

**Your Partner for Profile  
Control Actuator**

# Ultra Slice

## Basis Weight Profile Control

### Product Description

The DE UltraSlice actuator system is designed for standalone use and is easy to adapt to any QCS system. Manual, Remote manual control and Closed Loop Automatic control are available options.

Each DE slice control system may be supplied with actuators, control interface, slice rods, actuator mounting assemblies, and slice lip along with any mechanical or communication interfaces required.

### Product Background

Digital Engineering developed the first Basis weight profile control system 1985

And is still investing in the technology to ensure to stay in the frontline.

It is designed and built with superior quality standard with easy installation and maintainance in focus.

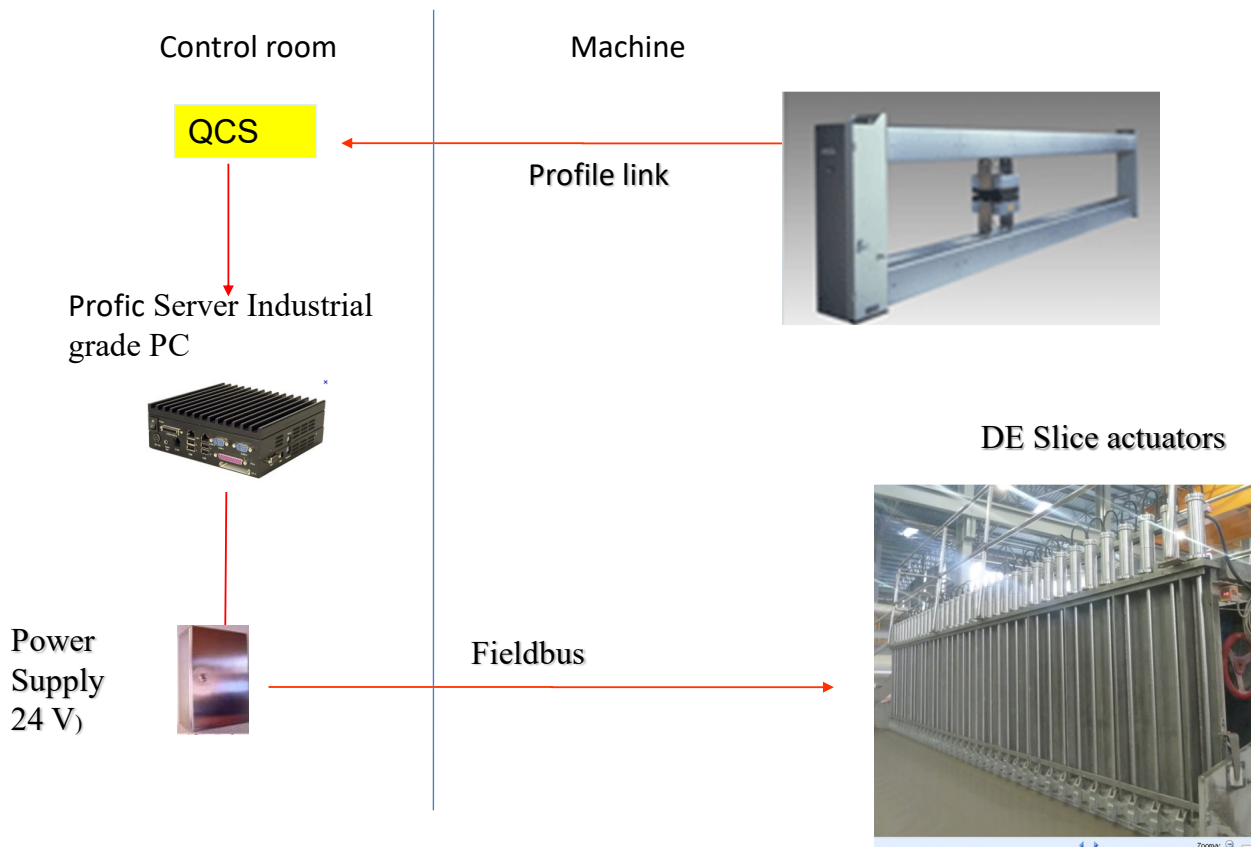
UP to date have Digital Engineering delivered Slice and Dilution actuator systems for automatic control worldwide for more than 20 years.



### Key Benefits

- CD weight Profile control brings improvements by reduced variations on:
- Basis weight (dry and cond.)
- Moisture, caliper and coat weight profiles
- Faster grade changes
- Faster recovery
- More uniform paper and sheetbuilding





The actuators are stronger and have higher precision than our competitors.  
There are no external cabling or electronic boxes.  
Due to the pre wired cable harness.  
The metal is Highest class Stainless Steel is used.

## Advantages

- DE Slice actuators are designed for highest precision, force and durability.
- The actuators are all digitized, with internal intelligence for safety and status control.
- The installation and service is much easier and safer than the competition
- Due to the prewired and connectorized cable harness
- All that is needed to install, is to plug in the actuators.
- Controlled by state of the art electronic interfaces and software for safety and durability
- All signals digitalized at the source; no external analog or I/O cables are necessary

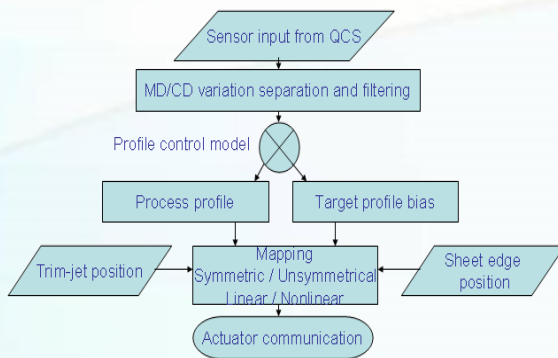
*Only two pair of wires run to the slice actuators (24V DC + RS-485)*

## CD Weight Control Functions

Profic CD control software provides advanced features for machine and process integration

Designed with open architecture for full customer service access

Designed to provide the lowest lifetime cost of ownership



## Advanced Interactive Support Functions

Historical trend graphics

Troubleshooting tools

Communication status logging

Control tuning tools

## Remote Access Service

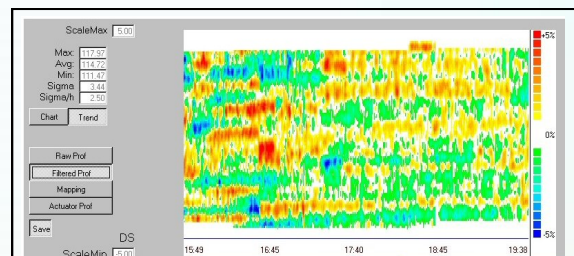
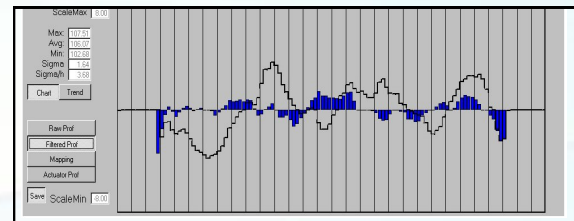
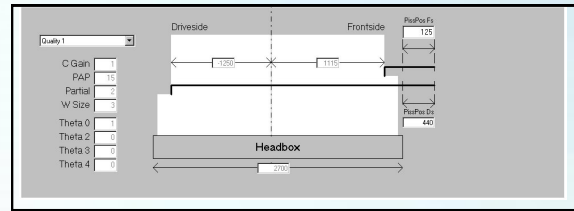
Internet access to the system from remote locations

Easy access to remote line

Quick service in an emergency

Full support from technical center

## CD Control & Diagnostic Interface



## Results

Profic systems have been in operation on Headboxes and Coaters since 1990 providing 2-sigma improvements up to 90%

Typical improvement depends upon existing variability and grade structure; these normally range between 50-90% 2-sigma reduction and profile recovery time improvements of 25-50%



## DE X-act 10

### Specification:

Control range  $\pm 5$  mm  
Force 10 000 N ( more on demand)  
Primary (motor) torque 50 N/cm  
100 rev. = 4 mm = 5000 step/ mm  
5 steps/  $\mu\text{m}$  = 0.2  $\mu\text{m}/\text{step}$   
Size: W-60 mm, H-240 mm



### Stepper motor drive:

Full, half or quarter step  
400 step / sec  
200 step / rev  
1 full step = 0.16  $\mu\text{m}$   
1/4step = 0.04  $\mu\text{m}$

### Position feedback:

State of the art Hall sensor  
Distinct ratiometric  
measurement interpreted by a  
16 bit A/D converter  
at 15  $\mu\text{V}$  resolution between 0-5

### Position indication:

Digital display

Manual adjuster

Control electronics  
In the lid

Stepper motor

Planet gear

Integrated position  
Transducer = Hall  
sensor

Thrustbearings and  
Zero backlash ball  
screw

Output shaft



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