



AirPLUS / AirONE / AirS / AirBLUE / AirDUCT  
Aircooled Scroll Chillers //2019

# Features

## // Simple and reliable

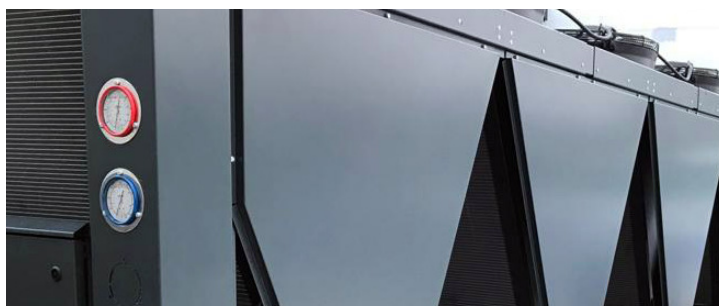
Our units are designed for long and stable operation and excellent performance. We have used only high quality compressors and other components. And design is optimised to be as simple as possible.

These product lines was created as a result of step-by-step development based on field experience. Choosing our units you will have all what you need for you cooling plant. And you will be sure in operation without failures. Thanks to our advanced and simple design.



## // Wide range of options and versions

All buildings and all cooling plants are different. We have developed the equipment that may be used in any of them due to options and versions. Working with us you will have an opportunity to choose the configuration what suits your individual case.



## // Advanced control

Controls of our units is simple but advanced. All critical parameters are controlled by latest versions of controller software. Controller optimise energy consumption, protects compressor and circuit components from ivalid operation.

You can connect our units to building management system and receieve all the information to your building's service monitor.

You can also use our controller to control the complete cooling plant with pumps, valves etc. without any additional control systems. Thus reducing your installation costs.



## // Choose refrigerant

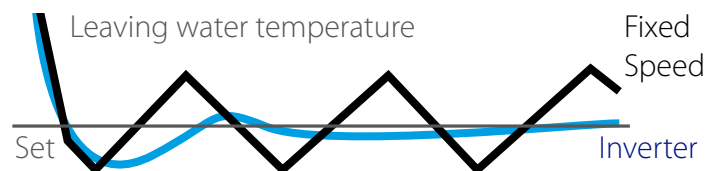
HFC refrigerants with high GWP (Global warming potential) are subject to phase out. The unit will work for a long period. And you need to consider what refrigerants will be available in the future. You can choose old HFC refrigerant (R410a) or new low GWP mildly flammable refrigerants R32 or R454B.



**R410A** **R32** **R454B**  
GWP2088      GWP675      GWP466

## // Choose inverter or fixed speed compressor

You can choose units with step or continuous capacity regulation. The more steps you have the more smooth is the supply liquid temperature. Inverter units not only better in regulation but also more energy efficient. And also consider the number of circuits for right stability level.



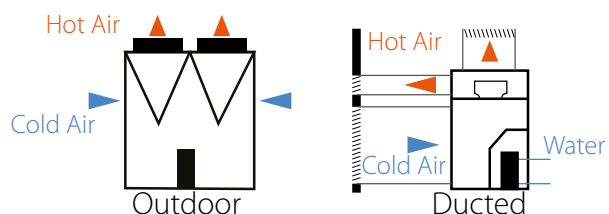
## // Choose «cooling only» or «freecooling» or «reversible heatpump» unit

If you would like to chill the liquid in the wintertime consider Freecooling. You will decrease the electrical consumption. And if you would like not only chill but also heat water consider reversible heatpump version. See also NordicLIGHT heatpumps catalogue if heating is the main purpose.



## // Choose outdoor or ducted installation

Usually units are installed outdoor. But indoor installation is interesting if you would like to chill water without brine, or if you would like to use hot air (for space heating). Or just if you can not place the unit outdoor but prefer to use a monoblock unit.



## // Choose standard or «low ambient» or «high water temperature» version

If you need to operate the unit in the wintertime without freecooling it's not a problem, we have options for up to -35°C ambient. Such our units work in Nordic Finland, Sweden and Russia all year around. If you need to chill hot water (>25°C) you can choose special options that allow to do this.



## AirPLUS // Features



### Optimal solution for 120-1500 kW units

- // Small refrigerant charge due to microchannel condensers.
- // High quality scroll compressors, heat exchangers and controllers.
- // Modbus and Electronic Expansion Valve on all units.
- // Totally independent refrigerant circuits on 2 circuit units.
- // No exclusives: only components available on your market.
- // Wide selection of options.
- // Advanced control of the unit and external devices from chiller controller. Possibility to build up to chilled water station. Remote evaporator available on request.
- // Available in R410a or low GWP (R32/R454B) refrigerant versions.
- // Plastic (PVC) or stainless steel pipes on request for operation without corrosion.

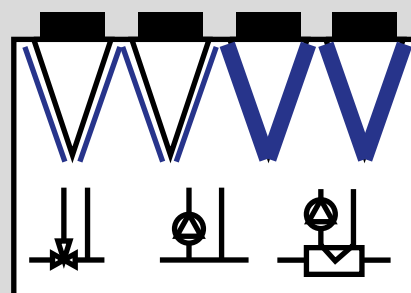
#### Key available options:

Inverter or On-Off pump and tank kits \\ Low temperature compressor operation at ambient down to  $-35^{\circ}\text{C}$  \\ EC Fans \\ Axitop-type diffusers \\ Coils e-coating \\ Touchscreen display \\ LON, BACnet \\ Heat recovery \\ Soft start \\ etc.

### Freecooling options

Freecooling options allow to chill fluids directly by air without compressors. Thus the electric consumption may be decreased significantly if you operate the unit in low ambient temperatures and fluid temperature is high. Airplus product line offers wide range of possible freecooling solutions. Thanks to large Felzer experience in this field.

Dependent from  
condensers      Independent  
from condensers



3-way valve  
(standard)      Pump  
(on request)      Glycol free  
(on request)





### Units with vertical condensers

- // Small refrigerant charge due to microchannel condensers\*.
- // High quality scroll compressors, heat exchangers and controllers.
- // No exclusives: only components available on your market.
- // Wide selection of options.
- // Advanced control of the unit and external devices from chiller controller. Possibility to build up to chilled water station. Remote evaporator available on request.
- // Available in R410a or low GWP (R32/R454B) refrigerant versions.
- // Plastic (PVC) or stainless steel pipes on request for operation without corrosion.

\* - High capacity Ducted units are supplied with Copper-Aluminium coils with small DN copper tubes.

#### Key available options:

Inverter or On-Off pump and tank kits \\ Electronic expansion valve \\ Low temperature compressor operation at ambient down to -35°C \\ EC Fans \\ Axitop-type diffusors \\ Coils e-coating \\ Touchscreen display \\ LON, BACnet, Modbus \\ Heat recovery \\ Soft start \\ etc.

**Freecooling from 20kW** // All models (including ducted) are available as freecooling chillers.

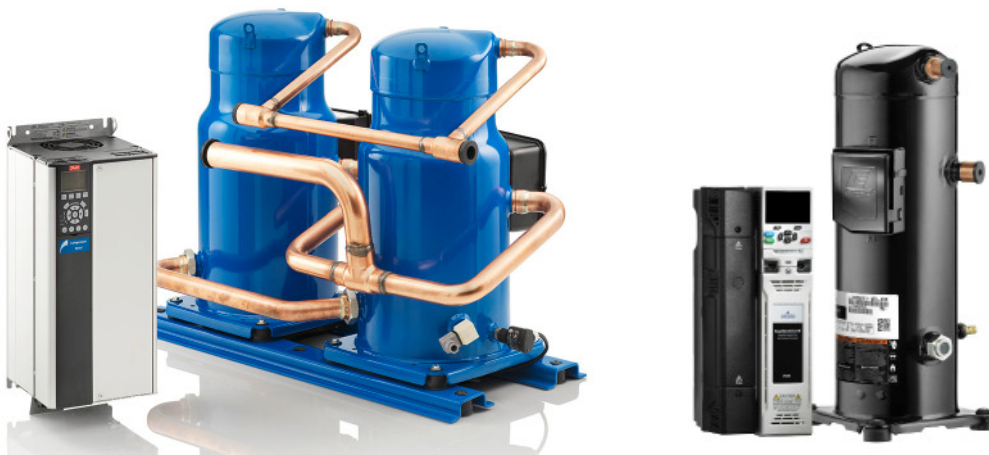
**Compressors operation down to -35°C option** // All models (including ducted) are available with liquid line modification and flooded condenser operation features.

**Inverter pumps, tanks, coatings and other options starting from 20kW** // All options usually used on large chillers may be ordered for small chillers.

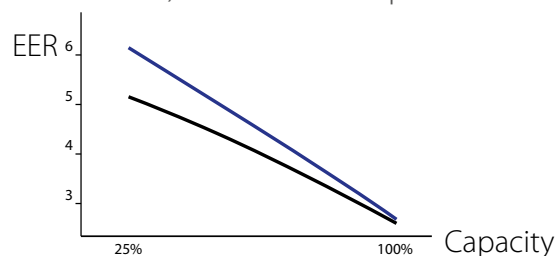
**Ducts connection with vertical and horizontal flow. External actuator control available** // All ducted units may be connected to vertical or horizontal ducts or both. External actuators may be controlled from controller.

## AirBLUE // Features

*Allinverter Chillers, Capacity of each circuit continuously controlled from 30% to 100%*



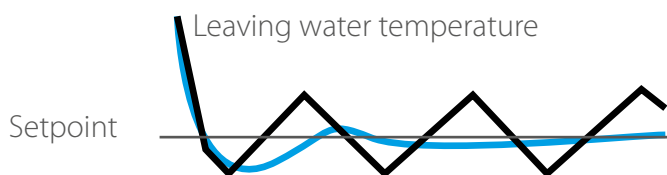
// Increased part-load efficiency (compare to fixed speed compressor or fixed speed + single inverter compressor units). ErP 2021 compliant.



Inverter compressors chiller EER in part load.

Fixed Speed compressors chiller EER in part load.

// Exact temperature setpoint control



Fixed Speed compressors start and stop in stages close to required capacity. Each start/stop = energy losses.

Inverter compressor reaches exactly the required capacity.

// Each compressor is in a separate circuit. All compressors are inverter driven.

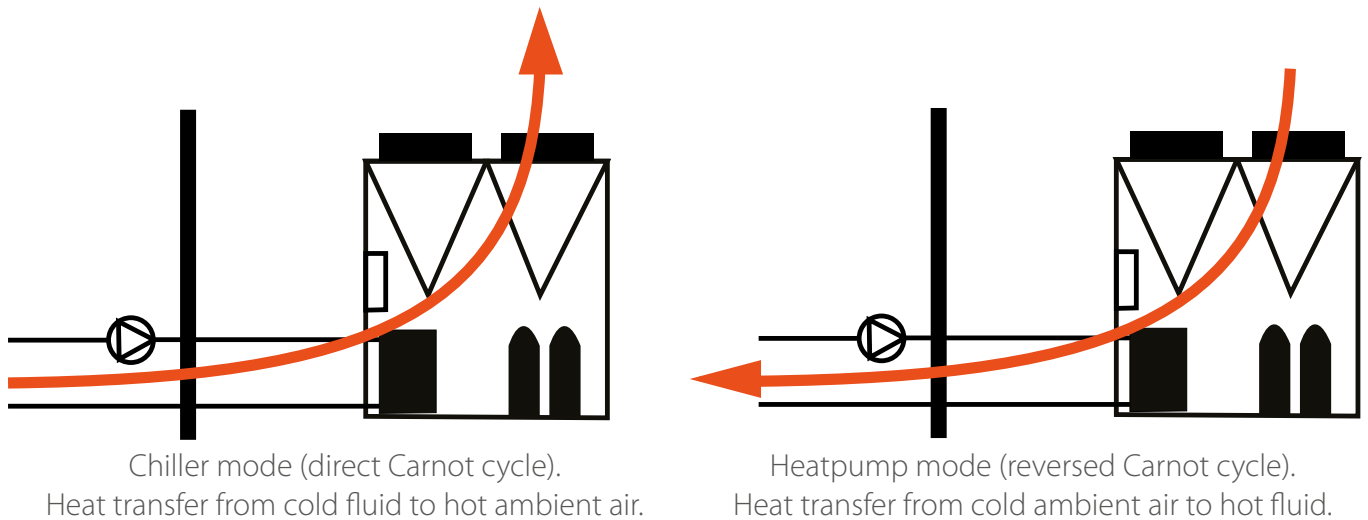
// Models from 33 to 450 kW

// High quality scroll compressors, heat exchangers and controllers.

// No exclusives: only components available on your market.

// Wide selection of options. The same as for AirPLUS, AirONE and AirS.

## Reversible chillers & heatpumps // Features



// HP (reversible) versions of AirPLUS, AirONE, AirS & AirDUCT chillers are optimal solutions for interseason heating or for the countries with warm winters.

Consider NordicLIGHT air to water special heatpumps as an alternative if heating is primary purpose with ambient temperatures down to -20°C.

**Low refrigerant charge** // Coils are designed based on small DN pipes to reduce refrigerant charge.

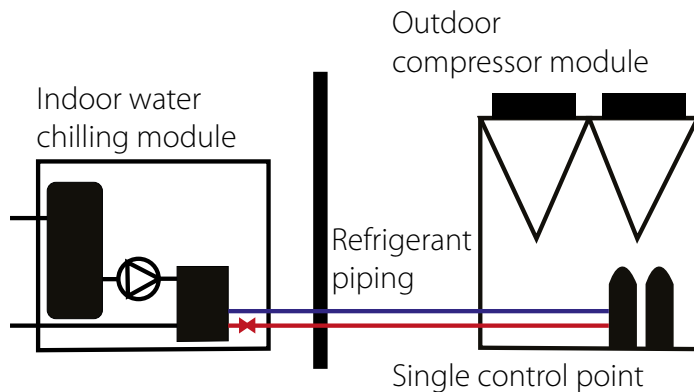
**Chilling as efficient as nonreversible chillers** // The units are designed as chillers. The components are selected in the way that in chiller mode the efficiency is the same as standard chillers.

**Heat recovery as an option** // Heat recovery in chiller mode is a good solution for chillers used for AHU in humidity control mode and for other application.

**Pools friendly piping as an option** // Special piping (PVC) and stainless steel pumps can be used on request for pools heating application.

## Options on request

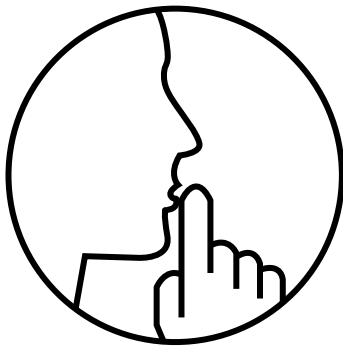
### // Remote evaporator and hydraulic module



In the most of northern Europe regions the brine is required for outdoor installation. But you can chill water directly if buy remote evaporator units from us. You need to install refrigerant piping between two modules supplied from us - outdoor and indoor. Like in residential air conditioner. And the indoor module will chill the water directly.

Indoor modules are available with pumps, tanks, 3-way valves (for chilled beams). Also VWF (variable water flow) system is available to allow assembly of all the fancoils in the system on 2-way valves and energy consumption reduction. Everithing is Plug-And-Play and controlled from single controller.

### // Low noise



If you have noise restrictions we can offer several noise reduction options. Including compressor sound reducing boxes, low speed fans etc. The units can be configured according to your needs.

### // Increased efficiency and efficiency to local standards



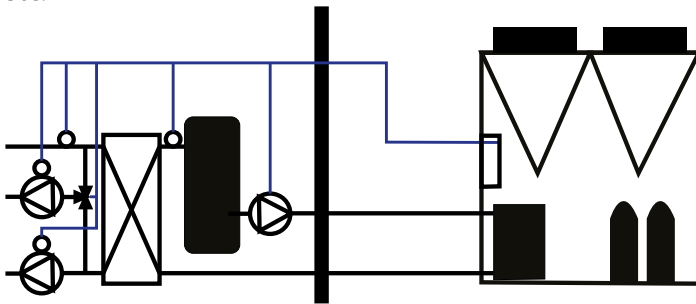
Basic models was optimized considering price to efficiency ratio. But if you would like to reach higher efficiency levels or if you have some restrictions (fans consumption to condenser capacity ratio, etc.) we can configure basic models, changing evaporators, condensers and fans to your requirements and offer them on request. Thanks to modular design such changes does not seriously affect price and delivery time.



## // Plant control from chiller

Pump and fans  
contactors & inverter,  
valve actuators, sensors  
etc.

Chiller controller



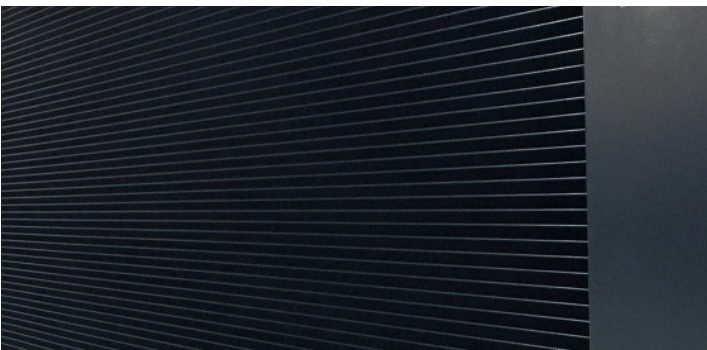
The most of cooling systems components can be controlled from our chiller controller. And thus you will eliminate the need for BMS. Reduce cost. And receive reliable solution as our engineers have very big and wide experience in cooling plant control. Inverter and fixed speed pumps, valve actuators, etc. can be controlled from digital or analogue outputs of our units controller. Pressure and temperature sensors, flow switches, leak detectors etc. can be connected to its analogue and digital inputs. You can also receive different signals from our unit to plant control monitor. So if you would like to decrease costs you can agree additional control functions during design and order.

## // Shell and tube heat exchanger



On some installations the water quality or other conditions require shell and tube evaporator instead of standard brazed plate heat exchanger. You can order it on request.

## // Anti corrosion options: Coatings for coils \ Stainless steel cabinet and pipes \ All copper coils \ Stainless steel pipes \ PVC pipes



If you place the unit near the sea, or on the ship, or in industrial aggressive area we can configure it to be corrosion proof. Thanks to our own cabinet metal production and paint, the cabinets can be produced from stainless steel. And painted in special paint. The coils can be e-coated. Or you can order on request copper-aluminium or all copper coils. Stainless steel piping can be used on both water and refrigerant side.



## Product range // R410a // AirONE // AirS

[illegible][illegible]

## Product range // R410a // AirBLUE



// Each circuit is equipped with single inverter scroll compressor.

// Each compressor may operate in a range from 25 to 100 Hz.

// Choosing the size for your project mind that efficiency of inverter scroll compressors on full load at reduced Hz is higher than at 100Hz. Oversized chiller may be more energy efficient.

AirBLUE	11.1iN	15.1iN	18.1iN	26.1iN	26.1EiN	36.2iN	52.2iN	52.2EiN	54.3iN	72.4iN	78.3EiN	104.4EiN	130.5EiN
<b>Cooling capacities (at 100 Hz). System water 12/7°C, Ambient air temperature +35°C</b>													
Cooling capacity, kW	33,3	49,8	57,4	81,6	85,1	115	163	170	172	230	255	340	425
Power input, kW	11,7	16,9	19,7	31,5	28,8	39	63	58	59	79	86	115	144
EER	2,85	2,95	2,91	2,59	2,96	2,91	2,59	2,96	2,91	2,91	2,96	2,96	2,96
<b>Product data</b>													
Number of circuits	1	1	1	1	1	2	2	2	3	4	3	4	5
Number of compressors	1	1	1	1	1	2	2	2	3	4	3	4	5
Number of fans	1	1	1	2	2	2	4	4	3	4	6	8	10
Length, m	1,6	2,2	2,2	2,2	2,22	2,22	2,2	2,42	2,42	2,42	3,63	4,84	6,05
Width, m	1	1,1	1,1	1,1	1,21	1,21	2,00	2,22	2,22	2,22	2,22	2,22	2,22
Height, m	1,6	1,5	1,5	1,5	2,3	2,3	1,5	2,3	2,3	2,3	2,3	2,3	2,3

& R32 - R454B // AirDUCT



tor is separated from airflow.

- of external actuators for dumpers

[illegible]





Product range // R32 - R454B // AirONE3 // AirS3

AirS3	10.1	12.1	13.1	15.1		AirONE3	20.2	24.2
Cooling capacities R32 (GWP 675). System water 12/7°C, Ambient air temperature +35°C								
Cooling capacity, kW	29	32	36	43			57	65
Power input, kW	10	11	13	15			20	22
EER	2,76	2,84	2,89	2,89			2,90	3,00
Cooling capacities R454B (GWP 466). System water 12/7°C, Ambient air temperature +35°C								
Cooling capacity, kW	26	29	32	38			51	57
Power input, kW	9	10	11	13			17	18
EER	2,81	2,93	2,94	2,92			3,05	3,18
Product data								
Number of circuits	1	1	1	1			2	2
Number of compressors / steps	1	1	1	1			1	1
Number of fans	1	1	1	1			1	1
Lenght, m	1,1	1,6	1,6	1,6			1,8	2,2
Width, m	1	1	1	1			1,1	1,1
Hight, m	1,6	1,6	1,6	1,6			1,49	1,49

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