

UR

TECHNOLOGY AND
EFFICIENCY
365 DAYS A YEAR



High efficiency Air-Cooled Chillers and Heat Pumps / 50-380 kW

- A-Class efficiency in Chiller mode and Heat Pump mode
- High efficiency under part load conditions
- Smart modulation of the water flow rate

 **Galletti**
AIR CONDITIONING

- Extended operating range
- Possibility of configuring low-noise versions
- Counterflow solutions in every mode



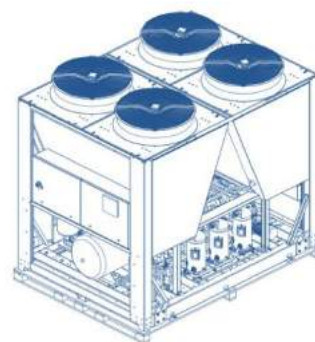
THE RANGE

OUTDOOR INSTALLATION HIGH EFFICIENCY AIR-COOLED CHILLERS AND HEAT PUMPS FROM 50 TO 380 kW

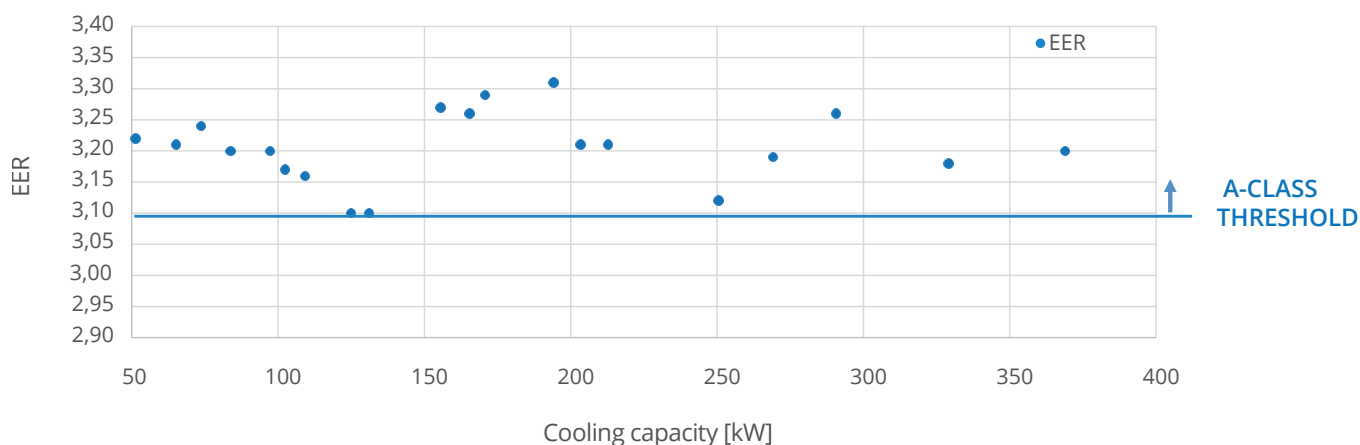


SINGLE CIRCUIT

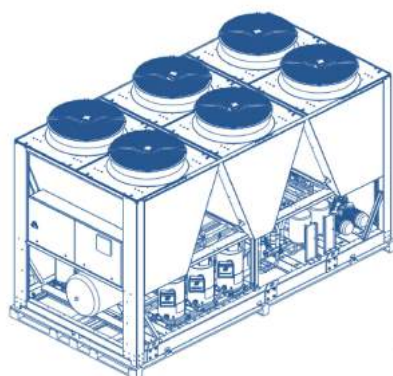
V-IPER is the new high efficiency range that features Galetti most advanced technology in the R410A multiscroll units used for cooling or heating on residential, tertiary or industrial applications. The range consists of 20 air-cooled sizes available as chiller and heat pump for outdoor installation, with cooling capacities from 50 to 380 kW.



EFFICIENCY LEVEL OF THE RANGE IN CHILLER MODE

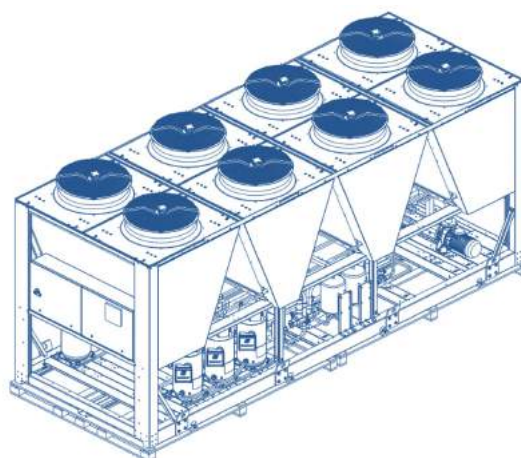
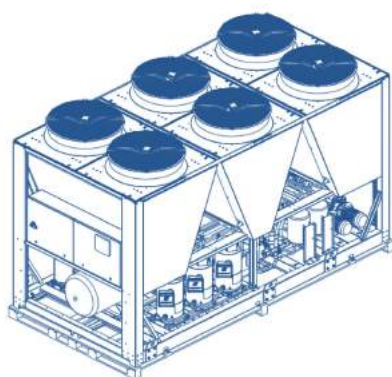


DOUBLE CLASS A

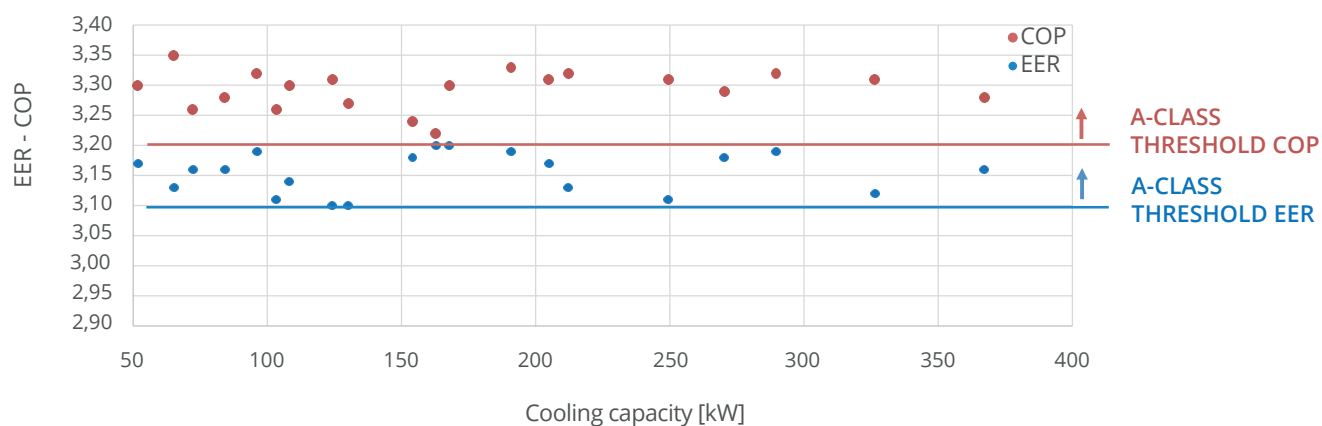


V-IPER's main strength is its high efficiency level. Especially as seasonal efficiency, that reduces dramatically yearly energy consumption. The range also provides high configurability from an acoustic point of view, having a wide range of accessories designed to reduce noise emissions.

DOUBLE CIRCUIT



EFFICIENCY LEVEL OF THE RANGE IN HEAT PUMP MODE



TRIO SOLUTION

UP TO 3 COMPRESSORS PER CIRCUIT



Scroll type compressors are designed to work with R410A and can be sound proofed. They are equipped with internal thermal protection. There are four different versions of the refrigerant circuit:

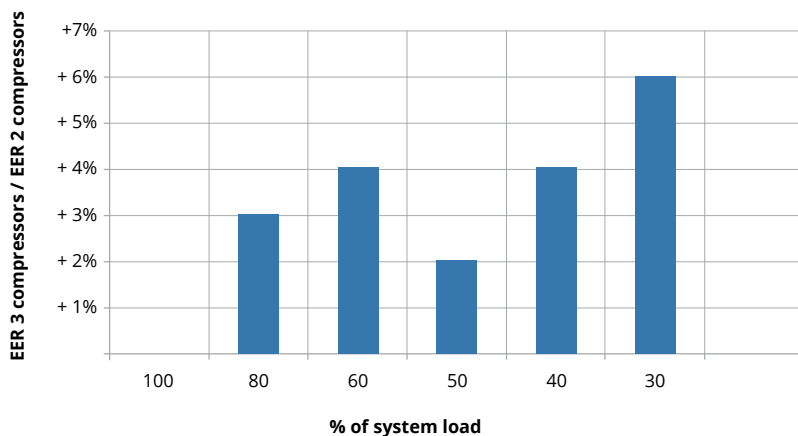
- 1 circuit, 2 compressors
- 1 circuit, 3 compressors
- 2 circuits, 4 compressors
- 2 circuits, 6 compressors

Multi compressor circuits increase the unit's efficiency at partial load conditions. Thanks

to its scheduled rotation for compressors life expectancy increases.

The configuration with dual circuit is characterized, instead, by its redundancy, it ensures supply of 50% of rated capacity even if one part of a circuit needs maintenance.

WHY IS 3 BETTER THAN 2?



In most of the range the trio solution is implemented. At partial load conditions, efficiency of trio system is greater by far compared with a tandem one.

VARIABLE WATER FLOW

SMART MODULATION OF THE WATER FLOW RATE

The heat exchanger design has been optimized for partial load operation making it possible to maintain optimal heat exchange with modulation down to 30% of the nominal water flow rate. Variable water flow rate can be managed through advanced control allowing for:

- increase plate heat exchanger efficiency
- pump input power reduction
- overall increase in the seasonal efficiency

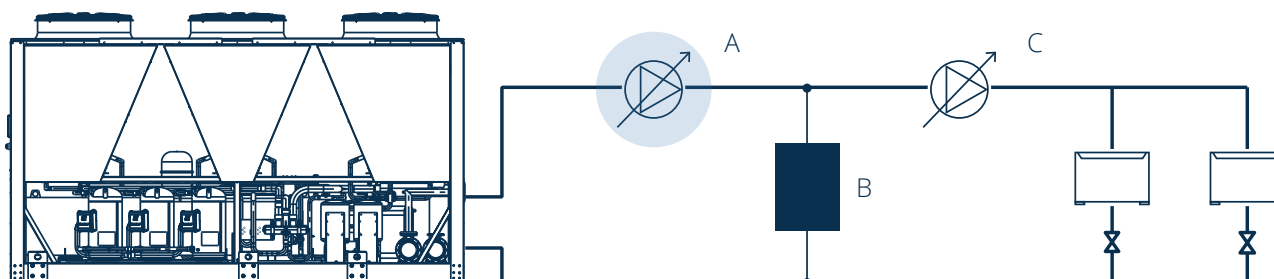
due to an integrated algorithm capable of achieving high evaporation pressures (or low condensing pressures) even with reduced water flow rates at the primary circuit.



Advanced Logic of the water flow rate control



Heat exchanger optimized for low water flow rates



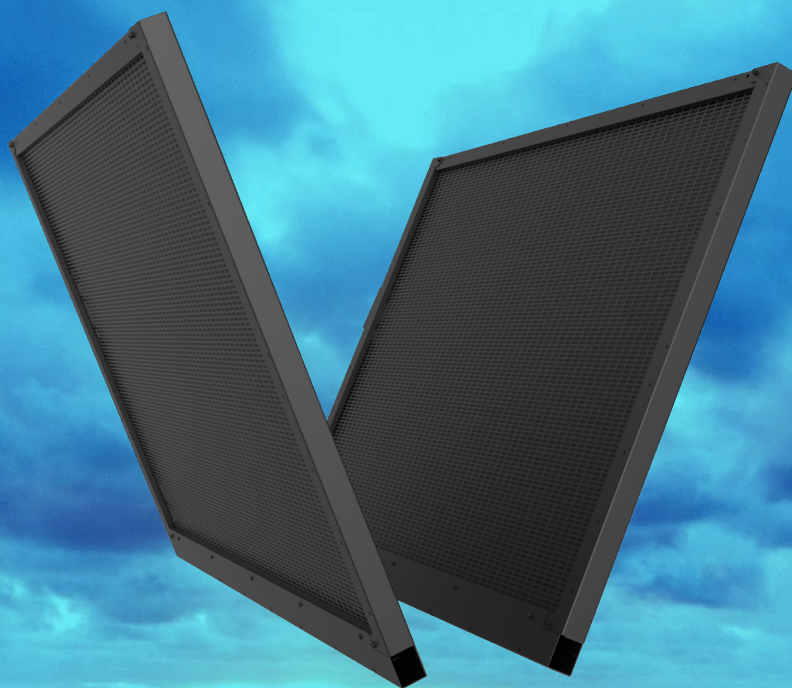
A The water flow rate modulation in the primary circuit depending on the secondary circuit load.

B The storage positioned on the bypass branch, allows for regulation stability and comfort in the transitional phases, with different water flow rates between the primary and secondary circuits.

C The water flow rate of the secondary circuit is modulated on the basis of system demand.

MICROCHANNEL

THE V-IPER CHILLER RANGE INCLUDES MICROCHANNEL TECHNOLOGY AS A STANDARD FEATURE



- 40%

REFRIGERANT USED

Microchannel technology and the careful thermodynamic research performed, ensure a total refrigerant charge that is 40% lower than comparable chillers with traditional condensing

coils. This is an outstanding achievement that is consistent with Galletti's decision to produce ultra-low TEWI units to reduce the environmental impact.

2'400

HOURS OF RESISTANCE
UNDER SALT SPRAY
CONDITIONS
SWAAT test ASTM G85 – ISO 9227

V-IPER CHILLER
RANGE OFFERS DUAL
PROTECTION AS A
STANDARD FEATURE:

- epoxy paint pre-treatment
- anti-UV treatment

Such treatments allow the V-IPER range chillers to operate safely even in potentially corrosive

environments. Specific tests certify a resistance of 2400 hours under salt spray conditions. Galletti proposes, on request, treatments that are even more extreme, such as ElectroFin®

UP-WIND

HIGH EFFICIENCY IN HEATING AND COOLING MODES
EXTENDED OPERATING RANGE
EXCEPTIONAL EFFICIENCY IN ALL SEASONS



INNOVATIVE UP-WIND TECHNOLOGY

COUNTERFLOW HEAT
EXCHANGE ALL YEAR
ROUND

V-IPER implements a new technology that allows, when the cycle reverses, to keep the same direction



of refrigerant flow through the condensing coils, always ensuring a counter flow heat exchange. This solution is technically implemented through precise adjustments on the refrigerant circuit and a unique special layout of the finned condensing coils. This advanced technology provides:

- a dramatical reduction of frost formation on coil surface in winter conditions

- exceptional efficiency in all seasons
- the ability to operate even under the most severe operating conditions

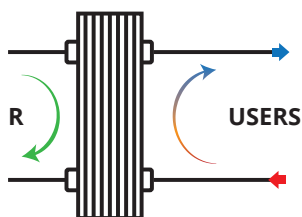
HYDRO SMART FLOW

THE HYDRONIC SOLUTION FOR COUNTERFLOW HEAT EXCHANGE 365 DAYS A YEAR

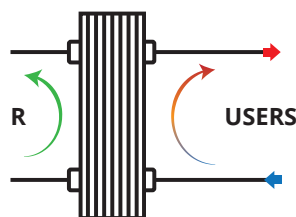
Upon request, the Hydro Smart Flow kit is activated at the time of seasonal changeover, when the refrigerant changes its flow direction through the plates. The 4-way hydronic valve also changes the water flow direction, depending on what happens on the refrigerant side. In this way the unit always works on a counterflow heat exchange, thus optimizing the operation of the unit in summer and winter.

This feature extends the unit's operating range, allowing it to both produce water at higher temperatures and increases the performance and efficiency.

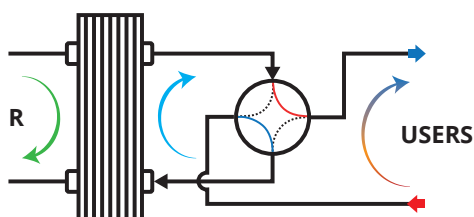
Standard chiller



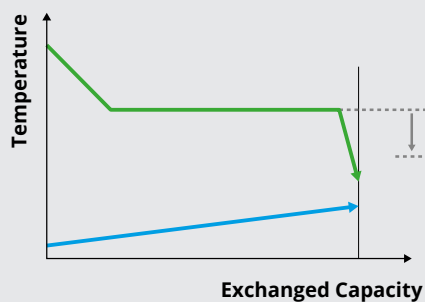
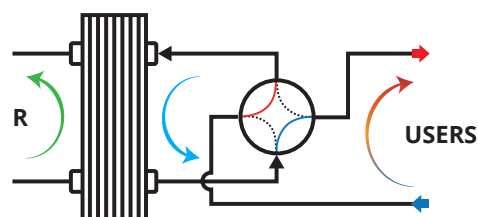
Standard heat pump



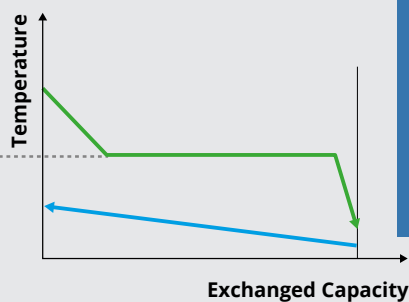
V-IPER chiller



V-IPER heat pump



Condensation
temperature
reduction



+8%

INCREASE IN COP
COMPARED TO
TRADITIONAL SOLUTIONS

— R-410A refrigerant

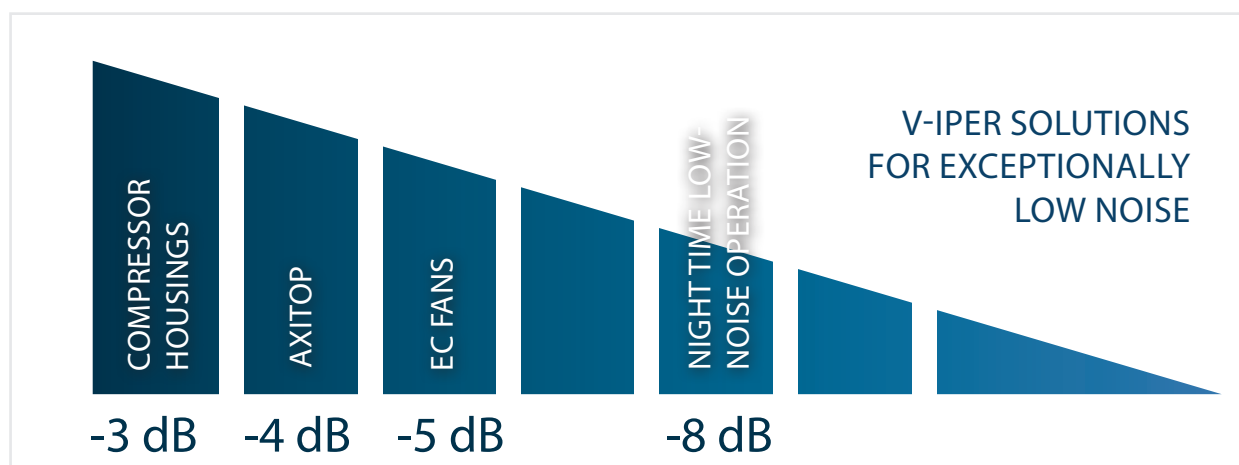
— Water

LOW NOISE EXECUTION

LOW ACOUSTIC IMPACT SOLUTIONS

The units, can be supplied in a low-noise version, with compressor housings, and Axitop diffusers on the axial fans.

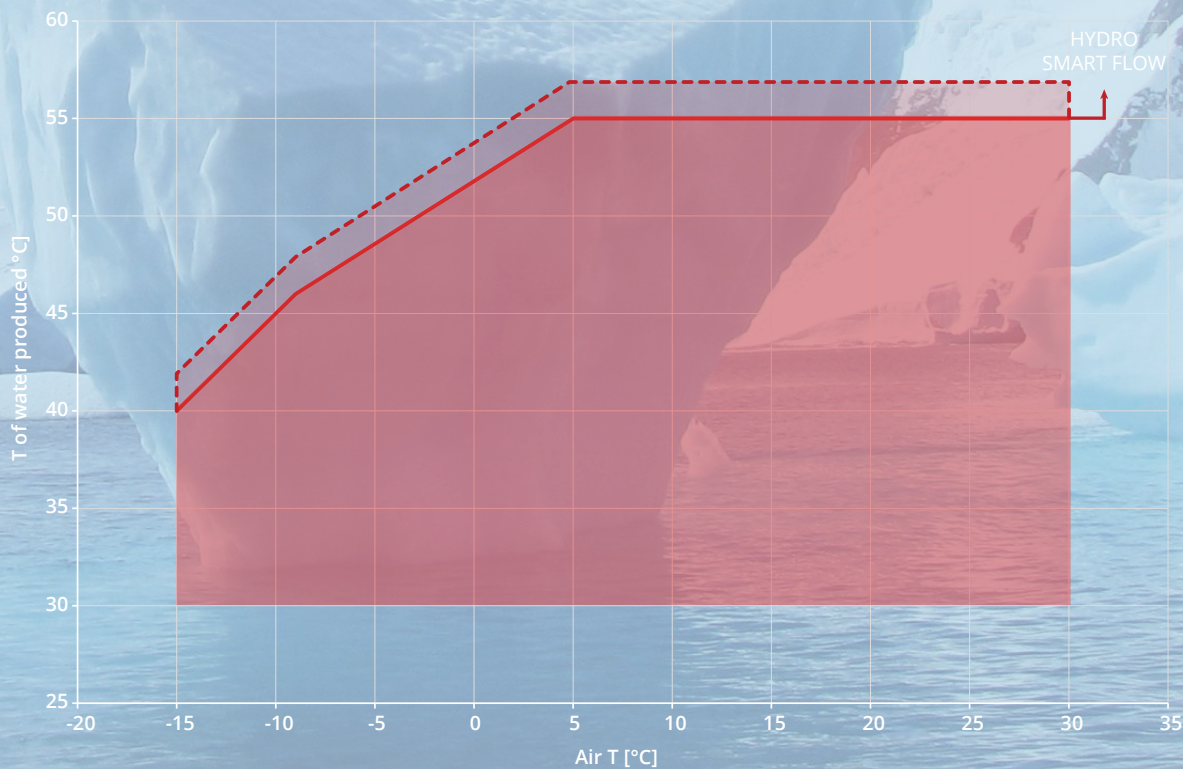
A night attenuation function is also available to further reduce the sound power level.



EXTENDED OPERATING RANGE

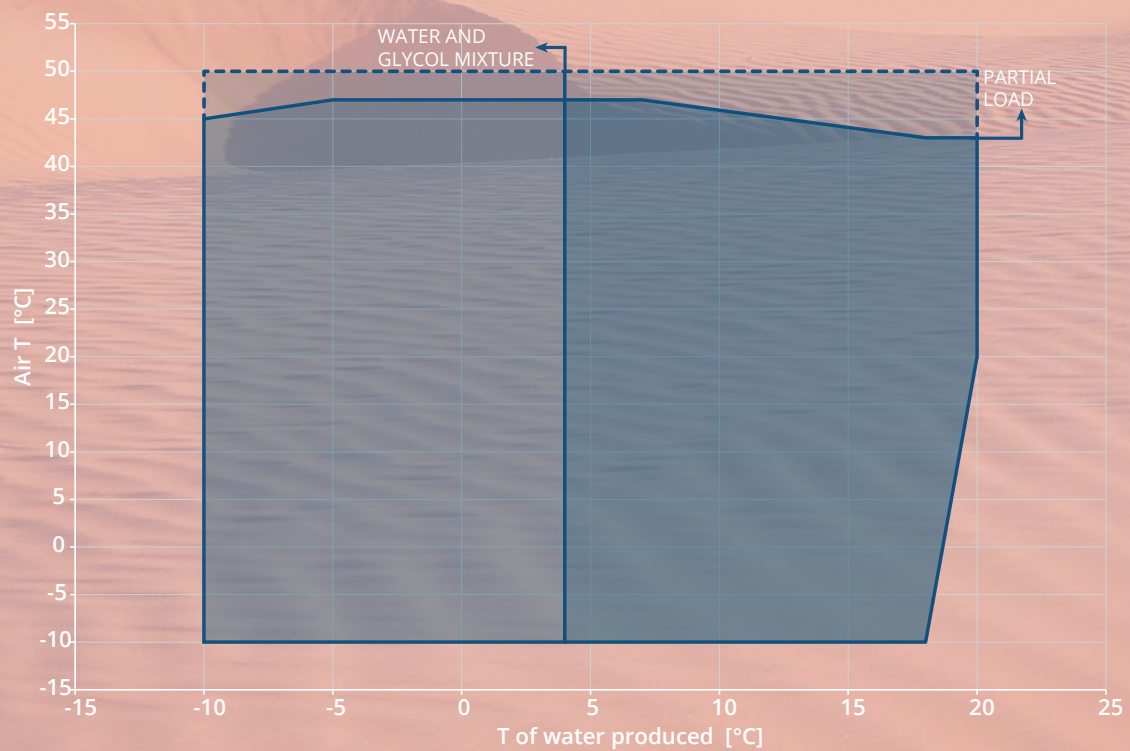
THE GENEROUS SIZING OF THE HEAT EXCHANGE SURFACES COMBINED WITH ELECTRONICS CAPABLE OF OPTIMIZING OPERATION UNDER VARIOUS OPERATING CONDITIONS MAKES THE V-IPER UNIT SUITABLE FOR DIFFERENT CLIMATIC CONDITIONS

HEAT PUMP MODE OPERATION



THE MICROPROCESSOR CONTROLS THE OPERATION AT ALL TIMES, THEREBY ALLOWING THE UNIT TO PERFORM AT THE BEST UNDER VARIOUS CONDITIONS. IT REGULATES THE FAN SPEED, THE ELECTRONIC VALVE, AND THE ACTIVE COMPRESSORS TO PREVENT ANY ALARMS, KEEPING THE MACHINE ACTIVATED EVEN WITH AIR TEMPERATURES OF 50 °C

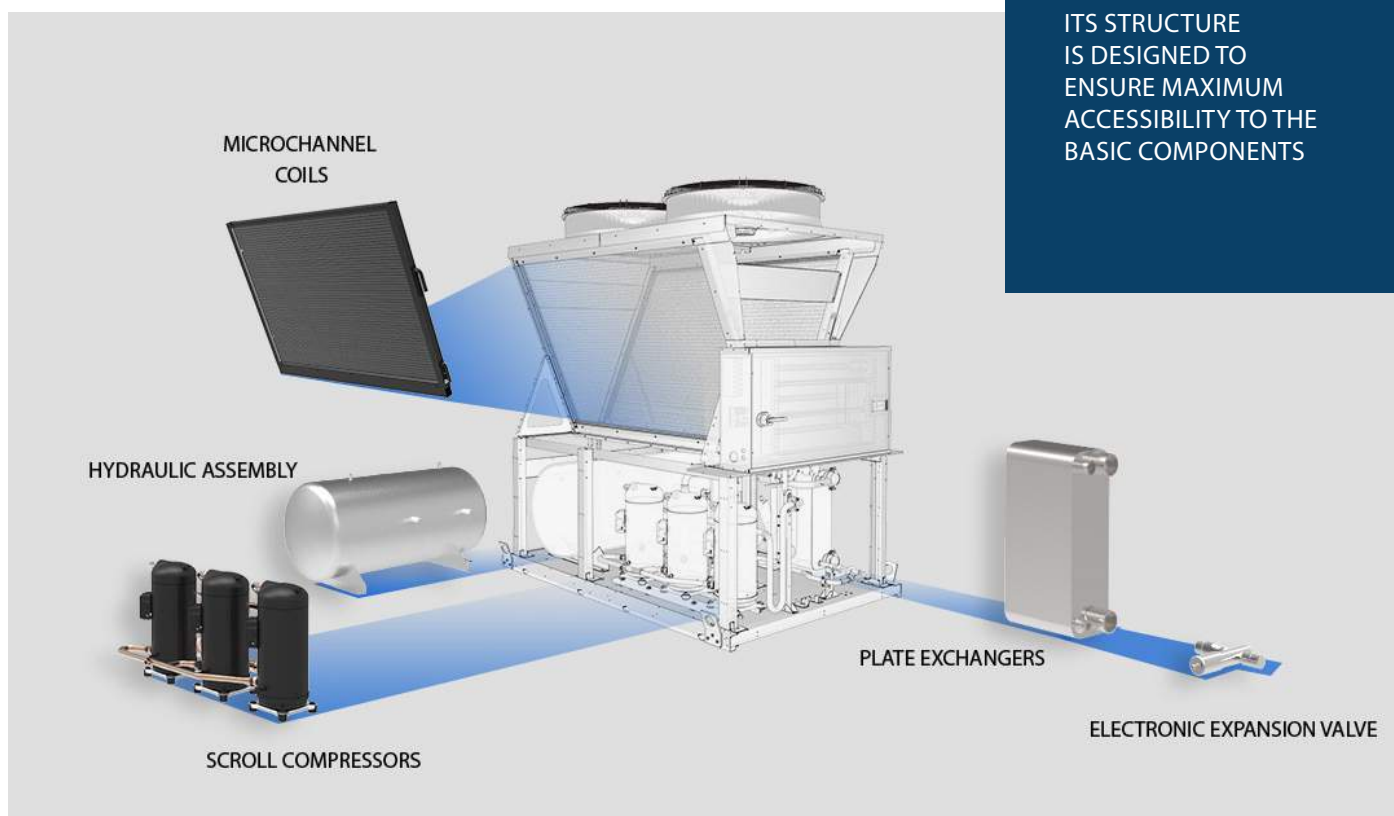
CHILLER MODE OPERATION



SMART SERVICE

V-IPER FACILITATES THE INSTALLATION AND MAINTENANCE PROCESS

ITS STRUCTURE IS DESIGNED TO ENSURE MAXIMUM ACCESSIBILITY TO THE BASIC COMPONENTS



The advanced control is able to record and store the unit's operating parameters. The download can be performed via USB or directly from the Internet.



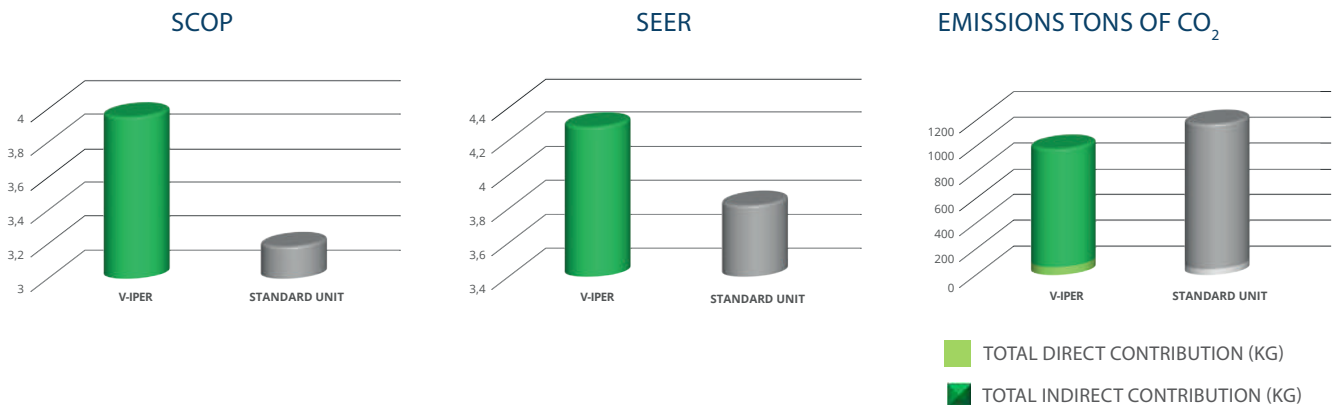
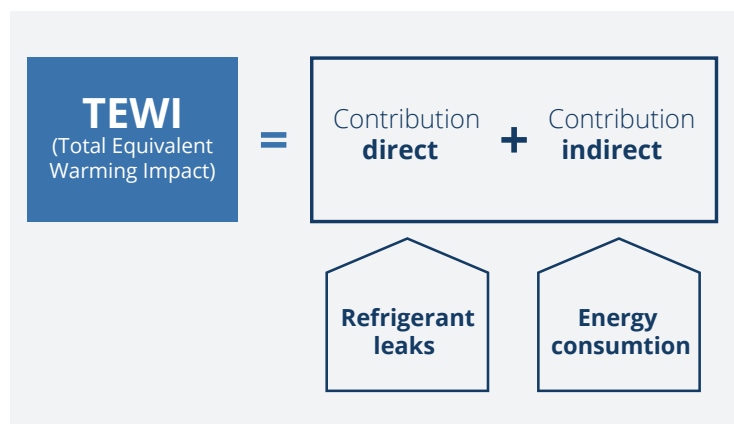
A special algorithm continuously monitors the refrigerant charge, reporting any reduction in its amount and notifying it to maintenance serviceman, thereby preventing possible problems in the cooling circuit.

TEWI:

REDUCED IMPACT ON GLOBAL WARMING

TEWI (Total Equivalent Warming Impact) is a parameter for assessing the overall behavior of a refrigeration unit, in relation to its impact on the greenhouse effect. With regard to TEWI, the overall greenhouse effect is considered, because it takes into account not only the direct impact due to loss of refrigerant, but also the carbon dioxide emissions due to the production of power absorbed by the unit during its operation (indirect effect).

Starting from the definition of TEWI, it is clear how a unit with high seasonal efficiency could result in great benefits not only from an economic point of view but also from an environmental one.



Taking as an example the V-IPER 306 HS model, which is characterized by a SCOP of 4.14 and a SEER of 4.28, and comparing it with a reversible unit, which is not highly efficient, of the same size and with a SCOP of 3.2 and a SEER of 3.8, a considerable saving on CO₂ emissions is achieved.



V-IPER C WATER CHILLERS TECHNICAL DATA

V-IPER..CS		52	62	72	82	92	112	114	133	134	164
Power supply	V-ph-Hz	400-3N-50									
Cooling capacity (1) (E)	kW	52.4	65.1	73.7	83.7	97.3	109	102	125	131	156
Power input (1) (E)	kW	16.0	20.3	22.8	26.2	30.5	34.6	32.4	40.3	42.3	47.7
EER (1) (E)		3.28	3.21	3.23	3.19	3.19	3.16	3.16	3.10	3.10	3.26
ESEER (E)		4.12	4.17	4.08	4.06	4.04	4.00	4.08	4.14	4.22	4.04
Eurovent Energy Efficiency Class		A	A	A	A	A	A	A	A	A	A
Water flow rate (1)	l/h	9050	11250	12737	14457	16776	18824	17656	21513	22584	26815
Pressure drop, water side (1) (E)	kPa	39	45	47	41	31	29	31	24	24	36
Available head, standard pump (1)	kPa	153	138	193	185	173	141	142	137	134	161
Maximum absorbed current	A	40	50	59	68	74	81	79	98	101	125
Start up current	A	138	194	203	212	218	269	178	242	245	269
Start up current with soft starter	A	97	134	142	151	157	190	137	181	184	208
no. of scroll compressors / circuits		2/1	2/1	2/1	2/1	2/1	2/1	4/2	3/1	4/2	4/2
Tank capacity	dm ³	250	250	350	350	350	350	350	350	350	450
Expansion tank capacity	dm ³	18	18	18	18	18	18	18	18	18	24
Sound power level (3) (E)	dB(A)	80	84	83	83	87	88	87	87	87	86
Shipping weight of unit with pump and tank	kg	813	823	875	888	968	1048	1866	981	1945	1710
Unit with pump and full tank operating weight	kg	1163	1173	1225	1238	1318	1398	2316	1331	2395	2160
L x D x H	mm	2250 x 1547 x 2459	2250 x 1547 x 2459	2250 x 1547 x 2459	2250 x 1547 x 2459	2250 x 1547 x 2459	2250 x 1547 x 2459	2752 x 1544 x 2461	2250 x 1547 x 2459	2752 x 1544 x 2461	2959 x 2252 x 2650

V-IPER..CS		173	174	204	213	226	256	276	306	336	386
Power supply	V-ph-Hz	400-3N-50									
Cooling capacity (1) (E)	kW	166	171	194	203	213	251	269	291	329	369
Power input (1) (E)	kW	50.8	52.0	58.8	63.4	66.4	80.4	84.6	89.2	104	115
EER (1) (E)		3.26	3.28	3.30	3.21	3.20	3.12	3.18	3.26	3.18	3.20
ESEER (E)		4.14	4.13	4.24	4.27	4.26	4.22	4.17	4.09	4.06	4.09
Eurovent Energy Efficiency Class		A	A	A	A	A	A	A	A	A	A
Water flow rate (1)	l/h	28518	29399	33464	35043	36651	43163	46363	50087	56747	63627
Pressure drop, water side (1) (E)	kPa	31	24	29	34	27	31	32	37	41	45
Available head, standard pump (1)	kPa	163	169	156	147	151	132	180	165	143	161
Maximum absorbed current	A	125	136	148	149	162	195	206	222	247	274
Start up current	A	313	280	337	377	278	339	395	411	474	502
Start up current with soft starter	A	235	219	258	281	229	278	316	332	379	407
no. of scroll compressors / circuits		3/1	4/2	4/2	3/1	6/2	6/2	6/2	6/2	6/2	6/2
Tank capacity	dm ³	450	450	450	450	450	450	750	750	750	750
Expansion tank capacity	dm ³	24	24	24	24	24	24	24	24	24	24
Sound power level (3) (E)	dB(A)	88	87	90	92	90	90	90	92	93	93
Shipping weight of unit with pump and tank	kg	1228	1746	1901	1271	1903	1916	2634	2640	2714	3831
Unit with pump and full tank operating weight	kg	1578	2196	2351	1621	2353	2366	3384	3390	3464	4581
L x D x H	mm	2959 x 2252 x 2650	2959 x 2252 x 2650	2959 x 2252 x 2650	2959 x 2252 x 2650	2959 x 2252 x 2650	2959 x 2252 x 2650	4469 x 2252 x 2642	4469 x 2252 x 2642	4469 x 2252 x 2642	5978 x 2155 x 2649

(1) Water temperature 12/7°C; outdoor air temperature 35°C (14511:2013)

(3) Sound power level measured according to UNI EN ISO 9614

(E) EUROVENT certified data

V-IPER..HS		52	62	72	82	92	112	114	133	134	164
Power supply	V-ph-Hz	400 - 3N - 50									
Cooling capacity (1) (E)	kW	51.8	65.1	72.3	84.1	96.0	108	103	124	130	154
Power input (1) (E)	kW	16.3	20.8	22.9	26.6	30.1	34.4	33.2	40.1	42.0	48.5
EER (1) (E)		3.18	3.13	3.16	3.16	3.19	3.14	3.11	3.10	3.10	3.18
ESEER (E)		4.07	4.13	3.96	3.94	3.92	3.92	3.74	4.00	3.83	4.01
Eurovent Energy Efficiency Class		A	A	A	A	A	A	A	A	A	A
Water flow rate (1)	l/h	8940	11252	12486	14521	16560	18640	17805	21395	22422	26573
Pressure drop, water side (1) (E)	kPa	38	45	45	41	30	28	32	23	28	35
Available head, standard pump (1)	kPa	154	138	197	184	176	142	141	139	130	163
Heating capacity (2) (E)	kW	54.4	67.6	78.0	87.9	99.8	111	107	126	132	161
Power input (2) (E)	kW	16.5	20.2	23.9	26.8	30.1	33.5	32.8	38.2	40.2	49.8
COP (2) (E)		3.30	3.35	3.26	3.28	3.32	3.30	3.26	3.31	3.27	3.24
COP with hydro smart flow		+ 8%									
SCOP		3.88	3.95	3.60	3.72	3.82	3.87	3.96	3.91	3.81	3.71
Efficiency Class *		A++	A++	A+	A+	A++	A++	A++	A++	A++	A+
Water flow rate (2)	l/h	9394	11671	13467	15188	17268	19161	18512	21893	22785	27895
Pressure drop, water side (2) (E)	kPa	41	49	52	45	32	30	35	24	29	38
Available head, standard pump (2)	kPa	149	133	182	174	167	139	136	136	128	157
Maximum absorbed current	A	40	50	59	68	74	81	79	98	101	125
Start up current	A	138	194	203	212	218	269	178	242	245	269
Start up current with soft starter	A	97	134	142	151	157	190	137	181	184	208
no. of scroll compressors / circuits		2/1	2/1	2/1	2/1	2/1	2/1	4/2	3/1	4/2	4/2
Tank capacity	dm ³	250	250	350	350	350	350	350	350	350	450
Expansion tank capacity	dm ³	18	18	18	18	18	18	18	18	18	24
Sound power level (3) (E)	dB(A)	80	84	83	83	87	88	87	87	87	86
Shipping weight of unit with pump and tank	kg	938	950	990	1006	1092	1177	2099	1114	2196	1941
Unit with pump and full tank operating weight	kg	1288	1300	1340	1356	1442	1527	2549	1464	2646	2391
L x D x H	mm	2250 x 1547 x 2252	2250 x 1547 x 2252	2250 x 1547 x 2459	2250 x 1547 x 2459	2250 x 1547 x 2459	2250 x 1547 x 2459	2752 x 1544 x 2461	2250 x 1547 x 2459	2752 x 1544 x 2461	2959 x 2252 x 2650

V-IPER..HS		173	174	204	213	226	256	276	306	336	386
Power supply	V-ph-Hz	400 - 3N - 50									
Cooling capacity (1) (E)	kW	163	168	191	205	212	249	270	290	327	367
Power input (1) (E)	kW	50.9	52.5	59.9	64.7	67.8	80.1	85.1	90.8	104	116
EER (1) (E)		3.20	3.20	3.19	3.17	3.13	3.11	3.18	3.19	3.13	3.16
ESEER (E)		4.01	4.11	3.99	3.90	3.98	4.01	4.05	3.93	3.94	3.97
Eurovent Energy Efficiency Class		A	A	A	A	A	A	A	A	A	A
Water flow rate (1)	l/h	28059	28895	32876	35311	36544	42954	46555	49892	56248	63289
Pressure drop, water side (1) (E)	kPa	31	23	28	35	27	31	33	37	40	45
Available head, standard pump (1)	kPa	164	170	158	146	151	132	178	166	146	161
Heating capacity (2) (E)	kW	167	175	200	211	220	253	279	297	337	379
Power input (2) (E)	kW	51.8	53.1	59.9	63.8	66.3	76.3	84.8	89.5	102	116
COP (2) (E)		3.22	3.30	3.33	3.31	3.32	3.31	3.29	3.32	3.31	3.28
COP with hydro smart flow		+ 8%									
SCOP		3.58	3.82	3.86	3.80	4.25	4.33	4.02	4.14	4.22	3.94
Efficiency Class *		A+	A++	A++	A++	A++	A++	A++	A++	A++	A++
Water flow rate (2)	l/h	28897	30371	34553	36514	38078	43757	48325	51521	58382	65672
Pressure drop, water side (2) (E)	kPa	32	25	31	37	29	32	35	39	43	48
Available head, standard pump (2)	kPa	161	166	151	141	146	129	172	160	136	154
Maximum absorbed current	A	125	136	148	149	162	195	206	222	247	274
Start up current	A	313	280	337	377	278	339	395	411	474	502
Start up current with soft starter	A	235	219	258	281	229	278	316	332	379	407
no. of scroll compressors / circuits		3/1	4/2	4/2	3/1	6/2	6/2	6/2	6/2	6/2	6/2
Tank capacity	dm ³	450	450	450	450	450	450	750	750	750	750
Expansion tank capacity	dm ³	24	24	24	24	24	24	24	24	24	24
Sound power level (3) (E)	dB(A)	88	87	90	91	90	90	90	91	93	93
Shipping weight of unit with pump and tank	kg	1435	1981	2148	1478	2160	2186	2919	2926	3032	4329
Unit with pump and full tank operating weight	kg	1785	2431	2598	1828	2610	2636	3669	3676	3782	5079
L x D x H	mm	2959 x 2252 x 2650	2959 x 2252 x 2650	2959 x 2252 x 2650	2959 x 2252 x 2650	2959 x 2252 x 2650	2959 x 2252 x 2650	4469 x 2252 x 2642	4469 x 2252 x 2642	4469 x 2252 x 2642	5978 x 2155 x 2649

(1) Water temperature 12/7°C; outdoor air temperature 35°C (14511:2013)

(2) Water temperature 40/45 °C, outdoor air temperature 7 °C D.B. - 6 °C W.B. (14511:2013)

(3) Sound power level measured according to UNI EN ISO 9614

(E) EUROVENT certified data

* Seasonal energy efficiency class of space heating at LOW TEMPERATURE under AVERAGE weather conditions [REGULATION (EU) No. 811/2013]



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