

PRODUCT CATALOGUE



# Our vision, your success!

We, in Milkplan, aim to cover every specialized need and constantly support the dairy farmer and producer with projects that facilitate and reward his efforts while contributing to his unit development.

With advanced industrial know-how, fully certified manufacturing and years of experience, in Milkplan, we create high quality and functionality products tailored to specific or individual needs replying to every special project's requirements.

- 25 years of success
- Exports in 75 countries
- 85% international sales

Quality - Innovation - Flexibility - Consistency













« Discover our products and turnkey solutions, all combined with Milkplan's high quality & functionality. »

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for Milking Systems & Milk

Cooling Tanks





# MILK COOLING TANKS

Milk is a delicate product that requires specific environmental conditions to maintain its quality. An appropriate milk cooling tank is the only reliable way to protect the capital of the milk producing farm. In Milkplan, we see that as our task and responsibility.

- Open Type Milk Cooling Tanks | MP Vertitank
- Closed Type Milk Cooling Tanks | MP Powertank

### OPEN TYPE MILK COOLING TANKS

## MP Vertitank

(MPV 50-2500lt)

MP Vertitank series is available in 13 different capacities, covering a range from 50 to 2500 liters, and meets the needs of all dairy and cheese production units.

All MP Vertitank models are recognized for their fast and stable cooling as well as their maximum energy efficiency.

MP Vertitank series is fully compliant with the standards and regulations set by the European Union and its value has been proved in thousands of livestock units in more than 75 countries.

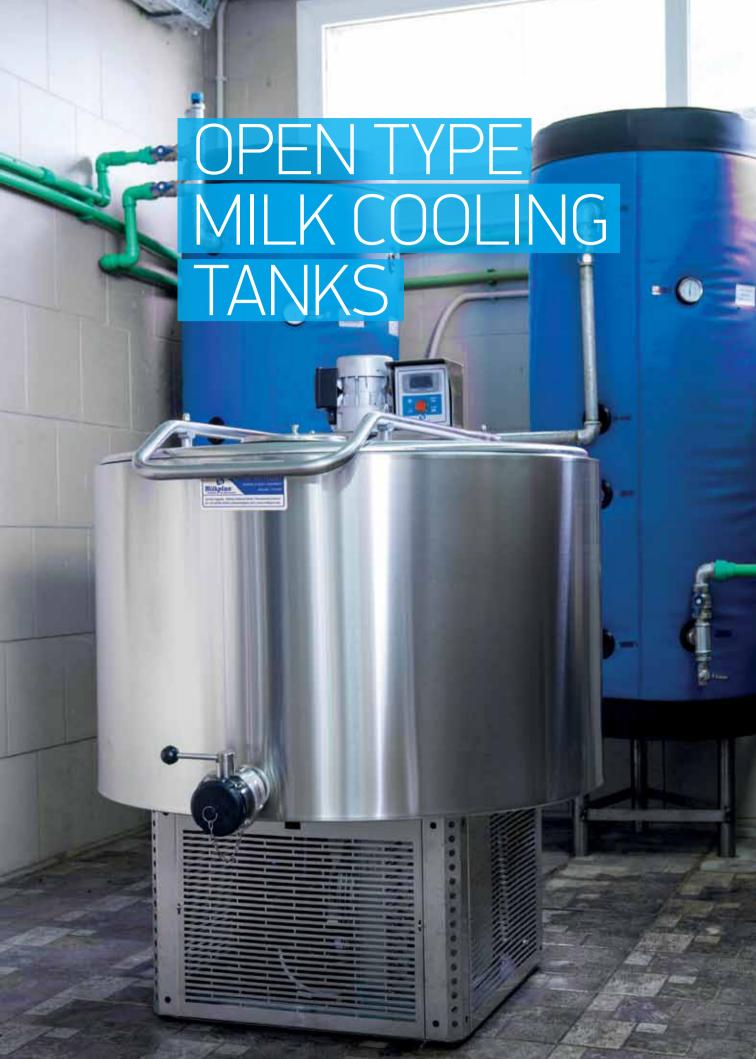
### Milkplan's technology! Guarantee for dairy production!

Milkplan's milk cooling tanks are manufactured with food grade materials and follow the European and American standards ISO5708 / EN13732 / 3A. This way cooling takes place at the right time, so as to avoid both the development of bacteria and the increase of milk acidity (pH). A powerful agitation motor set to the appropriate RPM ensures the proper ingredients suspension.

The meticulous design of our tanks provides a number of advantages for the milk production unit, such as space saving, easy transportation and installation, safe use, low power consumption, functional simplicity and easy maintenance.

MP Vertitanks' cooling mechanisms and capacities have been designed in order to meet the demands of both sheep and goat or small cow farms.

Their value has been proved in thousands of livestock units in more than 75 countries.



# OPEN TYPEMILK COOLING TANKS

# MP Vertitank







**MPV** 300lt





# Modern laser technology!

Each milk cooling tank's evaporator plate, which is the system's heart, has been welded with state-of-the-art laser technology.

Its installation in the tank, its special design, the appropriate selection of materials used and the diamond weld pattern, all serve to ensure energy loss reduction, zero coolant leakage and direct dissipation of the milk's heat while avoiding the creation of ice particles.

# The difference is in the details!

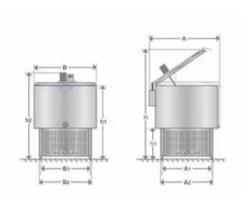
MP Vertitank's simplicity of use is ensured by a number of important technical details, such as the careful arrangement of the cooling unit, the slope design, the optimal agitation positioning, the ergonomic manholes, the easy leveling etc.

At Milkplan, we pay special attention to details. With advanced industrial know-how and customization expertise, our MP Vertitanks operate continuously and reliably in livestock and dairy units worldwide.

### ■ SPECIFICATIONS

### 50lt to 300lt

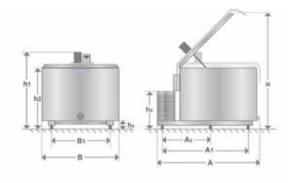
Tanks from 50lt to 300lt are mainly suitable for sheep and goats farms and can serve milk collection of two or four milkings.



Type of tank	Α	A1	A2	В	B1	B2	Н	h1	h2	h3
MPV 50	560	280	365	520	280	365	1350	1050	820	440
MPV 100	780	330	400	680	410	500	1660	1190	980	420
MPV 200	1030	530	610	890	530	610	1520	1220	990	420
MPV 300	1130	530	620	990	530	610	1700	1250	1030	420

### 400lt to 2500lt

Tanks from 400lt to 2500lt can serve small cow farms as well as big sheep and goats farms.



Type of tank	Α	A1	A2	В	B1	Н	h1	h2	h3	h4
MPV 400	1600	950	-	1090	670	1445	1050	830	685	180
MPV 500	1600	950	-	1090	670	1620	1190	965	680	180
MPV 650	1600	950	-	1090	670	1765	1345	1120	750	180
MPV 800	1770	1310	-	1290	925	1910	1265	1040	685	192
MPV 1000	2050	1320	450	1495	910	1925	1250	1010	840	192
MPV 1250	2050	1320	450	1495	940	2090	1495	1150	840	192
MPV 1500	2275	1560	590	1495	1140	2200	1645	1304	818	192
MPV 2000	2320	1490	680	1840	1130	2200	1510	1200	880	192
MPV 2500	2320	1490	680	1840	1130	2390	1700	1390	1070	192

▶ The specifications mentioned above are subject to change without prior notice as part of the continuous improvement of our products. They concern the 2BII models according to EN13732: 2002.

# OPEN TYPE MILK COOLING TANKS

### SUPERIOR OPERATIONAL FEATURES

### **Cooling Unit**

Precise calculation of each tank's cooling capacity so that milk cooling takes place at the right time according to the producer's needs. MP Vertitank models are available in versions of 2 or 4 milkings, for normal or high ambient temperatures (tropical or supertropical models) with European or American compressors made by Tecumseh, Maneurop Copeland or Embraco. All refrigeration units operate with environmentally friendly Freon R404A. For their better performance and system protection they are equipped with a solenoid valve, separate high and low pressure switches, an additional pressure switch for the second fan's control and check valves.



### Thermal insulation

Excellent tank insulation with environmentally friendly polyurethane foam for low temperature preservation and energy saving. Insulation thickness 45mm at the side walls and 90mm at the tank's base.



### Measuring stick

For the milk's quantity measurement, MP Vertitanks are equipped with a stainless steel measuring stick and a conversion table in liters or gallons.



### Direct expansion evaporator

Laser-welded evaporator with appropriate slope at the bottom which ensures the complete emptying of the tank in compliance with international standards (ISO 5708).



### Easy cleaning

The agitation motor, the electronic control panel and the lifting handle of the tank lid (models above 100l) are elevated, allowing thorough cleaning of the lid and preventing dirt accumulation.



### Electronic control panel

The electronic control panel is responsible for the milk's cooling and agitation. It is based on a Dixell electronic controller designed for applications in milk cooling with fully adjustable parameters. It is equipped with a temperature sensor (NTC) IP68 sealed and resistant up to 110 °C. It has an easy-to-read 3digit display and a special design so that the electronic circuits are protected against the ingress of water or the water vapor. The total ECP is IP55 certified.



### Perforated cover

The stainless steel protective perforated cover prevents the entry of small animals and dirt in the cooling unit of the tank, ensuring its nonstop operation. Its easy removal allows direct access to the refrigeration unit for maintenance and repair. It is worth mentioning that for the protective perforated cover our company has been granted with a patent (No 1004080).

### Holding springs

Stainless steel springs (from 1 to 4, depending on the model) provide easy lifting and holding of the tank's lid while offering high resistance to stress of daily use (models above 2001).



### Milk inlet lid

MP Vertitanks have a D180mm diameter milk inlet (2000l and 2500l models have two) for easy filling and tank's content inspection. It is covered by a stainless steel lid held in place by a hinge.



### Butterfly valve

MP Vertitanks are available with milk outlet valve type DN50, SMS51 or TriClamp and are equipped with a stainless steel butterfly valve. In the case of the DN50 valve, a food grade plastic cap is also included.



### Agitation motor with automatic stop

MP Vertitanks are equipped with an agitation motor, made by the French company Sirem, which rotates at 30 rpm to prevent milk foaming. The motor has a gravity switch so that agitation stops automatically when the tank lid is lifted.



### Lid-agitator connection

The robust lid, the absence of screws and the one-piece agitator, ensures perfect cleaning and minimizes the risk of milk contamination.



### Tank rim

The rim of the tanks is manufactured according to ISO 5708/13732 EN.



### Adjustable feet

All MP Vertitank models have adjustable support feet for absolute levelling and milk measurement even on sloping ground.



Milkplan in its constant effort to improve its products retains the right of positive alterations regarding the specifications mentioned.

### CLOSED TYPE MILK COOLING TANKS

# MP Powertank

(MPP 1000-14000lt & MPPO 10000-20000lt)

MP Powertank series meets the needs of medium and large livestock farms. They are horizontal type stainless steel tanks with manholes and automated systems for washing and disinfection right after every evacuation.

MP Powertanks are available in 16 capacities, round type from 1.000lt to 14.000lt and elliptical from 10.000lt up to 20.000lt. All MP Powertank models, regardless their size and cooling power, are carefully designed in order to ensure agitation of even the smallest milk quantity and prevent ice formation.



### CLOSED TYPE MILK COOLING TANKS

# **MP** Powertank

(MPP 1000-14000lt)



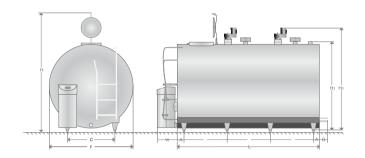
MPP 3000lt Round



### ■ SPECIFICATIONS

### 1.000lt to 14.000lt

Round type tanks are available in 13 different capacities from 1 000 to 14 000 liters with one or two cooling units and can serve milk collection of 2 to 6 milkings



Model	Number of feet	A (mm)	B (mm)	C (mm)	H (mm)	F (mm)	H1 (mm)	L (mm)	G (mm)	Hf (mm)	Hm (mm)	HL (mm)
MPP1000	4	422,5	845	600	1989	1060	1024	1690	1299	235/285	310	730
MPP1500	4	300	950	750	2256	1350	1291	1550	1566	235/285	310	730
MPP2000	4	507,5	1010	750	2256	1350	1291	2025	1566	235/285	310	730
MPP2500	4	450	1450	750	2256	1350	1291	2350	1566	235/285	310	730
MPP3000	4	725	1450	750	2256	1350	1291	2900	1566	235/285	330	730
MPP3500	4	725	1950	750	2256	1350	1291	3400	1566	235/285	330	730
MPP4000	4	592,5	1185	900	2668	1680	1603	2370	1878	235/285	330	830
MPP5000	4	725	1450	900	2668	1680	1603	2900	1878	235/285	330	830
MPP6000	6	200	1550	900	2668	1680	1603	3500	1878	235/285	330	830
MPP8000	8	175	997	1090	2997	1990	1882	3341	2207	285/335	330	830
MPP10000	8	175	1270	1090	2997	1990	1882	4160	2207	285/335	330	830
MPP12000	8	200	1160	1300	3216	2230	2101	3880	2466	285/365	330	830
MPP14000	8	175	1350	1300	3216	2230	2101	4400	2466	285/365	330	830

- ▶ The exact height varies depending on the inclination of the tank W: 380mm for MPP Standard, 560mm for MPP Control D:180mm without cooling valves, D:500mm with cooling valves.
- ▶ The specifications mentioned above are subject to change without notice as part of the continuous improvement of our products.

### CLOSED TYPE MILK COOLING TANKS

# **MP** Powertank

(MPPO 10000-20000lt)



MPP Oval 12000lt Elliptical

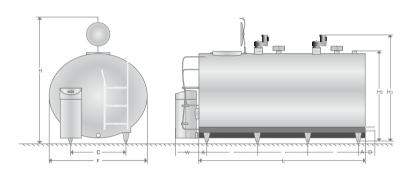


MPP Oval 20000lt Elliptical

### SPECIFICATIONS

### 10.000lt to 20.000lt

Elliptically shaped tanks are available from 10000lt to 20000lt. They are suitable for large and extra-large farms or dairy units and can be equipped with more than two cooling systems.



Model	Number of feet	A (mm)	B (mm)	C (mm)	F (mm)	H1 (mm)	H2 (mm)	L (mm)	G (mm)	Hf (mm)	Hm (mm)	HL (mm)
MPPO 10000	8	175	1533	1150	2053	1593	1670	4970	1830	235/340	330	830
MPPO 12000	8	175	1360	1445	2300	1765	1900	4450	2050	285/380	330	830
MPPO 14000	10	175	1160	1445	2300	1765	1900	5000	2050	285/390	330	830
MPPO 16000	10	175	1345	1445	2300	1765	1900	5750	2050	285/405	330	830
MPPO 18000	12	175	1215	1445	2300	1765	1900	6450	2050	285/410	330	830
MPPO 20000	12	175	1370	1445	2300	1765	1900	7220	2050	285/435	330	830

MPP Oval series is used in big milk production and dairy units as, thanks to their evaporators' extended surface, they offer faster cooling for larger quantities of milk. In addition they are easily installed in places where there is a height limitation.

- ► The exact height varies depending on the inclination of the tank W: 380mm for MPP Standard, 560mm for MPP Control D: 180mm only with the connecting pipes / 500mm with cooling valves
- ▶ The specifications mentioned above are subject to change without notice as part of the continuous improvement of products.

### CLOSED TYPE MILK COOLING TANKS

### SUPERIOR OPERATIONAL FEATURES

### **Cooling Unit**

MP Powertanks are available in versions of 2, 4 or 6 milkings and can be equipped with 1, 2 or 4 cooling units providing powerful & reliable cooling. For models up to 5000lt, cooling units can be installed on the tanks. The compressors used are made by leading manufacturers (Tecumseh, Maneurop or Copeland). For their protection and better performance, the circuit is equipped with a solenoid valve, separate pressure switches for the high and low pressure, a pressure switch for the second fan's control, a filter, a receiver bottle for freon, a safety valve on the receiver, an expansion valve of appropriate power, separate thermomagnetic switches installed on the circuit for each compressor and a voltage controller.



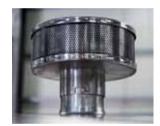
### Thermal insulation

All models are made entirely of AISI 304 stainless steel and are optimally insulated with polyurethane foam which ensures that a few minutes operation of the refrigeration unit is sufficient to preserve the pre-cooled milk.



### External pressure equalizer

All tanks have a stainless steel filter which prevents air entrapment in the tank during its filling and facilitates drainage. Depending on the size of the tank, there can be up to three filters that can be easily removed.



### Measuring dipstick

MP Powertanks feature a measuring stainless steel dipstick and a conversion table in liters for easy calculation of the milk's quantity.



### Self-cleaning valve

A self-cleaning valve is installed as an option to assist the use of the tank's washing system.



### Electronic measuring system

An electronic system which features a 5-digit display and a precision sensor (float) can be also installed for the precise measurement of the milk's quantity.



### Agitation motor

MP Powertanks are equipped with powerful motors made by the French company Sirem. They are set to 21 -25 rpm and installed on an elevated base to facilitate cleaning. Tanks from 8000 to 20 000lt have two or three stirring motors.



### Manhole

The stainless steel manhole of the tanks offers superior sealing without the use of a gasket. Models up to 3000lt have a D400mm diameter manhole and the larger capacity ones have a D500mm manhole. In both cases, the cover is fully rotatable and its smart design allows its retention at the open position.



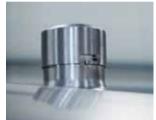
### Ladder

All models over 1500lt have a stainless steel ladder with anti-slip steps for the inspection of its content through the manhole at the top of the tank.



### Milk inlet

MP Powertank has one or two milk inlets of D76mm diameter. To protect the content of the tank, they are sealed with a stainless steel cap.



### Butterfly valve

Models up to 6000lt feature a milk outlet valve type DN50 or SMS51. For models with larger capacities the valve used is type DN80 or SMS76. Adaptation to specific customer needs is also possible.



### Temperature sensor

The position of the temperature sensor has been carefully selected so it can be easily replaced in case of failure.



### Adjustable feet

MP Powertanks have 4 to 12 stainless steel feet, depending on the model. Their height is adjustable for proper alignment even on sloping floor.



▶ Milkplan in its constant effort to improve its products retains the right of positive alterations regarding the specifications mentioned.

# CLOSED TYPEMILK COOLING TANKS

■ COOLING & WASHING CONTROL SYSTEMS

### MP Powertank

MP Powertank has two options for automatic cooling and washing.

### MP Powertank STANDARD

MPP Standard offers cooling and agitation control and performs effective washing and disinfection.







### Ease of use

The electronic controller (made by Dixell) offers ease of use and effective control of the cooling and agitation functions safeguarding the milk quality.

# Programmable logic controller (PLC)

The programmable logic controller (PLC) of MPP Standard is responsible for the control of the 5-circle washing. It has fully adjustable parameters and offers the option of software update.

### OPERATIONAL FEATURES

### Made of AISI 304

All internal metal parts of the washing systems are made of stainless steel AISI 304 (DIN 1.4301) in order to prevent any possibility of corrosion, even by the most powerful disinfectants' usage.

### Powerful water pump

The powerful water pump guarantees continuous recirculation, constant water flow and proper injection pressure.

### ■ MP Powertank CONTROL

MPP Control is additionally equipped with a complete alarm system, a full control system for cooling and washing and accessories for extra support.









### Backup cooling controller

The programmable logic controller (PLC) of MPP Control is responsible for the full control of the 5-circles washing. It has fully adjustable parameters and offers the option of software update.

### Double temperature sensors

MPP Control is equipped with two temperature sensors to ensure milk preservation even if one of them fails.

### LCD screen

The backlit LCD and waterproof (IP65) screen offers easy monitoring and regulation of all parameters of refrigeration and washing.

### Sound alarm

The integrated sound alarm function alerts immediately the user in case of any problem.

# Independent peristaltic pumps

Two independent peristaltic pumps provide the necessary supply of liquid disinfectants.

### Efficient washing

The water spray system with the special rotating blades offer excellent cleaning to the entire interior of the tank.





# MILK TRANSPORTATION TANKS

MP Milk Transfer and MP Cool-Milk Transfer ensure the safe transportation of milk everywhere. Fully compliant with all the safety standards and conformed with all the related regulations, MP Milk Transfer and MP CoolMilk Transfer safeguard the milk's quality maintenance in full. This is why our milk cooling tanks stand out globally!

- Milk Transportation Tanks | Milk Transfer
- Milk Cooling & Transportation Tanks | MP CoolMilkTransfer

### MILK TRANSPORTATION TANKS

# MP Milk Transfer

(TT 500lt - 4000lt)

MP Milk Transfer is a specially insulated stainless steel tank which can keep the milk cold for about 8-12 hours without the need of a cooling unit ensuring safe milk transportation. It is easily installed on vehicles of various types and it allows multiple shipments from different producers.



### SUPERIOR OPERATING CHARACTERISTICS

All types of tanks of MP Milk Transfer and MP CoolMilk Transfer series are made of food-grade AISI304 (DIN 1.4301) non-ferrous stainless steel and have a double wall with thermal insulation made of high density environmentally friendly polyurethane foam in order to minimize energy losses.

### Optimum tank design

Milkplan's expertise in milk cooling tanks manufacturing ensures functional simplicity, performance reliability, safe use, low power consumption and long life span while providing excellent value for money.

### **Interior Design**

Robust construction with endurance to strain due to transportation. With smooth inner walls, rounded corners and perfectly polished welds.

### Shape & construction

Thanks to the elliptical cross section of these tanks – ie. their oval shape, MP Milk Transfer and MP CoolMilk Transfer maintain a low center of gravity resulting in better vehicle handling during milk transportation.

### MILK TRANSPORTATION TANKS

# MP Cool Milk Transfer

(CTT 500- 2000lt), Hz: 50/60

MP CoolMilk Transfer is a smart solution for reliable and efficient mobile milk cooling everywhere.

It has a stainless steel tank with high density thermal insulation which features a full flow evaporator on bottom for direct expansion functioning. MP CoolMilk Transfer ensures energy losses minimization while providing immediate milk heat dissipation without the creation of ice particles.



# Careful design & excellent cleaning

The functional design as well as the quality and treatment of the metal construction prevent the entrapment of even the minutest milk quantity, therefore avoiding the development of bacteria and the deterioration of the transported milk.

### Pressure equation

Every tank has an extra stainless steel ventilation cap which allows the air inlet/outlet preventing the over/underpressure during its filling or emptying.

### Complete sealing

The raised manhole edge (D400mm) in combination with the gasket, the easy locking system and the perfect welding safeguard the complete sealing of the tank ensuring the safe milk transfer.

### MP Milk Transfer

(TT 500lt - 4000lt)

### SUPERIOR OPERATING CHARACTERISTICS

### Robust construction

MP Milk Transfer's robust construction offers endurance to strain due to transportation while its special interior design contributes to road safety by reducing the risk of abrupt weight shifts.

### Milk separation

The partitioning of its interior in one or more compartments allows the sequential and separate collection of milk amounts from different sources.

### Independent outlet valves

Each compartment has its own separate milk outlet butterfly valve which can be DN50 SMS51 or Triclamp. In case of the DN50 type, the valve is also equipped with a food grade plastic cap.

### Ease of washing & disinfection

Every compartment has its own integrated washing spray ball system. Optionally, it can be combined with a wall-installed MPP Standard (see page 22).

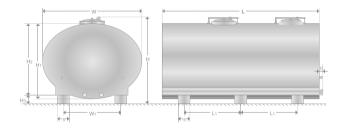
# OPTIONALLY FOR BOTH MODELS Milk pump

▶ MP Milk Transfer and MP CoolMilk Transfer tanks are optionally equipped with a powerful 230V or 12V stainless steel milk pump which guarantees continuous circulation and constant milk flow during filling and emptying.

### SPECIFICATIONS

### 500lt - 4000lt

MP Milk Transfer is available in 12 types from 500lt to 4000lt.



Туре	Maximum capacity	W	W1	H1	H2	НЗ	Н	L	L1	Number of supports
TT 500E	530	990	590	800	765	140	1055	1250	740	4
TT 750E	800	990	590	800	765	140	1055	1830	1110	4
TT 1000E	1050	1320	760	1080	1030	140	1320	1250	800	4
TT 1000E-2	1050	990	590	800	765	140	1055	2400	825	6
TT 1500E	1580	1320	760	1080	1030	140	1320	1830	1090	4
TT 1500E-2	1580	990	590	800	765	140	1055	3550	1395	6
TT 2000E	2100	1320	760	1080	1030	140	1320	2400	825	6
TT 2000E-2	2100	1320	760	1080	1030	140	1320	2400	825	6
TT 2500E-2	2600	1320	760	1080	1030	140	1320	2950	1095	6
TT 3000E-2	3160	1320	760	1080	1030	140	1320	3560	1400	6
TT 3000E-3	3160	1320	760	1080	1030	140	1320	3560	1400	6
TT 4000E-3	4180	1320	760	1080	1030	140	1320	4680	1755	6

### ■ MILK TRANSPORTATION

### MP CoolMilk Transfer

(CTT 500- 2000lt), Hz: 50/60

### il diloici

Trailer

Galvanized iron trailer, which conforms to the European Directive of road traffic safety rules & regulations. With lights, thrust & parking brakes, suspensions and a retractable wheel.

### Agitation system

SUPERIOR OPERATING CHARACTERISTICS

Equipped with a programmable agitation system, MP CoolMilk Transfer offers slow gentle agitation and the option of regulation in automatic cyclic or continuous function ensuring effective milk cooling for the whole tank as well as milk fat conservation according to ISO 5708 directive.

### System stability

The agitator axle is fixed on the top as well as on the tank bottom ensuring the stability of the system even during transportation in rough roads.

### Outlet valve

Butterfly valve available in DN50 SMS51 or Triclamp. In the case of DN50 type, the valve is also equipped with a food grade plastic cap.

### Cooling equipment

Vibration-resistant high performance & low energy consumption cooling unit (Scroll type compressor) for 2 or 4 milkings. Considerably quieter in operation and lighter compared to other types.

### Effective washing & disinfection

- Washing system constructed of high quality raw materials in order to prevent any possibility of corrosion even by the most powerful disinfectants.
- Powerful water pump which ensures continuous recirculation, constant water flow and proper injection pressure.
- Independent peristaltic pumps which provide the necessary quantity of liquid disinfectants for perfect hygiene and cost saving.
- Integrated sound alarm function for immediate alert.
- Efficient tank washing with water spray system and special rotating blades.

### Fase of use and effective control of all functions

- Dixell electronic controller for cooling, agitation and alarm functions & milk temperature display.
- Dedicated washing controller (PLC) with fully adjustable parameters, responsive to software updates.

Туре	Maximum Capacity	W	W1	H1	H2	Н	L
CTT500E	530	990	590	800	765	1055	1250
CTT1000E	1050	1320	760	1080	1030	1320	1250
CTT1500E	1580	1320	760	1080	1030	1320	1830
CTT2000E	2100	1320	760	1080	1030	1320	2400

### \* D: 100mm, T: 400mm

### ■ SPECIFICATIONS

### 500lt - 2000lt

MP CoolMilk Transfer is available in 4 types from 500lt to 2000lt.









# MILK PROCESSING

Milk handling is a delicate process. High standards in sanitation, pasteurization and dairy processing are very important for the quality of the final product. In home dairies, where the production line is not vertical, the choice of the appropriate equipment is essential.

Milkplan's line of equipment for milk processing and cheese making operations is designed especially for small dairy units and home dairies. Following high standards and specifications, in Milkplan, we develop reliable, high performance and long-lasting products in order to support dairy farmers and producers with projects that facilitate and reward their efforts while contributing to their units' development so they can deliver the safest and highest quality dairy products to consumers.

- MP Pasteurizer
  Icebank
- Control Panel
- MP Coagulation Tank
- Shaping & Rotation 2 to 1



### MILK PROCESSING

# **MP** Pasteurizer

MP Pasteurizer is a reliable and efficient pasteurization solution for milk capacity from 300 to 500 liters. It has an extended evaporator surface (at the bottom & all around the tank) for direct dissipation of the milk's heat and an electronic PLC control panel for scheduled operation and optimization of heating and cooling processes during pasteurization.

### ADVANTAGES

- Scheduled operation programmed through an electronic PLC control panel.
- Excellent tank thermal insulation. Double wall (45mm around the tank & 90mm at the bottom) environmentally friendly polyurethane foam and efficient evaporator for temperature maintenance and energy saving.
- Ergonomic design and manufacturing of high quality materials for high efficiency.
- Automatic agitation operation.
- Configurable temperature for heating & cooling.

### **OPTIONALLY**

- ► Icebank for faster cooling and further energy and water saving\*
- ► Gas boiler for direct & cost-effective heating \*\*
- \* Icebank of 350LT capacity for chilled water supply.
- \*\* Usage of water recirculation system for both heating & cooling through the closed circuit of boiler pasteurizer icebank.

### \*Ice Bank

### **■ FEATURES**

- Construction entirely of food-grade AISI 304 (DIN 1.4301) non-ferrous stainless steel.
- Laser welded 'jacket' type evaporator.
- Integrated electrical panel for complete control.
- Air bubbles controlled agitation for uniform water temperature.
- Sensors for adjustable ice thickness and water level check for automatic tank filling.

### MILK PROCESSING

# MP Coagulation Tank

MP Coagulation tank is manufactured for milk capacity from 100 to 500 liters. It is made of food grade AISI304 stainless steel so as to secure the milk's quality and avoid the increase of milk acidity (pH). MP Coagulation tank is designed in rectangular shape for uniform milk curdling, so as the rennet is well blended with the whole milk quantity.

Moreover, it offers easy mixture flow to the molds with its automatic opening and easy molds' filling with its single distributor. For the optimization of the whole procedure, MP coagulation tank is also equipped with benches to facilitate the user.



### ADVANTAGES

- Manufacturing of high quality materials.
- Ergonomic design for uniform milk coagulation.
- Automatic opening for easy flow
- Visual & sound alerts for every step's completion (in combination with the control panel).
- Single distributor for immediate and uniform molds' filling.

### MILK PROCESSING

# Control panel

WATERPROOF & STAINLESS STEEL PANEL FOR THE PROTECTION

### ADVANTAGES

- Automated system
- Fully adjustable process

# User-friendly interface

for practical and easy operation through a 4,3" touch screen.

# Fully adjustable parameters

for the system programming

### MILK PROCESSING

# **Shaping & Rotation 2to1**

Brine collection tank with mold rotator for shaping & rotation 2 to 1. Designed for both cheese shaping & ripening as well as for automatic mold rotation at the preferred frequency according to the user's desire.

Made of food-grade AISI304 (DIN 1.4301) non-ferrous stainless steel, Shaping & Rotation 2 to1 is a befitting solution for the cheese shaping.

► Every part of our milk processing equipment is ergonomically designed so as to facilitate cleaning and prevent the risk of any contamination.

### ADVANTAGES

- Made of food grade AISI304 stainless steel.
- Automatic mold's rotation with fully adjustable frequency (in combination with the control panel).
- Alarms for every step's start and completion.



### OF INDIVIDUAL COMPONENTS.

# Time & temperature programming option

for automated procedures.

# Visual & sound alerts

for every step's completion or any malfunction.

# Information record

for report presentation.

# Option of data saving

so as to avoid continuous reprogramming.





## ENERGY EFFICIENCY AND COST REDUCTION SOLUTIONS

The proactive management of energy consumption and consequently of operating expenses in big farms and dairy production units, is an important factor which affects their profitability and competitiveness while at the same time fosters a culture of environmental sustainability.

Milkplan's energy efficiency and cost reduction solutions focus on the fully utilization of the energy used by milk cooling tanks as well as the minimization of energy needs for the cooling process.

Heat Recovery Unit | MP EcoHeat

Plate Heat Exchanger

### ENERGY SAVING SOLUTIONS

## Heat Recovery Unit-MP EcoHeat

(200lt - 800lt)

The MP EcoHeat is a reliable and highly cost-effective solution for dairy farms' daily hot water supply. It is a heat recovery unit which uses the heat produced by the refrigeration units of the milk cooling tanks to constantly heat fresh water with no energy consumption or further cost.

MP EcoHeat is an alternative solution for efficient and environmentally friendly water heating. It is made completely of stainless steel so that corrosion is prevented and ergonomically designed in order to offer maximum functionality. It also has 50 mm thick insulation to ensure the highest performance by minimizing heat losses.

To meet the needs of different dairy farms, Milkplan provides heat recovery units with capacities from 200 to 800lt, which can heat water up to 70o C. All models are equipped with temperature indicators and optionally with an electric powered module as a heating alternative.





### ADVANTAGES

- Cost & energy saving by up to 100%
- Constant hot water supply without electricity consumption
- Protection against corrosion and perfect insulation
- Easy cleaning thanks to its elevated stainless steel feet
- No need for regular maintenance
- Replacement and refitting of resistance and mechanical thermometer if needed
- Connection with up to four different cooling circuits
- Electrolysis prevention with the appropriate anode electrode

MP EcoHeat

#### ■ SPECIFICATIONS

### 200lt to 800lt

MP EcoHeat Heat is available in 6 models with capacity from 200lt to 800lt

Model	Diameter of the external tank (mm)	Height of the external tank (mm)	Total height (mm)	Weight (kg)
200	620	1240	1410	94
300	660	1500	1670	115
400	760	1500	1670	135
500	790	1500	1670	149
600	900	1500	1670	166
800	1020	1500	1670	194

Model	Total surface of heat exchangers	Maximum applicable power	Proposed capacity of milk cooling
200	1.35m2	13 kW	MPP 1000 - MPP 2000
300	1,76m2	25 kW	MPP 3000 – MPP 4000
400	1,87m2	30 kW	MPP 3000 – MPP 4000
500	2,16m2	40 kW	MPP 5000 – MPP 6000
600	2,64m2	50 kW	MPP 5000 – MPP 6000
800	2,8m2	50 kW	MPP 8000

### ENERGY SAVING SOLUTIONS

## Plate Heat Exchanger

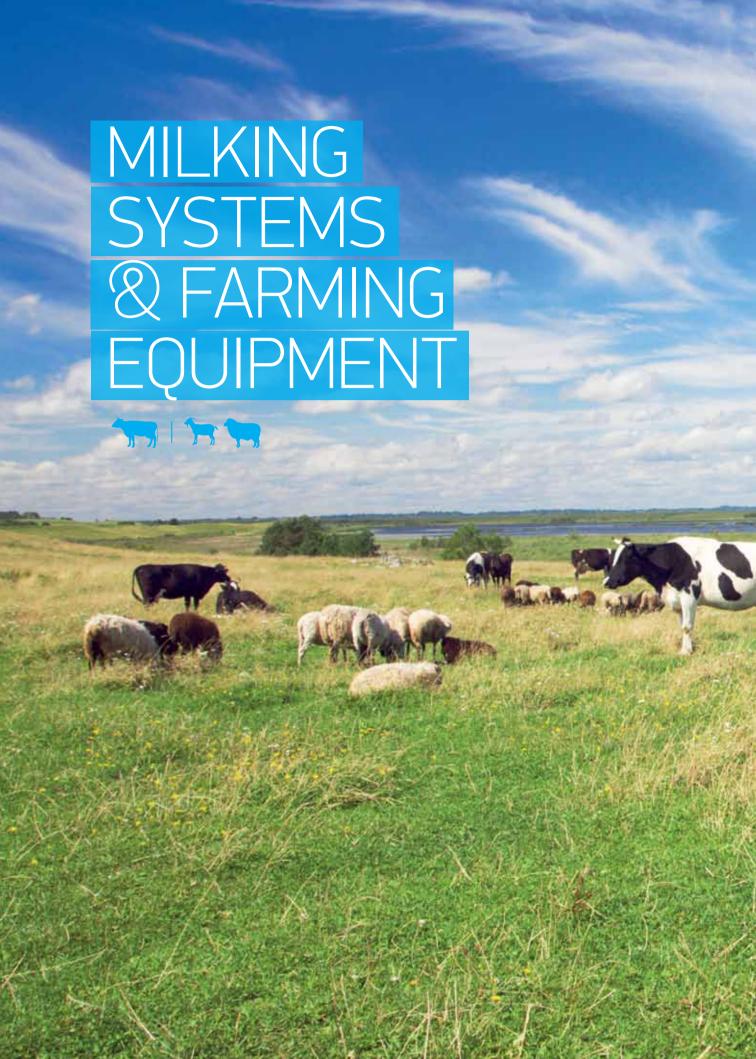
(950 - 14800 lt/h)



**Plate Heat Exchanger** 

The Plate Heat Exchanger is an appliance which cools milk using cold water, before it reaches the milk cooling tank. Immediate precooling of milk guarantees the milk's quality maintenance and facilitates the cooling process of the tank's cooling system.

- Made of food-grade stainless steel
- Maintenance of milk's quality
- Energy savings up to 50% during the cooling tank operation
- Self-cleaning & maintenance-free
- Available in F and FF models for 3 ° C and 2 ° C temperature reduction respectively.
- ► The Plate Heat Exchanger can be combined with MP EcoHeat to achieve maximum energy efficiency.







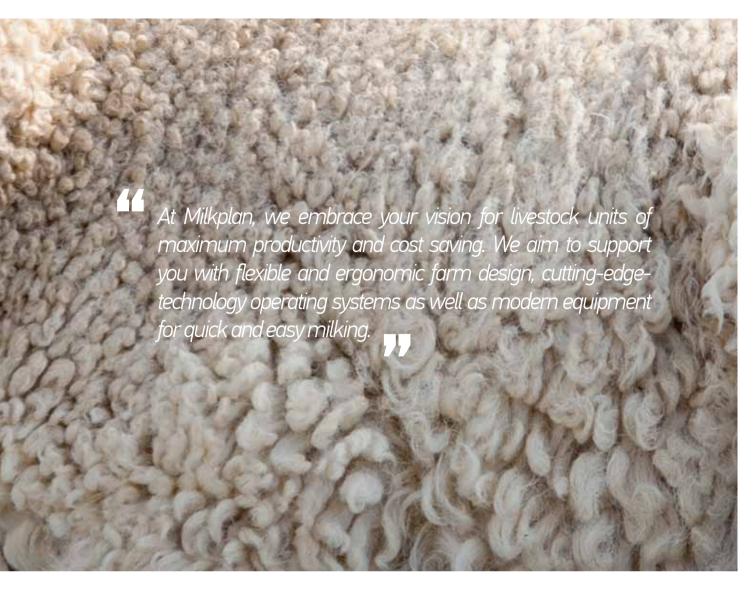
Milkplan's MP Armektron milking systems are designed to meet the farmer's needs as well as the particular temperament of animals.

The smooth entry and immediate entrapment as well as the option of automatic animals feeding do not stress the animals, increasing in this way milk production and thus the farmer's profit.

They are adaptable to any space requirement and are manufactured according to the strictest ISO specifications ensuring their high quality and efficiency.

Our long experience in manufacturing, installing and maintaining hundreds of milking systems, has given us the opportunity to incorporate innovative ideas to our systems in order to ensure the best possible milking and washing efficiency, providing the farmer with:

- High milk yield
- Minimization of herd infections diseases
- Excellent milk quality
- Reduction of operating and maintenance costs

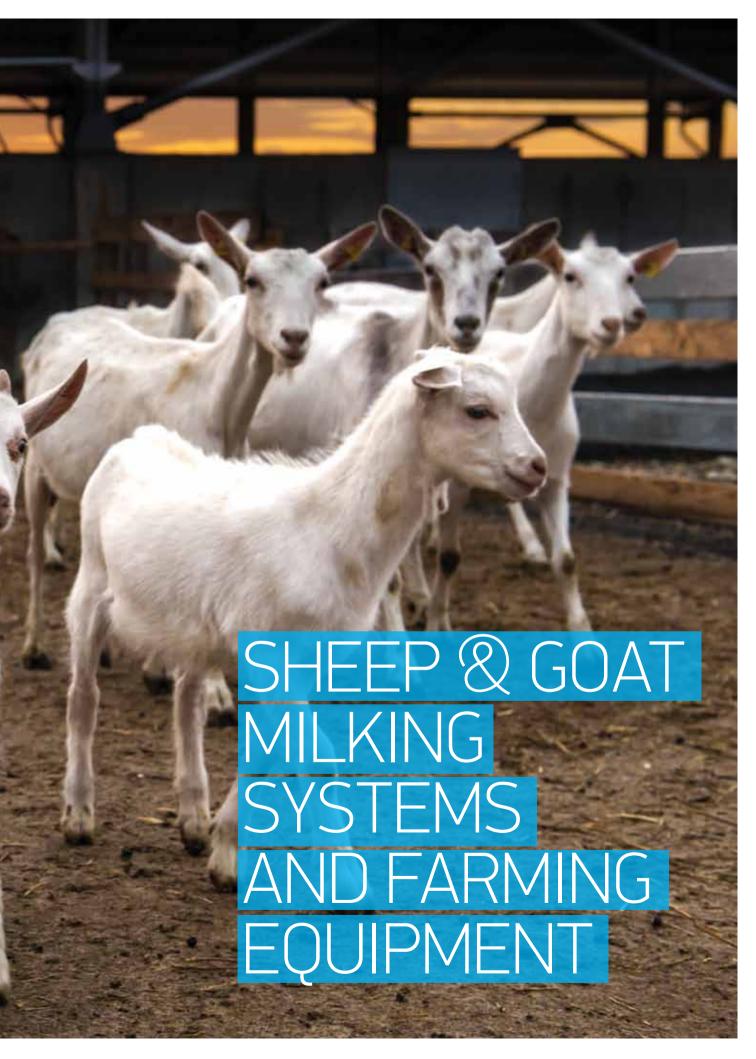


## MP Armektron design and manufacturing advantages

- Usage of modern equipment to achieve maximum milk yield in less time
- Usage of state-of-the-art technology software for the livestock units **operating procedures automation.**
- Application of electronic programmers (PLC, Inverter, etc.) for water and energy saving.
- Efficient C.I.P. washing (closed tube circuit) with usage of certified low-dissolve detergents for the disinfection of internal surfaces, prevention of milkstone buildup and maximum disease eradication.
- **■** Excellent value for money.

Milkplan's milking systems provide maximum endurance thanks to their specialized design, their robust manufacturing from high quality galvanized or AISI 304 (DIN 1.4301) non-ferrous stainless steel and their solid instalment.









# MILKING SYSTEMS FOR SHEEP & GOATS

- MP Armektron F4A (Fast 4 All) Washing System MP Armektron 2to1 Pulse & Wash Electronic Herd Management
- MP Armektron S4S (Smart 4 Small) Washing System MP Armektron Simple Wash
- MP Armektron F4S (Fixed 4 Start)



# S&G MILKING SYSTEMS MP Armektron F4A

The MP Armektron F4A series of fast-exit milking systems for sheep and goats is the ideal solution for medium and big livestock farms which attach importance to time saving, maximum efficiency, ease of cleaning, reduction of operating costs and professional appearance.

The MP Armektron F4A provides significant benefits to the farmer as it is manufactured for 24h operation, it makes the animals' entrance and exit an easy procedure, it demands less installation space and it can be combined with the most up-to-date milking, washing and herd management equipment.

The MP Armektron F4A has reduced installation space needs thanks to its flexible and ergonomic design, which combined with its modern equipment contributes particularly to the facilitation of the milking procedure. The entrance's and corridor's smart design facilitates significantly the animals' comfortable movement.

#### ADVANTAGES

- Comfortable antistress entrance/exit and easy movement for the animals.
- Easy, quick and safe milk extraction.
- Automatic washing.
- Easy udder access.
- Operating costs reduction (milking, washing, feeding).
- Option for automatic feeding and specific food dosing.
- Minimization of human effort & easy feeding tank filling.
- Time saving for the dairy farmer.

### MP Armektron F4A

### **■ STALL FEATURES**

Available in sizes from 1x8 up to 2x60.

### Robust construction

Robust construction in hot-dip galvanized or AISI 304 (DIN 1.4301) non-ferrous stainless steel for lifetime warranty.

### Feeding tank

Single feeding tank which offers the option of specific dosing with capacity 0,03m3, pneumatically operated metal flaps and protective food cover.

### Side Gates

Manual or pneumatic side entrance gates with roller guides for ease of use and high endurance.

### Individual feeding troughs

Hot-dip galvanized or stainless steel individual feeding troughs.

### Individual Gates

Rotating individual separation gates with automatic closing.

comfort and maximum performance



### **OPTIONALLY PROVIDED:**

- Automatic feeding tank filling mechanism with chain system.
- Food storage silo in sizes from 200kg to 2000kg.

For goats milking systems, pneumatically operated headlocks with safety switch during exit are also included.

#### EQUIPMENT

### Liners and claws

Conforming to ISO standards, F4A liners incorporate two differentiated milk inlets ensuring maximum flow and a special designed shut-off valve for zero leaks during system activation. They guarantee high milk evacuation capacity and they offer a soft massage to the nipples, ensuring smooth & efficient milking.

Milk claws are offered at a 120cc capacity, complete and independent shut-off function, concurrent pulse type and bracket for the automatic cluster removal (ACR) systems.



### Terminal Unit

Central stainless steel milk jar of horizontal or vertical type, with capacity from 40 to 100lt, single-phase or three-phase milk pump up to 2Hp and stainless steel 620mm milk filter.



### System piping

Milking and washing piping in food-grade AISI 304 (DIN 1.4301) non-ferrous stainless steel.

10atm vacuum and pulsators tubing in PVC for maximum performance.

### **Electronic Pulsators**

Electronic waterproof pulsators designed with attention to detail for high accuracy, endurance and reliability. With integrated PCB pulse program, F4A pulsators offer precise control of pulse signal and minimization of vacuum consumption assuring high performance and excellent system stability.

### Vacuum Pump

Robust oiled (CKB46) vacuum pump unit up to 3300lt, with silencer, precision regulator for stable vacuum level and stainless steel vacuum balance tank.



### Inverter

MP Nautilus is available from 2.2kW to 15kW for energy saving up to 40%. It offers silent vacuum pump operation and reduced oil consumption while contributing to the vacuum pump's long lifespan.



▶ Option of equipment installation at low or high line. For an even more low-cost solution, middle-line equipment installation is also available.



## MP Armektron 2to1 Pulse & Wash

Every farmer spends significant time for his farm's and parlor's cleaning. In order to facilitate his work, in Milkplan, we have developed an innovative washing system that meets all CIP requirements offering flexibility, ease of use and time saving.

The new automatic washing system MP Armektron 2to1 Pulse & Wash, features applications for full electronic pulsation control (12V or 24V), automatic hot and cold water supply, time/quality/temperature setting and control, washing cycles and drainage control as well as unlimited program options for any small or large farm.

### **■ ADVANTAGES**

- PLC parameters configuration according to the parlor size and the type of the animals.
- Option for quick washing between milking sessions as well as for more hot water supply during washing.
- Automatic reset in case of power failure.
- Control of up to 40 pulsators with adustable pulse rate and excellent accuracy for all pulse phases (A, B, C, D).
- Control of two independent air injectors during washing and purge system installed on the milk delivery line.
- Automatic notification for maintenance and spare parts replacement.

- Hot water preservation during washing with an inline heater.
- Option for temperature configuration for every disinfection cycle with detergent or acid.
- Compatibility with any inverter.
- Option of user interface language selection (GR/ EN/ FR/ RS/ RO/ ES/ RU etc).
- Long lifespan and system reliability (conforms to international CIP regulations).
- Effective washing and cost saving.
- Minimum maintenance requirements

### MP ARMEKTRON 2to1 Pulse & Wash

### SPECIFICATIONS

- 2 to 1 system for automatic washing and pulsation control 12/24V.
- Stainless steel panel.
- User-friendly digital display screen and keyboard.
- Armektron Plus / Armektron 6 PLC software according to international standards.
- High flow electronic valve for fast evacuation.
- Air purge system.
- Terminal switch which ensures the milk transportation tube's safe position.
- Two IP65 temperature probes which ensure proper temperature and efficient washing.



### COST SAVING

- Minimum water and chemicals consumption.
- Reduced operating costs.
- Minimum maintenance needs.

### ■ MILKPLAN WASHING TANK

- Sizes from 80 to 500lt.
- Closed type construction of AISI 304 non-ferrous stainless steel with protective lid which ensures maximum temperature preservation, minimization of energy loss and clean water protection.
- Terminal switch which ensures the milk transportation tube's safe position.
- 12kW resistor with thermostat for the hot water conservation.
- Electrode probes for water level check.
- High flow DN50 drainage valve for fast evacuation.

### **■ PERISTALTIC PUMP PANEL**

- Automatic detergent and acid dosing with 24VDC peristaltic pumps.
- Total flow 24V 3/4" electromagnetic valves for quick filling of cold/hot water.
- Construction of AISI 304 stainless steel.
- Piping resistant to acids.









# Electronic Herd Management For Sheep & Goats

Afishepherd - Electronic Herd Management

## ELECTRONIC HERD MANAGEMENT

## **AfiShepherd**

Automatic data collection is the only practical way for achieving an accurate & reliable database with all the important information regarding the animals.



AfiShepherd is an automated system that captures information regarding each animal's performance, builds a database and generates at the same time the reports needed for decision making in sheep/ goat farms.

### **■ COMBINED TOOLS**

AfiShepherd is combined with the tools below:

- AfiFree Milk Meter: a smart, simple and compact tool for accurate and immediate data collection.
- AfiPass Automatic Animal Identification System: a useful tool for efficient herd management and systematic control for genetic improvement of the herd.
- Afi2GO: a portable electronic device for reporting events and animal treatments.

### **■ BENEFITS**

- Increases herd productivity.
- Enables breed specialization.
- Optimizes feeding.
- Improves individual animal production.









## MP Armektron S4S

Smart 4 Small

MP Armektron S4S milking systems series meets the needs of new small farms.

It is a smart and value-for-money solution for small herds which ensures appropriate and safe milking thanks to its alternative and ergonomic design.

S4S is a reliable and flexible solution. It is usually combined with a fixed-type stall but it can also be offered with a fast-exit stall.

Adaptable to meet the farmer's needs in order to facilitate the milking procedure. S4S's main feature is the direct milk transfer to the milk cooling tank, freeing the farmer from time-consuming procedures (milking in buckets, etc.), while improving his work level as well as the quality of the produced milk.

#### ADVANTAGES

- Low-cost and flexible solution.
- Comfortable entrance/exit for the animals.
- Easy udder access.
- Easy, quick and safe milk extraction.
- Minimization of human effort & easy feeding tank filling.
- Option for automatic feeding and specific food dosing.

## MP Armektron S4S



Fast-exit stall

## ■ STALL FEATURES Available in sizes from 1x6 up to 2x24.

- Robust construction with hot-dip galvanized pipes up to 3mm thick.
- Mechanical headlocks with sequential locking per stall.
- Hot-dip galvanized individual feeding troughs.

#### **OPTIONALLY PROVIDED**

- Manual side entrance doors with roller guides for ease of use and high endurance.
- Single feeding tank which offers the option of specific dosing with capacity 0,03m³, pneumatically operated metal flaps and protective food cover.
- Automatic feeding tank filling mechanism with chain system.



Fixed stall

### **■ EQUIPMENT**

### Liners and claws

Silicon liners and milk claws of high endurance, with modern, practical and ergonomic design. Made of premium quality materials and compliant with ISO standards, S4S liners offer gentle antistress massage and ensure smooth and safe milking. S4S liners offer vacuum supply check during milking and washing, and prevent vacuum leaks thanks to their automatic shut-off valve.

### Vacuum Pump

Robust oiled (CKB46) vacuum pump up to 2200lt, with silencer, precision regulator for stable vacuum level and stainless steel vacuum pump.

## We, in Milkplan, aim to offer flexible solutions which combine high quality and low-cost.

### Terminal Unit

Central vertical type 40lt stainless steel milk jar, single-phase or three-phase milk pump up to 2Hp and stainless steel 620mm milk filter.



### System piping

Milk tubing in food-grade AISI 304 (DIN 1.4301) non-ferrous stainless steel.

- ▶ (Usage of double milk tube on each side for big milking parlors.).
- ▶ PVC washing tubing resistant in high temperatures.
- ▶ 10atm PVC vacuum and pulsators tubing for maximum performance.
- ▶ Option of equipment installation at low or high line. For an even more low-cost solution, middle-line and position-per-position equipment installation is also available.

### MP Armektron Simple Wash

MP ARMEKTRON Simple Wash is designed for farms which do not need automatic washing system. It includes:

- 80lt open type stainless steel water supply tank.
- Rubber washing cups.

#### **OPTIONALLY PROVIDED:**

▶ Heater or option of upgrade to MP Armektron 2to1 Puse & Wash.

### Pneumatic Pulsators

Waterproof pneumatic pulsators with oiled slide and adjustable pulsation rate ranging from 50 to 180ppm for vacuum operation range from 35 to 50kPa. They are specially designed to ensure pulse rate stability and excellent adhesion to nipples, protecting in this way the animals' udder health. Made of a special indestructible and corrosion resistant material, S4S pulsators guarantee a reliable and long lasting performance.





## MP Armektron F4S

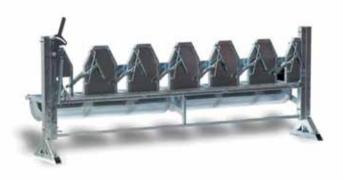
Fixed 4 Start

The Fixed for Start - F4S series is the all-time classic traditional fixed-stall solution for sheep and goats milking and it is designed to meet the needs of new small farms.

The MP Armektron F4S is an economic, easy to use and effective solution. As soon as the first animal enters a milking position, the next gate opens for the next one and so on. Each animal gets a position which is automatically locked in order to facilitate milking.

Easy and quick installation with minimum maintenance requirements.

► Flexible and economic solution.



Simple fixed stall.

► More profits depending on stall and equipment selection.



Simple fixed stall with side support, front security bars and entrance/exit gates.



Simple fixed stall with side support, front security bars and entrance/exit gates and feed tank.

## ■ STALL FEATURES Available in sizes from 1x6 up to 2x24.

- Hot-dip galvanized individual feeding troughs.
- Robust construction with hot-dip galvanized pipes up to 3mm thick.
- Mechanical headlocks with sequential locking per stall.

### **OPTIONALLY PROVIDED:**

- Manual side entrance and exit gates with roller guides for ease of use and high endurance.
- Single feeding tank which offers the option of specific dosing with capacity 0,03m³, pneumatically operated metal flaps and protective food cover.
- Feeding tank automatic filling mechanism.



It can be combined with bucket milking system, milking trolley or with the S4S milking equipment.



▶ For the S4S Milking equipment please see pages 62-63.

## Comparative table for MP ARMEKTRON

MP Armektron	F4A	<b>S45</b> (fixed stall)	<b>\$45</b> (fast-exit stall)	F4S (with bucket)
Herd size	100 - 4000	20 - 500	80 - 500	20 - 150
Parlor size	1X8 - 2X60	1x6 - 2x24	1x6 - 2x24	1x6 - 1x12
Robust construction	V	V	V	√
Individual gates	$\sqrt{}$	-	$\sqrt{}$	-
Side entrance gates	V	V	$\sqrt{}$	optional
Individual feeding troughs	V	V	V	√
Feeding tank	optional	optional	optional	optional
Automatic feeding tank filling mechanism	optional	optional	optional	optional
Food storage silo	optional	optional	optional	optional
Headlocks	for goats only	$\sqrt{}$	for goats only	√
Liners and claws	V	$\sqrt{}$	$\sqrt{}$	√
Terminal Unit	V	√ (milk pump option)	(milk pump option)	-
Milking & washing piping	V	(wash line pvc)	X (wash line pvc)	-
Vacuum and pulsators tubing	√	√	V	-
Pulsators	electronic	pneumatic (can be electronic)	pneumatic (can be electronic)	pneumatic
MP ARMEKTRON 2to1 Pulse & Wash	-	upgrade option	upgrade option	-
MP ARMEKTRON Simple Wash	√	√	√	upgrade option
Inverter MP Nautilus	$\checkmark$	optional (needs Armektron 2to1)	optional (needs Armektron 2to1)	-
Mountable equipment at low or high line	√	√	√	-
Middle-line and position- per-position equipment installation	optional	optional	optional	-

<b>F4S</b> (with trolley)	<b>F4S</b> (with S4S equipment)
20 - 100	80 - 300
1X6 - 1X24	1x6 - 2x24
V	√
-	-
optional	√
$\sqrt{}$	√
optional	optional
optional	optional
optional	optional
V	√
√	√
-	√ (milk pump option)
-	√ (wash line pvc)
- pneumatic	√ pneumatic (can be electronic)
-	upgrade option
upgrade option	$\sqrt{}$
-	optional (needs Armektron 2to1)
-	√
-	optional



## PORTABLE S&G MILKING SYSTEMS

# MP Armektron Easy-Set-Up

MP Armektron F4A, S4S and F4S series are also provided in an Easy-Set-Up version so they can be placed everywhere fast and easily without installation, additional costs or any special arrangement to the farm (i.e. pit, tiles, drainage etc.)

MP Armektron Easy-Set-Up is ergonomically designed so that it requires the minimum space according to the size of the herd. In addition, it is fully equipped with the most up-to-date milking equipment to ensure smooth milking and animals' good health maintenance.

It can integrate entrance / exit ramps, stall with individual feeding troughs, side gates, individual gates, feeding tank, automatic feeding tank filling mechanism, liners & claws, terminal unit, electronic pulsators, vacuum pump and MP Armektron 2 to1 Pulse & Wash or simple wash system. It can also incorporate an electricity generator in cases of power shortage.





## PORTABLE S&G MILKING SYSTEMS

## MP Armektron Mobile

MP Armektron Mobile, our transportable milking system for sheep & goats, is a functional and effective solution for movable big farms.

The MP Armektron Mobile aims to facilitate the milking process despite any possible movement of the herd without changing the daily tasks' flow or the animals' program ensuring in this way the herd's safety and good health.

Its special design combines the advantages of a complete milking system and them of a transportable platform. MP Armektron Mobile can integrate entrance / exit ramps, stall with individual feeding troughs, side gates, individual gates, feeding tank, automatic feeding tank filling mechanism, liners & claws, terminal unit, electronic pulsators, vacuum pump and MP Armektron 2 to1 Pulse & Wash or Simple Wash system for units that do not require automatic cleaning. MP Armektron Mobile includes lamps, power sockets and automatic lifting for the entrance / exit ramp. It can also incorporate an electricity generator in cases of power shortage.

The MP Armektron Mobile's platform can be open or closed type. The difference lies in the side walls which can be raised to provide sun protection. In both platform cases, it can be installed any MP Armektron model that fully meets the needs of each unit (Fast 4 All. Smart 4 Small or Fixed 4 Start).

► Simply park the platform, adjust it to the preferred height and slope by using its special mechanisms and the MP Armektron Mobile will be ready for operation even in the most isolated area!





## PORTABLE S&G MILKING SYSTEMS

## MP S&G Milking Trolley

The portable milking equipment, MP S&G Milking Trolley, meets the needs of small sheep or goat farms.

MP S&G Milking Trolley complies with all milking requirements. It is almost silent in operation so as not to bother or stress the animals and it can be equipped with plastic, stainless steel or aluminum milk buckets of 30 kg. It offers high corrosion resistance and low energy consumption.



MP S&G Milking Trolley for 2 sheep or goats



## ■ TECHNICAL SPECIFICATIONS MP S&G MILKING TROLLEY FOR 2 OR 4 SHEEP OR GOATS

Lubricated vacuum pump 220V, 0.75hp, 220lt/min or 220V, 1. 5hp 350lt/min with vacuum tank
Noise reduction silencer
Milking units brackets
Lubricated vacuum pump with 1lt oil tank
High quality and durability liners and clusters (made in Europe)
High precision vacuum regulator
Pneumatic pulsator with stainless steel cover.
Vacuum gauge D63
(Optional deactivation of one milking unit)





# FARMING EQUIPMENT FOR SHEEP & GOATS

- Feeding Belts
- Automatic Lamb Feeders
- Brushes
- Drinking Troughs
- Grass Troughs

# Feeding Belts

A farm's feed ration and barn are two highly significant factors that define its sustainability. Animal feeding should take place in a comfortable environment and the amount of feed should be distributed equally and uniformly.

MP Feeding Belt is the ideal solution for sheep & goat herds feeding due to its ergonomic and functional design. It has reduced installation space needs and it allows speed adjustments according to the farmer's preferences. It facilitates the feeding process as the farmer do not have to dispense feed along the barn and it simplifies the marking and vaccination as it provides secure locking per site.



#### **■ TECHNICAL SPECIFICATIONS**

Hot galvanized or stainless steel construction
Individual headlocks
Inverter with digital display
Sizes from 10m to 100m
Motor 2.2 - 4 kW 380V 50/60Hz
6 animals per meter
PVC belt with 600mm width
Protective frames of galvanized or stainless steel
Adjustable speed
Photoelectric cell

## **Automatic Lamb Feeders**

Malnutrition has direct effects on animals' growth. On the other hand, breast-feeding inhibits the mother's estrus period and decreases her fertility. An automatic feeder responds to the need of the young animals' early removal from their mothers without affecting their diet or extending the mothers' anestrus period.

The automatic feeder you will find in our product range, facilitates significantly the farmer's daily work and ensures the young animals' healthy growth. Manufactured by the German company Förster-Technik, it offers fast feed preparation and heating, stirring and dosage configuration. It is easy to wash and simple to operate.

#### ■ TECHNICAL SPECIFICATIONS

Digital Thermometer

Screen display and keyboard for easy settings adjustment

8 positions

20-30 young animals per position

35 kg powder container

Feed preparation time: 2,5-3 min

Stainless steel protective cover

Position height adjustment

Power supply: 2.8 kW (240V)/ 3.2 kW (230V)/ 5.0 kW (400V)



## Brushes

It has been observed that the use of the brush has several advantages for the animals and contributes to their high productivity. The gentle massage, the regular cleaning and the good blood perfusion are significant for animals' welfare and increase their performance. In order to choose the right brush though, we should take into consideration some important parameters such as the bristles quality, the rotation speed, the continuous and economic operation, the stability of the system as well as the automatic adjustment to the animal's height. Besides the aforementioned, we, in Milkplan, also emphasize on the versatility of the brush for each animal type so it will be suitable for every herd.



#### ■ TECHNICAL SPECIFICATIONS

Suitable for indoor and outdoor installation

Motor 230 V / 50 Hz

Power 0,30 KW

Automatic on/off (The energy-saving automatic on/off feature starts the brush rotating on demand and stops it after use).

Adaptation according to the animal's height.

Special bristles (100% Nylon) with extremely durability to everyday usage.

Rotating speed 60 rpm.

Two swinging points, one at either end of the curved arm.

Weight 110 kg.

# **Grass Troughs**

Safe animals' feeding is a highly important factor for the barn's sustainability and a key concern for the farmer. Milkplan's grass troughs, thanks to their ergonomic design & robust construction, provide convenient and easy access to 6-8 animals simultaneously and are high endurable to stresses or strains.

Flexible to place on wall or post.

Length: 2000m Width: 600mm Height: A) 500mm or B) 1000mm



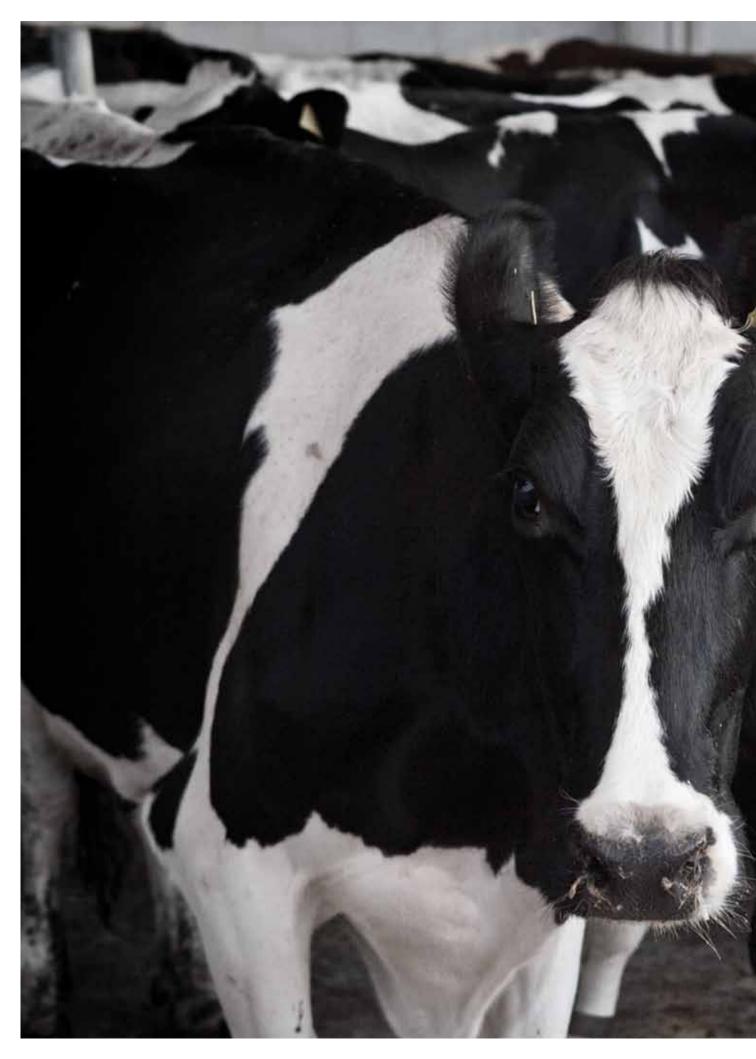
## ■ FARMING EQUIPMENT

# **Drinking Troughs**

Clean water is essential for a barn's sustainability. Thus, it should be plenty and easily accessible to facilitate the herd's daily life. Milkplan's drinking troughs incorporate high pressure floater for quick refilling, special protective cover to keep the water clean from external factors, drainage valve, overflow tube and optional heater.

Length: 2000m Width: 500mm Height: 220mm ▶ Different sizes on request.











# MILKING SYSTEMS FOR COWS

- **MP Armektron Superb**
- MP Armektron Dynamic
- MP Armektron Equipment
- MP Armektron 2to1 Pulse & Wash
- Electronic Herd Management for Cows



# MP Armektron Superb

The MP Armektron Superb series is the perfect fastexit milking system solution for farms which attach importance to fast milking, maximum performance, ease of cleaning, reduction of operating costs and professional look.

MP Armektron Superb provides significant benefits to the farmer as it is manufactured for 24h operation, it makes the animals' entrance and exit an easy procedure, it demands less building space and it can be combined with the most up-to-date milking and herd management equipment.

The MP Armektron F4A has reduced installation space needs thanks to its flexible and ergonomic design, which combined with its modern equipment contributes particularly to the facilitation of the milking procedure. The entrance's and corridor's smart design facilitates significantly the animals' comfortable movement.

#### ADVANTAGES

- Effective milking process
- Time saving solution
- Comfortable entry/ exit
- Easy antistress animal movement
- Easy udder access
- Operating costs reduction
- Reduced installation space needs

#### ■ STALL FEATURES Available in sizes from 1X3 up to 2X40.

#### Heavy duty construction

Robust construction with tubes of up to 4mm thickness, hot dip galvanized or AISI 304 (DIN 1.4301).

#### Control Cabin

Stainless steel control cabin for the electrical equipment's protection from dust and humidity.

## Dung receiver

Dung receiver canal constructed of non-ferrous stainless steel (AISI 304). With 2" threaded water supply, automatic electrovalve and 76mm tube for direct drainage of wastewater.

#### Anti-stress index mechanism

It ensures proper, anti-stress animal movement to the proper milking position.

### Individual gates

Rotating individual separation gates, hot dip galvanized or AISI 304 (DIN 1.4301) non-ferrous stainless steel with a rebound spring and a new mechanism of high resistance to stresses.

## Entry gate

Pneumatic entry gate with roller guide. Button operated inside the stall.

#### Air system

High durable pneumatic double-way piston with steel shaft and rapid expansion valve for immediate release. Button operated inside the stall.

#### Kick rail

Constructed of AISI 304 (DIN 1.4301) non-ferrous stainless steel of up to 3mm thickness in order to protect the operator from possible kicks and the milking equipment from feces.



# MP Armektron Dynamic

MP Armektron Dynamic series is the all-time classic traditional herringbone milking system solution.

It offers comfortable, convenient and stressfree animals entry/exit in the parlor and it can be combined with simple milking equipment and full electronic herd management system.

Thanks to its design, the cow position at a 32° angle offers easy udder access to the farmer facilitating his work.

MP Armektron Dynamic is also available with pneumatically operated fast - exit stall offering time and energy saving.

#### ADVANTAGES

- Entrapment in robust construction stall
- Comfortable milking position
- Comfortable entrance/exit
- Easy antistress animal movement
- Easy udder access
- Value 4 money solution
- Time saving with fast-exit stall choice

#### ■ STALL FEATURES Available in sizes from 1X3 up to 2X24.

## Heavy duty construction

Robust construction with tubes of up to 4mm thickness, hot dip galvanized or AISI 304 (DIN 1.4301) non-ferrous stainless steel for lifetime warranty.

#### Kick rail

Constructed by AISI 304 (DIN 1.4301) non-ferrous stainless steel of up to 3mm thickness in order to protect the operator from possible kicks and the milking equipment from feces.

#### Chest bar

Hot dip galvanized front chest bar of 3mm thickness, enhanced with a special base. Adjustable up to 5cm.

## Protective sheets

Hot dip galvanized 2mm thick, installed in each cow position to protect the operator from animal feces.

#### Gates

Mechanical or pneumatic gates for easy control.

# MP Armektron

Superb - Dynamic

The stall is one of the most important parts of the milking parlor as it is interrelated with the animals smooth movement, easy entry / exit comfort which are important parameters for operators who want to achieve maximum milk production.



The benefits are several not only for the animal itself but also for the system operator as the ergonomic design of the stall contributes significantly to the simplification of the whole milking process.

However, the selection of the appropriate equipment is equally important. For this reason, in Milkplan, we have designed and developed the most functional and reliable solution of milking equipment in order to ensure operator's comfort and animals' good health.



#### **■ EQUIPMENT**

#### Liners and claws

Silicon liners and milk claws of high quality and endurance which ensure minimum vacuum consumption and less stress to the animal. Conforming to ISO standards, they ensure maximum flow, zero loss during system activation and in combination with the soft massage they offer, they are suggested for smooth milking.

MP Cow Armektron liners warranty high milk evacuation capacity with no foam and ensure stable vacuum level. Additionally, they are resistant to shocks, acid and high temperatures, they have excellent adhesion to nipples and they provide connectors separation to avoid contamination (anti-cross contamination separation cross).

Milk claws are offered at 240cc or 350cc capacity, with integrated shut-off operation with or without valve, with cross pulsation (side by side/front-rear) and are suitable for standard or automatic cluster removal systems (ACR).

#### Terminal Unit

Horizontal or vertical stainless steel milking jar with 40-100lt capacity, 1Ph or 3Ph milk pump up to 2Hp and stainless steel 620mm milk filter.





We, in Milkplan, aim to offer flexible solutions which combine quality and low-cost.

## System piping

- Milking and washing piping in food-grade AISI 304 (DIN 1.4301) non-ferrous stainless steel.
- ▶ 10atm vacuum and pulsators tubing in PVC for maximum performance
- Usage of double milk tube on each side for parlor sizes ≥ 2X12

#### Vacuum Pump

Highly durable lubricated (CKB 46) vacuum pump up to 3500lt with silencer and precision regulator. It features a stainless steel balance tank and it ensures vacuum stability even in case of leakage due to an operator's error.

#### **Flectronic Pulsators**

Electronic waterproof pulsators designed with attention to detail for high accuracy, endurance and reliability. They facilitate quick and smooth milking offering udder health maintenance. With integrated PCB pulse program, MP Armektron pulsators offer precise control of pulse signal and minimization of vacuum consumption assuring excellent system stability and high performance.

They operate with low power consumption for energy saving, reducing also the risk of electrical contacts oxidations. Moreover, they are fully impermeable ensuring complete protection against external factors (water, humidity, etc.)

#### Inverter

MP Nautilus is available from 2.2kW to 15kW for energy saving up to 40%. It offers silent vacuum pump operation and reduced oil consumption while contributing to the vacuum pump's long lifespan.



# MP Armektron 2to1 Pulse & Wash

The appropriate cleaning of the milking parlor is necessary for its always efficient operation as well as its long durability in time. That's why the choice of the suitable washing system is highly important.

At Milkplan, we have developed an innovative automatic washing system which meets all closed circuit piping requirements (CIP) and facilitates the farmer's work offering flexibility, ease of use and time saving.

The new automatic washing system MP Armektron 2to1 Pulse & Wash, features applications for full electronic pulsation control (12V or 24V), automatic hot and cold water supply, time/quality/ temperature setting and control, washing cycles and drainage control as well as unlimited program options for any small or large farm.

#### ADVANTAGES

- PLC parameters configuration according to the parlor size and the type of the animals.
- Option for quick washing between milking sessions as well as for more hot water supply during washing.
- Automatic reset in case of power failure.
- Control of up to 40 pulsators with adustable pulse rate and excellent accuracy for all pulse phases (A, B, C, D).
- Control of two independent air injectors during washing and purge system installed on the milk delivery line.
- Automatic notification for maintenance and spare parts replacement.
- Hot water preservation during washing with an inline heater.
- Option for temperature configuration for every disinfection cycle with detergent or acid.
- Compatibility with any inverter.
- Option of user interface language selection (GR/ EN/ FR/ RS/ RO/ ES/ RU etc).
- Long lifespan and system reliability (conforms to international CIP regulations).
- Effective washing and cost saving.
- Minimum maintenance requirements

## MP Armektron 2to1 Pulse & Wash



#### ■ SPECIFICATIONS

- 2 to 1 system for automatic washing and pulsation control 12/24V.
- Stainless steel panel.
- User-friendly digital display screen and keyboard.
- Armektron Plus / Armektron 6 PLC software according to international standards.
- High flow electronic valve for fast evacuation.
- Air purge system.
- Terminal switch which ensures the milk transportation tube's safe position.
- Two IP65 temperature probes which ensure proper temperature and efficient washing.



#### MILKPLAN WASHING TANK

- Sizes from 80 to 500lt.
- Closed type construction of AISI 304 non-ferrous stainless steel with protective lid which ensures maximum temperature preservation, minimization of energy loss and clean water protection.
- Terminal switch which ensures the milk transportation tube's safe position.
- 12kW resistor with thermostat for the hot water conservation.
- Electrode probes for water level check.
- High flow DN50 drainage valve for fast evacuation.

#### COST SAVING

- Minimum water and chemicals consumption.
- Reduced operating costs.
- Minimum maintenance needs.

# Cost Saving

#### PERISTALTIC PUMP PANEL

- Automatic detergent and acid dosing with 24VDC peristaltic pumps.
- Total flow 24V 3/4" electromagnetic valves for quick filling of cold/hot water.
- Construction of AISI 304 stainless steel.
- Piping resistant to acids.





# Electronic Herd Management For Cows

Afifarm - Electronic Herd Management

AfiAct II - Heat Detection

## ELECTRONIC HERD MANAGEMENT

# **Afifarm**

Milkplan offers AfiFarm<sup>TM</sup> which is the world's most comprehensive management software for advanced dairy farming and herd management. Afifarm sensors gather real-time information which are collected in an extensive database and can be extracted in reports providing the dairy farmer with an important decision making tool for both short term and long term strategic decisions related to the entire herd or individual cows.

The information collected by the Afifarm sensors are saved automatically in the system creating a complete database for the herd.

#### **■ FEATURES**

The main features of Afifarm herd management system are:

- Health monitoring.
- Daily breeding reports and general fertility analysis.
- Automatic generation of veterinary check lists based on parameters.
- Report of veterinary visit results, including diagnosis, drugs, treatments, schedules and recheck
- Milk production planning.
- Easy to follow automated procedures such as OVSYNC treatment.
- Advanced triggers for cow selection.
- Comprehensive reports based on the complete database including general (cow data) and operational (collected data) information.





## ■ EQUIPMENT (MILK METERS, KEYBOARD, PEDOMETERS)

- High quality and resistance
- Not affected by mud, water and dirt



## AfiAct II

Adequate fertility management means that cows give birth at optimal time periods to maintain milk production at the highest possible level.

Years of research and experience in the field have demonstrated the strong, direct correlation between the timing of estrus and the cow's increased walking activity.

AfiAct, the world's leading automatic heat detection system, based on this relation between

estrus and activity, uses the sensor technology in order to provide a round-the-clock monitoring (with "eyes that never close"), resulting in heat detection rates that are both higher and more precise than traditional methods.

Heat detection contributes to the rise of pregnancy rates as well as to the total fertility costs' reduction as it implies less empty days, pregnancy checks, labor hours, medicines and hormonal therapies.

#### ■ HIGH SYSTEM ACCURACY

- Collects behavior data anywhere on the farm, up to hundreds of meters.
- Highest heat detection rate, lowest rate of false alerts.
- Results updated every hour.

#### ■ SIMPLE AND EASY INSTALLATION

- Off-the-shelf Wi-Fi router.
- No need for network cabling.

#### USER-FRIENDLY

Simple operation, maintenance, calibration and installation.

## PORTABLE COW MILKING SYSTEMS

# MP Cow Milking Trolley

The portable milking equipment, MP Cow Milking Trolley, meets the needs of small cow farms.

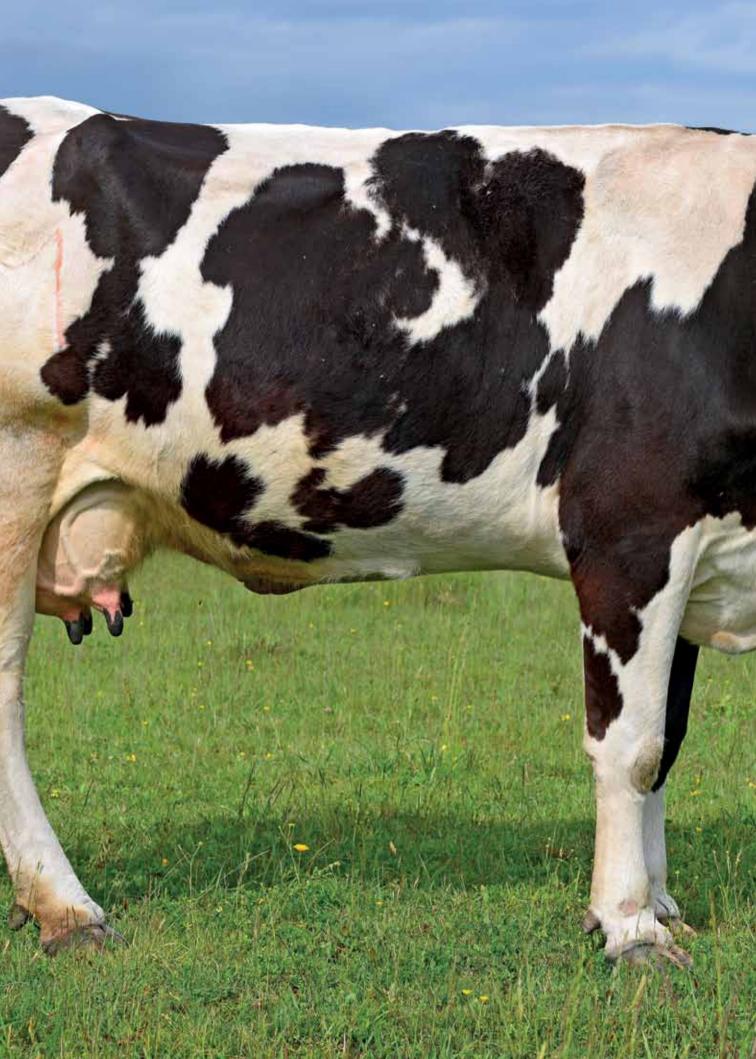
MP Cow Milking Trolley complies with all milking requirements. It is equipped with plastic, stainless steel or aluminum milk buckets of 30 kg and it is almost silent in operation so as not to bother or stress the animals. It offers high corrosion resistance and low energy consumption.





## ■ TECHNICAL SPECIFICATIONS MP COW MILKING TROLLEY FOR 1 OR 2 COWS

Lubricated vacuum pump 220V, 0.75hp, 220lt/min or 220V, 1.5hp 350lt/min with vacuum tank
Noise reduction silencer
Milking units brackets
Lubricated vacuum pump with 1lt oil tank
High quality and durability liners (made in Europe)
High precision vacuum regulator
Robust pneumatic pulsator with stainless steel cover.
Vacuum gauge D63





# FARMING EQUIPMENT FOR COWS

- Drinking Troughs
- Scrapers
- **a** Brushes
- Rest Stations
- Flooring Carpets
- Matresses
- Cow Cages
- Fans
- Feed Mixer
- Calves Houses

# **Drinking Troughs**

Cows consume approximately 20lt of water per minute - or the equivalent of 30% of the daily total - after each milking session. Therefore drinking troughs should be placed close to the milking system's exit and be always filled with plenty of clean water.

The stainless steel drinking troughs of Milkplan have a large surface for easy access, high pressure floater for quick refilling, perfectly finished protection bar, special protective cover to keep the water clean from external factors, drainage valve, overflow tube and optional heater.



#### **■ CHARACTERISTICS**

1670mm x 330mm x 430mm	AISI 304 stainless steel
4kW 380V resistor (optional)	Wall or floor mounted
Floater protection cover	1 or 2 floaters
PVC valve 2" for easy washing	

# **Scrapers**



Manure removal from the resting stations and regular access strip cleaning maintains humidity at low levels and ensures infections diminution. In addition, the regular manure collection is better for its utilization for biofuel or power.

The manure's removal from the barn can be done quickly and easily by the scraper, which is available in our product range with hydraulic or mechanical drive, with chain or rope mechanism.

#### ■ CHARACTERISTICS

Scraper shafts designed with holes to ensure system stability
UNP 100 channel
Fixed or alternate movement
Straight or articulated shafts
Automatic reversal
Hydraulic system

# **Brushes**

Brush is a useful and necessary tool in a barn since it ensures proper hygiene for the animals, it removes parasites and improves blood flow increasing in this way their productivity.

Thus, the choice of the suitable brush is highly important. In Milkplan, we place strong emphasis on the brush's quality and design so that it rotates, swings and adapts to the different cow heights, cleaning both their backs and sides offering the best possible brushing and massage.

#### **■ CHARACTERISTICS**

Suitable for indoor or outdoor installation

Automatic start when it is pushed by the cow and automatically stop when it leaves

Bracket or wall installation

Changing rotation direction in case of overload

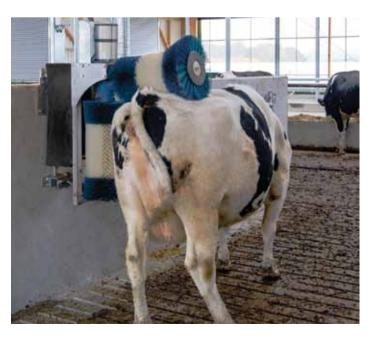
Adaptation according to the animal's height

Angle 100°

Resistant bristles for everyday use

Full engine protection from water and dust

Low cost operation





# **Rest Stations**

Special arrangement of the rest area protects animals from stress, infections or injuries and contributes to the barn's hygiene.

For this, we, in Milkplan, pay special attention to the rest stations' design, manufacturing and perfect finish so as to ensure the animals' smooth movement. We lay the emphasis on high quality, precise dimensions and suitable slope in order to improve cows relaxation and productivity.

#### ■ CHARACTERISTICS

Ergonomic frame 100 x 100

Bed width L = 1.900

Pipe diameter Ø 2"

Special one-piece rod and frame construction

Assembly pipes Ø 1/4"

Adjustable entrapment keys

Adjustable antistifling-extra pipes Ø 1 1/4"



# Rubber Carpets

Regarding the barn flooring, either as a solution to ensure hygiene and safety or as a way of protection from deterioration or as part of an upgrade of the existing worn barn floor, in our product range you will find highly durable mattresses. Made of high quality materials, our carpets feature a slipless top surface with drain gutters to protect animals from injuries or infections. They are quickly installed and easily cleaned. They are resistant to acids and heavy loads (eg tractors or feed mixers) and specially designed to remain stable and fixed to their original position.

► (You can choose between the following models (MC1 or MC2) or inform us regarding your needs and space specifications in order to examine the possibility of a customized solution exclusively for your barn.)

#### **■ CHARACTERISTICS**

#### MC1

Piece dimensions 1730x1180x24mm

Puzzle connection

Special design for easy installation

Weight 45kg / pc

#### MC2

Piece dimensions 1300x715x18 mm

Special design for easy installation

Weight 15,5kg / pc



# **Mattresses**

A clean area contributes significantly to the animals' health and productivity. Since each cow lies down for about the 45-50% of its daytime, the rest surface should be dry and warm, free of urine, humidity and cold, creating an environment of comfort and wellbeing.

In Milkplan, we provide cow mattresses made of materials that absorb humidity and eliminate odor. They feature a slipless surface at the top and drain folds at the bottom to effectively reduce the bacteria and provide maximum comfort, insulation, hygiene and easy cleaning.

#### ■ CHARACTERISTICS (MM)

Dimensions per piece 1800x1200x30mm

Special design for easy installation

Weight 40kg / pc

(6 years warranty)



# Cow Headlocks

Placement of fixed cow cages in a barn, is a safe and secure way to «lock» each animal in order to provide medical care, get samples (e.g. blood) or perform insemination.

#### **■ CHARACTERISTICS**

Adjustable pipes (anti-stifling extra type)

Vertical and crosswise pipes Ø 1 14"

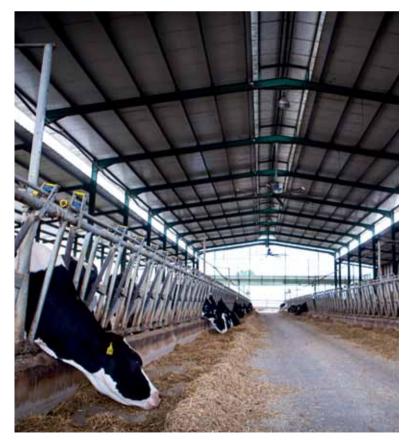
Vertical support pipes Ø 2"

Horizontal support pipes Ø 3"

Special construction with elastic ends for noise reduction when locking and releasing







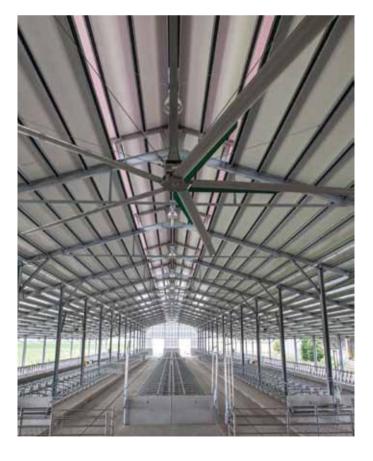
## Ventilation fans

Proper ventilation is important for the improvement of a barn's interior climate. Fresh air should replace contaminated air to eliminate diseases, remove insects and prevent animals' heat stress.

Our barn fans are equipped with a THI electronic control panel and they can offer high performance with minimal maintenance. They operate with low power supply (0,37 - 0,75 kW) and are compatible with all types of inverter. They are easily installed at a minimum height of 4.5 m and offer silent and continuous operation.

They are available with diameters from 4m to 7m.

▶ (When the temperature of the environment exceeds 22°C the cows begin to reduce the quantity of feed they consume. They are forced to waste energy to eliminate the additional heat which may cause reduction to their productivity up to 20% per day.)



#### **■ CHARACTERISTICS**

Diameter 4m

Power supply 0,75 kw - 2 A-400 V 3 ph, 50/60 Hz

High efficiency mechanism

5 aluminum blades

Permanent power supply using ups

Central mounting shaft up to 3 m

Side support brackets with up to 1m extension

Protective mechanism from 1.6 to 6.3

AC current 400V operation

IP 55 certificied

Temperature sensors

Remote panel

Offered with anemometer and other equipment

# Feed mixers

Feed distribution is a demanding task, as a farmer should spend much time in order to continuously jog the feed to cows. Also, the farmer needs to walk along the feeding area in his shoes, which tends to be risky in terms of microbes and diseases. To avoid the aforementioned issues, but also for time saving, the use of the feed mixer is considered to be necessary and really beneficial.

Our feed mixer ensures the quality as well as the required quantity of feed for your cows. It is flexible and can be carried by any vehicle. It is suitable for 90-100 cows and offers the option of increasing the quantity of milk per cow, depending on the type (about 1.5 to 2L). It is easy- to- use and effective in cutting and mixing food.

#### **■ CHARACTERISTICS**

Power (W) 28000

Dimensions (L \* W \* H) 2600 \* 1720 \* 2650 (mm)

Weight 1550 kg

ISO 9001 certified

Size 5 m<sup>3</sup>



### ■ FARMING EQUIPMENT

## Calves Houses

Calves houses design and space comfort affect their later performance. Individual feeders, adequate ventilation, protection from cold or hot as well as housing separation in cases of different breed of cattle, are some factors that apparently affect cows' feed intake and consequently their weight and productivity.

After a thorough research, the product we developed is the MP Compact, an effective calves housing solution which can be also used as a heifer housing solution for a short time.

The MP Compact ensures animal welfare in a safe environment with dry mattress and adequate ventilation. It is easy- to- clean and flexible for storage and transportation. Last but not least, its dimensions make it an ideal solution for large herds and particular limited areas.

#### CHARACTERISTICS

Single space 100x200cm

Easy assembly

Front door with lock

Adjustable bucket (optional)

Front fencing

Fully adjustable back door

Stainless steel feeder and built-in bucket

Wall dimensions 100x200cm

Ceiling panel with dual coating for complete coverage







# PASTEURIZER & CALF FEEDER

There are many advantages of using pasteurized milk for calf feeding which relate to both the young animal's health and the user's money saving.



## PASTEURIZER& CALF FEEDER

## MP MilkCab

Available in capacities of 200-300lt

MP MilkCab pasteurizer is the ideal calf feeding solution.

With MP MilkCab the unsaleable milk becomes a free of cost and highly nutritious feed.

With MP MilkCab we achieve the use of the «sick» milk produced in the farm. The unfit for sale milk substitutes other milk replacements providing in this way a self-financing animal feed which implies:

Lower costs for livestock feeding

Fast amortization of the pasteurization equipment

MILKPLAN MP MIKCOD



## ADVANCED CALF FEEDING SOLUTION

### MP MilkCab Pasteurizer

#### ■ TOP OPERATIONAL FEATURES

All MP MilkCab's functions can be controlled by the color touch screen 4.3" placed on the front side of the tank.

The resistive technology display features an intuitive user interface, guarantees high endurance and its PLC software ensures complete control and automation of all operating procedures, from pasteurization to feeding (milk temperature control, feeding quantity system input, automatic start / stop, etc.).

Furthermore, the option of time scheduling that the MP MilkCab offers, allows the farmer to prepare the milk whenever he wants.



Screen menu is available in many languages and software is easily upgradable.

#### WALL UNIT

High quality pump used to circulate water during heating and cooling processes.



- 12KW electric heater
- Solenoid valve used during cooling process
- Automatic filler valve
- Polyphosphate filter prevents lime deposits in the water circuit
- Water filter
- Alarm
- Electrical supply panel

#### ■ MP MILKCAB FEATURES

#### Smart tank design

Heat exchanger on the tank's side wall and bottom for faster milk heating and time saving.

## Excellent tank thermal insulation

Stainless steel (AISI 304) milk tank with polyurethane foam insulation for temperature maintenance and energy saving.

#### **Ergonomic construction**

Water and electricity connections are designed in order to ensure ease of use, safety for the operator and direct connection to the controller.

#### Agitation motor

Agitation during heating, pasteurization and cooling ensures temperature uniformity throughout the overall milk quantity and prevents the creation of burned content on sides and bottom during pasteurization.

## Stainless steel cover for the electric panel

Protection of electrical and electronic components, long lifespan and high durability.

#### Motion controllers

With supplementary buttons for milk catering activation and stainless steel cover for protection.

#### **Brake**

Front wheel brake to prevent rolling.

► Etched capacity measure inside the tank

#### Feeding hose

Convenient feeding hose with filling pistol which allows the simple and rapid feed dispensation. Combined with portion control and stainless steel base for easy hose fixation.

▶ The exact feeding quantity offered to the young animal is vital for its good health and growth. Through the use of the dispenser, we ensure the required feeding quantity as well as its stable dosing avoiding any case of malnutrition or hyper alimentation, as reduced feeding inhibits growth due to lack of nutrients and conversely, overfeeding or sudden changes may cause digestive disorders.

#### **Electrical Drive**

Raised tank with big wheels and powerful drive for easy movement even in rough trails.

### Leakproof cover

Seal top cover which prevents milk loss even during movement on rough road.







## MILK ANALYSER

Keeping the hygiene standards high is an important factor for milk production and selling as it certainly affects the milk's quality and price. In addition, there is difference in the price of milk with special physical and chemical characteristics or with high nutritional and biological value. Such differentiations require the systematic control of milk quality. However, safeguarding or optimizing the milk's quality in small livestock or cheesemaking units, which are not equipped with chemical laboratories, is not a simple process as it requires a series of continuous monitoring and chemical analysis. Therefore, the existence of a low-cost and reliable chemical analysis solution is essential.

### MILK ANALYSER

### MP Lactoscan

► Accurate measurement in 50"

Lactoscan is a modern chemical analyser suitable for the analysis of any type of milk. Thanks to its ultrasonic technology, periodic calibration is not necessary, but it calibrates itself automatically without the use of a computer. The accuracy of the measurement does not depend on milk acidity and analysis can be performed from a temperature of 5°C.



In its basic version, the analyser comes preconfigured to analyse cow's, sheep's and goat's milk. Lactoscan is available on request for the analysis of other dairy products such as cream, evaporated milk or skimmed milk and can be calibrated by the user to analyse samples of yogurt, ice-cream mix or whey.



#### ■ FEATURES

- User friendly simplicity in operation, maintenance, calibration
   and installation
- Portable & compact design
- Small sample quantity needed
- Low power consumption
- No use of hazardous chemicals
- One year full warranty
- Possibility of parametrization via RS232 interface
- ESC POS printer support
- Two samples self-calibration

The stainless cover offers the best possible protection for the device, which has a built-in printer and keyboard, a display with a language selection option, as well as an option to save chemical analysis data on a USB Flash Drive.



Available in two models of different weight and dimensions:

MP Lactoscan **SA** (100x223x216 mm) / **4kg** MP Lactoscan **MCC** (290x300x330mm) / **5kg** 

#### ■ ANALYSIS DATA

Parameter	Measuring Range	Accuracy
Fat	0,01% – 45%	±0,06%
SNF	3% – 40%	±0,15%
Density	1000 – 1160 kg/m3	±0,3 kg/m³
Protein	2% – 15%	±0,15%
Lactose	0,01% – 20%	±0,20%
Water	0% – 70%	±3%
Milk Temperature	5°C – 40°C	±1°C
Freezing Point	-0,4°C0,7°C	±0,005°C
Salts	0.4% - 4%	±0,05%
рН	0 – 14	±0,05%
Conductivity	2 – 14 mS/cm	± 0,05 mS/cm

#### **OPTIONALLY**

► Aavailable with a pH sensor and a milk conductivity measurement system.





- Udder Hygiene
- Mastitis Detectors
- Accessories & Consumables for milking systems & milk cooling tanks

## **Udder Hygiene**

## **Ambic Dip Cup**

Innovative non return design which prevents contaminated chemical returning to Dip Cup bottle.

- Full strength chemical for each cow's udder
- Specially designed splash-proof lip and overflow chamber to reduce spillage and overflow
- Soft squeeze bottle for ease of use
- 30ml bottle capacity
- Convenient belt hook



## EasiDipper

Designed to combine the accuracy of dipping with the speed of spraying for a fast, reliable and cost effective means of pre- and post- teat sanitization.

- Better teat coverage
- Does not need manual filling
- Less chemical consumption
- Quicker than manual dipping



### Teat Scrubber

A teat sanicleanse that provides a reliable & quick process in which the cows teats are washed, sanitised, dried and stimulated. The whole process lasts up to 10 seconds per cow.

The system has three rotating brushes. The upper two are rotating to wash, sanitise and massage the external surfaces of the teats and the base of the udder with warm water and sanitiser. At the same time, the third larger brush completes the same operation at the tip of the teats. The whole system is manually operated moving from cow to cow on a stainless steel wire.



- Powered by a 24VDC electric motor.
- Brushes lasting around 30,000 50,000 operations.

## **HipSpray**

Hand operated mobile teat sprayer with stainless steel lance and adjustable nozzle.

- Spray gun sits comfortably on the hip for immediate use.
- Reservoir capacity of 1l sprays for up to 100 cows.
- Pump action, spray gun and coil.
- Variable output of 2 -10ml with fully adjustable nozzle for complete teat coverage.
- Belt, bottle and holster fit easily around waist.
- Easy to use.
- Ideal for use in stanchion barns or RTS systems.



## **Ambic Vision Mastitis Detector**

A simple & effective method of identifying mastitis clots during milking, an indicator of clinical mastitis.



- Designed to fit 12-14mm or 14-16mm milk tube.
- Guaranteed mastitis detection 365 days per year.
- Easily installed.
- 100% mastitis detection during milking.

## Draminski Mastitis Detector

An easy way of mastitis diagnosis at the earliest stage of the disease.

- Forestripping and monitoring the udder condition at once.
- Mastitis detection based on milk's electrical resistance.
- Durable and waterproof case.





## Disinfectant mats

An important part which ensures the effective disinfection of footwear before entering the farm.

Milkplan's disinfectant mats are made up of two parts:

- A 4cm thick, high density foam pad in a tough non-slip cover, designed to withstand heavy loads.
- A unique waterproof sleeve to hold in the liquid. Removable to allow thorough cleaning.



# Accessories & Consumables for milking systems & milk cooling tanks



Peristaltic pump for washing chemicals dosing (acid, detergent, disinfectant) 24VDC 30lt/h flow for closed type milk cooling tanks and 16lt/h for the MP Armektron 2to1 washing system.



Low foaming and dilution acid and detergents for the effective cleaning and disinfection of milking systems or of closed type milk cooling tanks. High quality products especially manufactured for milk production units and automatic dosing systems.



# Accessories for milk cooling tanks



[\*Available in the full set with the protective cover (IP55 certified) - for all milk cooling tanks which need reparation or the simple version closed type milk cooling tanks.]



Programmable visograph LCD display (resolution 240 \* 96 pixel).



Programmable Logical Controller (PLC) iPro Genius made by Dixell, for the control of all functions. LINUX operating system, 32bit processor, 200MHz CPU, 32MB RAM, 128MB capacity.



Stainless steel or aluminum conical filter designed for perfect adjustment in milk inlets of open type milk cooling tanks.



Water pumps of all sizes for every closed type milk cooling tank's CIP washing system.



One or three phase agitation motors made by Sirem available in 90- 145W and 21-30 rpm ranges, with or without an integrated gravity switch.







High durability and reliability automatic drainage valve D50 type, 24VAC, NC, IP65 made by Mueller.



Stainless steel butterfly valve for milk outlet available in all types of sizes, threads (DN, SMS,IDF, MACON etc.)



Self-cleaning stainless steel butterfly valve for milk outlet available in all types of sizes, threads (DN, SMS,IDF, MACON etc.)

# Accessories for milking systems



Waterproof electronic pulsators LP20, with 2 exits and PCB for lower power consumption.



Waterproof pneumatic pulsators with self-lubricated slide and adjustable pulse rate for range between 50-180ppm for 35-50 kpa operation.





High flow stainless steel milk pump with hydraulic system for energy saving. It offers corrosion durability as well as easy cleaning and maintenance.





High quality and endurance silicon liners and milk claws which ensure vacuum consumption reduction. Conforming to ISO standards, they ensure maximum flow, zero leaks during system activation and high milk evacuation capacity.



High quality, durable, light weighed and easy to use liner covers for sheep and goats. Transparent for better visual control during milking.



Vacuum glycerin manometer in stainless steel cases suitable for corrosive environments D100-100/0 kpa  $\frac{1}{2}$ " or dry type D63  $\frac{1}{2}$ ".



Mechanical milk meter for any type of milking system. Easy installation with slide bracket base (V-block) or fixation clamp.





Stainless steel or aluminum milk bucket for manual milking or milk transportation 30/40/50 lt. Available with or without lid.



Vacuum pump oil for stable and constant lubrication in a wide temperature range for certain vaccum pump operation in extreme temperatures or extremely tough environmental conditions (dust etc).



Stainless steel first aid box for medical parts and cleaning materials storing.



Food grade PE, PVC and silicon tubes for milk, air and water usage with high durability in tough environments and chemicals.



Stainless steel breast lifting hook with spring for sheep.



High durable food grade milk filter sockets for safe milk infiltration and excellent milk quality protection.





