

APTUS

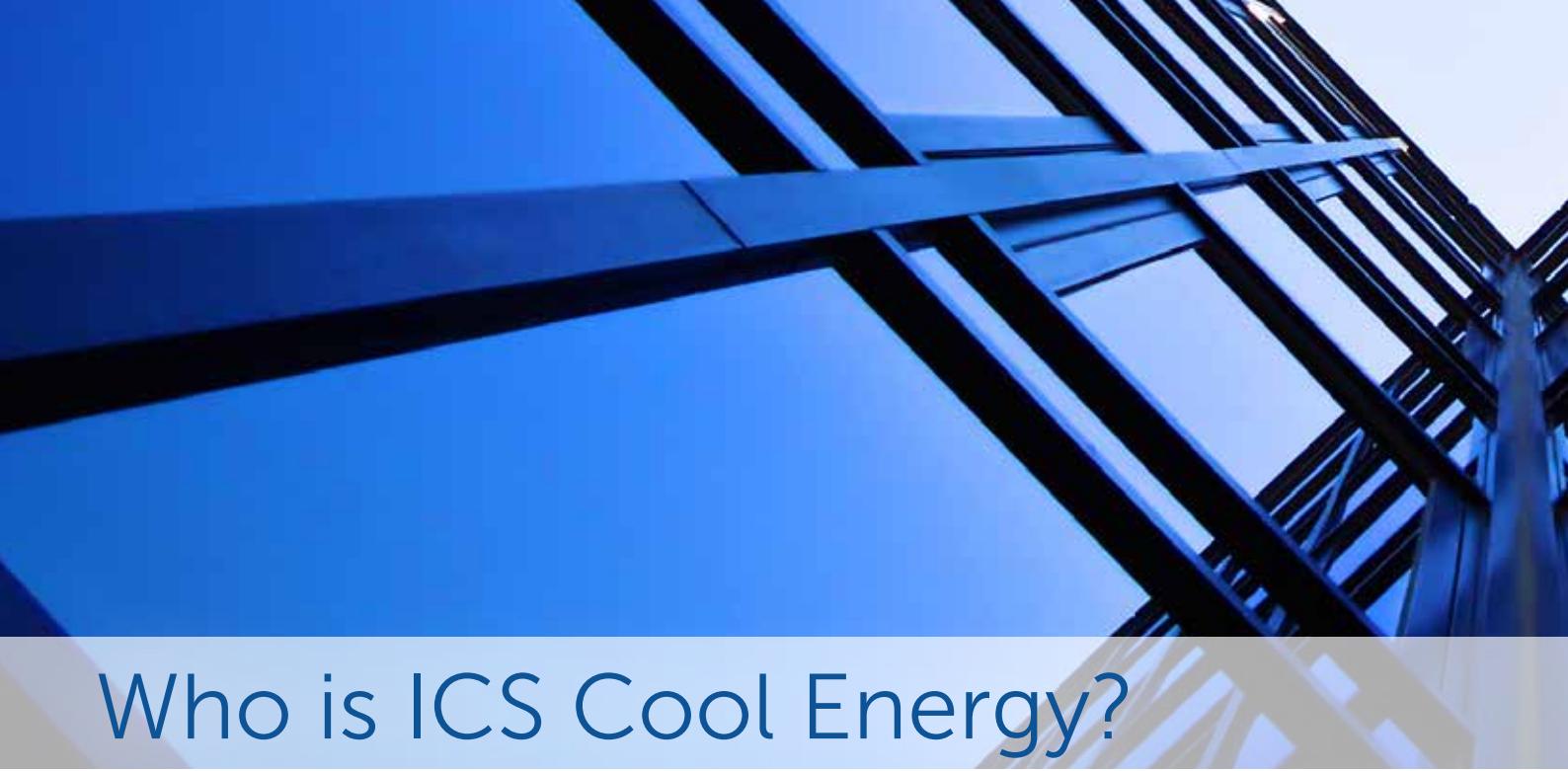
HVAC & Industrial Scroll Compressor
& Heat Pump Technology



Future Generation Cooling
Cooling capacity 35kW - 885kW



ics cool energy



Who is ICS Cool Energy?

At ICS Cool Energy, we have 25 years' experience in supplying and installing industrial temperature control equipment for HVAC and process applications. All our customers experience reliability, flexibility, efficiency and dedication to supplying comfort to any type of user requirement. This combined with our wide range of services including planned maintenance packages and warranty options allows for complete peace of mind, reduced downtime and continuous productivity.

Working with a vast range of sites throughout the UK and Europe, we have built a dependable and experienced brand for our customers to rely upon whenever their business requires it. Through our broad range of industry knowledge, we have been able to develop and build an extensive range of HVAC equipment, which is factory witness tested, Eurovent, ISO 9001 and 14001 accredited.

This particular collection of chillers feature the latest in hermetic rotary scroll compressors, axial fans, plate and shell and tube heat exchangers offering the highest in energy efficient cooling with class A EER values. Furthermore, these modern units offer significantly reduced noise emission options, offering no disturbance for sites which require comfort cooling for personnel.

As a total temperature control solutions provider, we can manage a project in-line with a customer's site plans ensuring every requirement is answered.

- Reliability
- Flexibility
- Efficiency
- Low operating costs
- Reduced noise emissions
- Long-term relationship

THE APTUS CHILLER: SCROLL COMPRESSOR TECHNOLOGY

The scroll compressor is known for its smooth operation, low noise emissions and reliability when comparing it to more conventional compressors in certain applications. Unlike pistons, the revolving scrolls' can be perfectly counterbalanced which minimises vibrations and therefore noise throughout a site. Scrolls offer noise levels of three to five dB(A) which is lower than other compressor technology.

Compared to reciprocating compressors, the scroll's efficiency is slightly higher because a scroll compressor does not have a dynamic discharge valve that introduces additional throttling losses. In regards to reliability, a scroll has 70% fewer moving parts compared to reciprocating compressors which means less components are exposed to vibration and therefore potential faults.

In summary, the scroll compressor is reliable, efficient, compact and flexible which is why our modern, intelligent range of air and water sourced **Aptus** chillers feature this dependable compressor.



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APTUS RANGE: AIR, WATER AND INTERNAL

The internal, air and water cooled range of **Aptus** chiller offer the highest level of quality manufacturing featuring hermetic rotary scroll compressors, axial flow fans, plate, shell and tube heat exchangers, micro channel aluminium fin coils and thermostatic or electronic expansion valves (dependent on the unit model). All class A efficiency units feature electronic expansion valves as standard for all sizes. The valve brings significant benefits including variable loads working with different outdoor conditions.

All these components are specifically chosen as part of a highly efficient design package to offer any HVAC or industrial process the best cooling system possible. Offering a wide selection of capacities from 35.8kW to 885kW these units offer flexible cooling options for various sites and size of applications. Furthermore, the **Aptus** collection features six different noise versions ensuring maximum comfort and efficiency:

- Standard/key efficiency
- Low Noise with key efficiency
- Super silent version with key efficiency
- Class A efficiency
- Low noise with class A efficiency
- Super silent with class A efficiency

High efficiency and low noise exist side-by-side without having to relinquish one another; providing maximum productivity for a site.

To add to this modern, low environmental chiller range, units feature micro channel aluminium condenser coils which means reduced refrigerant is needed compared to traditional COPper coils. This allows the lowest possible ratio between the refrigerant volume and the cooling capacity which is delivered.

Flexible for every site need

The Air cooled chiller range is ideal for sites with large, available floor space such as **chemical plants, factories and warehouses**. Water cooled chillers are perfect for indoor installations as they are more compact units and can be installed into the smallest of spaces such as basements and plant rooms. All units are bespoke and can be designed and modified for a site's particular needs.

The internal chiller collection is specifically designed for sites with available space inside of a site, available with maximum versatility offering both horizontal and vertical air flow. The horizontal outflow version is particularly effective in installations where the height of the technical compartment does not allow the traditional vertical outflow.

Aptus Chiller: Intelligent Control

All our **Aptus** chillers feature advanced control systems consisting of a liquid crystal display screen which is fitted on all units. These modern controllers are available with a multi-language user interface available with remote key pads and remote connection up to 500 metres. An internal clock manages a weekly schedule which is organised into time bands in order to optimise the unit's performance by minimising power usage during periods of inactivity such as overnight. Furthermore, ten daily alarm bands can be linked with various operating set points.

For sites with multiple unit systems, our controllers can regulate energy metering for both consumption and capacity usage. Supervision is easy thanks to proprietary devices and integration of building management systems including ModBus, Bacnet and Echelon LonWorks.

Optimised Free Cooling Management

The smart controllers make it possible to achieve and manage free cooling as it registers when outside air temperatures decrease below the plant's circuit return. Therefore this allows the power consumption to be dramatically lowered even when external air temperatures are below 20°C. In addition the controller's adaptive set point allows a further optimised performance so when the building's demand decreases, it is possible to adjust the compressors power load and therefore directly contributing to free cooling.



Smart Controls

Thanks to the advanced thermoregulation algorithms, the chilled water temperature control is always granted. The unit's components including compressors, fans, pumps and valves are all regulated to fit with the plant set point. As soon as the free cooling air contribute starts, hydraulic valves start to open and the compressors and fans smoothly partialise to cover the energy gap left by the heat exchange between air and water.



Maximum Reliability

The **Aptus** units feature multi-circuit chilling sections (one to four depending on the unit size), which are designed to provide maximum efficiency at both full and partial loads, ensuring uninterrupted service in the event that one of the circuits experiences a fault. Furthermore, the number of compressors in a chiller allow for accurate management of cooling capacity in order to precisely meet the most demanding comfort in a commercial building or, in the production of chilled water used within cooling processes.

Moreover, the availability of pumps and built-in water tanks allows reduced installation activities thanks to the integrated hydronic module incorporating all hydraulic components and therefore optimising installation space, time and costs. All units can incorporate a multi-circuit shell and tube heat exchanger with low pressure drops ideal for use within areas of hard water.

Building Management Systems

Within the integration of monitoring systems, communication is the key, that's why all our chiller packages are offered with complex building management systems (BMS), which can work in synergy with a site's complete temperature control system. A BMS allows the user to manually or automatically set and adjust temperatures for maximum simplicity whilst ensuring protective proceedings.

The **Aptus** range features the integrated hydronic module which incorporates all the hydraulic components and therefore optimising installation space, time and costs. On all versions of the **Aptus** chiller, we can offer single or twin pumps suitable for low and high pressures depending on the installation needs.

Within the modern **Aptus** range, all our chillers can be equipped with a multi-circuit shell and tube heat exchanger with low pressure drops, perfect for use with particularly hard water or within industrial processes. The shell and tube evaporator offers maximum flexibility for the unit installation procedure ensuring the highest level of efficiency is maintained at all times.

Aluminium Coil

Microchannel aluminium condensers feature on all the **Aptus** scroll chillers which allows a reduced amount of refrigerant to be used compared to traditional COPper coils allowing the lowest possible ratio between refrigerant volumes and cooling capacity to be delivered.

Certified Performance Guaranteed

We understand how important energy efficiency is to all businesses, that's why all our air, water and internal units offer high EER values working with zero ozone depleting refrigerant R410A. In addition all **Aptus** chiller units up to 1,500kW comply with the most stringent European Eurovent standards having been fully witness tested at the manufacturing plant.



APTUS

Air Cooled Chillers



APTUS - Air Cooled Chillers

39.2kW-227kW

AT/K

AT/K			2015	2018	2020	2025	2026	2030	2035	2040	2045	2050	2055	2060	2070	2080
Power supply	V/ph/Hz	400/3/ 50+N	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	39.2	44.3	51.9	58.9	65	77.6	88.5	102	114	127	144	166	189	207
Total power input	-1	kW	13.5	15.6	18.1	20.5	23.5	26.8	31.3	35.4	40.1	44.9	52.3	57.7	67.9	77.9
EER	-1		2.9	2.84	2.87	2.87	2.77	2.9	2.83	2.88	2.86	2.84	2.76	2.87	2.79	2.65
ESEER	-1		4.41	4.37	4.41	4.39	4.33	4.23	4.41	4.04	4.13	4.13	4.24	4.08	4.15	3.89
COOLING ONLY (EN14511 VALUE)																
Cooling capacity	(1) (2)	kW	39	44	51.6	58.6	64.7	77.2	87.9	101	114	127	144	165	189	206
EER	(1) (2)		2.83	2.78	2.8	2.82	2.71	2.84	2.76	2.82	2.79	2.78	2.7	2.82	2.74	2.6
ESEER	(1) (2)		4.19	4.15	4.2	4.2	4.17	4.06	4.16	3.86	3.96	3.95	4.04	3.92	3.99	3.74
Cooling energy class			C	C	C	C	C	C	C	C	C	C	C	C	C	D
EXCHANGERS																
HEAT EXCHANGER USER SIDE IN REFRIGERATION																
Water flow	-1	m³/h	6.76	7.62	8.94	10.1	11.2	13.4	15.2	17.6	19.7	21.9	24.8	28.5	32.6	35.6
Pressure drop	-1	kPa	36.3	34.1	36.3	33.4	33.2	33.9	54.1	49.9	51.3	49.1	52.1	49.3	49.8	59.2
COMPRESSORS																
Compressors nr.	N°		2	2	2	2	2	2	2	2	2	2	2	2	2	2
No. Circuits	N°		1	1	1	1	1	1	1	1	1	1	1	1	1	1
NOISE LEVEL																
Noise Pressure	-3	dB(A)	51	51	52	52	52	53	54	56	56	56	57	58	58	59
Noise Power	-4	dB(A)	83	83	84	84	84	85	86	88	88	88	89	90	90	91
SIZE AND WEIGHT																
A	-5	mm	1825	1825	1825	2395	2395	2395	2395	2825	2825	2825	3360	3980	3980	3980
B	-5	mm	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195
H	-5	mm	1865	1865	1865	1865	1865	1865	1865	1980	1980	1980	1980	1980	1980	1980
Operating weight	-5	kg	470	480	490	540	550	570	660	830	870	900	980	1130	1110	1140

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Average sound pressure level at 10m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(4) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(5) Unit in standard configuration/execution without optional accessories



APTUS - Air Cooled Chillers

159kW-352kW

AT/K

AT/K			4061	4071	4081	4091	4101	4111	4121
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	-1	kW	165	194	218	248	289	308	327
Total power input	-1	kW	58.3	66.7	78.9	88.6	99	108	118
EER	-1		2.83	2.91	2.76	2.8	2.92	2.85	2.76
ESEER	-1		4.06	4.39	4.3	4.41	4.26	4.27	4.18
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1) (2)	kW	164	193	217	247	288	307	326
EER	(1) (2)		2.79	2.87	2.71	2.76	2.86	2.81	2.73
ESEER	(1) (2)		3.92	4.21	4.08	4.2	4.02	4.11	4.02
Cooling energy class			C	C	C	C	C	C	C
EXCHANGERS									
SHELL AND TUBE HEAT EXCHANGER									
Water flow	-1	m³/h	28.3	33.4	37.5	42.7	49.8	53.1	56.2
Pressure drop	-1	kPa	23.3	32.4	50.9	45.5	61.7	38	42.7
PLATE HEAT EXCHANGER									
Water flow	-1	m³/h	28.3	33.4	37.5	42.7	49.8	53.1	56.2
Pressure drop	-1	kPa	45	47.1	47.8	50.4	54.8	46.8	52.5
COMPRESSORS									
Compressors nr.	N°		4	4	4	4	4	4	4
No. Circuits	N°		2	2	2	2	2	2	2
NOISE LEVEL									
Noise Pressure	-3	dB(A)	60	60	61	62	63	63	63
Noise Power	-4	dB(A)	92	92	93	94	95	95	95
SIZE AND WEIGHT									
A	-5	mm	3160	3160	3160	3160	4335	4335	4335
B	-5	mm	2250	2250	2250	2250	2250	2250	2250
H	-5	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	-5	kg	1650	1810	1820	1950	2340	2530	2550

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Average sound pressure level at 10m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(4) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(5) Unit in standard configuration/execution without optional accessories



APTUS - Air Cooled Chillers

334kW-885kW

AT/K

AT/K			4131	4141	4161	5171	6181	5201	6211	6231	6241	8241	8261	8281	8301	8321
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	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	354	379	413	458	501	526	569	604	635	665	708	759	793	827
Total power input	-1	kW	124	130	148	160	172	184	195	214	219	234	249	261	279	296
EER	-1		2.85	2.91	2.8	2.86	2.92	2.86	2.91	2.82	2.9	2.85	2.85	2.92	2.84	2.8
ESEER	-1		4.16	4.24	4.04	4.19	4.21	4.07	4.18	4.11	4.08	4.12	4.18	4.27	4.2	4.07
COOLING ONLY (EN14511 VALUE)																
Cooling capacity	(1) (2)	kW	353	377	412	456	499	524	567	602	632	663	705	757	791	824
EER	(1) (2)		2.8	2.87	2.75	2.81	2.87	2.82	2.87	2.78	2.86	2.81	2.8	2.88	2.81	2.76
ESEER	(1) (2)		3.95	4.06	3.86	3.99	3.99	3.91	4	3.94	3.9	3.94	3.98	4.1	4.03	3.9
Cooling energy class			C	C	C	C	C	C	C	C	C	C	C	C	C	C
EXCHANGERS																
HEAT EXCHANGER USER SIDE IN REFRIGERATION																
Water flow	-1	m³/h	61	65.2	71.2	78.9	86.3	90.5	98	104	109	115	122	131	137	142
Pressure drop	-1	kPa	54	43.8	52.2	48.5	58.1	39.3	46.1	44.3	49	48.5	54.9	42.7	46.7	50.6
COMPRESSORS																
Compressors nr.	N°		4	4	4	5	6	5	6	6	6	8	8	8	8	8
No. Circuits	N°		2	2	2	2	2	2	2	3	2	4	4	4	4	4
NOISE LEVEL																
Noise Pressure	-3	dB(A)	64	64	64	64	65	65	64	64	65	65	65	66	66	66
Noise Power	-4	dB(A)	96	96	96	96	97	97	97	97	98	98	98	99	99	99
SIZE AND WEIGHT																
A	-5	mm	3905	3905	3905	5080	5080	5080	6255	6255	6255	7430	7430	7430	7430	7430
B	-5	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	-5	mm	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450
Operating weight	-5	kg	2730	2770	2800	3400	3650	3690	4200	4220	4350	5260	5300	5370	5400	5430

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Average sound pressure level at 10m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(4) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(5) Unit in standard configuration/execution without optional accessories



APTUS - Air Cooled Chillers

39.2kW-227kW

AT/Q/K

AT/Q/K			2015	2018	2020	2025	2026	2030	2035	2040	2045	2050	2055	2060	2070	2080
Power supply	V/ph/Hz	400/3/ 50+N	400/3/ 50													
PERFORMANCE																
COOLING ONLY (GROSS VALUE)																
Cooling capacity	-1	kW	39.3	44.3	51.7	58.8	65.5	74.7	89.9	99.4	113	125	140	163	179	194
Total power input	-1	kW	13.6	15.8	18.5	20.4	23.2	28.3	31.1	35.9	39.3	44.2	52.9	58.1	70.3	81.9
EER	-1		2.89	2.8	2.79	2.88	2.82	2.64	2.89	2.77	2.87	2.83	2.64	2.8	2.55	2.37
ESEER	-1		4.5	4.44	4.41	4.38	4.39	4.22	4.26	4.11	4.29	4.33	4.36	4.2	4.1	3.83
COOLING ONLY (EN14511 VALUE)																
Cooling capacity	(1) (2)	kW	39.1	44	51.4	58.5	65.2	74.4	89.3	98.8	112	124	139	162	179	193
EER	(1) (2)		2.82	2.74	2.73	2.83	2.77	2.6	2.82	2.71	2.81	2.78	2.6	2.75	2.51	2.33
ESEER	(1) (2)		4.28	4.22	4.2	4.19	4.21	4.08	4.01	3.92	4.11	4.14	4.17	4.04	3.95	3.7
Cooling energy class			C	C	C	C	C	D	C	C	C	D	C	D	E	
EXCHANGERS																
HEAT EXCHANGER USER SIDE IN REFRIGERATION																
Water flow	-1	m³/h	6.76	7.64	8.9	10.1	11.3	12.9	15.5	17.1	19.4	21.6	24.1	28	30.9	33.4
Pressure drop	-1	kPa	36.3	34.2	36	33.3	33.7	31.4	55.9	47.4	49.8	47.4	49	47.6	44.7	52.3
COMPRESSORS																
Compressors nr.	N°		2	2	2	2	2	2	2	2	2	2	2	2	2	2
No. Circuits	N°		1	1	1	1	1	1	1	1	1	1	1	1	1	1
NOISE LEVEL																
Noise Pressure	-3	dB(A)	47	47	47	48	48	48	51	51	52	52	52	53	53	53
Noise Power	-4	dB(A)	79	79	79	80	80	80	83	83	84	84	84	85	85	85
SIZE AND WEIGHT																
A	-5	mm	1755	1755	2290	2290	2290	2290	2825	2825	3360	3360	3360	3980	3980	3980
B	-5	mm	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195
H	-5	mm	1885	1885	1885	1885	1885	1885	2010	2010	2025	2025	2025	2010	2010	2010
Operating weight	-5	kg	480	500	540	570	570	580	780	880	1000	1030	1060	1180	1150	1180

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Average sound pressure level at 10m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(4) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(5) Unit in standard configuration/execution without optional accessories

APTUS - Air Cooled Chillers

159kW-352kW

AT/Q/K

AT/Q/K			4061	4071	4081	4091	4101	4111	4121
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	-1	kW	160	185	208	235	274	290	320
Total power input	-1	kW	58.1	68.6	79.6	92.2	101	112	118
EER	-1		2.75	2.7	2.62	2.55	2.71	2.6	2.7
ESEER	-1		4.13	4.42	4.37	4.41	4.25	4.25	4.37
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1) (2)	kW	159	185	207	234	273	290	319
EER	(1) (2)		2.72	2.67	2.57	2.51	2.67	2.57	2.67
ESEER	(1) (2)		3.99	4.25	4.16	4.21	4.04	4.1	4.21
Cooling energy class			C	D	D	D	D	D	D
EXCHANGERS									
SHELL AND TUBE HEAT EXCHANGER									
Water flow	-1	m³/h	27.5	31.9	35.9	40.4	47.2	50	55.1
Pressure drop	-1	kPa	21.9	29.6	46.5	40.7	55.4	33.7	41
PLATE HEAT EXCHANGER									
Water flow	-1	m³/h	27.5	31.9	35.9	40.4	47.2	50	55.1
Pressure drop	-1	kPa	42.4	43	43.7	45.2	49.2	41.5	50.5
COMPRESSORS									
Compressors nr.	N°		4	4	4	4	4	4	4
No. Circuits	N°		2	2	2	2	2	2	2
NOISE LEVEL									
Noise Pressure	-3	dB(A)	54	54	55	56	57	57	58
Noise Power	-4	dB(A)	86	86	87	88	89	89	90
SIZE AND WEIGHT									
A	-5	mm	3160	3160	3160	3160	4335	4335	4335
B	-5	mm	2250	2250	2250	2250	2250	2250	2250
H	-5	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	-5	kg	1700	1860	1870	1990	2380	2580	2600

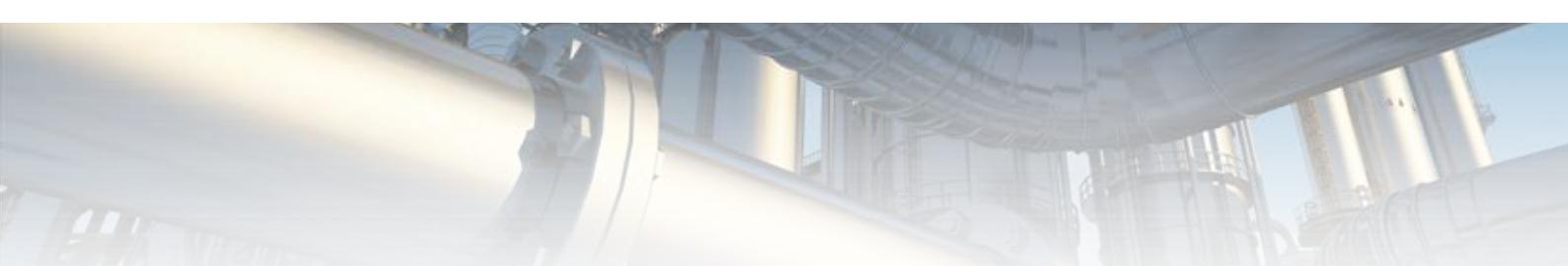
(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Average sound pressure level at 10m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(4) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(5) Unit in standard configuration/execution without optional accessories



APTUS - Air Cooled Chillers

39.2kW-227kW

AT/SS/K

AT/SS/K			2015	2018	2020	2025	2026	2030	2035	2040	2045	2050	2055	2060	2070
Power supply	V/ph/Hz	400/3/ 50+N	400/3/ 50+N	400/3/ 50+N	400/3/ 50										
PERFORMANCE															
COOLING ONLY (GROSS VALUE)															
Cooling capacity	-1	kW	39.4	44.6	52.3	58.9	65.9	77.7	88.5	100	113	124	140	153	175
Total power input	-1	kW	13.9	16.1	18.2	20.3	22.9	27.4	30.5	35.1	39.3	44.8	52.5	61.7	72.1
EER	-1		2.83	2.77	2.87	2.9	2.88	2.84	2.9	2.85	2.89	2.77	2.68	2.48	2.43
ESEER	-1		4.28	4.25	4.49	4.15	4.22	4.3	4.4	4.4	4.38	4.32	4.29	4.08	3.96
COOLING ONLY (EN14511 VALUE)															
Cooling capacity	(1) (2)	kW	39.2	44.3	52	58.6	65.6	77.3	87.9	99.4	113	124	140	152	175
EER	(1) (2)		2.77	2.71	2.81	2.84	2.82	2.78	2.83	2.79	2.82	2.72	2.63	2.44	2.4
ESEER	(1) (2)		4.07	4.05	4.27	3.99	4.05	4.12	4.14	4.19	4.18	4.15	4.12	3.95	3.81
Cooling energy class			C	C	C	C	C	C	C	C	C	D	E	E	
EXCHANGERS															
HEAT EXCHANGER USER SIDE IN REFRIGERATION															
Water flow	-1	m ³ /h	6.78	7.68	9	10.1	11.3	13.4	15.2	17.2	19.5	21.4	24.2	26.3	30.2
Pressure drop	-1	kPa	36.6	34.6	36.8	33.4	34.1	34	54.1	48	50.3	46.7	49.4	42	42.7
COMPRESSORS															
Compressors nr.	N°		2	2	2	2	2	2	2	2	2	2	2	2	2
No. Circuits	N°		1	1	1	1	1	1	1	1	1	1	1	1	1
NOISE LEVEL															
Noise Pressure	-3	dB(A)	44	45	45	46	46	46	47	48	49	49	50	50	51
Noise Power	-4	dB(A)	76	77	77	78	78	78	79	80	81	81	82	82	83
SIZE AND WEIGHT															
A	-5	mm	2290	2290	2290	2825	2825	2825	3360	3360	3980	3980	3980	3980	3980
B	-5	mm	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195
H	-5	mm	1885	1885	1885	2010	2010	2010	2025	2025	2010	2010	2010	2010	2010
Operating weight	-5	kg	540	550	560	670	680	680	860	960	1070	1080	1110	1180	1150

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Average sound pressure level at 10m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(4) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(5) Unit in standard configuration/execution without optional accessories



APTUS - Air Cooled Chillers

159kW-327kW

AT/SS/K

AT/SS/K			4061	4071	4081	4091	4101	4111	4121
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	-1	kW	159	180	214	241	264	296	312
Total power input	-1	kW	56.3	70.7	77.8	89.3	104	109	120
EER	-1		2.82	2.54	2.75	2.7	2.55	2.71	2.61
ESEER	-1		4.34	4.41	4.4	4.41	4.28	4.34	4.26
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1) (2)	kW	158	179	213	240	263	295	311
EER	(1) (2)		2.78	2.51	2.71	2.66	2.51	2.68	2.57
ESEER	(1) (2)		4.13	4.21	4.19	4.2	4.09	4.15	4.07
Cooling energy class			C	D	C	D	D	D	D
EXCHANGERS									
SHELL AND TUBE HEAT EXCHANGER									
Water flow	-1	m³/h	27.4	31	36.9	41.5	45.5	51	53.8
Pressure drop	-1	kPa	21.7	27.8	49.3	43	41.4	35.1	39
PLATE HEAT EXCHANGER									
Water flow	-1	m³/h	27.4	31	36.9	41.5	45.5	51	53.8
Pressure drop	-1	kPa	41.9	40.5	46.3	47.6	45.7	43.1	48
COMPRESSORS									
Compressors nr.	N°		4	4	4	4	4	4	4
No. Circuits	N°		2	2	2	2	2	2	2
NOISE LEVEL									
Noise Pressure	-3	dB(A)	50	51	51	52	52	54	54
Noise Power	-4	dB(A)	82	83	83	84	84	86	86
SIZE AND WEIGHT									
A	-5	mm	3160	3160	4335	4335	4335	5510	5510
B	-5	mm	2250	2250	2250	2250	2250	2250	2250
H	-5	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	-5	kg	1550	1730	2030	2170	2300	2700	2730

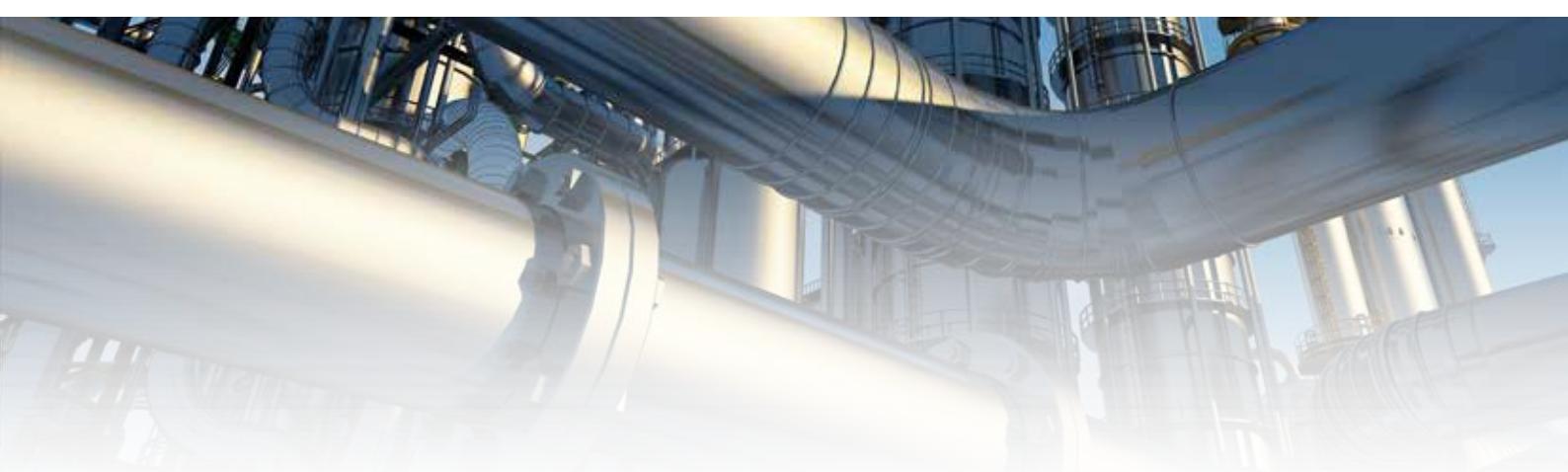
(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Average sound pressure level at 10m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(4) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(5) Unit in standard configuration/execution without optional accessories



APTUS - Air Cooled Chiller

334kW-885kW

AT/SS

AT/SS			4131	4141	4161	5171	6181	5201	6211	6231	6241	8241	8261	8281	8301	8321
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	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	334	358	397	431	465	498	532	579	596	616	666	718	758	795
Total power input	-1	kW	129	137	153	168	183	192	206	220	230	245	258	275	288	306
EER	-1		2.58	2.61	2.6	2.57	2.55	2.6	2.58	2.63	2.59	2.52	2.58	2.61	2.63	2.6
ESEER	-1		4.29	4.31	4.21	4.33	4.36	4.26	4.37	4.38	4.29	4.32	4.39	4.36	4.39	4.27
COOLING ONLY (EN14511 VALUE)																
Cooling capacity	(1) (2)	kW	332	357	396	430	463	496	531	577	594	614	664	716	755	792
EER	(1) (2)		2.55	2.58	2.56	2.53	2.51	2.57	2.55	2.6	2.56	2.49	2.55	2.58	2.6	2.56
ESEER	(1) (2)		4.1	4.15	4.03	4.14	4.15	4.12	4.19	4.2	4.12	4.15	4.19	4.19	4.21	4.09
Cooling energy class			D	D	D	D	D	D	D	D	E	D	D	D	D	D
EXCHANGERS																
HEAT EXCHANGER USER SIDE IN REFRIGERATION																
Water flow	-1	m³/h	57.4	61.7	68.4	74.3	80.1	85.7	91.6	99.7	103	106	115	124	130	137
Pressure drop	-1	kPa	47.8	39.2	48.2	43	50	35.2	40.3	40.8	43.1	41.6	48.7	38.2	42.6	46.8
COMPRESSORS																
Compressors nr.	Nº		4	4	4	5	6	5	6	6	6	8	8	8	8	8
No. Circuits	Nº		2	2	2	2	2	2	2	3	2	4	4	4	4	4
NOISE LEVEL																
Noise Pressure	-3	dB(A)	54	54	54	54	54	54	54	55	55	55	56	57	57	57
Noise Power	-4	dB(A)	86	86	86	87	87	87	87	88	88	88	89	90	90	90
SIZE AND WEIGHT																
A	-5	mm	5080	5080	5080	6255	6255	6255	7430	7430	7430	7430	8605	9780	9780	9780
B	-5	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	-5	mm	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450
Operating weight	-5	kg	3060	3160	3200	3900	4110	4190	4640	4730	4790	5410	5810	6160	6200	6250

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Average sound pressure level at 10m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(4) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(5) Unit in standard configuration/execution without optional accessories



APTUS - Air Cooled Chillers

39.2kW-227kW

AT/CA

AT/CA			2015	2018	2020	2025	2026	2030	2035	2040	2045	2050	2065	2061	2071	2081
Power supply	V/ph/Hz	400/3/ 50+N	400/3/ 50+N	400/3/ 50+N	400/3/ 50+N	400/3/ 50+N	400/3/ 50									
PERFORMANCE																
COOLING ONLY (GROSS VALUE)																
Cooling capacity	-1	kW	41.7	47.4	55	62.5	69.6	85	96.6	108	122	138	160	178	201	227
Total power input	-1	kW	12.8	14.5	16.7	19.3	21.8	26.5	30.2	33.6	38.3	42.6	48.9	55.4	63.5	70.5
EER	-1		3.26	3.27	3.29	3.24	3.19	3.21	3.2	3.21	3.18	3.23	3.28	3.22	3.17	3.22
ESEER	-1		4.56	4.65	4.45	4.45	4.49	4.28	4.41	4.43	4.54	4.34	4.32	4.31	4.38	4.17
COOLING ONLY (EN14511 VALUE)																
Cooling capacity	(1) (2)	kW	41.4	47.1	54.7	62.2	69.2	84.5	95.9	107	121	137	159	178	200	226
EER	(1) (2)		3.17	3.18	3.21	3.16	3.12	3.14	3.11	3.13	3.1	3.16	3.2	3.15	3.1	3.14
ESEER	(1) (2)		4.3	4.41	4.23	4.26	4.28	4.07	4.13	4.19	4.3	4.13	4.08	4.13	4.18	3.96
Cooling energy class			A	A	A	A	A	A	A	A	A	A	A	A	A	
EXCHANGERS																
HEAT EXCHANGER USER SIDE IN REFRIGERATION																
Water flow	-1	m³/h	7.18	8.17	9.47	10.8	12	14.6	16.6	18.6	21	23.7	27.6	30.7	34.6	39.1
Pressure drop	-1	kPa	40.9	39.1	40.7	37.6	38	40.7	64.4	56	58.2	57.4	64.4	57.2	56.2	71.5
COMPRESSORS																
Compressors nr.	N°		2	2	2	2	2	2	2	2	2	2	2	2	2	2
No. Circuits	N°		1	1	1	1	1	1	1	1	1	1	1	1	1	1
NOISE LEVEL																
Noise Pressure	-3	dB(A)	52	52	53	53	54	56	56	58	58	58	59	59	60	61
Noise Power	-4	dB(A)	84	84	85	85	86	88	88	90	90	90	91	91	92	93
SIZE AND WEIGHT																
A	-5	mm	1755	2290	2290	2290	2290	2825	3360	3360	3360	3980	3160	3160	3160	4335
B	-5	mm	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195	2250	2250	2250	2250
H	-5	mm	1885	1885	1885	1885	1885	2010	2010	2025	2025	2010	2170	2170	2170	2170
Operating weight	-5	kg	480	540	550	560	570	680	830	960	1000	1080	1510	1550	1570	1810

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Average sound pressure level at 10m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(4) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(5) Unit in standard configuration/execution without optional accessories



APTUS - Air Cooled Chillers

159kW-352kW

AT/CA

AT/CA			4061	4071	4081	4091	4101	4111	4121
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	-1	kW	174	205	235	266	302	330	352
Total power input	-1	kW	54.4	65	72.9	84.1	95.8	103	111
EER	-1		3.2	3.16	3.23	3.17	3.15	3.21	3.17
ESEER	-1		4.31	4.26	4.45	4.49	4.43	4.35	4.37
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1) (2)	kW	174	204	234	265	301	329	351
EER	(1) (2)		3.16	3.11	3.16	3.11	3.11	3.16	3.12
ESEER	(1) (2)		4.17	4.06	4.2	4.24	4.26	4.17	4.18
Cooling energy class			A	A	A	A	A	A	A
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	-1	m³/h	30	35.3	40.5	45.9	52	56.8	60.6
Pressure drop	-1	kPa	26.1	36.2	59.5	52.4	36.5	43.6	49.6
COMPRESSORS									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
NOISE LEVEL									
Noise Pressure	-3	dB(A)	60	61	62	63	63	64	65
Noise Power	-4	dB(A)	92	93	94	95	95	96	97
SIZE AND WEIGHT									
A	-5	mm	3160	4335	4335	4335	4335	5510	5510
B	-5	mm	2250	2250	2250	2250	2250	2250	2250
H	-5	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	-5	kg	1700	2150	2160	2290	2550	2930	2950

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Average sound pressure level at 10m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(4) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(5) Unit in standard configuration/execution without optional accessories



APTUS - Air Cooled Chiller

334kW-885kW

AT/CA

AT/CA			4131	4141	4161	5171	6181	5201	6211	6231	6241	8241	8261	8281	8301	8321
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	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	370	391	438	481	518	549	591	633	657	701	740	785	831	885
Total power input	-1	kW	120	125	142	154	166	177	189	204	212	225	239	250	266	283
EER	-1		3.1	3.13	3.1	3.12	3.11	3.1	3.12	3.1	3.1	3.11	3.1	3.13	3.12	3.13
ESEER	-1		4.45	4.48	4.39	4.54	4.5	4.42	4.48	4.48	4.37	4.44	4.46	4.5	4.49	4.45
COOLING ONLY (EN14511 VALUE)																
Cooling capacity	(1) (2)	kW	369	390	436	479	515	547	589	630	655	699	737	782	828	881
EER	(1) (2)		3.04	3.08	3.04	3.07	3.05	3.06	3.07	3.06	3.05	3.06	3.04	3.09	3.07	3.07
ESEER	(1) (2)		4.22	4.28	4.17	4.3	4.24	4.23	4.28	4.27	4.16	4.22	4.22	4.3	4.28	4.22
Cooling energy class			B	B	B	B	B	B	B	B	B	B	B	B	B	B
EXCHANGERS																
HEAT EXCHANGER USER SIDE IN REFRIGERATION																
Water flow	-1	m³/h	63.8	67.4	75.5	82.8	89.1	94.5	102	109	113	121	127	135	143	152
Pressure drop	-1	kPa	59	46.8	58.7	53.5	61.9	42.9	49.8	48.6	52.5	54	60	45.6	51.1	58
COMPRESSORS																
Compressors nr.	Nº		4	4	4	5	6	5	6	6	6	8	8	8	8	8
No. Circuits	Nº		2	2	2	2	2	2	2	3	2	4	4	4	4	4
NOISE LEVEL																
Noise Pressure	-3	dB(A)	65	65	65	64	65	65	65	66	66	66	66	67	67	67
Noise Power	-4	dB(A)	97	97	97	97	98	98	98	99	99	99	99	100	100	100
SIZE AND WEIGHT																
A	-5	mm	5080	5080	5080	6255	6255	6255	7430	7430	7430	9780	9780	9780	9780	9780
B	-5	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	-5	mm	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450
Operating weight	-5	kg	3060	3100	3130	3800	4050	4090	4540	4630	4690	5930	5970	6040	6070	6110

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Average sound pressure level at 10m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(4) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(5) Unit in standard configuration/execution without optional accessories



APTUS - Air Cooled Chillers

39.2kW-227kW

AT/Q/CA

AT/Q/CA			2015	2018	2020	2025	2026	2030	2035	2040	2045	2050	2056	2061	2071	2081
Power supply	V/ph/Hz	400/3/ 50+N	400/3/ 50+N	400/3/ 50+N	400/3/ 50											
PERFORMANCE																
COOLING ONLY (GROSS VALUE)																
Cooling capacity	-1	kW	41.5	47	55	63.5	70.7	82.7	94.4	107	121	134	154	173	198	221
Total power input	-1	kW	12.6	14.4	17.2	19.5	21.9	26	29.3	33.3	37.9	42.2	47.1	54.4	60.8	67.5
EER	-1		3.29	3.26	3.2	3.26	3.23	3.18	3.22	3.23	3.18	3.18	3.27	3.18	3.26	3.28
ESEER	-1		4.56	4.62	4.71	4.31	4.34	4.37	4.52	4.32	4.41	4.36	4.67	4.48	4.65	4.38
COOLING ONLY (EN14511 VALUE)																
Cooling capacity	(1) (2)	kW	41.2	46.7	54.7	63.1	70.3	82.3	93.8	107	120	133	153	172	197	220
EER	(1) (2)		3.2	3.18	3.12	3.18	3.15	3.11	3.13	3.14	3.1	3.11	3.19	3.11	3.2	3.2
ESEER	(1) (2)		4.29	4.38	4.46	4.11	4.15	4.2	4.25	4.1	4.19	4.15	4.4	4.29	4.43	4.16
Cooling energy class			A	A	A	A	A	A	A	A	A	A	A	A	A	A
EXCHANGERS																
HEAT EXCHANGER USER SIDE IN REFRIGERATION																
Water flow	-1	m ³ /h	7.14	8.09	9.47	10.9	12.2	14.2	16.3	18.5	20.8	23.1	26.5	29.7	34.1	38.1
Pressure drop	-1	kPa	40.5	38.4	40.7	38.8	39.2	38.5	61.6	55.4	56.9	54.4	59.3	53.6	54.6	67.9
COMPRESSORS																
Compressors nr.	N°		2	2	2	2	2	2	2	2	2	2	2	2	2	2
No. Circuits	N°		1	1	1	1	1	1	1	1	1	1	1	1	1	1
NOISE LEVEL																
Noise Pressure	-3	dB(A)	48	48	48	49	49	50	52	52	52	53	54	54	55	56
Noise Power	-4	dB(A)	80	80	80	81	81	82	84	84	84	85	86	86	87	88
SIZE AND WEIGHT																
A	-5	mm	2290	2290	2290	2825	2825	3360	3360	3980	3980	3980	3160	3160	4335	4335
B	-5	mm	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195	2250	2250	2250	2250
H	-5	mm	1885	1885	1885	2010	2010	2010	2025	2010	2010	2010	2170	2170	2170	2170
Operating weight	-5	kg	550	560	560	670	680	750	870	1050	1080	10890	1510	1550	1810	1870

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Average sound pressure level at 10m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(4) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(5) Unit in standard configuration/execution without optional accessories



APTUS - Air Cooled Chillers

159kW-352kW

AT/Q/CA

AT/Q/CA			4061	4071	4081	4091	4101	4111	4121
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	-1	kW	168	198	227	262	295	318	344
Total power input	-1	kW	52.8	61.6	70.5	82.8	93.2	99.6	109
EER	-1		3.17	3.22	3.23	3.17	3.16	3.19	3.17
ESEER	-1		4.56	4.61	4.7	4.71	4.55	4.63	4.7
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1) (2)	kW	167	198	226	261	294	317	343
EER	(1) (2)		3.13	3.17	3.16	3.11	3.12	3.15	3.12
ESEER	(1) (2)		4.4	4.4	4.44	4.47	4.39	4.43	4.48
Cooling energy class			A	A	A	A	A	A	A
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	-1	m³/h	28.8	34.2	39.1	45.1	50.7	54.8	59.3
Pressure drop	-1	kPa	24.1	33.8	55.5	50.7	34.7	40.5	47.5
COMPRESSORS									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
NOISE LEVEL									
Noise Pressure	-3	dB(A)	54	55	56	57	58	59	59
Noise Power	-4	dB(A)	86	87	88	89	90	91	91
SIZE AND WEIGHT									
A	-5	mm	3160	4335	4335	4335	5510	5510	5510
B	-5	mm	2250	2250	2250	2250	2250	2250	2250
H	-5	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	-5	kg	1700	2150	2160	2290	2880	2900	2930

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Average sound pressure level at 10m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(4) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(5) Unit in standard configuration/execution without optional accessories



APTUS - Air Cooled Chillers

39.2kW-227kW

AT/SS/CA

AT/SS/CA			2015	2018	2020	2025	2026	2030	2035	2041	2046	2051	2056	2061	2071	2081
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	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	41.9	47.5	55.3	62.2	69.2	81.9	94.5	106	119	133	152	172	195	218
Total power input	-1	kW	12.8	14.5	17.1	19	21.4	25.5	29.6	32.4	36.9	41.9	47.3	52.8	61.6	68.2
EER	-1		3.27	3.28	3.23	3.27	3.23	3.21	3.19	3.27	3.22	3.17	3.21	3.26	3.16	3.19
ESEER	-1		4.26	4.39	4.52	4.44	4.46	4.57	4.52	4.56	4.64	4.67	4.7	4.63	4.72	4.46
COOLING ONLY (EN14511 VALUE)																
Cooling capacity	(1) (2)	kW	41.6	47.2	55	61.9	68.8	81.5	93.9	105	118	132	151	171	194	216
EER	(1) (2)		3.18	3.19	3.15	3.2	3.16	3.14	3.1	3.19	3.14	3.1	3.13	3.19	3.1	3.12
ESEER	(1) (2)		4.02	4.16	4.3	4.24	4.26	4.38	4.27	4.35	4.39	4.46	4.47	4.42	4.51	4.26
Cooling energy class			A	A	A	A	A	A	A	A	A	A	A	A	A	A
EXCHANGERS																
HEAT EXCHANGER USER SIDE IN REFRIGERATION																
Water flow	-1	m³/h	7.21	8.18	9.52	10.7	11.9	14.1	16.3	18.3	20.4	22.9	26.1	29.7	33.5	37.5
Pressure drop	-1	kPa	41.3	39.3	41.2	37.3	37.6	37.8	61.7	54	55.1	53.5	57.6	53.3	52.7	65.7
COMPRESSORS																
Compressors nr.	N°		2	2	2	2	2	2	2	2	2	2	2	2	2	2
No. Circuits	N°		1	1	1	1	1	1	1	1	1	1	1	1	1	1
NOISE LEVEL																
Noise Pressure	-3	dB(A)	45	46	46	47	47	47	48	49	50	50	51	52	53	54
Noise Power	-4	dB(A)	77	78	78	79	79	79	80	81	82	82	83	84	85	86
SIZE AND WEIGHT																
A	-5	mm	2825	2825	2825	3360	3360	3360	3980	3160	3160	3160	4335	4335	4335	5510
B	-5	mm	1195	1195	1195	1195	1195	1195	1195	2250	2250	2250	2250	2250	2250	2250
H	-5	mm	2010	2010	2010	2025	2025	2025	2010	2170	2170	2170	2170	2170	2170	2170
Operating weight	-5	kg	650	660	670	760	770	780	940	1410	1450	1480	1740	1820	1850	2130

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Average sound pressure level at 10m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(4) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(5) Unit in standard configuration/execution without optional accessories



APTUS - Air Cooled Chillers

159kW-352kW

AT/SS/CA

AT/SS/CA			4061	4071	4081	4091	4101	4111	4121
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	-1	kW	167	195	224	259	292	317	344
Total power input	-1	kW	52.3	61	69.9	82	92.6	99.6	109
EER	-1		3.2	3.2	3.21	3.16	3.15	3.18	3.16
ESEER	-1		4.69	4.7	4.68	4.72	4.72	4.68	4.7
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1) (2)	kW	167	194	223	258	291	316	342
EER	(1) (2)		3.16	3.15	3.14	3.11	3.11	3.13	3.11
ESEER	(1) (2)		4.52	4.49	4.42	4.47	4.55	4.49	4.47
Cooling energy class			A	A	A	A	A	A	A
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	-1	m³/h	28.8	33.6	38.6	44.6	50.2	54.5	59.2
Pressure drop	-1	kPa	24.1	32.7	53.9	49.6	34.1	40.1	47.2
COMPRESSORS									
Compressors nr.		Nº	4	4	4	4	4	4	4
No. Circuits		Nº	2	2	2	2	2	2	2
NOISE LEVEL									
Noise Pressure	-3	dB(A)	51	51	52	53	54	55	55
Noise Power	-4	dB(A)	83	83	84	85	86	87	87
SIZE AND WEIGHT									
A	-5	mm	4335	4335	5510	5510	5510	5510	5510
B	-5	mm	2250	2250	2250	2250	2250	2250	2250
H	-5	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	-5	kg	1980	2150	2490	2610	2880	2900	2930

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Average sound pressure level at 10m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(4) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(5) Unit in standard configuration/execution without optional accessories



APTUS - Air Cooled Chillers

334kW-885kW

AT/SS/CA

AT/SS/CA			4131	4141	4161	5171	6181	5201	6211	6231	6241	8241
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	400/3/50
PERFORMANCE												
COOLING ONLY (GROSS VALUE)												
Cooling capacity	-1	kW	370	394	440	481	522	550	592	638	662	695
Total power input	-1	kW	119	126	142	154	167	177	189	204	213	223
EER	-1		3.11	3.12	3.11	3.12	3.12	3.11	3.13	3.12	3.11	3.12
ESEER	-1		4.57	4.56	4.44	4.54	4.58	4.52	4.6	4.59	4.53	4.58
COOLING ONLY (EN14511 VALUE)												
Cooling capacity	(1) (2)	kW	369	393	438	480	520	549	590	636	660	693
EER	(1) (2)		3.07	3.08	3.06	3.08	3.08	3.08	3.08	3.08	3.06	3.09
ESEER	(1) (2)		4.38	4.39	4.27	4.39	4.4	4.35	4.4	4.39	4.33	4.43
Cooling energy class			B	B	B	B	B	B	B	B	B	B
EXCHANGERS												
HEAT EXCHANGER USER SIDE IN REFRIGERATION												
Water flow	-1	m³/h	63.8	67.9	75.8	82.8	89.8	94.7	102	110	114	120
Pressure drop	-1	kPa	41.9	35.9	44.8	32.9	38.7	36.8	42.5	44.7	48.1	35.8
COMPRESSORS												
Compressors nr.	N°		4	4	4	5	6	5	6	6	6	8
No. Circuits	N°		2	2	2	2	2	2	2	3	2	4
NOISE LEVEL												
Noise Pressure	-3	dB(A)	53	53	53	54	54	54	54	55	55	55
Noise Power	-4	dB(A)	86	86	86	87	87	87	87	88	88	88
SIZE AND WEIGHT												
A	-5	mm	6255	6255	6255	7430	7430	7430	8605	8605	8605	9780
B	-5	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	-5	mm	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450
Operating weight	-5	kg	3490	3700	3730	4400	4650	4510	4990	5360	5360	6100

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Average sound pressure level at 10m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(4) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(5) Unit in standard configuration/execution without optional accessories



APTUS

Indoor Versions



APTUS - Air Cooled Chillers

35.8kW-325kW

AT-I/HA

AT-I/HA			2015	2018	2020	2025	2030	2035	2041	2045	2051	2055	2061	4060	4070	4080	4090	4100	4110	4120
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	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	39	45.5	52.7	59.4	80	91.5	103	114	130	148	165	158	183	203	228	257	296	325	
Total power input	-1 kW	14.9	17.4	20	22.4	30.6	34.6	39.8	44.1	50.8	57.8	64.6	61.2	69	79.9	89.1	99.3	112	128	
EER	-1	2.62	2.61	2.64	2.65	2.61	2.64	2.58	2.58	2.56	2.55	2.56	2.58	2.65	2.54	2.55	2.59	2.64	2.53	
ESEER	-1	4.83	4.48	4.51	4.42	3.93	4.01	3.81	4.03	3.78	3.97	3.94	3.54	3.94	3.67	3.77	3.71	3.84	3.75	
COOLING ONLY (EN14511 VALUE)																				
Cooling capacity	(1) (2) kW	38.7	45.1	52.3	59	79.4	91	102	113	129	147	164	157	182	202	227	256	294	323	
EER	(1) (2)	2.89	2.87	2.86	2.85	2.87	2.89	2.79	2.77	2.82	2.77	2.75	2.8	2.89	2.75	2.74	2.81	2.83	2.69	
ESEER	(1) (2)	4.5	4.11	4.24	4.18	3.71	3.84	3.67	3.84	3.63	3.68	3.7	3.54	3.78	3.58	3.65	3.62	3.7	3.67	
Cooling energy class		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	B		
EXCHANGERS																				
HEAT EXCHANGER USER SIDE IN REFRIGERATION																				
Water flow	-1 m³/h	6.71	7.83	9.07	10.2	13.8	15.7	17.7	19.6	22.4	25.4	28.5	27.2	31.4	34.9	39.2	44.2	50.9	55.9	
Pressure drop	-1 kPa	46.7	63.6	54.6	50.3	68.3	38.2	48.1	41.5	54	52.2	51	46.6	53.6	52.5	52.4	54.1	54.9	52.8	
COMPRESSORS																				
Compressors nr.	N°	2	2	2	2	2	2	2	2	2	2	2	4	4	4	4	4	4	4	
No. Circuits	N°	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	
FANS																				
Air flow	m³/s	4.44	5.28	5.28	5.28	8.89	8.89	9.44	9.44	14.2	14.2	14.2	14.2	17.8	18.9	18.9	23.6	23.6	23.6	
Available static pressure	Pa	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	
NOISE LEVEL																				
Noise Power	-3 dB(A)	85	89	89	89	95	95	96	96	98	98	98	98	99	99	99	100	100	100	
SIZE AND WEIGHT																				
A	-4 mm	2200	2200	2200	2200	2602	2602	3602	3602	3602	3602	4602	4602	4602	5602	5602	5602	5602	5602	
B	-4 mm	920	920	920	920	1104	1104	1104	1104	1104	1104	1277	1277	1277	1277	1277	1277	1277	1277	
H	-4 mm	1642	1642	1642	1642	1927	1927	1927	1927	1927	1927	1927	1900	2235	2235	2235	2235	2235	2235	
Operating weight	-4 kg	690	710	730	760	1090	1120	1230	1400	1490	1560	1630	1920	2320	2380	2580	2845	3055	3115	

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Total sound power of fans, as declared by the maker, at the rated speed of rotation and a useful static head of 120 Pa on the delivery side.

(4) Unit in standard configuration/execution, without optional accessories.



APTUS - Air Cooled Chillers

35.8kW-325kW

AT-I/K

AT-I/K			2015	2018	2020	2025	2030	2035	2041	2045	2051	2055	2061	4060	4070	4080	4090	4100	4110	4120
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	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	37.1	43	50.5	57	74.8	86.4	97.9	109	121	138	159	152	172	195	222	244	281	312
Total power input	-1	kW	15.7	18.3	20.6	23.2	30.4	36.8	40.7	46.8	51.5	58.3	67.2	62.5	73.1	83.5	89.6	102	115	133
EER	-1		2.36	2.35	2.45	2.46	2.46	2.35	2.41	2.32	2.35	2.36	2.36	2.43	2.35	2.33	2.47	2.4	2.45	2.34
ESEER	-1		4.7	4.3	4.46	4.35	4.18	3.86	3.88	3.73	3.74	4.17	3.94	3.7	3.58	3.53	3.9	3.77	3.84	3.63
COOLING ONLY (EN14511 VALUE)																				
Cooling capacity	(1) (2)	kW	36.8	42.6	50.1	56.6	74.3	86	97.4	108	120	137	158	151	171	194	221	243	280	311
EER	(1) (2)		2.6	2.56	2.64	2.62	2.59	2.56	2.59	2.49	2.49	2.48	2.54	2.61	2.51	2.52	2.64	2.55	2.58	2.49
ESEER	(1) (2)		4.39	3.96	4.2	4.12	3.97	3.74	3.71	3.63	3.61	3.8	3.61	3.68	3.56	3.47	3.8	3.62	3.73	3.6
Cooling energy class			B	B	B	B	B	B	C	C	C	B	B	B	B	B	B	B	C	
EXCHANGERS																				
HEAT EXCHANGER USER SIDE IN REFRIGERATION																				
Water flow	-1	m³/h	6.38	7.4	8.7	9.81	12.9	14.9	16.9	18.7	20.8	23.7	27.3	26.1	29.6	33.5	38.2	42	48.4	53.8
Pressure drop	-1	kPa	42.3	56.8	50.2	46.3	59.7	34.1	43.7	37.9	46.8	45.5	47	42.8	46	48.5	49.7	48.9	49.7	48.8
COMPRESSORS																				
Compressors nr.	N°		2	2	2	2	2	2	2	2	2	2	2	4	4	4	4	4	4	4
No. Circuits	N°		1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
FANS																				
Air flow		m³/s	4.44	5	5	5	5.56	8.89	8.89	9.44	9.44	9.44	14.2	13.3	14.2	18.9	17.8	18.9	18.9	23.6
Available static pressure		Pa	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
NOISE LEVEL																				
Noise Power	-3	dB(A)	85	88	88	88	90	95	95	96	96	96	98	97	98	99	98	99	99	100
SIZE AND WEIGHT																				
A	-4	mm	2200	2200	2200	2200	2200	2602	2602	2602	2602	3602	3602	3602	4602	4602	4602	4602	5602	
B	-4	mm	920	920	920	920	920	1104	1104	1104	1104	1104	1277	1277	1277	1277	1277	1277	1277	
H	-4	mm	1642	1642	1642	1642	1642	1927	1927	1927	1927	1927	1900	1900	2235	2235	2235	2235	2235	
Operating weight	-4	kg	670	670	700	720	880	1120	1170	1210	1260	1450	1550	1845	1940	2310	2445	2515	2695	2885

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Total sound power of fans. as declared by the maker. at the rated speed of rotation and a useful static head of 120 Pa on the delivery side.

(4) Unit in standard configuration/execution. without optional accessories.



APTUS

Condenserless Chillers



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APTUS - Condenserless Chillers

39.5kW-432kW

AT-RC/K

AT-RC/K			2015	2018	2020	2025	2026	2030	2035	2041	2045	2051	2055	2061	4060	4070	4080	4090	4100	4110	4120	4140	4160
Power supply	V/ ph/ Hz	400/ 3/50																					
PERFORMANCE																							
COOLING ONLY																							
Cooling capacity	-1	kW	39.5	45.8	53.6	60.5	67.4	80.2	92.8	105	117	131	151	170	161	186	207	235	263	301	339	387	432
Total power input	-1	kW	12	13.5	15.7	18.1	20	23.4	26.9	30.3	33.9	37.6	43.3	48.9	46.9	53.7	60.6	67.9	75.2	86.5	97.8	111	124
EER	-1		3.29	3.39	3.41	3.34	3.37	3.43	3.45	3.45	3.46	3.49	3.48	3.47	3.43	3.46	3.42	3.47	3.5	3.47	3.47	3.49	3.48
EXCHANGERS																							
HEAT EXCHANGER USER SIDE IN REFRIGERATION																							
Water flow	-1	m³/h	6.8	7.89	9.23	10.4	11.6	13.8	16	18	20.2	22.6	25.9	29.3	27.7	31.9	35.7	40.5	45.3	51.7	58.4	66.5	74.3
Pressure drop	-1	kPa	48	41.3	41	39.1	48.4	29.4	27.6	35	33.1	32.2	28.9	36.8	32.5	31	38.8	38.9	39.4	36.7	46.7	49.6	54.7
COMPRESSORS																							
Compressors nr.	N°	2	2	2	2	2	2	2	2	2	2	2	2	2	4	4	4	4	4	4	4	4	4
No. Circuits	N°	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
NOISE LEVEL																							
Noise Pressure	-2	dB(A)	42	43	43	43	44	44	45	45	46	46	47	47	54	55	56	57	58	59	59	59	59
Noise Power	-3		73	74	74	74	75	76	77	77	78	78	79	79	86	87	88	89	90	91	91	91	91
SIZE AND WEIGHT																							
A	-4	mm	1130	1130	1130	1130	1130	1310	1310	1310	1310	1310	1310	1310	2227	2227	2227	2227	2227	2227	2227	2227	
B	-4	mm	669	669	669	669	669	893	893	893	893	893	893	893	1020	1020	1020	1020	1020	1020	1020	1020	
H	-4	mm	1255	1255	1255	1255	1255	1496	1496	1496	1496	1496	1496	1496	1780	1780	1780	1780	1780	1780	1780	1780	
Operating weight	-4	kg	270	280	290	295	300	410	500	585	615	645	680	700	755	950	1125	1185	1250	1330	1370	1430	1480

(1) Plant (side) cooling exchanger water (in/out) = 12°C/7°C; Condensation temperature = 47°C.

(2) Average sound pressure level, at 10m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.

(3) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.

(4) Unit in standard configuration/execution, without optional accessories.



APTUS

Water Cooled Chillers



APTUS - Water Cooled Chillers

43.4kW-371kW

AT-W/K

AT-W/K			2015	2018	2020	2025	2026	2030	2035	2041	2045	2051	2055	2061	2060	4070	4080	4090	4100	4110	4120
Power supply	V/ ph/ Hz	400/3 /50																			
PERFORMANCE																					
COOLING ONLY (GROSS VALUE)																					
Cooling capacity	-1	kW	43.4	50.1	58.9	66.4	72.6	86.7	101	115	129	144	165	186	174	203	228	258	288	329	371
Total power input	-1	kW	10	11.3	13	15.2	16.6	19.5	22.7	25.9	28.9	32.2	36.9	41.6	38.9	45.2	51.6	58	64	74	83.5
EER	-1		4.34	4.43	4.53	4.37	4.37	4.45	4.46	4.43	4.45	4.46	4.47	4.48	4.47	4.48	4.42	4.45	4.5	4.44	4.44
ESEER	-1		5.81	5.98	6.01	5.69	5.59	5.66	5.8	5.71	5.79	5.78	5.93	5.8	5.79	5.92	5.82	5.93	5.93	5.99	5.89
COOLING ONLY (EN14511 VALUE)																					
Cooling capacity	(1) (2)	kW	43	49.7	58.5	66	72.1	86.3	101	114	128	143	164	186	173	202	227	257	287	328	370
EER	(1) (2)		4.04	4.15	4.24	4.1	4.08	4.23	4.26	4.22	4.25	4.27	4.29	4.29	4.29	4.32	4.25	4.29	4.35	4.3	4.28
ESEER	(1) (2)		4.98	5.17	5.22	5.02	4.88	5.13	5.23	5.19	5.24	5.29	5.4	5.3	5.2	5.33	5.27	5.34	5.4	5.47	5.33
Cooling energy class			D	D	D	D	D	D	C	D	C	C	C	C	C	C	C	C	C	C	
EXCHANGERS																					
Heat exchanger user side in refrigeration																					
Water flow	-1	m³/h	7.46	8.62	10.1	11.4	12.5	14.9	17.4	19.7	22.1	24.7	28.4	32.1	29.9	34.9	39.2	44.4	49.6	56.6	63.9
Pressure drop	-1	kPa	57.8	49.4	49.5	47	56.2	34.3	32.8	42.1	39.7	38.5	34.6	44.2	35	32.9	41.6	39.4	39.4	35.2	44.9
Water flow	-1	m³/h	9.14	10.5	12.3	14	15.3	18.2	21.2	24.1	27	30.1	34.6	39	36.5	42.5	47.9	54.1	60.3	68.9	77.9
Pressure drop	-1	kPa	35.9	37.5	42	44.1	52.8	36.7	36	36	36.4	33.5	35.8	38.1	37	36.1	35.5	36.6	33.7	35.6	37.9
COMPRESSORS																					
Compressors nr.	Nº	2	2	2	2	2	2	2	2	2	2	2	2	2	4	4	4	4	4	4	
No. Circuits	Nº	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	
NOISE LEVEL																					
Noise Pressure	-3	dB(A)	42	43	43	43	44	45	46	46	47	47	48	48	54	55	56	57	58	59	59
Noise Power	-4	dB(A)	73	74	74	74	75	76	77	77	78	78	79	79	86	87	88	89	90	91	91
SIZE AND WEIGHT																					
A	-5	mm	1055	1055	1055	1055	1055	1222	1222	1222	1222	1222	1222	1222	2227	2227	2227	2227	2227	2227	
B	-5	mm	649	649	649	649	649	873	873	873	873	873	873	873	877	877	877	877	877	877	
H	-5	mm	1255	1255	1255	1255	1255	1496	1496	1496	1496	1496	1496	1496	1780	1780	1780	1780	1780	1780	
Operating weight	-5	kg	285	300	310	320	325	570	610	640	680	725	770	800	1050	1125	1190	1270	1355	1445	1510

(1) Plant (side) cooling exchanger water (in/out) = 12°C/7°C; Source (side) heat exchanger water (in/out) = 30°C/35°C; Based on Eurovent Standard

(2) Values in compliance with EN14511-3:2011

(3) Average sound pressure level, at 10m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(4) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(5) Unit in standard configuration/execution without optional accessories



APTUS Verto - Water Cooled Chillers - reversible on the water side

43.4kW-371kW

ATv-W/HR

ATv-W/K/HR			2015	2018	2020	2025	2026	2030	2035	2041	2045	2051	2055	2061	2060	4070	4080	4090	4100	4110	4120
Power supply	V/ ph/ Hz	400/3 /50																			
PERFORMANCE																					
COOLING ONLY (GROSS VALUE)																					
Cooling capacity	-1	kW	43.4	50.1	58.9	66.4	72.6	86.7	101	115	129	144	165	186	174	203	228	258	288	329	371
Total power input	-1	kW	10	11.3	13	15.2	16.6	19.5	22.7	25.9	28.9	32.2	36.9	41.6	38.9	45.2	51.6	58	64	74	83.5
EER	-1		4.34	4.43	4.53	4.37	4.37	4.45	4.46	4.43	4.45	4.46	4.47	4.48	4.47	4.48	4.42	4.45	4.5	4.44	4.44
ESEER	-1		5.81	5.98	6.01	5.69	5.59	5.66	5.8	5.71	5.79	5.78	5.93	5.8	5.79	5.92	5.82	5.93	5.93	5.99	5.89
COOLING ONLY (EN14511 VALUE)																					
Cooling capacity	(1) (2)	kW	43	49.7	58.5	66	72.1	86.3	101	114	128	143	164	186	173	202	227	257	287	328	370
EER	(1) (2)		4.04	4.15	4.24	4.1	4.08	4.23	4.26	4.22	4.25	4.27	4.29	4.29	4.29	4.32	4.25	4.29	4.35	4.3	4.28
ESEER	(1) (2)		4.36	4.47	4.57	4.38	4.28	4.47	4.5	4.47	4.49	4.51	4.54	4.53	4.53	4.56	4.5	4.53	4.6	4.56	4.54
Cooling energy class			D	D	D	D	D	D	C	D	C	C	C	C	C	C	C	C	C	C	
HEATING ONLY (GROSS VALUE)																					
Total heating capacity	-3	kW	49.5	57	66.7	75.6	83.4	98.9	115	129	145	162	186	210	198	229	258	291	325	372	420
Total power input	-3	kW	12.6	14	16.4	18.8	20.6	24.1	27.8	31.5	35.2	39.1	44.9	50.6	48.1	55.4	62.7	70.5	77.8	89.9	102
COP			3.93	4.07	4.07	4.02	4.05	4.1	4.12	4.11	4.13	4.15	4.15	4.16	4.12	4.14	4.11	4.13	4.18	4.13	4.13
HEATING ONLY (EN14511 VALUE)																					
Total heating capacity	(3) (2)	kW	49.8	57.3	67.1	76	83.9	99.3	115	130	146	163	187	211	199	230	258	292	326	373	421
COP	(3) (2)		3.71	3.86	3.86	3.83	3.84	3.95	3.98	3.95	3.98	4.01	4.02	4.01	4	4.02	3.98	4.01	4.06	4.02	4.01
Cooling energy class			D	D	D	D	D	C	C	C	C	C	C	C	C	C	C	C	C	C	
EXCHANGERS																					
Heat exchanger user side in refrigeration																					
Water flow	-1	m³/h	7.46	8.62	10.1	11.4	12.5	14.9	17.4	19.7	22.1	24.7	28.4	32.1	29.9	34.9	39.2	44.4	49.6	56.6	63.9
Pressure drop	-1	kPa	57.8	49.4	49.5	47	56.2	34.3	32.8	42.1	39.7	38.5	34.6	44.2	35	32.9	41.6	39.4	39.4	35.2	44.9
Water flow	-1	m³/h	9.14	10.5	12.3	14	15.3	18.2	21.2	24.1	27	30.1	34.6	39	36.5	42.5	47.9	54.1	60.3	68.9	77.9
Pressure drop	-1	kPa	35.9	37.5	42	44.1	52.8	36.7	36	36.4	33.5	35.8	38.1	37	36.1	35.5	36.6	33.7	35.6	37.9	
Heat exchanger user side in heating																					
Water flow	-3	m³/h	8.61	9.91	11.6	13.1	14.5	17.2	19.9	22.5	25.3	28.2	32.4	36.6	34.4	39.8	44.8	50.6	56.5	64.6	73
Pressure drop	-3	kPa	31.9	33.3	37	39	47.4	32.8	31.7	31.4	31.9	29.4	31.4	33.4	33	31.7	31.1	32	29.5	31.3	33.3
Water flow	-3	m³/h	9.14	10.5	12.3	14	15.3	18.2	21.2	24.1	27	30.1	34.6	39	36.5	42.5	47.9	54.1	60.3	68.9	77.9
Pressure drop	-3	kPa	86.6	73.5	73.1	70.3	84	50.9	48.6	62.6	59	57.1	51.4	65.5	51.9	48.7	61.9	58.5	58.2	52.3	66.7
COMPRESSORS																					
Compressors nr.	N°		2	2	2	2	2	2	2	2	2	2	2	2	4	4	4	4	4	4	
No. Circuits	N°		1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	
NOISE LEVEL																					
Noise Pressure	-4	dBA	58	59	59	59	60	60	61	61	62	62	63	63	69	70	71	72	73	74	
Noise Power	-5	dBA	73	74	74	74	75	76	77	77	78	78	79	79	86	87	88	89	90	91	
SIZE AND WEIGHT																					
A	-6	mm	1055	1055	1055	1055	1055	1222	1222	1222	1222	1222	1222	1222	2227	2227	2227	2227	2227	2227	
B	-6	mm	649	649	649	649	649	873	873	873	873	873	873	873	877	877	877	877	877	877	
H	-6	mm	1255	1255	1255	1255	1255	1496	1496	1496	1496	1496	1496	1496	1780	1780	1780	1780	1780	1780	
Operating weight	-6	kg	285	300	310	320	325	570	610	640	680	725	770	800	1050	1125	1190	1270	1355	1445	1510

(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 EN14511-3:2011

(3) Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/* °C (flow rate as in cooling)

(4) Average sound pressure level, at 1m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(5) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(6) Unit in standard configuration/execution, without optional accessories

Aptus Chiller: Free Cooling

Aptus Chiller: Free Cooling

Free cooling is the ultimate option for reducing cooling energy costs for any business or process. Customers have seen energy savings of up to 60% with the use of Aptus free cooling chillers.

What is Free Cooling?

Free cooling is a fast, effective and economic method of utilising natural, low outside air temperatures for cooling a building or industrial process.

The Aptus free cooling chiller features integral compressor technology which draws in air from the outside and generates cooling through the compressors which is then fed into a process. With free cooling, if the ambient air temperature drops at least a degree below the process return water temperature, then there is no need for the compressors to power the cooling; it is all done for 'free'.

When can free cooling be utilised?

Unless a site is located in extreme and harsh climates, most cities can benefit from free cooling technology with high concentration of hours per year. With the modern and intelligent Aptus free cooling chiller, sites can achieve the full cooling demand without the compressors through a direct heat exchange of air. These benefits can be utilised throughout the UK's climate:

Mild Ambient Conditions

Water can be partially cooled by the compressor and partially by the ambient air temperatures. The percentage of free cooling achieved is dependent on seasonal temperatures although partial free cooling commences when the ambient air is 1°C below the process return water temperature.

The water is partially cooled for free and partially cooled by the power of the compressors, allowing for partial energy savings to be made. Applications such as data centres can benefit from this massively as their operations continue 24 hours a day 7 days a week, 365 days of the year requiring maximum productivity and continuation.

The only electrical power used in winter operation is fan operation. This can be achieved once the ambient air temperature is 3°C to 5°C below the process supply water temperature.

Low Ambient Conditions

In low outdoor temperatures, the winter is chilled solely by the free cooling coil. This allows the chiller's compressors to stop operating, therefore saving significant amounts of energy.

The only electrical power used in winter operation is fan operation. This can be achieved once the ambient air temperature is 3°C to 5°C below the process supply water temperature.



Free Cooling Technology: Efficient, Economic and Energy Saving Options

No Glycol Version

The Aptus free cooling chiller offers a no glycol option which operates with water directly, exchanging heat with outdoor air at very low temperatures, but the whole primary hydraulic circuit has to be glycolated. Occasionally this is not possible or desired so to comply with the request, we offer an effective solution; the **no glycol option**. A specific solution designed to avoid complication for the user and the site's circuitry.

EC Fans

As an energy efficient alternative, EC (electronic commutation) fans offer a motor efficiency higher than 90% which is generated from the DC brushless motor which improves the unit performance during all seasonal periods. Further advantages of the EC fan includes low inrush currents and noise levels with the ability to adjust fan speed control in any operating condition.

Tailored Control

Easy adjustment guarantees the required temperature of the chilled water whilst fully utilising all of the available resources such as compressors, fans and water coils in relation to the temperature of the external air. This allows full use of the free cooling system even when outside air temperatures are close to zero.

Integrated Hydronic Module

The integrated hydronic module consists of one or two pumps with two or four pole motors using three head options to satisfy different industrial applications and demands for comfort cooling.

APTUS

Free Cooling Chillers



APTUS - Free Cooling Chillers

41.5kW-477kW

AT-FC/K

AT-FC/K			2015	2018	2020	2025	2030	2035	2041	2045	2051	2055	2061	4060	4070	4080	4090	4100	4110	4120	4140	4160	
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	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	400/3/50	400/3/50		
PERFORMANCE																							
FREE-COOLING OFF																							
Cooling capacity	-1	kW	43.6	51	61.9	68	88.5	104	115	131	149	166	187	177	207	234	268	293	336	377	430	477	
Total power input	-1	kW	14.1	15.4	19.4	22.4	28.1	30.7	35.7	41	43.6	51.2	59.5	56.1	62.2	73.5	79.6	89.2	101	118	130	148	
EER	-1		3.09	3.31	3.19	3.04	3.15	3.39	3.22	3.2	3.42	3.25	3.14	3.16	3.32	3.19	3.36	3.29	3.33	3.21	3.32	3.22	
FREE-COOLING ON 100%																							
Cooling capacity	-2	kW	43.6	51	61.9	68	88.5	104	115	131	149	166	187	177	207	234	268	293	336	377	430	477	
Total power input	-2	kW	1.5	1.5	4.2	4.2	4.2	4.2	4.2	6.3	6.3	6.3	8.4	8.4	8.4	12.6	12.6	12.6	12.6	16.8	16.8	21	
EER	-2		29.1	34	14.7	16.2	21.1	24.8	27.4	20.8	23.7	26.4	22.2	21.1	24.6	18.6	21.2	23.3	26.7	22.4	25.6	22.7	
Total FC temperature	-2	°C	1.4	1.1	0.8	0	-0.8	0.4	-0.7	-0.4	0.2	-1.1	-1.1	1.6	-0.1	0.3	1.4	0.6	0.5	0.4	0.7	0.5	
EXCHANGERS																							
HEAT EXCHANGER USER SIDE IN REFRIGERATION																							
Water flow	-1	m ³ /h	8.32	9.74	11.8	13	16.9	19.9	21.9	25	28.4	31.7	35.6	33.8	39.4	44.7	51.1	55.9	64.1	71.9	82	91	
Pressure drop	-1	kPa	105	95.1	110	113	135	130	96.6	126	157	123	131	154	192	222	151	159	174	195	156	172	
COMPRESSORS																							
Compressors nr.	N°		2	2	2	2	2	2	2	2	2	2	2	4	4	4	4	4	4	4	4	4	
No. Circuits	N°		1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	
NOISE LEVEL																							
Noise Pressure	-3	dB(A)	55	55	58	58	59	59	60	60	61	61	62	61	61	62	62	63	64	63	64	64	
Noise Power	-4	dB(A)	87	87	90	90	91	91	92	92	93	93	94	93	93	94	94	95	96	96	97		
SIZE AND WEIGHT																							
A	-5	mm	2200	2200	2602	2602	3602	3602	3602	4602	4602	4602	4602	4110	4110	4110	5110	5110	5110	5110	6110	6110	
B	-5	mm	920	920	1104	1104	1104	1104	1104	1104	1104	1104	1104	2220	2220	2220	2220	2220	2220	2220	2220	2220	
H	-5	mm	1780	1780	2175	2175	2175	2175	2175	2175	2175	2205	2205	2150	2150	2150	2150	2430	2430	2430	2430	2430	
Operating weight	-5	kg	670	710	870	880	1060	1310	1340	1410	1650	1680	1740	2200	2330	2510	2880	2940	3260	3400	3810	3970	

(1) Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30% (not applicable to NG configuration)

(2) Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30% (not applicable to NG configuration)

(3) Average sound pressure level at 10m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(4) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(5) Unit in standard configuration/execution without optional accessories



APTUS - Free Cooling Chillers

41.5kW-477kW

AT-FC/SS

AT-FC/SS			2015	2018	2020	2025	2030	2035	2041	2045	2051	2055	2061	4060	4070	4080	4090	4100	4110	4120	4140	4160	
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	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	400/3/50	400/3/50	400/3/50	
PERFORMANCE																							
FREE-COOLING OFF																							
Cooling capacity	-1	kW	41.5	49.8	56.9	63.8	84.2	97.9	112	122	137	156	179	166	193	216	243	274	313	351	402	445	
Total power input	-1	kW	14.2	16.1	19	21.7	27.8	32.2	35.5	41.1	45.5	53	58.9	56.9	65.9	74.9	83.2	89.9	103	119	132	150	
EER	-1		2.92	3.09	2.99	2.94	3.03	3.04	3.15	2.98	3.02	2.94	3.04	2.92	2.92	2.88	2.92	3.05	3.02	2.95	3.04	2.96	
FREE-COOLING ON 100%																							
Cooling capacity	-2	kW	41.5	49.8	56.9	63.8	84.2	97.9	112	122	137	156	179	166	193	216	243	274	313	351	402	445	
Total power input	-2	kW	0.62	1.5	1.5	1.72	1.72	2.58	2.58	2.58	3.44	3.44	4.4	3.44	5.16	5.16	5.16	5.16	5.16	6.88	6.88	8.6	
EER	-2		66.9	33.2	37.9	37.1	49	37.9	43.3	47.4	39.9	45.2	40.7	48.3	37.3	41.8	47.1	53.1	60.7	51	58.4	51.8	
Total FC temperature	-2	°C	-1.2	-1.5	-1.1	-1.3	-1.3	-1.2	-0.7	-1.5	-1.6	-1.7	-2.8	-1.6	-1.7	-3.3	-1.6	-2.8	-3	-2.9	-2.8	-2.9	
EXCHANGERS																							
HEAT EXCHANGER USER SIDE IN REFRIGERATION																							
Water flow	-1	m³/h	7.91	9.5	10.9	12.2	16.1	18.7	21.3	23.3	26.2	29.7	34.2	31.7	36.7	41.1	46.3	52.2	59.7	66.9	76.7	84.9	
Pressure drop	-1	kPa	95.1	87.3	106	116	134	114	100	120	133	136	155	135	167	188	124	139	151	169	136	149	
COMPRESSORS																							
Compressors nr.	Nº		2	2	2	2	2	2	2	2	2	2	2	4	4	4	4	4	4	4	4	4	
No. Circuits	Nº		1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	
NOISE LEVEL																							
Noise Pressure	-3	dB(A)	45	46	46	47	48	49	49	50	51	52	53	50	51	51	52	52	53	54	53	54	
Noise Power	-4	dB(A)	77	78	78	79	80	81	81	82	83	84	85	82	83	83	84	84	85	86	86	87	
SIZE AND WEIGHT																							
A	-5	mm	2200	2602	2602	2602	3602	3602	4602	4602	4602	4602	4602	4110	4110	4110	5110	5110	5110	6110	6110	6110	
B	-5	mm	920	1104	1104	1104	1104	1104	1104	1104	1277	1277	2220	2220	2220	2220	2220	2220	2220	2220	2220	2220	
H	-5	mm	1780	2175	2175	2175	2175	2175	2205	2175	2205	2350	2350	2150	2150	2150	2150	2430	2430	2430	2430	2430	
Operating weight	-5	kg	680	860	920	940	1240	1350	1590	1610	1690	1920	2000	2280	2410	2580	2880	3040	3380	3520	3960	4120	

(1) Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30% (not applicable to NG configuration)

(2) Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30% (not applicable to NG configuration)

(3) Average sound pressure level at 10m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(4) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(5) Unit in standard configuration/execution without optional accessories

APTUS - Free Cooling Chillers

41.5kW-477kW

AT-FC-WG/K

* without glycol

AT-FC-WG/K			2015	2018	2020	2025	2030	2035	2041	2045	2051	2055	2061	4060	4070	4080	4090	4100	4110	4120	4140	4160	
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	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	400/3/50	400/3/50	400/3/50	
PERFORMANCE																							
FREE-COOLING OFF																							
Cooling capacity	kW	44.8	52.4	63.6	69.8	90.9	107.0	118.0	134.7	153.0	170.9	191.8	182.1	212.4	240.6	274.9	301.0	345.2	387.1	441.7	490.0		
Total power input	kW	14.1	15.5	19.5	22.5	28.3	30.9	35.8	41.1	43.8	51.5	59.8	56.4	62.5	73.8	79.9	89.6	101.5	118.1	130.1	149.0		
EER		3.18	3.38	3.26	3.10	3.21	3.46	3.30	3.28	3.49	3.32	3.21	3.23	3.40	3.26	3.44	3.36	3.40	3.28	3.40	3.29		
FREE-COOLING ON 100%																							
Cooling capacity	kW	14.2	16.4	19.5	20.5	25.5	32.1	33.2	38.6	45.4	47.3	53.1	58.5	61.8	71.7	87.2	91.2	104.1	115.8	134.5	147.1		
Total power input	kW	32	31	31	29	28	30	28	29	30	28	28	32	29	30	32	30	30	30	30	30	30	
EER		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0		
Total FC temperature	°C	-1.2	-1.5	-1.7	-2.5	-3.3	-2.1	-3.2	-2.9	-2.3	-3.6	-3.6	-1.0	-2.6	-2.2	-1.2	-2.0	-2.0	-2.2	-1.9	-2.1		
EXCHANGERS																							
Water flow	m³/h	7.7	9.0	11.0	12.0	15.7	18.4	20.3	23.2	26.4	29.4	33.0	31.4	36.6	41.4	47.4	51.9	59.5	66.7	76.1	84.4		
Pressure drop	kPa	101.5	94.5	97.0	91.6	108.1	91.5	83.9	96.9	95.9	94.5	86.3	112.2	125.4	130.6	124.7	124.0	131.2	136.6	130.9	134.0		
COMPRESSORS																							
Compressors nr.	Nº	2	2	2	2	2	2	2	2	2	2	2	2	4	4	4	4	4	4	4	4	4	
No. Circuits	Nº	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	
NOISE LEVEL																							
Noise Pressure	dB(A)	55	55	58	58	59	59	61	60	61	61	62	61	61	62	62	62	63	64	63	64	64	
Noise Power	dB(A)	87	87	90	90	91	91	92	92	93	93	94	93	93	94	94	94	95	96	96	96	97	
SIZE AND WEIGHT																							
A	mm	2200	2200	2602	2602	2602	3602	3602	3602	4602	4602	4602	4110	4110	4110	5110	5110	5110	5110	5110	6110	6110	
B	mm	920	920	1104	1104	1104	1104	1104	1104	1104	1104	1104	2220	2220	2220	2220	2220	2220	2220	2220	2220	2220	
H	mm	1780	1780	2175	2175	2175	2175	2175	2175	2175	2205	2205	2150	2150	2150	2150	2150	2430	2430	2430	2430	2430	
Operating weight	kg	710	760	920	940	1130	1410	1450	1530	1780	1810	1890	2510	2650	2840	3250	3320	3700	3850	4290	4480		

(1) Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30% (not applicable to NG configuration)

(2) Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30% (not applicable to NG configuration)

(3) Average sound pressure level at 10m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(4) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(5) Unit in standard configuration/execution without optional accessories



APTUS - Free Cooling Chillers

41.5kW-477kW

AT-FC-WG/SS

* without glycol

AT-FC-WG/SS		2015	2018	2020	2025	2030	2035	2041	2045	2051	2055	2061	4060	4070	4080	4090	4100	4110	4120	4140	4160
Power supply	V/ph/ Hz	400/ 3/50																			
PERFORMANCE																					
FREE-COOLING OFF																					
Cooling capacity	kW	42.6	51.2	58.4	65.6	86.5	100.5	114.8	125.7	141.1	159.8	183.9	170.7	197.9	221.4	249.3	281.3	321.5	360.5	412.9	457.4
Total power input	kW	14.3	16.1	19.1	21.8	28.0	32.3	35.7	41.3	45.8	53.2	59.2	57.1	66.2	75.3	83.6	90.3	104.1	119.6	132.8	151.2
EER		2.98	3.18	3.06	3.01	3.09	3.11	3.22	3.04	3.08	3.00	3.11	2.99	2.99	2.94	2.98	3.12	3.09	3.01	3.11	3.03
FREE-COOLING ON 100%																					
Cooling capacity	kW	11.7	13.9	16.1	17.9	23.6	27.6	32.4	33.9	38.0	42.8	46.6	45.8	53.0	54.9	67.1	71.2	80.8	91.0	104.3	115.7
Total power input	kW	27	27	28	27	27	27	28	27	27	27	25	27	27	25	27	25	25	25	25	25
EER		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
Total FC temperature	°C	-3.7	-3.9	-3.6	-3.8	-3.8	-3.7	-3.2	-4.0	-4.1	-4.2	-5.3	-4.1	-4.2	-5.7	-4.1	-5.3	-5.4	-5.3	-5.3	
EXCHANGERS																					
Water flow	m³/h	7.3	8.8	10.1	11.3	14.9	17.3	19.8	21.6	24.3	27.5	31.7	29.4	34.1	38.1	43.0	48.5	55.4	62.1	71.1	78.8
Pressure drop	kPa	91.8	90.0	82.0	80.8	97.9	80.6	79.3	84.3	81.6	82.6	79.3	98.7	108.9	110.6	102.6	108.3	113.8	118.4	114.3	116.7
COMPRESSORS																					
Compressors nr.	Nº	2	2	2	2	2	2	2	2	2	2	2	4	4	4	4	4	4	4	4	
No. Circuits	Nº	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	
NOISE LEVEL																					
Noise Pressure	dB(A)	46	47	47	48	49	50	50	51	52	53	54	50	51	51	52	52	53	54	53	54
Noise Power	dB(A)	78	79	79	80	81	82	82	83	84	85	86	82	83	83	84	84	85	86	86	87
SIZE AND WEIGHT																					
A	mm	2200	2602	2602	2602	3602	3602	4602	4602	4602	4602	4602	4110	4110	4110	5110	5110	5110	5110	6110	
B	mm	920	1104	1104	1104	1104	1104	1104	1104	1104	1277	1277	2220	2220	2220	2220	2220	2220	2220	2220	
H	mm	1780	2175	2175	2175	2175	2175	2205	2175	2205	2350	2350	2150	2150	2150	2150	2150	2430	2430	2430	
Operating weight	kg	730	910	970	990	1300	1450	1690	1730	1810	2060	2150	2590	2730	2910	3250	3420	3820	3970	4440	4630

(1) Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30% (not applicable to NG configuration)

(2) Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30% (not applicable to NG configuration)

(3) Average sound pressure level at 10m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(4) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

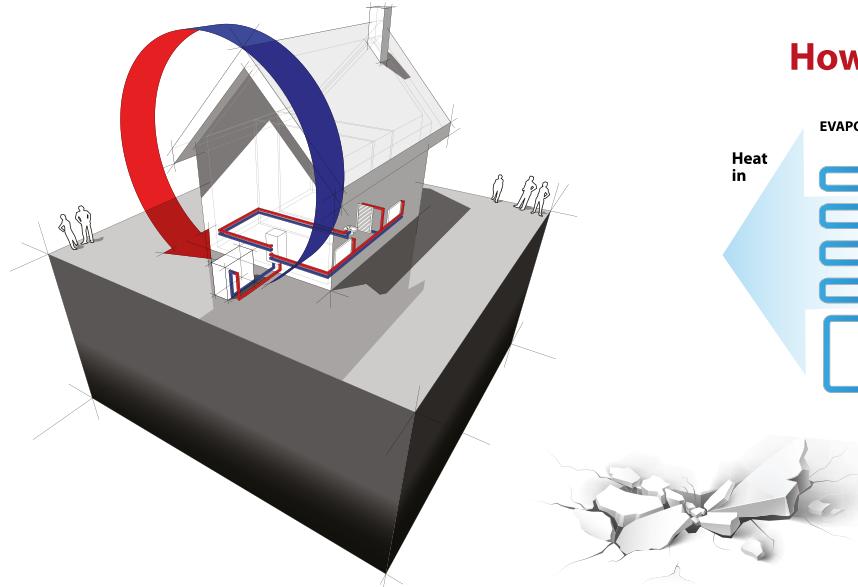
(5) Unit in standard configuration/execution without optional accessories



Aptus Chiller: Heat Pump Technology

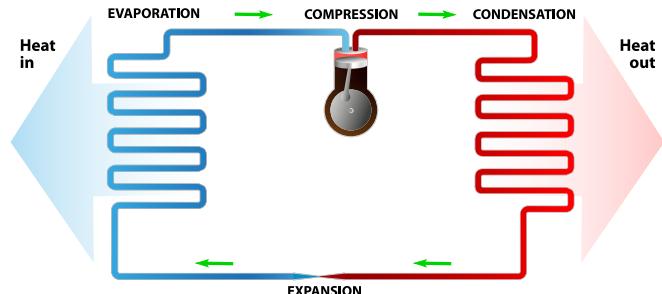
The heat pump Aptus chillers are one of the most versatile units on the market; offering any HVAC or industrial process a complete temperature control package. We offer two versions of the dual chillers: reversible chillers for either internal or external sites for maximum flexibility for any sized site. Featuring high quality components including the hermetic rotary scroll compressors, axial and centrifugal fans, braze-welded plate type and shell and tube heat exchangers all of which work with the low ozone depleting refrigerant R410A.

Chillers within this range are available in air and water cooled versions offering cooling capacities ranging from 33.3kW up to 1,162kW for ultimate versatility.



All of our Aptus dual heating and cooling units are available in HPI (heat pump internal) model versions which offer a defrost control logic that significantly lowers both the unit downtime and the defrost energy consumption.

How does a heat pump work?



High Performance Centrifugal Fans

The internal heat pump chillers are built with dual suction fans which are dynamically and statically balanced. Joined by belts and pulleys allows them to be easily adjustable to their three-phase motors which are assembled on runners.

Flexible Low Noise Options

To ensure a building or site isn't disturbed by a noisy temperature control system, we offer a range of low noise options including key efficiency, low noise, super silent and class A efficiency.

Integrated Pump Unit

These heat pump chillers are designed specifically to minimise installation work. The optional integrated pump version incorporates hydraulic components which optimises installation space. The Aptus chillers are available with both single and dual high or low head pumps making them simple plug in and play units.

Total and Partial Heat Recovery Options

The heat pumps are available with heat recovery options which transfers a percentage of the heat load from the chiller up to 100% and diverts it to a secondary circuit which is used for heating or hot water production. This allows heat to be recycled, saving significant amounts of costs as a boiler is not required to run for long periods of time or at full loads. Further benefits include reduction in cooling costs and improved.

APTUS^{verto}

Air Sourced, Reversible Heat Pumps



APTUS Verto - Air Sourced, Reversible Heat Pumps

38.7kW-198.8kW

ATv/K

ATv/K		2015	2018	2020	2025	2030	2035	2041	2045	2051	2055	2061	4060	4070	4080
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	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE															
COOLING ONLY (GROSS VALUE)															
Cooling capacity	kW	38.7	43.8	51.0	58.3	64.6	74.1	84.4	100.2	112.5	125.0	138.2	161.9	179.7	198.8
Total power input	kW	13.7	15.8	18.4	20.5	23.3	28.2	32.1	35.7	40.7	45.2	52.3	58.2	67.6	77.7
EER		2.82	2.77	2.77	2.84	2.77	2.63	2.63	2.81	2.76	2.77	2.64	2.78	2.66	2.56
ESEER		4.01	4.03	4.18	3.94	3.96	3.89	4.03	3.73	3.82	3.87	3.87	3.78	3.80	3.69
COOLING ONLY (EN14511 VALUE)															
Cooling capacity	kW	38.5	43.5	50.7	58.0	64.3	73.8	83.9	99.6	111.9	124.4	137.5	161.1	178.9	197.8
Total power input	kW	13.9	16.1	18.7	20.8	23.6	28.6	32.6	36.2	41.3	45.9	53.1	59.0	68.3	78.8
EER		2.76	2.71	2.71	2.79	2.72	2.58	2.57	2.75	2.71	2.71	2.59	2.73	2.62	2.51
ESEER		3.83	3.85	4.00	3.78	3.82	3.77	3.84	3.58	3.67	3.74	3.72	3.65	3.67	3.56
HEATING ONLY (GROSS VALUE)															
Total heating capacity	kW	42.9	47.4	55.3	65.0	70.7	80.1	92.1	108.3	119.5	133.9	150.1	174.6	193.2	211.4
Total power input	kW	14.0	15.5	18.0	21.3	22.8	26.0	29.6	35.5	39.2	42.9	48.6	57.0	63.2	69.5
COP		3.06	3.06	3.07	3.05	3.10	3.08	3.11	3.05	3.05	3.12	3.09	3.06	3.06	3.04
HEATING ONLY (EN14511 VALUE)															
Total heating capacity	kW	43.2	47.7	55.6	65.4	71.1	80.5	92.7	109.0	120.2	134.7	150.9	175.5	194.1	212.6
Total power input	kW	14.3	15.8	18.3	21.7	23.2	26.4	30.2	36.2	39.9	43.7	49.5	57.9	64.1	70.6
COP		3.02	3.02	3.03	3.02	3.07	3.05	3.07	3.01	3.01	3.08	3.05	3.03	3.03	3.01
PLATE HEAT EXCHANGER - PLANT SIDE IN COOLING															
Water flow	m³/h	6.7	7.5	8.8	10.0	11.1	12.8	14.5	17.2	19.4	21.5	23.8	27.9	30.9	34.2
Pressure drop	kPa	35.4	33.3	35.0	32.8	32.8	30.9	49.2	48.2	49.5	47.2	47.9	47.0	44.8	54.8
Plant side in heating															
Water flow	m³/h	7.46	8.23	9.62	11.30	12.28	13.91	16.01	18.81	20.76	23.27	26.08	30.33	33.58	36.74
Pressure drop	kPa	44.22	39.79	41.99	41.50	39.98	36.79	59.74	57.35	56.90	55.26	57.46	55.76	52.78	63.16
COMPRESSORS															
Compressors nr.	N°	2	2	2	2	2	2	2	2	2	2	2	2	2	2
No. Circuits	N°	1	1	1	1	1	1	1	1	1	1	1	1	1	1
NOISE LEVEL															
Noise pressure	dB(A)	52	52	52	53	53	53	54	56	56	56	58	58	58	59
Noise power	dB(A)	84	84	84	85	85	85	86	88	88	88	90	90	90	91
SIZE AND WEIGHT															
A	mm	1825	1825	1825	2395	2395	2395	2395	2825	2825	3360	3360	3980	3980	3980
B	mm	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195
H	mm	1865	1865	1865	1865	1865	1865	1865	1980	1980	1980	1980	1980	1980	1980
Operating weight	kg	510	550	570	640	650	660	790	970	1020	1150	1210	1330	1360	1380

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H

(4) Total sound power of fans, as declared by the maker, at the rated speed of rotation and a useful static head of 120 Pa on the delivery side

(5) Unit in standard configuration/execution without optional accessories

APTUS Verto - Air Sourced, Reversible Heat Pumps

174kW-345kW Heating

ATv/K

ATv/K			4060	4070	4080	4090	4100	4110	4120
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	-1 kW	160	186	211	245	274	298	319	
Total power input	-1 kW	56.9	67.4	75.9	88.8	99.4	106	116	
EER	-1	2.81	2.76	2.78	2.76	2.76	2.80	2.75	
ESEER	-1	3.87	4.01	4.07	3.95	3.99	4.05	4.04	
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1) (2) kW	160	185	210	244	273	297	318	
EER	(1) (2)	2.78	2.72	2.73	2.72	2.71	2.77	2.72	
ESEER	(1) (2)	3.77	3.86	3.87	3.78	3.80	3.91	3.89	
Cooling energy class		C	C	C	C	C	C	C	
HEATING ONLY (GROSS VALUE)									
Total heating capacity	-3 kW	174	202	230	271	299	324	345	
Total power input	-3 kW	56.4	66.4	75.4	89.2	98.3	106	113	
COP	-3	3.08	3.04	3.06	3.04	3.05	3.07	3.05	
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3) (2) kW	174	202	232	273	301	325	346	
COP	(3) (2)	3.06	3.01	3.02	3.01	3.01	3.04	3.03	
Cooling energy class		B	B	B	B	B	B	B	
EXCHANGERS									
SHELL AND TUBE HEAT EXCHANGER									
Water flow	-1 m³/h	27.6	32.0	36.3	42.2	47.2	51.3	55.0	
Pressure drop	-1 kPa	22.0	29.7	47.8	44.4	55.5	35.5	40.8	
Heat exchanger user side in heating									
Water flow	-3 m³/h	30.2	35.1	40.0	47.1	52.0	56.3	59.9	
Pressure drop	-3 kPa	26.4	35.6	58.0	55.3	67.4	42.8	48.4	
PLATE HEAT EXCHANGER - PLANT SIDE IN COOLING									
Water flow	-1 m³/h	27.6	32.0	36.3	42.2	47.2	51.3	55	
Pressure drop	-1 kPa	42.5	43.2	44.9	49.2	49.2	43.7	50.1	
PLANT SIDE IN HEATING									
Water flow	-3 m³/h	30.2	35.1	40.0	47.1	52.0	56.3	59.9	
Pressure drop	-3 kPa	50.9	51.9	54.5	61.3	59.8	52.6	59.5	
COMPRESSORS									
Compressors nr.	N°	4	4	4	4	4	4	4	
No. Circuits	N°	2	2	2	2	2	2	2	
NOISE LEVEL									
Noise Pressure	-4 dB(A)	73	72	73	74	75	75	75	
Noise Power	-5 dB(A)	92	92	93	94	95	95	95	
SIZE AND WEIGHT									
A	-6 mm	1810	2180	2340	2560	2650	3150	3190	
B	-6 mm	3110	4110	4110	4110	4110	5110	5110	
H	-6 mm	2220	2220	2220	2220	2220	2220	2220	
Operating weight	-6 kg	2150	2150	2150	2150	2150	2150	2150	

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H

(4) Average sound pressure level at 1m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(5) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(6) Unit in standard configuration/execution without optional accessories

APTUS Verto - Air Sourced, Reversible Heat Pumps

371kW-871kW Heating

ATv/K

ATv/K			4131	4141	4161	6171	6181	6201	6211	6241	8241	8261	8281	8301	8321
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	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE															
COOLING ONLY (GROSS VALUE)															
Cooling capacity	-1	kW	339	363	396	435	478	526	546	594	638	678	728	761	792
Total power input	-1	kW	126	132	151	165	178	190	198	227	237	253	264	283	303
EER	-1		2.69	2.75	2.62	2.64	2.69	2.76	2.76	2.62	2.69	2.68	2.76	2.69	2.62
ESEER	-1		3.80	3.88	3.79	3.88	3.78	3.89	3.91	3.77	3.78	3.83	3.92	3.88	3.78
COOLING ONLY (EN14511 VALUE)															
Cooling capacity	(1) (2)	kW	338	362	395	434	476	524	544	592	636	675	726	758	790
EER	(1) (2)		2.64	2.72	2.58	2.61	2.65	2.73	2.72	2.59	2.66	2.65	2.73	2.66	2.58
ESEER	(1) (2)		3.64	3.73	3.64	3.74	3.64	3.75	3.77	3.64	3.64	3.67	3.79	3.73	3.64
Cooling energy class			D	C	D	D	D	C	C	D	D	D	C	D	D
HEATING ONLY (GROSS VALUE)															
Total heating capacity	-3	kW	371	398	436	473	515	572	597	654	686	742	796	834	871
Total power input	-3	kW	122	130	143	157	171	187	194	214	227	245	259	272	286
COP	-3		3.03	3.07	3.05	3.01	3.02	3.06	3.08	3.05	3.02	3.03	3.08	3.07	3.05
HEATING ONLY (EN14511 VALUE)															
Total heating capacity	(3) (2)	kW	373	400	438	474	517	574	600	656	689	745	799	838	875
COP	(3) (2)		3.00	3.04	3.02	2.99	2.99	3.03	3.05	3.03	3.00	3.00	3.06	3.04	3.03
Cooling energy class			B	B	B	C	C	B	B	B	B	B	B	B	B
EXCHANGERS															
Heat exchanger user side in refrigeration															
Water flow	-1	m³/h	58.4	62.6	68.2	74.9	82.2	90.5	94.0	102	110	117	125	131	136
Pressure drop	-1	kPa	49.5	43.4	51.7	35.3	42.6	39.3	42.4	42.9	44.6	50.4	39.3	42.9	46.5
Heat exchanger user side in heating															
Water flow	-3	m³/h	64.5	69.2	75.7	82.2	89.4	99.4	104	114	119	129	138	145	151
Pressure drop	-3	kPa	60.3	53.1	63.6	42.5	50.4	47.5	51.7	52.9	52.6	61.5	47.9	52.5	57.3
COMPRESSORS															
Compressors nr.		Nº	4	4	4	6	6	6	6	6	8	8	8	8	8
No. Circuits		Nº	2	2	2	3	3	3	3	3	4	4	4	4	4
NOISE LEVEL															
Noise Pressure	-4	dB(A)	76	76	76	76	76	76	76	77	77	77	78	78	78
Noise Power	-5	dB(A)	96	96	96	96	97	97	97	98	98	98	99	99	99
SIZE AND WEIGHT															
A	-6	mm	3170	3250	3280	4220	4610	4740	4810	4860	5950	6080	6230	6260	6300
B	-6	mm	3905	3905	3905	4515	5690	5690	5690	5690	7430	7430	7430	7430	7430
H	-6	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
Operating weight	-6	kg	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H

(4) Average sound pressure level at 1m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(5) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(6) Unit in standard configuration/execution without optional accessories

APTUS Verto - Air Sourced, Reversible Heat Pumps

35.8kW-179.50kW Heating

ATv/QK

ATv/QK		2015	2018	2020	2025	2026	2030	2035	2040	2045	2050	2055	2060	2070	2080
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	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE															
COOLING ONLY (GROSS VALUE)															
Cooling capacity	kW	35.8	39.8	46.8	53.4	60.4	69.9	77.9	94.5	103.6	113.9	131.6	154.3	168.3	179.5
Total power input	kW	15.2	17.6	19.9	22.4	25.8	29.9	34.9	36.7	42.5	47.8	54.1	60.5	71.6	83.8
EER		2.36	2.26	2.35	2.38	2.34	2.34	2.23	2.57	2.44	2.38	2.43	2.55	2.35	2.14
ESEER		3.91	3.75	4.07	3.82	3.84	3.85	3.92	3.89	3.89	3.85	3.99	3.96	3.91	3.62
COOLING ONLY (EN14511 VALUE)															
Cooling capacity	kW	35.6	39.6	46.6	53.1	60.1	69.6	77.5	94.0	103.1	113.4	131.0	153.6	167.6	178.7
Total power Input		15.4	17.8	20.2	22.6	26.0	30.3	35.4	37.2	43.0	48.3	54.8	61.2	72.2	84.7
EER		2.31	2.22	2.31	2.35	2.31	2.30	2.19	2.53	2.40	2.35	2.39	2.51	2.32	2.11
ESEER		3.75	3.62	3.91	3.68	3.71	3.72	3.77	3.75	3.75	3.73	3.85	3.82	3.78	3.50
HEATING ONLY															
Total heating capacity	kW	42.9	47.4	55.3	65.0	70.7	80.1	92.1	108.3	119.5	133.9	150.1	174.6	193.2	211.4
Total power input	kW	14.0	15.5	18.0	21.3	22.8	26.0	29.6	35.5	39.2	42.9	48.6	57.0	63.2	69.5
COP		3.06	3.06	3.07	3.05	3.10	3.08	3.11	3.05	3.05	3.12	3.09	3.06	3.06	3.04
HEATING ONLY (EN14511 VALUE)															
Total heating capacity	kW	43.2	47.7	55.6	65.4	71.1	80.5	92.7	109.0	120.2	134.7	150.9	175.5	194.1	212.6
COP		14.3	15.8	18.3	21.7	23.2	26.4	30.2	36.2	39.9	43.7	49.5	57.9	64.1	70.6
Cooling energy class		3.02	3.02	3.03	3.02	3.07	3.05	3.07	3.01	3.01	3.08	3.05	3.03	3.03	3.01
EXCHANGERS															
PLATE HEAT EXCHANGER - PLANT SIDE IN COOLING															
Water flow	m³/h	6.2	6.9	8.1	9.2	10.4	12.0	13.4	16.3	17.8	19.6	22.7	26.6	29.0	30.9
Pressure drop	kPa	30.2	27.6	29.4	27.5	28.6	27.5	41.9	42.9	42.0	39.2	43.4	42.8	39.3	44.7
Heat exchanger user side in heating															
Water flow	m³/h	7.46	8.23	9.62	11.30	12.28	13.91	16.01	18.81	20.76	23.27	26.08	30.33	33.58	36.74
Pressure drop	kPa	44.22	39.79	41.99	41.50	39.98	36.79	59.74	57.35	56.90	55.26	57.46	55.76	52.78	63.16
COMPRESSORS															
Compressors nr.	Nº	2	2	2	2	2	2	2	2	2	2	2	2	2	2
No. Circuits	Nº	1	1	1	1	1	1	1	1	1	1	1	1	1	1
NOISE LEVEL															
Noise Pressure	dB(A)	45	45	45	46	47	48	50	51	51	51	52	52	52	54
Noise Power	dB(A)	77	77	77	78	79	80	82	83	83	83	84	84	84	86
SIZE AND WEIGHT															
A	mm	1825	1825	1825	2395	2395	2395	2395	2825	2825	3360	3360	3980	3980	3980
B	mm	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195
H	mm	1865	1865	1865	1865	1865	1865	1865	1980	1980	1980	1980	1980	1980	1980
Operating weight	kg	510	560	580	650	660	670	800	1010	1100	1200	1250	1360	1410	1430

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H

(4) Average sound pressure level at 1m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(5) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(6) Unit in standard configuration/execution without optional accessories

APTUS Verto - Air Sourced, Reversible Heat Pumps

165kW-329kW Heating

ATv/Q

ATv/Q			4060	4070	4080	4090	4100	4110	4120
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	-1	kW	153	174	201	234	258	283	303
Total power input	-1	kW	56.9	68.5	78.3	90.0	101	109	119
EER	-1		2.68	2.55	2.56	2.60	2.55	2.60	2.54
ESEER	-1		3.96	4.08	4.12	4.08	4.02	4.06	4.05
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1) (2)	kW	152	174	200	233	257	282	302
EER	(1) (2)		2.66	2.52	2.53	2.57	2.51	2.57	2.51
ESEER	(1) (2)		3.85	3.94	3.94	3.91	3.84	3.93	3.91
Cooling energy class			D	D	D	D	D	D	D
HEATING ONLY (GROSS VALUE)									
Total heating capacity	-3	kW	165	192	221	255	284	310	329
Total power input	-3	kW	52.7	63.0	71.9	83.9	92.9	100	107
COP	-3		3.14	3.05	3.08	3.04	3.05	3.09	3.07
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3) (2)	kW	166	193	222	256	285	311	330
COP	(3) (2)		3.12	3.03	3.05	3.01	3.02	3.07	3.04
Cooling energy class			B	B	B	B	B	B	B
EXCHANGERS									
SHELL AND TUBE HEAT EXCHANGER									
Water flow	-1	m³/h	26.3	30.0	34.5	40.3	44.4	48.7	52.2
Pressure drop	-1	kPa	20.1	26.1	43.2	40.5	49.2	32.0	36.8
Heat exchanger user side in heating									
Water flow	-3	m³/h	28.7	33.4	38.5	44.3	49.3	53.9	57.2
Pressure drop	-3	kPa	23.9	32.4	53.6	48.9	60.5	39.2	44.1
PLATE HEAT EXCHANGER - PLANT SIDE IN COOLING									
Water flow	-1	m³/h	26.3	30.0	34.5	40.3	44.4	48.7	52.2
Pressure drop	-1	kPa	38.7	38	40.6	44.9	43.7	39.3	45.2
PLANT SIDE IN HEATING									
Water flow	-3	m³/h	28.7	33.4	38.5	44.3	49.3	53.9	57.2
Pressure drop	-3	kPa	46.2	47.1	50.3	54.2	53.7	48.2	54.3
COMPRESSORS									
Compressors nr.	Nº		4	4	4	4	4	4	4
No. Circuits	Nº		2	2	2	2	2	2	2
NOISE LEVEL									
Noise Pressure	-4	dB(A)	67	66	67	68	69	70	70
Noise Power	-5	dB(A)	86	86	87	88	89	90	90
SIZE AND WEIGHT									
A	-6	mm	1860	2230	2390	2610	2700	3200	3240
B	-6	mm	3110	4110	4110	4110	4110	5110	5110
H	-6	mm	2220	2220	2220	2220	2220	2220	2220
Operating weight	-6	kg	2150	2150	2150	2150	2150	2150	2150

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H

(4) Average sound pressure level at 1m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(5) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(6) Unit in standard configuration/execution without optional accessories

APTUS Verto - Air Sourced, Reversible Heat Pumps

160kW-330kW Heating

ATv/SS

ATv/SS		4060	4070	4080	4090	4100	4110	4120
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
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	-1	kW	148	175	202	232	256	281
Total power input	-1	kW	57.8	68.5	78.9	88.2	100	111
EER	-1		2.56	2.56	2.56	2.63	2.55	2.54
ESEER	-1		4.07	4.07	4.11	4.12	4.12	4.09
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1) (2)	kW	148	175	201	231	255	280
EER	(1) (2)		2.54	2.53	2.52	2.59	2.51	2.52
ESEER	(1) (2)		3.96	3.94	3.93	3.95	3.94	3.96
Cooling energy class			D	D	D	D	D	D
HEATING ONLY (GROSS VALUE)								
Total heating capacity	-3	kW	160	193	223	257	283	307
Total power input	-3	kW	51.2	63.6	72.5	82.2	91.2	100
COP	-3		3.13	3.03	3.08	3.12	3.10	3.07
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(3) (2)	kW	161	194	224	258	284	308
COP	(3) (2)		3.11	3.01	3.05	3.10	3.07	3.05
Cooling energy class			B	B	B	B	B	B
EXCHANGERS								
SHELL AND TUBE HEAT EXCHANGER								
Water flow	-1	m³/h	25.5	30.2	34.7	39.9	44.0	48.4
Pressure drop	-1	kPa	18.8	26.5	43.6	39.7	48.2	31.6
Heat exchanger user side in heating								
Water flow	-3	m³/h	27.8	33.5	38.8	44.6	49.1	53.4
Pressure drop	-3	kPa	22.5	32.6	54.5	49.6	60.1	38.5
PLATE HEAT EXCHANGER - PLANT SIDE IN COOLING								
Water flow	-1	m³/h	25.5	30.2	34.7	39.9	44.0	48.4
Pressure drop	-1	kPa	36.4	38.5	41	44	42.8	38.9
PLANT SIDE IN HEATING								
Water flow	-3	m³/h	27.8	33.5	38.8	44.6	49.1	53.4
Pressure drop	-3	kPa	43.4	47.5	51.2	55	53.3	47.3
COMPRESSORS								
Compressors nr.	Nº		4	4	4	4	4	4
No. Circuits	Nº		2	2	2	2	2	2
NOISE LEVEL								
Noise Pressure	-4	dB(A)	63	63	63	64	65	66
Noise Power	-5	dB(A)	82	83	83	84	85	86
SIZE AND WEIGHT								
A	-6	mm	1860	2310	2470	2870	2980	3320
B	-6	mm	3110	4110	4110	5110	5110	5110
H	-6	mm	2220	2220	2220	2220	2220	2220
Operating weight	-6	kg	2150	2150	2150	2150	2150	2150

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H

(4) Average sound pressure level at 1m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(5) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(6) Unit in standard configuration/execution without optional accessories

APTUS Verto - Air Sourced, Reversible Heat Pumps

368kW-884kW Heating

ATv/SS

ATv/SS			4131	4141	4161	6171	6181	6201	6211	6241	8241	8261	8281	8301	8321
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	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE															
COOLING ONLY (GROSS VALUE)															
Cooling capacity	-1	kW	320	343	383	413	445	493	516	574	593	639	688	726	765
Total power input	-1	kW	131	138	154	170	185	200	207	232	247	262	276	293	309
EER	-1		2.44	2.49	2.48	2.42	2.40	2.47	2.49	2.48	2.40	2.43	2.49	2.48	2.48
ESEER	-1		3.99	4.00	3.97	4.05	3.99	4.07	4.06	3.95	4.00	4.05	4.06	4.06	3.96
COOLING ONLY (EN14511 VALUE)															
Cooling capacity	(1) (2)	kW	318	342	381	412	443	492	514	572	591	636	686	724	763
EER	(1) (2)		2.40	2.46	2.44	2.40	2.38	2.45	2.46	2.45	2.38	2.41	2.46	2.45	2.45
ESEER	(1) (2)		3.83	3.87	3.81	3.92	3.84	3.93	3.91	3.81	3.86	3.88	3.92	3.90	3.81
Cooling energy class			E	E	E	E	E	E	E	E	E	E	E	E	E
HEATING ONLY (GROSS VALUE)															
Total heating capacity	-3	kW	368	390	442	474	513	564	586	663	684	737	781	838	884
Total power input	-3	kW	117	125	139	152	164	180	188	209	219	235	250	264	278
COP	-3		3.14	3.12	3.18	3.11	3.12	3.14	3.12	3.17	3.12	3.14	3.12	3.17	3.17
HEATING ONLY (EN14511 VALUE)															
Total heating capacity	(3) (2)	kW	370	392	444	476	515	566	588	665	687	740	784	841	887
COP	(3) (2)		3.11	3.09	3.14	3.09	3.09	3.11	3.10	3.15	3.10	3.11	3.10	3.14	3.15
Cooling energy class			B	B	B	B	B	B	B	B	B	B	B	B	B
EXCHANGERS															
Heat exchanger user side in refrigeration															
Water flow	-1	m³/h	55.0	59.1	65.9	71.0	76.5	84.9	88.8	98.8	102	110	118	125	132
Pressure drop	-1	kPa	43.9	38.7	48.2	31.8	36.9	34.6	37.8	40.0	38.6	44.7	35.0	39.1	43.4
Heat exchanger user side in heating															
Water flow	-3	m³/h	64.0	67.9	76.8	82.4	89.1	98.0	102	115	119	128	136	146	154
Pressure drop	-3	kPa	59.4	51.1	65.4	42.8	50.0	46.1	49.8	54.4	52.3	60.6	46.1	53.0	58.9
COMPRESSORS															
Compressors nr.	Nº		4	4	4	6	6	6	6	8	8	8	8	8	8
No. Circuits	Nº		2	2	2	3	3	3	3	4	4	4	4	4	4
NOISE LEVEL															
Noise Pressure	-4	dB(A)	68	68	68	68	68	69	69	70	70	69	70	70	70
Noise Power	-5	dB(A)	88	88	88	89	89	90	90	91	91	91	92	92	92
SIZE AND WEIGHT															
A	-6	mm	3400	3530	3680	4720	4860	5160	5270	5500	6280	6580	6830	6990	7140
B	-6	mm	4515	5080	5080	5690	5690	6865	7430	7430	8605	9780	9780	9780	9780
H	-6	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
Operating weight	-6	kg	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C – 87% R.H

(4) Average sound pressure level at 1m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(5) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(6) Unit in standard configuration/execution without optional accessories

APTUS Verto - Air Sourced, Reversible Heat Pumps

46kW-232kW

ATv/CA

ATv/CA		2015	2018	2020	2025	2026	2030	2035	2040	2045	2050	2056	2061	2071	2081
Power supply	V/ph/ Hz	400/3 /50													
PERFORMANCE															
COOLING ONLY (GROSS VALUE)															
Cooling capacity	kW	40	45.3	51.2	59.6	66.8	80.9	92	102.2	116.2	130.9	152.5	169.7	197.7	219.5
Total power input	kW	13	15	18	19.9	22.5	27	30.8	34.4	39.1	43.5	61.3	56.5	66.5	72.2
EER		3.08	3.02	2.84	2.99	2.97	3	2.99	2.97	2.97	3.01	2.97	3	2.97	3.04
ESEER		4.19	4.24	4.22	4.05	4.12	4.01	4.12	4.13	4.17	4.05	4.04	4.05	3.93	3.86
COOLING ONLY (EN14511 VALUE)															
Cooling capacity	kW	39.7	45	50.9	59.3	66.5	80.5	91.4	101.6	115.5	130.2	151.6	168.8	196.7	218.3
Total power input		13.2	15.3	18.3	20.2	22.9	27.4	31.4	35	39.7	44.3	52.1	57.4	67.4	73.5
EER		3	2.95	2.78	2.93	2.91	2.94	2.91	2.9	2.91	2.94	2.91	2.94	2.92	2.97
ESEER		3.97	4.03	4.03	3.88	3.96	3.85	3.89	3.94	3.96	3.88	3.84	3.89	3.77	3.7
HEATING ONLY (GROSS VALUE)															
Total heating capacity	kW	46.1	51	59	69.5	74.5	86.8	98.6	110.4	122.2	138.2	161.4	180.6	209.2	232.2
Total power input	kW	14.1	15.5	18.1	21.3	22.9	26.7	30.3	33.9	37.6	42.4	49.7	55.6	64.4	71.2
COP		3.27	3.29	3.26	3.26	3.25	3.25	3.25	3.26	3.25	3.26	3.25	3.25	3.25	3.26
HEATING ONLY (EN14511 VALUE)															
Heating capacity	kW	46.4	51.3	59.4	69.9	74.9	87.3	99.3	111.1	12.3	139	162.4	181.6	210.3	253.7
Total power input		14.5	15.8	18.5	21.7	25.3	28.2	31	34.6	38.3	43.2	50.7	56.6	65.5	72.6
COP		3.21	3.24	3.21	3.22	3.21	3.21	3.2	3.21	3.21	3.22	3.2	3.21	3.21	3.22
PLATE HEAT EXCHANGERS - PLANT SIDE IN COOLING															
Water flow	m³/h	6.9	7.8	8.8	10.3	11.5	13.9	15.8	17.6	20	22.5	26.3	29.2	34	37.8
Pressure drop	kPa	37.7	35.7	35.3	34.2	35.1	36.9	58.4	50.1	52.8	51.8	58.3	51.7	54.2	66.8
Heat exchanger user side in heating															
Water flow	m³/h	8	8.9	10.3	12.1	13	15.1	17.1	19.2	21.2	24	28	31.4	36.4	40.4
Pressure drop	kPa	51	46	47.8	47.4	44.5	43.2	68.4	59.6	59.5	58.8	66.5	59.7	61.9	76.2
COMPRESSORS															
Compressors nr.	N°	2	2	2	2	2	2	2	2	2	2	2	2	2	2
No. Circuits	N°	1	1	1	1	1	1	1	1	1	1	1	1	1	1
NOISE LEVEL															
Noise Pressure	dB(A)	52	52	52	53	53	56	56	57	57	58	59	59	60	61
Noise Power	dB(A)	84	84	84	85	85	88	88	89	89	90	91	91	92	93
SIZE AND WEIGHT															
A	mm	2395	2395	2395	2395	2395	2825	3360	3360	3360	3980	4110	4110	5110	5110
B	mm	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195	2220	2220	2220	2220
H	mm	1865	1865	1865	1865	1865	1980	1980	1980	1980	1980	2150	2150	2150	2150
Operating weight	kg	590	640	640	670	670	800	990	1120	1170	1290	1790	1890	2150	2260

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H

(4) Total sound power of fans, as declared by the maker, at the rated speed of rotation and a useful static head of 120 Pa on the delivery side

(5) Unit in standard configuration/execution without optional accessories

APTUS Verto - Air Sourced, Reversible Heat Pumps

171kW-350kW

ATv/CA

ATv/CA			4060	4070	4080	4090	4100	4110	4120
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	-1	kW	164	191	222	253	283	310	335
Total power input	-1	kW	55.7	64.6	73.8	85.3	96.0	105	113
EER	-1		2.95	2.95	3.01	2.97	2.95	2.96	2.96
ESEER	-1		4.13	4.25	4.22	4.25	4.22	4.16	4.18
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1) (2)	kW	164	190	221	252	282	309	334
EER	(1) (2)		2.91	2.91	2.96	2.92	2.91	2.92	2.92
ESEER	(1) (2)		4.00	4.08	4.01	4.05	4.08	4.01	4.01
Cooling energy class			B	B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)									
Total heating capacity	-3	kW	171	199	238	266	293	329	350
Total power input	-3	kW	53.0	61.5	73.1	82.0	90.6	102	108
COP	-3		3.24	3.24	3.25	3.24	3.23	3.24	3.24
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3) (2)	kW	172	200	239	267	294	330	351
COP	(3) (2)		3.21	3.21	3.21	3.21	3.21	3.21	3.21
Cooling energy class			A	A	A	A	A	A	A
EXCHANGERS									
Heat exchanger user side in refrigeration									
Water flow	-1	m³/h	28.3	32.8	38.3	43.6	48.8	53.4	57.7
Pressure drop	-1	kPa	23.1	31.3	53.1	47.4	32.1	38.5	45.0
Heat exchanger user side in heating									
Water flow	-3	m³/h	29.8	34.6	41.3	46.2	50.9	57.2	60.8
Pressure drop	-3	kPa	25.7	34.7	61.7	53.1	35.0	44.1	49.9
COMPRESSORS									
Compressors nr.	Nº		4	4	4	4	4	4	4
No. Circuits	Nº		2	2	2	2	2	2	2
NOISE LEVEL									
Noise Pressure	-4	dB(A)	72	72	74	74	75	77	77
Noise Power	-5	dB(A)	92	92	94	94	95	97	97
SIZE AND WEIGHT									
A	-6	mm	2070	2360	2750	2870	3150	3640	3660
B	-6	mm	4110	4110	5110	5110	5110	6110	6110
H	-6	mm	2220	2220	2220	2220	2220	2220	2220
Operating weight	-6	kg	2150	2150	2150	2150	2150	2150	2150

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H

(4) Average sound pressure level at 1m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(5) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(6) Unit in standard configuration/execution without optional accessories

APTUS Verto - Air Sourced, Reversible Heat Pumps

320kW-833kW

ATv/CA

Atv/CA			4131	4141	4161	6171	6181	6201	6211	6241	8241	8261	8281	8301	8321
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	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE															
COOLING ONLY (GROSS VALUE)															
Cooling capacity	-1	kW	352	372	417	453	504	538	559	625	667	710	745	789	833
Total power input	-1	kW	121	128	143	155	173	185	192	215	228	242	256	270	287
EER	-1		2.90	2.91	2.91	2.91	2.92	2.91	2.92	2.91	2.92	2.93	2.92	2.92	2.91
ESEER	-1		4.12	4.20	4.07	4.19	4.08	4.18	4.17	4.09	4.09	4.14	4.18	4.17	4.09
COOLING ONLY (EN14511 VALUE)															
Cooling capacity	(1) (2)	kW	350	370	415	452	502	536	557	622	664	707	743	787	830
EER	(1) (2)		2.85	2.87	2.86	2.88	2.88	2.87	2.88	2.87	2.88	2.88	2.88	2.89	2.86
ESEER	(1) (2)		3.93	4.02	3.87	4.03	3.90	4.01	4.00	3.92	3.94	4.02	4.00	3.91	
Cooling energy class			C	C	C	C	C	C	C	C	C	C	C	C	C
HEATING ONLY (GROSS VALUE)															
Total heating capacity	-3	kW	383	409	449	497	533	586	614	674	708	766	819	860	898
Total power input	-3	kW	120	128	140	155	166	183	191	210	221	239	255	269	280
COP	-3		3.21	3.20	3.21	3.21	3.21	3.21	3.21	3.21	3.20	3.20	3.21	3.20	3.21
HEATING ONLY (EN14511 VALUE)															
Total heating capacity	(3) (2)	kW	385	411	452	499	535	589	617	676	711	770	822	863	902
COP	(3) (2)		3.17	3.17	3.18	3.18	3.18	3.19	3.18	3.18	3.17	3.17	3.19	3.17	3.18
Cooling energy class			B	B	B	B	B	B	B	B	B	B	B	B	B
EXCHANGERS															
Heat exchanger user side in refrigeration															
Water flow	-1	m³/h	60.6	64.0	71.7	78.0	86.8	92.6	96.2	108	115	122	128	136	143
Pressure drop	-1	kPa	53.2	45.5	57.1	38.4	47.5	41.1	44.4	47.4	48.7	55.2	41.2	46.2	51.4
Heat exchanger user side in heating															
Water flow	-3	m³/h	66.6	71.1	78.1	86.3	92.6	102	107	117	123	133	142	149	156
Pressure drop	-3	kPa	64.3	56.2	67.6	46.9	54.1	49.9	54.7	56.2	56.1	65.6	50.6	55.8	60.9
COMPRESSORS															
Compressors nr.		Nº	4	4	4	6	6	6	6	6	8	8	8	8	8
No. Circuits		Nº	2	2	2	3	3	3	3	3	4	4	4	4	4
NOISE LEVEL															
Noise Pressure	-4	dB(A)	77	77	77	76	77	77	77	78	77	77	78	78	78
Noise Power	-5	dB(A)	97	97	97	97	98	98	98	99	99	99	100	100	100
SIZE AND WEIGHT															
A	-6	mm	3490	3580	3610	4840	5120	5270	5350	5400	6610	6760	6940	6970	7000
B	-6	mm	5080	5080	5080	6255	7430	7430	7430	7430	9780	9780	9780	9780	9780
H	-6	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
Operating weight	-6	kg	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H

(4) Average sound pressure level at 1m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(5) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(6) Unit in standard configuration/execution without optional accessories

APTUS Verto - Air Sourced, Reversible Heat Pumps

46kW-232kW

ATv/Q-CA

ATv/Q-CA		2015	2018	2020	2025	2026	2030	2035	2040	2045	2050	2056	2061	2071	2081
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	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE															
COOLING ONLY (GROSS VALUE)															
Cooling capacity	kW	36.3	40.9	47.5	54.3	59.8	79.4	87.1	99	109.9	124.9	144.3	165.3	188.9	212.4
Total power input	kW	14.6	16.9	19.5	22	25.2	26.8	31.2	24.5	39.7	43.7	50.1	55.7	63.8	70.1
EER		2.49	2.42	2.44	2.47	2.37	2.96	2.79	2.87	2.77	2.86	2.88	2.97	2.96	3.03
ESEER		3.98	3.9	4.14	3.89	3.83	4.12	4.08	4.09	4.12	4.04	4.01	4.12	3.95	3.91
COOLING ONLY (EN14511 VALUE)															
Cooling capacity	kW	36.1	40.7	47.3	54	59.5	79	86.6	98.4	109.3	124.3	143.5	164.5	168	211.3
Total power input		14.8	17.1	19.8	22.2	25.4	27.1	31.7	35	40.3	44.4	50.9	56.5	64.6	71.1
EER		2.44	2.38	2.39	2.43	2.34	2.91	2.73	2.81	2.71	2.8	2.82	2.91	2.91	2.97
ESEER		3.91	3.76	3.97	3.75	3.7	3.96	4.08	3.9	3.93	3.89	3.82	3.97	3.8	3.76
HEATING ONLY (GROSS VALUE)															
Total heating capacity	kW	46.1	51	59	69.5	74.5	86.8	98.6	110.4	122.2	138.2	161.4	180.6	209.2	232.2
Total power input	kW	14.1	15.5	18.1	21.3	22.9	26.7	30.3	33.9	37.6	42.4	49.7	55.6	64.1	71.2
COP		3.27	3.29	3.26	3.26	3.25	3.25	3.25	3.26	3.25	3.26	3.25	3.25	3.25	3.26
HEATING ONLY (EN14511 VALUE)															
Heating capacity	kW	46.4	51.3	59.4	69.9	74.9	87.3	99.3	111.1	123	139	162.4	181.6	210.3	233.7
Total power input		14.5	15.8	18.5	21.7	23.3	27.2	31	34.6	38.3	43.2	50.7	56.6	65.5	72.7
COP		3.21	3.24	3.21	3.22	3.21	3.21	3.2	3.21	3.21	3.22	3.2	3.21	3.21	3.22
PLATE HEAT EXCHANGERS - PLANT SIDE IN COOLING															
Water flow	m³/h	6.2	7	8.2	9.4	10.3	13.7	15	17	18.9	21.5	24.8	28.5	32.5	36.6
Pressure drop	kPa	31	29.1	30.4	28.4	28.1	35.5	52.4	47	47.3	47.1	52.1	49.1	49.5	62.6
Plant side in heating															
Water flow	m³/h	8	8.9	10.3	12.1	13	15.1	17.1	19.2	21.2	24	28	31.4	36.4	40.4
Pressure drop	kPa	51	46	47.8	47.4	44.5	43.2	68.4	59.6	59.5	58.8	66.5	59.7	61.9	76.2
COMPRESSORS															
Compressors nr.	Nº	2	2	2	2	2	2	2	2	2	2	2	2	2	2
No. Circuits	Nº	1	1	1	1	1	1	1	1	1	1	1	1	1	1
NOISE LEVEL															
Noise Pressure	dB(A)	45	45	45	46	47	50	51	52	52	52	53	53	54	55
Noise Power	dB(A)	77	77	77	78	79	82	83	84	84	84	85	85	86	87
SIZE AND WEIGHT															
A	mm	2395	2395	2395	2395	2395	2825	3360	3360	3360	3980	4110	4110	5110	5110
B	mm	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195	2220	2220	2220	2220
H	mm	1865	1865	1865	1865	1865	1980	1980	1980	1980	1980	2150	2150	2150	2150
Operating weight	kg	600	640	650	710	720	840	1000	1130	1190	1300	1800	1900	2160	2270

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H

(4) Average sound pressure level at 1m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(5) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(6) Unit in standard configuration/execution without optional accessories

APTUS Verto - Air Sourced, Reversible Heat Pumps

170kW-358kW Heating

ATv/Q-CA

Atv/Q-CA		4060	4070	4080	4090	4100	4110	4120
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
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	-1	kW	159	187	216	248	277	300
Total power input	-1	kW	53.8	62.5	70.8	82.3	93.7	101
EER	-1		2.95	3.00	3.05	3.01	2.95	2.98
ESEER	-1		4.30	4.31	4.32	4.31	4.28	4.30
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1) (2)	kW	158	187	215	247	276	299
EER	(1) (2)		2.92	2.96	3.00	2.96	2.92	2.95
ESEER	(1) (2)		4.16	4.15	4.11	4.10	4.14	4.15
Cooling energy class			B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)								
Total heating capacity	-3	kW	170	207	239	275	304	329
Total power input	-3	kW	51.9	64.1	73.2	84.7	93.9	101
COP	-3		3.28	3.24	3.26	3.24	3.24	3.24
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(3) (2)	kW	170	208	240	276	305	330
COP	(3) (2)		3.25	3.21	3.22	3.21	3.21	3.22
Cooling energy class			A	A	A	A	A	A
EXCHANGERS								
Heat exchanger user side in refrigeration								
Water flow	-1	m³/h	27.3	32.3	37.2	42.7	47.6	51.7
Pressure drop	-1	kPa	21.6	30.2	50.1	45.3	30.6	36.1
Heat exchanger user side in heating								
Water flow	-3	m³/h	29.5	36.0	41.5	47.8	52.8	57.1
Pressure drop	-3	kPa	25.3	37.7	62.3	56.8	37.6	44.1
COMPRESSORS								
Compressors nr.	Nº	4	4	4	4	4	4	4
No. Circuits	Nº	2	2	2	2	2	2	2
NOISE LEVEL								
Noise Pressure	-4	dB(A)	66	67	68	69	70	70
Noise Power	-5	dB(A)	86	87	88	89	90	91
SIZE AND WEIGHT								
A	-6	mm	2070	2440	2750	2970	3250	3610
B	-6	mm	4110	4110	5110	5110	5110	6110
H	-6	mm	2220	2220	2220	2220	2220	2220
Operating weight	-6	kg	2150	2150	2150	2150	2150	2150

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H

(4) Average sound pressure level at 1m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(5) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(6) Unit in standard configuration/execution without optional accessories

APTUS Verto - Air Sourced, Reversible Heat Pumps

46kW-232kW Heating

ATv/SS-CA

ATv/SS-CA			4060	4070	4080	4090	4100	4110	4120
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
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	-1	kW	158	185	216	245	275	299	324
Total power input	-1	kW	53.5	62.9	71.0	82.7	92.8	101	110
EER	-1		2.95	2.95	3.04	2.96	2.96	2.96	2.96
ESEER	-1		4.34	4.41	4.38	4.40	4.34	4.32	4.28
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1) (2)	kW	157	185	215	244	274	298	323
EER	(1) (2)		2.92	2.91	2.98	2.91	2.93	2.92	2.91
ESEER	(1) (2)		4.19	4.23	4.15	4.19	4.20	4.17	4.11
Cooling energy class			B	B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)									
Total heating capacity	-3	kW	169	203	238	268	299	325	356
Total power input	-3	kW	51.2	62.6	73.2	82.7	92.1	101	110
COP	-3		3.31	3.24	3.25	3.24	3.25	3.23	3.25
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3) (2)	kW	170	204	239	270	300	326	357
COP	(3) (2)		3.28	3.21	3.21	3.21	3.23	3.21	3.22
Cooling energy class			A	A	A	A	A	A	A
EXCHANGERS									
Heat exchanger user side in refrigeration									
Water flow	-1	m³/h	27.1	31.9	37.1	42.1	47.3	51.4	55.8
Pressure drop	-1	kPa	21.4	29.6	49.9	44.2	30.2	35.7	42.0
Heat exchanger user side in heating									
Water flow	-3	m³/h	29.4	35.2	41.3	46.6	52.0	56.5	61.8
Pressure drop	-3	kPa	25.1	36.0	61.8	54.1	36.6	43.1	51.6
COMPRESSORS									
Compressors nr.	N°		4	4	4	4	4	4	4
No. Circuits	N°		2	2	2	2	2	2	2
NOISE LEVEL									
Noise Pressure	-4	dB(A)	63	63	64	65	66	67	68
Noise Power	-5	dB(A)	83	83	84	85	86	87	88
SIZE AND WEIGHT									
A	-6	mm	2150	2440	2850	2970	3550	3610	3740
B	-6	mm	4110	4110	5110	5110	6110	6110	6110
H	-6	mm	2220	2220	2220	2220	2220	2220	2220
Operating weight	-6	kg	2150	2150	2150	2150	2150	2150	2150

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H

(4) Average sound pressure level at 1m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(5) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(6) Unit in standard configuration/execution without optional accessories

APTUS^{verto}

High Temperature Heat Pumps

Heating and Cooling



APTUS - High Temperature Heat Pumps

38kW-102kW

AT-HT/CA-HE

AT-HT/CA-HE				2012	2015	2020	2026	2030
Power supply		V/ph/Hz		400/3/50+N	400/3/50+N	400/3/50+N	400/3/50+N	400/3/50+N
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(1)	kW		38.0	51.3	68.8	84.9	102
Total power input	(1)	kW		10.7	14.4	19.4	23.6	27.7
COP	(1)			3.55	3.56	3.55	3.60	3.68
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	m³/h		6.60	8.91	12.0	14.8	17.7
Pressure drop	(1)	kPa		10.2	12.9	14.6	18.3	22.9
COMPRESSORS								
Compressors nr.		N°		2	2	2	2	2
No. circuits		N°		2	2	2	2	2
NOISE LEVEL								
Noise power	(2)	dB(A)		84	86	87	87	87
Noise pressure	(3)	dB(A)		68	69	70	70	70
SIZE AND WEIGHT								
A	(4)	mm		1695	2195	2745	2745	2745
B	(4)	mm		1120	1120	1120	1120	1120
H	(4)	mm		1420	1420	1420	1620	1620
Operating weight	(4)	kg		510	750	870	940	1030

Notes:

1. Plant (side) Heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
2. Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified.
3. Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
4. Unit in standard configuration/execution, without optional accessories.

38kW-102kW

AT-HT/Q-CA-HE

AT-HT/Q-CA-HE				2012	2015	2020	2026	2030
Power supply		V/ph/Hz		400/3/50+N	400/3/50+N	400/3/50+N	400/3/50+N	400/3/50+N
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(1)	kW		38.4	51.0	69.4	85.8	100
Total power input	(1)	kW		10.7	14.3	19.4	23.7	27.6
COP	(1)			3.59	3.57	3.58	3.62	3.63
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	m³/h		6.67	8.86	12.1	14.9	17.4
Pressure drop	(1)	kPa		10.5	12.7	14.8	18.7	22.2
COMPRESSORS								
Compressors nr.		N°		2	2	2	2	2
No. circuits		N°		2	2	2	2	2
NOISE LEVEL								
Noise power	(2)	dB(A)		80	82	83	83	84
Noise pressure	(3)	dB(A)		64	65	66	66	67
SIZE AND WEIGHT								
A	(4)	mm		1695	2195	2745	2745	2745
B	(4)	mm		1120	1120	1120	1120	1120
H	(4)	mm		1420	1420	1420	1620	1620
Operating weight	(4)	kg		530	760	910	980	1030

Notes:

1. Plant (side) Heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
2. Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified.
3. Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
4. Unit in standard configuration/execution, without optional accessories.

APTUS Verto - High Temperature Heat Pumps

116kW-181kW

AT_v-HT/CA-HE

AT _v -HT/CA-HE			4040	4052	4060
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50
HEATING ONLY (GROSS VALUE)					
Total heating capacity	(1)	kW	135	171	205
Total power input	(1)	kW	39.5	48.1	58.9
COP	(1)		3.41	3.56	3.48
EXCHANGERS					
HEAT EXCHANGER USER SIDE IN REFRIGERATION					
Water flow	(1)	m ³ /h	23.4	29.7	35.6
Pressure drop	(1)	kPa	25.4	28.6	31.3
COMPRESSORS					
Compressors nr.		N°	4	4	4
No. circuits		N°	2	2	2
NOISE LEVEL					
Noise power	(2)	dB(A)	92	93	94
Noise pressure	(3)	dB(A)	73	73	74
SIZE AND WEIGHT					
A	(4)	mm	3110	4110	4110
B	(4)	mm	2220	2220	2220
H	(4)	mm	2150	2150	2150
Operating weight	(4)	kg	1950	2400	2530

Notes:

1. Plant (side) Heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
2. Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified.
3. Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
4. Unit in standard configuration/execution, without optional accessories.

116kW-181kW

AT_v-HT/Q-CA

AT _v -HT/Q-CA			4040	4052	4060
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50
HEATING ONLY (GROSS VALUE)					
Total heating capacity	(1)	kW	135	171	205
Total power input	(1)	kW	39.6	48.1	58.9
COP	(1)		3.41	3.56	3.48
EXCHANGERS					
HEAT EXCHANGER USER SIDE IN REFRIGERATION					
Water flow	(1)	m ³ /h	23.4	29.7	35.6
Available unit's head	(1)	kPa	25.4	28.6	31.3
COMPRESSORS					
Compressors nr.		N°	4	4	4
No. circuits		N°	2	2	2
NOISE LEVEL					
Noise power	(2)	dB(A)	86	86	87
Noise pressure	(3)	dB(A)	67	66	67
SIZE AND WEIGHT					
A	(4)	mm	3110	4110	4110
B	(4)	mm	2220	2220	2220
H	(4)	mm	2150	2150	2150
Operating weight	(4)	kg	1950	2410	2540

Notes:

1. Plant (side) Heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
2. Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified.
3. Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
4. Unit in standard configuration/execution, without optional accessories.

APTUS

High Temperature Heat Pumps

Heating only



APTUS - High Temperature Heat Pumps

38kW-102kW

AT-HT/CA-HE

AT-HT/CA-HE			2012	2015	2020	2026	2030
Power supply		V/ph/Hz	400/3/50+N	400/3/50+N	400/3/50+N	400/3/50+N	400/3/50+N
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(1)	kW	38.0	51.3	68.8	84.9	102
Total power input	(1)	kW	10.7	14.4	19.4	23.6	27.7
COP	(1)		3.55	3.56	3.55	3.60	3.68
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	m³/h	6.60	8.91	12.0	14.8	17.7
Pressure drop	(1)	kPa	10.2	12.9	14.6	18.3	22.9
COMPRESSORS							
Compressors nr.		N°	2	2	2	2	2
No. circuits		N°	2	2	2	2	2
NOISE LEVEL							
Noise power	(2)	dB(A)	84	86	87	87	87
Noise pressure	(3)	dB(A)	68	69	70	70	70
SIZE AND WEIGHT							
A	(4)	mm	1695	2195	2745	2745	2745
B	(4)	mm	1120	1120	1120	1120	1120
H	(4)	mm	1420	1420	1420	1620	1620
Operating weight	(4)	kg	510	750	870	940	1030

Notes:

1. Plant (side) Heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
2. Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified.
3. Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
4. Unit in standard configuration/execution, without optional accessories.

38kW-102kW

AT-HT/Q-HE

AT-HT/Q-CA-HE			2012	2015	2020	2026	2030
Power supply		V/ph/Hz	400/3/50+N	400/3/50+N	400/3/50+N	400/3/50+N	400/3/50+N
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(1)	kW	38.4	51.0	69.4	85.8	100
Total power input	(1)	kW	10.7	14.3	19.4	23.7	27.6
COP	(1)		3.59	3.57	3.58	3.62	3.63
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	m³/h	6.67	8.86	12.1	14.9	17.4
Pressure drop	(1)	kPa	10.5	12.7	14.8	18.7	22.2
COMPRESSORS							
Compressors nr.		N°	2	2	2	2	2
No. circuits		N°	2	2	2	2	2
NOISE LEVEL							
Noise power	(2)	dB(A)	80	82	83	83	84
Noise pressure	(3)	dB(A)	64	65	66	66	67
SIZE AND WEIGHT							
A	(4)	mm	1695	2195	2745	2745	2745
B	(4)	mm	1120	1120	1120	1120	1120
H	(4)	mm	1420	1420	1420	1620	1620
Operating weight	(4)	kg	530	760	910	980	1030

Notes:

1. Plant (side) Heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
2. Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified.
3. Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
4. Unit in standard configuration/execution, without optional accessories.

APTUS - High Temperature Heat Pumps

135kW-205kW

AT-HT/CA-HE

AT-HT/CA-HE			4040	4052	4060
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50
HEATING ONLY (GROSS VALUE)					
Total heating capacity	(1)	kW	135	171	205
Total power input	(1)	kW	39.5	48.1	58.9
COP	(1)		3.41	3.56	3.48
EXCHANGERS					
HEAT EXCHANGER USER SIDE IN REFRIGERATION					
Water flow	(1)	m³/h	23.4	29.7	35.6
Pressure drop	(1)	kPa	25.4	28.6	31.3
COMPRESSORS					
Compressors nr.		N°	4	4	4
No. circuits		N°	2	2	2
NOISE LEVEL					
Noise power	(2)	dB(A)	92	93	94
Noise pressure	(3)	dB(A)	73	73	74
SIZE AND WEIGHT					
A	(4)	mm	3110	4110	4110
B	(4)	mm	2220	2220	2220
H	(4)	mm	2150	2150	2150
Operating weight	(4)	kg	1950	2400	2530

Notes:

1. Plant (side) Heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
2. Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified.
3. Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
4. Unit in standard configuration/execution, without optional accessories.

135kW-205kW

AT-HT/Q-CA

AT-HT/Q-CA			4040	4052	4060
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50
HEATING ONLY (GROSS VALUE)					
Total heating capacity	(1)	kW	135	171	205
Total power input	(1)	kW	39.6	48.1	58.9
COP	(1)		3.41	3.56	3.48
EXCHANGERS					
HEAT EXCHANGER USER SIDE IN REFRIGERATION					
Water flow	(1)	m³/h	23.4	29.7	35.6
Available unit's head	(1)	kPa	25.4	28.6	31.3
COMPRESSORS					
Compressors nr.		N°	4	4	4
No. circuits		N°	2	2	2
NOISE LEVEL					
Noise power	(2)	dB(A)	86	86	87
Noise pressure	(3)	dB(A)	67	66	67
SIZE AND WEIGHT					
A	(4)	mm	3110	4110	4110
B	(4)	mm	2220	2220	2220
H	(4)	mm	2150	2150	2150
Operating weight	(4)	kg	1950	2410	2540

Notes:

1. Plant (side) Heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
2. Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified.
3. Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
4. Unit in standard configuration/execution, without optional accessories.

APTUS - High Temperature Heat Pumps

38.4kW-204kW

AT-HT/CA-HE

AT-HT/CA-HE			2012	2015	2020	2026	2030	4040	4052	4060
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
Total heating capacity	kW	38	51.3	68.8	84.9	102	134.9	171	204.8	
Total power input	kW	10.7	14.4	19.4	23.6	27.7	39.6	48.1	58.9	
COP		3.55	3.56	3.55	3.6	3.68	3.41	3.56	3.48	
HEATING CAPACITY (EN14511 VALUE)										
Heating capacity	kW	38.1	51.4	69	85.2	102.3	135.4	171.6	205.5	
Total power input	kW	10.8	14.5	19.6	23.9	28	40.1	48.8	59.6	
COP		3.53	3.54	3.52	3.57	3.65	3.38	3.52	3.45	
PLANT SIDE IN HEATING										
Water flow	m³/h	6.6	8.9	12	14.8	17.7	23.4	29.7	35.6	
Pressure drop	kPa	10.2	12.9	14.6	18.3	22.9	25.4	28.6	31.3	
COMPRESSORS										
Compressors nr.	Nº	2	2	2	2	2	4	4	4	
No. circuits	Nº	2	2	2	2	2	2	2	2	
NOISE LEVEL										
Noise power	dB(A)	52	54	55	55	55	60	61	62	
Noise pressure	dB(A)	84	86	87	87	87	92	93	94	
SIZE AND WEIGHT										
A	mm	1695	2195	2745	2745	2745	3110	4110	4110	
B	mm	1120	1120	1120	1120	1120	2220	2220	2220	
H	mm	1420	1420	1420	1420	1620	2150	2150	2150	
Operating weight	kg	510	750	870	940	1030	1950	2400	2530	

Notes:

1. Plant (side) Heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
2. Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified.
3. Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
4. Unit in standard configuration/execution, without optional accessories.

38kW-205kW

AT-HT/Q-CA-HE

AT-HT/Q-CA-HE			2012	2015	2020	2026	2030	4040	4052	4060
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
Total heating capacity	kW	38.4	51	69.4	85.8	100.3	134.9	171	204.8	
Total power input	kW	10.7	14.3	19.4	23.7	27.6	39.6	48.1	58.9	
COP		3.59	3.57	3.58	3.62	3.63	3.41	3.56	3.48	
HEATING CAPACITY (EN14511 VALUE)										
Heating capacity	kW	38.5	51.1	69.6	86.1	100.6	135.4	171.6	205.5	
Total power input	kW	10.8	14.4	19.6	24	27.9	40.1	48.8	59.6	
COP		3.56	3.54	3.55	3.59	3.6	3.38	3.52	3.45	
PLANT SIDE IN HEATING										
Water flow	m³/h	6.7	8.9	12.1	14.9	17.4	23.4	29.7	35.6	
Pressure drop	kPa	10.5	12.7	14.8	18.7	22.2	25.4	28.6	31.3	
COMPRESSORS										
Compressors nr.	Nº	2	2	2	2	2	4	4	4	
No. circuits	Nº	2	2	2	2	2	2	2	2	
NOISE LEVEL										
Noise power	dB(A)	48	50	51	51	52	54	54	55	
Noise pressure	dB(A)	80	82	83	83	84	86	86	87	
SIZE AND WEIGHT										
A	mm	1695	2195	2745	2745	2745	3110	4110	4110	
B	mm	1120	1120	1120	1120	1120	2220	2220	2220	
H	mm	1420	1420	1420	1420	1620	2150	2150	2150	
Operating weight	kg	530	760	910	980	1030	1960	2410	2540	

Notes:

1. Plant (side) Heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
2. Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified.
3. Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.
4. Unit in standard configuration/execution, without optional accessories.

APTUS[®]*verto*

Internal Units



APTUS Verto - Air Sourced, Reversible Heat Pumps

42.4kW-336kW

AT_v-HPI/K

AT _v -HPI/K			2015	2018	2020	2025	2030	2035	2041	2045	2051	2055	2061	4060	4070	4080	4090	4100	4110	4120
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	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	400/3/50
PERFORMANCE																				
COOLING ONLY (GROSS VALUE)																				
Cooling capacity	-1	kW	36.4	42.3	49.0	55.3	73.0	84.1	94.9	107	119	137	154	146	164	187	213	237	274	303
Total power input	-1	kW	14.9	17.1	19.7	22.4	31.2	35.0	39.0	43.8	49.5	57.9	64.4	60.3	71.6	79.0	87.2	99.8	113	131
EER	-1		2.44	2.47	2.49	2.47	2.34	2.40	2.43	2.45	2.41	2.36	2.39	2.42	2.29	2.37	2.44	2.37	2.43	2.32
ESEER	-1		4.65	4.48	4.48	4.36	3.85	3.95	3.92	3.98	3.74	3.81	3.76	3.74	3.58	3.80	3.93	3.55	3.61	3.52
COOLING ONLY (EN14511 VALUE)																				
Cooling capacity	(1) (2)	kW	36.1	42.0	48.7	54.9	72.5	83.7	94.4	107	119	136	154	146	163	186	212	236	273	302
EER	(1) (2)		2.68	2.70	2.68	2.63	2.55	2.61	2.61	2.62	2.57	2.56	2.57	2.60	2.43	2.55	2.60	2.53	2.60	2.47
ESEER	(1) (2)		4.44	4.17	4.29	4.07	3.66	3.79	3.75	3.81	3.62	3.65	3.61	3.75	3.55	3.71	3.83	3.49	3.57	3.47
Cooling energy class			B	A	B	B	B	B	B	B	B	B	B	B	C	B	B	B	C	
HEATING ONLY (GROSS VALUE)																				
Total heating capacity	-3	kW	42.4	48.0	56.1	63.7	81.6	94.6	107	122	135	153	173	165	185	208	235	261	302	336
Total power input	-3	kW	14.8	16.8	19.4	22.1	29.8	33.7	37.6	42.2	47.4	55.3	61.8	57.8	66.3	74.4	82.6	94.3	108	122
COP	-3		2.86	2.86	2.89	2.88	2.74	2.81	2.84	2.90	2.85	2.76	2.80	2.85	2.78	2.79	2.84	2.77	2.80	2.74
HEATING ONLY (EN14511 VALUE)																				
Total heating capacity	(3) (2)	kW	42.8	48.5	56.6	64.2	82.3	95.1	107	123	136	154	174	166	185	209	236	262	304	337
COP	(3) (2)		3.17	3.15	3.15	3.10	3.03	3.08	3.08	3.13	3.07	3.02	3.03	3.09	3.00	3.03	3.06	2.98	3.03	2.94
Cooling energy class			A	A	A	A	A	A	A	A	A	A	A	A	A	B	A	B	A	
EXCHANGERS																				
Heat exchanger user side in refrigeration																				
Water flow	-1	m ³ /h	6.27	7.29	8.44	9.52	12.6	14.5	16.3	18.4	20.5	23.5	26.5	25.2	28.2	32.2	36.6	40.8	47.2	52.2
Pressure drop	-1	kPa	40.8	55.0	47.3	43.6	56.9	32.3	41.1	36.7	45.5	44.9	44.4	39.8	41.7	44.8	45.7	46.0	47.2	46.1
Heat exchanger user side in heating																				
Water flow	-3	m ³ /h	7.36	8.35	9.75	11.1	14.2	16.4	18.5	21.3	23.5	26.5	30.1	28.6	32.1	36.1	40.8	45.4	52.5	58.3
Pressure drop	-3	kPa	56.2	72.2	63.2	59.0	72.4	41.6	53.0	48.8	59.7	57.1	57.0	51.5	54.0	56.1	56.7	57.1	58.5	57.5
COMPRESSORS																				
Compressors nr.	N°	2	2	2	2	2	2	2	2	2	2	2	2	4	4	4	4	4	4	4
No. Circuits	N°	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2
FANS																				
Air flow	m ³ /s	4.17	4.72	4.72	4.72	8.33	8.33	8.33	8.89	9.72	13.3	13.3	12.5	13.3	16.7	16.7	18.9	22.2	23.6	
Available static pressure	Pa	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	
NOISE LEVEL																				
Noise Power	-5	dBA	84	86	86	86	93	93	95	97	97	97	95	97	97	99	99	100		
SIZE AND WEIGHT																				
A	-6	mm	2200	2200	2200	2200	2602	2602	2602	3602	3602	3602	3602	3602	4602	4602	4602	5602	5602	
B	-6	mm	920	920	920	920	1104	1104	1104	1104	1104	1104	1104	1277	1277	1277	1277	1277	1277	
H	-6	mm	1642	1642	1642	1642	1927	1927	1927	1927	1927	1927	1927	1900	1900	2235	2235	2235	2235	
Operating weight	-6	kg	720	730	750	790	1080	1170	1230	1470	1490	1600	1660	1980	2055	2475	2630	2725	3145	3205

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H

(4) Total sound power of fans, as declared by the maker, at the rated speed of rotation and a useful static head of 120 Pa on the delivery side

(5) Unit in standard configuration/execution without optional accessories

APTUS^{erto}

Water Sourced, Reversible Heat Pumps



APTUS Verto - Water Ground Sourced, Reversible Heat Pumps

49.4kW-422kW

ATv/W/K

ATv/W/K			2015	2018	2020	2025	2026	2030	2035	2041	2045	2051	2055	2061	4060	4070	4080	4090	4100	4110	4120
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	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	400/3/50	400/3/50
PERFORMANCE																					
COOLING ONLY (GROSS VALUE)																					
Cooling capacity	-1	kW	43.4	50.1	58.9	66.4	72.6	86.7	101	115	129	144	165	186	174	203	228	258	288	329	371
Total power input	-1	kW	10.2	11.5	13.3	15.5	17.0	19.9	23.1	26.4	29.5	32.8	37.6	42.5	39.7	46.1	52.6	59.1	65.3	75.4	85.2
EER	-1		4.25	4.36	4.43	4.28	4.27	4.36	4.38	4.34	4.36	4.38	4.39	4.38	4.38	4.40	4.33	4.36	4.41	4.36	4.36
ESEER	-1		5.67	5.86	5.88	5.59	5.52	5.54	5.72	5.61	5.69	5.66	5.80	5.70	5.69	5.81	5.72	5.82	5.81	5.89	5.78
COOLING ONLY (EN14511 VALUE)																					
Cooling capacity	(1) (2)	kW	43.2	49.9	58.6	66.0	72.2	86.4	101	114	128	143	164	186	173	202	227	257	287	328	370
EER	(1) (2)		4.02	4.12	4.19	4.03	4.00	4.17	4.20	4.17	4.17	4.21	4.22	4.22	4.23	4.25	4.20	4.20	4.27	4.22	4.22
ESEER	(1) (2)		5.05	5.21	5.23	4.93	4.81	5.08	5.17	5.16	5.16	5.22	5.33	5.27	5.18	5.30	5.24	5.23	5.32	5.38	5.30
Cooling energy class			D	D	D	D	D	D	D	D	D	D	D	D	C	D	D	C	D	D	
HEATING ONLY (GROSS VALUE)																					
Total heating capacity	-3	kW	49.8	57.3	67.0	75.9	83.8	99.4	115	130	146	163	187	211	199	230	259	293	327	373	422
Total power input	-3	kW	12.9	14.3	16.7	19.2	21.0	24.6	28.3	32.1	35.9	39.9	45.7	51.6	49.1	56.5	63.9	71.9	79.3	91.7	104
COP			3.86	4.01	4.01	3.95	3.99	4.04	4.07	4.05	4.07	4.09	4.10	4.10	4.06	4.08	4.05	4.07	4.12	4.07	4.07
HEATING ONLY (EN14511 VALUE)																					
Total heating capacity	(3) (2)	kW	50.1	57.6	67.4	76.4	84.4	99.8	116	131	147	164	188	212	200	231	260	294	328	374	423
COP	(3) (2)		3.71	3.85	3.85	3.78	3.80	3.91	3.94	3.93	3.93	3.97	3.98	3.98	3.95	3.98	3.96	4.02	3.98	3.97	
Cooling energy class			D	D	D	D	D	D	C	D	C	C	C	C	C	C	C	C	C	C	
EXCHANGERS																					
Heat exchanger user side in refrigeration																					
Water flow	-1	m³/h	7.46	8.62	10.1	11.4	12.5	14.9	17.4	19.7	22.1	24.7	28.4	32.1	29.9	34.9	39.2	44.4	49.6	56.6	63.9
Pressure drop	-1	kPa	26.8	26.8	28.3	35.9	42.9	24.0	24.6	24.6	30.9	26.2	26.6	28.8	24.2	24.4	24.6	31.5	27.1	26.5	28.6
Water flow	-1	m³/h	9.17	10.6	12.4	14.0	15.3	18.2	21.3	24.2	27.1	30.2	34.7	39.2	36.6	42.6	48.0	54.3	60.5	69.2	78.2
Pressure drop	-1	kPa	40.4	40.1	42.1	54.1	64.6	36.0	36.7	36.8	46.2	39.2	39.7	43.0	36.1	36.3	36.9	47.2	40.3	39.7	42.8
Heat exchanger user side in heating																					
Water flow	-3	m³/h	8.65	9.96	11.6	13.2	14.6	17.3	20.0	22.6	25.4	28.3	32.5	36.7	34.6	40.0	45.0	50.9	56.7	64.9	73.3
Pressure drop	-3	kPa	36.0	35.7	37.3	47.9	58.3	32.2	32.4	32.2	40.6	34.5	34.9	37.8	32.3	32.0	32.4	41.4	35.4	35.0	37.6
Water flow	-3	m³/h	9.17	10.6	12.4	14.0	15.3	18.2	21.3	24.2	27.1	30.2	34.7	39.2	36.6	42.6	48.0	54.3	60.5	69.2	78.2
Pressure drop	-3	kPa	40.4	40.1	42.1	54.1	64.6	36.0	36.7	36.8	46.2	39.2	39.7	43.0	36.1	36.3	36.9	47.2	40.3	39.7	42.8
COMPRESSORS																					
Compressors nr.	Nº		2	2	2	2	2	2	2	2	2	2	2	2	2	4	4	4	4	4	4
No. Circuits	Nº		1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2
NOISE LEVEL																					
Noise Pressure	-4	dB(A)	58	59	59	59	60	60	61	61	62	62	63	63	69	70	71	72	73	74	74
Noise Power	-5	dB(A)	73	74	74	74	75	76	77	77	78	78	79	79	86	87	88	89	90	91	91
SIZE AND WEIGHT																					
A	-6	mm	450	1055	1055	1055	1055	1222	1222	1222	1222	1222	1222	1222	2227	2227	2227	2227	2227	2227	2227
B	-6	mm	1695	649	649	649	649	873	873	873	873	873	873	873	877	877	877	877	877	877	877
H	-6	mm	1120	1255	1255	1255	1255	1496	1496	1496	1496	1496	1496	1496	1780	1780	1780	1780	1780	1780	1780
Operating weight	-6	kg	300	315	325	335	340	595	630	675	705	755	805	850	1100	1175	1255	1310	1415	1520	1600

(1) Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C

(2) Values in compliance with EN14511-3:2011

(3) Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H

(4) Average sound pressure level at 1m distance unit in a free field on a reflective surface; non-binding value obtained from the sound power level

(5) Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units

(6) Unit in standard configuration/execution without optional accessories

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