

# FPi Air Source Heat Pumps

## ASHP Range for DHW Applications



The Advenco FPi is a range of 9–13kW air to water heat pumps designed for use with domestic hot water applications.

The FPi ASHP uses ambient air as a heat source for a refrigerant circuit to transfer heat to a building, providing a renewable source of hot water in a compact, simple to install unit with a reduced environmental impact.

Effective with ambient air temperatures as low as  $-25^{\circ}\text{C}$ , the FPi is capable of providing  $55^{\circ}\text{C}$  hot water throughout the year.

The FPi range is ideal for integration into a hybrid hot water system for commercial applications, helping to reduce emissions and increase efficiency without compromising reliability or performance.

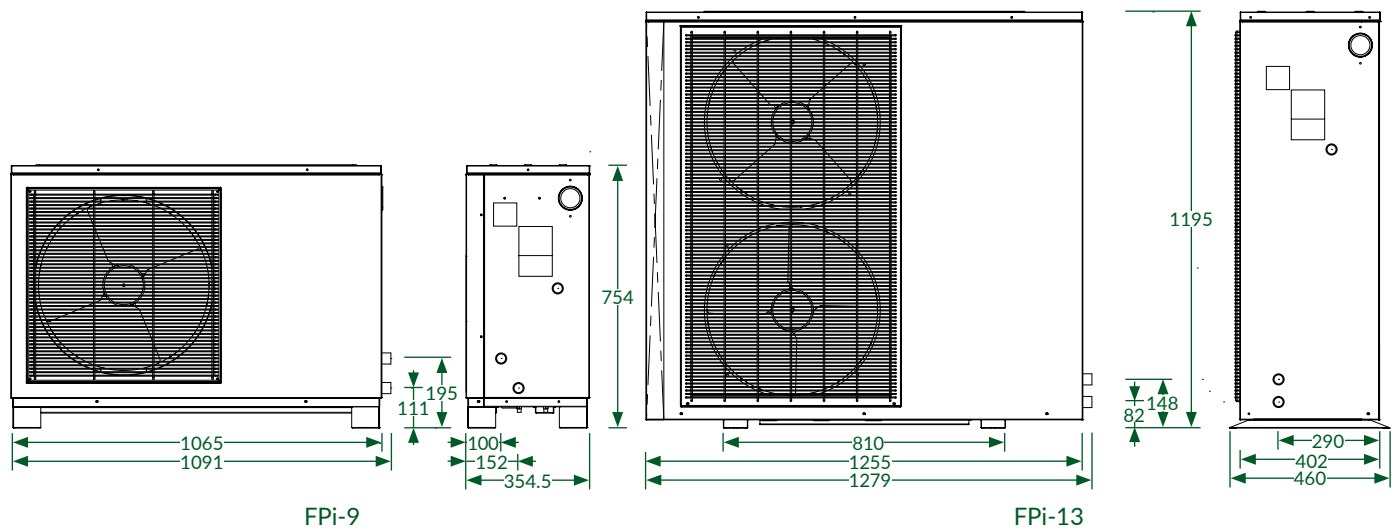
### FEATURES

- Compact monobloc design
- Year-round efficiency with COP up to 4.7
- Easy to install and maintain with low running costs
- Integrated controls, non-return valves, pressure gauges, and frost protection as standard
- Provides DHW at  $55^{\circ}\text{C}$ , or higher in hybrid systems
- Low noise impact

### COP

T <sub>ambient</sub> (°C)	FPi-9		FPi-13		
	Q (Joules)	COP	Q (Joules)	COP	
Water in/out: $30^{\circ}\text{C}/35^{\circ}\text{C}$	-7	7.5	2.9	8.1	2.9
	2	9.6	3.8	10.6	3.6
	7	10.1	4.0	12.6	3.9
	12	12.0	4.4	14.2	4.7
Water in/out: $40^{\circ}\text{C}/45^{\circ}\text{C}$	-7	6.1	2.1	7.6	2.4
	2	8.2	2.6	10.3	2.9
	7	9.5	3.1	11.5	3.0
	12	10.2	3.2	13.3	3.6
Water in/out: $50^{\circ}\text{C}/55^{\circ}\text{C}$	-7	5.5	1.5	7.1	1.9
	2	6.9	1.9	9.4	2.3
	7	8.4	2.2	9.8	2.7
	12	9.2	2.4	11.5	2.9





Model		units	FPi-9	FPi-13
Maximum heating capacity (1)	Minimum	kW	4.33	4.20
	Maximum		10.10	12.60
Maximum heating capacity (2)	Minimum	kW	4.19	3.76
	Maximum		9.53	11.50
Heating power input (1)	Minimum	W	975	926
	Maximum		2153	3072
Heating power input (2)	Minimum	W	1230	1267
	Maximum		2990	3723
COP (1)	Minimum		4.02	3.89
	Maximum		4.65	4.77
COP (2)	Minimum		3.12	2.97
	Maximum		3.55	3.28
SCOP			3.99	3.90
SEER			3.26	4.54
Refrigerant	Type		R410A	R410A
	Mass	kg	2.45	3.00
Power supply		V/Hz/Phase	230 / 50 / 1ph	230 / 50 / 1ph
Circuit maximum pressure		bar	42	42
Noise level		dB(A)	56	59
Ambient operational temperature range	Heating	°C	-25-46	-25-46
	Cooling		0-55	0-55
Water inlet operational temperature range		°C	7-75	7-75
Water content		kg	4.5	4.5
Compressor	Type		Twin rotary	
	Quantity		1	
	Oil		FV50S	
Fan	Quantity		1	2
	Airflow	m <sup>3</sup> /h	3000	4100
	Rated power	W	60	120
	Face area	m <sup>2</sup>	0.54	1.50
Allowable fan flow	Row—fins/inch		2 Rows—14	
	Tube diameter	Inches O.D.	3/8	
	Material		Steel – Copper	
Water side plate heat exchanger	Water pressure drop	kPa	23	26
	Pipe connection	Inches	G1"	
	Minimum		0.26	0.37
Allowable water flow	Rated	L/s	0.43	0.61
	Maximum		0.51	0.73
	At minimum water flow		0.73	0.87
Available pump pressure	At rated water flow	bar	0.52	0.80
	At maximum water flow		0.41	0.63

(1) Heating conditions: Water in/out temperature 30°C/35°C. Ambient temperature DB/WB 7°C/6°C

(2) Heating conditions: Water in/out temperature 40°C/45°C. Ambient temperature DB/WB 7°C/6°C

**Advenco Ltd.** Unit 7&8 Armstrong Mall, Southwood Business Park, Farnborough, Hampshire GU14 0NR

Company Reg : 09493966 T : 01252 551 540 E : enquiries@advenco.co I : www.advenco.co

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