

Technical Product Information No. 2050 EN

Press-Safety-Valve PSV 16 series 0086-096-15

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About this Technical Product Information (TPI)

Who is this TPI directed at?

This TPI is directed at qualified personnel who

- are entrusted with the assembly, commissioning and operation of the product and who
- have obtained the necessary qualifications by reading and understanding the instructions by training or instruction

It is intended for

- Fitters at the manufacturer of the machine / plant
- Maintenance fitters at the machine users.

What will you find in the TPI?

The TPI provides all the necessary information for the assembly and maintenance of the product described on the title page

Notes on the symbols used in the text

On the pages which follow, important sections of text are highlighted with the following symbols.



This symbol means:

There is a risk of injury during the activity described or in operational running!



This symbol means:

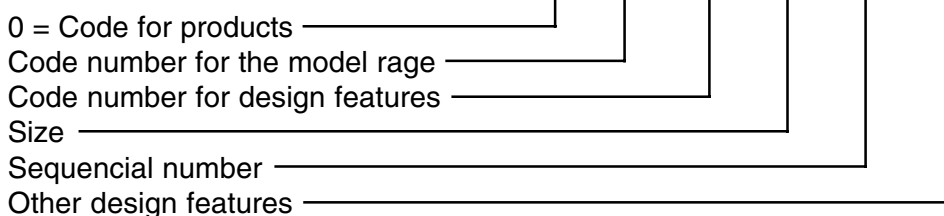
There is a risk of material damage during the activity described or in operational running!



This symbol indicates sections of text to which particular attention must be paid.

The Ortlinghaus numbering system

Example: 0 111 - 222 - 33 - 444 555



Pass this TPI on to your customers ! You can either order further copies of this TPI from us or you are free to make copies, for use by your customers.

About the product

Purpose and function of the press safety valve (PSV) 0086-096-15-0x0000

The PSV 16 is for hydraulically actuated clutches and brakes and clutch/brake combined units in mechanical presses according DIN EN 692.

By using the PSV 16 a safe start and stop of the press is provided. In case of electrical or mechanical failures a press start is prevented by self monitoring.

When a failure occurs the PSV 16 falls into a locked mode, which causes an immediate stop.

The PSV 16 represents the newest and highest safety level. As an option a pressure switch or sensor could be installed at the measuring port of the PSV 16.

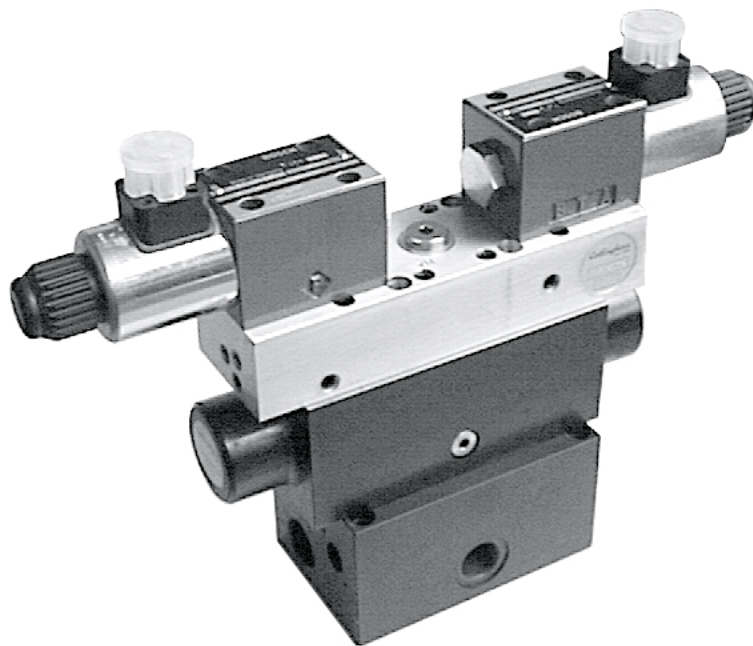


Fig. 1: Press-Safety-Valve PSV 16

Function

The main spools of the PSV 16 only switch, when both pilot valves receive their electrical signals simultaneously.

At a deviation of more than 60 to 80 ms the PSV goes into a locked position and the clutch/brake will be made or remains pressure free.

A further engagement cannot be initialised.

The PSV is not self releasing. It is also not possible to actuate the pilot valves manually.

For a new start the **P** port of the PSV has to be made pressure free. After applying the pressure again the PSV is ready for operation.

Operating data

It is only allowed to operate the PSV under the following technical conditions.

Only oil according the Ortlinghaus reference list is allowed.

For the ISO viscosity groups (VG) the following operating temperatures are allowed:

Oil ISO VG 22:	+ 5°C to + 40°C
Oil ISO VG 32:	+ 25°C to + 50°C
Oil ISO VG 46:	+ 35°C to + 60°C
Operating pressure:	50 to 70 ⁺⁵ bar

Requirements

The main control of the press must be according DIN EN 692.

The PSV is a system, which meets the requirements of category 4, EN 954-1, provided that the electrical control is carried out according category 4.

Electrical characteristics

Type	Voltage	Ortlinghaus-Nr.
PSV 16	24 V,DC	0086-096-15-010000
PSV 16	110/115 V, 50/60 Hz	0086-096-15-070000
PSV 16	220/230 V, 50/60 Hz	0086-096-15-080000

Installation

The installation must be carried out by trained personnel. Only Ortlinghaus subplates are allowed. The valve must be mounted in a **horizontal** position.

The piping of the Y port must be free to the tank and must end above oil level.

There must be a valve to make the system pressure free to release the valve after failures.

There must be a throttle in the P port of the PSV to avoid pressure peaks. Only Ortlinghaus throttles are allowed.

The PSV must be located as close as possible to the clutch/brake.

For safety reasons no further function - element (valve), which may close the hydraulic connection between PSV and clutch/brake, is permitted.

CAUTION! Do not use liquid sealings for piping.

The valve coils must have separate electrical wiring to the main control. The signal processing to the main press control has to be according EN 692. The electrical data of the press control must meet the electrical requirements of the PSV.

After the installation a functional test has to be carried out by trained personnel.



Maintenance

Filtration of the oil (filling and operation):
10 µm nominal

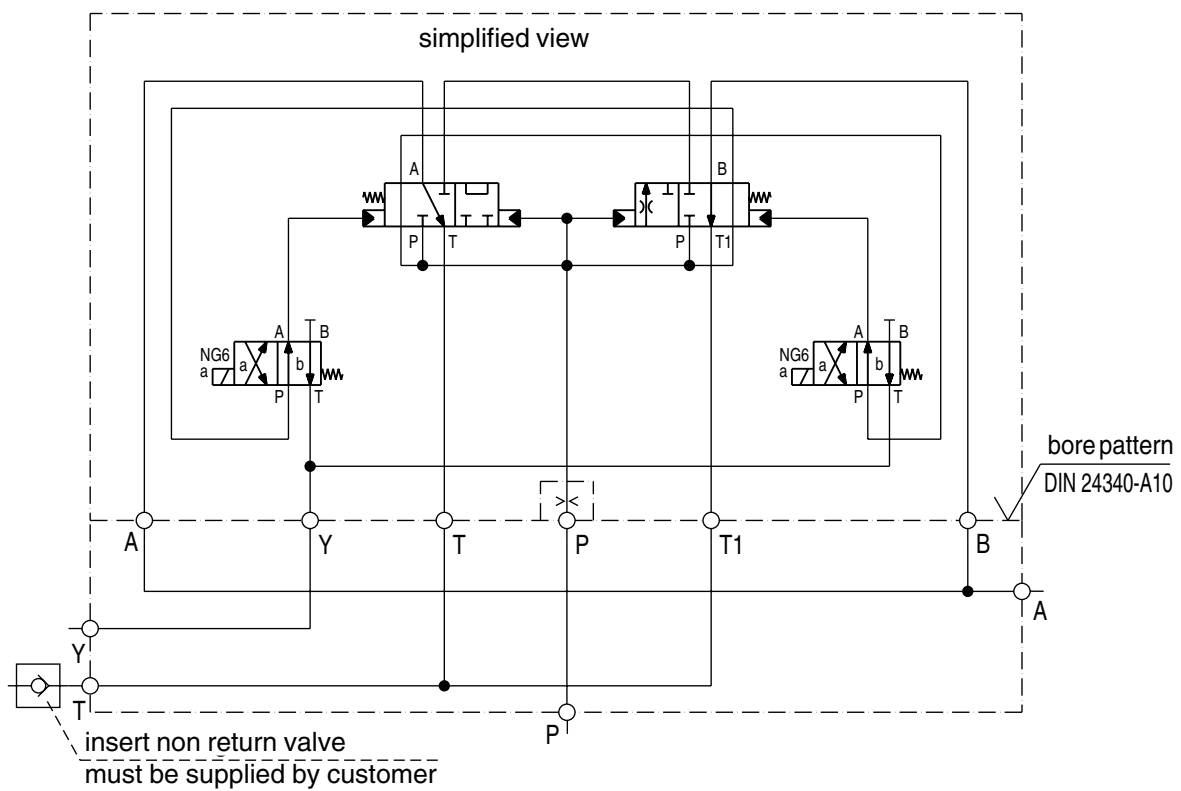
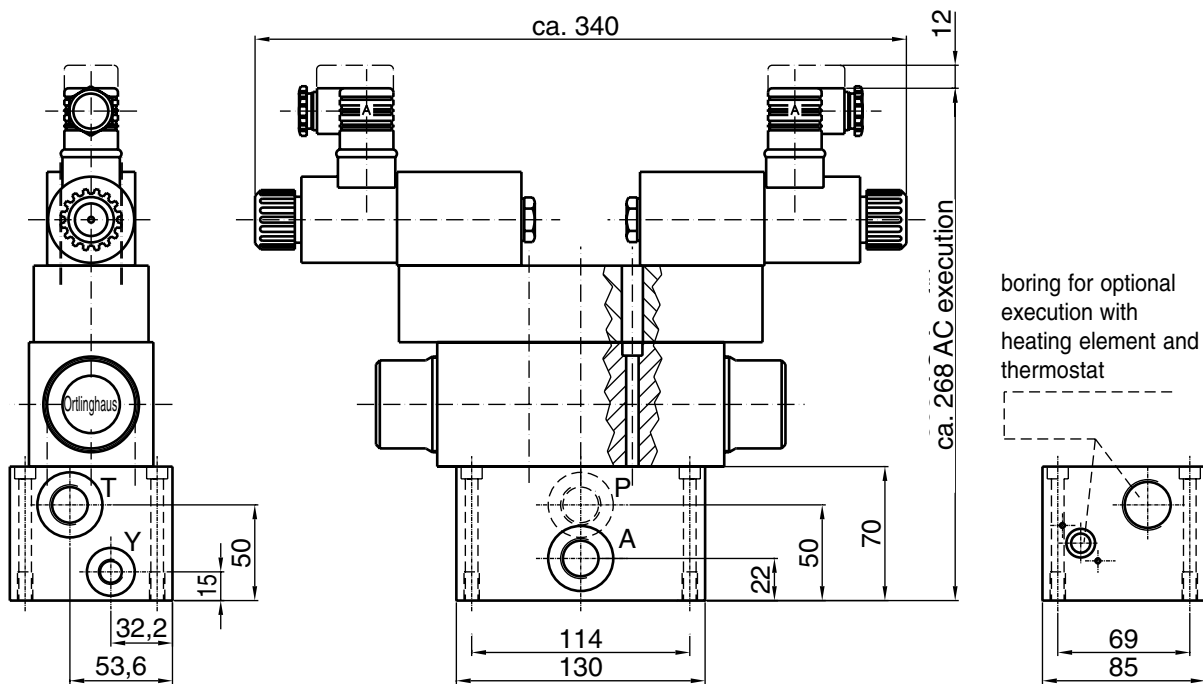
There is no special maintenance required.

Repairs must be carried out by Ortlinghaus only.

In case of failures of the PSV the complete PSV has to be replaced.

Press-Safety-Valve, basic execution

series 0086-096-15-1 $\frac{1}{8}$ 000 $\frac{1}{8}$



Press-Safety-Valve, basic executionseries 0086-096-15-1 $\frac{1}{8}$ 000 $\frac{1}{8}$

Control voltage	Diaphragm [mm]	Drawing No.
24V DC	1,0	0086-096-15-110 000
	1,5	0086-096-15-110 001
	2,0	0086-096-15-110 002
	2,5	0086-096-15-110 003
	3,2	0086-096-15-110 004
	4,0	0086-096-15-110 005
	5,0	0086-096-15-110 006
	6,0	0086-096-15-110 007
110/115 V 50/60 Hz	1,0	0086-096-15-170 000
	1,5	0086-096-15-170 001
	2,0	0086-096-15-170 002
	2,5	0086-096-15-170 003
	3,2	0086-096-15-170 004
	4,0	0086-096-15-170 005
	5,0	0086-096-15-170 006
	6,0	0086-096-15-170 007
220/230 V 50/60 Hz	1,0	0086-096-15-180 000
	1,5	0086-096-15-180 001
	2,0	0086-096-15-180 002
	2,5	0086-096-15-180 003
	3,2	0086-096-15-180 004
	4,0	0086-096-15-180 005
	5,0	0086-096-15-180 006
	6,0	0086-096-15-180 007
	7,0	0086-096-15-180 008

Characteristics PSV 16**Magnets**

Power rating:

pick-up
holding

DC

33 W

33 W

AC

175 VA

60 VA

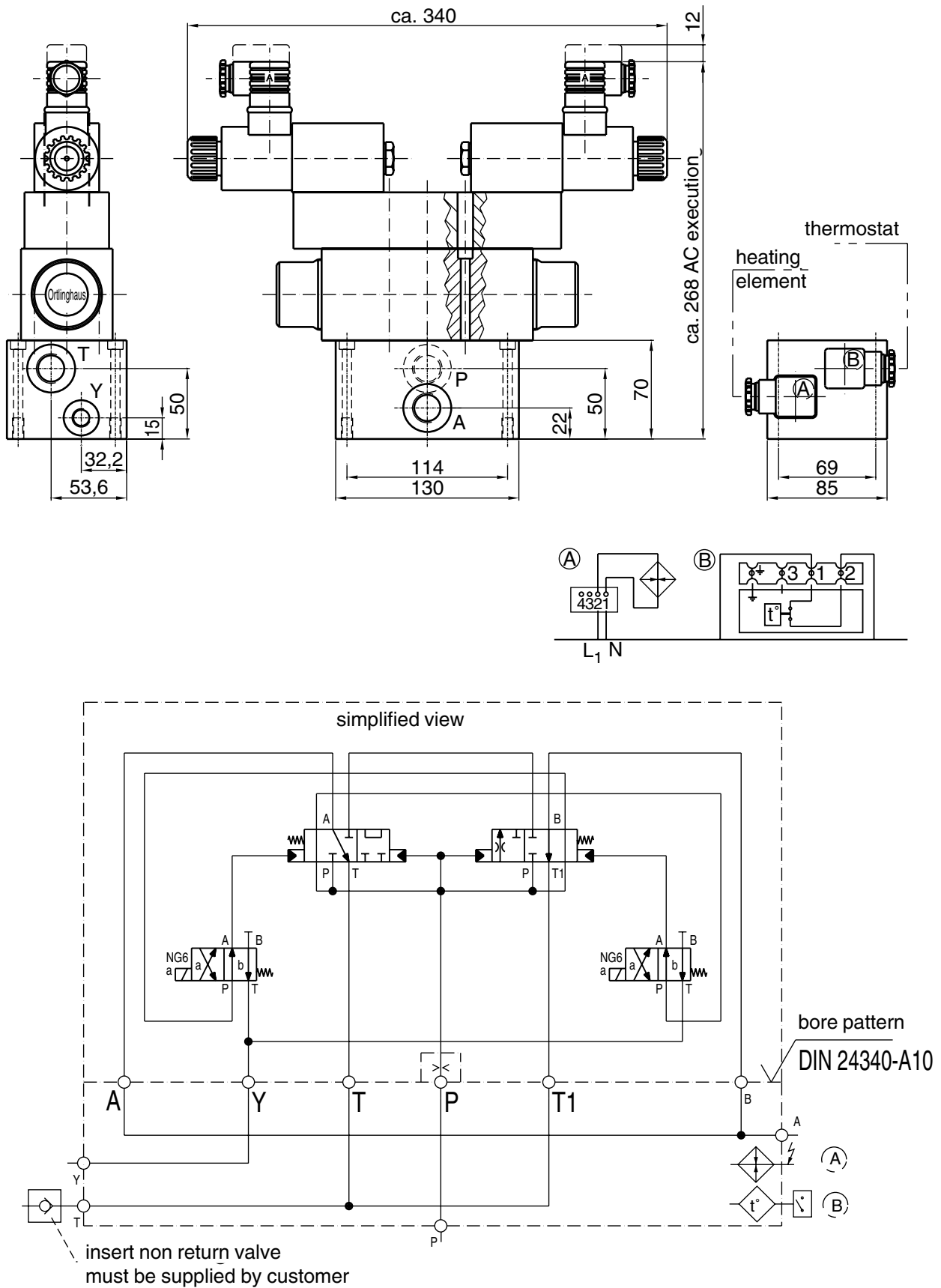
Cyclic duration factor: 100 % continuous duty

Enclosure type: IP 65

Connection: P, A, T = G1/2
Y = G1/4

Press-Safety-Valve, execution with heater

series 0086-096-15-1 $\frac{1}{8}$ 100 $\frac{1}{8}$



Press-Safety-Valve, execution with heaterseries 0086-096-15-1 $\frac{1}{8}$ 100 $\frac{1}{8}$

Control voltage	Diaphragm [mm]	Drawing No.
24V DC (heating capacity 160W 230V, 50 Hz)	1,0	0086-096-15-111 000
	1,5	0086-096-15-111 001
	2,0	0086-096-15-111 002
	2,5	0086-096-15-111 003
	3,2	0086-096-15-111 004
	4,0	0086-096-15-111 005
	5,0	0086-096-15-111 006
	6,0	0086-096-15-111 007
110/115 V 50/60 Hz (heating capacity 160W 230V, 50 Hz)	1,0	0086-096-15-171 000
	1,5	0086-096-15-171 001
	2,0	0086-096-15-171 002
	2,5	0086-096-15-171 003
	3,2	0086-096-15-171 004
	4,0	0086-096-15-171 005
	5,0	0086-096-15-171 006
	6,0	0086-096-15-171 007
220/230 V 50/60 Hz (heating capacity 160W 230V, 50 Hz)	1,0	0086-096-15-181 000
	1,5	0086-096-15-181 001
	2,0	0086-096-15-181 002
	2,5	0086-096-15-181 003
	3,2	0086-096-15-181 004
	4,0	0086-096-15-181 005
	5,0	0086-096-15-181 006
	6,0	0086-096-15-181 007
7,0	0086-096-15-181 008	

Characteristics PSV 16**Magnets**

		DC	AC
Power rating:	pick-up	33 W	175 VA
	holding	33 W	60 VA

Cyclic duration factor: 100 % continuous duty

Enclosure type: IP 65

Connection: P, A, T = G1/2
Y = G1/4

Press-Safety-Valve, spare part

series 0086-096-15-0 $\frac{1}{8}$ 0000

