



PL-09411 Plock, 46c, Zglenickiego Street  
tel. (+24) 262-98-56, fax (+24) 262-87-51  
e-mail: mercomp@plock.com  
http://www.mercomp.plock

## PROTECTION BOXES type SP

### STANDARD VERSION

### ANTISTATIC VERSION



### APPLICATION

Protection boxes of SP type are designed to protect instrument process equipments (e.g. transmitter with accessories) mounted in industrial complexes. A boxes protects equipments from mechanical damage, corrosion influence, precipitation, frost and to prohibit access for unauthorized persons.

### CONSTRUCTION

- The standard version of SP protection boxes consists of:
- two-part box made of non-flammable polyester composite reinforced with glass fiber
  - Accessories (hinges, locks) are made of stainless steel.
  - The contact area between the two parts is sealed with non-flammable rubber gasket.
  - assembly construction adapted for mounting a box in a vertical pipe or a wall.

### VERSIONS

- antistatic
  - with internal thermal insulation
  - with steam heating
  - with electric heating (standard and explosion-proof version)
  - with window
  - with lock
  - with manifolds (1÷5 valves)
- Other versions after agreements.

### ENCLOSURE MATERIAL

#### STANDARD VERSION

Non-flammable polyester composite reinforced with glass fiber. Colour: blue. (other colours after agreements).  
Width of wall 4+1mm

#### ANTISTATIC VERSION

Non-flammable polyester-glass composite modified with antistat AP-ANTISTAT 3.0. Colour: blue (other colour after agreements)



### FIRE RESISTANCE

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**Non-flammable material** in compliance with Norm BN-87/8826-02 Point 4 ( $I_{sr} = 0,0$ ;  $C_{sr} = 0,0$ ).

**Certificate:** Opinion No 038/BM/95 Scientific Research Center of Fire Protection, Józefów

### ANTISTATIC

Protection boxes in antistatic execution meet requirements of static electricity protection in compliance with PN-EN-50014: 1997; PN-EN-60529: 1991; PN-92/E-05201÷3; PN-E-05204: 1994

#### PROTECTION BOXES SP-01, SP-02, SP-11, SP-12, SP-13, SP-22 TYPE IN ANTISTATIC EXECUTION ARE SUITABLE FOR APPLYING INTO:

- POTENTIALLY EXPLOSIVE ATMOSPHERES GROUP IIA, IIB, IIC
- AND
- DUST ZONES CLASSIFIED AS 21 AND 22

#### PREMISES CONDITIONS FOR EXPLOSION HAZARD ZONES

- Boxes can be used in explosion hazard zones without restraint conditioned that they are properly earthed. The boxes in antistatic version are equipped with earthing grip.
- Boxes mounted in zones can be endowment only in equipments of explosion-proof construction.
- All metal elements assembled by User which stand out of a box have to be galvanically joined with any metal element of a box.

**NOTE:** For any advice and instructions as far as devices assembly in a boxes is concerned, please contact Mercomp company.

### Certificates:

- *RESULTS OF TESTS AND ASSESSMENT apparatus boxes SP-01, SP-02, SP-11, SP-12, SP-22 type in antistatic execution No KD-4/2192/2004/794: issued by Central Mining Institute, Experimental Mine "Barbara": 13 May 2004*
- *Amendment for SP-13 apparatus box to results of tests and assessment No KD-4/2192/2004/794 issued by Central Mining Institute, Experimental Mine "Barbara": No KD-4/2067/2005/550 of 14 June 2005*
- *Opinion No BA-71/1064/1256/97 and Expert Opinion No 3/60/97 (Research Report No 3/11/97) made by Institute of Organic Industry, Warsaw*

## INGRESS PROTECTION

IP 65 according to PN-EN 60529: 1991 (PN-92/E-08106)

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- *Amendment for SP-13 apparatus box to results of tests and assessment No KD-4/2192/2004/794 issued by Central Mining Institute, Experimental Mine "Barbara": No KD-4/2067/2005/550 of 14 June 2005*
- *Research Report No 1/ZK/96 COBR "ELEKTROMONTAŻ", Warsaw*

## IMPACT RESISTANCE

Boxes meet the requirements of high hazard level to mechanical impact.

The resistance refers also to boxes equipped with the window.

Protection boxes meet requirements of PN-EN 50014: 1997 p. 23.4.3.1 Standard.

Guarantee resistance to impact for high risk mechanical danger for ambient temperatures -40°C...+80°C:

- protection box: 7J
- window: 4J

### Certificates:

- *RESULTS OF TESTS AND ASSESSMENT apparatus boxes SP-01, SP-02, SP-11, SP-12, SP-22 type in antistatic execution No KD-4/2192/2004/794: issued by Central Mining Institute, Experimental Mine "Barbara": 13 May 2004*
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## ACCESORIES

- External elements of boxes as: locks, hinges as well as joint elements (screws, rivets) are made of austenitic stainless steel.
- Elements of internal construction are made of galvanized carbon steel.
- Boxes can be equipped with dehydration/deaeration plugs.

## MOUNTING CONSTRUCTION

A boxes mounting construction is made of galvanized carbon steel.

On request, there is a possibility to make the mounting construction of stainless steel.

In an antistatic version the mounting construction is galvanically joined with "EARTHING" grip.

## HEATING

- STEAM HEATING -

- Heating coil made of galvanized pipe protected by shield  
Steam pressure: 0,3 .....0,8 MPa

- ELECTRIC HEATING -

### STANDARD VERSION

- Electric heaters of 60...250 W power
- Bimetal thermostat or electronic thermoregulators
- Supply: 230 V / 50 Hz

### EXPLOSION-PROOF VERSION

- Electric heaters of 60...200 W power in explosion-proof version
- Bimetal thermostat, temperature limiters, electronic thermoregulators in explosion-proof version
- Supply: 230 V / 50 Hz

The heated area can be the interior space of a cabinet or directly the built-in element (manifolds).

## THERMAL INSULATION

Boxes can be optionally equipped with interior thermal insulation made of non-flammable material.

Insulation ensures to keep suitable, for technology needs, temperature inside a box equipped with heating system.

## WINDOW

All types of boxes can be optionally equipped with a window built in a box cover.

Window material: foiled glass

Guaranteed surge resistance: 4J

The window is fitted to a box cover by means of special rubber gasket which guarantee leaktightness.

The dimensions of the windows (including the gasket width) are as follows:

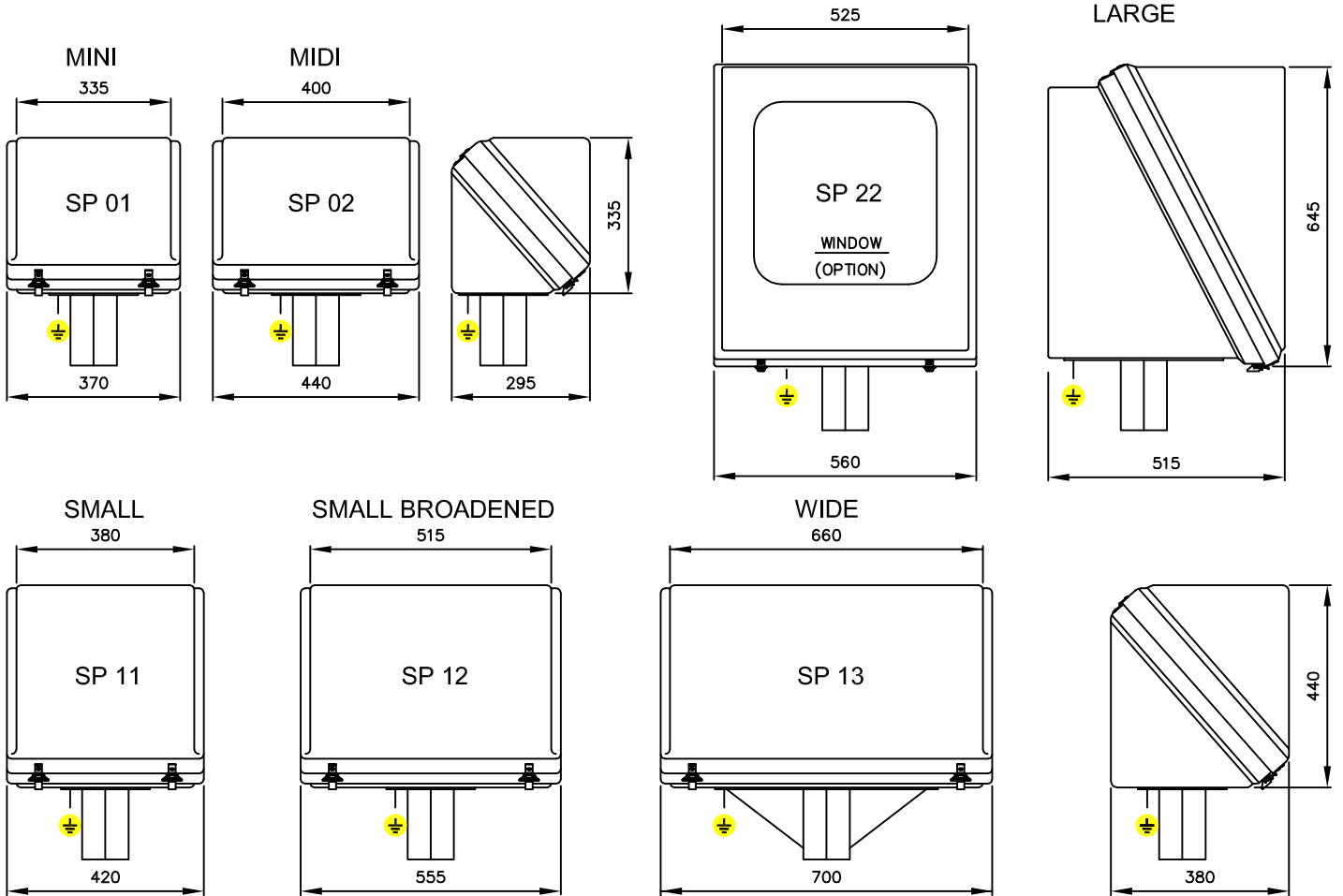
- SP 01 box: ø180 mm
- SP 02 box: ø180 mm
- SP 11 box: 270 x 200 mm
- SP 12 box: 370 x 200 mm
- SP 13 box: 370 x 200 mm
- SP 22 box: 370 x 370 mm

With the window installed the electric heating power should be increased for about 30%.

## LOCK

Boxes can be optionally equipped with lock to prohibit access to interior devices for unauthorized persons.

## DIMENSIONS



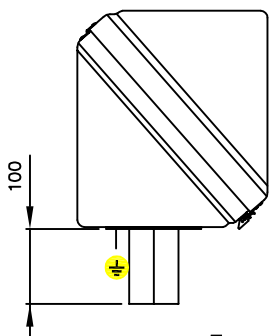
INSIDE/DIM. \ TYPE	SP01	SP02	SP11	SP12	SP13	SP22
WIDTH	330	395	375	510	655	510
HEIGHT	330	330	420	420	420	600
DEPTH	290	290	370	370	370	500

### ATTENTION:

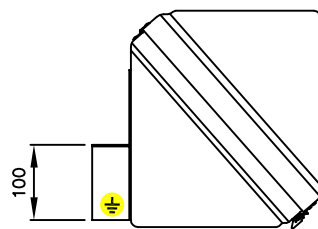
INSIDE DIMENSIONS ARE FOR NON INSULATED PROTECTION BOXES.  
FOR INSULATED PROTECTION BOXES DIMENSIONS SHOULD BE REDUCED BY ~40mm.

## TYPE OF MOUNTING

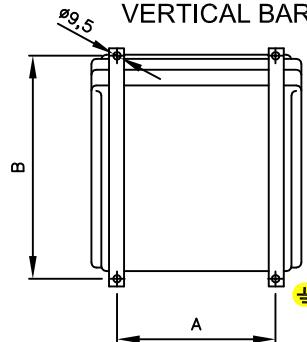
1 - ON THE PIPE STAND FROM THE BOTTOM



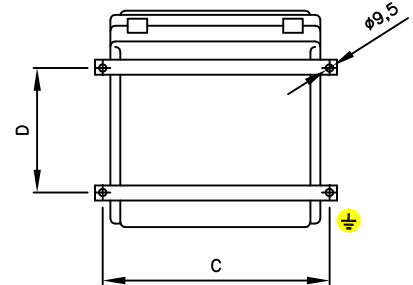
2 - ON THE PIPE STAND FROM THE BACK



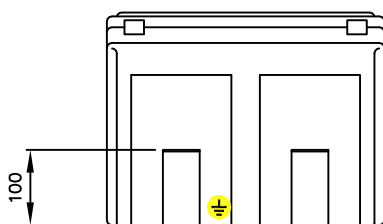
3 - TO WALL VERTICAL BARS



4 - TO WALL HORIZONTAL BARS



5 - ON THE DUBLE PIPE STAND FROM THE BACK



DIM. \ TYPE	A	B	C	D
SP 01	165	325	450	165
SP 02	250	325	450	165
SP 11	250	410	410	250
SP 12	410	410	660	250
SP 13	500	410	740	250
SP 22	410	660	660	410

## WAY OF MARKING AND ORDERING

SP   -  -   -  -

### TYPE

- MINI	01
- MIDI	02
- SMALL	11
- SMALL BROADENED	12
- WIDE	13
- LARGE	22

### TYPE OF MOUNTING

- on the pipe stand 2" from the bottom	1
- on the pipe stand 2" from the back	2
- to wall vertical bars	3
- to wall horizontal bars	4
- on the double pipe stand from the back	5

### HEATING

- without heating	0
- steam heating	1
- electric heating in standard version	3
- electric heating in explosion-proof version	4

### THERMAL INSULATION

- without insulation	0
- with insulation	1

### ENCLOSURE MATERIAL

- non-flammable (standard)	1
- antistatic version	2

### WINDOW

- without window	0
- with window	1

### LOCK

- without lock	0
- with lock	1

### MARKING -EXAMPLE

Large box, mounted on the pipe stand from the back, with steam heating, with thermal insulation, standard version (non-flammable), without window, without lock

### PROTECTION BOXES

SP22-2-11-1-00