GUIDELINES FOR PUMP SELECTION AND ACCESSORIES

1. Variable Speed Pumps

Purpose: Variable speed pumps are designed to ensure the optimal water flow while minimizing power consumption based on the specific installation needs. Although variable speed allows energy savings, the system does not regulate the condensing temperature, as this would be too complex for systems operating in both cooling and heating modes (reverse cycle). In addition, it is important to maintain a high enough water velocity to prevent fouling in the seawater coil. Low velocity can lead to the formation of deposits. Therefore, it is essential to properly configure the pump speed during the AC installation to ensure optimal performance.

2. Pump Availability

Note: Pumps are not included with AC units and must be ordered separately. The available pump models are as follows:
12 VDC: GEN003PUMOP12V, GEN004PUMOP12V, 007001PUMOP12V, 007002PUMOP12V
24 VDC: GEN001PUMOP24V, GEN003PUMOP24V, GEN004PUMOP24V, GEN005PUMOP24V
48 VDC: GEN001PUMOP48V, GEN005PUMOP48V

3. Maximum Cooling Capacity

To select the correct pump, refer to the maximum BTU/h capacity supported. This helps determine the maximum number of AC units that a single pump can support, ensuring optimal cooling performance. Always verify that the pump's cooling capacity matches the total BTU/h of the AC units being installed.

	model	nominal DC voltage	potentiometer option (variable speed)	max BTU/h	examples
	GEN003PUMOP12V	12	N.A.	12,000	1 x SDC12V12
	GEN003PUMOP24V	24	N.A.	18,000	1 x SDC18V24
	GEN004PUMOP12V	12	YES	20,000	1 x SDC12V12 + 1 x SDC08V12
	GEN004PUMOP24V	24	YES	28,000	1 x SDC10V24 + 1 x SD18V24
	GEN005PUMOP24V	24	YES	56,000	3 x SDC18V24
	GEN005PUMOP48V	48	YES	56,000	3 x SDC18V48
	GEN001PUMOP24V	24	YES	66,000	3 x SDC18V24 + 1 x SDC10V24
	GEN001PUMOP48V	48	YES	66,000	3 x SDC18V48 + 1 x SDC10V48
	007001PUMOP12V	12	YES	32,000	2 x SDC12V12 + 1 x SDC08V12
	007002PUMOP12V	12	YES	16,000	2 x SDC08V12

4. Potentiometer for Variable Speed Control

Item: GEN002PUMOP
Description: A potentiometer is required for variable speed control of the pumps. This component must be ordered separately, as it is not included with the pump.
Recommended Use: Models GEN001, GEN004, GEN005, 007001, and 007002 require a potentiometer for variable speed control. This enhances energy efficiency and prolongs system life.
Full-Speed Models: Models GEN003PUMOP12V and GEN003PUMOP24V operate at full speed and do not require a potentiometer.

5. Degree of Protection (IP Rating)
All pump models have an **IP65** protection rating, ensuring full protection against dust and lateral water splashes.
Models GEN003, GEN004, and GEN005 are additionally **IP68-rated**, providing full waterproofing for more demanding environments.

6. Pump Pricing for 12 VDC Models
Higher Efficiency Models: Pumps 007001PUMOP12V and 007002PUMOP12V are priced higher than GEN003PUMOP12V and GEN004PUMOP12V due to their design, which incorporates concepts from larger centrifugal pumps. These models offer slightly higher efficiency.
Waterproof Models: While GEN003PUMOP12V and GEN004PUMOP12V are more affordable, they still offer excellent performance and feature full waterproofing, making them reliable choices for most installations.

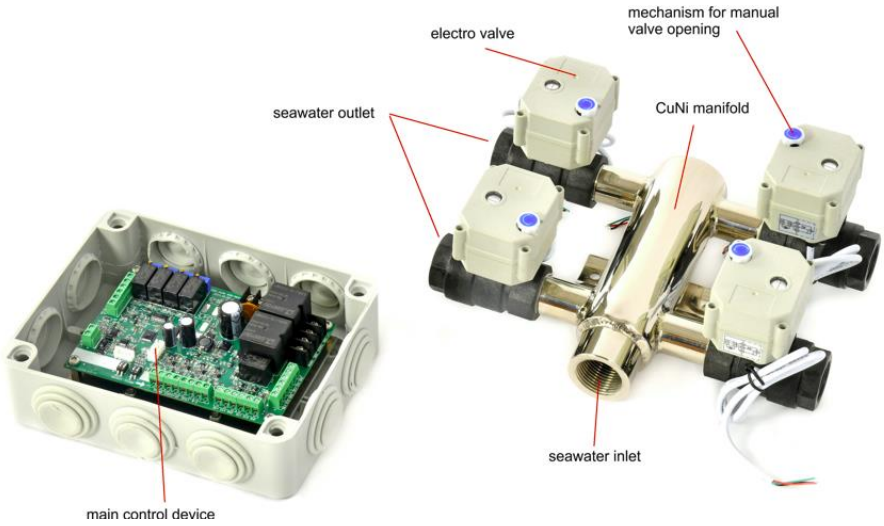
7. Pump Control Box for Multiple AC Units
Item: GEN001BXROP
Purpose: The control box is essential when using a single pump to serve multiple AC units (1-4 units). For installations with multiple units, it is recommended to purchase this control box in conjunction with a pump potentiometer. For wiring, refer to schematic E in the Blue-Airco Use & Installation Manual.

8. Pump Control Box with Potentiometer for Single AC Unit (12 VDC)
Item: GEN001BRPOP12V
Description: This control box is designed for a single 12 VDC AC unit. It includes both a potentiometer and a relay. This box is suitable for the 007002PUMOP12V and GEN004PUMOP12V pumps. However, it is **not compatible** with the GEN003PUMOP12V, which does not require a potentiometer. For wiring, refer to schematic D in the Blue-Airco Use & Installation Manual.

9. Single AC Unit Pump Installation with GEN003 Models
Pump Models: GEN003PUMOP12V and GEN003PUMOP24V
When installing a GEN003 pump for a single AC unit, a relay must be installed to power the pump from the batteries. The relay will receive the signal from the AC unit (via dry contact on the terminal board) and power from the batteries.
For wiring, refer to schematic A in the Blue-Airco Use & Installation Manual.
Alternatively, the PUMP CONTROL BOX (GEN001BXROP) can be used, even if only one AC unit is connected.

10. Example of Pump Selection for a Single Self-Contained 12 VDC Unit
Here are three options for selecting a pump for a single 12 VDC unit:
Most Affordable: One GEN003PUMOP12V pump (54W input power).
Intermediate Option: One GEN004PUMOP12V pump with a potentiometer, allowing lower power consumption (30-40W instead of 54W).
Most Efficient: One 007002PUMOP12V pump with a potentiometer, providing the lowest power consumption (25-40W instead of 54W).

11. EFFICIENT FLOW AC CONTROLLER



For multiple air conditioning units (specifically 3 or 4 units), this option is recommended to save energy from the pump. You can connect one or two pumps—one as a spare and one in operation.

In this configuration, the potentiometer GEN002PUMOP and the pump control box GEN001BXROP are not necessary.