

## DATATECH BTD EDA 38.2



### Configured unit accessories

UNDE - Downward air ejection

CO - Only cooling

VEC - EC fans

AF - Dirty filter alarm

TB30 - Base frame with height-adjustable feet (300 mm)

DF30 - Deflectors for base frame (300 mm)

CRM - Provision for remote condenser with Fan speed regulator

ALMT - No voltage alarm

CP - Clean operating contacts

SCAL - Alarm management card

A43N - 400/3+N/50 power supply

SAL - Under-floor flooding sensor

CUCO - Soundproof casings on the compressors

### General description

Air conditioners designed specifically to create "an ideal atmosphere" for electronic systems, by removing excess heat and keeping humidity within the tolerance limits with the highest levels of reliability and safety.

### SPECIFICATIONS

#### Refrigerant fluid

R410A

#### Structure

The cabinet is made with galvanized steel sandwich panels that are epoxy powder coated. The panels are internally insulated with glass wool, to obtain fire insulation class A1 (in accordance with EN13501). This type of panel allows good thermal and acoustic insulation. Air tightness is achieved with adhesive sealing strips placed all around the edges of the panels. The uprights and infills are made of galvanized sheet-iron.

The front panel closing the electrical control panel can be opened by handle for easy inspection of the inside. Access to all the refrigerant and electrical components of the unit is from the front of the machine only; this solution makes it unnecessary to carry out any work from the side and eliminates the obligation to consider "technical spaces" around the air conditioning units. All the front panels are fixed to the structure by ¼ turn fasteners and can therefore be easily removed. All the materials forming the structure are recyclable and CFC-free.

### Finish

Orange peel.

### RAL

7016

### FILTERS

The filters are of filtration class ISO Coarse 75% (G4) and designed to minimize head losses and to have a high degree of filtration. The thickness of the filters can be 50 or 100 mm depending on the sizes or the set-ups. The filters are removed from the front of the unit. High efficiency filters can be supplied on request.

### Coils

Finned pack, copper tubes and aluminium fins, with corrugated profile and hydrophilic surface treatment. The sensible heat ratio is close to 1. The fin profile was specially designed to prevent carry-over of condensation even at high through speeds. A stainless steel condensation collection basin is installed at the base of the coil, complete with fitting for drain and siphon.

### Fans

Radial with reverse blades, with directly coupled 4-pole motor (AC), having thermal overload protection.

The flow of air into the fan is continuously controlled by a differential pressure switch that activates an alarm when there is no air flow.

### Remote condenser

Remote condensers can be combined with axial fans; power supply 230/1/50. This accessory is in the catalogue in the standard or low noise versions. The protective devices and speed controllers are included in the internal unit. The speed controller allows correct condensation with ambient temperatures down to -15°C. For beyond that limit, and down to -35°C, a low temperature kit is available with flooding condensation control.

### Refrigerant circuit

The circuit includes:

- charging valve
- liquid sight glass
- dehydrator filter
- pipe taps on suction and delivery side
- thermostatic expansion valve having external pressure equalization
- high and low pressure switches
- solenoid valve
- liquid receiver
- safety valves
- shut-off valve in the liquid line

- gas shut-off valves
- delivery valve in the compressor
- copper refrigerant pipes with anti-condensation insulation on the suction line

### Electrical control panel

The circuit includes:

- Main disconnect switch
- Fuses to protect the power circuits
- Fuses to protect the auxiliary circuits
- Automatic circuit breaker to protect the auxiliary and power circuits
- Compressor contactors
- Fan contactors (AC)
- Contactors for heaters
- Contactors for humidifier

### Microprocessor

To control the following functions:

- Ambient temperature
- Humidity
- Speed of the condensation fans
- Compressor timings
- Automatic rotation of compressor starting sequence
- Alarm signal on two levels
- Controlled automatic reset of high and low pressure alarms
- Alarm log recording with "black box" function
- a Modbus RS485 serial port for reading and writing purposes
- a RJ45 port for IP communication, including a reading and writing Modbus TCP/IP, available as standard
- Management of several units in local network with automatic rotation and non-interference logic
- Display of the following on the display:
  - > Ambient temperature
  - > Humidity
  - > Air flow
  - > Saturated suction and delivery pressure and temperature
  - > Description of alarms
  - > Compressor operation hour meter
  - > Status of controlled devices

### Standard power supply [V/ph/Hz]

400/3~/50

400/3N~/50 if remote condenser present

## CONTROLS AND SAFETY DEVICES

All the units are fitted with the following control and safety components:

- High pressure switch with manual reset for each compressor;
- Low pressure switch with automatic reset and limited interventions managed by the control;
- High pressure safety valve;
- Protection against overtemperature for compressors;
- Protection against overtemperature for fans;

## Testing

Operating tests carried out at the factory

Refrigerant circuit charged with nitrogen; oil charge in the compressor

Refrigerant circuit charged with nitrogen; oil charge in the compressor

## CONFIGURED UNIT ACCESSORIES DESCRIPTION

### VEC - EC fans

The units can be combined with the innovative direct current EC axial fans (Electronically Commutated) with electronically commutated brushless motor. These motors with permanent magnet rotor guarantee very high efficiency levels for every operating condition and allow a 15% saving per fan to be obtained. Also, through a 0-10V analogue signal sent to each fan, the microprocessor allows condensation control by continuous control of air flow as the external air temperature changes and a consequent reduction in noise emission.

### AF - Dirty filter alarm

The flow of air into the fan is continuously controlled by a differential pressure switch that triggers an alarm when there is no air flow.

### TB30 - Base frame with height-adjustable feet

For installations on raised modular floor; consisting of black painted steel tubular section complete with height-adjustable anti-vibration feet ( $\pm 25$  mm). Available in various heights, with or without deflector for channelling the delivery air.

### CRM - Provision for remote condenser

The provision consists of an automatic circuit breaker and a phase cutting speed controller for the remote condenser; components placed inside the unit. This accessory is mandatory if the unit is coupled to the remote condenser supplied from the catalogue.

### CP - Single clean operating contacts

For units fitted with this accessory, clean contacts from which the customer can acquire a signal that indicates when the compressor is operating are shown in the terminal board of the electrical control panel.

### SAL - Under-floor flooding sensor

For detection of water leaks, complete with sensor to be placed in the area to control. Further sensors can be connected on request to allow control of several areas.

### FUMO - Smoke sensors

For smoke detection with sensors placed on the unit. The sensor is an optical sensor and has been type-approved in conformity with harmonized European regulations CEN EN 54 part 7 and 8. It can protect an area of 9 [m] x 9 [m].

## CONFIGURED UNIT TECHNICAL DATA

Unit	DATATECH BTD EDA	
Model	38.2	
Refrigerant fluid	R410A	

### Conditions

Inlet air temperature	°C	24.0
Inlet air relative humidity	%	50.0
Height asl	m	0
External air temperature	°C	35.0

### Performances

Total capacity	kW	36.6
Sensible capacity	kW	34.8
Net sensible cooling capacity	kW	34.06
Sensible / Total ratio		0.95
Compressors absorbed power	kW	10.1
EER System		3.16
NSEER System		2.94
Outlet air temperature	°C	14.7
Outlet air relative humidity	%	88.0
Air flow rate	m <sup>3</sup> /h	11450
Available pressure	Pa	20
Fans absorbed power	kW	0.77

### Sound levels

Sound pressure (S4)	dB(A)	58
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(S4) at 2 meters in free field, at nominal conditions

### Compressors

Type	scroll
Number	2

### Fans

Type	Radial
Number	2

### Evaporator

Type	Finned pack	
Number	1	
Rows	3	
Frontal section	m <sup>2</sup>	1.49

### Connections

Gas supply: diameter	mm	2 x 16
Liquid return: diameter	mm	2 x 12

### Dimensions

Length	mm	1752
Width	mm	850

Height mm 2290

**Weight**

Net weight kg 572

**Remote condenser**

Model NHLM 1245.4

Number 2

Rated absorbed power kW 0.38

Rated absorbed current A 1.72

Power supply V/ph/Hz 230/1~/50

Sound pressure 37.0

Length mm 1652

Width mm 670

Height mm 790

Weight kg 68

**ELECTRICAL DATA (Theoretical calculations)**

Power supply V/ph/Hz 400/3N~/50 ±10%

Control power supply V/ph/Hz 24V/1~/50-60 Hz

**Electrical performances**

Maximum absorbed power (E1) kW 19.58

Maximum starting current - LRA A 87.6

Full load current - FLA A 30.6