



# AlphaChill Plus

Scalable Chiller and Heat Pump

115kW–268kW

# AlphaChill Plus

AlphaChill Plus™ is Airedale's range of compact, high efficiency reversible heat pumps, designed with a slightly larger capacity to complement the AlphaChill range. AlphaChill Plus offers partial heat recovery, and is part of our more sustainable range of cooling and heating solutions, offering efficient performance using refrigerant R32 (GWP 675).

AlphaChill Plus is a flexible solution, scalable to fit your project needs now and in the future. Connect up to 8 units in a local cooling/heating network.



## Capacities

From:

**115 to 268kW**



## Water Production

Chilled water  
down to: **-8°C**

Domestic hot  
water up to: **60°C**



## High Seasonal Efficiencies

SEER up to: **5.31**

EER up to: **3.35**



## Silent Operation

Silent mode: **-4dB**

Super silent  
mode for night  
operation: **-8dB**

# Sustainable as standard

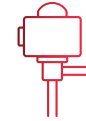
At Airedale, we believe that energy efficiency should be driven not only by legislation, but by a genuine will to reduce air conditioning's cost to our customers and the environment. As part of this commitment, the AlphaChill range includes the following energy saving technologies as standard:



## Climatic Compensation

**Cooling:**  
If ambient temperature increases, the outlet water set point automatically decreases to deliver a higher cooling capacity.

**Heating:**  
If ambient temperature decreases, heating capacity supplied will automatically increase.



## Electronic Expansion Valve

- Included on all units as standard
- Quickly and precisely adapts to the effective load required
- Provides significant energy savings that can result in an EER (energy efficiency ratio) increase of up to 30%



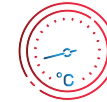
## Scroll/rotary compressors

- Inverter technology means output precisely matches energy demand
- Optimised for part load efficiencies
- Start-up time is reduced
- Comfort conditions achieved more quickly
- Lower levels of temperature fluctuation



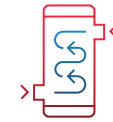
## High Efficiencies

- SEER up to 5.31
- EER up to 3.35
- Class A Eurovent



## Microchannel Coil (cooling only)

Up to 30% reduction in the refrigerant charge compared to traditional coils.



## Heat Exchanger

Plate heat exchanger delivers large exchange surfaces to maximise thermal efficiency.



## Water Production

Chilled water down to  $-8^{\circ}\text{C}$   
Domestic hot water up to  $60^{\circ}\text{C}$



## Scalable

Connect up to 8 units in a local cooling/heating network



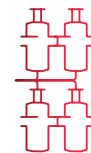
## Ambient Operation

Cooling:  $-20^{\circ}\text{C}$  to  $46^{\circ}\text{C}$   
Heat Pump:  $-15^{\circ}\text{C}$  to  $44^{\circ}\text{C}$



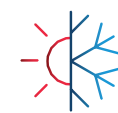
## Refrigerant R32

- Lower GWP of 675
- Zero ODP
- 16% less refrigerant volume per kW when compared to R410A
- In line with F-Gas phase-down regulations
- A2L rated - low toxicity and lower flammability
- Eligible for 2 BREEAM points due to lower carbon footprint



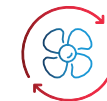
## Pump Options

- Reduction in footprint, set-up time and costs
- Integrated hydronic assembly
- On/off or inverter pump
- System tank for improved control and stability



## Free Cooling Technology

Alpha Chill Plus Free Cooling allows the system to operate without mechanical intervention, significantly reducing energy consumption. The unit can operate in a blend of full free cooling, part free cooling and mechanical cooling, depending on the ambient temperature.



## DC Inverter Fan

Brushless fan motors, designed with CFD technology, ensuring silent and highly efficient operation.



## Partial Heat Recovery

The unit is able to recover approximately 24% of the heat rejected with user-activated controls.

# AlphaChill Plus Controls

## Controls

The inbuilt, pre-programmed controller offers:

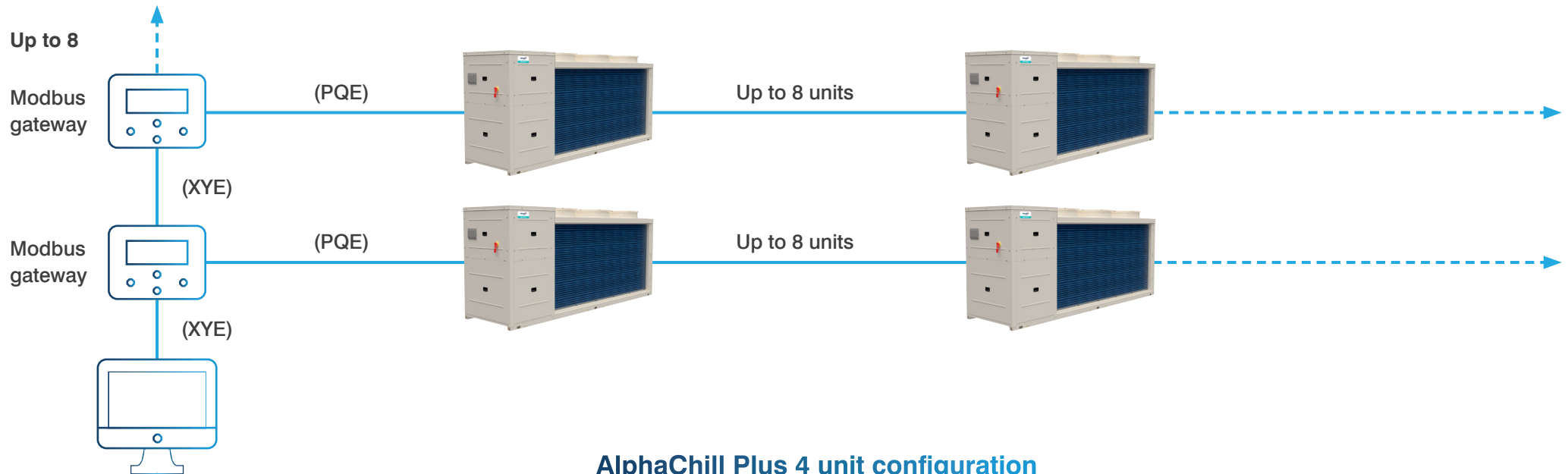
- Auto-restart function
- Timer on/off setting; day/weekly schedule
- Display components status
- Alarm management and set point adjustment
- Two multi-authorisation control levels
- Modbus connection as standard
- Connection of up to 16 units in parallel
- Suitable for remote use
- Climatic compensation with outdoor air temperature

## Scalable Configuration

AlphaChill is available as a scalable system, enabling the management of up to 8 units within a local network, delivering up to 1864kW of installed capacity. This scalable system is easy to connect and activate through the user interface and can be operated by a building management system, as a result of the Modbus connection that comes as standard.

## Benefits include:

- Improved system efficiency due to balanced load across multiple units
- Extended compressor lifespan, due to duty cycling of the units in a multiple-unit system
- Redundancy – if one unit fails, the other modules provide backup
- Simplified handling and installation as a result of standard Modbus connection
- Scalability to suit project demands, and any future change in demand



AlphaChill Plus 4 unit configuration

# AlphaChill Plus Technical and Performance Data

## AlphaChill cooling only and reversible heat pump chiller

The tables opposite detail the model selections available, based on chilled water at 7/12°C in a 35°C ambient and hot water at 40/45°C in a 7°C ambient.

For the free cooling units, cooling is based on +18/+23/+35°C 20% glycol.



### AlphaChill Plus Cooling Only EXC

Range Name	Number of circuits	Nom. cooling capacity	EER	SPL @ 10m	Dimensions (H x W x L)	SEER (gross)	SSCEE compliance (%)	Weight (kg)
ACCO P 45.4	2	110	3.25	52.6	1,900 x 1,200 x 3,310	5.07	200%	925
ACCO P 50.4	2	118	3.10	52.6	1,900 x 1,200 x 3,310	5.05	199%	925
ACCO P 55.4	2	133	2.91	52.6	1,900 x 1,200 x 3,310	4.94	194%	934
ACCO P 60.4	2	142	2.84	52.6	1,900 x 1,200 x 3,310	4.93	194%	934
ACCO P 65.4	2	156	3.14	53.1	1,900 x 1,200 x 4,300	5.25	207%	1135
ACCO P 70.4	2	169	3.12	53.1	1,900 x 1,200 x 4,300	5.24	207%	1135
ACCO P 75.4	2	183	2.89	53.1	1,900 x 1,200 x 4,300	5.19	205%	1160
ACCO P 80.4	2	197	3.35	56.1	1,900 x 1,200 x 4,300	5.34	211%	1160
ACCO P 85.4	2	209	3.23	57.1	1,900 x 1,200 x 4,300	5.31	210%	1160
ACCO P 90.4	2	226	3.08	57.1	1,900 x 1,200 x 4,300	5.28	208%	1160

### AlphaChill Plus Cooling Only PRM

Range Name	Number of circuits	Nom. cooling capacity	EER	SPL @ 10m	Dimensions (H x W x L)	SEER (gross)	SSCEE compliance (%)	Weight (kg)
ACCO P 45.4	2	125	2.85	54.6	1,900 x 1,200 x 3,310	4.76	188%	925
ACCO P 50.4	2	135	2.76	54.6	1,900 x 1,200 x 3,310	4.71	185%	925
ACCO P 55.4	2	143	2.70	54.6	1,900 x 1,200 x 3,310	4.70	185%	934
ACCO P 60.4	2	155	2.66	55.6	1,900 x 1,200 x 3,310	4.77	188%	934
ACCO P 65.4	2	174	2.81	55.1	1,900 x 1,200 x 4,300	4.91	193%	1135
ACCO P 70.4	2	193	2.65	58.1	1,900 x 1,200 x 4,300	4.90	193%	1135
ACCO P 75.4	2	211	2.98	59.1	1,900 x 1,200 x 4,300	5.06	199%	1160
ACCO P 80.4	2	226	2.93	59.1	1,900 x 1,200 x 4,300	5.03	198%	1160
ACCO P 85.4	2	241	3.04	59.1	1,900 x 1,200 x 4,300	5.06	199%	1160
ACCO P 90.4	2	252	2.97	59.1	1,900 x 1,200 x 4,300	5.05	199%	1160

### AlphaChill Plus Heat Pump

Range Name	Circuits	Nom. cooling capacity	EER	Nom. heating capacity	COP	SPL @ 10m	Dimensions (H x W x L)	SEER (gross)	SSCEE (%)	SCOP - W35	SSHEE - W35	SCOP - W55	SSHEE - W55	Weight (kg)
AChP P 45.4	2	115	2.63	118	3.13	53.6	1,900 x 1,200 x 3,310	4.51	178%	4.16	163%	2.97	116%	952
AChP P 50.4	2	127	2.51	130	3.01	53.6	1,900 x 1,200 x 3,310	4.51	178%	4.12	162%	2.88	112%	952
AChP P 55.4	2	139	2.49	150	3.17	54.6	1,900 x 1,200 x 3,310	4.38	172%	4.15	163%	2.96	115%	994
AChP P 60.4	2	152	2.30	170	3.09	54.6	1,900 x 1,200 x 3,310	4.37	172%	4.07	160%	2.88	112%	994
AChP P 65.4	2	164	2.47	190	3.17	57.1	1,900 x 1,200 x 4,300	4.48	176%	4.19	165%	2.93	114%	1,231
AChP P 70.4	2	176	2.36	210	3.1	57.1	1,900 x 1,200 x 4,300	4.45	175%	4.15	163%	2.87	112%	1,231
AChP P 75.4	2	196	2.69	230	3.26	58.1	1,900 x 1,200 x 4,300	4.48	176%	4.22	166%	2.99	117%	1,334
AChP P 80.4	2	215	2.53	250	3.14	58.1	1,900 x 1,200 x 4,300	4.45	175%	4.16	163%	2.95	115%	1,334
AChP P 85.4	2	233	2.38	268	3.02	58.1	1,900 x 1,200 x 4,300	4.42	174%	4.11	161%	2.93	114%	1,334

### AlphaChill Plus Freecool EXC/PRM versions

Range Name	Circuits	Nom. cooling capacity	EER	Free Cooling @ +5°C	SPL @ 10m	Dimensions (H x W x L)	SEER (gross)	SSCEE (%)	SEPR	Weight (kg)
ACFC P 45.4	2	129	4.17	129	52.6	1,900 x 1,200 x 3,310	4.72	186%	6.01	1322
ACFC P 50.4	2	142	4.05	142	52.6	1,900 x 1,200 x 3,310	4.71	185%	5.99	1322
ACFC P 55.4	2	157	3.70	157	52.6	1,900 x 1,200 x 3,310	4.71	185%	5.90	1322
ACFC P 60.4	2	176	4.35	176	55.1	1,900 x 1,200 x 4,300	4.94	195%	6.18	1322
ACFC P 65.4	2	197	4.16	197	55.1	1,900 x 1,200 x 4,300	4.93	194%	6.15	1795
ACFC P 70.4	2	222	3.94	222	56.1	1,900 x 1,200 x 4,300	4.88	192%	6.10	1795
ACFC P 75.4	2	225	4.13	225	57.1	1,900 x 1,200 x 4,300	4.93	194%	6.17	1855
ACFC P 80.4	2	243	3.93	243	57.1	1,900 x 1,200 x 4,300	4.91	194%	6.14	1855
ACFC P 85.4	2	262	3.84	262	57.1	1,900 x 1,200 x 4,300	4.83	190%	6.04	1855
ACFC P 90.4	2	282	3.46	282	57.1	1,900 x 1,200 x 4,300	4.81	190%	6.01	1855

Cooling based on +18/+23/+35°C 20% glycol

# We are there when you need us

## Life cycle support for critical cooling

Our UK based 24/7 emergency helpline and call out service is available 365 days of the year, ensuring that we are always on hand to provide expert advice and immediate help, day or night. Guaranteed emergency response times mean that a qualified Airedale engineer will be with you in an agreed timeframe, therefore maximising your system's uptime.

For non-UK clients, we offer a service partner network across Europe and the Middle East.

## Choose the right service and maintenance contract for you

Our air conditioning service plans offer a preventative air conditioning maintenance service solution to improve system resilience and increase the longevity of your cooling system.

Planned maintenance not only assists in preventing unit breakdowns in business-critical environments, but also helps to improve energy efficiency and enhance system optimisation for improved performance. Over the life cycle of the product this can lead to reduced running costs, improved carbon footprint and quicker returns on investment.

## Unrivalled spares service

With approximately £3 million worth of stock on site at its Leeds headquarters, Airedale is the UK's largest stockist for air conditioning parts and specialist HVAC spares and can deliver worldwide.



Vodafone data  
centre update

*“Reliability and the level of service that Airedale offers are key issues for a business critical location such as this. The project ran very smoothly.”*



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