We hope that the information will be of help to you. It is based on concrete data and on the best of our current knowledge.
Read the contents of the manual carefully, including the warnings and recommendations.

HOYER FF2000

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Via Monferrato, 52
20098 San Giuliano Milanese (Milano)
Italy
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FF	99	-	B	00

HOYER FRUIT FEEDER 2000

1 - MACHINE IDENTIFICATION DATA

Contents

1.1 Introduction

Thank you for having chosen a Tetra Pax Hoyer machine.
We recommend that you read this manual carefully as it contains essential information regarding the installation, checking and maintenance operations required to keep your machine in perfect condition.

The manual contains tables, drawings and diagrams which will allow you to familiarise yourself with all parts of the machine.
Please let us know if any information is missing or is not sufficiently detailed. Your comments will be used to improve this manual.

1.2 Identification plate

For maintenance and service operations not described in this manual or for any other problem of a technical nature, our Service Department is at your complete disposal for information or to arrange for the necessary measures to be taken.

When contacting our Service Department, please quote the data given on the identification plate affixed to the machine and shown in Fig.1.1.

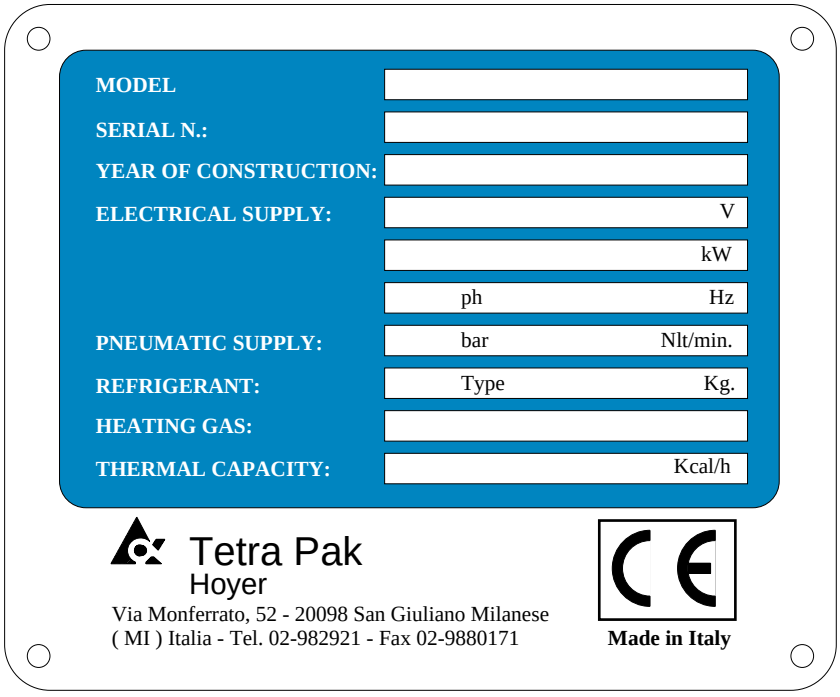

Fig. 1.1 - Identification plate

1.3 Service Centres

If you have any requirement or problem that requires our assistance, please contact one of the following service centres, which are authorised to perform maintenance and provide technical service for Tetra Pak Hoyer machines.

EUROPE AND MIDDLE EAST:

Tetra Pak Hoyer A/S
Soeren Nymarks Vej 13
DK-8270 Hoejbjerg
Denmark
Phone: +45 89 39 39 39
Fax: +45 86 29 22 00
Tlx: 6 87 70 alhoy dk

Tetra Pak Hoyer S.p.A.
Via Monferrato, 52
I - 20098 San Giuliano Milanese (Milan)
Italy
Phone: + 39 2 98 29 21
Fax: + 39 2 98 80 171

Tetra Pak Hoyer France
c/o Tetra Laval Service SARL
R.C.S. Versailles B403 276 223
P.O. Box 56
F-78340 Les Clayes-Sous-Bois
France
Phone: +33 1 30818184
Fax: +33 1 30818120

NORTH AMERICA:

Tetra Pak Hoyer Inc.
753 Geneva Parkway
P.O. Box 280
Lake Geneva, WI 53147
USA
Phone: +1 262 249 7400
Fax: +1 262 249 7500

SOUTH AMERICA:

Tetra Pak Hoyer Industria e Comércio Ltda.
Rua Napoleao de Barros, 1038
Cep04024-003 Sao Paulo-SP
Brazil
Phone: +55 11 573 9422
Fax: +55 11 549 5420

ASIA/PACIFIC:

Tetra Pak Hoyer Shanghai
Shanghai Overseas Chinese Mansion
Room 2105-2107
No. 129, Yan'an Xi Lu
200040 Shanghai
P.R. China
Phone: +86 21 6249 0860
Fax: +86 21 6249 9064

Tetra Pak Hoyer Service
3rd Floor, Molace Building
2231 Pasong Tamo Street
Makati, Metro Manila
Philippines
Phone: +63 2 8132848

KOREA:

Hoyer Ltd.
4fl. Dookyong Bldg.
66-1/9 Hannam-Dong
Yong San-Ku
140-210 Seoul
South Korea
Phone: +82 2 796 0362
Fax: +82 2 796 0365

THAILAND:

Tetra Pak Hoyer (Thai) Ltd.
1042 Soi Poosin, Sukhumvit Soi 66/1
Bangchak, Prakanong
Thailand
Phone: +66 2 3611680
Fax: +66 2 3612310

C.I.S.:

Tetra Pak Hoyer A/O
Usachova Str., 35A
119048 Moscow
Russia
Phone: +7 095 931 97 60
Fax: +7 095 931 97 61

HOYER FRUIT FEEDER 2000

2 - GENERAL INFORMATION

Contents

2.1 Declaration of conformity

This machine has been manufactured in accordance with international standards and hygiene and sanitary legislation applicable to food machinery.
In particular Tetra Pak Hoyer certifies, through the Declaration of Conformity supplied with the machine, that the **FRUIT FEEDER 2000** machine is designed and manufactured in accordance with the provisions of Directive 89/392/EC (Machinery Directive) and with the above-mentioned standards.

2.2 Preliminary points

- The illustrations and drawings of the machine are intended for general reference only and are not necessarily accurate in every detail;
- The machine dimensions and specifications given in this manual are not binding and may be changed without prior notice;
- The drawings and all other documents provided as a part of this machine remain the property of Tetra Pak Hoyer and must not be passed on to third parties without the written permission of Tetra Pak Hoyer.
- The manual includes instructions for all accessories mounted on the standard machine.
- **The machine is covered by warranty as laid down in the purchase contract. Any repair work not authorised by Tetra Pak Hoyer carried out during the warranty period will automatically invalidate the warranty.**

2.3 General safety rules

- THESE SAFETY RULES HAVE BEEN DRAWN UP IN YOUR INTEREST. Strict observance will reduce the risk of accident to yourself or to others.
- DO NOT attempt to move, install or operate the machine before reading and assimilating the contents of this manual. Ask your superior in case of doubt;
- make sure that all guards and safety covers are in place BEFORE starting the machine;
- NEVER leave tools, mechanical parts or other foreign materials on or inside the machine;
- in the event of a malfunction, press the emergency stop button.
- NEVER PUT YOUR HANDS INSIDE THE MACHINE WHEN IT IS IN OPERATION;
- exercise caution even when the main switch located on the tunnel is in the "OFF" position, as the supply conductors will still be live;
- shut off the compressed air supply before disconnecting any pneumatic component;
- make sure that all guards and safety covers are correctly in place BEFORE restarting the production cycle subsequent to maintenance or repair operations;
- proceed with caution at all times. Remember that you are responsible for your own safety and for that of your colleagues;
- make sure that applicable regulations are observed when moving or lifting the machine.

2.4 Special warnings

- All personnel operating the machine must be familiar with the general safety rules and must observe them strictly. Failure to follow these rules may result in personal injury or damage to machine components;
- maintenance work must be performed with the machine turned off. The main switch must be in the "OFF" position, the air valve closed and a “work in progress” sign affixed to the machine;
- the user must make sure that all the instructions given in the manual are scrupulously observed;
- users will be solely responsible for risks caused by tampering with the safety system;
- The safety of machines used in conjunction with this machine, if not supplied directly by Tetra Pak Hoyer, is the responsibility of the customer.
- The pressure, speed, temperature and voltage limits and all instructions given are indispensable for correct operation of the machine and must always be complied with by the customer.
- Ambient conditions must be taken into consideration during installation.
- National legislation governing this type of machine must be observed.

2.5 Ambient operating limits

The machine is suitable for operation in the following ambient conditions:

- Temperature : from 4°C to 40°C
- Humidity : from 20% to 95%.

☞ **NOTE**:

Tetra Pak Hoyer will accept no responsibility for damage or injury caused by failure to comply with the above warnings.

HOYER FRUIT FEEDER 2000

3 - DESCRIPTION OF THE MACHINE AND TECHNICAL DATA

Contents

3.1 Description of the machine

This machine has been designed and constructed to provide reliability and safety when used for a wide range of applications.
The automatic machine **FRUIT FEEDER 2000** is capable of feeding continuously pieces of fresh fruit, candied fruit, granular products such as hazelnuts and nougat, chocolate and a wide range of products normally used for ice-cream production.
It is normally installed on ice-cream production lines between a continuous freezer and a filler machine.
As it has been designed as a stand-alone unit, to put it into service simply hook it up to the mains power supply and connect it to the freezer and the filler machine.

The **FRUIT FEEDER 2000** consists of three main units:

1. A dosing unit, consisting of a main hopper *(Pos.1, Fig.3.1)*, a screw feeder and a secondary hopper.
   The ingredients are fed manually by the operator into the main hopper and then move under gravity towards the bottom of the hopper, where a horizontal-axis screw feeder is located. As they descend, the ingredients are mixed continually by a slow agitator which ensures a constant flow of product to the screw feeder. The screw feeder feeds the ingredients into the secondary hopper from where, again under gravity, they are fed into the pump unit.
2. A pump unit, consisting of a vane pump *(Pos.2, Fig.3.1)*, which feeds the ingredients into the flow of ice-cream coming from the continuous freezer.
   The vane pump consists of a rotor containing radial vanes which are guided by an eccentric guide machined inside the casing.
   The pump also works as a separating seal between the pressurized ice-cream line and the external environment, so as to allow a one-way flow of ingredients from the secondary hopper to the ice-cream.
3. An in-line mixer *(Pos.3, Fig.3.1)*, consisting of a shaft with angled blades positioned inside the section of pipe downstream of the pump unit. This unit serves to provide intensive mixing of the product with the ice-cream before it goes on to the filler machine.

The machine has been constructed to international standards and in compliance with health and sanitary regulations applicable to food machinery. In particular, Tetra Pak Hoyer certifies, through the Declaration of Conformity supplied along with the machine, that the **FRUIT FEEDER 2000** has been designed and constructed in conformity with the Directive 89/392/CE (Machinery Directive) and with the applicable above-mentioned standards.
The machine has an entirely stainless steel structure and is mounted on wheels. All parts directly in contact with the product are entirely made of stainless steel or aseptic material and are polished internally.
In order to avoid accidental contact between parts of the operator's body and moving machine components, the machine is fitted with panels, guards and covers fixed by means of screws and/or systems which in any case require the use of special tools and deliberate action on the part of the operator to be removed.
Only the lid of the main hopper can be raised without the use of special tools, in order to allow the operator to feed in the ingredients. A safety grid prevents the operator from accidentally coming into contact with the slow agitator of the hopper.
Opening the grid activates a microswitch that causes the machine to stop immediately.

3.2 Operation

The ingredients are fed manually by the operator into the main hopper *(Pos.1, Fig.3.2)*. Access to the main hopper is gained by turning the lid *(Pos.2, Fig.3.2)*; the safety grid *(Pos.3, Fig.3.2)* must only be removed for maintenance work when the machine is off.
The ingredients are kept in constant motion by the slow agitator located in the upper section of the main hopper ; they are then fed into the secondary hopper by the screw feeder *(Pos.4, Fig.3.2)* located on the bottom of the hopper.
The screw feeder is made of aseptic material and is available in various versions according to the type of ingredients to be fed. The speed of the screw feeder and of the slow agitator are variable and can be adjusted by the potentiometer on the control panel. As a consequence, the flow rate of ingredients can also be continually varied.
From the secondary hopper the ingredients are fed under gravity towards the inlet port of the vane pump *(Pos.5, Fig.3.2)* located on the bottom of the secondary hopper.
They are then fed into the cavities created between two adjacent vanes as a result of the special profile of the eccentric guide.
During rotation, the ingredients come into contact with the ice-cream through the discharge port located on the bottom of the casing and are thus fed into the ice-cream flow.
The rotor is mounted on the reduction gear output shaft and its rotation speed can be adjusted using the potentiometer on the control panel by means of a frequency converter connected to the gearmotor.
The mix obtained is fed to the vertical mixer *(Pos.6, Fig.3.2)*, which mixes the ice-cream and the ingredients to obtain a uniform and well-mixed product.

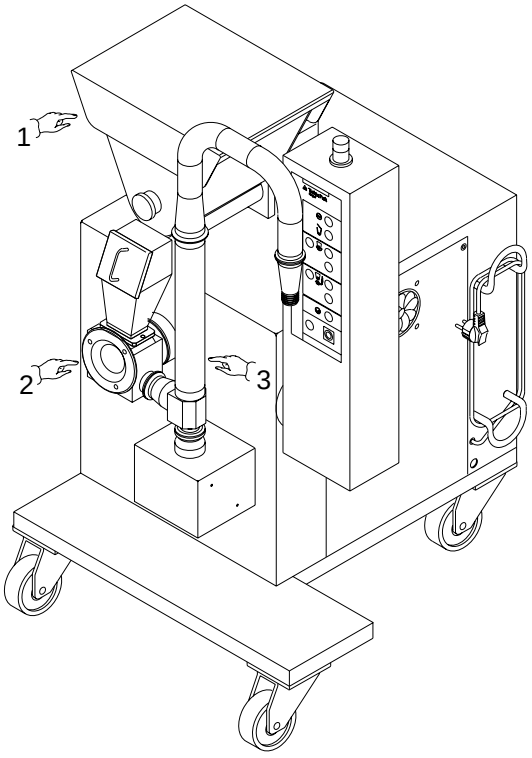

Fig. 3.1

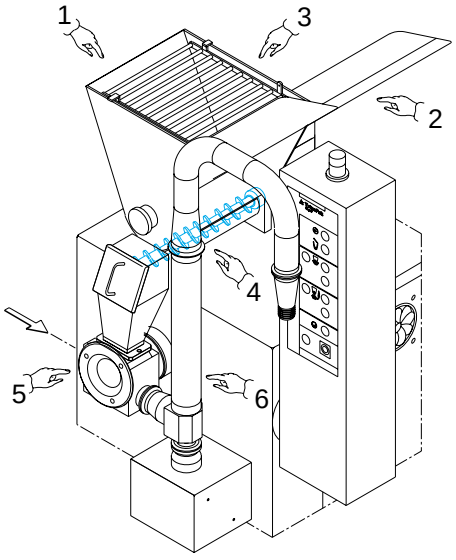

Fig. 3.2

3.3 Technical specifications

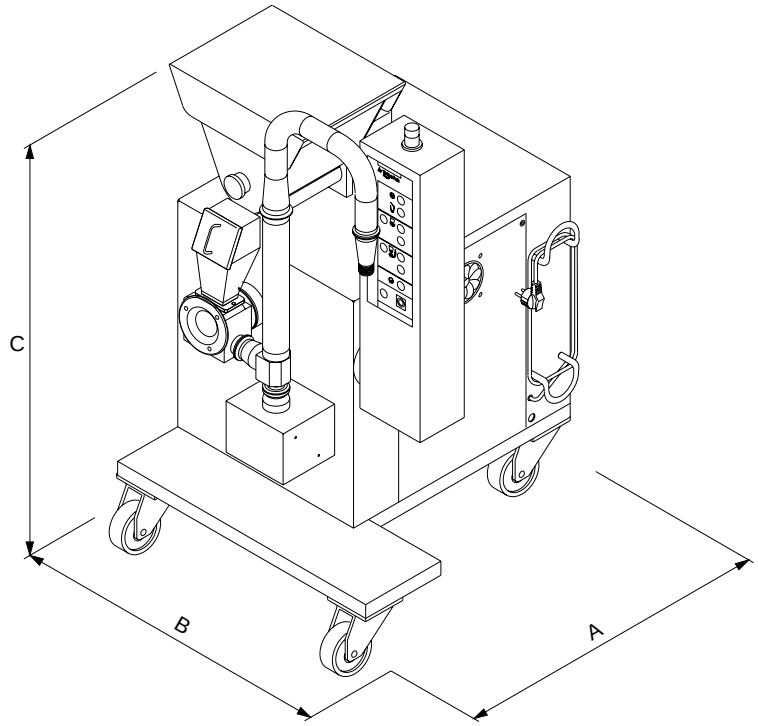

Fig. 3.3

Power supply		230 V / 60 Hz or 460 V / 60 Hz (according to local)
Installed power	screw feeder:	0.75 kW
	mixer:	0.75 kW
	pump:	0.75 kW
	transformer:	0.15 kW
	agitator:	0.063 kW
Total installed power:		2.463 kW
Net weight:		190 Kg
Pipe diameter	In clamp:	1 1/2"
	Out clamp:	2"
Capacity:	the flow of ice-cream with standard feeder is 300 - 2000 l/h (79 - 290 US Gals/h). For ingredient capacity see Paragraphs 4.4 and 5.2.	
Dimensions:	A (length) = 932 mm B (width) = 720 mm C (height) = 1291 mm	
No. Operators:	1	

Equivalent A-weighted Sound Pressure Level at 1 meter: 67.5 dBA
Max. Instantaneous C-Weighted Sound Pressure Level at the Work Place: lower than 130 dB/20uPa.

3.4 Control panel

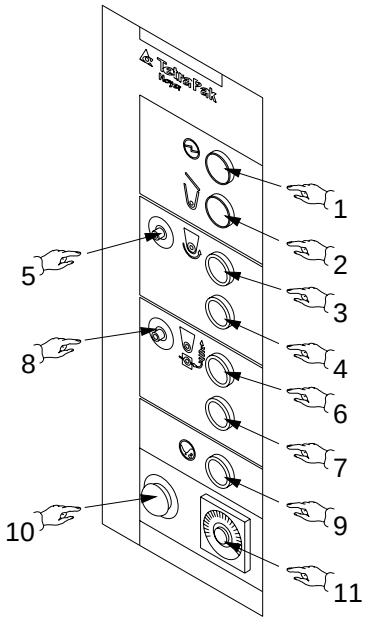

Fig. 3.4

1 Power on
2 Safety device tripped
3 Screw feeder start button
4 Screw feeder stop button
5 Potentiometer to regulate speed of screw feeder unit
6 Slow agitator and vane pump start button
7 Slow agitator and vane pump stop button
8 Potentiometer to regulate speed of vane pump
9 Washing cycle start button
10 Emergency stop button
11 Slow agitator timer

HOYER FRUIT FEEDER 2000

4 - INSTALLATION

Contents

4.1 Unpacking and delivery checks

The simplest way tyo handle the **FRUIT FEEDER 2000** crate is to use a pallet truck or a lift truck. The crate must be unloaded as close as possible to the place of installation.
When the crate has been positioned correctly, unpack as follows:

a. Unnail the upper lid *(Pos.1, Fig.4.1)* and remove it. Do the same with the side panels. Pay attention to the wooden spacer blocks located between the sides of the crate.
b. Remove the spare parts box *(Pos.2, Fig.4.1)* and the other components from the crate.
c. Unnail the wooden blocks that hold the machine in place during transport and remove the cellophane sheet.
d. Check that the contents of the crate correspond to the description given in the shipping documents.
e. Make sure that all the covers and panels have been fitted correctly and that there are no loose parts.
f. Visually inspect all the electrical components to check that they are not damaged.
g. If any part/component is missing, stop unpacking and immediately notify Tetra Pak Hoyer S.p.A.
h. If the machine has been damaged during transport, notify the Insurance Company immediately. Do not proceed beyond unpacking until you are authorized to do so by the Insurance Company.

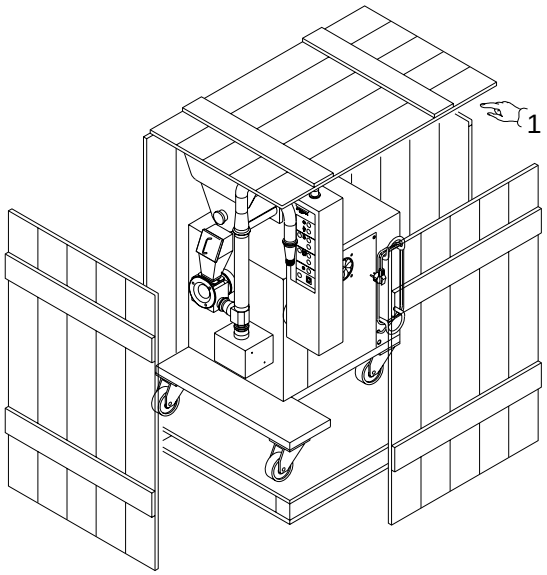

Fig. 4.1

4.2 Transport and installation

As the machine is mounted on wheels *(Pos.1, Fig.4.2)*, it can be pushed directly by the operator, as shown in *Fig.4.2.*
Alternatively the machine may be moved by means of a fork lift truck. Take care to position the forks under the arrows on the machine frame, as shown in *Fig.4.3.*

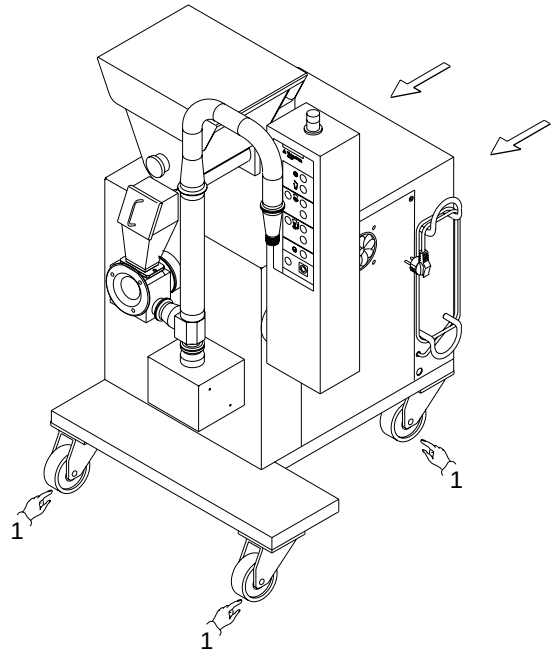

Fig. 4.2

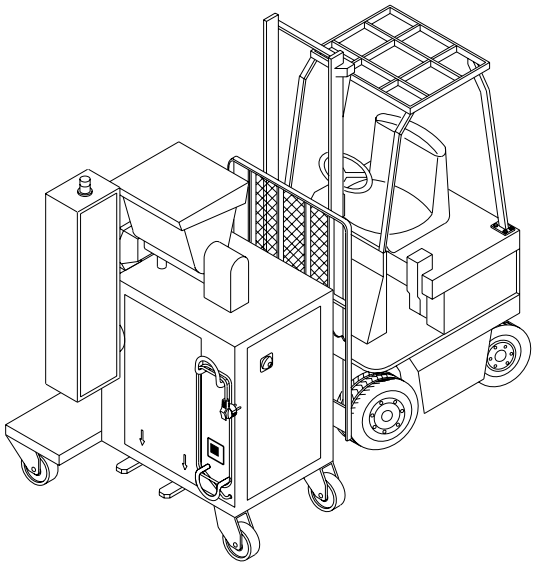

Fig. 4.3

The **FRUIT FEEDER 2000** must be situated as close as possible to the filler machine for the following reasons:

a. The pressure of the ice-cream reaches its lowest value at this point.

b. The ingredients fed in tend to be deposited on the layer of ice-cream in contact with the pipe. Therefore a smaller distance between the mixer and the filler machine will allow a more uniform distribution of the ingredients in the ice-cream.

For the installation procedure, make sure that the following instructions as followed:

a. Position the machine at the place of production and check the identification plate data to make sure that the machine is compatible with the electrical power supply *(Pos.A, Fig.4.4)*.

b. Connect the ice-cream inlet and outlet pipes to the pump body *(Pos.B, Fig.4.4)*.

c. Connect the electrical cable (3 phases + earth) by means of a wall-mounted switch fitted with a fuse.

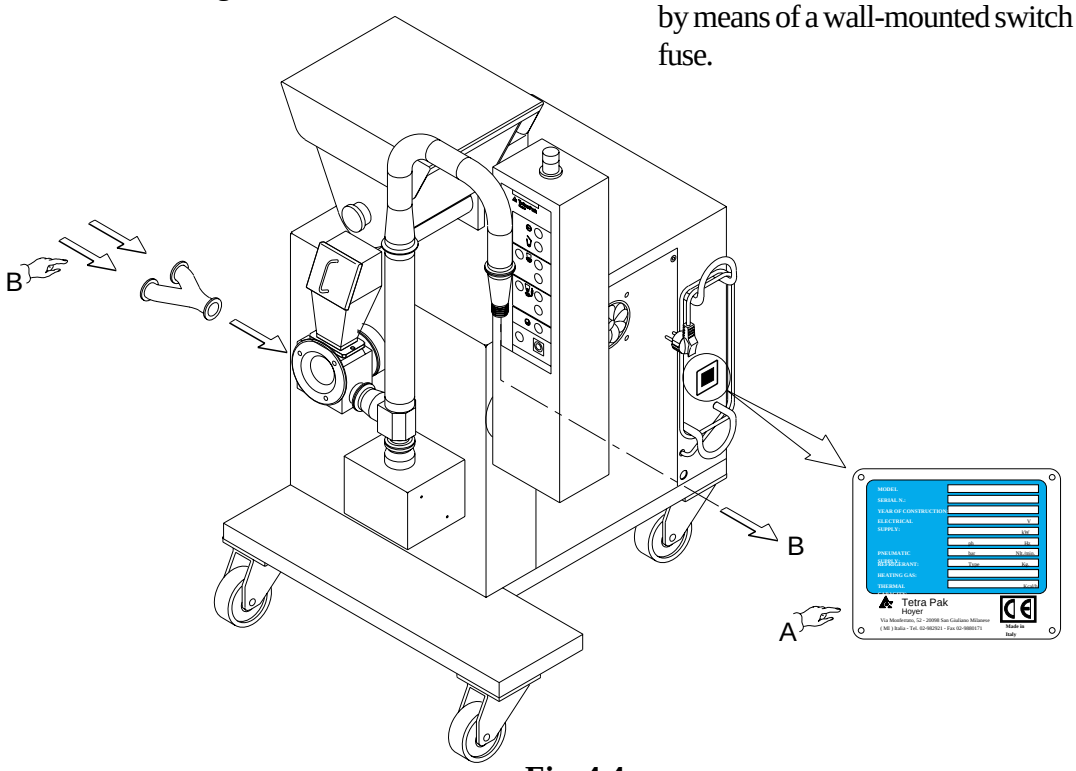

Fig. 4.4

4.3 Functional checks

Carry out the following checking procedures before starting the machine:

a. Check that the emergency stop button is released *(Pos. 10 Fig.4.5)*.

b. Turn the main switch located on the near panel of the machine *(Pos.1 Fig.4.6)*.

c. Check that the motors work correctly. In order to avoid damaging the machine, make sure that all the motors turn in the correct direction. If they do not, invert the phases. In particular:

1. Screw feeder motor
Press luminous button *(Pos.3 Fig. 3.4)*. to start the motor. Lift the main hopper lid *(Pos.1, Fig.4.7)* and check that the screw feeder turns clockwise *(Pos.2, Fig.4.7)*. Press the luminous button *(Pos. 4 Fig.3.4)* to stop the motor.

2. Vane pump motor and mixer motor
Press luminous button *(Pos.6 Fig. 3.4)* to start the motors. Lift the secondary hopper lid *(Pos.3, Fig.4.7)* and check that the vanes turn counterclockwise *(Pos.4, Fig.4.7)*. From above, check that the in-line mixer turns counterclockwise *(Pos.5, Fig.4.7)*. To carry out this check, disconnect the 2" to 1 1/2" reducer paying attention not to crush parts of your body during rotation of the mixer blades. Press luminous button *(Pos. 7 Fig. 3.4)* to stop the motor.
N.B.: Since the vane pump needs to be lubricated with ice-cream and/or water during operation, make sure that it does not run empty by introducing water directly into the secondary hopper during this check.
With the motors running, check that the emergency stop button *(Pos. 10 Fig. 3.4)* works correctly. If it does not, contact one of our Service Centers immediately.

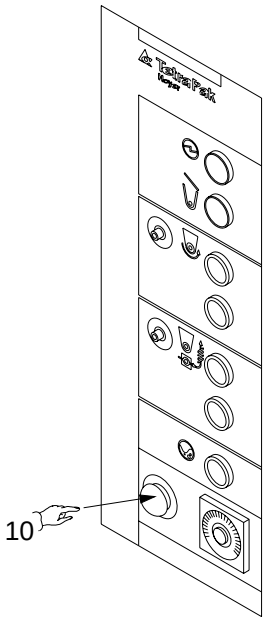

Fig. 4.5

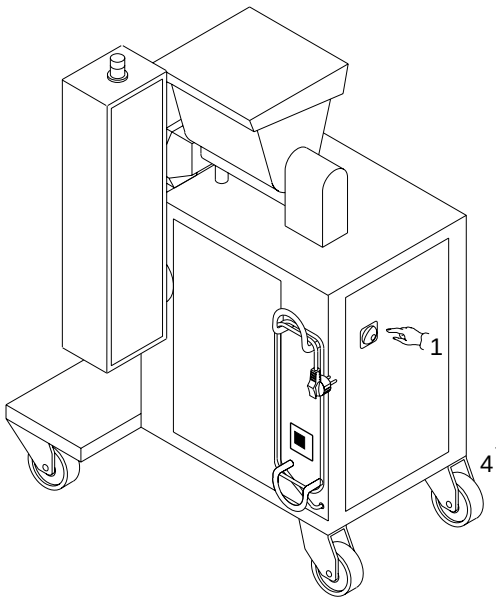

Fig. 4.6

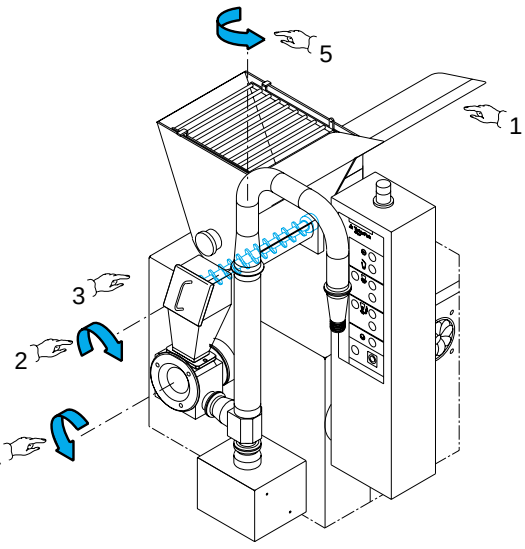

Fig. 4.7

4.4 Characteristics of ingredients

Ingredients that are viscous, sensitive to humidity or tend to stick together and form lumps are not suitable for dosing.

NOTE:

Some ingredients like raisins need to be washed and dripped before dosing.

Particle diameter of ingredients should be no more than 15 mm.

This means for example that products such as whole stwawberries can be fed into the ice-cream flow without being crushed.
The **FRUIT FEEDER 2000** has been designed for any kind of solid and/or highly viscous product. Liquids or products with low viscosity (e.g. jam, fruit juice with whole pieces of fruit, etc.) should not be used in this machine.

In these cases it is advisable to feed in the solid part using the **FRUIT FEEDER 2000**, and the liquid part using a volumetric dosing device for liquids installed before the in-line mixer.

The machine is supplied with two standard screw feeders:
- Screw feeder, code no.540501205
  Pitch 40, Diam. 20 (for high flow)
- Screw feeder, code no. 540501202
  Pitch 20, Diam. 20 (for low flow)

As optional the following two screw feeders are available to optimize the dosing at intermediate flow :
- Screw feeder, code no.540501203
  Pitch 30, Diam. 20
- Screw feeder, code no. 540501204
  Pitch 30, Diam. 24

HOYER FRUIT FEEDER 2000

5 - ADJUSTMENT PROCEDURES

Contents

5.1 Set-up and adjustments

Before starting the machine and beginning the production cycle, make sure that the machine has been washed and sterilized carefully.
After washing and sterilizing the machine, connect the ice-cream outlet pipe from the freezer to the pump unit connector *(Part.1, Fig.5.1)*; then connect the filler machine ice-cream inlet pipe to the outlet connector on the in-line mixer *(Part.2, Fig.5.1)*.
To connect two freezers at the same time, connect a Y fitting *(Part.3, Fig.5.1)* to the pump unit inlet connector.

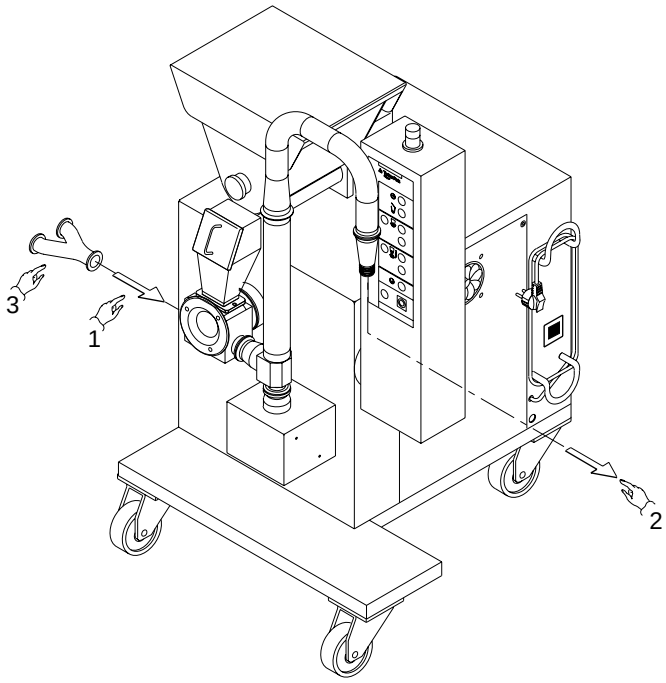

Fig. 5.1

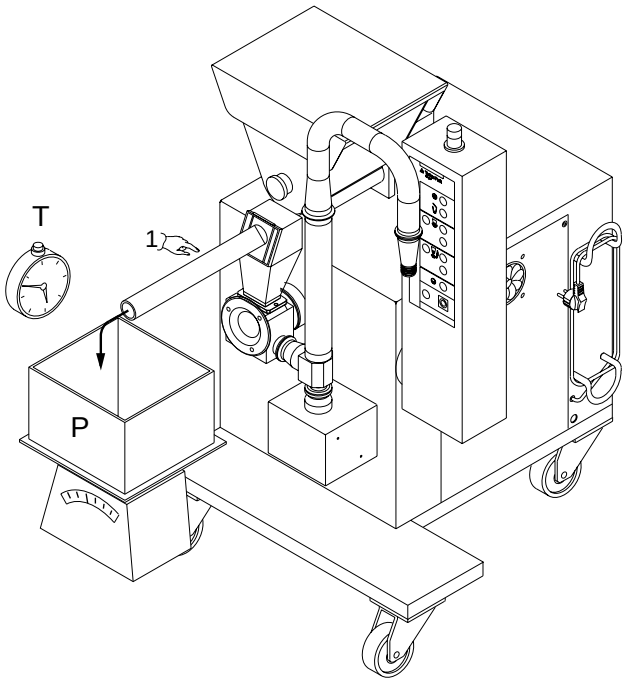

Fig. 5.2

To set the speed of the screw feeder correctly, proceed as follows:

1. Connect the screw feeder outlet pipe to the rubber hose supplied, leaving the secondary hopper lid open *(Part.1 Fig.5.2)*. Place a container of suitable dimensions under the extension outlet to collect the ingredients.
2. Turn on the electrical power supply to the machine by turning the main switch to "ON".
3. Make sure that the safety grid is lowered into its safety position.
4. Start the screw feeder *(Pos.3 Fig. 3.4)*.
5. Measure the flow rate over a reasonable period of time and check that is corresponds to the required value. If not, turn the screw feeder speed adjustment knob to increase or reduce the speed according to whether the measured flow rate is lower or higher than required.
   Repeat this operation until the required flow rate is obtained.
6. Turn the screw feeder motor off *(Pos. 4 Fig. 3.4)* and turn off the power supply to the machine.
7. Disconnect the screw feeder outlet pipe extension.
8. If necessary, clean and sterilize the machine.

5.2 Solid ingredients to be added to the ice-cream

The table shows the weight of solid ingredients (gr/min.) to be added to the ice-cream.

☞ **NOTE:**

The max. percentage of solid ingredients may vary according to the type of ingredient.

Production l/h (100% Overrun)	Solid ingredients (g/m) depending on required %								
	4	6	8	10	12	14	16	18	20
150	54	81	109	136	163	190	217	244	272
200	72	109	145	181	217	253	290	326	362
250	91	136	181	226	272	317	362	407	453
300	109	163	217	272	326	380	434	489	543
350	127	190	253	317	380	443	507	570	634
400	145	217	290	362	434	507	579	652	724
450	163	244	326	407	489	570	652	733	815
500	181	272	362	453	543	634	724	815	905
550	199	299	398	498	597	697	796	896	996
600	217	326	434	543	652	760	869	977	1086
650	235	353	472	588	706	824	941	1059	1177
700	253	380	507	634	760	887	1014	1140	1267
750	272	407	543	679	815	950	1086	1222	1358
800	290	434	579	724	869	1014	1158	1303	1448
850	308	462	615	769	923	1077	1231	1385	1539
900	326	489	652	815	977	1140	1303	1466	1629
950	344	516	688	860	1032	1204	1376	1548	
1000	362	543	724	905	1086	1267	1448	1629	
1050	380	570	760	950	1140	1330	1520		
1100	398	597	796	996	1195	1394	1593		
1150	416	624	833	1041	1249	1457	1665		
1200	434	652	869	1086	1303	1520			
1250	453	679	905	1131	1358	1584			
1300	471	706	941	1177	1412	1647			
1350	489	733	977	1222	1466				
1400	507	760	1014	1312	1520				
1450	525	787	1050	1358	1575				
1500	543	815	1086	1403	1629				
1550	561	842	1122	1448	1683				
1600	579	869	1158	1493					
1650	597	896	1195	1539					
1700	615	923	1231	1584					
1750	634	950	1267	1629					
1800	652	977	1303						
1850	670	1005	1339						
1900	688	1032	1376						
1950	706	1059	1412						
2000	724	1086	1448						

MULTIPLICATIVE COEFFICIENTS FOR OVERRUN VALUES

60%	70%	80%	90%	100%	110%	120%
1.25	1.18	1.11	1.05	1	0.95	0.9

Example:
If the required quantity of solid ingredients is 10% and the production output is 1000l/h (100% overrun), approximately 905 gr/min of solid ingredients must be fed from the secondary hopper.

☞**NOTE**: with a 70% overrun, multiply 905 gr/min by the corresponding coefficient (in this case 1.18) to obtain 1068 gr/min.

HOYER FRUIT FEEDER 2000

6 - OPERATING PROCEDURES

Contents

WARNING:

To ensure perfect operation of the machine, the candied fruit and other ingredients to be fed into the ice-cream flow must be drained thoroughly to reduce stickiness. Good operation of the machine depends on the characteristics of the ingredients used.

PERSONAL INJURY

a. The machine must be left disconnected until the ice-cream inlet and outlet pipes have been connected to the vane pump body.

b. The screw feeder, the slow agitator and the pump vanes are dangerous. For this reason, the main hopper grid nad the secondary hopper lid must remain in their safety positions at all times when the machine is connected to the electrical power supply.

DAMAGE TO THE MACHINE

a. If the ingredients stop the slow agitator and/or the screw feeder from turning, they must be removed using only the scraper provided with the machine.

b. Do not use metal or plastic objects etc. as these can cause serious damage to the machine.

c. The vane pump must **NEVER** run when empty; it must always be lubricated with ice-cream or water during operation.

6.1 Preliminary checks

Before starting the machine, carry out the following checks:

a. Make sure that the machine has been thoroughly washed and cleaned.

b. Make sure that the ice-cream inlet and outlet pipes to/from the **FF 2000** have been correctly connected to the freezer and to the filler machine.

c. Make sure that the power cable from the mains supply is connected correctly.

d. Make sure that all the guards are in their safety positions (main hopper grid, secondary hopper lid).

e. Make sure that all the machine panels are fixed securely to the frame.

6.2 Start-up

To start the machine, proceed as follows:

a. Switch on power to the machine by turning the main switch to "ON".

b. Start the feeding of ice-cream from the freezer. To keep production losses down to a minimum, wait until the ice-cream leaving the extrusion pipe has reached the required consistency before starting the other motors of the **FF 2000**.

c. Start the vane pump and screw feeder motors by pressing luminous buttons *(Part.3/6, Fig.6.1)*, respectively, in that order.

d Set the slow agitator timer *(Part.9, Fig.6.1)*

e. Introduce the ingredients into the main hopper, paying attention not to lift the safety grid (which would cause the machine to stop immediately) and the lid of the secondary hopper.

6.3 Production cycle

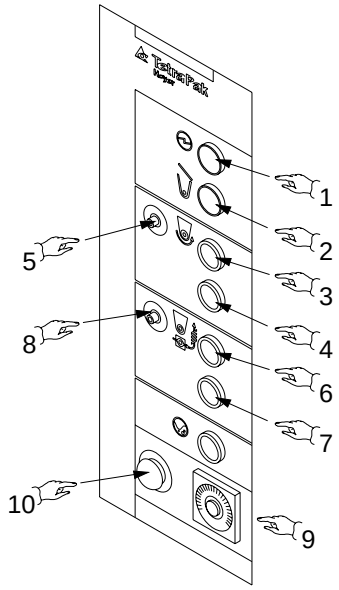

Fig. 6.1

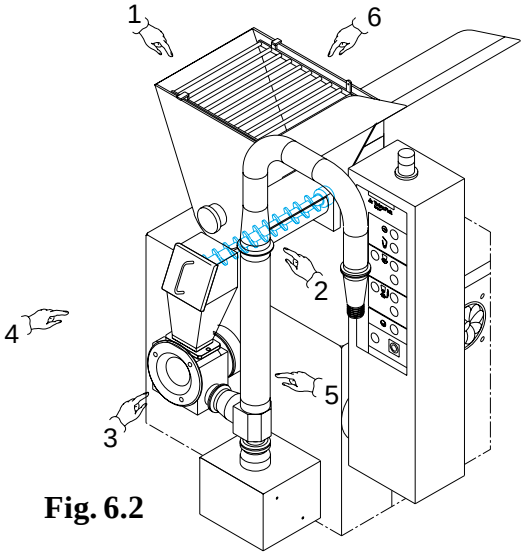

Fig. 6.2

The fruit is placed in the main hopper *(Part.1, Fig.6.2)*. The screw feeder *(Part.2, Fig.6.2)* feeds the fruit into the vane pump *(Part.3, Fig.6.2)*. The fruit mixed with the ice-cream coming from the freezer *(Part.4, Fig.6.2)*, is then sent via the mixer *(Part.5, Fig.6.2)* to the filler machine.

The operator must perform the following operations:

- Feed the fruit into the main hopper.

WARNING:

The screw feeder stops if the grid is lifted.

- Adjust the quantity of fruit introduced into the ice-cream .

The following can be used to adjust the quantity of fruit introduced into the ice-cream:

- Potentiometer *(Part.8, Fig.6.1)*, to regulate the speed of the vane pump.
- Potentiometer *(Part.5, Fig.6.1)*, to regulate the speed of the screw feeder.

The two controls work independently, so both must be used to obtain the correct settings.

There are two ways to increase the quantity of fruit in the ice-cream:

- Turn the potentiometer *(Part.8, Fig.6.1)* clockwise to increase the speed of the main motor.
- Turn the potentiometer *(Part.5, Fig.6.1)* clockwise to increase the speed of the screw feeder.

There are two ways to reduce the quantity of fruit in the ice-cream:

- Turn the potentiometer *(Part.8, Fig.6.1)* counterclockwise to reduce the speed of the main motor.
- Turn the potentiometer *(Part.5, Fig.6.1)* counterclockwise to reduce the speed of the screw feeder.

6.4 Shutdown

- Turn off the screw feeder motor *(Part.4, Fig.6.1)*.
- Turn off the vane pump and agitator motor *(Part.7, Fig.6.1)*.
- Press the emergency button *(Part.10, Fig.6.1)*.
- Turn off the main switch.
- Remove fruit residues from the hopper.
- Start cleaning (See Chapter 7 - **CLEANING AND MAINTENANCE**).

HOYER FRUIT FEEDER 2000

7 - CLEANING AND MAINTENANCE

Contents

7.1 Cleaning and washing

Make sure that the main switch is OFF before starting to wash the machine.

External washing program:
a- Prewash with hot water (50° C).
b- Detergent wash. Use a foaming alkaline detergent or a gel with high fat emulsifying power. The concentration required ranges between 2% and 10% according to how dirty the machine is and to how hard the water used is.
c- Rinse with water. Wait 10 minutes before rinsing thoroughly to remove all trace of soapy and emulsified dirt.
d- Use a suitable disinfectant diluted with water. Concentration ranges between 1 and 1.2%. The recommended minimum contact time is 15 to 20 minutes.
e- Rinse with water.
f- Descaler wash. Use an acid-based, low viscosity descaler containing a mix of wetting and emulsifying agents. The concentration required ranges between 2% and 3%. The recommended minimum contact time is 15 to 20 minutes.
g- Rinse with water.

Warning:

Don't use high pressure water jets.

RECOMMENDED PRODUCTS:

Detergent	Disinfectant	Descaler
SU928 (Diversey Lever)	P3-topax 99 (60°) (Henkel Ecolab)	P3-topax 52 (50/60°) (Henkel Ecolab)
SU616 (Diversey Lever)		
P3-topax 17 (60°) (Henkel Ecolab)		

7.2 Routine maintenance

7.2.1 Start of season

- Wash the machine thoroughly;
  materials required : water - detergent - disinfectant
- Remove pump (see section 7.3.4), screw feeder, agitators and pipes, wash and disinfect thoroughly;
- Check the condition of the gaskets and replace if necessary;
- Lubricate the gaskets;
  materials required : vaseline oil
- Check that the emergency stop button works correctly;
- Carry out a general inspection;

7.2.2 Daily

- Rinse the machine thoroughly with water and/or washing solutions before starting production;
- Wash the machine at the end of production as follows:

  - disconnect the machine from the filling line;
  - connect the washing pipe to the pump inlet and proceed with washing;
  - at the same time pour the washing solution **(in small doses)** into the main hopper, to wash the agitator *(Part.4, Fig.*7.2) and the screw feeder *(Part.3, Fig.7.1)*.
    materials required : water, detergent, disinfectant.

7.2.3 Monthly

- Check the screw feeder transmission chain tension.
- Wash the fruit feeder and the ice-cream line thoroughly as follows:

FEEDER

Open the lid *(Part.1, Fig.7.1)* and remove the screw feeder *(Part.2, Fig.7.1)*.
Lift the hopper lid *(Part.1, Fig.7.2)*, the safety grid *(Part.2, Fig.7.2)*, remove the spring *(Part.3, Fig.7.2)*, the mixer support *(Part.4, Fig.7.2)* and pull out the mixer *(Part.5, Fig.7.2)*.

Wash and disinfect the components and the main and secondary hoppers, then reassemble and lubricate the gaskets as necessary.

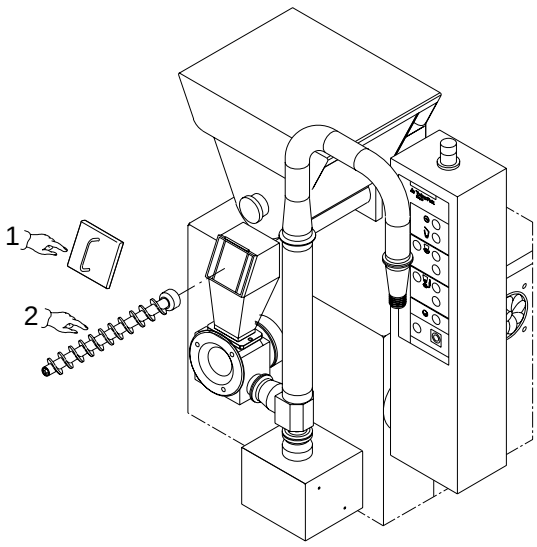

Fig. 7.1

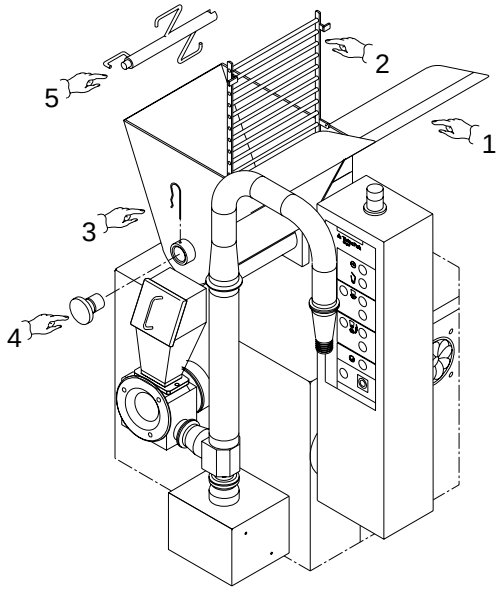

Fig. 7.2

ICE-CREAM LINE

Disconnect the machine from the filling line.
Take out the mixer *(Part.2, Fig.7.3)*, disconnect the fixing clamps *(Part.3, Fig.7.3)* and take off the connecting pipe *(Part.4, Fig.7.3)*.
Connect the washing pipe to the pump inlet *(Part.1, Fig.7.3)* and proceed with the washing.

Materials required: water, detergent, disinfectant.
Lubricate the gaskets; after drying the components, lubricate them with neutral vaseline before reassembling.
M*aterials required*: vaseline oil.

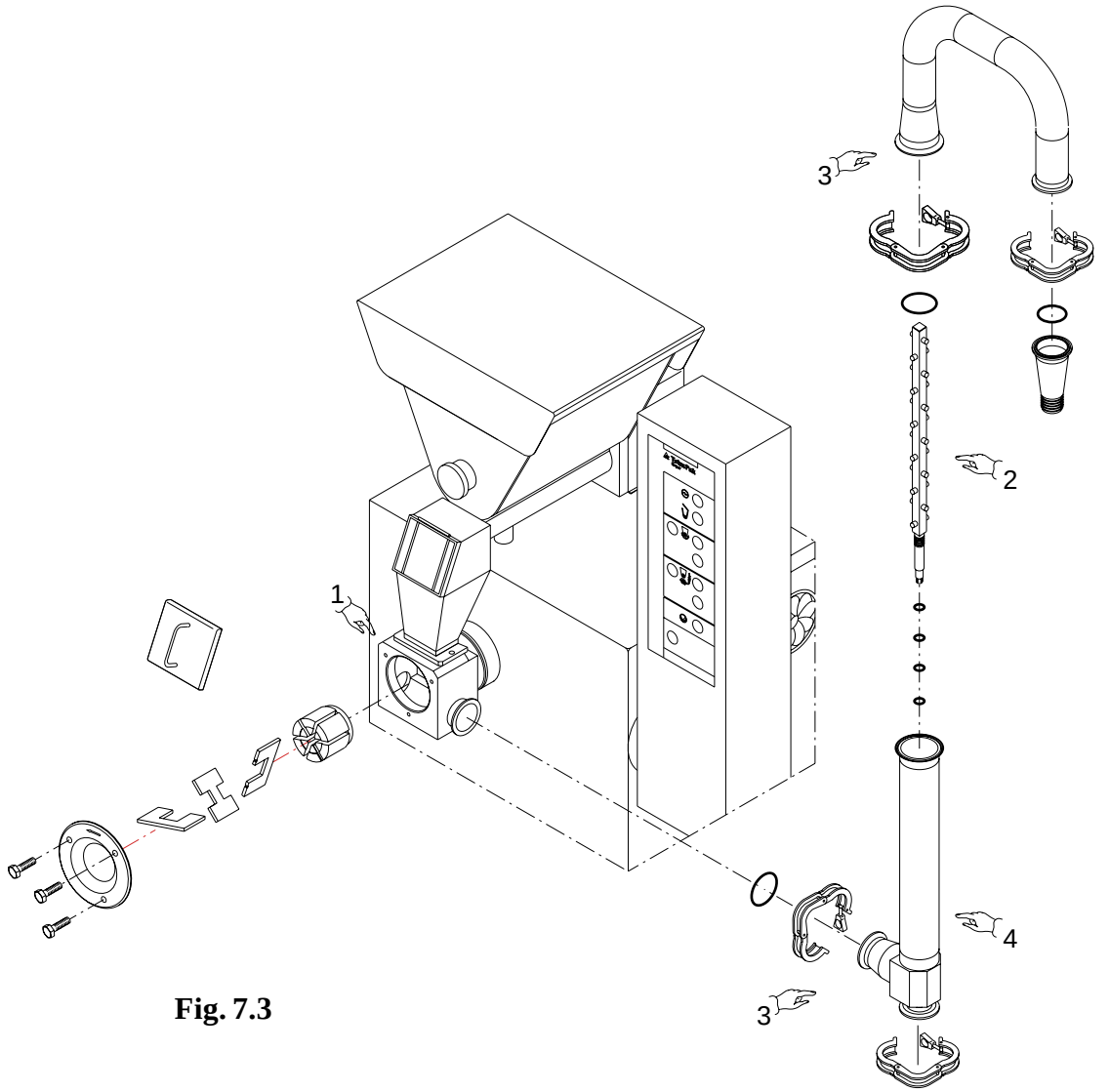

Fig. 7.3

7.2.4 End of season

- Wash and dry components, lubricate them (especially the gaskets) with vaseline oil and reassemble.

Materials required: water - detergent - disinfectant - vaseline oil

7.3 Mechanical maintenance

7.3.1 Slow agitator drive unit

If the slow agitator runs noisily, lift the hopper lid *(Part.1, Fig.7.4)*, lift the safety grid *(Part.2, Fig.7.4)*, take out the spring *(Part.3, Fig.7.4)*, the mixer support *(Part.4, Fig.7.4)* and pull out the slow agitator *(Part.5, Fig.7.4)*. Take off the casing *(Part.6, Fig.7.4)* and the transmission chain *(Part.7, Fig.7.4)* to extract the pinion *(Part.8, Fig.7.4)*.
Remove the circlips *(Part.9-10, Fig.7.4)* , take out the shaft *(Part.11, Fig.7.4)* and replace the bearings and gaskets *(Part.12, Fig.7.4)*.
Reassemble carefully in reverse order.
Make sure that the shaft and bearings are not loose in their housings.

7.3.2 Screw feeder drive unit

If the screw feeder runs noisily, open the door *(Part.1, Fig.7.5)* and take out the screw feeder *(Part.2, Fig.7.5)*. Take off the casing *(Part.3, Fig.7.5)* and the transmission chain *(Part.4, Fig.7.5)* to extract the pinion *(Part.5, Fig.7.5)*.
Remove the circlip *(Part.6, Fig.7.5)*, take out the shaft *(Part.7, Fig.7.5)* and replace the bearings *(Part.8-9, Fig.7.5)* and gaskets *(Part.10, Fig.7.5)*.
Reassemble carefully in reverse order.
Make sure that the shaft and bearings are not loose in their housings.

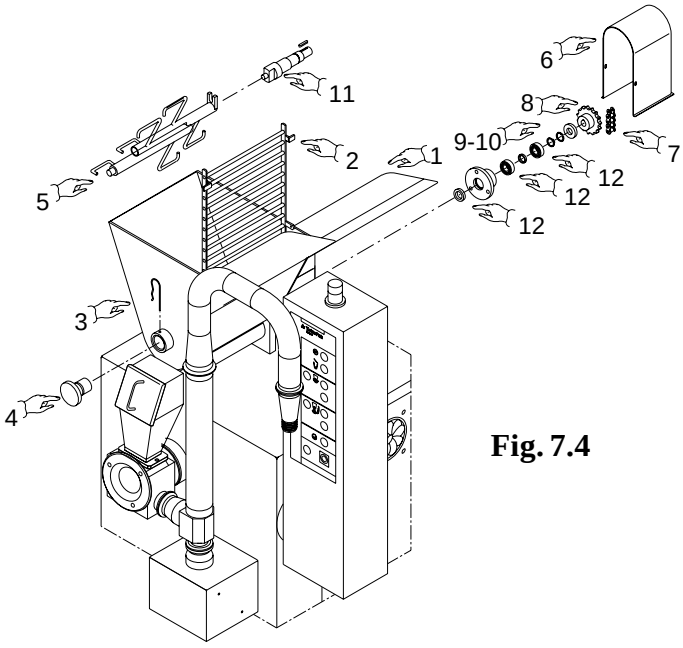

Fig. 7.4

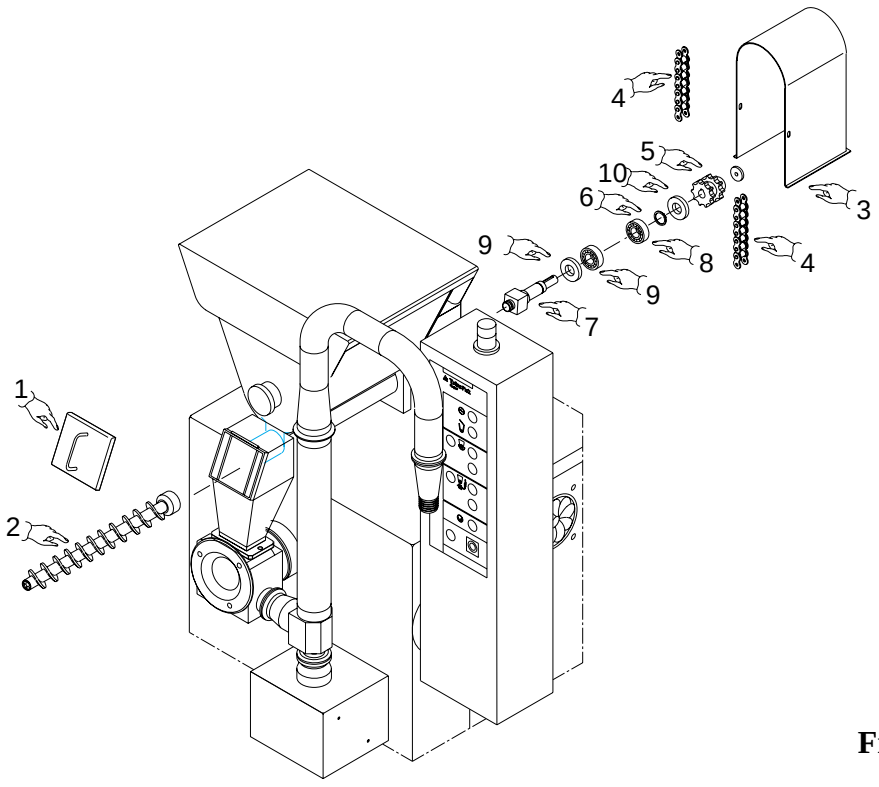

Fig. 7.5

7.3.3 Mixer drive unit

If the mixer runs noisily, remove the clamps *(Part.1/5, Fig.7.6)* pull out the mixer *(Part.2, Fig.7.6)* and remove the pipe. Take off the bushing *(Part.4, Fig.7.6)* and extract the gaskets *(Part.3, Fig.7.6)*. Check the bushing and gaskets and replace if necessary.
Remove the casing and release the shaft *(Part.9, Fig.7.6)* from the reduction gear *(Part.7, Fig.7.6)* . Remove the support *(Part.6, Fig.7.6),* pull out the shaft *(Part.9, Fig.7.6)* and replace the seal *(Part.8, Fig.7.6)*.
Reassemble carefully in reverse order.

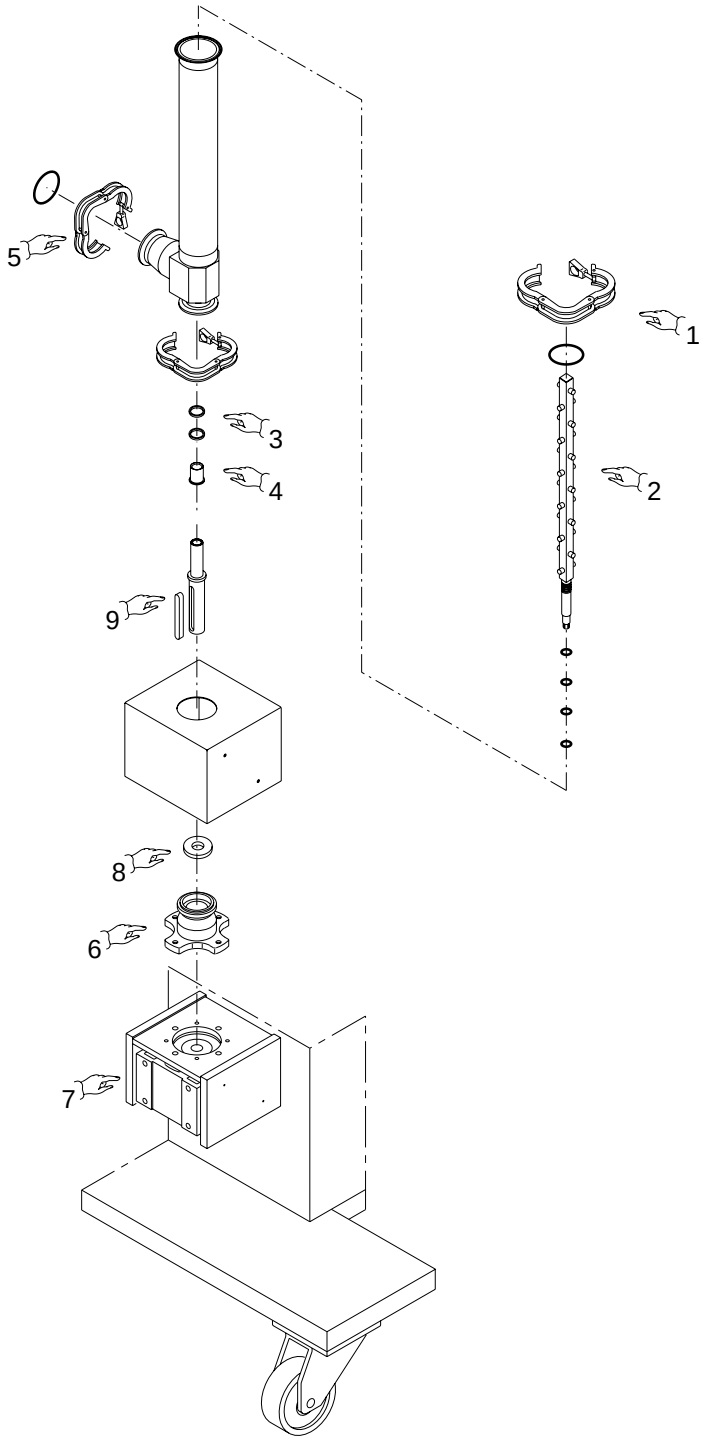

Fig.7.6

7.3.4 Vane pump

If the pump is noisy or gets blocked during operation, unscrew the screws *(Part.1, Fig.7.7)* and the front pump cover *(Part.2, Fig.7.7)*, pull out the vanes *(Part.4-5-6, Fig.7.7)* and the rotor *(Part.3, Fig.7.7)*.
Check the vanes and replace them if necessary.
Reassemble carefully in reverse order.

To assemble:
- first insert the vane *(Part.6, Fig.7.7)* marked with two notches,
- insert the vane *(Part.5, Fig.7.7)*,
- insert the vane *(Part.4, Fig.7.7)*.

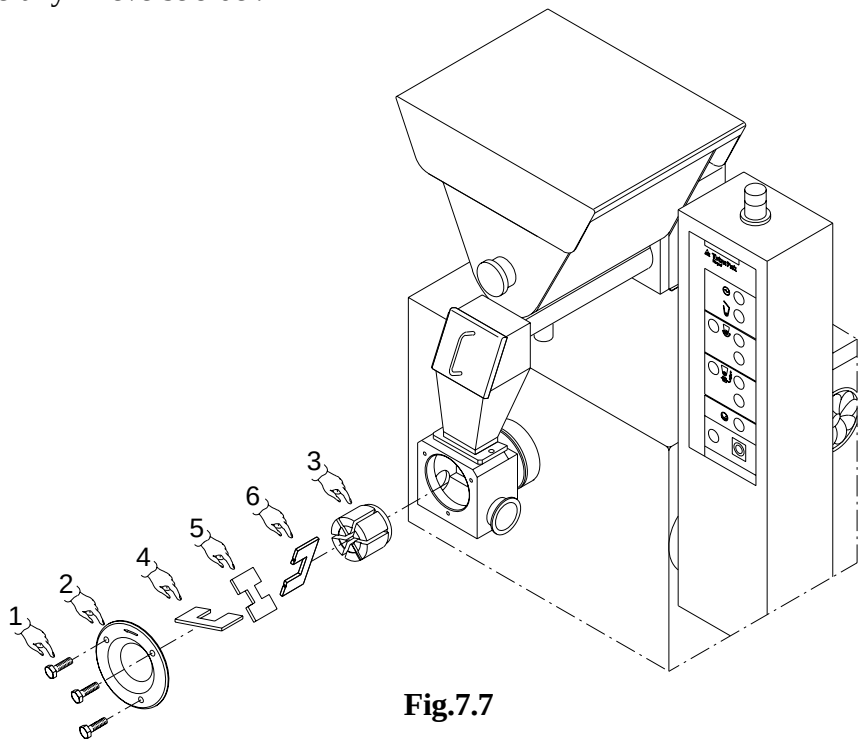

Fig.7.7

7.4 Maintenance of electrical system

The electrical system has been designed and built to provide the greatest possible protection for the components of the fruit feeder.
When a motor stops due to overload, the general alarm lamp 14HL12 turns on to indicate that the overload cutout has tripped.

If the overload cutout or the internal protection of the relevant inverter trip again shortly after restarting, this means that the fault/short circuit still exists. Check the electrical system and ascertain whether any mechanical component is blocked.

HOYER FRUIT FEEDER 2000

8 - TROUBLESHOOTING

Contents

8.1 Troubleshooting

PROBLEM	CAUSE	REMEDY
Power on lamp 14HL4 is off.	• Faulty main switch.	• Replace
	• Main switch is turned to "0".	• Turn main switch to "1".
	• Lamp 14HL4 is burned out.	• Replace.
	• Automatic switches 11QF1 or 11QF13 are open.	• Reset switch.
	• Faulty transformer (11T13)	• Check and replace if necessary.
	• Short circuit on auxiliary services.	• Check fault and reset system.
	• Power is off	• Check mains power supply.
The machine will not start.	• Check alarm lamps 14HL12.	• Replace
	• Emergency stop button is broken.	• Reset.
	• Emergency stop button has not been released.	• Reset.
Alarm lamp 14HL12 is on	• One or more automatic switches (9QF3, 10QF3,11QF5, 11QF8) have tripped.	• Check and replace if necessary.
	• One or more automatic switches are broken.	• Reset correct position or replace.
	• Safety microswitch 18SQ15 is not in working position or is broken.	• Check inverter parameters, cables of contacts R1A-R1C in both inverters.
	• Protections of one or both inverters 9Inv3 or 10Inv3 have tripped.	• Check for mechanical seizures in feeder.
Fruit feeder will not start	• Emergency stop button has not been released.	• Reset switch .
	• Automatic switch 9QF3 is open.	• Replace.
	• Microswitch 18SQ15 is broken.	• Replace.
	• Screw feeder pin is loose.	• Check that screw feeder is locked in place.
	• Grid is open.	• Close.
	• Inverter (9Inv3) is broken or incorrectly adjusted.	• Check settings and adjustment of potentiometer 9RP8, see wiring diagram.
	• Bearings are seized.	• See mechanical maintenance

PROBLEM	CAUSE	REMEDY
The mixer will not start.	• Emergency stop button has not been released.	• Reset.
	• Automatic switch 11QF5 is open.	• Reset switch.
	• Reduction gear is broken.	• Replace.
	• Coupling between the motor and the reduction gear is worn.	• Replace.
	• Bearings are seized.	• See mechanical maintenance.
	• Mixer still because pump inverter and/or feeder inverter protections have tripped .	• Check the pump and/or feeder.
The pump unit will not start.	• Emergency stop button has not been released.	• Reset.
	• Automatic switch 10QF3 is open.	• Reset switch.
	• Vanes are locked.	• See mechanical maintenance.
	• Inverter 10Inv3 fault.	• Check internal contact R1A-R1C.
	• Inverter 10Inv3 incorrectly adjusted.	• Check inverter parameters.
	• Potentiometer 10RP8 set to minimum.	• Turn the potentiometer clockwise to increase pump speed.
The agitator will not start.	• Emergency stop button has not been released.	• Reset.
	• Automatic switch 11QF8 has tripped.	• Reset switch.
	• Reduction gear is broken.	• Replace.
	• Timer 20KT6 is incorrectly set.	• Set the timer to adjust the pause and work periods of the agitator motor.
	• Timer is broken (20KT6).	• Replace timer.

HOYER FRUIT FEEDER 2000

9 - SPARE PARTS

Contents 13300142U

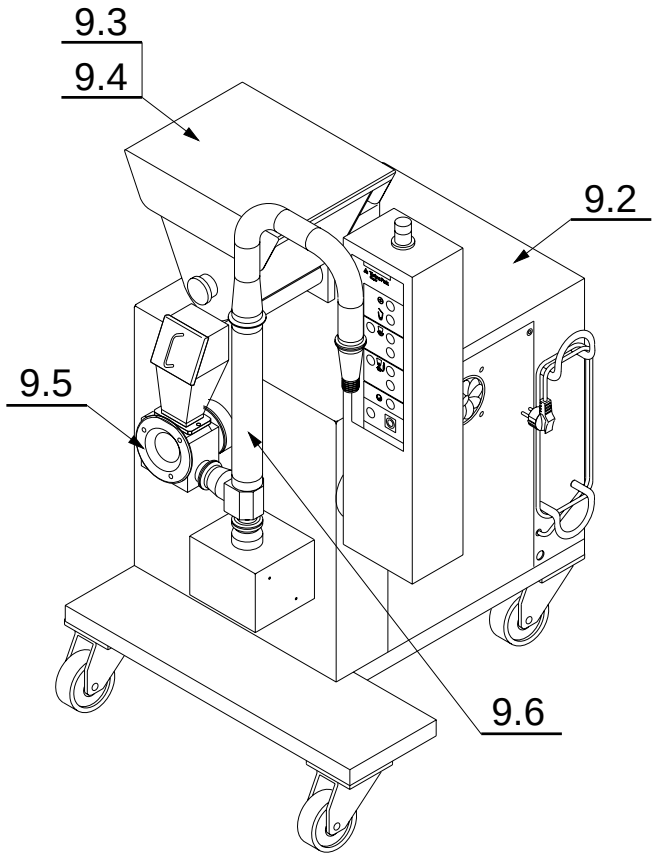

Fig. 9.1 - Lay-out

Frame unit - Fig. 9.2 13300142U

Pos.	Code	Description	Q.ty
1	12030066	Left panel	1
2	12030006	Frame	1
3	336054067	Pivoting wheel	2
4	540501024	Cable bearing arm	2
5	336067137	Gasket	2
6	015062955	Fan	1
7	12030001	Electrical panel box.	1
8	540501039	Electrical control panel	1
9	540501038	Electrical control panel spacer	1
10	12030048	Microswitch signal cable covering	1
11	12030067	Electrical control panel drilling	1
12	336067012	Gasket	1
13	12030007	Right panel	1
14	540501006	Centring pin	4
15	12030003	Plate	1
16	336054068	Fixed wheel	2

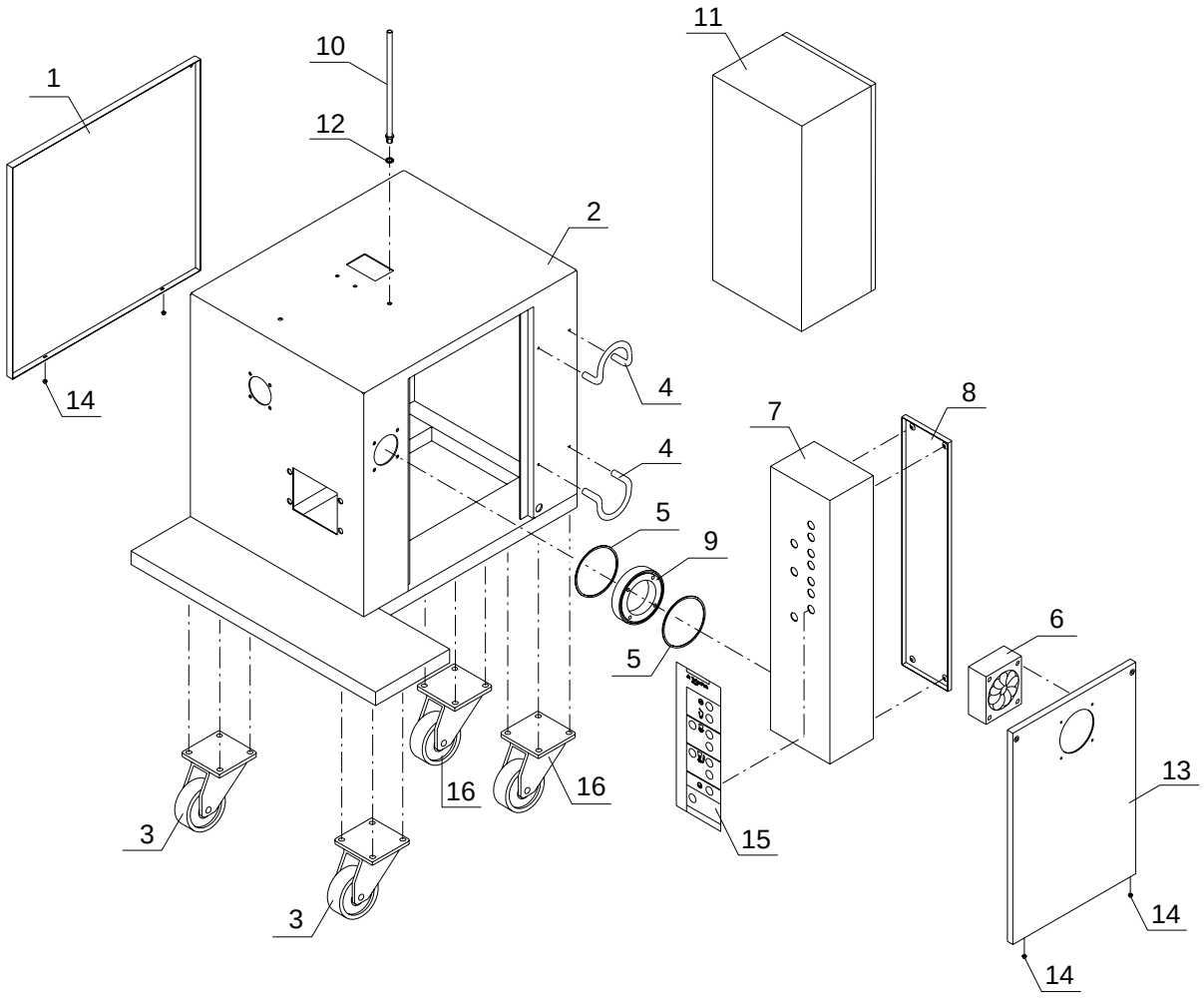

Fig.9.2 - FRAME UNIT

Loading unit - Fig. 9.3 13300142U

Pos.	Code	Description	Q.ty
1	12030011	Main hopper cover	1
2	540501059	Hopper cover cap	2
3	336066170	Gasket	1
4	12030012	Grid	1
5	540501060	Grid screw	1
6	017035902	Grid safety microswitch	1
7	540501020	Right hinge pin	1
8	540501021	Left hinge pin	1
9	12030073	Screw feeder	1
10	12030076	Agitator support	1
11	12030084	Seal spring	1
12	12030078	Banjo pipe	1
13	12030071	Secondary hopper	1
14	12030077	Secondary hopper cover	1
15	12030085	Locking pin	2
16	12030072	Slow agitator	1
17	12030086	Main hopper	1
18	12030074	Mixer head	1
19	336066004	Gasket	1
20	12030082	Level sensor support	1
21	1703008	Level sensor	1
22	1703009	Sensor cable	1

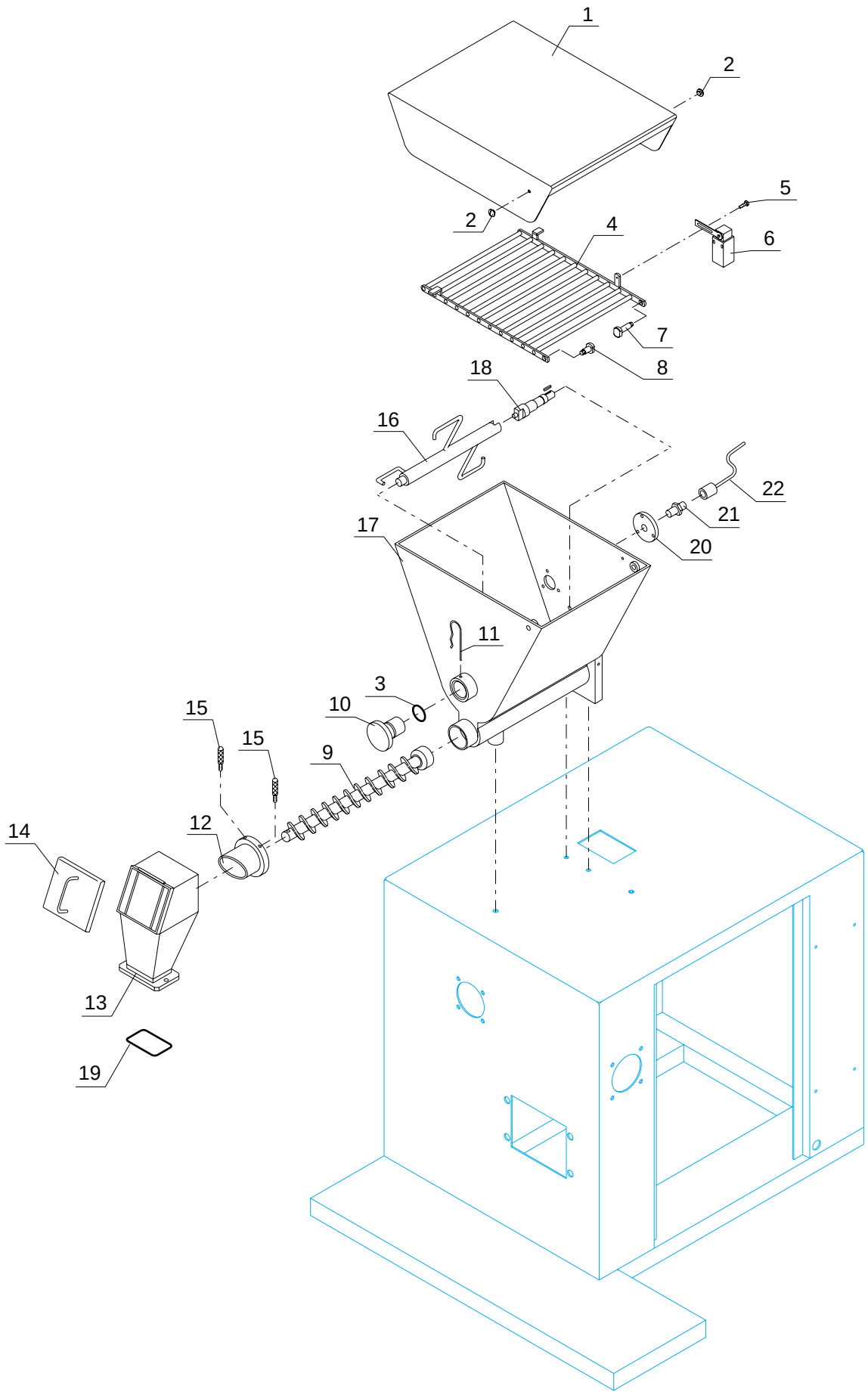

Fig.9.3 - LOADING UNIT

Loading unit - Fig. 9.4 13300142U

Pos.	Code	Description	Q.ty
1	17030006	Motor	1
2	336010075	Reduction gear	1
3	540501034	Slow shaft	1
4	336001520	Bearing	4
5	540500080	Agitator flange	1
6	336069720	Gasket	1
7	326019017	Circlip	2
8	540500083	Flange spacer	1
9	326019135	Circlip	1
10	336071121	Corteco seal	2
11	12030079	Connection shaft	1
12	336017019	Chain	2
	336017025	Link	2
13	540501027	Reduction gear slow shaft pinion	1
14	540501031	Counterflange	1
15	540501033	Fifth wheel	2
16	540501032	Screw feeder double pinion	1
17	336067060	Gasket	1
18	326019025	Circlip	1
19	336067021	Gasket	1
20	336071160	Corteco seal	1
21	546501029	Screw feeder command pin	1
22	17030003	Minimotor	1
23	120300081	Casing	1
24	12030080	Motor support	1

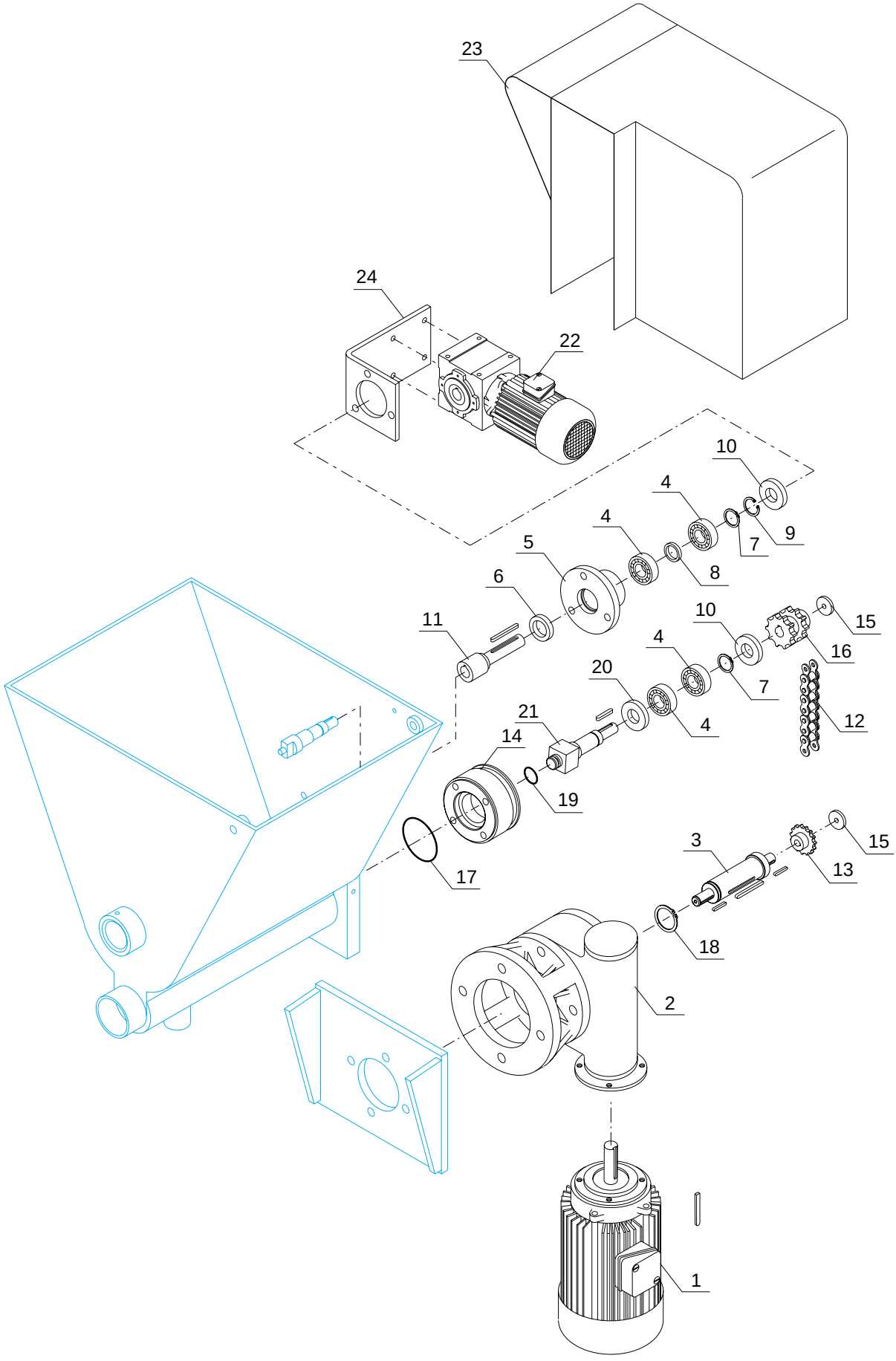

Fig.9.4 - LOADING UNIT

Pump unit - Fig. 9.5 13300142U

Pos.	Code	Description	Q.ty
1	016960010	A304 clamp hose connector	1
2	016060219	A304 clamp	1
3	018020583	Clamp gasket	1
4	17030006	Motor	1
5	12030054	Vane pump body	1
6	540501213	Rotor	1
7	540501208	Vane	1
8	540501209	Vane	1
9	540501210	Vane	1
10	336067183	Gasket	1
11	540501212	Vane pump cover	1
12	336067095	Gasket	2
13	12030028	Pump shaft	1
14	17000005	Reduction gear	1
15	540501041	Motor coupling flange	1

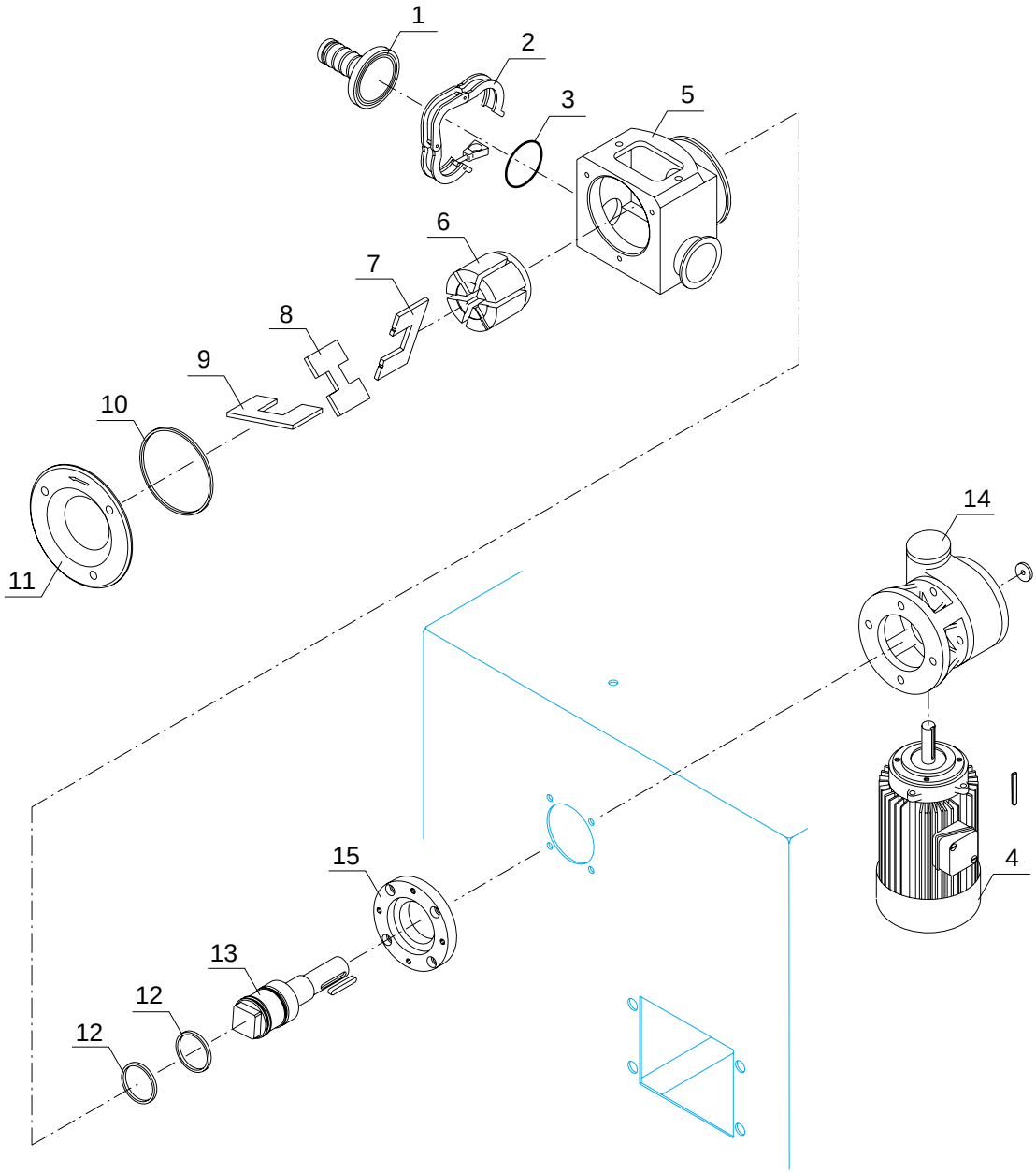

Fig.9.5 - PUMP UNIT

Mixer unit - Fig. 9.6 13300142U

Pos.	Code	Description	Q.ty
1	016960010	Hose connector	1
2	018020584	Clamp gasket	1
3	016060220	A304 clamp	1
4	12030046	Mixer outlet	1
5	12030004	Insulating spacer	1
6	016060219	A304 clamp	3
7	018020583	Clamp gasket 2”	2
8	12030069	Vane pump manifold	1
9	170000004	Reduction gear	1
10	540501074	Mixer	1
11	336067012	Gasket	4
12	17030007	Motor	1
13	336067042	Gasket	2
14	540501069	Agitator sleeve bushing	1
15	12030044	Shaft	1
16	12030068	Housing	1
17	336071160	Corteco seal	1
18	12030045	Sleeve	1
19	12030065	Support	1

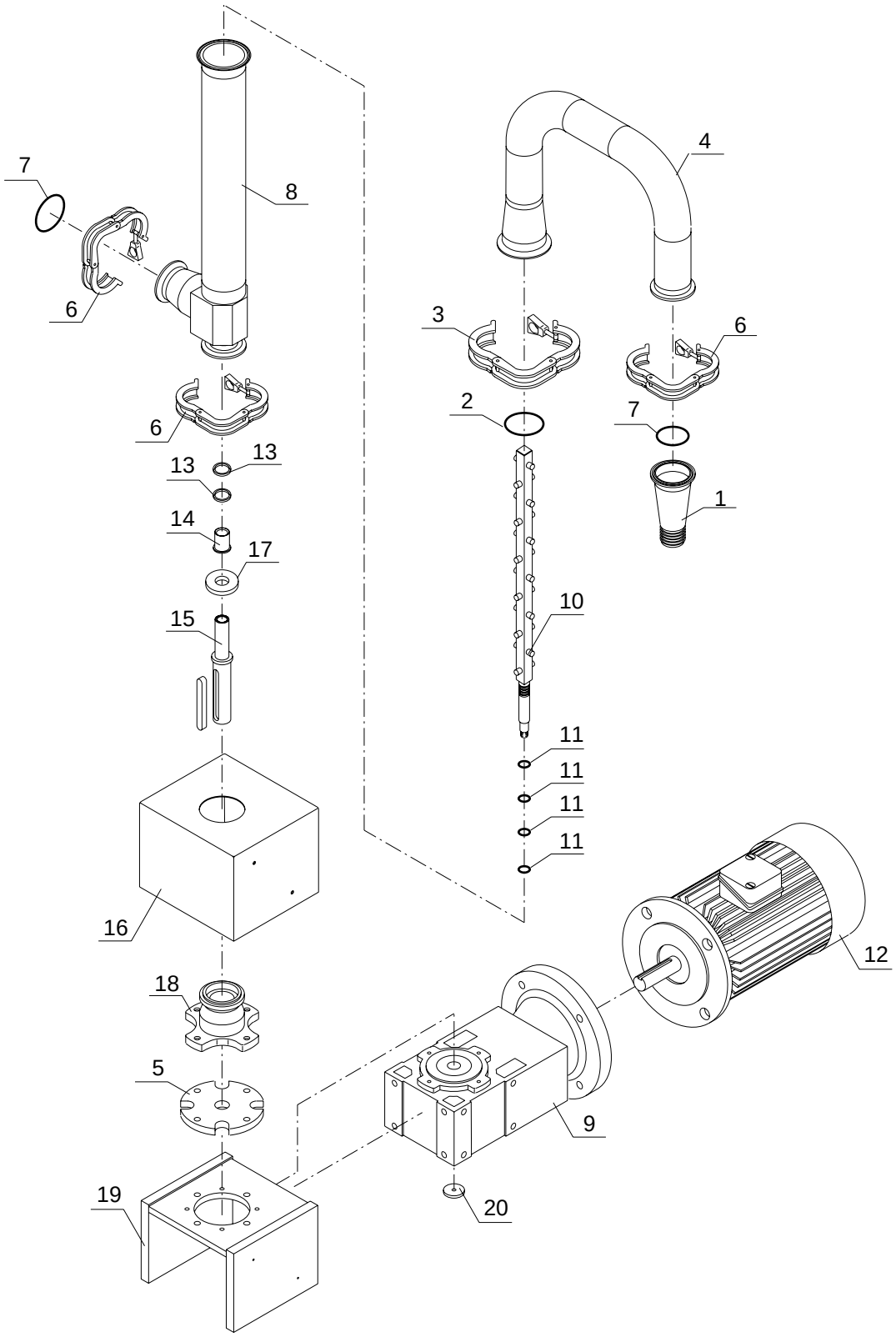

Fig.9.6 - MIXER UNIT

FF 2000
230V - 60Hz

Tetra Pak Hoyer	Macchina FF2000 USA 230V–60Hz	Ordine	Dis. N. 13030026	FOGLIO 1
		Esecutore I.G..	CAD SPAC	
	Denominazione INTRODUZIONE - INTRODUCTION		Nome File FF200D1.DWG	SEGUE 2
	Cliente	Visto	Data 21/01/2000	

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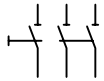
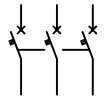
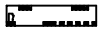
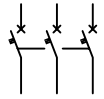
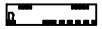
2	LISTA FOGLI - INDEX										
3	LEGENDA FUNZIONI - FUNCTION LIST										
4	LEGENDA FUNZIONI- FUNCTION LIST										
5	DISTINTA MATERIALI - COMPONENT LIST										
8	ALIMENTAZIONE - POWER SUPPLY										
9	ALIMENTATORE - WORM SHAFT										
10	POMPA - LAMELLA PUMP										
11	MISCELATORE - IN-LINE MIXER										
14	AUSILIARI 24V - AUXILIARY 24V										
15	AUSILIARI 24V - AUXILIARY 24V										
18	AUSILIARI 24V - AUXILIARY 24V										
19	AUSILIARI 24V - AUXILIARY 24V										
20	LIVELLO TRAMOGGIA - HOPPER LEVEL										
26	QUADRO GENERALE - MAIN PANEL										
28	QUADRO DI COMANDO - CONTROL PANEL										
29	MORSETTIERA X1 - X1 TERMINAL BLOCK										
30	MORSETTIERA X2 - X2 TERMINAL BLOCK										

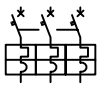
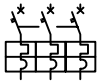
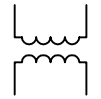
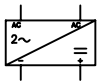
Foglio Sheet	Descrizione Description	Revisione \ Revision 0	1	2	3	4	5	6	7	8	9

Note :

Tetra Pak Hoyer

Macchina FF2000 USA 230V–60Hz	Ordine	Dis. N. 13030026	FOGLIO 2
	Esecutore I.G..	CAD SPAC	
Denominazione LISTA FOGLI - INDEX		Nome File FF200D1.DWG	SEGUE 3
Cliente	Visto	Data 21/01/2000	

Sim.\Sym.	Sigla\Item	Funzione\Use Type
	8QS4 QG 8	INTERRUTTORE GENERALE MAIN SWITCH
	9M16 QG 9	ALIMENTATORE WORM SHAFT
	9QF3 QG 9	PROTEZIONE ALIMENTATORE WORM SHAFT PROTECTION
	9RP8 QC 9	COMANDO VELOCITA' ALIMENTATORE WORM SHAFT SPEED CONTROL
	9INV3 QG 9	INVERTER ALIMENTATORE WORM SHAFT FREQUENCY CONVERTER
	10M16 QG 10	POMPA LAMELLA PUMP
	10QF3 QG 10	PROTEZIONE POMPA LAMELLA PUMP PROTECTION
	10RP8 QC 10	COMANDO VELOCITA' POMPA LAMELLA PUMP SPEED CONTROL
	10INV3 QG 10	INVERTER POMPA LAMELLA PUMP FREQUENCY CONVERTER
	11M6 QG 11	MISCELATORE IN-LINE MIXER
	11M8 QG 11	AGITATORE AGITATOR

Sim.\Sym.	Sigla\Item	Funzione\Use Type
	11QF5 QG 11	PROTEZIONE MISCELATORE IN-LINE MIXER PROTECTION
	11QF8 QG 11	PROTEZIONE AGITATORE AGITATOR PROTECTION
	11T13 QG 11	ALIMENTAZIONE AUSILIARI AUXILIARY SUPPLY
	11GD17 QG 11	ALIMENTATORE 24VDC 24VDC POWER SUPPLY
	11QF13 QG 11	PROTEZIONE TRASFORMATORE TRANSFORMER PROTECTION
	11QF14 QG 11	PROTEZIONE 24VAC 24VAC PROTECTION
	11QF16 QG 11	PROTEZIONE ALIMENTATORE POWER SUPPLY PROTECTION
	11QF17 QG 11	PROTEZIONE 24VDC 24VDC PROTECTION
	14HL4 QC 14	PRESENZA TENSIONE POWER ON
	14HL12 QC 14	ALLARME ALARM
	15EV5 QG 15	VENTOLA QUADRO ELETTRICO ELECTRIC PANEL FAN

Sim.\Sym.	Sigla\Item	Funzione\Use Type
	15EV9 QG 15	VENTOLA MOTORI MOTORS FAN
	15SB13 QC 15	PULSANTE EMERGENZA EMERGENCY STOP
	18HL7 QC 18	LAVAGGIO C.I.P. INSERITO C.I.P. WASHING ON
	18KA4 QG 18	LAVAGGIO C.I.P. C.I.P. WASHING
	18KT6 QG 18	LAVAGGIO C.I.P. C.I.P. WASHING
	18SA4 QC 18	LAVAGGIO C.I.P. C.I.P. WASHING
	18HL13 QG 18	ALIMENTATORE DISINSERITO WORM SHAFT OFF
	18HL16 QC 18	ALIMENTATORE INSERITO WORM SHAFT ON
	18KA15 QG 18	COMANDO ALIMENTATORE WORM SHAFT CONTROL
	18SB10 QC 18	MARCIA ALIMENTATORE WORM SHAFT START
	18SB12 QC 18	ARRESTO ALIMENTATORE WORM SHAFT STOP

Tetra Pak
Hoyer

Macchina: FF2000 USA 230V–60Hz	Ordine	Dis. N. 13030026	FOGLIO 3
	Esecutore I.G..	CAD SPAC	
Denominazione: LEGENDA FUNZIONI - FUNCTION LIST	Visto	Nome File FF200D1.DWG	SEGUE 4
Cliente		Data 21/01/2000	

NOME	DESCRIZIONE	COSTRUTTORE	TIPO	QTA	QUADRO	FOGLIO
9M15	Motore trifase ST80-4P-0,75Kw-B14	BROOK HANSEN	WU-DA-80MB-C	1	QG	9
11M5	Motore trifase-ST80-4P-0,75Kw-B14	BROOK HANSEN	WU-DA-80MG-D	1	QG	11
10M15	Motore trifase ST80-4P-0,75Kw-B14	BROOK HANSEN	WU-DA80MB-C	1	QG	10
15EV5	Ventilatore	FULL-TECH	24VAC	1	QG	15
15EV7	Ventilatore	FULL-TECH	VF 12A02-24V 50/60Hz	1	QG	15
9QF3	INT AUTOMATICO MAGNETOTERMICO	GROUPE SCHNEIDER	GV2-L14	1	QG	9
10QF3	INT AUTOMATICO MAGNETOTERMICO	GROUPE SCHNEIDER	GV2-L14	1	QG	10
11QF13	INT. AUTOMATICO MAGNETOT.	GROUPE SCHNEIDER	GV2-M06	1	QG	11
11QF9	INTERRUTTORE SALVAMOTORE	GROUPE SCHNEIDER	GV2M05	1	QG	11
11QF5	INTERRUTTORE SALVAMOTORE	GROUPE SCHNEIDER	GV2M08	1	QG	11
20SQ14	SENSORE CAPACITIVO	IFM	KN5101-KNM30NVAFPKG/US	1	QG	20
11T13	Trasf. di tensione	LUFER	50/60Hz-150VA-0/230/400-24V	1	QG	11
11QF17	Int. autom. magnet. unipol.	MERLIN GERIN	INTERRUTTORE C60N-C1-1A-24235	1	QG	11
11QF16	INT. AUTOMATICO BIPOLARE	MERLIN GERIN	INTERRUTTORE C60N-C1-2A-24264	1	QG	11
11QF14	INT. AUTOMATICO UNIPOLARE	MERLIN GERIN	INTERRUTTORE C60N-C6-6A-24239	1	QG	11
11M9	Motore trifase-24rpm-63W-60Hz	MINIMOTOR	PC230M3T	1	QG	11
20KT6	Bobina di ritardo (attrazione e ricaduta)	OMRON	H3CR-F8	1	QG	20
20KA14	Bobina rele	OMRON	MY2-24VDC	1	QG	20
18KA15	Bobina rele	OMRON	MY4-US-SV, 24VAC	1	QG	18
19KA16	Bobina rele'	OMRON	MY4-US-SV-24VAC	1	QG	19
18KA4	Bobina rele'	OMRON	MY4-US-SV-24VAC	1	QG	18
11GD16	Alimentatore stabilizzato monofase 24VDC-2,1A	OMRON	S82K-05024	1	QG	11
18SQ15	Finecorsa meccanico	SCHMERSAL	T3C 236-11Z	1	QG	18
20HL4	Lampada segnalazione	SIRENA	MICROLAMP 24VAC-DC 50/60Hz-4W	1	QG	20
8QS4	Sezionatore manu. tripolare	SOCOMEC	AR 32A	1	QG	8
10INV3	Inverter	TELEMECANIQUE	ALTIVAR08- ATV-08HU18M2	1	QG	10
9INV3	INVERTER	TELEMECANIQUE	ALTIVAR08-ATV-08HU18M2	1	QG	9
19HL9	Lampada	TELEMECANIQUE	DL1-CE024	1	QG	19
19KM11	Bobina teleruttore	TELEMECANIQUE	LC1-D09	1	QG	19
20KM9	Bobina rele' di potenza	TELEMECANIQUE	LC1D09	1	QG	20
18KT6	Bobina di ritardo (att.)	TELEMECANIQUE	RE4 CV11BU 24V	1	QG	18
18HL12	Lampada	TELEMECANIQUE	ZB2-BV04	1	QG	18
19HL9	Operatore luminosocon elemento di contatto	TELEMECANIQUE	ZB2-BW063	1	QG	19
8B14	Rele' controllo fase	Telemecanique	RM3-TG201MS7	1	QG	8

Tetra Pak
Hoyer

Macchina
FF2000 USA 230V–60Hz

Denominazione DISTINTA MATERIALI - COMPONENT LIST

Cliente

Ordine

Esecutore
I.G..

Visto

Dis. N. 13030026

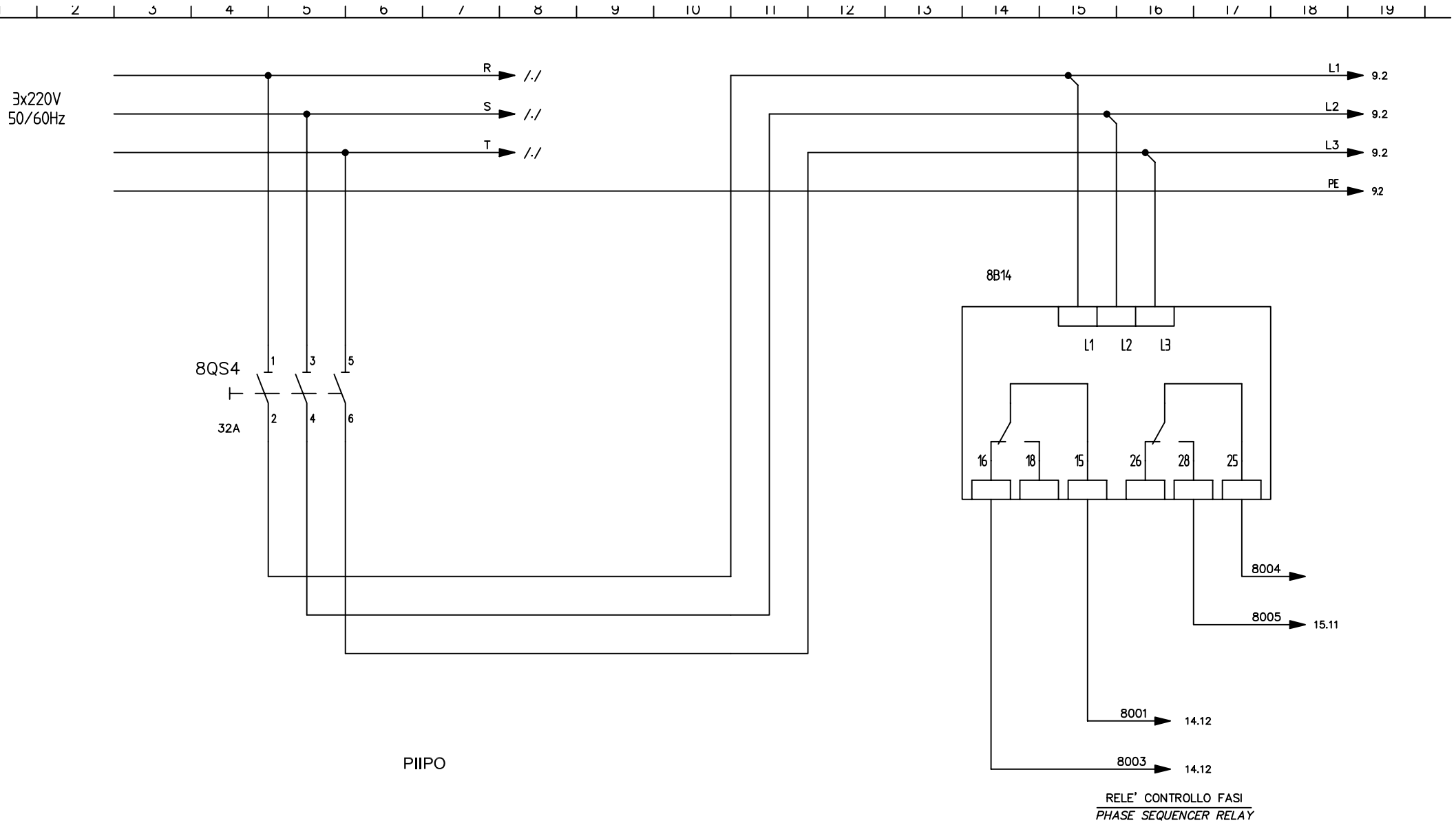
CAD SPAC

Nome File FF200D1.DWG

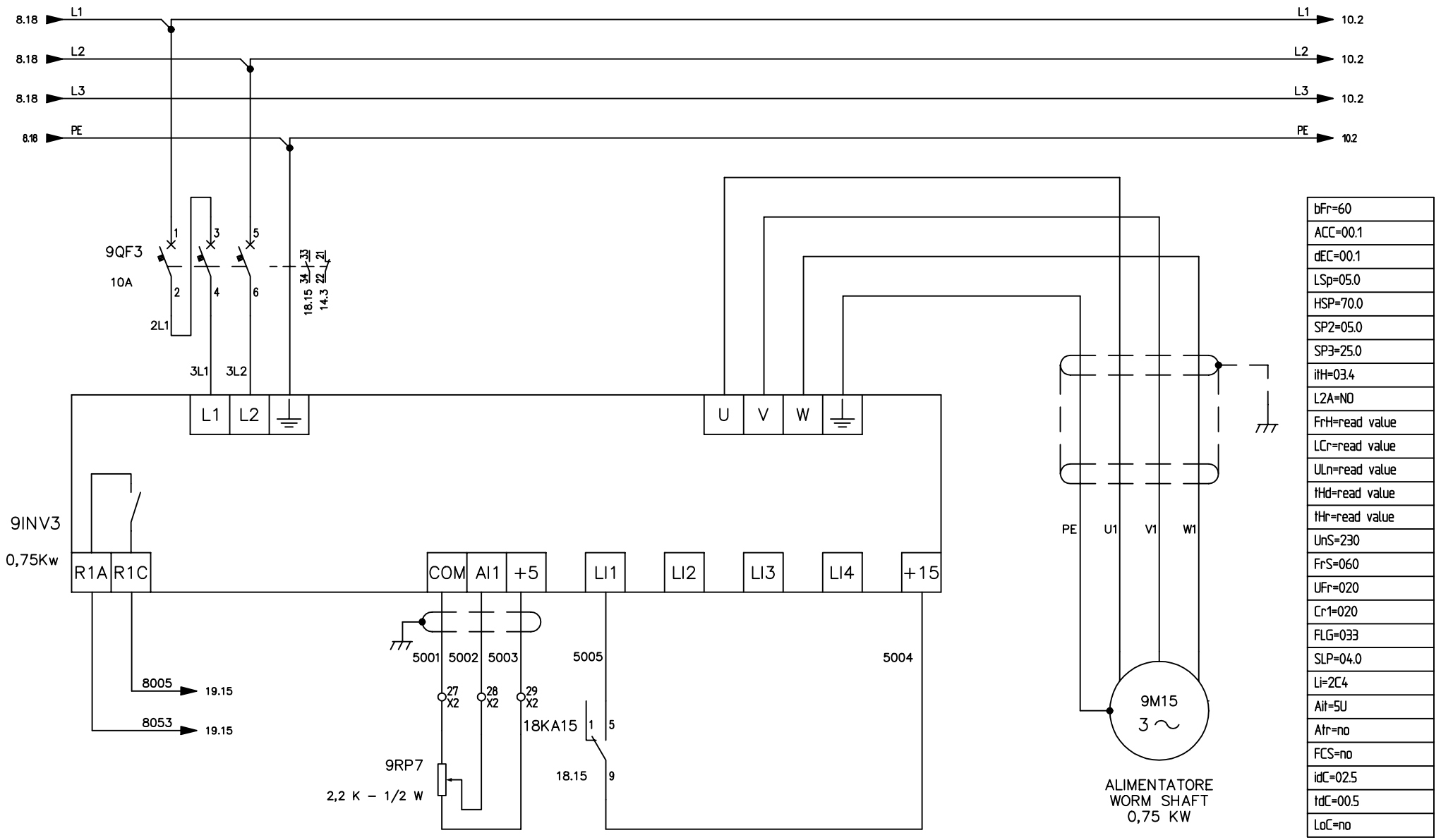
Data 21/01/2000

FOGLIO
5

SEGUE
8



Tetra Pak Hoyer	Macchina FF2000 USA 230V–60Hz	Ordine	Dis. N. 13030026	FOGLIO 8
		Esecutore I.G..	CAD SPAC	
	Denominazione ALIMENTAZIONE - POWER SUPPLY		Nome File FF200D1.DWG	SEGUE 9
	Cliente	Visto	Data 21/01/2000	



Numeri Utilizzati	
Inizio	5001
Fine	5005
Riserve	5010

Tetra Pak Hoyer

Macchina: FF2000 USA 230V–60Hz

Denominazione: ALIMENTATORE - WORM SHAFT

Cliente:

Ordine:

Esecutore: I.G..

Visto:

Dis. N. 13030026

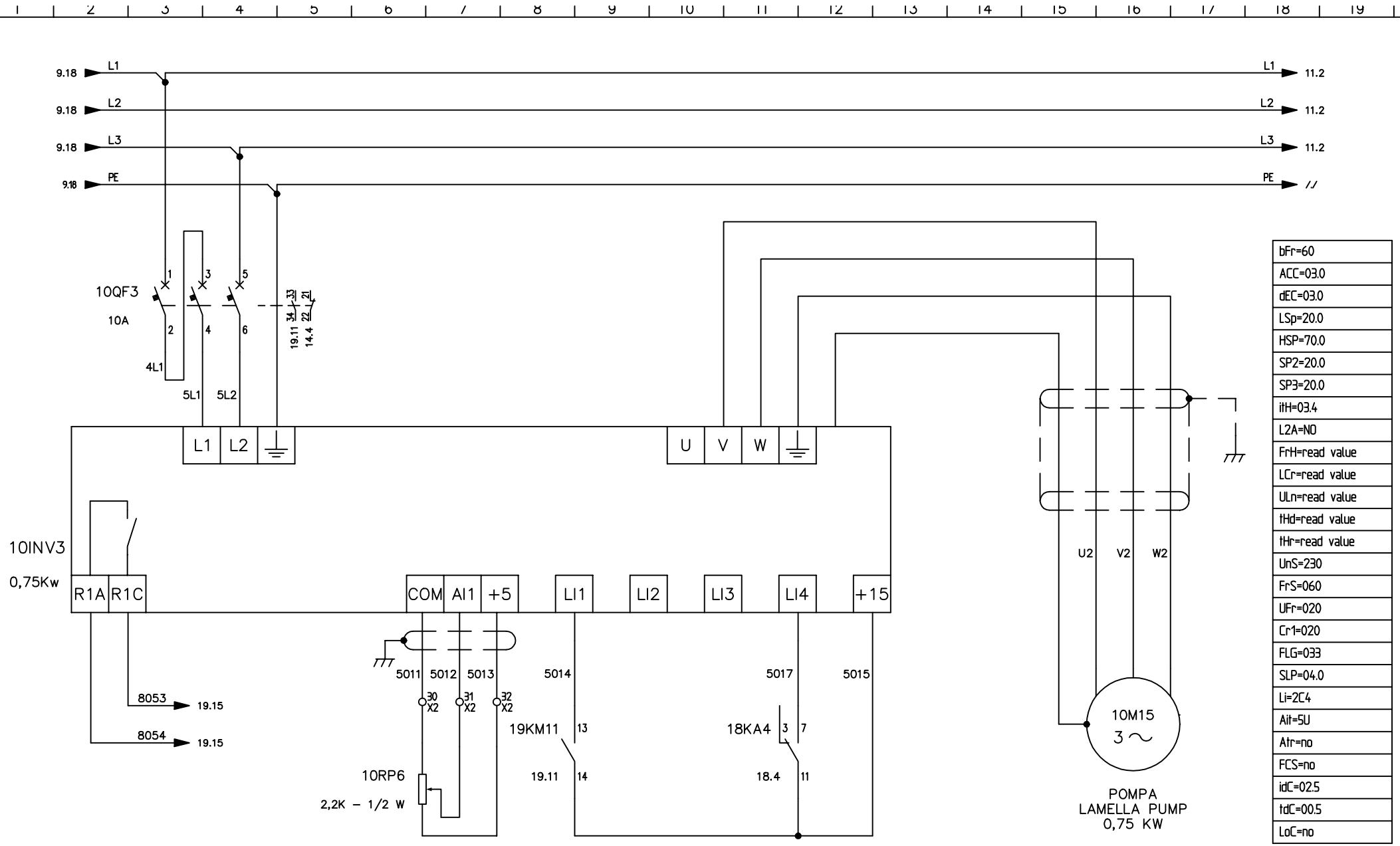
CAD SPAC

Nome File FF200D1.DWG

Data 21/01/2000

FOGLIO 9

SEGUE 10



Numeri Utilizzati	
Inizio	5011
Fine	5015
Riserve	5020

Tetra Pak Hoyer

Macchina: FF2000 USA 230V–60Hz

Denominazione: POMPA - LAMELLA PUMP

Cliente:

Ordine:

Esecutore: I.G..

Visto:

Dis. N. 13030026

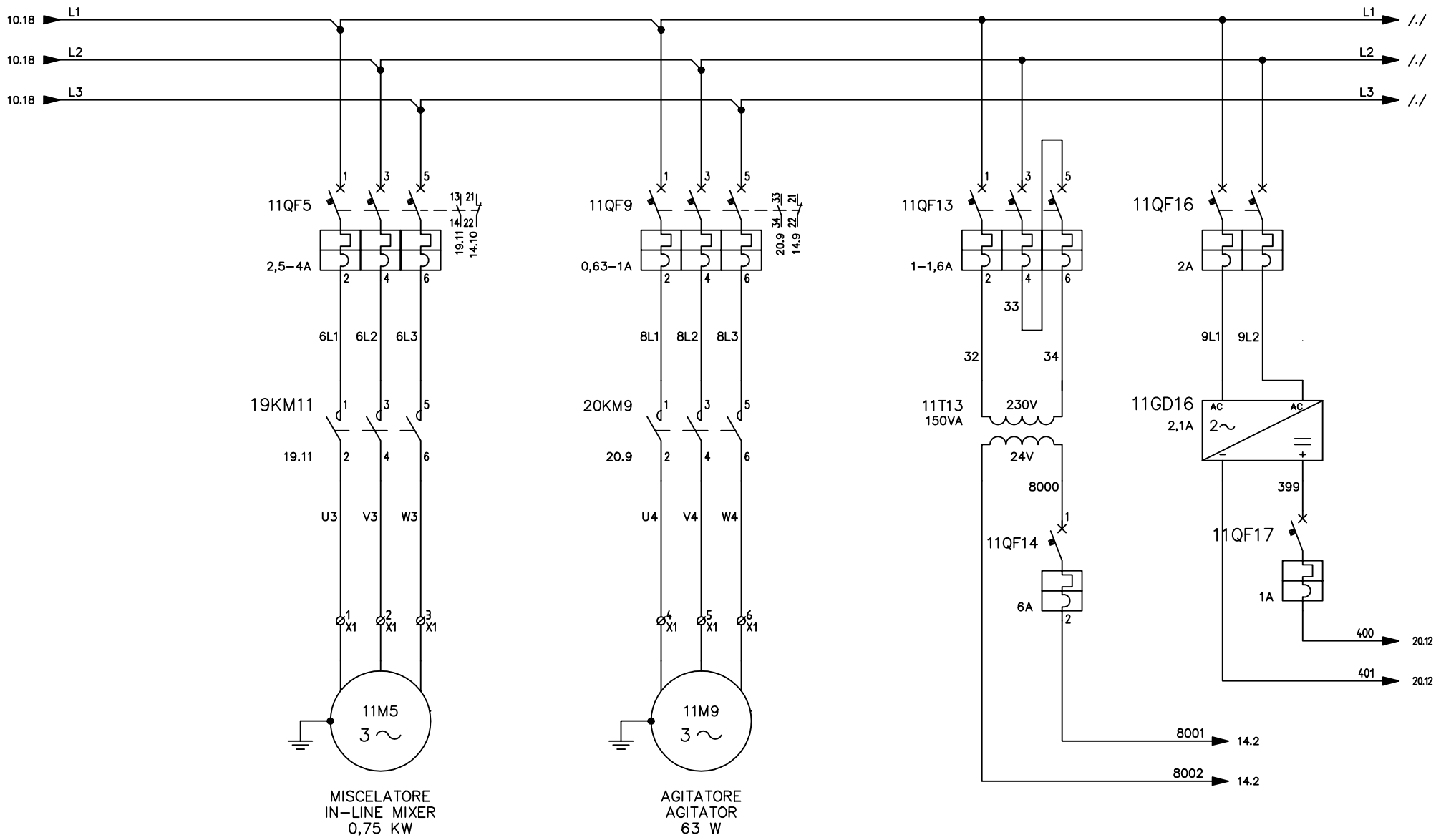
CAD SPAC

Nome File FF200D1.DWG

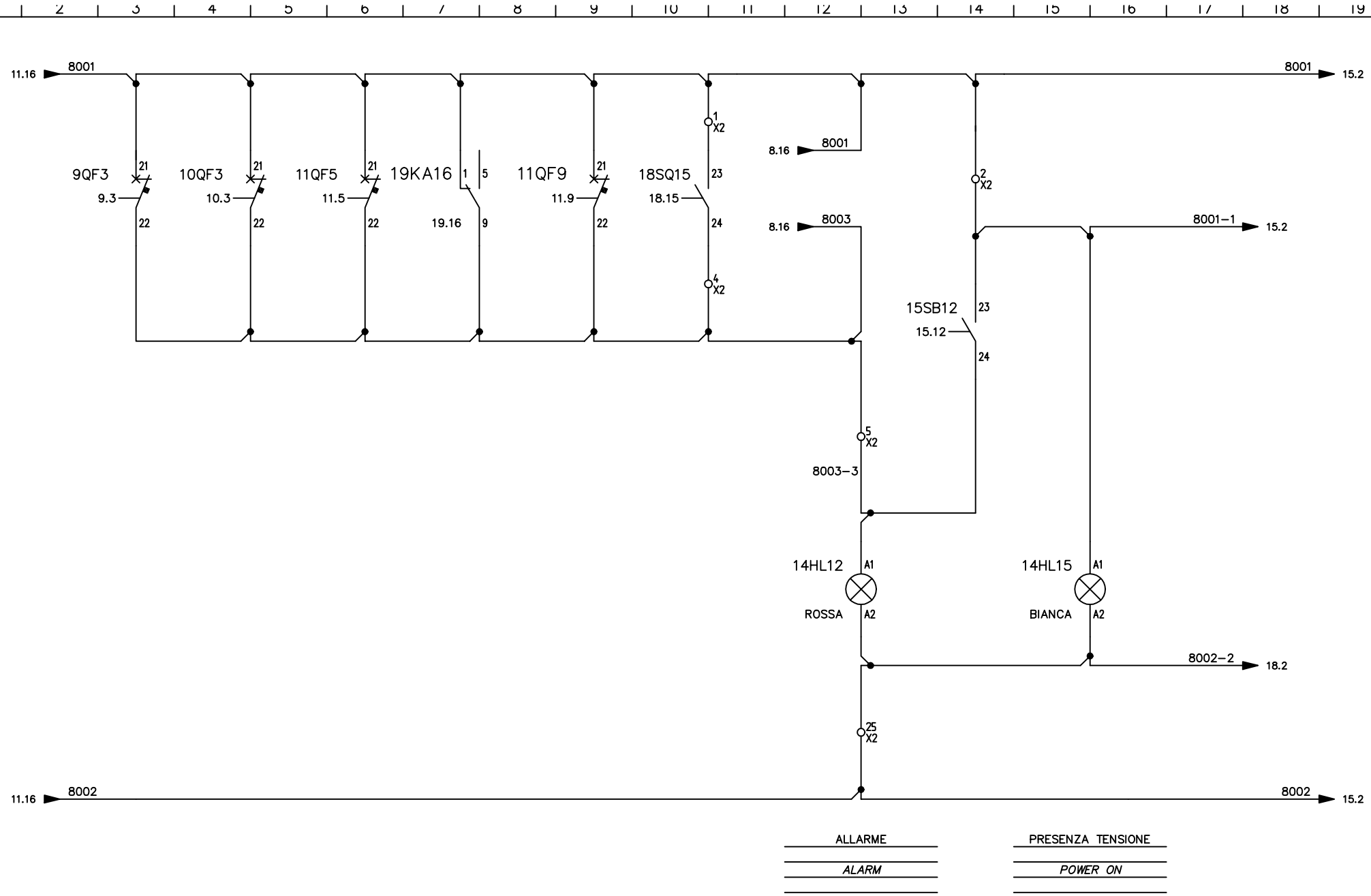
Data 21/01/2000

FOGLIO 10

SEGUE 11



Tetra Pak Hoyer	Macchina: FF2000 USA 230V–60Hz	Ordine	Dis. N. 13030026	FOGLIO 11
		Esecutore I.G..	CAD SPAC	
	Denominazione: MISCELATORE - IN-LINE MIXER		Nome File FF200D1.DWG	SEGUE 14
	Cliente	Visto	Data 21/01/2000	



Numeri Utilizzati	
Inizio	8003
Fine	8003
Riserve	//

Tetra Pak Hoyer

Macchina: FF2000 USA 230V–60Hz

Denominazione: AUSILIARI 24V - AUXILIARY 24V

Cliente:

Ordine:

Esecutore: I.G..

Visto:

Dis. N. 13030026

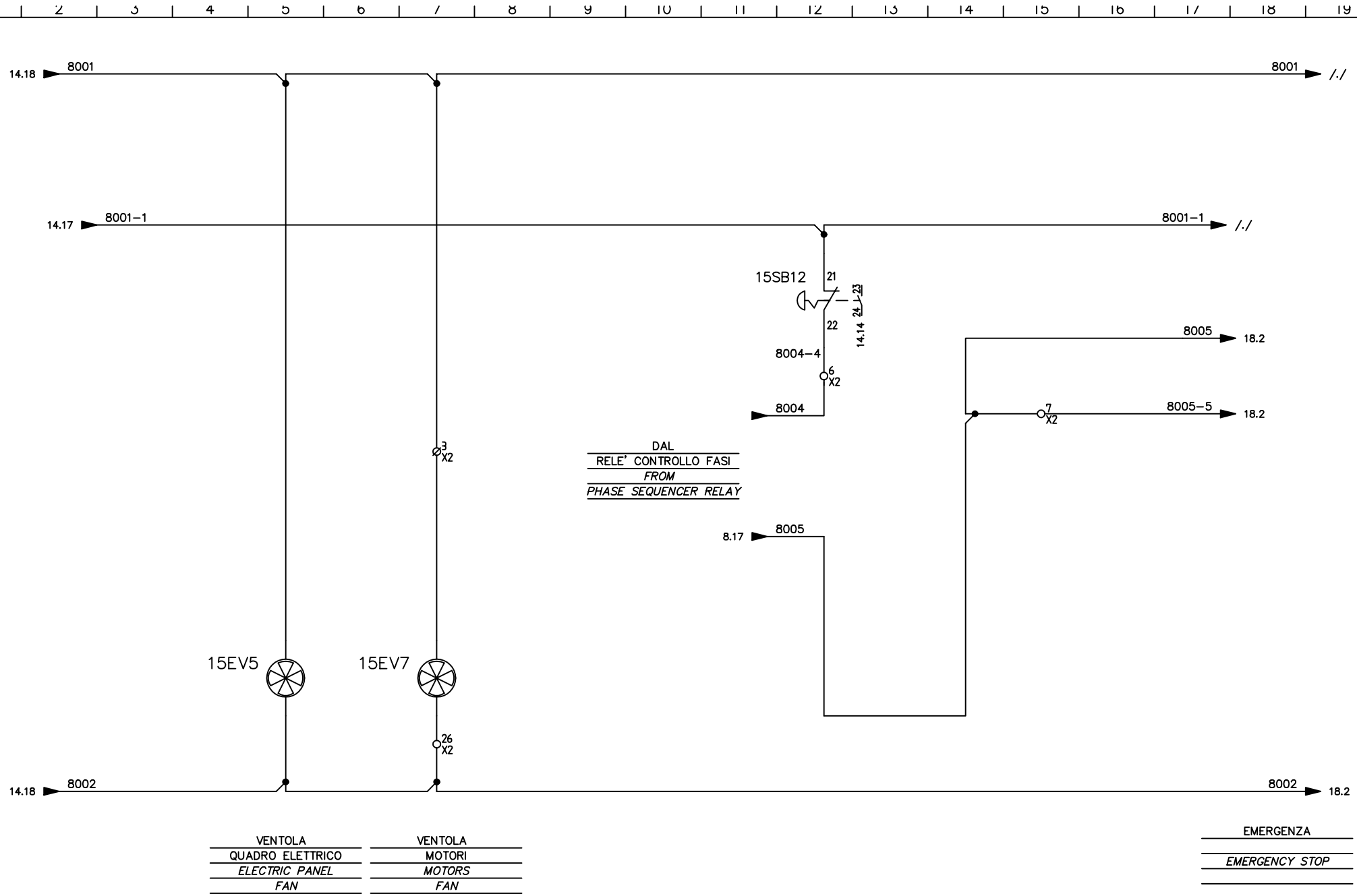
CAD: SPAC

Nome File: FF200D1.DWG

Data: 21/01/2000

FOGLIO 14

SEGUE 15



Numeri Utilizzati	
Inizio	8004
Fine	8005
Riserve	8015

Tetra Pak Hoyer

Macchina: FF2000 USA 230V–60Hz

Denominazione: AUSILIARI 24V - AUXILIARY 24V

Cliente:

Ordine:

Esecutore: I.G..

Visto:

Dis. N. 13030026

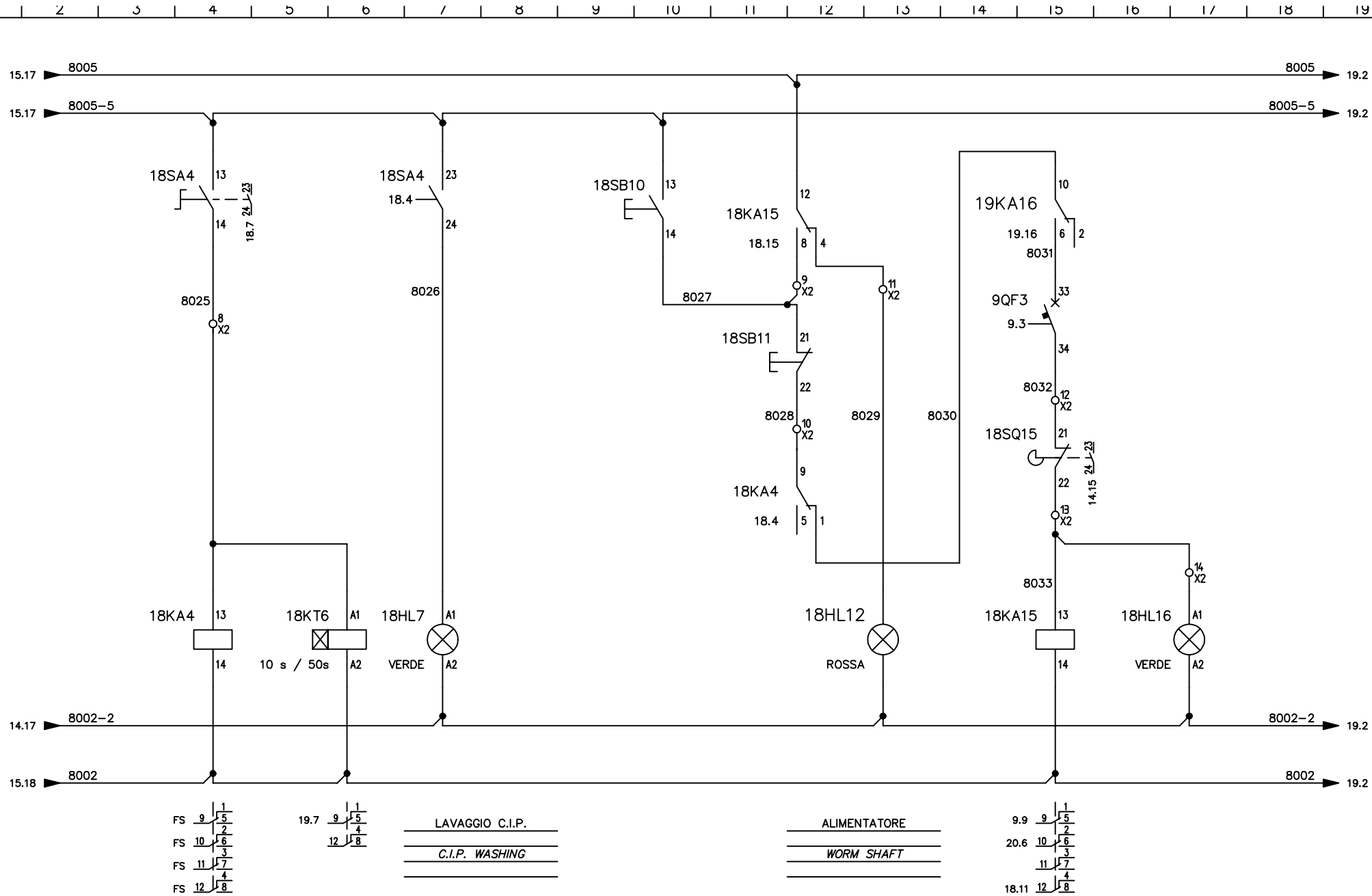
CAD SPAC

Nome File FF200D1.DWG

Data 21/01/2000

FOGLIO 15

SEGUE 18



Numeri Utilizzati	
Inizio	8025
Fine	8033
Riserve	8044

Tetra Pak Hoyer

Macchina: FF2000 USA 230V–60Hz

Denominazione: AUSILIARI 24V - AUXILIARY 24V

Cliente:

Ordine:

Esecutore: I.G..

Visto:

Dis. N. 13030026

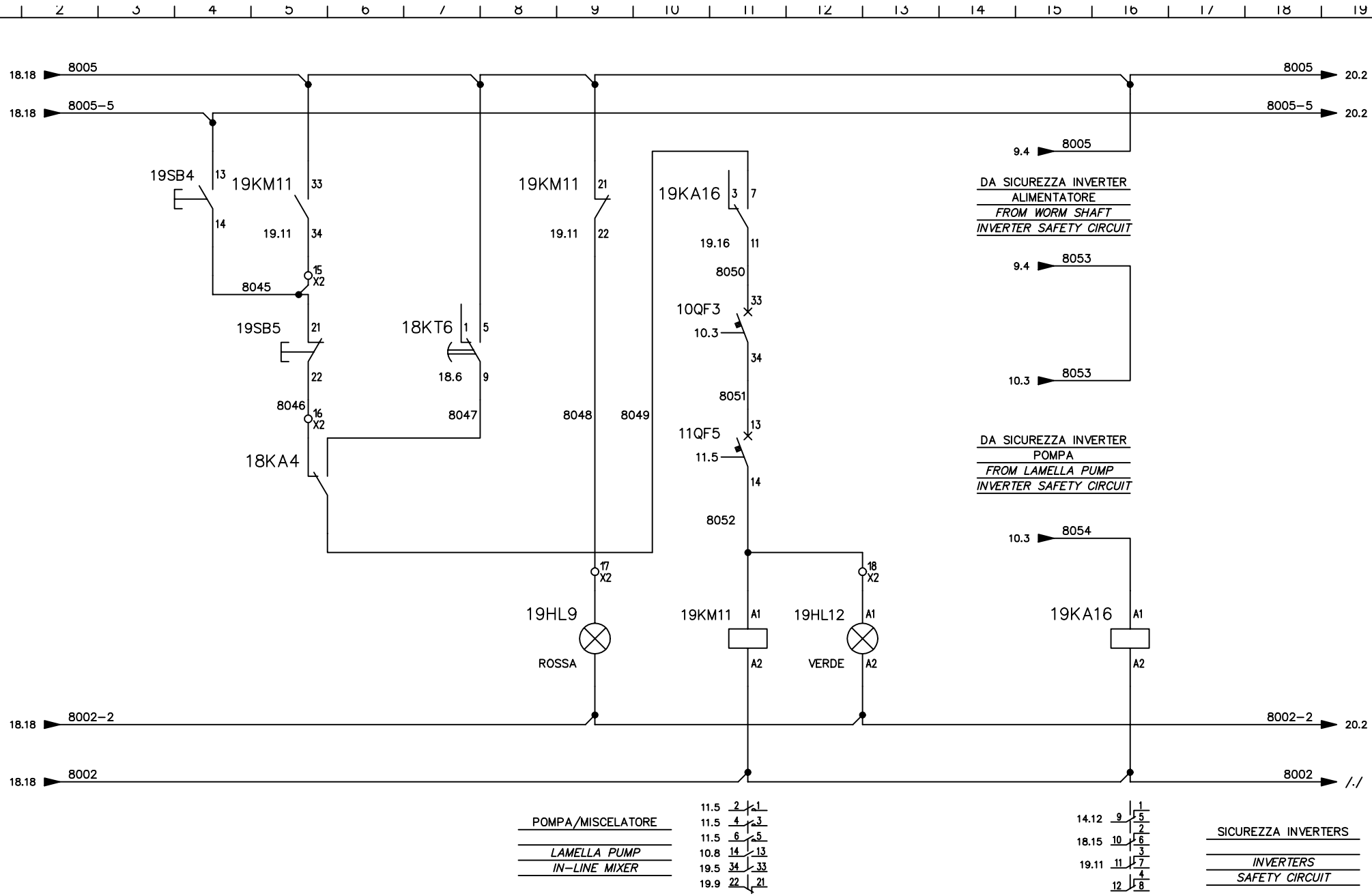
CAD SPAC

Nome File FF200D1.DWG

Data 21/01/2000

FOGLIO 18

SEGUE 19



Numeri Utilizzati	
Inizio	8045
Fine	8054
Riserve	8061

Tetra Pak Hoyer

Macchina: FF2000 USA 230V-60Hz

Denominazione: AUSILIARI 24V - AUXILIARY 24V

Cliente:

Ordine:

Esecutore: I.G..

Visto:

Dis. N. 13030026

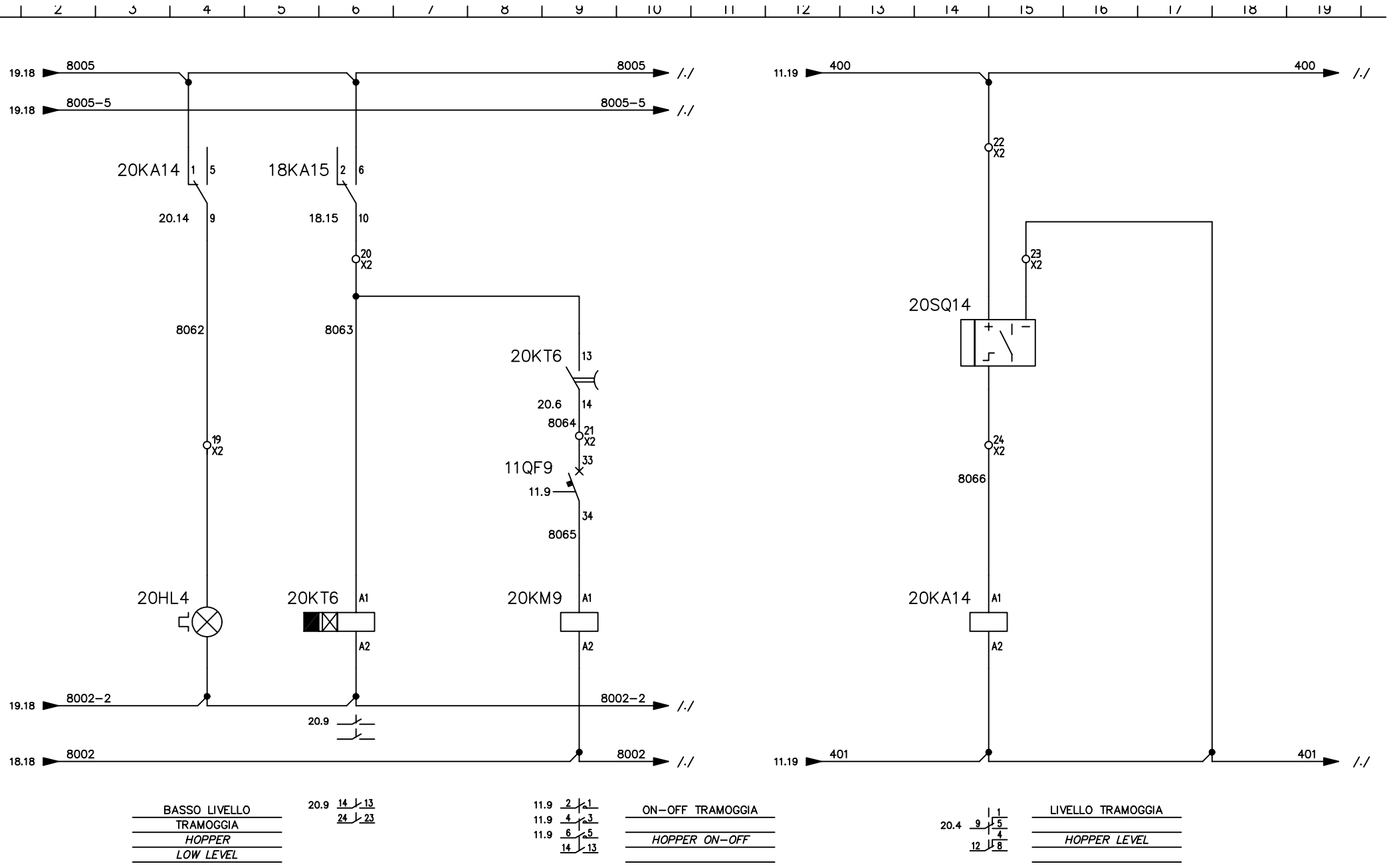
CAD SPAC

Nome File FF200D1.DWG

Data 21/01/2000

FOGLIO 19

SEGUE 20



BASSO LIVELLO TRAMOGGIA
HOPPER LOW LEVEL

20.9 14 13 / 24 23

11.9 2 1
11.9 4 3
11.9 6 5
14 13

ON-OFF TRAMOGGIA
HOPPER ON-OFF

20.4 1 / 9 5 / 4 / 12 8

LIVELLO TRAMOGGIA
HOPPER LEVEL

Numeri Utilizzati	
Inizio	8062
Fine	8066
Riserve	8076

Tetra Pak Hoyer

Macchina: FF2000 USA 230V-60Hz

Denominazione: LIVELLO TRAMOGGIA - HOPPER LEVEL

Cliente:

Ordine:

Esecutore: I.G..

Visto:

Dis. N. 13030026

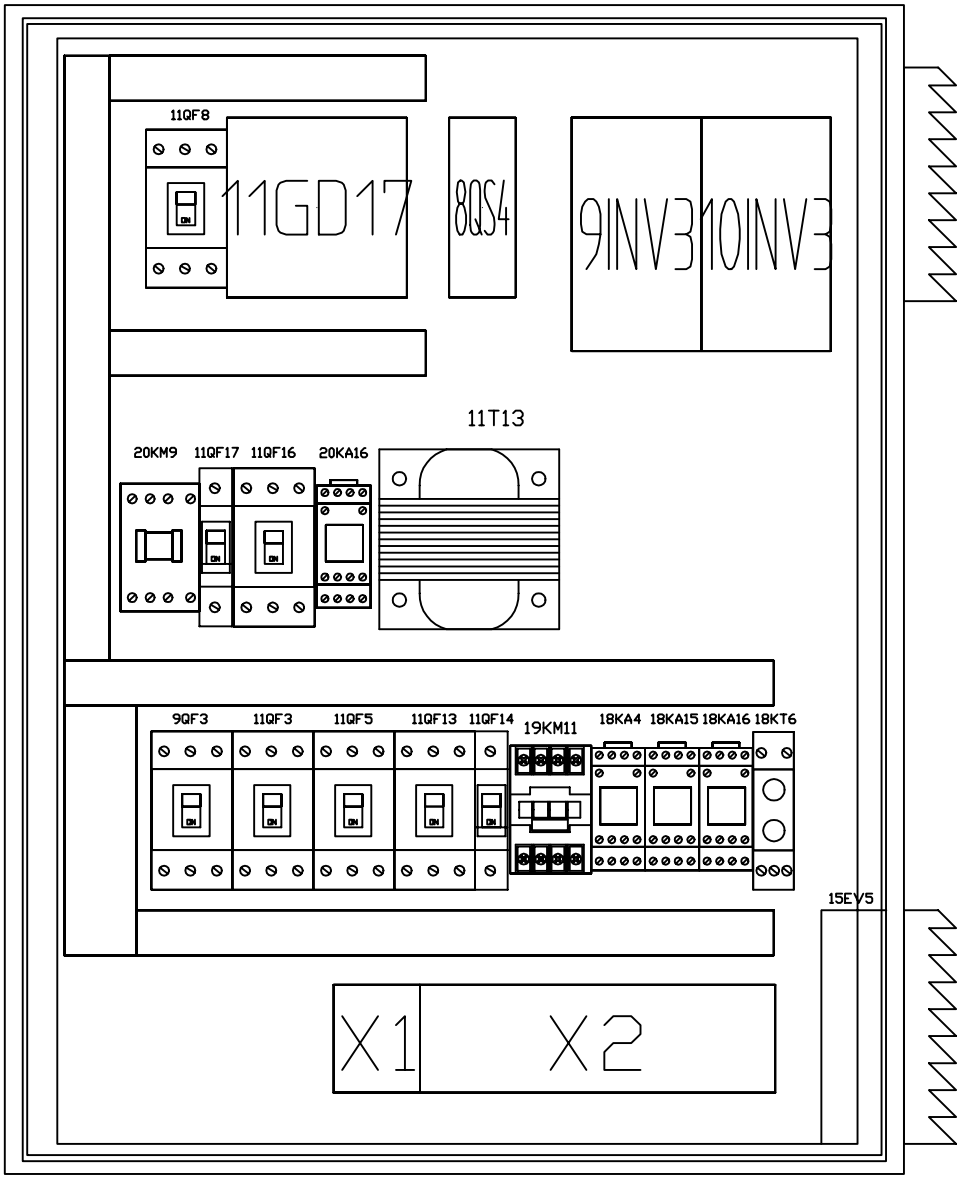
CAD SPAC

Nome File FF200D1.DWG

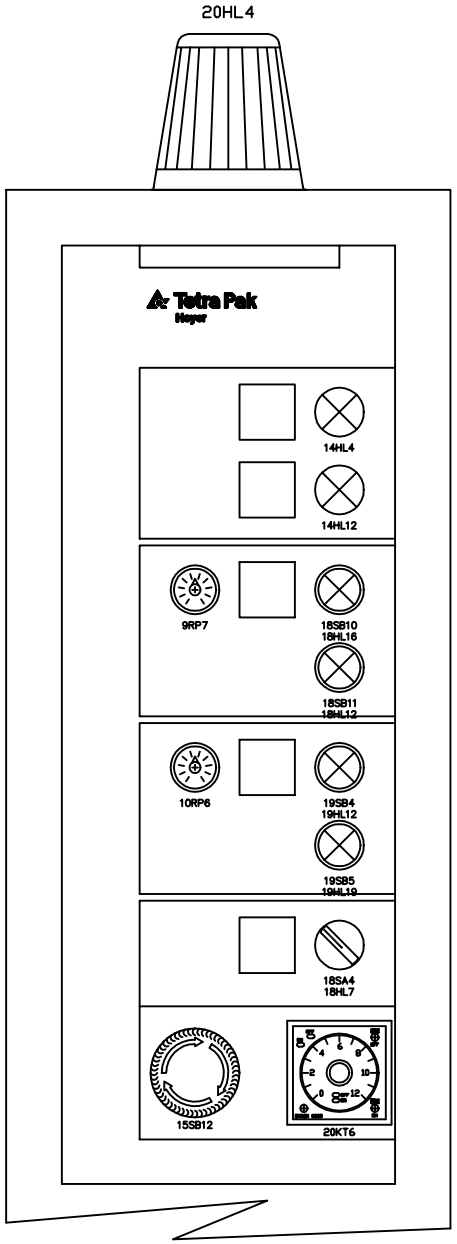
Data 21/01/2000

FOGLIO 20

SEGUE 26



Tetra Pak Hoyer	Macchina: FRUIT FEEDER 2000 USA	Ordine	Dis. N. 13030026	FOGLIO 26
	Denominazione: QUADRO GENERALE - MAIN PANEL	Esecutore I.G.	CAD SPAC	SEGUE 28
	Cliente	Visto	Nome File FF200D2.DWG	
			Data 21/01/2000	

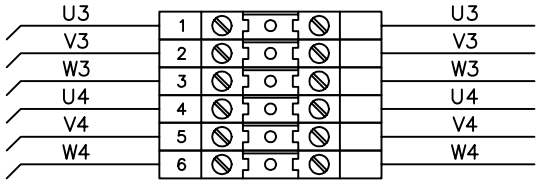


20HL4	BASSO LIVELLO TRAMOGGGIA	HOPPER LOW LEVEL
14HL15	PRESENZA TENSIONE	POWER ON
14HL12	ALLARME	ALARM
18SB10+18HL16	MARCIA ALIMENTATORE	WORM SHAFT START
18SB11+18HL12	ARRESTO ALIMENTATORE	WORM SHAFT STOP
9RP7	VELOCITA' ALIMENTATORE	WORM SHAFT SPEED
19SB4+19HL12	MARCIA POMPA/MISCELATORE	LAMELLA PUMP/IN-LINE MIXER START
19SB5+19HL9	ARRESTO POMPA/MISCELATORE	LAMELA PUMP/IN-LINE MIXER STOP
10RP6	VELOCITA' POMPA	LAMELLA PUMP SPEED
18SA4+18HL7	LAVAGGIO C.I.P.	C.I.P. WASHING
15SB12	EMERGENZA	EMERGENCY STOP
20KT6	TEMPO ON-OFF AGITATORE	AGITATOR ON-OFF TIME

Tetra Pak
Hoyer

Macchina: FRUIT FEEDER 2000 USA	Ordine	Dis. N. 13030026	FOGLIO 28
	Esecutore I.G.	CAD SPAC	
Denominazione: QUADRO DI COMANDO - CONTROL PANEL		Nome File FF200D2.DWG	SEGUE 30
Cliente	Visto	Data 21/01/2000	

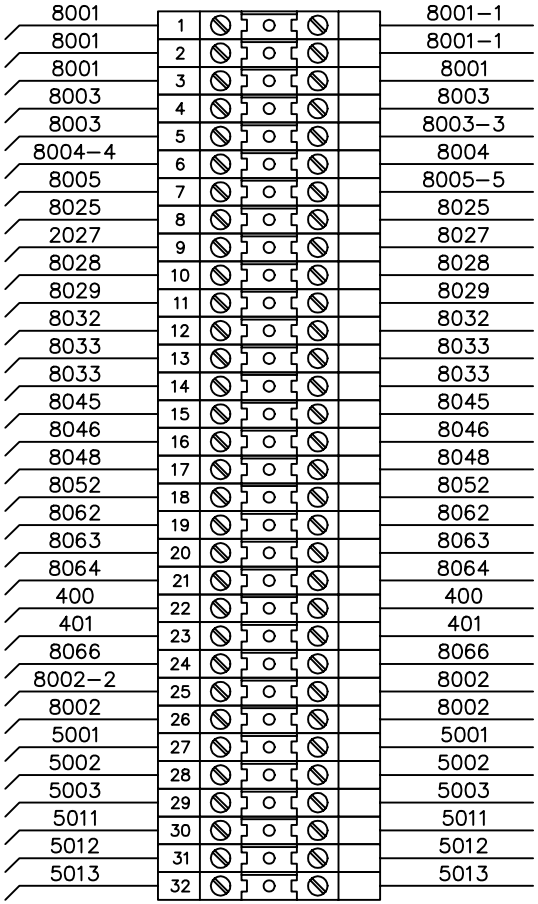
MORSETTIERA X1-MOTORI/ X1 TERMINAL BLOCK-MOTORS



11.5
11.6
11.6
11.9
11.10
11.10

Tetra Pak Hoyer	Macchina: FRUIT FEEDER 2000 USA	Ordine	Dis. N. 13030026	FOGLIO 30
		Esecutore I.G.	CAD SPAC	
	Denominazione: X1 TERMINAL BLOCK- MOTORS		Nome File FF200D2.DWG	SEGUE 31
	Cliente	Visto	Data 21/01/2000	

MORSETTIERA X2 AUSILIARI/X3 TERMINAL BLOCK CONTROLS



8001	1	8001–1	14.10
8001	2	8001–1	14.14
8001	3	8001	15.7
8003	4	8003	14.10
8003	5	8003–3	14.12
8004–4	6	8004	15.12
8005	7	8005–5	15.15
8025	8	8025	18.4
2027	9	8027	18.11
8028	10	8028	18.11
8029	11	8029	18.12
8032	12	8032	18.15
8033	13	8033	18.15
8033	14	8033	18.16
8045	15	8045	19.5
8046	16	8046	19.5
8048	17	8048	19.9
8052	18	8052	19.12
8062	19	8062	20.4
8063	20	8063	20.6
8064	21	8064	20.9
400	22	400	20.14
401	23	401	20.15
8066	24	8066	20.14
8002–2	25	8002	14.12
8002	26	8002	15.7
5001	27	5001	9.7
5002	28	5002	9.7
5003	29	5003	9.8
5011	30	5011	10.6
5012	31	5012	10.7
5013	32	5013	10.7

Tetra Pak Hoyer

Macchina: FRUIT FEEDER 2000 USA	Ordine	Dis. N. 13030026	FOGLIO 31
	Esecutore I.G.	CAD SPAC	
Denominazione: X3 TERMINAL BLOCK - CONTROLS		Nome File FF200D2.DWG	SEGUE /
Cliente	Visto	Data 21/01/2000	