

User Manual DE P240T

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Technical descriptions

A professional hydraulic press DE P240T (hereinafter press) is specially designed press, and basically is a portal type.

On the same podium with press, there are four pairs of pillars with their two vertical beams. For each pair of columns are installed two hydraulic cylinders, whose piston rods via rocker bearing are associated with the beams. Cylinders can be moved up or down in manual mode according to user's needs. To move steadily cylinders there are incorporated special guides. On each shaft there are two auxiliary threaded spindle that can be rotated manually. In this way it adapts center of force cylinders according to the user's needs. This rotation of the threaded spindle is performed manually by key.

Moving slides through the axial articulated bearings performing the transmission of pressure forces the cylinder to its transverse beams, which rely on the frame longitudinal beams. In this way the pressure package winding equal and evenly distributed forces, which are set and monitored throughout the polymerization process.

This press makes it possible to eliminate some of the pairs of cylinders so that it is possible to use 1/4, 2/4, 3/4 and the total force given to the press. This elimination is carried out by simply closing the supply of oil in particular pairs of cylinders.

In the middle, next to the press set required hydraulic power unit, which is protected by a casing and is mounted above command operating console.

Technical characteristics

Maximum press power	240 Mp with 4 portals – 8 hydraulic cylinders
Working area	1000 x 3200 mm
Number of portals	1, 2, 3 or 4 portals

Hydraulic cylinders are with the same power force.

Maximum working speed

For 4 portals	$v = 3.54 \text{ mm/s}$
For 3 portals	$v = 4.72 \text{ mm/s}$
For 2 portals	$v = 7.07 \text{ mm/s}$
For 1 portal	$v = 14.14 \text{ mm/s}$

Maximum back speed

For 4 portals	$v = 4.11 \text{ mm/s}$
For 3 portals	$v = 5.48 \text{ mm/s}$
For 2 portals	$v = 8.22 \text{ mm/s}$
For 1 portal	$v = 16.44 \text{ mm/s}$

Adjusting forward and backward speed with one way valves.

Pump aggregate

Primary pump aggregate	Q = 30 l/min, pressure p = 30 bar
Electromotor	P = 2.2 kW, n = 1500 o/min
Secondary pump aggregate	Q = 1 l/min, pressure p = 170 bar
Electromotor	P = 0.55 kW, n = 1500 o/min

Hight of working area

Down position	100 – 375 mm
Up position	275 – 550 mm

Dimensions

Width	1600 mm
Hight	2665 mm
Length	3200 mm (with working area 6400 mm)
Weight	9800 Kp

Short description of the machine

A professional workshop press DE P240T is intended for curing (baking or heating) generator windings, which are rectangular in shape, desired force at the set time interval under the given temperature.

Press has the ability to coil formed on a separate panel is introduced into a workspace presses in a certain position. This option provides an extra workbench, which is associated with desktop press precise height-adjustable longitudinal axis of the press and height. Moving the plate with formed winding is performed with the towing winch strap on one end of the press, whose second free end of the catch on board. The corresponding stops on the desktop presses, extra desk and by rotating the winch enables precise positioning. In the same way, after the completion of polymerization winding panel drawn from the press working area on the extra work desk with a winch towing strap at the end of the auxiliary desk. In position for curing coil generator performs the pressing winding controlled pressure (force) by the end of the polymerization process. For the polymerization process is necessary, and controlled heating, which is done by passing a current through coils.

The maximum force load is up to 240 tons achieved with four portals - 8 hydraulic cylinders.

The machine has the ability to work on the portals with two cylinders, where the total force is reduced in proportion to the number of portals (cylinders), which are special faucets enabled or disabled.

Instructions for safe operation

A professional press DE P240T can be used only for the purpose for which it was designed and constructed, and the polymerization winding generator with controlled force pressing and induction heating.

This press belongs to the slow presses. In addition to this the work piece is introduced and performed the work area using two pulleys with a belt, which are outside the workspace presses, pivoted manually. For the command to use a command operating control cabinet, located above the aggregate press. A selection of some of the combinations presses 1, 2, 3, or four portals or 1/4, 2/4, 3/4 or full specified forces also carried out on the side of the press when it is not in operation by closing lever ball valves. Only then is the command operational control panel selects the desired pressure force on the work piece.

All adjustments needed at portals exceeded in terms of shifting the center of pressure, performed by turning the threaded spindle key, also on the outside stârni presses and presses when not in operation.

When designing, making electricity systems met all the necessary conditions for protection.

The pressing force may be less than the maximum possible (240T) depending on the choice of the number of portals, but also of the necessary size of the force (pressure, which can be selected), and depends on the size - the dimensions of the work piece.

Introduction to the machine

Control cabinet with integrated electronic control and developed a dedicated software package is designed to control the operation of professional hydraulic press. On the control cabinet are placed all the elements for the adjusting and the machine monitoring. The machine can operate in manual or automatic mode. If the selected mode is manual, the moving part can move in both directions with the specified pushbuttons. If the selected mode is automatic maintained forces specified in the display over time, which also sets on touch screen.

Warning!

If the equipment is handled incorrectly, the machine may be damaged or can cause serious health problems for operators.

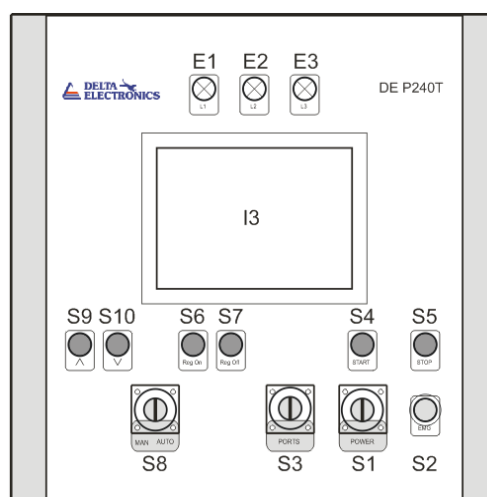
Note that the machine is under power supply, and therefore the operator must be a person trained for proper use.

Introduction to the machine operation

Control cabinet with integrated electronic control and developed a dedicated software package is designed to control the operation of professional hydraulic presses. On the control cabinet are placed all the controls for adjusting and monitoring the machine. The machine can operate in manual or automatic mode. In manual mode, the moving part can be moved in both directions with the appropriate pushbuttons. In the automatic mode machine controls force automatically over desired period of time.

Commands and signals on the control cabinet

1. The main power supply switch (S1)
2. Green lamps that indicate the presence of phase voltage (E1, E2, E3)
3. Switch to choose between automatic and manual mode (S8)
4. The switch for selecting number of active portals from 1 to 4 (S3)
5. Green Start pushbutton to start the process of the machine (S4)
6. Red Stop pushbutton to stop the process of the machine (S5)
7. Green Start pushbutton to run the force control in automatic mode (S6)
6. Red Stop pushbutton to stop the regulation of force in automatic mode (S7)
9. Red pushbutton emergency stop operation (S2, returns to slight turning to the right)
10. Green Start pushbutton for manual cylinder actuation in the up direction (S9)
11. Red Stop pushbutton for manual cylinder actuation in the down direction (S10)
12. Touch screen for setting and monitoring process parameters of the machine (I3)



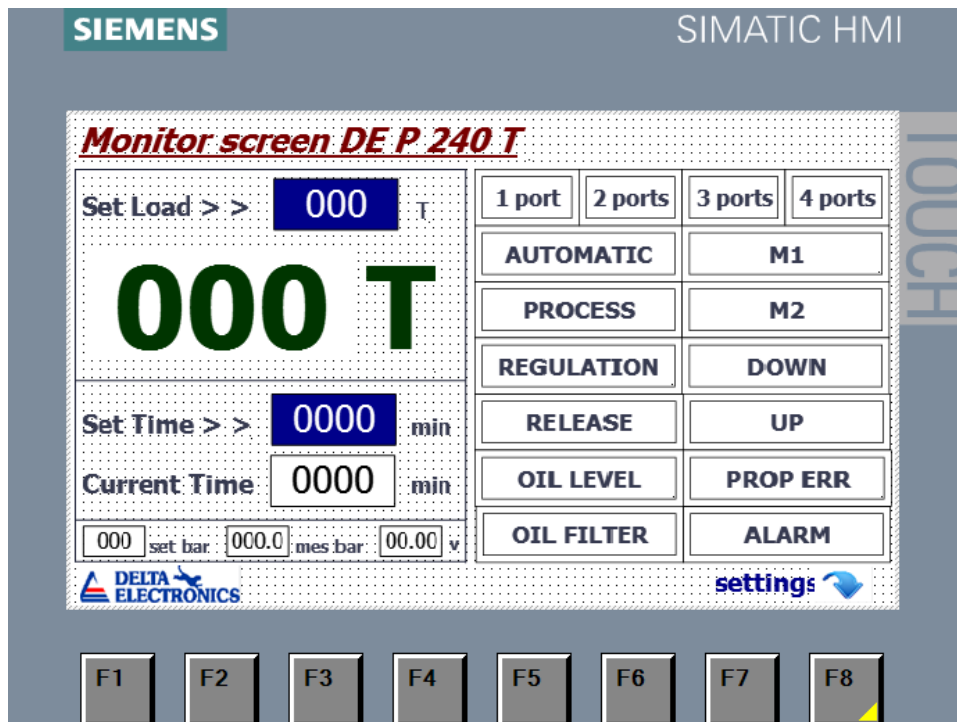
The procedure of turning on and off the machine

When the machine is properly connected to the appropriate power supply and all required control elements (pressure sensor, magnets, valves) the main switch **S1** turns on voltage to the cabinet (green bulbs displays presence of phase voltage **E1, E2, E3**). Wait while the operating system for touch screen **I3** turns on (MONITOR screen will be displayed). Select operating mode with switch **S8** (manual or automatic). With switch **S3** choose number of active portals (1, 2, 3 or 4). With Start green pushbutton **S4** start motor and hydraulics aggregate. That motor can be stopped by pressing Stop red pushbutton **S5**. Also, there is an emergency red pushbutton EMG **S2** that can stop process by pressing the pushbutton. If the manual mode is selected, by pressing **S9** or **S10** pushbuttons move the cylinders in the two directions (up or down). If the selected mode is automatic, Start green pushbutton **S6** starts automatic controlling force in the given period of time. This force and time period can be adjusted on touch screen **I3**. Automatic process of holding force can be interrupted with red pushbutton **S7** at any time. Machine and hydraulic aggregate can be stopped with the Stop red pushbutton **S5**.

Touch Screen - general

On the left up position on all screens are displayed active screen names (MONITOR or SETTING screen). With function pushbutton F8 active screen can be changed. On the down left position on the screens is displayed DE logo (machine manufacturer). Fields with white backgrounds are for data displays only and with blue background for machine parameters adjusting. By pressing on old value on touch screen (blue background field) opens numeric dialog box for entering new desired value. When insert new value and press enter value will be updated. For machine protection some values are limited by software. Screen MONITOR is designed for monitoring machine process and for adjusting force and desired time. Screen SETTINGS is for adjusting machine parameters and are for service purpose only

Touch Screen - monitor



Left side: MONITOR

Up left after label Set Load >> adjust desired force value in Tons. Below that is real measured value of load in Tons.

Below measured force value and after label Set Time >> adjust desired period of time in minutes and below that value is current time of process in minutes.

Below that values are three data for service purpose only (set value in bars, measured value in bars and voltage value on proportional valve).

Right side: MONITOR

On the right side of that screen are signal lamps for process monitoring purpose.

First row displays number of selected active portals (1,2,3 ili 4).

Next row displays selected mode (automatic or manual) and motor M1 state (green lamp M1 is running).

Next row displays that process is on and motor M2 state (green lamp M2 is running) .

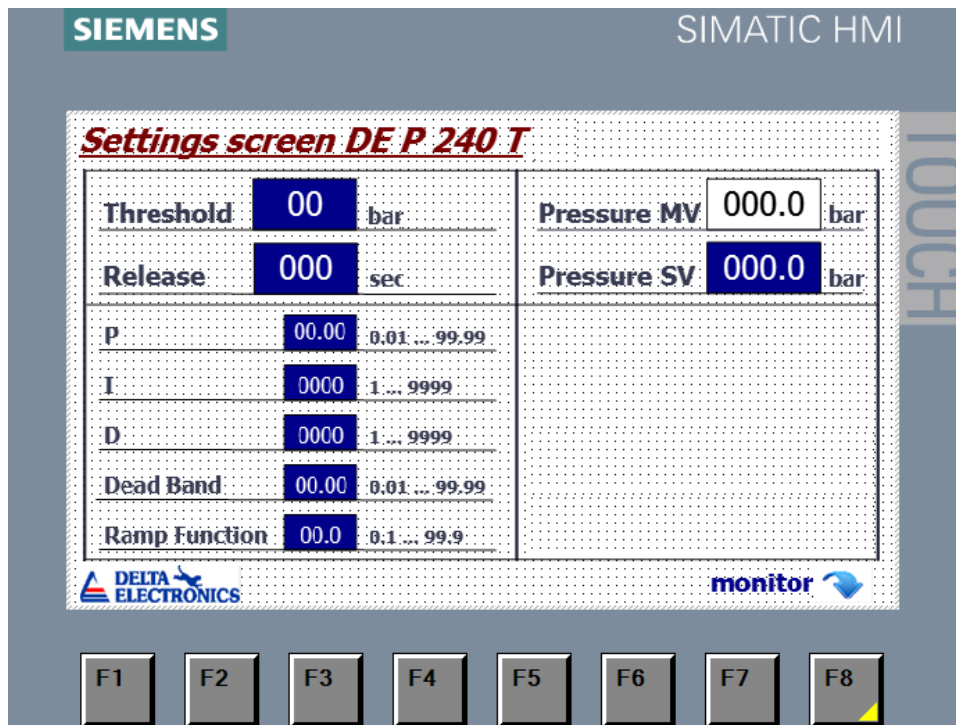
Next row displays that automatic regulation is on and valve DOWN is on (for force control).

Next row displays that regulation is over and release is on and UP valve is on (releasing force).

Next row displays OIL LEVEL red error lamp (There is not enough oil in the tank – machine is turning off automatically) and PROP ERR red lamp that signals problem in electronics for proportional valve.

On the bottom row there are two signals: OIL FILTER (warning: filter is dirty) and red lamp ALARM (some alarm is active). After removing the cause of the alarm reset that signal by pressing red pushbutton Stop S7.


Touch Screen - settings



On this screen are adjusted parameters of the machine and should not be touched if person is not trained to make changes.

On this screen can only be adjusted Release time indicating the time, which is used to determine releasing (in seconds) after expiration the automatic regulation of force.

On the machine there is tiles with the basic technical data and load tables, where you can see bands, that can be set to load in relation to the chosen portals using switch S3.

<p>DE P240T Technical data: Power supply 3 x 400 V AC Number of portals 4 portals Maximum load 240 Tons / 170 bars Power consumption 3 KW Year of production 2015 Serial number 002 Manufacturer Delta Electronics  office@deltael.com www.deltael.com +381 37 715 422</p>		<p>Load table:</p> <table border="1"> <thead> <tr> <th>No of portals</th> <th>Min (Tons)</th> <th>Max (Tons)</th> </tr> </thead> <tbody> <tr> <td>1 Portal</td> <td>15</td> <td>60</td> </tr> <tr> <td>2 Portals</td> <td>25</td> <td>120</td> </tr> <tr> <td>3 Portals</td> <td>35</td> <td>180</td> </tr> <tr> <td>4 Portals</td> <td>45</td> <td>240</td> </tr> </tbody> </table> <p>Made in Serbia</p>	No of portals	Min (Tons)	Max (Tons)	1 Portal	15	60	2 Portals	25	120	3 Portals	35	180	4 Portals	45	240
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1 Portal	15	60															
2 Portals	25	120															
3 Portals	35	180															
4 Portals	45	240															

For any questions contact the manufacturer of the machine:

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