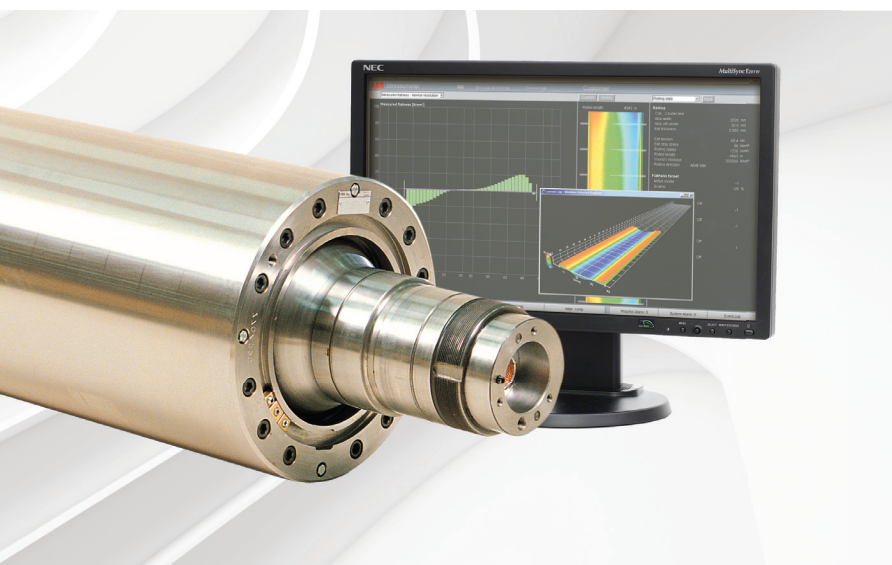


Performance improvement

Upgrade to Stressometer Systems 9.x FSA



Rolling mills with old Stressometer releases receive significant production advantages by upgrading to the new Stressometer 9.x FSA System.

Measurement made easy

01 New built-in tools for accurate process models and control loop tuning.

02 Predictive controller for installations with large delay time (Smith Predictor).

Upgrade to 9.x FSA

The flatness improvement achieved by Stressometer system 9.x means a possibility to further improve productivity, yield and strip value. Risk of unplanned stops will be reduced and reliability increased.

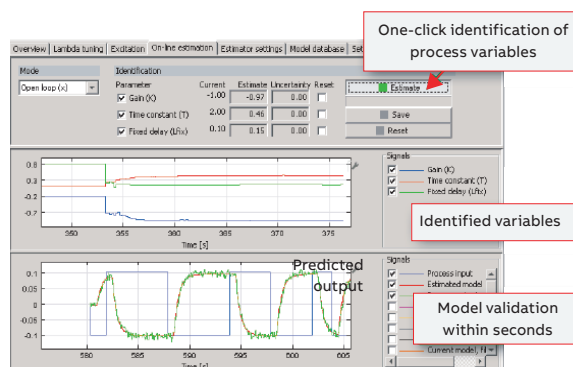
All upgrades to newer generations are planned for maximizing up time. In most cases upgrades means replacing the electronics cabinet but in many cases this is not required. Yet in other cases upgrades can be done only of the signal transmission part for achieving contact and maintenance free operation.

Benefits

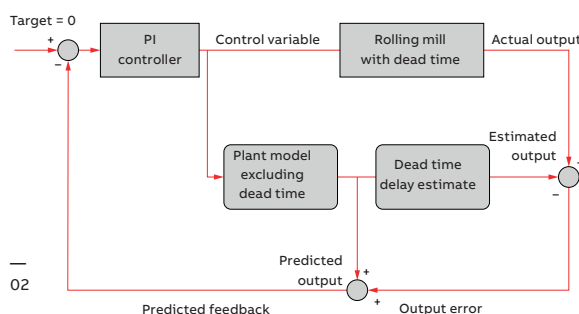
- Improved process visualization
- Built-in tools for one-click process model identification
- Flatness control through Extended Singular Value Decomposition (ESVD)
- Secure operation through fan-less industrial computer with Solid State Drive (SSD)
- Minimize risk of mill down-time

Features

- Reuse of roll and roll cables (all earlier system versions)
- Reuse of electronics for signal processing and I/O (version 7.0 up to 8.3)



01



Service duration

- Flatness measurement system
 - typical 1 man week
- Flatness measurement and control system
 - typical 2 to 5 man weeks dependent on mill type

Service



Comparison between 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.x FSA	Stressometer 9.x FSA
Measurement delay time	50 ms	5 ms	5 ms	4 ms
Measurement speed range	15 to 3 000 m/min.	1 to 4 000 m/min.	1 to 4 000 m/min.	1 to 4 000 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
Signal processing fully digital	No	No	No	Yes
Complexity in terms of required number of circuit boards	10 different boards	5 different boards	5 different boards	3 different boards
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 Edge 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)
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)	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

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



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