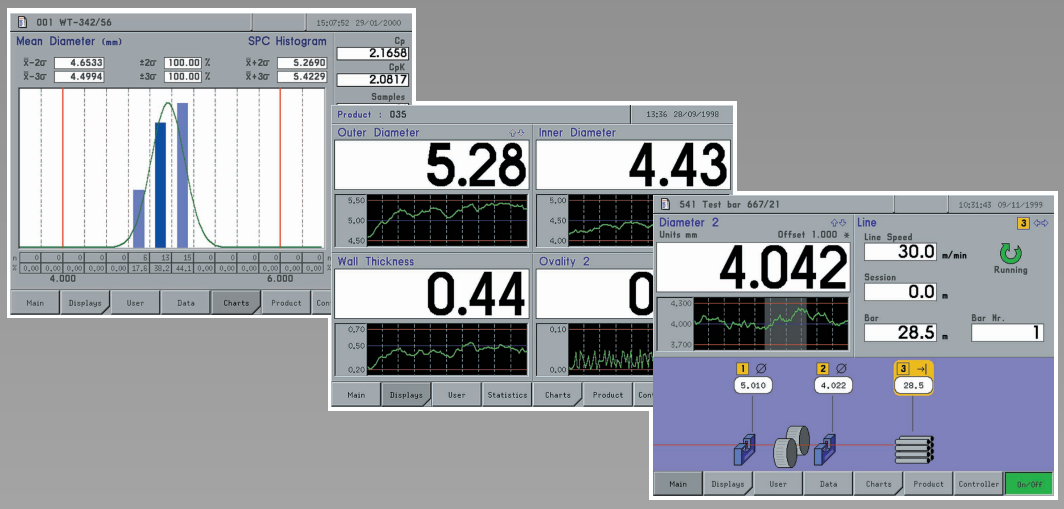
USYS 2000

Monitoring, Data Control, Acquisition and Display for Single and Multi Sensor Applications.



Main Features

- Status of your line at a glance
- Intelligent SIGMA EXPERT control
- Rugged and reliable combination of proven and innovative technology
- Bright high resolution color LCD screen
- User friendly design - operator interface with choice of languages
- Menu driven, context sensitive software keys
- Software updates by simple exchange of flash disk
- Large product library
- Strip chart, SPC data and graphics
- Reel Report, Session Report, Data Log

USYS 2000 - the Universal Processor, Operators Will Love

A hi tech processor engineered to serve your line operators as well as your control and data collection needs.
The USYS 2000 accepts up to **3** Zumbach sensors plus fault detectors like spark testers plus lump and neckdown detectors.

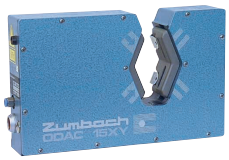
A complete status display of the parameters informs continuously on the performance of the production line.This makes the USYS 2000 an ideal solution for diameter, wall thickness, capacitance, eccentricity and fault control.

Outstanding advantages of USYS 2000 :

- **Performance**
  High resolution LCD color display.
  2 inputs for ODAC® J diameter gauges or CAPAC® J capacitance gauges
  + **1** communication interface for METREX® eccentricity sensor.
- **Flexibility**
  Quick match of the USYS 2000 configuration to a particular line layout and existing instrumentation.
- **Extremely easy to operate**
  A new operating concept makes the USYS 2000 simple to work with.

Connectable Measuring Instruments

Typical sensors which can be connected to the USYS 2000 processor:



ODAC®
for diameter

METREX® for
eccentricity

KW for
lump and neckdown

Spark Tester for
cable insulations

CAPAC®
for capacitance

Flawless quality Control

The combination of USYS 2000 and ZUMBACH sensors allows you to optimize your process, gather production data, generate statistics and present quality documentation for your finished products.

Application Limits

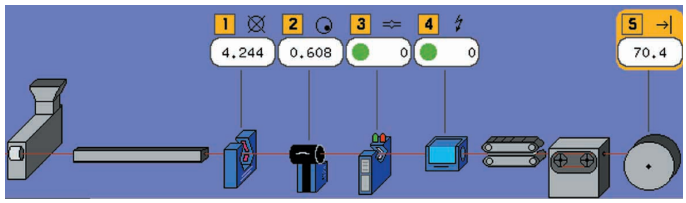
1 or 2 ODAC® Dimensional Sensors **or 1 or 2 CAPAC®** - Capacitance Sensors, **1 METREX®** - Eccentricity Measuring Head, **1 KW** Lump and Neckdown Detector, **1 Spark Tester**, **2 Event Inputs**, **1** Controlled Parameter.

USYS 2000 - in the Wire, Cable, Plastics and Rubber Industries

A Solution of Typical Application Configurations:

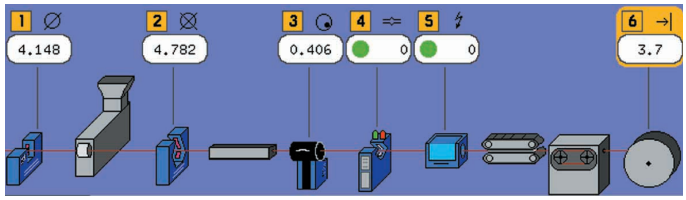
Diameter Measurement + Optional Eccentricity, Spark Tester and Lump Detector

Full cold end product information with automatic control of diameter through capstan speed or extruder screw rpm.



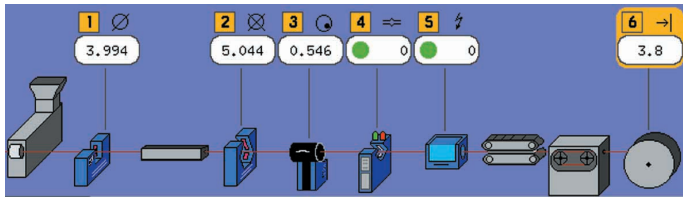
Average Wall + Optional Eccentricity, Spark Tester and Lump Detector

Before and after diameter measurement yields average wall thickness. Additional eccentricity gauge offers complete information on product concentricity.



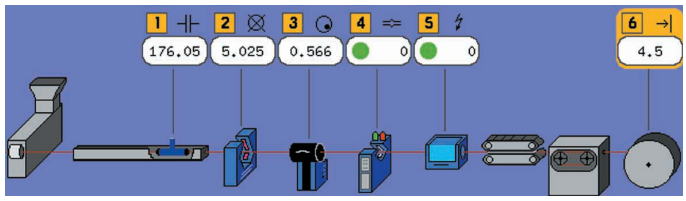
Hot and Cold Diameter + Optional Eccentricity, Spark Tester and Lump Detector

For quick control based on the hot end diameter measurement taking into account the shrinkage as the product cools.

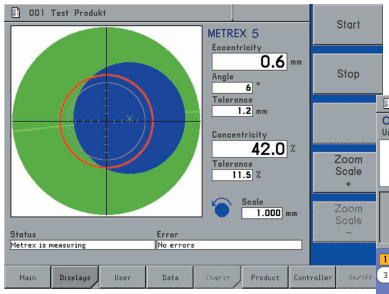


Capacitance or Diameter Control + Optional Eccentricity, Spark Tester and Lump Detector

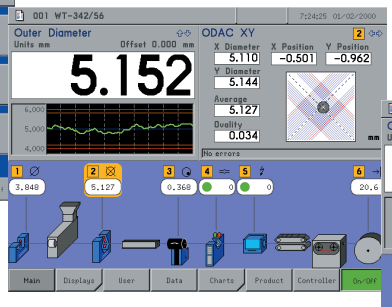
Select capacitance or diameter as the most important parameter to control, depending on the product specification.



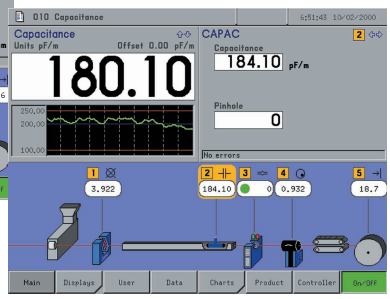
Typical Screens:



Concentricity Display
(USYS 2000 with METREX®)



Diameter information
(USYS 2000 with ODAC®)



Capacitance value
(USYS 2000 with CAPAC®)

USYS 2000 - in the Steel and Metal Industry

USYS 2000 is available with dedicated software for products such as rods, bars, sleeves, tubes, profiles, bolts and others in the milling and forming process industry.
The special software features a selectable end suppression at the start and end of a product, so that end deformations do not influence in the statistical data and does not cause unintended corrective action. Alarms and Pre-alarm limits can be set to control the production process and to warn the operator before product tolerance limits are reached. User friendly screens allow process status recognition "at a glance". Trend information is also shown which immediately informs the operator instantly about the product variances. The menu driven software allows the user to specify the aquisition of statistical values and periods as required.

Typical Processes

QC Stations (Non-destructive testing)
In-line measurement at QC stations integrated into the production line or at the end. A typical check of outside dimensions is achieved with ODAC® measuring heads.

Peeling
The instruments are arranged according to customer request or at the end of the production line for measurement of the finished product.

Cold Rolling
Wire or profiles are rolled to a final, more precise tolerance. ODAC® diameter gauges measure the final product.

Grinding
Centerless grinding as well as grinding between centers for In-process and postprocess applications.

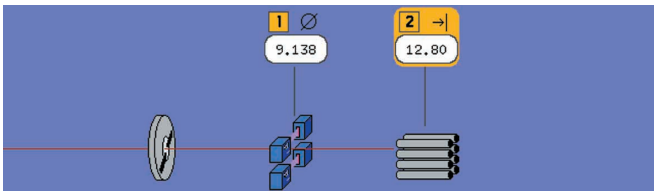
Polishing
ODAC® diameter gauges, mostly single axis, measure the bright finished bar.

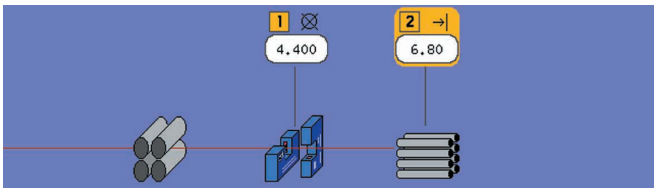
Cold Drawing
In-line measurement allows the user to monitor die wears, die breaks, scratches or any other defects or diameter variations.

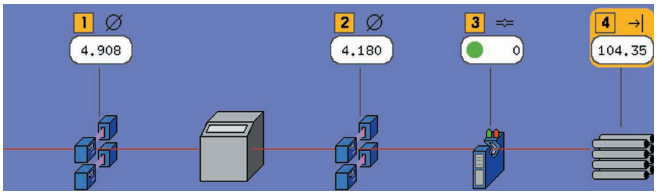
Note:
In addition to the various output signals ZUMBACH offers the stepping motor control system **CI-SM2** providing a smooth feed control for the grinding wheel. This control system can also be used in other processes such as peeling etc.

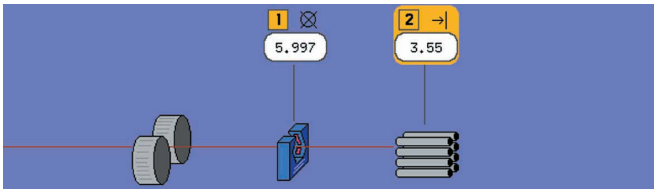
☞ Ask for detailled data sheets.

Typical Display Configurations

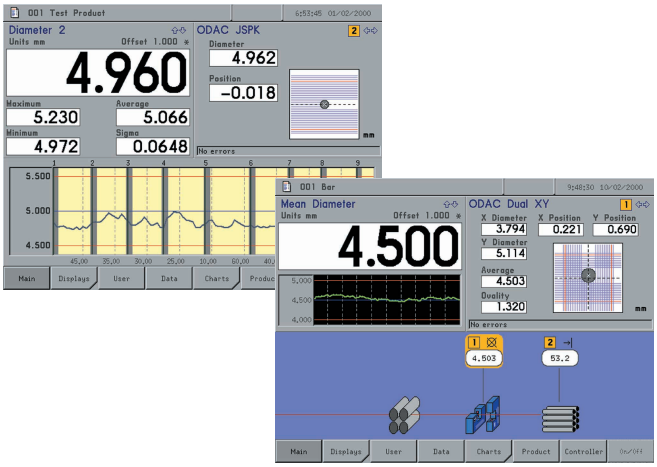




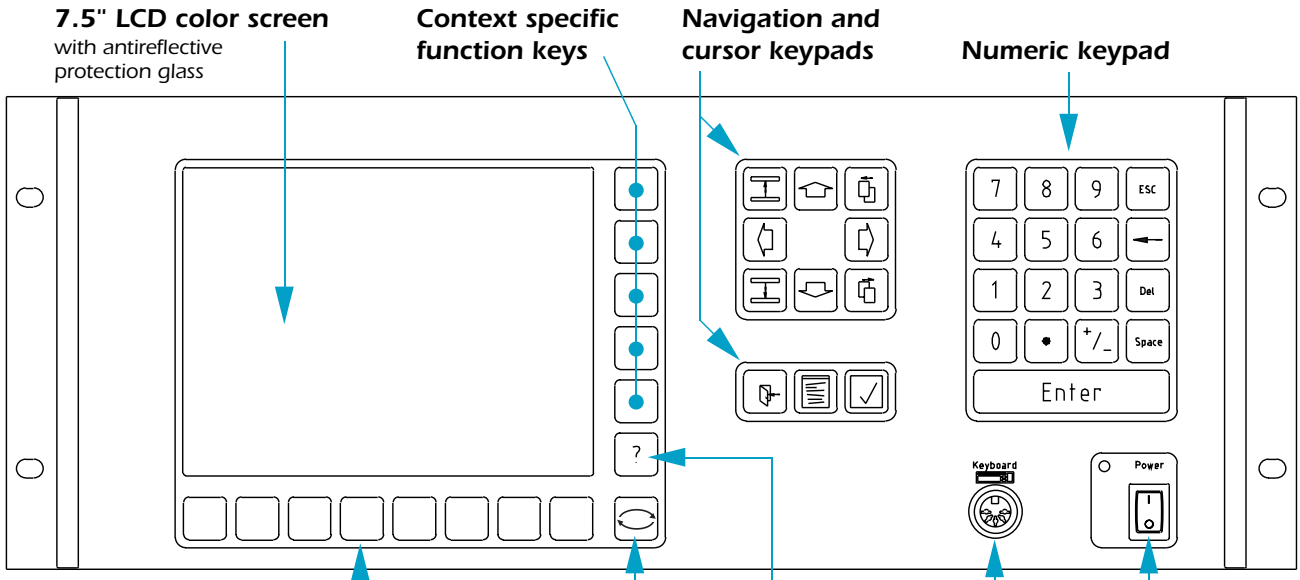




Typical screens:

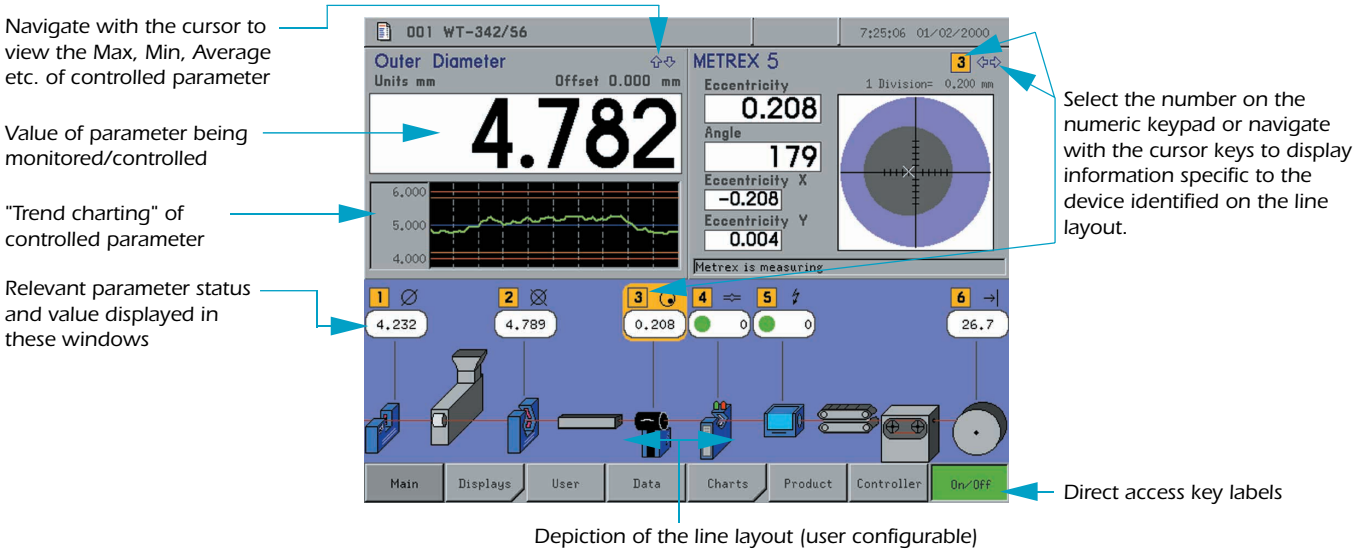


USYS 2000 Front Panel Features



Example of Main Screen

Extrusion line with 2 diameter gauges, 1 spark tester, 1 lump detector and 1 eccentricity gauge



Display

640 x 480 STN LCD display. Modern graphic user interface - context sensitive software keys, direct access function keys and menu.

- Line configuration
- Measured values
- Status of measured values (in or out of tolerance)
- Alarms
- Error messages
- Strip Chart
- SPC data and graphics
- Product table (300 products standard, 1000 with floppy disk option)

Software

- "Real Time" multitasking operating system
- 2 Function modes: Operator mode
  Configuration mode
- All files are 100% MS-DOS compatible
- System security in case of mains power failure
- Simple software updates with flash disk

USYS 2000 Rear Panel Features

Measuring Head connector(s)
Amphenol connectors for the connection of any digital ODAC® J or CAPAC® J-type sensor.

Diameter measuring heads (sensors):
Ranges from 0.012 mm to 540 mm (.0005 in. to 21.3 in.).

Input / Output Label

Serial Number Label

Mains connector
Integrated connector with mains filter.

Ground connection

"SRD" Static Regulating Device
(or motorized potentiometer)
Control of line speed/ extruder screw r.p.m.

MPK1-10T / PS 11130-A
Motorized Potentiometer with Servo Valve for control of internal air support pressure.

MV3-RK
Motorized Vacuum Controller

Line speed/footage counter input
Proximity Detector/WG2-/TI 069

Floppy disk (option)
for line configuration and product table backup/restore and transfer to another USYS 2000 unit

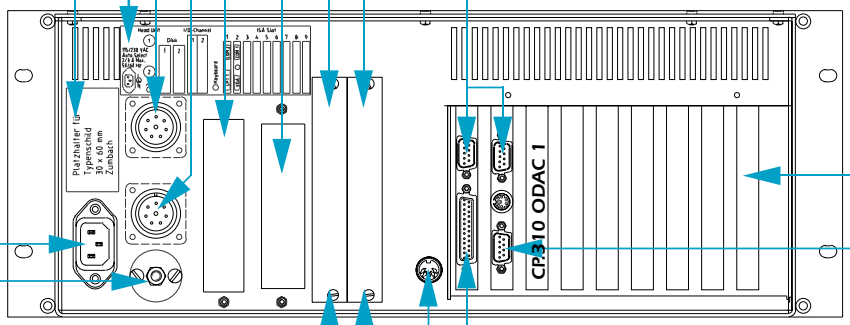
Flash disk

2 Motorola I/O channel slots
supporting an array of input/output cards needed to interface the system to the "outside world."
Alarm/analog outputs expansion features tolerance pre-alarm and SPC trend alarm

RS-232 COM 1, COM 2, Label printer / tag printer
reel end summary printed onto self-adhesive labels or tags (contents configurable by user).

or

Host computer / PLC
up/download



ISA Bus slots for peripherals serial port expansion

Connector for **external display**

System printer
(desktop or rack mount)
- data logging with length and time data
- reel end and session end reports

Connector for **external keyboard**

Event inputs
(lumps, neckdowns, spark failures etc.)

Chart recorder (analog)

Specifications

Power
90 ... 135 / 180 ... 265 VAC (auto-select), 47 ... 63 Hz

Operating temperature
0 ... 50° C (32 ... 120° F)

Industrial PC
(2 x RS-232, 1 Centronics + 7.5" STN LCD + 8 MB flash disk)

Weight
Approx. 17.2 kg (38 lbs.)

▪ Technical specifications are subject to change without notice

Inputs ports
- up to 2 CP.310 for ODAC® J or CAPAC® J measuring head
- up to 2 analog CAPAC®
- inputs for length detector, start/stop, pause
- 2 events (lumps, neckdowns or sparks), controller operation

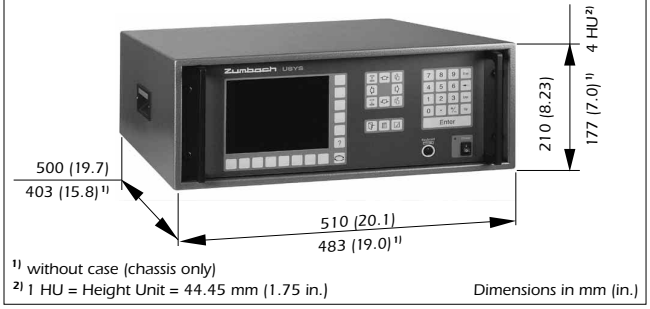
Outputs ports
- up to 13 digital for alarms and controller
- up to 9 relays for alarms and controller
- 1 analog 0...10 V
- 1 analog ± 10 V

Serial interface
- 2 RS-232 ports for Host and label printer

up to 4 RS-422 ports for
- METREX® A4/5/A100
- up to 6 remote display multidrop
- Spark tester
- KW 32 MONO/TRIO
- long distance Host and label printer

Control
- 1 static regulating device SRD
- 1 analog input and output, 0...10 V or 0...-10 V
  or
- pulse ± for motorized potentiometer

Dimensions



[1] without case (chassis only)
[2] 1 HU = Height Unit = 44.45 mm (1.75 in.)
Dimensions in mm (in.)

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