



*Great Quality and Great Value*

*Product Catalogue*

# September 2017



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Meet Olivia, one of our Technicians. She is in the process of calibrating a Medition PT-V Pulsation Tester.

All Sema stock products, except the Extreme Duty milk pump controllers, are covered by a

## **Three Year Warranty**

Sema Extreme Duty (XD) milk pump controllers are covered by a

## **Four Year Warranty**

**We don't believe in small print so here are the terms:-**

You are still covered even if you leave the power on 24/7.

The only failures that aren't covered by the warranty are those caused by severe power surges, fire, physical damage or faulty wiring.

Our liability is limited to repair or replacement of the defective hardware.

This is a genuine warranty and we will not be going out of our way to find reasons to reject a claim but we do recognise that this warranty is open to abuse and so the acceptance of a claim must be at our discretion.

This warranty only applies to units up to and including 22kw. Larger units are covered by Invertek Drives Ltd's standard warranty terms.

## **Contact Information**

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**Meet Tanya and Rob, the workshop crew. Contact them on 09 3580700 or [sema.workshop@sema.co.nz](mailto:sema.workshop@sema.co.nz)**

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### Sema Controller Sizing:

#### Size 1 (W 188mm x H 260mm x D 187mm):

This size and configuration applies to all Sema controllers up to and including 4kw, whether single or three phase.



#### Size 2 (W 210mm x H 310mm x D 230mm):

This size and configuration applies to Sema controllers of 7.5kw



#### Size 3: (W 171mm x H 450mm x D 252mm)

From 11kw to 22kw Sema controllers look like this.



#### MPC-SS (W 300mm x H 400mm x D 200)

At the time of producing this price list the Stainless Steel version of the MPC had these dimensions. These may change as we refine the design of this product.







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# Standard Milk Pump Controller Price List

## Complete Systems

These bundles include the three items shown below. Please note that buying them as a bundle reduces the cost as compared to buying the components individually.



Controller

+



Float Level Probe

+



Gland

Part Number	Description
MPC1-410	230Vac 1 phase with 410mm float probe & gland
MPC1-500	230Vac 1 phase with 500mm float probe & gland
MPC1-585	230Vac 1 phase with 585mm float probe & gland
MPC3-410	400Vac 3 phase with 410mm float probe & gland
MPC3-500	400Vac 3 phase with 500mm float probe & gland
MPC3-585	400Vac 3 phase with 585mm float probe & gland

If you are replacing a John Brooks or Delaval controller you can re-use their float level probe (Full instructions are given in the MPC manual) in which case you only need to buy the Milk Pump Controller from us. Prices for these are below.

Part Number	Description
<b>MPC-1</b>	230Vac Single Phase Controller
<b>MPC-3</b>	400Vac three phase controller



# Milk Pump Controller options List

## Sema Part Number Builder

*We now have a number of different options available for our Milk Pump Controllers, please use our part number builder to work out the part number of your controller. Simply add your desired options in the order given below. Examples are given at the bottom of the page*

*To calculate the price of a customised controller refer to page 8.*

<u>Code</u>	<u>Description</u>
<b>MPC</b>	All Sema Milk Pump Controller part numbers start with this
<b>1</b>	Single phase input 3 phase output. 230Vac
<b>3</b>	Three phase input 3 phase output. 400Vac
<b>-SS</b>	Stainless steel cabinet model
<b>-XD</b>	Extreme Duty unit. Over engineered to cope with extremes of power or environment
<b>-AT</b>	Auxiliary terminals added. These let an external switch select the operating mode.
<b>-WK</b>	Only available with the SS option. The Wash Kit allows the control of a Waikato wash system
<b>-4.0</b>	This model will run pumps of up to 4.0kw ( Note: we do not make an XD variant in this size)
<b>-Probe</b>	A 3 digit number giving the float level probe length in mm. Options are 410,500 or 585mm

## Examples

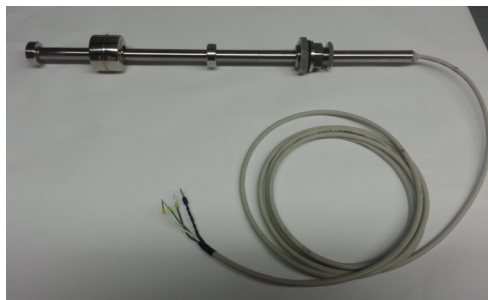
<u>Part Number</u>	<u>Description</u>
MPC3	Three Phase 400V controller without a probe
MPC3-410	As above but with a 410mm probe and gland
MPC3-SS-500	As above but in a SS box with a 500mm probe and gland
MPC3-XD-585	3 phase 400v extreme duty model with 585mm probe and gland
MPC3-SS-XD-AT-410	The works! Read the code descriptions above. To calculate the features.



## Float Level Probes

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As well as selling the probes and glands to go with our own brand Milk Pump Controllers we also sell probes and glands to fit other companies milk pump controllers.



All of our float level probes and glands are made exclusively from 316SS and come with a 3 year warranty

Description
2-wire On/Off float level probe. Can be configured to either turn off at the bottom of its stroke or turn on at the bottom of its stroke. Used for simple applications like low level alarms.
3-wire float level probe for use with Sema controllers available in 410, 500 and 585mm lengths
5-wire float level probe for use with John Brooks and Delaval controllers (or if you are making your own with a variable speed drive) available in 410, 500 and 585mm lengths.
Waikato ABB type compatible float level probe. Same wire colours and functions as the ABB probe but with a 3 year warranty.
CSL (Corkill Systems Ltd.) compatible float level probe. This probe is supplied with one of our floats fitted but this can be removed and a CSL froth-buster float fitted in its place.
Gland 1/2" internal bore (Can also fit 12mm tubes) 3/4" BSP thread.

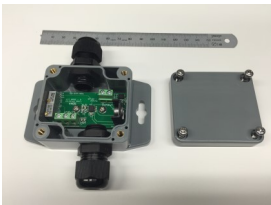
If you would like a probe to replace a Waikato Schneider drive type then please turn the page to see what we can offer.





# Milk Pump Controller Accessories

Got a Waikato milk pump controller with a Schneider drive or an early model CSL controller and want a replacement float level probe for it? All that you need to do is buy one of our standard 3 wire probes and the 4 to 20ma converter below.



Part Number	Description
4 to 20ma converter	Float probe 4 to 20ma converter.

**Simple and rugged!** These remote switch stations are put together using a robust and waterproof high impact plastic box with stainless steel screws securing the lid. The switch gear is all made by the auto-electrical giant 'Narva'. They aren't fancy or pretty but they are built to last!



Part Number	Description
Remote Pump Out PB	Remote Pump Out Waterproof Push Button.



Part Number	Description
Remote Milk/Wash SW	Remote Milk/Wash Waterproof Toggle Switch.



Part Number	Description
Remote Combination MW/PO	Remote Combination Pump Out and Milk/Wash switch.

The **WBX** or Washbox has the same functionality as the Waikato wash system and is designed to enable Waikato Milk Pump controllers to be easily replaced by the Sema MPC. It plugs into the expansion port of the MPC



Part Number	Description
WBX	Replacement for the Waikato wash system controller



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# Milk Pump Controller Accessories

**Float Level probe extension cables:** The standard length for a float probe cable is around 3 meters. If you would like one longer than that we will supply a junction box and cable up to 100 meters in length. The junction box will have connectors in it, all that you have to do is connect the float wires to the same colour wires in the junction box.



Part Number	Description
Float extension Junction Box	Waterproof junction box to be used for extending float level probe cable.
2 wire Ext.	Extension for a 2 wire float level probe. Per Meter
3 wire Ext.	Extension for a 3 wire float level probe. Per Meter
5 wire Ext.	Extension for a 5 wire float level probe. Per Meter



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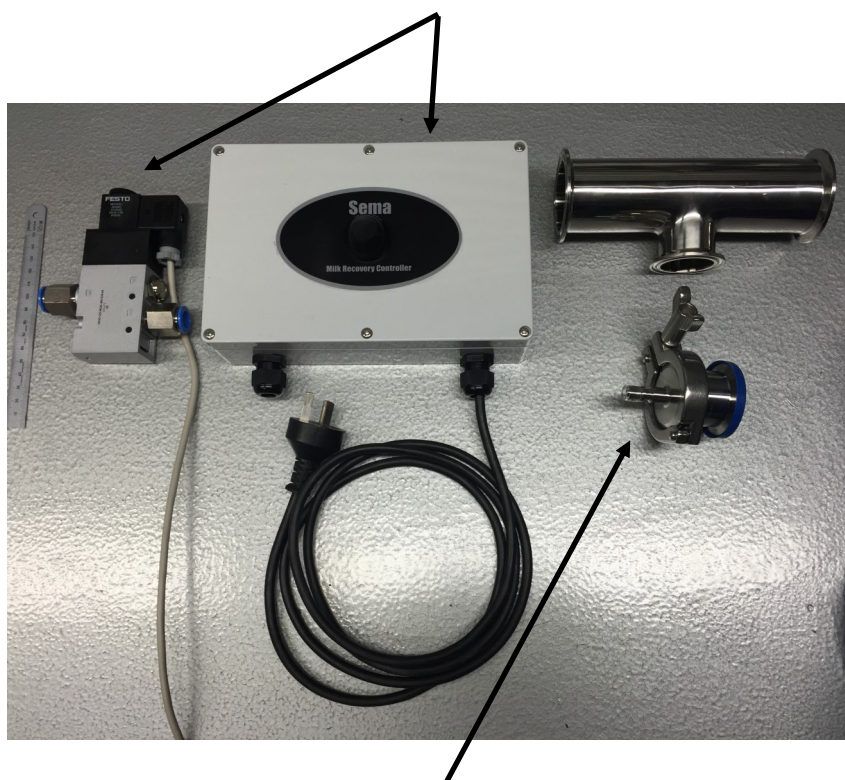
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## Milk Recovery Unit (a.k.a. Milk Sweep)

The Sema milk sweep controller consists of a waterproof box with a waterproof push button on the front, inside the box there are a power supply and a timer. A Festo 12mm pneumatic solenoid is supplied with a 20M cable which connects to terminals inside the box. When the button is pressed the solenoid will operate for the length of time that the timer is set for and will inject air into the milk line 'sweeping'; the milk that it contains into the vat.

**This unit is designed for dealers who want to make their own Milk Recovery Unit:**



As an optional extra we can supply the air injector and 'Tee'. We obtain these parts from Inox who also carry all of the other Stainless Steel fittings that may be needed to install the milk sweep system. Contact Inox directly at [www.innox.co.nz](http://www.innox.co.nz) or phone Will at Inox on 07 7880140

Part Number	Description
Milk Sweep 230Vac	Milk Sweep c/w power supply and solenoid with 20 meter solenoid cable.
Innox FAPV 38	OPTIONAL Milk sweep injector valve 38mm
Innox FSRT 503850	OPTIONAL 50 x 38 x 50 Tee piece



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# Water Pump Controller Price List

## Complete Systems (4kw shown)



Controller

+



Transducer

Part Number	Description
WPC1-2.2	230Vac single phase with transducer. 0.5 to 2.2kw
WPC3-2.2	400Vac three phase with transducer. 0.5 to 2.2kw
WPC3-4.0	400Vac three phase with transducer. 2.3 to 4.0kw
WPC3-7.5	400Vac three phase with transducer. 4.1 to 7.5kw
WPC3-11	400Vac three phase with transducer 7.6 to 11kw
WPC3-15	400Vac three phase with transducer 11.1 to 15kw
WPC3-22	400Vac three phase with transducer. 15.1 to 22kw
Transducer Sema Type 1	Sema Type #1 Max 12 bar. 1/2" BSP 316SS. For non-polluted water.
Transducer Flush Diaphragm Sema Type 3	Max 10 bar. 1/2" BSP thread. 316SS with flush diaphragm for green water or effluent applications.
Transducer Flush Diaphragm Sema Type 4	Max 20 bar. 1/2" BSP thread. 316SS with flush diaphragm for green water or effluent applications.

Larger sizes, up to 250kw, are readily available. Please ask Sema for pricing and lead times.



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# Vacuum Pump Controller Price List

## Complete Systems (22Kw shown)



Variable Speed Drive

+



Transducer

Part Number	Description
VPC3-4.0	4kw Vacuum Pump Controller c/w Transducer
VPC3-7.5	7.5kw Vacuum Pump Controller c/w Transducer
VPC3-11	11kw Vacuum Pump Controller c/w Transducer
VPC3-15	15kw Vacuum Pump Controller c/w Transducer
VPC3-22	22Kw Vacuum Pump Controller c/w Transducer
V Transducer	1/2" BSP 316SS 60Kpa Max
Bleed	Optional air bleed 3/4" gate valve with intake filter

**Slave Drives:** Any of the VPC's listed here can run one or more slave drives. This is a very good way of controlling installations which use multiple vacuum pumps. The price of a slave drive is the same as the price of a VSD. The price list for these is on page 22. When ordering use the part number VPS3-XX where xx is the size of the slave drive in kw. E.g. VPS3-11 is an 11kw vacuum pump slave drive. Slave drives come with all connecting cables and require no setup, they are plug and play.



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# Vacuum Pump Controller Accessories

## Remote Switch Modules

Made especially for Sema by the New Zealand based manufacturing arm of the German giant Kraus and Naimer these switches come in a waterproof enclosure complete with gland ready to mount and wire.



Part Number	Description
K&N Off/Milk/Wash Switch	Made for Sema by K&N. Remote Off/Milk/Wash Waterproof switch.

Sometimes simple is good. These switches have a waterproof rubber boot and come mounted in a fully waterproof, high impact plastic enclosure. They allow you to switch the VPC between Milk and Wash modes



Part Number	Description
Remote Milk/Wash SW	Remote Milk/Wash Waterproof Toggle Switch.

**Transducer extension cables:** The standard length for a VPC Transducer cable is around 10 meters. If you would like one longer than that we can fit a longer one of up to 100 meters. The first 10 meters will be free, any additional length will be at the rate given below.

Part Number	Description
Transducer Extension	Extension for a Vacuum Pump Transducer Cable. Per Meter





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# Effluent Pump Controllers

## EPCF

The 'F' stands for flow control. This is our second most popular model, it allows the user to enter a flow rate (in Mega Cubes per Hour or MCH) which the EPCF will deliver whether the spreader is at the top of a hill in the farthest paddock or sitting in the paddock next to the effluent pit.

The big advantage of this model are the power savings that are achieved by the pump only having to work as hard as it needs to deliver the optimum flow rate to the spreader.

This unit also comes with these protections built in:

- ◆ Run Dry Protection
- ◆ Burst Pipe Protection
- ◆ Maximum Run Time Protection
- ◆ Blocked Pipe Protection

The disadvantage of this system is the cost. Unfortunately, because of the nature of effluent, the flow sensor is very specialised and relatively expensive. The flow sensor is of a type called an 'electromagnetic flow sensor' and has a perfectly smooth bore with nothing projecting into the effluent stream. Our flow sensors are available in either 230Vac or 24Vdc. They measure between 4 and 60 MCH (Mega Cubes per Hour)

An EPCF has 2 main parts:



**The Sema Controller**

+



**The Flow Sensor**

*Please turn the page for EPCF pricing.....*



# Effluent Pump Controllers

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## EPCF

Part Number	Description
EPCF3-11-24	11kw Effluent Pump Flow Controller c/w 24VDC Flow sensor.
EPCF3-11-230	11kw Effluent Pump Flow Controller c/w 230 VAC Flow sensor
EPCF3-15-24	15kw Effluent Pump Flow Controller c/w 24VDC Flow sensor
EPCF3-15-230	15kw Effluent Pump Flow Controller c/w 230 VAC Flow sensor
EPCF3-22-24	22kw Effluent Pump Flow Controller c/w 24VDC Flow sensor
EPCF3-22-230	22kw Effluent Pump Flow Controller c/w 230 VAC Flow sensor



# Effluent Pump Controllers

## EPCP

The 'P' stands for pressure control. Controlling the pressure is critical when using a constant displacement pump such as a Mono. The EPCP also provides these features:

- ◆ Run Dry Protection
- ◆ Burst Pipe Protection
- ◆ Blocked Pipe Protection
- ◆ Maximum Run Time Protection

The EPCP has 2 Main Components:



**The Sema Controller**

+



**The Pressure Transducer**

Part Number	Description
EPCP3-11	400Vac three phase with transducer. 11kw
EPCP3-15	400Vac three phase with transducer 15kw
EPCP3-22	400Vac three phase with transducer. 22kw



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# Effluent Pump Controllers

## EPCFP

The 'FP' stands for flow and pressure control . This is our premium system designed to provide the ultimate in control and power saving when using a constant displacement pump. It has these protections built in:

- ◆ Run Dry Protection
- ◆ Burst Pipe Protection
- ◆ Blocked Pipe Protection
- ◆ Maximum Run Time Protection

The EPCFP controls the flow rate unless the pressure nears the pipes maximum allowable pressure in which case it will revert to pressure control to protect the pipe.

The EPCFP has 3 Main Components:



**The Sema Controller**

+



**The Pressure Transducer**

+



**The Flow Sensor**

*Please turn the page for EPCF pricing.....*



# Effluent Pump Controllers

## EPCFP

Part Number	Description
EPCFP3-11-24	11kw Effluent Pump Flow Controller c/w 24VDC Flow sensor and Pressure Transducer
EPCFP3-11-230	11kw Effluent Pump Flow Controller c/w 230 VAC Flow sensor and Pressure Transducer
EPCFP3-15-24	15kw Effluent Pump Flow Controller c/w 24VDC Flow sensor and Pressure Transducer
EPCFP3-15-230	15kw Effluent Pump Flow Controller c/w 230 VAC Flow sensor and Pressure Transducer
EPCFP3-22-24	22kw Effluent Pump Flow Controller c/w 24VDC Flow sensor and Pressure Transducer
EPCFP3-22-230	22kw Effluent Pump Flow Controller c/w 230 VAC Flow sensor and Pressure Transducer

**As with our other product larger sizes are readily available. Ask us for details.**



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# Variable Speed Drives (IP20)



Any of our stock models of variable speed drive may be ordered separately. As a free service we will configure the drive for you to operate in any manner that you would like, install all necessary glands, give it a thorough operational test and send it out ready to just bolt to the wall and run.

Part Number	Description
VSD1-2.2-IP20	230Vac single phase 2.2kw IP20
VSD3-2.2-IP20	400Vac three phase 2.2kw IP20
VSD3-4.0-IP20	400Vac three phase 4.0kw IP20

Larger sizes, up to 250kw, are readily available. Please ask Sema for pricing and lead times.





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# Variable Speed Drives (IP66)



Any of our stock models of variable speed drive may be ordered separately. As a free service we will configure the drive for you to operate in any manner that you would like, install all necessary glands, give it a thorough operational test and send it out ready to just bolt to the wall and run.

Part Number	Description
VSD1-2.2	230Vac single phase 2.2kw IP66
VSD3-2.2	400Vac three phase 2.2kw IP66
VSD3-4.0	400Vac three phase 4.0kw IP66
VSD3-7.5	400Vac three phase 7.5kw IP66
VSD3-11	400Vac three phase 11kw IP55
VSD3-15	400Vac three phase 15kw IP55
VSD3-22	400Vac three phase 22kw IP55

Larger sizes, up to 250kw, are readily available. Please ask Sema for pricing and lead times.

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# Sema Vacuum Gauges

## The SVG

Designed to be permanently mounted in a Cow Shed the SVG requires a 24VDC supply (ask us if you would like us to supply one) It has a 6mm hose fitting for the Vacuum pickup and is supplied in a waterproof enclosure. If you've had a bad experience with other Digital Vacuum Gauges don't worry, this one is different, it's built to last and is covered by our 3 year extended warranty.



Part Number	Description
SVG	Sema Vacuum Gauge. Wired type.





***Great Quality and Great Value***