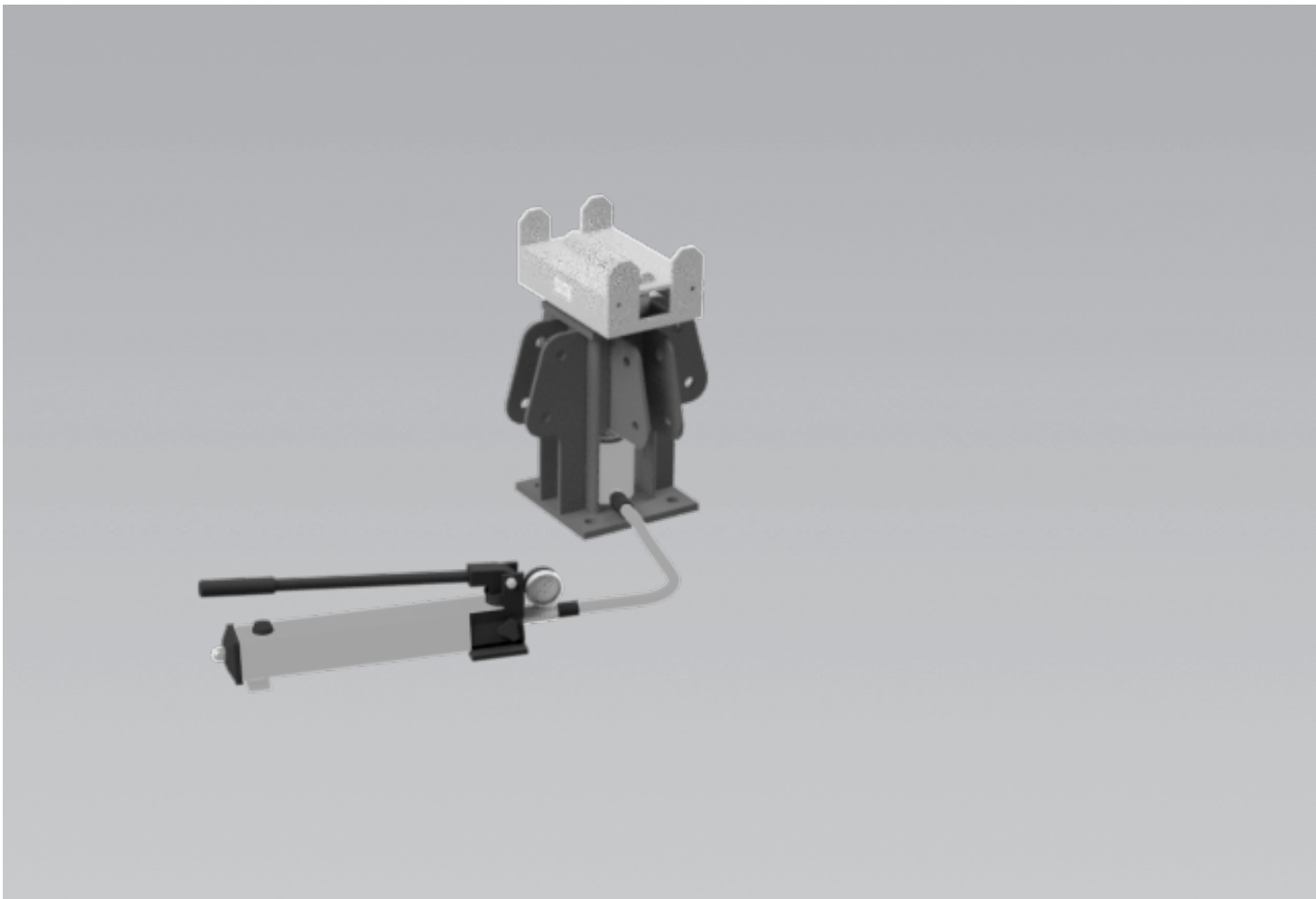
Hydraulic Head Spindle Unit ATS

Article no. 130144 | Article no. 126438

Translation of the Original Instructions for Use – Version 1.0



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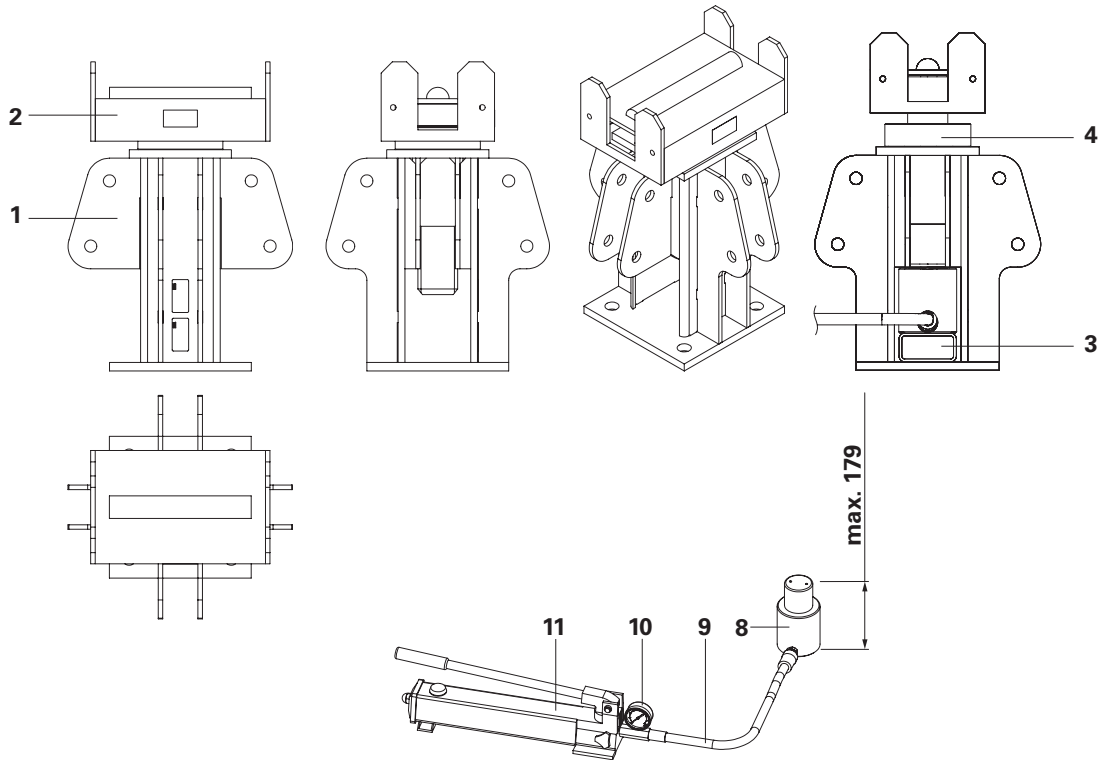
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Overview

Components



Head Spindle ATS

(1) Head spindle
(2) Spindle top
(3) Head Spindle Tube ATS
(4) Head spindle nut

Hydraulic Unit HD

(8) Hydraulic cylinder
(9) Hydraulic hose
(10) Pressure gauge
(11) Hydraulic hand pump

Key

Pictogram | Definition


Danger / Warning / Caution


Note


To be complied with


Load-bearing point


Visual inspection


Tip


Incorrect use


Safety helmet


Safety shoes


Safety gloves


Safety goggles


Personal protective equipment to prevent falling from a height (PPE)

Arrows

- Arrow representing an action
- Arrow representing a reaction of an action*
- Arrow representing forces

* If not identical to the action arrow.

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, irreversible injury.


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


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


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

Format of the safety instructions


Signal word
Type and source of hazard!
Consequences of non-compliance.
⇒ Preventative measures.

Dimensions
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**.

Notes on illustrations
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 for all component sizes contained in the standard configuration.

To facilitate understanding, detailed illustrations are sometimes incomplete. The safety installations which have possibly not been shown in these detailed illustrations must nevertheless be available.

Target groups

Contractors
These Instructions for Assembly and Use are designed for contractors who either
- assemble, modify and dismantle the formwork systems, or
- use them, e.g. for concreting, or
- allow them 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 safety and health protection 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 persons 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 carry out inspections correctly. 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. Qualified personnel must have completed a course of training** in the work to be performed, covering the following points at least:
- 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.
- Naming of the preventive measures to be taken to avoid the risk of persons and objects falling.
- Naming 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.
- Description of all other risks and dangers associated with assembly, modification or dismantling operations.

- **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 themselves or a competent person selected by them.

Additional technical documentation

- Instructions for Assembly and Use:
  – ALPHAKIT
- Instructions for Use:
  – Pallet lifting trolley
  – Pallets and stacking devices

Intended use

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

The Hydraulic Head Spindle Unit ATS was designed for the vertical lifting of vertical loads, the short-term lifting and the controlled lowering of individual loads up to 295 kN.

The Hydraulic Head Spindle Unit ATS consists of the Head Spindle ATS and the Hydraulic Unit HD.

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

The Hydraulic Head Spindle Unit ATS must not be used in continuous operation. It is intended exclusively for raising and lowering for short periods.

The hydraulics are not suitable for use in areas susceptible to explosions.

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

These Instructions for Use serve as the basis for the object-related risk assessment and the instructions for the provision and use of the system by the contractor. However, they do not replace them.

The Hydraulic Head Spindle Unit ATS may only be used:
1. Within the permissible load capacity, max. 295 kN.
2. Within the permissible temperature limits of -20 °C to +40 °C.
3. When in perfect condition.
4. When properly mounted.
5. When the user has read and understood these Instructions for Use.
6. Only by using the attachments described in these Instructions for Use.

Instructions for Use

Use in a way that is not intended according to the Instructions for Use or deviations from the standard design or intended use constitute incorrect use with a safety risk, e.g. risk of falling.

Deviations from the standard configuration must be verified for the application by means of separate strength and stability calculations (Industrial Safety Regulation Appendix 1, No. 3.2.1 and explicitly reflected in the assembly instructions.)

Changes to PERI components are not permitted.

The system described in these Instructions for Use may contain patented components.

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

Cleaning and maintenance instructions

In order to maintain the value and operational readiness of PERI products in the long term, clean the components 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.



The contractor must ensure that the personal protective equipment required for cleaning, maintenance and repair work such as
- safety helmet,
- safety shoes,
- safety gloves,
- safety goggles,

is available and used as intended.

Never use steel brushes or hard metal scrapers to clean powder-coated or galvanised components.

Mechanical components, e.g. spindles, 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.

Components with wood parts are to be stored in well-ventilated and dry conditions.

Any repairs to PERI products are to be carried out by PERI qualified personnel only.

If the repair or replacement of worn components is necessary, only use original PERI parts as spare parts.

Clean the Head Spindle ATS before and after each use and grease the mechanical components with suitable lubricants (long-life grease LT 200 EP or comparable).

Every 12 months, drain all the hydraulic oil and fill the pump with original oil, HF-95Y or equivalent. Change the oil more often if the hydraulics are used in a dirty environment.

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

Check the manometer regularly for accuracy. Critical pressure measurements, malfunction or failure of the manometer, or inaccurate measurements represent a safety risk.

Depending on the area of use and frequency, the supporting bolts (**2.4c**), the cylinder surface (**2.4d**) and the lever arm guide (**2.4e**) must be lubricated with roller bearing grease. (Fig. 1)

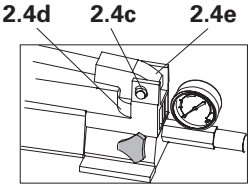


Fig. 01

Safety inspection
The contractor shall arrange for the inspection to be carried out by a competent person before initial operations start.

Inspection before initial operations start
The inspection includes a visual and functional check:
- Deformations of the parts,
- Wear and tear,
- Mechanical damage,
- Availability of all parts,
- Corrosion damage,
- Cracks, crushing, notches on welding seams and components,
- Signs of impermissible heating or contact with fire,
- Check system connections and other connections for secure fitting and leakage,
- Check the oil level in the pump tank, top up if necessary.

Functional inspection
1. The adjusting nut (**4**) must move easily and without tilting.
2. The upper part of the spindle (**2**) must turn easily.

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

Cross-system



Safety instructions apply to all service life phases of the 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 Use can be used as a basis for preparing the risk assessment. The risk assessment is compiled by the contractor.
The Instructions for Use do not replace the risk assessment!

Refer to 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 before each use and assembly, for:
- damage,
- stability and
- functional correctness.

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.

When on slab formwork, scaffolds and working platforms:
- do not jump,
- do not run,
- do not drop anything from or onto it.

Components provided by the contractor must comply with the requirements stipulated in these assembly instructions and all applicable laws and standards. Unless otherwise indicated, the following applies in particular:
- timber components: strength class C24 for solid wood according to EN 338.
- scaffold tubes: galvanised steel tubing with minimum dimensions Ø 48.3 x 3.2 mm according to EN 12811-1:2003 4.2.1.2.
- scaffold tube couplings according to EN 74-1 and EN 74-2.

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 extraordinary events that may have damaging effects on the safety of the system, the contractor must immediately
- produce another risk assessment, the results of which must be used to implement suitable measures to ensure the stability of the system,
- arrange for an extraordinary inspection to be carried out by a competent person qualified to do so. The aim of this inspection is to detect and repair damage in good time in order to ensure the safe use of the system.

Exceptional events could be:
- accidents,
- long periods of non-use,
- natural events, e.g. heavy rainfall, icing, heavy snowfall, storms or earthquakes.

Assembly, modification and dismantling work
The systems may only be assembled, modified or dismantled under the supervision of a person qualified to do so and by technically suitable employees. The qualified personnel must have received appropriate training for the work to be carried out with regard to specific risks and dangers.

On the basis of the risk assessment and Instructions for Use, the contractor must draw up installation instructions to ensure safe assembly, modification and dismantling of the unit.



The contractor must ensure that the personal protective equipment required for the assembly, modification or dismantling of the head spindle unit, e.g.
- safety helmet,
- safety shoes,
- safety gloves,
- safety goggles,

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 PPE against falling to be used is determined by the contractor.

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

Use
Every contractor who uses or allows the scaffold systems to be used, is responsible for ensuring that the equipment is in good condition.

If the scaffold 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

Only use the components specified in these Instructions for Use.

Observe storm warnings! Depending on the type of load and the area exposed to the wind, it must be decided on site whether sufficient safety is provided when lifting or lowering.

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

Remove or secure loose parts before lifting or lowering!

Before each lifting or lowering, check that the load is securely connected to the Hydraulic Head Spindle Unit ATS.

Do not drop any objects on the hydraulic hose, pump, manometer or cylinder.

The hydraulic hose must not be kinked at installation. Tight bends should be avoided.

The hydraulic cylinder must be inserted vertically into the Head Spindle ATS. The pressure disk of the Head Spindle ATS must be positioned flush on the complete piston surface of the hydraulic cylinder.

The hydraulic cylinder must be relieved as soon as the desired position is reached by adjusting the adjusting nut. The hydraulic cylinder must not take the load permanently.

Before releasing the load from the Hydraulic Head Spindle Unit ATS, ensure that the load is secured!

Set up Head Spindle ATS on a level and sufficiently load-bearing surface, e.g. for load distribution: steel plate 350 x 350 x 15 mm on concrete of grade C12/15.

The structures shown in these PERI Instructions for Use are presented here as examples with only one assembly version.

A project-specific structural analysis in which the force to be applied has been determined as well as a lifting and lowering plan are mandatory!

The illustration on the front cover is a system illustration.
The structures shown in these Instructions for Use are presented here as examples with only one component size. They are valid for all component sizes contained in the standard configuration.

A1 Storage and transportation

General

Store and transport components in such a way 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
Hydraulic Head Spindle Unit ATS.

Store and transport the
Hydraulic Head Spindle Unit ATS in such a way that it does not change its position unintentionally.

During the relocation 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 construction site must be free of obstacles and tripping hazards, as well as being slip-resistant.

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

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

The components must be stored dry, cleaned and protected against corrosion at temperatures of -20 °C to +40 °C.

Head Spindle ATS
Only use original PERI storage and transport systems, e.g. crate pallets, for the Head Spindle ATS.

Hydraulic Unit HD
Never lift the Hydraulic Unit HD by the hose or swivel couplers. Transport only by holding the pump and cylinder.

Do not place any loads on the hydraulic components.

The vent and filler cap (**11a**) must be closed before transporting the pump to prevent oil loss.

If the hydraulic components are disconnected, the dust caps must be screwed on immediately so that no contamination can cause the hydraulic system to fail.

During transport or intermediate storage, the hydraulic components - hose, cylinder and hand pump - must be stored and transported separately in the aluminium case provided for this purpose. (Fig. A1.01)

Transportation position Hydraulic Unit HD

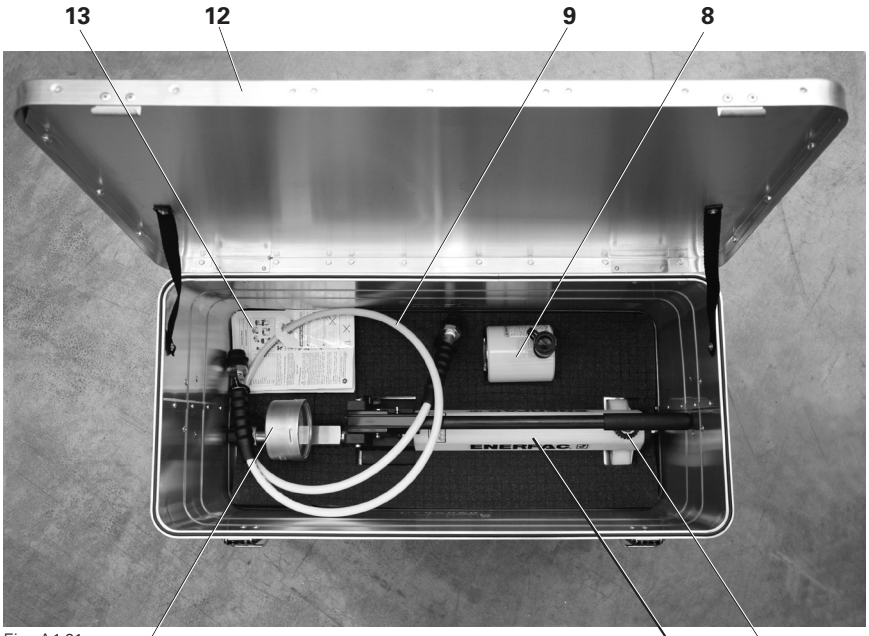


Fig. A1.01

Pos.	Component	Qty
8	Hydraulic cylinder	1
9	Hydraulic hose	1
10	Manometer	1
11	Hydraulic hand pump	1
11 a	Vent and filler cap	1
12	Aluminium case (**780 x 380 x 380 mm**)	1
13	Instructions for Use	1

Transportation position Head Spindle ATS

1. Turn the head spindle nut (**4**) upwards as far as it will go. (Fig. A1.02)
2. Insert the upper part of the spindle (**2**) into the head spindle (**1**) until it rests on the head spindle nut (**4**). (Fig. A1.03)

Secure the head spindle (**1**) and spindle top (**2**) for transport so that the spindle top (**2**) cannot slip out of the head spindle (**1**).

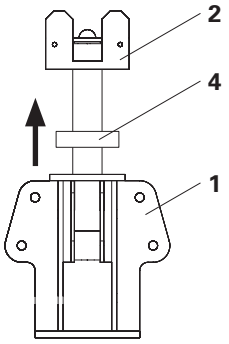


Fig. A1.02

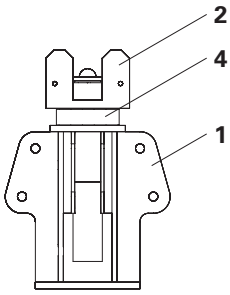


Fig. A1.03

Head Spindle ATS

Article no. 130144

Designation	Dimensions	Unit
Max. load-bearing capacity	max. 40	t
Thread	TR 70 x 10	mm
Length x width	approx. 395 x 359	mm
Min. height	545	mm
Max. height	710	mm
Max. stroke	165	mm
Weight	61	kg

Hydraulic Unit HD

Article no. 126438

Hydraulic hose Article no. 130791	Description	Unit
Type	WP H700 Series E6 3Q13 |0032|	
Model number	HC-7206	
Max. operating pressure	10000 [700]	psi [bar]
Length	1800	mm
Hose connection	3/8" NPT	Inches
Internal diameter	6.4	mm
Weight	1.1	kg

Hydraulic hand pump Article no. 130787	Description	Stage 1	Stage 2	Unit
Type	P-392			
Pressure stages	2			
Max. nominal pressure		188 [13]	10000 [700]	psi [bar]
Oil volume per stroke		.687 [11.26]	.151 [2.47]	in^3 [cm^3]
Usable oil tank capacity	55 [900]			in^3 [cm^3]
Changeover pressure	188 [13]			psi [bar]
Max. leverage force	42.2			kg
Piston stroke	25.4			mm
Weight	4.1			kg

A2 Technical Data

Hydraulic cylinder Article no. 130792	Description	Unit
Type	RCS 302 [single-acting]	
Max. compressive force	295 [30]	kN [t]
Max. operating pressure	10000 [700]	psi [bar]
Stroke	62	mm
Headroom retracted	117	mm
Max. overall height	179	mm
Effective piston area	42.1	cm^2
Oil volume	16 [261]	In^3 [cm^3]
Weight	6.8	kg

Manometer Article no. 130789	Description	Unit
Type	HD GF-835B specially designed for RCS 302	
Max. operating pressure	10000 [700]	psi [bar]
Max. compressive force	295	kN
Weight	0.23	kg

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	
Flash point, C.O.C.	400 [205]	°F [°C]
Flow point	-25 [-32]	°F [°C]
Aniline point	210 / 220 [100 / 105]	°F [°C]
Paraffin-based paint	Blue	

A3 Identification Markings

Caution

- Do not use the Hydraulic Head Spindle Unit ATS if the labels or information signs are missing or illegible!
- Do not use the Hydraulic Head Spindle Unit ATS if the inspection sticker is missing, expired or illegible!
- If the identification marking is missing, illegible or has expired, have it checked immediately by a competent person and attach a new type plate or inspection sticker. The result of the test must be documented!

Head Spindle ATS

Identification plate

Kopfspindel ATS
Head Spindle ATS

Art.-Nr.: / Item no.: 130144
Serien-Nr.: / Serial no.:
Baujahr: / Year of manufacture: 20

Tragfähigkeit: / Load-bearing capacity: max. 40t
Eigengewicht: / Self weight: 61kg / 134lbs

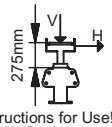
Betriebsanleitung beachten! / Follow Instructions for Use!
PERI GmbH, Postfach 1264, 89259 Weißenhorn

Load table

Kopfspindel ATS Art.Nr. 130144
Head Spindle ATS Item.no. 130144

Traglasttabelle / Load table

perm. V (t)	perm. H (t)
40	0,07
35	0,43
30	0,80
25	1,14



Betriebsanleitung beachten! / Follow Instructions for Use!
PERI GmbH, Postfach 1264, 89259 Weißenhorn

Warning

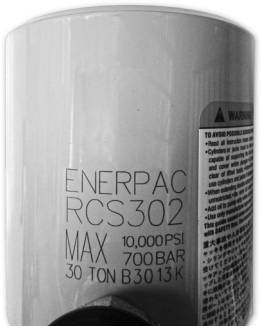


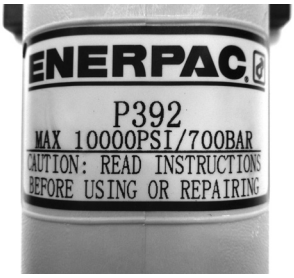
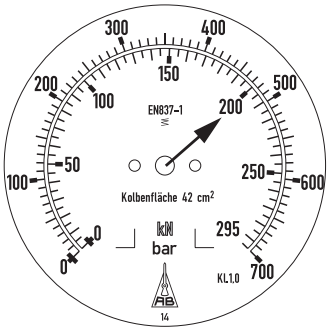
Inspection sticker



This inspection sticker is attached by PERI rental park personnel in the type plate area. It indicates when the Hydraulic Head Spindle Unit ATS unit needs to be checked again.

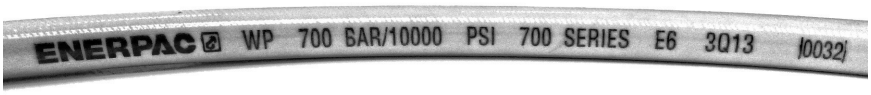
Hydraulic Unit HD

Hydraulic cylinder	Warning
	

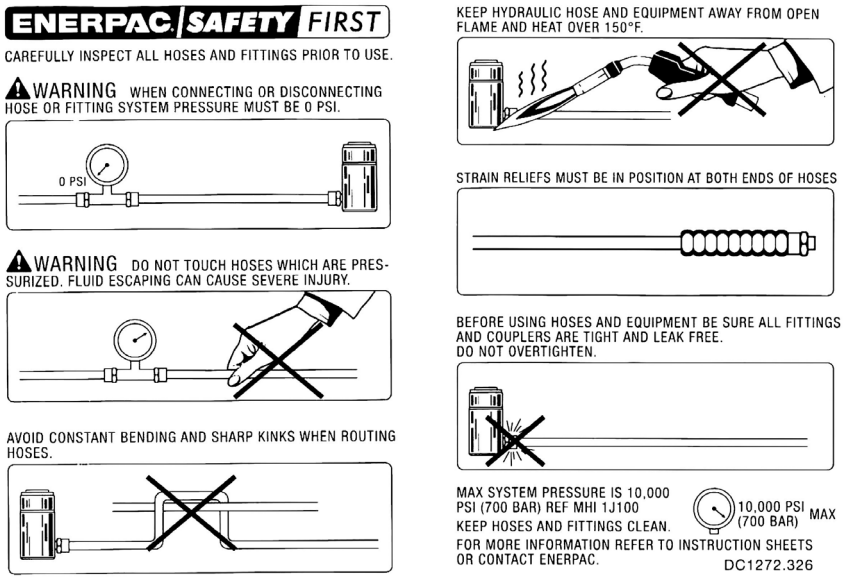
Hydraulic hand pump	Manometer
	 Inner scale = load in kN Outer scale = pressure in bar max. permissible load = 295 kN

A3 Identification Markings

Hydraulic hose



Warning signs on the hydraulic hose



Assembly of hydraulic components

Assembly

Warning
Replace worn or damaged parts with ENERPAC original parts!

Personal protective equipment must be worn when assembling the hydraulic components.

The hydraulic components must be assembled before each use.

Pos.	Component	Qty
8	Hydraulic cylinder	1
9	Hydraulic hose	1
10+ 11	Manometer is fitted with a hydraulic hand pump	1

Procedure:
1. Remove the components from the aluminium case.
2. Check for damage.
3. Screw together the hydraulic hose (**9**) and the hydraulic hand pump (**10 + 11**).
4. Screw together the hydraulic hose (**9**) and the hydraulic cylinder (**8**).
5. Check oil level.
6. Bleed the hydraulics.

Make sure that no oil escapes after screwing components together. Check all screw connections and couplings for tightness. Once the hydraulic system has been pressurised, the components can no longer be tightened by hand.

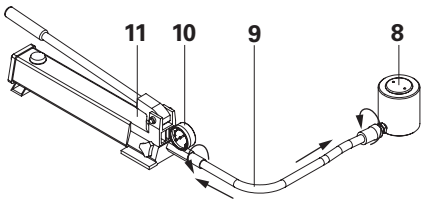


Fig. B1.01

Topping up the hydraulic oil

Caution

Accidental ingestion and eye contact due to hydraulic oil spraying out.
This can lead to serious, irreparable injuries.
⇒ Avoid body contact with hydraulic oil.

Caution

Only top up the oil when the hydraulic cylinder is fully retracted and the hydraulic system is depressurised! Otherwise the hydraulic system will contain too much oil! This can lead to malfunctions!



Wear personal protective equipment when handling hydraulic oil.

Procedure

1. Remove the breather and filler cap (**11a**) from the oil tank of the hand pump (**11**).
2. Check the oil level using the filling mark in the oil tank.
3. Fill only up to the filling mark.
4. Bleed the hydraulic system.
5. Screw the vent and filler cap (**11a**) back on.
6. Check the hydraulic system for leaks.

Bleed the hydraulics

Procedure

1. Close the drain valve (**11b**) by turning it clockwise.
2. Position the hand pump higher than the cylinder.
3. The cylinder bottom of the hydraulic cylinder (**8**) must point upwards.
4. Operate the hand pump until the cylinder is fully extended. (total length = 179 mm)
5. Open the drain valve by turning it anticlockwise. The air is now pressed into the oil tank of the hand pump.
6. Unscrew the vent and filler cap (**11a**) with a 1/4 turn anticlockwise to release the air.
7. Close the vent and filler caps by turning them clockwise. (Fig. B1.02)

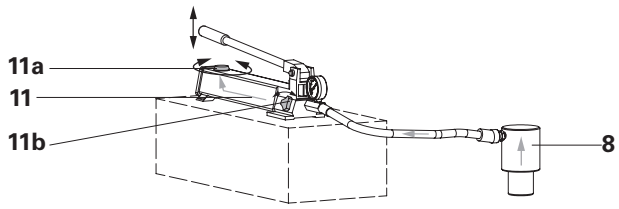


Fig. B1.02

Maintenance and servicing

General

The Hydraulic Head Spindle Unit ATS is designed for long-term use on construction sites.

In order to maintain the value and operational readiness of the Hydraulic Head Spindle Unit ATS for a long time, care should be taken to maintain its value.

Maintenance and servicing work on the Head Spindle ATS must only be carried out by PERI. Only original PERI parts may be used.

Maintenance and servicing work on the Hydraulic Unit HD should only be carried out by an authorised ENERPAC customer service centre in the respective region. Only original ENERPAC parts may be used.

Every 12 months, drain all the hydraulic oil and fill the pump with pure ENERPAC oil. Change the oil more often if the hydraulics are used in a dirty environment.

Changing the hydraulic oil

Procedure

1. The cylinder (**8**) must be retracted.
2. Open the vent and filler cap (**11a**) on the oil tank of the hand pump. (Fig. 3)
3. Tilt the hand pump (**11**).
4. Collect used oil in a suitable container.
5. Fill tank with ENERPAC hydraulic oil up to the filling mark.
6. Close the vent and filler cap (**11a**) on the oil tank of the hand pump.
7. Vent if necessary.
8. Dispose of used hydraulic oil according to regulations.

The repair or replacement of worn components is absolutely necessary if there is visible damage. (e.g. wear on the hose, crushing of the cylinder and couplings, etc.)

Lubrication of the pump

Depending on the area of use and frequency, the supporting bolts (**11c**), the cylinder surface (**11d**) and the lever arm guide (**11e**) must be lubricated with roller bearing grease. (Fig. B1.03)

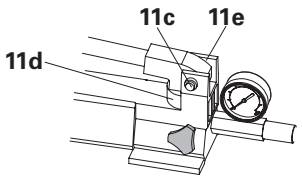


Fig. B1.03

Installation of the hydraulics

Warning
The cylinder must not take the load permanently!

Wear personal protective equipment!

Do not install the Hydraulic Unit HD until the shoring system is completely assembled.

Observe the PERI ALPHAKIT Shoring Instructions for Assembly and Use .

Requirements:
- The Hydraulic Unit HD is properly mounted.
- The hydraulic cylinder (**8**) must be perpendicular and the piston surface must be fully and centrally supported! (Fig. B1.06)
- The hydraulic hose must not be kinked or severely bent.(Fig. B1.05)

Procedure:
- Position the hydraulic cylinder (**8**) in the Head Spindle AST. (Fig. B1.05 + B1.06)
- Close the drain valve (**11b**) by turning it clockwise.

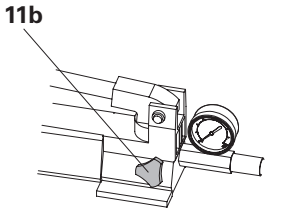


Fig. B1.04

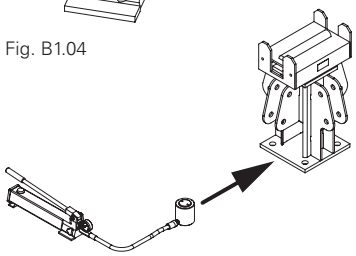


Fig. B1.05

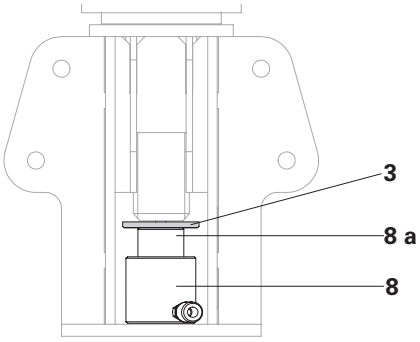


Fig. B1.06

- Before using the Hydraulic Head Spindle Unit ATS, check that all components are properly connected to each other!
- Remove or secure loose parts!
- Do not exceed the maximum operating pressure of 680 bar (or 700 kN)!
- If the head spindle is not loaded, it can be adjusted by hand.
- The head spindle must be raised or lowered using a hydraulic cylinder when loaded.
- Follow the Instructions for Use for the Hydraulic Cylinder.
- The head spindle must be spindled out at least 50 mm.
- Do not exceed the maximum spindling height!
- When working on existing structures, constantly check the structure, e.g. cracks, falling parts or noises.
- Once the specified height is reached, secure with the head spindle nut (**4**) to relieve the load on the cylinder! (Fig. B1.09)
- To avoid injury during operation, keep hands and feet away from cylinder and Head Spindle ATS!
- Project-specific lifting and lowering plans are to be observed.

Height adjustment when loaded for 500 – 565 mm

1. Insert Hydraulic Cylinder (**8**) into the Head Spindle (**1**). (Fig. B1.07)

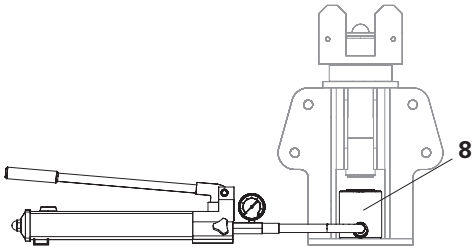


Fig. B1.07

2. Pump up the Hydraulic Cylinder (**8**) to the required height (min. 50 mm). (Fig. B1.08)

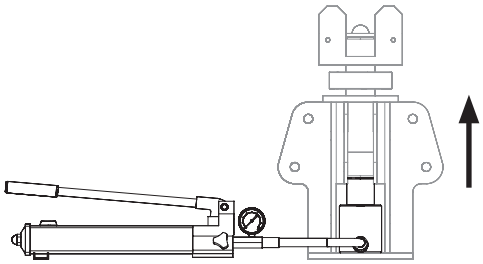


Fig. B1.08

3. Tighten the Head Spindle nut (**4**). (Fig. B1.09)

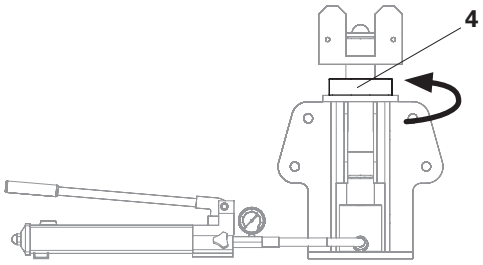


Fig. B1.09

4. Release pressure from the Hydraulic Cylinder (**8**). (Fig. B1.10)
5. Repeat the procedure until the required height has been reached.
6. Adjust the height for all four Head Spindles (**1**)

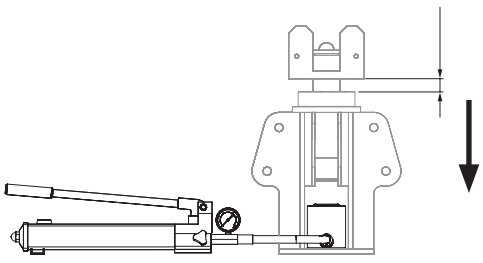


Fig. B1.10

Height adjustment when loaded for 550 – 615 mm

1. Push the Head Spindle Tube ATS (**3**) in a lower position into the head spindle (**1**).
2. Position the Hydraulic Cylinder (**8**) on the Head Spindle Tube ATS (**3**). (Fig. B1.11)

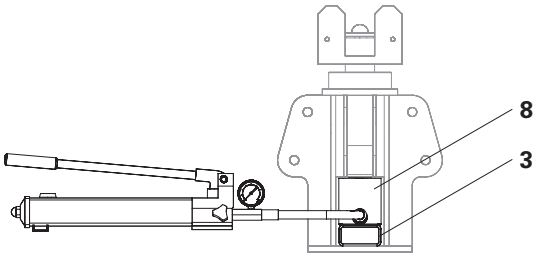


Fig. B1.11

3. Pump up the Hydraulic Cylinder (**8**) to the required height (min. 50 mm). (Fig. B1.12)

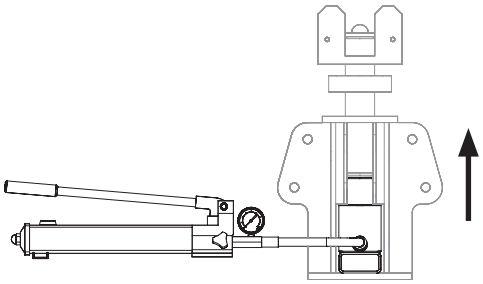


Fig. B1.12

4. Tighten the Head Spindle nut (**4**). (Fig. B1.13)

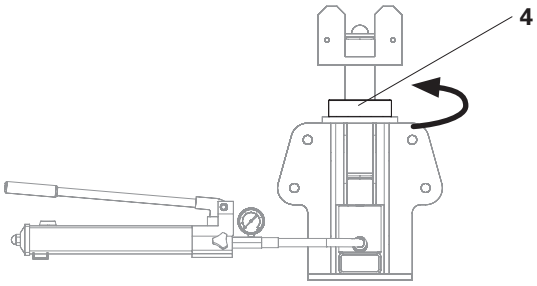


Fig. B1.13

5. Release pressure from the Hydraulic Cylinder (**8**). (Fig. B1.14)
6. Repeat the procedure until the required height has been reached.
7. Remove the Head Spindle Tube ATS (**3**).
8. Adjust the height for all four Head Spindles (**1**).

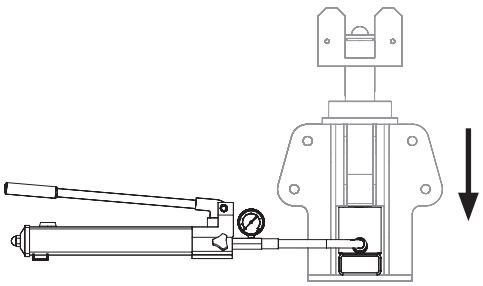


Fig. B1.14

Height adjustment when loaded for 600 – 665 mm

1. Insert the Hydraulic Cylinder (**8**) into the Head Spindle and push upwards.
2. Slide the Head Spindle Tube ATS (**3**) into the Head Spindle (**1**) in an upright position.
3. Position the Hydraulic Cylinder (**8**) on the Head Spindle Tube ATS (**3**). (Fig. B1.15)

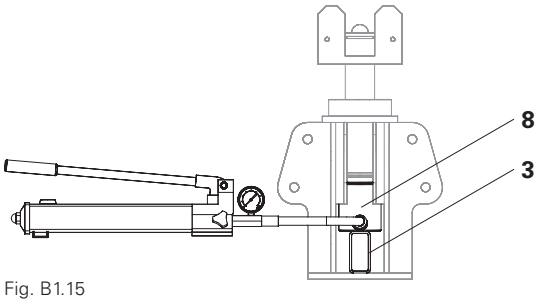


Fig. B1.15

4. Pump up the Hydraulic Cylinder (**8**) to the required height (min. 50 mm). (Fig. B1.16)

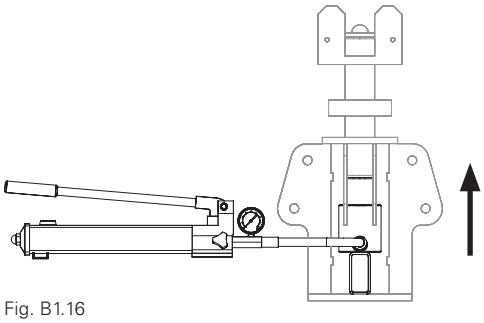


Fig. B1.16

5. Tighten the Head Spindle nut (**4**). (Fig. B1.17)

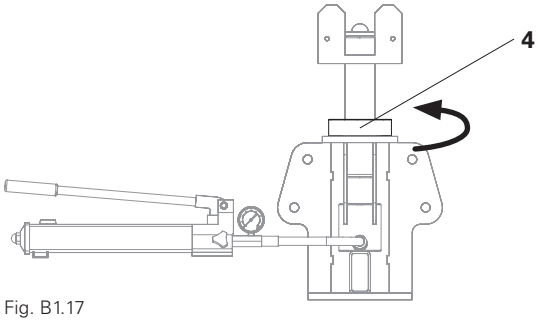


Fig. B1.17

6. Release pressure from the Hydraulic Cylinder (**8**). (Fig. B1.18)
7. Repeat the procedure until the required height has been reached.
8. Remove the Head Spindle Tube ATS (**3**).
9. Adjust the height for all four Head Spindles (**1**).

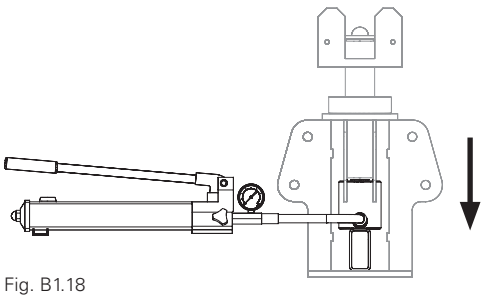


Fig. B1.18

Load-controlled lowering

Lowering with the Hydraulic Head Spindle Unit ATS

Danger

- Personal injury and damage to property! Do not lower until the concrete has hardened sufficiently and the person in charge has ordered the lowering!
- When working on existing structures, constantly check the structure, e.g. cracks, falling parts or noises!
- If there are several props, ensure that all props are lowered evenly!
- Before using the Hydraulic Head Spindle Unit ATS, check that all components are properly connected to each other!

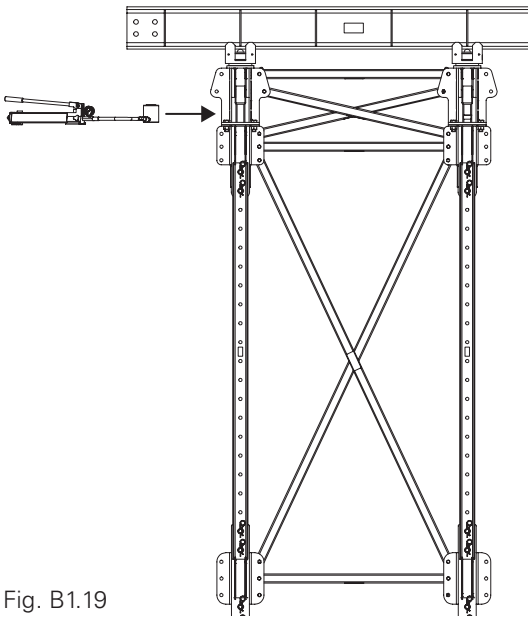


Fig. B1.19

Lowering with the Hydraulic Head Spindle Unit ATS

Danger

- Only the operator is allowed to be under the load!
- Crushing risk! To avoid injury during operation, keep hands and feet away from cylinder and Head Spindle ATS!
- A project-specific structural analysis and lowering plan are mandatory!

- The height is always adjusted via the Head Spindle ATS. See the ALPHAKIT Instructions for Assembly and Use.
- Lowering distance per step limited to max. 10 mm by adjusting nut (**4**). (Fig. B1.15)

Lowering with the Hydraulic Head Spindle Unit ATS

Danger

Do not adjust the adjusting nut during lowering with the Hydraulic Head Spindle Unit ATS! This leads to uneven load distribution! Max. 10 mm may be lowered per work step!

Wear personal protective equipment!

Requirements:

- The Hydraulic Unit HD is properly mounted.
- Cylinder (**8**) must be in a perpendicular position, flush-fitted and centred!
- The hydraulic hose must not be kinked or severely bent.(Fig. B1.20)
- The pump valve (**11b**) is closed. (Fig. B1.20)

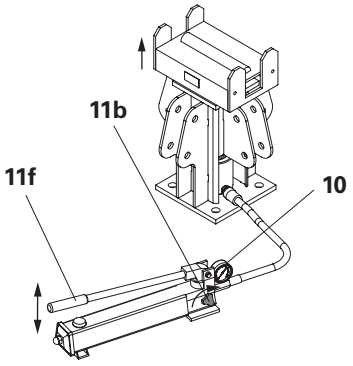


Fig. B1.20

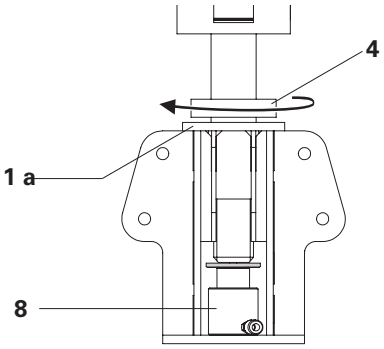


Fig. B1.21

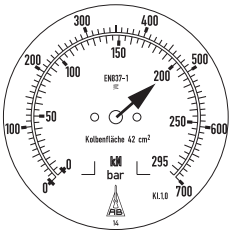


Fig. B1.22

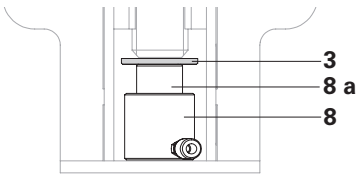


Fig. B1. 23

Warning

During the lowering procedure, body parts could become trapped!
Risk of injury!

⇒ Lowering is carried out from a safe working position.
⇒ Project-specific lifting and lowering plans are to be observed.
⇒ Consider the lowering range.

- Retract components only when the concrete has sufficiently hardened and the person in charge has given the go-ahead for striking to take place.

Lowering

Observe project-specific lowering guidelines.
Otherwise:

1. Lower all Standards one after the other from the inside to the outside using the specified lowering range.
   – Observe the lowering sequence.
   – Consider the lowering range.

(Fig. B1.01 + Table B1.01)

2. Repeat the procedure until the required spindling distance has been reached.

Lowering path

Configuration	H < 10 m	10 m ≤ H < 20 m	20 m ≤ H < 30 m
Head Spindle ATS	1/2 turn (5 mm)		
Spindle ATS 360-550	1/4 turn (6 mm)		

Tab. B1.01

- In the case of multiple middle supports, the shoring towers may have to be lowered one after the other using the same principle regarding the maximum permissible lowering range.
  → This avoids temporary overloading of individual legs or towers.

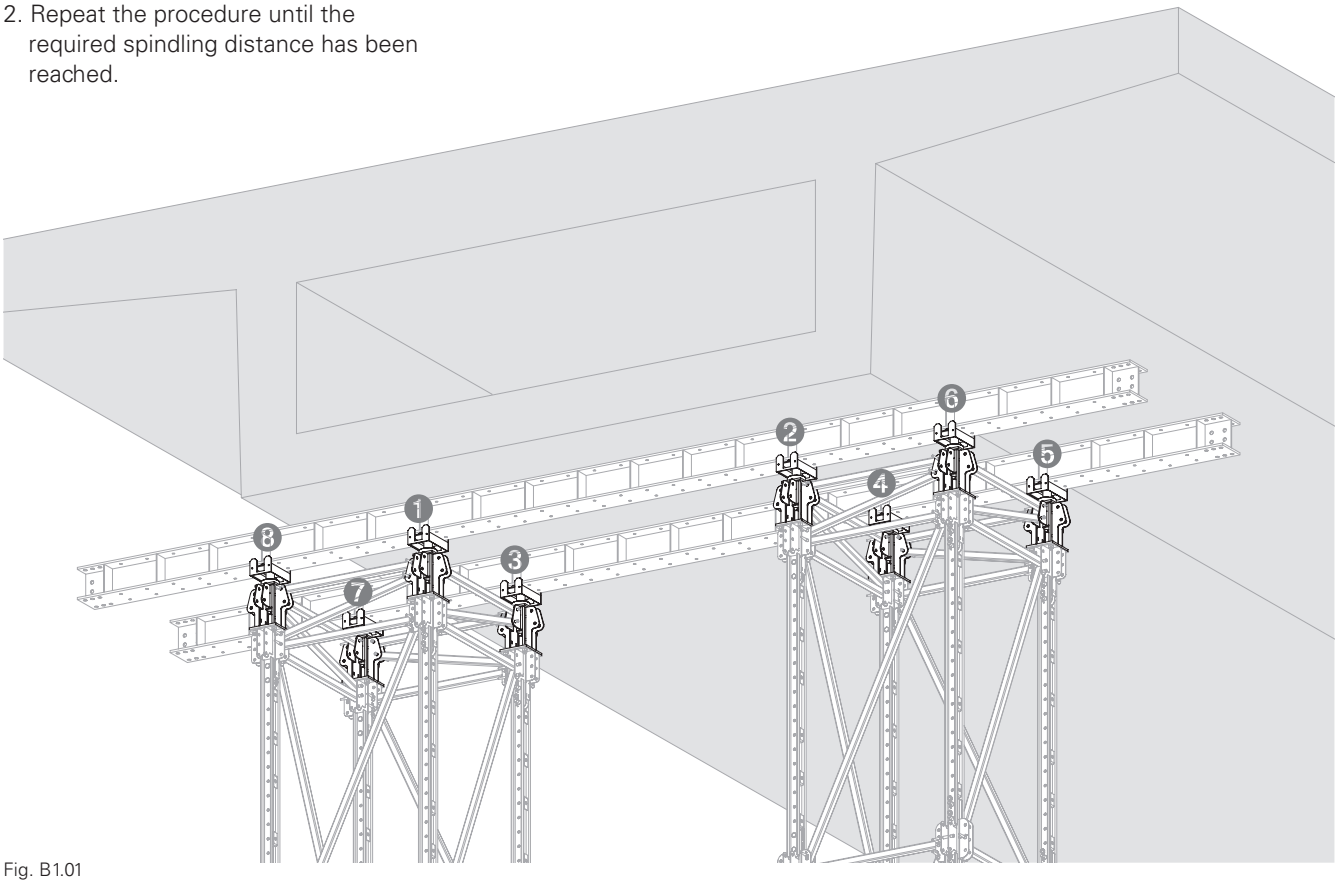


Fig. B1.01

Warning

During the lowering procedure, body parts could become trapped!
Risk of injury!

⇒ Lowering is carried out from a safe working position.

⇒ Project-specific lifting and lowering plans are to be observed.

- Retract components only when the concrete has sufficiently hardened and the person in charge has given the go-ahead for striking to take place.

Lowering procedure

1. Position the Hydraulic Cylinder (**8**) on the Head Spindle Tube ATS (**3**). (Fig. B1.24)
2. Pump up the Hydraulic Cylinder (**8**) until the Head Spindle Nut (**4**) is relieved.

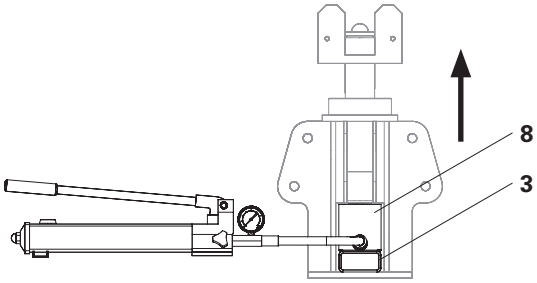


Fig. B1.24

3. Screw up the head spindle nut (**4**) 10 mm. (Fig. B1.25)

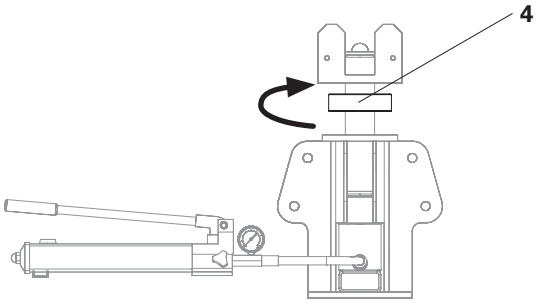


Fig. B1.25

4. Release pressure from the Hydraulic Cylinder (**8**). (Fig. B1.26)
5. Repeat the procedure until the planned lowering range has been reached.

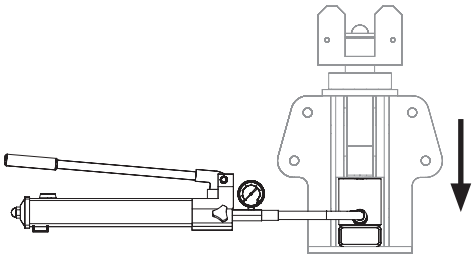


Fig. B1.26

Disassembly

Hydraulics

Warning
Hydraulics must be depressurised!

Wear personal protective equipment!

Procedure:
1. Open the pump valve (**11b**) counter-clockwise, retract the cylinder (**8**) completely. System is depressurised. (Fig. B1.27)
2. Close the pump valve (**11b**) clockwise.
3. Observe the indication on the manometer (**10**).
4. Remove the cylinder (**8**) from the Head Spindle ATS. (Fig. B1.27)
5. Unscrew the hydraulic components, hose, cylinder and hand pump, put on the dust caps. (Fig. B1.28)
6. Stow hydraulic components properly in the aluminium case.
7. Remove dripping oil professionally.

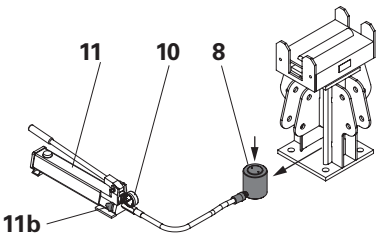


Fig. B1.27

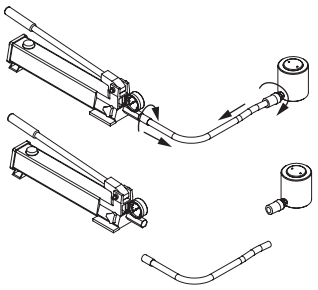


Fig. B1.28

Check components for damage!
Sort out damaged components immediately!

Troubleshooting

Malfunction	Possible cause	Remedy
Cylinder does not extend, extends too slowly or stops on start-up.	Oil level in the pump is too low.	Refill oil according to the Maintenance and Repair section.
	Drain valve open.	Close the drain valve.
	Screw connection on the hydraulic pump loose.	Check that all couplings are fully tightened.
	Too heavy a load.	Do not attempt to lift a load greater than the nominal load of 295 kN.
	Trapped air in the system.	Bleed the air according to the instructions in the Hydraulics section.
	Cylinder piston jammed.	Check cylinder for damage. Have cylinders serviced by a licensed hydraulic technician.

Tab. B1.01

Malfunction	Possible cause	Remedy
Cylinder extends, does not hold pressure.	Leaky connection.	Check that all connections are tightened and tight. If so, depressurise the system.
	Seal defective.	Locate leaks and have the connections and couplings serviced by a qualified hydraulic technician.
	Internal leakage in the pump.	Have the pump serviced by a qualified hydraulic technician.

Tab. B1.02

Malfunction	Possible cause	Remedy
Cylinder does not retract, retracts only partially or retracts slower than normal.	Drain valve closed.	Open the drain valve.
	Pump tank overfilled.	Reduce oil level by draining to the full mark in the oil tank.
	Loose hydraulic coupling.	Check that all couplings are fully tightened.
	Trapped air in the system.	Remove air, according to the instructions in the Bleeding the Hydraulics section.
	Cylinder return spring is broken or there is other damage to the cylinder.	Have cylinders serviced by a qualified hydraulic technician.

Tab. B1.03

Name und Anschrift des Herstellers:

PERI GMBH
Rudolf-Diesel-Straße 19
89264 Weissenhorn

EG-Konformitätserklärung

Im Sinn der EG- Maschinenrichtlinie 2006/42/EG, Anhang II, Teil 1, Abschnitt A vom 17.05.2006.

Hiermit erklären wir, dass die Bauart und die Ausführung der

Maschine:	KOPFSPINDELEINHEIT ATS
Serie:	ALPHAKIT
Art-Nr.:	130144 + 126438

folgenden geltenden Normen und Richtlinien entspricht.

EG-Richtlinie 2006/42/EG	Maschinenrichtlinie

Angewandte harmonisierte Normen, insbesondere:

DIN EN ISO 12100	Sicherheit von Maschinen; Allgemeine Gestaltungsleitsätze – Risikobeurteilung und Risikominderung
DIN EN ISO 13854	Sicherheit von Maschinen; Mindestabstände zur Vermeidung des Quetschens von Körperteilen

Angewandte nationale Normen und technische Spezifikationen:

DIN EN 1494	Fahrbare oder ortsveränderliche Hubgeräte und verwandte Einrichtungen

Bevollmächtigter für die Zusammenstellung der technischen Unterlagen:

PERI GmbH
Anschrift siehe Hersteller

Bei einer mit uns nicht abgestimmten Änderung der Maschine verliert diese Erklärung ihre Gültigkeit.

Weissenhorn, den 15.03.2021

i.V.

Dipl.-Ing. Rainer Bolz; Head of R&D Formwork

Name and address of manufacturer:

PERI GMBH
Rudolf-Diesel-Straße 19
89264 Weissenhorn/Germany

EC-Declaration of Conformity

according with the EC Machinery Directive 2006/42/EC, Annex II, Part 1, Section A of 17.05.2006.

We hereby declare that the design and construction of the

Machine:	HEAD SPINDLE UNIT ATS
Series:	ALPHAKIT
Art-Nr.:	130144 + 126438

complies with the following applicable standards and directives.

EC-Directive 2006/42/EC	Machinery Directive

Applied harmonised standards, in particular:

DIN EN ISO 12100	Safety of machinery - General principles for design - Risk assessment and risk reduction
DIN EN ISO 13854	Safety of machinery – Minimum gaps to avoid crushing of parts of the human body

Applied national standards and technical specifications:

DIN EN 1494	Mobile or movable jacks and associated lifting equipment

Person established in the Community authorized to compile the relevant technical documentation	PERI GmbH Adress see manufacturer

In the event of a change to the machine not agreed with us, this declaration shall lose its validity.

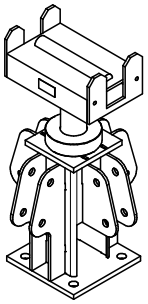
Weissenhorn, 15.03.2021

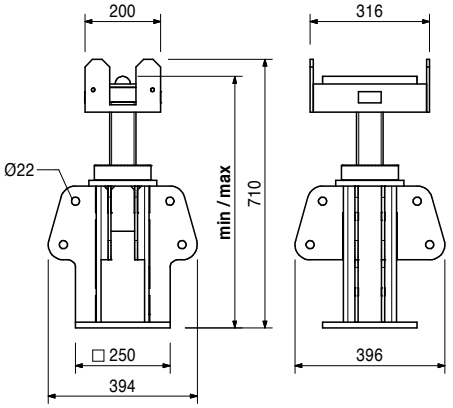
i.V.

Dipl.-Ing. Rainer Bolz, Head of R&D Formwork

Hydraulic Head Spindle Unit ATS

Article no.	Weight kg		min. L	max. L
130144	61.000	**Head Spindle ATS**	500	650

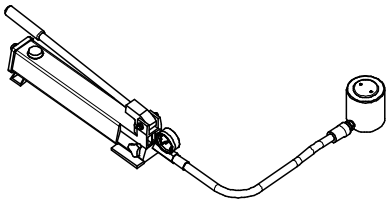




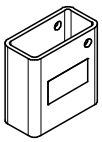
Accessories

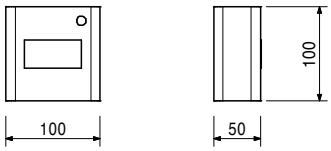
022250	0.100	**Nut ISO 4032 M24-8, galv.**
125462	0.343	**Bolt ISO 4017 M24 x 60-8.8, galv.**

126438	12.900	**Hydraulic Unit HD** Permissible load-bearing capacity up to 295 kN (readable directly on the manometer). Cylinder stroke up to 62 mm.	**Note** Maximum 1 piece per tower! Observe Instructions for Use!



130722	1.040	**Head Spindle Tube ATS**	**Note** 1 piece per Hydraulic Unit!





The optimal system for all projects and every requirement



Wall formwork



Column formwork



Slab formwork



Climbing systems



Bridge formwork



Tunnel formwork



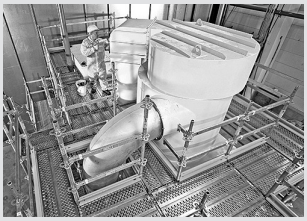
Shoring



Working scaffolds



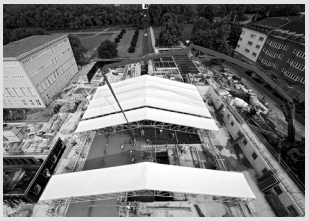
Facade working scaffold



Working scaffolds industry



Means of access



Safety scaffolds



Safety systems



System-independent accessories



Services

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