Upgrade
Stressometer system upgrades

Rolling mills with old Stressometer versions receive significant production advantages by upgrading to the new Stressometer 9.0 FSA System

Measurement made easy

Overview – upgrades
The flatness improvement achieved by Stressometer system 9.0 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)
— New electronics
— Maintenance-free signal transmission through the Digital Transmission Unit (DTU)
— Standard industrial PC
— Standard TCP/IP used for connection of connection of remote I/O and external systems
— Standard firewall and network switches
— Standard Internet browsers for HMI
— JAVA as programming language on system level, enabling platform independence
— Script language as programming language on application level
— Distributed object-oriented software architecture with the FSA-Broker for distribution and connection of objects
— Buy back program for STU

Benefits
— Improved process visualization
— Built-in tools for one-click process model identification
— Flatness control through Extended Singular Value Decomposition (ESVD)
— Hardware and software based on internet standards
— Minimize risk of mill down-time
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

<table>
<thead>
<tr>
<th>Technology and platform features / properties</th>
<th>Stressometer 1.1, 2.0, 3.0, 4.0, 5.0</th>
<th>Stressometer 6.0, 7.0, 7.1 FSA</th>
<th>Stressometer 8.0, 8.3 FSA</th>
<th>Stressometer 9.0 FSA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement delay time</td>
<td>50 ms</td>
<td>5 ms</td>
<td>5 ms</td>
<td>5 ms</td>
</tr>
<tr>
<td>Measurement speed range</td>
<td>15 to 3000 m / min.</td>
<td>1 to 4000 m / min.</td>
<td>1 to 4000 m / min.</td>
<td>1 to 4000 m / min.</td>
</tr>
<tr>
<td>Measurement frequency</td>
<td>0.5 to 4 roll revolutions for one measurement, depends on actual strip speed</td>
<td>0.25 roll revolutions for one measurement, independent on actual strip speed</td>
<td>0.25 roll revolutions for one measurement, independent of strip speed</td>
<td>0.25 roll revolutions for one measurement, independent of strip speed</td>
</tr>
<tr>
<td>System with 2-roll configuration can measure with both rolls at the same time</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Human Machine Interface (HMI)</td>
<td>Graphics Controller Board, DSIH 90 keyboard, KME-monitor or PC with MS Internet Explorer (STR 5.0)</td>
<td>MS Internet Explorer running on a standard or industrial PC</td>
<td>MS Internet Explorer running on a standard or industrial PC</td>
<td>MS Internet Explorer running on a standard or industrial PC</td>
</tr>
<tr>
<td>I/O system</td>
<td>Local</td>
<td>Local and / or Remote</td>
<td>Local and / or Remote</td>
<td>Local and / or Remote</td>
</tr>
<tr>
<td>Software development possible by end-customer</td>
<td>Yes, but limited to existing function blocks and CPU power</td>
<td>Yes, no limitations in functionality or number of CPUs that can be connected</td>
<td>Yes, no limitations in functionality or number of CPUs that can be connected</td>
<td>Yes, no limitations in functionality or number of CPUs that can be connected</td>
</tr>
<tr>
<td>Programming language</td>
<td>AMPL (ABB MasterPiece Language)</td>
<td>Java, FSA-ADL (Architecture Description Language)</td>
<td>Java, FSA-ADL (Architecture Description Language)</td>
<td>Java, FSA-ADL (Architecture Description Language)</td>
</tr>
<tr>
<td>Engineering station built into cabinet</td>
<td>No</td>
<td>Yes, in 7.0, 7.1</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Soft edge function</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>2D Topview and 3D viewing of flatness</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Wide screen</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Improved Computer (ES/FC) reliability through Solid State Drive (SSD) – see Fig. 1, page 2</td>
<td>N/A (PROM)</td>
<td>No (industrial rotating hard drive)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Tuning tools</td>
<td>Brush writer</td>
<td>Brush writer 6.0 manual off-line tuning tool</td>
<td>One-click automatic on-line tuning tool for process identification</td>
<td>One-click automatic on-line tuning tool for process identification</td>
</tr>
<tr>
<td>Check of actuator properties</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Predictive controller</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Contact us

ABB AB
Measurement & Analytics
Force Measurement
S-721 59 Västerås
Sweden
Tel: +46 21 32 50 00

To find your local ABB contact, visit:
www.abb.com/contacts

For more information visit:
www.abb.com/measurement

Note
We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents in whole or in parts – is forbidden without prior written consent of ABB.

Copyright© 2017 ABB
All rights reserved
3FOX240400R5301

Service