



**Milking Machines
& Components**





1. Pulsator

2. Vacuum meter

3. Oil Can

4. Vacuum regulator

5. Trolley

6. Vacuum tank

7. Vacuum pump

8. Milking units

9. Milk tubes

10. Pulsation tube

11. Bucket 25 L

12. Threaded cock

13. Wheels

1.1 VACUUM SYSTEM

The Milking machine is constituted by a closed system, via which part of the air that is flowing at the interior of machine, is being removed.

The vacuum pump is responsible for removing the air from the internal of the pipes, thereby creating a partial vacuum.

Vacuum is being used for two different purposes: to open the constrictor of the nipple and to massage the animal.

Variations in vacuum can cause:

- Sense of pain in the nipples of breast.
- Hindrance of smooth circulation of blood.
- Passive transport of micro-organisms to the nipples of breast.

1.1.1 VACUUM PUMP

The 180 litres oil Lubricated Vacuum Pump represents the heart of the whole system and its basic operation is to create negative partial vacuum across the Milking Machine Body. This type of direct driven vacuum pump is an ideal solution for milking simultaneously 2 cows at a time.

The Vacuum pump is directly connected with an electrical motor of 0.75 HP and 1.400 rpm.

The efficiency of Vacuum pump is influenced by the altitude of the Farm itself. In conditions of low atmospheric pressure (altitude above 300m) the pump exports smaller volume of air.



1.1.2 VACUUM TANK



The 30 liters **painted** vacuum tank is a point of entry for header pipes leading to the pump, to the pulsator line. In this regard, it is a **distribution tank**.

It also has a cushioning effect on vacuum levels when small amounts of air and milk are admitted. In this regard, it is a **cushion tank**.

If oversized it may be used as a **reserve tank** to compensate for inadequate pump capacity.

1.1.3 VACUUM REGULATOR



The vacuum regulator admits air into the milking system to maintain a set maximum vacuum on the pulsator and milk lines.

ADVANTAGES

1. High Accuracy
2. Increased Sensitivity
3. Easy Installation

1.1.4 VACUUM METER

The manometer displays the vacuum level during Milking, When the vacuum pump is not functioning, the Manometer shows 0 Kpa, During Milking 45 kPa . It is always placed on the highest point of Milking Machine.



1.1.5 PNEUMATIC PULSATORS

The LL 90 pneumatic pulsator sends interrupted vacuum during milking, so that it imitates the basic movements lamb or kids during lactation.

The pulsator with its operation alternates the mil phase (closure) with massaging phase (opening).

We install the pulsators on the highest point of the Mil machine to avoid humidity and blows.

For cows:

60 pulsations /minute
Vacuum Level 45 Kpa



1.2 MILKING CLUSTER

The milking cluster for cows is made of:

1. Claw 400cc
2. S/S teat cup shells
3. Rubber liners
4. Milk tube
5. Twin pulsation tube



1.2.1 MILK CLAW 400CC

The **Achilles 400cc** is a stainless steel Milk claw , manufactured exclusively in our facilities .It has a total weight of 450 gr , making it really light and easy to handle .

Its unique circular shape and wide surface contributes to maximum possible flow of milk . The angled cut nipples help in immediate vacuum shut off after the end of milking process.

Other parts like Safety Clip , Shut off Spring are from stainless steel and they do not succumb from any kind deterioration , like some other common plastic components.

The thick poly-carbonate transparent lid, offers increased resistance against alkalic and acid liquids.The milkclaw can be easily cleaned and dismantled due to its special design



1.2.2 SHELLS

The 8 Stainless steel shells control harmonically the teats of the cows . It is a product made in agromasters and manufactured from 1.5mm -2.0 mm stainless steel material.



1.2.3 LINERS

The liner is the only part of the milking machine which is in direct contact with living tissue of the animal. Design of the liner therefore is highly important for optimal milking and teat health. Experimental studies show that the liner design usually affects milking characteristics more than any other machine factor.

1.2.4 MILK TUBES

The transparent PVC Milk tube has three basic missions:

1. It displaces milk from milking cluster into Milk Can
2. It displaces vacuum to the milking units. ,
3. It displaces the hygiene liquids at the interior of tubing (during washing)



1.2.5 TWIN PULSATION TUBES

The tube's heavy.-duty walls give a very solid framework, which prevents their collapsing, without altering the proverbial flexibility.

The formulation of the material has been specifically developed to withstand the attack of milk acids. It doesn't contain phthalates (DEHP), considered harmful to humans beings.



1.3 STAINLESS STEEL BUCKET

Milk Bucket is made of stainless steel and has a capacity of 25 liters. The Bucket lid is offered in transparent thermoplastic material only.

This specific type of milking machine is equipped with 2 stainless steel high quality buckets .



1.4 TROLLEY

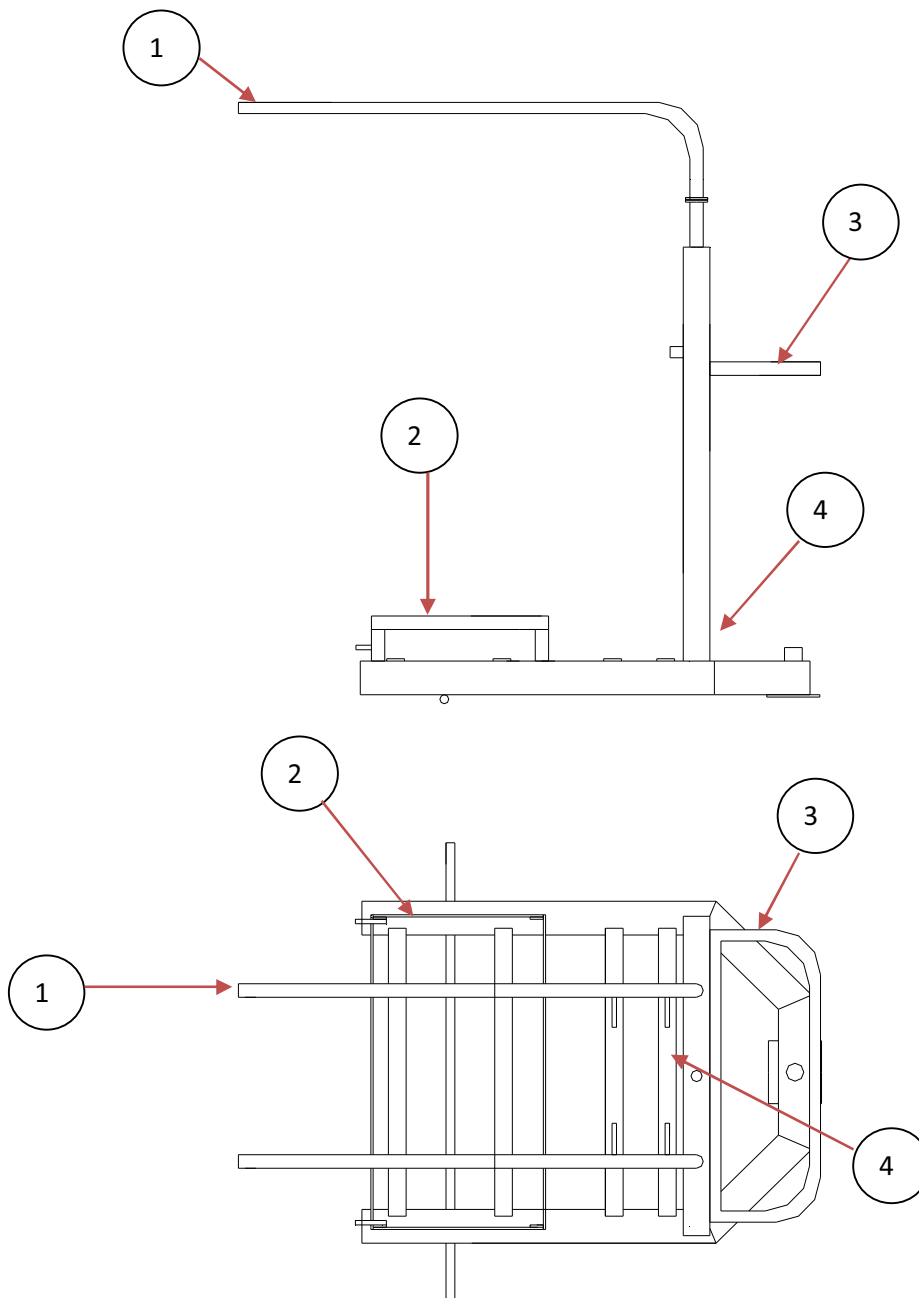


Figure 1: Cross section diagram

1. MILKING UNITS HANGERS
2. MILK BUCKET BASE

3. GRIP
4. TROLLEY

1.5 TECHNICAL CHARACTERISTICS

Description	Characteristics	Quantity
Vacuum Pump	180 lit - Oil lubricated	1
Electrical Motor	0.75 Hp	1
Vacuum Tank	Steel - 30 lit	1
Vacuum Regulator	200L	1
Trolley	Big	1
Pulsators	Pneumatic	2
Milk Bucket	S/S - 25 lt	1
Milk Tube	PVC - 14.5*24,5	2 * 1.5 m
Liners	Rubber 6.32	8
Milk Claws	S.S 400cc	2
Shells	S.S 6.32	8

Dimensions: **1.07 m x 0.9 m x 1.3 m**

Weight: **84 kg**