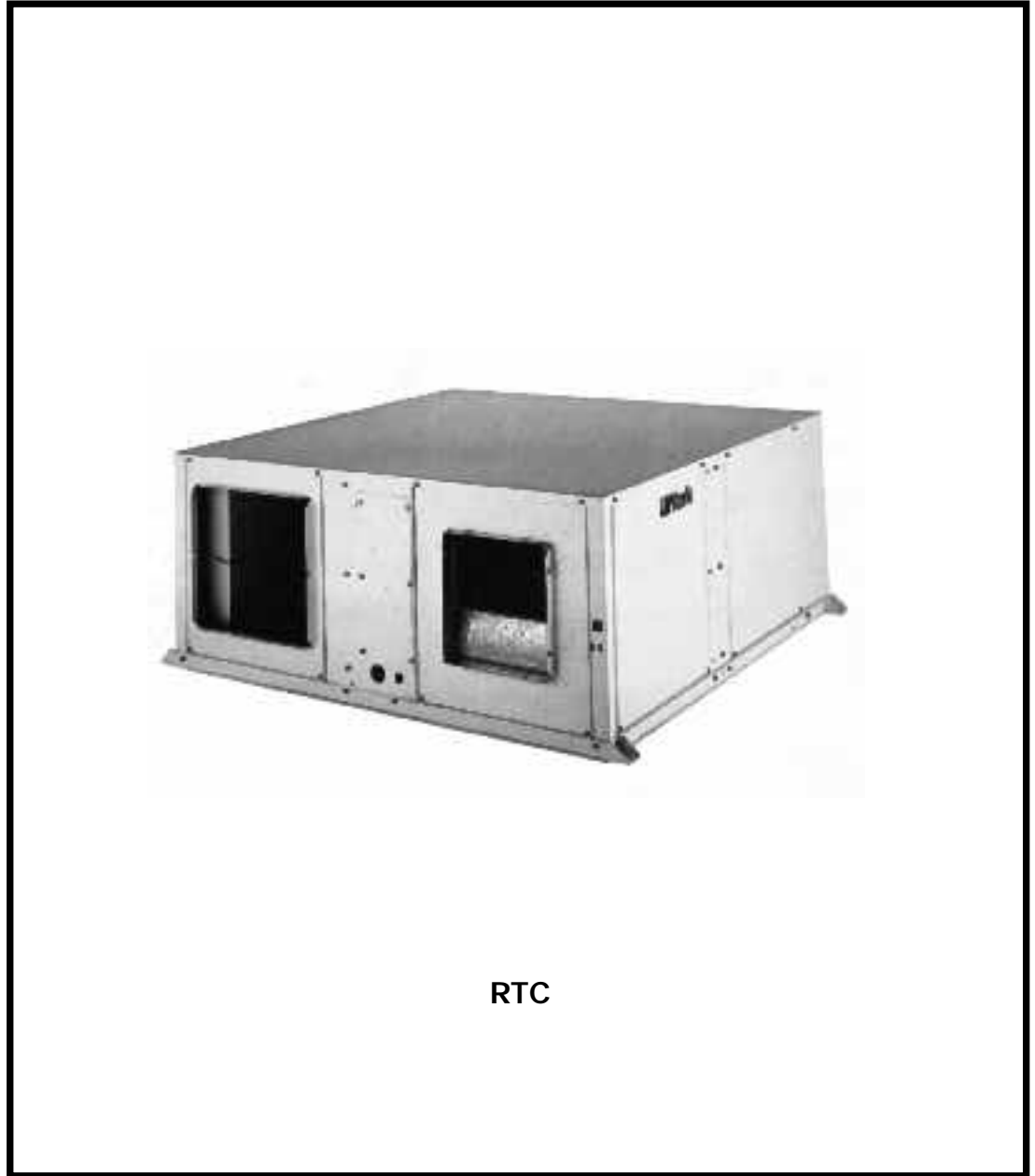

ROOMTOP

Horizontal Air/Air Unit Cooling only

TECHNICAL GUIDE

Cooling only

Models RTC 07 to 30



RTC

 **YORK®**

Index

	Page		Page
General	3		
- General description	3	- Utilization limits	11
- Nomenclature	3	- Before finalising the installation	11
Technical specifications	3	Operating instructions	11
- Mechanical specifications	3	- General introduction	11
- Practical diagram of installation	3	- Important warnings	11
- Physical data	4	- Pressure cut-out	11
- Nominal features	5	- Thermostat diagrams	12
- Test conditions	5		
- Correction factors	5	Maintenance	12
- Nominal flow-rates	5	- Cleaning of filters	12
- Condenser fan data	6	- Priming the drainage siphon	12
- Evaporator fan data	6	- Unit outflow ducts	12
Installation instructions	7	- Cleaning the outdoor unit	12
- General	7	General dimensions	13 -15
- Protection of the environment	7		
- Warning signs	7	Wiring diagrams	16 - 28
- Transport	7		
- Place of installation	7	Optional accessories for the RTC air conditioner	29
- Attachment of unit	8	- Filter with frame	29
- Drain connection	8	- Air filter	30
- Clearances	8	- Indoor electric heater	31
- Air ducts	8	- Duct electric heaters for the RC-220	32
- Orientation of air inlet/outlet	9		
- Variations made at jobsite	9		
Electrical installation	10		
- Electrical characteristics	10		

General

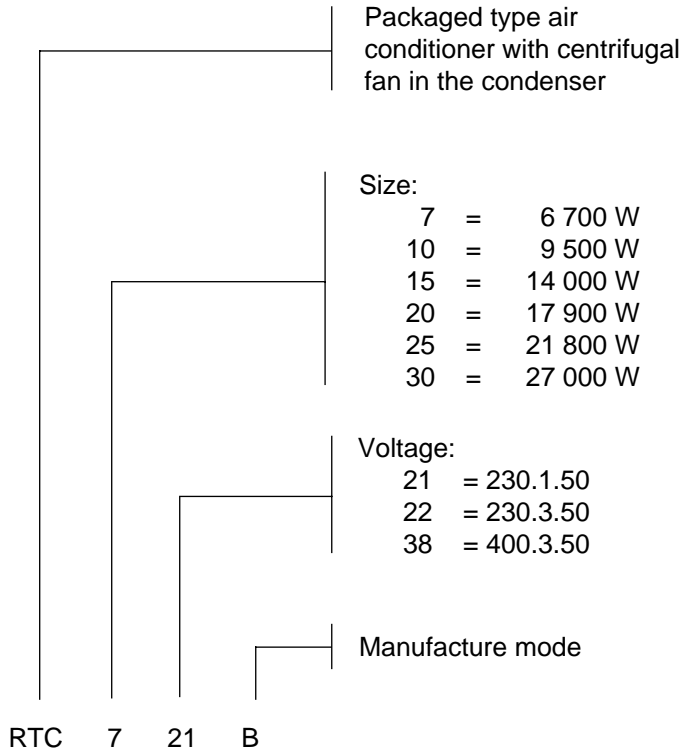
General description

The RTC model air conditioners are package type, compact, condensed air units, with centrifugal fans for both condenser and evaporator, which facilitate the connection of ductwork on either circuit.

The casing is of sheet steel with an aluminium-zinc coating, phosphated and painted with baked-on enamel. Suitable for exterior installations.

Temperature control is carried out by means of a 24 volt ambient thermostat.

Nomenclature



Technical specifications

Mechanical specifications

Compressor

Of the vertical hermetic type, mounted on antivibratory supports, with internal protection of motor and electric heater for heating oil.

Condenser

Made of copper tubing and aluminium fins. Located inside the cabinet, it is completely protected against damage during transportation or installation.

Fans

Of the centrifugal type, or with a direct drive or beltdrive motor. These fans have sufficient available pressure for the installation of ducts and optional accessories.

Cooling circuit

Of completely hermetic type, made of brazed copper tubing, suitably dehydrated and tested with a leak detector. Filled with refrigerant R-22. Refrigerant expansion and control by means of capillary tubes.

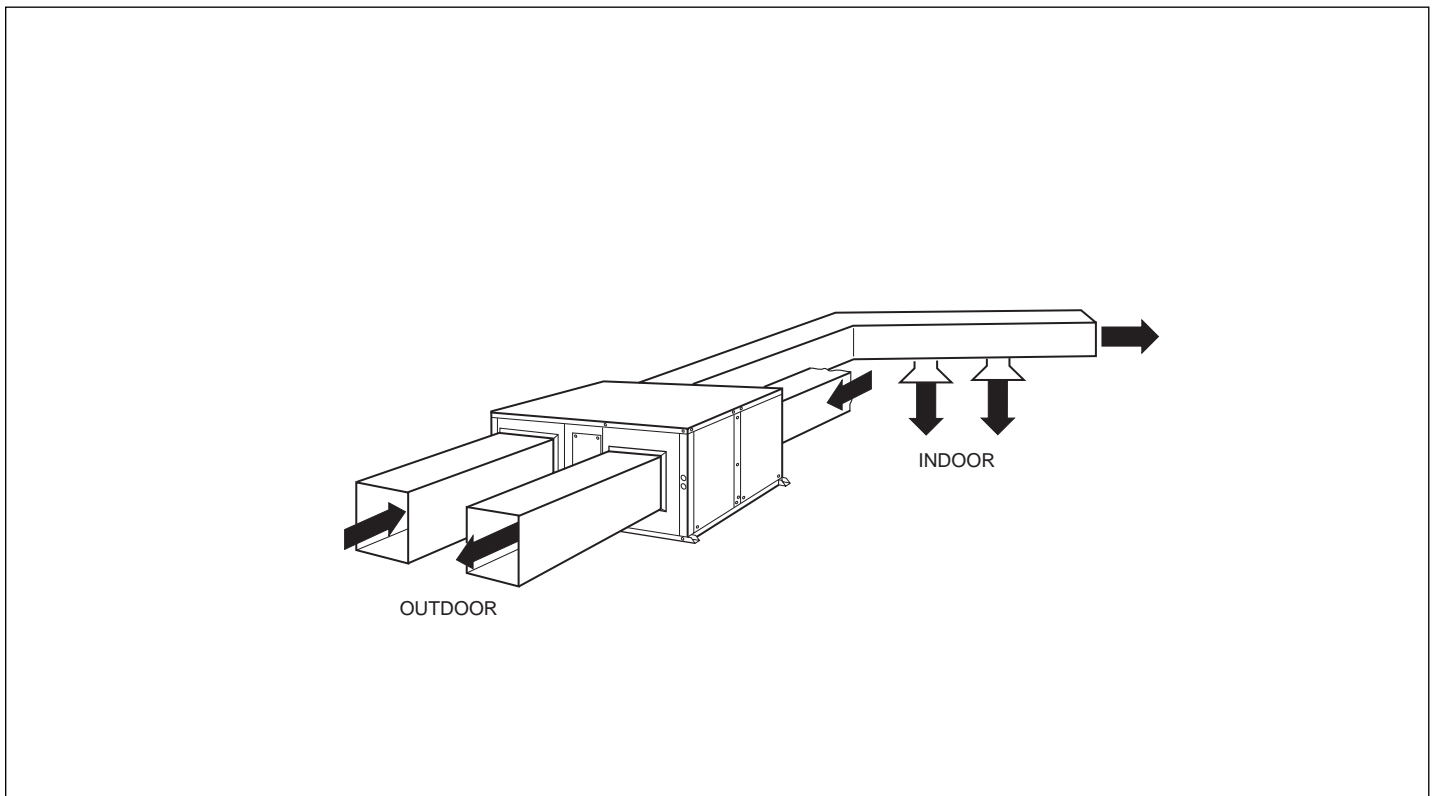
The high and low pressure circuits are equipped with a 1/4" SAE access valve for field checking of pressure and functioning.

Controls

These consist of the following elements, suitably connected and located in a box fitted inside the air conditioner unit:

- Compressor contactor.
- Contactors and thermic relays (tri-phasic fans).
- Transformer 220/24V.
- Operation fuse.
- Connections for control line and accessories.
- High pressure cut-out for manual re-starting (accessible from exterior).
- 24 V ambient thermostat (for on-site installation).

Practical diagram of installation



Physical data

Model			RTC-7	RTC-10	RTC-15	RTC-20	RTC-25	RTC-30
Compressor	Quantity		1	1	1	1	1	1
	Nominal power	kW	2.8	4.3	5.3	6.9	9	10
	Power supply	V.ph.Hz.	230.1.50	230.3.50 400.3.50	230.3.50 400.3.50	230.3.50 400.3.50	230.3.50 400.3.50	230.3.50 400.3.50
Outdoor coil	Quantity		1	1	1	1	1	1
	Tubes length x height		5 x 18	5 x 21	5 x 21	5 x 27	5 x 24	5 x 24
	Fins per inch		12	12	12	14	14	14
	Frontal area	m ²	0.32	0.41	0.51	0.65	0.7	0.89
	Tubes diameter	mm (inch)	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")
Indoor coil	Quantity		1	1	1	1	1	1
	Tubes length x height		3 x 18	4 x 21	4 x 21	4 x 27	3 x 24	3 x 24
	Fins per inch		12	12	12	12	12	12
	Frontal area	m ²	0.22	0.25	0.37	0.47	0.61	0.71
	Tubes diameter	mm (inch)	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")
Outdoor fan motor	Quantity		1	1	1	1	1	1
	Turbine diameter	mm	270	320	320	320	320	320
	Turbine width	mm	270	240	240	320	228	320
	Nominal power	kW	0.58	0.99	0.99	1.1	1.1	1.5
	Nominal motor rpm		950	950	950	950	950	1 420
	Power supply	V.ph.Hz.	230.1.50	230.1.50	230.1.50	230.3.50 400.3.50	230.3.50 400.3.50	230.3.50 400.3.50
Indoor fan motor	Quantity		1	1	1	1	1	1
	Turbine diameter	mm	240	270	320	320	320	320
	Turbine width	mm	240	200	240	240	228	228
	Nominal power	kW	0.38	0.54	0.95	0.99	1.1	1.1
	Nominal motor rpm		950	950	950	950	1 410	1 420
	Power supply	V.ph.Hz.	230.1.50	230.1.50	230.1.50	230.3.50 400.3.50	230.3.50 400.3.50	230.3.50 400.3.50
R-22 Refrigerant charge	kg	2.7	3.87	4.2	7.45	5.3	6.5	
Approximation nett weight	kg	174	203	244	310	350	405	
Approximation gross weight	kg	200	237	284	340	390	455	
Dimensions with standard packing	cm	132x132x65	136x139x71	155x160x71	155x160x87	176x180x78	176x220x78	

Nominal features

Unit	Cooling capacity W	Consumption W	Nominal available pressure indoor fan Pa
RTC-7	6 700	3 700	25
RTC-10	9 500	4 900	37
RTC-15	14 000	7 000	50
RTC-20	17 900	8 900	50
RTC-25	21 800	10 000	62
RTC-30	27 000	13 000	62

Test conditions

Power supply	Outdoor temperature °C		Indoor temperature °C	
	DB	WB	DB	WB
230 or 400	35	24	27	19

Correction factors

Correction factors for the cooling capacity with regard indoor and outdoor temperatures.

Indoor unit air intake Temp. °C WB	Outdoor unit air intake temperature °C					
	19	25	30	35	40	46
23	-	1.20	1.15	1.11	1.06	1
19	1.10	1.08	1.04	1	0.96	0.90
14	0.88	0.86	0.84	0.82	0.79	0.74

Note: Indoor unit air intake DB temperatures, between 21 & 32 °C. WB = Wet bulb. DB = Dry bulb.

Correction factors for the cooling capacity for flow-rates different from the nominal ones in the indoor coil.

% Flow rate	80	90	100	110	120	130
Total capacity	0.960	0.980	1	1.016	1.032	1.046
Sensible capacity	0.945	0.973	1	1.038	1.075	1.118
Comp. absorbed power	0.980	0.990	1	1.009	1.017	1.025

Correction of the real air temperature in °C on entry into the condenser coil for flow-rates different from the nominal ones.

% Flow rate	70	80	90	100	110	120	130
Correction in °C over the real inlet air temperature at the outdoor coil	5	3	1.5	0	-1	-2	-2.5

Nominal flow-rates

Model	Evaporator fan m³/h	Nominal available pressure Pa	Condenser fan m³/h	Nominal available pressure Pa
RTC-7	2 175	25	2 100	50
RTC-10	2 820	37	3 350	50
RTC-15	3 900	50	3 410	50
RTC-20	4 675	50	4 675	50
RTC-25	5 100	62	5 200	50
RTC-30	5 950	62	6 400	50

For other flow-rates apply the correction factors from the corresponding table.

Condenser fan data

Model	Available pressure		Flow-rate		Power absorbere W
	mm WG	Pa	m ³ /h	m ³ /s	
RTC -7	8	78.4	1 700	0.47	350
	6	58.8	1 900	0.52	365
	4	39.2	2 100	0.58	370
	2	19.6	2 200	0.61	380
	0	0	2 350	0.65	390
RTC -10	8	78.4	2 500	0.69	480
	6	58.8	2 700	0.75	495
	4	39.2	2 800	0.77	510
	2	19.6	2 950	0.82	525
	0	0	3 100	0.86	540
RTC -15	14	137.2	3 300	0.91	875
	12	117.6	3 450	0.96	890
	10	98	3 600	1.00	910
	8	78.4	3 700	1.02	930
	6	58.8	3 850	1.07	950
	4	39.2	3 960	1.10	970
	2	19.6	4 100	1.13	990
	0	0	4 200	1.16	1 020
RTC -20	16	156.8	3 800	1.06	900
	14	137.2	4 000	1.11	1 000
	12	117.6	4 150	1.15	1 020
	10	98.0	4 300	1.19	1 050
	8	78.2	4 500	1.25	1 100
	6	58.7	4 600	1.28	1 120
	4	39.1	4 750	1.32	1 180
	2	19.6	4 900	1.36	1 230
RTC -25	16	156.8	4 150	1.15	940
	12	117.6	4 600	1.27	1 050
	10	98	4 800	1.33	1 100
	8	78.4	4 975	1.38	1 160
	6.3	61.7	5 100	1.41	1 220
	4	39.2	5 330	1.48	1 290
	2	19.6	5 500	1.52	1 345
	0	0	5 625	1.56	1 390
RTC-30	16	156.8	4 850	1.34	1 220
	12	117.6	5 380	1.49	1 365
	10	98	5 500	1.52	1 430
	6.3	61.7	5 950	1.65	1 585
	4	39.2	6 150	1.70	1 680
	2	19.6	6 390	1.77	1 750
	0	0	6 500	1.80	1 810

Note: Available pressure does not include filters, except RTC-25 & 30.

Evaporator fan data

Model	Available pressure		Flow-rate		Power absorbere W
	mm WG	Pa	m ³ /h	m ³ /s	
RTC -7	6	58.8	2 000	0.56	540
	4	39.2	2 200	0.56	540
	2	19.6	2 410	0.67	580
	0	0.0	2 550	0.71	590
RTC -10	10	98.0	3 100	0.86	900
	8	78.4	3 200	0.89	920
	6	58.8	3 300	0.92	940
	4	39.2	3 400	0.94	960
	2	19.6	3 500	0.97	970
	0	0.0	3 600	1.00	990
RTC-15	10	98.0	3 100	0.86	880
	8	78.4	3 250	0.90	920
	6	58.8	3 370	0.94	930
	4	39.2	3 450	0.96	940
	2	19.6	3 560	0.99	970
	0	0.0	3 700	1.03	980
RTC-20	10	98.0	4 050	1.12	1 050
	8	78.2	4 400	1.22	1 070
	6	58.7	4 600	1.28	1 120
	4	39.1	4 750	1.32	1 150
	2	19.6	4 900	1.36	1 180
	0	0.0	5 100	1.42	1 230
RTC-25	14	137.2	4 500	1.25	1 130
	10	98	4 800	1.33	1 200
	8	78.4	4 910	1.36	1 250
	6	58.8	5 050	1.40	1 275
	5.1	49.9	5 200	1.44	1 295
	4	39.2	5 250	1.45	1 320
	2	19.6	5 350	1.48	1 335
	0	0	5 450	1.51	1 388
RTC-30	14	137.2	5 490	1.52	1 355
	10	98	5 980	1.66	1 440
	8	78.4	6 200	1.72	1 500
	5.1	49.9	6 400	1.77	1 555
	4	39.2	6 480	1.8	1 585
	2	19.6	6 600	1.83	1 600
	0	0	6 700	1.86	1 665

Installation instructions

General

The model RTC air conditioners are factory tested and charged compact units. They have been designed to be installed connected to ducting, on rooftops, in attics or basements.

Control of start, stop and temperature regulation is by means of a remote control 24 volt ambient thermostat.

Protection of the environment



Packing

Packing is made of recyclable material. The disposal of same should be carried out in accordance with the regulations on selective residue disposal established by the local authorities.

Disposal of the unit

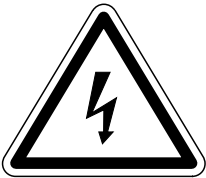
When dismantling after a long service life, its components should be ecologically salvaged. The cooling circuit is full of HCFC-22 refrigerant which should be salvaged and, finally, returned to the gas manufacturer for recycling.

Oil will remain in the airtight compressor so, it will be returned along with the sealed circuit.

The air conditioning unit will be deposited wherever established by the local authorities for its selective disposal.

Warning signs

The following signs indicate the presence of potentially dangerous conditions for the users or service personnel. Whenever found on the unit itself, keep in mind the warning indicated by each one.



This sign indicates an electrical risk or danger.



Attention: It is compulsory to read the instructions prior to any handling.



Attention: Fan in operation.



Attention: The unit has a remote control system and can start automatically. Two minutes prior to having access to the interior, the power supply should be disconnected so as to avoid any contact with the fan turbine in operation.



Attention: Not to touch the hot surfaces.

Transport

To prevent oil from leaking out of the compressor, units should always be transported in a horizontal position. If for some reason it is necessary to change this periodically, units should be returned to the horizontal as soon as possible.

Place of installation

The installation place should be chosen leaving permanent access for maintenance, either through the side panels or top cover.

The unit can be installed out of doors.

If it is installed indoors, in basements or attics, etc., air intake and extraction ducts to the exterior should be fitted.

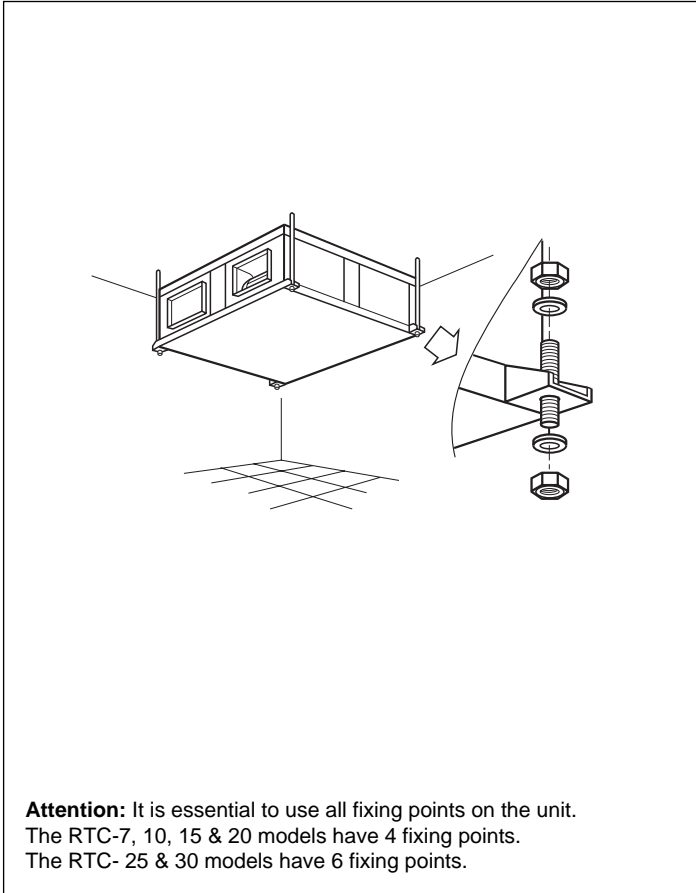
When installing the unit, provision should be made for electrical and drainage connections.

Attachment of unit

To the ceiling

The conditioner is attached to the ceiling by means of four M-10 bolts as shown in the drawing. For this type of installation the use of vibration insulators is recommended.

Care should be taken to attach the unit in a completely horizontal position or with a slight tilt towards the drain to prevent possible dripping of water condensation (use an air bubble level).



CAUTION

It is of the up most important that the maximum care be taken when suspending the indoor unit from a hung ceiling. Make sure that the soffit is strong enough to support the weight of the unit. Before suspending the unit test security of each of the installed suspension bolts.

Floor attachment

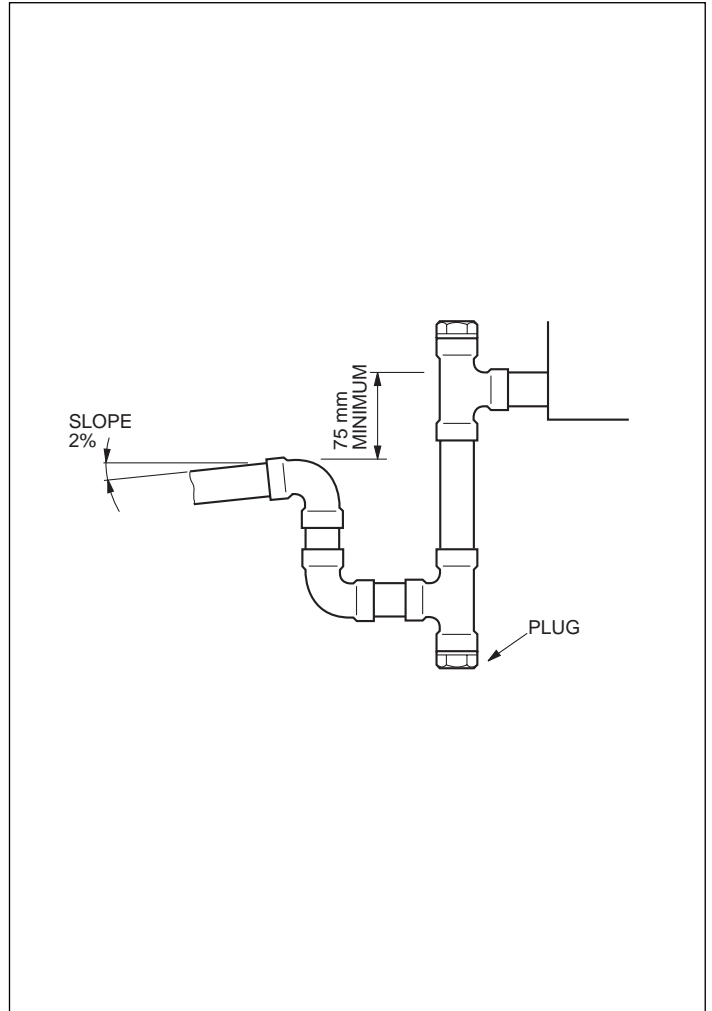
If the unit is to be out of doors on the ground, it should be raised on supports to allow free circulation of water and air beneath the base.

Drain connection

The drain line should be installed with a water trap leaving a minimum level difference of 75 mm between connection to unit and drain line (see drawing). This is to prevent negative pressure produced by the fan from hindering drainage from the tray.

The drain line should have a minimum down-slope of 2% (2 cms. per metre length).

The drain connections on the unit are made of copper tubing of 22 mm. exterior diameter.



Clearances

In the installation of every unit, clearances should be left for the following:

- Intake and discharge of condenser air.
- Connection of drainage tubing.
- Air ducts.
- Maintenance service.
- Power supply and control cables.

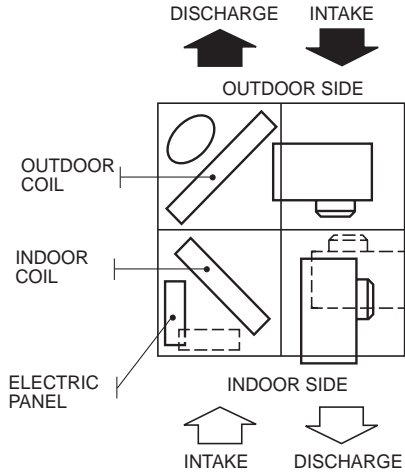
Air ducts

- Air ducts should be connected to the unit by a flexible sleeve (preferably of non-combustible material) to avoid transmission of vibration from the apparatus. If the ducts are made of flexible material the vibration will not be transmitted.
- It is advisable to install a damper on every discharge duct. In this way a correct balance of the system can be maintained.
- Allow for easy access to the air filters for replacement and cleaning.

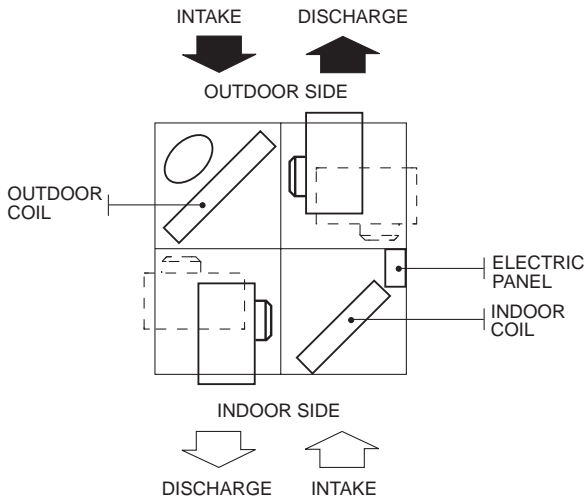
Orientation of air inlet/outlet

Factory-supplied orientation.

RTC-7,10, 15 & 20



RTC-25 & 30

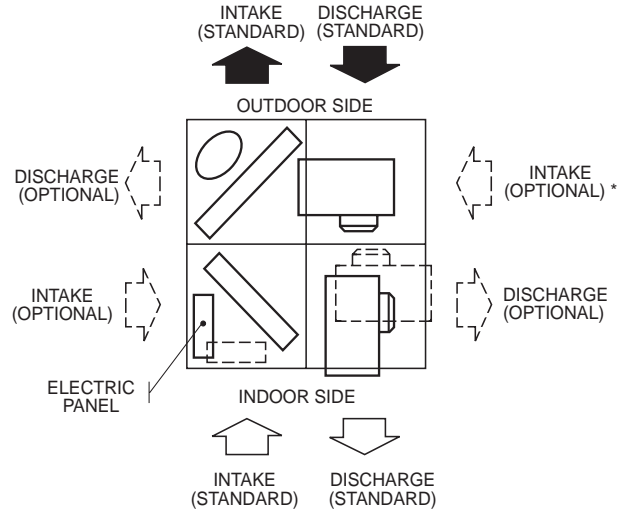


Variations made at jobsite

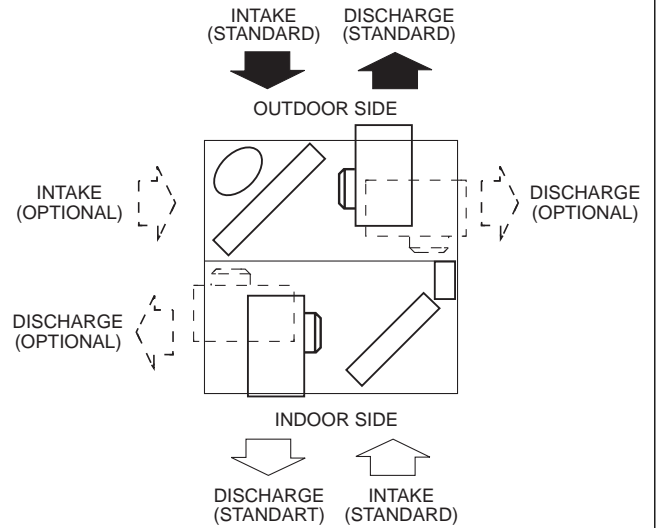
Starting from the standard intake and discharge orientation of condenser and evaporator fans, changes can be made to obtain any of the combinations shown in the drawing.

RTC-7, 10, 15 & 20

*) This air intake variation can be used only in installations where the air conditioner is protected from direct rainfall.

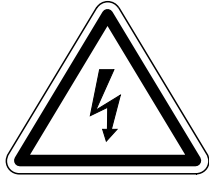


RTC-25 & 30



Electrical installation

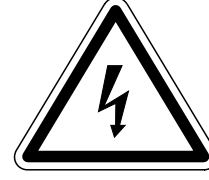
Every air conditioner is delivered with a control box fitted inside the unit to which the power supply will be connected through a main with fuses or an automatic circuit breaker.



Loose cables can produce overheating at the terminals or incorrect operation of the unit. A fire risk may also exist. Therefore you must make sure that all of the cables are firmly connected.

If there is an electric heater, it should be installed with power supply line and switched independent of those of the air conditioner.

In all cases, **established national regulations** must be observed.



Do not supply power to the unit and do not start up operations until the tubing and electrical connections with the outdoor unit have been completed.

Make sure that the electrical supply is correctly connected to the units, as shown in the electrical diagrams.

Electrical characteristics

Model	Power supply V.ph.Hz.		Consumption A			Minimum section power cables mm ²	Automatic breaker A
	Compressor	Fan	Compressor Nominal	Outdoor fan Start	Indoor fan Start		
		Outd. - Indoor					
RTC -7	230.1.50		14.3	2.8	1.7	4	32
RTC -10	230.3.50		10.9	5.1	2.6	4	32
	400.3.50	230.1.50	6.3	5.1	2.6	2.5	20
RTC -15	230.3.50		13.3	5.2	5.2	6	40
	400.3.50		7.7	5.2	5.2	4	32
RTC -20	230.3.50	230.3.50	21.1	4.2	4.2	10	50
	400.3.50	400.3.50	12.2	2.4	2.4	4	32
RTC -25	230.3.50	230.3.50	29.3	5.5	4.5	10	50
	400.3.50	400.3.50	14.2	3.2	2.6	6	40
RTC -30	230.3.50	230.3.50	36	5.5	6.0	16	63
	400.3.50	400.3.50	16.5	3.2	3.5	10	40

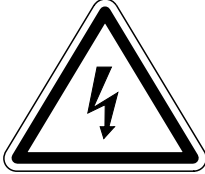
Important: The size of the circuit breaker and the cross-section of the supply and control lines are only as a guide and should be corrected in accordance with the conditions at the jobsite, distance between units, and current legislation.

Utilization limits

Voltage limits				DB air temperature entering condenser		WB air temperature entering evaporator	
Nominal at 230 V		Nominal at 400 V		Maximum °C	Minimum °C	Maximum °C	Minimum °C
Maximum	Minimum	Maximum	Minimum	Maximum °C	Minimum °C	Maximum °C	Minimum °C
254	198	436	342	46	14	22	14

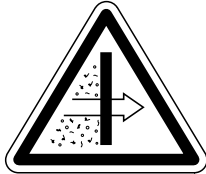
Notes: DB - Dry bulb temperature WB - Wet bulb temperature.

Before finalising the installation




Verify that:


- The voltage is always between 198-254 V or 342-436 V.
- The gauge of the supply cable is at least that which is recommended in the corresponding electrical diagrams.




- The need to clean the air filter has been communicated.



- The condensation drainage is perfectly assembled and there are no leaks in the water circuit.



- The guarantee split has been filled in.
- Maintenance instructions have been given or a contract has been made for periodic servicing.



- Instructions have been given to the users on how to operate the system.

Operating instructions

General introduction

Starting and automatic temperature regulation are carried out by an ambient thermostat a 24 VAC.

The thermostat should be placed about 1.5 m above floor level where no obstacle can prevent its registering the true room temperature.

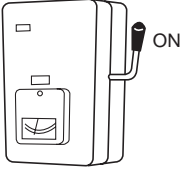
Important warnings

The thermostat must be located on a wall which is not exposed to direct sunlight, the reverse being the case the temperatures would not be real and the operation of the heat pump would not be appropriate.


Before start-up, turn on the main switch to provide power for the electric heater in the compressor crankcase.

Do not start compressor until a minimum period of 8 hours has elapsed.

This is to ensure the evaporation of any liquid refrigerant which could have mixed with the compressor oil.



ELECTRICAL SUPPLY



CAUTION

Connection:
The electrical supply must be connected for at least 8 hours before operational start up of the conditioner in order to heat the system. Leave the supply connected, except when the conditioner is going to be out of use for long periods of time.

Pressure cut-out

The air conditioner is equipped with a cut-out in the high pressure circuit, activated when the pressure becomes excessive. It then opens the control circuit, stopping the compressor.

Before resetting, the compressor should be disconnected by means of the thermostat and the malfunction which caused the abnormal pressure repaired.

To reset, press the lug of the cutout spring and put the thermostat in one of the operating positions.

Thermostat diagrams

Start up process for the T-11 thermostats

These thermostats have three basic operating modes:

a) For ventilation only:

Lever A in CONT position.

Lever B in OFF.

Dial in any position.

b) Summer conditioning:

Lever A in CONT or AUTO position.

Lever B in COOL position.

Dial set at temperature required.

c) Winter conditioning:

(with heat coils)

Lever A in CONT or AUTO position.

Lever B in HEAT position.

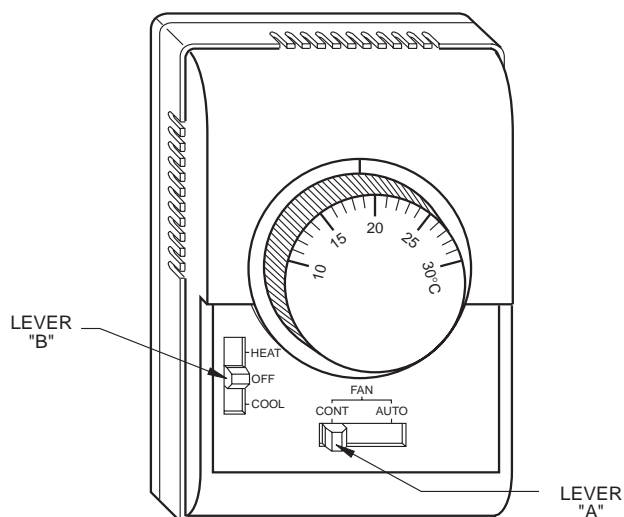
Dial set at temperature required.

In the OFF position the cooling plant is switched off.

When lever A is in the CONT position, only the fan operates.

In the COOL or HEAT and AUTO, position the fan operates in unison with the compressor or electrical resistance heater if it is incorporated (depending on the thermostat setting and the room temperature). The plant is completely shut down when lever A is in the AUTO position and lever 'B' is in the OFF position.

Thermostat T-11



Maintenance

Cleaning of filters

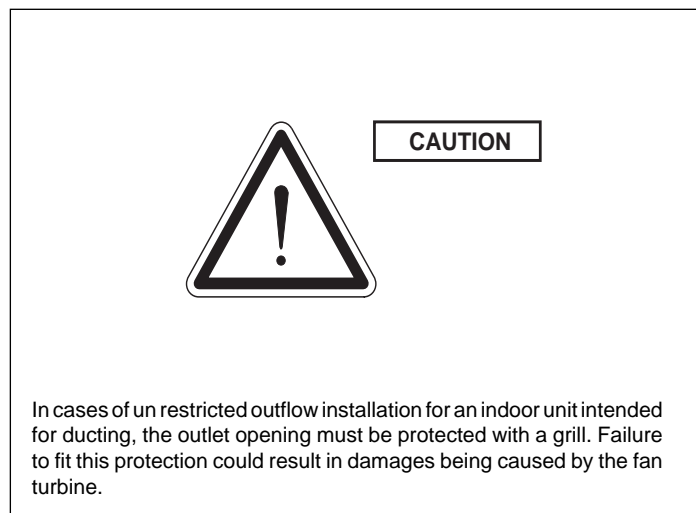
Keep the coils' air filters in good condition. Check them at least once every fortnight.

Priming the drainage siphon

To avoid problems with water from condensation we recommend that the drainage siphon be primed when starting up and before the beginning of each season so as to avoid, from the very beginning, the intake of air into this pipe.

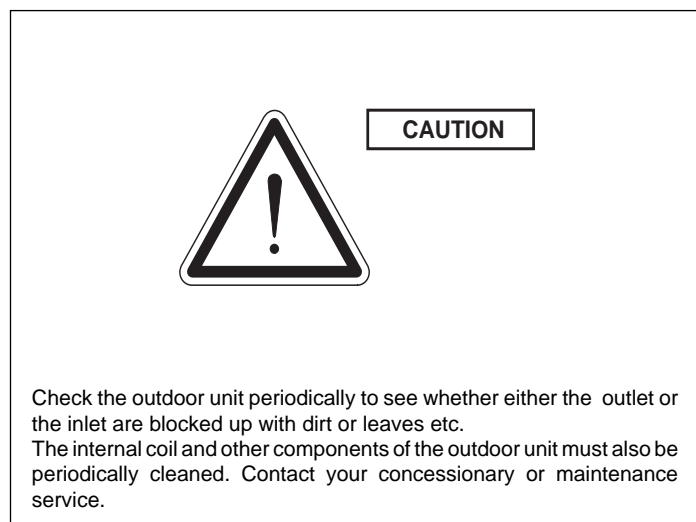
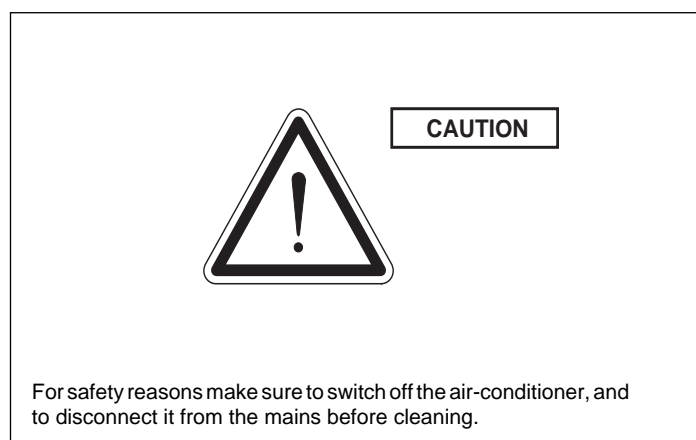
Unit outflow ducts

The unit outflow, intended for ducts, is supplied without a protective grill. When maintenance work is being done this must be taken into account.



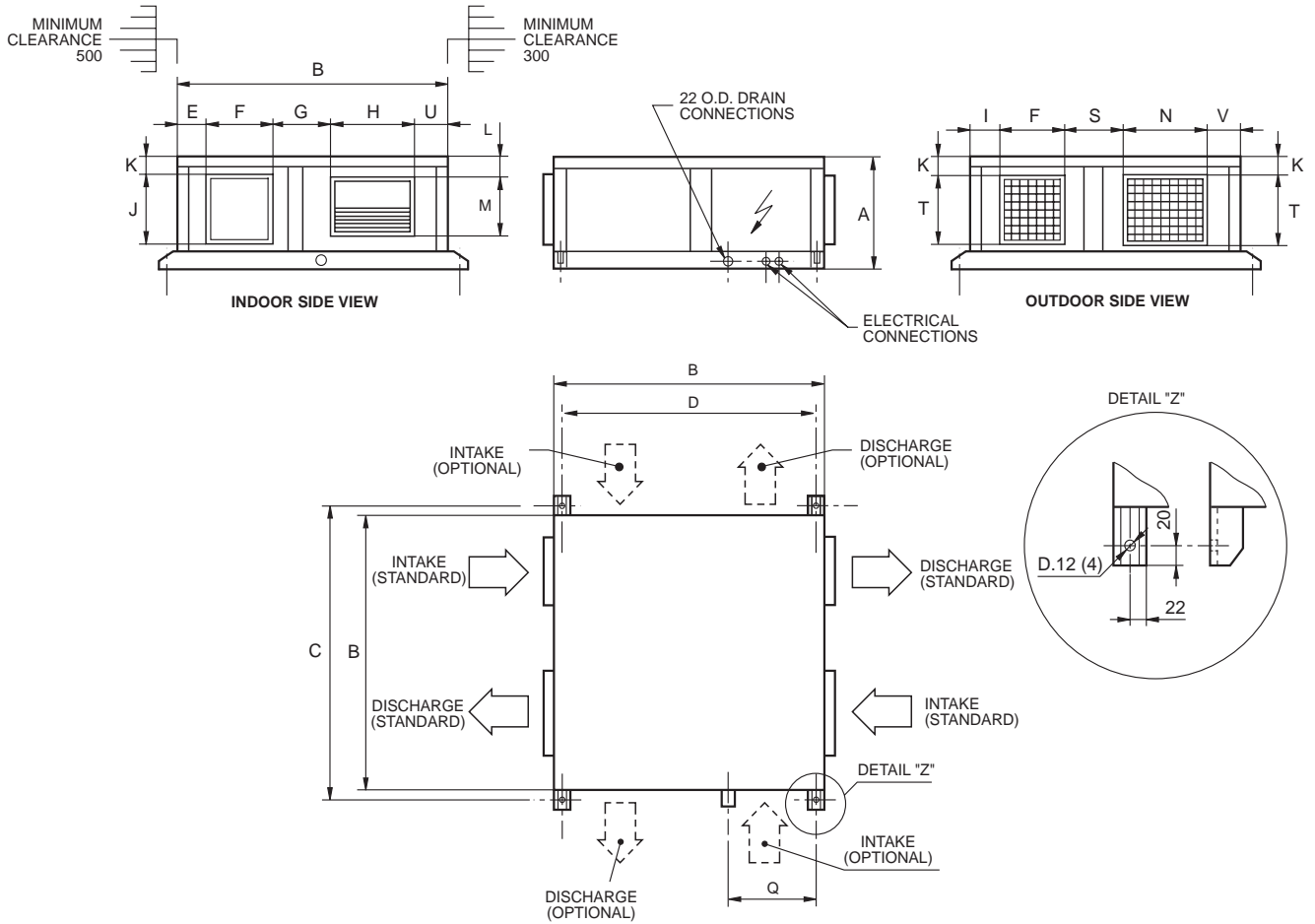
Cleaning the outdoor unit

Dirt must not be allowed to accumulate on the outdoor unit. This must be cleaned as often as necessary with a brush, vacuum cleaner or detergent.



General dimensions mm

RTC-7 & 10



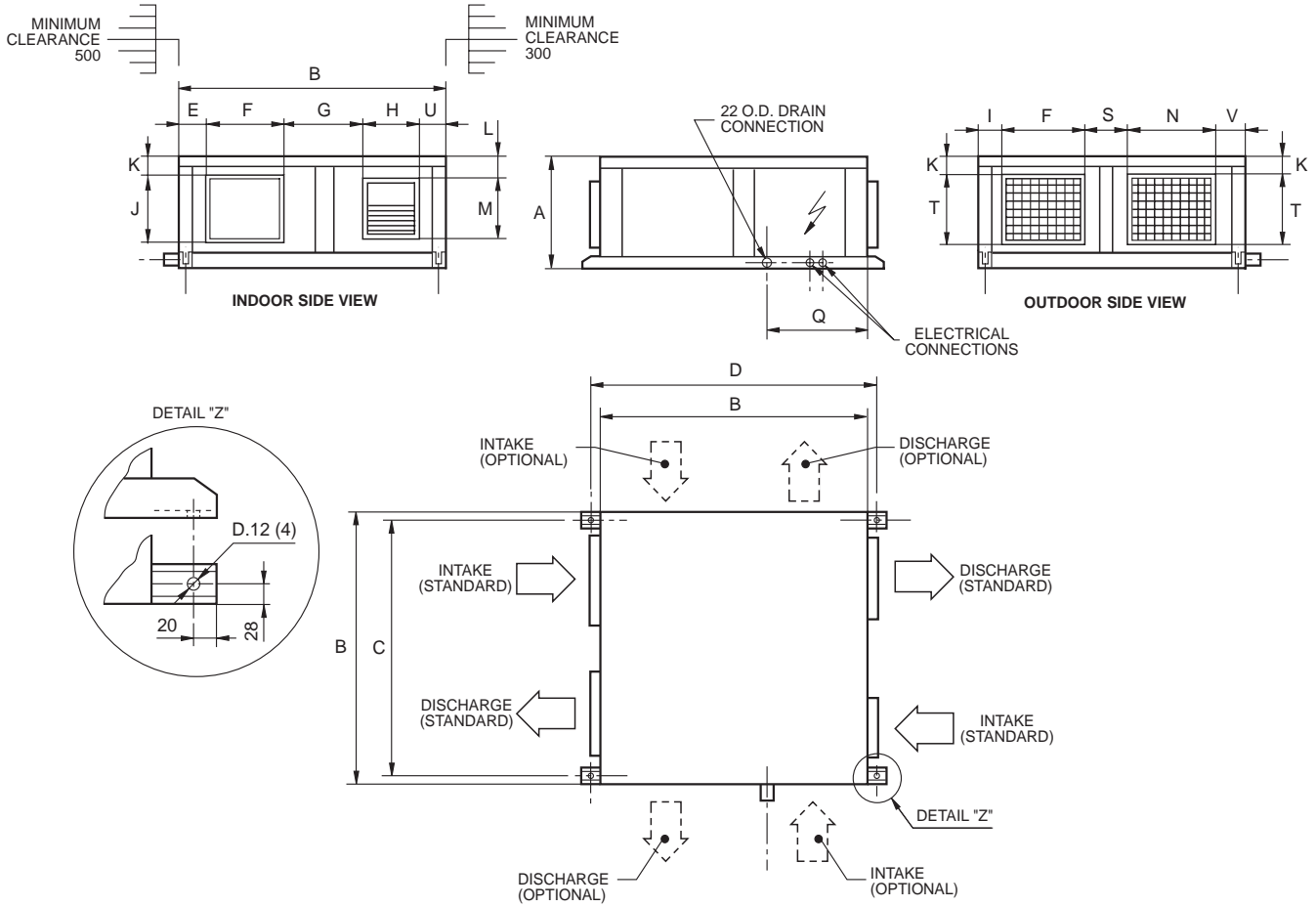
Notes:

- 1- Standard air inlet and outlet are indicated by unbroken-line arrows. Dotted line arrows indicate air inlet and outlet which can be arranged at jobsite.
- 2- If a frame with filter is attached at the air inlet, consult the ducting dimensions in the information for this accessory.

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Q	S	T	U	V
RTC-7	471	1200	1250	1156	78	376	290	302	80	362	35	86	262	376	436	214	362	154	154
RTC-10	549	1250	1300	1206	78	376	396	268	78	362	75	109	293	461	442	192	362	132	143

General dimensions mm

RTC- 15 & 20



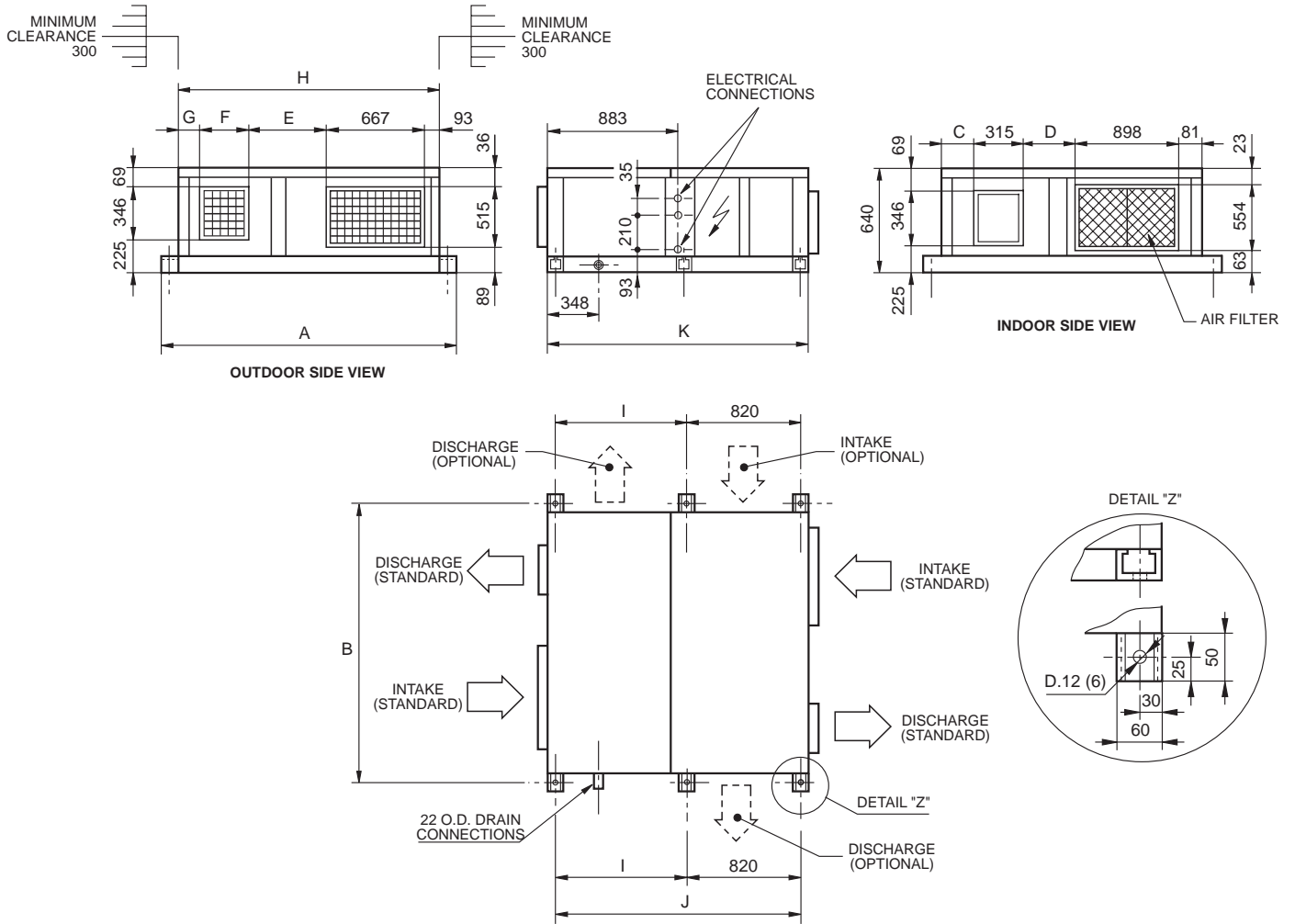
Notes:

- 1- Standard air inlet and outlet are indicated by unbroken-line arrows. Dotted line arrows indicate air inlet and outlet which can be arranged at jobsite.
- 2- If a frame with filter is attached at the air inlet, consult the ducting dimensions in the information for this accessory.

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Q	S	T	U	V
RTC-15	555	1440	1384	1492	78	476	412	315	78	430	39	25	345	546	464	192	430	159	148
RTC-20	727	1440	1384	1492	78	476	412	315	78	430	52	121	345	546	464	192	596	159	148

General dimensions mm

RTC - 25 & 30



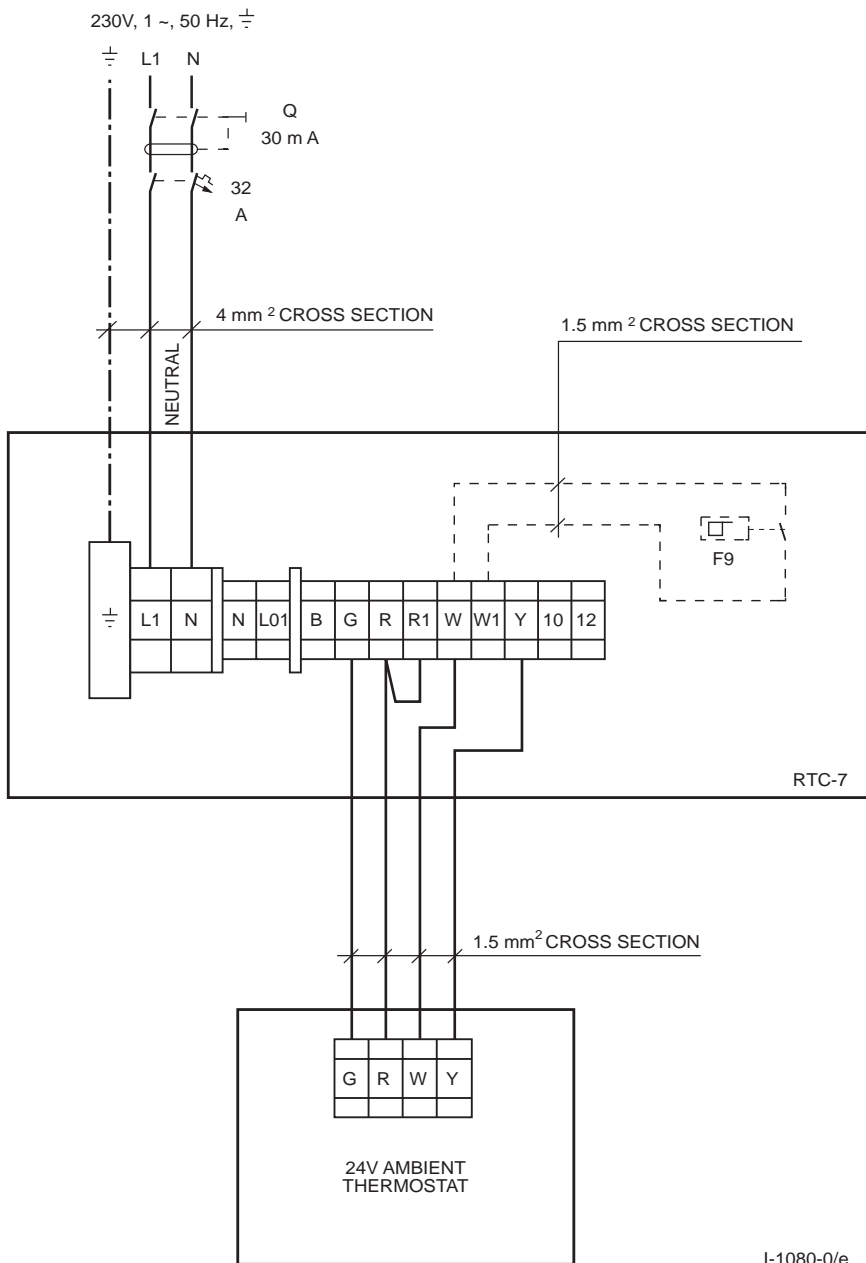
Note:

- 1- Always use the six fixing points to assemble the unit.
- 2- Standard air inlet and outlet are indicated by unbroken-line arrows. Dotted line arrows indicate air inlet and outlet which can be arranged at jobsite.

Model	A	B	C	D	E	F	G	H	I	J	K
RTC-25	1 750	1 700	123	233	442	315	133	1 650	870	1 690	1 750
RTC-30	2 150	2 100	323	433	350	400	540	2 050	870	1 710	1 770

Wiring diagram

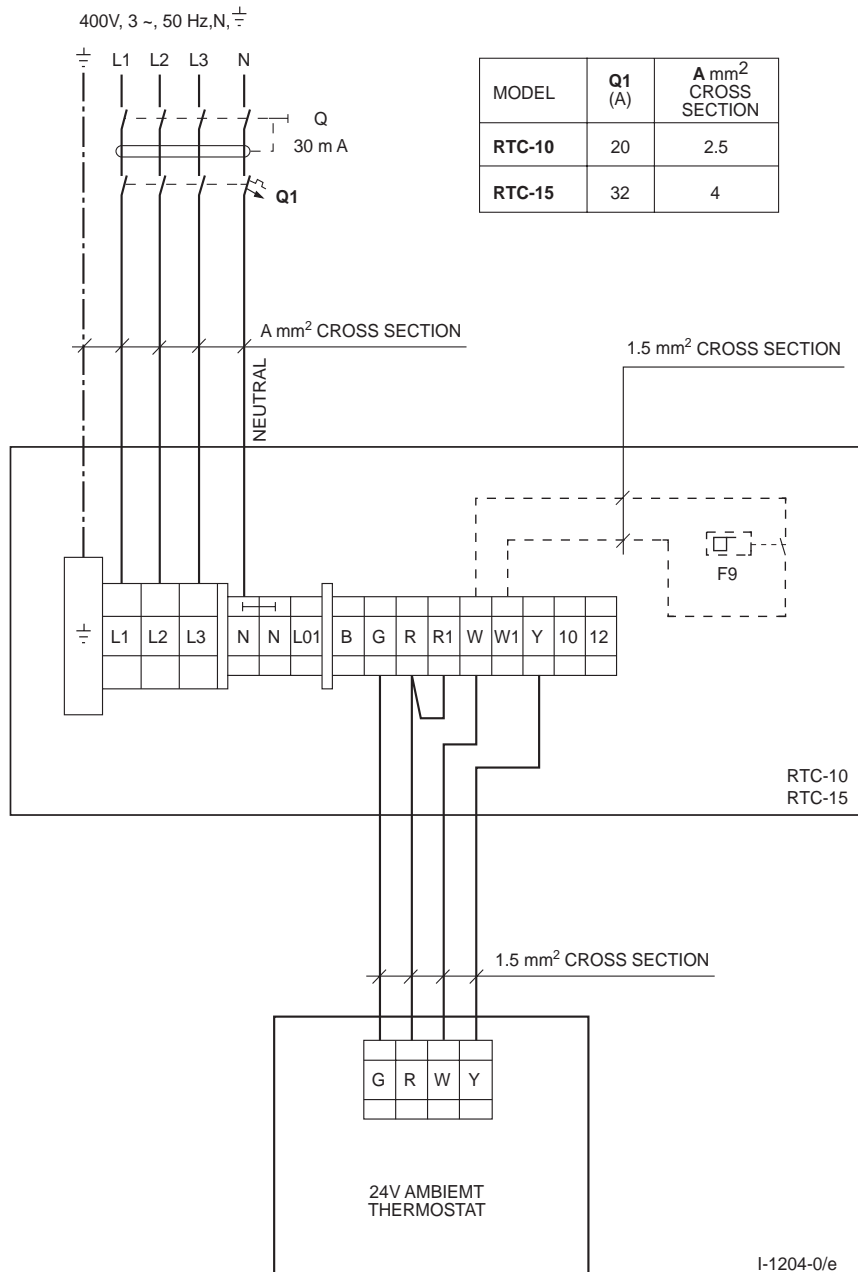
RTC-7, 230.1.50



NOTE: A FLOW-RATE CONTROL (F9) SHOULD BE INSTALLED IF AN ELECTRIC HEATER IS ADDED TO THE EQUIPMENT

Wiring diagram

RTC-10 & 15, 400.3.50

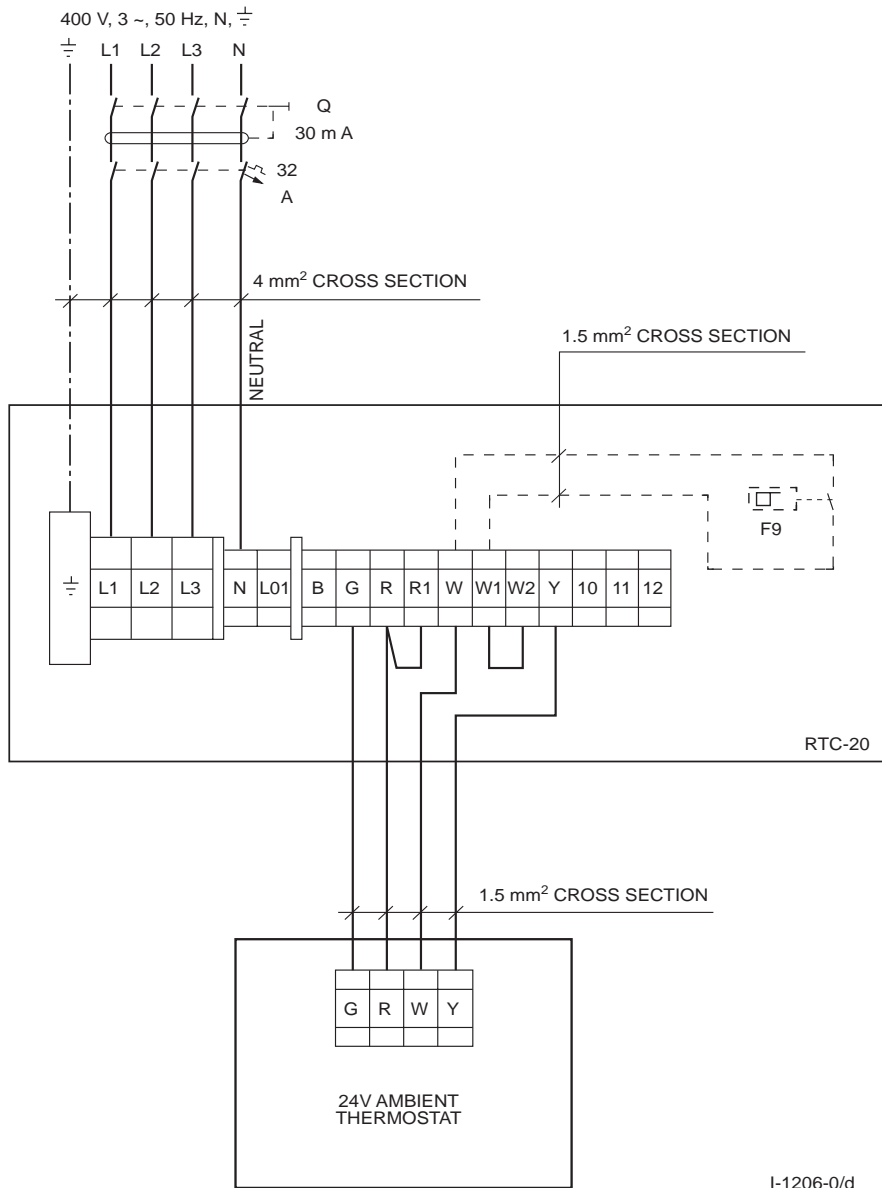


NOTE: A FLOW-RATE CONTROL (F9) SHOULD BE INSTALLED IF AN ELECTRIC HEATER IS ADDED TO THE EQUIPMENT

I-1204-0/e

Wiring diagram

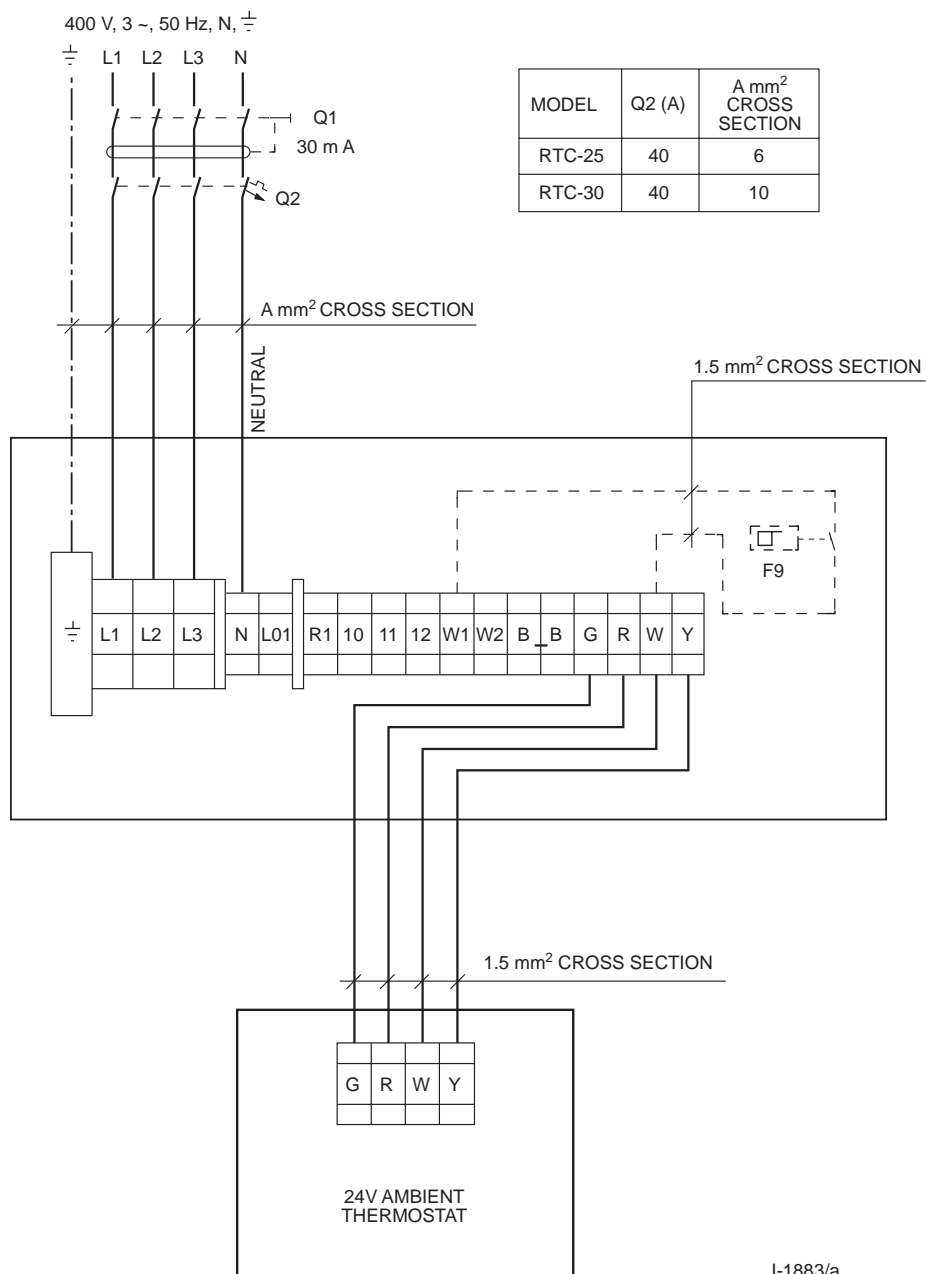
RTC-20, 400.3.50



NOTE: A FLOW-RATE CONTROL (F9) SHOULD BE INSTALLED IF AN ELECTRIC HEATER IS ADDED TO THE EQUIPMENT

Wiring diagram

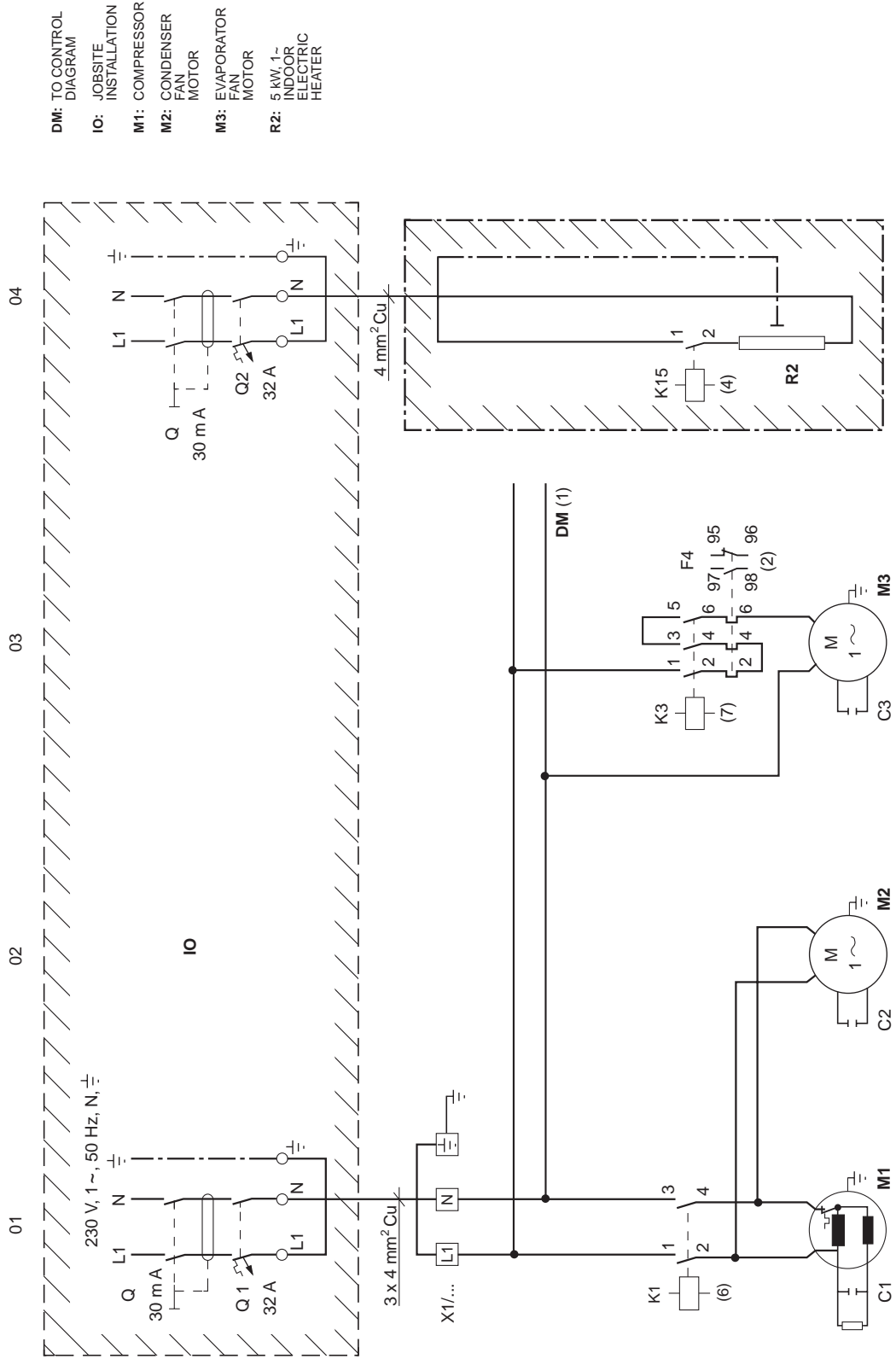
RTC-25, 30, 400.3.50



NOTE: A FLOW-RATE CONTROL (F9) SHOULD BE INSTALLED IF AN ELECTRIC HEATER IS ADDED TO THE EQUIPMENT

Power diagram

RTC-7, 230.1.50



DM: TO CONTROL DIAGRAM
 IO: JOBSITE INSTALLATION
 M1: COMPRESSOR FAN MOTOR
 M2: CONDENSER FAN MOTOR
 M3: EVAPORATOR FAN MOTOR
 R2: 5 kW, 1~ INDOOR ELECTRIC HEATER

THE COMPONENTS INCLUDED IN THESE BOXES ARE NOT SUPPLIED BY THE MANUFACTURER

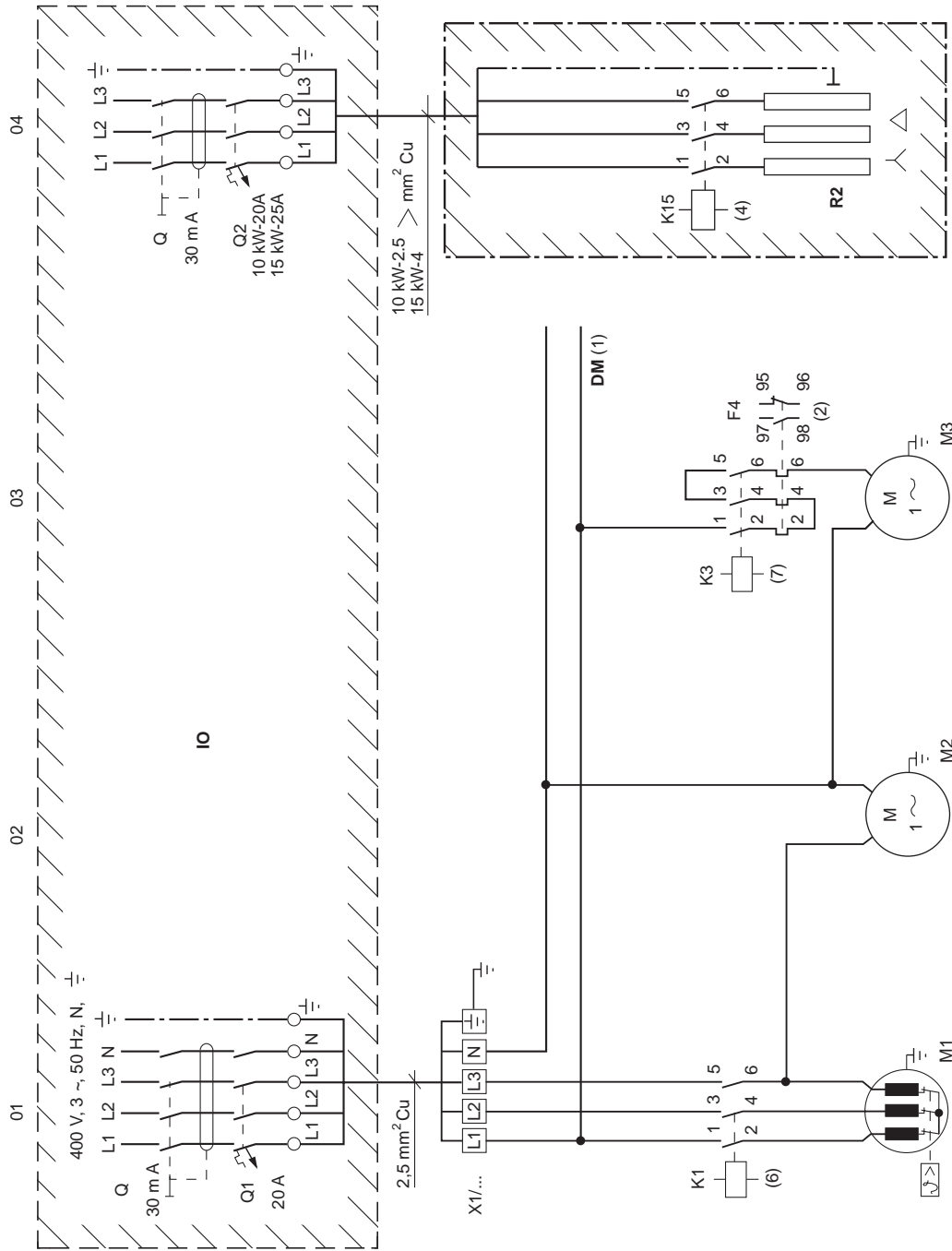
THE COMPONENTS INCLUDED IN THESE BOXES ARE STANDARD ACCESSORIES SUPPLIED BY THE MANUFACTURER

I-1080/d
 RTC-7, 230.1.50

Power diagram

RTC-10, 400.3.50

- DM: TO CONTROL DIAGRAM
- IO: JOBSITE INSTALLATION
- M1: COMPRESSOR MOTOR
- M2: CONDENSER FAN MOTOR
- M3: EVAPORATOR FAN MOTOR
- R2: 10/15 kW INDOOR ELECTRIC HEATER



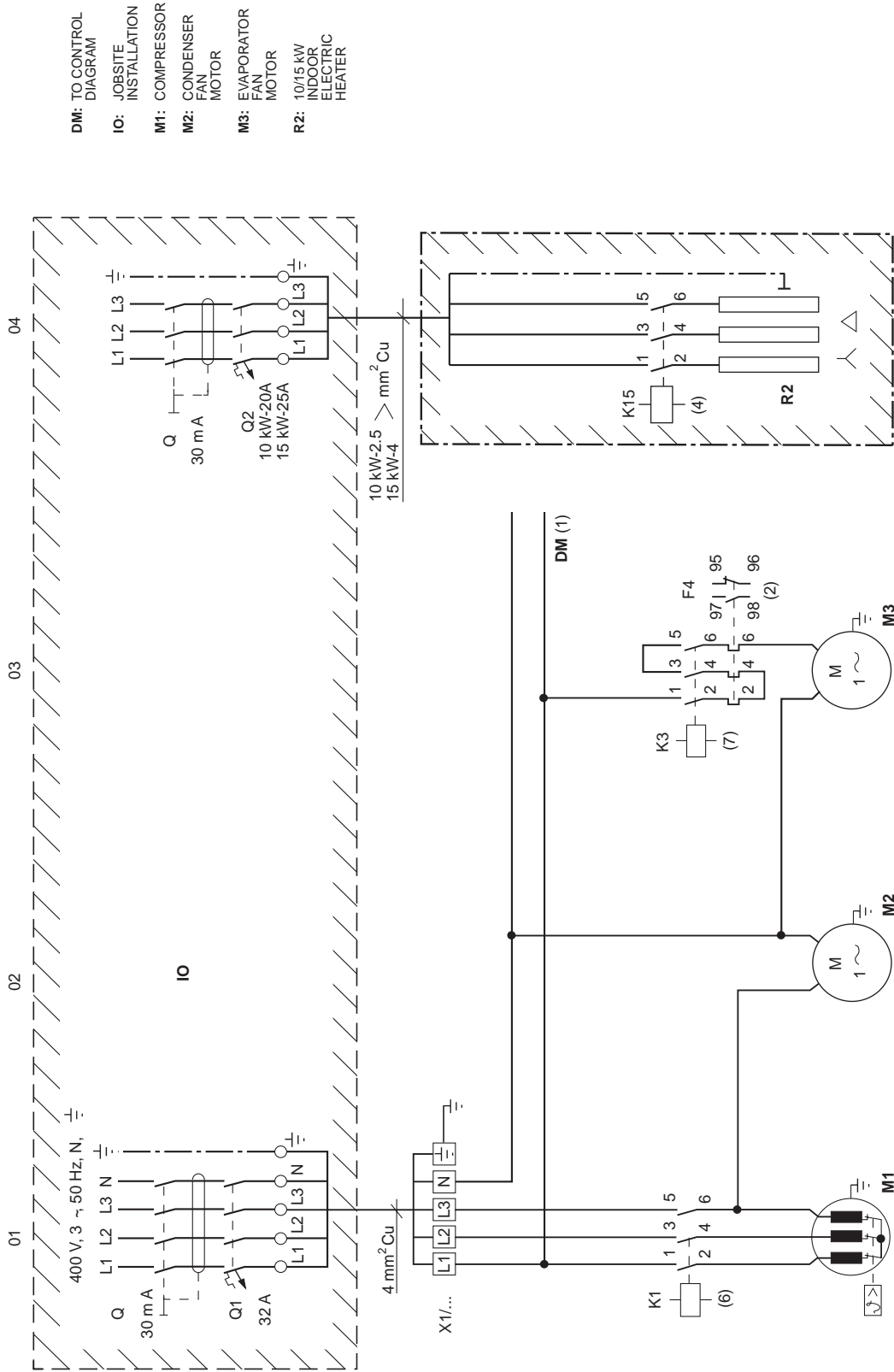
THE COMPONENTS INCLUDED IN THESE BOXES ARE NOT SUPPLIED BY THE MANUFACTURER

THE COMPONENTS INCLUDED IN THESE BOXES ARE STANDARD ACCESSORIES SUPPLIED BY THE MANUFACTURER

I-1204/d
RTC-10, 400.3.50

Power diagram

RTC-15, 400.3.50



- DM:** TO CONTROL DIAGRAM
- IO:** JOBSITE INSTALLATION
- M1:** COMPRESSOR
- M2:** CONDENSER FAN MOTOR
- M3:** EVAPORATOR FAN MOTOR
- R2:** 10/15 KW INDOOR ELECTRIC HEATER

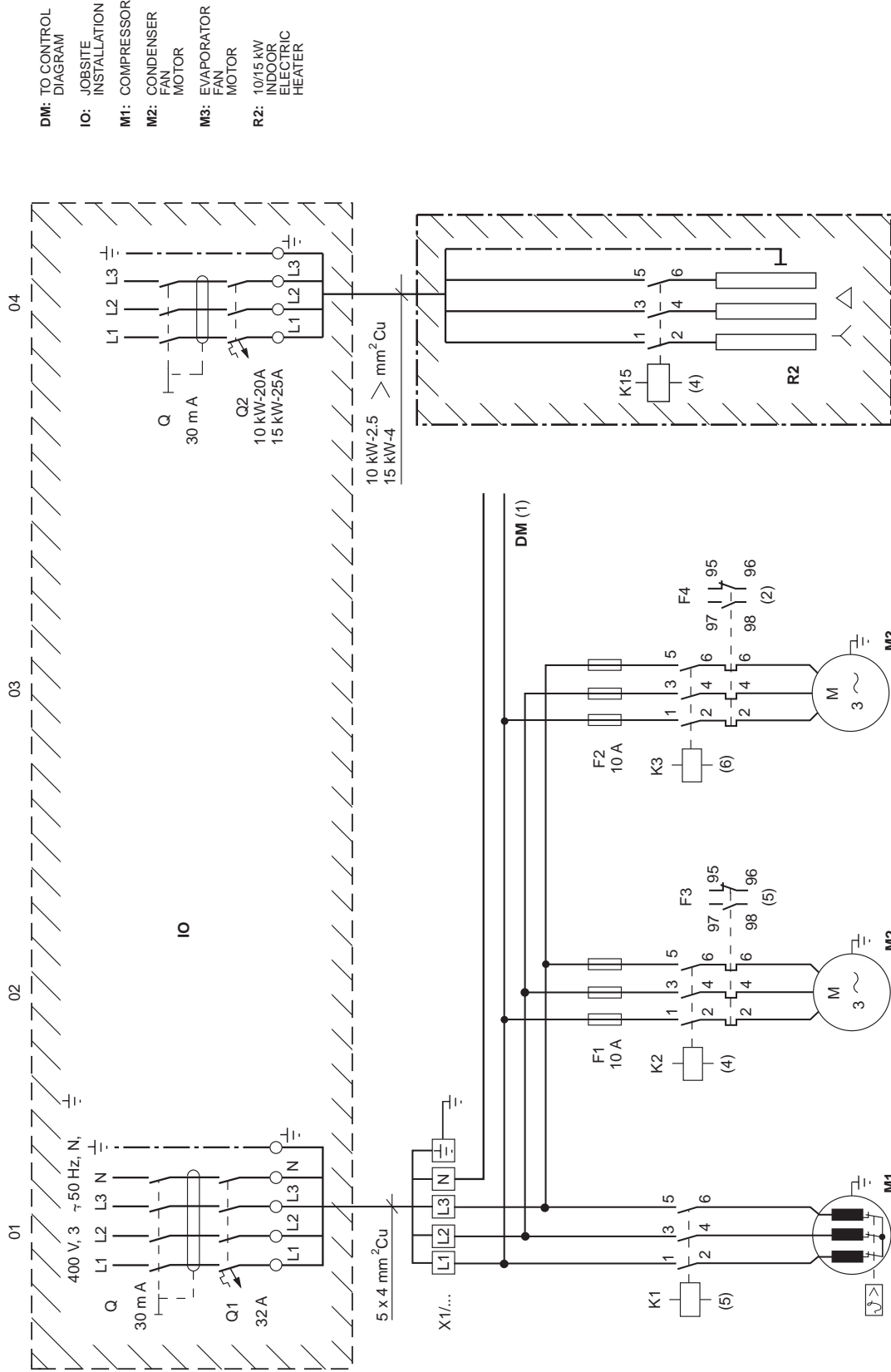
THE COMPONENTS INCLUDED IN THESE BOXES ARE NOT SUPPLIED BY THE MANUFACTURER

THE COMPONENTS INCLUDED IN THESE BOXES ARE STANDARD ACCESSORIES SUPPLIED BY THE MANUFACTURER

I-1205/d
RTC-15, 400.3.50

Power diagram

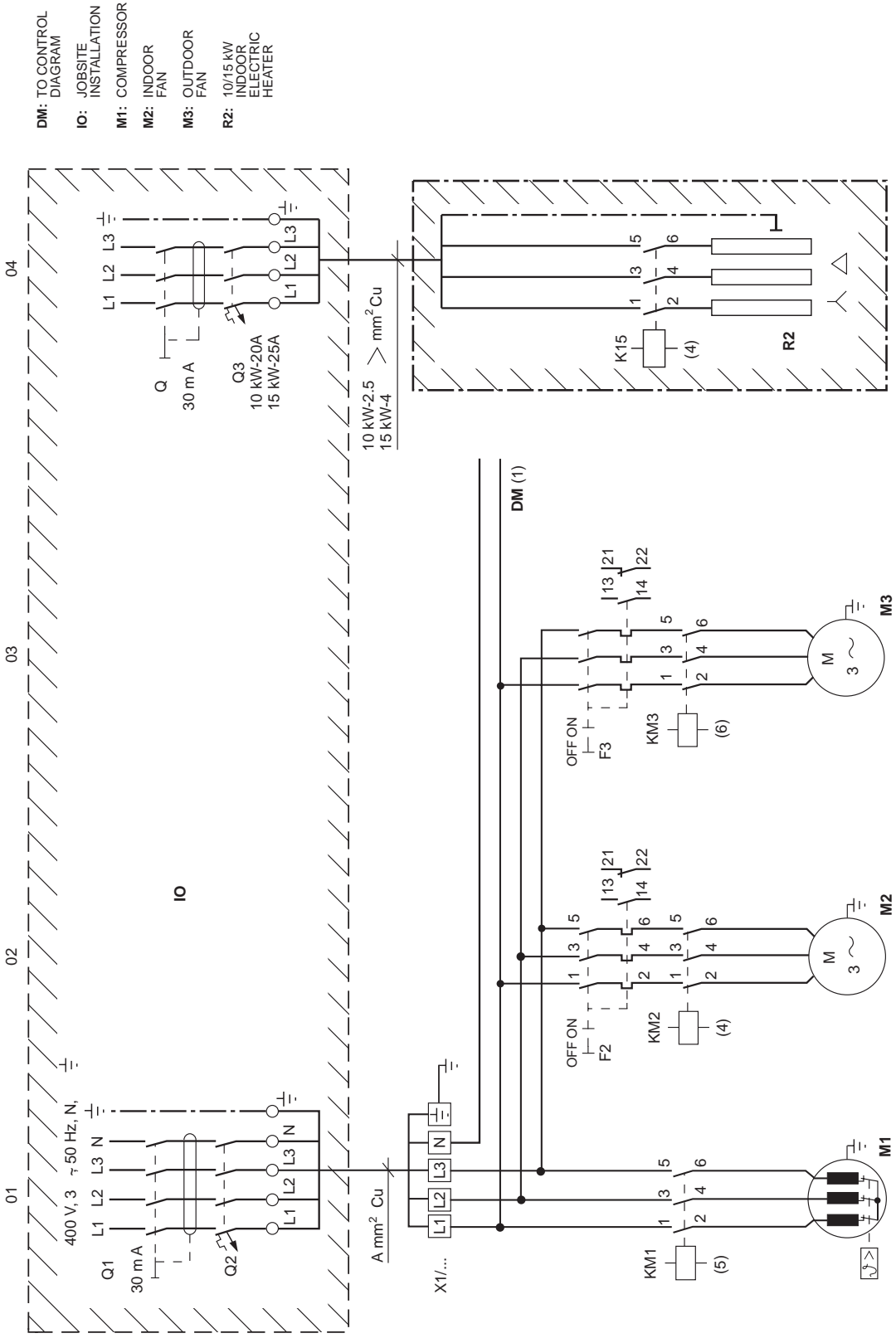
RTC-20, 400.3.50



I-1206/e
 RTC-20, 400.3.50

Power diagram

RTC-25, 30, 400.3.50



DM: TO CONTROL DIAGRAM
IO: JOBSITE INSTALLATION
M1: COMPRESSOR
M2: INDOOR FAN
M3: OUTDOOR FAN
R2: 10/15 kW INDOOR ELECTRIC HEATER

[/ / /] THE COMPONENTS INCLUDED IN THESE BOXES ARE NOT SUPPLIED BY THE MANUFACTURER

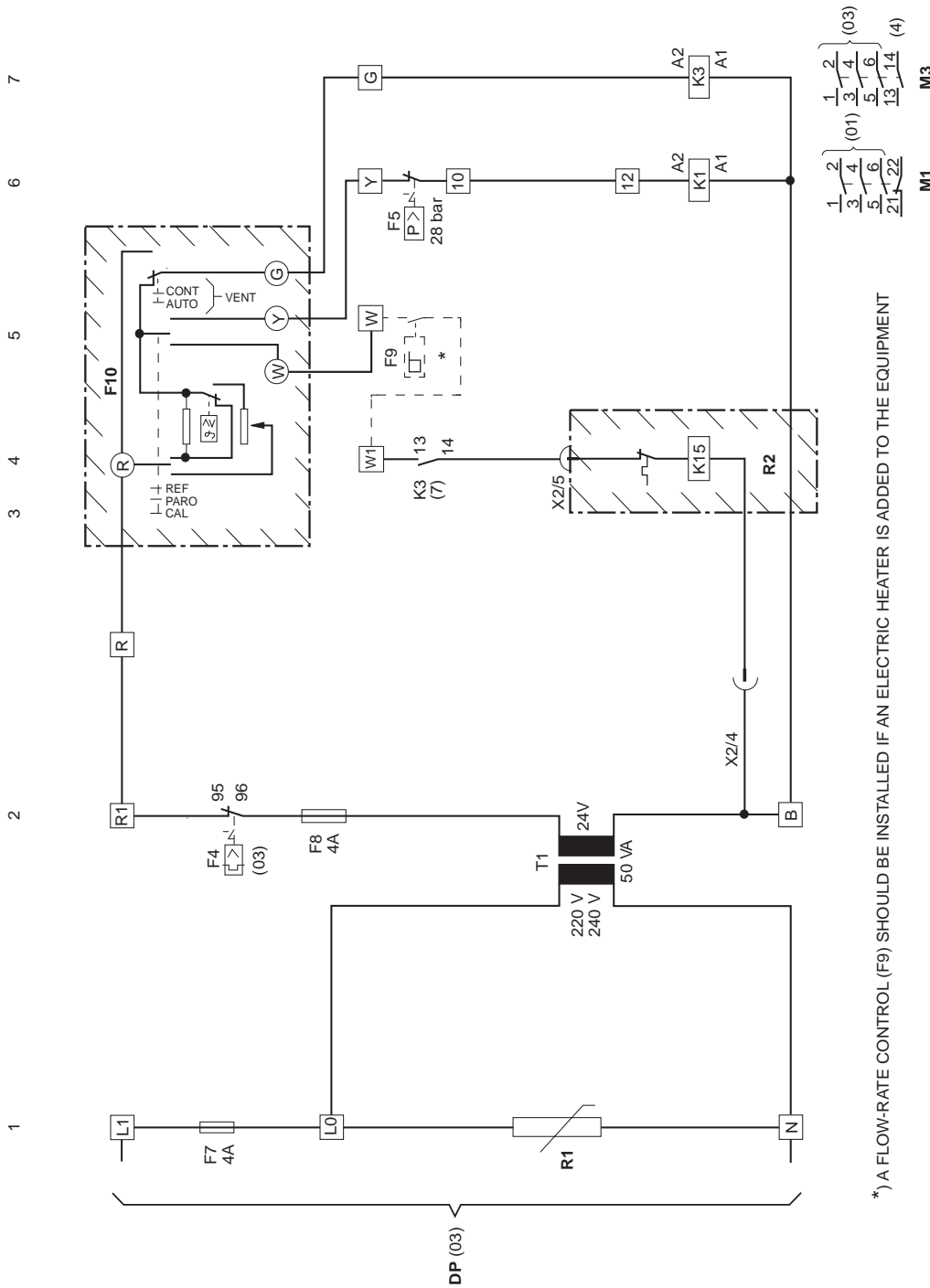
[/ / / /] THE COMPONENTS INCLUDED IN THESE BOXES ARE STANDARD ACCESSORIES SUPPLIED BY THE MANUFACTURER

I-1885/a
 RTC-25, 30
 400.3.50

Control diagram

RTC-7, 10, 15

DP: TO POWER DIAGRAM
F10: 24V AMBIENT THERMOSTAT
M1: COMPRESSOR
M3: EVAPORATOR FAN MOTOR
R1: CRANKCASE OIL HEATER
R2: INDOOR HEATER



*) A FLOW-RATE CONTROL (F9) SHOULD BE INSTALLED IF AN ELECTRIC HEATER IS ADDED TO THE EQUIPMENT

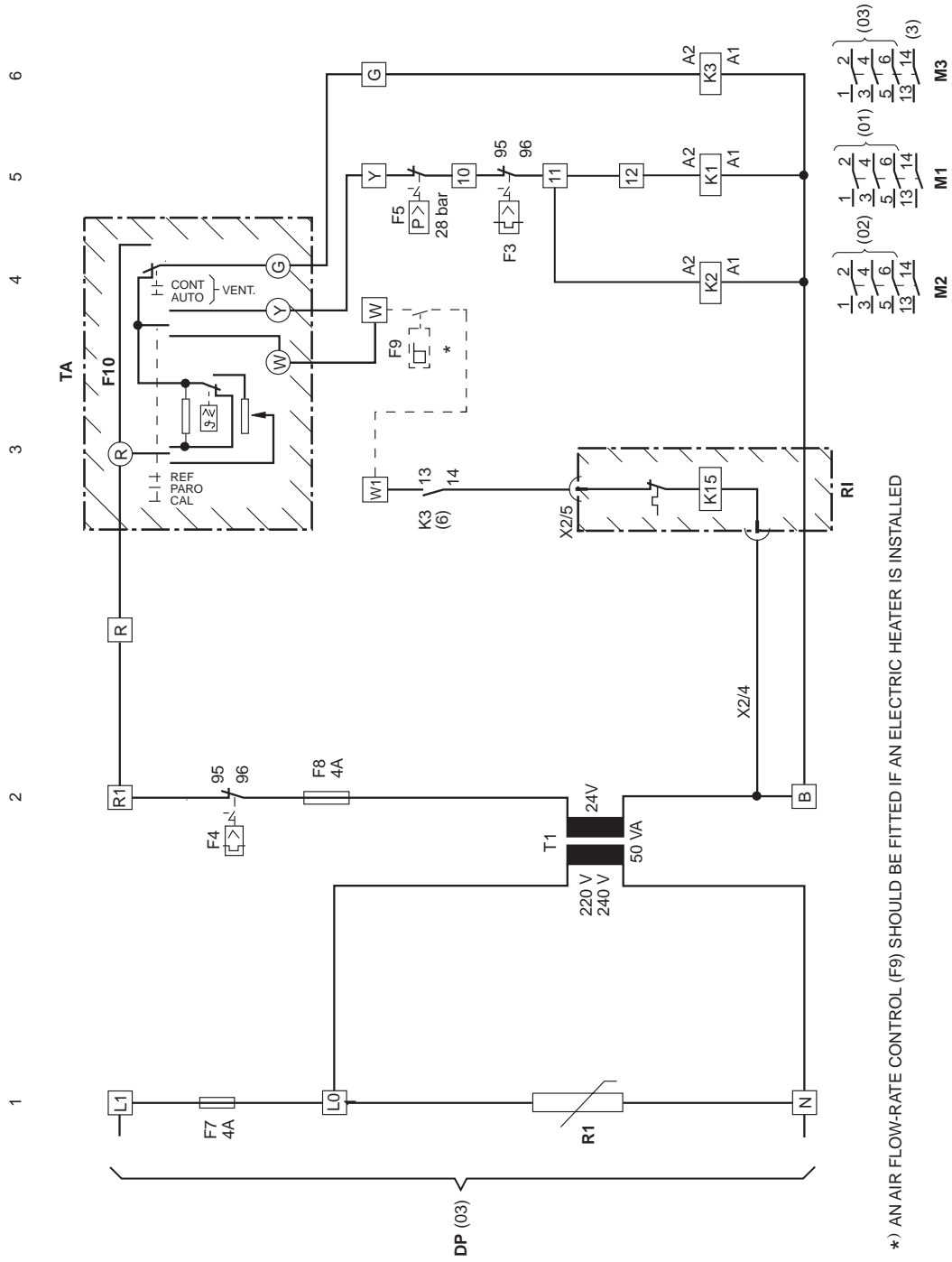
THE COMPONENTS INCLUDED IN THESE BOXES ARE STANDARD ACCESSORIES SUPPLIED BY THE MANUFACTURER

I-1203/b
 RTC-7, 10, 15

Control diagram

RTC-20

- DP: TO POWER DIAGRAM
- IO: JOBSITE INSTALLATION
- M1: COMPRESSOR FAN MOTOR
- M2: CONDENSER FAN MOTOR
- M3: EVAPORATOR FAN MOTOR
- R1: CRANKCASE OIL HEATER
- TA: 24V AMBIENT THERMOSTAT



*) AN AIR FLOW-RATE CONTROL (F9) SHOULD BE FITTED IF AN ELECTRIC HEATER IS INSTALLED

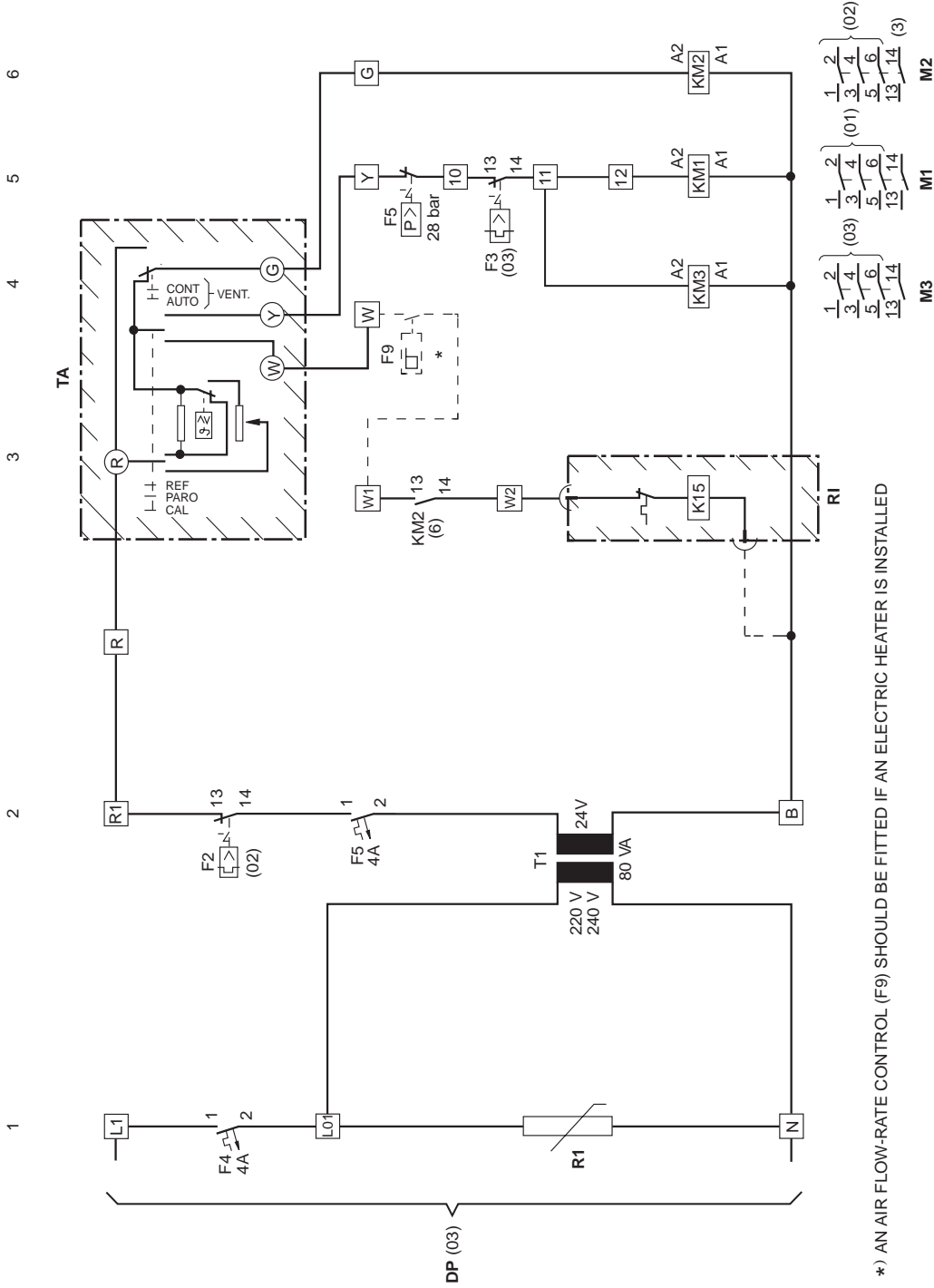
THE COMPONENTS INCLUDED IN THESE BOXES ARE STANDARD ACCESSORIES SUPPLIED BY THE MANUFACTURER

I-1207/c
RTC-20

Control diagram

RTC-25, 30

- DP: TO POWER DIAGRAM
- IO: JOBSITE INSTALLATION
- M1: COMPRESSOR
- M2: INDOOR FAN
- M3: OUTDOOR FAN
- R1: CRANKCASE OIL HEATER
- TA: 24V AMBIENT THERMOSTAT

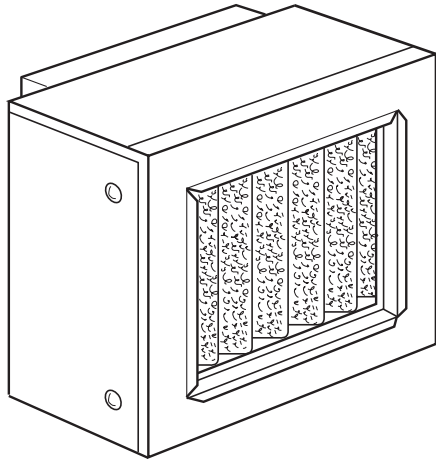


* AN AIR FLOW-RATE CONTROL (F9) SHOULD BE FITTED IF AN ELECTRIC HEATER IS INSTALLED

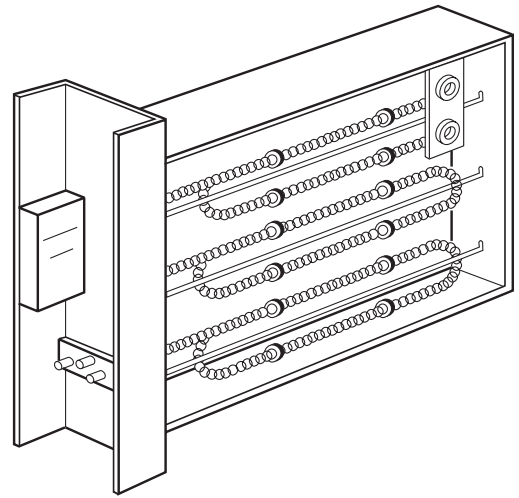
THE COMPONENTS INCLUDED IN THESE BOXES ARE STANDARD ACCESSORIES SUPPLIED BY THE MANUFACTURER

I-1886/C
RTC-25, 30

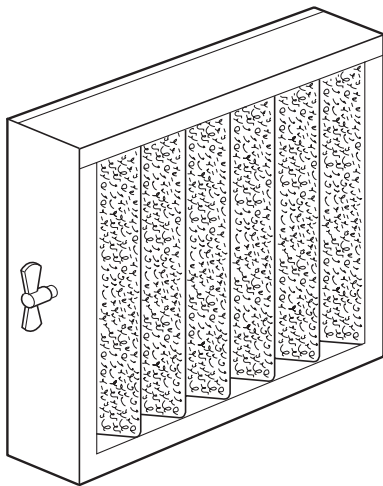
Optional accessories for the RTC air conditioner



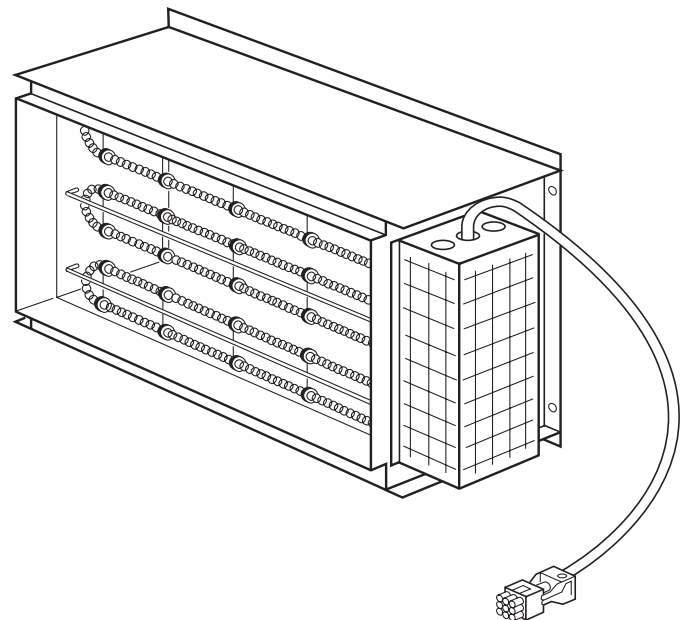
**Filter with frame
for RTC-7, 10, 15 & 20**



**Indoor electric heater
for RTC- 7, 10, 15 & 20**



**Air filter for RTC-7, 10, 15 & 20
(units 25 & 30 are supplied with the filter
installed)**



**Duct electric heater
for RTC-7, 10, 15, 20, 25 & 30**

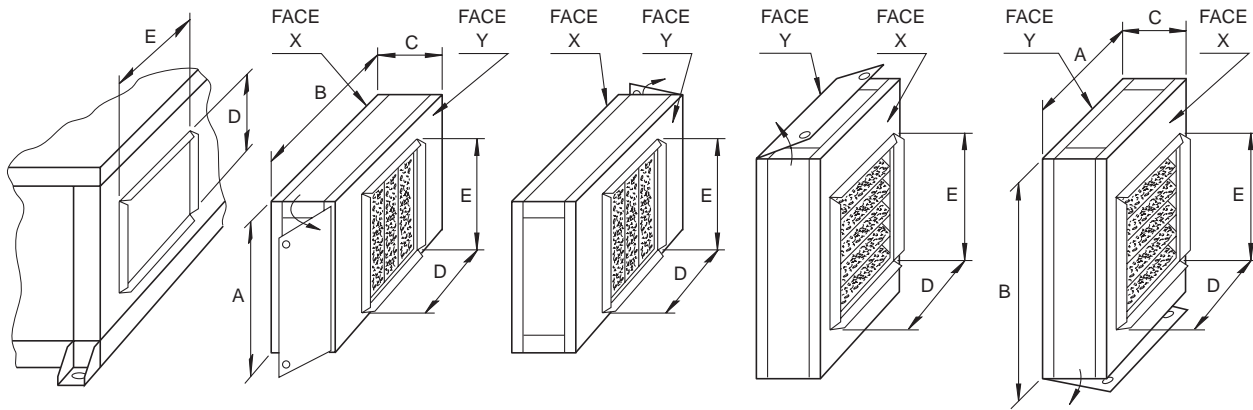
Filter with frame

Designed to be fitted in the air inlet of either the indoor or outdoor fan.

The incorporated filter is of the regenerable type, with open-cell polyurethane foam filter mat.

The configuration of the filter-frame makes it possible to position the cover giving access to the filter on any of the four sides of the duct. In any case, it should be borne in mind when designing the air ducting that the incorporation of this accessory, **always entails a 90°C turn in the channelling of the air entry into the unit**, as shown in the drawing below.

Positions and general dimensions mm



Filter pressure drop (mm WG)

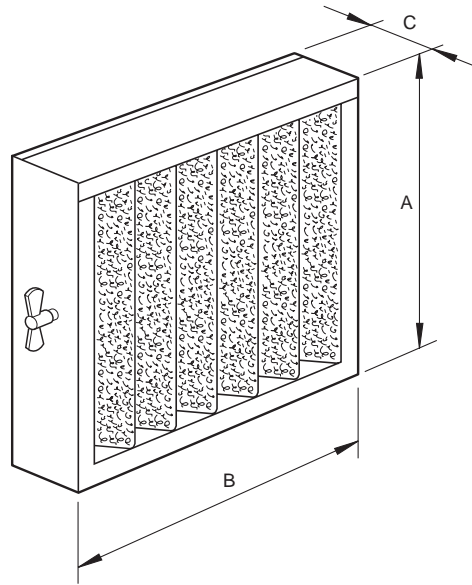
Model			RTC-7/10		RTC-15/20	
			mm WG	Pa	mm WG	Pa
Dimensions of filter frame	Height	A	403	482		
	Width	B	419	528		
	Depth	C	164	174		
Dimensions of filter opening		D	364	434		
		E	380	480		
Dimensions with packaging	Height		413	490		
	Width		430	540		
	Depth		210	220		
Flow rate m ³ /h			RTC-7/10		RTC-15/20	
			mm WG	Pa	mm WG	Pa
	1 300		0.64	6.2	-	-
	1 500		0.80	7.8	-	-
	2 000		1.20	11.7	-	-
	2 500		1.60	15.6	0.82	8.0
	3 000		2.10	20.5	1.06	10.3
	3 500		2.60	25.4	1.35	13.0
	4 000		3.20	31.3	1.65	16.0
	4 500		-	-	2.00	19.6
	5 000		-	-	2.30	22.5
5 500		-	-	2.70	26.4	
6 000		-	-	3.00	29.4	

Air filter

Regenerable type, with open-cell polyurethane foam filter mat.

It can be adapted to either evaporator or condenser side. Once attached, the filter will exceed the conditioner's outer dimensions by 100 mm.

General dimensions mm



Model			RTC-7/10	RTC-15/20
Filter dimensions	Height	A	356	426
	Width	B	370	470
	Depth	C	100	100
Dimensions with packaging	Height		375	445
	Width		450	550
	Depth		110	110

Filter pressure drop (mm WG)

Flow rate m ³ /h	RTC-7/10		RTC-15/20	
	mm WG	Pa	mm WG	Pa
1 300	0.64	6.20	-	-
1 500	0.80	7.80	-	-
2 000	1.20	11.70	-	-
2 500	1.60	15.60	0.82	8.0
3 000	2.10	20.50	1.06	10.3
3 500	2.60	25.40	1.35	13.0
4 000	3.20	31.30	1.65	16.0
4 500	-	-	2.00	19.6
5 000	-	-	2.30	22.5
5 500	-	-	2.70	26.4
6 000	-	-	3.00	29.4

Indoor electric heater

These are resistances of air-exposed wires and are comprised of the following elements:

Air-exposed chrome-nickel wire resistances.

Contactors actuated by a high-reliability 24 V coil.

Safety thermal protector which disconnects the control circuit when it detects an abnormally high temperature.

Flow rate control designed to prevent the heater from

functioning if the fan has not been turned on.

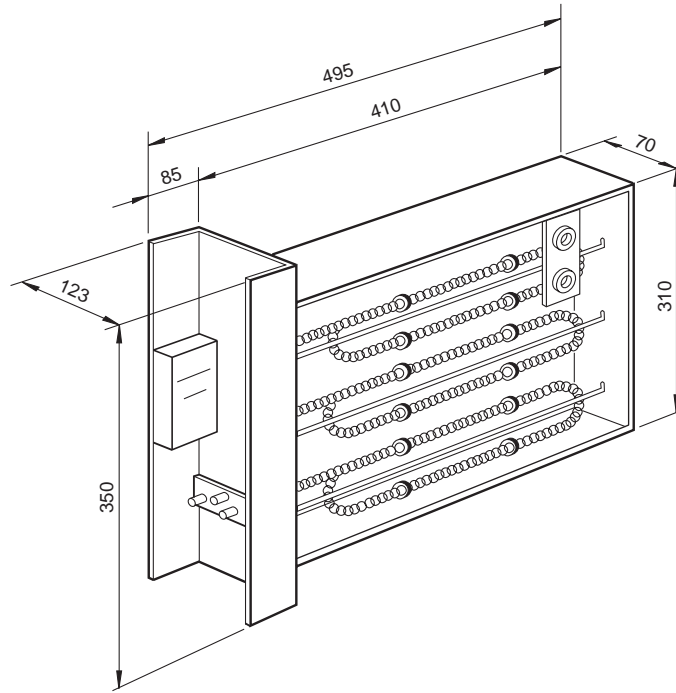
Start triangle terminal board for 400.3.50.

Quick connector for connection of control cables between heater and conditioner

Warning:

Whenever an electric heater is installed, a flow-rate control must be fitted so that the heater cannot function when the fan is not turned on.

General dimensions mm



Characteristics

For installation in heat pump size		RTC-7		RTC-7, 10, 15 & 20	
Power	kW	5	5	10	15
Capacity	kcal/h	4 300	4 300	8 600	12 900
Power supply	V.Ph.Hz	230.1.50		400.3.50	
Consumption	A	22	13/7.5	26/15	39/23
Pressure with nominal flow rate	mm WG	1	1	2	2
Packaged dimensions	mm	370 x 510 x 140	370 x 510 x 140	370 x 510 x 140	370 x 510 x 140
Net weight	kg	2.3	2.3	3.1	3.8
Gross weight	kg	2.7	2.7	3.4	4.2

Duct electric heaters RC-220

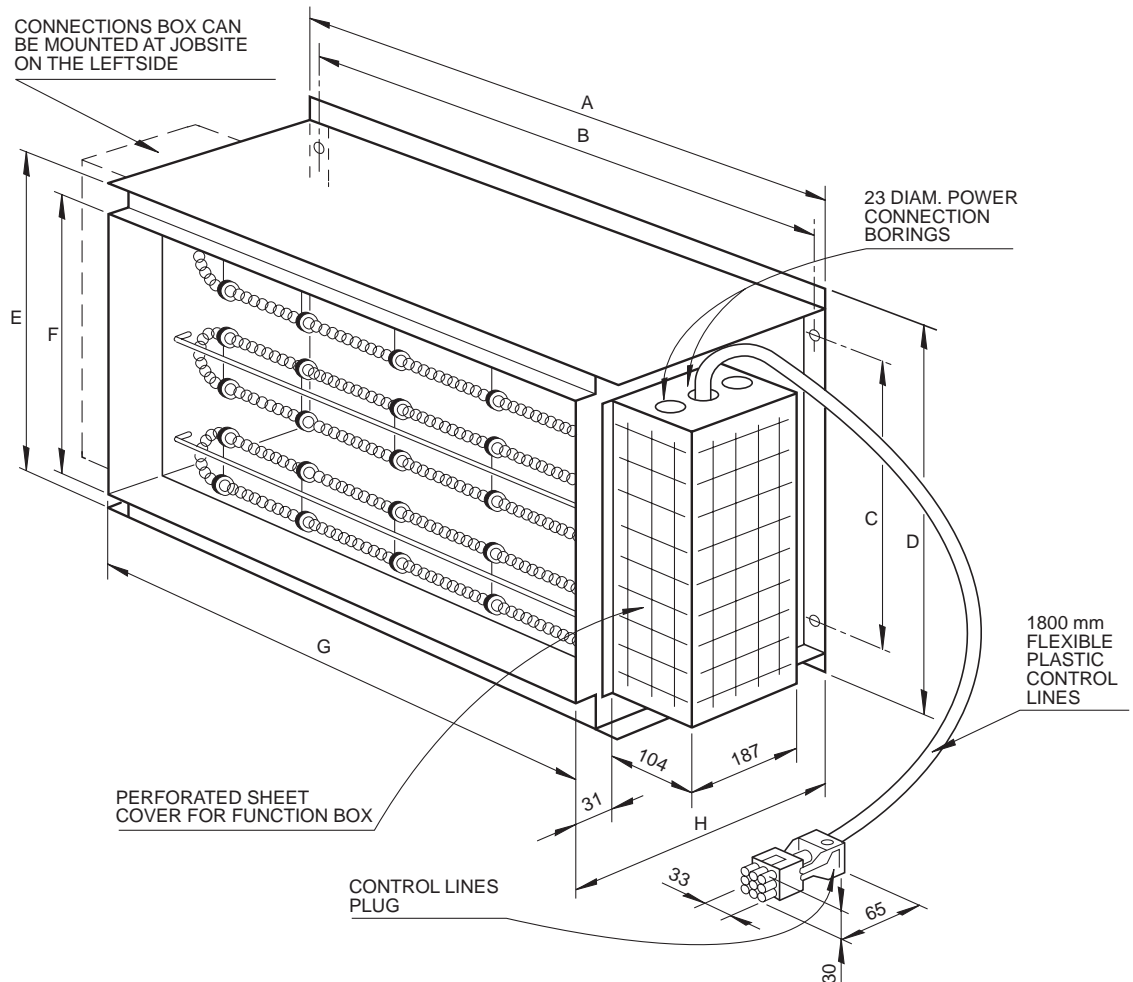
For installation in the air discharge duct of the indoor fan.
They are intended to function for emergency heating.
The pressure drop considered for these batteries in any operating conditions is 1 mm WG.

Attention:

Whenever an electric heater is installed, a flow-rate control must be fitted so that the heater cannot function when the fan is not turned on.

General dimensions mm

Note: For more detailed information consult specific brochere.



General characteristics

Note: To connect the heater, see the wiring diagrams of each RTC unit.

Resistance model	Nominal power kW
RC-10 - 220	10
RC-15 - 220	15
RC-20 - 220	20
RC-30 - 220	30

Electric heater size	A	B	C	D	E	F	G	H
10, 15, 20	582	562	330	408	376	345	542	321
30	823	803	435	517	482	451	783	351

All data subject to change without notice.

DEFINITIVE SHUTDOWN, DISASSEMBLY & DESTRUCTION

This product includes a refrigerant gas under pressure, moving parts and electric components which may be dangerous and cause injury !
All servicing must be done by qualified personnel, wearing protective clothing, in compliance with applicable safety rules.



Read the Manual



Risk of electric shock



Remote-controlled unit
May start up unexpectedly



1. Cut off all electric power-supplies from the unit, as well as from the power supply of the control systems running it. Make sure that all electric cut-off devices are blocked in open position and the town-gas supply valves are in closed position. The power-supply wires and gas pipes may then be disassembled and removed. Consult the technical documentation in order to ascertain the unit's connection points.
2. Transfer all refrigerant from each system component to an appropriate recipient, or use a specially-designed recovery unit. The refrigerant can then be re-used or returned to the manufacturer for destruction/recycling, depending on the case. **It is strictly forbidden to discharge the refrigerant into the atmosphere.** Depending on the case, drain the refrigerant oil from each system into an appropriate recipient and eliminate it in accordance with local applicable regulations relative to hydrocarbon waste products.
3. As a general rule, the solid-block units are to be disassembled and removed in a single piece. Remove all fastening bolts and then raise the items with handling equipment with appropriate lifting capacity. It is absolutely essential to consult the information in the technical documentation as regards the weight and recommended handling procedures. The residual refrigerant oil and spills are to be sponged up and eliminated according to instructions given above.
4. After disassembly, the system components are to be destroyed/drained/put in a recycling dump in accordance with local applicable regulations.