

ECOV-X55VA

Installation Criteria

Please ensure that the installation of the ECOV-X55VA complies with the criteria stated below.



1. Refrigeration Duty

The required duty of the system **must** fall within the parameters stated in the tables below.

32°C AMBIENT

Evaporation Temperature (C)	ECOV-X55VA Maximum Duty (kW)	ECOV-X55VA Minimum Duty (kW)
-35	6.40	2.36
-30	7.95	2.93
-25	9.71	3.58
-20	11.70	4.31
-15	13.80	5.08
-10	16.00	5.89
-5	18.10	6.67

35°C AMBIENT

Evaporation Temperature (C)	ECOV-X55VA Maximum Duty (kW)	ECOV-X55VA Minimum Duty (kW)
-35	5.78	2.13
-30	7.16	2.64
-25	8.75	3.22
-20	10.50	3.87
-15	12.50	4.61
-10	14.50	5.34
-5	8.09	2.98

2. Required Components

The following components **must** be installed on each ECOV Series Unit.

Required Components: Please ensure that the following components are installed with every ECOV series unit.

- Pressure Relief Valve - 80 Bar for ECOV-X55
- Liquid Line Sight Glass
- Liquid Line Drier
- (Optional) Swagelok Adapters

Swagelok Adapters: (3 of each required per unit).

- B-402-1 ¼ Brass Nut Swagelok
- B-403-1 Brass Ferrule ¼
- B-403-1 Brass Ferrule ¼

3. Evaporator Volume

The combined internal evaporator volume **must not exceed 12L**.

4. Maximum Working Pressure

The **maximum** working pressure of the ECOV-X55VA is stated below.

Liquid line = 80 Bar g (8.0MPa)

Suction line = 80 Bar g (8.0MPa)

All the components of the system such as evaporators, cabinets, pipework, expansion valves, shut off valve, etc. **must** be rated to this maximum working pressure. **Please note:** The strength pressure test is carried out to 1.1 times the maximum working pressure.

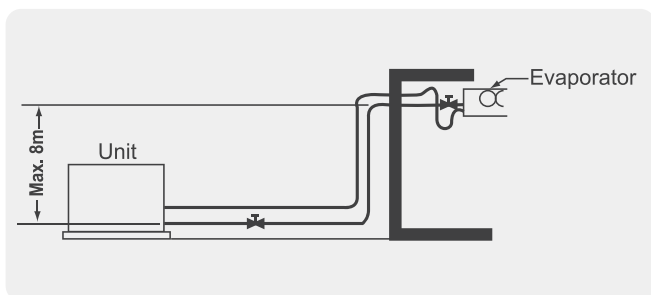
5. Pipework Length

The maximum pipework length **must not exceed 50m**.

1: When installing the evaporator above the unit

Keep the height difference (between the end part of the liquid pipe on the unit and the one on the evaporator) **within 8m**.

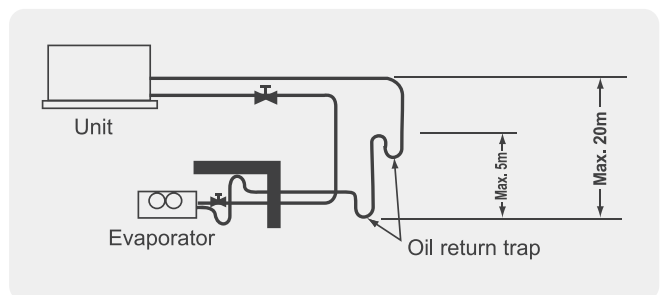
A large height difference may cause a pressure drop due to the head difference of liquid refrigerant, generating flash gas. When the evaporator is installed above the unit.



2: When installing the evaporator below the unit

Keep the height difference (between the highest suction pipe and the lowest suction pipe) **within 20m**.

A large height difference may cause a poor oil return to the compressor, resulting in a compressor failure. Install an oil return trap at **every 5m**.



6. Pipework Sizing

The following pipe sizes **must** be used based on the length of the pipe run (Maximum 50m).

Shorter than 30m: 3/8" Liquid and 5/8" Suction

Longer than 30m: 1/2" Liquid and 5/8" Suction

7. Expansion Valves

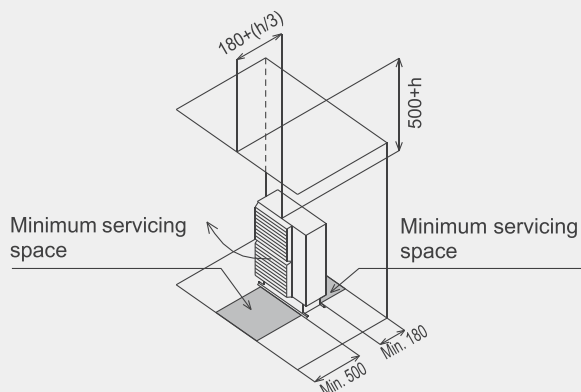
The following expansion valves **must** be used.

Electronic Expansion Valve (EEV): A linear expansion valve + stepper such as the Carel E2VCW or CS.

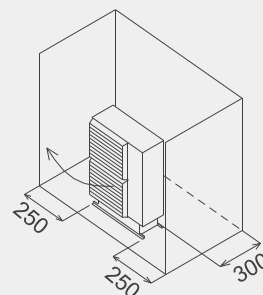
(NOT a pulse type like the Danfoss AKV's)

8. Required Space

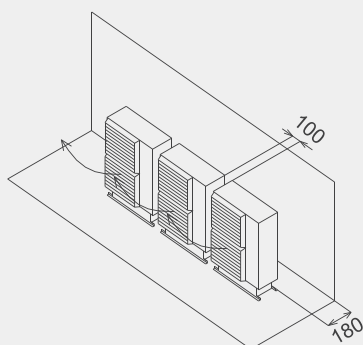
- 1. Installation of a single unit with objects blocking the rear and top of the unit** (unblocked on the sides and at the top).



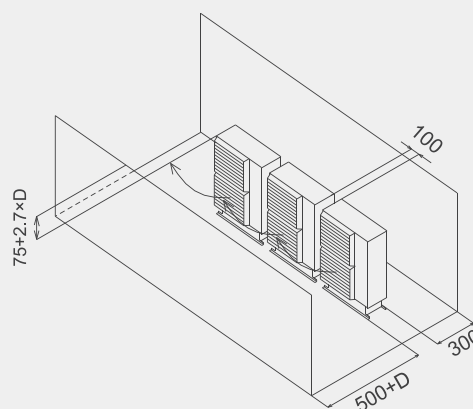
- 2. Installation of a single unit with objects blocking both sides and the rear of the unit** (unblocked in the front and at the top).



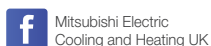
- 3. Side-by-side installation of multiple units with objects blocking the rear of the units** (unblocked in the front, on the sides, and at the top).



- 4. Side-by-side installation of multiple units with objects blocking the rear and front of the units** (unblocked on the sides, and at the top).



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Note: The fuse rating is for guidance only and please refer to the relevant databook for detailed specification. It is the responsibility of a qualified electrician/electrical engineer to select the correct cable size and fuse rating based on current regulation and site specific conditions. Mitsubishi Electric's air conditioning equipment and heat pump systems contain a fluorinated greenhouse gas, R410A (GWP:2088), R32 (GWP:675), R407C (GWP:1774), R134a (GWP:1430), R513A (GWP:631), R454B (GWP:466), R515B (GWP:292), R454C (GWP:148), R1234ze (GWP:7) or R1234yf (GWP:4). *These GWP values are based on Regulation (EU) No 517/2014 from IPCC 4th edition. Mitsubishi Electric's air conditioning equipment and heat pump systems contain a hydrocarbon, R290 (GWP:0.02). *These GWP values are based on IPCC 6th edition.

Effective as of June 2025

