



**PARALLEL RAPID EXIT
MILKING PARLOUR FOR COWS**



Type of Milking system : **PARALLEL RAPID EXIT**

Construction material : **100 % STAINLESS STEEL** or **HOT GALVANISED**

Capacity: **2 x 24**

Name : **ZEUS**

GENERAL IDEA

Such a big milking system has usually 2 sides. Each side (1 x 24) of the parlour is completely independent to each other .

In other words, every 1* 24 will have **its own** stall , terminal unit , milk pump, vacuum system, water tank , washing machine , electronic pulsation boxes , electrical board, water tank.

The only thing in common they have is the air compressor when we are talking for pneumatic elevation of the stall.

All these results in :

- fast & healthy milking
- Animals security
- Cleaning
- Effectiveness

TECHNICAL FEATURES

A .STALL SYSTEM

The stall is 100% stainless steel and releases the animals **vertically at 0 °** . The solid construction satisfies the needs of a modern livestock unit and gives durability against any spoilages.

While entering the parlour the animal is obliged to take a specific place in the stall ,the first one from the opposite side of the entrance.

When the animal takes its own place in the parlour automatically the second place is opened.

BENEFITS

- There is a specific place for every animal, There is not possibility the animal to take another place in the parlour.
- Fast with no traffic at the interior of the parlour.
- The stall is equipped with a backward moving pneumatic system for bringing the animals towards the side of the milker (15 cm).
- Manure collection at the interior of the parlour. After the end of milking process all manure will be removed via high water pressure.
- Automatic floor washing system which will be operating after the release of the animals from the parlour.
- Assistant exit doors are pneumatically operated.
- Vertical release of the stall via the use of **stainless steel rope**. The stall is lifted up and set down **pneumatically**.
- Stainless steel sheet for protection of the milker
- Air compressor is included





B. MILKING SYSTEM DESCRIPTION

1. TUBES

We use the biggest diameter of S/S tubes for milk (76 mm) & water (63 mm) in order to achieve perfect milking & washing .

2. VACUUM SYSTEM

➤ UNITS : 2

Every milking system has 2 vacuum pumps of 3300 L each.

All the vacuum pumps are auto - ventilated. .

We choose durable vacuum pumps which will give adequate & stable vacuum for the whole milking system.

Every single vacuum pump is escorted with its own silencer, oil can , belt stretcher, pulley, 10 HP electrical motor, protection cover.

Every vacuum pump is integrated on a hot galvanized bracket & galvanized vacuum tank of 100 Litre.

Each unit is escorted with its vacuum regulator & vacuum gauge.



3. ELECTRONIC PULSATORS

➤ UNITS : 48

We install 2- exit electronic Pulsator for every milking unit . In total 48 pulsators per milking parlour. Agromasters NT 24 provides highly reliable operation. With its streamlined design, they are easy to install, and almost maintenance-free. Due to its low power consumption (200mA).



4. ZEUS PULSATION CONTROL UNIT

➤ UNITS : 2

it is capable of supplying power to a maximum of 24 electronic pulsators. It consists of 4 channels depending on the model. Each channel can synchronize & supply power up to 6 pulsators.

The Zeus control unit is specially designed for NT 24 electronic pulsators. NT 24 pulsators have minimum demands in terms of vacuum and very low energy consumption (200 mA).

The totally sealed construction of the enclosure, provides protection against any kind of moisture and humidity. The aluminium and stainless steel material add robustness to the whole product design. .





TECHNICAL CHARACTERISTICS

- * Equipped with LCD display for function check and configuration.
- * Indication of current consumption on each channel.
- * Indication of Voltage supplied to pulsators.
- * Phases configuration.
- * Pulsation rate configuration (10-190 pulses / min).
- * Pulsation ratio configuration (10:90 – 90:10)
- * Indication of front and rear pulsation ratio (green and red light)
- * Easy to remove stainless steel cover for PCB check & service.
- * Auto-cooled power supply
- * Protection against short circuit, voltage overload , over temperature.

5. POSEIDON WASHING UNIT

➤ UNITS : 2

Each side of the parlour (2 x 24) has its own washing machine .

Each Poseidon washing unit will be escorted with its own drain valve , stainless steel water tank 70 litre and the proportional peristaltic pumps .

The **Poseidon II** washing unit is simple to use and controls parlour's milking & washing process via one single button (washing – 0 – milking).

It is available with 2 washing programs & 4 different phases for complete management of washing cycle. The large screen of the controller allows the observation of all the stages of the washing cycle (phases , programs , total washing time) .



Moreover we can make any modifications at the existing program by just entering the menu.

Both peristaltic pumps are responsible for absorbing automatically the quantities of acid and alcalic liquids, that we pre determine .

6. MILK RECEIVER

➤ UNITS : 2

The **HECTOR II** Glass Receiver has a capacity of 50 L. The glass material enables full observation of milking and washing process.

This unique product is mainly used for cow milking parlours & bigger goat milking systems .

The 50 L receiver incorporates a unique design. Glass material enables the observation of milking and washing process.

The upper and bottom lids are made of stainless steel and escorted with the necessary gaskets to ensure perfect foreclosure . The central & downward base of the receiver are from Stainless steel and specially designed for this type of Receiver.

The stainless steel closing system allows the end user to empty the remaining quantity of milk.



7. MILK PUMP

➤ UNITS : 2

Each side of the milking system is equipped with 100% stainless steel milk pump .

The pump is equipped with 0.75 HP electrical motor

S/S Base , S/S protection cover ,S/S impeller.

The pump is connected with S/S expanding couplings to the milk receiver.



8 SANITARY TRAPS

➤ UNITS : 2

Hermes Sanitary trap is 100 % made of stainless steel. It separates the milking part of the system from the just vacuum side of the system.

It also protects the vacuum pump from moisture and dirt that might be sucked up through the vacuum lines by accident. It supplies the receiver with vacuum and then transfers it to the milking units



9. CONNECTIONS

For tube connections we use **only** S/S expanding couplings of various diameters .

S/S milk entries of various sizes 14 -16 mm ,
16 -18 mm.

S/S supports for washing jetters.

S/S u-bolts , 63 mm , 38 mm, 51 mm

S/S bendings

S/S 3 way switch

S/S milk filter



10. JETTERS

➤ UNITS : 48

The **Triton I** washing Jetters is a high quality product (100% Stainless steel) for Cows, made in agromasters .

It is an important part of the milking machine and it must work effectively, not harm the silicone liner and be easy to use and suitable for even the most demanding parlour conditions. It is mounted on the wash line of the milking parlour. The specially designed stainless steel clip in holders ensure fast accurate placement of the milking clusters with minimum oscillations due its durable material.

The bended Stainless steel chamber contributes to optimum washing of silicone liners (internally and externally).



11. MILKING UNITS

➤ UNITS : 80

The **Ares Milking cluster** is specially designed for high yield cows & buffalos.

The **Achilles 400cc** claw is a blending of high quality stainless steel parts manufactured in our facilities. This light weighted product , contributes in fast & efficient milking under severe working conditions.

The **6.32** liner is made of synthetic rubber, it promotes healthy udders, hygiene milking and gentle treatment of the teats (maximum 2500 milkings).

The polished stainless steel shells are specially designed for 6.32 liners and fit perfectly with them.



12.PNEUMATIC OR ELECTRICAL STALL ELEVATION SYSTEM

➤ UNITS : 1

Every 6 places stall has its own pneumatic cylinder , thus achieving fast & stable elavation and stabilized set down.

In total 4 pneumatic cylinders will be used on each side . Via the use of stainless steel rope , we achieve vertical - 0 ° accurate elevation and set down of the stall.

Something similar can be applied if the movement will be done by Speed reducer instead of pneumatic cylinders. In electrical lift up there is no need for pneumatic cylinders but for electrical speed reducers .



13.HYDRAULIC FLOOR WASHING

➤ UNITS : 6

A High pressure hydraulic pump absorbs water from a central water tank .

Every 8 milking places a sprayer is integrated on the floor . After the exit of the animals, via the use of the switch, the sprayers are being activated and remove the manure from the floor .

HERD MANAGEMENT SYSTEM FOR COWS

13. Ecoflow Milk meter

➤ UNITS : 48

Developed with both the operator and the animal in mind, the **EcoSystem** provides solutions for milk quality and dairy herd management. This next-generation milking Assistant is user and maintenance friendly and can be easily fitted to any milking parlor.

EcoFlow Milk meter allows for accurate measurement of smaller milk yields, making it very well suited not only for cows and buffalo, but also for small animals, such as sheep and goats

Its network of Milk Point Controllers (MPCs) , controls essential milking functions, such as pulsation control and cluster takeoff, and provides valuable information to the milker, including milk yield, flow rate, milking duration and milk temperature, as well as the electrical conductivity of the milk

When the MPCs are linked to a computer using the **Eco System**, the above data on milk quality is supplemented by data on animal health and fertility, including animal identification, parlor codes, lactations, inseminations . This Information is accessible both in the parlor (on the MPCs) and on the computer.

Main Characteristics of Eco flow milk meter

- Milk yield measurement accuracy within $\pm 5\%$ (target – not yet reached)
- Milk temperature measurement accuracy within $\pm 0.1\%$
- Measurement of electrical conductivity of milk; used as a management tool indicating of early Mastitis
- Measurement of milk flow rate and total yield
- Immediate kick off detection (3 to 5 seconds)



14. EcoHerd software

➤ UNITS : 1

By integrating all the system's components, **EcoHerd** software can automatically and accurately collect, analyze, monitor and manage the general herd's and the individual cows status and generate reports to assist daily decision making and offer ongoing dairy management support.

- High resolution, continuous monitoring of production
- Risk reduction (e.g. prevents mistakes: antibiotic milk withdrawal)
- Advanced and early detection of illness
- Linked to different animal identification (from manual to fully automatic ID), per stall and at the entry of the parlor
- Information can be accessed on a daily basis, in the parlor and on the PC
- It provides total control over the milking process and other production factors such as prolificacy and offspring losses. It allows better control over the animals in the herd thus maximizing profits.

Cow #	Tag #	Date of birth	Lactation #	Calving date	Last event	Days from last event
503	4394	01/12/2008	1	18/12/2010	Insemination	31

Identity	Lactations events	Graph	Milk

Milk information for the last 10 days

Avg. for all
 Avg. for herd
 Avg. for group

Date	Milk yield				Max. conductivity				Max. temperature			
	1	2	3	Total	1	2	3	Average	1	2	3	Average
Average	15.9	17.5	14.4	47.9	8.9	8.9	8.8	8.9	35.9	34.6	35.0	35.2
Last 24 hours	13.8	12.9	14.9	41.6	8.9	10.2	8.3	9.1	35.1	37.2	34.5	35.6
Deviation [%]	-13.2	-26.3	3.5	-13.2	1.1	14.6	-5.7	2.2	-2.2	7.5	-1.4	1.1
Avg. for herd				38.8				8.9				35.5
11/07/2011	13.8	12.9	13.8	40.5	8.9	10.2	9.1	9.4	35.1	37.2	36.3	36.2
10/07/2011	15.8	20.3	14.9	51.0	9.1	7.3	8.3	8.2	36.1	15.0	34.5	28.5
09/07/2011	16.6	13.7	14.8	45.1	8.0	8.7	9.1	8.6	34.6	37.5	36.8	36.3
08/07/2011	16.2	24.6	14.7	55.5	8.3	9.3	8.9	8.8	36.9	37.5	37.7	37.4
07/07/2011	17.1	25.0	13.8	55.9	9.1	10.5	9.5	9.7	36.7	36.9	37.0	36.9
06/07/2011	16.2	13.7	14.4	44.3	8.5	8.7	8.5	8.6	35.3	35.6	37.3	36.1
05/07/2011	14.0	13.0	13.9	40.9	8.5	8.9	9.1	8.8	34.8	37.5	37.7	36.7
04/07/2011	13.2	14.6	20.7	48.5	9.3	9.3	7.7	8.8	36.5	36.7	16.0	29.7
03/07/2011	16.0	21.3	15.5	52.8	9.1	8.5	9.1	8.9	35.1	36.0	37.1	36.1
02/07/2011	16.9	15.1	8.0	40.0	8.9	8.5	8.2	8.5	36.1	36.2	37.5	36.6

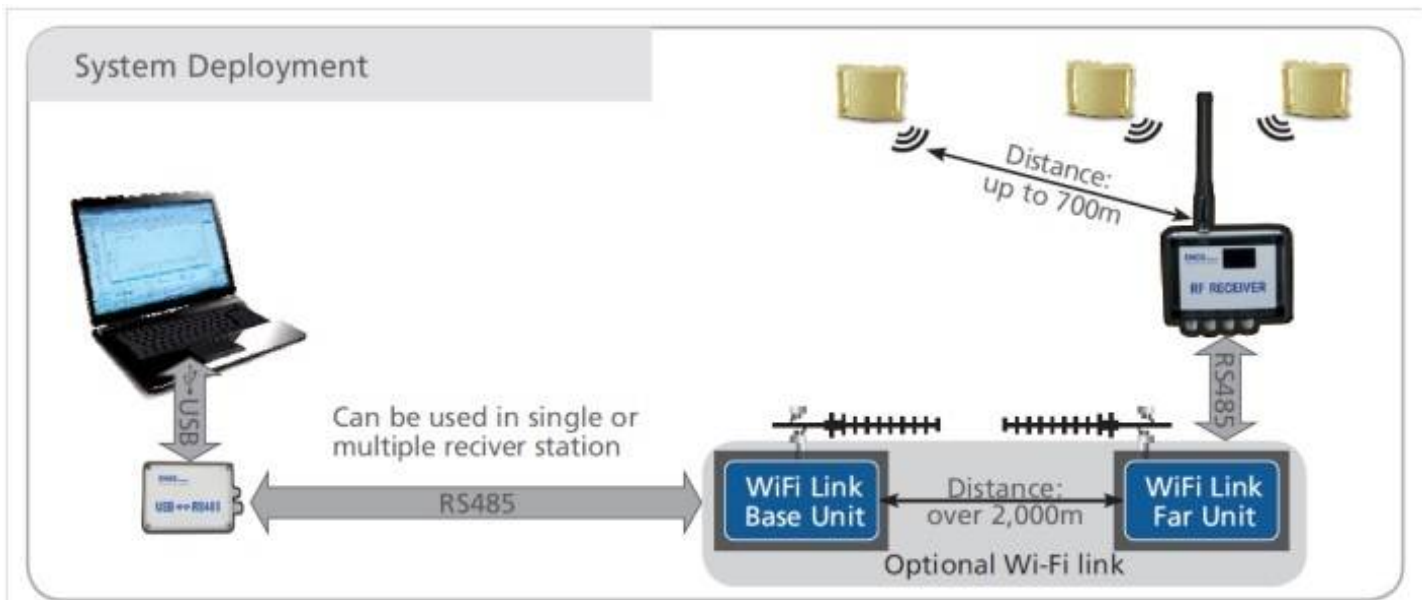
Milk yield
 Max. conductivity
 Max. temperature
 Milk flow
 Duration
 Start time

15. Heat detection System

The innovative heat detection system is a unique solution which combines state of the art technology with unique benefits to assist in enhance the heat detection process along with cow's welfare status.

Long Range Pedometer (LRP) technology uses 433MHz ultra long-range radio, which is freely available around the world (ISM band). This enables frequent, real-time data transfer, thus providing **more timely information than any competing system**.

LRP technology provides advanced, high-resolution activity measurement with



continuous indicators for animal posture - lying or standing. These features enable highly accurate heat detection and possible health and welfare early warning signs enabling you to deal with them before they evolve.

The heat detection installation is easy and simple, covering a range of up to 2000m, enabling highly effective heat detection of grazing and non grazing cows, as well as heifers in any type of farm,

16. Leg Tag for Cows

- UNITS : 500



17. Individual antenna

- UNITS : 48

Each Milking point is equipped with its individual antenna thus offering the dairy manager a reliable animal ID system. Antennas transmit and receive all data from LRP/passive tags and then integrate them fluently with the EcoHerd system which processes the data and generates accurate, on the spot reliable reports regarding the animal's production and welfare.

18. Sorting Gate

- UNITS : 1

A sort gate can be located near the milking parlor and sick, problematic or any other specific batch of animals can be sorted and treated by either the vet or another worker later.

EcoHerd software automatically traces the animals that need your attention every day. All you need to do is define the criteria for animals requiring attention and the software does the rest. It controls the sort gates and separates the animals into their respective treatment areas according to your predefined instructions

The integrated update on EcoHerd is used for efficiently isolating animals for treatment. It enables quick checking/treatment of animals and avoids the need to stroll over large areas seeking out the animals for treatment.

