

## COMPRESSED AIR DRYERS DCS 50 -130

# Manufacturing Forward

## Compressed Air Dryers

**IC50 - IC70 - IC100 - IC130**  
**DC S50 - DCS 70**  
**DCS 100 - DCS 130**

**Instruction Manual**

## EC DECLARATION OF CONFORMITY

In accordance with EC Machinery directives  
2006/95/EEC (LVD), 2004/108/EEC (EMC)  
Inspection certificate No:46,57 2006/42/EC.  
Inspection Certificate No:47,58  
Inspection Body :Bureau Vertias (2287)

We,

MIKROPOR  
Org.San. Bol. Buyuk Selcuklu Blv.  
No:4 06935 Ankara/ TURKEY

declare that, under our sole responsibility for manufacture  
and supply, the products;

**The Product: Refrigerant Air Dryer**

**Type: DCS 50 to DCS 130**

**Trade Mark: Mikropor Refrigerant Air Dryer**

**Serial No: 0120MA00001 to 5220MA99999**

Which this declaration relates, are in conformity with the  
provisions of the above directives using the following  
principal standards,

EN12100-1:2011, EN12100-2:2011, EN1050, EN13857:2010,  
EN378-1+A2:2012, EN60204-1:2010, EN60529:2003,  
NEN-EN-IEC61000-6-1:2008,  
NEN-EN-IEC61000-6-2:2008,  
NEN-EN-IEC61000-6-3:2008/A1:2011,  
NEN-EN-IEC61000-6-4:2008,  
EN61000-3-2,  
BS EN 13445-1:2009,  
BS EN 13445-3:2009,  
ISO 15609-2:2005,  
ISO 15613-2006,  
ISO 15614-6:2008

issued at Ankara,  
on 04/01/2016  
for Mikropor by

Volkan AYHAN  
V.P. of Sales and Operations



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## I. IMPORTANT SAFETY NOTES – Please READ

- A) When operating the air dryer the operator must apply safe working methods and observe all local safety instructions and relevant regulations.
- B) Prior to installation, the dryer and the compressed air system are to be depressurized and disconnected from the electrical main supply.
- C) The user is responsible for safe operating conditions. Parts and accessories must be replaced if inspection shows that safe operation cannot be assured.
- D) Installation, operation, maintenance and repair are only to be authorized, trained and skilled engineers.
- E) The minimum and maximum values stated must be observed, as well as all of the safety precautions described in this manual.
- F) If any statement in this manual does not comply with the local legislation, the strongest standard is to be applied.

### 1.1. Transportation

- A) Use care and caution when transporting the dryer. Avoid dropping and other physical abuse.
- B) A forklift can be used to transport the dryers provided the forks are long enough to support its full width or length and caution is used throughout the move.

### 1.2. Positioning

- A) The dryer must be installed vertically. A minimum of 50 cm clearance around the dryer is necessary to allow a good ventilation and easy access for servicing.
- B) The ambient temperature in the room should not exceed 43°C and should not be below 5°C, taking the heat radiated by the dryer into account.
- C) (40 watt for each liter/sec under ISO 7183-A condition or 18 watts for each SCFM under ISO 7183-B condition).

### 1.3. Installation

- A) In addition to the general mechanical construction procedures and local regulations, the following instructions need to be emphasized:
  - 1) Only authorized, trained and skilled engineers should install the compressed air dryer.
  - 2) Safety devices, protecting covers or insulation in the dryers never to be dismantled or modified. Each pressure vessel or accessory installed outside the dryer with air above atmospheric pressure must be fitted with the required pressure relief safety valves.

### 1.4. Before Operating

- A) Review all safety precautions.
- B) The piping must have the correct diameter and be adapted to the operating pressure (see technical specification).
- C) Never operate the dryer at pressure above the maximum specified on the dryer label (check the technical specs too).
- D) The drains should be opened to atmosphere. If the drains are connected to a pipe / hose, the diameter of the hose / pipe should be large enough to create no back pressure during drain. It is not recommended to reduce the diameter of the hose / pipe less than port that is given at the drain outlet of the unit.  
The hose / pipe should be at atmospheric pressure at all time. Back pressure in relevant pipe will result in permanent damage on drain system and the affect function of the filters and / or dryers.

### 1.5. Maintenance by an Engineer

- A) Maintenance and repairs should only be performed when the air dryer is shut down and depressurized and when the main power switch is turned off.
- B) Use only the appropriate tools for maintenance and repair.
- C) Before dismantling a part under pressure, disconnect the pressure sources and depressurize the system.
- D) Proceed carefully during maintenance and repair. Prevent dirt from entering by covering parts and orifices with a clean cloth, paper or tape. A receiver should never be welded or modified in any way.
- E) Never leave tools, loose parts or cleaning rags in or on the air dryer.
- F) Before returning the dryer into service, check the setting of the control and safety devices as well as the pressure and the temperature of the compressed air circuit.

### 1.6. Maintenance by the user

- A) Keep the dryer clean.
- B) Regularly check the correct operation of the condensate drain trap.
- C) Every six months, check and clean the drain strainer by undoing the access screw and rinsing the filter with tap water to remove the trapped dirt from the inside.
- D) For aircooled dryers, clean the air condenser as soon as it's dirty or clogged.
- E) For optional water-cooled condensers, use only clean water and install a water filter if needed. Use water counter flow to clean condenser if need.
- F) Check the trouble-shooting list in case of maintenance troubles.
- G) Check operating pressures, temperatures and time settings after maintenance. If operating and safety devices function properly, the air dryer may be used.

## 2. INTRODUCTION TO THE DRYER

**A) Manufacturer:**  
**MiKROPOR / EOLE FRANCE** [www.eolefrance.fr](http://www.eolefrance.fr)

### B) Purpose of this dryer

- 1) This refrigerated compressed air dryer has been designed to remove water vapor from industrial compressed air.
- 2) This dryer has been designed for indoor operation.
- 3) The minimum and maximum values stated must be observed, as well as the safety precautions described in this manual.

### C) Dryer label

The following label is affixed on the cabinet of the refrigerant compressed air dryer.


### D) Working details

- 1) Refrigerant circuit:

### COMPRESSED AIR DRYER

**Model No:**  
**Serial No:**

Max. Pressure	Refrigerant
Nom. Cap.	Ref. Quality
Max. Amper	Voltage
Fuse Amper	Power
Max. Ambient Temp.	Min. Ambient Temp.
Max. Air Inlet Temp.	Min. Air Inlet Temp.



Address:

### The refrigerant circuit can be divided in 3 parts:

- a) Low pressure section with an evaporator (heat exchanger)
- b) High-pressure section including: Condenser, and the filter dryer.
- c) Control circuit including: Compressor, Expansion valve,

### 2) The Refrigerant circuit operates as follows:

- a) The compressor compresses gaseous refrigerant to a high temperature and pressure.
- b) The hot refrigerant condenses in the condenser.
- c) The liquid is injected in the evaporator (heat exchanger) by an expansion valve. This expansion valve is protected by a filter dryer, which removes particles and humidity that could be in the circuit.
- d) The injected liquid fills in the refrigerant section of the air / refrigerant heat exchanger and evaporates by cooling down the compressed air. The gaseous refrigerant is sucked in the refrigerant compressor and the cycle carries on.

### 3) Compressed air circuit:

- a) The saturated hot compressed air flows into the Economiser where it is pre-cooled by the out flowing dry chilled air. In the cold zone of the air refrigerant section it continues to cool down to dew point and enters the separator where condensates are collected. The outgoing chilled air is then warmed up in the economizer by the hot incoming air.
- b) The condensates are collected and drained out through the automatic trap.
- c) As long as the compressed air temperature does not drop below dew point, there will be no condensation in the air circuit.

#### **4) Refrigerant compressor**

Being of the hermetic type, it requires no servicing.

#### **5) Condenser**

Condenser is made of steel tubing with fins. No movable parts, it requires no servicing but cleaning as needed.

#### **6) Refrigerant circuit protection**

a) Klixon: The single phase compressors are equipped with a klixon which is a thermal sensitive switch controlling the temperature of the compressor and possible overintensity.

In case of malfunction, the klixon trips but switches on again automatically as soon as the compressor has cooled down.

b) To avoid problems, the refrigerant circuit must be vacuumed before loading the refrigerant. It is equipped with a filter dryer, which also traps any solid particles, which may have migrated into the circuit during assembly.

#### **7) Refrigerant circuit controls**

Liquid refrigerant injection: The liquid refrigerant is limited into the evaporator by a control valve. This valve is a thermostatic or pressostatic one maintaining a constant temperature of the refrigerant in the evaporator(s).

#### **8) Condensate drain - trap assembly**

Dismantling the drain is easy. The drain is placed in a separation bowl under the dryer heat exchanger. After depressurization of the unit, the bowl can be dismantled by hand.

#### **9) Heat Exchanger Modular design**

a) The dryers are equipped with a compact Mono Bloc Heat Exchanger module.

This assembly has been specially designed to dry compressed air and is made of:

- 1) An Economiser which pre-cools the entering hot air with the out flowing cold air.
- 2) An air/refrigerant exchanger cooling down the compressed air.
- 3) A centrifugal separator concentrating all condensates and requiring no maintenance.

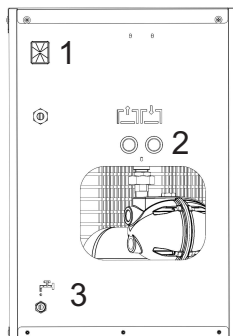
## 3. OPERATION

### 3.1. Operation

#### A) Control panels for IC and DCS Series:

The control panel of the dryer includes the following ON/OFF button.

- 1- Start / Stop Button
- 2-Connections
- 3- Drain



Back view

**ATTENTION: Use compressed air filters on air inlet and outlet of your dryer for the best performance and highest quality air.**

**ATTENTION : IC range dryers have low pressure drop compared its competitors. Do not use IC range dryers together with other dryers which have higher pressure drop without getting the confirmation from our technical team.**

### 3.2. During Operation

Regularly check the dewpoint indicator on dryer.

#### B) Start up and shut-down

Warning: Avoid leaving the dryer off when compressed air is still flowing through it.

#### C) Starting for the first time or after a long stop

- 1) Set the switch to "I" This preheats the dryer and turns the drain system on.
- 2) Follow the daily starting and shut down procedure.

#### D) Daily starting and shut-down

- 1) Push on the green button to start the dryer.
- 2) The start light will indicate that the dryer is running.
- 3) Wait to cool down heat exchanger to drying levels for 15 min. before starting the air compressor.
- 4) To stop the dryer, first stop the airflow (either shut-down the air compressor or close the inlet/outlet or by-pass valve) When the air flow is stopped set the rotary switch on " 0 " Set it again on " I " in order to keep the preheating on.

**IMPORTANT NOTE !** Avoid leaving the dryer OFF when compressed air is still flowing through it.

## 4. TECHNICAL SPECIFICATIONS

Model	Capacity (m <sup>3</sup> /h)	Connection Size	Voltage	Absorbed Power (kw)	Max. Amp.	Fuse Amp.	Refrigerant gas	Pressure drop (mbar)	Maximum working pressure (bars)	Maximum ambient temperature (°C)	Maximum inlet temperature (°C)
IC/DCS50	50	1/2"	230/1/50	0.28	2.98	4	R134a	140	16	43	50
IC/DCS70	70	1/2"	230/1/50	0.31	2.08	4	R134a	170	16	43	50
IC/DCS100	100	1/2"	230/1/50	0.43	4.8	8	R134a	200	16	43	50
IC/DCS130	130	3/4"	230/1/50	0.56	4.8	8	R134a	180	16	43	50

### FOR ALL MODELS

Nominal Pressure	7 bar
Maximum pressure	16 bar
Maximum ambient temperature	43°C
Minimum ambient temperature	5°C
Maximum inlet temperature	50°C

Model	Length (mm)	Width (mm)	Height (mm)	Weight (Kg)
IC/DCS50	366	366	520	21
IC/DCS70	366	366	520	23
IC/DCS100	366	366	520	25
IC/DCS130	366	366	758.5	34

## 5. COMPONENTS LOCATION

All main components located in the dryer identified with labels as listed here under.  
CAUTION: Due to manufacturing design, some components on the list are not installed in each dryer.

### Electrical Components:

#### Accessories:

A20: Float drain

#### Relays:

K01: Compressor motor relay

#### Switches:

S01: ON/OFF button

#### Motors:

M01: Refrigerant compressor motor

#### Thermal Protections:

P01: Refrigerant compressor thermal overload

#### Refrigerant Components:

G02: Filter Dryer

G03: Expansion valve

#### Compressed Air Parts:

A20: Float drain

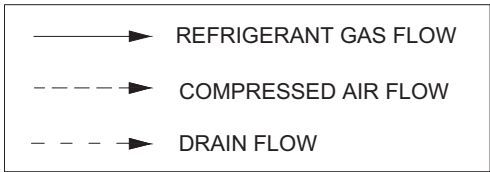
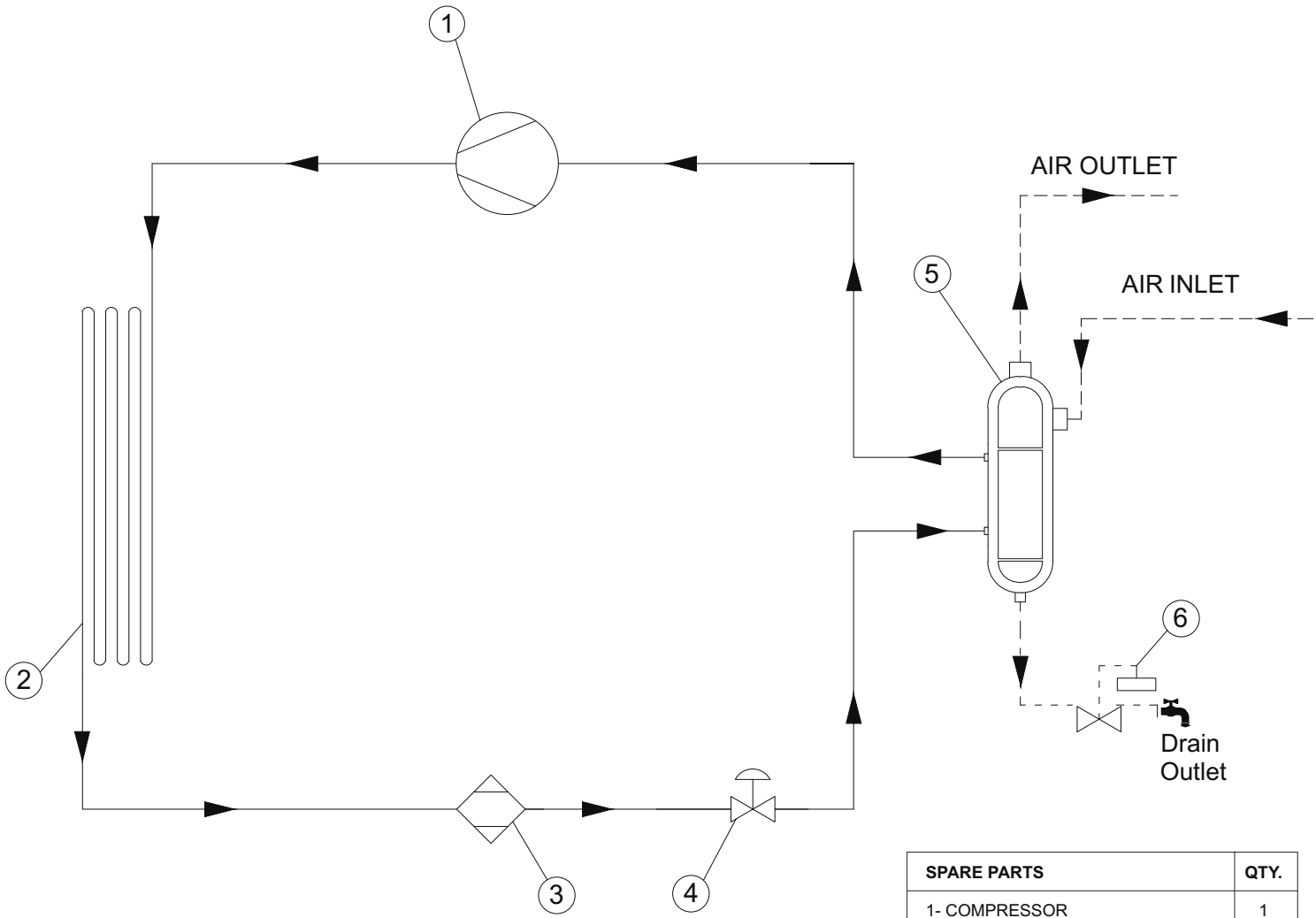
#### Terminal Box:

B01: Main terminal box



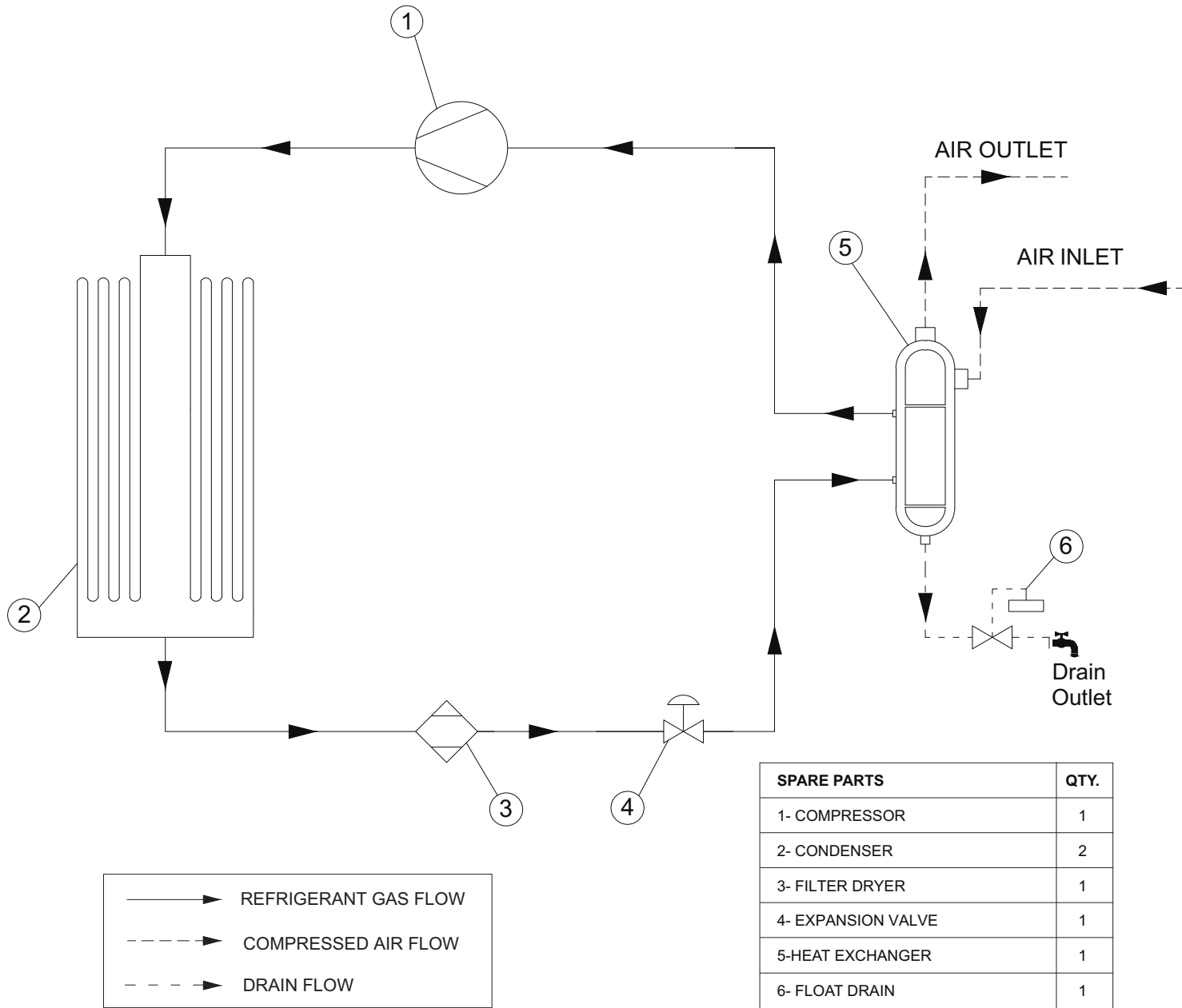
6. DIAGRAMS

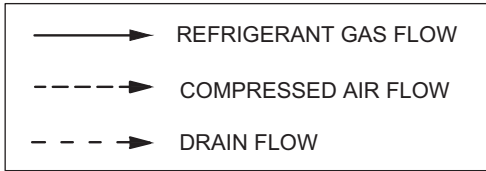
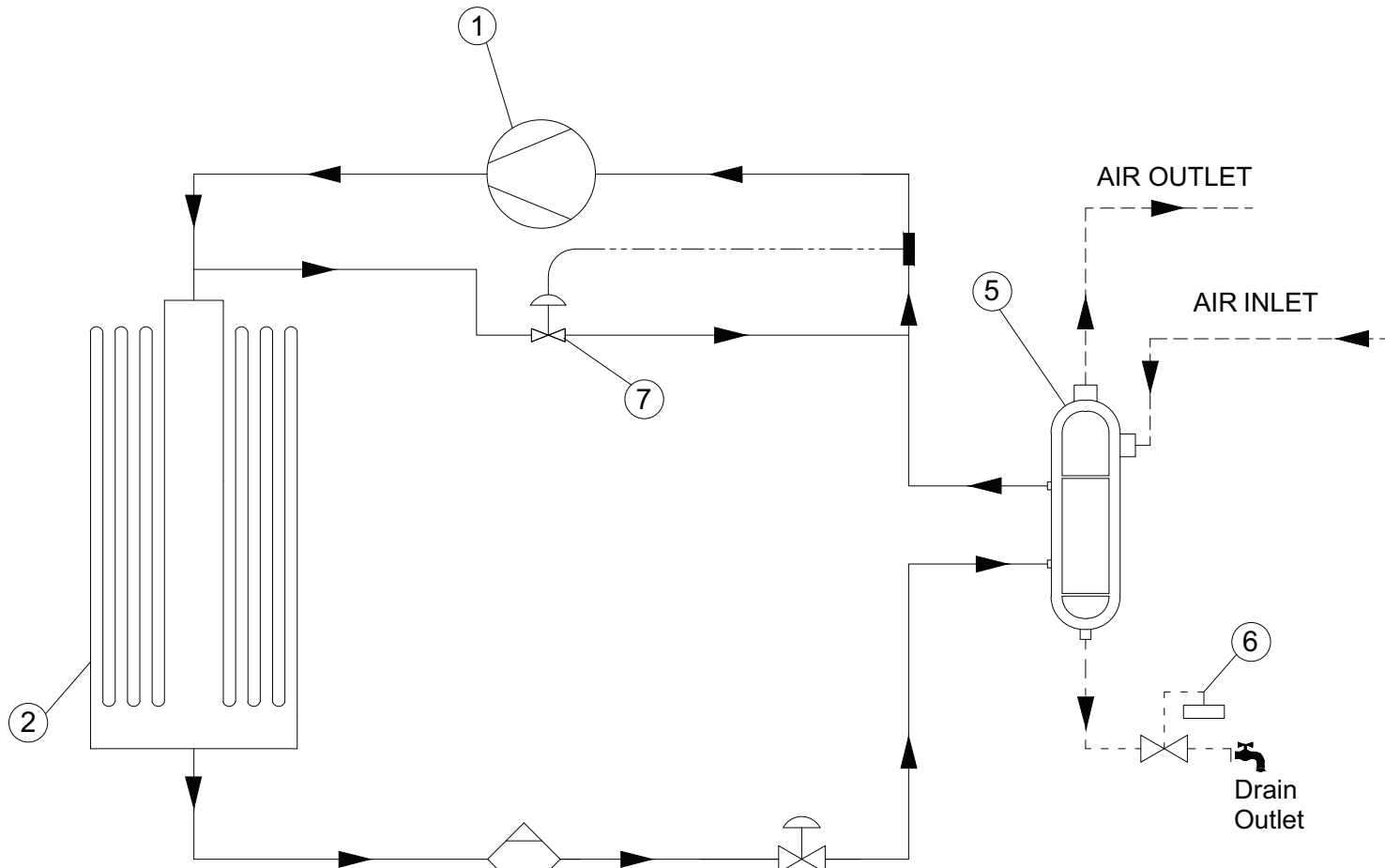
5.1 AIR FLOW DIAGRAMS  
IC50



SPARE PARTS	QTY.
1- COMPRESSOR	1
2- CONDENSER	1
3- FILTER DRYER	1
4- EXPANSION VALVE	1
5-HEAT EXCHANGER	1
6- FLOAT DRAIN	1

IC70 - IC100

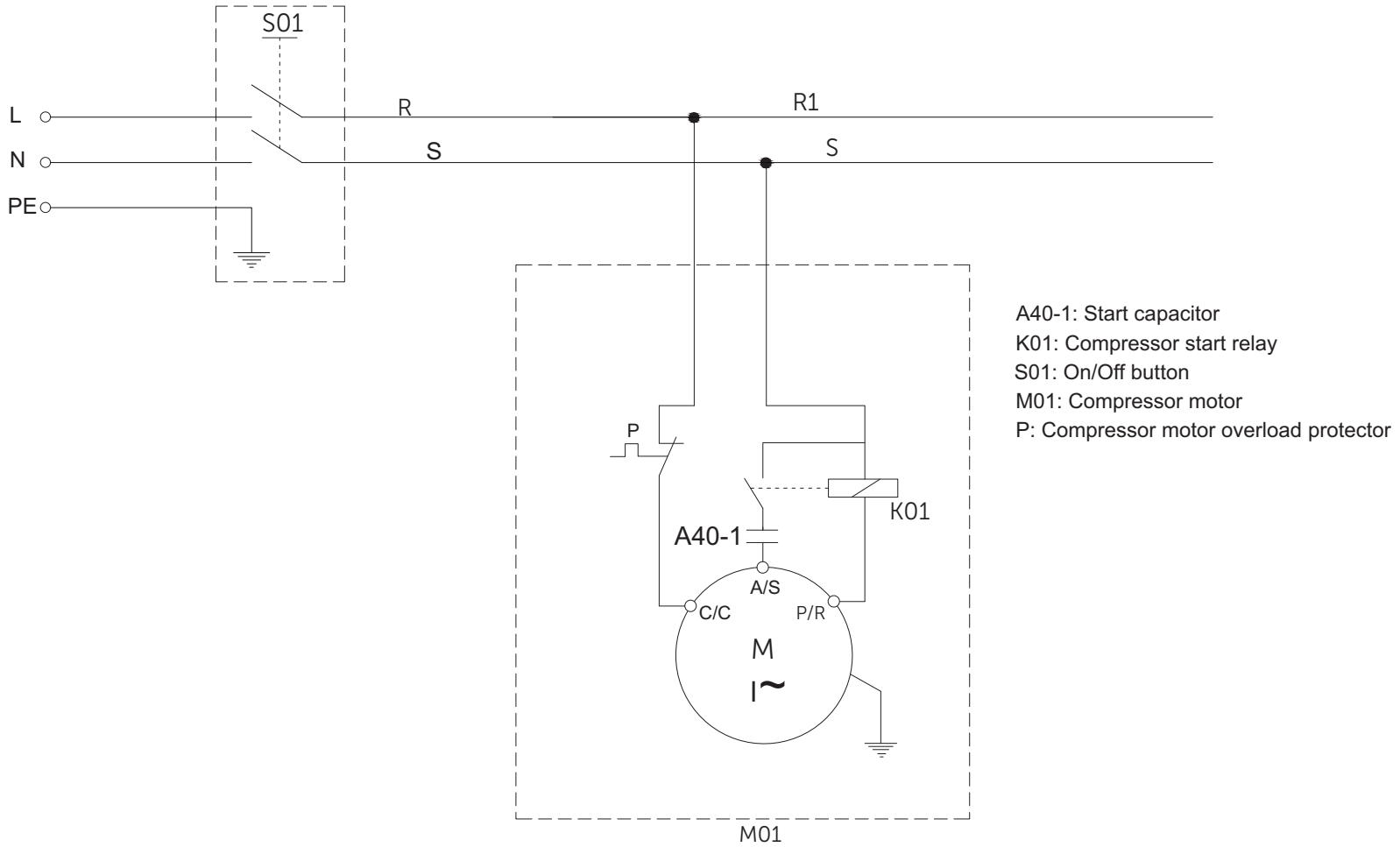




SPARE PARTS	QTY.
1- COMPRESSOR	1
2- CONDENSER	2
3- FILTER DRYER	1
4- EXPANSION VALVE	1
5-HEAT EXCHANGER	1
6- FLOAT DRAIN	1
7-BYPASS VALVE	1

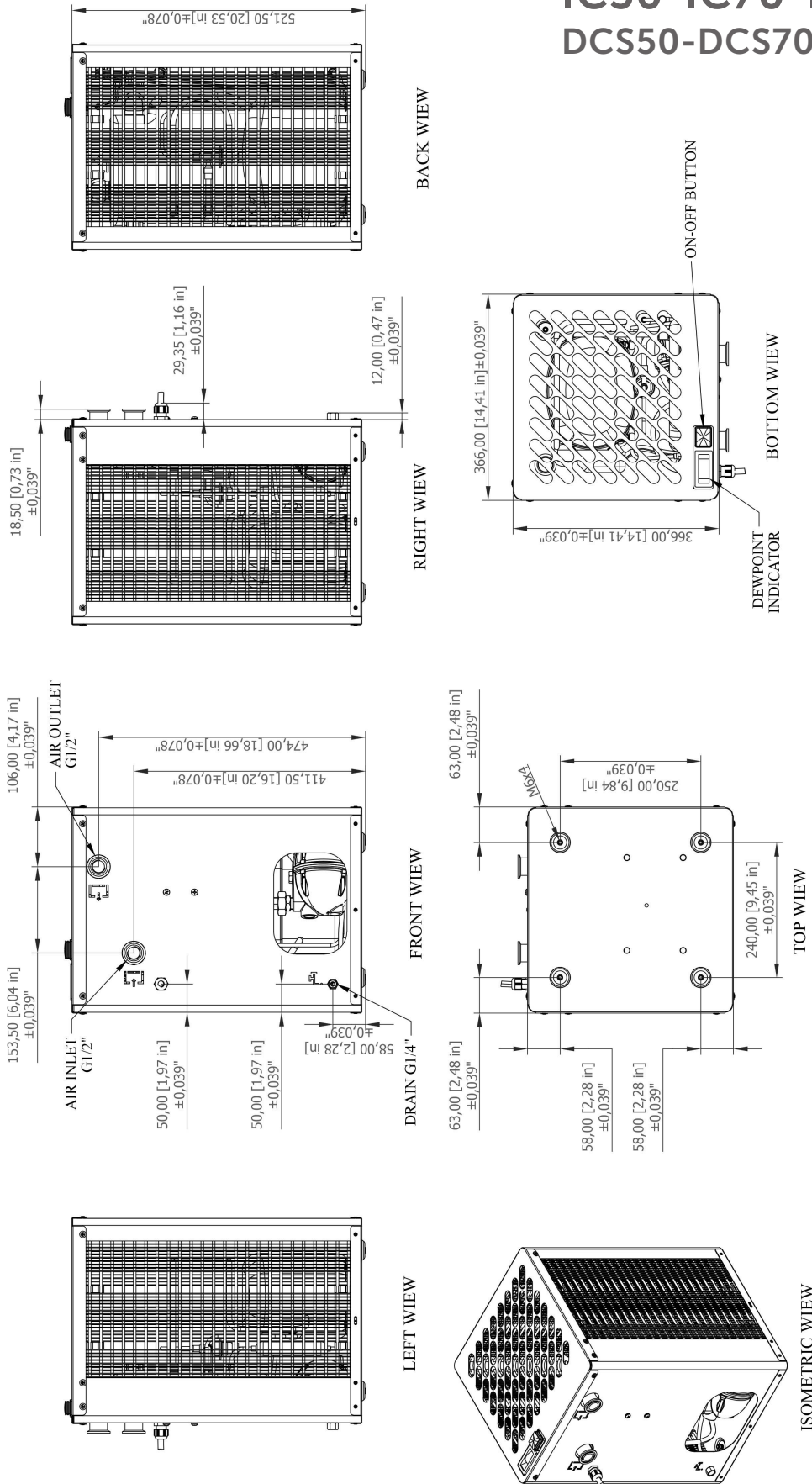
## 5.2 ELECTRICAL DIAGRAMS

IC50 - IC70 - IC100 - IC130  
Electrical Circuit

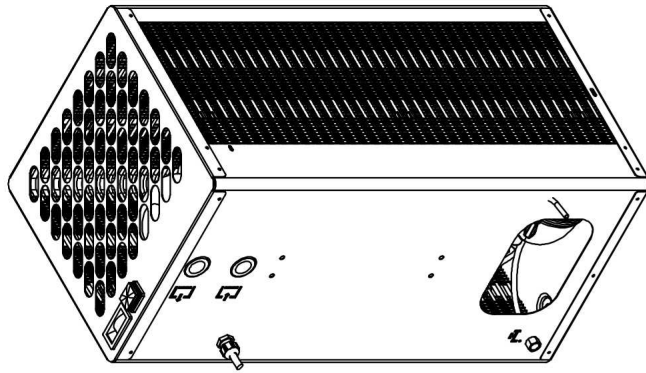


## 7. DRAWINGS and SPARE PARTS

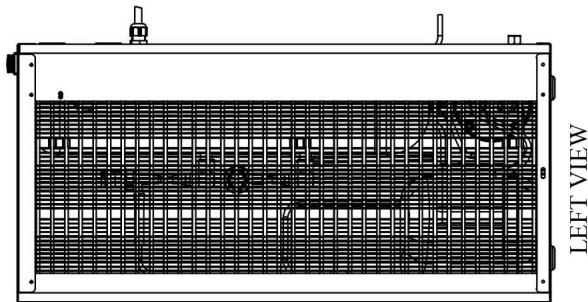
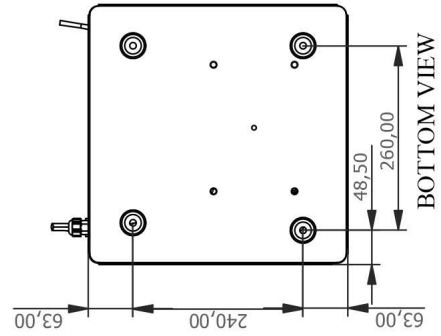
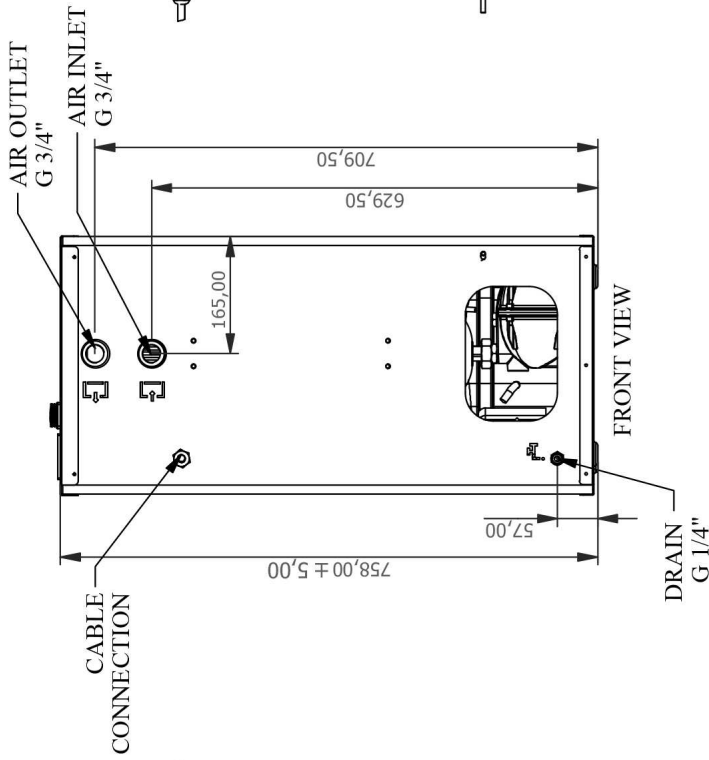
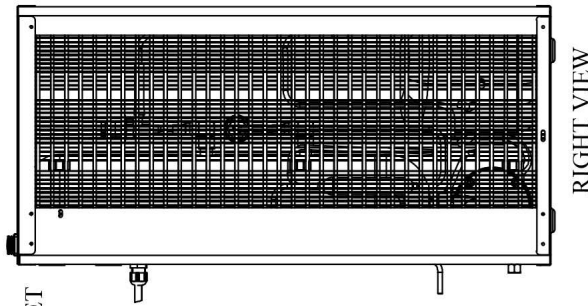
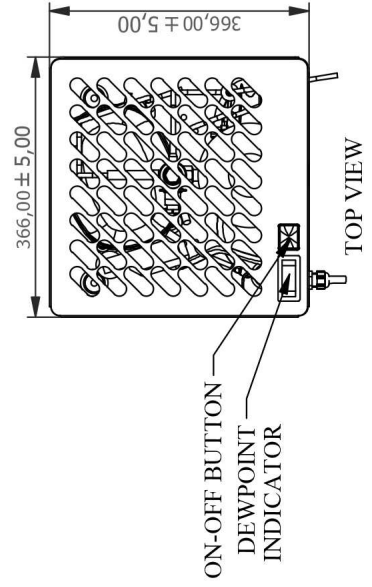
### IC50-IC70-IC100 DCS50-DCS70-DCS100



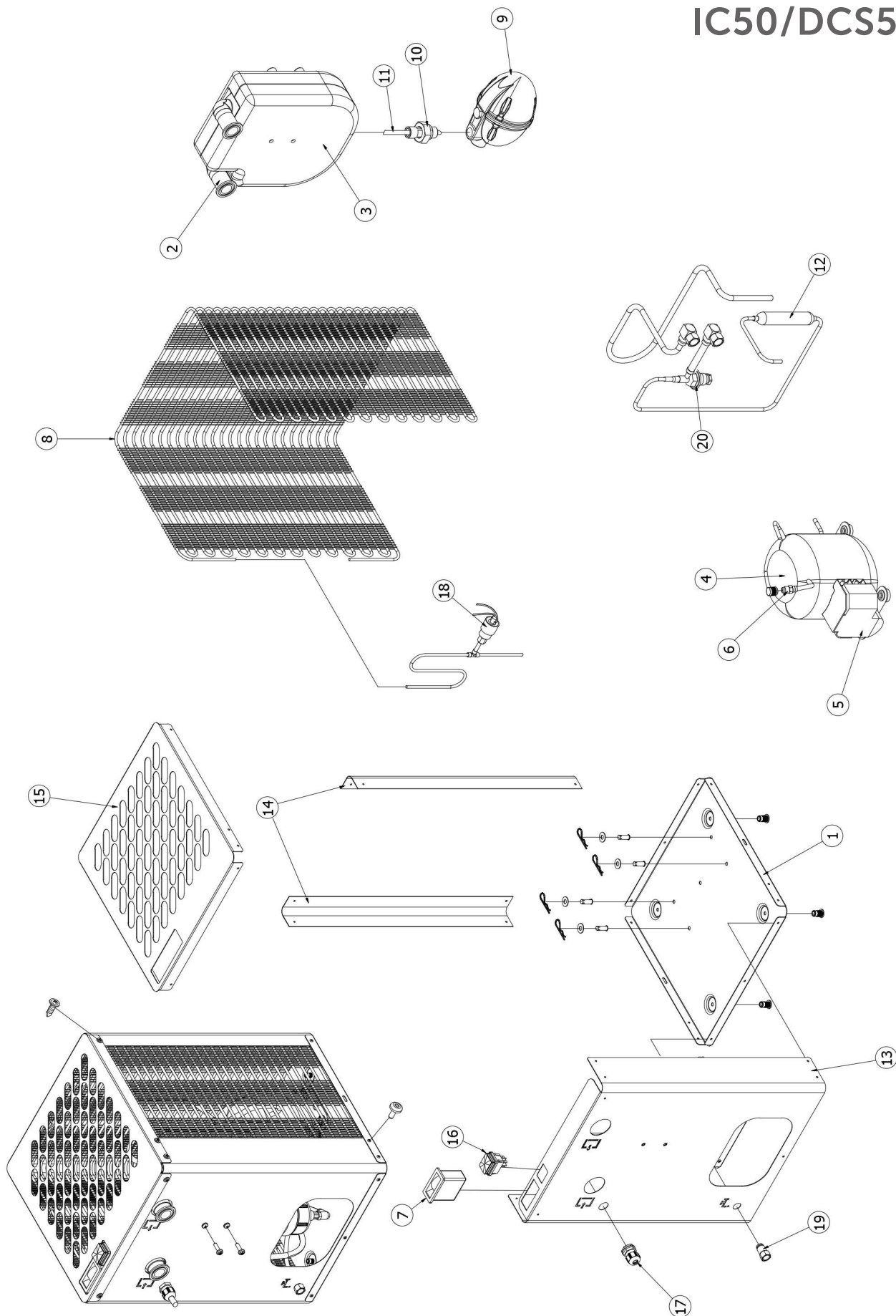
# IC130 DCS130



ISOMETRIC VIEW



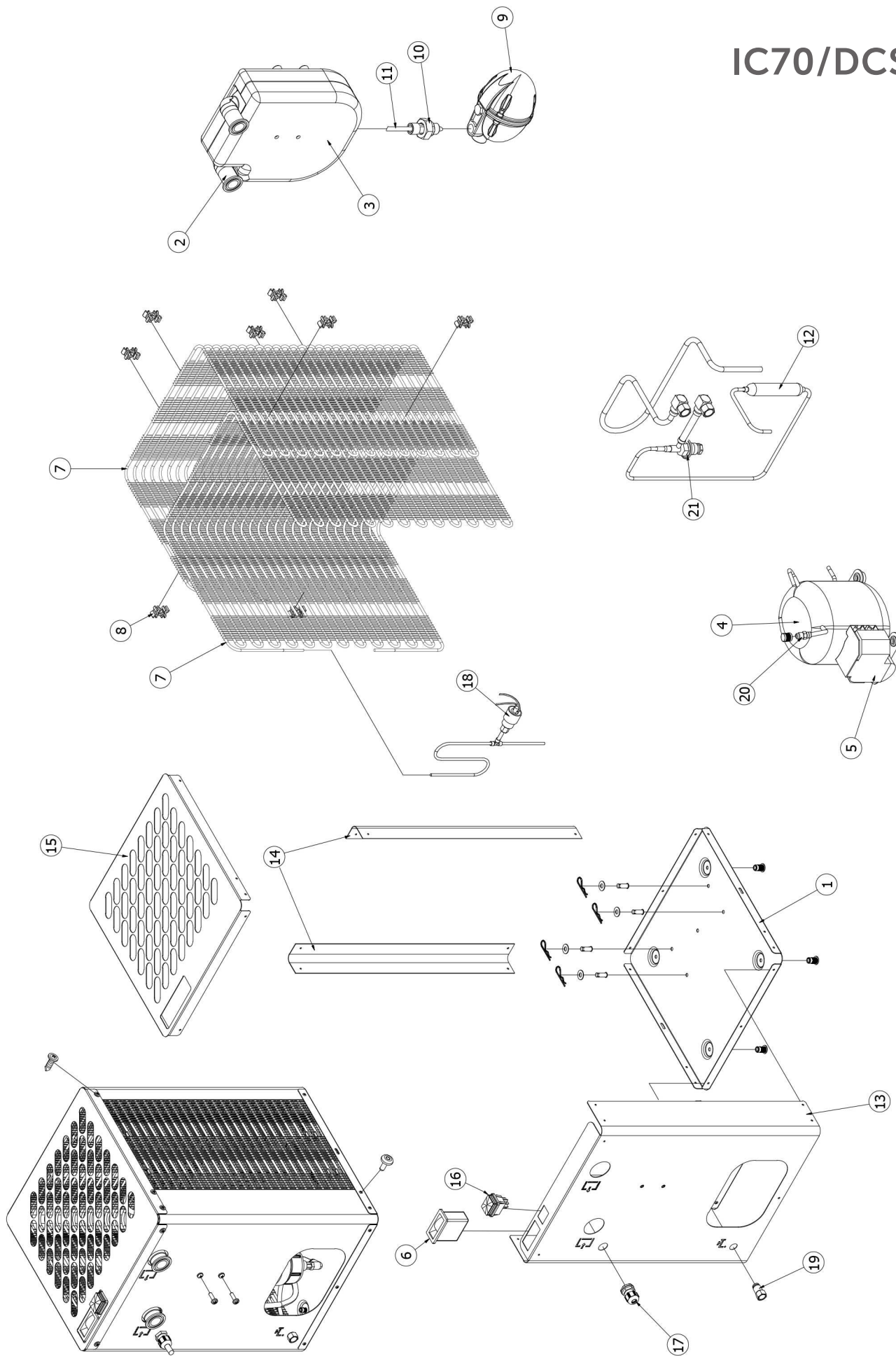
# IC50/DCS50



	20	1025410100	MK10-60 EXPANSION VALVE		1
	19	1059350100	1/4"-8 NIPPLE (W)		1
	18	1026770100	25 BAR HIGH PRESSURE SWITCH		1
	17	1023220100	POLYAMIDE CABLE UNION PG11		1
	16	1023150100	15A 250VAC ON-OFF BUTTON		1
	15	1056100100	IC50-70-100-130-04 PANEL (5267 GLOSSY BLUE)		1
	14	1056200100	IC50-70-100-02 PANEL (5267 GLOSSY BLUE)		1
	13	1056250100	IC50-70-100-03 PANEL (5267 GLOSSY BLUE)		1
	12	1026180100	IC50-130 FILTER DRYER		1
	11	30022107	Ø8,5x6x137mm PLASTIC TUBE		1
	10	1061240100	IC DRAIN UNION		1
	9	1012822	FLOAT ACTIVATED ZERO LOSS DRAIN (K-YT-1/2-W-0000)		1
	8	1056090100	IC50-100 STATIC CONDENSER		2
	7	1023170100	DEWPOINT INDICATOR		1
	6	1027780100	SCHRADER VALVE		1
	5	1062720100	MK30-35-40 COMPRESSOR 220-230/1/50-60 ELECTRIC BOX		1
	4	1024410100	MK30-35-40 COMPRESSOR 220-230/1/50-60		1
	3	1026930100	MK10-35 HEAT EXCHANGER STYROFOAM		1
	2	1017260100	MK10-35 EXCHANGER		1
	1	1056270100	IC50-70-100-01 PANEL (5267 GLOSSY BLUE)		1
DWG SIZE	ITEM NO.	PART NO.	DESCRIPTION	REV	QTY
<b>PART LIST</b>					

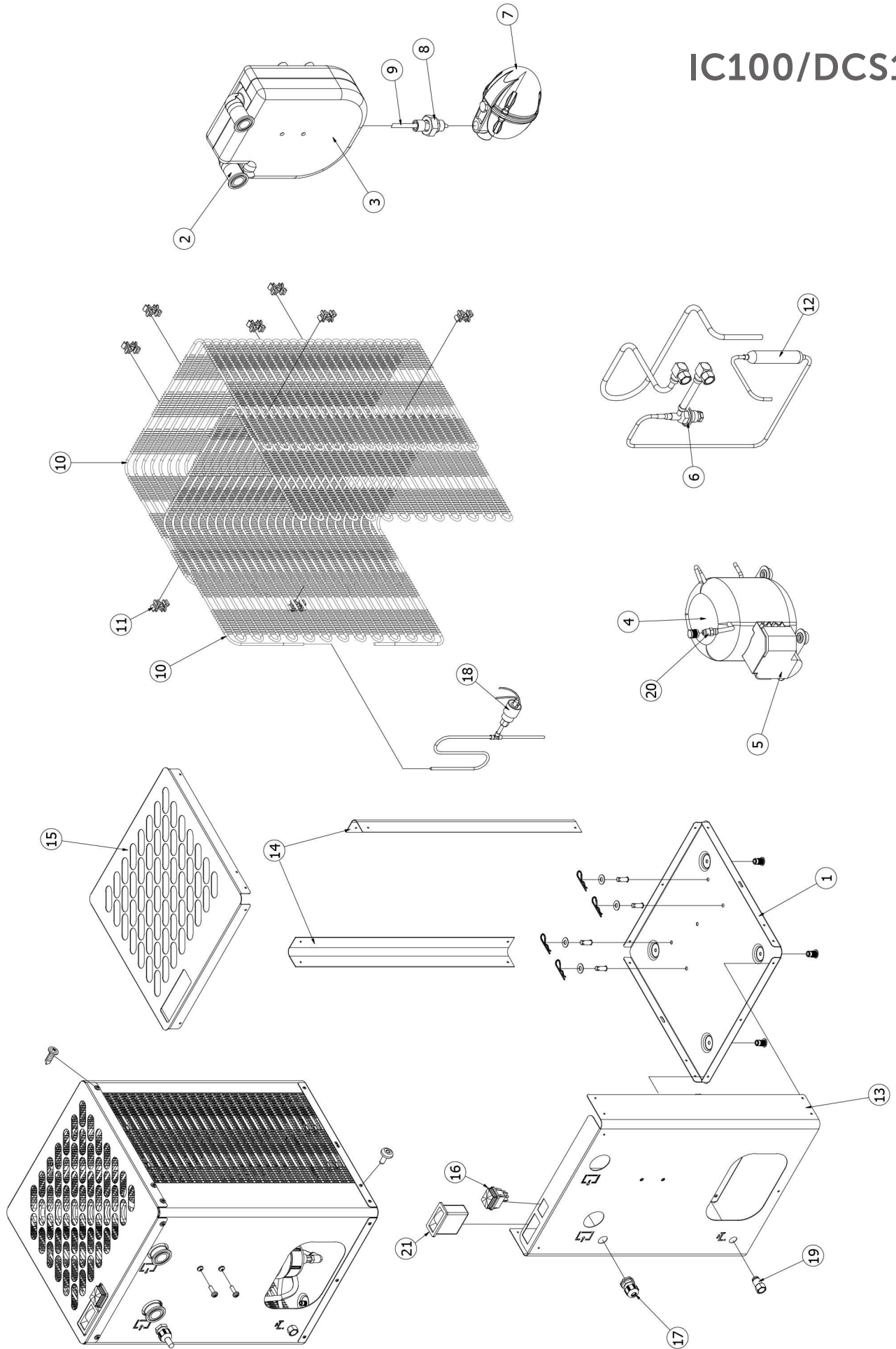


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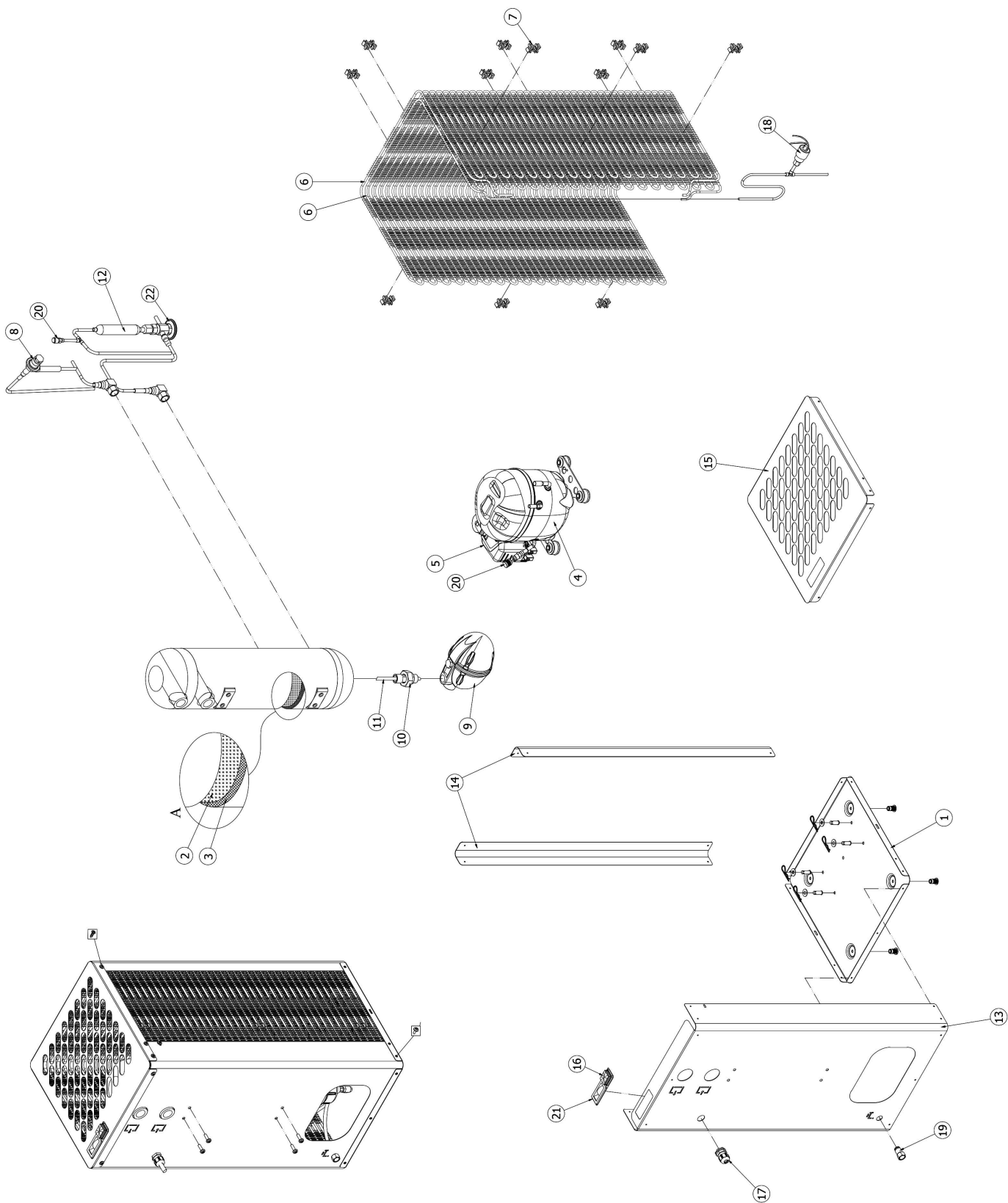


	21	1025410100	MK10-60 EXPANSION VALVE		1
	20	1027780100	SCHRADER VALVE		1
	19	1059350100	1/4"-8 NIPPLE (W)		1
	18	1026770100	25 BAR HIGH PRESSURE SWITCH		1
	17	1023220100	POLYAMIDE CABLE UNION PG11		1
	16	1023150100	15A 250VAC ON-OFF BUTTON		1
	15	1056100100	IC50-70-100-130-04 PANEL (5267 GLOSSY BLUE)		1
	14	1056200100	IC50-70-100-02 PANEL (5267 GLOSSY BLUE)		1
	13	1056250100	IC50-70-100-03 PANEL (5267 GLOSSY BLUE)		1
	12	1026180100	IC50-130 FILTER DRYER		1
	11	30022107	Ø8,5x6x137mm PLASTIC TUBE		1
	10	1061240100	IC DRAIN UNION		1
	9	1012822	FLOAT ACTIVATED ZERO LOSS DRAIN (K-YT-1/2-W-0000)		1
	8	1056080100	IC70-130 CONDENSER PLASTIC CHOCK		8
	7	1056090100	IC50-100 STATIC CONDENSER		2
	6	1023170100	DEWPOINT INDICATOR		1
	5	1062720100	MK30-35-40 COMPRESSOR 220-230/1/50-60 ELECTRIC BOX		1
	4	1024410100	MK30-35-40 COMPRESSOR 220-230/1/50-60		1
	3	1026930100	MK10-35 HEAT EXCHANGER STYROFOAM		1
	2	1017260100	MK10-35 EXCHANGER		1
	1	1056270100	IC50-70-100-01 PANEL (5267 GLOSSY BLUE)		1
DWG SIZE	ITEM NO.	PART NO.	DESCRIPTION	REV	QTY
PART LIST					

# IC100/DCS100



	21	1023170100	DEWPOINT INDICATOR		1
	20	1027780100	SCHRADER VALVE		1
	19	1059350100	1/4"-8 NIPPLE (W)		1
	18	1026770100	25 BAR HIGH PRESSURE SWITCH		1
	17	1023220100	POLYAMIDE CABLE UNION PG11		1
	16	1023150100	15A 250VAC ON-OFF BUTTON		1
	15	1056100100	IC50-70-100-130-04 PANEL (5267 GLOSSY BLUE)		1
	14	1056200100	IC50-70-100-02 PANEL (5267 GLOSSY BLUE)		1
	13	1056250100	IC50-70-100-03 PANEL (5267 GLOSSY BLUE)		1
	12	1026180100	IC50-130 FILTER DRYER		1
	11	1056080100	IC70-130 CONDENSER PLASTIC CHOCK		8
	10	1056090100	IC50-100 STATIC CONDENSER		1
	9	30022107	Ø8,5x6x137mm PLASTIC TUBE		1
	8	1061240100	IC DRAIN UNION		2
	7	1012822	FLOAT ACTIVATED ZERO LOSS DRAIN (K-YT-1/2-W-0000)		1
	6	1025410100	MK10-60 EXPANSION VALVE		1
	5	1062710100	MK50 COMPRESSOR 220-230/1/50-60 ELECTRIC BOX		1
	4	1024420100	MK50 COMPRESSOR 220-230/1/50-60		1
	3	1026930100	MK10-35 HEAT EXCHANGER STYROFOAM		1
	2	1017260100	MK10-35 EXCHANGER		1
	1	1056270100	IC50-70-100-01 PANEL (5267 GLOSSY BLUE)		1
DWG SIZE	ITEM NO.	PART NO.	DESCRIPTION	REV	QTY
PART LIST					





# IC130/DCS130

	22	1025630100	EXPANSION VALVE TUBE-4		1
	21	1023170100	DEWPOINT INDICATOR		1
	20	1027780100	SCHRADER VALVE		1
	19	1059350100	1/4"-8 NIPPLE (W)		1
	18	1026770100	25 BAR HIGH PRESSURE SWITCH		1
	17	1023220100	POLYAMIDE CABLE UNION PG11		1
	16	1023150100	15A 250VAC ON-OFF BUTTON		1
	15	1056100100	IC50-70-100-130-04 PANEL (5267 GLOSSY BLUE)		1
	14	1056230100	IC130-02 PANEL (5267 GLOSSY BLUE)		1
	13	1059680100	IC130-03 PANEL (5267 GLOSSY BLUE)		1
	12	1026180100	IC50-130 FILTER DRYER		1
	11	30022107	Ø8,5x6x137mm PLASTIC TUBE		1
	10	1061240100	IC DRAIN UNION		1
	9	1012822	FLOAT ACTIVATED ZERO LOSS DRAIN (K-YT-1/2-W-0000)		1
	8	1025410100	MK10-60 EXPANSION VALVE		1
	7	1056080100	IC70-130 CONDENSER PLASTIC CHOCK		8
	6	1056240100	IC130 STATIC CONDENSER		2
	5	1062820100	MK50 COMPRESSOR 220-230/1/50-60 ELECTRIC BOX		1
	4	1024410100	MK60 COMPRESSOR 220-230/1/50-60		1
	3	1056120100	IC-130 HEAT EXCHANGER STYROFOAM		1
	2	1026590100	IC-130 EXCHANGER		1
	1	1056260100	IC130-01 PANEL (5267 GLOSSY BLUE)		1
DWG SIZE	ITEM NO.	PART NO.	DESCRIPTION	REV	QTY
PART LIST					

## 8. TROUBLESHOOTING

Problem	Possible Cause	Repair	Comments
Dryer is switched on, indicator light is lit but the refrigerant compressor does not turn on.	Refrigeration unit is not functioning	Check refrigeration compressor	Several factors can cause compressor failure. A qualified refrigeration technician needs to check all the electrical and refrigerant circuit and controls.
	Excessive ambient temperature	Be sure that dryer is working in temperatures lower than the design conditions. Designed conditions and correction factors are described in this manual.	A high ambient temperature may cause the refrigerant system to operate at higher than normal pressures. Results will be higher than normal evaporator temperature. Important: adequate air circulation around the dryer, and proper ventilation in the equipment room should guarantee a low enough ambient temperature.
Dryer is switched on, but the refrigerant compressor does not turn on.	Excessive temperature on crankcase of compressor.	Allow time to compressor to cool down. Reason may be a possible incorrect adjustment of hot gas bypass valve or shortage of refrigerant	Compressor is protected against overly high temperatures of the crankcase by a thermal switch.
	Excessive compressed air inlet temperature.	Be sure that dryer is working in temperatures lower than design conditions.	The dryer is designed for working in calculated conditions (see description in this manual). If conditions are exceeded, the dryer will be overflowed, dew point will go up and protecting devices can switch off.
	Possible high crankcase temperature  Possible low voltage causing overload trip Possible failed compressor	Clear fins of all obstructions.	The clogged fins in the condenser will restrict the air passage and reduce the refrigeration capacity, causing high temperature in the evaporator. Air condenser should be periodically checked and cleaned.
	Too much compressed air flow.	Check actual flow through the dryer.	This dryer is designed for a maximum air flow at design conditions. If too much air is pumped into the dryer, water removal capacity may not be sufficient, resulting in liquid carryover down stream. Check the rated output the air compressor.
	Faulty electrical wiring	Inspect the circuit	The compressor-on light should be wired into the refrigerant compressor circuit. See wiring diagrams in this manual.
	One electrical protection has tripped.	Reset the protection or replace the blown fuse.	The dryer is protected against high amp draw by fuse and/or overload relay that can trip in case of need. Reset or replace fuse once, but do not persist if it trips again, request assistance from a qualified refrigeration contractor.

Problem	Possible Cause	Repair	Comments
Water in system	Compressed Air Inlet and outlet connections are reversed.	Check inlet and outlet connections.	This dryer is designed for air flow in one direction only. Inlet and outlet directions are identified on the dryer.
	Drain system is clogged or inoperative.	Restore a free flow of water condensate. Check water evacuation.	A zeroloss autodrain is fitted on the system. Check or replace drain every 6 months.
	Bypass system is open	Check the valves	Important: Bypass piping should be installed around the dryer so the dryer can be isolated for service without shutting down the air supply. During dryer operation, valves must be set so all air goes into the system. Check tightness of the bypass system.
	Free moisture remains in pipe lines.	Blow out the system	Before the dryer is first started all free moisture should be blown out of the system.
	Excessive air flow	Check actual flow through the dryer.	This dryer is designed for a maximum air flow. If too much air is pumped into the dryer, water removal capacity may not be sufficient, resulting in liquid carry over downstream. Check the rated flow of the air compressor.
	Excessive free moisture	Check the separator and drain system and compressor after cooler ahead of the dryer.	In some system there may be an accumulation of free moisture in the line ahead of the dryer. If this moisture is pumped into the dryer intermittently, the water removal capacity may not be sufficient. A water separator should be installed in the line before the dryer.
	Excessive compressed air inlet temperature.	Be sure that dryer is working lower than design conditions	The dryer is designed to work for calculated design conditions. Should the conditions be exceeded, the dryer will be overflowed, dew point will go up and protecting devices can switch off.
	Clogged condenser fins	Clear fins of all obstructions	The clogged fins in the condenser will restrict air passage and reduce refrigerant capacity causing water downstream. Fins should be periodically checked and cleaned.
	Shortage of refrigerant	Fix the leak and add a charge of refrigerant.	Loss of refrigerant will cause improper functioning. A qualified, refrigeration specialist should perform the necessary repairs, or factory should be contacted if the unit is in warranty.
	Refrigeration system is not functioning	Check to be certain refrigerant compressor is running	To check if the compressor is running, check compressor-on light. It is possible for the fan to be operating but not the compressor. Compressor not running can be caused by several factors. A qualified refrigeration technician should check all refrigerant and electrical controls
High pressure drop	Excessive compressed air flow or too low air inlet pressure.	Check actual pressure and flow through the dryer.	This dryer is designed for a maximum air flow. If too much air is pumped into the dryer, water removal capacity may not be sufficient, resulting in liquid carry-over downstream. Check the rated flow of the air compressor.
	Freeze up	Check that compressor room ambient, Fan switch could have failed in closed position keeping fan on.	Frosting of the lines is an indication that controls are set too low. The following should be done by an experienced refrigeration technician. Controls may be adjusted in the fields by means of the hot gas bypass valve. This is to be done by a qualified refrigerant technician.
The unit will not run or cycles off and on.	Clogged heat exchanger	Clean heat exchanger with areverse air flow.	Dryer are supposed to be used with compressed air free of any aggressive contaminants. Some contamination may require extra maintenance of the heat exchanger.
	Line disconnect switch is open.	Close the start or disconnect switch.	If the dryer is not operating, check the disconnect switch or circuit breaker to be certain it is on.
	Fuse or breaker is open	Replace fuse or reset breaker.	The fuse to the power line should be checked and replaced if needed. Never replace a burnt fuse with an oversized fuse.
	Faulty refrigerant compressor or controls.	Determine the cause and make correction	Failure of compressor to run may be caused by several factors. A qualified refrigeration specialist should check all electrical and refrigeration controls, or factory should be contacted if unit is in warranty.
	Excessive compressed air inlet temperature.	Design conditions and correction factors are described in this manual. Be sure that dryer is working in ambient temperatures below design conditions.	The dryer is designed for working into calculated design conditions. Should the conditions be exceeded, the dryer will be overflowed, dew point will go up and protecting devices may trip.



Problem	Possible Cause	Repair	Comments
The unit will not run or cycles off and on.	Excessive ambient temperature	Designed conditions and correction factors are described in dryer . Be sure that dryer is working lower than design conditions.	A high ambient temperature may cause the refrigerant system to operate at higher than normal pressures. Results will be a higher than normal evaporator temperature. Important: there should be adequate air circulation around the dryer, and proper ventilation in the equipment room should guarantee a low enough ambient temperature.
	Clogged condenser fins	Clear fins of all obstructions.	The clogged fins in the condenser will restrict the air passage and reduce the refrigeration capacity, causing high temperature in the evaporator. Fins should be periodically checked and cleaned.
	Shortage of refrigerant	Fix the leak and add a charge of refrigerant.	Loss of refrigerant will cause improper functioning. Dryers are equipped with a temperature switch which maintains the amount of refrigerant to maintain proper cooling of the compressor. A shortage of refrigerant may cause suction line to become very hot, causing the temperature switch to trip. A qualified refrigeration specialist should perform the necessary repairs.
Drain Failure	Back pressure or reduction of drain port.	Back First of all replace the drain / drains. Open drain to atmosphere (no back pressure) - if hose / pipe is used to carry the drain somewhere else; keep or enlarge the diameter.	Max drain hose length after the dryer must not exceed 10 meters.
			Max drain hose height from the dryer must not exceed 3 meters.
			The drain port size should not be reduced.
			There should not be any fitting that may cause pressure drop such as valves, elbow, tees, etc. on the drain connection.
			Drain should be at atmospheric pressure at all times. Any back pressure will result in failure and malfunction.

## 9.WARRANTY



### Refrigerated Dryer (IC) WARRANTY POLICY

When used under the conditions recommended by the manufacturer Mikropor, IC Dryer is warranted to be free from defects in material and workmanship for a period of twenty-four (24) months from date of receipt, not to exceed thirty (30) months from the factory ship date, provided Mikropor is furnished the customer's name, address, and date of shipment information.

The heat exchanger will be warranted for two (2) years. This warranty is limited to the replacement of the heat exchangers, F.O.B. Factory, and subject to the same restrictions as outlined below concerning misuse, abuse or accident. The standard equipment external float drain and optional automatic drain carry a 90-day warranty.

This warranty will apply to equipment installed, operated and maintained in accordance with the procedures and recommendations as outlined in the owner's manual published by Mikropor during the life of this warranty, Mikropor will repair or replace (at Mikropor option) any defective part or assembly free of charge F.O.B. its warehouse if such defect occurred in normal service and was not due to apparent misuse, abuse or accident.

This Warranty is not transferable.

Any warranty service performed in the field must be authorized by Mikropor Unauthorized service voids the warranty and any resulting charges will not be paid by Mikropor.

Mikropor makes no other warranties or guarantees, expressed or implied. The merchantability of the components is expressly excluded. The manufacturer assumes no liability for indirect or consequential damages.