



WELD THE WORLD

CU-18 / CU-18 HP CU-20 / CU-20P / CU-20 HP



Instruction manual

ENGLISH

Translation of original instructions







WELD THE WORLD

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1 INTRODUCTION

 	IMPORTANT!
<p><i>This handbook must be consigned to the user prior to installation and commissioning of the unit. Read the "GENERAL PRESCRIPTIONS FOR USE" handbook supplied separately from this manual before installing and commissioning the unit. The meaning of the symbols in this manual and the associated precautionary information are given in the "GENERAL PRESCRIPTIONS FOR USE". If the "GENERAL PRESCRIPTIONS OF USE" are not present, it is mandatory to request a replacement copy from the manufacturer or from your dealer. Retain these documents for future consultation.</i></p>	

KEY

	DANGER!
<p><i>This pictogram warns of danger of death or serious injury.</i></p>	

	WARNING!
<p><i>This pictogram warns of a risk of injury or damage to property.</i></p>	

	CAUTION!
<p><i>This pictogram warns of a potentially hazardous situation.</i></p>	

	INFORMATION!
<p><i>This pictogram gives important information concerning the execution of the relevant operations.</i></p>	

NOTES

The figures in this manual are purely guideline and the images may contain differences with respect to the actual equipment to which they refer.

1.1 PRESENTATION

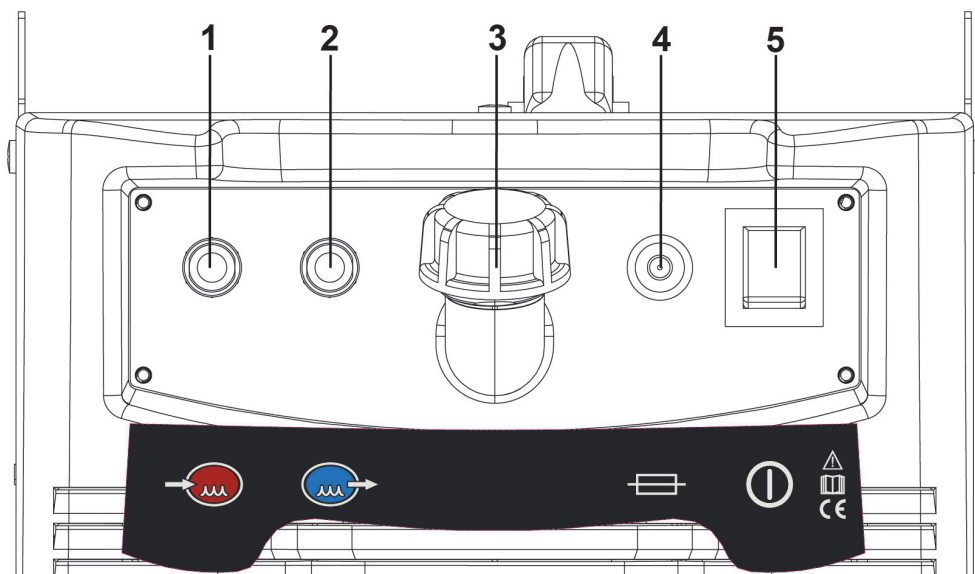
The cooling unit CU-18/CU-18 HP/CU-20/CU-20 HP can be connected to the power source, allowing the liquid cooling of the TIG and MIG/MAG torches.

The CU-18/CU-18 HP/CU-20P cooling unit is fitted with a pressure switch provided to detect fluid in the cooling circuit.

The CU-20/CU-20 HP cooling unit is fitted with a pressure switch provided to detect fluid flowing in the cooling circuit.

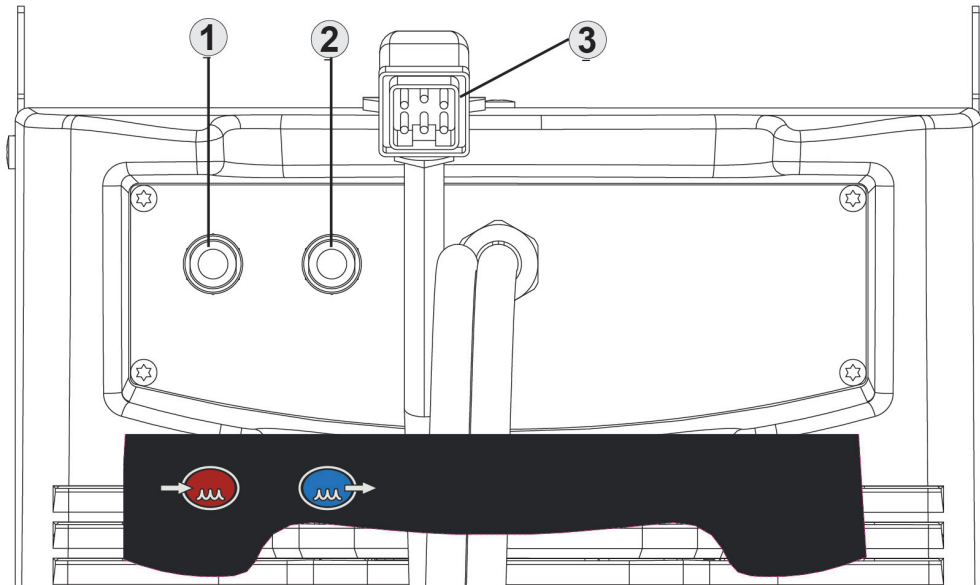
2 INSTALLATION

2.1 FRONT PANEL




- Cooling fluid pipe connector (inlet): fluid flow from the power source/torch to the cooling unit [Item 1].
- Cooling fluid pipe connector (outlet): fluid flow from the cooling unit to the power source/torch [Item 2].
- Tank filling inlet (Item 3).
- Safety fuse [Item 4].
 - Type: Delayed acting (T)
 - Amperage: 1.6 A
 - Voltage: 500 VAC
- On and off switch [Item 5]

2.2 REAR PANEL






- Cooling fluid pipe connector : fluid flow from the power source to the cooling unit [Item 1].
- Cooling fluid pipe connector: fluid flow from the cooling unit to the power source [Item 2].
- CU-18/CU-18 HP power cable [Item 3].
 - Length (outer side): 0,43 m
 - Number and cross section of wires: 5 x 1 mm²
 - Power plug type: ILME CUST 90° 5P+PE, 16 A 230 / 400 VAC
- CU-20/CU-20 HP power cable [Item 3].
 - Length (outer side): 0,43 m
 - Number and cross section of wires: 8 x 1 mm²
 - Power plug type: ILME CUST 90° 8P+PE, 16 A 230 / 400 VAC

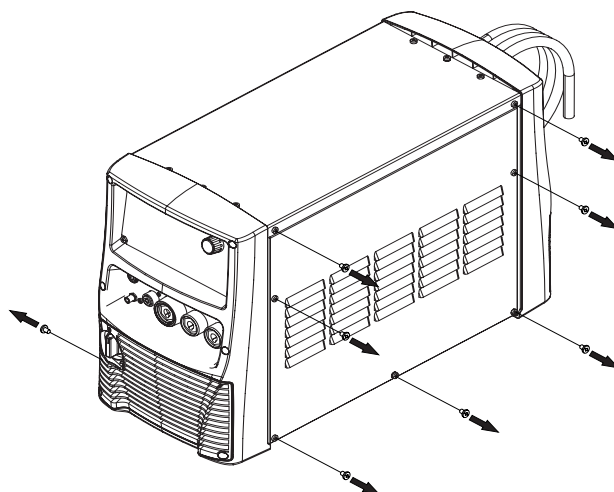
2.3 ASSEMBLY WITH THE WELDING POWER SOURCE

**DANGER!**
Lifting and positioning

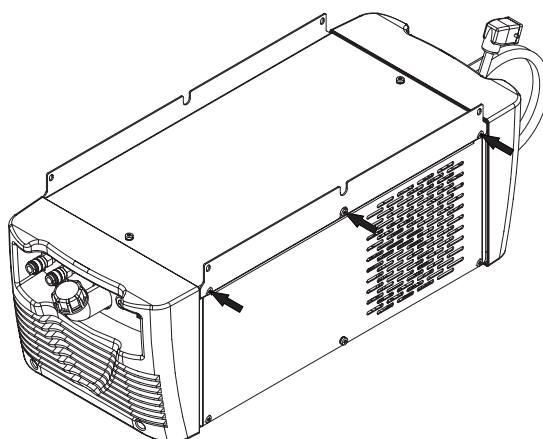
Read the warnings highlighted by the following symbols in the "General prescriptions for use".

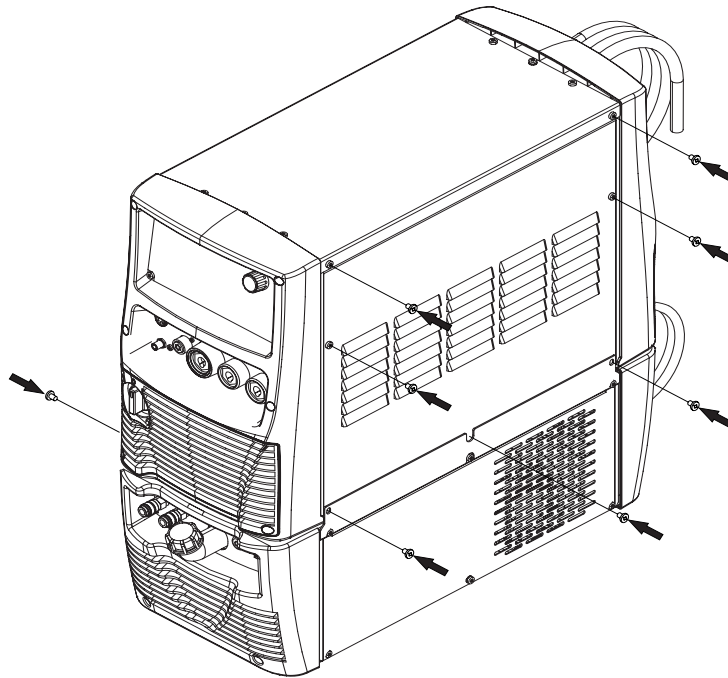


1. Set the welding power source ON/OFF switch to "O" (unit switched off).
2. Remove the screws from the power source cabinet.



3. Loosen the screws of the upper brackets of the cooling unit and open out the brackets slightly.
4. Place the power source on top of the cooling unit.
5. Secure the cooling unit brackets to the power source using the previously removed screws.





6. Connect the plug of the cooling unit power cable to the cooling unit power socket on the rear panel of the welding power source.
7. Plug the power cable plug into a mains socket outlet.
8. Set the welding power source ON/OFF switch to "I" to switch on the unit.
9. Set the cooling unit ON/OFF switch to "I" (unit on).







WARNING!

***Periodically checking the level of the liquid in the indicator on the side of the cooling unit.
Be careful when choosing the cooling liquid: it must not be an electricity conductor.
Do not use polypropylene liquids because they damage the seals and generate incrustations.
Read the warnings highlighted by the following symbols in the "General prescriptions for use".***



3 TECHNICAL DATA

Directives applied	Waste electrical and electronic equipment (WEEE)
	Electromagnetic compatibility (EMC)
	Low voltage (LVD)
	Restriction of the use of certain hazardous substances (RoHS)
Construction standards	EN 60974-2; EN 60974-10 Class A
Conformity markings	 Equipment compliant with European directives in force
	 Suitable in an environment with increased hazard of electric shock
	 Compliant with WEEE directive
	 Equipment compliant with RoHS directive

3.1 CU-18/CU-18 HP

Supply voltage	1x400 VAC ± 15 % / 50-60 Hz
Dimensions (D x L x H)	720 x 290 x 235 mm
Weight	23.0 kg (27.4 kg with liquid)
Tank capacity	4.5 l
Protection rating	IP23
Maximum input current (A)	0.7 A (50 Hz)
Cooling power	1650 W (1l/min)
Maximum pressure (CU-18)	0.33 MPa (50 Hz)–0.44 MPa (60 Hz)
Maximum pressure (CU-18 HP)	0.41 MPa (50 Hz)–0.51 MPa (60 Hz)

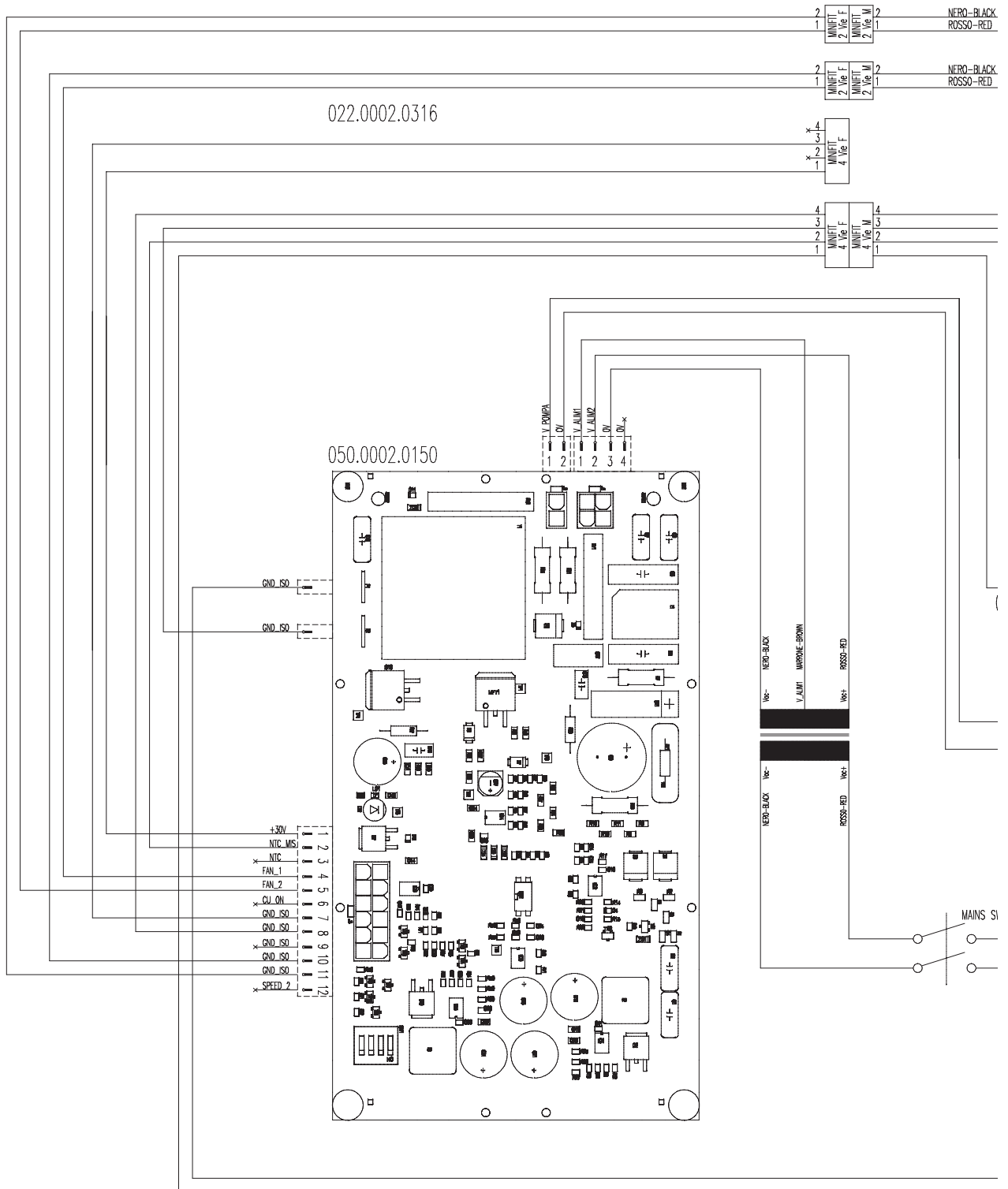
3.2 CU-20 / CU-20P /CU-20 HP

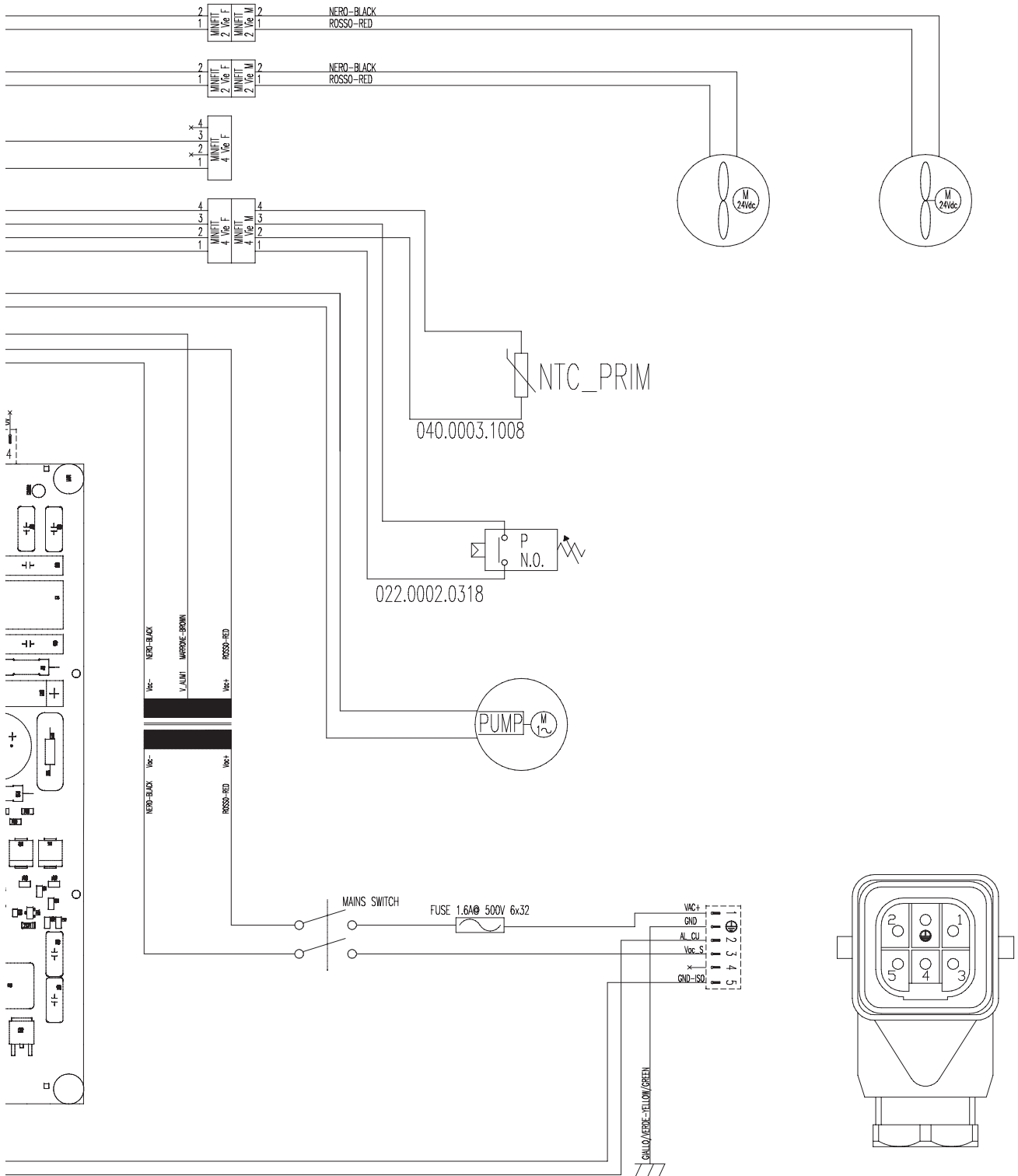
Supply voltage	1x400 VAC ± 15 % / 50-60 Hz 1x230 VAC ± 15 % / 50-60 Hz
Dimensions (D x L x H)	720 x 290 x 235 mm
Weight	23.0 kg (27.4 kg with liquid)
Tank capacity	4.5 l
Protection rating	IP23
Maximum input current (A)	with 400 VAC power supply 0.7 A (50 Hz) with 230 VAC power supply 1.2 A (50 Hz)
Cooling power	1650 W (1l/min)
Maximum pressure (CU-20/CU-20P)	0.33 MPa (50 Hz)–0.44 MPa (60 Hz)
Maximum pressure (CU-20 HP)	0.41 MPa (50 Hz)–0.51 MPa (60 Hz)

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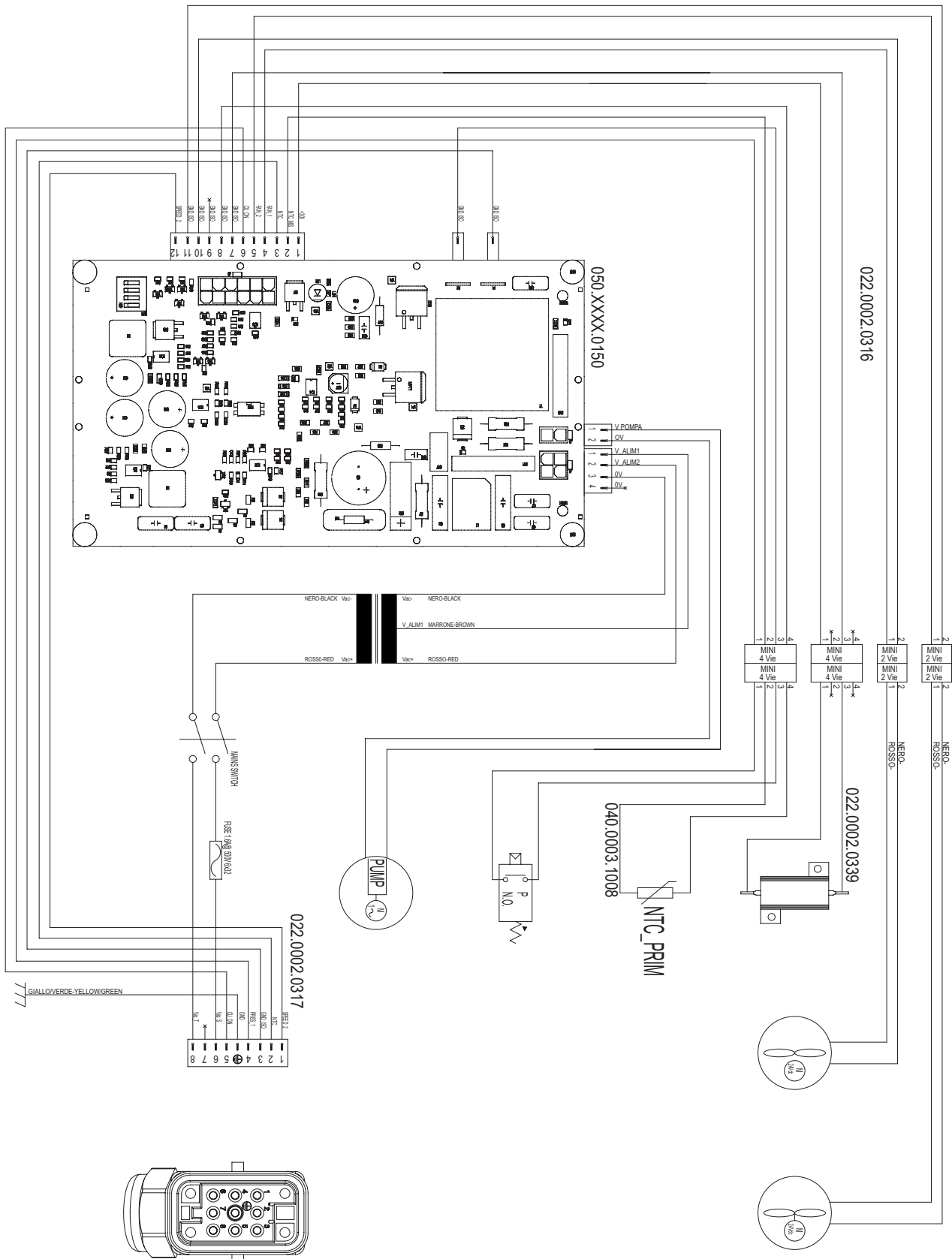
The technical characteristics of the antifreeze liquid supplied with this appliance are found below:

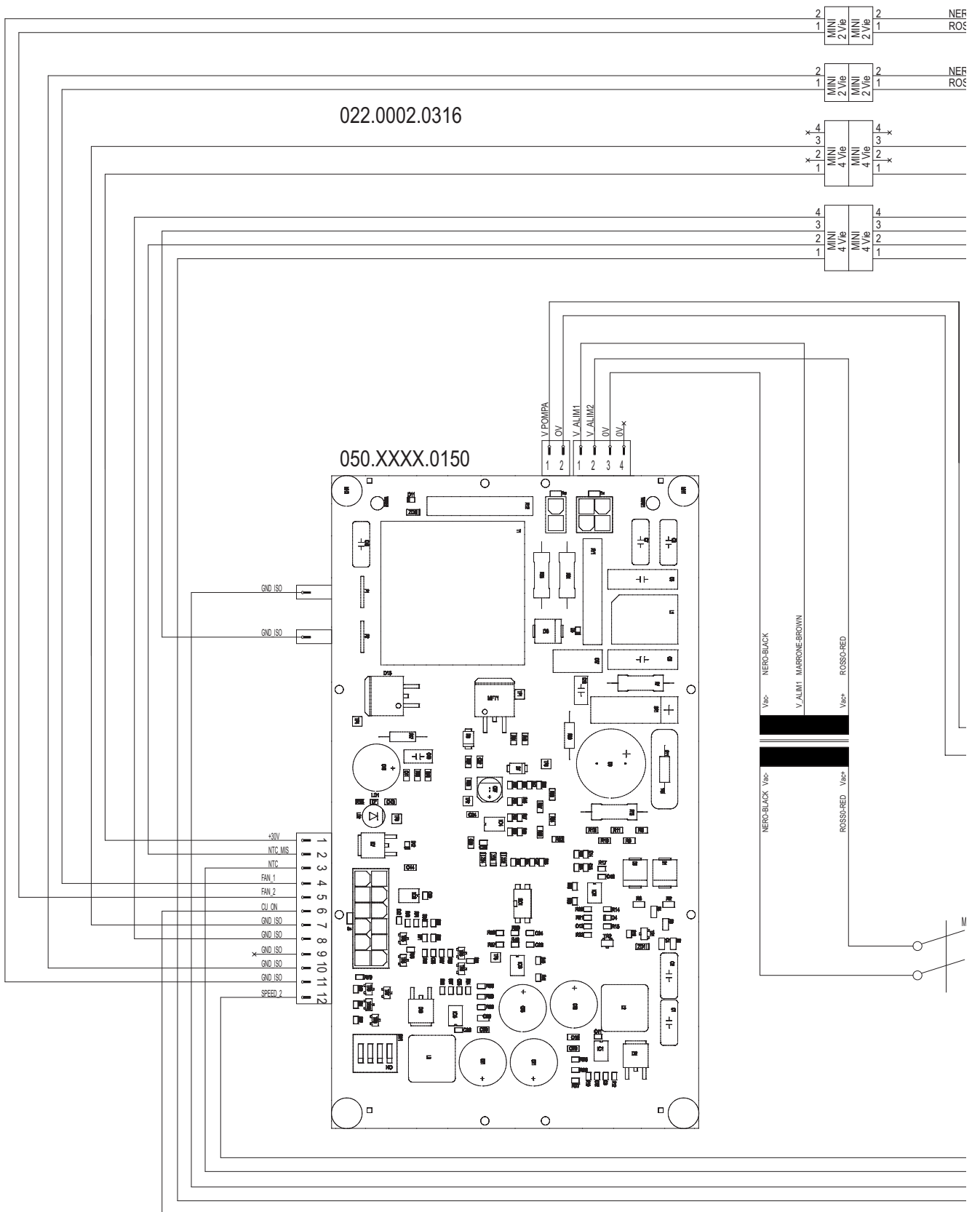
Base	Refrigerants polymers with low pour point
Appearance	Liquid
Color	Colorless
Odor	Odorless
Specific weight	1.030 g/cm ³
Viscosity	< 100 cP
pH	7 / 8
Refractive index	1.369 nD (20 °C)
Boiling point	102 °C
Specific heat	3.9 kJ/kg K
Thermal conductivity	0.45 W/m k (25 °C)
Electrical conductivity	2.3 mS/cm (20 °C)
Dissolved chloride	< 2 ppm
Dissolved sulfides	< 2 ppm
Hardness	< 0.1 mol/m ³ (Ca ⁺⁺ , Mg ⁺⁺)
Biodegradability	Complete
Foaming power	No
Solubility	Soluble in water



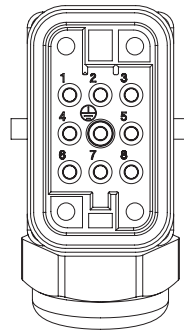
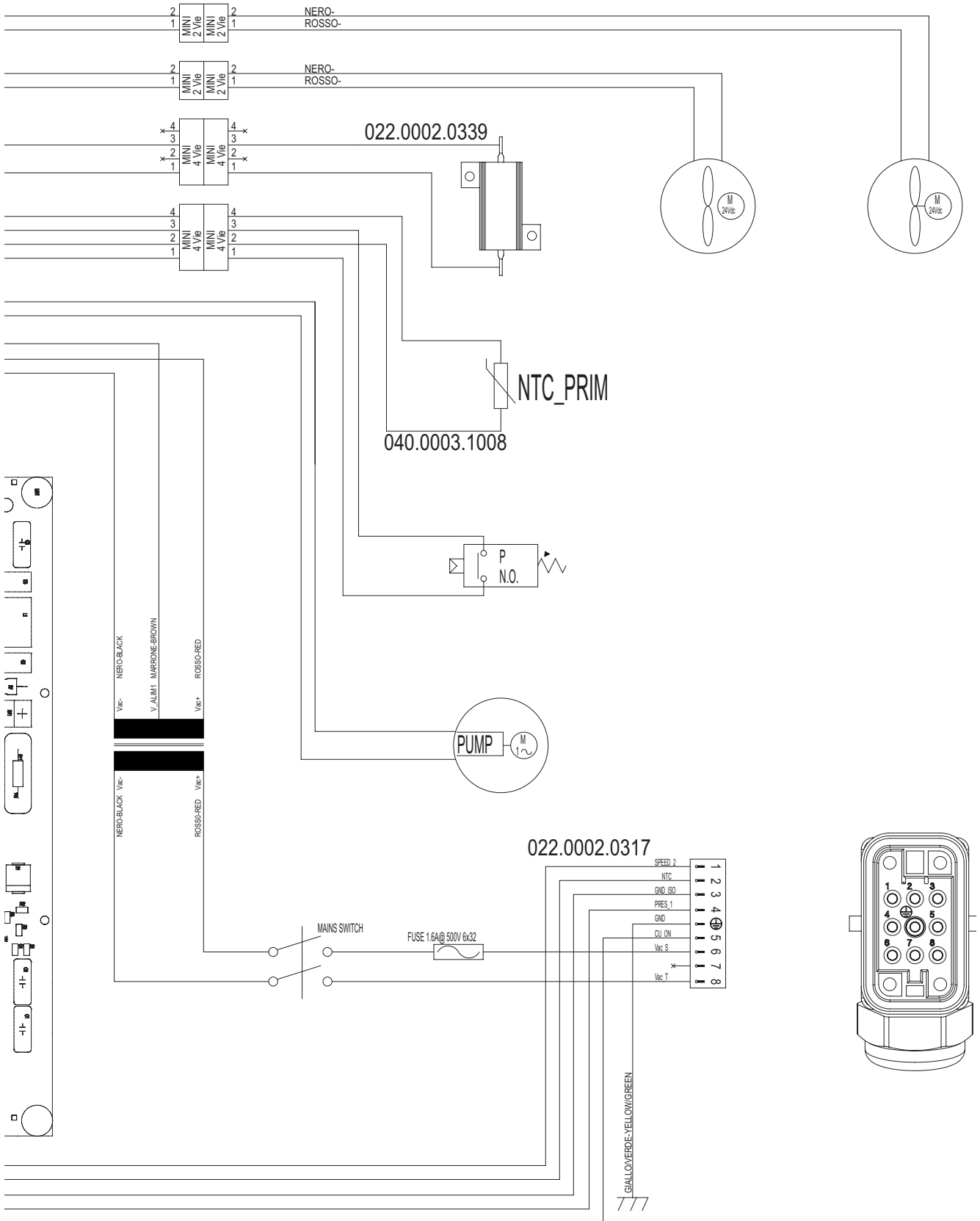


4.2 CU-20/CU-20P/CU20 HP



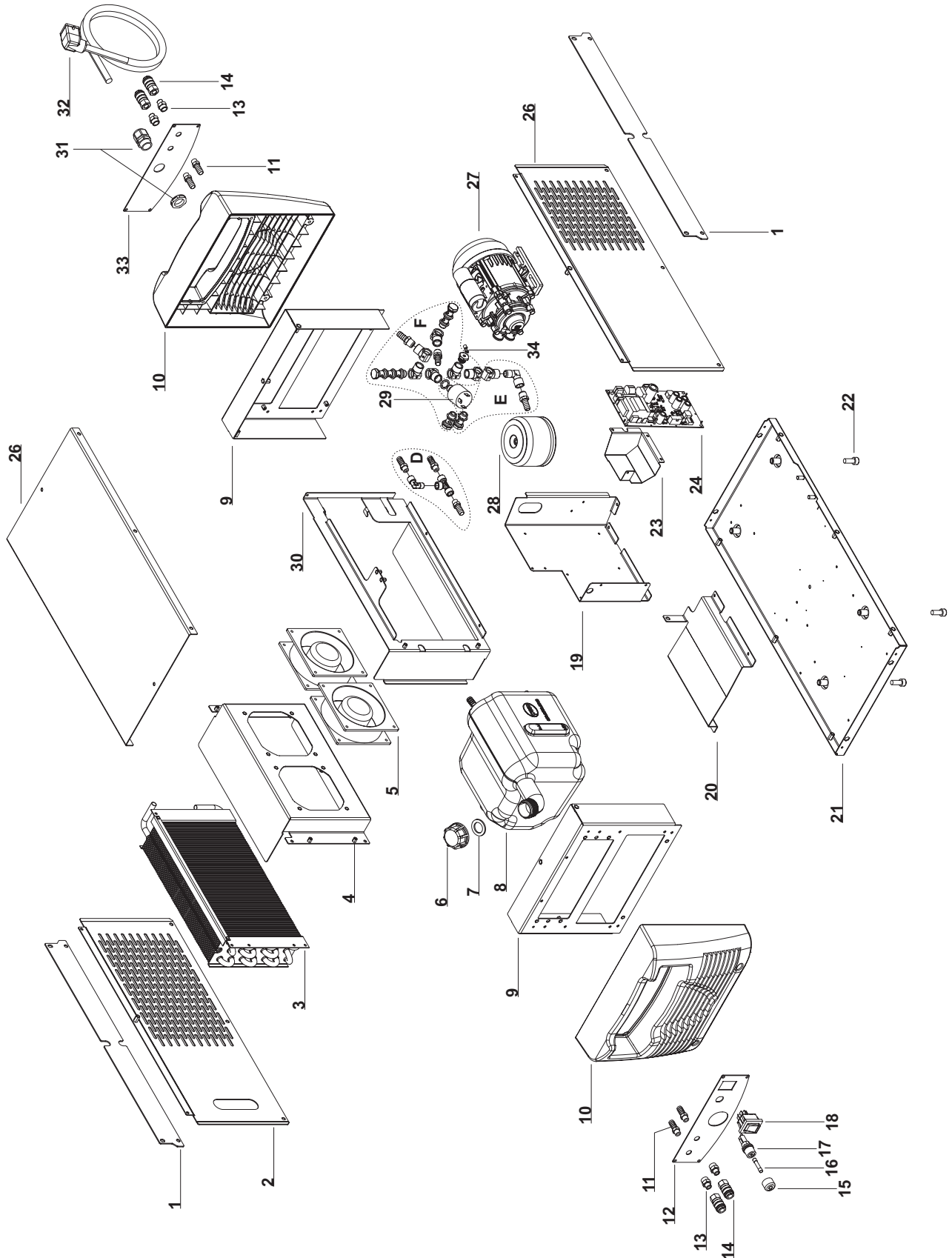


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5 SPARES

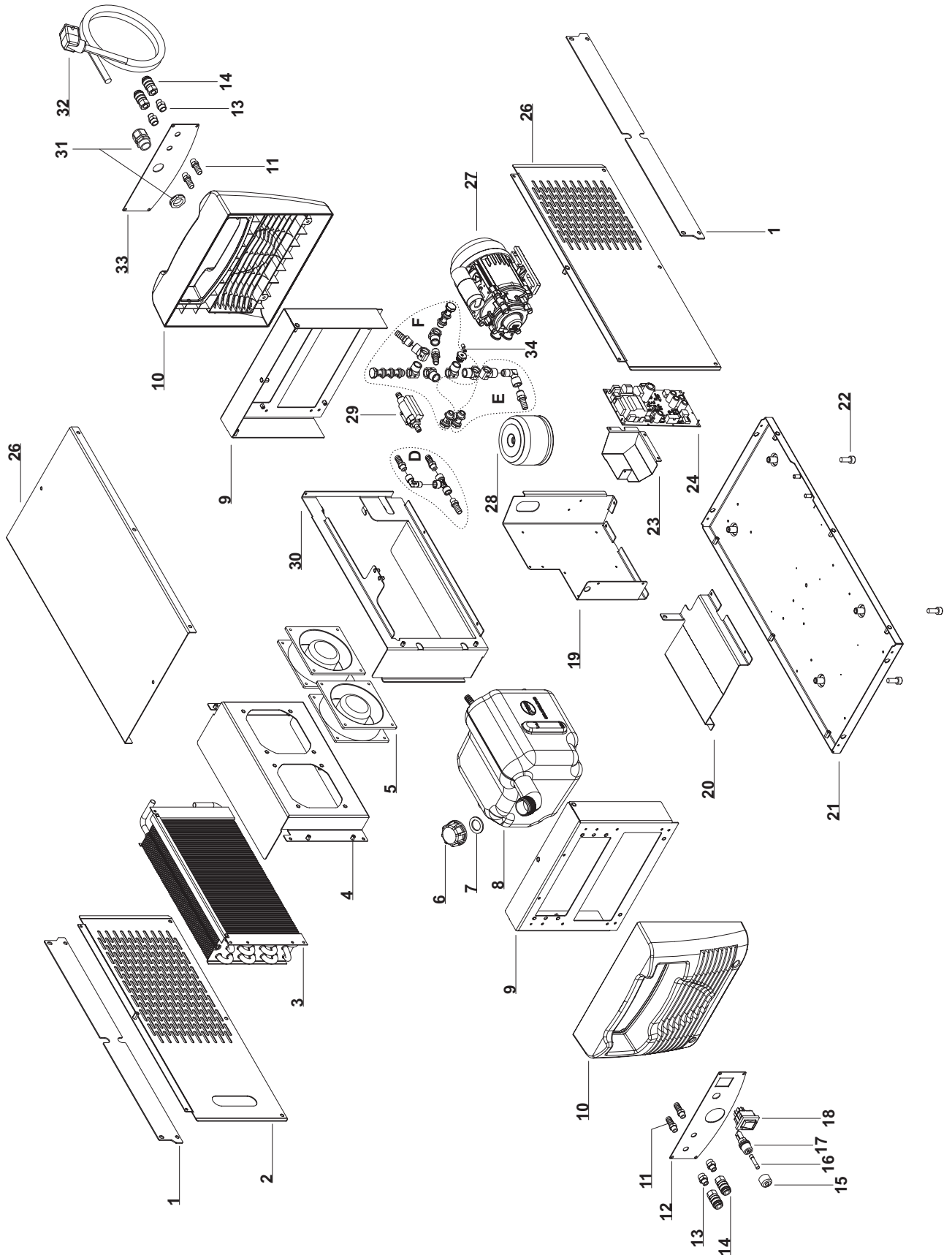
5.1 CU-18/CU-18 HP



ENGLISH

No.	CODE	DESCRIPTION
1	011.0012.0107	CLAMPING PLATE
2	011.0000.1151	LEFT SIDE COVER
3	003.0003.0017	RADIATOR
4	011.0012.0109	FAN SUPPORT PLATE
5	003.0002.0020	FAN
6	003.0003.0015	TANK CAP
7	003.0003.0016	CAP SEAL
8	003.0003.0018	TANK
9	011.0012.0101	FRONT/REAR PLATE
10	012.0006.0100	FRONT/REAR PLASTIC PANEL
11	016.5001.3041	SLEEVE HOSE ADAPTER FOR RUBBER HOSE Ø= 10 mm F= 1/8 M
12	011.0012.0103	FRONT CONNECTIONS PLATE
13	017.0003.0055	NIPPLE FITTING CONN. F= 1/8 M= 1/8
14	018.0002.0004	FLUIDS, FEMALE QUICK COUPLING 1/8 GAS
15	016.0011.0004	FUSE HOLDER CAP
16	040.0007.1160	FUSE
17	040.0006.1880	FUSE HOLDER
18	040.0001.0003	DOUBLE POLE SWITCH
19	011.0012.0113	GUARD SAFETY KIT
20	011.0012.0106	TANK FIXING PLATE
21	011.0012.0100	LOWER COVER
22	016.0201.0624	H.S.H.C. SCREW M8 H=20mm White zinc plated
23	011.0012.0114	SWITCH COVER PLATE
24	050.0002.0150	CU POWER SUPPLY BOARD
25	011.0012.0102	TOP COVER
26	011.0000.1061	RIGHT COVER PANEL
27	003.0004.0006	PUMP KN37 (CU-18)
	003.0004.0040	PUMP KN37 (CU-18 HP)
28	041.0006.0011	POWER TRANSFORMER
29	010.0000.0079	PRESURE SWITCH KIT (C)
30	011.0012.0110	RADIATOR SUPPORT PLATE
31	045.0000.0014	CABLE CLAMP
32	022.0002.0074	POWER CABLE
33	011.0012.0104	REAR CONNECTIONS PLATE
34	040.0003.1008	THERMAL SENSOR

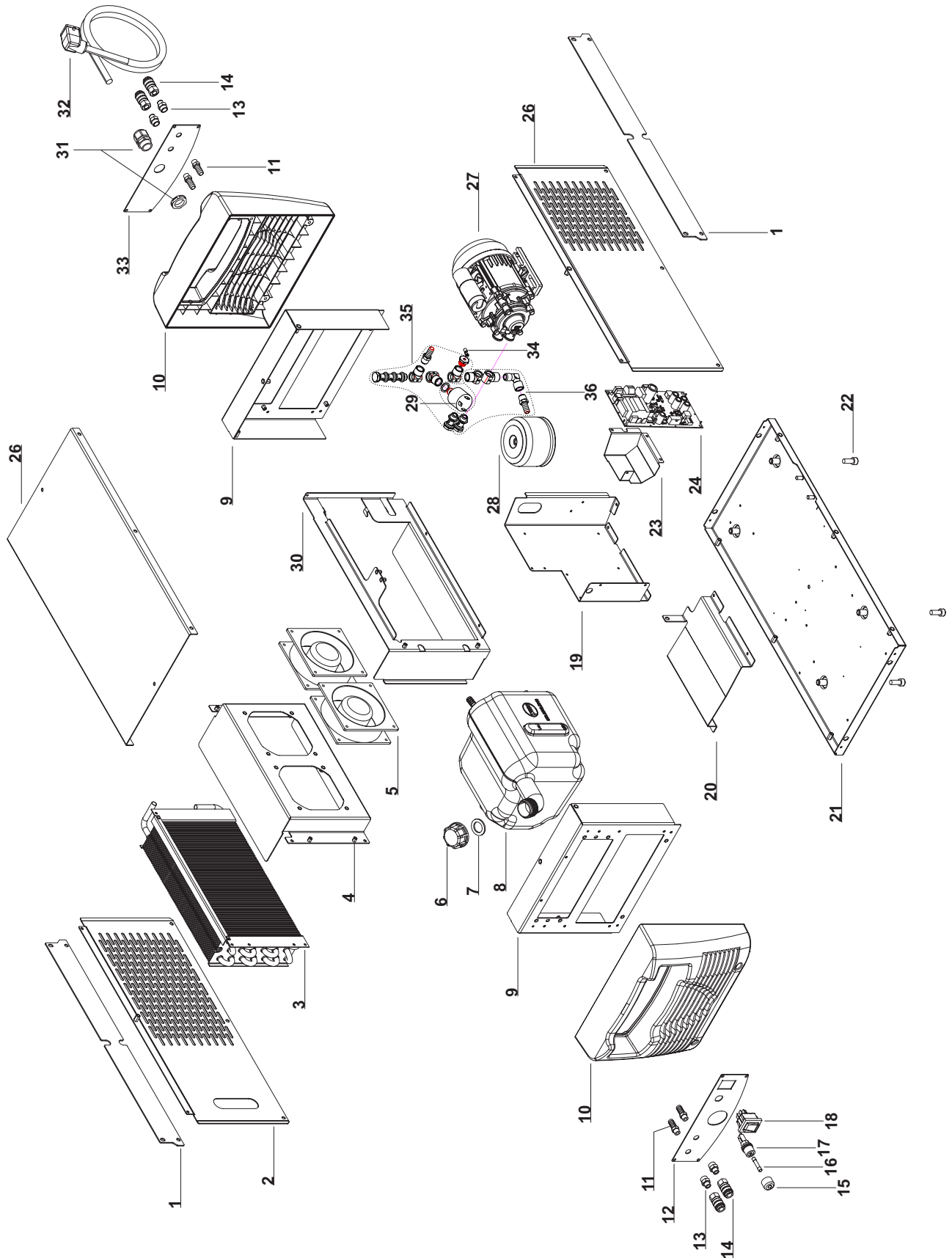
5.2 CU-20/CU-20 HP



ENGLISH

No.	CODE	DESCRIPTION
1	011.0012.0115	CLAMPING PLATE
2	011.0001.1151	LEFT SIDE COVER
3	003.0003.0017	RADIATOR
4	011.0012.0109	FAN SUPPORT PLATE
5	003.0002.0020	FAN
6	003.0003.0015	TANK CAP
7	003.0003.0016	CAP SEAL
8	003.0003.0018	TANK
9	011.0012.0101	FRONT/REAR PLATE
10	012.0006.0100	FRONT/REAR PLASTIC PANEL
11	016.5001.3041	SLEEVE HOSE ADAPTER FOR RUBBER HOSE Ø= 10 mm F= 1/8 M
12	011.0012.0103	FRONT CONNECTIONS PLATE
13	017.0003.0055	NIPPLE FITTING CONN. F.= 1/8 M. = 1/8
14	018.0002.0004	FLUIDS, FEMALE QUICK COUPLING 1/8 GAS
15	016.0011.0004	FUSE HOLDER CAP
16	040.0007.1160	FUSE
17	040.0006.1880	FUSE HOLDER
18	040.0001.0003	DOUBLE POLE SWITCH
19	011.0012.0113	GUARD SAFETY KIT
20	011.0012.0106	TANK FIXING PLATE
21	011.0012.0100	BOTTOM COVER
22	016.0201.0624	H.S.H.C. SCREW M8 H=20mm White zinc plated
23	011.0012.0114	SWITCH COVER PLATE
24	050.0002.0150	CU POWER SUPPLY BOARD
25	011.0012.0102	TOP COVER
26	011.0001.1061	RIGHT COVER PANEL
27	003.0004.0006	PUMP KN37 (CU-20)
	003.0004.0040	PUMP KN37 (CU-20 HP)
28	041.0006.0011	POWER TRANSFORMER
29	017.0006.0008	FLOW METER
30	011.0012.0110	RADIATOR SUPPORT PLATE
31	045.0000.0014	CABLE CLAMP
32	022.0002.0317	POWER CABLE
33	011.0012.0104	REAR CONNECTIONS PLATE
34	040.0003.1008	THERMAL SENSOR

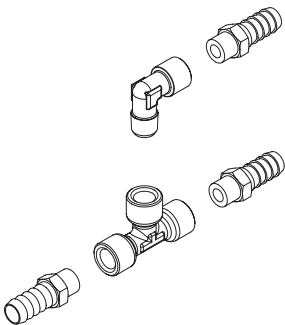
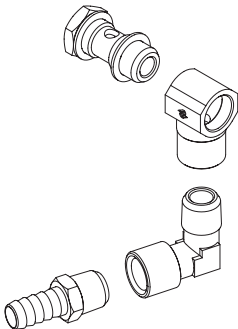
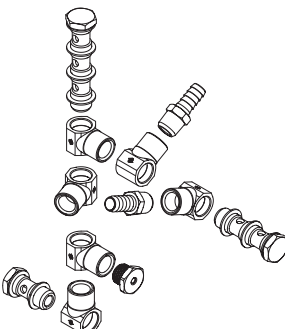
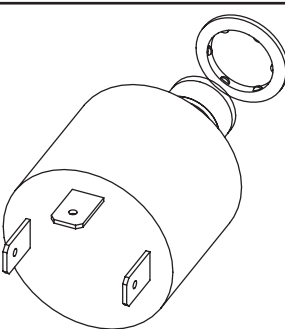
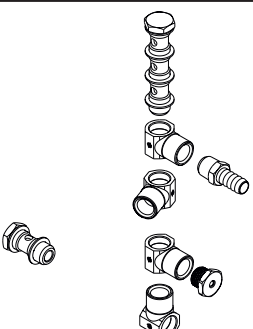
5.3 CU-20P



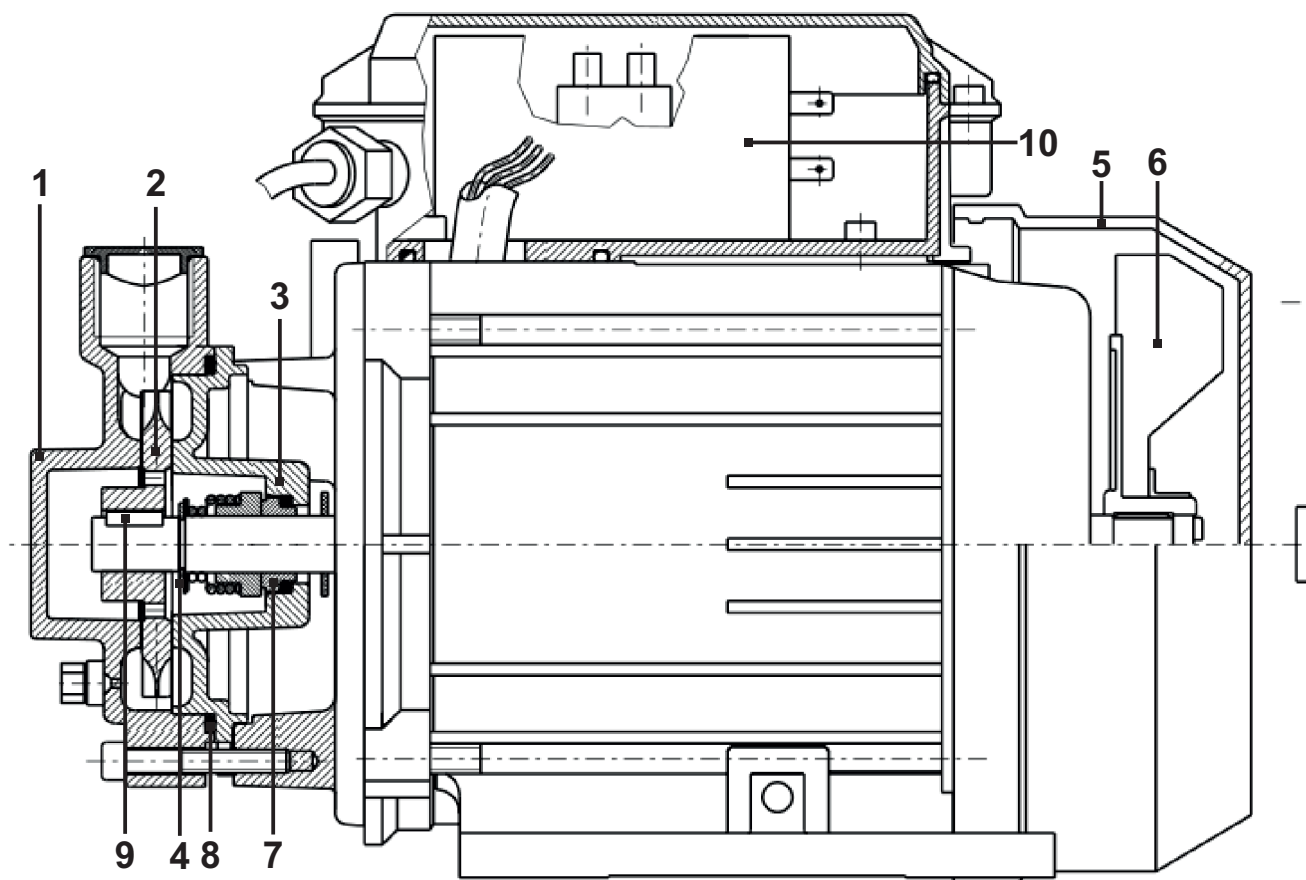
ENGLISH

No.	CODE	DESCRIPTION
1	011.0012.0115	CLAMPING PLATE
2	011.0001.1151	LEFT SIDE COVER
3	003.0003.0017	RADIATOR
4	011.0012.0109	FAN SUPPORT PLATE
5	003.0002.0020	FAN
6	003.0003.0015	TANK CAP
7	003.0003.0016	CAP SEAL
8	003.0003.0018	TANK
9	011.0012.0101	FRONT/REAR PLATE
10	012.0006.0100	FRONT/REAR PLASTIC PANEL
11	016.5001.3041	SLEEVE HOSE ADAPTER FOR RUBBER HOSE Ø= 10 mm F= 1/8 M
12	011.0012.0103	FRONT CONNECTIONS PLATE
13	017.0003.0055	NIPPLE FITTING CONN. F.= 1/8 M. = 1/8
14	018.0002.0004	FLUIDS, FEMALE QUICK COUPLING 1/8 GAS
15	016.0011.0004	FUSE HOLDER CAP
16	040.0007.1160	FUSE
17	040.0006.1880	FUSE HOLDER
18	040.0001.0003	DOUBLE POLE SWITCH
19	011.0012.0113	GUARD SAFETY KIT
20	011.0012.0106	TANK FIXING PLATE
21	011.0012.0100	BOTTOM COVER
22	016.0201.0624	H.S.H.C. SCREW M8 H=20mm White zinc plated
23	011.0012.0114	SWITCH COVER PLATE
24	050.0002.0150	CU POWER SUPPLY BOARD
25	011.0012.0102	TOP COVER
26	011.0001.1061	RIGHT COVER PANEL
27	003.0004.0006	PUMP KN37 (CU-20P)
28	041.0006.0011	POWER TRANSFORMER
29	010.0000.0079	PRESURE SWITCH KIT (C)
30	011.0012.0110	RADIATOR SUPPORT PLATE
31	045.0000.0014	CABLE CLAMP
32	022.0002.0317	POWER CABLE
33	011.0012.0104	REAR CONNECTIONS PLATE
34	040.0003.1008	THERMAL SENSOR
35	010.0000.0141	PUMP FITTING KIT (M)
36	010.0000.0077	PUMP FITTING KIT (E)

5.4 PRE-ASSEMBLED FITTINGS KIT

No.	CODE	DESCRIPTION
	010.0000.0076	PUMP FITTING KIT (D)
	010.0000.0077	PUMP FITTING KIT (E)
	010.0000.0078	PUMP FITTING KIT (F)
	010.0000.0079	PRESURE SWITCH KIT (C)
	010.0000.0141	PUMP FITTING KIT (M)

5.5 COOLING UNIT PUMP (KN37)



No.	CODE	DESCRIPTION
1	003.0004.0034	PUMP BODY ¼ GAS
2	003.0004.0018	IMPELLER
3	003.0004.0019	SEAL BASE
4	003.0004.0020	SEEGER RING
5	003.0004.0035	COVER
6	003.0004.0036	FAN
7	003.0004.0021	MECHANICAL COMPLETE SEAL
8	003.0004.0023	BODY O-RING
9	003.0004.0022	PUMP SHAFT KEY
10	003.0004.0033	CAPACITOR 6,3uF PUMP KN37





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