

# Hybrid PCAir ACWDX-1 For Cat C Aircraft



- ATES Hybrid PCAir are self-contained units electric powered, automatically controlled, to provide cooled and hot air to parked aircraft.
- First cooling stage utilizes chilled water to eliminate most of the condensate and provides two thirds of the total cooling power.
- Second and eventual third stages are Direct Expansion with Scroll compressors to bring the output air up to  $-4^{\circ}$  C.
- Refrigerated water going out from first stage is the cooling media of DX condensers at low temperature and high efficiency.
- Hybrid PCAir units have higher EER and lower noise, compared with equivalent air to air PCAir units.
- Hybrid PCAir units are well performing in hot climates typical of ME and Asia.
- The central water system capacity design optimisation shall take in consideration different contemporary factors like aircraft presence at gates, passengers load factor, different cooling loads during aircraft presence at gate.
- Optional heating pump circuit.



# ACWDX-1 Specifications

Nominal air flow	120 Kg/min
Air flow range	60-100%
Air pressure at unit exhaust	8.000 Pa
Blower motor power	22 kW
Scroll compressor Nb	2 in tandem
Nb of DX cooling stages	1
Total Nb of cooling stages	2
Refrigerating gas	R410a
Nb of electric heating stages	2 - 60 kW (optional)
Input power	400 V +/-10% / 50 Hz
Design summer ambient conditions	35° C 50% R.H.
Design winter ambient conditions	-2° C 100% R.H.
Working temperature range	-15° C /+ 50° C

## Cooling performances

### Refrigerated water cooling circuit

Water flow	250 l/min
Water inlet temperature	+7° C
Water outlet temperature	+17 C
Water inlet pressure	3 bar
Pressure losses in the hydraulic circuit	2 bar
Cooling power of water coil	85 kW

### DX stages

DX cooling stage capacity	50 kW
<b>Total cooling capacity</b>	<b>135 kW</b>
<b>Maximum input power</b>	<b>35,5 kW</b>
<b>Air outlet temperature</b>	<b>-2° C</b>
<b>EER in cooling mode</b>	<b>3,80</b>

### Performances in heating mode (optional)

Nominal capacity heat pump mode	60 kW
Air outlet temperature with 0° C and 100% R.H.	50° C
Heating mode air flow	80 Kg / min
Input power in heating mode	34 kW
<b>COP heat pump</b>	<b>1,76</b>

### Noise level

Cooling	75 dbA at 1 m
Heating	72 dbA at 1 m

### Main features

Digital regulation  
VFD on blower  
Cabin temperature probe  
Condensate water pump  
Remote control at boogie  
Control box protection IP 65  
Water pressure boost pump ( optional )

### Weight and dimensions

Length 4000 mm; Width 2230 mm; Height (with foot ) 1900 mm; Weight 3500 kg

### Codes and standards

Machine Directory	2006/42/CE
EMI	2004/108/CE
Radio & Communications	99/5/CE
Safety	EN 12100-1 e -2
Electrical Safety	EN 60/204

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