

TOX®-Controls

Control panels and Controls









**Data
sheet
100.30**

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Scope of the TOX®-Controls

Ordering description	Size variants	Controls	Functionality		Signal for approach stroke	Signal for return stroke	Safety functions	Safety valve
STP 03-11-..	1/4" 1/2"	Straight pneumatic	2-hand controls to drive main directional valves.		Push buttons 2-hand c.	Push buttons 2-hand c.	-	-
STP 03-10-..	1/2" 1/4"		2-hand safety controls. Basic function, approach/return strokes actuated by push buttons. (Enclosure per EN 574).		Push buttons 2-hand controls	Push buttons 2-hand controls	yes	yes
STE 075-00-..	1/4" 1/2" 3/4" 1"	External signal	Main directional valve with required accessories, requires customer supplied signal for cycle initiation, only for automated lines.		External signal	External signal from pressure switch	-	-
STE 317-600	1/2"	Electric	Foot pedal controls. Requires mechanical guarding of work area prior to start of cylinder cycle. (See TOX®-Presses catalog for type CLX).		Foot pedal	Pressure switch	yes with CLX	yes
STE 317-601								
STE 317-602								
STE 325-600	1/4" 1/2" 3/4"	Electric	2-hand safety controls series 600. Cycle initiation by push buttons, with basic functions		Push buttons 2-hand controls	Pressure switch	yes	yes
STE 325-601	1"							
STE 336-600	1/4" 1/2" 3/4"	Electric	2-hand controls series 600. Cycle initiation by push buttons, from simple to complex program sequencing (STE 336 with basic PLC).		Push buttons 2-hand controls	Pressure switch	yes	yes
STE 336-602	1"							
STE 326-00-..	1/4" 1/2"	Electric	2-hand safety controls with PLC. Comprehensive, flexible and customizable controls.		Push buttons 2-hand controls	Pressure switch	yes	yes
STE 328-00-..	3/4" 1"							

All Controls includes: Air servicing unit and speed flow controls

Glossary:

Locking function: When the cylinder has switched into the power stroke, and the sensor signaling „tool closed“ has been met, the push buttons can be released. The cylinder develops the preset pressure and then retracts.

Jog mode: Used for setup of the machine. Momentary activation of the 2-hand buttons results in a movement of the piston with reduced speed. The cylinder can be stopped at any desired position.

Scope of delivery:

Electric: All required electric components, emergency reset, in-feed, function keys etc. are included.

Pneumatic: Includes all required valves as well as an air servicing unit, as well as flow controls for approach and return speed.

Stand-alone: Controls ordered without a press will be delivered with 3 meter long hoses and wiring.

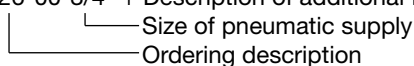
Jog/setup mode	Sequencing mode	Interface CEP 400/EPW 400 possible	Peak load oil press. switch	Locking function power stroke	Inclusive	Additional functions (optional)	In-feed and main switch in separate enclosure	Electric controls in 2-hand enclosure	Enclosure for electric components	Pneumatic mounting plate without enclosure	Optional enclosure
-	-	-	-	-	2-hand controls	-	-	-	-	-	-
-	-	-	-	-	2-hand controls	-	-	-	-	yes 340x340	yes 380x380 x210
-	-	-	yes	-	-	-	-	-	-	yes 340x340	yes 380x380 x210
-	-	-	yes	yes	Foot pedal, CLX, automatic- and setup ZDA	-	-	-	yes incl. ZDA	yes	yes 380x600 x210
-	-	-	yes	yes	Foot pedal, CLX, automatic mode	-	-	-	-	-	-
-	-	-	yes	yes	Foot pedal, CLX	-	-	-	-	-	-
-	-	-	yes	yes	2-hand controls	1) – 10), 16)	-	yes	-	yes 340x340	yes 380x380 x210
yes	-	-	-	-	-	-	-	-	-	-	-
-	yes	yes	yes	yes	2-hand controls	1) – 11), 13), 15), 16)	yes	yes	-	yes 340x340	yes 380x380 x210
yes	-	-	-	-	-	-	-	-	-	-	-
-	yes	yes	yes	yes	2-hand controls	1) – 16)	-	-	yes	yes 340x340	yes 380x380 x210
yes	-	-	-	-	-	-	-	-	-	yes 560x560	yes 600x800 x210

Additional functions for approach resp. connection

- | | |
|---|--|
| 1) External input signal | 9) Safety light curtain |
| 2) Additional retract signal for external input | 10) Manually operated protective grid (swivel-mounted) |
| 3) Proximity switch | 11) Pneumatic operated lift guarding; travel: 250 mm/width: 400 mm |
| 4) Foot pedal | 12) Remote access for Siemens S7 |
| 5) Push buttons | 13) End position feedback and separate control possibility |
| 6) Oil level monitoring | 14) Interface for monitoring unit 8E/A |
| 7) Counter | 15) Interface for monitoring unit 3E/1A |
| 8) Preset counter | 16) External release |

Ordering example:

STE 326-00-3/4" + Description of additional functions



Additional Information on the TOX®-Controls

Basic operation of the electric TOX®-2-hand Controls when used with TOX®-Presses

The cycle is initiated using the two push buttons on the 2-hand safety control. Both sensing devices must be activated within 0.5 seconds. The working rod will advance through the fast approach stroke until it meets resistance. This resistance will shift the sequence valve and initiate the power stroke. The TOX®-Powerpackage remains pressurized as long as the push buttons are activated. Once the preset oil pressure is reached, the pressure switch sends a signal to the directional valve to retract the working rod. Controls with the self locking function initiate the return stroke automatically regardless of whether the safety push buttons are still activated. The working rod will retract as soon as the preset oil pressure has been reached.

If any or both of the push buttons are released prematurely, the TOX®-Powerpackage will retract immediately.

After completing a cycle, a new one can only be initiated after the 2-hand safety buttons have been released during the return stroke of the previous cycle.

Depending on the type of controls, additional signals can be used, such as parts presence sensors.

Complete process sequencing can be realized using our PLC controls.

Safety:

Activating the integrated emergency reset button will introduce the return stroke immediately in any operating mode.

In case of a loss in air pressure, the working rod will not retract and could drift down slowly.

Standard version of the TOX®-Safety Control

- Flow control valves to regulate speed during approach and return strokes, air servicing unit, oil pressure switch to signal return stroke (not included with straight pneumatic controls)
- For machines without a base or for orders without a PC press, the control elements will be supplied separately including 3m of connecting power lines. This applies also to controls which are ordered with a TOX®-Powerpackage and are to be mounted by the customer.

All controls are supplied according to TOX® PRESSOTECHNIK specifications.

The buyer must ensure that any presses and controls supplied by TOX® PRESSOTECHNIK conform to all applicable national and local Occupational Safety Hazard Guidelines.

TOX® PRESSOTECHNIK shall not be held liable for any damage or injuries resulting from neglect or misapplication. The buyer guarantees to TOX® PRESSOTECHNIK that they will comply with all applicable national and local safety regulations prior to use of the equipment.

By definition, any pinch points along the return stroke of the tooling area must be properly guarded.

Safety recommendations for press controls with self locking function

For presses with 2-hand safety controls and using tools with an opening > 6 mm, a sensor for "tool closed" must be installed (see operating manual) according to the guidelines provided in the DIN EN

13736 standards. The sensor must be installed in such a way that it will provide a signal once the tooling is closed. If the tool opening is ≤ 6 mm or the tooling area is guarded (e.g.

perimeter guarding), then this sensor is not required.

The sensor serves as a fail safe method of the command for the self locking function.