

Process Control & Data Management Systems for

DataPro Series

Intelligent Pipe and Tube Manufacturing

The DataPro Advantage:

- Captures measurement data from each gauge in the production process and centralizes this information for end-to-end visibility and management of processes
- Closed-loop feedback control continuously monitors product dimensions and automatically controls the line to optimize your process for efficient, quality manufacturing
- Live cross-sectional view of pipe or tube concentricity enables operators to make instant die-centering adjustments to reduce start-up time, production downtime, and scrapped material
- SPC data identifies and improves process trends, as well as enhances your quality documentation to back-up quality claims with customers and ISO auditors

The DataPro controller series captures real-time product and process data from Beta LaserMike gauges during production and provides visual summaries, reporting, analysis, and efficient control of product processes. DataPro includes a versatile set of I/O capabilities to enhance quality-driven manufacturing. Critical process data is collected at every step, from initial startup through production to the final quality phase. You'll realize significant start-up and in-process savings right at your fingertip and take your manufacturing to the next level to produce superior quality pipe and tube products.



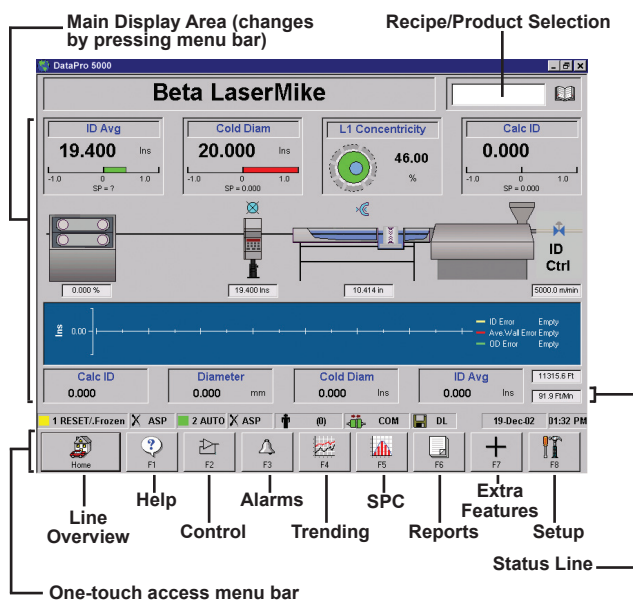
BETA LaserMike
Measured by Commitment

Comprehensive Process Controller and Data Management System

DataPro 5000

The DataPro 5000 is a high-end, fully featured process controller and data management system. It has an easy-to-use, touch-screen interface that provides an intuitive, color graphical overview of product dimensions and process parameters. DataPro 5000 is designed with various users in mind: operators, supervisors, process engineers, and plant managers. The user interface can be quickly configured to meet your unique informational needs and allows efficient access to data.

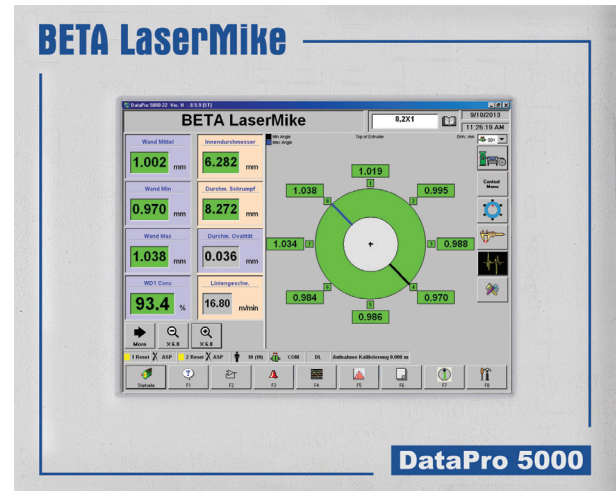
Easy-To-Use Touch Screen Interface



Broad Range of Inputs/Outputs (I/O)*

- 8 Digital I/O (24 VDC)
- 4 Analog I/O (± 10 V, 12 bit) including:
 - Analog summing junction control outputs
- 8 Relays including:
 - Contact alarm outputs
 - Contact control outputs
- Ethernet 10/100 Base T
- Serial (RS-232) and USB
- Parallel port
- USB/Network printer port
- VGA output for additional monitor
- Line speed/length measurement input (via Analog, pulse, or differential inputs A/B)

*The number of inputs/outputs can vary based on application needs. Discuss communication requirements with Beta LaserMike.



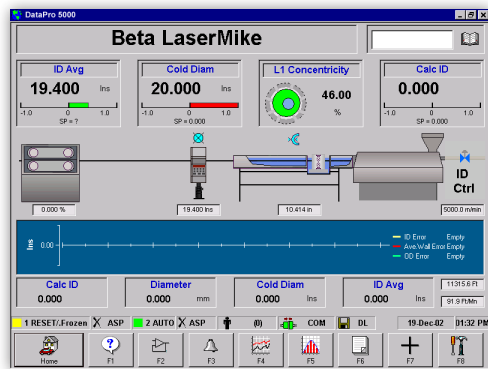
DataPro 5000 Features:

- Color touch-screen display
- Line overview page
- Die centering cross-section display (multi-layer possible)
- Closed-loop control (2 control loops, auto set-pointing)
- Alarming for warning and tolerance limits, including alarm history log
- Real-time Trending (configurable trend charts)
- Real-time Statistical Process Control (SPC) with on-screen statistics and charts
- Reporting capabilities including customizable printed or electronic reports (product ID/product lot number/batch reports)
- Data logging (configurable local or network data logging)
- Recipes (unlimited product recipes for quick changeovers)
- Security (10 levels of security for system protection)
- Networking (Ethernet and USB ports allow easy data access)
- Instant support of multiple languages for operation and printing; user-customizable

Options

- Industrial enclosure – arm or pedestal mountable
- Industrial remote touch-screen – includes VGA extender and industrial enclosure
- Standard remote touch-screen – includes VGA extender, but does not include enclosure
- Pedestal stand for enclosures – controller industrial enclosure or remote touch screen
- Uninterruptable Power Supply (UPS) – with serial output to shut down controller at power loss

Real-Time Monitoring of Process and Product Quality Data



<< **DataPro 5000 Line Overview Page** provides a complete line overview along with relevant process data. Can be easily customized to meet your unique data set requirements. Dashboard-style view lets you prioritize efforts to continuously enhance the quality of your product and overall process.

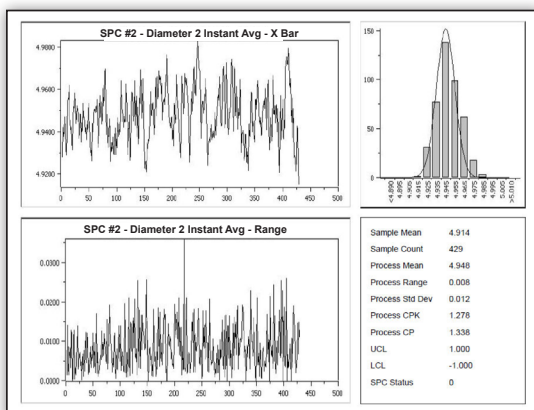
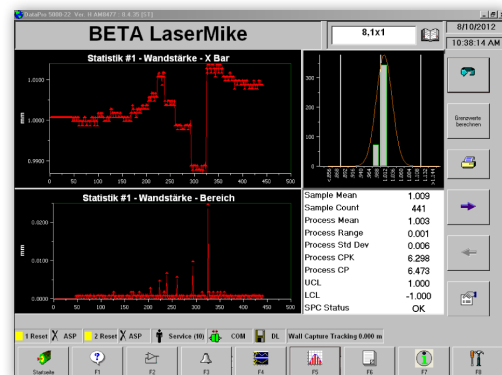


DataPro 5000 Cross-Sectional View of tube and pipe >> concentricity enables you to accurately monitor pipe dimensions to reduce start-up time, avoid material give-away and waste, and provide closed-loop control for quality production.



DataPro 5000 SPC Data Analysis feature collects and >> displays process data on 8 individual channels. Customized SPC calculations help you to improve product trends and the effectiveness of your quality system documentation for customer and auditor compliance efforts.

<< **DP5000 Real-Time Trend Charts** allow you to easily select the data set you want to track and record with just the touch of a fingertip.



<< **DP5000 Reporting** feature lets you create and print custom error and SPC reports with graphical distribution to document product and process quality. Reports can be triggered manually or automatically, for example, via a production event and stored electronically or printed to hard copy.

```
*DataPro 5000 Datalog File
Started 14-Mar-14
15:15:01
*DataLog_Line35_14-Mar-14
*Time      OD1      OVALITY1
15:15:31    1.026    0.124
15:16:01    1.027    0.125
15:16:31    1.036    0.134
15:17:01    1.040    0.135
15:17:31    1.035    0.134
15:18:01    1.039    0.137
15:18:31    1.041    0.136
15:19:01    1.029    0.127
15:19:31    1.021    0.119
15:20:01    1.030    0.128
15:20:31    1.029    0.127
```

<< **DP5000 Data Logging** feature allows you to record and analyze process data without having to stand near and observe the extrusion line. Data can be logged manually or automatically to a local drive at the DataPro 5000 or to a network drive away from the plant floor. The time interval can be adjusted from 1 second to 10 minutes.

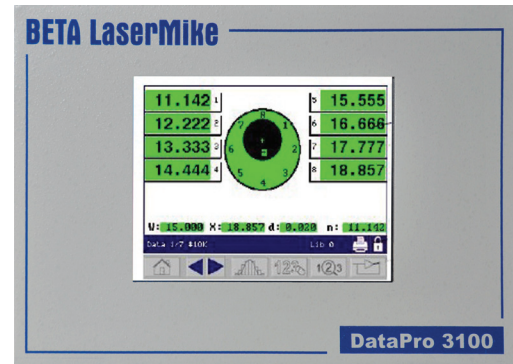
High-Quality, Mid-Range Process Controller and Data Management System

DataPro 3100

The DataPro 3100 is a mid-range process controller with integrated data management system. It has a bright, color touch-screen display for easy viewing on the production line. It is simple to use, yet offers power control capabilities in a compact design.

DataPro 3100 Features:

- Color TFT touch-screen display
- Provides power and communication for up to two gauges
- Die centering cross-section display when used with UltraScan gauges for wall thickness measurement (1-layer only)
- Magnified display for longer viewing range
- Closed-loop control (1 control loop)
- Alarming for warning and tolerance limits
- Statistical Process Control (SPC) with on-screen statistics
- Reporting (fixed hard-copy reports)
- Recipes (100 product recipes for quick changeovers)
- Security (3 levels of security for system protection)
- Instant support of multiple languages for operation and printing



Variety of Inputs/Outputs (I/O)

- 5 Digital I/O (24 VDC)
- 2 Analog I/O (± 10 V, 12 bit):
 - Analog summing junction control outputs
 - Programmable Analog output
- 4 Relays including:
 - Contact alarm outputs
 - Contact control outputs
- Open collector stepper motor control outputs
- Serial (RS-232) port
- USB printer port (True Type font)
- Ethernet configuration & Data I/O
- Line speed/length measurement input (via Analog, pulse, or differential inputs A/B)

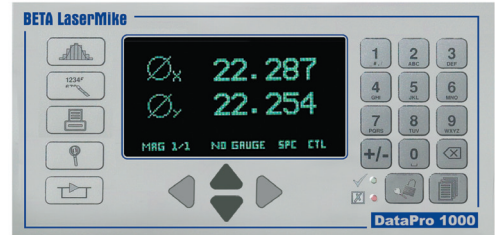
Option

- Industrial enclosure—pedestal mountable and 48.26 mm (1.9 in.) rack adapters

Economical Process Controller and Indicator

DataPro 1000

The DataPro 1000 is an economical process controller, as well as an indicator for diameter control operations. It offers a self-tuning controller display to achieve the best results when capturing product diameter measurements. The DataPro 1000 offers the best of both worlds when looking for a cost effective but powerful package.



DataPro 1000 Features:

- Ultra-bright, multi-line vacuum fluorescent display
- Magnified display for longer viewing range
- Supports 1 diameter gauge
- Closed-loop control (1 control loop)
- Alarming for warning and tolerance limits
- Statistical Process Control (SPC) with on-screen statistics
- Programmable analog output
- Ethernet data transmission
- Reporting (fixed hard-copy reports)
- USB printer port (True Type)
- Instant support of multiple languages (English, Spanish, German, and Portuguese)
- Security (two levels)

Array of Inputs/Outputs (I/O):

- 5 Digital I/O (24 VDC)
- 2 Analog I/O (± 10 V, 12 bit):
 - Analog summing junction control output
 - Programmable Analog output
- 4 Relays including:
 - Contact alarm outputs
 - Contact control outputs
- Open collector stepper motor control outputs
- Serial (RS-232) port
- USB printer port (True Type font)
- Line speed/length measurement input (via Analog, pulse, or differential inputs A/B)
- Ethernet configuration & Data I/O

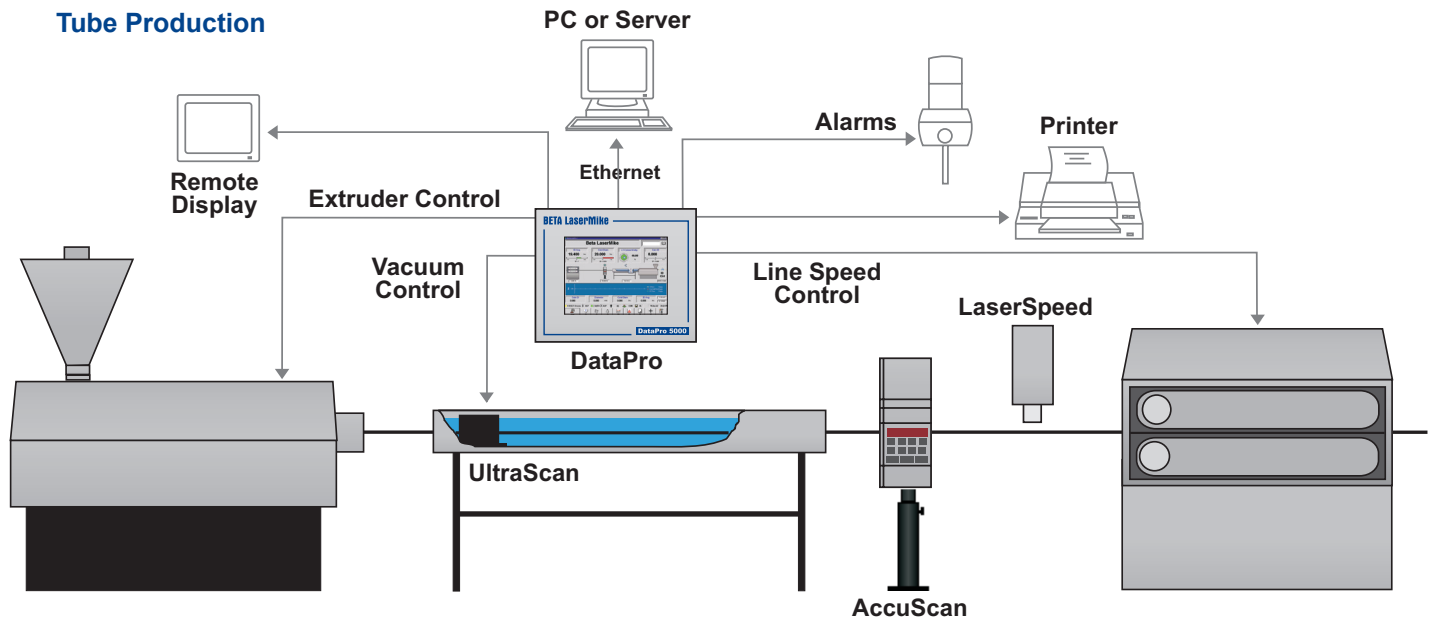
Option

- Industrial enclosure—pedestal mountable and 48.26 mm (19 in.) rack adapters

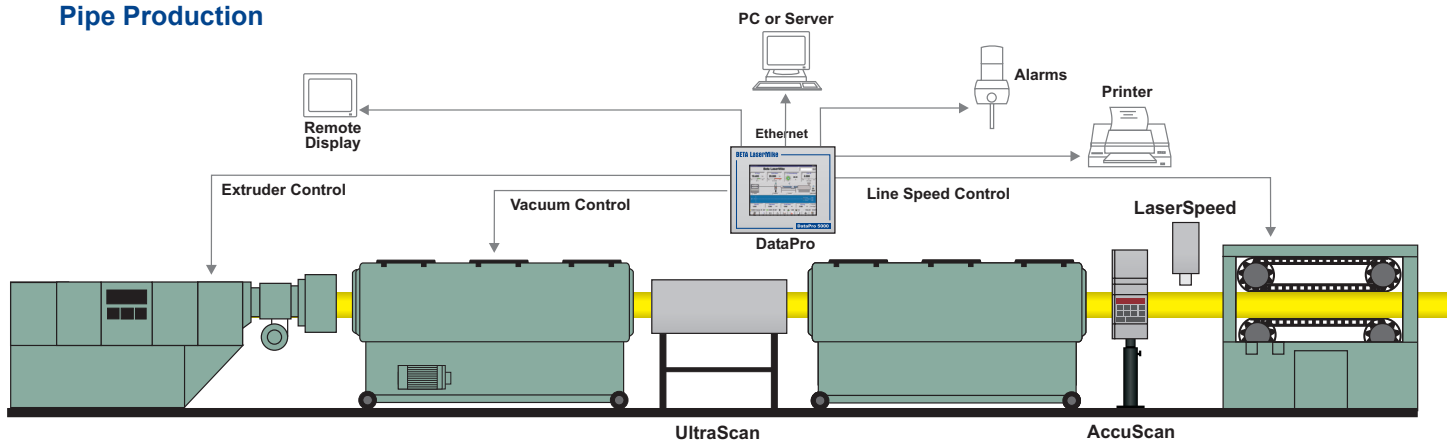
Integration with In-Process Dimensional Measurement Products

DataPro controllers are designed for easy and flexible integration with Beta LaserMike in-process dimensional gauges on pipe and tube extrusion lines, such as AccuScan diameter and ovality gauges, UltraScan wall and concentricity gauges, LaserSpeed length and speed gauges, and LN lump and neckdown detectors. DataPro can also be integrated with other devices and systems including alarm lights and printers to the actual extruder, puller, or vacuum tank.

Tube Production



Pipe Production



DataPro Controller Models



DataPro Controller Models			
Feature	DataPro 5000	DataPro 3100	DataPro 1000
Display	38.1 cm (15 in) TFT touch screen	14.5 cm (5.7 in) TFT touch screen	10.4 cm (4.1 in) Vacuum fluorescent
Gauge support	UltraScan AccuScan 4000/5000 LaserSpeed LN3000	UltraScan AccuScan 4000/5000 LaserSpeed	AccuScan 4000/5000 LaserSpeed
Max gauges	10	2	1
Applications	Inner/Outer Diameter Wall & Concentricity Fault Detection	Inner/Outer Diameter Wall & Concentricity	Outer Diameter
Cross-section display	Yes (multi-layer possible)	Yes (1 layer only)	No
Control loops	2	1	1
Auto setpoint control	Yes	No	No
SPC	8 graphical channels	2 numeric channels	1 numeric channel
Trend charts	5 channels	Yes (ultrasonic)	No
Printed reports	Yes (custom)	Yes (fixed)	Yes (fixed)
Data logging	Yes	No	No
Serial ports	RS-232	RS-232 (2)	RS-232
Ethernet port	Yes (10/100 Base T)	Configuration & Data Output	Data Output
Alarming	Yes	Yes	Yes
Product recipes	Yes (unlimited)	Yes (100)	No
Security	10 levels (custom)	3 levels (operator, supervisor, service)	2 levels (operator, service)
Remote display output	VGA with optional touch screen	No	No
I/O	Digital, analog, relay contacts, serial, USB, parallel, Ethernet & VGA	Digital, analog, relay contacts, serial, USB printer & Ethernet	Digital, analog, relay contacts, serial, USB printer & Ethernet

Serving Your Measurement & Control Needs with World-Class Solutions



About Beta LaserMike

Beta LaserMike provides integrated process control solutions using a wide range of non-contact measurement technologies designed to improve product quality and reduce manufacturing costs. These solutions provide in-process dimensional monitoring, control, and sample/part inspection of products such as wire and cable, fiber optics, metals, rubber and plastic, flat rolled goods, tube and pipe, and other manufactured goods. Every system is backed by Beta LaserMike's world-class service and support organization. With offices around the globe, we're committed to serving your unique measurement application needs.

BETA LaserMike

Measured by Commitment

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