A-O-A R290 | Datasheet

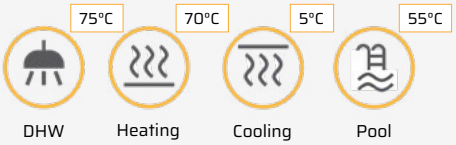
A-O-A R290 6-24kW
Air Source Monobloc Heat Pump Air to Water

VOLTA HEAT PUMPS
POWERED BY ECOFOREST

KEY FEATURES

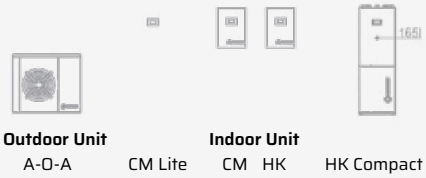
- Modulating thermal output control across a wide range (17%–100%), fan speed control (20%–100%), and modulating flow control in the production circuit (20%–100%).
- Natural refrigerant R290 with GWP 3.
- Inverter technology.
- Compact design incorporating the production circulator within the outdoor unit.
- Hydraulic connection between the outdoor and indoor modules.
- Integrated energy metering for electrical consumption, thermal output (heating/cooling), and instantaneous and seasonal performance monthly and annual.
- Reversible models with integrated active cooling production.
- Indoor unit selection based on project requirements.
- Models available in single-phase and three-phase versions.
- Integrated photovoltaic hybridisation.

APPLICATIONS

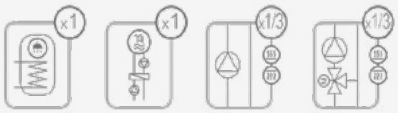


COMPATIBLE PRODUCTION SYSTEMS

MONOBLOC HEAT PUMP

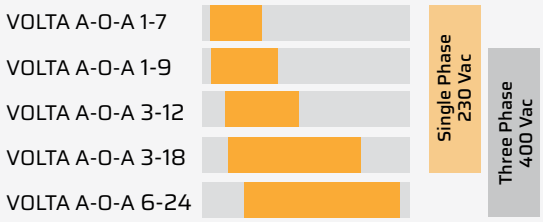


MANAGEMENT OF SHUNT GROUPS



PERFORMANCE

MODELS



CASCADE

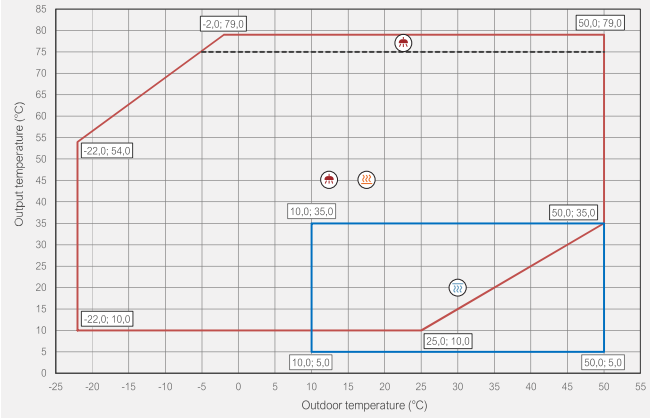
A-O-A R290 | Datasheet

A-O-A R290 6-24kW
Air Source Monobloc Heat Pump Air to Water

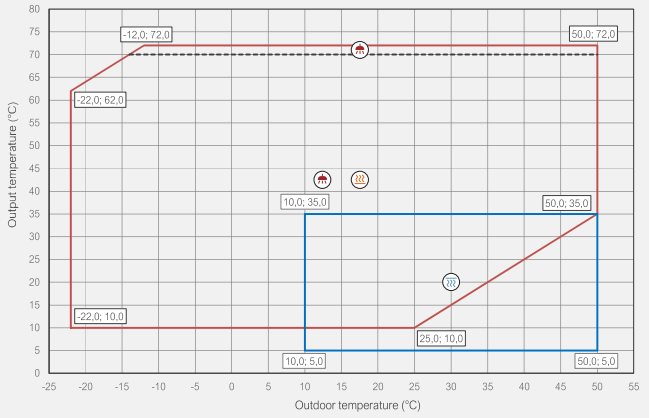
- Integrated control of up to three different flow temperatures, two buffer tanks (heating and cooling), one DHW tank, one swimming pool, and time scheduling of DHW recirculation with CM, HK, and HK-Compact indoor units.
- Integrated control of external auxiliary backup systems — on/off or modulating (electric heaters, boilers, etc.).
- Integrated cascade control of up to six heat pumps with the CM indoor unit.
- Integrated control of one flow temperature, one buffer tank (for heating and cooling), and one DHW tank with the CM Lite indoor unit.
- Integrated control of simultaneous heating/cooling emission systems, depending on the system layout.
- High Temperature Recovery (HTR) system for domestic hot water (DHW) production up to 78°C without auxiliary support, and simultaneous DHW and heating / cooling production.

OPERATIONAL CHART

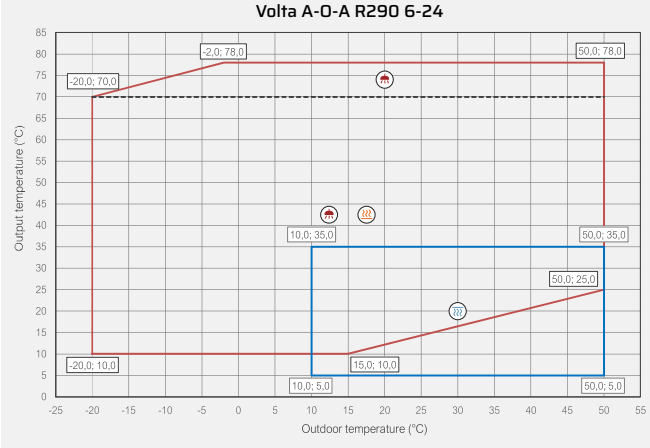
Volta A-O-A R290 1-7



Volta A-O-A R290 1-9 Volta A-O-A R290 3-12 Volta A-O-A R290 3-18



Volta A-O-A R290 6-24

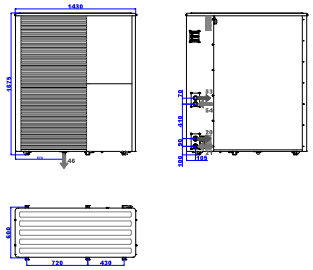


	SPECIFICATIONS VOLTA A-O-A R290		VOLTA A-O-A R290 6-24kW
APPLICATION	Place of installation	-	Outdoor
	Collection system	-	Air source
	DHW, Heating and Pool heating	-	■
	Integrated active cooling	-	■
PERFORMANCE	Compressor modulation range	%	22 - 100
	(2) Heating power output / COP A7W35	kW / -	4,8 - 27,5 / 5,1
	(2) Heating power output / COP A7W55	kW / -	6,5 - 25,9 / 3,2
	(2) Cooling power output / EER A35W7	kW / -	4,7 - 20,5 / 3,6
	(5) Max. DHW temperature without / with support	°C	78 / 80
	(6) Maximum noise power level (LWA)	dB (A)	63
	Energy label / ηs / SCOP W35 average clim. with control	-	A+++ / 184 % / 4,58
	Energy label / ηs / SCOP W55 average clim. with control	-	A++ / 140% / 3,47
OPERATION LIMITS	Distribution / Set heating outlet temperature range	°C	10 - 70 / 20 - 70
	Distribution / Set cooling outlet temperature range	°C	5 - 30 / 7 - 30
	Outdoor temperature range	°C	-20 - 50
	Minimum / Maximum refrigerant circuit pressure	bar	0,5 / 25,5
	Production circuit pressure range	bar	0,5 - 6,0
WORKING FLUIDS	R290 refrigerant load (GWP: 3)	kg	1,75
	Compressor oil type / load	kg	RFL68 EP / 1,18
	Flow rate (Pmax, A7W35) ΔT 5°C / ΔT 7°C	m³/h	4,7 / 3,4
	Min. water volume for defrosting (35°C, ΔT 5°C)	l	250,0
	Nominal air flow rate	m³/h	10150
CONTROL ELECTRICAL DATA	(8) 1/N/PE 230 V / 50-60 Hz	-	■
	(9) Recommended external protection	-	C6A
	Transformer primary circuit fuse	A	0,5
	Transformer secondary circuit fuse	A	2,5
HEAT PUMP ELECTRICAL DATA: THREE-PHASE VERSION	(8) 3/N/PE 400 V / 50-60 Hz	-	■
	(9) Recommended external protection	-	C32A
	(2) Maximum consumption A7W35	kW / A	6,8 / 9,9
	(2) Maximum consumption A7W55	kW / A	9,1 / 13,2
	(2) Maximum consumption	kW / A	17,0 / 25,0
	(7) Minimum / Maximum starting current	A	3,0 / 12,0
	Correction of cos Ø	-	0,80 / 1
DIMENSIONS & WEIGHT	Height x width x depth	mm	1675x1430x640
	Empty weight (without packaging)	kg	266

1. Air-to-water by means of a brine-to water heat pump combined with a hydraulic outdoor air unit.
2. In compliance with EN 14511, including circulation pumps, fan and compressor driver consumptions.
3. Production flow rate according to EN 14511.
4. Considering a heat slope from 20 to 50 °C in absence of consumption.
5. Considering support provided by an emergency electrical heater or HTR. Max. DHW temp. with HTR can be limited by the compressor discharge temp.
6. In compliance with EN 12102.
7. Starting current depends on the working conditions of the hydraulic circuits.
8. The admissible voltage range for proper operation of the heat pump is ±10%.
9. Maximum consumption can vary significantly according to working conditions, or if the compressor´s operation range is restricted. Consult the technical service manual for more information.
10. Certification in process.

Dimensions and hydraulic connections

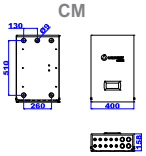
ecoAIR⁺ PRO



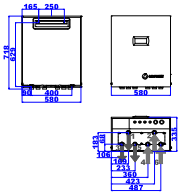
20. Heating/Cooling outlet **1 ½" M**
21. Heating/Cooling inlet **1 ½" M**
46. Drain **¾" M**
53. HTR outlet **1" M**
54. HTR inlet **1" M**

CM Lite

CM

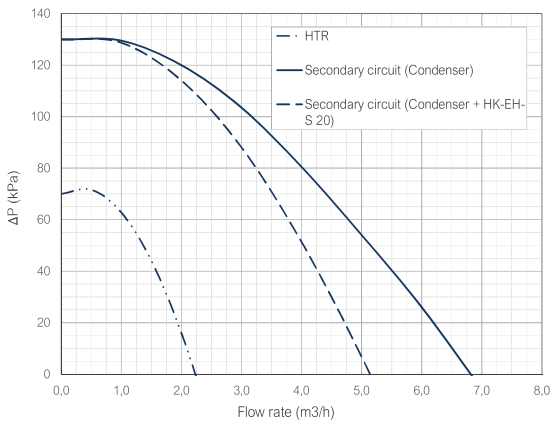


HK 20

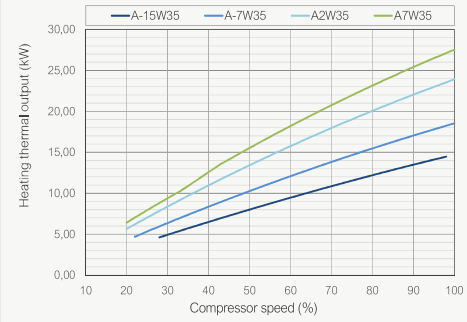


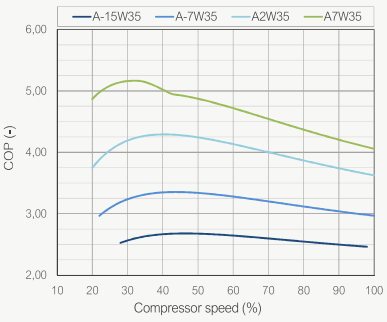
1. Outlet towards outdoor unit **1 ¼" M**
2. Inlet towards outdoor unit **1 ¼" M**
3. Heating/Cooling outlet **1 ¼" M**
4. Heating/Cooling inlet **1 ¼" M**
5. DHW system outlet **1 ¼" M**
6. DHW system inlet **1 ¼" M**

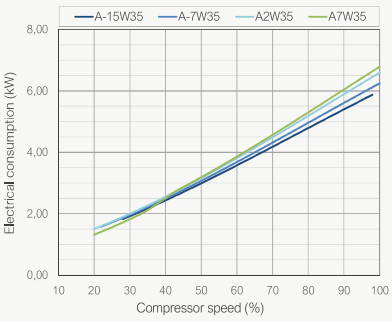
Available pressure drop



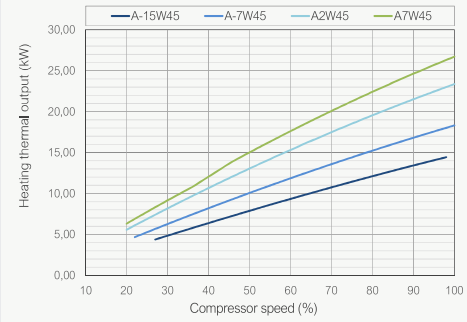
Heating W35

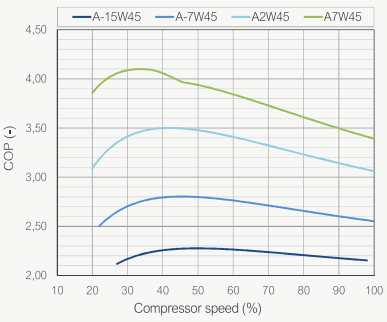


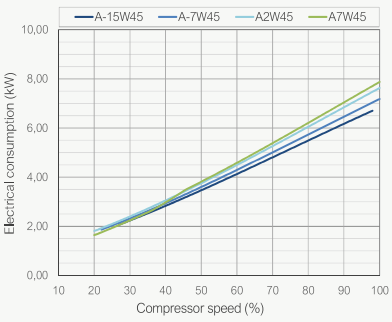




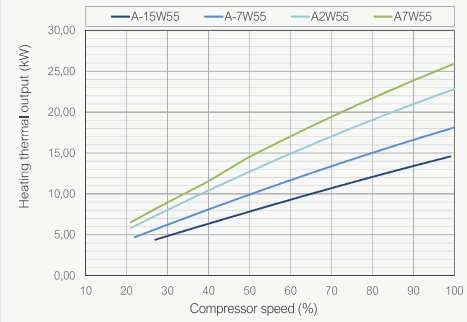
Heating W45

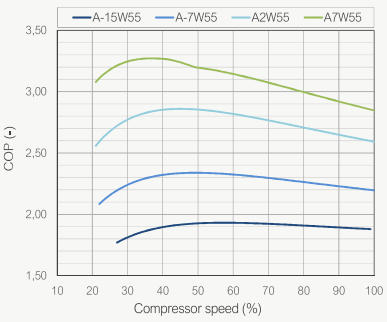


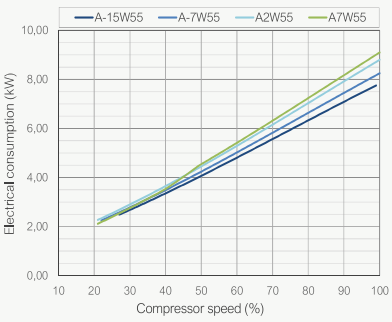




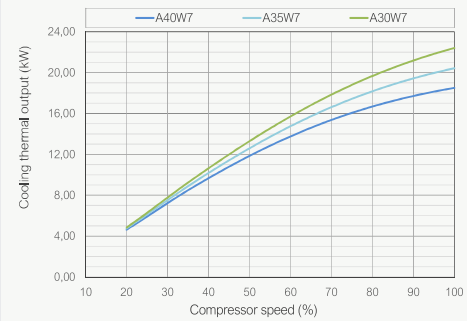
Heating W55

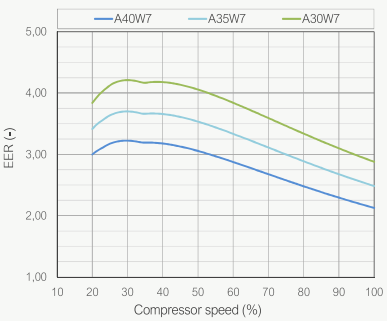


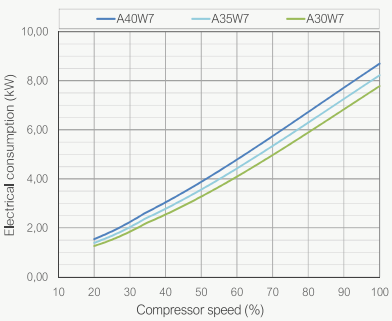




Cooling W7







THERMAL POWER — OUTDOOR TEMPERATURE