	7,36	7,43
Performance ηs	(10)(12)	%	295	294	299	287	289
<b>SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)</b>							
PDesign	(4)	kW	-	-	-	-	-
SCOP	(4)(13)		-	-	-	-	-
Performance ηs	(4)(14)	%	-	-	-	-	-
Seasonal efficiency class	(4)		-	-	-	-	-
<b>EXCHANGERS</b>							
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>							
Water flow	(1)	l/s	54,66	61,97	70,41	76,87	85,33
Pressure drop	(1)	kPa	44,5	37,8	36,6	43,7	53,8
<b>HEAT EXCHANGER USER SIDE IN HEATING</b>							
Water flow	(3)	l/s	68,05	86,11	97,22	97,22	97,22
Pressure drop	(3)	kPa	69,0	73,0	69,8	69,8	69,8
<b>HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION</b>							
Water flow	(1)	l/s	64,37	72,90	82,80	90,53	100,75
Pressure drop	(1)	kPa	36,0	39,9	35,5	42,5	35,5
<b>HEAT EXCHANGER SOURCE SIDE IN HEATING</b>							
Water flow	(3)	l/s	60,09	69,18	78,54	84,86	93,26
Pressure drop	(3)	kPa	31,4	36,0	32,0	37,3	30,4
<b>REFRIGERANT CIRCUIT</b>							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	295	315	323	338	338
<b>NOISE LEVEL</b>							
Sound Pressure	(5)	dB(A)	83	82	82	84	84
Sound power level in cooling	(6)(7)	dB(A)	102	102	102	104	104
Sound power level in heating	(6)(8)	dB(A)	102	102	102	104	104
<b>SIZE AND WEIGHT</b>							
A	(9)	mm	4475	4570	4650	4650	4850
B	(9)	mm	1405	1435	1495	1495	1495
H	(9)	mm	2250	2380	2500	2500	2500
Operating weight	(9)	kg	7470	8220	8800	8930	9340

Notes:

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- Certified data in EUROVENT

