Air Conditioning

SYSAQUA R32

Sustainable air-cooled chillers and heat pumps

R32

systemair

New

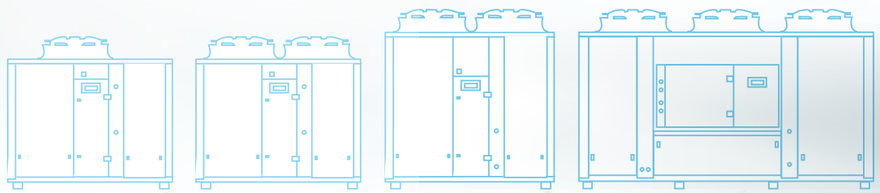
SYSAQUA R32

Efficiency and sustainability

At Systemair, we strive to develop quality and reliable products that can improve the life of our customers. This serves as the guiding principle of our Research and Development (R&D) departments. Through their innovation and breakthroughs, we offer the most efficient and environmentally friendly solutions on the market.

The SYSAQUA R32 range perfectly embodies this vision. These new air-cooled chillers and heat pumps have many advantages and offer quality, efficiency, and sustainability. The range is available in 10 sizes, with selections that range from 50 to 170 kW, and comes with a number of customisation options and accessories, ensuring there is a SYSAQUA R32 that will meet every project requirement.

- 10 sizes - 4 chassis
- Cooling only (L) or Reversible (H) units
- Low GWP R32 refrigerant
- High efficiency
- Wide operating limits
- Low footprint
- New advanced control system
- Easy maintenance
- Standard or Super low noise versions
- Remotely controllable with AC CLOUD
- 100% factory tested



ErP A++ A+

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50 → 176 kW

53 → 182 kW

Scroll compressors

Plate heat exchanger

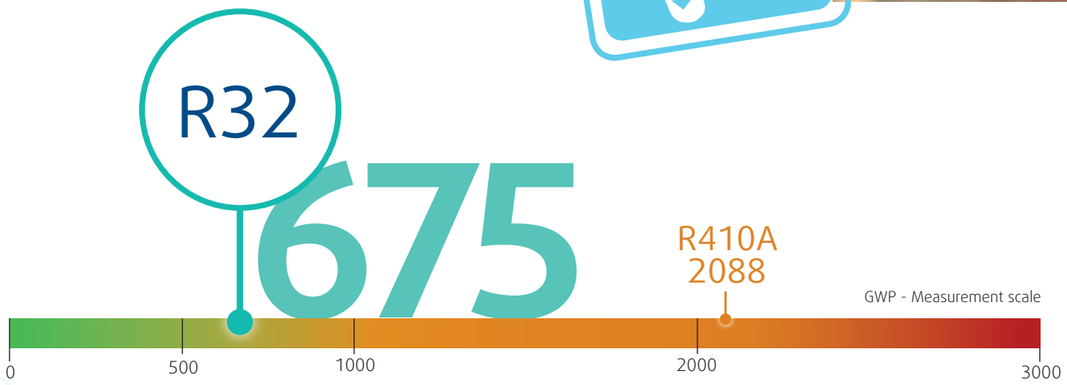
AC/EC fans

Better for the planet

The new Systemair air-cooled chillers and heat pumps operate with R32. Thanks to a GWP (Global Warming Potential) of 675, this refrigerant is 3 times less polluting than the standard R410A.

SYSAQUA R32 units are also equipped with a new generation of outdoor heat exchangers. The design enables a refrigerant charge reduction of 40%.

Together, these two features help reduce the carbon footprint of each unit by 84% *



* Comparison made between equivalent units operating respectively with R410A and R32 refrigerants. Impact only considers the refrigerants and not the units as a whole.

and better for your buildings.

High efficiency level

SEER up to 5,1

SCOP up to 4,0

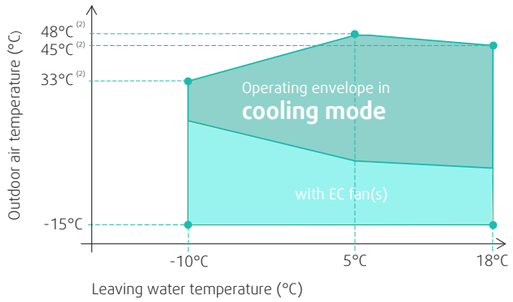
A+ A++

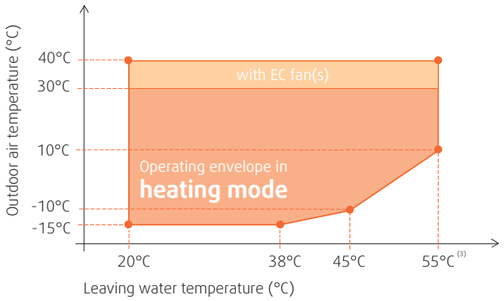
Energy efficiency classes (SCOP)
According to Delegated Regulation No. 813/2013 of the European Commission

In addition to operating with a more sustainable refrigerant, the SYSAQUA R32 units also have excellent SEER and SCOP seasonal efficiencies. At this level of performance, the SYSAQUA R32 range not only exceeds the EU's minimum regulatory requirements, it also has the added benefit of reaching the A+ and A++ energy efficiency classes (SCOP) [1].

SYSAQUA R32 can also be equipped with a variable speed pump that automatically adjusts its speed according to the required capacity. Compared to a fixed-speed pump, and depending on the operating profile of a pump working at partial load, the annual energy consumption of the pump can be reduced by up to 70%.

Wide operating limits





[1] more information on pages 7 and 8
[2] Temp. -1°C for sizes 150-170
[3] 53°C for sizes 150-170

BIM models

Design and characteristics

New advanced control sytem

The SYSAQUA R32 units are equipped with a brand-new controller and a user-friendly external control panel that displays the operating parameters and alarms. Optimised for EC fans control and electronic expansion valve management, the new controller comes built-in with one of the following communication protocols : Modbus RTU, Modbus TCP/IP, Bacnet MSTP, Bacnet IP.

Compact units

The SYSAQUA R32 range has been designed in a compact manner to ensure the smallest possible footprint. The first 3 chassis measure 2,53 m^2 and the 4th chassis features **one of the smallest footprint on the market** with an average ratio of 37kW/m^2.

Super low noise versions

For the entire range, customers can choose between a standard unit or a super low noise "S" version. The S version features EC fans and compressor sound jackets for improved sound levels.

EUROVENT CERTIFIED PERFORMANCE
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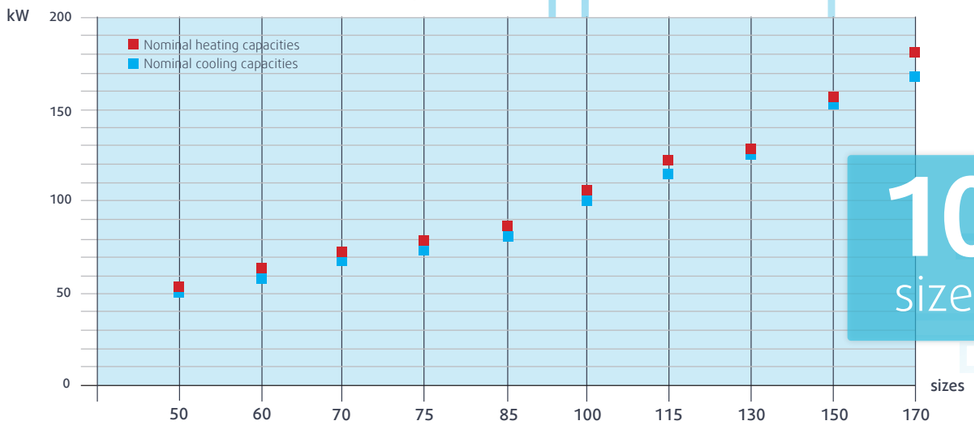
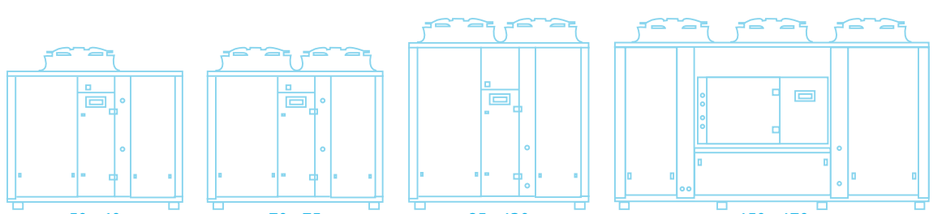
SYSAQUA R32 H sizes and nominal capacities



10 sizes



SYSAQUA R32 L/H		50	60	70	75	85	100	115	130	150	170
Refrigerant circuit											
Number of refrigerant circuit		1									
Type of refrigerant		R32									
Charge of refrigerant [1]	kg	8,1	7,9	10,4	10,6	13,9	13,5	17,2	18,5	26,2	25,6
Type of compressors		Scroll									
Number of compressors		2									
Type of internal heat exchanger		Stainless steel plate heat exchanger									

* AC fans are installed in standard units

[1] Indicative values. Please refer to the unit name plate to know the exact charge of refrigerant

Technical performance

SYSAQUA R32 50-75 L - Cooling only (STD AC*)			50	60	70	75
Cooling capacity[1]		kW	52,5	60,3	69,9	75,1
Power input[1]		kW	16,9	19,9	22,3	25,8
EER[1]			3,11	3,03	3,14	2,92
Energy efficiency class (EER)[1]			A	B	A	B
ErP[6]	SEER (STD AC / STD EC*)[4]		4,23 / 4,69	4,40 / 4,87	4,57 / 4,88	4,60 / 4,82
	η_{sc} (STD AC / STD EC*)[4]		166 / 184	173 / 192	180 / 192	181 / 190
Nominal water flow (in the evaporator)		m^3/h	9,0	10,4	12,0	12,9
Sound power level (STD AC / S*)		dB(A)	83,2 / 80,7	83,8 / 81,2	81,3 / 78,3	81,3 / 78,2
Sound pressure level at 10 m (STD AC / S*)[5]		dB(A)	51,4 / 48,9	52,0 / 49,4	49,5 / 46,5	49,5 / 46,4
Power supply		V/ph/Hz	400 / 3+N / 50			

SYSAQUA R32 50-75 H - Reversible (STD AC*)			50	60	70	75
Cooling	Cooling capacity[1]	kW	49,8	58,0	68,7	74,5
	Power input[1]	kW	17,1	20,0	22,3	25,2
	EER[1]		2,92	2,90	3,08	2,95
	Energy efficiency class (EER)[1]		B	B	B	B
	SEER (STD AC / STD EC*)[4]		4,36 / 4,58	4,32 / 4,77	4,54 / 4,95	4,47 / 4,68
	η_{sc} (STD AC / STD EC*)[4]		171 / 180	170 / 188	178 / 195	176 / 184
	Nominal water flow (in the evaporator)	m^3/h	8,6	10,0	11,8	12,8
Heating	Heating capacity[2]	kW	53,4	62,0	72,4	78,9
	Power input[2]	kW	17,3	19,9	23,0	25,6
	COP[2]		3,09	3,12	3,15	3,08
	COP[3]		3,82	3,90	3,99	4,03
	ErP[7] SCOP (STD AC / STD EC*)[4]		3,62 / 3,84	3,54 / 3,86	3,54 / 3,80	3,57 / 3,79
	ErP[7] Energy efficiency class (SCOP) (STD AC / STD EC*)[4]		A+ / A++	A+ / A++	A+ / A+	A+ / A+
	η_{sh} (STD AC / STD EC*)[4]		142 / 151	138 / 152	139 / 149	140 / 149
	Nominal water flow (in the evaporator)	m^3/h	9,2	10,7	12,5	13,6
Sound power level (STD AC / S*)		dB(A)	83,2 / 80,7	83,8 / 81,2	81,3 / 78,3	81,3 / 78,2
Sound pressure level at 10 m (STD AC / S*)[5]		dB(A)	51,4 / 48,9	52,0 / 49,4	49,5 / 46,5	49,5 / 46,4
Power supply		V/ph/Hz	400 / 3+N / 50			

Physical features

SYSAQUA R32 50-75 L/H - Cooling only/Reversible (STD AC*)		50	60	70	75
Hydraulic data					
Type of water connections (evaporator)		Male gas threaded			
Water Inlet/Outlet diameter	inch	2''	2''	2''	2''
Weight					
Operating weight	kg	527	547	621	637
Shipping weight	kg	522	542	615	632
Dimensions (more information p.9)					
Leng without water tank	mm	2180	2180	2180	2180
Length with water tank	mm	2680	2680	2680	2680
Width	mm	1160	1160	1160	1160
Height	mm	1986	1986	1986	1986

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SYSAQUA R32 85-170 L - Cooling only (STD AC*)			85	100	115	130	150	170
Cooling capacity[1]		kW	84,1	102,2	120,6	134,7	156,1	175,8
Power input[1]		kW	29,0	34,2	37,7	42,4	48,0	55,6
EER[1]			2,90	2,99	3,19	3,18	3,25	3,16
Energy efficiency class (EER)[1]			B	B	A	A	A	A
ErP[6]	SEER (STD AC / STD EC*)[4]		4,52 / 5,12	4,30 / 4,92	4,55 / 4,74	4,48 / 4,63	4,64 / 4,92	4,56 / 4,95
	η_{sc} (STD AC / STD EC*)[4]		178 / 202	169 / 194	179 / 187	176 / 182	183 / 194	179 / 195
Nominal water flow (in the evaporator)		m^3/h	14,5	17,6	20,7	23,2	26,8	30,2
Sound power level (STD AC / S*)		dB(A)	84,4 / 81,7	86,0 / 83,2	87,0 / 84,0	87,4 / 84,4	88,9 / 85,9	91,1 / 88,0
Sound pressure level at 10 m (STD AC / S*)[5]		dB(A)	52,5 / 49,8	54,1 / 51,3	55,1 / 52,1	55,5 / 52,5	57,0 / 54,0	59,2 / 56,1
Power supply		V/ph/Hz	400 / 3+N / 50				400 / 3 / 50	

SYSAQUA R32 85-170 H - Reversible (STD AC*)			85	100	115	130	150	170
Cooling	Cooling capacity[1]	kW	82,8	99,2	115,50	127,8	152,5	169,6
	Power input[1]	kW	28,6	34,0	37,27	41,0	47,5	55,0
	EER[1]		2,90	2,91	3,10	3,12	3,21	3,08
	Energy efficiency class (EER)[1]		B	B	B	A	A	B
	SEER (STD AC / STD EC*)[4]		4,48 / 5,05	4,35 / 4,96	4,34 / 4,52	4,33 / 4,48	4,61 / 4,90	4,62 / 5,03
	η_{sc} (STD AC / STD EC*)[4]		176 / 199	171 / 196	171 / 178	170 / 176	181 / 193	182 / 198
	Nominal water flow (in the evaporator)	m^3/h	14,2	17,1	19,9	22,0	26,2	29,2
Heating	Heating capacity[2]	kW	85,2	104,4	121,7	129,9	155,8	181,8
	Power input[2]	kW	28,1	32,9	38,0	40,8	49,2	55,4
	COP[2]		3,03	3,17	3,20	3,18	3,17	3,28
	COP[3]		3,68	3,86	4,09	4,14	4,06	4,15
	ErP[7] SCOP (STD AC / STD EC*)[4]		3,58 / 3,98	3,62 / 3,99	3,60 / 3,79	3,73 / 3,91	3,66 / 3,88	3,60 / 3,84
	ErP[7] Energy efficiency class (SCOP) (STD AC / STD EC*)[4]		A+ / A++	A+ / A++	A+ / A+	A+ / A++	A+ / A++	A+ / A++
	η_{sh} (STD AC / STD EC*)[4]		140 / 156	142 / 156	141 / 149	146 / 153	143 / 152	141 / 151
	Nominal water flow (in the evaporator)	m^3/h	14,7	18,0	20,9	22,3	26,8	31,3
Sound power level (STD AC / S*)		dB(A)	84,4 / 81,7	86,0 / 83,2	87,0 / 84,0	87,4 / 84,4	88,9 / 85,9	91,1 / 88,0
Sound pressure level at 10 m (STD AC / S*)[5]		dB(A)	52,5 / 49,8	54,1 / 51,3	55,1 / 52,1	55,5 / 52,5	57,0 / 54,0	59,2 / 56,1
Power supply		V/ph/Hz	400 / 3+N / 50				400 / 3 / 50	

SYSAQUA R32 85-170 L/H - Cooling only/Reversible (STD AC*)		85	100	115	130	150	170
Hydraulic data							
Type of water connections (evaporator)		Male gas threaded					
Water Inlet/Outlet diameter	inch	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2
Weight							
Operating weight	kg	701	731	813	815	1265	1279
Shipping weight	kg	696	726	807	810	1255	1269
Dimensions (more information p.9)							
Length without water tank	mm	2180	2180	2180	2180	3789	3789
Length with water tank	mm	2680	2680	2680	2680	3789	3789
Width	mm	1160	1160	1160	1160	1151	1151
Height	mm	2286	2286	2286	2286	2285	2285

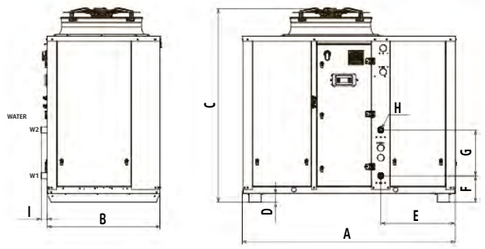
[1] According to EN14511-2018: chilled water inlet/outlet temperature: 12/7°C, outdoor ambient temperature 35°C DB.
[2] According to EN14511-2018: warm water inlet/outlet temperature: 40/45°C, outdoor ambient temperature 7°C DB/6°C WB.
[3] According to EN14511-2018: warm water inlet/outlet temperature: 30/35°C, outdoor ambient temperature 7°C DB/6°C WB.
[4] According to EN14825.
[5] Sound pressure levels refer to ISO 3744 standard, parallelepiped shape.
[6] ERP Compliant: Following COMMISSION REGULATION (EU) 2016/2281.
[7] ERP Compliant: Following COMMISSION REGULATION (EU) No 813/2013.

* **STD AC: Standard versions with AC fans**
STD EC: Stadard versions with high efficiency EC fans
S: Super low noise versions with high efficiency EC fans + compressor sound jackets

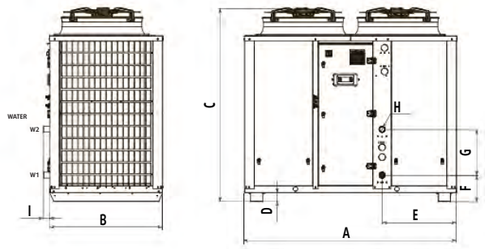
Compact units that fit everywhere

Dimensions

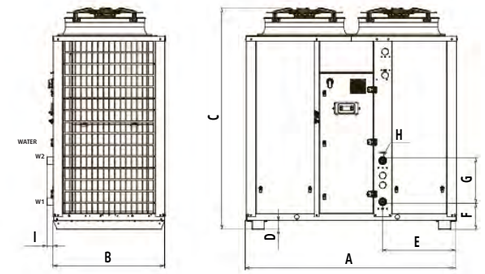
SYSAQUA R32 50-60 L/H



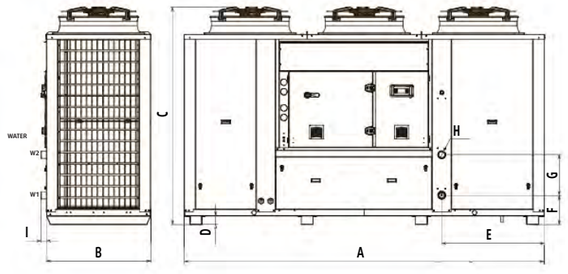
SYSAQUA R32 70-75 L/H



SYSAQUA R32 150-170 L/H



SYSAQUA R32 150-170 L/H



SYSAQUA R32 L/H			A	B	C	D	E	F	G	ØH	I	W1	W2
50-75	STD version with AC fans	without buffer tank	2180	1160	1986	90	764	270	470	2"	60	outlet	inlet
		with buffer tank	2680	1160	1986	90	1265	743	436	2"	60	inlet	outlet
	STD / S / HPF with EC fans	without buffer tank	2180	1160	2034	90	764	270	470	2"	60	outlet	inlet
		with buffer tank	2680	1160	2034	90	1265	743	436	2"	60	inlet	outlet
85-130	STD version with AC fans	without buffer tank	2180	1160	2286	90	760	280	426	2" 1/2	60	outlet	inlet
		with buffer tank	2680	1160	2286	90	1265	711	638	2" 1/2	60	inlet	outlet
	STD / S / HPF version with EC fans	without buffer tank	2180	1160	2334	90	760	280	426	2" 1/2	60	outlet	inlet
		with buffer tank	2680	1160	2334	90	1265	711	638	2" 1/2	60	inlet	outlet
150-170	STD version with AC fans	without buffer tank	3789	1151	2285	91	1080	305	426	2" 1/2	55	inlet	outlet
		with buffer tank	3789	1151	2285	91	1080	305	426	2" 1/2	55	inlet	outlet
	STD / S / HPF version with EC fans	without buffer tank	3789	1151	2333	91	1080	305	426	2" 1/2	55	inlet	outlet
		with buffer tank	3789	1151	2333	91	1080	305	426	2" 1/2	55	inlet	outlet

Dimensions in mm.

Highly customisable to meet all your needs

Accessories and Options

SYSAQUA R32 accessories and options	
AC CLOUD	Outdoor coil protection grid
Additional external switch (cooling/heating) (only for reversible "H" versions)	Power factor corrector capacitors
Antivibration mount rubber	Refrigerant gauges HP/LP
Antivibration spring	Remote control kit
Compatible with container transportation	Shut off valves
Compressor jackets (standard for "S" versions)	Sofstarter
Contact for external general alarm	Variable or fixed speed pumps
Desuperheater	Water pressure switch
Electrical heater for the water tank (only for reversible "H" versions - sizes 50 to 130)	Water tank 300L
Energy meter for power input	Without neutral (standard for sizes 150/170)

Easy to select, configure and control

AC SELECT and AC CLOUD

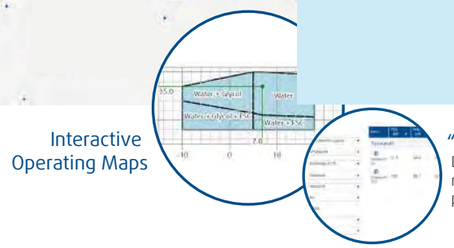
AC SELECT

A new asset for your business

With AC SELECT, the new Systemair online selection program, select and customise easily and quickly the air conditioning products that perfectly satisfy your requirements.

1 - **Select** "THE" unit that meets your needs
2 - **Customise by** adding accessories & options
3 - Generate a **price offer**
4 - Download a complete and detailed **unit and project report**

And that's it! Quick, Easy & Precise.



Interactive Operating Maps

"Selector"
Define your technical requirements in few clicks and the program tells you the unit you need.

AC CLOUD

Enter the Era of connected units

Offering more than reliable products is the Systemair's aim. From that perspective, we created AC CLOUD. With this software, **take full control of your units from anywhere, at any time.**

Decrease your energy consumption

Adjust your unit's settings precisely thanks to a relevant and real-time energy consumption analysis.

Optimize your maintenance interventions

With one click, watch the operating state of your units, anticipate the dysfunctions and reduce your interventions on site.

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