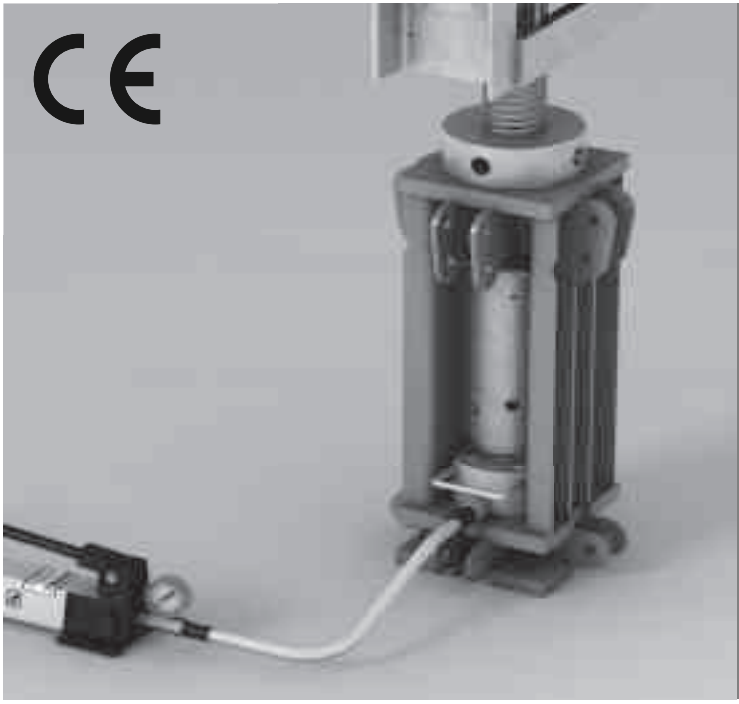
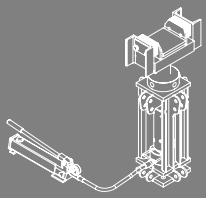
PERI

Hydraulic Head Spindle Device VST

Item no. 117465 | Item no. 117678

Translation of the Original Instructions for Use





Edition 02 | 2016

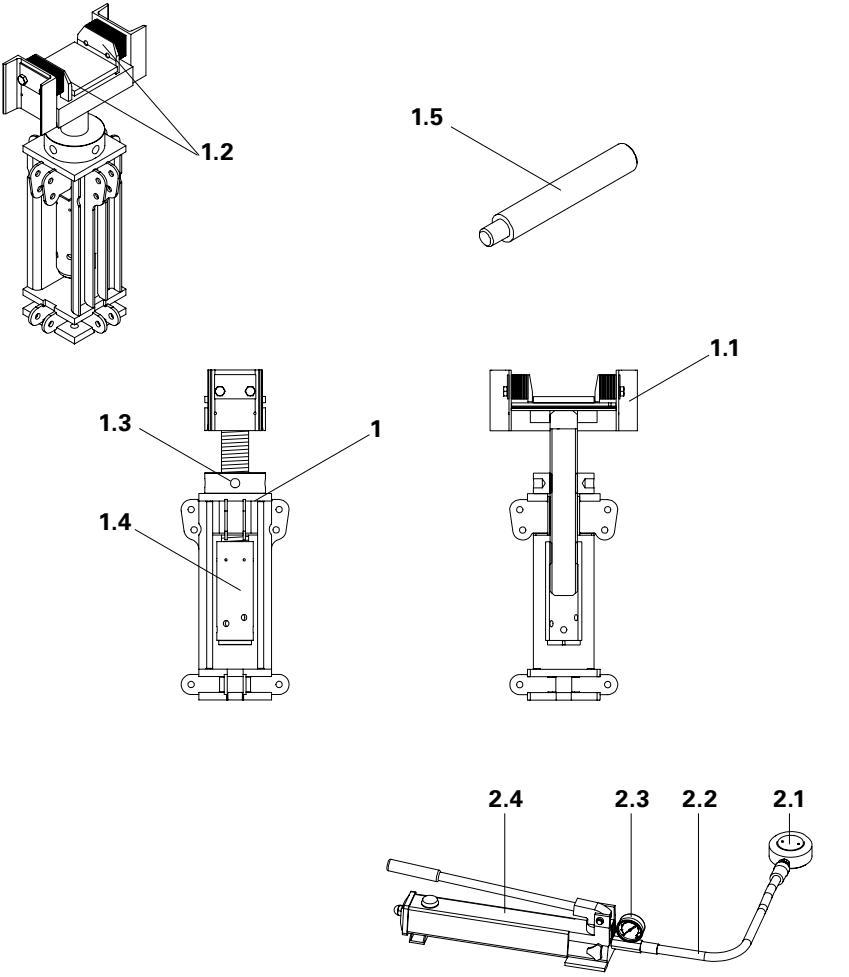
Content

PERI

Introduction

PERI

Overview



(1)	**Head Spindle VST 100**
(1.1)	Fork Head
(1.2)	Centering Jaws
(1.3)	Spindle Nut
(1.4)	Spindle Sleeve
(1.5)	Mounting Shaft VST

(2)	**Hydraulic Unit VST**
(2.1)	Hydraulic Cylinder
(2.2)	Hydraulic Hose
(2.3)	Manometer
(2.4)	Hydraulic Hand Pump

Key


Safety instructions


Tip


Note


Visual check


Lifting point


Safety helmet


Safety shoes


Safety gloves


Safety glasses


Misapplication

Dimension specifications
Dimensions are usually given in mm. Other units of measure, e.g. cm, are shown in the illustrations.
Load details are usually given in kg. Other measurement units, e.g. t, 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**.

Arrows
→ Arrow representing an action

Safety instructions

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 ahead of the instructions, and are highlighted as follows:

Danger
This sign indicates an extremely hazardous situation which, if not avoided, could 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.

This sign indicates warning of situations whereby failure to observe the information can result in material damage.

Safety instructions

General

When using PERI products, the Instructions for Use and markings are to be complied with at all times!

For the application and inspection of our products, the current safety regulations and guidelines in the respective countries where they are being used must be observed at all times.

The contractor must ensure that the Instructions for Use provided by PERI are available at all times for the users and that they are fully understood!

The contractor can only assign those persons to independently use PERI products who are actually familiar with the task!

PERI products are to be used in such a way that persons are never put at risk in any way!

The maximum load-bearing capacity of PERI products must not be exceeded! All persons using the products must check the equipment during use for obvious defects (e.g. deformations, cracks, breaks, incomplete markings)!

Do not use damaged products!

Do not use PERI products if the markings are missing or illegible!

Do not expose PERI products to any aggressive substances or influences of the weather during use!

The contractor must ensure that the personal protective equipment required for the assembly, modification or dismantling of the system is available and used as intended.

After the occurrence of any extraordinary events, e.g.

- storms,
- earthquakes,
- fire,
- accidents,

or longer downtimes on the construction site, PERI products and their components must be checked for damage, stability and function by an authorized person.

For a better understanding, detailed illustrations are partly incomplete. The safety installations which have possibly not been included in these detailed drawings must nevertheless still be available.

Safety instructions

Product-specific

Observe storm warnings! Depending on the type of load and the surface area subjected to the wind, the decision whether sufficient safety measures are in place when moving the load is taken on the jobsite.

The operator may begin to move a load only if he is completely satisfied that the load has been correctly attached.

Before releasing the Hydraulic Head Spindle Device VST from the load, ensure that the load is in a safe and stable position!

Always lift up or set down loads smoothly without any jerking!

Before lifting or lowering takes place, remove or secure all loose parts!

Persons are not allowed to remain under the load being lifted!

Transporting persons on the load is prohibited!

Do not place any objects on the hydraulic components or allow to drop.

Do not bend the hydraulic hose during installation. Tight bends (kinks) should be avoided.

During assembly or dismantling of the hydraulic components, the system pressure must be 0 bar (0 psi).

Do not touch pressurized hydraulic hoses. Pressurized hydraulic oil can cause injury if a sudden discharge takes place.

Keep hydraulic hoses and hydraulic components away from open flames. The temperature must not exceed 65.5 °C (150 °F).

The hydraulic cylinder must be vertically positioned in the Head Spindle VST 100 during use. The spindle sleeve of the Head Spindle VST 100 must be positioned flush on the complete piston surface of the hydraulic cylinder.

As soon as the required position has been reached, the hydraulic cylinder must be relieved by tightening the spindle nut. The hydraulic cylinder must not permanently carry the load.

A project-specific static in which the force to be applied has been determined as well as a pre-stressing and lowering plan, must be available!

Intended use

PERI products have been designed for exclusive use in the industrial and commercial sectors by suitably trained personnel only!

The Hydraulic Head Spindle Device VST is designed for perpendicularly accommodating vertical loads as well as the brief lifting and controlled lowering of individual loads up to max. 700 kN on the VARIOKIT Heavy-Duty Shoring Tower VST.

The Hydraulic Head Spindle Device VST consists of:
– Head Spindle VST 100,
– Hydraulic Unit VST.

Only the hydraulic unit described in these Instructions for Use may be used.

The installation and position of the Hydraulic Head Spindle Device VST are provided in the corresponding Instructions for Assembly and Use of the system.

The Hydraulic Head Spindle Device VST is not approved for transporting persons.

The product described here corresponds to the relevant provisions and regulations of Machinery Directive 2006/42/EC.

These Instructions for Use provide the basis for the risk assessment. The risk assessment is compiled by the contractor. The Instructions for Use do not replace the risk assessment!

Application of the Hydraulic Head Spindle Device VST:
- Within the permissible load-bearing capacity, see Technical Data.
- Within the permissible temperature limits of -20 °C to +40 °C.
- In good working order.
- If correctly assembled.

Instructions for Use

The use in a way not intended or deviating from the intended use according to the Instructions for Use represents a misapplication with a potential safety risk.

Changes to PERI components are not permitted.

Only PERI original components may be used. The use of other products and spare parts represents a misapplication with associated safety risks.

Operations with defective products are not permissible.

Target groups

Contractors
These Instructions for Use are intended for contractors who
- assemble, modify and dismantle, or use
- use the shoring, e.g. for concreting, or who have it used, e.g. for forming operations.

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 safety and health plan,
- coordinates the protective measures for the contractor and site personnel so that they do not endanger each other,
- monitors and ensures compliance with the protective measures.

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

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

Qualified specialists
Scaffolding 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 specialists must have received instructions** which contain at least the following points:

- An explanation of the plan for the assembly, modification or dismantling of the scaffolding in an understandable form and language.
- Description of measures in order to safely assemble, modify or dismantle the scaffolding.
- Designation of the preventive measures 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 scaffolding concerned as well as the personnel.
- Details regarding the permissible loads.
- Description of 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!

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

Storage and transportation

General
Store and transport components of the Hydraulic Head Spindle Device VST so it is not possible that they can change their position unintentionally or are damaged.

Do not drop the Hydraulic Head Spindle Device VST.

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.

Do not place any loads on the Hydraulic Head Spindle Device VST.

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

The components are to be stored in a dry and clean condition as well as protected against corrosion at temperatures from – 20 °C to + 40 °C.

The Hydraulic Head Spindle Device VST must be protected against the effects of the weather and aggressive materials if safety is then likely to be affected!

During transport, intermediate storage or when remaining suspended on the load, ensure that the product remains free of dirt and that its functionality is not affected.

Hydraulic Unit VST
Never lift the Hydraulic Device VST using the hose or swivel couplers. Only transport by holding the pump and cylinder.

The vent and filler cap (2.4a) must be closed before transporting the pump in order to prevent any loss of oil.

If the hydraulic components are separated, the dust caps must be screwed on immediately so that no impurities can cause a subsequent malfunction of the hydraulic system.

When transporting or placing in temporary storage, the hydraulic components – hose, cylinder and hand pump – must be separately stored and transported in the designated aluminum case. (Fig. 1)

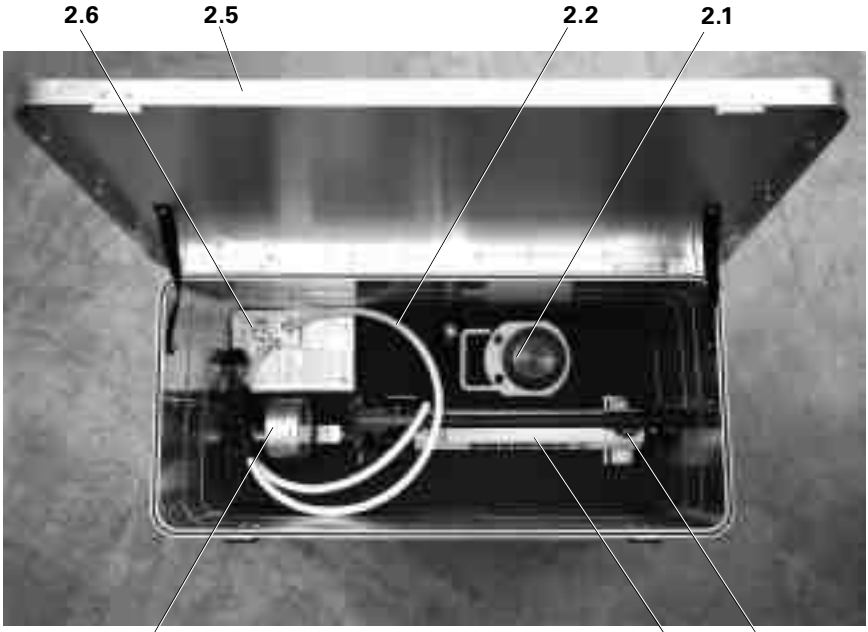


Fig. 1

Hydraulic Unit VST:

2.1	Hydraulic cylinder	1x
2.2	Hydraulic hose	1x
2.3	Manometer	1x
2.4	Hydraulic hand pump	1x
2.4a	Vent and filler cap	1x
2.5	Aluminium case (780 x 380 x 380 mm)	1x
2.6	Instructions for Use	1x

Storage and transportation

Transportation position

1. Turn the spindle nut (1.3) with mounting shaft anti-clockwise as far as possible. (Fig. 2)
2. Turn the spindle sleeve (1.4) with mounting shaft clockwise as far as possible. (Fig. 3)

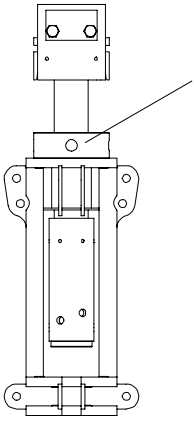


Fig. 2

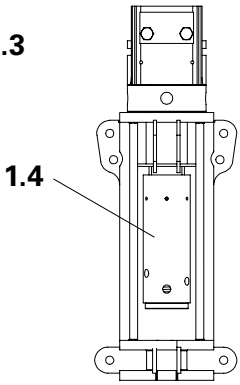


Fig. 3

Additional technical documentation

- Instructions for Use:
  – Pallets and Stacking Devices

- Instructions for Assembly and Use:
  – VARIOKIT Heavy-Duty Shoring Tower VST
- Brochure
  – Engineering Construction Kit

Identification markings

Caution

- **Do not use the Hydraulic Head Spindle Device VST if the type plate is missing or illegible!**
- **Do not use the Hydraulic Head Spindle Device VST if the inspection sticker is missing, has expired, or is illegible!**
- **If markings are missing, illegible or have expired, immediately arrange an inspection by a qualified person and subsequently attach a new type plate or inspection sticker. The results of the inspection must be documented!**

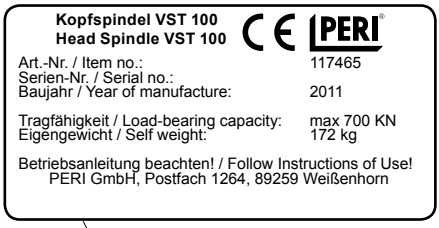


Fig. 4

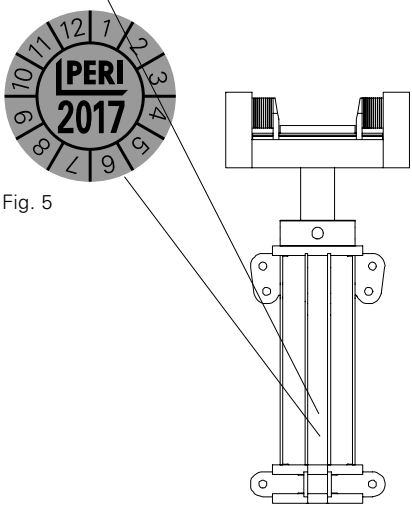


Fig. 5

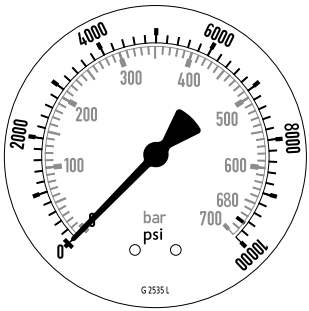
Head Spindle VST 100

- Type plate markings comply with the requirements of the Machinery Directive 2006/42/EC. (Fig. 4)
- Inspection sticker shows the appointment date for the next safety inspection. (Fig. 5)

Identification markings

Hydraulic Unit VST

Hydraulic Unit VST	Warning sign
	

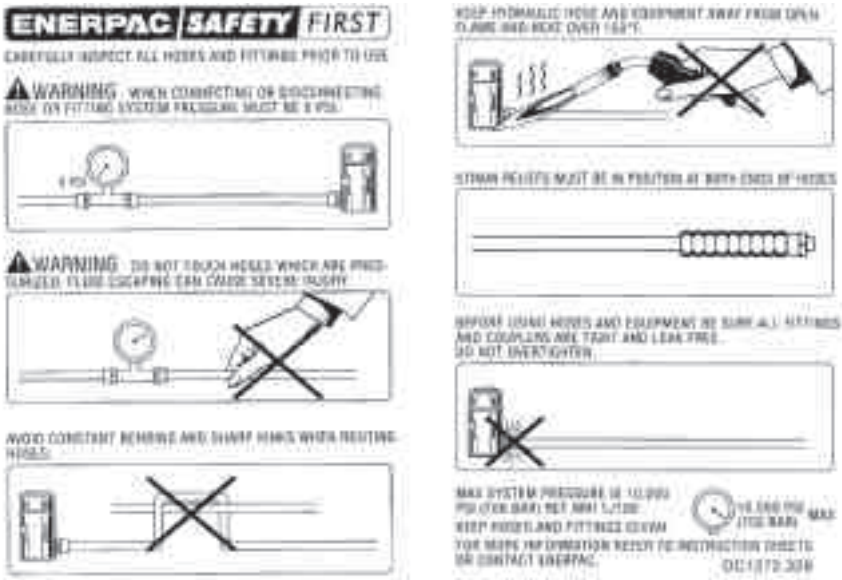
Hydraulic hand pump	Manometer
	

Max. operating pressure 680 bar (700 kN)

Hydraulic Unit VST

Hydraulic hose

Warning sign on hydraulic hose



Care and maintenance instructions

General
The Hydraulic Head Spindle Device VST is designed for long-term use on construction sites.

In order to ensure a cost-effective, technically sound and safe use over a long period, it is important to take a value-preserving approach.

Repairs to the Head Spindle VST 100 which require welding, or rectifying deformation of components, can only be carried out by PERI.

If corrective maintenance or the replacement of worn components is required, only PERI original parts are to be used as spare parts.

Clean the Head Spindle VST 100 before and after every use, and grease the mechanical components with an appropriate lubricant (Long-Life Grease LT 200 EP or equivalent).

Maintenance and repair work on the Hydraulic Unit VST is to be carried out only at an authorized customer service centre in the respective region. Only original components may be used.

Drain all of the hydraulic oil every 12 months and re-fill the pump with the original oil, HF-95Y or similar. Carry out the oil change more often if the hydraulic system is used in dirty environments.

Check the hydraulic oil level of the Hydraulic Unit VST before every use and top up if necessary.

Regularly check the manometer to ensure its accuracy. Critical pressure measurements, malfunction or failure of the manometer, or inaccurate measurements represent a safety risk.

Lubrication of the pump
Depending on the application and frequency, the supporting bolts (2.4c), the cylinder surface (2.4d) and lever arm guide (2.4e) must be lubricated with roller bearing grease. (Fig. 7)

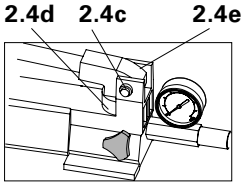


Fig. 7

Inspections

1. General
The procedure described in this section is based on the current German regulations for testing and inspections. The points listed form the minimum requirements for the inspection.

The respective regulations of the individual states and countries where this product is used must be taken into account.

If no country-specific regulations are available, it is recommended to proceed according to German rules and regulations.

The contractor is responsible for determining the type, scope and intervals for the required inspections relating to the provision of the PERI product. As a result of these inspections, any safety-related defects are to be systematically identified and remedied.

2. Purpose
Through the inspection carried out before initial operations along with the regularly arranged checks of the PERI product, the operating and functional safety is guaranteed.

3. Responsibility
The contractor must ensure that the product is only put into operation if it has been inspected by a qualified person.

4. Inspection

4.1 Safety check

It must be verified whether all defects have been rectified or non-functioning products have been replaced.

4.2 Implementing the inspection

The inspection includes a visual and functional check:

– deformation, wear and lengthening of the components.
– damage due to corrosion.
– mechanical damage.
– availability of all components.
– cracks, bending, flattening, notches on welding seams and components.
– only original PERI components may be used.
– indications of inpermissible heating or contact with fire.
– markings must be legible.

4.3 Functional check

Free and easy movement of moving parts.

Implementation of anything beyond the usual scope of inspection is subject to the discretion of the qualified person and can extend to additional checks.

4.4 Measures

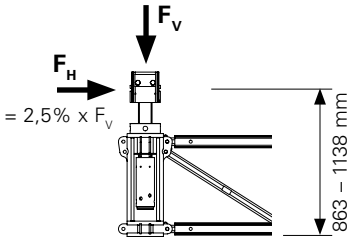
If any defects are determined during the safety inspection, they must be eliminated according to the instructions provided by the qualified person. A new inspection is to be subsequently carried out.

4.5 Inspection before starting work operations

– Check load-bearing capacity.
– Check hydraulic components.

Technical data

Head Spindle VST 100



A static calculation is required for each operation!

Designation		Description	Unit
Permissible load-bearing capacity	F_v	700	kN
	F_H	2.5% x F_v	kN
Thread		TR 90 x 12	mm
Length x width		486 x 356	mm
Min. height		953	mm
Max. height		1227	mm
Max. adjustment		275	mm
Weight		172.0	kg

Hydraulic Unit VST

Hydraulic hose	Description	Unit
Type	700 series	
Model no.	HC-7206C	
Hose connection	CH-604	
Max. operating pressure	10000 [700]	psi [bar]
Length	1800	mm
Internal diameter	6.4	mm
Weight	1.1	kg

Hydraulic hand pump	Description	Level 1	Level 2	Unit
Type	P-392			
Pressure stages	2			
Max. nominal pressure		200 [13]	10000 [700]	psi [bar]
Oil volume per stroke		.687 [11.26]	.151 [2.47]	in³ [cm³]
Usable oil capacity	55 [901]			in³ [cm³]
Changeover pressure	188 [13]			psi [bar]
Max. leverage force	42.2			kg
Piston stroke	25.4			mm
Weight	1.1			kg

Technical data

Hydraulic cylinder	Description	Unit
Type	RSM 750 [single-acting]	
Max. compressive force	718	kN
Max. operating pressure	10000 [700]	psi [bar]
Stroke	16	mm
Overall height, retracted	79	mm
Max. overall height	95	mm
Effective piston area	102.6	cm^2
Oil volume	164	cm^3
Weight	11.3	kg

Manometer	Description	Unit
Type	G2535L	
Max. operating pressure	10000 [700]	psi [bar]

Operating pressure conversion in kN

1 bar = 1.026 kN

100 psi = 7.074 kN

Hydraulic oil	Description	Unit
Type	HF-95Y	
Viscosity index	100	min
Viscosity at 210 °F [100 °C]	42 / 45	S.U.S
Viscosity at 100 °F [38 °C]	150 / 165	S.U.S
Viscosity at - 20 °F [0 °C]	< 12,000	S.U.S
API gravity	31.0 / 33.00	
Flashpoint, C.O.C	400 [205]	°F [°C]
Flow point	-25 [-32]	°F [°C]
Aniline point	210 / 220 [100 / 105]	°F [°C]
Paraffin basis colour	Blue	

Commissioning

Initial commissioning

Measures before initial commissioning:

- Check availability of all components.
- Familiarise yourself with the equipment using the available documentation.
- Check the hydraulic oil tank for cleanliness.
- Assembly of the hydraulic components, see Assembly.
- Fill tank with hydraulic oil, see page 24.
- Check all fittings and re-tighten if necessary.
- Bleed system.

Bleeding the hydraulics

1. Close drain valve (2.4b) by turning in a clockwise direction.
2. Position the hand pump at a higher level than the cylinder.
3. Bottom of the hydraulic cylinder (2.1) must be facing upwards.
4. Operate the hand pump until the cylinder is fully extended. (Total length = 95 mm)
5. Open the drain valve by turning it counterclockwise.
   → The air is then pressed into the oil tank of the hand pump.
6. Unscrew vent and filler cap (2.4a) using a 1/4 turn in a counterclockwise direction in order to let out the air.
   → Air is discharged.
7. Close the vent and filler cap by turning in a clockwise direction. (Fig. 8)

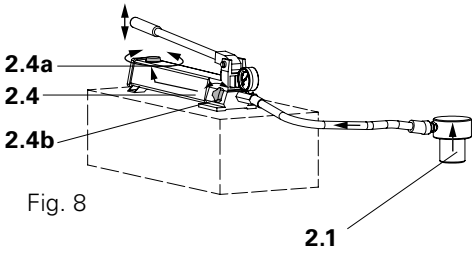


Fig. 8

Changing the hydraulic oil

Caution
Risk of poisoning!
- **Swallowing hydraulic oil or contact with the skin can result in health problems.**
- **Avoid any body contact with the hydraulic oil.**

- Completely retract the hydraulic cylinder!
- Too much oil can lead to a malfunction.

Procedure
1. Retract hydraulic cylinder (2.1).
2. Open the vent and filler cap (2.4a) on the oil tank of the hand pump (2.4).
3. Tip the hand pump.
4. Put used oil in a suitable container.
5. Fill with new ENERPAC hydraulic oil up to the marking in the tank.
6. Close vent and filler cap on the oil tank of the hand pump. (Fig. 9)
7. If necessary, bleed the hydraulic system.
8. Dispose of used hydraulic oil in accordance with regulations.
9. Check hydraulics for signs of leakage, see Troubleshooting.

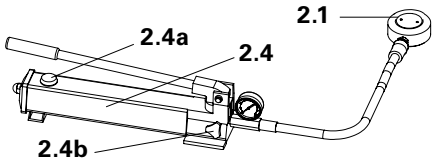


Fig. 9

Commissioning

Topping up the hydraulic oil

Caution
Risk of poisoning!
- **Swallowing hydraulic oil or contact with the skin can result in health problems.**
- **Avoid any body contact with the hydraulic oil.**

- Completely retract the hydraulic cylinder!
- Too much oil can lead to a malfunction.

Procedure
1. Open the vent and filler cap (2.4a) on the oil tank of the hand pump (2.4).
2. Check the oil level by means of the filling marking in the oil tank.
3. Fill oil tank with new hydraulic fluid up to the filling marking.
4. Close vent and filler cap on the oil tank of the hand pump. (Fig. 10)
5. Bleed the hydraulic system, see page 22.
6. Check hydraulic system for signs of leakage, see Troubleshooting.

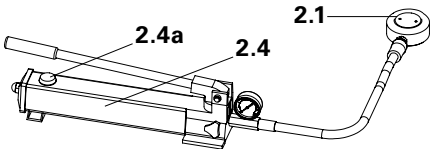


Fig. 10

Assembly

Adjustment for cross beam width

– The Head Spindle VST 100 is adjustable for crossbeam widths from 20 cm to 32 cm.
– For the centric position of the crossbeam, the spacer plates are uniformly positioned on the two inner sides of the fork head.

Procedure:

1. Loosen the four bolts of the fork head (1.1) by turning them counter-clockwise, and then remove. (Fig. 11)
2. Remove spacer plates (1.6), and adjust centering jaws (1.2) by moving to width x of the crossbeam (3).
3. Fill the space between the centering jaws (1.2) and fork head with the same number of spacer plates. (Fig. 12)
4. Position remaining spacer plates (same number respectively) on the two outer sides of the fork head. Secure spacer plates using four bolts. (Fig. 13)
   → The crossbeam can now be positioned centrically on the Head Spindle VST 100. (Fig. 14)

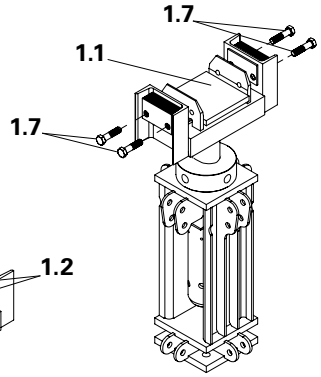


Fig. 11

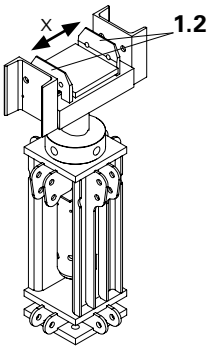


Fig. 12

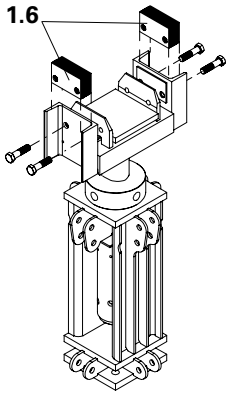


Fig. 13

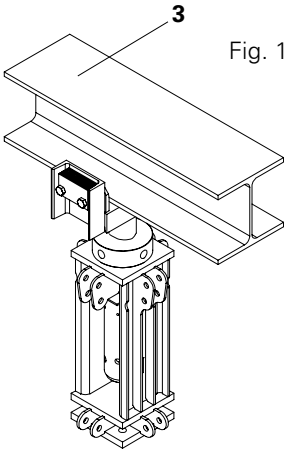


Fig. 14

Assembly of hydraulic components

Caution
Risk of poisoning!
- **Swallowing hydraulic oil or contact with the skin can result in health problems.**
- **Avoid any body contact with the hydraulic oil.**

Check all screwed connections and couplings for tightness and leakage. After pressurization of the hydraulic system, the components can no longer be tightened by hand.

Procedure:
1. Check components for any signs of damage.
2. Remove dust caps and screw hydraulic hose (2.2) together with the hydraulic hand pump (2.4).
3. Remove dust caps and screw hydraulic hose (2.2) together with the hydraulic hand pump (2.1). (Fig. 15)
4. Check the oil level.
5. Bleed hydraulics, see Commissioning.

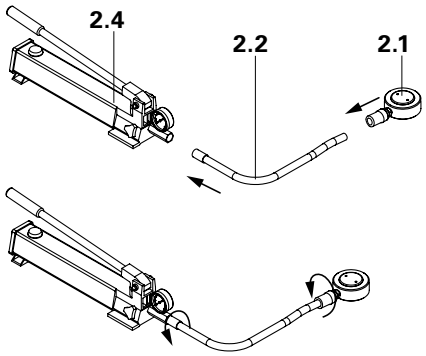


Fig. 15

Assembly

Installing the hydraulics

Warning
The hydraulic cylinder must not be used to permanently carry the load!

The Hydraulic Unit VST is to be installed only when the shoring system has been completely assembled.

Follow Instructions for Assembly and Use for the PERI Heavy-Duty Shoring Tower VST.

Procedure:
1. Position hydraulic cylinder (2.1) in the Head Spindle VST 100. (Fig. 16 + 17)
2. Close drain valve (2.4b) by turning in a clockwise direction. (Fig. 17a)

– Hydraulic hose (2.2) is not to be kinked or bent too much. (Fig. 16)
– Hydraulic cylinder is perpendicular, the piston surface is positioned flush and centered.

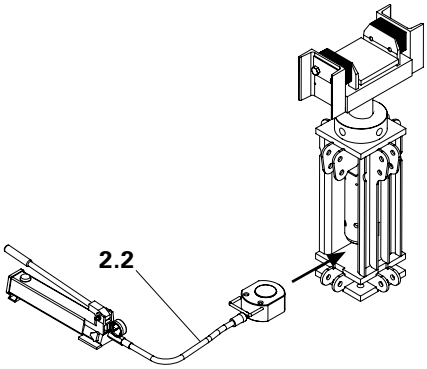


Fig. 16

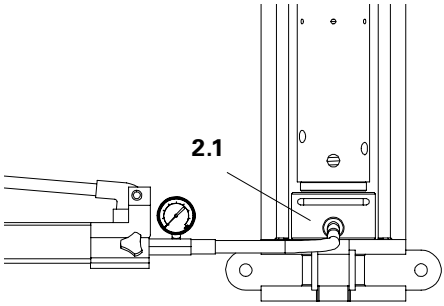


Fig. 17

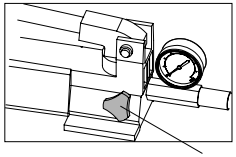


Fig. 17a

Height adjustment

Warning

- **Before using the Hydraulic Head Spindle Device VST, check that all components are properly connected to each other!**
- **Remove or secure any loose components!**
- **Do not exceed the max. operating pressure 680 bar (700 kN)!**
- **Do not exceed the maximum spindling height!**
- **When working on existing structures, permanently monitor the situation, e.g. cracks, falling building parts, or noises.**
- **If the specified height has been reached, secure with the spindle (1.3) nut in order to relieve the load on the cylinder! (Fig. 18)**
- **During operations, keep hands and feet away from the cylinder and Head Spindle VST 100 in order to prevent injuries!**
- **Raise Hydraulic Head Spindle Device VST under load in max. 10 mm increments!**
- **Project-specific statics, a pre-tensioning or lowering plan is required!**

Operating pressure conversion in kN
1 bar = 1.026 kN
1 psi = 7.074 kN

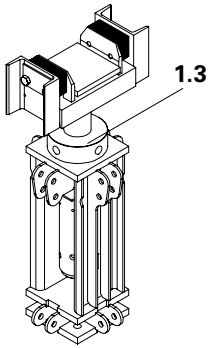
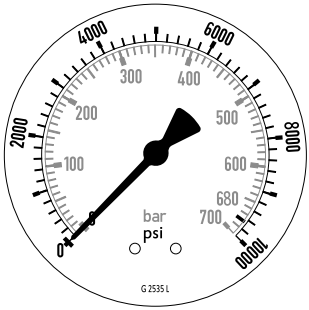


Fig. 18



Height adjustment

Warning
Take into consideration max. spindling height! Thread must be visible in the inspection holes.

– Raise the Head Spindle VST 100 in maximum 10 mm increments.
– As long as the thread is visible through the inspection holes, the spindle height is within the permissible range. (Fig. 20)

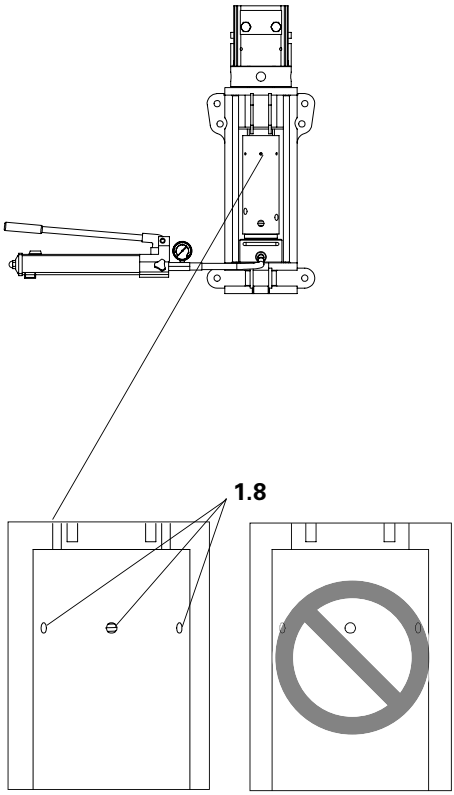


Fig. 20

Procedure

1. Drain the hydraulic cylinder (2.1) by turning the drain valve (2.4b) counter-clockwise.
2. Close drain valve.
3. Insert the Mounting Shaft VST (1.5) into a bore (1.4a) of the spindle sleeve (1.4).
4. Turn spindle sleeve with Mounting Shaft VST downwards until spindle sleeve rests on hydraulic cylinder. (Fig. 21)
5. Raise hydraulic cylinder max. 10 mm with the pump handle (2.4f). (Fig. 22)
   → Raise Head Spindle and spindle sleeve.
6. Turn spindle nut (1.3) with Mounting Shaft VST in a clockwise direction until the spindle nut rests on the head plate.
7. Open drain valve and drain the hydraulic cylinder. (Fig. 23)
   → Spindle nut is relieved.
8. Repeat action steps 2 to 7 until the required height is reached.
9. Observe inspection holes (1.8) and maintain max. spindling height. (Fig. 20)

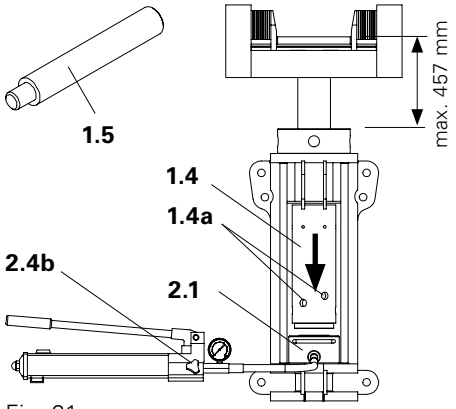


Fig. 21

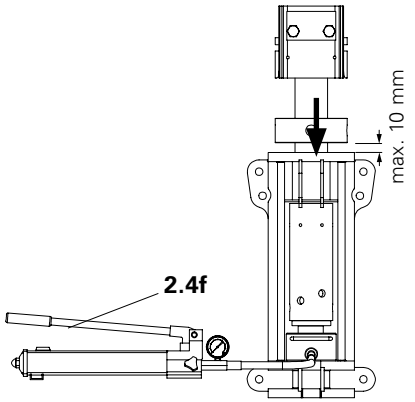


Fig. 22

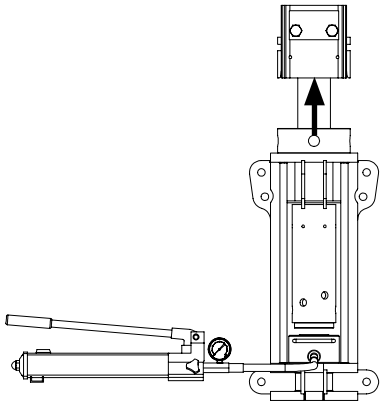
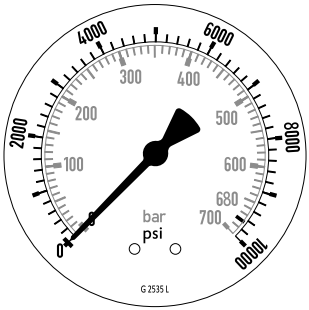


Fig. 23

Lowering

Danger
Personal injury and material damage!
- **Lower only if the concrete has hardened enough and the person in charge has given instructions to do so!**
- **During operations, keep hands and feet away from the cylinder and Head Spindle VST 100 in order to prevent injuries!**
- **With a multiple number of spindles, ensure that all spindles are lowered uniformly!**
- **Do not exceed the max. operating pressure 680 bar (700 kN)!**
- **Project-specific statics, a pre-tensioning or lowering plan is required!**



Lower the Head Spindle VST 100 in maximum 10 mm increments.

Operating pressure conversion in kN
1 bar = 1.026 kN
1 psi = 7.074 kN

Procedure

1. Drain the hydraulic cylinder (2.1) by turning the drain valve (2.4b) counter-clockwise.
2. Close drain valve.
3. Turn spindle sleeve (1.4) with Mounting Shaft VST (1.5) 13 mm over top edge of the hydraulic cylinder. (Fig. 24)
4. Raise hydraulic cylinder by means of pump lever (2.4f) until spindle nut is relieved.
5. Turn spindle nut (1.3) with Mounting Shaft VST clockwise by 10 mm. (Fig. 25)
6. Open drain valve (2.4b) and drain the hydraulic cylinder.
   → Lower head spindle, spindle sleeve and spindle nut.
7. Turn spindle nut (1.3) with Mounting Shaft VST in a clockwise direction until the spindle nut rests on the head plate. (Fig. 26)
   → Hydraulic cylinder is relieved.
8. Repeat action steps 1 to 7 until the load has been lowered, see project-specific statics.

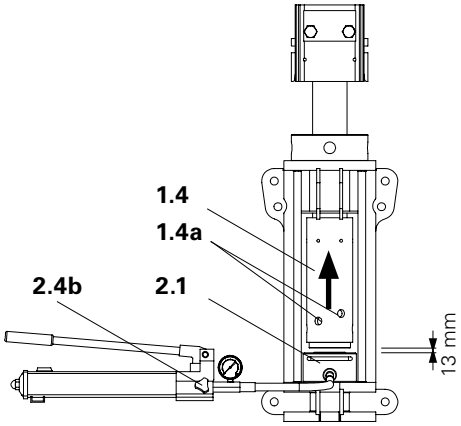


Fig. 24

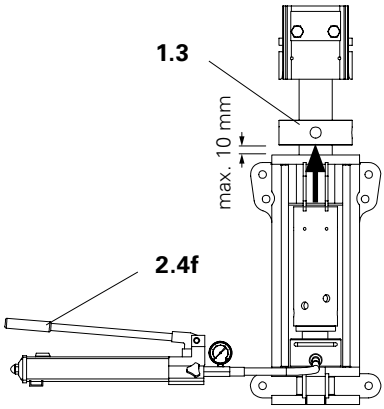


Fig. 25

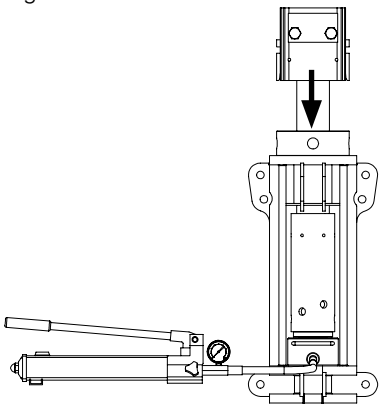


Fig. 26

Dismantling

Dismantling the hydraulic components

Warning
Risk of injury!
- **Haydraulic cylinder must be completely retracted and the hydraulic system free of pressure!**
- **Swallowing hydraulic oil or contact with the skin can result in health problems.**
- **Avoid any body contact with the hydraulic oil.**

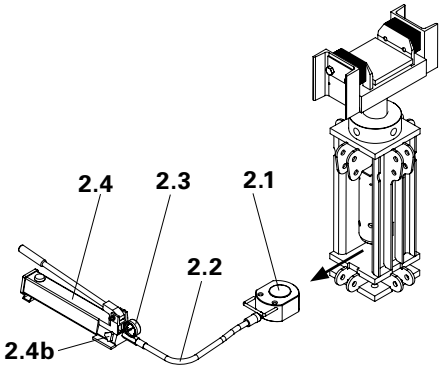


Fig. 28

Procedure:
1. Open drain valve (2.4b).
   → Hydraulic cylinder retracts (2.1).
   → System is pressureless.
2. Close drain valve by turning in a clockwise direction.
3. Remove hydraulic cylinder from the Head Spindle VST. (Fig. 28)
4. Unscrew hydraulic cylinder and hydraulic hose (2.2) from each other and put on dust caps.
5. Unscrew hydraulic hand pump (2.4) and hydraulic hose from each other and put on dust caps. (Fig. 29)
6. Place hydraulic components in the aluminum case.
7. Avoid oil dripping, or remove any traces correctly.

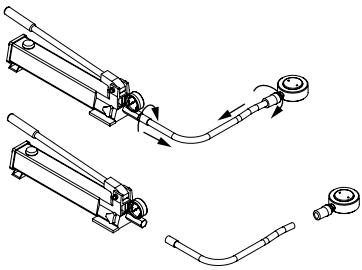


Fig. 29

Check components for signs of damage! Damaged components must be replaced immediately!

Dismantling the crossbeam

Procedure:

1. Remove crossbeam (3). (Fig. 30)
2. Loosen the four bolts (1.7) of the fork head (1.1) by turning them counter-clockwise, and then remove. (Fig. 31)
3. Remove spacer plates (1.6).
4. Extend centering jaws (1.2) by moving as far as possible. (Fig. 32)
5. Position spacer plates (same number respectively) on the two outer sides of the fork head (1.1). Secure spacer plates using four bolts. (Fig. 33)

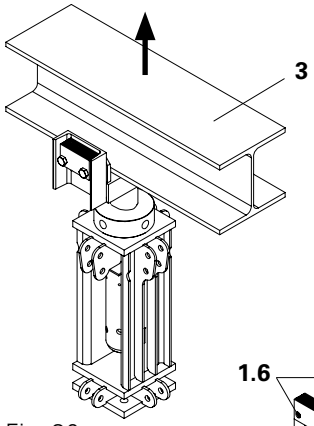
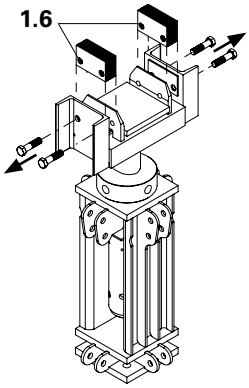


Fig. 30



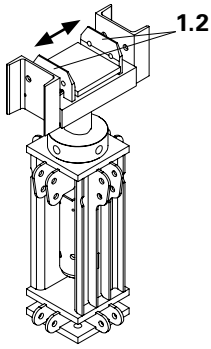


Fig. 31

Fig. 32

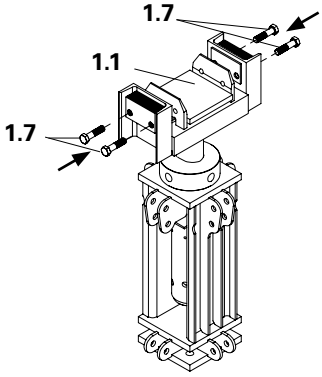


Fig. 33

Troubleshooting

Malfunction	Possible cause	Remedial action
Cylinder cannot be extended, extends too slowly, or stops during the start-up.	Oil level is too low in the pump.	Top up oil in accordance with the Maintenance and Repair section.
	Open drain valve.	Close drain valve.
	Loose connection on the hydraulic pump.	Check that all couplers have been completely tightened.
	Load too heavy.	Do not try to lift more than the nominal load of 700 kN (680 bar).
	Trapped air in the system.	Bleed air in accordance with the instructions provided in the Hydraulics section.
	Cylinder piston is stuck.	Check the cylinder for signs of damage. Arrange to have the cylinder serviced by a certified hydraulics technician.
	Drain valve opened.	Close drain valve.

Malfunction	Possible cause	Remedial action
Cylinder is extended but does not withstand the pressure.	Leaky connection.	Check whether all connections are tight and leak-proof. If yes, depressurize the system.
	Defective seal.	Locate leakage and then arrange to have the connectors and couplings serviced by a qualified hydraulics technician.
	Internal leakage in the pump.	Arrange to have the pump serviced by a qualified hydraulics technician.

Malfunction	Possible cause	Remedial action
Cylinder does not retract, only partly retracts, or retracts much slower than usual.	Drain valve closed.	Open drain valve.
	Too much oil in the pump tank.	Reduce oil level by draining oil tank down to maximum level.
	Loose hydraulic coupling.	Check that all couplers have been completely tightened.
	Trapped air in the system.	Remove air, bleed in accordance with the instructions provided in the Hydraulics section.
	Return spring of the cylinder is broken, or there is other damage to the cylinder.	Arrange to have the cylinder serviced by a qualified hydraulics technician.
	Narrow passage in the hose restricts oil flow.	Ensure all kinks are removed from the hydraulic hose.
	Internal cylinder damage.	Arrange to have the pump serviced by a qualified hydraulics technician.

Malfunction	Possible cause	Remedial action
Cylinder extends jerkily.	Trapped air in the system.	Remove air, bleed in accordance with the instructions provided in the Hydraulics section.
	Cylinder piston is stuck.	Arrange to have the pump serviced by a qualified hydraulics technician.

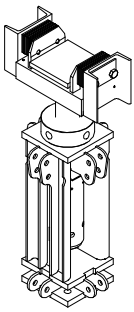
Disposal

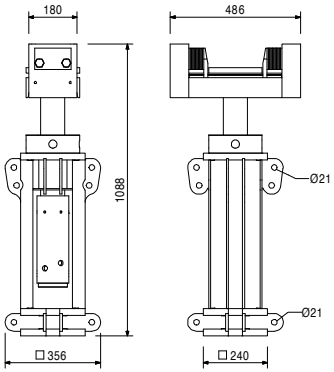
Disposal of the Hydraulic Head Spindle Device VST must be arranged by an authorized person.

Caution

- **Separate materials correctly and according to type.**
- **The materials are to be disposed of according to local regulations and guidelines.**

Item no.	Weight kg		
117465	172.000	**Head Spindle VST 100** As head spindle for the VARIOKIT Heavy-Duty Shoring Tower. As an option, can be used with the hydraulic device.	**Technical data** Permissible load-bearing capacity 70 t.

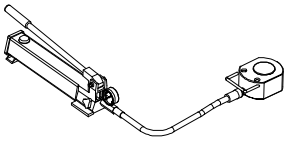




Accessories

117377	1.030	**Mounting Shaft VST**
117678	25.000	**Hydraulic Unit VST**

117678	25.000	**Hydraulic Unit VST** Flexible hydraulic unit for use in the Head Spindle VST 100.	**Technical data** Permissible load-bearing capacity 75 t. Lifting height 16 mm.



EC Declaration of Conformity

PERI

EG – Konformitätserklärung

im Sinne der EG-Richtlinie 2006/42/EG
Anhang II, 1.A

In der Gemeinschaft ansässige Person, die bevollmächtigt ist, die technischen Unterlagen zusammenzustellen:

Dipl.-Ing. Rainer Bolz
PERI GmbH
Rudolf-Diesel-Straße 19
89259 Weißenhorn

Beschreibung und Identifizierung:

Produktgruppe:	Traggerüst
Typ:	Absenkeinheit
Artikel-Nr.:	117465 + 117678
Handels-Bez.:	Hydraulische Kopfspindeleinheit VST

Es wird ausdrücklich erklärt, dass dieses Produkt allen einschlägigen Bestimmungen der folgenden EG-Richtlinien entspricht:

EG Maschinenrichtlinie 2006/42/EG

Fundstelle der angewandten harmonisierten Normen entsprechend Artikel 7, Absatz 2:

EN 349: 1993+A1: 2008
EN 12100 : 2011 - 03
EN 1494 : 2000+A1: 2008

Weißenhorn, 21.01.2016

Hersteller
PERI GmbH
Postfach 1264
89259 Weißenhorn

Leitung Forschung und Entwicklung

Dipl.-Ing. Rainer Bolz
PERI GmbH

This document is a translation into
English from the German original.

EC – declaration of conformity

according to the EC-Machinery Directive 2006/42/EC
Annex II, 1.A

Person residing within the Community authorised to compile the relevant technical documentation:

Dipl.-Ing. Rainer Bolz
PERI GmbH
Rudolf-Diesel-Strasse 19
89259 Weissenhorn

Description and identification:

Product Group:	Falsework
Typ:	Lowering Device VST
Article-No.:	117465 + 117678
Commercial Designation:	Hydraulic Head Spindle Device VST

It is expressly declared that this product fulfils all relevant provisions of the following EU Directives:

European Directive On Machinery 2006/42/EC

Reference to the harmonised standards used, as referred to in Article 7, Annex 2:

EN 349: 1993+A1: 2008
EN 12100 : 2011 - 03
EN 1494 : 2000+A1: 2008

Weissenhorn, 21.01.2016

Manufacturer
PERI GmbH
Postfach 1264
89259 Weissenhorn

The optimal System for every Project and every Requirement

Wall Formwork

Column Formwork

Slab Formwork

Climbing Systems

Bridge Formwork

Tunnel Formwork

Shoring Systems

Construction Scaffold

Facade Scaffold

Industrial Scaffold

Access

Protection Scaffold

Safety Systems

System-Independent Accessories

Services

PERI Norge AS
Forskaling Stillas Engineering
Orhusveien 6
3070 Sande i Vestfold
Norge
Tel. +47 32 20 49 40
info@peri.no
www.peri.no

DE en 04 | 2016 1sm 793942 © PERI GmbH