



S-ASX.21

Commercial High Temperature Air-To-Water Heat Pump

60 – 100 kW

Air-to-Water Heat Pump

The S-ASX.21 range comprises 5 models offering LTHW in 60,70,80,90 and 100kW outputs in multiple fan formats. All the units are capable of generating up to 65°C flow temperature. Depending on model the units achieve COP between 4.70 and 4.72 at 7°C ambient air temperature and 35°C flow. The control system allows the units to be operated in cascade allowing up to 16 units.

The units are of monobloc design suitable for outdoor installation only. Heat energy from the ambient air is obtained from the R410A refrigerant circulating inside a bank of copper and aluminium fins and then this energy is passed, after the compression cycle, to the heating circuit through a stainless steel brazed heat exchanger. The circuit is controlled by the standard supplied temperature probes and pressure transducers and is protected by high and low pressure switches. The plate heat exchanger and all hydraulic pipework is thermally insulated to avoid condensation and reduce heat loss.

All models are fitted as standard with a modulating pump allowing close matching of heat demand to heat delivery and come, as standard, with multiple cascade capability and ModBus connectivity. Electrical load soft start is also standard ensuring electrical load on start-up is minimal. Additionally the units are designed as standard with the lowest acoustic performance with integral dampers.

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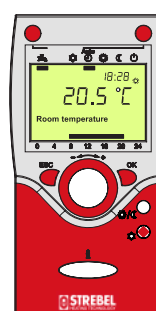
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Trusted By Commercial Heating Engineers Since 1893

Digital Controller

A sophisticated wired or wireless controller manages heating and hot water, using a three way diverter valve, by modulating the frequency of the compressor to maintain the flow temperature to the required set point.

The controller also will ensure that legionella is safely managed as well as integrating with other heat sources which may also be operating alongside the heat pump.

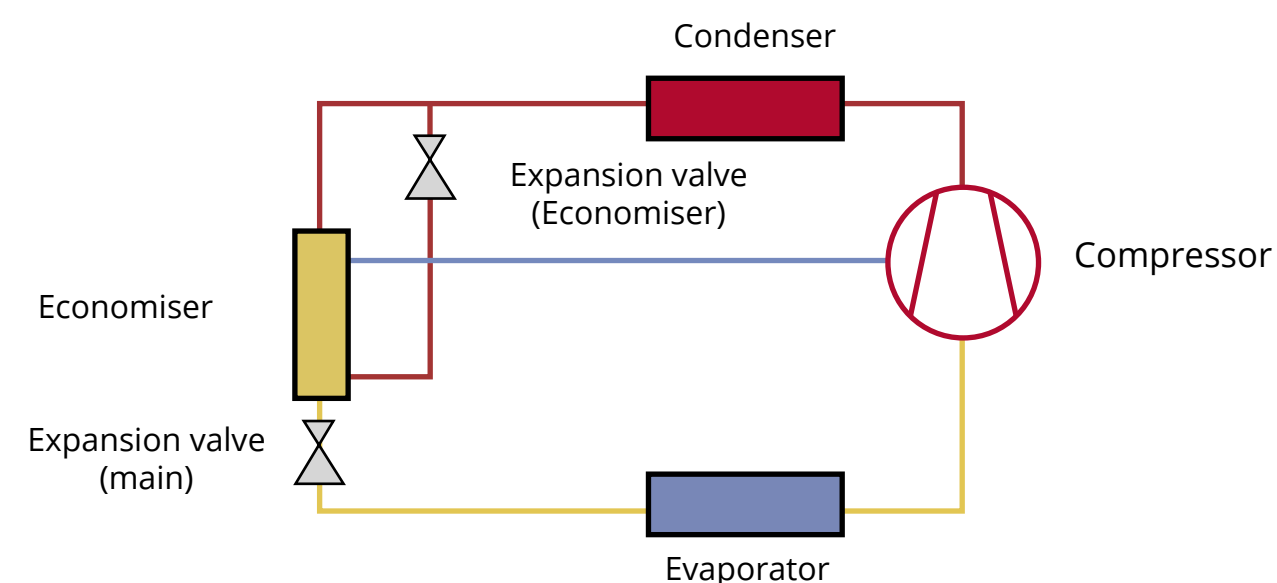


High Temperature Design

The S-ASX.21 range of high temperature heat pumps has many applications being well suited both to new build applications with low flow temperatures as well as retrofit applications when operating at temperatures as high as 65°C.

Not all heat pumps have the ability to operate up to 65°C as the condensation pressure that occurs at this temperature is higher than the operating pressure of most compressors. As such, the S-ASX.21 unit is supplied with a specialised high pressure resistant compressor. Additionally, in order to ensure that high temperature water can even be produced at very low ambient air temperature (down to -20°C) the compressor needs to be provided with a vapour and liquid refrigerant by means of an additional economised refrigeration circuit.

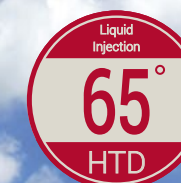
Enhanced Vapour Injection System



This vapour injection technology consists of cooling the refrigerant at an intermediate stage of the compression process to ensure a low discharge temperature from the compressor. The cooling is obtained by injecting 'cold' refrigerant, in a vapour or liquid state, into the compressor so that it mixes with the 'hot' refrigerant in the compression phase.

To obtain the 'cold' refrigerant to be injected inside the compressor, it is necessary to change the refrigerant circuit compared to a normal heat pump, by adding a refrigerant/refrigerant economiser exchanger powered through an expansion valve.

Aside from utilising high temperature water for retrofit space heating applications such elevated flow temperatures can also be useful for DHW pre-heat source in twin-coiled calorifier systems. An additional heat generator, such as an ultra-low NOx gas boiler, will still be required to achieve legionella purge conditions for the storage of hot water.



Strebel S-ASX.21 Technical Specifications

Model			60	70	80	90	100
Efficiency label at 35°C ^[1]			A++	A++	A++	A++	A++
Efficiency label at 55°C ^[1]			A++	A++	A++	A++	A++
SCOP at 35°C			4.41	4.37	4.35	4.37	4.34
SCOP at 55°C			3.52	3.49	3.47	3.48	3.46
A7W35	Heating capacity	kW	57.2	67.3	75.1	84.7	99.0
	Power input	kW	12.3	14.6	16.3	18.4	21.6
	COP		4.65	4.61	4.61	4.60	4.58
	Water flow rate	l/h	9854	11613	12964	14606	17068
	Pressure drops	kPa	29	27	23	29	28
A7W45	Heating capacity	kW	57.9	68.1	76.0	85.7	100
	Power input	kW	15.6	18.6	20.8	23.4	27.5
	COP		3.71	3.66	3.65	3.66	3.64
	Water flow rate	l/h	10006	11792	13164	14831	17331
	Pressure drops	kPa	30	27	24	29	29
A7W55	Heating capacity	kW	58.8	69.2	77.3	87.1	102
	Power input	kW	19.1	22.8	25.6	28.7	33.7
	COP		3.08	3.04	3.02	3.03	3.03
	Water flow rate	l/h	6389	7530	8406	9470	11067
	Pressure drops	kPa	13	12	11	13	13
A7W65	Heating capacity	kW	60.1	70.8	79.0	89.1	104
	Power input	kW	23.8	28.4	31.9	35.8	42.1
	COP		2.53	2.49	2.48	2.49	2.47
	Water flow rate	l/h	5250	6188	6907	7782	9094
	Pressure drops	kPa	9	8	7	9	9
A2W35	Heating capacity	kW	48.2	56.8	63.4	71.4	83.4
	Power input	kW	12.3	14.6	16.3	18.4	21.6
	COP		3.92	3.89	3.89	3.88	3.86
	Water flow rate	l/h	8313	9798	10937	12322	14400
	Pressure drops	kPa	21	19	17	21	21
A2W45	Heating capacity	kW	49.0	57.7	64.4	72.6	84.8
	Power input	kW	15.6	18.6	20.9	23.4	27.5
	COP		3.14	3.10	3.08	3.10	3.08
	Water flow rate	l/h	8476	9990	11152	12564	14682
	Pressure drops	kPa	22	20	18	22	21
A2W55	Heating capacity	kW	50.0	58.9	65.7	74.1	86.6
	Power input	kW	19.2	22.8	25.6	28.7	33.8
	COP		2.60	2.58	2.57	2.58	2.56
	Water flow rate	l/h	5437	6408	7154	8060	9418
	Pressure drops	kPa	9	9	8	10	10
A2W65	Heating capacity	kW	51.4	60.6	67.6	76.2	89.1
	Power input	kW	23.9	28.5	31.9	35.8	42.1
	COP		2.15	2.13	2.12	2.13	2.12
	Water flow rate	l/h	4493	5296	5912	6660	7783
	Pressure drops	kPa	7	6	6	7	7
A-4W35	Heating capacity	kW	43.7	51.5	57.5	64.8	75.7
	Power input	kW	12.3	14.6	16.4	18.4	21.6
	COP		3.55	3.53	3.51	3.52	3.50
	Water flow rate	l/h	7545	8893	9927	11184	13070
	Pressure drops	kPa	17	16	14	18	17
A-4W45	Heating capacity	kW	44.6	52.6	58.7	66.1	77.3
	Power input	kW	15.7	18.6	20.9	23.5	27.6
	COP		2.84	2.83	2.81	2.81	2.80
	Water flow rate	l/h	7728	9108	10168	11455	13387
	Pressure drops	kPa	18	17	15	18	18
A-4W55	Heating capacity	kW	45.8	54.0	60.2	67.9	79.3
	Power input	kW	19.2	22.9	25.7	28.8	33.9
	COP		2.39	2.36	2.34	2.36	2.34
	Water flow rate	l/h	4981	5871	6554	7384	8629
	Pressure drops	kPa	8	8	7	8	8
A-4W65	Heating capacity	kW	47.4	55.8	62.3	70.2	82.0
	Power input	kW	23.9	28.5	32.0	35.9	42.2
	COP		1.98	1.96	1.95	1.96	1.94
	Water flow rate	l/h	4139	4878	5445	6135	7169
	Pressure drops	kPa	6	5	5	6	6

A7W65 = source : air in 7°C d.b. 6°C w.b. / plant : water in 55°C out 65°C
A7W55 = source : air in 7°C d.b. 6°C w.b. / plant : water in 47°C out 55°C
A7W45 = source : air in 7°C d.b. 6°C w.b. / plant : water in 40°C out 45°C
A7W35 = source : air in 7°C d.b. 6°C w.b. / plant : water in 30°C out 35°C
A2W65 = source : air in 2°C d.b. 1 °C w.b. / plant : water 55°C out 65°C
A2W55 = source : air in 2°C d.b. 1 °C w.b. / plant : water 47°C out 55°C

A2W45 = source : air in 2°C d.b. 1 °C w.b. / plant water 40°C out 45°C
A2W35 = source : air in 2°C d.b. 1 °C w.b. / plant water 30°C out 35°C
A-4W65 = source : air in -4°C d.b. -5°C w.b. / plant : water in 55°C out 65°C
A-4W55 = source : air in -4°C d.b. -5°C w.b. / plant : water in 47°C out 55°C
A-4W45 = source : air in -4°C d.b. -5°C w.b. / plant : water in 40°C out 45°C
A-4W35 = source : air in -4°C d.b. -5°C w.b. / plant : water in 30°C out 35°C

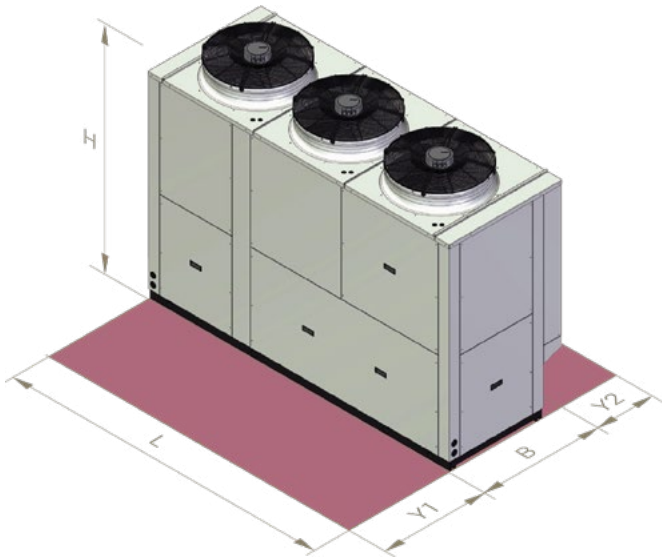
Strebel S-ASX.21 Technical Data

Model		60	70	80	90	100
Power supply	V-p-Hz	400 - 3 - 50				
Compressor type		Scroll with Vapour Injection (EVI)				
No. compressors/No. refrigerant circuits	Qty	2/1				
Plant heat exchanger type		Stainless steel brazed plates				
Source heat exchanger		Finned Coil				
Fans		Axial				
No. fans	Qty	3			4	
Hydraulic fittings		2" M				
Heat recovery (VD)		1" 1/4 M				
Weight	kg	616	628	634	763	774
Maximum power input	kW	29.0	34.4	38.6	42.4	47.4
Low Noise Acoustic Setting						
Sound power level	dB(A)	76	77	77	78	78
Sound pressure at 1 metre	dB(A)	58	59	59	59	58
Sound pressure at 5 metres	dB(A)	49	50	50	51	51
Sound pressure at 10 metres	dB(A)	44	45	45	46	46

The acoustic data performances are referred to units operating in heating mode at nominal conditions A7W35.

The sound power level is measured in accordance to ISO 3744 standard.

The sound pressure level is calculated according to ISO 3744 and is referred to a distance of 1/5/10 metres form the external surface of the unit.



Dimensions						
		60	70	80	90	100
L	mm	2480	2480	2480	3230	3230
B	mm	930	930	930	930	930
H	mm	1830	1830	1830	1830	1830
Y1	mm	1000	1000	1000	1000	1000
Y2	mm	500	500	500	500	500

The values are referred to units without options and accessories.

COP (Coefficient Of Performance) = ratio of the total heating capacity to the effective power input of the unit

All COP data in accordance with EN 14511 ^[1] In accordance with European regulation 811/2013

The company reserves the right to change the specifications and dimensions without prior notice. E.&O.E.

Seven Reasons to Use Strebel

We are proud of our history and the disciplines instilled in the company by our founder Josef Strebel.

It's the Strebel way - uncompromising product quality and customer care.

S	AFETY	At the heart of everything we do
T	RUSTED	By engineers since 1893
R	OBUST	High quality components
E	ASE	Of installation
B	EST	Practice throughout design, manufacturing and installation
E	NGINEERED	For long trouble free product life
L	OGICAL	Sophisticated control software

Services and Warranty

Installation, Service and Spares

All heat pumps should be installed in accordance with the relevant installation instructions by experienced engineers. Upon request Strebel Service engineers can verify heat pump installation at time of commissioning but will not carry out wiring, or make changes to incorrect wiring, between heat pump and storage vessel as this is the responsibility of the installer.

Our Service Department offers a range of servicing options that can be tailored to meet individual requirements. Please contact us for more information.

Availability of Spares to the right specification at the right time is essential to the successful operation of any plant room item. At our central Warehouse facility we stock a wide range of commonly used parts which can be dispatched directly to site for the following day assuming the order is received the morning before.



Warranty

All Strebel heat pumps are offered with the standard 2-year warranty on the main units. The date of the warranty will be considered to run from the time the heat pump is commissioned on site.

2 YEAR
WARRANTY



Customer Support

As with all Strebel products, the S-ASX.21 heat pump range is fully supported by our excellent customer service team and experienced technical engineers. Whether you are looking for product advice or for maintenance and repair, our service team are on hand to support you and can be contacted easily via telephone or online.

+44 (0) 1276 685 422 info@strebel.co.uk