



S-ASX-LPi

Commercial Low GWP Air-To-Water Heat Pump

55 – 100 kW



Air-to-Water Heat Pump

The S-ASX-LPi range comprises three models with nominal thermal outputs of 55,75 and 100kW. Each model is a robust commercial air source heat pump designed to offer optimal operating efficiency and low running costs. The units have outstanding SCOP of between 4.27 and 4.33 at 35°C and, depending on model, can deliver seamless heat power output of between 20.5kW to 108kW at condition A7W35 due to the seamless operation of the in-built inverter scroll compressor(s) with vapour injection technology. At this air temperature, with a flow of 35°C, the COP varies between 5.01 and 4.11 from minimum to maximum thermal output. All the S-ASX-LPi machines are capable of operating in a stable condition to a maximum of 68°C at the outlet, although at DT 5°C the maximum stable operating temperature is 63°C, with a maximum return of 57°C. In this condition the stable temperature in the thermal storage volume will be a maximum of 60°C. The control system allows the units to be operated in cascade allowing up to 16 units.

All the units are of monobloc design suitable for outdoor design only. Heat energy from the ambient air is obtained from the high density low GWP R454BA 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.

As standard each unit is supplied with an in-built fully modulating circulating flow pump. The unit is also fitted with anti-vibration dampers and remote monitoring interface. Additionally, low noise insulation is fitted as standard to minimise the operating sound level.

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Low Pollutant Refrigerant and Embodied Carbon

R454B, or Opteon™ XL41, as it is also known, is significantly less harmful to the environment than R410A or R32 refrigerants with a GWP of 467. R454B offers a 76% reduction in direct GWP against R410A and 34% reduction against R32. Embodied carbon, calculated using the CIBSE TM65 ‘mid-level’ method, is a measure of the total carbon footprint of a device including elements of material components, manufacturing, transport as well as ‘after-use’ disposal. The S-ASX-LPi55 unit benefits from relatively low tonnage of embodied carbon due to the low GWP of R454B refrigerant. Full information is available in the Technical section online.



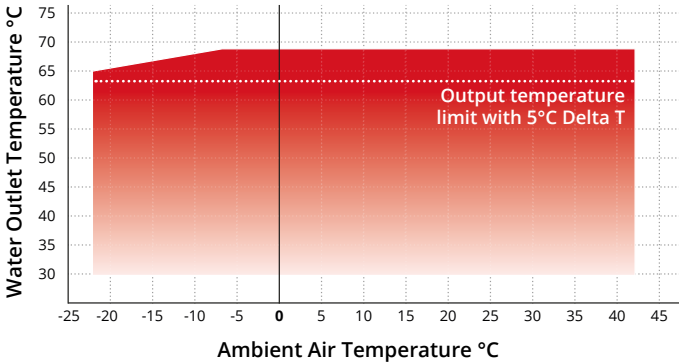
Model			LPI55			LPI75			LPI100		
Efficiency label at 35°C ⁽¹⁾			A++			A++			A++		
Efficiency label at 55°C ⁽¹⁾			A++			A++			A		
SCOP at 35°C			4.27			4.33			4.28		
SCOP at 45°C			3.71			3.76			3.72		
SCOP at 55°C			3.48			3.52			3.49		
SCOP at 65°C			3.13			3.17			3.13		
			Min	Nominal	Max	Min	Nominal	Max	Min	Nominal	Max
A7W35	Heating capacity	kW	19.8	46.70	53.8	32.9	73.9	86.0	41.1	92.5	108.0
	Power input	kW	3.98	10.3	13.1	6.57	16.20	20.60	8.31	20.50	26.10
	COP		4.97	4.49	4.11	5.01	4.56	4.17	4.95	4.51	4.14
	Water flow rate	l/h	3430	7966	9263	5681	12753	14830	7106	15951	18549
	Pressure drops	kPa	5	26	35	5	22	30	6	25	33
A7W45	Heating capacity	kW	20.1	46.8	54.4	33.3	74.8	87.0	41.6	93.6	109.0
	Power input	kW	4.96	12.8	16.3	8.19	20.20	25.70	10.40	25.60	32.5
	COP		4.05	3.66	3.34	4.07	3.70	3.39	4.00	3.66	3.35
	Water flow rate	l/h	3483	8089	9406	5769	12949	15058	7216	16197	18835
	Pressure drops	kPa	5	27	36	5	23	30	6	26	34
A7W55	Heating capacity	kW	20.4	47.5	55.2	33.8	76.0	88.4	42.3	95.1	111.0
	Power input	kW	5.96	15.3	19.5	9.86	24.20	30.7	12.50	30.70	38.9
	COP		3.42	3.10	2.83	3.43	3.14	2.88	3.38	3.10	2.85
	Water flow rate	l/h	2224	5165	6006	3684	8269	9615	4608	10343	12027
	Pressure drops	kPa	2	11	15	2	10	13	3	11	15
A7W65	Heating capacity	kW	20.9	48.6	56.5	34.6	77.7	90.4	43.3	97.3	113.0
	Power input	kW	7.37	18.9	24.0	12.20	29.90	37.9	15.40	37.8	48.0
	COP		2.84	2.57	2.35	2.84	2.60	2.39	2.81	2.57	2.35
	Water flow rate	l/h	1828	4244	4936	3027	6795	7901	3786	8499	9883
	Pressure drops	kPa	2	8	10	2	7	9	2	8	10
A2W35	Heating capacity	kW	16.7	39.0	45.3	27.70	62.3	72.5	34.7	78.0	90.7
	Power input	kW	3.99	10.3	13.1	6.59	16.30	20.60	8.33	20.60	26.10
	COP		4.19	3.79	3.46	4.20	3.82	3.52	4.17	3.79	3.48
	Water flow rate	l/h	2894	6721	7815	4793	10759	12511	5995	13458	15649
	Pressure drops	kPa	4	19	25	4	17	22	4	18	24
A2W45	Heating capacity	kW	17.0	39.6	46.1	28.20	63.3	73.7	35.2	79.2	92.2
	Power input	kW	4.97	12.8	16.3	8.21	20.20	25.70	10.40	25.60	32.5
	COP		3.42	3.09	2.83	3.43	3.13	2.87	3.38	3.09	2.84
	Water flow rate	l/h	2951	6852	7968	4887	10970	12756	6113	13721	15956
	Pressure drops	kPa	4	20	26	4	17	22	4	19	25
A2W55	Heating capacity	kW	17.4	40.4	47.0	28.80	64.7	75.2	36.0	80.9	94.1
	Power input	kW	5.98	15.4	19.5	9.88	24.30	30.8	12.50	30.70	39.0
	COP		2.91	2.62	2.41	2.91	2.66	2.44	2.88	2.64	2.41
	Water flow rate	l/h	1893	4396	5112	3135	7037	8183	3921	8802	10235
	Pressure drops	kPa	2	8	11	2	8	10	2	9	11
A2W65	Heating capacity	kW	17.9	41.6	48.3	29.60	66.5	77.4	37.1	83.2	96.8
	Power input	kW	7.38	18.9	24.0	12.20	30.00	38.0	15.40	37.9	48.1
	COP		2.43	2.20	2.01	2.43	2.22	2.04	2.41	2.20	2.01
	Water flow rate	l/h	1564	3633	4224	2591	5815	6762	3240	7274	8458
	Pressure drops	kPa	1	6	8	1	5	7	1	6	8
A-4W35	Heating capacity	kW	15.2	35.4	41.1	25.20	56.6	65.8	31.5	70.7	82.3
	Power input	kW	4.00	10.3	13.1	6.62	16.30	20.70	8.37	20.60	26.20
	COP		3.80	3.44	3.14	3.81	3.47	3.18	3.76	3.43	3.14
	Water flow rate	l/h	2627	6100	7093	4350	9765	11356	5442	12215	14204
	Pressure drops	kPa	3	16	21	3	14	18	4	15	20
A-4W45	Heating capacity	kW	15.5	36.1	42.0	25.70	57.7	67.2	32.1	72.2	84.0
	Power input	kW	4.98	12.8	16.3	8.23	20.30	25.70	10.40	25.60	32.5
	COP		3.11	2.82	2.58	3.12	2.84	2.61	3.09	2.82	2.58
	Water flow rate	l/h	2690	6248	7265	4456	10002	11631	5573	12510	14548
	Pressure drops	kPa	3	16	22	3	14	19	4	16	21
A-4W55	Heating capacity	kW	15.9	37.0	43.1	26.40	59.2	68.9	33.0	74.1	86.2
	Power input	kW	5.99	15.4	19.5	9.91	24.30	30.9	12.50	30.80	39.1
	COP		2.65	2.40	2.21	2.66	2.44	2.23	2.64	2.41	2.20
	Water flow rate	l/h	1734	4027	4683	2872	6447	7497	3593	8064	9377
	Pressure drops	kPa	2	7	10	1	7	9	2	7	10
A-4W65	Heating capacity	kW	16.5	38.3	44.5	27.30	61.3	71.3	34.1	76.6	89.1
	Power input	kW	7.39	19.0	24.1	12.20	30.00	38.1	15.50	38.0	48.2
	COP		2.23	2.02	1.85	2.24	2.04	1.87	2.20	2.02	1.85
	Water flow rate	l/h	1441	3346	3891	2386	5357	6229	2985	6700	7791
	Pressure drops	kPa	1	5	7	1	5	6	1	5	7

Sizing Guidance

When sizing it is imperative to base selection using the highlighted nominal machine output at the design condition. The minimum and maximum outputs are shown only for information purposes to demonstrate the operational output envelope limits. For clarity using maximum output as the basis for selection is not considered sound engineering practice, and will negatively impact operational effectiveness and longevity.

Operating Range

The graph to the right shows the operating range area inside which the correct working of the unit is guaranteed.



Warranty

All Strebel heat pumps are offered with the standard 2-year warranty on the main units.

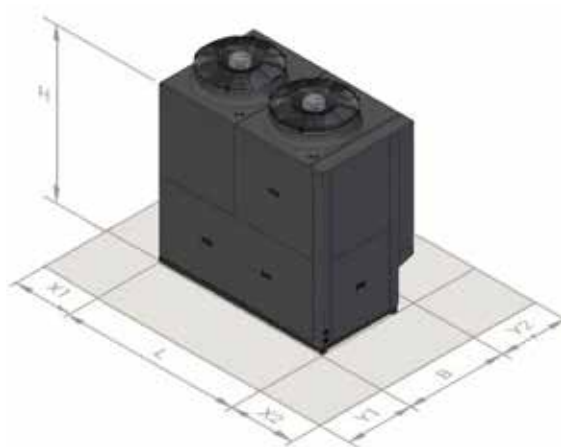


The date of the warranty will be considered to run from the time the heat pump is commissioned on site.

Technical Specification performances based on Delta T of 5°C for W35,45,55 and Delta T of 10°C for W65.

Strebel S-ASX-LPi Technical Data

Model		LPI55	LPI75	LPI100
Power Supply	V-p-Hz	400-3-50		
Compressor Type		High Temperature Scroll Inverter Brushless with Vapour Injection		
No. compressors/No. refrigerant circuits	Qty	1,1	2,1	2,1
Refrigerant		R454B		
Plant heat exchanger type		Stainless steel brazed plates		
Source heat exchanger		Finned coil copper - hydrophilic aluminium		
Fans		Axial EC		
No. fans	Qty	2	3	4
Hydraulic fittings		1 1/2"M	2"M	2"M
Weight	kg	475	673	810
Maximum power input	kW	26	41	51
Low Noise Acoustic Setting (as standard)				
Sound power level	dB(A)	76	77	78
Sound pressure at 1 metre	dB(A)	59	60	61
Sound pressure at 5 metres	dB(A)	50	50	52
Sound pressure at 10 metres	dB(A)	45	45	47



Unit Dimensions

		LPI55	LPI75	LPI100
L	mm	1730	2480	3230
B	mm	930	930	930
H	mm	1830	1830	1830
X1	mm	1000	1000	1000
X2	mm	1000	1000	1000
Y1	mm	1000	1000	1000
Y2	mm	1000	1000	1000

Unit Dimensions shown for maintenance purposes only.



Customer Support

As with all Strebel products, the S-ASX-VP 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.

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