

Upgrade Stressometer system upgrades

Rolling mills with old Stressometer versions receive significant production advantages by upgrading to the new Stressometer 8.3 System

Measurement made easy



Overview – upgrades

The flatness improvement achieved by Stressometer system 8.3 means a possibility to further improve productivity, yield and strip value. Risk of unplanned stoppage will be reduced and reliability increased.

Stressometer – upgrades

Features

- Reuse of roll and roll cables (all earlier system versions)
- Reuse of electronics for signal processing and I/O (version 6.0 and later)
- Shadowing possibility for Stressometer system 1.1 to 5.0

Benefits

- Improved process visualization
- Built-in tools for one-click process model identification
- Flatness control through Extended Singular Value
- Decomposition (ESVD)
- New fan-less industrial computers with Solid State Drive (SSD)
- Minimize risk of mill down-time

Introduction to shadowing

Upgrade with only a few minutes of downtime and prove the new system before turning off the old. The Stressometer Shadowing kit enables upgrade to a new generation of system hardware and software.

Stressometer shadowing

Features

- Old and new cabinets are operated in parallel, both connected to the measuring roll
- No quality loss through on-line functionality check.
- Split of the pulse encoder signals
- Secondary zone signals, which are split through an adapter board with ribbon cable connectors
- IR signal, split through original device by screw terminals

Benefits

- No production loss thanks to fast switch-over
- Only a few minutes of down time is needed
- All functionalities, including communication links, can be tested before it is connected to control the mill

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Service duration

- Flatness Measurement system, typical 1 man week
- Flatness Measurement & Control system; typical 2 to 5 man weeks dependent on mill type



Fig. 1: Flatness computer with Solid State Drive (SSD) for measurement and control

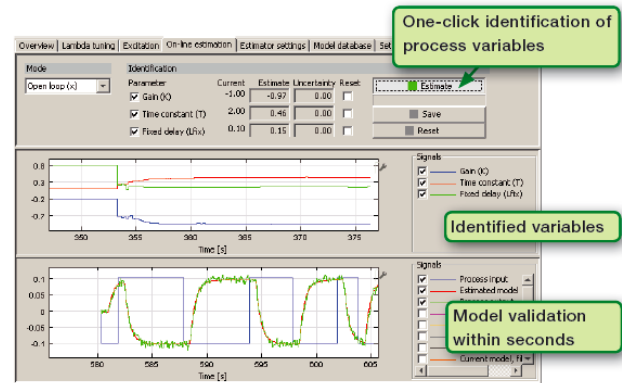


Fig. 2: New built-in tools for accurate process models and control loop tuning

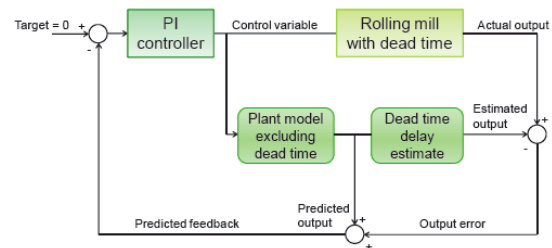


Fig. 3: Predictive controller for installations with large delay time (Smith Predictor)

Comparison between system versions

Technology and platform features / properties	Stressometer 1.1, 2.0, 3.0, 4.0, 5.0	Stressometer 6.0, 7.0, 7.1 FSA	Stressometer 8.0, 8.1 FSA	Stressometer 8.2, 8.3 FSA
Measurement delay time	50 ms	5 ms	5 ms	5 ms
Measurement speed range	15 to 3000 m / min.	1 to 4000 m / min.	1 to 4000 m / min.	1 to 4000 m / min.
Measurement frequency	0.5 to 4 roll revolutions for one measurement, depends on actual strip speed	0.25 roll revolutions for one measurement, independent on actual strip speed	0.25 roll revolutions for one measurement, independent of strip speed	0.25 roll revolutions for one measurement, independent of strip speed
System with 2-roll configuration can measure with both rolls at the same time	No	Yes	Yes	Yes
Human Machine Interface (HMI)	Graphics Controller Board, DSIH 90 keyboard KME-monitor or PC with MS Internet Explorer (STR 5.0)	MS Internet Explorer running on a standard or industrial PC	MS Internet Explorer running on a standard or industrial PC	MS Internet Explorer running on a standard or industrial PC
I/O system	Local	Local and / or Remote	Local and / or Remote	Local and / or Remote
Software development possible by end-customer	Yes, but limited to existing function blocks and CPU power	Yes, no limitations in functionality or number of CPUs that can be connected	Yes, no limitations in functionality or number of CPUs that can be connected	Yes, no limitations in functionality or number of CPUs that can be connected
Programming language	AMPL (ABB MasterPiece Language)	Java, FSA-ADL (Architecture Description Language)	Java, FSA-ADL (Architecture Description Language)	Java, FSA-ADL (Architecture Description Language)
Engineering station built into cabinet	No	Yes, in 7.0, 7.1	Yes	Yes
Soft edge function	No	Yes	Yes	Yes
2D Topview and 3D viewing of flatness	No	No	Yes	Yes
Wide screen	No	No	Yes	Yes
Improved Computer (ES/FC) reliability through Solid State Drive (SSD) – see Fig. 1, page 2	N/A (PROM)	No (industrial rotating hard drive)	Yes	Yes
Tuning tools	Brush writer	Brush writer 6.0 manual off-line tuning tool	For 8.1: One-click automatic on-line tuning tool for process identification	One-click automatic on-line tuning tool for process identification
Check of actuator properties	No	No	For 8.1: Yes	Yes
Predictive controller	No	No	For 8.1: Yes	Yes

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