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.
Designed as a stand-alone unit, it is normally installed on ice-cream production lines between a continuous freezer and a filling machine.
To put into service, simply hook it up to the mains power supply and connect to the freezer and the filling 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 lamella pump *(Pos.2, Fig.3.1)*, which feeds the ingredients into the flow of ice-cream coming from the continuous freezer.
   The lamella pump consists of a rotor containing radial lamellas 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 filling 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 lamella 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 lamellas 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.

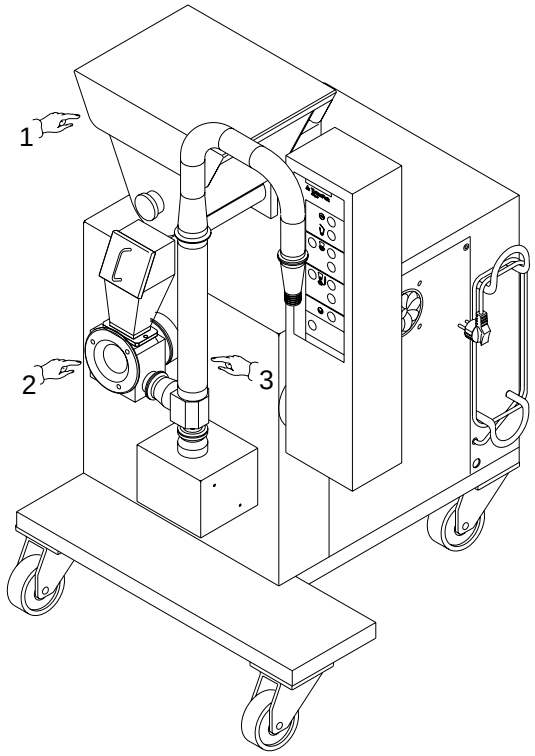

Fig. 3.1

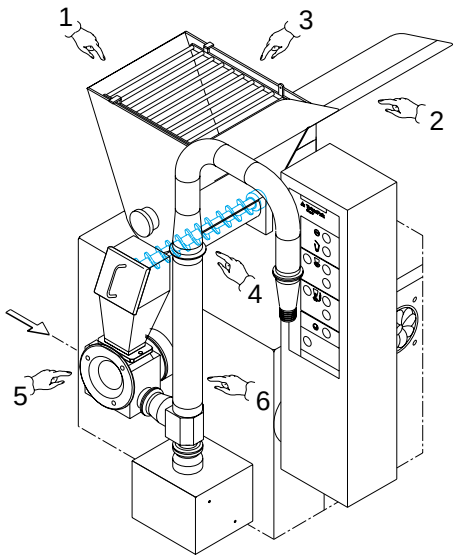

Fig. 3.2

3.3 Technical data

Dimensions: A (length)= 932 mm
B (width)= 720 mm
C (height)= 1291 mm

Net weight: 190 Kg

Electrical specifications:
Power supply
standard: 220 - 380 V / 3 PH / 50-60 Hz
on request: 415 V / 50-60 Hz - 460 V / 60 Hz

Installed power	screw feeder:	0,75 kW
	mixer:	0,75 kW
	pump:	0,75 kW
	transformer:	0,15 kW
Total installed power:		2.4 kW

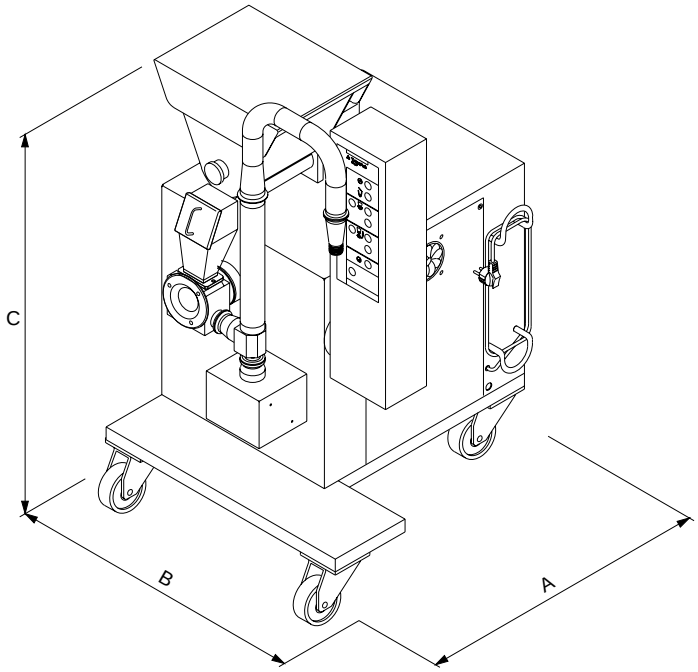

Fig. 3.3

Pipe diameter In clamp: 1 1/2"
Out clamp: 2"

Capacity: the flow of ice cream with standard feeder is 300 - 2000 l/h (80 - 528 US Gals/h).
For ingredient capacity see paragraphs 4.4 eand 5.2.

No. Operators: 1

Noise:
Equivalent A-Weighted Sound Pressure Level at 1 metre: 67.5 dBA
Max. Instantaneous C-Weighted Sound Pressure Level in the Workplace: less than 130dB/20uPa.