







CUSTOMER INFORMATION

Company  
 Contact  
 Telephone Number  
 Fax Number
 Project Name
 Quotation Reference Number
 Sales Engineer

ALPHACOOOL SELECTION INFORMATION

Design Air On Dry Bulb Temperature	(°C)	24.0 °C	<input type="checkbox"/> Option Disabled
Design Air On Relative Humidity		50.0%	<input checked="" type="radio"/> Option Disabled
Design Max Summer Ambient Temperature	(°C)	35.0 °C	<input type="radio"/> Option Disabled
Unit Type		AlphaCool Downflow / Condensing Unit System	<input type="radio"/> Option Disabled

COMPUTER PREDICTED PERFORMANCE DATA

System Selected

AHU Model Reference **DF19A-AT**
 Condensing Unit Reference **1 x CUS6**

Cooling Performance

Design Ambient Temperature	(°C)	35.00	
Design Air On Dry Bulb Temperature	(°C)	24.00	
Design Air On Relative Humidity	(%)	50.00	
Unit Airflow	(m³/s)	1.50	
System Gross Total Cooling Capacity	(kW)	16.7	(16.24 kW Nett)
System Gross Sensible Cooling Duty	(kW)	14.0	(13.56 kW Nett)
Unit Sensible Heat Ratio	(-)	0.84	(0.84 Nett)
Compressor Input Power	(kW)	4.54	
Refrigeration System EER	(-)	3.67	
Fan Gains of Std Motor(s)	(kW)	0.44	

Interconnecting Pipework

Equivalent Length	(m)	 11.0
Liquid Line Size		1/2"
Suction Line		7/8"

System Refrigerant Charge/circuit	Indoor Unit (kg)	3.80
	Outdoor Unit (kg)	2.80
	Liquid Line (kg)	1.10

Total Charge/Cct 7.70 kg

CAUTION



The pipe sizes/refrigerant charges quoted are for guidance only. It is the responsibility of the installing contractor/site engineer to check the pipe sizes/refrigerant charge is correct for each system installation and application.

Split systems may require additional oil which should be added to the low pressure side of each compressor.

Design should be in accordance with accepted refrigeration practice to ensure good oil return to the compressor(s) under all normal operating conditions.

DX Upflow and Downflow

TECHNICAL DATA		DF19A-AT
System Gross Total Cooling Capacity	(kW)	16.7
System Gross Sensible Cooling Duty	(kW)	14.0
Capacity Steps		1
Fan Gains of Std Motor(s)	(kW)	0.44
Dimensions/Weights		
H x W x D	(mm)	1940 x 1450 x 800
Operating Weight (nom)	(kg)	368
Construction		
Material / Colour		Galvanised Sheet Steel, Epoxy Baked Powder Paint- Light Grey (RAL 7035)
Evaporator		
Face Area	(m ²)	Rifled Copper Tube / Turbulated Aluminium Fins 0.747
Cooling / Dehum Stages		1 / 1
Fan & Motor		
Motor Size	(kW)	Centrifugal - Designed to 50Pa ESP 0.74
Quantity	(-)	1
Fan Maximum ESP with Standard Motor	(Pa)	50
Airflow	(m ³ /s)	1.50
Speed @ 50Pa ESP	(rpm)	n/a
Speed @ Maximum ESP	(rpm)	n/a
Compressor		
Quantity		Not fitted to DF...A Units
Type		See Cond Unit Data
Oil Charge Volume	(l)	See Cond Unit Data
Oil Type		See Cond Unit Data
Refrigeration		
Refrigeration Control		Single Circuit
Refrigeration Type		Thermostatic Expansion Valve
Holding Charge		R.407C
		Dry Nitrogen
Connections		
Suction	(in)	7/8" Sweat
Liquid	(in)	5/8" Sweat
Copper Drain Stub	(mm)	19
Filtration		
Quantity		Disposable to BS EN 779 – G4 – 97mm Deep 3
Size	(mm)	675 x 435
Optional Extras		
Split Case		
Dimensions - H x W x D	(mm)	N/A
Weight	(kg)	N/A
Electric Heating	(kW)	15.0
Humidifier		
Capacity	(kg/hr)	8
Humidifier Feed / Drain		3/4" BSPF Braided flexible hose / 19mm hose connection
Filters		
High Efficiency Filters		Disposable to BS EN 779 – F6 – 97mm Deep
Pre Filters		Disposable to BS EN 779 – G3 - 22mm Deep
Condensate Pump		
Head	(m)	10.8
Flow	(l/min)	5.0
Drain		10mm S/Steel Stub Connection
Larger Fan Motor Size		
Quantity	(-)	1.1
Maximum ESP	(Pa)	1
Speed @ Maximum ESP	(rpm)	265
Fan Gain	(kW)	855
		1.10
2nd Larger Fan Motor Size		
Quantity	(-)	1.5
Maximum ESP	(Pa)	1
Speed @ Maximum ESP	(rpm)	405
Fan Gain	(kW)	1011
		1.50
Low Pressure Hot Water		
Capacity	(kW)	18.0
Face Area	(m ²)	0.49
Water Flow (nominal)	(l/s)	0.39
LPHW Connection Sizes	(mm)	22

DX Upflow and Downflow

ELECTRICAL DATA		DF19A-AT
Electrical Supply Data		Mains - 400/3/50 (+/- 10%) / Controls - 24VAC (+/- 10%)
Recommended Mains Fuse	(A)	50
Mains Cable Incoming Terminal	(mm ²)	35
Nominal Run Amps	(A)	38.6
Maximum Start Amps	(A)	38.6
Evaporator Fan		
Motor Rating	(kW)	0.7
Full Load Amps	(A)	7.6
Locked Rotor Amps	(A)	19.0
Compressor		
Motor Rating	(kW)	Not fitted to DF...A Units
Nominal Run Amps	(A)	N/A
Locked Rotor Amps	(A)	N/A
Crankcase Heater	(W)	N/A
Humidifier		
Capacity	(kg/hr)	8.0
Rating	(kW)	6.0
Full Load Amps	(A)	8.7
Electric Heat		
Stage of Reheat		2
Number of Elements		6
Capacity	(kW)	15.0
Current Per Phase	(A)	21.8
Optional Extras		
Larger Fan Motor	(kW)	1.1
Full Load Amps	(A)	2.7
Locked Rotor Amps	(A)	16.2
Larger Fan Motor	(kW)	1.5
Full Load Amps	(A)	3.5
Locked Rotor Amps	(A)	21.0

SOUND DATA

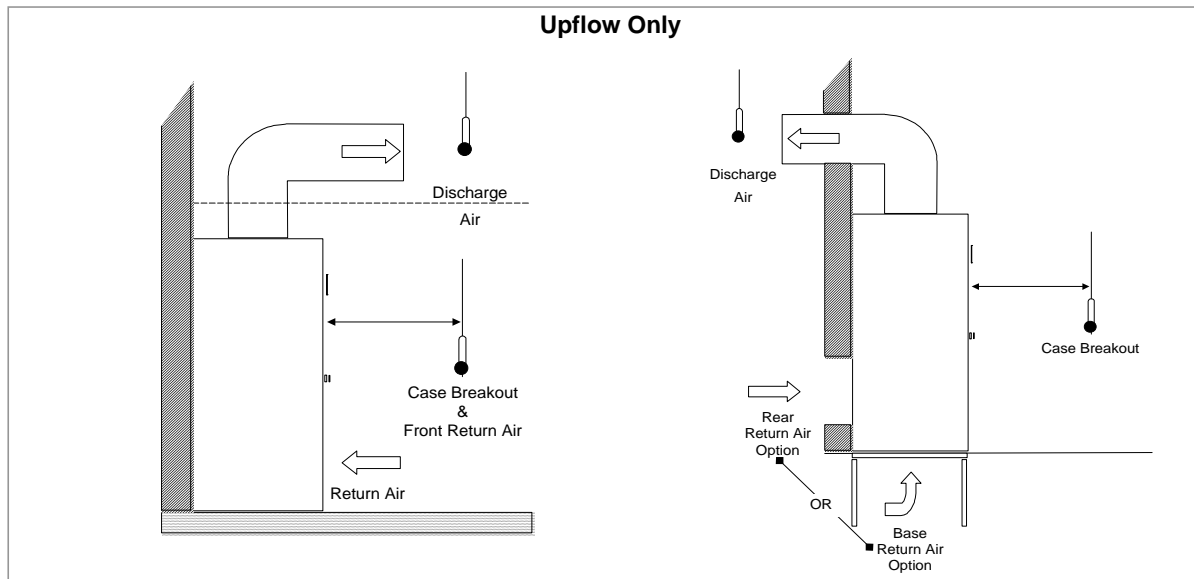
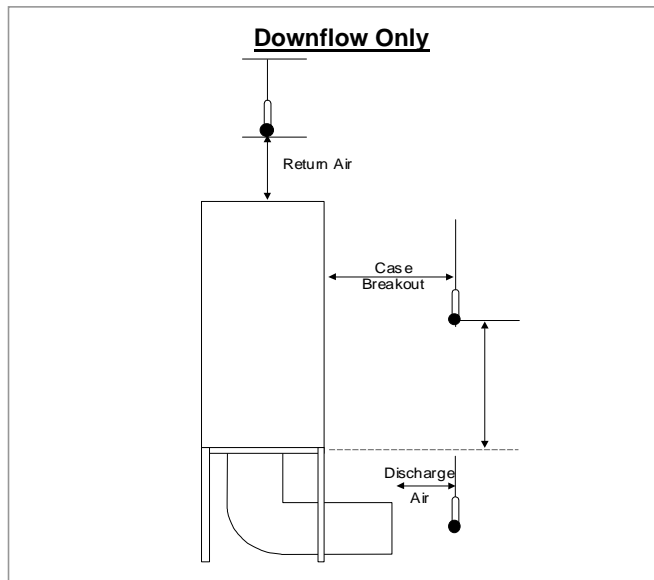
DF19A-AT

Measurement Of Sound Data

All sound data quoted has been measured in the third-octave band limited values, using a Real Time Analyser calibrated sound intensity meter in accordance with BS EN ISO9614 : 1993.

All Sound Power Levels quoted are calculated from measured sound intensity according to BS EN ISO9614 : 1993.

Sound Pressure Levels are calculated from sound power using the semi-hemispherical method where the noise source is in junction with 2 boundaries i.e. the floor and 1 wall.



Downflow Unit Noise Data	Overall dB(A)	Frequency (Hz)							
		63	125	250	500	1k	2k	4k	8k
Discharge Air (Power)	79	71	73	79	78	73	66	64	57
Return Air (Power)	68	73	73	68	64	63	59	54	50
Case Breakout (Power)	58	71	67	61	55	50	44	36	29
Sound @ 3m (Pressure)	43	56	52	47	40	36	30	21	14

CAUTION



The Sound Pressure data quoted is only valid where the unit is installed on a false floor and against a rear wall. If the equipment is placed adjacent to a any other vertical reflective walls, values may vary to those stated, typically increasing by 3dB

DX Upflow and Downflow

OUTDOOR UNIT TECHNICAL DATA		CUS6							
Number of CUS6's		1							
Dimensions CUS6's									
H x W x D	(mm)	699 x 1148 x 865							
Weight									
Operating Weight	(kg)	144							
Construction									
Material / Colour		One Piece Sheet Steel - Light Grey (RAL 7035)							
Condenser									
Face Area		Copper Tube/Aluminium Fin							
	(m ²)	0.69							
Discharge		Vertical							
Fan									
Quantity		Axial							
		1							
Airflow	(m ³ /s)	2							
Maximum Speed	(rpm)	860							
Compressor									
Quantity		1							
Type		Hermetic Scroll							
Oil Charge Volume	(l)	1.65							
Oil Type		Polyol Ester							
Refrigeration									
Refrigerant Type		Single Circuit							
Holding Charge		R.407C							
		Dry Nitrogen							
Connections									
Liquid Line	(in)	5/8"							
Suction	(in)	7/8"							
Electrical Supply									
Mains Supply		400V / 3Ph / 50Hz							
Sound Measurement									
		Overall		Frequency (Hz)					
		dBA	63	125	250	500	1k	2k	4k
Sound Power		71	72	73	71	70	68	60	53
Sound Pressure @ 10m		51	52	53	51	50	48	40	33
<small>Sound Power Reference Power (dB) = 10-12 Watts</small> <small>Sound Pressure Reference Pressure (dB) = 2 x 10⁻⁵ N/m²</small> <small>dBA is the overall noise level measured on the A scale</small> <small>Sound Pressure data is only valid in free field conditions, where a reflective base, such as a roof is found</small>									

OUTDOOR UNIT ELECTRICAL DATA		CUS6							
		Mains - 400/3/50 (+/- 10%) / Controls - 24VAC (+/- 10%)							
Electrical Supply Data									
Recommended Mains Fuse		25							
Mains Cable Incoming Terminal		10							
Nominal Run Amps		13.5							
Maximum Start Amps		106.6							
Condenser Fan									
Motor Rating		0.6							
Full Load Amps		2.62							
Locked Rotor Amps		9.17							
Compressor									
Motor Rating		5.9							
Nominal Run Amps		11							
Locked Rotor Amps		101							
Crankcase Heater Rating		N/A							
Type of Start		Direct On Line							