

Technical Product Information No. 2060 EN

Press-Safety-Valve PSV 12 series 0086-096-12

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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:

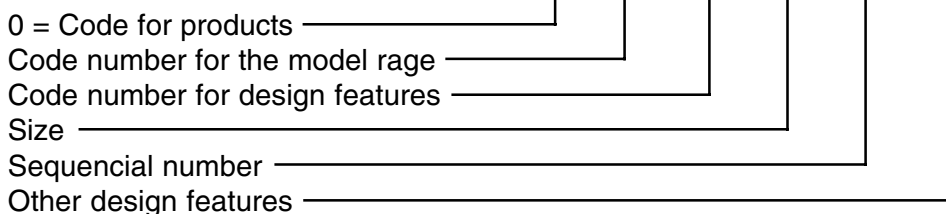
There is a risk of material damage during the activity described or in operational running!



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) 0086-096-12-0x0000

The PSV 12 is for hydraulically actuated clutches and brakes and clutch/brake combined units in mechanical presses according DIN EN 692.

By using the PSV 12 a safe start and stop of the press is provided. The PSV12 has proximity switches for a dynamic Control of the main spools. Failures caused by incorrect signals or malfunctioning components are ruled out.

When a failure occurs the machine control allows no further press start.

The PSV 12 represents the newest and highest safety level.

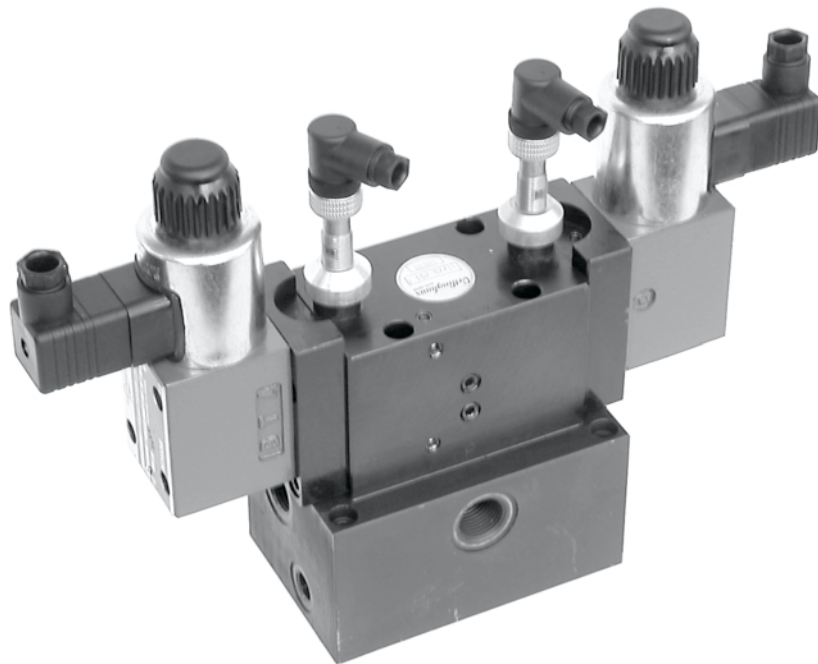


Fig. 1: Press-Safety-Valve PSV 12

Function

The PSV contains two parallel operating 3/2 way valves. The main spools can be monitored by the proximity switches. In case, the monitoring is required (safety regulations), the main control must monitor the switches on each cycle to a max. deviation of **100 ms**. At a larger deviation no further press start must be possible.

The local safety regulations must be considered.

The pressure in the A port to clutch/brake is only applied when both main spools have shifted.

In case of an operating failure there is no pressure build up possible at the A port.

Operating data

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

Only oil according to 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:	10 bis 100 bar

Operating data for the proximity switch

PNP NO, operating voltage 10 - 30 V DC.

Requirements

The main control of the press must be according to 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 to category 4.

Electrical characteristics

Type	Voltage	Ortlinghaus-Nr.
PSV 12	24 V,DC	0086-096-12-210000
PSV 12	110/115 V, 50/60 Hz	0086-096-12-270000
PSV 12	220/230 V, 50/60 Hz	0086-096-12-280000

Installation

The installation must be carried out by trained personnel. Only Ortlinghaus sub-plates are allowed.

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

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 and 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 must be according to DIN EN 629. 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

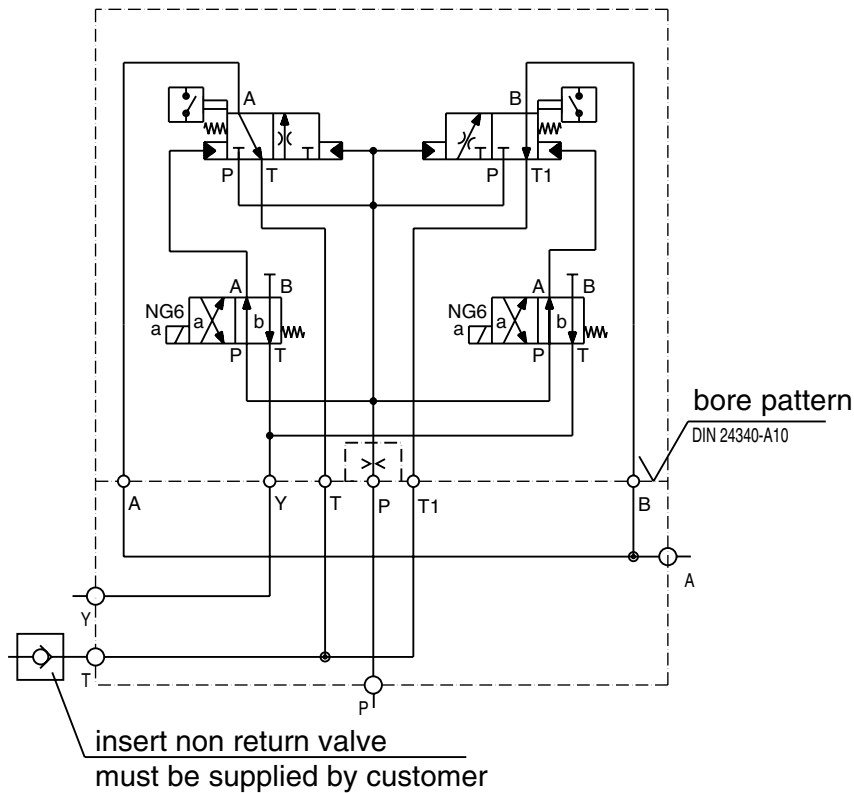
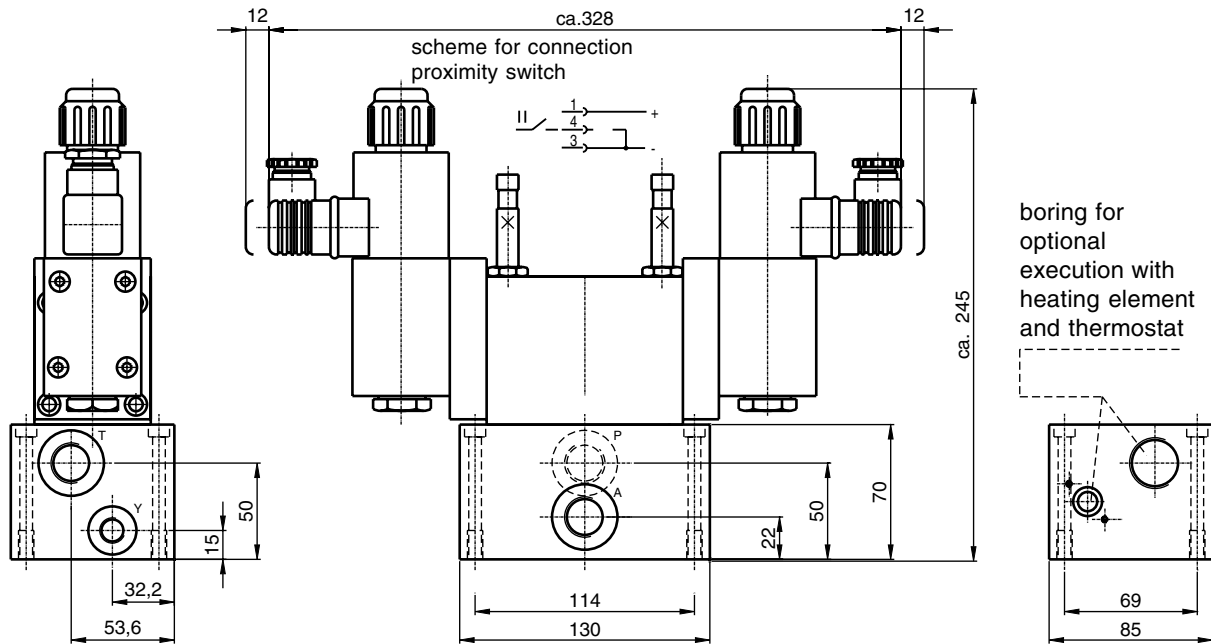
There is no special maintenance required.

Repairs must be carried out by Ortlinghaus only.

In case of failures the complete PSV must be replaced.

Press-Safety-Valve, basic execution

Series 0086-096-12-5 $\frac{1}{8}$ 000 $\frac{1}{8}$



Press-Safety-Valve, basic executionSeries 0086-096-12-5¹₈000¹₈

Control voltage	Diaphragm [mm]	Drawing No.
24V DC	1,0	0086-096-12-510 000
	1,5	0086-096-12-510 001
	2,0	0086-096-12-510 002
	2,5	0086-096-12-510 003
	3,2	0086-096-12-510 004
	4,0	0086-096-12-510 005
	5,0	0086-096-12-510 006
	6,0	0086-096-12-510 007
110/115 V 50/60 Hz	1,0	0086-096-12-570 000
	1,5	0086-096-12-570 001
	2,0	0086-096-12-570 002
	2,5	0086-096-12-570 003
	3,2	0086-096-12-570 004
	4,0	0086-096-12-570 005
	5,0	0086-096-12-570 006
	6,0	0086-096-12-570 007
220/230 V 50/60 Hz	1,0	0086-096-12-580 000
	1,5	0086-096-12-580 001
	2,0	0086-096-12-580 002
	2,5	0086-096-12-580 003
	3,2	0086-096-12-580 004
	4,0	0086-096-12-580 005
	5,0	0086-096-12-580 006
	6,0	0086-096-12-580 007
	7,0	0086-096-12-580 008

Characteristics PSV 12**Magnets**

Power rating:

pick-up
holding

DC

33 W

33 W

AC

175 VA

60 VA

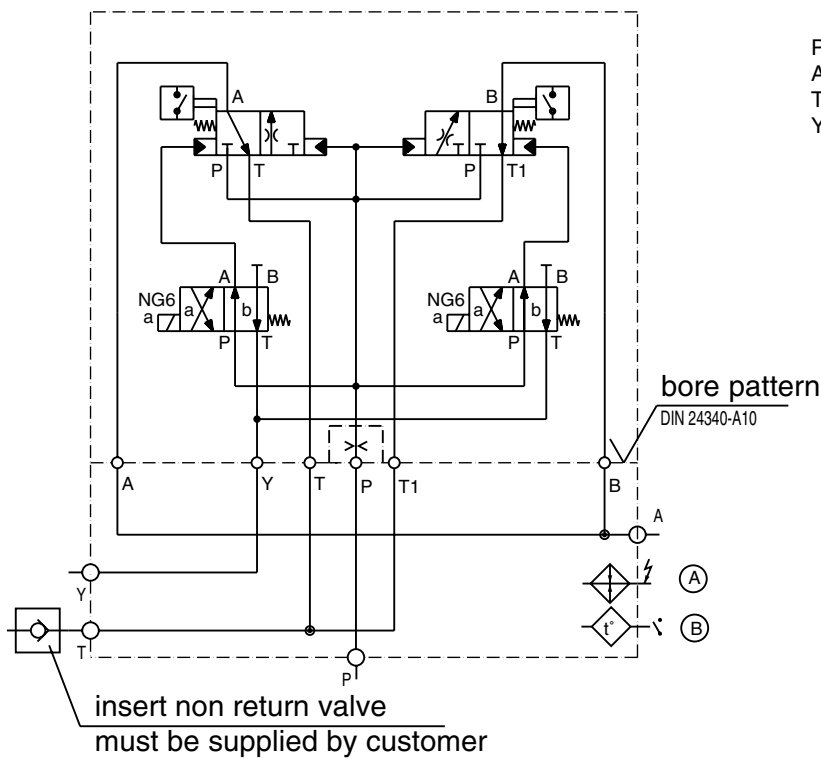
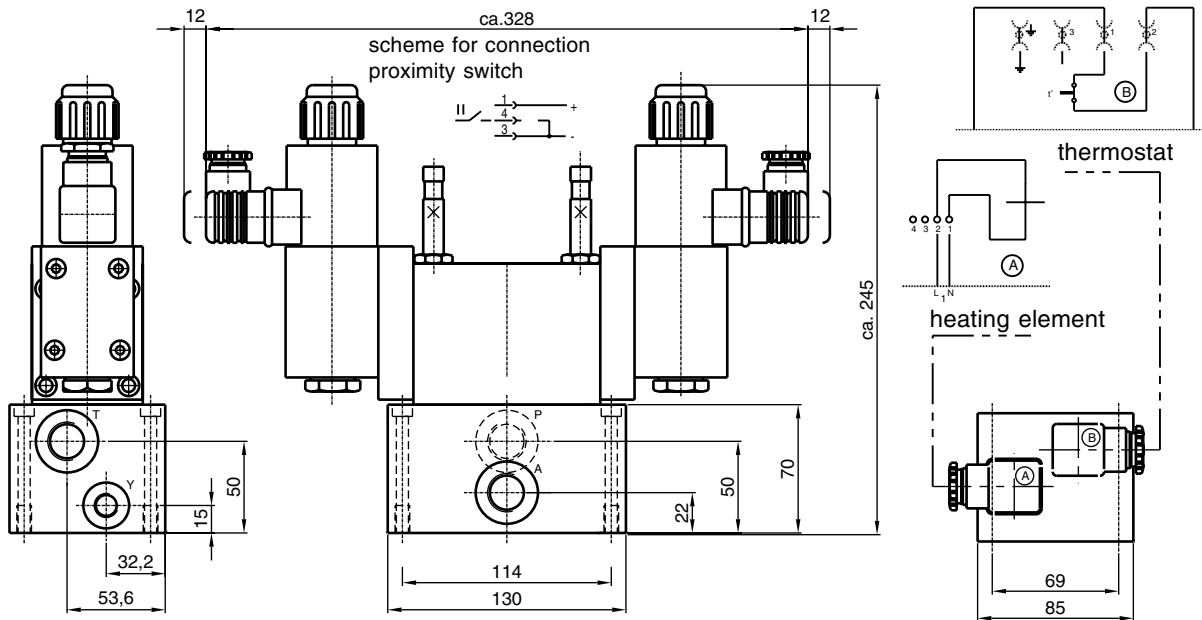
Cyclic duration factor: 100 % continuous duty

Enclosure type: IP 65

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

Press-Safety-Valve, execution with heater

Series 0086-096-12-6 $\frac{1}{8}$ 000 $\frac{1}{8}$



Press-Safety-Valve, execution with heater

Series 0086-096-12-6¹₈000¹₈

Control voltage	Diaphragm [mm]	Drawing No.
24V DC (heating capacity 160W 230V, 50 Hz)	1,0	0086-096-12-611 000
	1,5	0086-096-12-611 001
	2,0	0086-096-12-611 002
	2,5	0086-096-12-611 003
	3,2	0086-096-12-611 004
	4,0	0086-096-12-611 005
	5,0	0086-096-12-611 006
	6,0	0086-096-12-611 007
110/115 V 50/60 Hz (heating capacity 160W 230V, 50 Hz)	1,0	0086-096-12-671 000
	1,5	0086-096-12-671 001
	2,0	0086-096-12-671 002
	2,5	0086-096-12-671 003
	3,2	0086-096-12-671 004
	4,0	0086-096-12-671 005
	5,0	0086-096-12-671 006
	6,0	0086-096-12-671 007
220/230 V 50/60 Hz (heating capacity 160W 230V, 50 Hz)	1,0	0086-096-12-681 000
	1,5	0086-096-12-681 001
	2,0	0086-096-12-681 002
	2,5	0086-096-12-681 003
	3,2	0086-096-12-681 004
	4,0	0086-096-12-681 005
	5,0	0086-096-12-681 006
	6,0	0086-096-12-681 007
	7,0	0086-096-12-681 008

Characteristics PSV 12**Magnets**

Power rating:

pick-up
holding

DC

33 W

33 W

AC

175 VA

60 VA

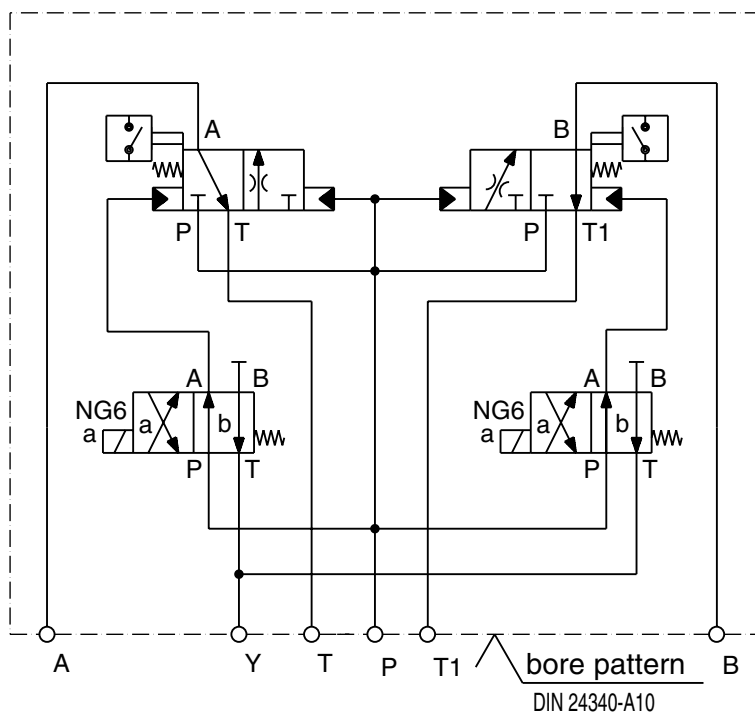
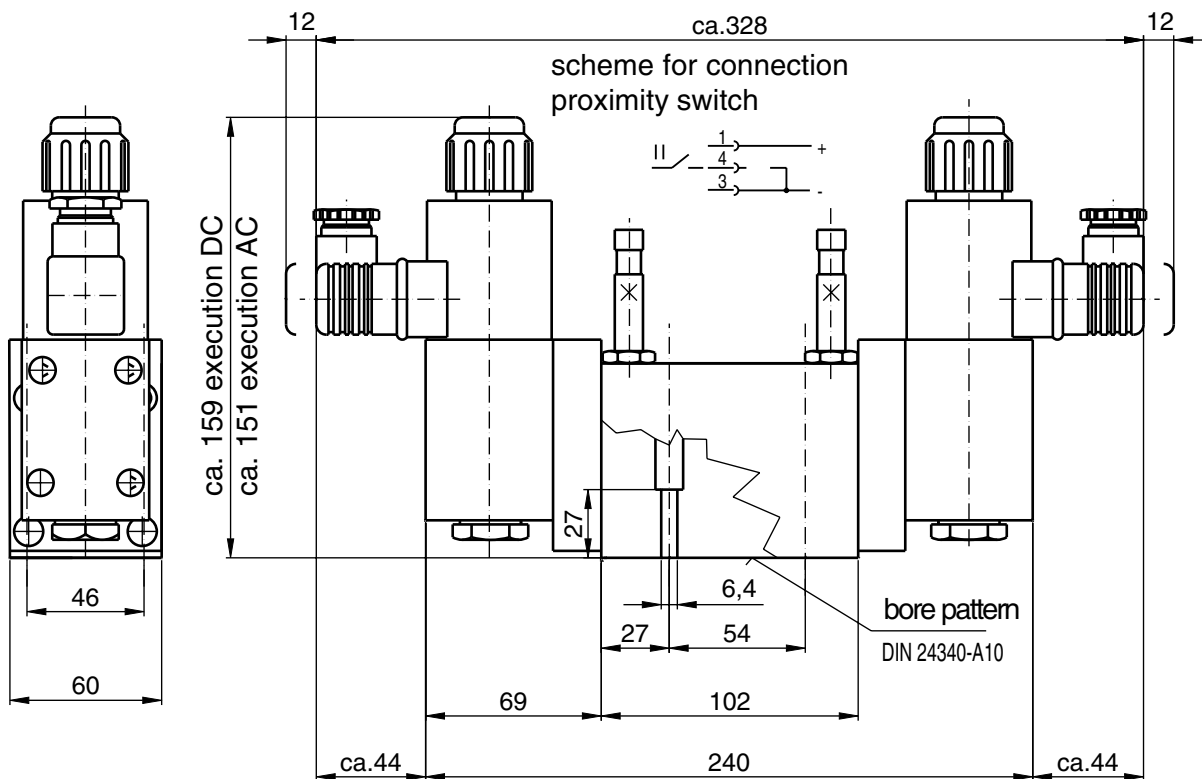
Cyclic duration factor: 100 % continuous duty

Enclosure type: IP 65

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

Press-Safety-Valve, spare part

Series 0086-096-12-2¹/₇ 0000
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P = G 1/2
A = G 1/2
T = G 1/2
Y = G 1/4

article no.
0086-096-12-210000
0086-096-12-270000
0086-096-12-280000

control voltage
24V DC
110/115V 50/60H
220/230V 50/60H