maax® 100S / 400S / 600S

Automation solution

It simplifies operation, control and adjustment of the operating parameters. This guarantees optimum protection and operation of the gear pump and screen changer. Process and operational reliability of the entire system is increased.

The maax® 100S automation system is the ideal solution for integrating melt pumps and screen changers. maax® 400S is for upgrading coextrusion lines. The maax® 600S automation system is the ideal solution for equipping complete and complex extrusion and compounding plants.

Your benefits
- Simple and clear operation of the line-start and stop procedures
- Increased productivity, by saving recipes in parameter lists
- Rapid and precise control of extruder and pump speed, depending on application
- Integrated temperature control of system components
- Quick error detection by plain text messages
- Scalable visualisation of various operating parameters in a trend display
- Additional for maax® 100S/400S/600S: configurable System and Software configuration
maax® 100S / 400S / 600S
Automation solution

Features
- Convenient and safe operation via color display with touch function and keys
- Temperature zones maax® 100S: max. 16
- Temperature zones maax® 400S: max. 32
- Temperature zones maax® 600S: max. 48
- Online language changeover

maax® 100S, 400S and 600S offers upon request
- All electrical equipment incl. the automation system supplied
- Supply and integration of melt filtration systems
- Commissioning incl. operator training
- “Round-the-clock” service with short response times

Method of operation
- Automatic run-up to initial start speed
- Pressure controlled operation from start
- Integrated filter monitoring
- Quick and precise control of pump admission pressure
- Optional for maax® 400S/600S: with process data logging

maax® 100S, 400S and 600S as a component of expac®
As a system supplier, Maag offers complete assemblies for your extrusion plant comprising extrex® gear pump, screen changer, maax® 400S, and drive unit. As a sum total of the individual parts, the expac® system enhances the productivity of your process. The experience gained Maag allows all components to be wisely networked, hence achieving an optimised solution and significantly increasing operational reliability. Integrated statistical functions and process data storage enable a transparent quality management system. Plant flexibility is also enhanced by the effect of additional tolerances, e.g. on pump admission pressure over the setpoint value (pump admission pressure control).

### Technical specifications:

<table>
<thead>
<tr>
<th></th>
<th>maax® 100S</th>
<th>maax® 400S</th>
<th>maax® 600S</th>
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</thead>
<tbody>
<tr>
<td>Analogue inputs 0-10V</td>
<td>8</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>Analogue outputs 0-10 V for drive actuation:</td>
<td>3</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Melt pressure measurements:</td>
<td>3</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>Melt temperature measurement:</td>
<td>1</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Types of temperature sensor:</td>
<td>Thermoelement Typ J</td>
<td>Thermoelement type J, K, R, S, T, PT 100, 0/4-20 mA</td>
<td>Thermoelement type J, K, R, S, T, PT 100, 0/4-20 mA</td>
</tr>
<tr>
<td>Configurable control circuits:</td>
<td>1 (Pump inlet pressure)</td>
<td>2 (1x pump inlet pressure, 1x freely config)</td>
<td>2 (1x pump inlet pressure, 1x freely config)</td>
</tr>
<tr>
<td>Interfaces:</td>
<td>MPI Profibus, USB, Profinet/Ethernet</td>
<td>2x Ethernet, 4x USB, RS232, Profinet DP, Profinet, DVI</td>
<td>2x Ethernet, 4x USB, RS232, Profinet DP, Profinet, DVI</td>
</tr>
<tr>
<td>Monitor:</td>
<td>Siemens Comfort Touch Panel TP700</td>
<td>Siemens Comfort Touch Panel TP1200</td>
<td>Siemens Industrial Thin Client ITC1900</td>
</tr>
<tr>
<td>Auxiliary power:</td>
<td>24 VDC, -15% to +20%, approx. 3 A</td>
<td>24 VDC, 20.4V-28.8V, approx. 2.5 A</td>
<td>24 VDC, 20.4V-28.8V, approx. 2.5 A</td>
</tr>
<tr>
<td>Operating/storage temperature:</td>
<td>0 to +50°C / -20 to +60°C</td>
<td>0 to +50°C / -20 to +60°C</td>
<td>0 to +50°C / -20 to +60°C</td>
</tr>
<tr>
<td>Formula storage:</td>
<td>Internal Flash memory, memory card</td>
<td>Internal Flash memory, USB, network</td>
<td>Internal Flash memory, USB, network</td>
</tr>
</tbody>
</table>

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