

PROFLOW XT

Product Information Note

ProFlow XT cross-direction (CD) actuator is designed to replace the slower analog thermal bolt profile controls currently used by most extrusion processes or even manual adjustments for other industries, the ProFlow XT provides unprecedented digital automation and quality control benefits resulting in up to 96% startup time reduction and up to 30% reduced steady state variability.

ProFlow XT system is designed to automate extrusion and slot die gap adjustment operation and provides unprecedented performance in terms of speed and accuracy compared to traditional thermal bolt or manual control technology. ProFlow system consists series of intelligent, motorized actuators to provide rotational movement to drive adjustment bolts on a die. The actuator model can be selected based on requirement of the application. ProFlow XT is engineered for extrusion and fluid coating applications.

Unparalleled Control Performance

A uniform die gap flow is key to achieve end-product quality target regardless the application - extrusion or coating. There are many factors which affect to the flow uniformity like temperature and raw material viscosity that may vary during production. Slot dies are custom built to specific viscosity range and active adjustment is required especially when operating close to design envelope limits. Slot dies typically require numerous shutdowns to shim the die profile, both time and raw material consuming at after each start-up generating non-recyclable product scrap in worse case. ProFlow XT system provides full simultaneous control of the gap opening through the precise mechanical force applied in that zone at the speed and accuracy way beyond what is achievable with conventional technology.



Nordson - one of the major global die manufacturers - selected Honeywell's ProFlow XT to automate their revolutionary EDI® Prodigy™ coating slot die and extrusion die product families.

EDI® Prodigy™ die equipped with ProFlow XT actuators shown on the photo. (actuator canopy removed).

Courtesy of Nordson Corporation.

FEATURES & BENEFITS

Market-Leading CD Actuator Technology

- Superior accuracy and speed for extrusion and slot die gap lip control
- Intelligent, motorized high precision actuators
- High torque output with electrical and mechanical bend limit protection
- Simple, cost-efficient system infrastructure

Improved Production Economy

- Faster production start-ups and turn-overs
- Higher yield
- More flexibility for production scheduling
- Less scrap and reject
- Energy saving
- Full remote control reducing manual operations

Responsible Production with Higher Quality

- Improved product quality through reduced cross-direction variation
- Reduced CO₂ emissions and carbon footprint contributed by the energy saving

Flexible Connectivity

- Support all major Industry standard link protocols for 3rd party QCS communication
- Native connectivity with Honeywell QCS platforms that provide ultimate measurement and CD control performance for all sheet manufacturing applications

Honeywell Control Advantages

- Advanced model predictive CD control available with Honeywell QCS
- Significant reduction in CD variation and recovery times (>80%) can be achieved
- Grade/recipe based initial setpoint profiles available with one click.
- Total product quality control with integrated MD and CD controls

Intelligent Actuator Technology

ProFlow actuator consists of a high ratio gear, precision stepper motor and a built-in feedback encoder device which provides high resolution rotation measurement for fast and accurate position control.

In addition, each actuator consists of an embedded CDConnect processor that enable coordinated simultaneous drive of all system actuators while monitoring and limiting the output torque below the predefined threshold to avoid violating the lip bend limits. CDConnect architecture provides high speed data transfer over CDWeb network and comprehensive online diagnostic capabilities from each individual actuator.



ProFlow XT actuator

ProFlow XT actuator comes with durable, lightweight Zytel® housing, stainless steel body and a drop cable with single connector for power supply and communication.

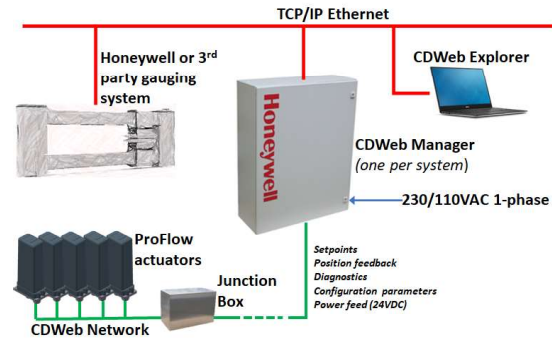
CDWeb Manager – Interface to Supervisory System

Each ProFlow system includes a CDWeb manager cabinet which provides the interface between the supervisory control system (QCS) and the actuators.

Honeywell's QCS SE and MXProLine™ Quality Control System (QCS) platforms provide native connectivity directly down to actuator level.

3rd party QCS systems can be easily connected via industry standard links such as OPC or Modbus TCP. CDWeb manager is equipped with CDWeb processor when connected to foreign

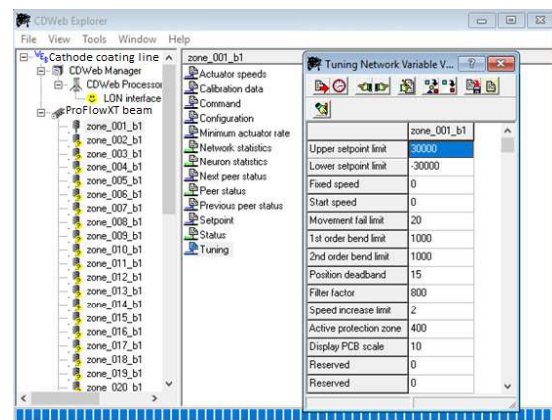
supervisory system. Position feedback measurements and actuator diagnostic information is available through link interface.



CDweb architecture and typical ProFlow system layout

CDWeb Explorer – easy-to-use configuration and diagnostic tool

ProFlow XT system comes with intuitive CDWeb Explorer software to be used for actuator configuration, tuning, advanced diagnostics, and troubleshooting. CDWeb Explorer provides easy navigation of the CDWeb features and operational parameters.



ProFlow XT actuator - Technical Specifications

PARAMETER	SPECIFICATION
ACTUATOR HOUSING MATERIAL	Zytel®
ACTUATOR FRAME BODY MATERIAL	Stainless steel T316
MOTOR	24VDC stepper motor
NOMINAL OUTPUT TORQUE	30 ±2Nm (22.1 ±1.5lbft)
NOMINAL ROTATION SPEED	32.5 seconds / 360° revolution
MAX. NUMBER OF REVOLUTIONS	3.85
MINIMUM OUTPUT SHAFT ROTATION	0.1°
MINIMUM ACTUATOR SPACING W/O STACKING	55mm (2.17")
OPERATING TEMPERATURE	0-60°C (140°F)
OPERATING HUMIDITY	30 to 90% @ 40°C Relative Humidity(non-condensing)

CDWeb Manager - Technical Specifications

PARAMETER	SPECIFICATION
CABINET RATING	NEMA4, IPP66
SUPPLY VOLTAGE	100/120 VAC 60 Hz or 200/230 VAC 50Hz
OPERATING TEMPERATURE	0-55°C (-18 -131°F)
OPERATING HUMIDITY	30 to 90% @ 40°C Relative Humidity (non-condensing)
OTHER ENVIROMENTAL CONDITIONS	Free of contaminants (eg. oil-free, dust-free, non-corrosive, non-caustic)
SUPPLY VOLTAGE	100/120 VAC 60 Hz or 220/230 VAC 50Hz, 1-phase

For More Information

Learn more about how Honeywell's ProFlow XT and ProFlow FT can improve production quality and efficiency, visit process.honeywell.com or contact your Honeywell Account Manager.

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