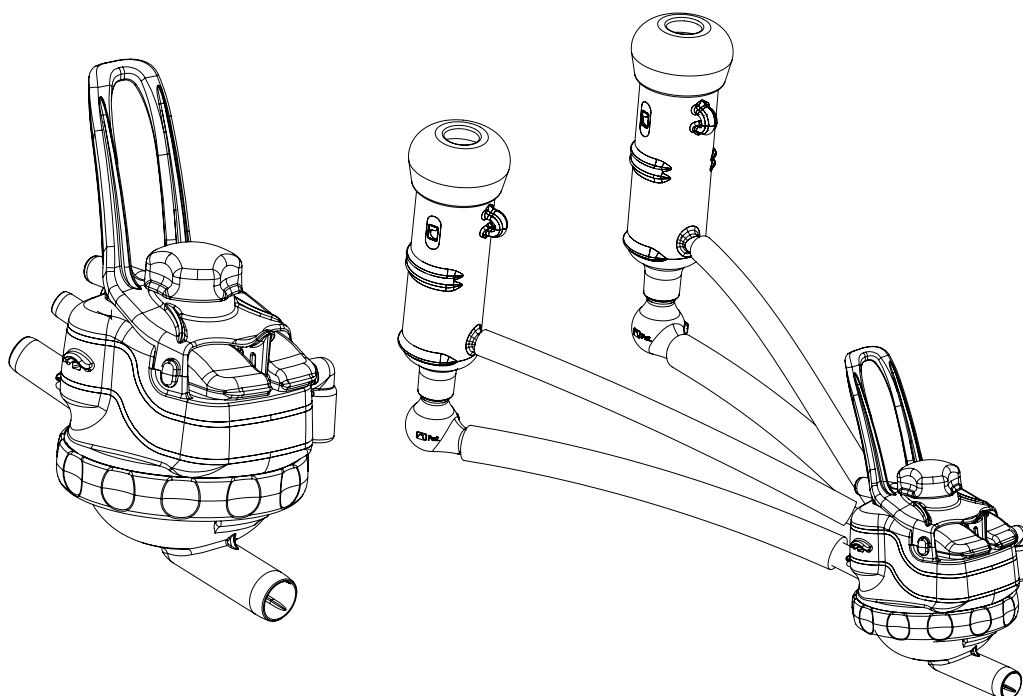


Instruction Manual, Operation and Maintenance
original instructions

ITP206 Milking Claw & ITP206 Milking Cluster



InterPuls

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1 GENERAL INFORMATION

1.1 General information and safety warnings

1.1.1 Important warnings

To safeguard the operator and prevent any damage to the equipment, before carrying out any kind of operation it is important to have read and fully understood the instruction manual.

1.1.2 Symbol used in this manual

The following symbols are used in this manual to highlight indications and warnings which are of particular importance:

**WARNING**

This symbol indicates health and safety regulations designed to protect operators and/or any exposed persons.

**CAUTION**

This symbol indicates that there is a risk of causing damage to the equipment and/or its components.

**NOTE**

This symbol is used to highlight useful information.

1.1.3 Rules and regulations for the user

**WARNING**

Any failure to observe the warnings provided in this manual may lead to equipment malfunctions or damage to the system.

1.1.4 Limitation of liability

InterPuls S.p.A. declines all liability for damage to persons, animals and/or things caused by incorrect use of the equipment.

1.2 Prior using the product

1.2.1 Requirements and rules for personnel and Safety Rules

**WARNING**

Before using the device, the operator must carefully read the manual. this appliance can be used by person aged from 18 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved

During the assembly and activation of the device, follow the instructions in the manual and rules and regulations applying to health and safety at the workplace.



WARNING

Children shall not play with the appliance.
Cleaning and user maintenance shall not be made by children without supervision.

1.2.2 Connection



WARNING

Stationary appliances not fitted with means for disconnection from the supply mains having a contact separation in all poles that provide full disconnection under overvoltage category III, the instructions state that means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules

1.3 Disposal

1.3.1 General regulation

The appliances must be disposed of only and exclusively by specially authorized waste disposal companies in accordance with all relative legislation and prescriptions.

The packaging must be consigned to the relative authorized companies to be recycled.

1.4 Fire prevention

1.4.1 Fire prevention



NOTE

The machine is not equipped with fire extinguishers.

The operator must make sure that the place in which the appliance is installed is equipped with an adequate number of suitable fire extinguishers. The extinguishers must be positioned where they are clearly visible and protected from damage and improper use.

1.4.2 Safety regulations



WARNING

It is strictly prohibited to extinguish fires involving electrical equipment with water!

1.4.3 Characteristic of extinguishers

Use powder, foam or halogen extinguishers which must be positioned next to the device.

Operating personnel must receive adequate instruction on how to use the extinguishers.

2 GENERAL PRODUCT DESCRIPTION

2.1 Intended use - ITP206 Milking Claw

The ITP206 Milking Claw is a claw which can be operated manually or automatically, developed to milk small ruminants such as goats and sheep and suitable for both high- and low-line milking plants.

ITP206 incorporates two independent push-buttons to open/close the milk lines.

During hand-milking the push-buttons can be activated independently, allowing the extraction of milk from a solitary teat.

To ensure proper functioning, claws without air vents should be fastened to appliances with air admission holes. These appliances must be connected to the milking cluster and be positioned between the teat cup shells and the claw.

In milking plants with automatic shut-off mechanisms, ITP206 can be connected to the channel in front of the Control Valve (CV), via the side nipple provided. The CV regulates the cluster shut-off mechanism (closure of the shut-off and withdrawal of the cluster via the cylinder). The CV is operated by a control panel which is in turn attached to a sensor which detects the production of milk (HFS).

When the machine is activated the valves are “normally closed” to avoid leaks.

2.2 Intended use - ITP206 Milking Cluster

The ITP206 Milking Cluster is a cluster which can be operated manually and automatically, to milk small ruminants such as goats and sheep and suitable for both high- and low-line milking plants. It is comprised of:

- 1 ITP206 Milking Claw;
- teat cup shells complete with teat cup liners;
- 2 short milk tubes which connect the teat cup liners to the milking claw;
- 2 connectors which connect the teat cup liners to the short milk tubes.



NOTE

The connectors are equipped with calibrated openings which emit a controlled stream of atmospheric air inside the tubes. This airstream enables the quick drainage of the milk flow. The internal chamber works as a vacuum which allows the drainage of even elevated flows of milk without the cluster detaching itself from the animal. This, as well as for more critical rates of flow, is possible thanks to the constant vacuum applied near to the teat.

- small pulsation tubes connecting the teat cups to the claw pulsation hoses which emit pulsation signals received from the pulsator.

2.3 Unforeseen usage

The machinery, as outlined in this manual, must not be used for purposes other than those foreseen and indicated in the "Intended Use" section.



WARNING

Please avoid fastening claws with air valves to clusters with vents, such as automatic valves. If this were so, the cluster's consumption of air would be greater than that foreseen by the regulatory standards.



ATTENTION

All other usage, other than that for which the machinery was designed and as is outlined in this manual, as well as alterations not authorised by the manufacturer, are considered "IMPROPER USE"; to this end InterPuls S.p.A. declines any responsibility for damages caused to persons, animals, objects or to the machinery itself.

2.4 Discouraged usage

The use of the ITP206 Milking Cluster in conjunction with automatic valves is **discouraged** given this would create a simultaneous double opening and closing system of the milk lines within the same cluster, with the drawback of having leftover portions of milk outside of the cluster which could be split during the withdrawal phase.

3 INSTRUCTIONS FOR USE

3.1 Precautionary measures for use

The ITP206 Milking Claw was conceived as part of the ITP206 Milking Cluster, and is equipped with apposite connectors complete with air valves.

The teat cup liner connectors, together with the short milk tubes, must be correctly angled as shown in the following diagram:



The washing processes must be carried out periodically as detailed in section 8 "MAINTENANCE".

4 TECHNICAL FEATURES

General technical features		
ITP206 Milking Claw	Capacity	120 cc
	Weight	240 g (8,46 oz)
	Milk inlet tubes	10 x 14 mm (0,4 x 0,55 in)
	Milk outlet tubes	14 x 18 mm (0,55 x 0,71 in)
	Pulsation tubes	7,5 x 10 mm (0,3 x 0,4 in)
	Dimensions of high-line version (L x W x H)	111 x 100 x 173 mm (4,37 x 3,93 x 6,81 in)
	Consumption (only claw) – version without air vent	0 l/min (0 ft ³ /min)
	Consumption (only claw) – version with air vent	8÷10 l/min (0,28÷0,35 ft ³ /min)
	Vacuum consumption	36 ~ 50kPa (10,63 ~ 14,76"Hg)
ITP206 Milking Cluster	Weight goats/sheep	760 / 670 g (26,8 / 23,63 oz)
	Consumption	8÷10 l/min (0,28÷0,35 ft ³ /min)
	Vacuum consumption	36 ~ 50kPa (10,63 ~ 14,76"Hg)
Models	ITP206 High-line ITP206 Low-line	

5 ITP206 MILKING CLUSTER APPLICATIONS

5.1 Automatic cluster removal (ACR) with pulsation interruption

This structure foresees the use of one pulsator for every milking cluster.

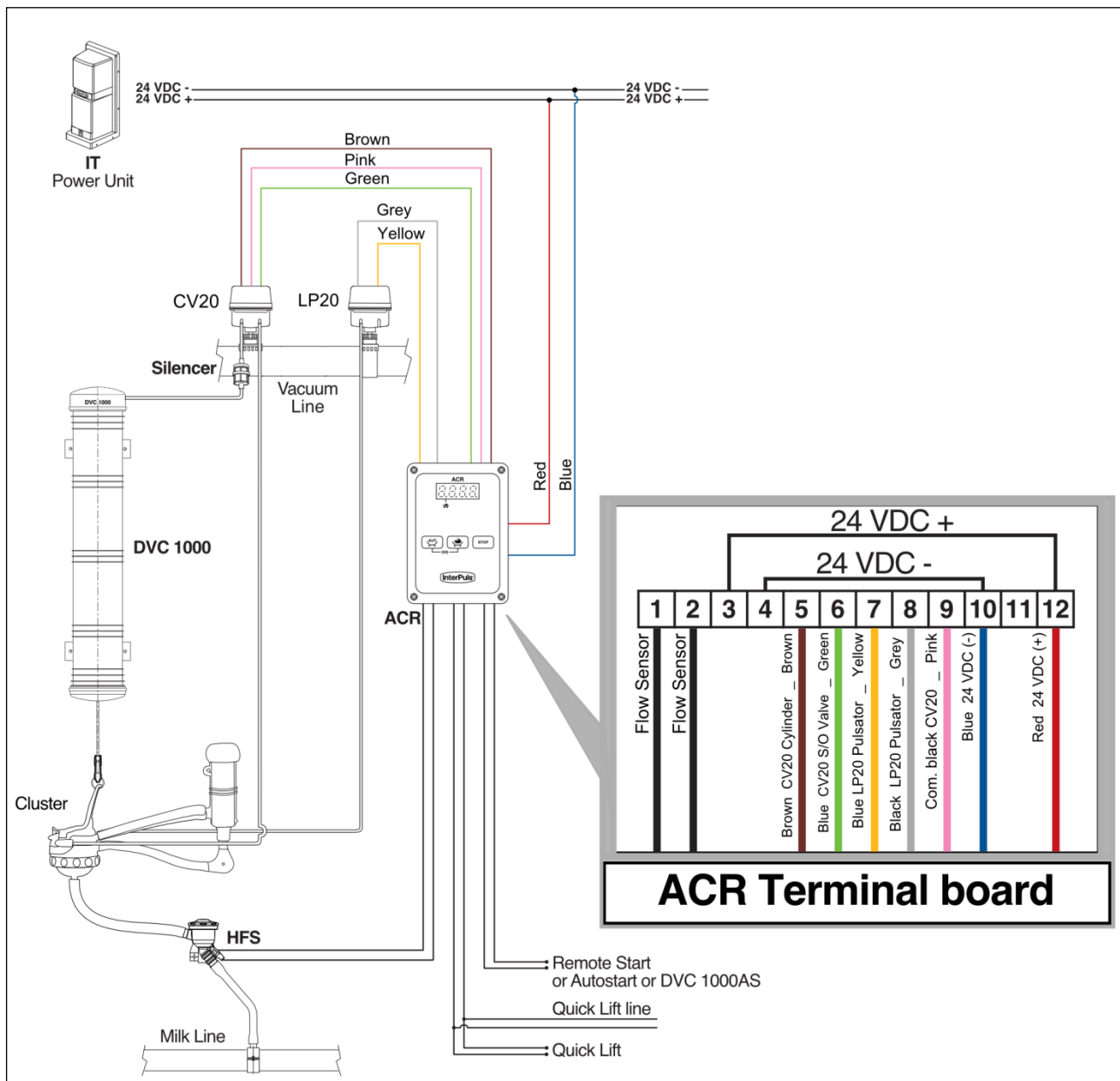
This allows:

- automatic cluster removal upon termination of the milking process;
- interruption of the pulsations upon termination of the milking process.



NOTE

The unused pulsator nipple must be blocked.



5.2 Automatic cluster removal (ACR) without pulsation interruption

This structure foresees the use of one pulsator for every two milking clusters.

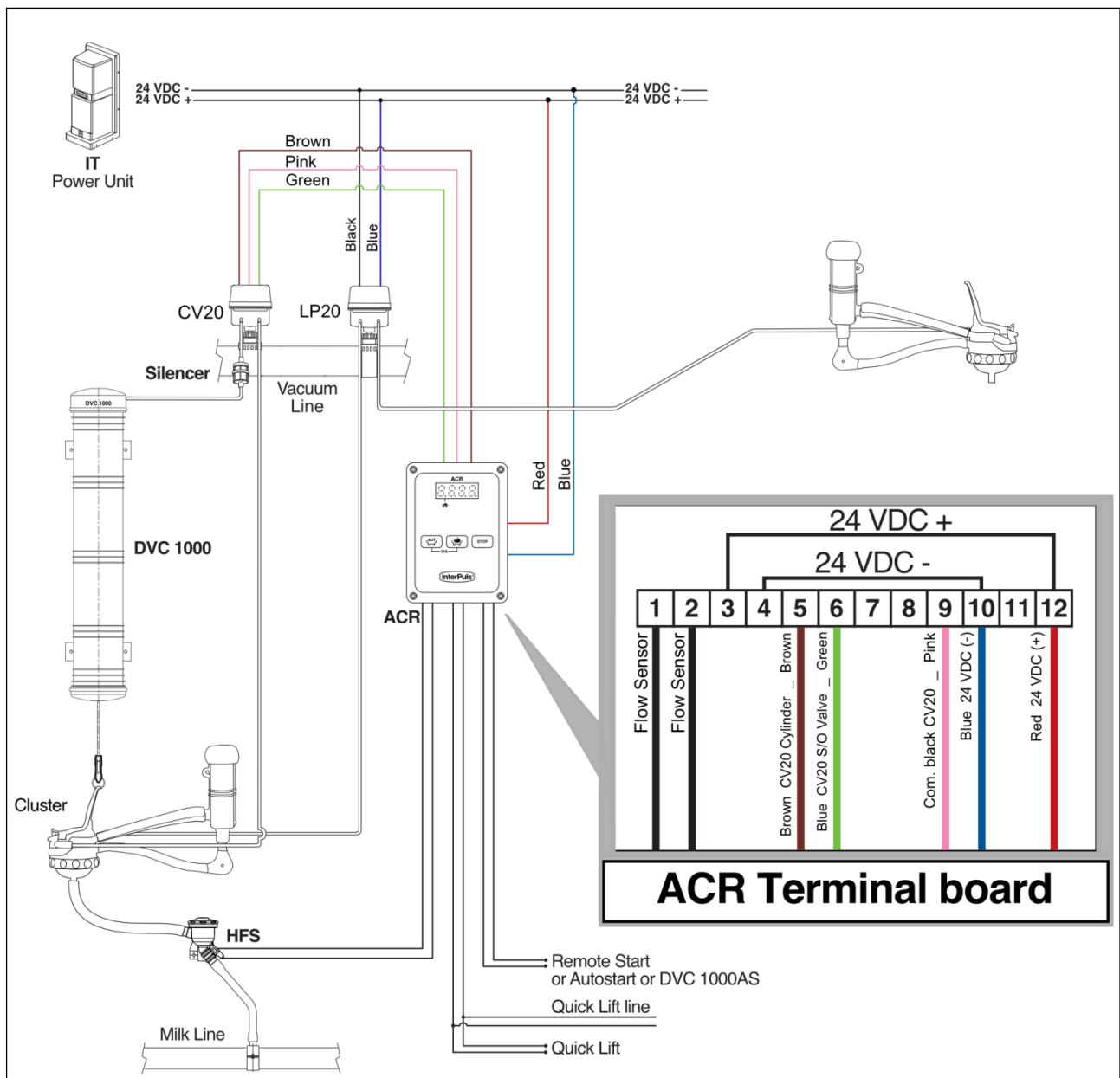
This allows:

- automatic cluster removal upon termination of the milking process.



NOTE

There is no pulsation interruption upon termination of the milking process.



5.3 Automatic cluster removal (ACR) with LC30

This structure foresees the use of a LC30 for every milking cluster.

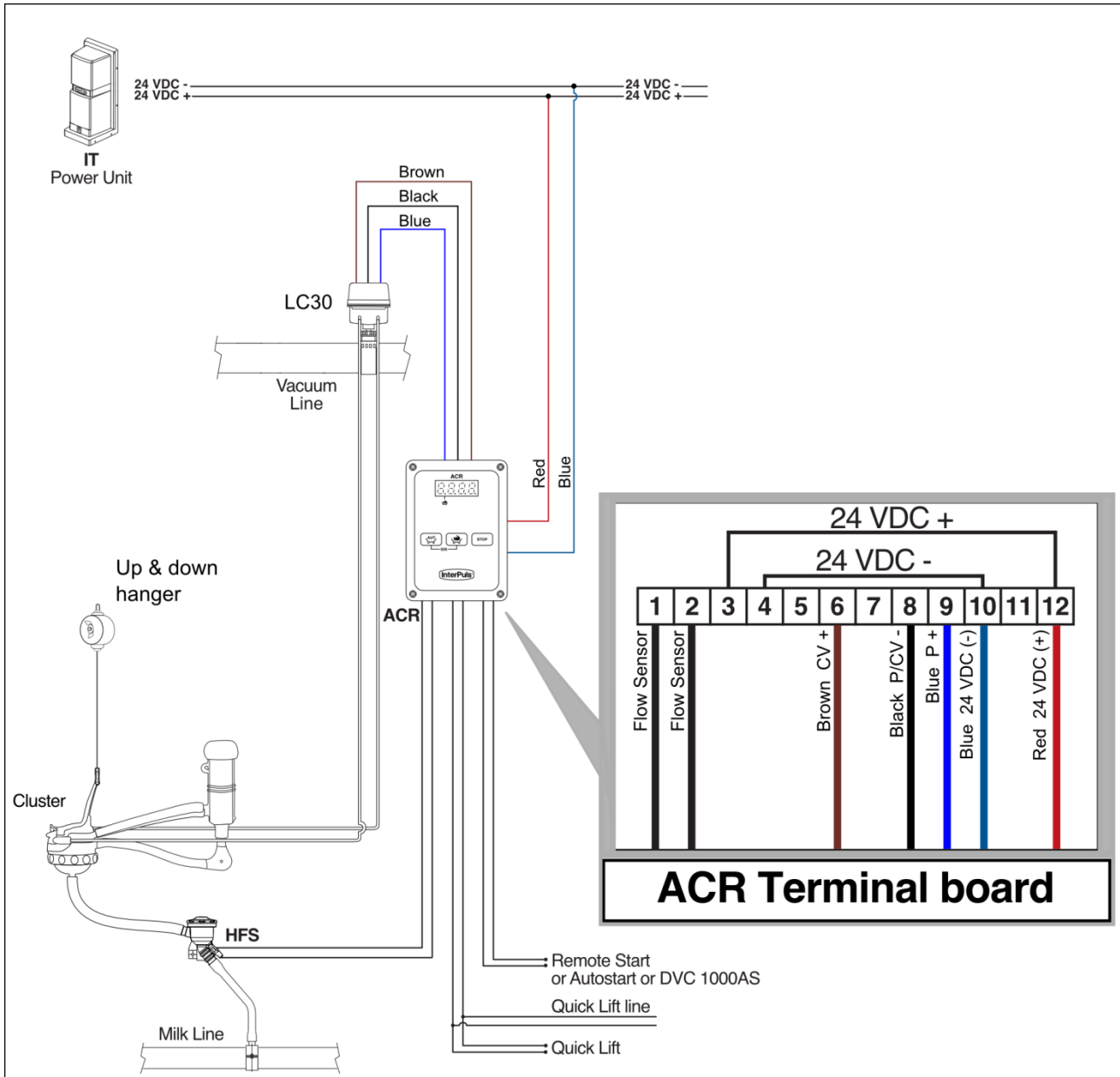
This allows:

- automatic shut-off of the vacuum upon termination of the milking process;
- interruption of the pulsations upon termination of the milking process.



NOTE

The detachment of the milking cluster must be done by hand.



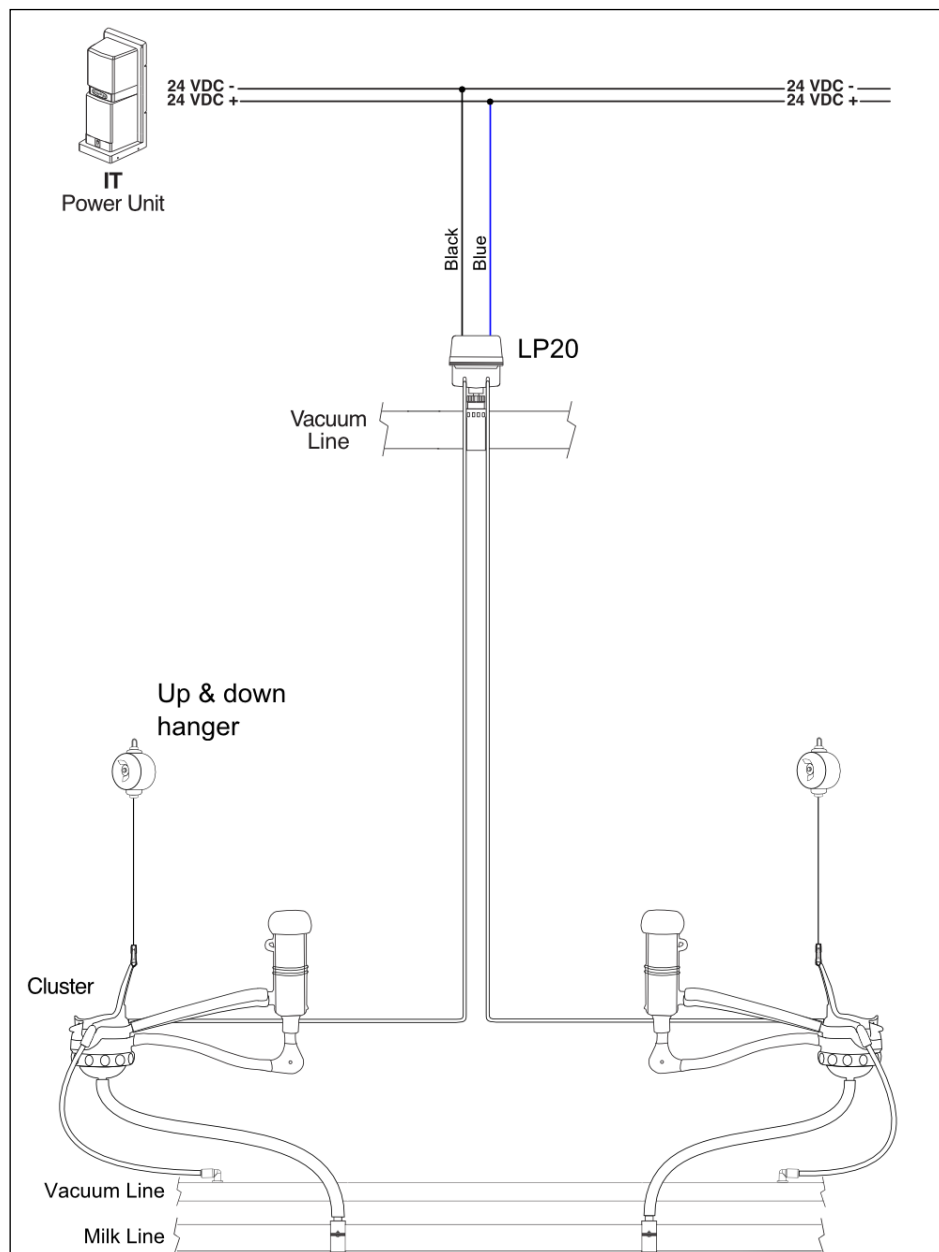
5.4 Automatic cluster removal (ACR) with pulsator

This structure foresees the use of a pulsator to control 2 to 4 milking clusters simultaneously.



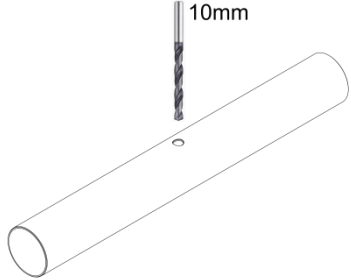
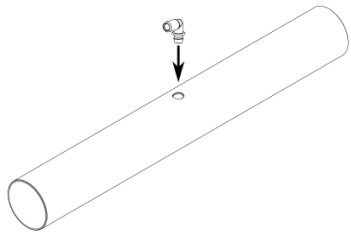
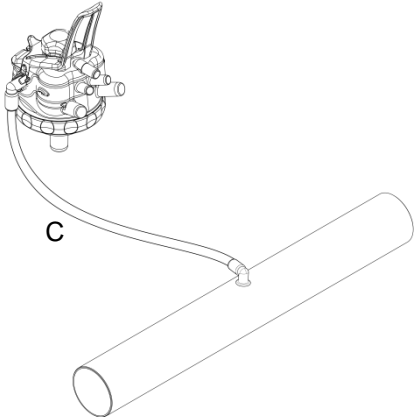
NOTE

The removal of the milking cluster must be done by hand.



6 INSTALLATION OF THE ITP206 MILKING CLUSTER – OPERATIONAL INSTRUCTIONS

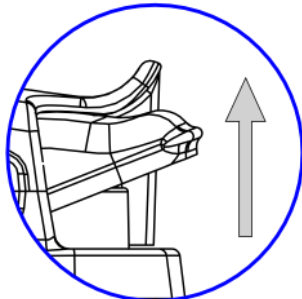
To be adopted in manual-type systems

Step	Description	
1	<p>Drill the vacuum line with a 10mm (0,4in) drill piece. The hole must be made on the upper part of the tube or alternatively to the side as shown in Fig.1.</p> <p>! WARNING Avoid drilling the underside of the tube to prevent potential condensation entering the vacuum line.</p> <p>! WARNING Upon completion, carefully sand the hole to avoid damage to the gaskets which will be attached.</p>	 <p>10mm</p> <p>Fig. 1</p>
2	Insert the nipple in the tubing.	 <p>Fig. 2</p>
3	Connect the milking claw to the nipple via the vacuum line (C).	 <p>C</p> <p>Fig. 3</p>

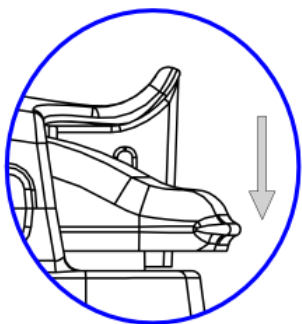
7 OPERATIONAL INSTRUCTIONS FOR MILKING

7.1 Hand-milking

Before beginning the milking process, verify that the push-buttons are raised (valves closed).

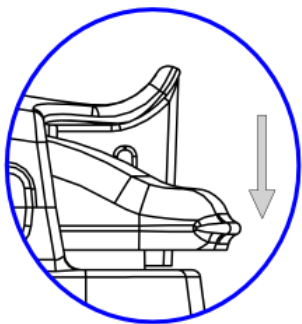


Lower the push-buttons (valves open) before attaching the milking cluster to the animal.



7.2 Automatic milking

Before beginning the milking process, verify that the push-buttons are lowered (valves open).



8 WASHING PROGRAM

After every milking session the milking claw/milking cluster must be washed with:

- a quantity of water and a suitable detergent sufficient to fill the product.

It is advisable to wash the milking claw/milking cluster 2 to 3 times per week with a solution of:

- water + nitric or phosphor-nitric acid (concentration no greater than 3%).

9 MAINTENANCE

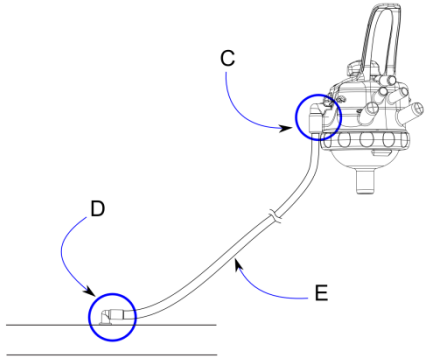
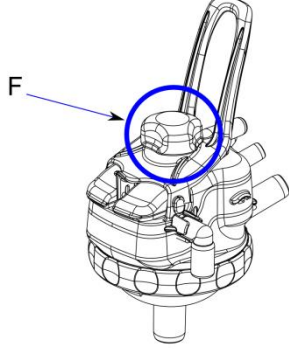
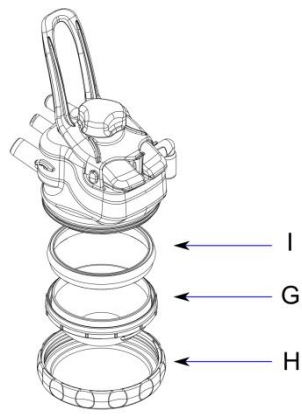
The ITP206 Milking Cluster and ITP206 Milking Claw require the following maintenance interventions on a periodic basis.

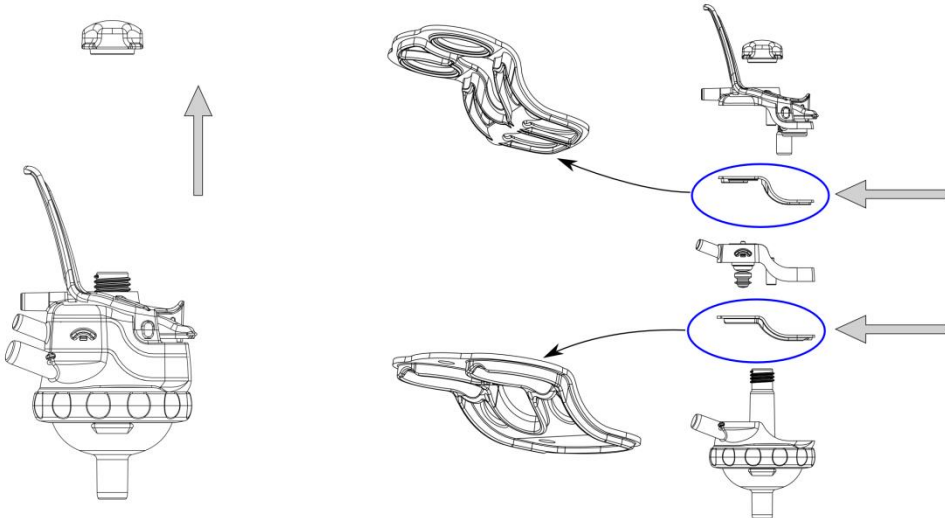
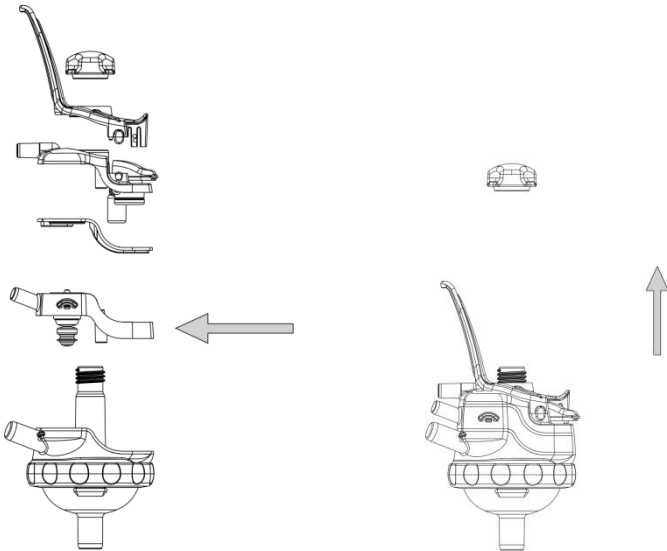


WARNING

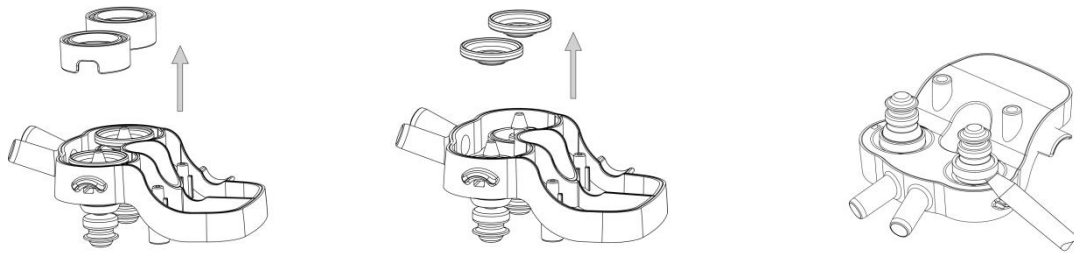
Ensure that the gaskets are reassembled the correct way up.

Recommended service program	Frequency	Diagram
<p><u>Washing of the milking claws and connector valves</u></p> <p>Check the cleanliness of the air admission hole (A) in:</p> <ul style="list-style-type: none"> - each connector; - each milking claw (only versions with air vents). <p>In the instance the air vents are blocked they must be thoroughly cleaned.</p> <p>! WARNING The cleaning must be carried out using pins with a diameter of 0.6mm (cod.2040007).</p>	<u>Ongoing</u>	
<p><u>Cleaning of milk inlet tubes</u></p> <p>Ensure that the milk inlet tubes are not blocked by hay or wool.</p> <p>In case of blockage:</p> <ul style="list-style-type: none"> - unthread the short milk tubes; - remove the hay or wool attached to the white diaphragm (B); - reconnect the short milk tubes. 	<u>Ongoing</u>	

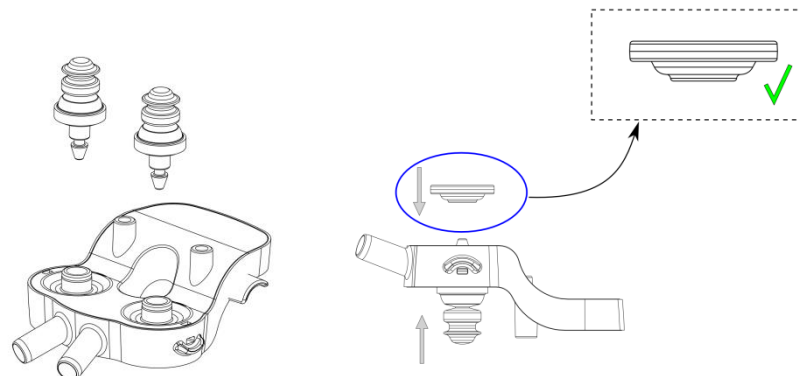
<p><u>Cleaning of the vacuum nipple and line</u></p> <p>Check there are no blockages in:</p> <ul style="list-style-type: none"> - the vacuum line supplying the push-buttons (C); - the vacuum line nipple (D); - the vacuum line (E). <p>When reassembling the components ensure the connectors are well fastened to the vacuum line.</p> <p>! WARNING Potential airstreams could impede the correct movement of the shutters.</p>	<p><u>Ongoing</u></p>	
<p><u>Check the seal of the locking valve plug</u></p> <p>Ensure the upper locking valve plug is well sealed. If it is loose it must be tightened.</p> <p>! WARNING The locking valve plug must be tightened manually without the use of any other equipment. Excessive tightening could cause the malfunction of the moveable components.</p>	<p><u>Every 6 months</u></p>	
<p><u>Replacement of the bowl gaskets (I)</u></p> <p>Exploded view drawing ref. 025.</p> <p>To replace the bowl gaskets:</p> <ul style="list-style-type: none"> - unscrew the ring nut (H) and bowl gasket; - remove the gasket (I) from the bowl; - insert the new gasket (I) in the bowl (G), ensuring there are no fissures; - screw the ring nut (H) along with the bowl gasket onto the milking claw. 	<p><u>Every 6 months</u></p>	

<p>Replacement of gaskets</p> <p>To replace the gasket, refer to the exploded view drawing ref. 010-021.</p>	<p><u>Every 6 months</u></p>	
		
<p>Replacement of bellows</p> <p>To inspect and replace the bellows, refer to the exploded view drawing ref. 019-020.</p>	<p><u>Every 6 months</u></p>	
<p>Stage 1</p> 		

Stage 2



Stage 3



Replacement of teat cup liners

Replace the teat cup liners using the following method:

- unthread the pulsation hoses from the teat cups connecting the claw pulsation hoses;
- unthread the teat cup shells and liners from the connectors of the short milk tubes;
- remove the liners from the teat cup shells;
- insert new liners in the shells ensuring that the head of the liners are correctly aligned with the shells and that the fastening grooves are aligned with the shell mouth.



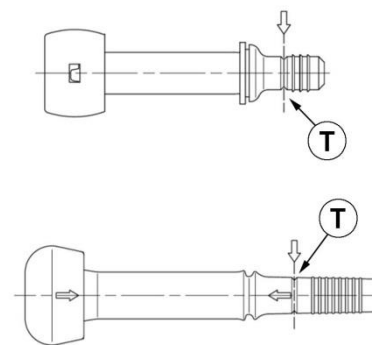
WARNING

For “goat” versions ensure that the arrows marked on the liners are aligned.

For “sheep” versions ensure the liners are not twisted on themselves.

- cut the liners along the fastening grooves as indicated by the dotted line (T) in the diagram shown to the right;
- re-insert the connectors in the teat cups ensuring they are flush.

At the end of every milking season or after 850 to 2500 hours of milking



WARNING

Avoid the use of lubricants during assembly.

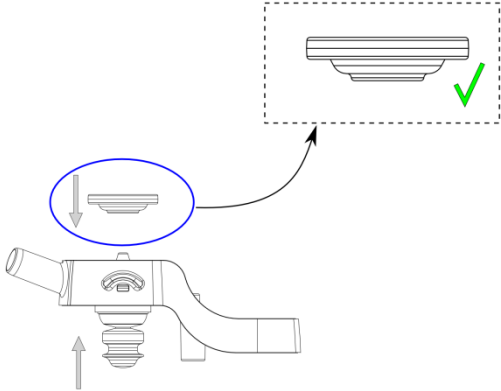

- Re-insert the pulsation hoses into the shell nipple; if necessary moisten the parts with silicone.



WARNING

Should a liner break, the milking claw must be dismantled and washed internally.

10 PROBLEMS & SOLUTIONS

Problem encountered	Solution
Blocked shutters at low temperatures	<p>When the cleaning process is carried out at very low temperatures, a build-up of ice can form in the milk chambers which link to the shutters, impeding their opening during the subsequent milking process.</p> <p>It is advisable to inject hot water via the liners until it reaches the milk chambers and melts the ice.</p>
The valve will not close following the replacement of the bellow.	<p>Ensure the 012 membranes have been installed correctly and the right-way up.</p> 
Absence of vacuum in the teat cup liners when push-button lowered	<p>A) Ensure the milk tubes are not blocked.</p> <p>B) If the milk tubes are not obstructed, block the teat cup liner where the vacuum is absent with your hand.</p> <p>C) If the above suggestions do not resolve the problem do the following:</p> <ul style="list-style-type: none"> - open the milking claw; - ensure the bellow and 012 membrane are undamaged. If the latter is broken, replace it as detailed in the bellow replacement diagram in section 8 "MAINTENANCE"; - manoeuvre the bellows; - close the milking claw. <p> NOTE</p> <p>If the problem is resolved as indicated in point B it is nevertheless advisable to carry out step C after use to avoid that the problem recurs.</p>

11 EXPLODED VIEW DRAWING OF THE ITP206 MILKING CLUSTER AND ITP206 MILKING CLAW

