Airedale
APPLIED THERMAL INNOVATION

SmartCool

SC12D023-X200-0

General Information

Design Conditions	
Air On Temperature (°C)	24.0
Air On Relative Humidity (%)	45.0
Air Off Temperature (°C)	12.0
Design Ambient Temperature (°C)	32.0
Primary Cooling Inlet Fluid Temperature (°C)	N/A
Primary Cooling ΔT	N/A
Fluid Type	N/A
Glycol Concentration (%)	N/A
Capacity (DX)	
Gross Total Cooling (kW)	29.0
Gross Sensible Cooling (kW)	28.8
Sensible Heat Ratio	0.99
System Power Input (kW)	8.62
Indoor Unit Gross Sensible EER	3.81
System Gross Sensible EER	3.34
Capacity Steps	2
Circuit 1 Evaporating Temperature (°C)	9.1
Circuit 1 Condensing Temperature (°C)	41.4
Circuit 2 Evaporating Temperature (°C)	N/A
Circuit 2 Condensing Temperature (°C)	N/A
Capacity (CW)	
Gross Total Cooling (kW)	N/A
Gross Sensible Cooling (kW)	N/A
Sensible Heat Ratio	N/A
Indoor Unit Power Input (kW)	
Indoor Unit Gross Sensible EER	N/A
System Gross Sensible EER	N/A
Dimensions – W x D x H (mm)	1200 x 890 x 1980
Dry Mass (kg)	400
Installation Mass (kg)	406
Construction	
Material/Colour	Panels: Galvanised Sheet Steel, Epoxy Baked Powder Paint – Black Grey (RAL 7021), Frame: Anodised Aluminium Frame with aluminium corners, Epoxy baked Powder Coated Paint - Black Grey (RAL 7021).

Air

Selected Airflow (m³/s)	1.95
Selected ESP (Pa)	25.0
Fan Speed (rpm)	1080
Total Fan Input Power (kW)	0.74
Fan Motor	Backward Curved, Centrifugal direct drive
Motor Type	EC
Quantity	1
Standard Motor Size (kW)	2.9
Upgraded Motor Size (kW)	3.5
Filtration	
Specification	Disposable to BS EN ISO 16890 - ISO-C-75
Quantity	6.0
Humidifier	
Capacity (kg/hr)	3.0
Drain pump flow rate (l/s)	7.0
Feed/Drain	3/4" BSPF Braided flexible hose / 19mm hose connection
Condensate Drain Hose (mm)	22
Insulation	
Door and Panel Insulation	Fitted as standard
Fan Enclosure Insulation	Required, please add header 9564592 to the job
Hot Water Condensate Pump	
Head (m)	10.8
Flow (l/s)	5.0
Drain	10mm stainless steel stub connection
Cold Water Condensate Pump	
Head (m)	4.0
Flow (l/s)	1.7
Drain	10mm quarter turn plastic 'barb' connection
Maximum Available Electric Heating (Total) (kW)	7.5

Refrigeration

Refrigeration	
No. of DX Circuits	1
Refrigerant control and type	Electronic Expansion Valve
Refrigerant type	R410A
Holding Charge	Inert Gas
Charge (per circuit) (kg)	2.9

Evaporator	Rifled Copper Tube/Turbulated Hydrophilic Coated Aluminium Fins
Cooling/Dehum Stages	2/1
Compressor – Scroll	
Configuration	Single Circuit – Tandem Compressors
Quantity	2
Oil Charge Volume (l)	1.2
Oil Type	POE
Circuit 1 Compressor 1 Speed (rps)	N/A
Circuit 1 Compressor 2 Speed (rps)	N/A
Circuit 2 Compressor 1 Speed (rps)	N/A
Circuit 2 Compressor 2 Speed (rps)	N/A
Connections	
Liquid (sweat) (")	1/2
Discharge (sweat) (")	5/8

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Water

Water-Cooled Condenser	
Standard Water Volume (per condenser) (l)	N/A
Upgraded Water Volume (per condenser) (l)	N/A
CW Coil	N/A
Water Volume (l)	N/A
Flow Rate (l/s)	N/A
Pressure Drop (kPa)	N/A
Unit	
Water Volume (l)	N/A
Flow Rate (l/s)	N/A
Pressure Drop (kPa)	N/A
Connections	N/A
Inlet (mm)	N/A
Outlet (mm)	N/A

Outdoor Unit

Outdoor Unit Match	1 x CR65-0 / Circuit
Type	Air-Cooled Condenser
Dimensions – W x D x H (mm)	
Horizontal Airflow Configuration	2184 x 1000 x 1167
Vertical Airflow Configuration	2184 x 1167 x 1130
Dry Mass (kg)	184
Construction	
Material/Colour	Galvanised sheet steel coated with epoxy baked powder paint, Light Grey (RAL 7035).
Fan Selection	AC axial
Fan Speed (rpm)	885
Fan Power (kW)	1.1
Water Volume (l)	N/A
Flow Rate (l/s)	N/A
Pressure Drop (kPa)	N/A

Electrical Data

Electrical Supply Data	
Power Supply	400V / 3P + N / 50Hz
Nominal Run Amps (A)	28.6
Maximum Start Amps (A)	75.1
Recommended Mains Fuse (A)	40.0
Evaporator Fan(s)	
Selection	Standard
Motor Rating / Motor (kW)	3.1
Quantity	1
Full Load Amps / Motor (A)	5.00
Full Load Amps / Unit (A)	5.00
Compressor(s)	
Motor Rating (kW)	4.21
Nominal Run Amps (A)	7.10
Locked Rotor Amps (A)	52.0
Humidifier	
Capacity (kg/hr)	3.0
Rating (kW)	2.25
Full Load Amps (A)	3.30
Electric Heating	
Capacity (kW)	7.5
Current Per Phase (A)	10.83
Outdoor Unit Fan(s)	
Selection	Larger
Motor Rating / Motor (kW)	0.6
Quantity	2
Full Load Amps / Motor (A)	2.60
Locked Rotor Amps / Motor (A)	9.20
Full Load Amps / Unit (A)	5.20

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Noise Data

Sound Power

	Overall dBA	63Hz	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	8000Hz
					dB				
Case Breakout	76.7	58.5	60.7	53.9	53.0	53.1	70.7	70.9	73.0
Supply Air	90.0	80.7	80.6	77.7	78.3	75.7	86.5	82.8	81.1
Return Air	87.7	95.3	84.5	83.1	77.5	70.9	82.2	82.5	79.8

Sound Pressure

	Overall dBA	63Hz	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	8000Hz
					dB				
Case Breakout @ 3m	65.6	47.4	49.6	42.9	42.0	42.0	59.6	59.9	62.0
Supply Air @ 3m	79.0	69.7	69.6	66.7	67.2	64.7	75.5	71.8	70.1
Return Air @ 3m	76.7	84.3	73.5	72.1	66.5	59.9	71.2	71.5	68.7
Case Breakout @ 2m	71.7	53.5	55.7	48.9	48.0	48.1	65.7	65.9	68.0

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