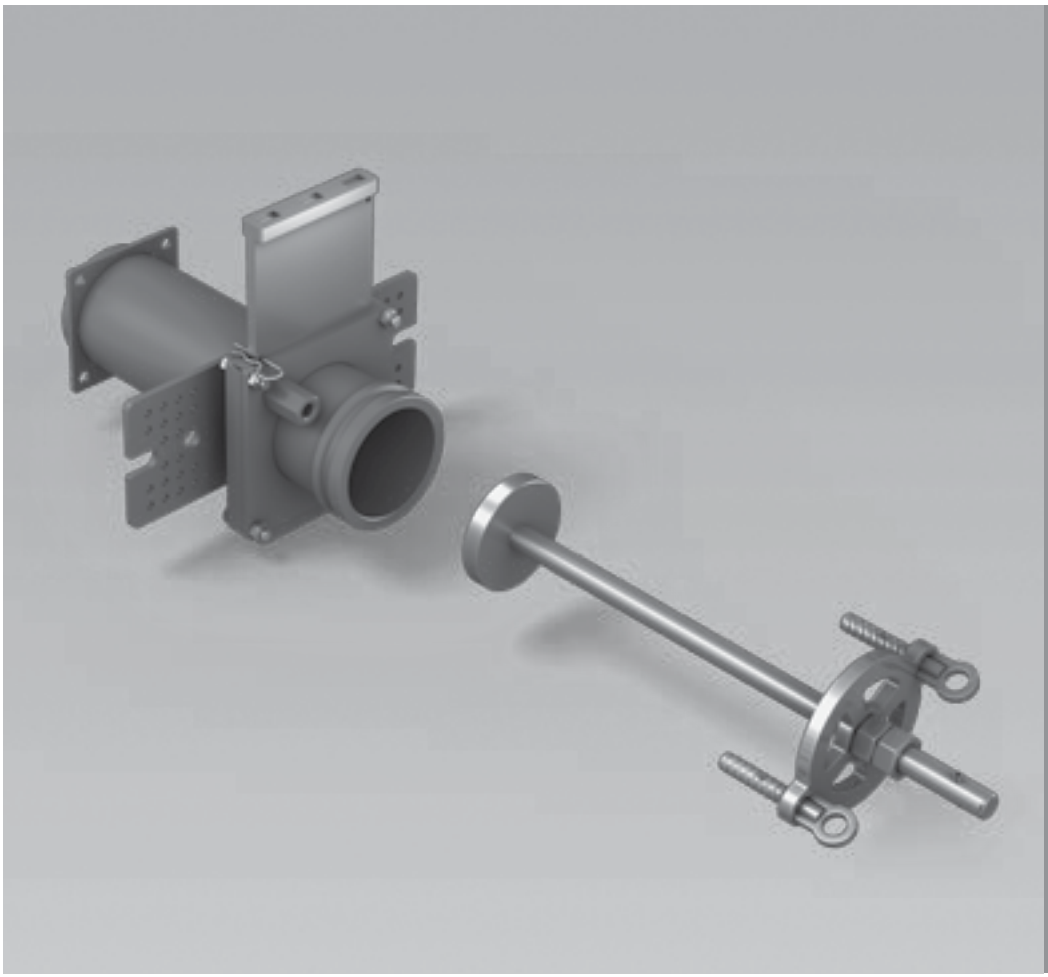
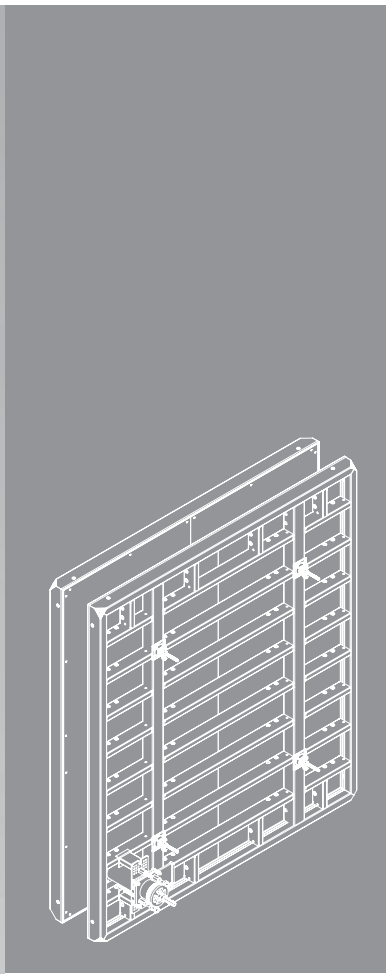
Concrete Pump Connector BPA-2

Item no. 115009

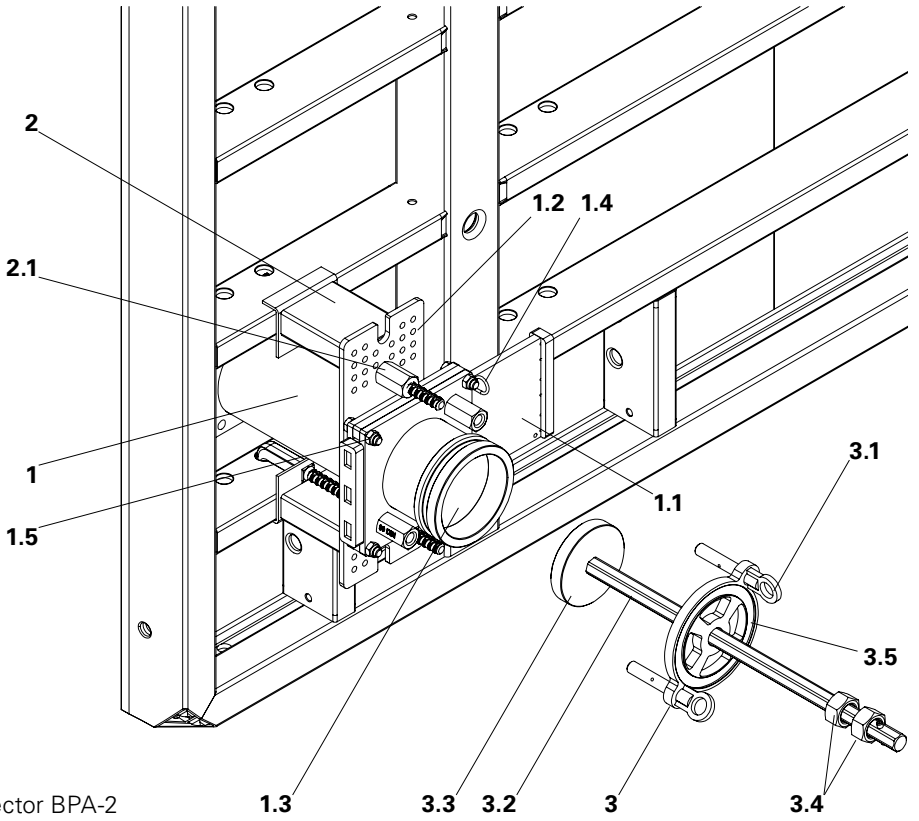
Instructions for Assembly and Use – Standard Configuration – Issue 09/2018





Overview

Main components



1 Concrete Pump Connector BPA-2
1.1 Gate valve
1.2 Mounting plate
1.3 Pipe connection
1.4 Cotter pin
1.5 Nut M12

2 Adaptor TRIO BPA Ø 125
2.1 Adapter for Nut SW 30

3 Clear Slide BPA-2 Ø 125
3.1 Eyebolt
3.2 Reamer spindle
3.3 Reamer plate
3.4 Nut and counternut
3.5 Fixing board

Not shown:

4 Coupling BPA Ø 125
5 TORX TSS 6 x 60
6 Concrete feed pipe

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Overview

Key

Pictogram | Definition


Danger / warning / caution


To be complied with


Safety helmet


Safety shoes


Safety gloves


Safety glasses

Safety instruction categories
The safety instructions alert site personnel to the risks involved and provide information on how to avoid these risks. Safety instructions are featured at the beginning of the section or ahead of the instructions, and are highlighted as follows:


Danger
This sign indicates an extremely hazardous situation which, if not avoided, will result in death or serious injury.


Warning
This sign indicates a hazardous situation which, if not avoided, could result in death or serious injury.


Caution
This sign indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.


Information
This sign indicates situations in which failure to observe the information can result in material damage.

Set-up of the safety instructions


Signal word
Type and source of the danger!
Consequences of non-compliance.
⇒ Avoidance measures.

Dimension specifications
Dimensions are usually given in cm. Other measurement units, e.g. m, are shown in the illustrations.

Conventions
- Instructions are numbered with: 1. ....., 2. ....., 3. .....
- The result of an instruction is shown by: →
- Position numbers are clearly provided for the individual components and are given in the drawing, e.g. **1**, in the text in brackets, for example (1).
- Multiple position numbers, i.e. alternative components, are represented with a slash: e.g. **1 / 2**.

Presentational reference
The illustration on the front cover of these instructions is understood to be a system representation only. The assembly steps presented in these Instructions for Assembly and Use are shown in the form of examples with only one component size. They are valid accordingly for all component sizes contained in the standard configuration.

For a better understanding, detailed illustrations are partly incomplete. Safety installations may not have been included in these detailed drawings, but must be used nevertheless.

Arrows


Arrow representing an action


Arrow representing a reaction of an action*


Forces

* if not identical to the action arrow.

Target groups

Contractors
These Instructions for Assembly and Use are designed for contractors who either
- assemble, modify and dismantle the formwork system, or
- use it for, e.g. concreting, or
- allow it to be used for other operations, e.g. carpentry or electrical work.

Competent person
(Construction Site Coordinator)
The Safety and Health Protection Coordinator*
- is appointed by the client,
- must identify potential hazards during the planning phase,
- determines measures that provide protection against risks,
- creates a health and safety plan,
- coordinates the protective measures for the contractor and site personnel so that they do not endanger each other,
- monitors compliance with the protective measures.

Competent person qualified to carry out inspections
Due to the specialist knowledge gained from professional training, work experience and recent professional activity, the competent person qualified to carry out inspections has a reliable understanding of safety-related issues and can correctly carry out inspections. Depending on the complexity of the inspection to be undertaken, e.g. scope of testing, type of testing or the use of certain measuring devices, a range of specialist knowledge is necessary.

Qualified personnel
Formwork systems may only be assembled, modified or dismantled by personnel who are suitably qualified to do so. For the work to be carried out, the qualified personnel must have received instruction** covering at least the following points:
- Explanation of the plan for the assembly, modification or dismantling of the formwork in an understandable form and language.
- Description of the measures for assembling, modifying or dismantling the formwork.
- The preventive measures to be taken to avoid the risk of persons and objects falling.
- Designation of the safety precautions in the event of changing weather conditions which could adversely affect the safety of the formwork system as well as the persons concerned.
- Details regarding permissible loads.
- Any other risks that are associated with the assembly, modification or dismantling procedures.

- **In other countries, ensure that the relevant national guidelines and regulations in the respective current version are complied with!**
- **If no country-specific regulations are available, it is recommended to proceed according to German guidelines and regulations.**
- **A competent person must be present on site during formwork operations.**

* Valid in Germany: Regulations for Occupational Health and Safety on Construction Sites 30 (RAB 30)

** Instructions are given by the contractor himself or a competent person selected by him.

Additional technical documentation

- Instructions for Assembly and Use:
  – VARIO GT 24 Girder Wall Formwork
  – MAXIMO Panel Formwork
  – TRIO Panel Formwork
  – RUNDFLEX Circular Wall Formwork

Introduction

Intended use

Product description
PERI products have been designed for exclusive use in the industrial and commercial sectors by qualified personnel only.

- The Concrete Pump Connector BPA-2 has been designed for mounting on a formwork system,
- serves to connect concrete feed pipes to the formwork,
- serves to fill the formwork with fresh concrete.

General
The Concrete Pump Connector BPA-2 can be used with the following PERI wall formwork systems:
- Girder Wall Formwork VARIO GT 24
- Panel Formwork MAXIMO, TRIO
- Circular Formwork RUNDFLEX
- PERI special formwork

Delivery line systems with Ø 125 mm can be connected.

With the Clear Slide BPA-2, the concrete surplus is spindled back into the Concrete Pump Connector BPA-2 thus creating a flush surface finish.

The number and position of the Concrete Pump Connectors is project-specifically determined. It depends on the concrete properties, shape of the formwork, wall thickness etc.

System dimensions
Overall length: approx. 440 mm
Delivery line connection Ø 125 mm

Technical data
Maximum permissible fresh concrete pressure 200 kN/m²

Instructions on use

Use in a way not intended according to the Instructions for Assembly and Use, or any use deviating from the standard configuration or the intended use, represents a misapplication with a potential safety risk, e.g. risk of falling.

Only PERI original parts may be used. The use of other products and spare parts is not allowed.

Changes to PERI components are not permitted.

Cleaning and maintenance instructions

In order to maintain the value and operational readiness of the formwork materials over the long term, clean the panels after each use.
Some repair work may also be inevitable due to the tough working conditions.
The following points should help to keep cleaning and maintenance costs as low as possible.

Spray the formwork on both sides with concrete release agent before each use; this allows easier and faster cleaning of the formwork. Spray the concrete release agent very thinly and evenly!

Spray the rear side of the formwork with water immediately after concreting; this avoids any time-consuming and costly cleaning operations.

When used continuously, spray the panel formlining with concrete release agent immediately after striking; then clean by means of a scraper, brush or rubber lip scraper. Important: do not clean formlining made of plywood with high-pressure equipment; this could result in the formlining being damaged.

Fix box-outs and mounting parts with double-headed nails; as a result, the nails can easily be removed later, and damage to the formlining is largely avoided.

Close all unused anchor holes with plugs; this eliminates any subsequent cleaning or repair work. Anchor holes accidentally blocked with concrete are freed by means of a steel pin from the formlining side.

When placing bundles of reinforcement bars or other heavy objects on horizontally-stored formwork elements, suitable support, e.g. square timbers, is to be used; as a result, impressions and damage to the formlining are largely avoided.

Internal concrete vibrators should be fitted with rubber caps if possible; as a result, any damage to the formlining is reduced if the vibrator is accidently inserted between the reinforcement and formlining.

Never clean powder-coated components, e.g. elements and accessories, with a steel brush or hard metal scraper; this ensures that the powder coating remains intact.

Use spacers for reinforcement with large-sized supports or extensive areas of support; this largely avoids impressions being formed in the formlining when under load.

Mechanical components, e.g. spindles or gear mechanisms, must be cleaned of dirt or concrete residue before and after use, and then greased with a suitable lubricant.

Provide suitable support for the components during cleaning so that no unintentional change in their position is possible.

Do not clean components suspended on crane lifting gear.

Cross-system

General
The contractor must ensure that the Instructions for Assembly and Use supplied by PERI are available at all times and understood by the site personnel.

These Instructions for Assembly and Use can be used as the basis for creating a risk assessment. The risk assessment is compiled by the contractor. These Instructions for Assembly and Use do not replace the risk assessment!

Always take into consideration and comply with the safety instructions and permissible loads.

For the application and inspection of PERI products, the current safety regulations and guidelines valid in the respective countries must be observed.

Materials and working areas are to be inspected on a regular basis, especially before each use and assembly, for:
- signs of damage,
- stability and
- function.

Damaged components must be exchanged immediately on site and may no longer be used.

Safety components are to be removed only when they are no longer required.

Components provided by the contractor must conform to the characteristics required in these Instructions for Assembly and Use, as well as all valid construction guidelines and standards. Unless otherwise indicated, this applies in particular to:
- timber components: Strength Class C24 for Solid Wood according to EN 338.
- scaffold tubes: galvanised steel tubes with minimum dimensions of Ø 48.3 x 3.2 mm according to EN 12811-1:2003 4.2.1.2.
- scaffold tube couplings according to EN 74.

Deviations from the standard configuration are only permitted after a further risk assessment has been carried out by the contractor.
Appropriate measures for working and operational safety, as well as stability, are defined on the basis of this risk assessment.
Corresponding proof of stability can be provided by PERI on request if the risk assessment and resulting measures to be implemented are made available.

Before and after exceptional occurrences that may have an adverse effect regarding the safety of the formwork system, the contractor must immediately
- create another risk assessment, with appropriate measures for ensuring the stability of the formwork system being carried out based on the results,
- arrange for an extraordinary inspection to be carried out by a competent person qualified to do so. The aim of this inspection is to identify and rectify any damage in good time, in order to guarantee the safe use of the formwork system.

Exceptional occurrences can include:
- accidents,
- longer periods of non-use,
- natural events, e.g. heavy rainfall, icing, heavy snowfall, storms or earthquakes.

Assembly, modification and dismantling work
Assembly, modification or dismantling of formwork systems may only be carried out by qualified persons under the supervision of a competent person. Qualified personnel must have received appropriate training for the work to be carried out with regard to the specific risks and dangers.

On the basis of the risk assessment and the Instructions for Assembly and Use, the contractor must create installation instructions in order to ensure safe assembly, modification and dismantling of the formwork system.

The contractor must ensure that the personal protective equipment required for the assembly, modification or dismantling of the formwork system, e.g.
- safety helmet,
- safety shoes,
- safety gloves,
- safety glasses,

is available and used as intended.

If personal protective equipment against falling from a height (PPE) is required or specified in local regulations, the contractor must determine appropriate attachment points on the basis of the risk assessment.
The contractor stipulates the PPE to be used in order to prevent falling.

The contractor must
- provide safe working areas for site personnel which are to be reached through the provision of safe access ways. Areas of risk must be cordoned off and clearly marked.
- ensure the stability during all stages of construction, in particular during assembly, modification and dismantling operations.
- ensure and prove that all loads can be safely transferred.

Utilisation
Every contractor who uses or allows formwork systems or sections of the formwork to be used, is responsible for ensuring that the equipment is in good condition.

If the formwork system is used successively or at the same time by several contractors, the health and safety coordinator must point out any possible mutual hazards and all work must be then coordinated.

System-specific

For the following activities:
- transportation,
- installation,
- work operations,
- inspections,
- modifications,
- dismantling,

the following personal protective equipment must be worn:
- safety helmet,
- safety shoes,
- safety gloves.

When handling fresh concrete as well as cleaning components, safety glasses must also be worn.

Always secure the gate valve of the Concrete Pump Connection in open and closed positions by means of a cotter pin.

Dismantle components only when the concrete has sufficiently hardened.

Storage and transportation

Store and transport components ensuring that no unintentional change in their position is possible. Detach lifting accessories and slings from the lowered components only if they are in a stable position and no unintentional change is possible.

Do not drop the components.

Use PERI lifting accessories and slings and only those load-bearing points provided on the component.

During the moving procedure,
- ensure that components are picked up and set down so that unintentional falling over, falling apart, sliding, falling down or rolling is avoided.
- no persons are allowed to remain under the suspended load.

The access areas on the jobsite must be free of obstacles and tripping hazards, as well as being slip-resistant.

For transportation, the surface must have sufficient load-bearing capacity.

Use original PERI storage and transport systems, e.g. crate pallets, pallets or stacking devices.

Caution

Heavy moving parts!
Body parts could be crushed and injured.
⇒ Wear a safety helmet, safety gloves and safety shoes.
⇒ Do not take hold of anything between moving components.

Prepare plywood formlining

- Plan distances to mounting parts.
- The correct installation situation depends on which holes in the formwork struts are being used for assembly purposes.
- In the case of rental formwork, PERI will invoice the customer for any formlining subjected to cutting (saw).

1. Mark the drilled hole pattern according to Fig. A.01 - A.03.
2. Accurately saw the plywood formlining, e.g. using a hole saw.

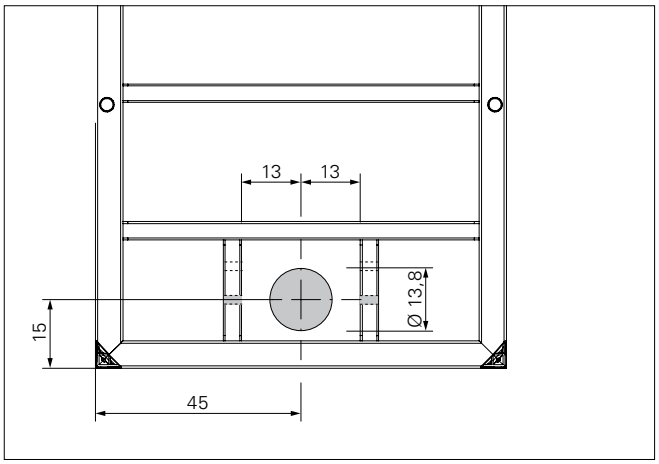


Fig. A.01

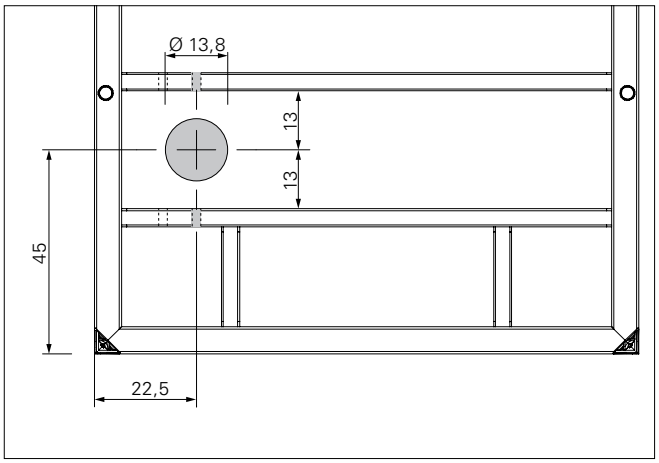


Fig. A.02

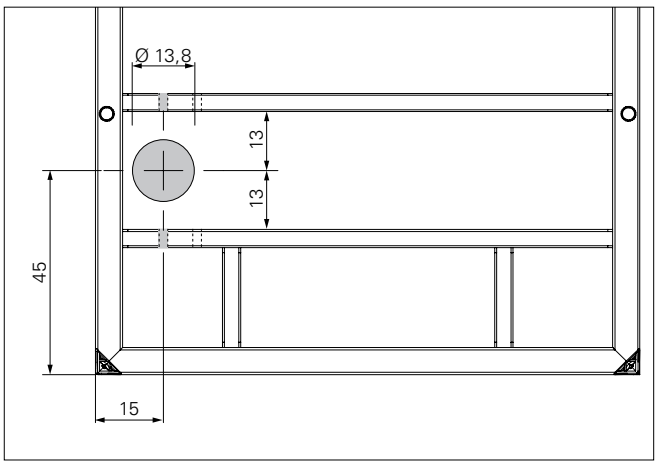


Fig. A.03

Mounting the Concrete Pump Connector

1. Attach the BPA Adapter TRIO (2) to the drilled holes on the struts. (Fig. A.04)
2. Mount Concrete Pump Connector BPA (1). The gate valve (1.1) must be able to move feely.
3. Secure Concrete Pump Connector with nuts, SW 30. (Fig. A.05)
4. Joint on the formlining side is elastically sealed all-round. Use silicone-free, removable sealant (7). (Fig. A.06)

The BPA Adapter TRIO can be used in the same way on formwork of the MAXIMO system.

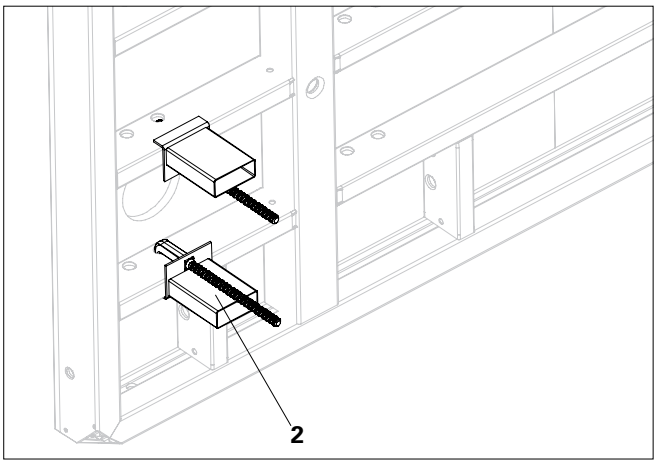


Fig. A.04

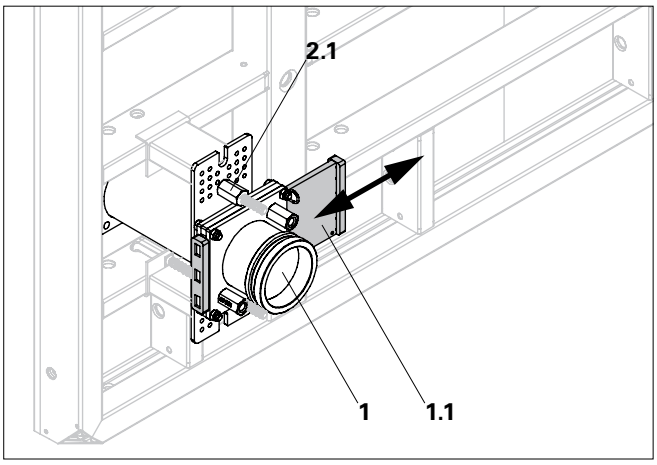


Fig. A.05

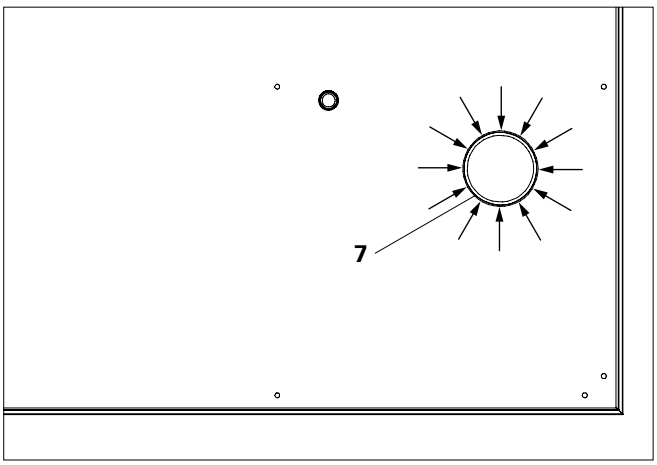


Fig. A.06

Preparing the Clear Slide

The reamer plate (3.3) must be flush with the formlining so that
– the Concrete Pump Connector is completely empty after concreting has finished,
– no impression is created in the concrete.

1. Open the gate valve (1.1) of the Concrete Pump Connector and secure with a cotter pin (1.4).
2. Insert the reamer plate (3.3) into the pipe connection (1.3) and screw on the fixing board (3.5) tightly with the eye bolts (3.1). (Fig. A.07)
3. Turn the reamer spindle (3.2) with the SW 24 wrench and thereby adjust the reamer plate (3.3) so it is flush with the formlining. (Fig. A.08)
4. Position nut on the fixing board (3.5) and fix with counternut (3.4). (Fig. A.09)
5. Unscrew eye bolts (3.1) and then remove the Clear Slide.
6. Turn the reamer spindle back until the reamer plate rests against the fixing board. Nut and counternut must remain in the previously set position in order to act as a limit stop.
7. Prepare Clear Slide.

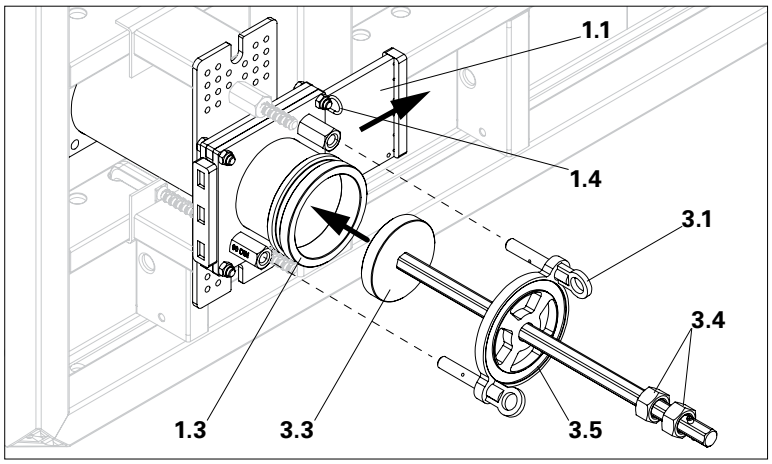


Fig. A.07

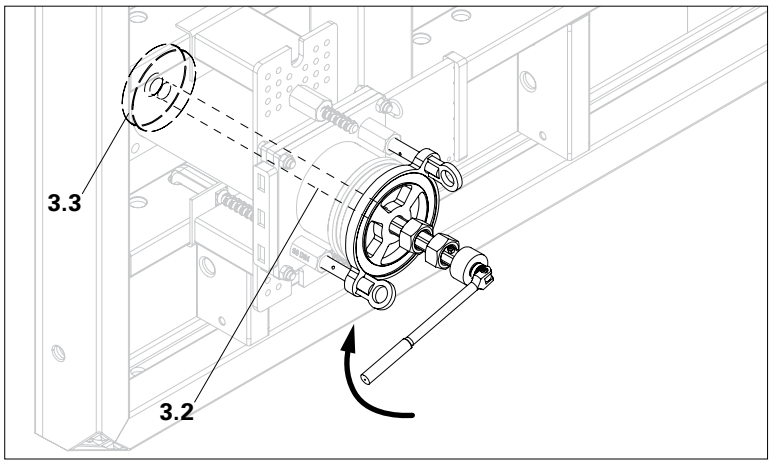


Fig. A.08

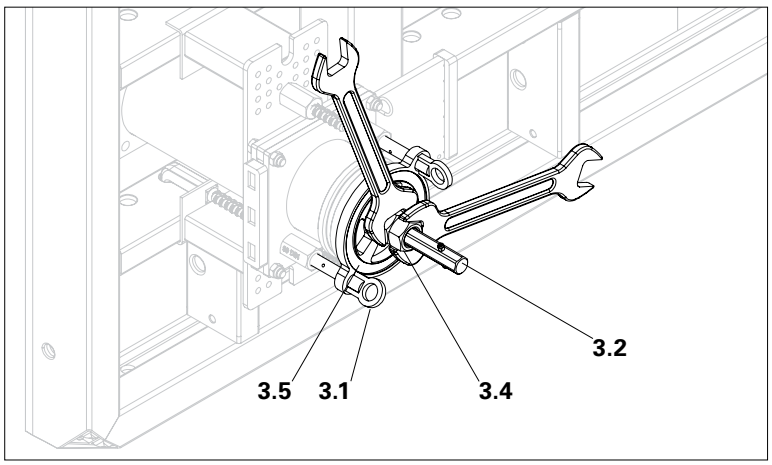


Fig. A.09

Concreting

1. Mount concrete feed pipe (6) to the Concrete Pump Connector using Coupling BPA (4).
2. Open gate valve (1.1) and secure with a cotter pin (1.4). (Fig. A.10)
3. Carry out concreting.

After concreting

– The concrete feed pipe must be depressurized.
– The concrete must still be in a liquid form.

1. Close the gate valve (1.1) of the Concrete Pump Connector.
2. Dismantle concrete feed pipe.
3. Insert the reamer plate into the pipe connection and tightly screw on the fixing board (3.5) with the eye bolts (3.1).
4. Open the gate valve (1.1) of the Concrete Pump Connector.
5. Turn the reamer spindle (3.2) with Wrench SW 24 until the countered nut (3.4) is resting against the fixing board (3.5)
   → The reamer plate (3.3) is positioned flush with the formlining.
   → The reamer plate is clear of the Concrete Pump Connector. (Fig. A.11)
6. The Clear Slide remains in the Concrete Pump Connector until the concrete has reached a sufficient strength. (Fig. A.12)
7. Release eye bolts (3.1), dismantle and clean the Clear Slide.

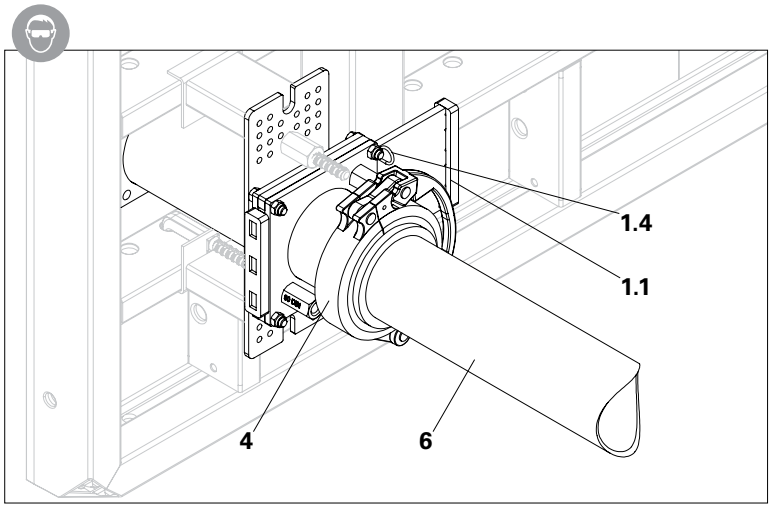


Fig. A.10

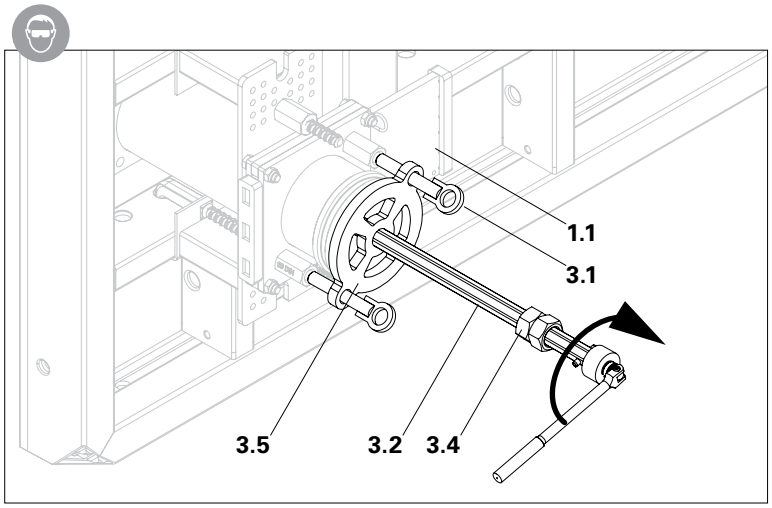


Fig. A.11

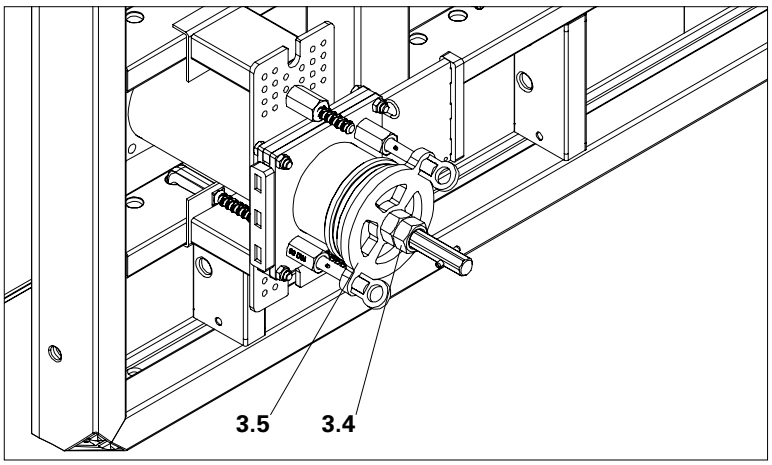


Fig. A.12

Caution

Heavy moving parts!
Body parts could be crushed and injured.
⇒ Wear a safety helmet, safety gloves and safety shoes.
⇒ Do not take hold of anything between moving components.

Preparing the plywood formlining

1. Mark out the drilled hole pattern according to Fig. B.01.
2. Accurately saw the plywood formlining, e.g. using a hole saw.

Plan distances to mounting parts.

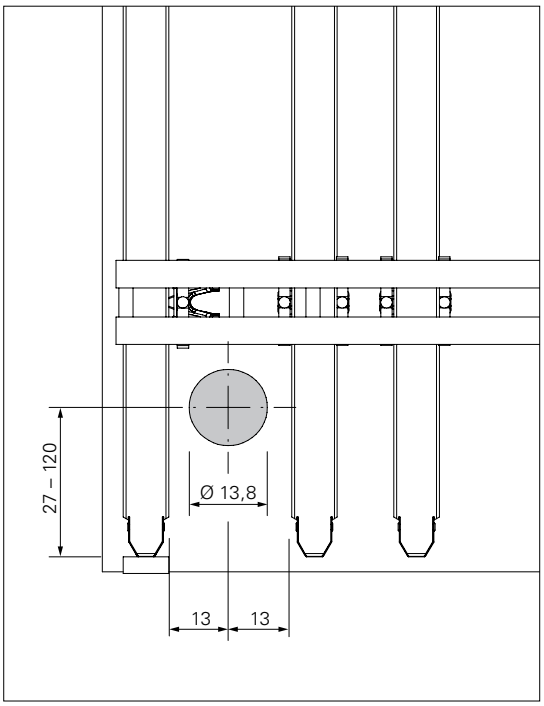


Fig. B.01

Preparing the Concrete Pump Connector

The installation direction of the gate valve (1.1) depends on the position of the mounting parts on the formwork, e.g. Push-Pull Props, Steel Walers.

– The installation direction of the gate valve can be changed on the mounted Concrete Pump Connector.
– When assembling on vertical formwork, secure the gate valve and pipe connection in order to prevent any falling off.

1. Unscrew 4x Nuts M12 (1.5).
2. Lift the pipe connection (1.3) and gate valve (1.1), turn 90° and re-attach. (Fig. B.03)
3. Tighten 4x Nuts M12.

Assembly

1. Securely fix the Concrete Pump Connector with 12x TORX TSS 6 x 60 (5). Maintain bolt arrangement in accordance with Fig. B.02.
2. Joint on the formlining side is elastically sealed all-round. Use silicone-free, removable sealant.
3. Adjust Clear Slide to accommodate the required depth. See Section A MAXIMO and TRIO Panel Formwork.

Operations

See Section A
MAXIMO and TRIO Panel Formwork.

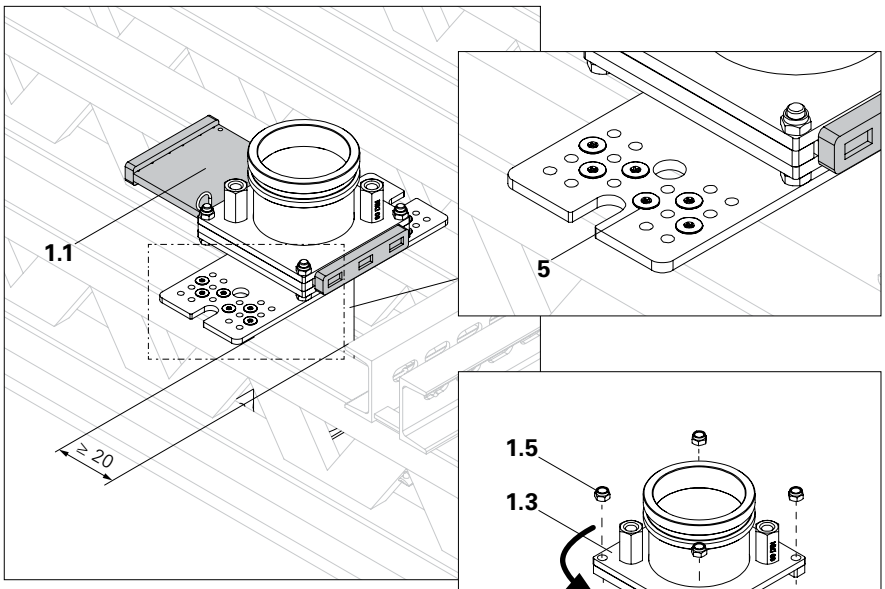


Fig. B.02

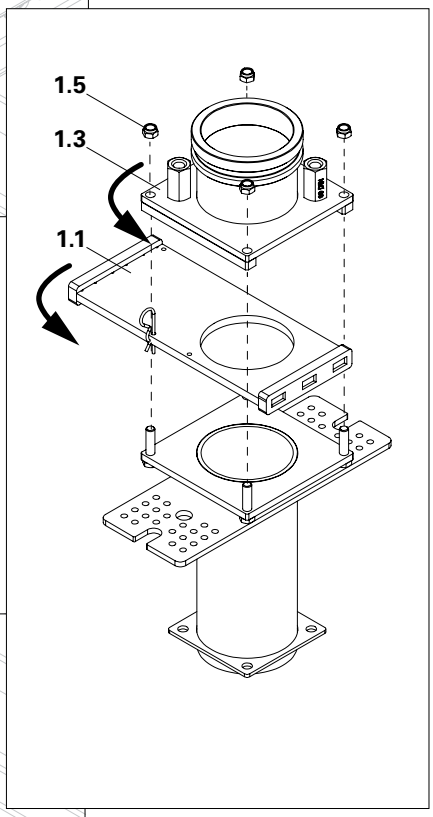


Fig. B.03

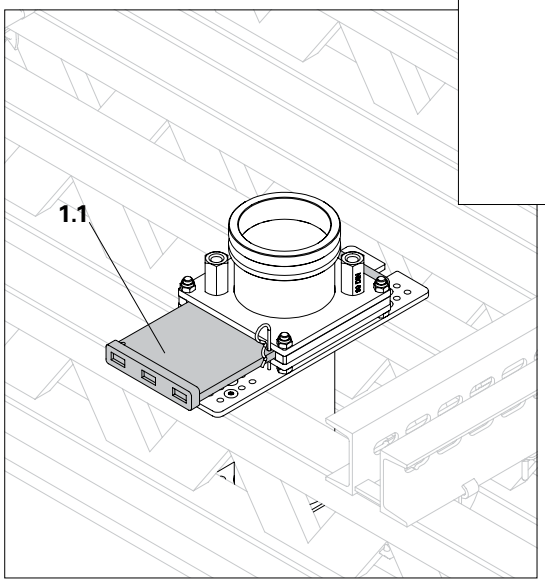


Fig. B.04

Caution

- Heavy moving parts!
  Body parts could be crushed and injured.
  ⇒ Wear a safety helmet, safety gloves and safety shoes.
  ⇒ Do not take hold of anything between moving components.
- Concrete parts splinter!
  Concrete parts can get into the eyes and thus cause injuries.
  ⇒ Wear safety glasses.

Cleaning

– After concreting, immediately wash off any external soiling with water.
– After dismantling, remove any internal soiling.
– Strip down component to facilitate easier cleaning.
– Before assembling and before concreting, spray components with a concrete release agent.

Assembly

During assembly, only use nuts according to DIN 7042 with metal clamping part.
After assembly, check the free movement of the gate valve (1.1).

Maintenance

Check all moving parts to ensure free and easy movement.
Nuts (3.4) and fixing board (3.5) of the Clear Slide must move freely along the complete length of the spindle section of the reamer spindle (3.2).
Replace damaged components.
Grease the reamer spindle (3.2) of the Clear Slide. (Fig. C.02)
Protect the components against corrosion by using a concrete release agent.

Storage

During storgae, ensure components are protected against moisture and dirt.

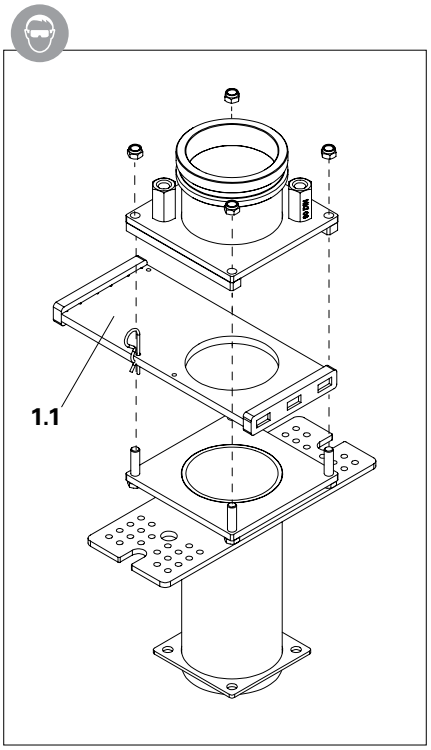


Fig. C.01

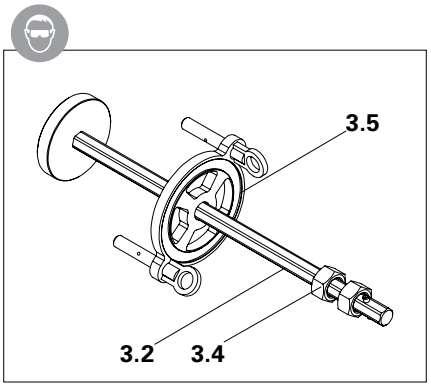
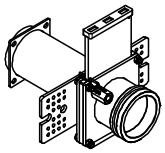
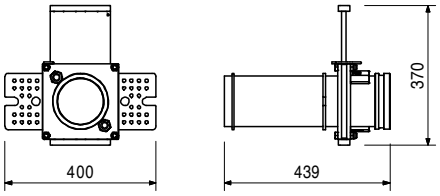


Fig. C.02

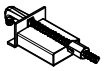
Concrete Pump Connector BPA-2

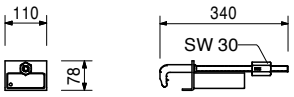
Item no.	Weight kg	
115009	21.700	**Concrete Pump Connector BPA-2 Ø 125** For connecting concrete feed pipes to the formwork.



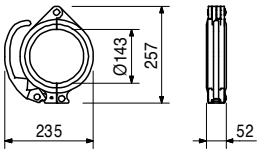


108688	1.810	**Adapter TRIO BPA Ø 125** For attaching the Concrete Pump Connector BPA Ø 125 to TRIO Panels.

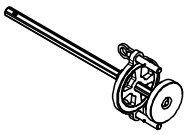


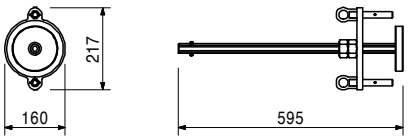


108543	4.900	**Coupling BPA Ø 125** Suitable for all standard concrete feed lines with Ø 125 mm or 5.5".



115010	6.400	**Clear Slide BPA-2 Ø 125** For removing residual concrete from the Concrete Pump Connector BPA-2 Ø 125.





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