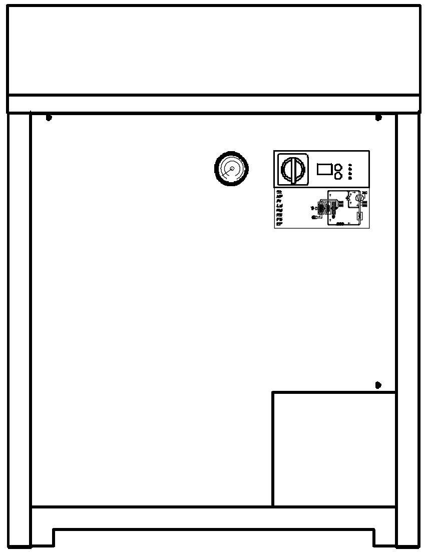


SR-250 – SR-3000

refrigeration dryer (60Hz)

SULLAIR®

272677

DATE: 25.06.2001 **ISSUE: 2** **CODE: 02250129-689**

Index

Safety warnings

Important:

- Keep this manual with the machine throughout its entire service life.
- Carefully read this manual before carrying out any operation on the machine.
- **This machine is designed for PROFESSIONAL USE only. Only use the machine for the purpose for which it is intended. Improper use of the machine absolves the manufacturer from all liability.**

This manual has been compiled to help the final user perform just those operations which do not require removal of the panels.

All other operations which involve the removal of covers from instruments or electrical circuit–breakers using special tools must only be carried out by trained personnel due to the danger of rotating parts or live components.

Each machine is equipped with an electric disconnect device which allows the operator to work on the machine in absolute safety. **This device must always be used to disconnect the mains supply to avoid any risk of danger during maintenance work (electric shocks, scalding, automatic start–up, moving parts and remote control).**

Before servicing the dryer always make sure the compressed air circuit is depressurised.

The key provided to remove the panels must be kept by the head of maintenance.

When requesting technical assistance or ordering spare parts, always quote the model and serial number on the identification plate mounted externally on the unit.

IMPORTANT: This manual is subject to modification. For the most comprehensive and up–to–date information, the user is therefore required to consult the manual supplied with the machine.

All figures to which the "see Fig." references in this text refer can be found at the end of this manual. The language translations for these figures can be found in the Legend (A3 – sized page) inserted after all the figures.

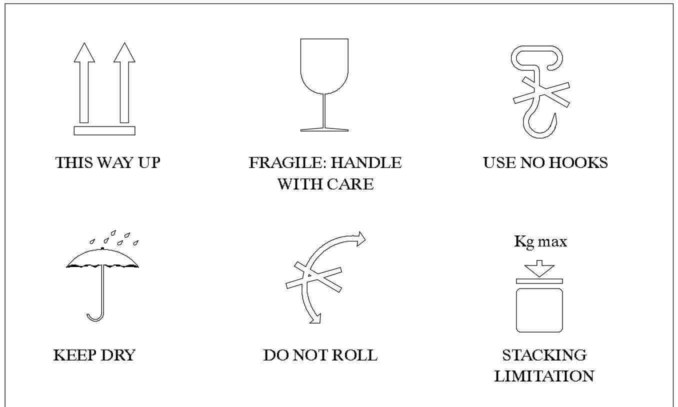
1 Introduction

1.1 Foreword

The ***SR*** dryers are designed to guarantee high quality compressed air and minimum maintenance.
Please carefully read this manual to obtain maximum performance from your dryer and ensure its correct installation and start – up in compliance with manufacturer instructions.

1.2 Packaging

The dryer is packaged with a strong cardboard box strapped to a wooden pallet.
Instruction symbols (UNI ISO 780) for the movement, transport and stocking of the product are printed on two sides of the packing.



1.3 Transport

- Keep the unit in an upright position and do not leave it outdoors.
- Use a forklift truck to move the machine.
- Care should be taken to avoid damaging internal components through poor handling during movement, installation or use.
- Unpack the machine as close as possible to the installation site.
- Ensure the ambient temperature never exceeds 122°F (50°C).

1.4 Storage

If stored the packaged units must be kept inside, protected from humidity, direct sunlight and rain, and at a temperature not exceeding 122°F (50°C).
Moreover, although stacking is permitted the maximum weight must not be more than the value shown on the packaging.

1.5 Inspection

On receipt of the machine, make sure it has incurred no damage during transit.
If any damage is detected promptly contact the haulage company.

2 Installation (see Fig. 4 / Fig. 5)

a) Do not install the dryer outdoors even if protected by a roof. Never expose the dryer to temperatures below 41°F (5°C) or above 122°F (50°C).

b) The compressed air inlet temperature must never exceed 140°F (60°C). For different temperatures to those indicated above, consult the manufacturer.

c) Allow for a 60 inch (1,5 metre) gap around the unit to facilitate maintenance and ensure unimpeded air discharge from the condenser.
Air--cooled versions: leave a space of at least 80 inch (2 metre) above the Dryer.

d) For most compressed air applications we recommend following the installation plan (see Fig. 1). This layout ensures optimum compressor, filter and dryer performance and also guarantees excellent air quality whilst minimising operating costs.

e) **Do not obstruct the dryer air grilles.**

f) Avoid recirculation of hot condenser air back into the condenser air inlet.

g) If the system is prone to instantaneous pressure surges which exceed the dryer's rated capacity, mount a suitably sized receiver near the overpressure source. For more precise information, contact the manufacturer or distributor.

h) **It is necessary install a pre–filter (max. 3 micron) filter on the dryer intake to prevent rust, scale or other pollutants from entering the system and clogging the condensate drain and heat exchangers, thereby causing severe pressure drops. This filter must be close to the dryer inlet.**

i) **For water cooled versions it is recommended to install a filter on the condenser water inlet to prevent the ingress of debris that will gradually choke the passages, with negative effects on dryer performance.**

j) ⚠ ***Water--cooled versions:*** the cooling water hardness should not exceed 25° d fr = 14° dH = 18° Clark. If the water is harder consult the manufacturer.

Condenser cooling water pressure:
minimum = 43.5 psig (3 barg)
maximum = 145 psig (10 barg)
For different pressure settings contact the manufacturer.

k) Always install a bypass line with shut–off valves (supplied as option for ***SR-250 -- SR-500***) to permit maintenance or calibration without interrupting the compressed air flow to the user.

l) Correctly connect the dryer to the air inlet and outlet connections. If the compressed air network is prone to vibrations, use hoses to make the connections. If the mains is subject to high levels of pulsation, ensure that the connection is equipped with pulsation dampers.

m) Do not connect condensate drains common to other pressurised drain lines in a closed circuit. Make sure the outflow from the condensate drains is unimpeded. Connect the condensate piping in such a way to ensure that sound levels are kept to a minimum during drainage.
Ensure that all condensate is disposed of in a responsible manner, in accordance with local norms concerning environmental protection.

n) The ambient air around the dryer and compressor must not contain solid or gaseous contaminants. All compressed and condensed gases can generate acids or chemical products which may damage the compressor or components inside the dryer.
Take particular care with sulphur, ammonia, chlorine and installations in marine environments. For further advice or assistance consult the manufacturer.

2.1 **Electrical connection** (see Fig. 5 / Fig. 10)

Use a cable that complies with regulations in force in the country of installation (connected to terminals "L and N ⚠ " for single–phase machines and to terminals "L1–L2–L3–GND ⚠ " for three–phase machines), connected to the junction box, with minimum wire sizes: (see machine electrical schematic in Fig. 10).

⚠ **Install a residual current circuit breaker upstream from the plant (IDn = 0.03A) with a 0.12 inch (3 mm) gap between contacts when open.**

2.2 Condensate drain connection

a) The drainer is already installed and cabled.
b) Connect the condensate drain outlet to the drainage system.
c) Any maintenance operation must be done by an expert technician.

N.B.: The dryer is supplied either with a timed drain or an electronic level sensing drain. Refer to the separate manual supplied with the dryer for specific details concerning the condensate drain.

3 Start–up and operation

N.B.: For instructions on operation of control panel, refer to Chapter 4.

3.1 Preliminary checks

Before starting up the dryer, make sure that:

a) the air inlet valves are closed and there is no air flow through the dryer.
b) The mains power supply is commensurate with the dryer voltage.
c) The dryer is installed in compliance with the installation instructions given in Chapter 2.

3.2 Starting the dryer

a) The dryer is started using the main switch.
b) Always start up the dryer before activating the air compressor.

c) Set the yellow–red main disconnect switch QS to ON so that the (yellow) power on LED on the control panel illuminates.
d) **Wait about 5 minutes until the dryer is running at the correct operating temperatures and pressures.**
e) **Slowly open the air inlet valve to pressurise the dryer.**
f) **Open the outlet valve. The dryer is now operating (drying).**
g) Always leave the dryer running while the air compressor is operating.
h) ⚠ **It is very important to check the rotational direction of the SCROLL compressors. If supplied with the wrong phase frequency they will turn in the opposite direction. In this case they are very noisy and risk getting damaged. SWAP OVER THE PHASES IMMEDIATELY.**
Check that the pressure reading on the (LP) gauge, situated on the front panel, decreases.

3.3 Stopping the dryer

a) The dryer is stopped using the main switch.
b) Stop the dryer 2 minutes after shutting down the air compressor or interrupting the air flow to the dryer.

⚠ Compressed air must never enter the dryer when the dryer is switched off or when it is in an alarm situation which stops the refrigeration compressor.

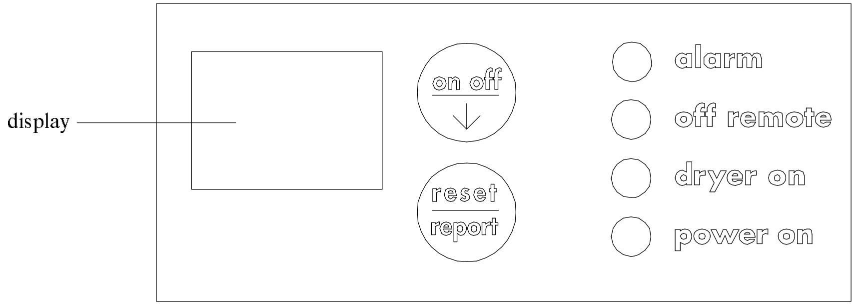
3.4 Operation

- The dryer operates automatically. It is factory set for a dew point of 38°F (3°C) (ISO 7183, Part 2) and therefore requires no further calibration.
- Do not exceed the machine's design limits, bypass excess air flow and check the unit model and/or installation.
- For maximum performance from your dryer, follow the maintenance schedule described in Chapter 5.
- The sound pressure level recorded for these dryers at 40 inch (1 metre) from the machine in free field conditions is less then 70 dB (A).
- Fig. 6 shows the Dryer's refrigeration and air circuits.

4 The control panel

4.1 Front panel

All operations are controlled and displayed on the front panel:



Display

- When powered up the display indicates the unit of measure (°C or °F) for the temperature shown.
- During operation the display indicates the dew point temperature (T0).
- When the dryer enters alarm status, the display indicates the relative alarm code.
- In **STATUS REPORT** mode, the display indicates the most recent dryer status events.
- In the case of high dew point conditions, the temperature reading and Hd warning code are displayed alternately.
- In the case of low dew point conditions, the temperature reading and Ld alarm code are displayed alternately.

Keypad

on off — Dryer on/off button.

↓ — This button is used, when the dryer is not in operation, for the following functions:

a) setting the last SERVICE DATE
b) inserting the time for "MAINTAIN COLD MASS"
c) reading the STATUS REPORT.

reset — Press for 2 seconds to reset the alarm or warning signal once the cause of the alarm has been eliminated.
This is also used for the following functions:

a) temperature scale selection
b) reset alarm memory
c) setting last service date
d) compressor hours counter reading

report — Access to STATUS REPORT.

LEDs

alarm (red)	ALARM red LED illuminated	one or more alarms tripped
	WARNING flashing red LED	one or more warning signals tripped
off remote (yellow)	REMOTE OFF yellow LED illuminated	dryer switched off by remote control
on or **dryer on** * (green)	ON green LED illuminated	dryer running
line or **power on** * (yellow)	LINE yellow LED illuminated	dryer powered up

* depending on model

4.2 Operation

a) **Starting and stopping**
When the dryer is powered up (yellow **line** LED illuminated) the unit may be started and stopped using the **on/off** button. Start – up is deferred by a 6 second time delay during which the green **on** LED flashes.

b) **Remote On/Off**
The unit may be switched on and off using a remote switch installed by the customer (the control panel must be switched on for the remote control to operate). The unit switches on/off in accordance with the make/break status of the remote contact (see terminals 16, 2).
Open = unit OFF   Closed = unit ON
The remote control is enabled by pressing the remote ON button.
If the dryer is switched **off** using the on/off button on the control panel the unit STOPS (irrespective of the remote signal).

c) **Remote warning/alarm contact (free contact)**
The remote control digital warning/alarm output (terminals 22 – 23 NO, 32 – 33 NC) operates as follows:

Contact status 22 – 23	Signifies
closed (energized)	no alarm (dryer ready to start or running)
open (de – energized)	alarm (or dryer not energized)
alternately open/closed	warning (dryer running)

d) **Cold Mass (energy saving) function**
The control unit provides a "MAINTAIN COLD MASS" function (CM). This function consists in maintaining the heat exchanger at a temperature between tA (minimum) and tB (maximum). If selected, the function is active when the Dryer is in remote OFF. The following parameters control Cold Mass:

- **tA:** compressor OFF temperature
- **tB:** compressor ON temperature
- **tC:** Cold Mass activation delay (after opening of the remote OFF contact).
- **dC:** compressor OFF delay

To select the temperature proceed as follows (values in brackets refer to factory settings):

I) ***Switch*** on the main disconnect switch while pressing and holding the I/O button.

II) ***Press*** RESET repeatedly to set temperature tA (alarm LED flashes); ***press*** RESET to set the required temperature 42.8°F [6°C].

III) ***Press*** I/O to set temperature tB (remote OFF LED flashes); ***press*** RESET to set the required temperature 49.8°F [9.9 °C].

IV) ***Press*** I/O to set activation delay tC (on LED flashes); ***press*** RESET to set the Cold Mass activation delay [10 min].

V) ***Press*** I/O to set delay dC (all 3 LEDs flash); ***press*** RESET to set the compressor OFF delay [3min].

VI) ***Press*** I/O to quit the setting function and store the selected settings.

VII) The dryer can now be started by ***pressing*** I/O.

N.B.: If tC is set to zero, the remote ON/OFF function will be activated.
If tC is set between 01 and 99, Cold Mass (CM) will be activated.

4.3 Alarms and warnings

HP – High pressure alarm
If the high pressure switch trips the compressor stops and the alarm message **HP** is displayed. Once the cause of the alarm has been eliminated press the **reset** button to clear the alarm.

St – High temperature alarm
If the high temperature thermostat trips the compressor stops and the alarm message **ST** is displayed. Once the cause of the alarm has been eliminated press the **reset** button to clear the alarm.

Ld – Low dew point temperature alarm
If, when the dryer is running, the temperature falls below 28°F (–2°C), the low dew point temperature alarm is tripped after a 3 minute delay, causing the compressor to stop. The alarm message **Ld** and temperature reading are displayed alternately. **This alarm automatically resets itself when the temperature rises above 32°F (0°C)**.

PI – Compressor internal protection alarm
When the compressor motor overheats this internal thermal protection device intervenes to stop the compressor to avoid burn–out. (The device automatically resets once it has cooled down.)

Hd – High dew point temperature warning
If, when the dryer is running, the temperature exceeds 59°F (15°C), the high dew point temperature warning alarm is tripped after a 3 minute delay. The compressor continues running and the warning message **Hd** and temperature reading are displayed alternately. **THIS ALARM RESETS ITSELF AUTOMATICALLY WHEN THE TEMPERATURE RETURNS BELOW 55°F (13°C)**.

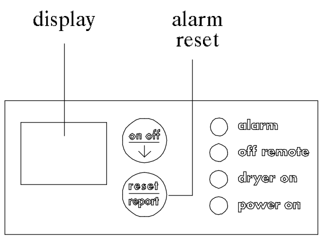
FS – Full–scale warning
This warning indicates that the temperature reading exceeds the screen display limits, ie: below 10°F (–9°C) and above 99°F (+37°C).

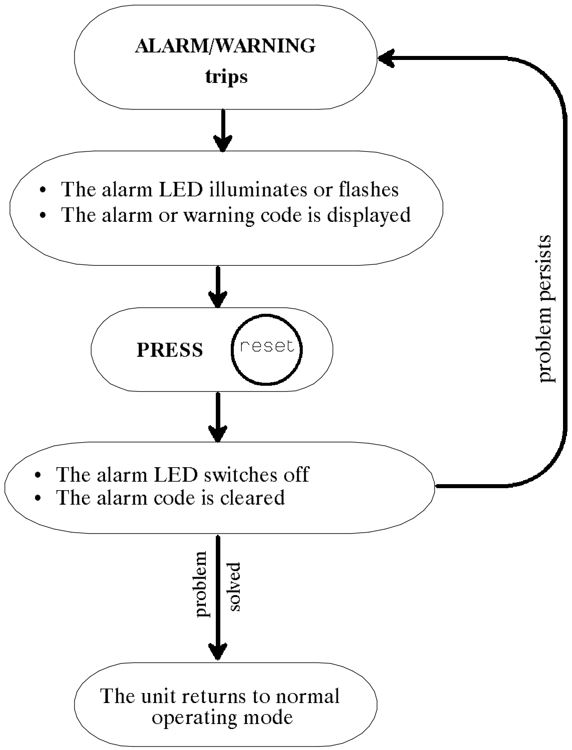
AS – Temperature sensor fault warning
This warning indicates that temperature sensor T0 is faulty (open or short–circuited).
The compressor continues running but alarm **Ld** and warning **Hd** are disabled so that the dryer can operate in safety, ie. with pressure switch **HP** and thermostat **ST** operational.

EP – Eeprom error
This alarm message indicates that the eeprom memory is faulty. All operations are disabled and the control unit enters alarm status.
THE CONTROL PANEL MUST BE REPLACED.

Er – Activation error
If the **on/off** button is pressed when the control unit is in **remote off** status (yellow LED illuminated) the error message **Er** is displayed for 2 seconds.

ALARM trip/reset sequence





4.4 General functions

REPORT and HOUR COUNTER MANAGEMENT (USER AREA)

N.B.: The REPORT/HOUR COUNTER option is only enabled when the unit is in STAND – BY (**line LED illuminated**).

Press the REPORT key and hold it down for 6 seconds to access the USER area.

a) ***Press*** the ON – OFF button to access the REPORT option and display the last 8 alarms and/or warnings generated.
Access to this option is confirmed by the code "**rE**" (REPORT) on the display.
– ***Press*** the ↓ key to scroll through the last 8 events in chronological order:
1 – – – last event – – –
2 – – – penultimate event – – –
3 – – – – – – – – – – – – – – – – – – –
8 – – – eighth event – – –

b) ***Press*** the RESET button to skip the Report page and enter the HOUR COUNTER function.
The unit can record up to 99,999 operating hours. The counter is advanced at 20' intervals. Current operating hours are displayed in three pages at intervals of 2 seconds:
– First page: displays THOUSANDS; the **red alarm LED** flashes at the same time
– Second page: displays HUNDREDS; the **yellow remote off LED** flashes at the same time
– Third page: displays TENS; the **green on LED** flashes at the same time.

The combination of the three pages gives the total machine operating hours.
To exit the HOUR COUNTER function ***press*** the RESET button again.

TEMPERATURE SCALE SELECTION (MANUFACTURER AREA)

The unit can display temperatures in Celsius or Fahrenheit.

a) ***Switch*** the main disconnect switch on whilst ***holding down*** the ON – OFF button

b) The display will present the code ”CF”.

c) ***Press*** RESET to select the required unit of measure.

d) ***Switch*** the control unit off and on agian to store the selected unit of measure.

SETTING THE LAST SERVICE DATE (MAINTENANCE AREA)

Switch the main disconnect switch on whilst holding down the RESET button: this action opens the CLEAR REPORT function. Entry to the function is confirmed by the code ”CL” on the display.

Press RESET to enter the SET LAST SERVICE DATE function. The display will show the letters ”AA” to indicate the year, while the **red Alarm LED** flashes.
Press the ↓ key to display the letters ”MM” for the month, while the **yellow remote OFF LED** flashes.

Press ↓ again to display the letters ”GG” for the date; the **green ON LED** will flash.

Press the ON – OFF button to exit this function.

5 Maintenance

⚠ Before accessing live electrical parts ⚠, disconnect the power supply to the dryer using disconnect switch QS or disconnect the cable connections.

SAFETY DEVICES

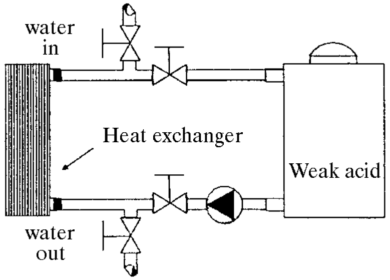
ST high temperature thermostat ***(installed on models SR-250 -- SR-3000)***
HP high pressure switch ***(installed on models SR-250 -- SR-3000)***
PI compressor internal protection ***(installed on models SR-1600 -- SR-3000)***

COMPRESSOR TYPE

PISTON ***(installed on model SR-250)***
SCROLL ***(installed on models SR-325 -- SR-3000)***

5.1 Preventive maintenance

For optimum performance from your dryer follow the periodic maintenance schedule described below.

WEEKLY	**CONDENATE DRAIN** See condensate drain manual supplied separately.
MONTHLY	**COMPRESSOR** Make sure the compressor head temperature is between 59 °F (15 °C) and 203 °F (95 °C) when running. If this is not the case consult Chap.8.
EVERY 4 MONTHS	**CONDENSER** Remove any dust from the condenser fins. **COMPRESSOR** Make sure compressor power consumption complies with data plate specifications.
YEARLY	**CONDENSATE DRAIN** Completely disassemble the drain and clean all its components. Refer also to condensate drain manual supplied separately.
	WATER – COOLED MODELS In applications with a very high fouling tendency (eg. when using extremely hard water) clean the exchanger by circulating a cleaning liquid. Use a tank with a weak acid, 5% phosphoric acid, or if the exchanger is frequently cleaned 5% oxalic acid. Pump the cleaning liquid through the exchanger. For optimum cleaning the cleaning solution flow rate should be a minimum of 1.5 times the normal flow rate, preferably in a backflush mode. Afterwards rinse with large amounts of fresh water, in order to get rid of all the acid, before starting up the system again. Clean at regular intervals. 

The control panel is equipped with terminals for the connection of a remote alarm.
Do not use solvents to clean the control panel on the front of the unit.

5.2 Disassembling the unit

The machine has been designed and constructed to guarantee continuous operation. The long service life of some components such as the fan and compressor depends on good maintenance.
The unit must only be disassembled by a refrigerant specialist.

Refrigerant liquid and lubricating oil inside the refrigeration circuit must be recovered in compliance with current norms in the country where the machine is installed.

RECYCLING DISASSEMBLY	
frame and panels	steel/epoxy resin polyester
heat exchanger (cooler)	aluminium
pipes	copper/aluminium
drainage system	brass/PC
heat exchanger insulation	EPS (polystyrene sintered)
pipe insulation	gum synthetic
compressor	steel/copper/aluminium/oil
condensator	steel/copper/aluminium
refrigerant	R407C (H, F, C)
valve	brass
electrical cable	copper/PVC

5.3 Refrigerant leaks in the refrigeration circuit

FOREWORD

The unit is delivered in perfect working order, already charged as specified in Fig. 5.
Refrigerant leaks may be identified as follows: the compressor overload protector (PI) trips; the safety thermostat (ST) trips; the pressure gauge indicates “0”.

IF A LEAK IS DETECTED IN THE REFRIGERANT CIRCUIT SEEK TECHNICAL ASSISTANCE.

5.4 Refrigerant charging (see Fig. 5)

THIS OPERATION MUST ONLY BE PERFORMED BY A REFRIGERANT SPECIALIST.

WHEN REPAIRING THE REFRIGERANT CIRCUIT, COLLECT ALL THE REFRIGERANT IN A CONTAINER AND DISPOSE OF IT IN THE APPROPRIATE MANNER.

Characteristics of refrigerant R407

In normal temperature and pressure conditions the above refrigerant is a colourless, class A1/A1 gas with TVL value of 1000 ppm (ASHRAE classification).
If a refrigerant leak occurs thoroughly air the room before commencing work.

6 Calibration

The dryer is supplied factory set with the values shown in Fig. 9 and therefore requires no further calibration.

7 Spare parts list (see. Fig. 7)

This list contains the principal spare parts. When ordering spare parts always quote the quantity, part code and machine serial number.

8 Trouble shooting

The following diagram lists the various problems which may occur during the dryer's service life. In the case of serious difficulties however, contact a refrigerant specialist.

For alarms and warnings refer also to Chapter 4.3.

NOTE: Always bypass the dryer when it is out of service.

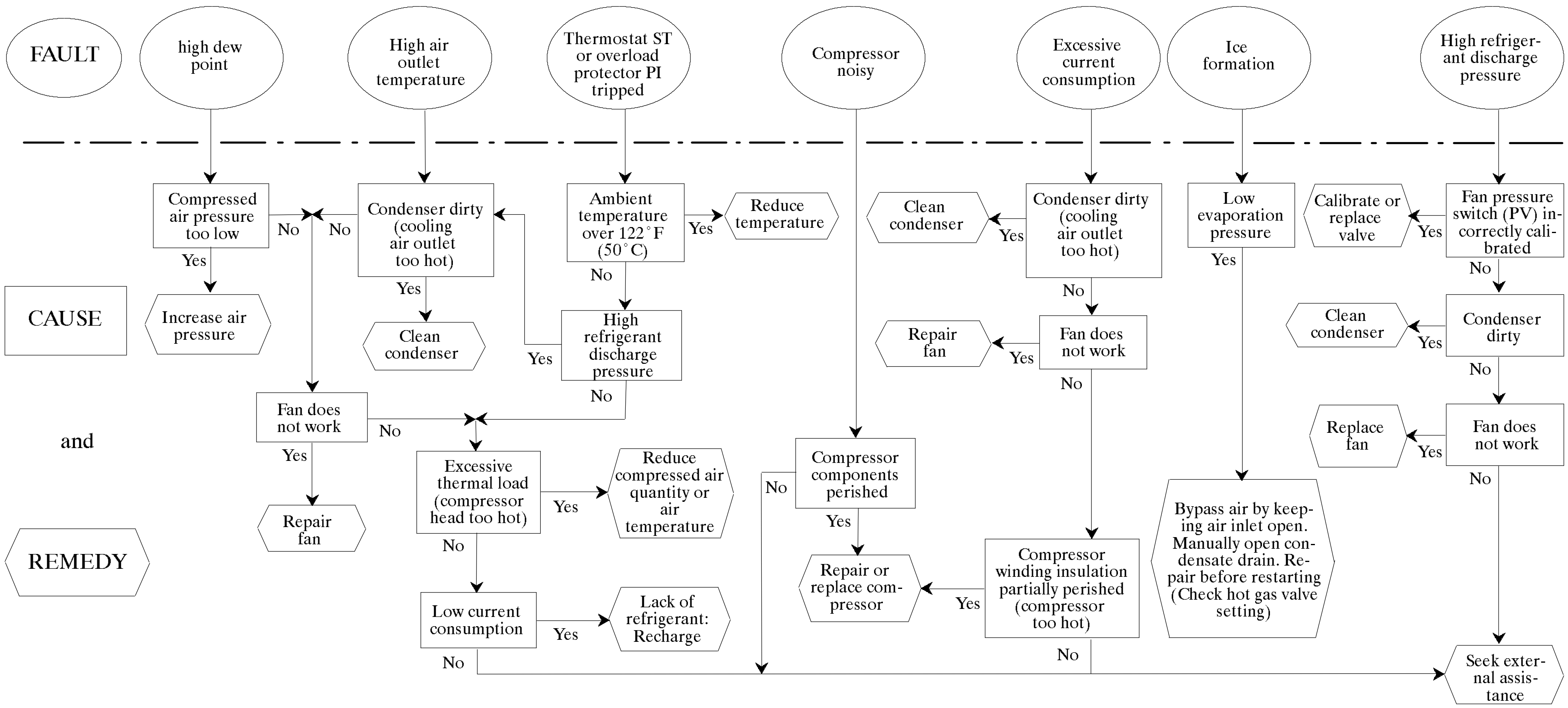


Fig. 1 Installation

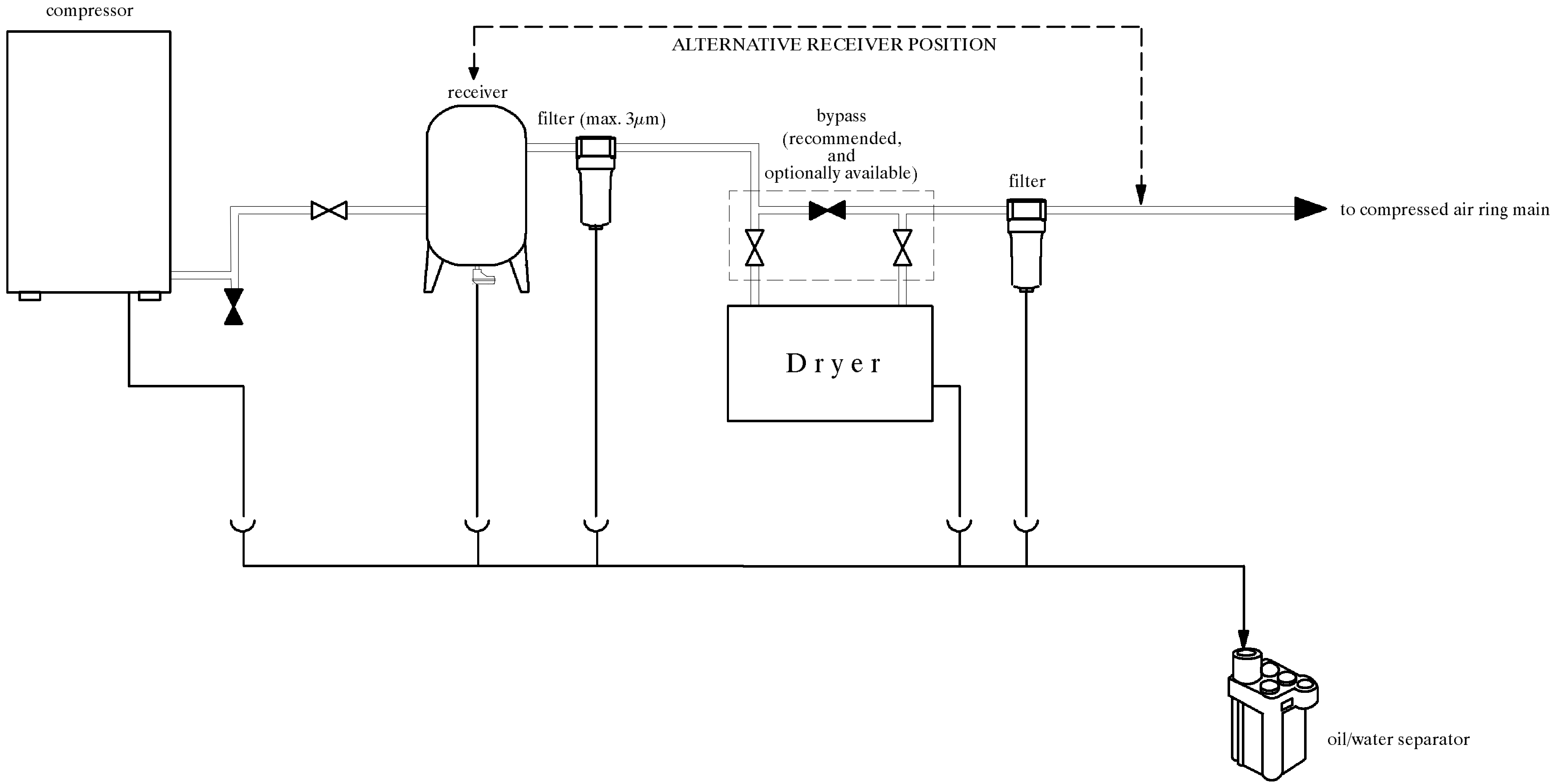
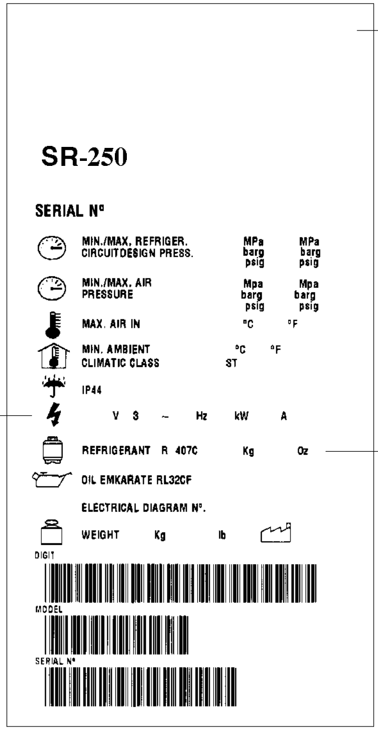


Fig. 2 Safety and description labels on dryer (see Fig. 3)



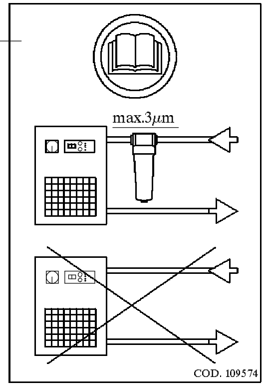
(a) Model
Serial No.
Min./Max refrigerant circuit design pressure
Min./Max air pressure
Max air inlet
Min. ambient
Climatic class
Power supply
Refrigerant
Oil
Electrical diagram no.
Weight

(i)
230V 1~60Hz
230V 3~60Hz
460V 3~60Hz

R407C (h)

QUALITY CHECKED INSPECTOR N. 302 (b) QUALITY CHECKED INSPECTOR N.302

(c) See Chapter 2

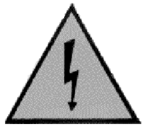


Air inlet (d) INGRESSO ARIA AIR IN

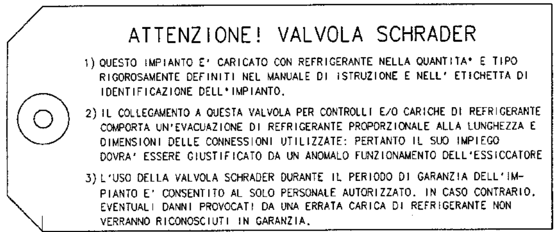
Air outlet (e) USCITA ARIA AIR OUT

Water inlet (d1) INGRESSO ACQUA WATER IN

Water outlet (e1) USCITA ACQUA WATER OUT



(f) **Attention:** components under power

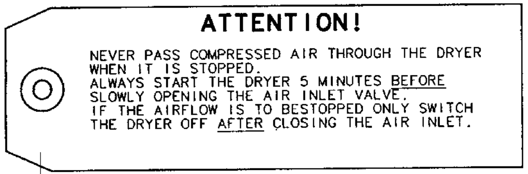


(g) **ATTENTION: SCHRADER VALVE**

1 This unit is equipped with refrigerant as for quantity and kind clearly shown in operating manual and with identification label.
2 Any ordinary test and / or refrigerant recharge by means of connections can take place only after refrigerant evacuation. The evacuation must be proportional to dimensions and length of the connections used. The use of the valve can be justified only when the dryer is not in working order.
3 During the unit guarantee period, the Schrader valve can be used by authorized staff only, otherwise any damage caused by a wrong refrigerant recharge will not be under warranty.

Condensate drain connection (l) ATTACCO SCARICATORE CONDENSA CONDENSATE DRAIN CONNECTION

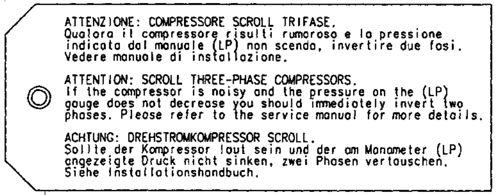
Fig. 2 Safety and description labels on dryer (see Fig. 3)



m

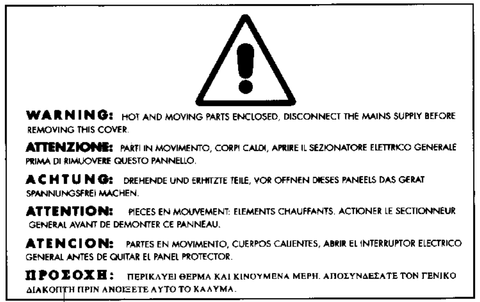
ATTENTION

Never pass compressed air through the dryer when it is stopped. Always start the dryer 5 minutes before slowly opening the air inlet valve.
If the airflow is to bestopped only switch the dryer off after closing the air inlet.



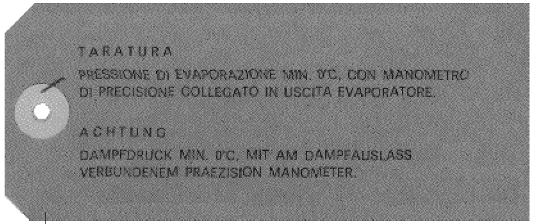
o

ATTENTION: SCROLL three – phase compressors.
If the compressor is noisy and the pressure on the (LP) gauge does not decrease you should immediately invert two phases. Please refer to the service manual for more details.



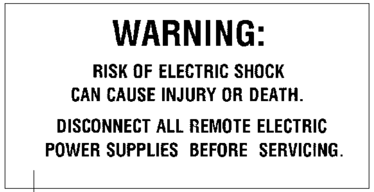
r

WARNING: Hot and moving parts enclosed, disconnect the mains supply before removing this cover.



n

SETTING (hot gas valve)
Evaporating pressure in 0°C, with precision manometer connected at evaporator outlet.



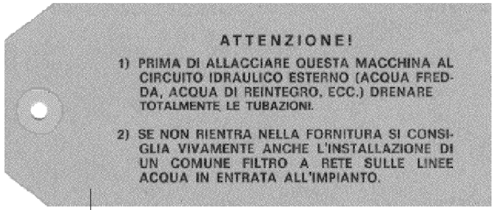
p

WARNING:
Risk of electric shock
can cause injury or death.

Disconnect all remote electric
power supplies before servicing.

q

BSPP pipe threads
use supplied adapters



s

ATTENTION

1 Fully drain the piping before connecting this unit to the external water piping (cold water, make up water, ect.).
2 Fitting of a standard strainer is also strongly recommended on the inlet water piping.

Fig. 3 Positioning of labels attached to the dryer SR-250 – SR-500

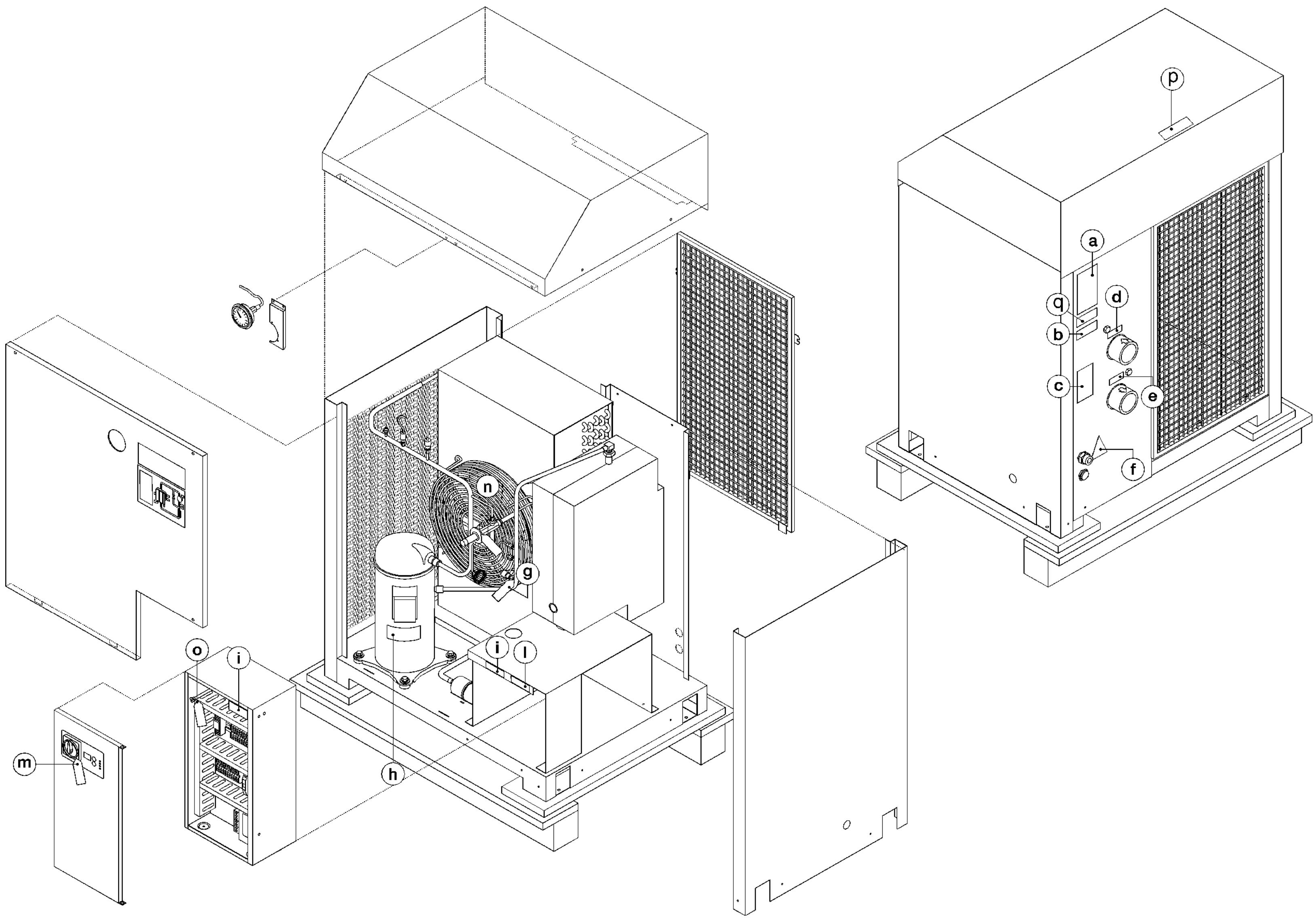


Fig. 3 Positioning of labels attached to the dryerSR-700 – SR-3000 air–cooled

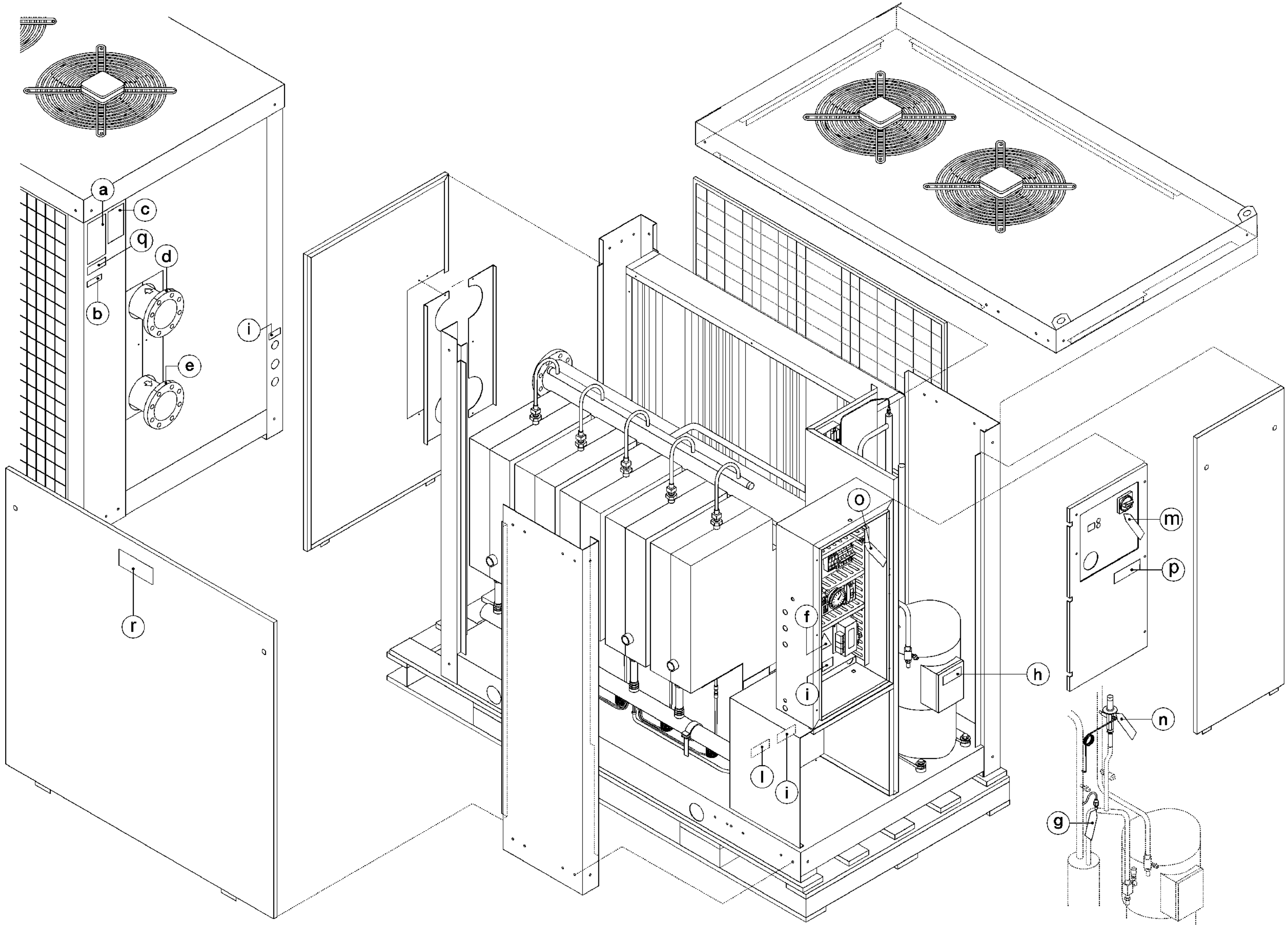


Fig. 3 Positioning of labels attached to the dryer SR-700 – SR-3000 water–cooled

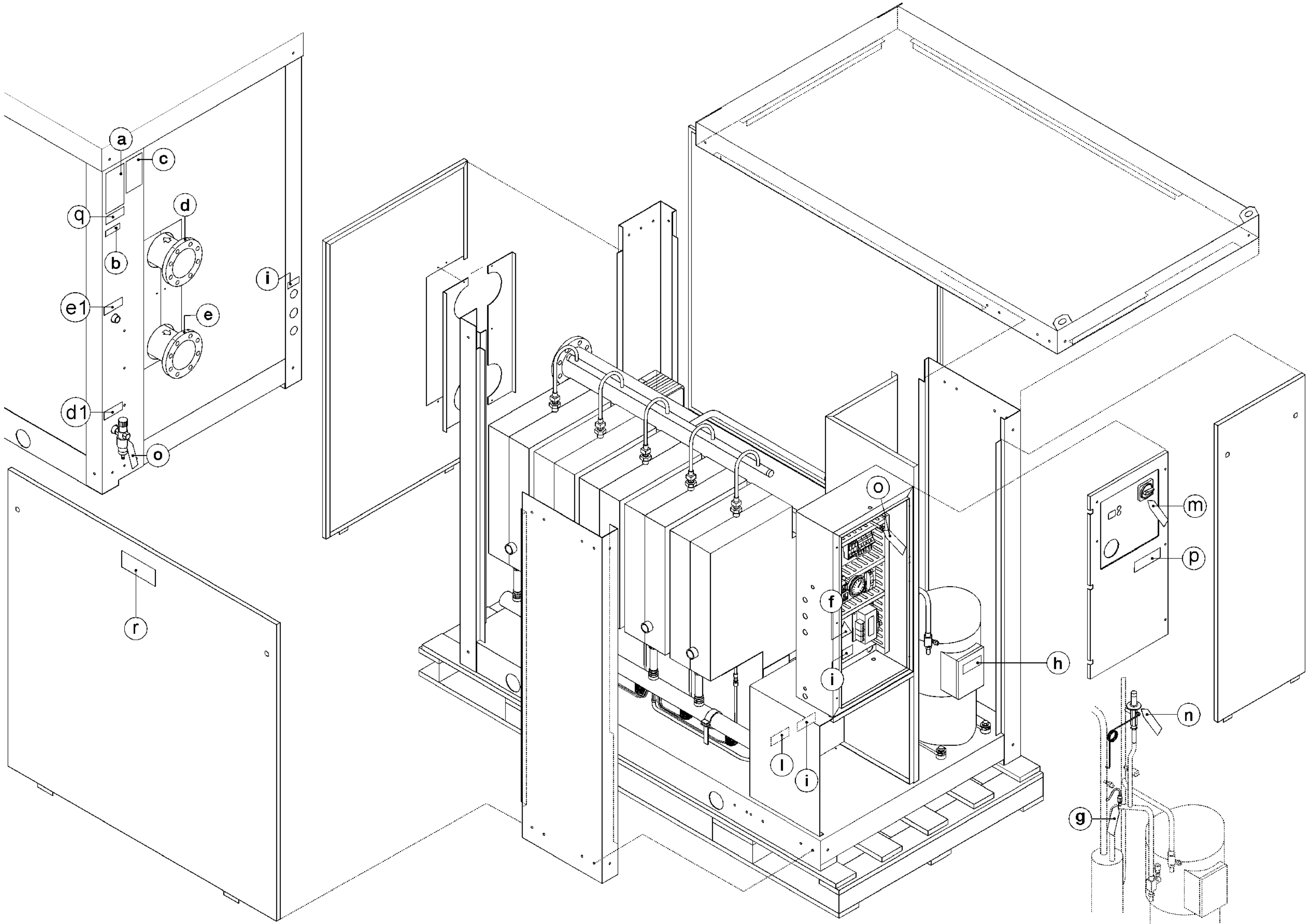
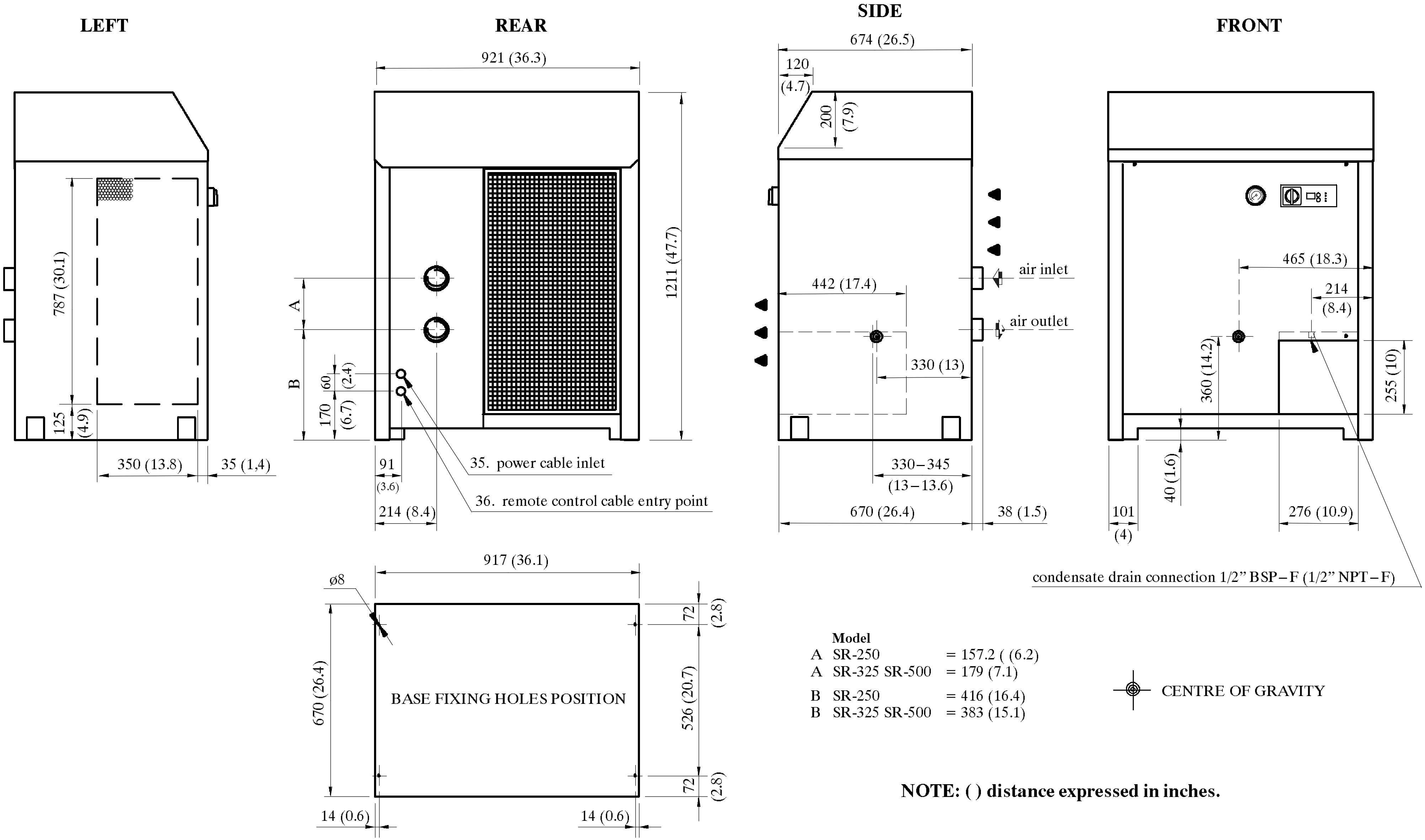


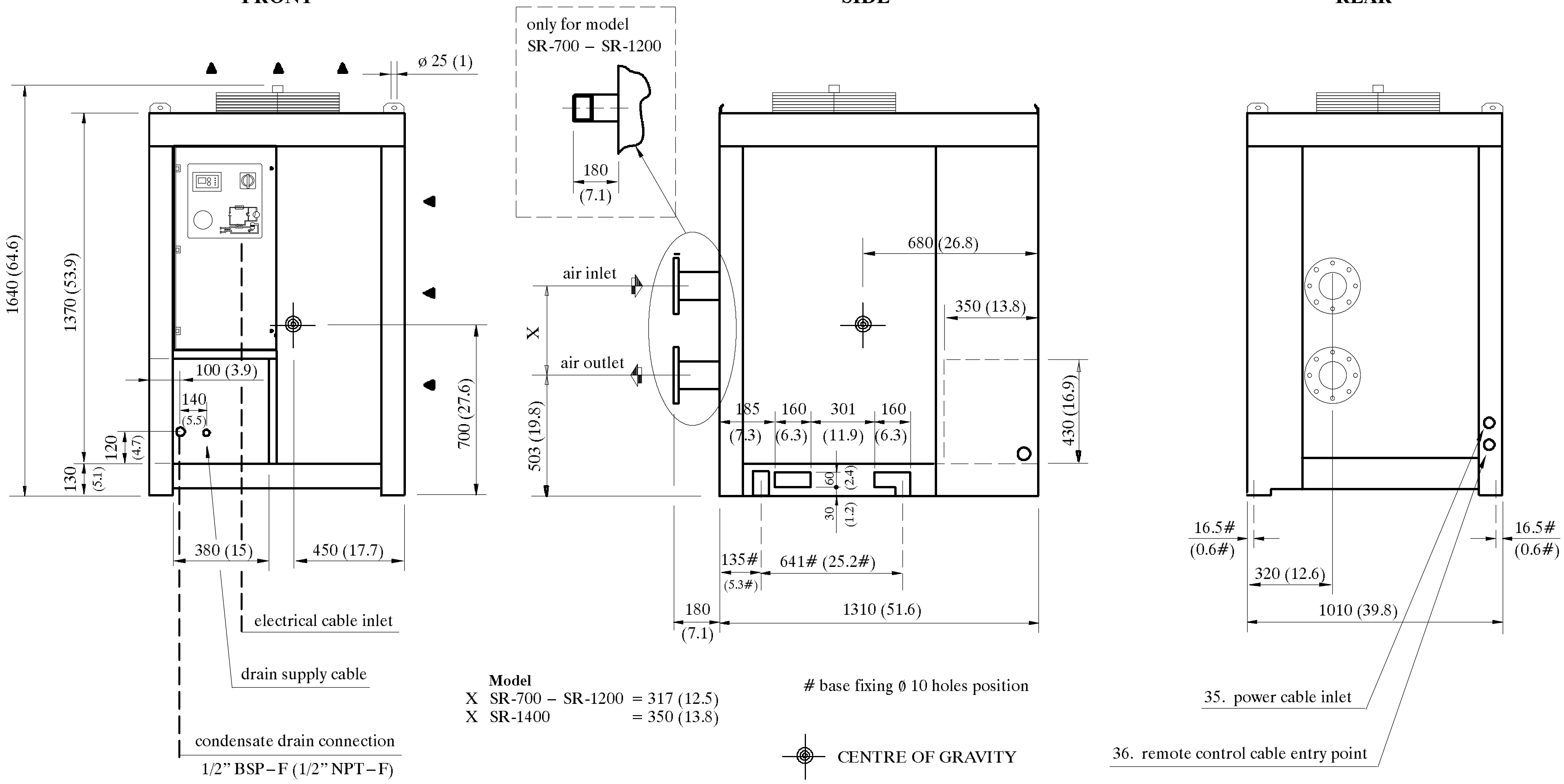
Fig. 4 Overall dimensions SR-250 – SR-500 air–cooled



	Model	
A	SR-250	= 157.2 ((6.2)
A	SR-325 SR-500	= 179 (7.1)
B	SR-250	= 416 (16.4)
B	SR-325 SR-500	= 383 (15.1)

NOTE: ( ) distance expressed in inches.

Fig. 4 Overall dimensions SR-700 – SR-1400 air–cooled



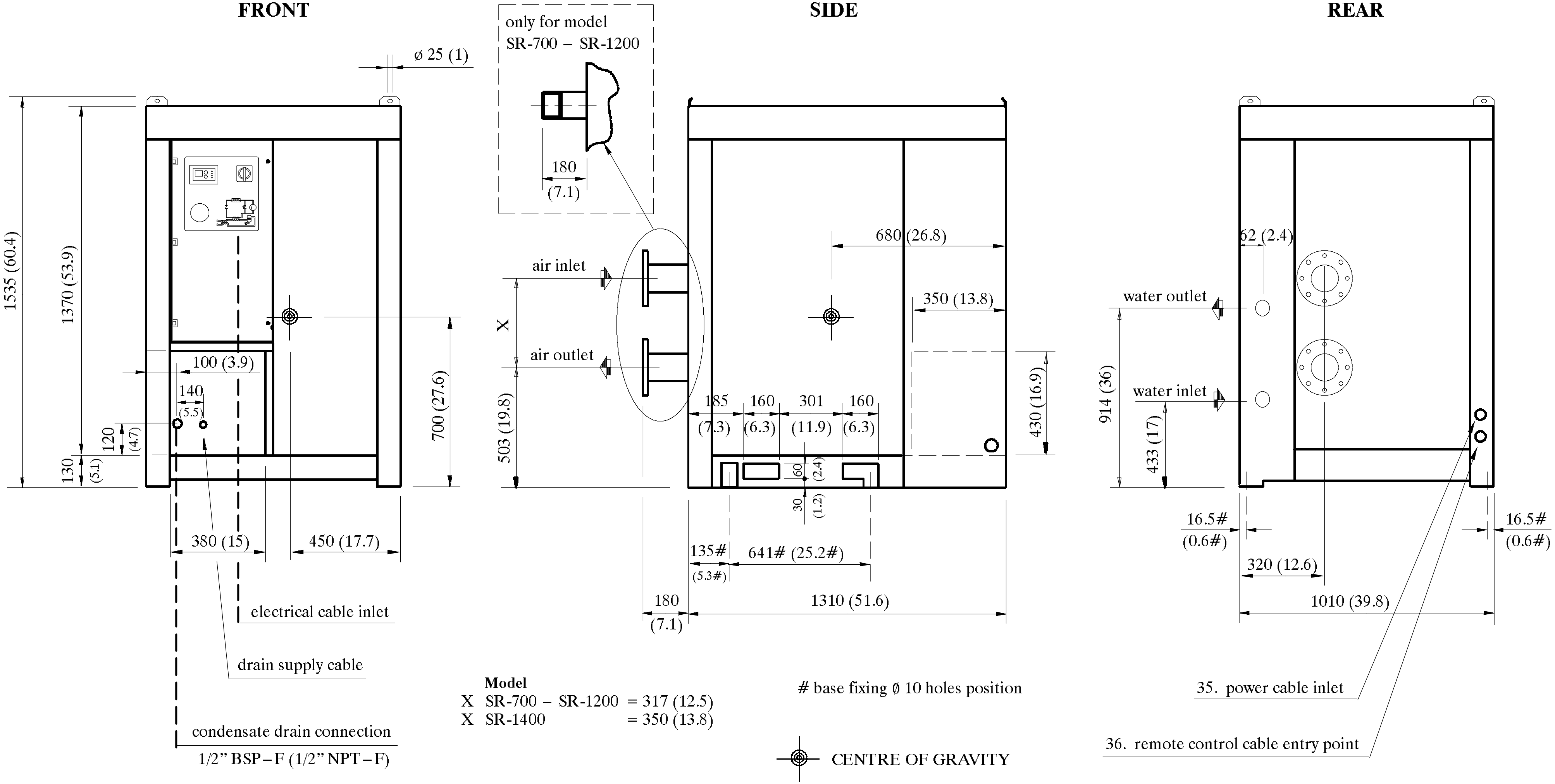
Model
X SR-700 – SR-1200 = 317 (12.5)
X SR-1400 = 350 (13.8)

base fixing ∅ 10 holes position

CENTRE OF GRAVITY

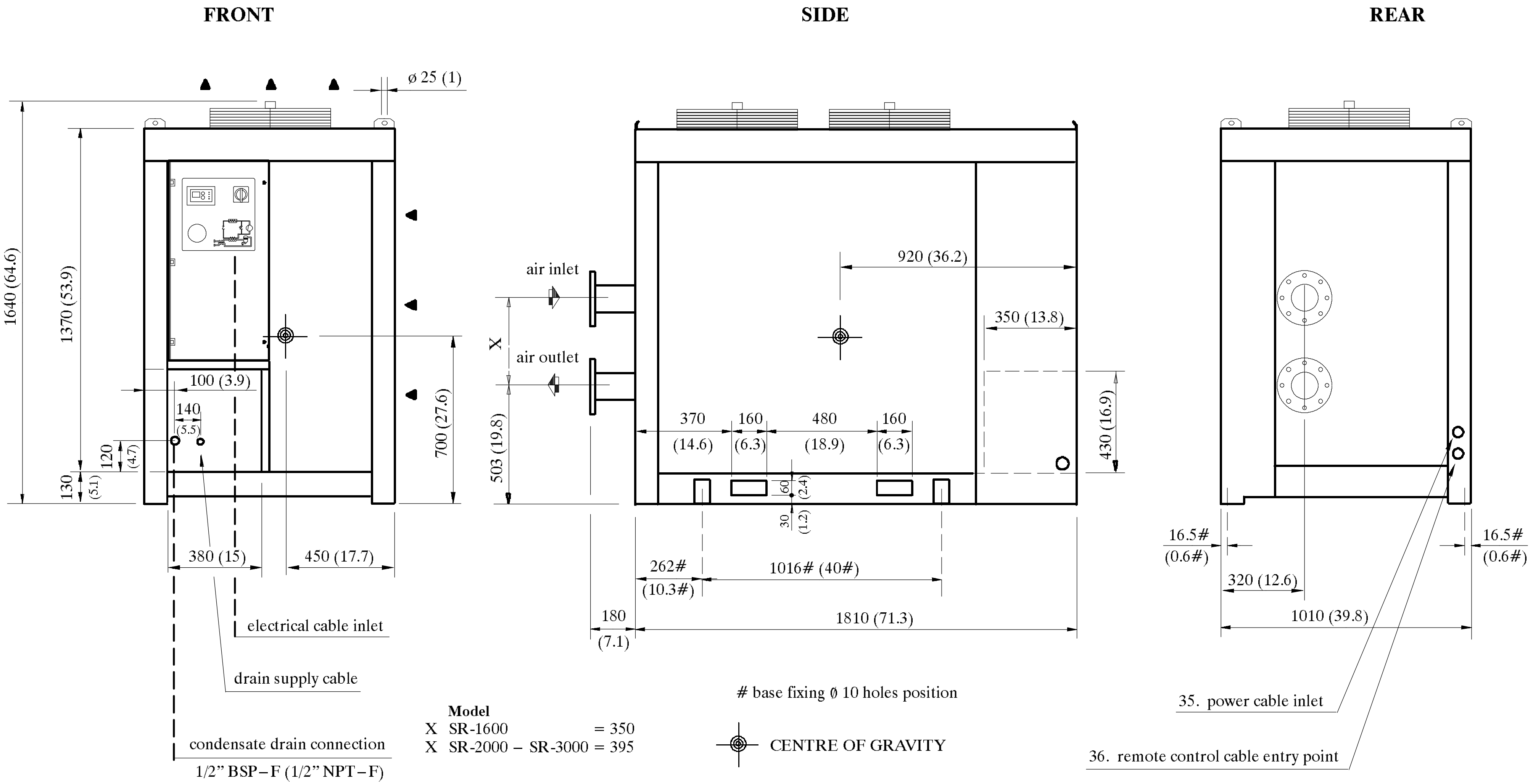
NOTE: ( ) distance expressed in inches.

Fig. 4 Overall dimensions SR-700 – SR-1400 water–cooled



NOTE: ( ) distance expressed in inches.

Fig. 4 Overall dimensions SR-1600 – SR-3000 air–cooled



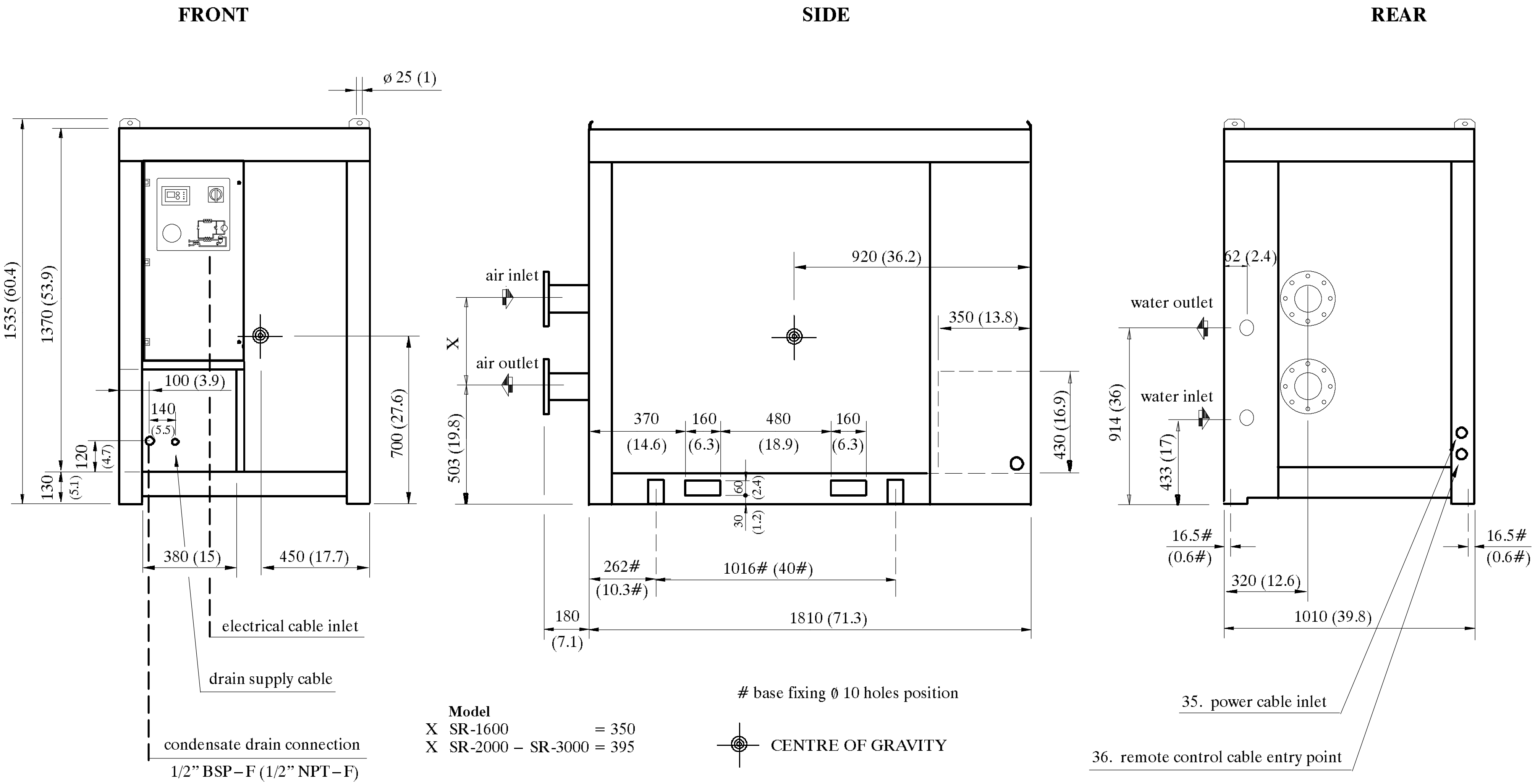
Model
X SR-1600 = 350
X SR-2000 – SR-3000 = 395

base fixing ø 10 holes position

CENTRE OF GRAVITY

NOTE: ( ) distance expressed in inches.

Fig. 4 Overall dimensions SR-1600 – SR-3000 water–cooled



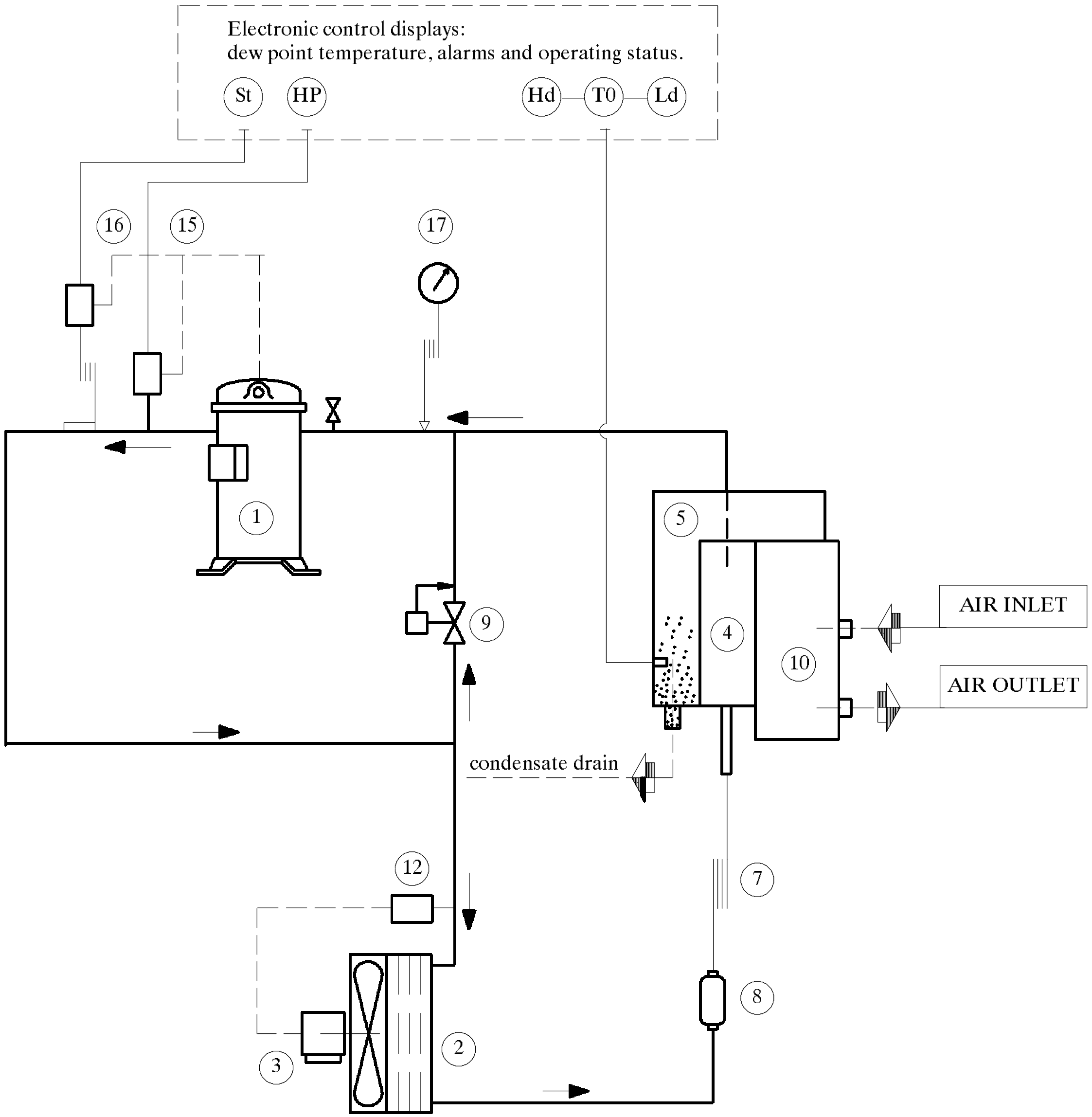
NOTE: ( ) distance expressed in inches.

Fig. 5 Technical data

model	weight		refrigerant / charge R407C		F.L.A. [A]			max air inlet temp.	ambient temperature		air connections	water connections	max air pressure
	(kg)	(lb)	(kg)	(lb & oz)	230V 1~60Hz	230V 3~60Hz	460V 3~60Hz		min.	max.			
SR-250	140	309	1.70	3lb 12oz	13.46	10.28	5.74	60°C (140°F)	5°C (41°F)	50°C (122°F)	1½” BSP–F with adaptor 1½” NPT–F	–	12 bar (174 PSI)
SR-325	140	309	2.20	4lb 14oz	17.90	8.68	4.44				2” BSP–F with adaptor 2” NPT–F		
SR-400	144	317	2.30	5lb 1oz		10.88	5.54						
SR-500	150	331											
SR-700	400	882	3.40	7lb 8oz		14.4 (A) 13.1 (W)	7.9 (A) 6.6 (W)				3” NPT–M	3/4“ BSP–F with adaptor 3/4” NPT–F	
SR-800	420	926	4.38	9lb 11oz									
SR-1000 SR-1200	450	992	5.20	11lb 8oz			11.9 (A) 10.0 (W)						
SR-1400	470	1.036	6.40	14lb 2oz			15.2 (A) 13.3 (W)				4” ANSI 150 LBS	1” BSP–F with adaptor 1” NPT–F	
SR-1600	550	1.213	8.00	17lb 10oz			21.7 (A) 17.9 (W)					1½” BSP–F with adaptor 1½” NPT–F	
SR-2000	580	1.279	8.80	19lb 6oz			23.0 (A) 19.2 (W)				6” ANSI 150 LBS		
SR-2400	590	1.301	11.00	24lb 4oz			23.2 (A) 19.2 (W)						
SR-3000	660	1.456	11.50	25lb 6oz			29.6 (A) 25.6 (W)						

(A) Air
(W) Water

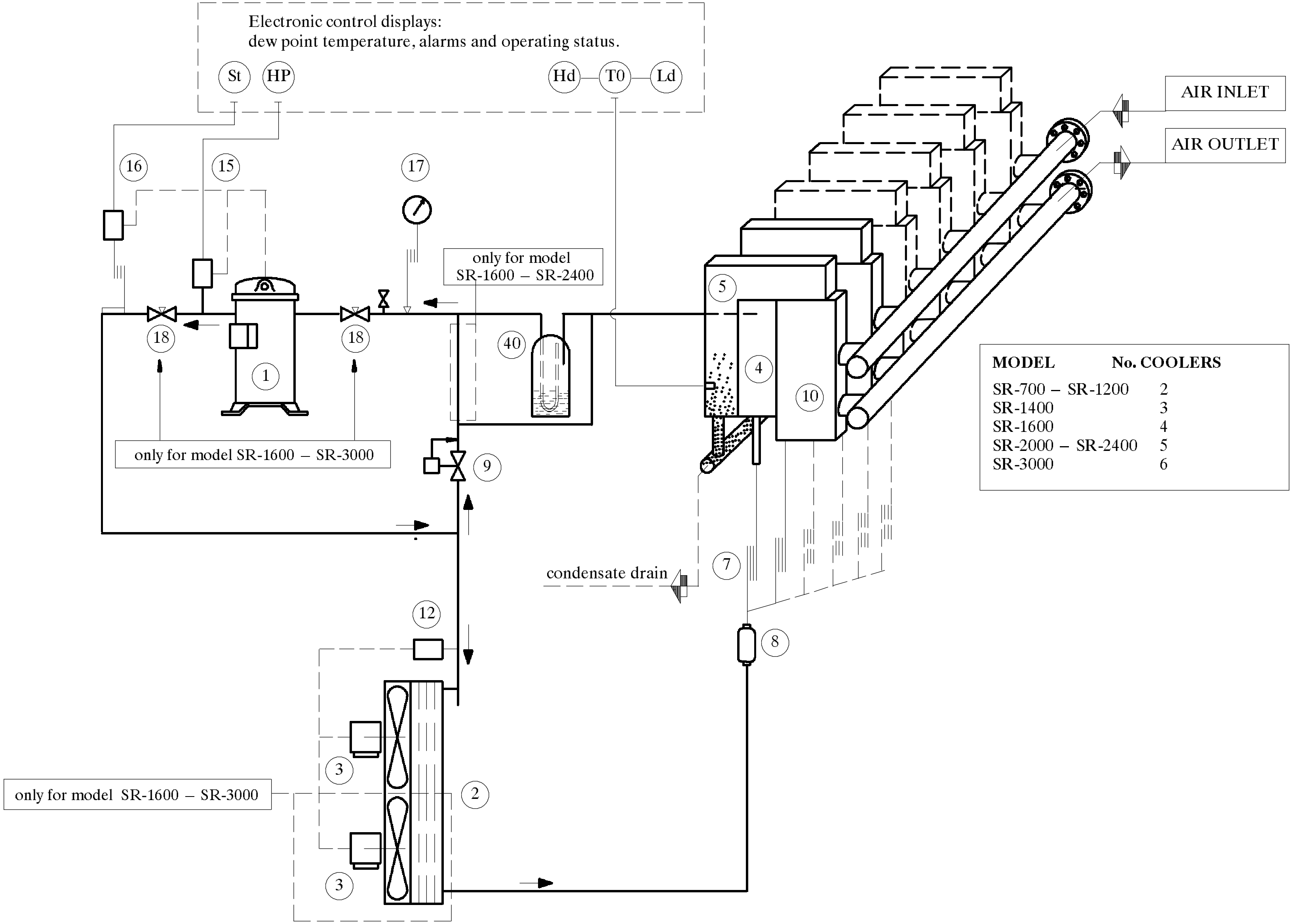
Fig. 6 Refrigerant diagram SR-250 – SR-500 air–cooled



1. compressor
2. refrigerant condenser
3. fan motor
4. evaporator
5. separator
7. expansion capillary
8. refrigerant filter
9. hot gas valve
10. air–air heat exchanger
12. fan pressure switch
15. high pressure switch
16. high temperature thermostat
17. low pressure manometer

T0. dew point temperature sensor

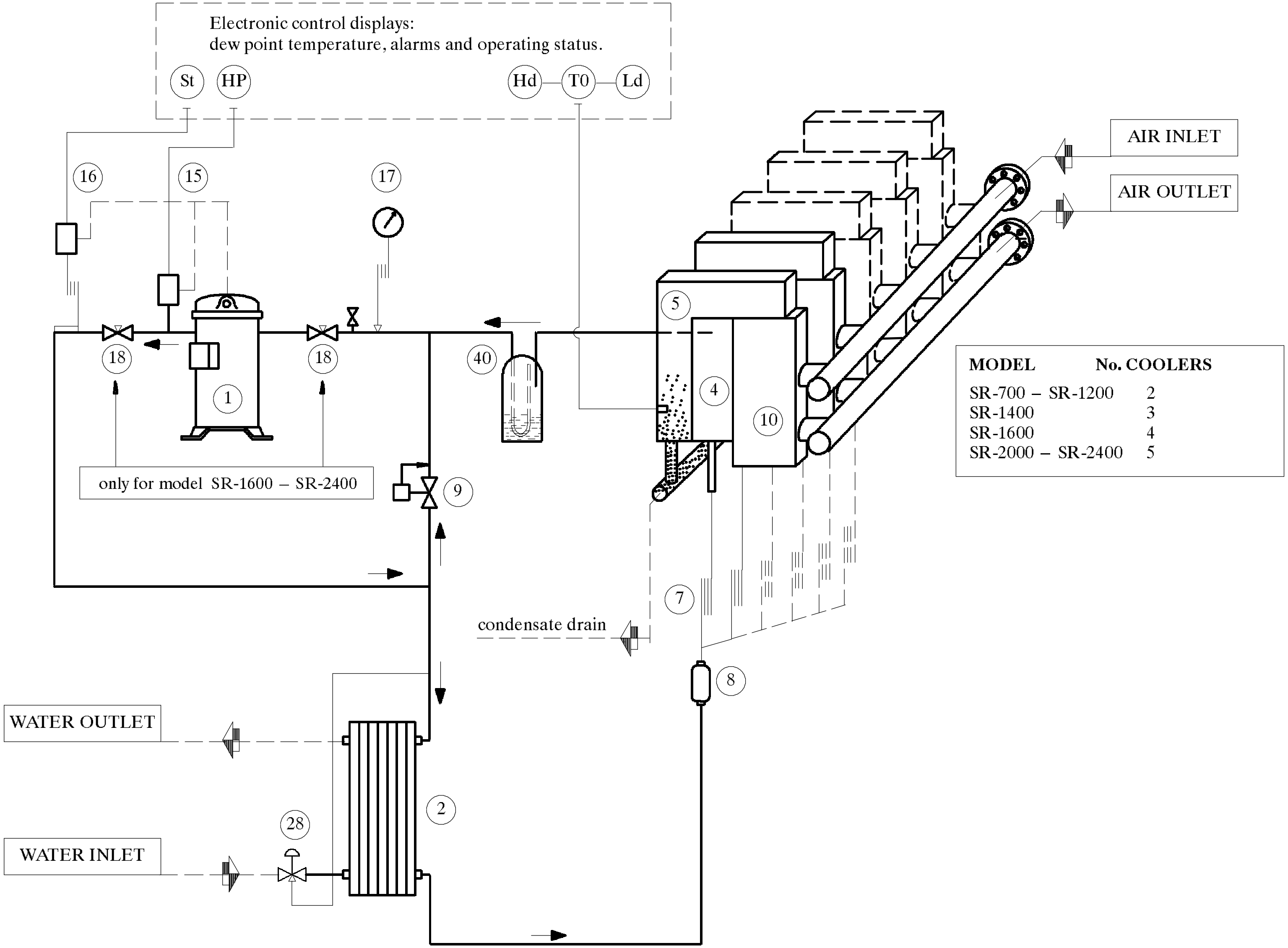
Fig. 6 Refrigerant diagram SR-700 – SR-3000 air – cooled



MODEL	No. COOLERS
SR-700 – SR-1200	2
SR-1400	3
SR-1600	4
SR-2000 – SR-2400	5
SR-3000	6

1. compressor
2. refrigerant condenser
3. fan motor
4. evaporator
5. separator
7. expansion capillary
8. refrigerant filter
9. hot gas valve
10. air – air heat exchanger
12. fan pressure switch
15. high pressure switch
16. high temperature thermostat
17. low pressure manometer
18. compressor valve
40. liquid separator
T0. dew point temperature sensor

Fig. 6 Refrigerant diagram SR-700 – SR-2400 water–cooled

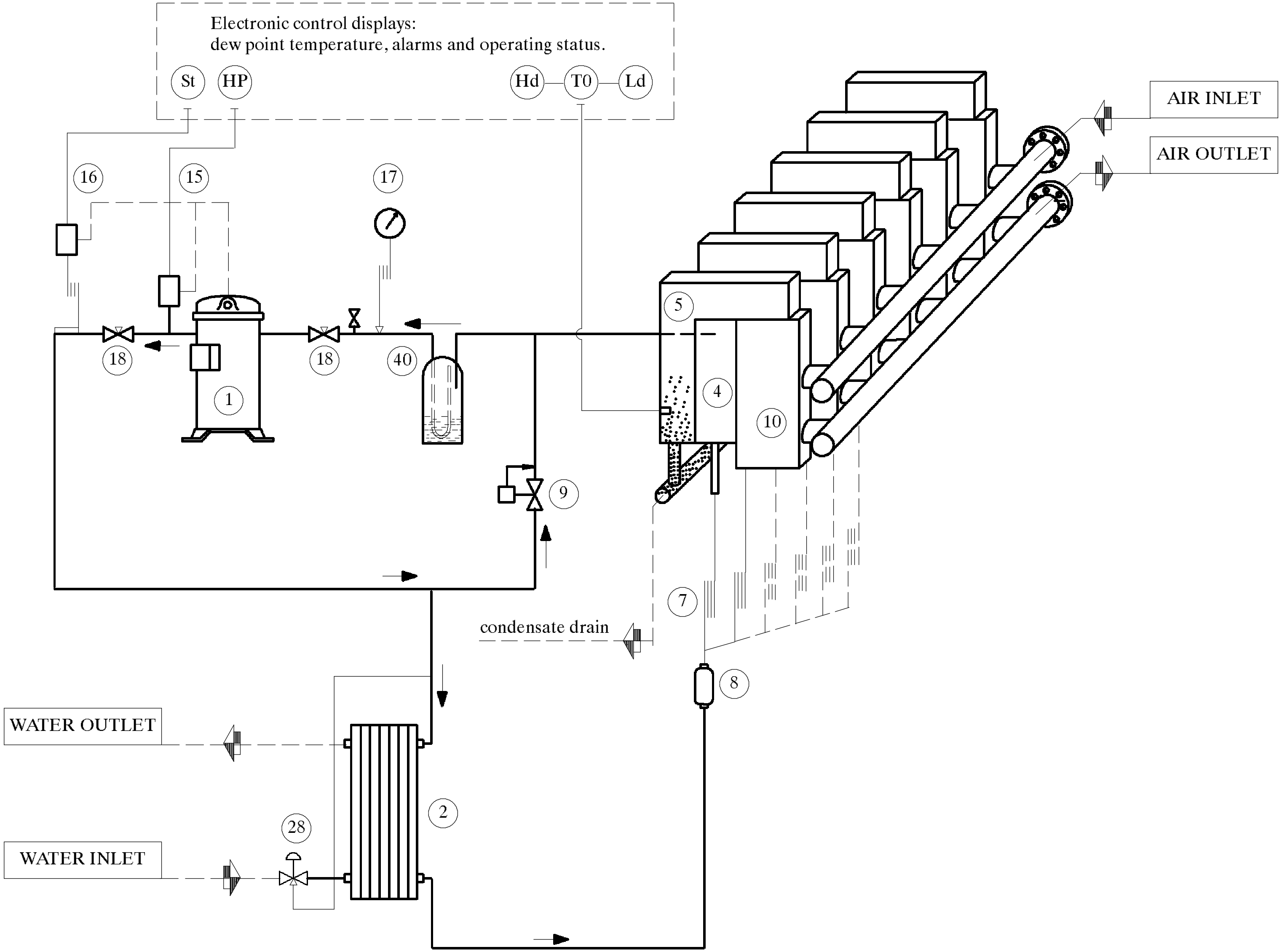


MODEL	No. COOLERS
SR-700 – SR-1200	2
SR-1400	3
SR-1600	4
SR-2000 – SR-2400	5

1. compressor
2. refrigerant condenser
4. evaporator
5. separator
7. expansion capillary
8. refrigerant filter
9. hot gas valve
10. air–air heat exchanger
15. high pressure switch
16. high temperature thermostat
17. low pressure manometer
18. compressor valve
28. pressostatic water valve
40. liquid separator

T0. dew point temperature sensor

Fig. 6 Refrigerant diagram SR-3000



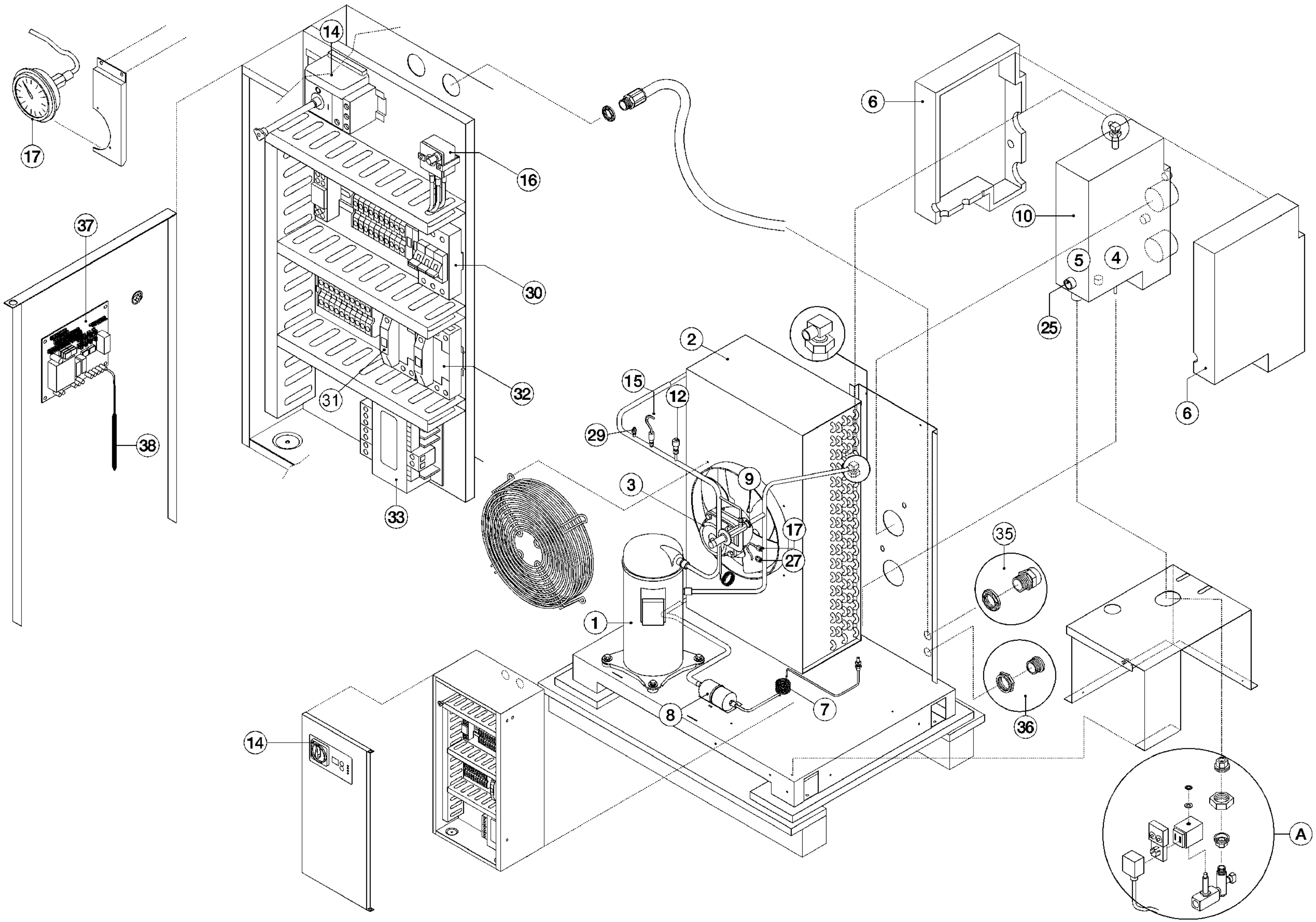
1. compressor
2. refrigerant condenser
4. evaporator
5. separator
7. expansion capillary
8. refrigerant filter
9. hot gas valve
10. air–air heat exchanger
15. high pressure switch
16. high temperature thermostat
17. low pressure manometer
18. compressor valve
28. pressostatic water valve
40. liquid separator
T0. dew point temperature sensor

Fig. 7 Spare Parts List (see Fig. 8)

<table>
<tr><th rowspan="2">Model</th><th colspan="13">Codes</th></tr>
<tr><th>SR-250</th><th>SR-325</th><th>SR-400</th><th>SR-500</th><th>SR-700</th><th>SR-800</th><th>SR-1000</th><th>SR-1200</th><th>SR-1400</th><th>SR-1600</th><th>SR-2000</th><th>SR-2400</th><th>SR-3000</th></tr>
<tr><td>1. ■</td><td>02250129-588</td><td>02250129-584</td><td colspan="11">–</td></tr>
<tr><td>1. ◆</td><td>02250129-590</td><td>02250129-556</td><td colspan="2">02250129-557</td><td colspan="2">02250129-585</td><td colspan="7">–</td></tr>
<tr><td>1. ★</td><td>02250129-589</td><td>02250129-564</td><td colspan="2">02250129-562</td><td colspan="2">02250129-566</td><td colspan="2">02250129-565</td><td>02250129-567</td><td colspan="2">02250129-568</td><td>02250129-563</td><td>02250129-569</td></tr>
<tr><td>2. (A)</td><td>02250129-553</td><td>02250129-543</td><td colspan="2">02250129-544</td><td colspan="2">02250129-545</td><td colspan="2">02250129-546</td><td>02250129-547</td><td>02250129-548</td><td>02250129-549</td><td colspan="2">02250129-550</td></tr>
<tr><td>2. (W)</td><td colspan="4">–</td><td colspan="2">02250129-594</td><td colspan="4">02250129-595</td><td colspan="3">02250129-596</td></tr>
<tr><td>3. ■</td><td colspan="2">02250129-663</td><td colspan="11">–</td></tr>
<tr><td>3. ◆</td><td colspan="4">02250129-660</td><td colspan="2">02250129-666</td><td colspan="7">–</td></tr>
<tr><td>3. ★</td><td colspan="4">02250129-660</td><td colspan="2">02250129-659</td><td colspan="5">02250129-661</td><td colspan="2">02250129-662</td></tr>
<tr><td>4. 5. 6.10.</td><td colspan="2">02250129-672</td><td>02250129-673</td><td>02250129-674</td><td>02250129-672</td><td>02250129-673</td><td colspan="2">02250129-674</td><td colspan="3">02250129-673</td><td colspan="2">02250129-674</td></tr>
<tr><td>8.</td><td colspan="4">02250129-600</td><td colspan="9">02250129-602</td></tr>
<tr><td>9.</td><td colspan="4">02250129-637</td><td colspan="5">02250129-638</td><td colspan="3">02250129-636</td><td>02250129-643</td></tr>
<tr><td>12.</td><td colspan="13">02250129-626</td></tr>
<tr><td>14. ■</td><td colspan="2">02250129-617</td><td colspan="11">–</td></tr>
<tr><td>14. ◆</td><td colspan="4">02250129-616</td><td colspan="2">02250129-617</td><td colspan="7">–</td></tr>
<tr><td>14. ★</td><td colspan="4">02250129-616</td><td colspan="5">02250129-617</td><td colspan="4">02250129-618</td></tr>
<tr><td>15.</td><td colspan="13">02250129-624</td></tr>
<tr><td>16.</td><td colspan="13">02250129-629</td></tr>
<tr><td>17.</td><td colspan="13">02250129-623</td></tr>
<tr><td>28.</td><td colspan="4">–</td><td colspan="4">02250129-632</td><td colspan="2">02250129-633</td><td colspan="3">02250129-634</td></tr>
<tr><td>30. ■</td><td colspan="2">02250129-646</td><td colspan="11">–</td></tr>
<tr><td>30. ◆</td><td colspan="4">02250130-320</td><td colspan="2">02250130-537</td><td colspan="7">–</td></tr>
<tr><td>30. ★</td><td colspan="4">02250129-604</td><td colspan="5">02250130-537</td><td colspan="4">02250129-606</td></tr>
<tr><td>30a. ■</td><td colspan="2">02250130-538</td><td colspan="11">–</td></tr>
<tr><td>30a. ◆</td><td colspan="4">–</td><td colspan="2">02250130-539</td><td colspan="7">–</td></tr>
<tr><td>30a. ★</td><td colspan="4">–</td><td colspan="9">02250130-539</td></tr>
<tr><td>31. ◆</td><td colspan="6">02250129-612</td><td colspan="7">–</td></tr>
<tr><td>31. ★</td><td colspan="13">02250129-612</td></tr>
<tr><td>32. ■</td><td colspan="2">02250130-540</td><td colspan="11">–</td></tr>
<tr><td>32. ◆</td><td colspan="4">02250129-611</td><td colspan="2">02250130-540</td><td colspan="7">–</td></tr>
<tr><td>32. ★</td><td colspan="4">02250129-612</td><td colspan="5">02250130-540</td><td colspan="4">02250129-609</td></tr>
<tr><td>33. ◆</td><td colspan="4">–</td><td colspan="2">02250130-541</td><td colspan="7">–</td></tr>
<tr><td>33. ★</td><td colspan="13">02250130-541</td></tr>
<tr><td>37.</td><td colspan="13">02250129-619</td></tr>
<tr><td>38.</td><td colspan="13">02250129-620</td></tr>
</table>

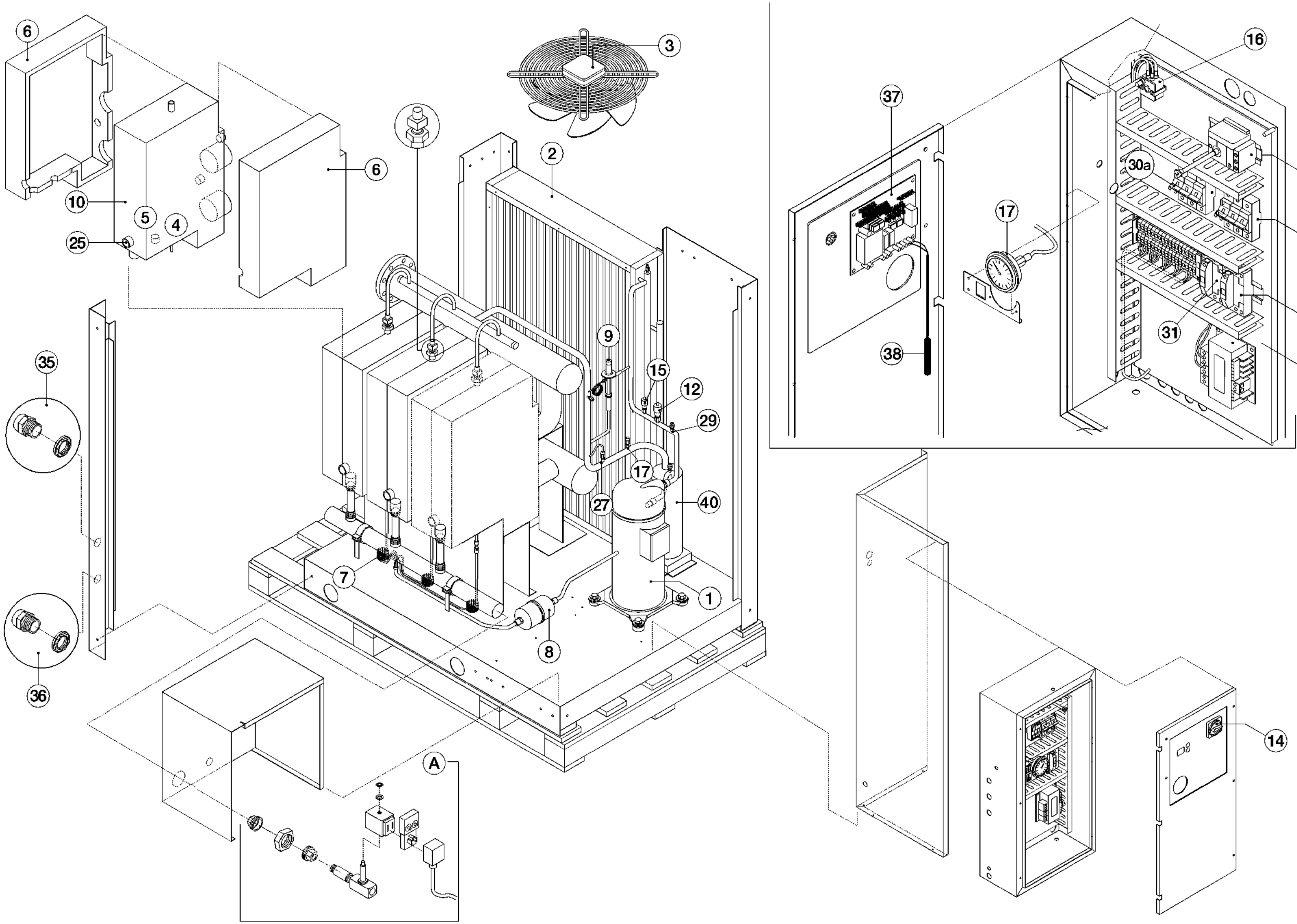
■ Power supply 230V 1~60Hz ◆ Power supply 230V 3~60Hz ★ Power supply 460V 3~60Hz (A) Air (W) Water

Fig. 8 Exploded drawing of dryer SR-250 – SR-500 air–cooled



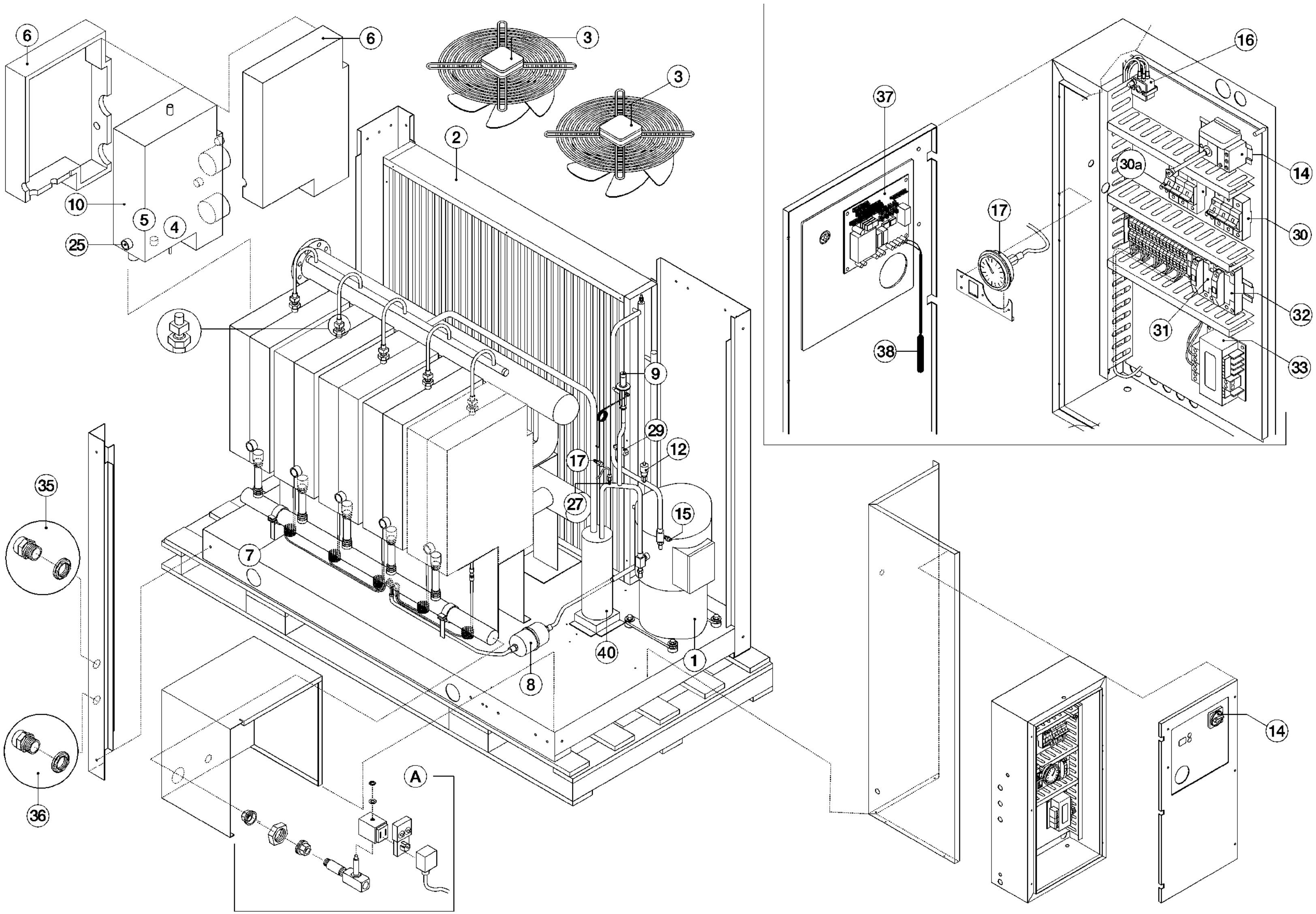
A. TIMED SOLENOID DRAIN
1. compressor
2. refrigerant condenser
3. fan motor
4. evaporator
5. separator
6. insulation
7. expansion capillary
8. refrigerant filter
9. hot gas valve
10. air–air heat exchanger
12. fan pressure switch
14. main switch
15. high pressure switch
16. high temperature thermostat
17. low pressure manometer
25. thermometer sensor pocket
27. gas charge point
29. high pressure tap
30. compressor motor automatic switch
31. fan motor contactor
32. compressor motor contactor
33. auxiliary transformer
35. power cable inlet (PG 21 ∅ 13÷18 mm)
36. remote control cable entry point (PG 16 ∅ 10÷14 mm)
37. control panel
38 temperature sensor NTC

Fig. 8 Exploded drawing of dryer SR-700 – SR-1400 air–cooled



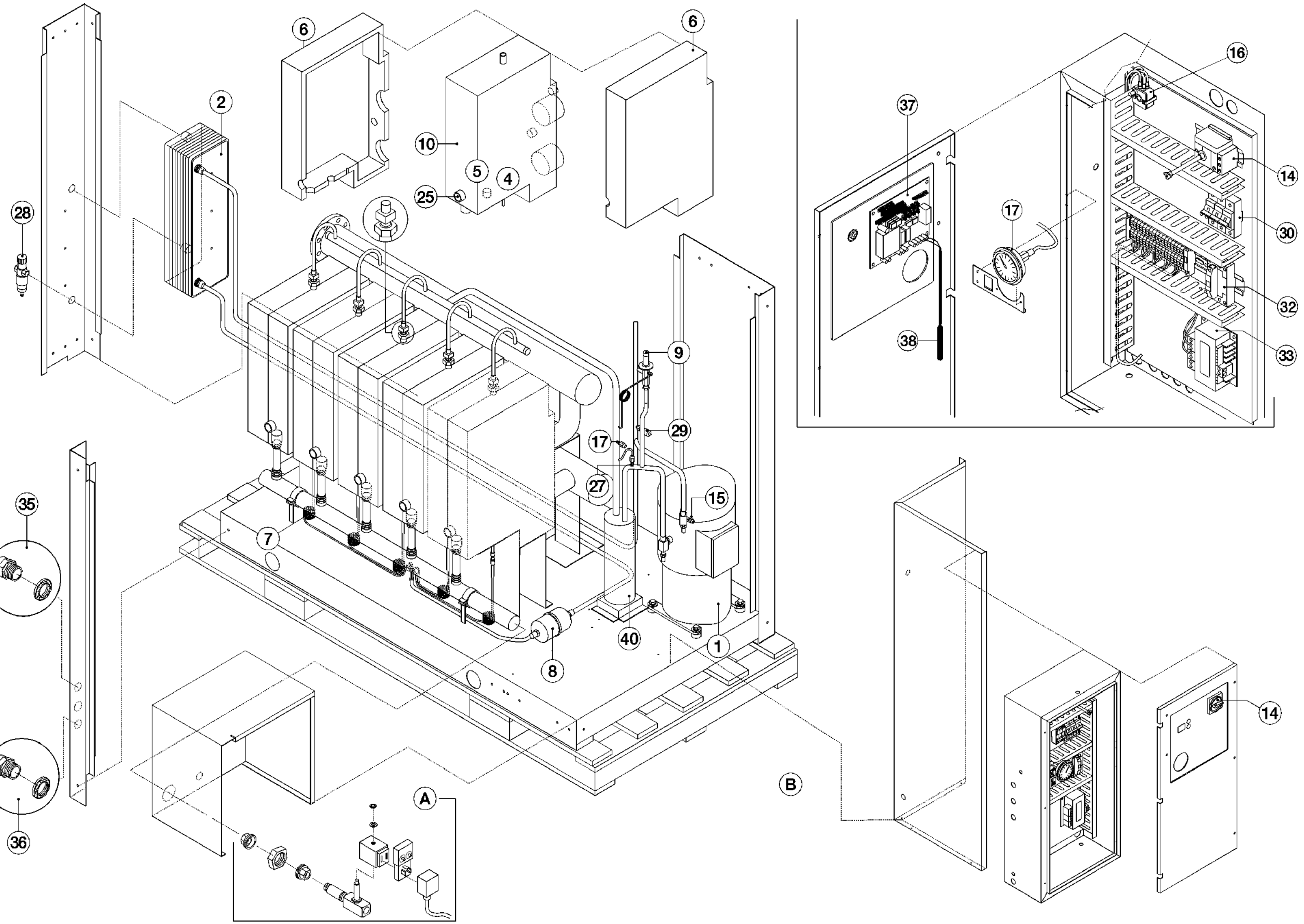
A. TIMED SOLENOID DRAIN
1. compressor
2. refrigerant condenser
3. fan motor
4. evaporator
5. separator
6. insulation
7. expansion capillary
8. refrigerant filter
9. hot gas valve
10. air–air heat exchanger
12. fan pressure switch
14. main switch
15. high pressure switch
16. high temperature thermostat
17. low pressure manometer
25. thermometer sensor pocket
27. gas charge point
29. high pressure tap
30. compressor motor automatic switch
30a.fan motor automatic switch
31. fan motor contactor
32. compressor motor contactor
33. auxiliary transformer
35. power cable inlet (PG 21 ∅ 13÷18 mm)
36. remote control cable entry point (PG 16 ∅ 10÷14 mm)
37. control panel
38 temperature sensor NTC
40 liquid separator

Fig. 8 Exploded drawing of dryer SR-1600 – SR-3000 air–cooled



A. TIMED SOLENOID DRAIN
1. compressor
2. refrigerant condenser
3. fan motor
4. evaporator
5. separator
6. insulation
7. expansion capillary
8. refrigerant filter
9. hot gas valve
10. air–air heat exchanger
12. fan pressure switch
14. main switch
15. high pressure switch
16. high temperature thermostat
17. low pressure manometer
25. thermometer sensor pocket
27. gas charge point
29. high pressure tap
30. compressor motor automatic switch
30a.fan motor automatic switch
31. fan motor contactor
32. compressor motor contactor
33. auxiliary transformer
35. power cable inlet (PG 21 ∅ 13÷18 mm)
36. remote control cable entry point (PG 16 ∅ 10÷14 mm)
37. control panel
38 temperature sensor NTC
40 liquid separator

Fig. 8 Exploded drawing of dryer SR-700 – SR-3000 water–cooled



A. TIMED SOLENOID DRAIN
1. compressor
2. refrigerant condenser
4. evaporator
5. separator
6. insulation
7. expansion capillary
8. refrigerant filter
9. hot gas valve
10. air–air heat exchanger
14. main switch
15. high pressure switch
16. high temperature thermostat
17. low pressure manometer
25. thermometer sensor pocket
27. gas charge point
28. pressostatic water valve
29. high pressure tap
30. compressor motor automatic switch
32. compressor motor contactor
33. auxiliary transformer
35. power cable inlet (PG 21 ∅ 13÷18 mm)
36. remote control cable entry point (PG 16 ∅ 10÷14 mm)
37. control panel
38 temperature sensor NTC
40 liquid separator

Fig. 9 Calibration

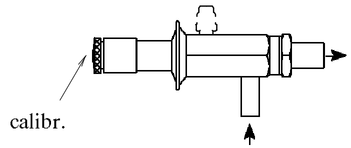
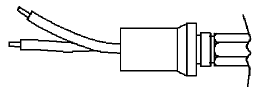
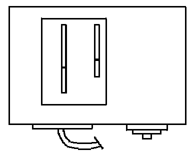
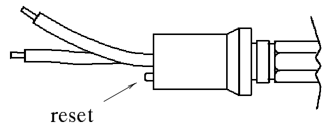
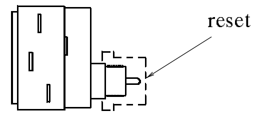
MODEL	COMPONENT	SETTING	NOTES
SR-250 – SR-3000	9 Hot gas valve	66.7 PSIg (4.6 bar) (+0.1, –0)	
SR-250 – SR-500	12 Fan pressure switch (PV)	START: 261 PSIg (18 bar) DIFF: 58 PSIg (4 bar) (STOP: 203 PSIg (14 bar)	
SR-700 – SR-3000			
SR-250 – SR-3000	15 High pressure switch (HP)	STOP: 406 PSIg (28 bar) (START: 275.6 PSI (19 bar)	
SR-250 – SR-3000	16 High temperature thermostat (ST)	266°F (130°C)	

Fig. 9 Calibration (contd.)

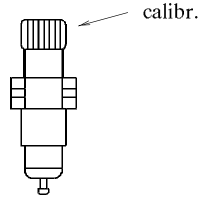
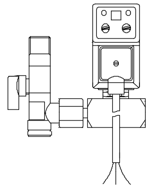
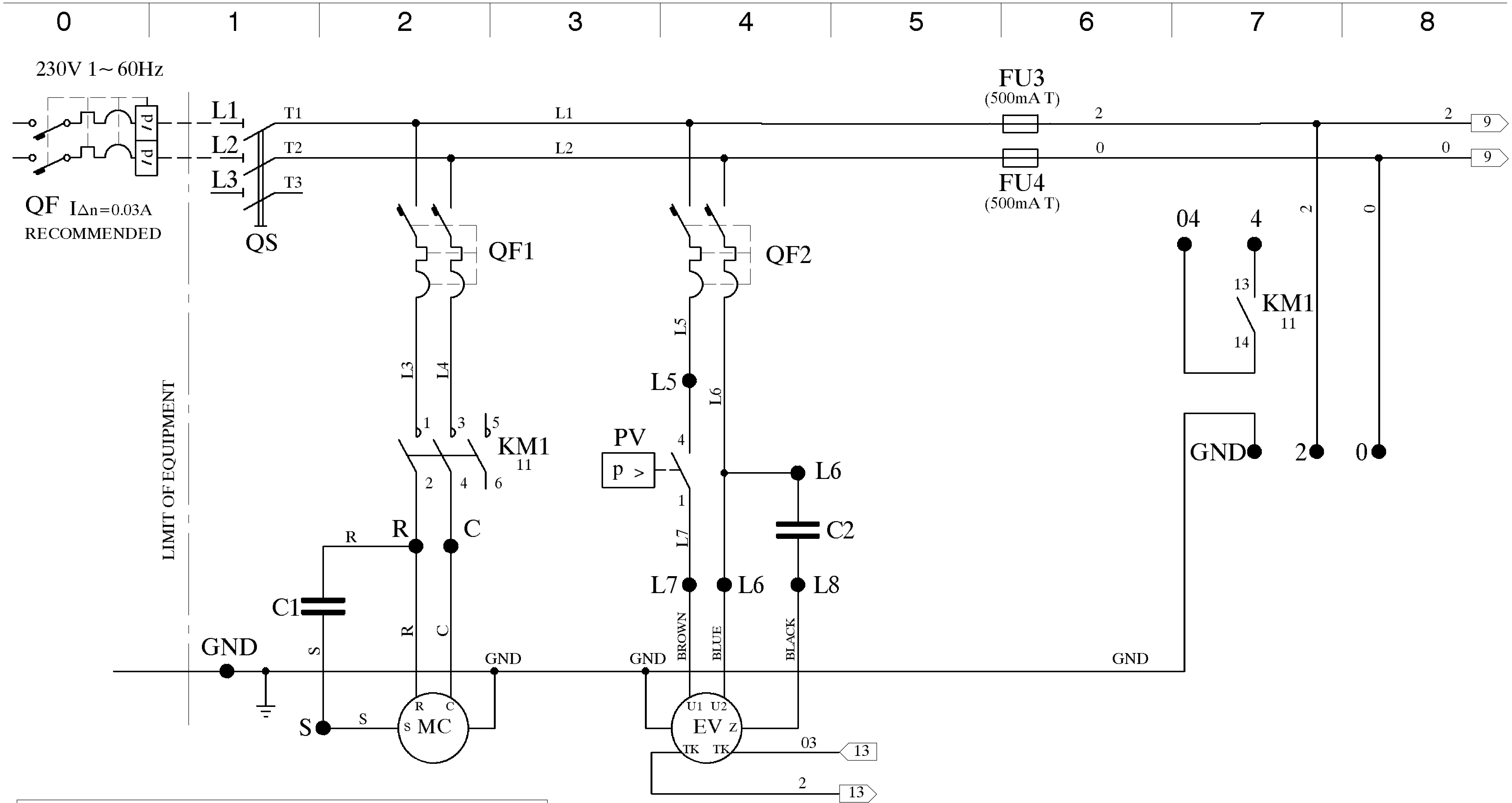
MODEL	COMPONENT	SETTING	NOTES
SR-700 – SR-3000	28 Water pressostatic valve	232 PSIg (16 bar) (+1, –0)	
SR-250 – SR-3000	A CDV 120 Timed solenoide valve	Maximum OFF time 3 min.	

Fig. 10 Electrical diagram SR-250 – SR-500 air–cooled (230V 1~ 60Hz)

to page 80



ELECTRICAL SUPPLY LINE	
2–PHASES + EARTH (GND)	2x12AWG + PE (GND) 12AWG

Fig. 10 Electrical diagram SR-250 – SR-500 air–cooled (230V 3~ 60Hz)

to page 80

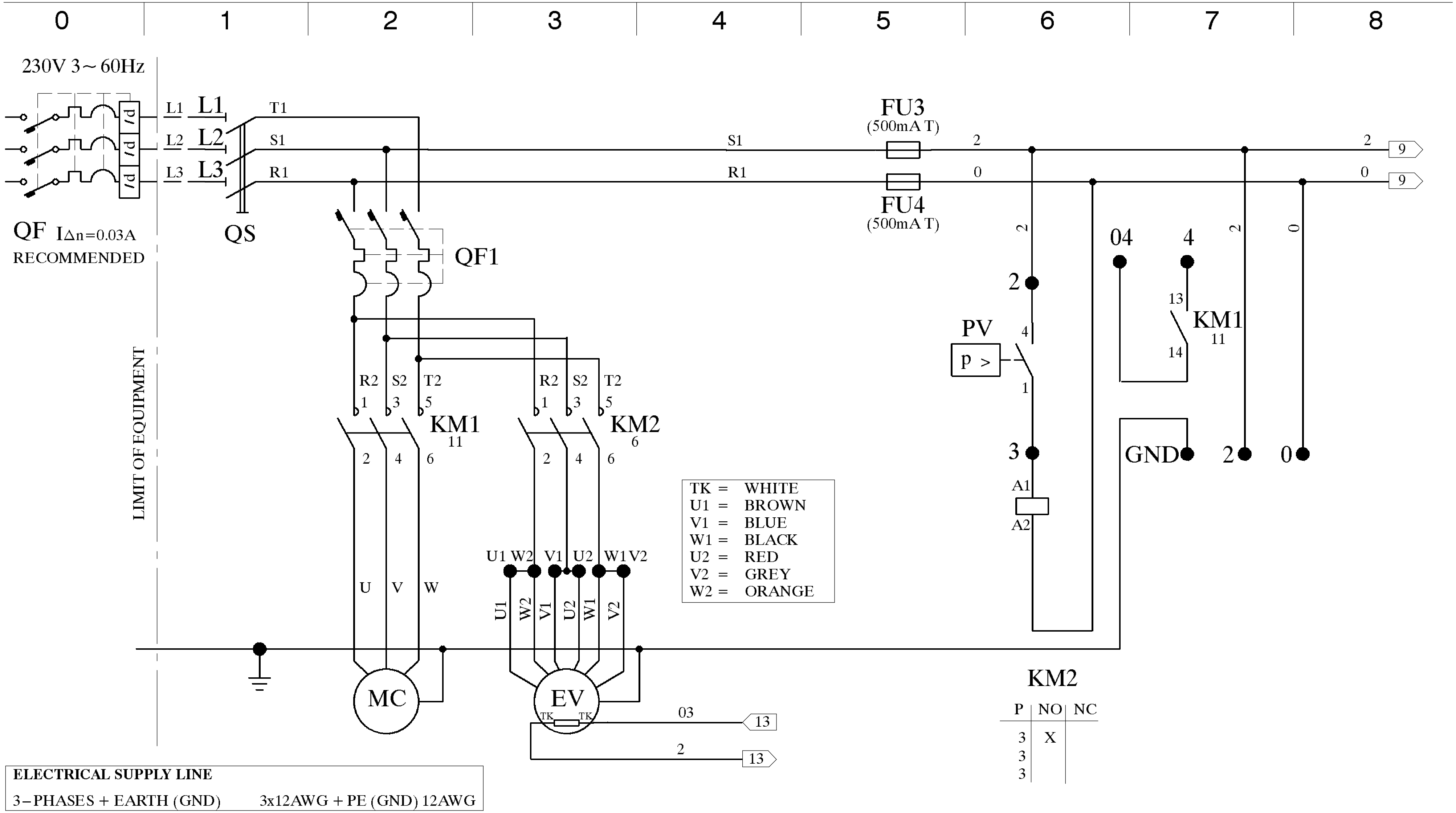


Fig. 10 Electrical diagram SR-250 – SR-500 air–cooled (460V 3~ 60Hz)

to page 80

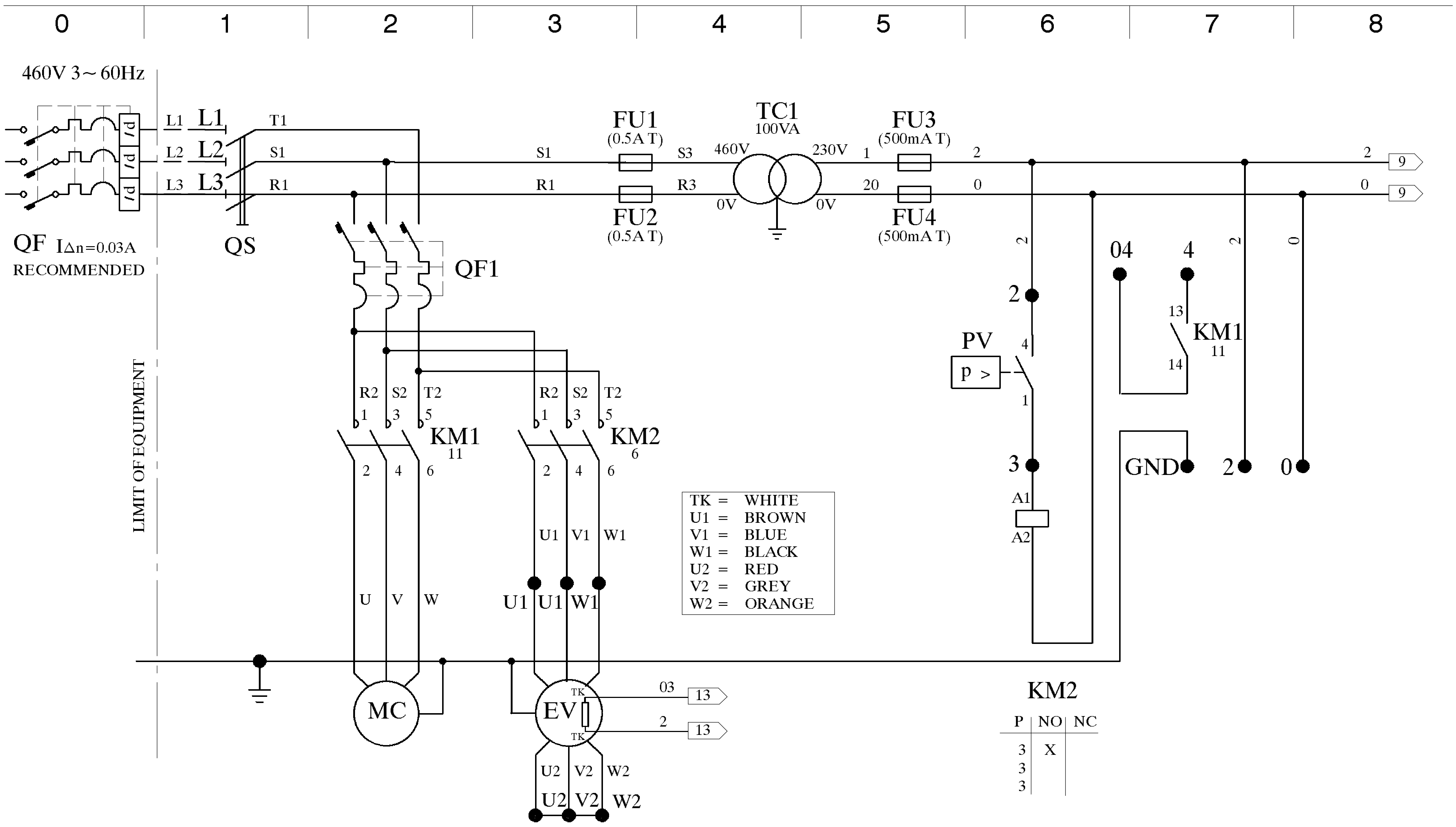


Fig. 10 Electrical diagram SR-700 – SR-800 air–cooled (230V 3~ 60Hz)

to page 80

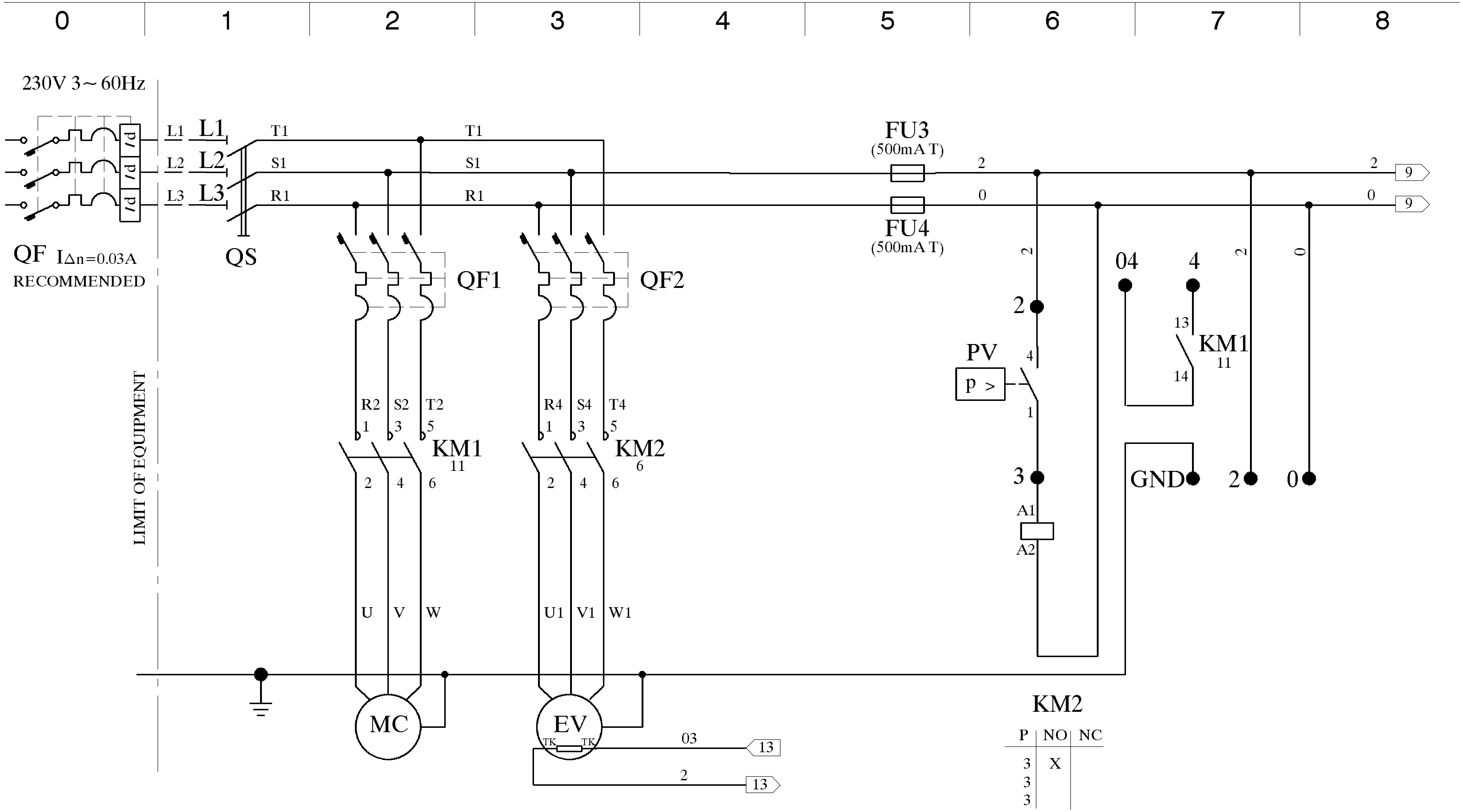


Fig. 10 Electrical diagram SR-700 – SR-1400 air–cooled (460V 3~ 60Hz)

to page 80

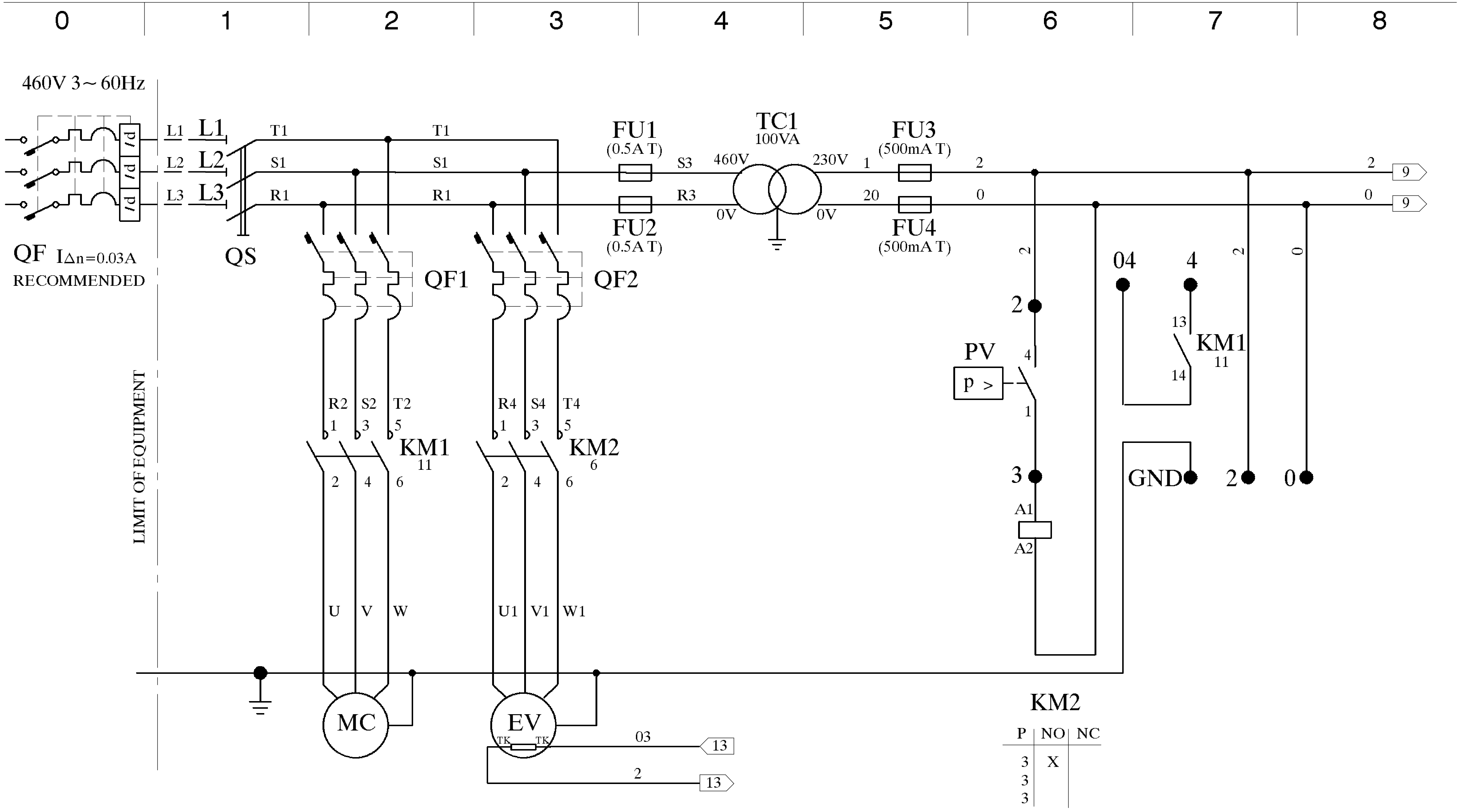


Fig. 10 Electrical diagram SR-1600 – SR-3000 air–cooled (460V 3~ 60Hz)

to page 80

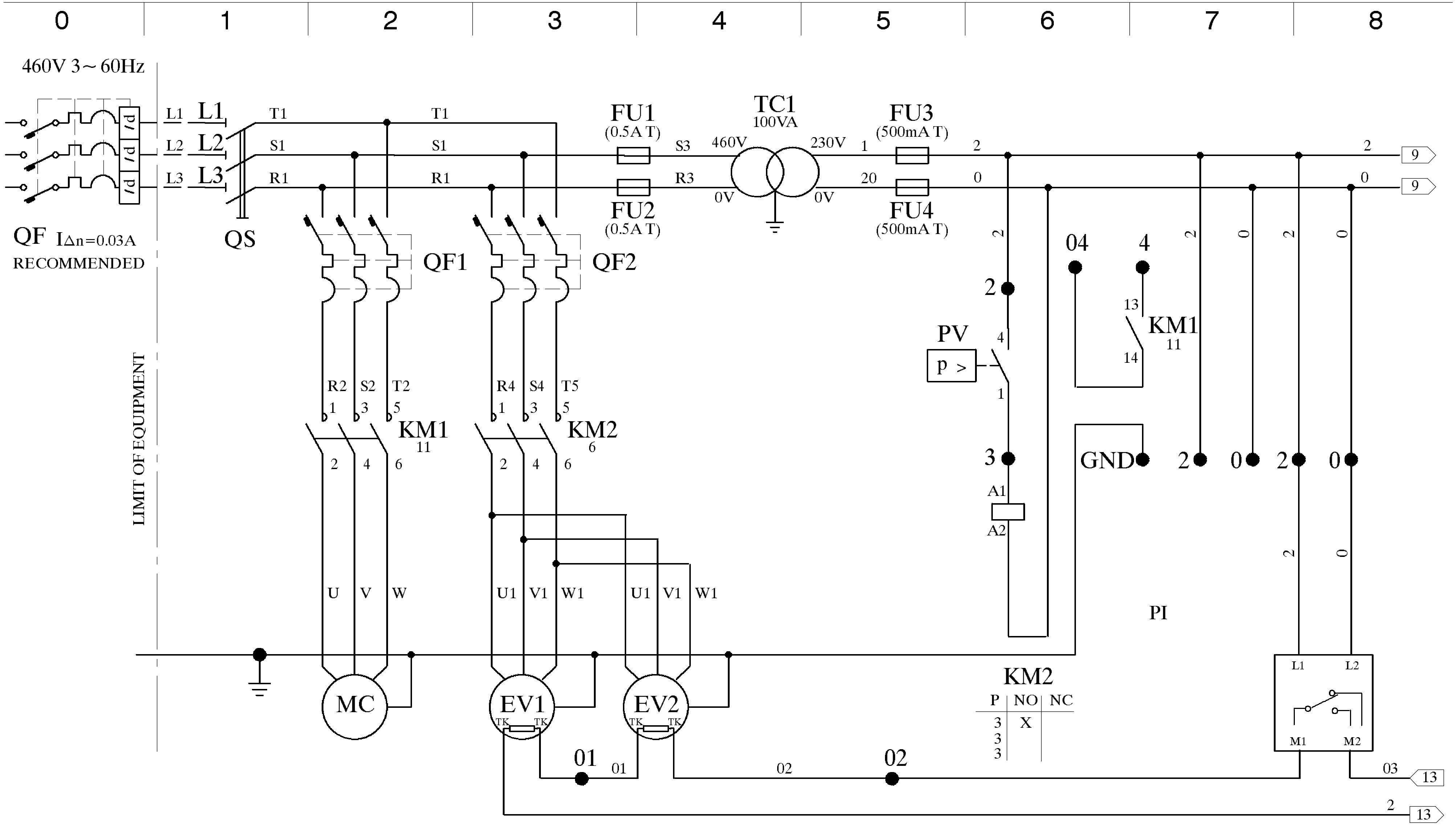
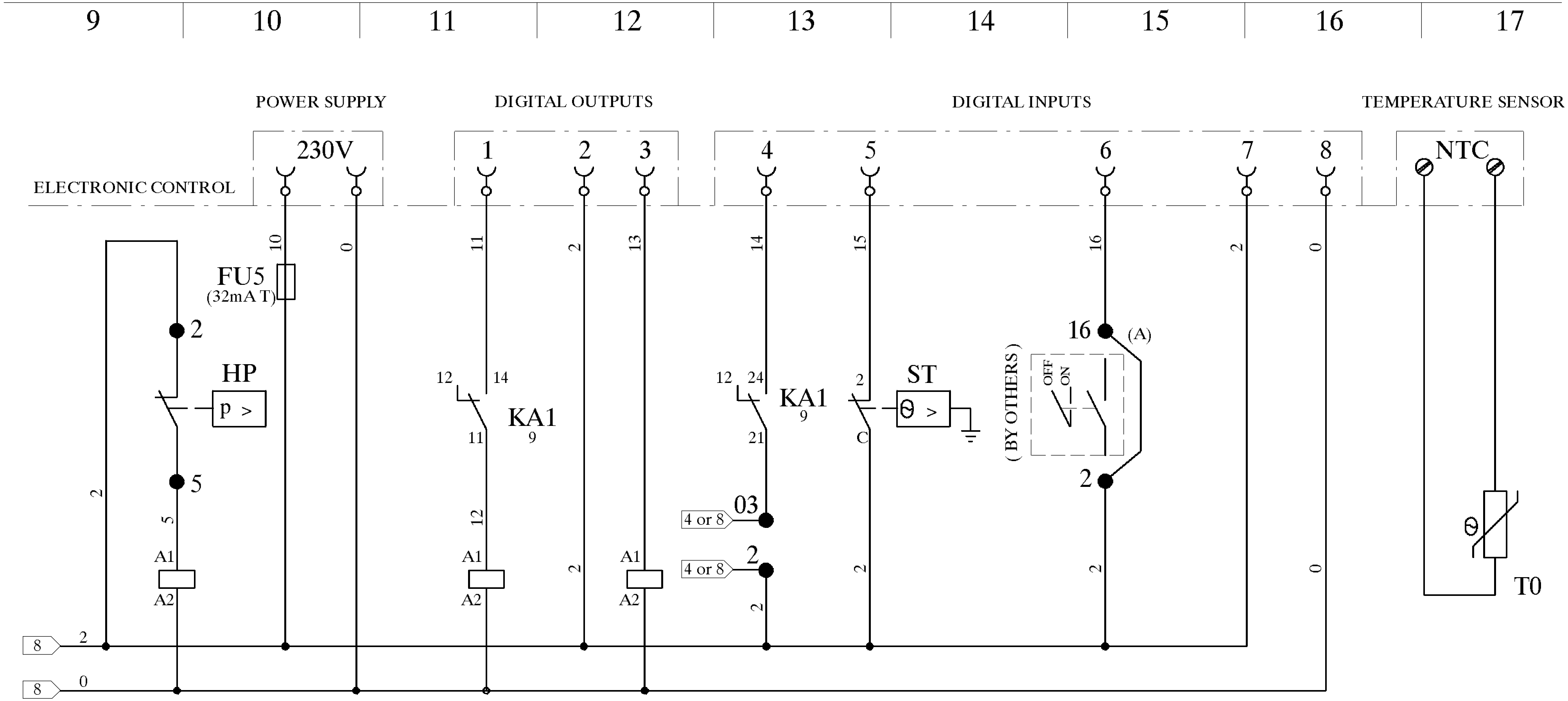


Fig. 10 Electrical diagram SR-250 – SR-3000 air–cooled

to page 81



NC	NO
X	11
X	13

P	NO	NC
2	7	
2		
X		

NC	NO
20	X
X	19

(A) REMOVE BRIDGE IF "REMOTE ON–OFF" IS INSTALLED.

Fig. 10 Electrical diagram SR-250 – SR-3000 air–cooled

18	19	20	21	22	23	24	25	26

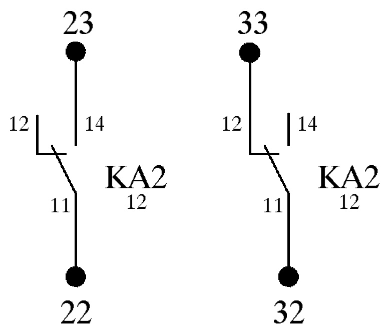


Fig. 10 Electrical diagram SR-250 – SR-500 air–cooled (230V 1~ 60Hz)

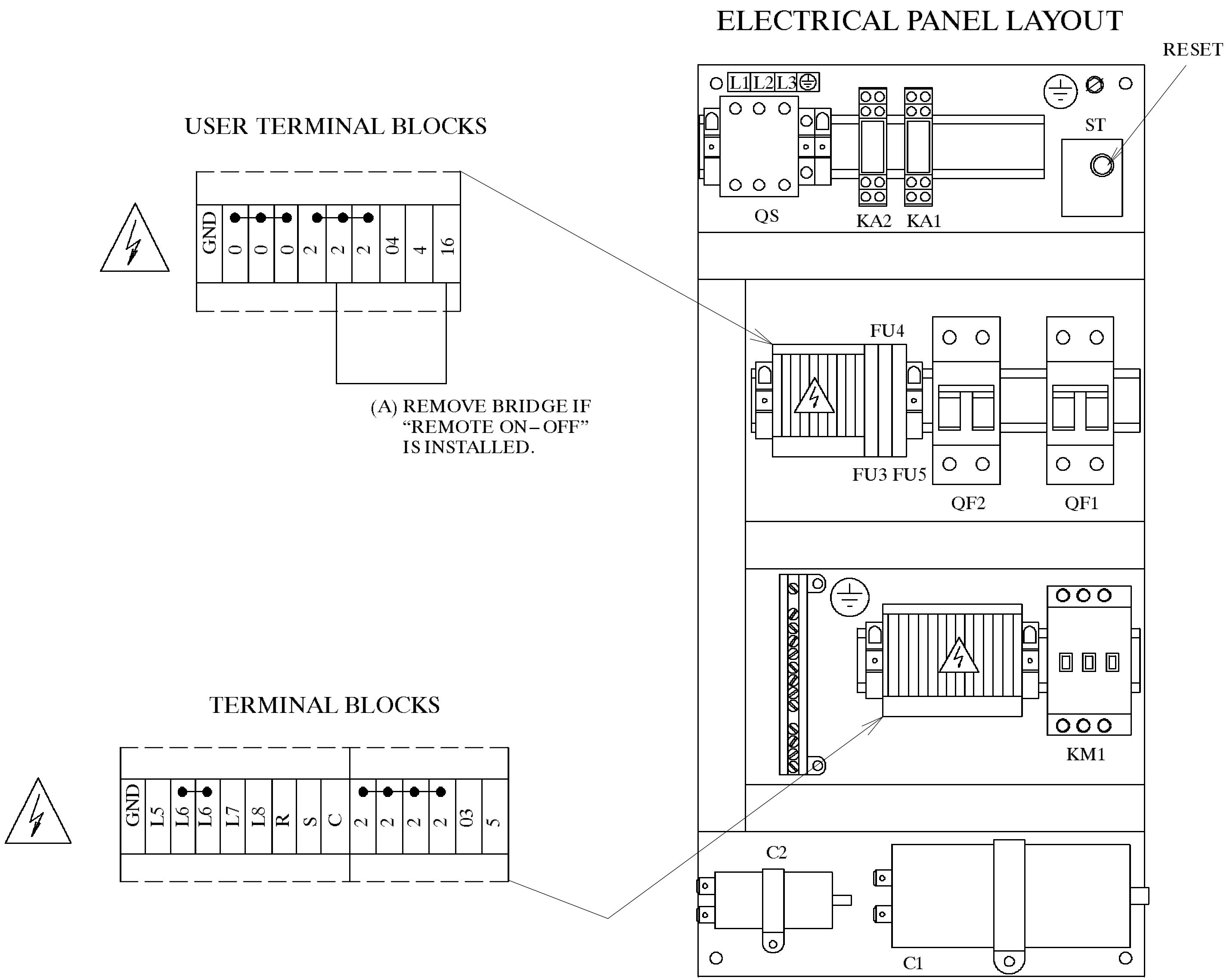


Fig. 10 Electrical diagram SR-250 – SR-500 air–cooled (230V 3~ 60Hz)

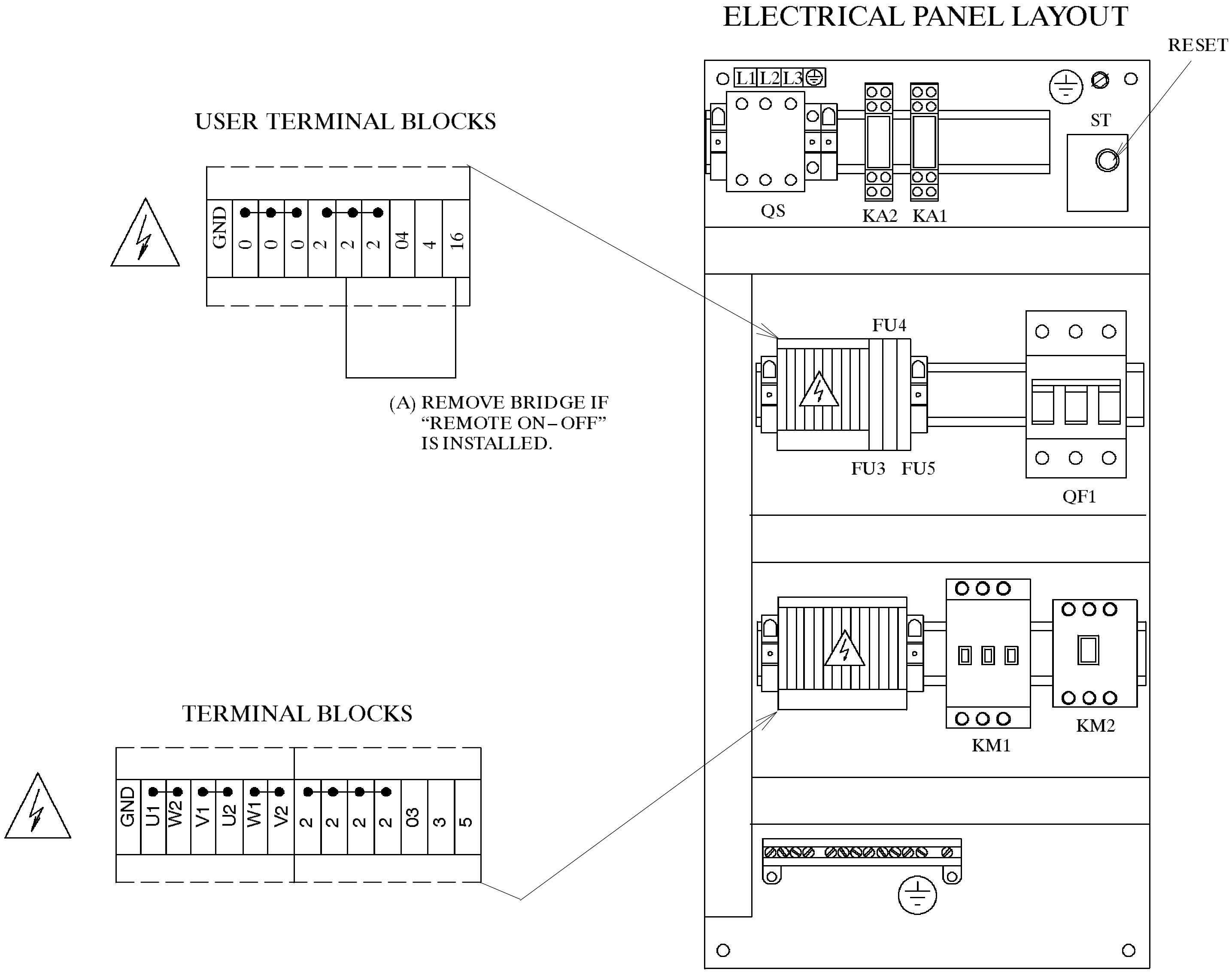


Fig. 10 Electrical diagram SR-250 – SR-500 air–cooled (460V 3~ 60Hz)

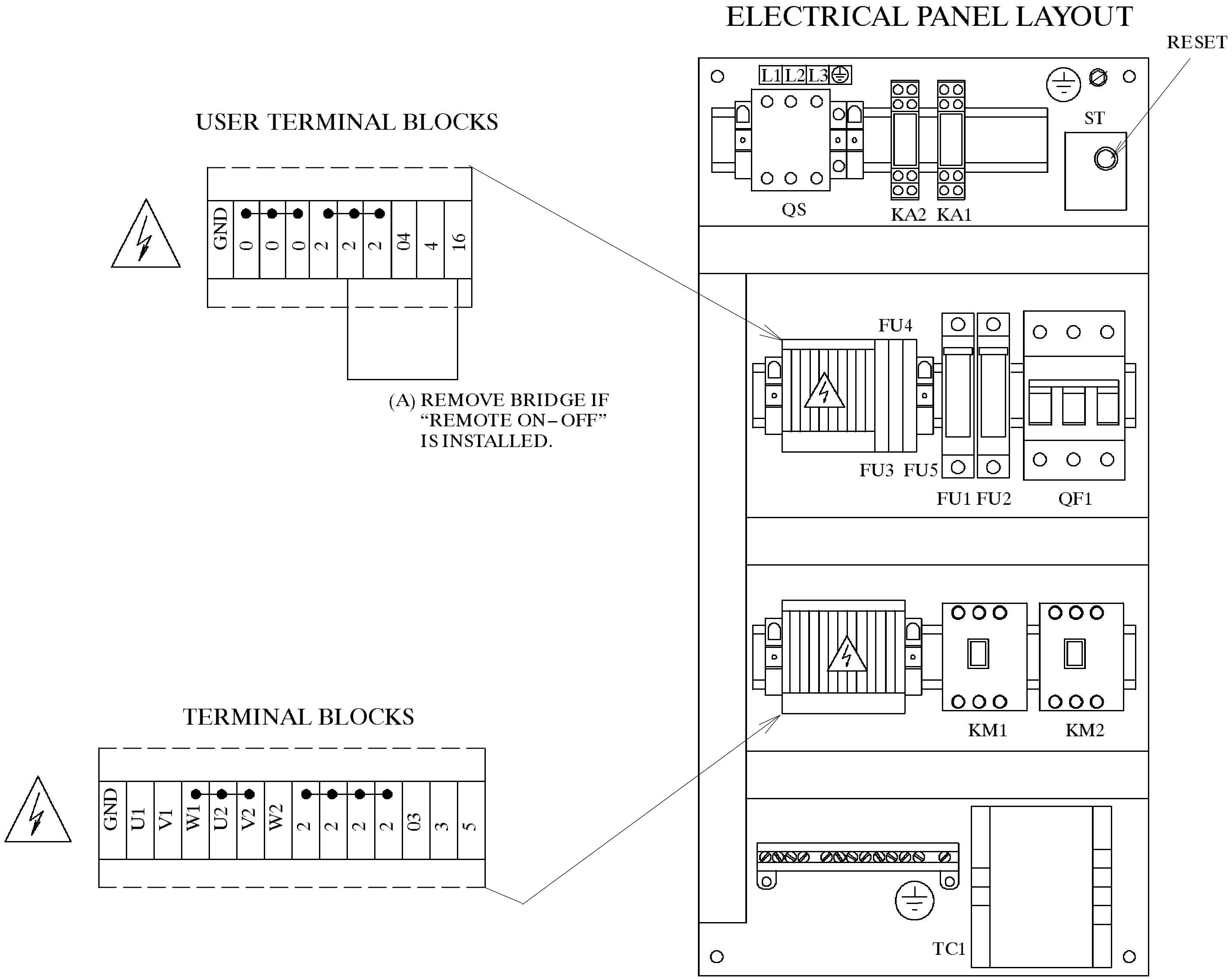


Fig. 10 Electrical diagram SR-700 – SR-800 air–cooled (230V 3~ 60Hz)

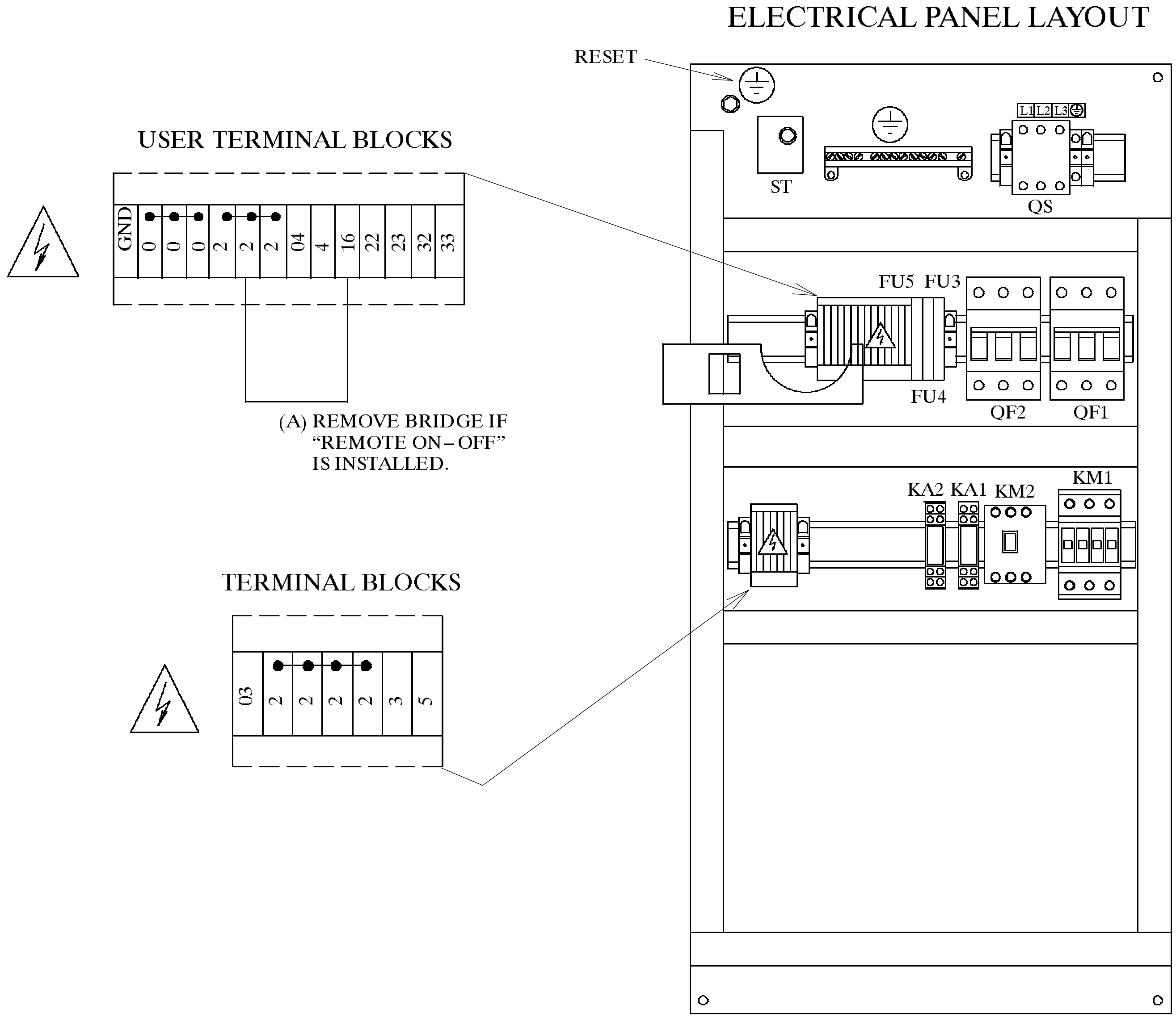


Fig. 10 Electrical diagram SR-700 – SR-3000 air–cooled (460V 3~ 60Hz)

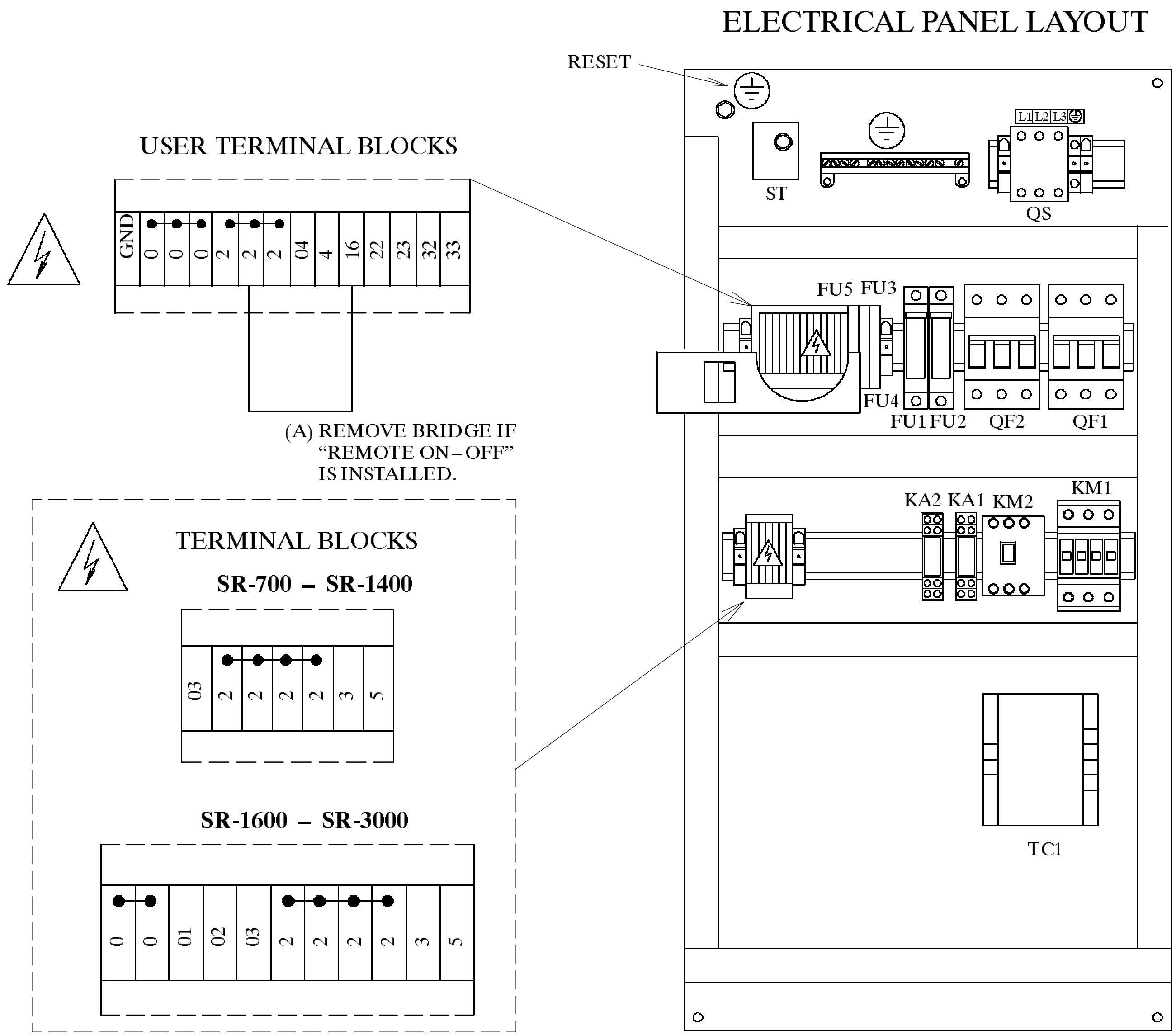


Fig. 10 Electrical diagram SR-700 – SR-800 water–cooled (230V 3~ 60Hz)

to page 90

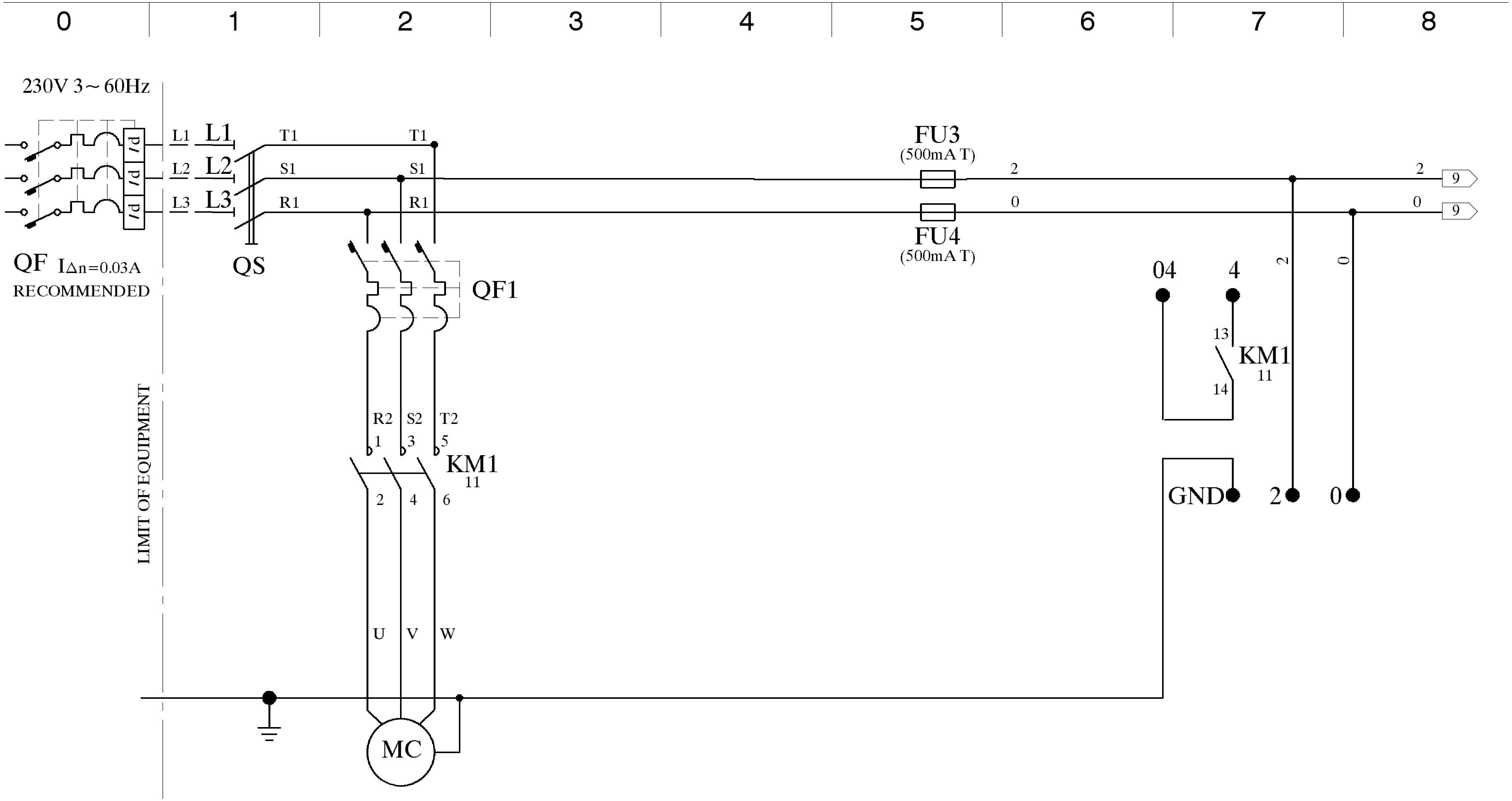


Fig. 10 Electrical diagram SR-700 – SR-1400 water–cooled (460V 3~ 60Hz)

to page 90

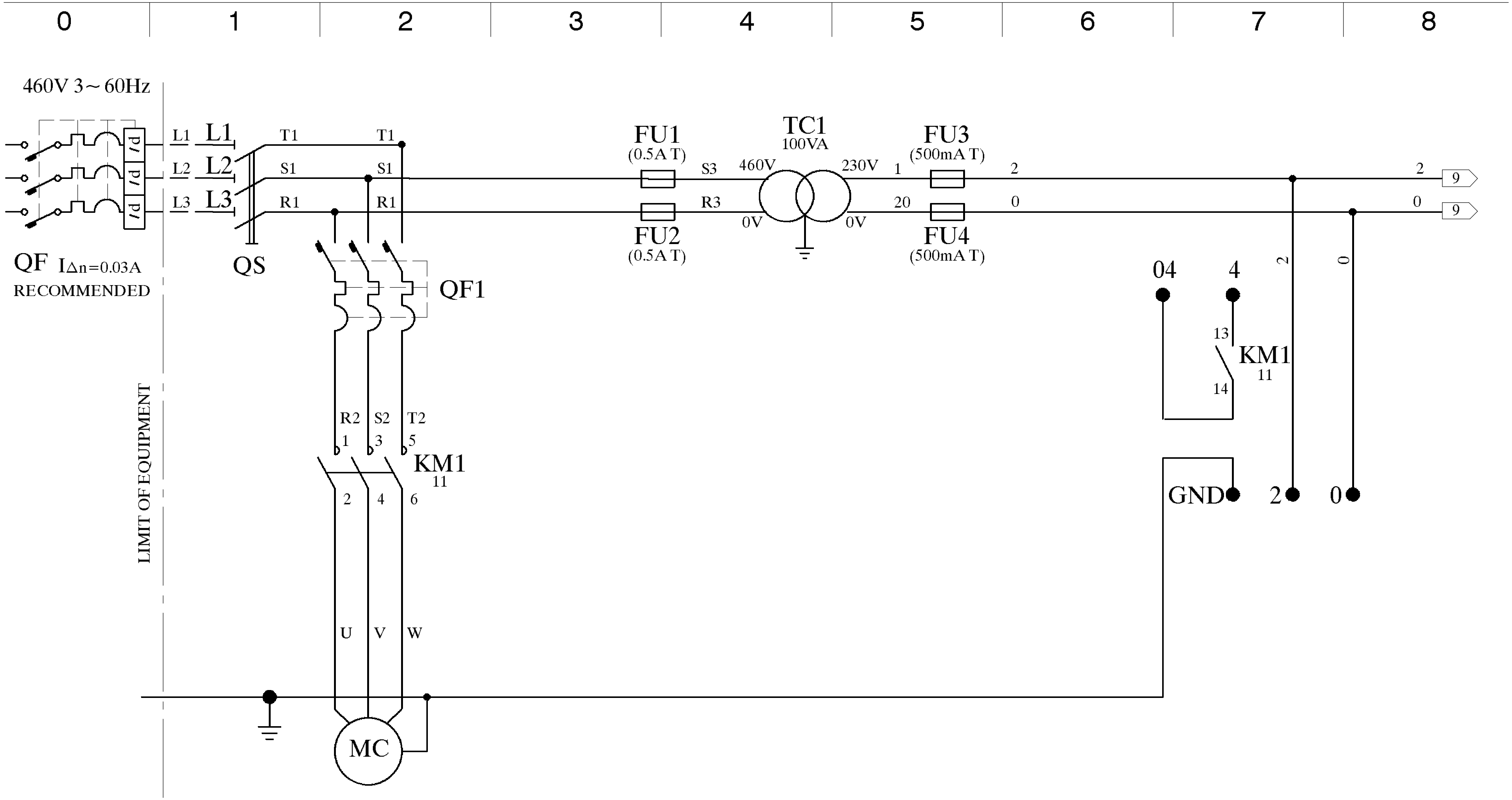


Fig. 10 Electrical diagram SR-1600 – SR-3000 water–cooled (460V 3~ 60Hz)

to page 90

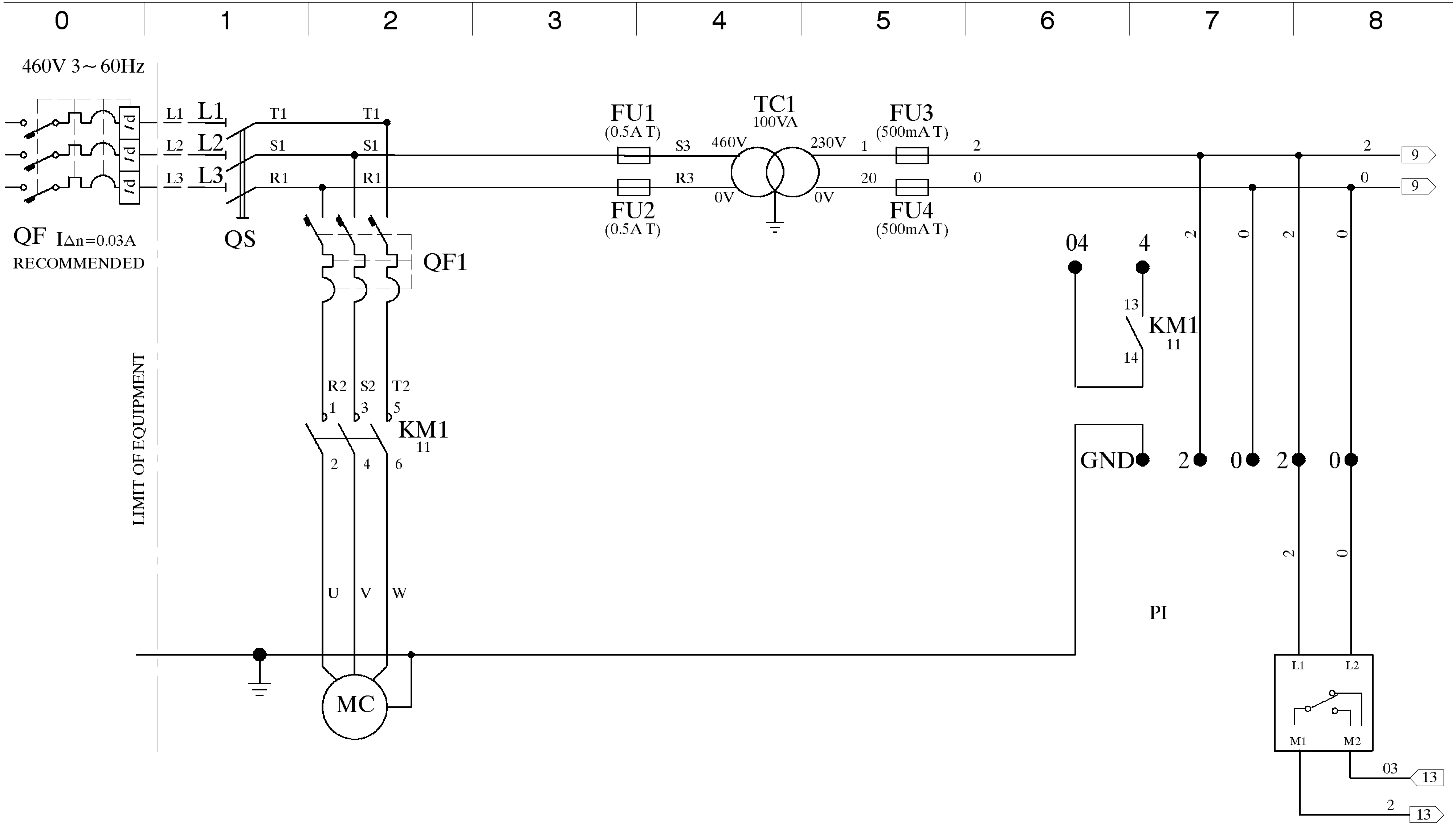
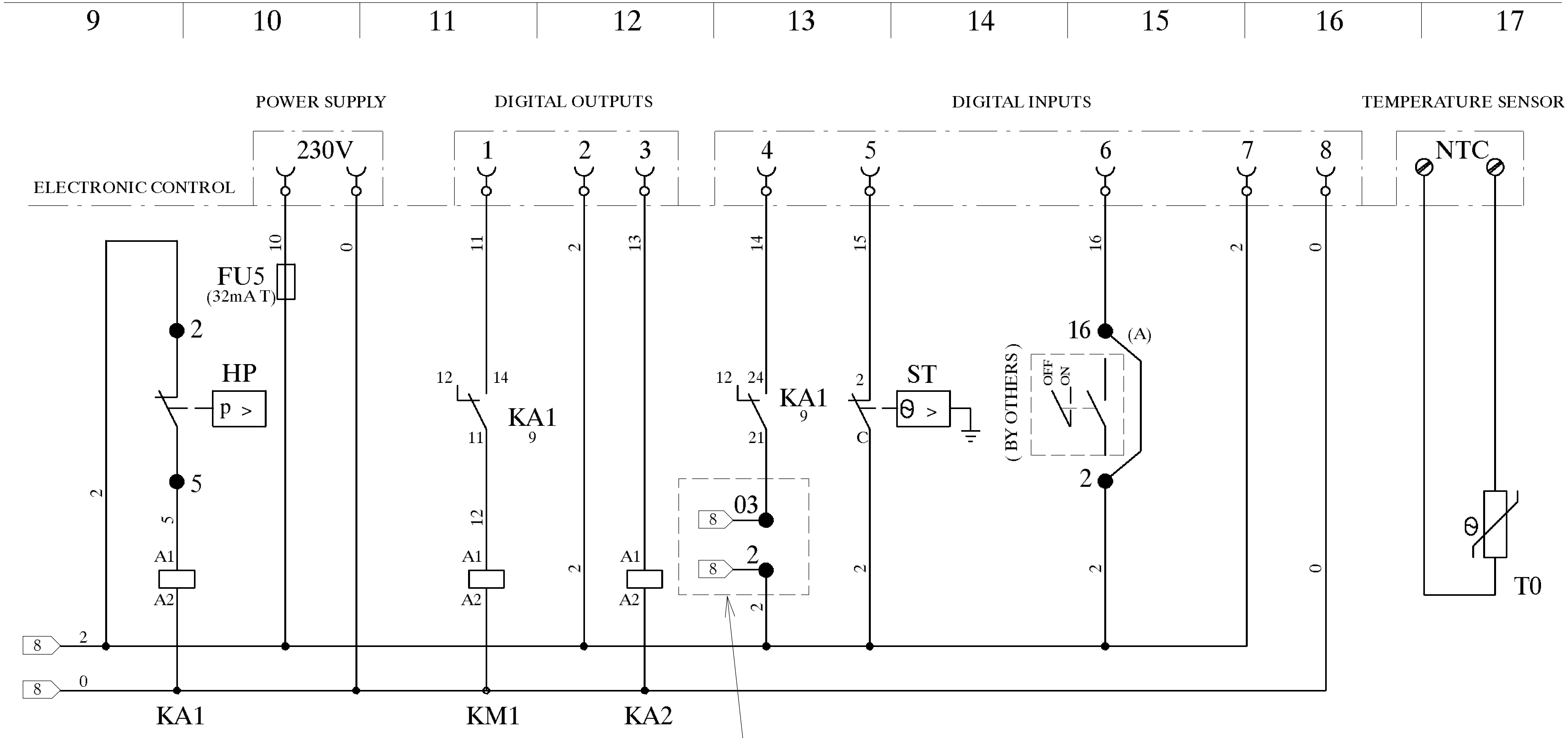


Fig. 10 Electrical diagram SR-700 – SR-3000 water-cooled

to page 91



NC	NO
X	11
X	13

P	NO	NC
2	7	
2		
X		

NC	NO
20	X
X	19

(A) REMOVE BRIDGE IF "REMOTE ON–OFF" IS INSTALLED.

Fig. 10 Electrical diagram SR-700 – SR-3000 water–cooled

18	19	20	21	22	23	24	25	26

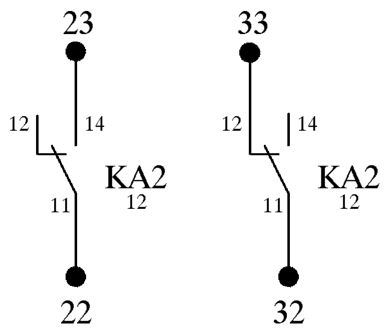


Fig. 10 Electrical diagram SR-700 – SR-800 water–cooled (230V 3~ 60Hz)

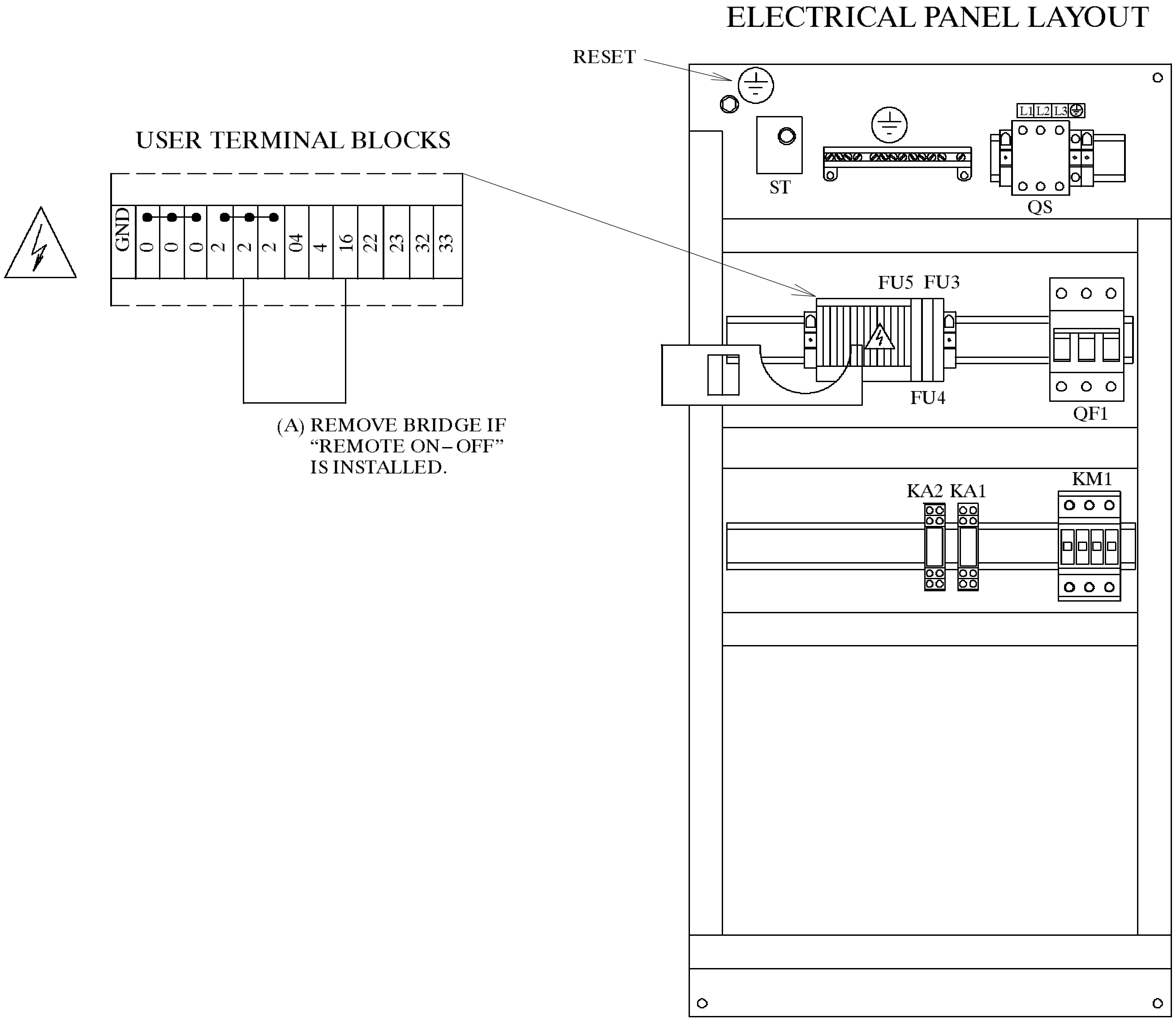
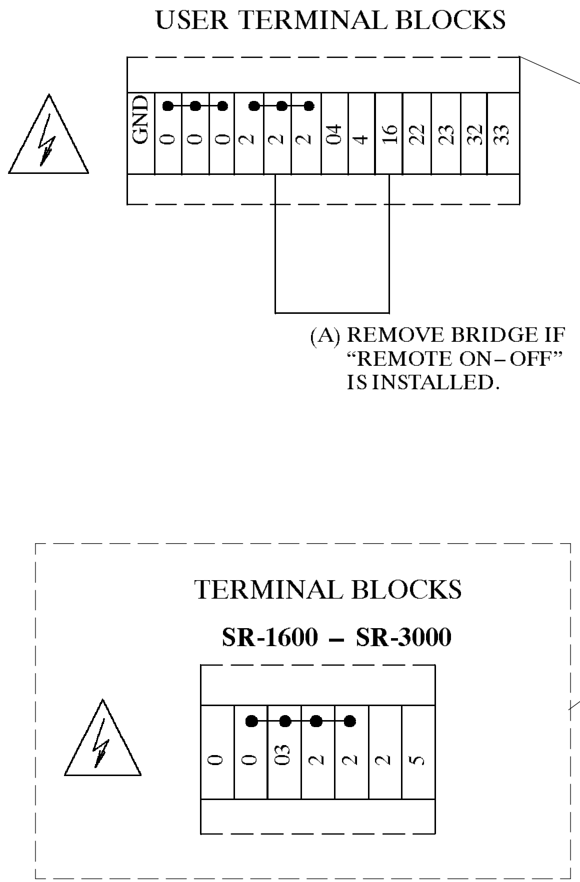
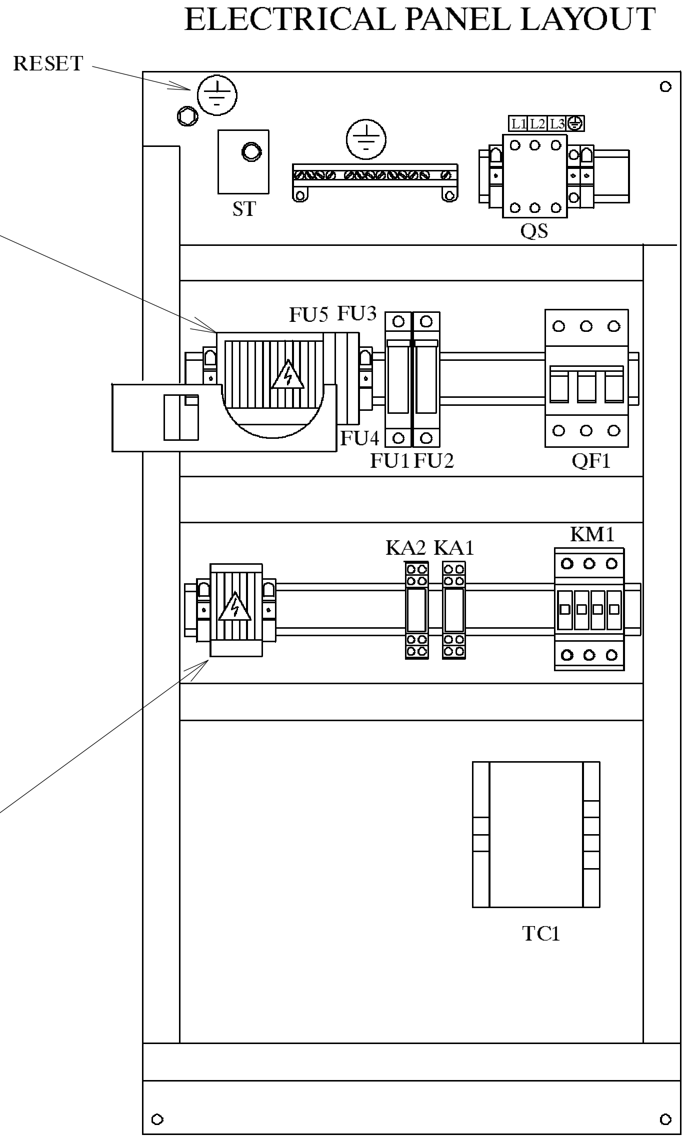


Fig. 10 Electrical diagram SR-700 – SR-3000 water–cooled (460V 3~ 60Hz)





English -- Legend

LABELS

a. Model
Serial No.
Min./Max refrigerant circuit design pressure
Min./Max air pressure
Max air inlet
Min. ambient
Climatic class
Power supply
Refrigerant
Oil
Electrical diagram no.
Weight

b QUALITY CHECKED INSPECTOR N. 302

c. See Chapter 2

d. Air inlet

e. Air outlet

d1. Water inlet

e1. Water outlet

f. **ATTENTION:** components under power.

g. **ATTENTION: SCHRADER VALVE**

1 This unit is equipped with refrigerant as for quantity and kind clearly shown in operating manual and with identification label.
2 Any ordinary test and / or refrigerant recharge by means of connections can take place only after refrigerant evacuation. The evacuation must be proportional to dimensions and length of the connections used. The use of the valve can be justified only when the dryer is not in working order.
3 During the unit guarantee period, the Schrader valve can be used by authorized staff only, otherwise any damage caused by a wrong refrigerant recharge will not be under warranty.

l. Condensate drain connection

m. **ATTENTION!**
Never pass compressed air through the dryer when it is stopped.
Always start the dryer 5 minutes before slowly opening the air inlet valve. If the airflow is to bestopped only switch the dryer off after closing the air inlet.

n. **SETTING** (hot gas valve)
Evaporating pressure in 0°C, with precision manometer connected at evaporator outlet.

o. **ATTENTION:** SCROLL three–phase compressors.
If the compressor is noisy and the pressure on the (LP) gauge does not decrease you should immediately invert two phases. Please refer to the service manual for more details.

p. **ATTENTION:** Hot and moving parts enclosed, disconnect the mains supply before removing this cover.

q. **ATTENTION**
1 Fully drain the piping before connecting this unit to the external water piping (cold water, make up water, ect.).
2 Fitting of a standard strainer is also strongly recommended on the inlet water piping.

r. **WARNING:**
Risk of electric shock can cause injury or death.
Disconnect all remote electric power supplies before servicing.

s. **BSPP pipe threads**
use supplied adapters

DRAWINGS

A. TIMED SOLENOID DRAIN

1.	MC	compressor
2.		refrigerant condenser
3.	EV-1-2	fan motor
4.		evaporator
5.		separator
6.		insulation
7.		expansion capillary
8.		refrigerant filter
9.		hot gas valve
10.		air–air heat exchanger
12.	PV	fan pressure switch
14.	QS	main switch
15.	HP	high pressure switch
16.	ST	high temperature thermostat
17.		low pressure manometer
18.		compressor valve
25.		thermometer sensor pocket
27.		gas charge point
28.		water pressostatic valve
29.		high pressure tap
30.	QF1	compressor motor automatic switch
30a	QF2	fan motor automatic switch
31.	KM2	fan motor contactor
32.	KM1	compressor motor contactor
33.	TC1	auxiliary transformer
35.		power cable inlet (PG 21 ∅ 13÷18 mm)
36.		remote control cable entry point (PG 16 ∅ 10÷14 mm)
37.		control panel
38.		temperature sensor NTC
40.		liquid separator
	T0.	dew point temperature sensor
	FU1-2	transformer fuse TC1
	FU3-4	auxiliary fuse 230V
	FU5	control panel fuse
	PI	compressor internal protection
	KA1	high pressure alarm relay
	KA2	general alarm relay
	C1	compressor start capacitor
	C2	fan run capacitor
	QF	residual current circuit–breaker (by installer)
(A)		remove bridge if “remote on–off” is installed

Français -- Légende

ETIQUETTES

a. Modèle
Numéro de série
Pression de calcul minimale/maximale du circuit réfrigérant
Pression min./max. air
Température max. air
Température ambiante min.
Classe climatique
Tension
Réfrigérant
Huile
Schéma électrique n°
Poids

b SOUMIS AUX ESSAIS PAR L'INSPECTEUR N° 302

c. Voir Chapitre 2

d. Entrée air / Entrée eau

e. Sortie air / Sortie eau

f. **ATTENTION:** components sous tension

g. **ATTENTION! VANNE SCHRADER**

1 Cette installation est chargée en réfrigérant en quantité et types strictement prévus dans le manuel d'instructions et sur l'étiquette d'identification de l'installation.
2 Le raccordement de cette vanne pour contrôles et/ou charges en réfrigérant implique une évacuation de réfrigérant proportionnelle à la longueur et aux sections des raccordements utilisés: par conséquent son utilisation devra être dans tous les cas justifiée par un dysfonctionnement du sécheur.
3 L'utilisation de la vanne Schrader durant la période de garantie de l'installation est permise uniquement au personnel dûment autorisé. Dans le cas contraire, les dommages éventuels provoqués par une charge en réfrigérant erronée ne seront pas couverts par la garantie.

l. Raccordement vidangeur condensation

m. **ATTENTION!**
Ne jamais faire passer l'air comprimé à travers le dryer lorsqu'il n'est pas activé. Démarrer toujours le dryer 5 minutes avant d'ouvrir lentement la soupape d'entrée d'air.
Si le flux d'air doit être interrompu, bloquer le dryer après avoir fermé la soupape d'entrée.

n. **TARAGE** (soupape de gaz chaud)
Pression d'évaporation min. 0° C avec manomètre de précision relié à la sortie de l'évaporateur.

o. **ATTENTION:** Compresseur SCROLL triphasé
Si le compresseur fait du bruit et si la pression indiquée par la manomètre (LP) ne descend pas, intervertir deux phases. Se reporter au manuel d'installation.

p. **ATTENTION :** Parties en mouvement, corps chauds, ouvrir le sectionneur électrique général avant de retirer ce panneau.

q. **ATTENTION**

1 Avant de raccorder cette machine au circuit hydraulique externe (eau froide, eau de remplissage etc...) purger complètement les canalisations.
2 Si ce n'était pas prévu dans la fourniture, nous conseillons vivement l'installation d'un filtre à grille sur les lignes d'alimentation hydrique.

r. **AVERTISSEMENT**
Risques importants d'électrocution pouvant provoquer de graves blessures.
Débrancher toutes les alimentations électrique avant la maintenance.

s. **TARAUDAGE BSP GAZ**
Utiliser les adaptateurs fournis.

DESSINS

A. vidange condensation temporisée

1.	MC	compresseur
2.		condenseur réfrigérant
3.	EV-1-2	motoventilateur
4.		evaporateur
5.		séparateur
6.		isolation pour groupe échangeur
7.		capillaires d'expansion
8.		filtre réfrigérant
9.		vanne gaz chaud
10.		echangeur air–air
12.	PV	pressostat ventilateur
14.	QS	interrupteur sectionneur général
15.	HP	pressostat haute pression
16.	ST	thermostat haute température
17.		manomètre basse pression
18.		robinets aspiration–refoulement compresseur
25.		doigt de gant sonde thermomètre
27.		raccord charge gaz
28.		vanne pressostatique à eau
29.		prise haute pression
30.	QF1	interrupteur automatique moteur compresseur
30a	QF2	interrupteur automatique moteur ventilateur
31.	KM2	contacteur motoventilateur
32.	KM1	contacteur moteur compresseur
33.	TC1	transformateur auxiliaires
35.		entrée câble alimentation électrique (PG 21 ∅ 13÷18 mm)
36.		trou entrée contrôle et/ou signalisation à distance (PG 16 ∅ 10÷14 mm)
37.		Microprocesseur de contrôle
38.		sonde température NTC
40.		séparateur de liquide
	T0.	sonde température point de rosée
	FU1–2	fusible transformateur TC1
	FU3–4	fusibles auxiliaires 230V
	FU5	fusible de Microprocesseur de contrôle
	PI	protection intégrale compresseur
	KA1	relais d'alarme pression élevée
	KA2	relais alarme générale
	C1	condensateur de démarrage compresseur
	C2	condensateur marche ventilateur
	QF	interrupteur de protection à courant différentiel (par l'installateur)
(A)		retirer le pontet si le "marche – arrêt à distance" est installé.

Español -- Leyenda

ETIQUETAS

a. Modelo
   Número de serie
   Presión de cálculo mín./máx. del circuito del refrigerante
   Presión mínima/máxima del aire comprimido
   Temperatura máx del aire comprimido
   Temperatura mínima ambiente
   Clase climática
   Tensión
   Gas refrigerante
   Aceite
   Esquema eléctrico N°
   Peso

b PRUEBA DE CONTROL EFECTUADA POR EL INSPECTOR N. 302

c. Véase Cap 2

d. Entrada de aire / Entrada de agua

e. Salida de aire / Salida de agua

f. **ATENCIÓN:** Componentes conectados a la alimentación

g. **ATENCIÓN! VÁLVULA SCHRADER**
   1 Este equipo está cargado con refrigerante según las cantidades y el tipo indicados en el manual de instrucciones y en la etiqueta de identificación de la instalación.
   2 La conexión a esta válvula para controles y/o cargas de refrigerante comporta una evacuación de refrigerante proporcional a la longitud y a las dimensiones de las conexiones empleadas: por lo tanto, sólo se puede emplear si se produce un funcionamiento incorrecto del equipo.
   3 El uso de la válvula Schrader durante el período de garantía del equipo sólo está permitido a personal autorizado. En caso contrario, los eventuales daños provocados por una carga incorrecta de refrigerante no quedarán cubiertos por la garantía.

l. Conexión de la descarga del agua condensada

m. **ATENCIÓN!**
   No dar paso al aire comprimido a través del secador si éste no está funcionando. Poner en funcionamiento el secador 5 minutos antes de abrir lentamente la válvula de entrada de aire. Para interrumpir el flujo de aire, parar el secador y a continuación cerrar la válvula de entrada.

n. **REGULACIÓN** (válvula de gas caliente)
   Presión de evaporación mínima 0°C con manómetro de precisión conectado a la salida del evaporador.

o. **ATENCIÓN:** Compresor SCROLL trifásico.
   Si el compresor hace mucho ruido y la presión indicada por el manómetro (LP) no baja, invertir dos fases. Consultar el manual de instalación.

p. **ATENCIÓN:** Elementos en movimiento, cuerpos calientes: abrir el interruptor eléctrico general antes de quitar este panel.

q. **ATENCIÓN**
   1 Antes de conectar la máquina al circuito hidráulico externo (agua fría, agua de retorno, etc.) vaciar completamente los tubos.
   2 Si no se suministra de serie, se aconseja instalar un filtro de red en las líneas de agua que entran en la instalación.

r. **AVISO:**
   Riesgo de shock electrico. Puede causar danos o incluso muerte.
   Desconectar el suministro electrico antes de la manipulacion.

s. **CONEXIONES ROSCADAS BSPP**
   Usar los adaptadores suministrados.

ESQUEMAS Y DESPIECE

A. Drenaje de condensado temporizado

1.	MC	compresor
2.		condensador
3.	EV-1-2	electroventilador
4.		evaporador
5.		separador de condensados
6.		aislamiento para grupo intercambiador
7.		capilar de expansión
8.		filtro deshidratador
9.		válvula gas caliente
10.		intercambiador aire–aire
12.	PV	presostato ventilador
14.	QS	interruptor general
15.	HP	presostato alta presión
16.	ST	termostato alta temperatura
17.		manómetro baja presión
18.		Llaves aspiración–impulsión compresor
25.		ubicación sonda temperatura
27.		valvula carga gas
28.		válvula presostática agua
29.		toma presión de alta
30.	QF1	interruptor automático motor compresor
30a	QF2	interruptor automático motor ventilador
31.	KM2	contactor electroventilador
32.	KM1	contactor compresor
33.	TC1	transformador auxiliar
35.		entrada cable alimentación eléctrica (PG 21 ∅ 13÷18 mm)
36.		orificio entrada control y/o señalización remoto (PG 16 ∅ 10÷14 mm)
37.		panel de control
38.		sonda temperatura NTC
40.		separador de líquido
	T0.	sonda temperatura punto de rocío
	FU1-2	fusible transformador TC1
	FU3-4	fusible auxiliares 230V
	FU5	fusible del panel de control
	PI	protección interna compresor
	KA1	relé de alarma alta presión
	KA2	relé alarma general
	C1	condensador de puesta en marcha compresor
	C2	condensador marcha ventilador
	QF	interruptor diferencial (a cargo del instalador)
(A)		quite el puente si está instalado “marcha – parada remoto”

Português -- Legenda

ETIQUETAS

a. Modelo
Matrícula
Pressão mínima/máxima do circuito de refrigeração
Pressão mínima/máxima do ar
Temperatura máxima do ar
Temperatura ambiente mínima
Classe climática
Tensão
Refrigerante
Óleo
Esquema eléctrico n.º
Peso

b APROVADO PELO INSPECTOR N.º 302

c. Ver Cap. 2

d. admissão de ar / admissão da água

e. saída de ar / saída da água

f. **ATENÇÃO:** componentes em tensão

g. **ATENÇÃO! VÁLVULA SCHRADER**

1 Este equipamento está carregado com refrigerante na quantidade e tipo rigorosamente definidos neste manual de instrução e na etiqueta de identificação do equipamento.
2 A ligação nesta válvula para os controlos e/ou cargas de refrigerante, comporta a evacuação do refrigerante em proporção ao comprimento e dimensões das conexões utilizadas. Portanto o uso da mesma, deverá ser justificado por um funcionamento anómalo do exsicador.
3 O uso da válvula Schrader durante o período de garantia do equipamento, é permitido somente ao pessoal autorizado. Ao invés, eventuais danos provocados pela carga errada de refrigerante, não serão reconhecidos em garantia.

l. Engate do descarregador de condensação

m. **ATENÇÃO!**
Não faça passar o ar comprimido através do dryer quando o mesmo não está em funcionamento. Ligue o dryer sempre 5 minutos antes de abrir lentamente a válvula de entrada do ar. Se o fluxo de ar fosse interrompido, pare o dryer logo após ter fechado a válvula de entrada.

n. **CALIBRAÇÕES** (válvula de gás quente)
Pressão de evaporação mín. 0°C, com manómetro de precisão coligado na saída do evaporador.

o. **ATENÇÃO:** Compressor SCROLL trifásico.
Quando o compressor começa a fazer ruído e a pressão indicada pelo manómetro (LP) não desce, invertir as duas fases. Ver o manual de instalação.

p. **ATENÇÃO:** peças em movimento, quentes, abrir o seccionador eléctrico geral antes de retirar este painel.

q. **ATENÇÃO**
1 Antes de ligar esta máquina no circuito hidráulico externo (água fria, água de reintegração, etc), drene totalmente as tubagens.
2 Se não fizer parte do fornecimento, aconselhamos sobremaneira a instalação de um filtro comum com rede nas linhas de água de entrada do equipamento.

r. **ADVERTÊNCIA:**
O risco de choque eléctrico pode causar ferimentos ou morte. Desligue todas as unidades de alimentação eléctricas remotas antes das operações de manutenção.

s. **Roscas para tubagem BSPP**
Utilize os adaptadores fornecidos

DESENHOS

A. Descarga de condensação temporizada

1.	MC	compresor
2.		condensador refrigerante
3.	EV-1-2	electroventilador
4.		evaporador
5.		separador
6.		isolamento para o grupo alternador
7.		capilares de expansión
8.		Filtro refrigerante
9.		válvula gas caliente
10.		intercambiador aire–aire
12.	PV	presostato ventilador
14.	QS	interruptor seccionador geral
15.	HP	presostato alta presión
16.	ST	termostato alta temperatura
17.		manómetro baja presión
18.		torneiras aspiração–vazão compressor
25.		orifício da sonda do termómetro
27.		junta do carregamento de gás
28.		válvula pressostática água
29.		tomada de alta pressão
30.	QF1	interruptor automáatico motor compressor
30a.	QF2	interruptor automáatico motor ventilador
31.	KM2	contador electroventilador
32.	KM1	contador motor compressor
33.	TC1	transformador auxiliares
35.		entrada do cabo de alimentação eléctrica (PG 21 ∅ 13÷18 mm)
36.		orifício de entrada de controlo e/ou sinalização remota (PG 16 ∅ 10÷14 mm)
37.		painel de controle
38.		sonda da temperatura NTC
40.		separador de líquido
	T0.	sonda temperatura ponto orvalho
	FU1-2	transformador auxiliares TC1
	FU3-4	fusível auxiliares 230V
	FU5	fusível de painel de controle
	PI	protecção integral do compressor
	KA1	relé de alarme de alta pressão
	KA2	relé do alarme geral
	C1	condensador de arranque do compressor
	C2	condensador de marcha do ventilador
	QF	interruptor de protecção com corrente diferencial (fornecido pelo constructor)
(A)		tirar a ponte se tiver sido instalada “marcha–paragem remoto”

Deutsch -- Legende

ETIKETTEN

a. Typ
Baunummer
Min./Max. Messdruck Kältemittelschaltkreis
Min./Max. Luftdruck
Max. Lufttemperatur
Min. Raumtemperatur
Klimatische Klasse
Spannung
Kältemittel
Öl
Stromplan Nr.
Gewicht

b ABNAHMEPRÜFER Nr. 302

c. Siehe Kap. 2

d. Lufteintritt / Wasseraustritt

e. Luftaustritt / Wassereinstritt

f. **ACHTUNG:** spannungsführende Teile

g. **ACHTUNG! SCHRADER–VENTILS**
1 Menge und Sorte des eingefüllten Kältemittel entsprechen genau den Angaben im Bedienungshandbuch sowie auf dem Ken nschild der Anlage.
2 Der Anschluß an dieses Ventil zu Prüfzwecken bzw. zum Nachfüllen von Kältemittel hat einen der Länge und Dimension der ver wendeten Anschlüsse proportionalen Kältemittelverlust zur Folge. Dieser Maßnahme muß daher eine Betriebsstörung des Trockners zu Grunde liegen.
3 Der Einsatz des Schrader–Ventils während der Garantiezeit der Anlage ist ausschließlich autorisiertem Personal gestattet. Etwaige Schäden infolge einer falschen Freon–Ladung sind anderenfalls nicht von der Garantie gedeckt.

l. Anschluß Kondensatablaß

m. **ACHTUNG!**
Keine Druckluft durch den Trockner strömen lassen, solange dieser nicht in Betrieb ist. Den Trockner immer 5 Minuten vor dem langsamen Öffnen des Zuluftventils in Betrieb setzen. Wenn der Luftstrom unterbrochen werden muß, das Zuluftventil schließen und dann den Trockner ausschalten.

n. **EINSTELLUNG** (Heißgasventil)
Verdampfungsdruck min. 0 °C mit Präzisionsmanometer am Trocknerausgang.

o. **ACHTUNG:** Drehstromkompressor SCROLL
Sollte der Kompressor laut sein und der am Manometer (LP) angezeigte Druck nicht sinken, sind die zwei Phasen zu vertauschen. Siehe Installationshandbuch.

p. **ACHTUNG**: bewegliche Maschinenteile, warme Gehäuse, vor der Entfernung dieses Paneels den elektrischen Haupttrennschalter öffnen.

q. **ACHTUNG**
1 Vor dem Anschluß an das externe Wassernetz (Kaltwasser, Nachfüllwasser usw.) die Leitungen vollständig entleeren.
2 Sofern nicht im Lieferumfang enthalten, sollte unbedingt am Wassereinlauf ein gemeinsamer Netzfilter installiert werden.

r. **ACHTUNG!**
Vor Öffnen des Gehäuses
Netzstecker ziehen !

s. **BSPP Rohr–Anschlüsse**
die beiliegenden Adapter benutzen.

ZEICHNUNGEN

A. Zeitgeschalteter Kondenswasserablaß

1.	MC	Verdichter
2.		Kältemittel–Kondensator
3.	EV-1-2	Ventilatormotor
4.		Verdampfer
5.		Abscheider
6.		Isolierung für Wärmeaustauschaggregat
7.		Expansionskapillar
8.		Kältefilter
9.		Heißgasventil
10.		Luft/Luft–Wärmeaustauscher
12.	PV	Ventilatorpressostat
14.	QS	Hauptschalter
15.	HP	Hochdruckpressostat
16.	ST	Sicherheitsthermostat
17.		Niederdruckmanometer
18.		Handabsperrventile für Kompressorvorlauf und –rücklauf
25.		Mulde für Thermometerfühler
27.		Anschluß Gaszuführung
28.		Wasserpressostat
29.		Hochdruckanschluß
30.	QF1	Kompressormotor – Schaltautomat
30a.	QF2	Ventilatormotor – Schaltautomat
31.	KM2	Schütz – Ventilatormotor
32.	KM1	Schütz – Kompressormotor
33.	TC1	Transformator – Steuerkreise
35.		Eintritt Speisekabel (PG 21 ∅ 13÷18 mm)
36.		Bohrung für Eintritt Fernsteuerung u./o. –signal (PG 16 ∅ 10÷14 mm)
37.		Mikroprozessor–Steuerung
38.		Temperaturfühler NTC
40.		Flüssigkeitsabscheider
	T0.	Temperaturfühler Taupunkt
	FU1-2	Sicherungen – Transformator TC1
	FU3-4	Sicherungen – Steuerkreise 230V
	FU5	Sicherung Mikroprozessor–Steuerung
	PI	Integralschutz Verdichter
	KA1	Hochdruck–Warnrelais
	KA2	Alarmrelais Allgemein
	C1	Kondensator Verdichterstart
	C2	Kondensator Ventilatorbetrieb
	QF	Differential–Schutzschalter (vom Installateur auszuführen)
(A)		Brücke entfernen, wenn “Betrieb–Fernausschaltung” installiert ist