

ABOUT THE i-CHILLER MAX RANGE

The fully packaged, EcoDesign compliant, air-cooled i-Chiller range is designed specifically for reliable and efficient process cooling.

The shell & tube evaporator, together with the generously sized storage tank ensures safe and reliable operation even during large fluctuations in cooling demand – something often encountered within various industrial applications.

Each unit comes with a 3-bar pump as standard with the option to customise with a 5-bar pump – allowing for demanding industrial applications.

The i-Chiller Max ranges from 230kW to 469kW providing process fluid at temperatures from -10°C to 20°C. All come with a comprehensive 3-year parts warranty as standard with an option to extend to 5 years. Ts & Cs apply.

i-Chiller Max units are held in-stock for fast delivery and can be customised quickly with various options and modifications to meet your unique requirements – saving you valuable budget and time.

**ENERGY & PROCESS EFFICIENCY:**

- High efficiency shell & tube heat exchanger
- Large integral storage tank installed on the outlet (cold) side of the heat exchanger
- Integral 3 bar pump installed downstream of the storage tank
- Hydraulic circuit includes automatic air bleed valve, expansion vessel, 3 bar g pressure relief valve, water level sensor & drain valve integral 3-bar pump, filling/drain valves, expansion tank, pressure relief valve & water pressure gauge
- Energy efficient scroll compressors operating on R410a refrigerant
- Copper tube / aluminium fin condenser coils combined with axial condenser fans

RELIABILITY:

- Phase monitor to protect the unit against phase loss & reversal
- Galvanised, epoxy coated carbon steel structure
- Electrical panel protection rating: IP54

EASY TO OPERATE:

Advanced controller with adaptive control functionality for accurate, stable temperature control

- Alarm with early indication of faults
- Detailed event logs
- Variable pump flow control capability & time band programming for holiday/shift scheduling
- Advanced controller
- Mains isolator



These models are compliant with ErP efficiency requirements for space cooling, medium & high temperature process chillers.

		AS T 070 HE	AS T 080 HE	AS T 090 HE	AS T 100 HE
Cooling Capacity (1)	kW	230	265	281	295
Total absorbed power (1)	kW	51.2	58.3	62.9	67.4
EER (1)	-	4.50	4.55	4.47	4.37
Cooling Capacity (2)	kW	167	192	203	213
Total absorbed power (2)	kW	55.5	63.0	67.8	72.5
EER (2)	-	3.02	3.04	3.00	2.93
Min / max ambient temps. (3)	°C	-5/+44 (-20/+50)			
Min / max fluid supply temps. (4)	°C	0/+20 (-10/+20)			
Compressors					
Cooling circuits	No.	2			
Compressors per circuit	No.	2			
Capacity control	%	0-25-50-75-100			
SEPR HT	-	4.95	5.06	4.96	4.86
SEER	-	3.98	4.04	4.05	4.02
Electrical power supply (5)					
Power	V/Ph/Hz	400/3-PE/50			
Auxiliary	V/Ph/Hz	24-230/1/50			
Maximum absorbed power	kW	81	92	98	106
Maximum absorbed current	A	146	159	166	175
Starting current (AC fans/optional EC fans)	A	290 / 288	348 / 345	354 / 352	364 / 361
Fan(s)					
Fans number	No.	4			
Total airflow	m ³ /h	76,000	72,000		
Nominal power (per fan)	kW	1.62			
Hydraulic group					
Water flow rate (6)	m ³ /h	12.5 / 39.0	14.5 / 39.0	17.0 / 44.0	17.0 / 44.0
Available pump head pressure (7)	barg	4.3/2.9	4.3/3.0	4.2 / 2.8	3.7 / 3.0
Nominal absorbed power	kW	5.5	5.5	5.5	7.5
Tank volume	l	400			
Max working pressure	barg	3			
Water connections	-	DN100 stub			
Sound levels (8)					
Sound power	dB(A)	93.0	92.1		
Sound pressure	dB(A)	65.0	64.1		
Dimensions & installed weight					
Length	mm	3,495			
Width	mm	2,188			
Height	mm	2,150			
Weight	kg	1,826	1,991	2,131	2,260

- (1) Evaporator outlet / inlet temperatures +15°C/+20°C, external ambient temperature +25°C, total absorbed power includes compressor & fan(s)
(2) Evaporator outlet / inlet temperatures +7°C/+12°C, external ambient temperature +35°C, total absorbed power includes compressor & fan(s)
(3) Standard unit configuration operating with evaporator outlet / inlet temperatures +15/+20°C – extended operating range possible when optional EC fans & electronic expansion valves are included
(4) Standard unit configuration – extended operating range possible when optional EC fans & electronic expansion valves are included
(5) Protection class IP54
(6) Minimum / maximum water flow rates able to be accommodated by evaporator
(7) Available head pressure at outlet of unit at the minimum / maximum water flow rates
(8) Sound power determined on basis of measurements taken in accordance with ISO 3744. Sound pressure at 10m average value obtained in free field on a reflective surface at 10m distance from the side of the condenser coils & at a height of 1.6m from the unit support base. Values with tolerance ± 2dB. The sound levels refer to unit operation under full load in nominal conditions.
Unless otherwise specified, the above data refers to unit configuration with standard axial fans & fitted with standard P3 pump.
Data declared according to UNI EN 14511-2013.
SEER/SEPR HT: Data declared in compliance with the European Regulation (EU) 2016/2281 with regard to ecodesign requirements for cooling products and high temperature process chillers.

Information requirements for high temperature process chillers - SEPR HT

Model:	AS T 070 HE		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Water		
Item	Symbol	Value	Unit
Operating temperature	t	7	°C
Seasonal energy performance ratio	SEPR HT	4,95	[-]
Annual electricity consumption	Q	247890	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P_A	167,33	kW
Rated power input	D_A	55,48	kW
Rated energy efficiency ratio	$EER_{DC,A}$	3,02	[-]
Parameters at rating point B			
Declared refrigeration capacity	P_B	155,62	kW
Declared power input	D_B	38,97	kW
Declared energy efficiency ratio	$EER_{DC,B}$	3,99	[-]
Parameters at rating point C			
Declared refrigeration capacity	P_C	147,86	kW
Declared power input	D_C	31,12	kW
Declared energy efficiency ratio	$EER_{DC,C}$	4,75	[-]
Parameters at rating point D			
Declared refrigeration capacity	P_D	133,86	kW
Declared power input	D_D	23,58	kW
Declared energy efficiency ratio	$EER_{DC,D}$	5,68	[-]
Other items			
Capacity control	Variable		
Degradation co-efficient chillers	C_{dc}	0,90	[-]
Type and GWP of the refrigerant	R410A	2088	kg CO2 eq (100 years)
Contact details	ICS Cool Energy B.V. - Rotschotseweg 4, 5271 WX Sint - Michielsgestel		
annex to manual			

Information requirements for medium temperature process chillers - SEPR MT

Model:	AS T 070 HE		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Brine		
Item	Symbol	Value	Unit
Operating temperature	t	-8	°C
Seasonal energy performance ratio	SEPR MT	2.78	[-]
Annual electricity consumption	Q	214795	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P_A	81.23	kW
Rated power input	D_A	48.55	kW
Rated energy efficiency ratio	EER_A	1.67	[-]
Parameters at rating point B			
Declared refrigeration capacity	P_B	75.54	kW
Declared power input	D_B	34.52	kW
Declared energy efficiency ratio	EER_B	2.19	[-]
Parameters at rating point C			
Declared refrigeration capacity	P_C	70.67	kW
Declared power input	D_C	24.60	kW
Declared energy efficiency ratio	EER_C	2.87	[-]
Parameters at rating point D			
Declared refrigeration capacity	P_D	64.98	kW
Declared power input	D_D	21.76	kW
Declared energy efficiency ratio	EER_D	2.99	[-]
Other items			
Capacity control	Variable		
Degradation co-efficient chillers	C_c	0.90	[-]
Type and GWP of the refrigerant	R410A	2088	kg CO2 eq (100 years)
Contact details	ICS Cool Energy B.V. - Rotschotseweg 4, 5271 WX Sint - Michielsgestel		
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Information requirements for comfort chillers - SEER

Model:	AS T 070 HE
Air-to-water chillers:	YES
Water-to-water chillers:	NO
Compressor-induced vapour compression:	YES
Absorption process:	NO
Compressor electrical operation:	YES
Operation with compressor's internal combustion motor:	NO

Element	Symbol	Value	Unit	Element	Symbol	Value	Unit
Rated cooling capacity	P rated, C	167,3	kW	Seasonal energy efficiency of room cooling	$\eta_{s,c}$	156,1	%
				Seasonal performance coefficient	SEER	3,98	-
Tj = +35 °C	Pdc	167,3	kW	Tj = +35 °C	EERd	3,0	-
Tj = +30 °C	Pdc	123,8	kW	Tj = +30 °C	EERd	3,7	-
Tj = +25 °C	Pdc	78,6	kW	Tj = +25 °C	EERd	4,4	-
Tj = +20 °C	Pdc	57,1	kW	Tj = +20 °C	EERd	5,0	-
Degradation coefficient	Cdc	0,9	-				

Energy consumption in modes other than active mode

OFF mode	P OFF	0,264	kW	Casing heating mode	P CK	0,264	kW
Thermostat OFF mode	P TO	0,707	kW	Standby mode	P SB	0,044	kW

Other elements

Capacity control devices	Fixed/Variable	Variable		For air-to-water room chillers: measured air flow outdoors	-	76000	m ³ /h
Sound power level, outdoors	LWA	93,1	dB(A)	For water-to-water room chillers: rated water flow outdoor heat exchanger	-	-	m ³ /h
Refrigerant type and GWP	R410A	2088	kg CO ₂ eq (100 years)				
Used standard rated conditions:	application at low temperature with variable output						
Contact details	ICS Cool Energy B.V. - Rotschotseweg 4, 5271 WX Sint - Michielsgestel						

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Information requirements for high temperature process chillers - SEPR HT

Model:	AS T 080 HE		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Water		
Item	Symbol	Value	Unit
Operating temperature	t	7	°C
Seasonal energy performance ratio	SEPR HT	5,06	[-]
Annual electricity consumption	Q	277841	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P_A	191,71	kW
Rated power input	D_A	63,04	kW
Rated energy efficiency ratio	$EER_{DC,A}$	3,04	[-]
Parameters at rating point B			
Declared refrigeration capacity	P_B	178,29	kW
Declared power input	D_B	43,78	kW
Declared energy efficiency ratio	$EER_{DC,B}$	4,07	[-]
Parameters at rating point C			
Declared refrigeration capacity	P_C	166,79	kW
Declared power input	D_C	34,21	kW
Declared energy efficiency ratio	$EER_{DC,C}$	4,88	[-]
Parameters at rating point D			
Declared refrigeration capacity	P_D	153,37	kW
Declared power input	D_D	26,49	kW
Declared energy efficiency ratio	$EER_{DC,D}$	5,79	[-]
Other items			
Capacity control	Variable		
Degradation co-efficient chillers	C_{dc}	0,90	[-]
Type and GWP of the refrigerant	R410A	2088	kg CO2 eq (100 years)
Contact details	ICS Cool Energy B.V. - Rotschotseweg 4, 5271 WX Sint - Michielsgestel		
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Information requirements for medium temperature process chillers - SEPR MT

Model:	AS T 080 HE		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Brine		
Item	Symbol	Value	Unit
Operating temperature	t	-8	°C
Seasonal energy performance ratio	SEPR MT	2.78	[-]
Annual electricity consumption	Q	241930	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P_A	91.59	kW
Rated power input	D_A	54.89	kW
Rated energy efficiency ratio	EER_A	1.67	[-]
Parameters at rating point B			
Declared refrigeration capacity	P_B	85.17	kW
Declared power input	D_B	37.77	kW
Declared energy efficiency ratio	EER_B	2.26	[-]
Parameters at rating point C			
Declared refrigeration capacity	P_C	79.68	kW
Declared power input	D_C	27.78	kW
Declared energy efficiency ratio	EER_C	2.87	[-]
Parameters at rating point D			
Declared refrigeration capacity	P_D	73.27	kW
Declared power input	D_D	24.72	kW
Declared energy efficiency ratio	EER_D	2.96	[-]
Other items			
Capacity control	Variable		
Degradation co-efficient chillers	C_c	0.90	[-]
Type and GWP of the refrigerant	R410A	2088	kg CO2 eq (100 years)
Contact details	ICS Cool Energy B.V. - Rotschotseweg 4, 5271 WX Sint - Michielsgestel		
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Information requirements for comfort chillers - SEER

Model:	AS T 080 HE
Air-to-water chillers:	YES
Water-to-water chillers:	NO
Compressor-induced vapour compression:	YES
Absorption process:	NO
Compressor electrical operation:	YES
Operation with compressor's internal combustion motor:	NO

Element	Symbol	Value	Unit	Element	Symbol	Value	Unit
Rated cooling capacity	P rated, C	191,7	kW	Seasonal energy efficiency of room cooling	$\eta_{s,c}$	158,7	%
				Seasonal performance coefficient	SEER	4,04	-
Tj = +35 °C	Pdc	191,7	kW	Tj = +35 °C	EERd	3,0	-
Tj = +30 °C	Pdc	130,2	kW	Tj = +30 °C	EERd	3,9	-
Tj = +25 °C	Pdc	90,1	kW	Tj = +25 °C	EERd	4,5	-
Tj = +20 °C	Pdc	73,5	kW	Tj = +20 °C	EERd	5,0	-
Degradation coefficient	Cdc	0,9	-				

Energy consumption in modes other than active mode

OFF mode	P OFF	0,296	kW	Casing heating mode	P CK	0,296	kW
Thermostat OFF mode	P TO	0,774	kW	Standby mode	P SB	0,044	kW

Other elements

Capacity control devices	Fixed/Variable	Variable		For air-to-water room chillers: measured air flow outdoors	-	72000	m ³ /h
Sound power level, outdoors	LWA	92,1	dB(A)	For water-to-water room chillers: rated water flow outdoor heat exchanger	-	-	m ³ /h
Refrigerant type and GWP	R410A	2088	kg CO ₂ eq (100 years)				
Used standard rated conditions:	application at low temperature with variable output						
Contact details	ICS Cool Energy B.V. - Rotschotseweg 4, 5271 WX Sint - Michielsgestel						

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Information requirements for high temperature process chillers - SEPR HT

Model:	AS T 090 HE		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Water		
Item	Symbol	Value	Unit
Operating temperature	t	7	°C
Seasonal energy performance ratio	SEPR HT	4,96	[-]
Annual electricity consumption	Q	300560	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P _A	203,15	kW
Rated power input	D _A	67,79	kW
Rated energy efficiency ratio	EER _{DC,A}	3,00	[-]
Parameters at rating point B			
Declared refrigeration capacity	P _B	185,39	kW
Declared power input	D _B	46,02	kW
Declared energy efficiency ratio	EER _{DC,B}	4,03	[-]
Parameters at rating point C			
Declared refrigeration capacity	P _C	176,74	kW
Declared power input	D _C	37,56	kW
Declared energy efficiency ratio	EER _{DC,C}	4,71	[-]
Parameters at rating point D			
Declared refrigeration capacity	P _D	162,52	kW
Declared power input	D _D	28,37	kW
Declared energy efficiency ratio	EER _{DC,D}	5,73	[-]
Other items			
Capacity control	Variable		
Degradation co-efficient chillers	C _{dc}	0,90	[-]
Type and GWP of the refrigerant	R410A	2088	kg CO2 eq (100 years)
Contact details	ICS Cool Energy B.V. - Rotschotseweg 4, 5271 WX Sint - Michielsgestel		
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Information requirements for medium temperature process chillers - SEPR MT

Model:	AS T 090 HE		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Brine		
Item	Symbol	Value	Unit
Operating temperature	t	-8	°C
Seasonal energy performance ratio	SEPR MT	2.77	[-]
Annual electricity consumption	Q	256964	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P _A	97.14	kW
Rated power input	D _A	58.62	kW
Rated energy efficiency ratio	EER _A	1.66	[-]
Parameters at rating point B			
Declared refrigeration capacity	P _B	88.45	kW
Declared power input	D _B	38.90	kW
Declared energy efficiency ratio	EER _B	2.27	[-]
Parameters at rating point C			
Declared refrigeration capacity	P _C	84.52	kW
Declared power input	D _C	29.96	kW
Declared energy efficiency ratio	EER _C	2.82	[-]
Parameters at rating point D			
Declared refrigeration capacity	P _D	77.72	kW
Declared power input	D _D	25.98	kW
Declared energy efficiency ratio	EER _D	2.99	[-]
Other items			
Capacity control	Variable		
Degradation co-efficient chillers	C _c	0.90	[-]
Type and GWP of the refrigerant	R410A	2088	kg CO2 eq (100 years)
Contact details	ICS Cool Energy B.V. - Rotschotseweg 4, 5271 WX Sint - Michielsgestel		
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Information requirements for comfort chillers - SEER

Model:	AS T 090 HE
Air-to-water chillers:	YES
Water-to-water chillers:	NO
Compressor-induced vapour compression:	YES
Absorption process:	NO
Compressor electrical operation:	YES
Operation with compressor's internal combustion motor:	NO

Element	Symbol	Value	Unit	Element	Symbol	Value	Unit
Rated cooling capacity	P rated, C	203,1	kW	Seasonal energy efficiency of room cooling	$\eta_{s,c}$	158,9	%
				Seasonal performance coefficient	SEER	4,05	-
Tj = +35 °C	Pdc	203,1	kW	Tj = +35 °C	EERd	3,0	-
Tj = +30 °C	Pdc	150,3	kW	Tj = +30 °C	EERd	3,8	-
Tj = +25 °C	Pdc	95,5	kW	Tj = +25 °C	EERd	4,5	-
Tj = +20 °C	Pdc	74,1	kW	Tj = +20 °C	EERd	5,0	-
Degradation coefficient	Cdc	0,9	-				

Energy consumption in modes other than active mode

OFF mode	P OFF	0,312	kW	Casing heating mode	P CK	0,312	kW
Thermostat OFF mode	P TO	0,746	kW	Standby mode	P SB	0,044	kW

Other elements

Capacity control devices	Fixed/Variable	Variable		For air-to-water room chillers: measured air flow outdoors	-	72000	m ³ /h
Sound power level, outdoors	LWA	92,1	dB(A)	For water-to-water room chillers: rated water flow outdoor heat exchanger	-	-	m ³ /h
Refrigerant type and GWP	R410A	2088	kg CO ₂ eq (100 years)				
Used standard rated conditions:	application at low temperature with variable output						
Contact details	ICS Cool Energy B.V. - Rotschotseweg 4, 5271 WX Sint - Michielsgestel						

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Information requirements for high temperature process chillers - SEPR HT

Model:	AS T 100 HE		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Water		
Item	Symbol	Value	Unit
Operating temperature	t	7	°C
Seasonal energy performance ratio	SEPR HT	4,86	[-]
Annual electricity consumption	Q	321029	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P_A	212,64	kW
Rated power input	D_A	72,48	kW
Rated energy efficiency ratio	$EER_{DC,A}$	2,93	[-]
Parameters at rating point B			
Declared refrigeration capacity	P_B	197,76	kW
Declared power input	D_B	49,66	kW
Declared energy efficiency ratio	$EER_{DC,B}$	3,98	[-]
Parameters at rating point C			
Declared refrigeration capacity	P_C	189,30	kW
Declared power input	D_C	41,57	kW
Declared energy efficiency ratio	$EER_{DC,C}$	4,55	[-]
Parameters at rating point D			
Declared refrigeration capacity	P_D	170,11	kW
Declared power input	D_D	30,05	kW
Declared energy efficiency ratio	$EER_{DC,D}$	5,66	[-]
Other items			
Capacity control	Variable		
Degradation co-efficient chillers	C_{dc}	0,90	[-]
Type and GWP of the refrigerant	R410A	2088	kg CO2 eq (100 years)
Contact details	ICS Cool Energy B.V. - Rotschotseweg 4, 5271 WX Sint - Michielsgestel		
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Information requirements for medium temperature process chillers - SEPR MT

Model:	AS T 100 HE		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Brine		
Item	Symbol	Value	Unit
Operating temperature	t	-8	°C
Seasonal energy performance ratio	SEPR MT	2,76	[-]
Annual electricity consumption	Q	269188	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P_A	101.04	kW
Rated power input	D_A	62,25	kW
Rated energy efficiency ratio	EER_A	1,62	[-]
Parameters at rating point B			
Declared refrigeration capacity	P_B	93.97	kW
Declared power input	D_B	41,89	kW
Declared energy efficiency ratio	EER_B	2.24	[-]
Parameters at rating point C			
Declared refrigeration capacity	P_C	87.91	kW
Declared power input	D_C	31.48	kW
Declared energy efficiency ratio	EER_C	2.79	[-]
Parameters at rating point D			
Declared refrigeration capacity	P_D	80.84	kW
Declared power input	D_D	27.06	kW
Declared energy efficiency ratio	EER_D	2.99	[-]
Other items			
Capacity control	Variable		
Degradation co-efficient chillers	C_c	0,90	[-]
Type and GWP of the refrigerant	R410A	2088	kg CO2 eq (100 years)
Contact details	ICS Cool Energy B.V. - Rotschotseweg 4, 5271 WX Sint - Michielsgestel		
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Information requirements for comfort chillers - SEER

Model:	AS T 100 HE
Air-to-water chillers:	YES
Water-to-water chillers:	NO
Compressor-induced vapour compression:	YES
Absorption process:	NO
Compressor electrical operation:	YES
Operation with compressor's internal combustion motor:	NO

Element	Symbol	Value	Unit	Element	Symbol	Value	Unit
Rated cooling capacity	P rated, C	212,6	kW	Seasonal energy efficiency of room cooling	$\eta_{s,c}$	157,9	%
				Seasonal performance coefficient	SEER	4,02	-
Tj = +35 °C	Pdc	212,6	kW	Tj = +35 °C	EERd	2,9	-
Tj = +30 °C	Pdc	157,4	kW	Tj = +30 °C	EERd	3,8	-
Tj = +25 °C	Pdc	99,9	kW	Tj = +25 °C	EERd	4,5	-
Tj = +20 °C	Pdc	74,0	kW	Tj = +20 °C	EERd	5,0	-
Degradation coefficient	Cdc	0,9	-				

Energy consumption in modes other than active mode

OFF mode	P OFF	0,328	kW	Casing heating mode	P CK	0,328	kW
Thermostat OFF mode	P TO	0,815	kW	Standby mode	P SB	0,044	kW

Other elements

Capacity control devices	Fixed/Variable	Variable		For air-to-water room chillers: measured air flow outdoors	-	72000	m ³ /h
Sound power level, outdoors	LWA	92,1	dB(A)	For water-to-water room chillers: rated water flow outdoor heat exchanger	-	-	m ³ /h
Refrigerant type and GWP	R410A	2088	kg CO ₂ eq (100 years)				
Used standard rated conditions:	application at low temperature with variable output						
Contact details	ICS Cool Energy B.V. - Rotschotseweg 4, 5271 WX Sint - Michielsgestel						

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