

PSD STAINLESS STEEL CRANE

EN 795/B

TS 16415/B

Notified body which supervises the production of the equipment
(*Notified body which supervises the production of the equipment*):

**APAVE SUDEUROPE SAS - BP 193 - 13322 MARSEILLE CEDEX
16 - FRANCE**

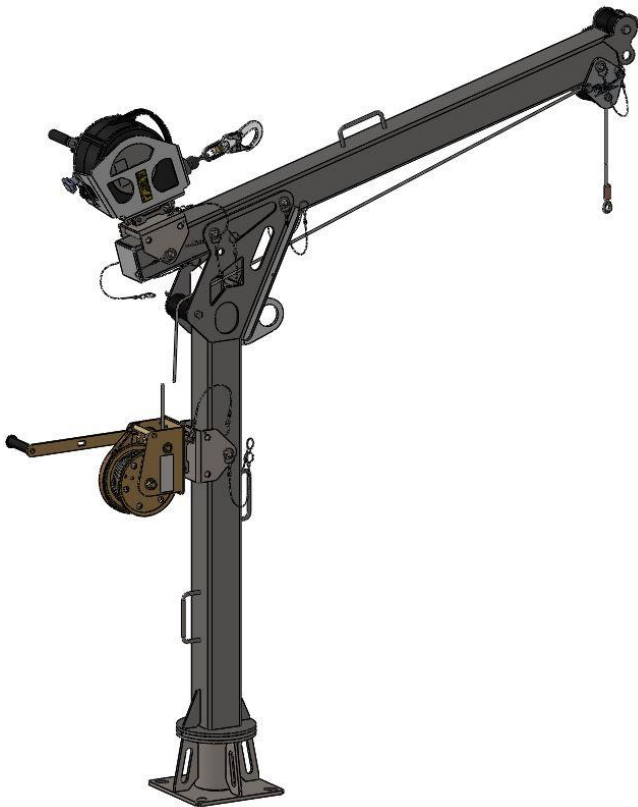


Figure 1 – Overview (devices mounted on crane are sold separately)

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1. GENERAL DESCRIPTION

Mobile stainless steel crane PSD is an anchor point compliant with EN 795/B and TS 16415/B. It is designed for protection of maximum:

- 3 simultaneous users – 1.5m arm (PSD100-110-000)
- 1 simultaneous user – 2.0m arm (PSD100-111-000)

The device is made of weather-resistant stainless steel.

The device consists of individual elements the weight of which does not exceed 25kg. All modules are connected without tools, using pins with pins and split pins.

Basic version of device PSD is formed by the following modules:

- 1) vertical post which is available in two lengths:
 - a) 0.6m (PSD100-121-000) (~18kg)
 - b) 1.2m (PSD100-120-000) (~25kg)
- 2) jib which is available in two lengths:
 - a) 1.5m (PSD100-110-000) (~21kg)
 - b) 2.0m (PSD100-111-000) (~27kg)

For basic version of device PSD, select an appropriate support in which vertical post is mounted. Vertical post can rotate in support. The following supports are available:

SUPPORT #2 (PSD100-520-000) – wall socket made of stainless steel. Mounted to the structure using 4 anchors M20. Weight ~11.5kg.

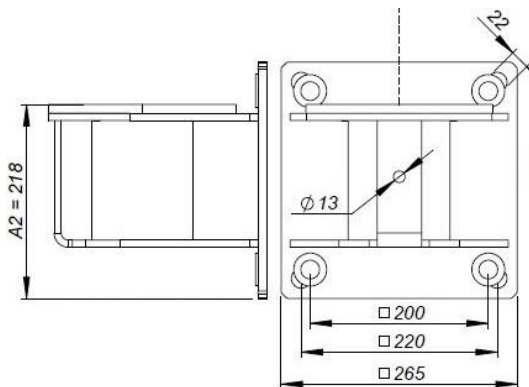


Figure 2 - Support #2 (PSD100-520-000).

SUPPORT #3 (PSD100-530-000) – anchor post made of stainless steel. Mounted to the structure using 4 anchors M20. Weight ~10.5kg.

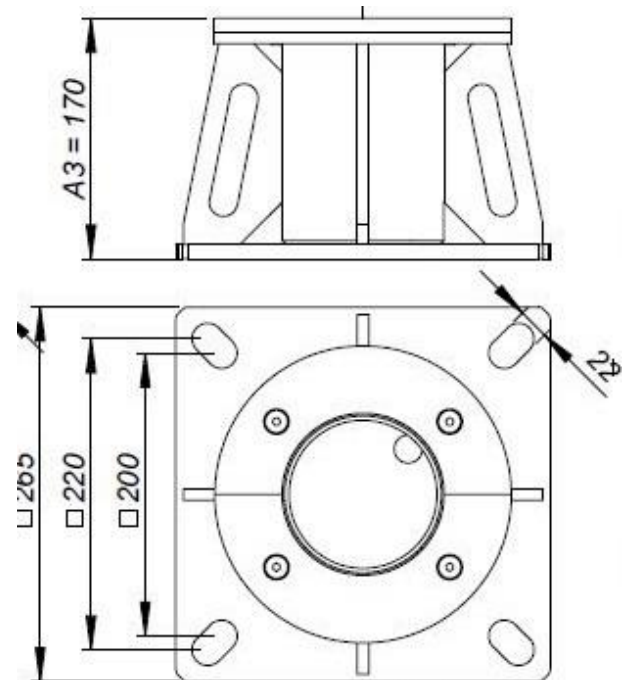


Figure 3 - Support #3 (PSD100-530-000).

SUPPORT #5 (PSD100-550-000) – barrel socket made of stainless steel. Mounted on sheet metal edges (e.g. slurry walls) using 4 press bolts M20 to sheet metal surface without drilling holes. Weight: ~20kg

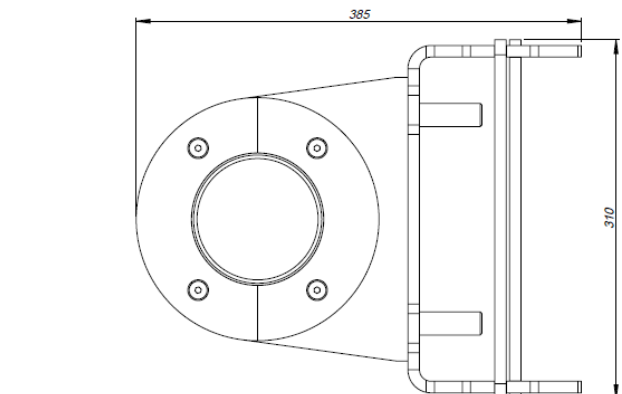
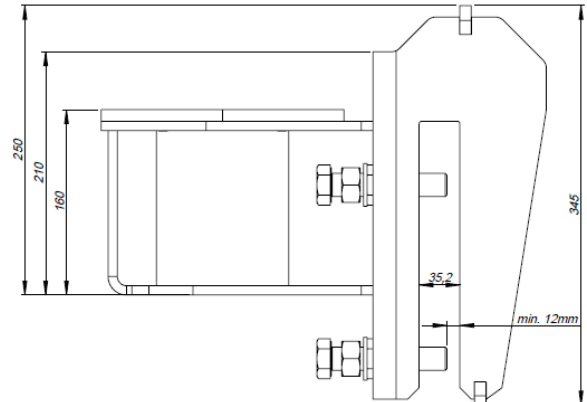


Figure 4 - Support #5 (PSD100-550-000).

Additional components (sold separately):

Personal fall protection equipment (retractable type fall arresters, lines, etc.) can be mounted to the device PSD using anchor point AT153 or two attachment points available at the end of jib. Anchor point AT153 can be mounted in holes in the upper part of vertical post.

Rescue lifting devices RUP502-U, RUP504-U, RUP506-U can be mounted to the device PSD using a universal holder for rescue lifting devices PSD100-131-000.

Device CRW200 can be installed using additional holder PAD100-310.

Device CRW300 can be installed using additional holder PAD100-320.

Universal holder for rescue lifting devices, made of galvanized steel PSD100-131-000 (weight ~2kg) can be installed:

a) at the end of jib. Work rope is then guided through roller ASB500-180 mounted at the end of jib (PSD100-11x-000).

b) on vertical post. Work rope is then guided through roller ASB500-180 mounted between sheet metals integrated with the post and through roller ASB500-240 mounted on the jib.

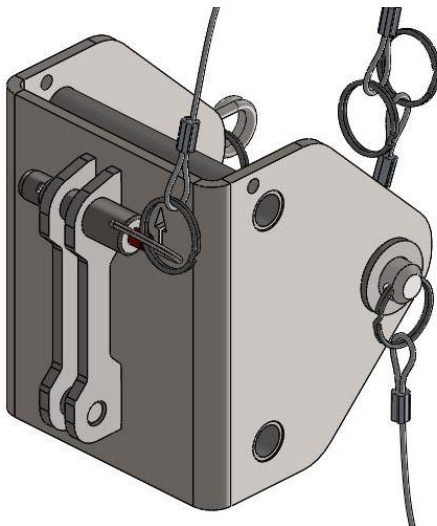


Figure 5 – Universal holder for rescue lifting devices PSD100-131-000.

Device CRW200 can be installed using additional holder PAD100-310.

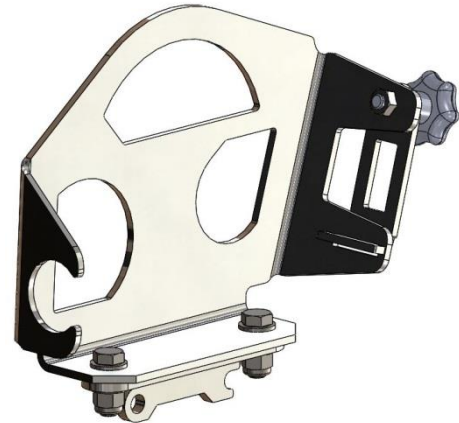


Figure 6 – Holder PAD100-310 for device CRW200.

Device CRW300 can be installed using additional holder PAD100-320.

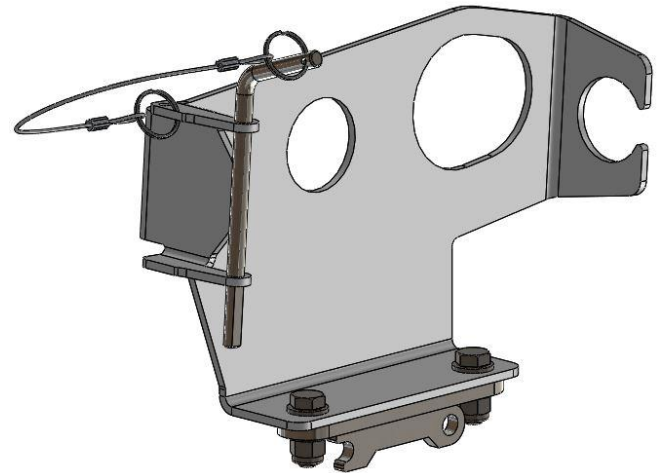


Figure 7 – Holder PAD100-320 for device CRW300.

Universal holder for rescue lifting devices, made of stainless steel PAD100-131-000 (weight ~2kg) can be installed:

a) at the end of jib:



Figure 8 – Universal holder for rescue lifting devices PSD100-131-000 installed at the end of jib.

Work rope is then guided through the roller mounted at the end of jib.

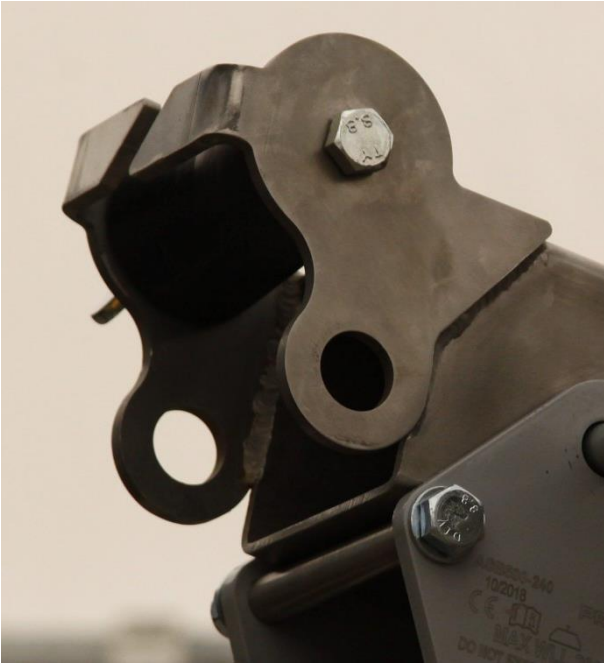


Figure 9 – Guidance of work rope of device installed on jib through roller.

b) on vertical post:



Figure 10 – Universal holder for rescue lifting devices PSD100-131-000 installed at vertical post.

Work rope is then guided through roller ASB500-180 mounted in the upper part of the vertical post and through roller ASB500-240 mounted on the jib.

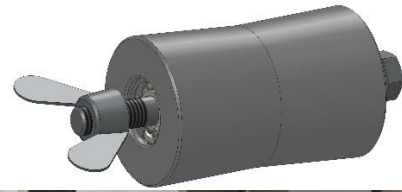


Figure 11 – Roller ASB500-180.



Figure 12 – Roller ASB500-240.

2. LOAD LIMIT AND STRENGTH

a) GENERAL INFORMATION

Minimum Breaking Strength (MBS):

1.5m ARM (PSD100-110-000) – 14kN

2.0m ARM (PSD100-111-000) – 12kN

The device can be loaded vertically downwards with an acceptable inclination of 30 grades.

The maximum load that could be transmitted in service from the device to the static construction – 10 kN (**The maximum load that could be transmitted in service from the device to the static construction**).

If the device is used as a part of a fall arrest system, the user must be equipped with an element limiting maximum dynamic forces applied on user while arresting a fall to max. 6kN.

b) FOR MATERIAL TRIPODS

installed on the jib using universal holder PSD100-131-000:

Working Load Limit (WLL):

1.5m ARM (PSD100-110-000) – 500kg

Safety Factor (SF): 2,8:1.

2.0m ARM (PSD100-111-000) – 300kg

Safety Factor (SF): 4:1.

c) FOR PERSONAL PROTECTIVE EQUIPMENT (PPE)

mounted to anchor points located at the end of jib:

Maximum 1 user at the same time. One user connected to one anchor point (max. 2 users at the same time).

According to the requirements of EN 795/B and document TS 16415/B strength of the device is min. 13kN

Mounted to anchor point AT153 installed on the vertical post:

Maximum 3 simultaneous users connected to one anchor point AT153.

According to the requirements of EN 795/B and document TS 16415/B strength of the device is min. 14kN

d) FOR DEVICES FOR PERSONNEL RESCUE

installed on the jib using universal holder PSD100-131-000:

Working Load Limit (WLL):

1.5m ARM (PSD100-110-000) – 140kg

2.0m ARM (PSD100-111-000) – 120kg

Safety Factor (SF): 10:1.

Work load of rescue device used cannot be greater than 140kg.

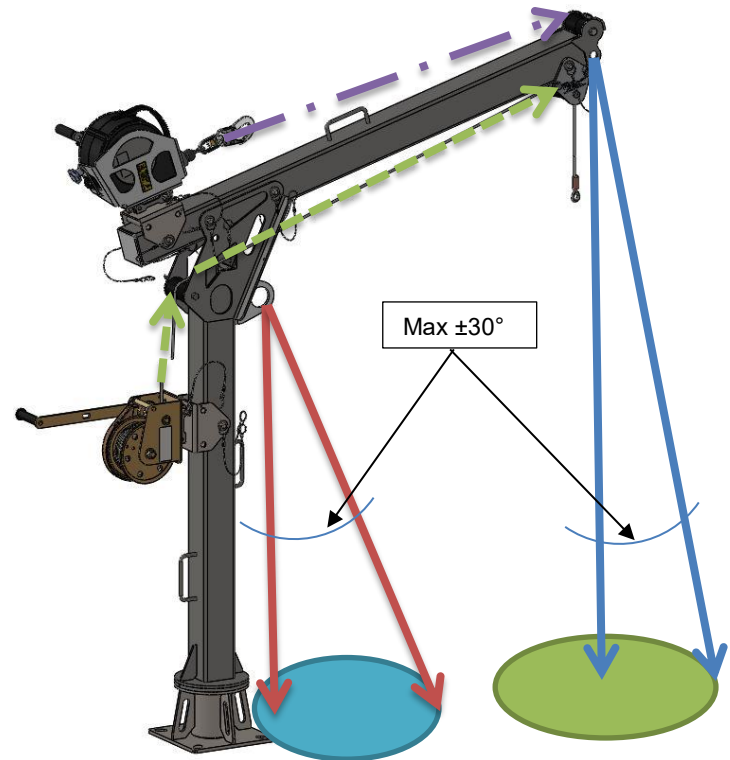


Figure 13 – Permissible directions of load of anchor point.

3. TRANSPORT AND WEIGHT

Weight of a complete device (support + vertical post + jib) is a sum of weights of selected components between 49.5kg and 73kg.

Personal fall protection equipment must be transported in a package (e.g.: bag made of moisture-proof textile or foil bag or cases made of steel or plastic) to protect it against damage or moisture.

Transport dimensions:

Maximum dimensions of the longest jib:

2100x200x100mm.

Dimensions of supports are given on page 2 herein.

Maximum dimensions of the longest vertical post:

1600x300x220mm.

4. MAINTENANCE AND STORAGE

Personal protective equipment should be cleaned without causing adverse effect on the materials used in the manufacture of the equipment. For textile materials (webbings, ropes) use agents suitable for delicate fabrics. Can be washed in hands or in a washing machine. Rinse thoroughly. Wash textile elements with water only. - When the equipment becomes wet, either from being in use or after cleaning, allow it to dry naturally, and keep it away from sources of heat. In metallic products lubricate slightly some mechanical parts (springs, hinges, pawls, etc.) regularly to ensure their better operation.

Personal fall protection equipment should be stored loosely packed in well-ventilated rooms, protected from direct light, UV degradation, dust, sharp edges, extreme temperatures and aggressive chemical substances.

5. GENERAL DIMENSIONS

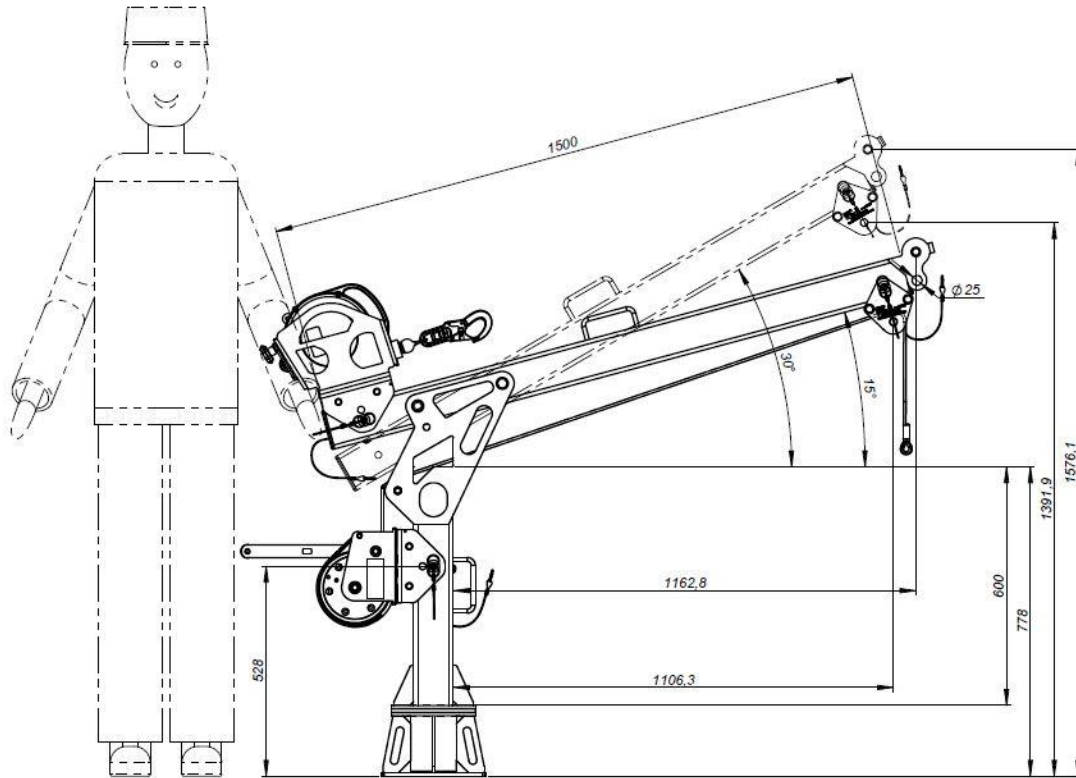


Figure 14 – PSD003-060-150 – general dimensions

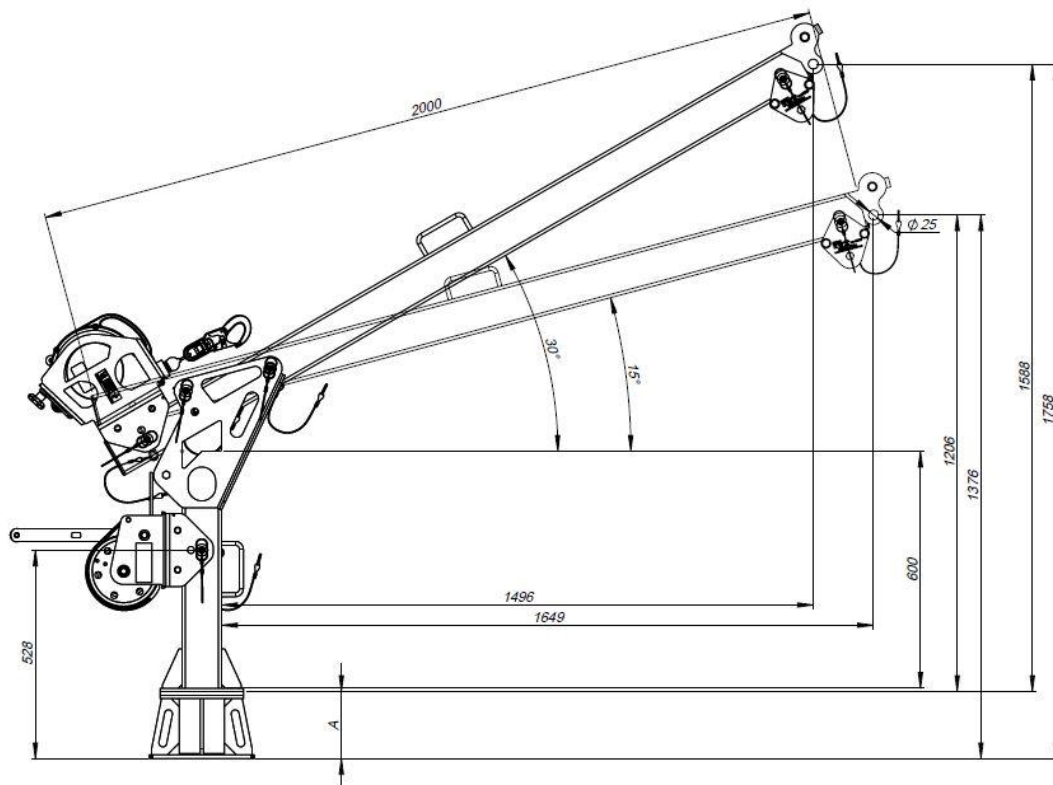


Figure 15 – PSD003-060-200 – general dimensions

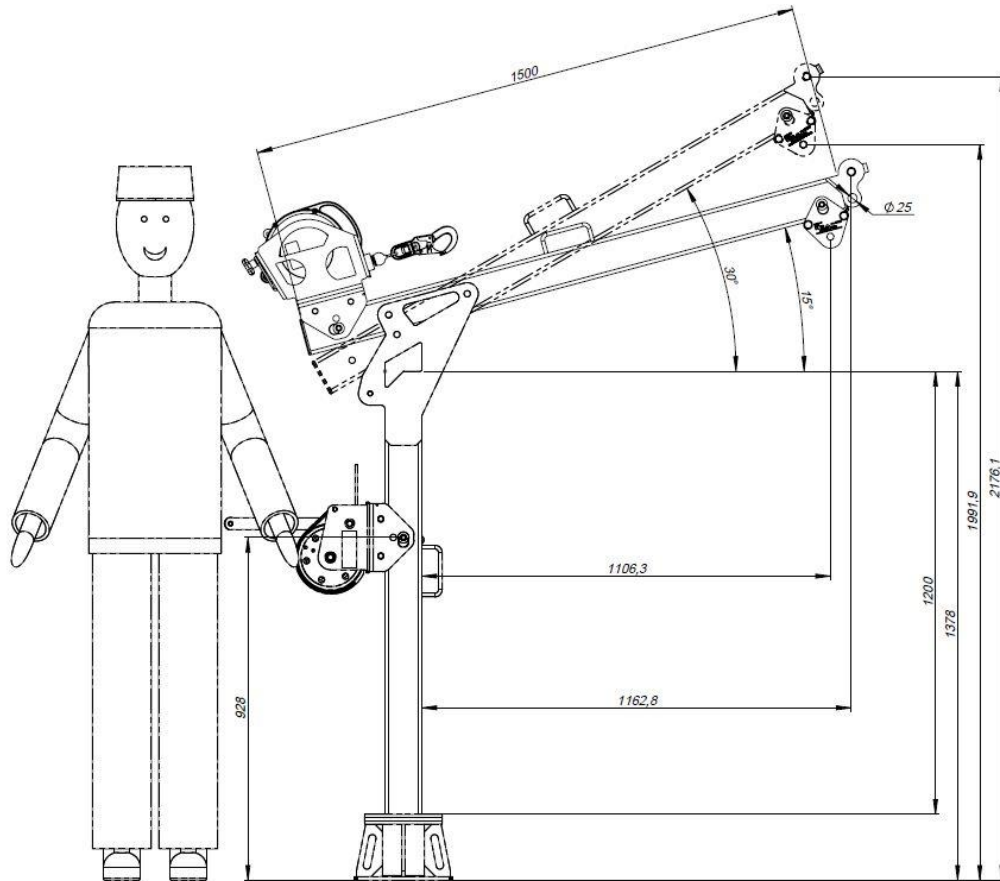


Figure 16 – PSD003-120-150 – general dimensions

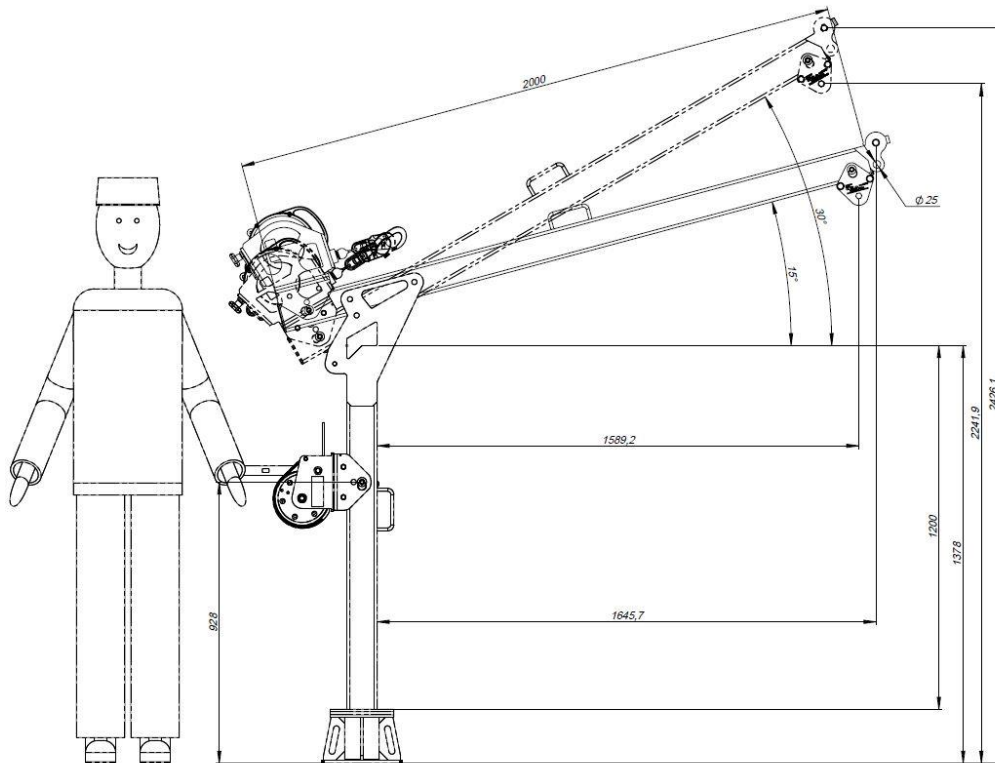


Figure 17 – PSD003-120-200 – general dimensions

6. TIME OF USAGE

Maximum time of usage of correctly operating devices is unlimited.

The device must be withdrawn from use immediately and destroyed if it has been used to arrest a fall or there are any doubts concerning its function.

NOTE: Maximum time of usage of the device depends on intensity and environment of use. If the device is used in heavy conditions, being exposed to frequent contact with water, sharp edges, corrosive substances, extreme of temperatures, it may be necessary to withdraw the device after only one use.

7. PERIODIC INSPECTIONS

At least once a year, after every 12 months of use, it is necessary to carry out periodic detailed inspection of the device.

Periodic inspection may be carried out by a properly qualified and skilled person.

After 5 years of use, it is recommended that periodic inspections are carried out by the manufacturer of the equipment or an entity authorised by the manufacturer to carry out such inspections.

8. MARKING OF DEVICE

Marking:

- Name/ type of device
- Device model designation.
- Reference number.
- Number/year/class of European standard.
- CE mark and number of notified body which supervises the production of the equipment.
- Month and year of manufacture.
- Serial number of device.
- Attention: read instruction manual.
- Mark of manufacturer or distributor of device.
- Maximum number of simultaneous users



Figure 18 – Identity label of device

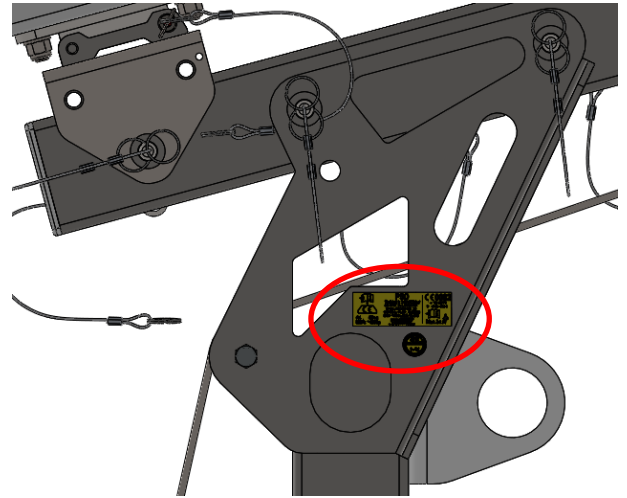


Figure 19 – Location of markings



Figure 20 – “Next inspection” sticker

“Next inspection” sticker should be affixed near identity label and it is necessary to mark month and year of the next periodic inspection. Do not use the device after this date.

Note: Before the first use, mark the date of next inspection (date of first use + 12 months, e.g. first use 01.2013 – mark 01.2014). “Next inspection” sticker affixed near identity label.

9. INSTALLATION OF SUPPORT #2 (PSD100-520-000)

Support #2 is designed to be installed on a vertical surface (wall or steel structure that is able to support the device).

Connection to a steel structure should be made using bolts with a minimum strength comparable to strength of bolts M20xA2-70. All elements of bolt connection should be made of stainless materials. Hex nuts and hex heads of bolts should be provided with washers suitable for M20 thread. Nuts in bolt connections should have self-locking properties or should be protected against accidental unscrewing by lock nuts.

Connection to a concrete structure should be made using chemical or mechanical anchors with a tensile strength above 32kN. Compressive strength of a concrete structure should be no less than 20MPa.

Recommended mechanical anchors: HSA M20... HST M20, HSR M20... (by HILTI).

Recommended chemical anchors: HIT-HY-170/HAS M20 (by HILTI).

ATTENTION! Strictly follow recommendations for installation given by manufacturers of respective anchors.

10. INSTALLATION OF SUPPORT #3 (PSD100-530-000)

Support #3 is designed to be installed on a horizontal surface (floor or steel structure that is able to support the device).

Installation recommendation in accordance with Section 9 (INSTALLATION OF SUPPORT #2 (PSD100-520-000)).

Below are a few pictures of the installation of support #2 on a concrete structure:

Select appropriate place for installation of the support. Take the required measurements and mark the point of drilling of the holes.

Pre-drill holes using smaller drill (e.g. 12-16mm). Then drill holes using adequate drill for the anchors used on a depth as specified by the manufacturer of anchors.



Clean holes and place of installation of the dust as specified by the manufacturer of anchors.



Apply anchor adhesive as specified by the manufacturer of anchors and immediately set anchors in holes. A small amount of the adhesive should come out of the hole. Remove any excess adhesive immediately.



Once the adhesive has cured, tighten nuts using torque wrench.



11. INSTALLATION OF SUPPORT #5 (PSD100-550-000)

Support #5 is designed to be installed on sheet metal edges (e.g. on slurry walls, sheet piles, etc.). The installation requires no drilled holes. The mounting is done by pushing 4 bolts M20 (included with the support) to the sheet metal surface. Each bolt has an additional lock nut which ensures locking of the screw connection.

The recommended minimum thickness of sheet metal to which support is mounted is: 12mm.



12. INSTALLATION OF ARM TO SUPPORT

Install complete arm PSD comprising vertical post and jib to the previously mounted support. Sequence of installation is shown on pictures below:

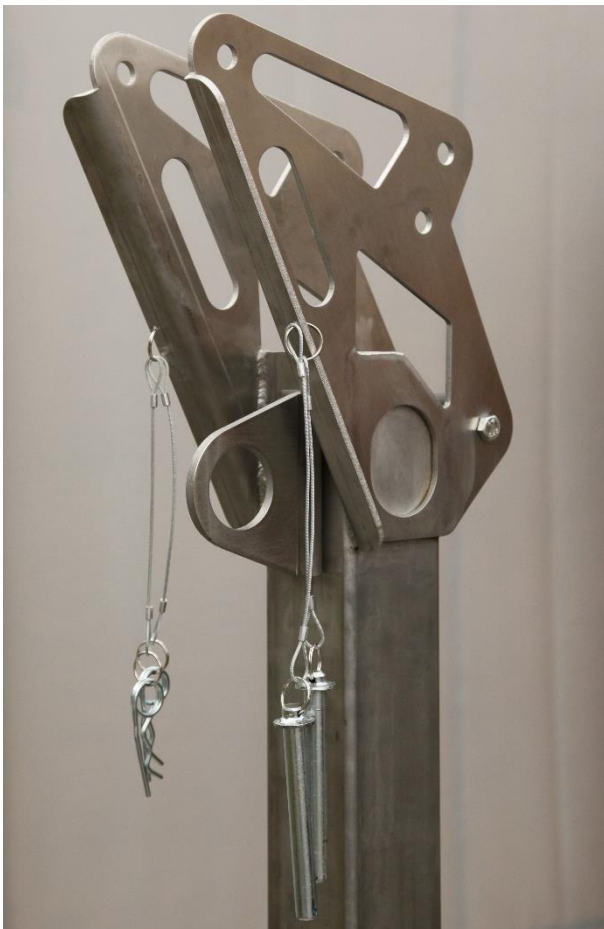


Mounting of arm to vertical post is carried out using two pins with split pins.

ATTENTION! Before operation make sure that pins are correctly secured using split pins.



The arm can be locked in two angular positions by selecting the adequate installation hole for the other split pin.





13. INSTALLATION OF RUP RESCUE DEVICES

Rescue devices should be installed on crane PSD using universal holder for rescue lifting devices PSD100-131-000 as presented below. The devices can be installed both on the vertical post and at the end of jib. Installation to the jib is shown below. The end of the jib is equipped with a roller which guides work rope of rescue lifting device.

NOTE! Remember to lock the connection using a special pin.



ATTENTION! Before operation make sure that pins are correctly secured using split pins.

14. INSTALLATION OF DEVICES CRW200/CRW300

Devices CRW200/CRW300 should be installed on holder for PSD100-131-000 using intermediate clip.

- a) PAD100-310 for CRW200
- b) PAD100-320 for CRW300

Devices CRW200 and CRW300 can be installed both on the vertical post and at the end of jib. Installation on the vertical post is shown below. For guidance of the work rope, adequate rollers are required as specified in Section 1 (GENERAL DESCRIPTION)



15. INSTALLATION OF ANCHOR POINT AT153 ON VERTICAL POST

It is possible to install additional anchor point AT153 on vertical post. For installation use two bolts M12x130-A2-70.



NOTE! Remember to lock the connection using a special pin.



16. INSTALLATION OF PERSONAL FALL PROTECTION EQUIPMENT

The PSD crane is equipped with maximum 3 anchor points for personal fall protection equipment. Two single points are found at the end of the jib while the remaining is anchor point AT153 installed in the upper part of the vertical post.



17. ESSENTIAL PRINCIPLES FOR USE OF PERSONAL FALL PROTECTION EQUIPMENT

- Anchor point AT150 must be used in accordance with instruction manuals for personal fall protection equipment and standards:
EN 361 - for full body harnesses
EN 352-3; EN 355; EN 360 - for fall restraint devices
EN 362 - for connectors
EN 795 / TS16415 - for anchor points
- personal fall protection equipment should be used only by personnel trained in its use.
- personal fall protection equipment must not be used by a person with medical condition that could affect the safety of the equipment user in normal and emergency use.
- prepare a rescue plan to be implemented whenever necessary.
- it is forbidden to make any alterations or additions to the equipment without prior written consent given by the manufacturer.
- any repair shall only be carried out by manufacturer of the equipment or his certified representative.
- personal fall protection equipment shall not be used for any purpose other than intended.
- personal fall protection equipment provides individual protection and shall be used by one person only.
- before each use make sure that all parts of fall protection system cooperate correctly. Periodically examine connections and fitting of components of the equipment to prevent any accidental loosening or disconnection.
- it is forbidden to use a combination of the equipment where function of any one item is affected by, or interferes with the function of any other.
- before each use of personal fall protection equipment, a pre-use check should be carried out to ensure that it is in a serviceable condition and operates correctly.
- In particular, inspect all accessible elements of the equipment for any damages, excessive wear, corrosion, abrasion, cutting or improper function. For individual devices pay particular attention to:
 - ✓ in full body harnesses and work positioning devices: buckles, regulating elements, attachment points (buckles), webbing, seams, belt loops;
 - ✓ in energy absorbers: attachment loops, webbing, seams, housing, connectors;
 - ✓ in lanyards and textile guides: rope, loops, thimbles, connectors, regulating parts, splices;
 - ✓ in lanyards and steel guides: rope, wires, clamps, loops, thimbles, connectors, regulating parts;
 - ✓ in retractable type fall arresters: lanyard or webbing, retractor and locking mechanism for proper operation, housing, energy absorber, connectors;
 - ✓ in guided type fall arresters: body, proper guiding, locking mechanism for proper operation, rollers, bolts and rivets, connectors, energy absorber;
 - ✓ in connectors (snap hooks): load-bearing body, rivets, main pawl, locking mechanism functionality.
- at least once a year, after each 12 months of use, personal fall protection equipment must be withdrawn from use to carry out periodic detailed inspection. Periodic inspection can be carried out by a person who is responsible for periodic inspections in user's organisation and properly trained in this respect. Periodic inspections can be carried out also by manufacturer of the equipment or his authorized representative, or an authorized company. Inspect in detail all accessible elements of the equipment paying attention to any damages, excessive wear, corrosion, abrasion, cutting or incorrect function (see the above item.) In some cases, if fall protection equipment has a complex design (e.g. fall arresters), periodic inspections can be carried out by manufacturer of the equipment, or his authorized representative only. After the periodic inspection, date of the next inspection should be defined.
- Regular periodic inspections are essential in respect of the equipment condition and safety of users which is dependant on functionality and durability of the equipment.
- during periodic inspection it is necessary to check the legibility of all markings on the equipment (identity label of the device).
- all information on fall protection equipment (name, serial no., date of purchase and date of first use, name of user, information on repairs and inspections and withdrawal from use) must be provided in the Identity card of the device. It is responsibility of user's organisation to provide the Identity card and to fill in the required details. The Identity card should be filled in by a person in charge of fall protection equipment in user's organisation. It is forbidden to use personal fall protection equipment if the Identity card is completed.
- if the equipment is re-sold outside the original country of destination the reseller must provide instructions for use, for maintenance, for periodic inspection and for repair in language of the country where the product is to be used.

- Personal fall protection equipment must be withdrawn from use immediately if any doubts arise in regard of its condition, or proper operation. The equipment must not be used until manufacturer of the equipment carries out a detailed inspection and gives his written consent to use the equipment again.
- Personal fall protection equipment must be withdrawn from use immediately and destroyed if it has been used to arrest a fall.
- full body harness is the only admissible device to be used to support the user's body in personal fall protection equipment.
- in full body harness use only attaching points (buckles, loops) marked with capital letter "A" to attach a fall protection system.

18. WARRANTY

The manufacturer grants a warranty for 12 months from the date of purchase of the device. If a defect is found in any part, the warranty

and guarantee period for this part is extended by the time of repairs and effective removal of the defect found.

The warranty covers:

- Defects in material,
- Defects in workmanship,
- Anti-corrosion coating defects

According to the requirements of EN 365 an anchor point shall be subject to periodic inspections carried out at least every 12 months. Periodic inspection shall be carried out by the manufacturer's authorized service point located at the following address:

PROTEKT Grzegorz Łaszkiwicz
ul. Starorudzka 9
93-403 Łódź

or person trained in inspections of such equipment.

A trained person is a person who, based on own specialized education and adequate experience, has sufficient knowledge in installed protective and rescue equipment, and is familiarized with applicable OHS regulations, guidelines and generally acknowledged technical rules to such extent that he is able to assess safety of use and correct application of safety devices.

Before each use of the system check whether date of the next inspection is not expired. Do not use the device after this date. Before each use of the system visually check the system for its integrity and technical condition and whether steel cable is tensioned.

If any defect or lack of integrity is found, do not use the point.

If any doubts arise as for the use of the equipment, please contact the manufacturer and never repair the equipment on your own!

A system which has been used to arrest a fall must be withdrawn from use immediately!

The system which has been used to arrest a fall may be admitted for use again after a detailed inspection is carried out by the manufacturer or an authorised service point.

When using the system, pay special attention to risks affecting the protective equipment operation or the user's safety, and in particular to kinks and rope movement on sharp edges, oscillatory falls, electricity, influence of extreme temperatures, equipment damage, adverse environmental factors, chemical substances and contamination.

Neither modify, repair components of the system nor replace them with non-original spare parts.

19. IDENTITY CARD

IDENTITY CARD (compliant with EN365)					
Reference number of device	PSD ____ - ____ - ____		Serial number:	
Date of first use (installation)		Date of manufacture:	
Installation site				
User name:				
Inspection and repair record					
No .	Date of inspection	Type of inspection / repair	Remarks	Date of next inspection	Name and signature of service technician
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					