

i-FR-W(1+i)-Z 1402 -4252

High efficiency water source chillers for indoor installation.
488 - 1607 kW

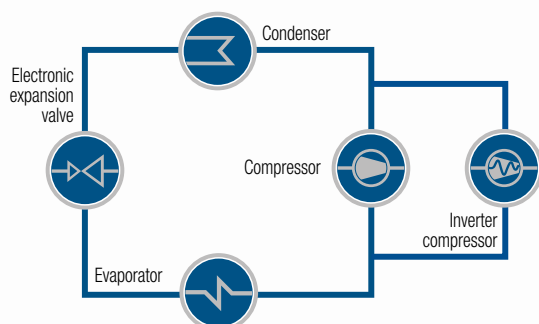


i-FR-W is the RC brand water cooled chiller with 1+i innovative logics that combines fixed speed and variable speed screw compressors, thus ensuring continuous modulation of loads and a perfect leaving water stability. All the units come with an exclusive flooded evaporator and a shell and tube condenser, specifically conceived and developed in-house.

Their exclusive design ensures a perfect heat exchange coefficient and provides EER results not only above class A but also among the highest values available on the market of water chillers with screw compressors.

Developed to answer to the most stringent design conditions, i-FR-W(1+i)-Z is highly configurable thanks to a full range of accessories:

- ✓ VPF or VPF.D signal
- ✓ compressors' soundproofing (noise power reduction of 6dB(A))
- ✓ EMC electromagnetic compatibility for residential environments
- ✓ fast restart
- ✓ /H version (heat pump reversible on hydraulic side)
- ✓ refrigerant leak detector, available in 3 versions, one with refrigerant migration in case of leakages



Two compressors in one single refrigerant circuit

The fixed screw compressor and the inverter one are not only combined in the same unit, but also on the same refrigerant circuit. A revolutionary solution ensuring higher efficiency at partial loads in comparison with a proposal with independent circuits.



The accurate design of electrical and electronic components ensures:

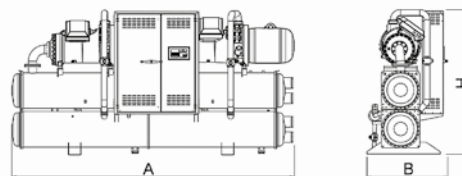


i-FR-W (1+)-Z			1402	1752	1902	2152	2602	3002	3402	3852	4252
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	488	610	661	752	917	1049	1189	1351	1486
Total power input	(1)	kW	87,6	107	116	132	161	184	206	233	260
EER	(1)	kW/kW	5,57	5,70	5,69	5,68	5,68	5,71	5,76	5,79	5,71
ESEER	(1)	kW/kW	8,52	8,57	8,47	8,62	8,63	8,55	8,56	8,60	8,44
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	487	608	659	750	914	1046	1186	1348	1482
EER	(1)(2)	kW/kW	5,37	5,49	5,48	5,47	5,47	5,52	5,58	5,62	5,52
Cooling energy class			-	-	-	-	-	-	-	-	-
SEPR	(3)(4)		7,85	7,98	7,79	7,84	7,74	7,88	7,98	8,04	7,74
COOLING ONLY (GROSS VALUE)											
16°C/10°C											
Cooling capacity	(5)	kW	545	680	737	839	1023	1171	1327	1508	1657
Total power input	(5)	kW	88,2	108	117	133	163	186	209	237	264
EER	(5)	kW/kW	6,18	6,32	6,28	6,28	6,27	6,30	6,34	6,38	6,27
23°C/15°C											
Cooling capacity	(6)	kW	645	804	870	990	1209	1384	1569	1782	1957
Total power input	(6)	kW	88,6	108	118	135	165	189	213	240	268
EER	(6)	kW/kW	7,28	7,45	7,35	7,35	7,31	7,34	7,38	7,41	7,29
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	23,34	29,16	31,62	35,96	43,84	50,15	56,88	64,63	71,06
Pressure drop	(1)(2)	kPa	30,5	34,7	33,8	33,2	37,1	37,5	31,9	30,9	37,3
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	27,44	34,18	37,07	42,16	51,41	58,76	66,56	75,57	83,27
Pressure drop	(1)(2)	kPa	37,4	35,4	41,7	41,5	38,7	30,0	33,3	29,6	35,9
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		Kg	136	170	188	212	264	289	328	372	410
NOISE LEVEL											
Sound Pressure	(7)	dB(A)	80	79	79	81	81	81	80	80	82
Sound power level in cooling	(8)(9)	dB(A)	98	98	98	100	100	100	100	100	102
SIZE AND WEIGHT											
A	(10)	mm	2950	3350	3350	3350	4500	4500	4600	4650	4650
B	(10)	mm	1380	1450	1450	1480	1420	1420	1450	1510	1510
H	(10)	mm	2000	2270	2270	2270	2270	2270	2350	2500	2500
Operating weight	(10)	Kg	3340	4190	4280	4680	6420	7260	7960	8490	8580

Notes:

- Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
 - Values in compliance with EN14511-3:2013.
 - Seasonal space heating energy index
 - Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
 - User side heat exchanger water temperature (in/out) 16°C/10°C; source side heat exchanger water temperature (in/out) 30°C/35°C.
 - User side heat exchanger water temperature (in/out) 23°C/15°C; source side heat exchanger water temperature (in/out) 30°C/35°C.
 - 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.
 - Sound power on the basis of measurements made in compliance with ISO 9614.
 - Sound power level in cooling, indoors.
 - Unit in standard configuration/execution, without optional accessories.
- The units highlighted in this publication contain HFC R134a [GWP₁₀₀ 1430] fluorinated greenhouse gases.

Certified data in EUROVENT



Power Factor and Displacement Power Factor

DPF (Displacement Power Factor) above 0,97 in every load condition
PF (Power Factor) of 0,9 at full load



Optimised compressors

Screw compressors optimised for applications with low condensing temperature.

This enhances their efficiency and makes the ESEER/IPLV values achieved exceed by far the common standard of compact screw compressors.

“EXPERIENCE IS BY FAR THE BEST PROOF”

Sir Francis Bacon
British Philosopher (1561-1626)

proRZ

Munich, Germany

proRZ is one of the main German general contractors, which realizes and optimizes data centers of any size, focusing on the fulfilment of individual requirements.

Cooling Capacity:

1800 kW

Installed machines:

2x High-efficiency free cooling
Air cooled unit with magnetic levitation centrifugal compressors
14x Chilled water air conditioners

WIIT Tier IV

2014 Milan, Italy

WIIT is an Italian company focused on Private and Hybrid continuative services, it is one of the main players in Europe and Worldwide among the most specialized players in application management and critical application as disaster recovery and business continuity.

Cooling Capacity:

700kW

Installed machines:

12X Close Control Air Conditioners with downflow air delivery equipped with BLDC scroll compressors
18x Remote condensers



FastWeb Tier IV

2014 Milan, Italy

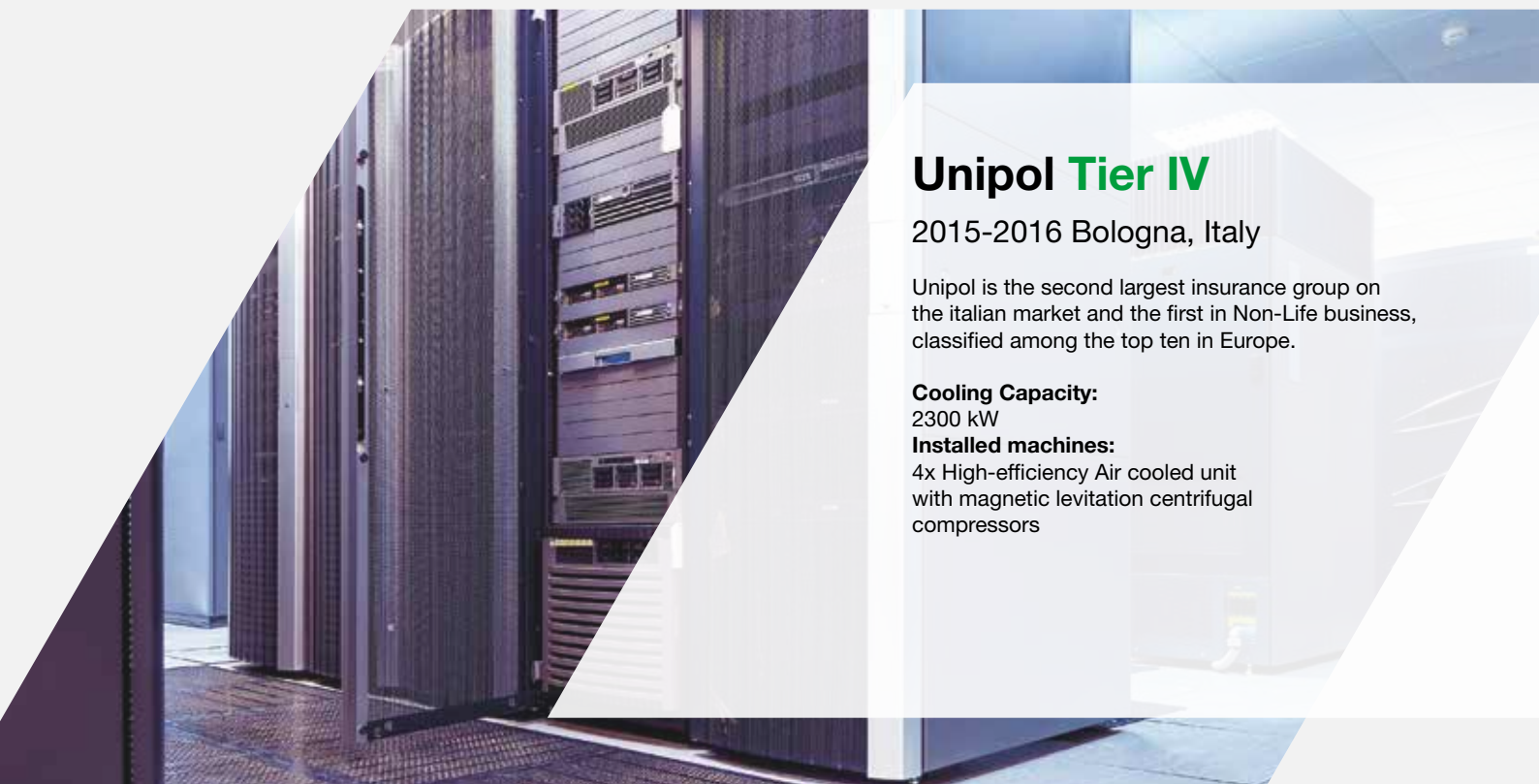
Fastweb, a telecommunications operator, decided to build a new data center offering the highest level of security possible to its clients.

Cooling Capacity:

2800 kW

Installed machines:

4x High-efficiency Air cooled unit with magnetic levitation centrifugal compressors.



Unipol Tier IV

2015-2016 Bologna, Italy

Unipol is the second largest insurance group on the Italian market and the first in Non-Life business, classified among the top ten in Europe.

Cooling Capacity:

2300 kW

Installed machines:

4x High-efficiency Air cooled unit with magnetic levitation centrifugal compressors



for a greener tomorrow

Eco Changes is the Mitsubishi Electric Group's environmental statement, and expresses the Group's stance on environmental management. Through a wide range of businesses, we are helping contribute to the realization of a sustainable society.



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