

# Flotation feed forward

## Control system

### Application

The control system consists of an electrical cubicle with a PLC and an operators panel.

The level sensor delivers the actual tank level to the PLC via an analogue signal, (4-20mA). A PID regulator compare the Set-value with the Actual-value and produces an analogue, (4-20mA) Reference Output signal to the pneumatic level valve actuator which controls the opening and closing of the Dart valve in the bottom of the tank.

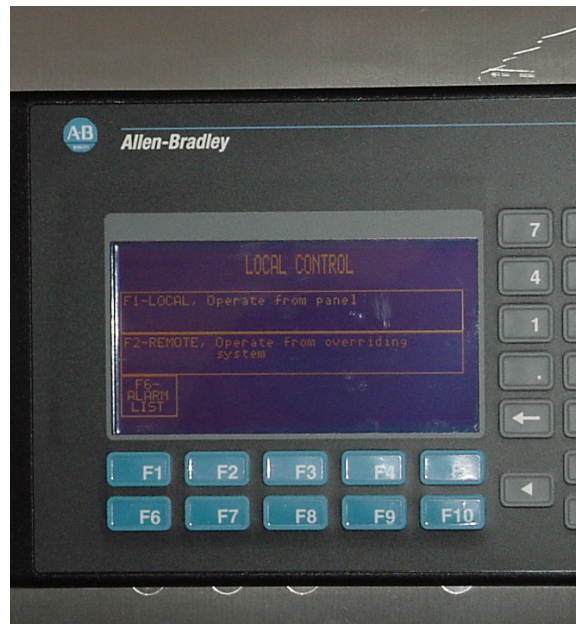
The Froth Thickness are controlled automatically by means of individual PID regulators with implementation of the Feed Forward algorithm for each unit.

The cell bank can be operated from Local or Remote. One control system can control up to 10 levels. In Local mode, the equipment is operated from the control cubicle preferable located close to the cell bank.

It is possible to adjust the SET-VALUES for each unit individually.

In REMOTE mode, the SET-VALUES are adjusted from an external, overriding system. Each level can also be operated manually from the operators panel for service and maintenance purposes.

The PID- and Feed Forward-parameters can be adjusted individually from a Tuning menu.



### The control cabinet consists of:

- Automatic Fuses, (10 & 4A).
- Power supply for control voltage, 115/230 VAC to 24 VDC
- Interface for Remote control
- PLC (Allen Bradley PLC 5/04) for the control logics
- Analogue modules
- Operators panel Panelview 550 with an illuminated screen for
  - Selection of control mode
  - Selection of unit to control
  - Status information
  - Adjustments and tunings



Stainless steel control cabinet.

For more information, contact your local Metso representative. [www.metso.com](http://www.metso.com)  
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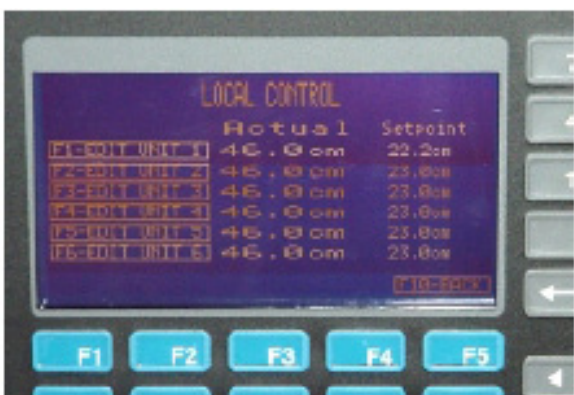


**Control panel layout**



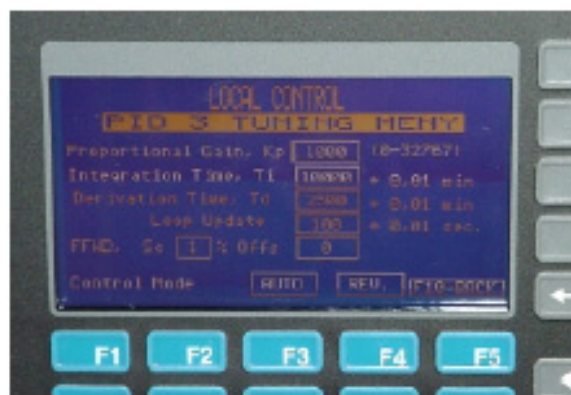
**Edit menu**

The froth thickness for each unit can individually be adjusted from this menu.



**Local control overview**

This menu gives an overview on all units and their Actual Froth values and Setpoints.



**Tuning menu**

Each unit can be tuned by means of PID- and Feed Forward-parameters.

**Data:**

- Power supply: 115/230 VAC, single phase
- Power: approx. 8 A
- Frequency: 50/60 Hz
- Protection: IP 65, Stainless steel
- Dimensions: 600\*600\*200 mm, (w\*h\*d)
- Weight: approx: 50 kg