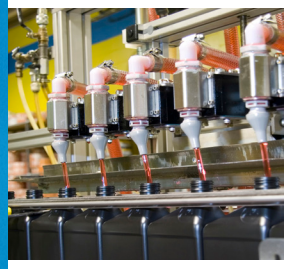
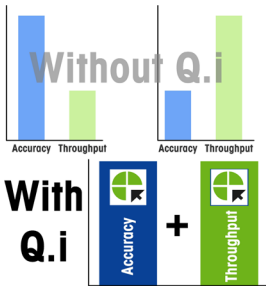
IND780 Q.iMPACT

Sophisticated material transfer control

for optimum manufacturing practices

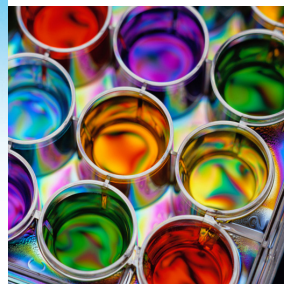


Improve material feed accuracy by modelling and compensating for normal process variability during each material feed. Q.i improves the accuracy of your material feed on a continuous basis, while maintaining or improving throughput.



Increase manufacturing capacity
The fast Q.i control algorithms replace traditional multi-speed controls to optimize the use of elements in the material path and reduce your material feed time while maintaining or improving material feed accuracy.

Minimize production cost
Reduce costly product over-fills, product under-fills, rework and scrap, decrease the number of operator touches and lower your maintenance costs and spare parts inventory.



Ensure best practices
with a comprehensive engineered solution that is robust, proven and scalable. Q.i reduces engineering effort, costly start-up time and product changeover time.

Q.i 780

Q.i 780 combines Mettler-Toledo's second generation Q.i advanced material transfer control technology with the features and benefits found in the IND780 terminal. Q.i 780 is engineered to work together with your control platform to master the feed measurement, management and cutoff control portion of your batching, blending, filling, dosing or formulation process. Q.i 780's configurable process parameters, advanced Predictive Adaptive Control algorithms and best practice material transfer functionality can easily be activated in any IND780 terminal.

METTLER TOLEDO

IND780 Q.iMPACT

Material transfer control for batching, blending and filling applications

Features and Benefits

- Concurrent monitoring and control of scales, load cell systems and flow meters; gain-in-weight, loss-in-weight and flow meter feeds cover all types of material transfer
- Patented Predictive Adaptive Control (PAC) algorithms consistently minimize material feed variability and maximize production throughput
- Overlapping feed management allows controlled addition of multiple materials simultaneously, further increasing production throughput
- Q.i terminal clustering allows for large systems comprising up to 198 scale/flow meter combinations
- Up to 999 unique configurable material paths for system flexibility, ease of expansion and rapid product testing and evaluation
- Multiple fieldbus options allow freedom to choose PLC or DCS platforms and maintain best practice material transfer functionality
- Configurable two-speed feed control with optional PAC algorithm
- Built-in auto-jog function automatically corrects out-of-tolerance feeds
- Supports optional Q.i 365, a PC-based production management tool that includes predictive/preventative diagnostics and SPC/SQC functionality
- Flow alarm management for each material path
- Pre-feed condition checks to ensure stable scale and prevent possible vessel overflow
- Dump-to-empty management efficiently and reliably controls removal of all material from a vessel in the shortest time
- Post-feed check verifies feed performance
- Graphical SmartTrac™ display shows the progress of any scale or flow meter feed
- Configurable terminal interface with multiple language options for menus and messages

Technical Data

Scales and flow meters	Process measurement tools include digital scales, analog scales, load cell systems and flow meters, with concurrent monitoring and control
Multiple measurement tools per Q.i 780 terminal	In each terminal, six option board slots support up to four analog scales, one multi-scale POWERCELL® PDX® interface, four IDNet/digiNet, twelve flow meters, or a combination of these
Q.i 780 clustering	Up to 198 total measurement tools in 20 Q.i 780 terminals, clustered via Ethernet LAN
Fieldbus communication	Ethernet IP™, PROFIBUS® DP and ControlNet™ for full fieldbus integration A-B RIO, DeviceNet™ and Modbus TCP for limited functionality Analog output, 4-20 mA, 2-channel Two modes of host communication – classic or enhanced, user-selectable and configurable
Predictive Adaptive Control	Up to 12 licenses per terminal, with up to 198 pooled licenses per cluster
Material Paths	Up to 999 per single terminal or cluster
Programming	TaskExpert™, standard with Q.iMPACT, supports function block programming
Display	TFT color graphical LCD display with backlight
Keypad	0-9 numeric keys, decimal point, clear, tare, print, zero, select scale, four application-specific softkeys, five scale function softkeys, navigation arrow keys, enter key
Target Cutoff Comparison Rate	Analog load cell interface: 91.5 Hz Flow meter interface: >200Hz IDNet, SICS, Modulo and POWERCELL® PDX®: Rate depends on cell type and model
Flow meter interface	Supports any flow meter with calibrated digital pulse output signal up to 24 VDC / 150 VAC and 1 - 50 KHz frequency range
Enclosure	Panel mount: 220 x 320 x 105 mm (8.7 x 12.6 x 4.1 in.), stainless steel front panel, certified Type 4x/12 environmental rating Harsh Environment/Desk/Wall mount: 200 x 299 x 245 mm (7.8 x 11.8 x 9.3 in.), stainless steel, IP69K certified
Communication ports	One RS232; one RS232/422/485; up to two additional RS-232 port expansion cards; one TCP/IP 10/100 Base-T Ethernet; USB master for external keyboard or external memory
Digital I/O Options	Discrete I/O: Maximum of 40 inputs, 56 outputs Local (Relay or Solid State): One or two modules, each with 4 inputs, external sink 5-30 VDC; 4 outputs @30 VAC/VDC, 1 A max. Remote: Up to 8 ARM100 I/O modules, 4 in/6 out @ 60 VDC/250 VAC, 1 A max.

Q.i Options

- 1 to 12 Predictive Adaptive Control Licenses
- Q.i 365 Production Management Tool

EtherNet/IP PROFIBUS ControlNet™

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