

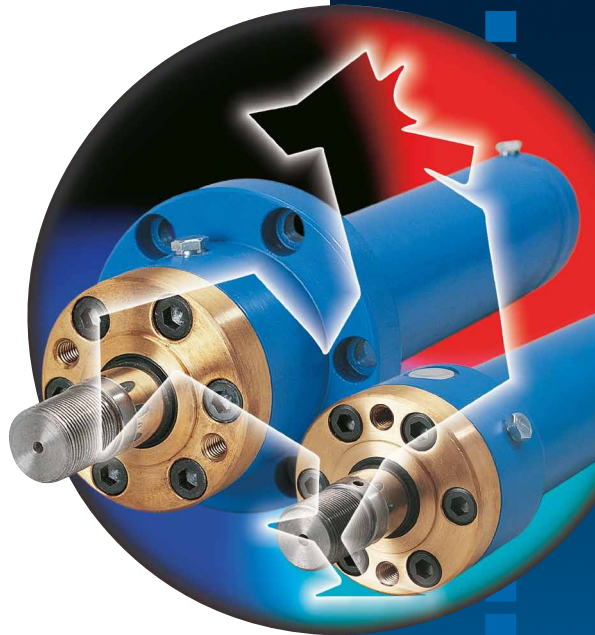


HANCHEN[®]



HYDRAULIC CYLINDERS

Maintenance manual





HYDRAULIC CYLINDER

Maintenance manual

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Attention:

Please observe the instructions of any documents attached to the cylinder.

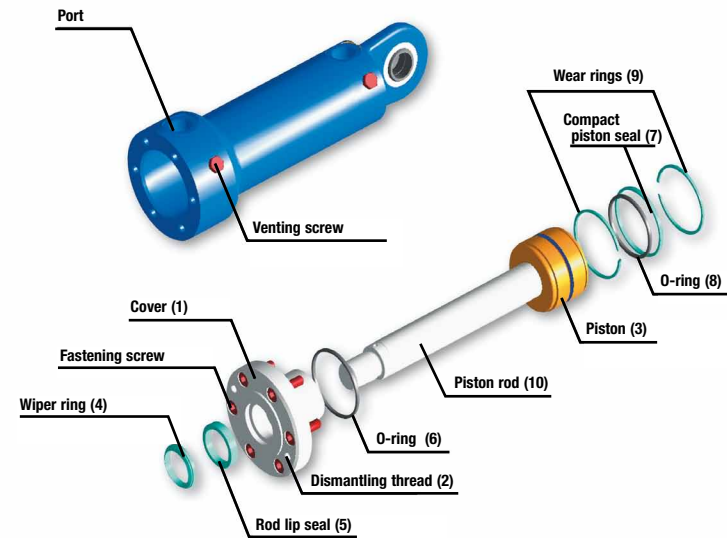
5. Dismantling and assembly of Hänchen products

Note: In order to avoid soiling the cylinder must be emptied. We also recommend to open the venting screw (avoiding of a vacuum in the cylinder).

5.1 Single rod hydraulic cylinder

Dismantling:

- Check if the piston rod is damaged. These damages might be caused by mounting or dismantling of mounting parts. Remove the damages, if necessary.
- Remove the fastening screws (hexagon socket) in the cover on the piston rod side (1).
- Screw two of these screws evenly back into the corresponding pressure-thread bores.
- Pull off cover (1) over the piston rod.
- Pull piston rod with piston out of the cylinder.



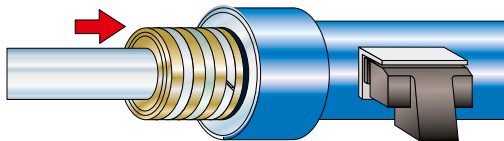
Note:: In case of hydraulic cylinders with position transducers ensure that the position transducer is removed before dismantling the cylinder since the sensor could otherwise be damaged. You can also send the cylinder to Hänchen for changing the wearing parts.



Assembly:

Fitting the piston rod

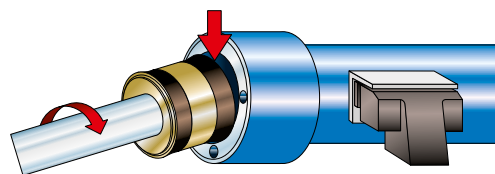
Note: Lightly wet all parts with oil. Do not fit the ends of the wear rings flush with the connecting bores since they will otherwise shear off in the connecting bores. Make sure that the previously deformed sealing elements have resumed their original shape. In order to avoid damage of the sealing elements we recommend to use the suitable Hänchen assembly tool (see chapter 7.3).



Press together the mud scraping wear rings (9) and insert the piston and piston rod (10) into the cylinder tube in line with the centre axis of the cylinder. In the case of cylinder tubes without an insertion slope we recommend pressing the ends of the wear rings into the groove with a blunt object whilst pushing the piston rod into the cylinder tube.

Piston with grooved ring seals variant

Place the piston at an angle to the cylinder tube so that the part of the first seal's circumference rests in the cylinder tube. Press the seal into the cylinder tube with a blunt object. Slide the piston rod with a slight twisting movement and gentle pressure into the cylinder tube. Once the entire circumference of the seal has been inserted into the cylinder tube slowly press the piston rod inwards. Remember to press the lip of the seal down with a blunt object when it passes the connection bore whilst slowly pushing the piston rod into the tube.

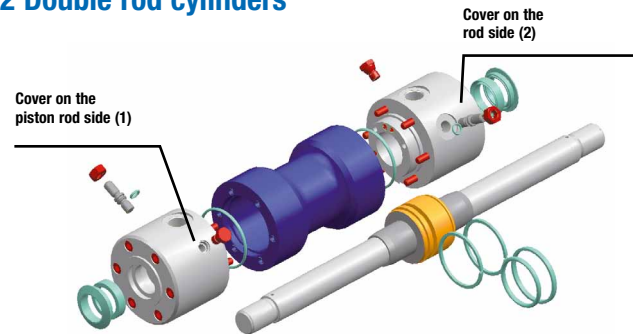


Fitting cover (1)

Push cover (1) and the piston rod guide onto the piston rod and press into the cylinder tube by hand.

Attention: Make sure that when you push the cover over a piston rod thread or wrench flat the lip seals are not damaged by sharp thread edges or wrench flats. We recommend using the appropriate Hänchen assembly tools (see chapter 7.3). You should also make sure that the lip of the rod lip seal (5) does not turn up when it is pressed into place. The O-ring (6) that seals the cover from the cylinder tube may not be twisted.

5.2 Double rod cylinders

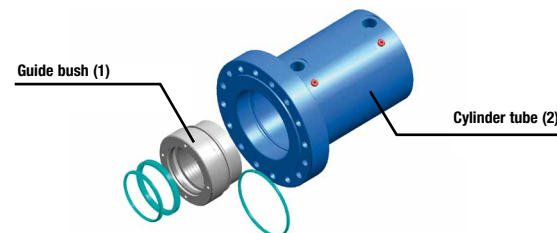


For disassembling and assembling the cover on the rod side (2) proceed as for disassembling and assembling of the cover on the piston rod side (1), see Chapter 5.1 Single rod hydraulic cylinder.

Note: Always push piston rod in end position before tightening the screws crosswise to avoid misalignment.

5.3 Large cylinders

Note: Provide for handling means which are suitable for the part weight to avoid damage to the components.



(Series 120 starting with piston \varnothing 200 mm, series 300 starting with piston \varnothing 160 mm). Additional information to Chapter 5.2 - Double rod cylinders

Dismantling:

The guide bush (1) has no thread lock unless otherwise specified. Remove the guide bush (1) by means of a suitable pin wrench. Do this by unscrewing the guide bush (1) counterclockwise. Pull out the piston rod carefully and avoid damage to female thread of cylinder tube and piston.

Assembly:

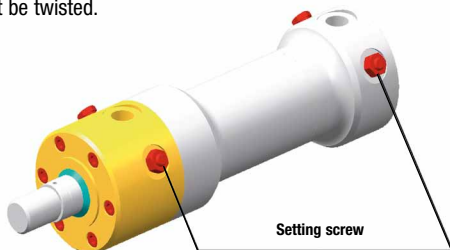
After insertion of the piston rod screw the guide bush (1) into the cylinder tube (2) counterclockwise by using a suitable pin wrench.

Double rod cylinders are provided with another guide bush (1) on the opposite piston rod side which can be disassembled or assembled as described above.

5.4 Cushioning

The adjustable final stroke cushioning is available for single rod and double rod cylinders.

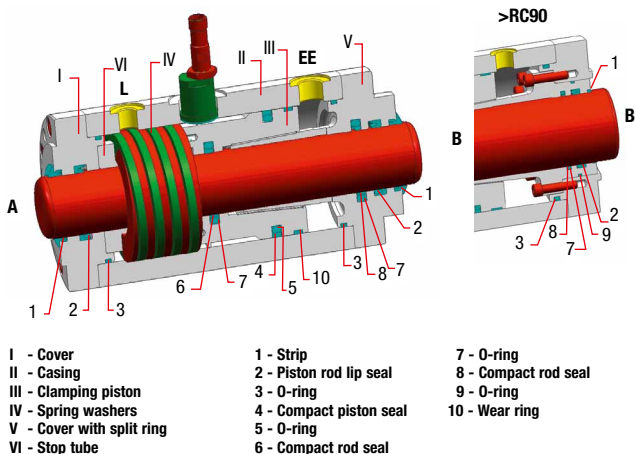
In hydraulic cylinders with adjustable final stroke cushioning the setting screw for the final stroke cushioning is located on a level with the venting screw. Loosen the locknut and unscrew the throttle screw. We recommend that you remove the O-ring and replace it immediately, screw down the throttle screw and secure this with the locknut. The exact setting (adjustment) of the cushioning must be carried out in the machine. The O-ring may not be twisted.



5.5 Position transducer

The instructions for dismantling and mounting position transducers can be downloaded from our homepage at www.haenchen.de under the category "Service / Downloads".

5.6 Clamping system Ratio-Clamp®



5.6.1 Clamping device Ratio-Clamp® Dismantling from the rod

Attention: Depressurize the cylinder and/or the Ratio-Clamp® before dismantling.

Dismantling:

To remove the transport rod or the working rod of the clamping unit please proceed as follows:

Attention: These parts are spring-loaded!

- Loosen the screws on the cover crosswise.
RC 10 – RC 25 7 rotations
RC 28 – RC 140 9 rotations
- Apply a brief hydraulic releasing pressure to the release port (EE) until the cover rests in the fastening screws or the clamping device is unlocked.
- Shut off the pressure and remove the connecting line at the release port (EE).
- Remove clamping device from the rod.
- Drain oil from the clamping device.

Returning to the factory

Please send us the Ratio-Clamp® in an assembled state. If you have a shipping shaft it should be inserted into the clamping device from the release side.

Assembly:

The Ratio-Clamp® clamping device can be assembled on the rod in reverse order to that described above.

5.6.2 Dismantling the clamping device Ratio-Clamp®

Attention: These parts are spring-loaded!

Dismantling:

Loosen the screws on the cover crosswise.

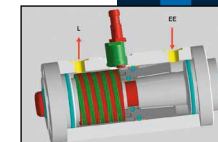
- RC 10 – RC 25 7 rotations
- RC 28 – RC 140 9 rotations

Attention: Briefly apply pressure to the hydraulic release port (EE) until the cover (I) rests in the fastening screws. Shut off the pressure and remove the connecting line at the release port. Drain oil from the clamping device. Remove locking screws and cover (I). Remove loose distance sleeve (VI) and spring washers (IV) (ensure correct mounting position of the spring washers). Remove clamping piston (III), the thread bores on both ends facilitate removal. Collect the oil that drains off when pulling out the piston in a suitable container. Loosen the fastening screws on the cover (V) and remove the casing (II). Remove the cover with the clamping cone (V). The RC 90 to RC 140 models have a two-part cover, you do not normally have to dismantle both parts.

Assembly:

The Ratio-Clamp® clamping device can be assembled in reverse order to that described above. Please ensure correct mounting position and orientation of the components.

Hint: Oiling the individual mounting parts beforehand makes the assembly easier. Make sure that the seals are not damaged when the corresponding part is slid over the rod.



Ensure perfect fit of the spring washers (IV) on the distance sleeve (VI).

Tighten the loose screws on the cover (A-side) crosswise until the cover rests against the Ratio-Clamp® casing without a gap.

5.7 Proximity sensors

Note: Compression-proof, inductive proximity sensors are non-contact sensors to determine the position and may only be used for this purpose. The optional additional diagnosis output monitors the function of the switching devices and lead.

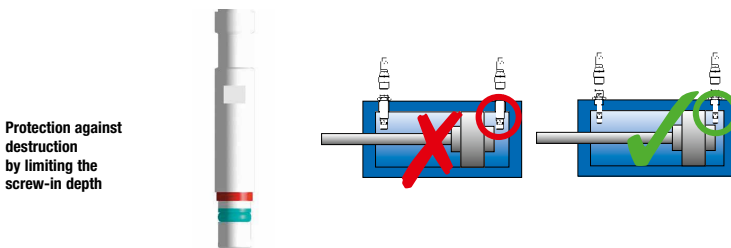
Dismantling:

- Remove plug connector.
- Loosen locknut and unscrew switch.

Assembly:

Oil the O-ring and back ring (e.g. with the cylinder's operating medium). Screw the Hänchen proximity sensor (identified by a marking on the proximity sensor itself) into the marked screw thread on the cylinder until it stops mechanically and then slacken by a 1/4 turn rotation otherwise specified. Then retighten the lock nut (max. 70 Nm). The switching point can be marginally adjusted by changing the screw-in depth of the proximity sensor.

Note: A warranty can only be assumed if the product has been purchased from Hänchen. The proximity sensor used by Hänchen have been optimised for use in hydraulic products which means a constructional change to the standard product.



Protection against destruction by limiting the screw-in depth

6. Changing of seals

6.1 Storage

Field of application (extract from DIN 7716)

The following requirements mainly apply for long-term storage, generally over six months. These requirements relate to products of unvulcanised and vulcanised rubber (pure or mixed with other substances, i.e. elastomers of natural rubber and/or synthetic rubber) as well as adhesives and solutions with rubber.

General

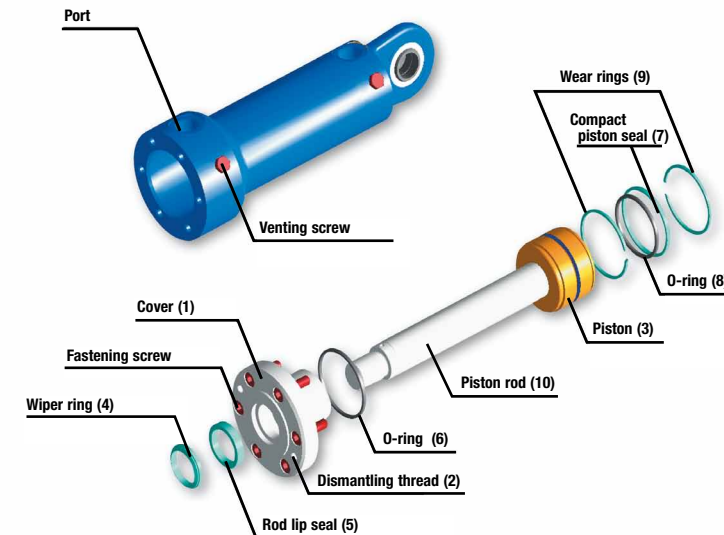
The physical properties of rubber products (seals) normally can change through the effect of oxygen, ozone, heat, light, moisture, solvents or storage under stress.

Storage room

- Seals should be stored in cool, dry, dust-free and slightly ventilated rooms, preferably in the temperature range of -10° to $+15^{\circ}\text{C}$, the upper limit may be exceeded by up to $+25^{\circ}\text{C}$, though temperatures above this are only allowed for a short period of time.
- Seals should be kept at least one metre from sources of heat.
- Avoid storing seals in moist storage rooms. Special care should be taken to ensure that no condensation forms in these rooms. We recommend the most favourable relative air humidity of 65%.
- Protect seals against light (particularly direct sunlight).
- You should never keep products such as solvents, fuels or lubricants, chemicals, acids, disinfectants, etc. in rooms that are used to store rubber products.
- Seals must be stored without pressure, tension or other deformations, in other words without stress, since this could cause lasting deformations or cracks.
- Seals should preferably be cleaned with a clean, soft cloth and lukewarm water. They can be cleaned with a 1.5% sodium carbonate solution for storage over a longer period of time. Rinse the remaining cleaning agent with water.
- Never use solvents such as trichloroethylene, carbon tetrachloride, hydrocarbon and tools such as wire brushes or abrasive paper to clean the products.

6.2 Removing the wearing parts of the cover

Attention: Do not damage the base and edges of the thread with hard or pointed tools.

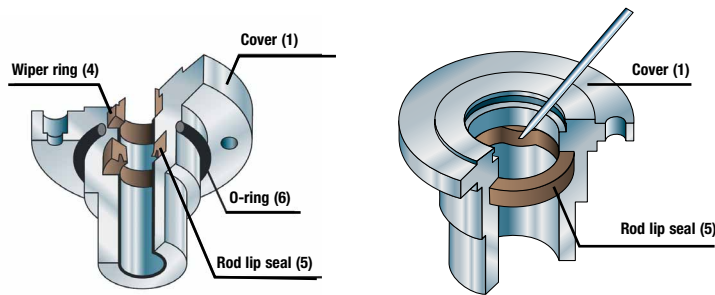


Note: Place the dismantled parts and seals on a surface in exactly the same way as they were installed and place the new seals in the correct position. Pay special attention to the fitting position. This facilitates assembly and you can also check whether all necessary seals are available. We recommend to use the suitable Hänchen assembly tool for removing the wearing parts (see chapter 7.3).

We recommend that you fit a subassembly, e.g. a cover or piston rod, with new seals immediately after removing the old seals and cleaning the installation spaces.

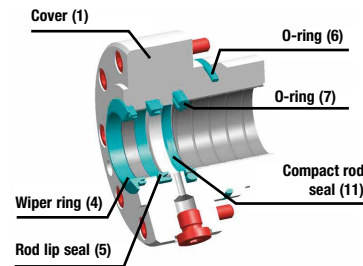
6.2.1 Standard quality / Servoslide® quality

The seals, wiper ring (4) and rod lip seal (5) are pressed into grooves in Servoslide® quality covers (with plastic guide for optimum friction properties). Pick the seal (4+5) with a sharp object (e.g. scriber, etc.) and twist it out of the groove. Do the same with the O-ring on the outer diameter (6).



6.2.2 Servocop® quality

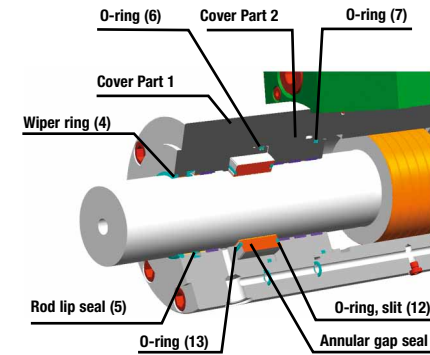
Proceed as described in 6.2.1. The Servocop® cover (with plastic guide and leak oil port with optimised friction properties) also has an additional compact rod seal (11) with corresponding O-ring. Both of these are removed by picking and twisting.



6.2.3 Servofloat® quality

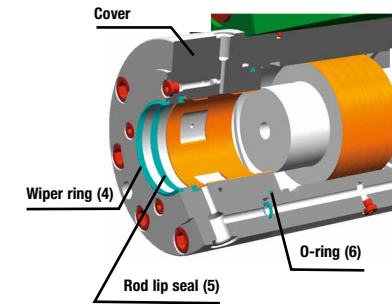
The cover in Servofloat® quality (with patented annular gap seal for extremely low friction movements of the cylinder – domestic and foreign patents US pat. 4406463) consists of two parts. Only the first part of the cover is released by screwing the screws into the pressure-thread bore. Removing this part exposes two further pressure-thread bores to release the second part of the cover. The annular gap seal is in part 1 of the cover. This can be

easily removed by hand to remove the O-rings (12+ 13). The wiper ring (4), rod lip seal (5) and O-ring (6) on part 1 of the cover are removed as described in 6.2.1. The O-ring in part 2 of the cover can be removed in this way, too.



6.2.4 Servobear® quality

In case of the cover in Servobear® quality (with hydrostatic piston rod guide for minimum friction) the wiper ring (4) pressed in a groove and the rod lip seal (5) are removed in this way. Pick the seal (4+5) with a sharp object (e.g. scriber, etc.) and twist it out of the groove. Do the same with the O-ring on the outer diameter (6).

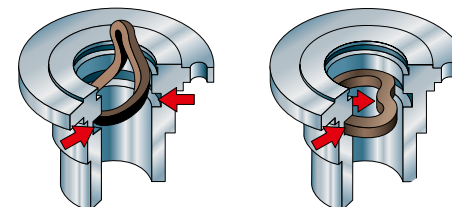


6.3 Fitting the new seals

Attention: Ensure that the base of the thread is clean and not damaged. Please clean the mounting parts, installation spaces and seals thoroughly, dirt inevitably leads to faults and damage.

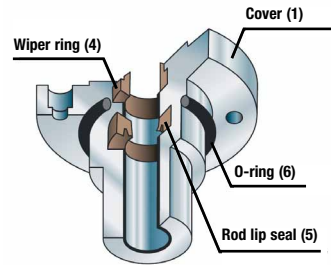
Note: To facilitate assembly wet the assembly components with the operating fluid. Warming the seals (lukewarm) makes them more supple and easier to install. Check the position of the seals before fitting them. To avoid damaging the sealing elements we recommend using the appropriate Hänchen assembly tools (see chapter 7.3).

6.3.1 Standard quality / Servoslide® quality



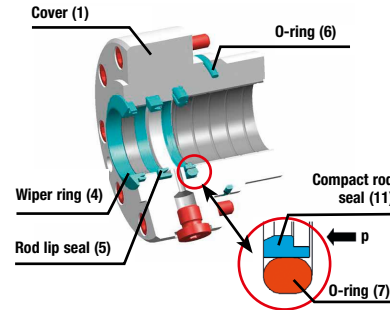
For covers in standard quality or Servoslide® quality (with plastic guide with optimised friction properties) the rod lip seal (5) has to be pressed together and inserted into the groove in the cover (1) or piston rod guide. Check the fit in the groove and press the seal into the groove. The seal lips must point towards the inside of the cylinder.

Insert the wiper ring (4) into the cover (1) as described above. The seal lip must point outwards. The O-ring (6) can be pushed over the outer diameter of the cover (1) after it has been slightly stretched by hand and then pressed into the groove. Make sure that the O-ring is not twisted.



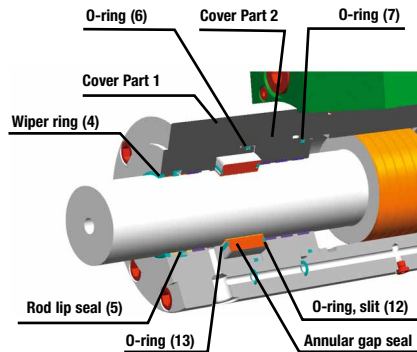
6.3.2 Servocop® quality

For covers in Servocop® quality (with plastic guide and leak oil port with optimised friction properties) a compact rod seal (11) is fitted in addition to the wiper ring (4) and rod lip seal (5). Use the groove closest to the piston chamber. First insert the corresponding O-ring (7) in the groove, making sure that it is not twisted. Press the compact rod seal together as described in 6.3.1 and insert it into the groove. Check the fit in the groove and press the seal into the groove, if necessary. Insert the further seal elements as described in 6.3.1.



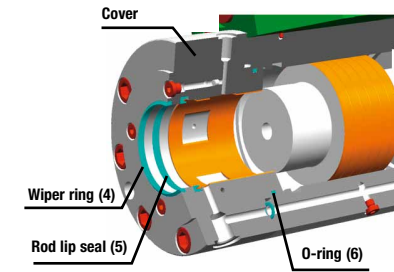
6.3.3 Servofloat® quality

For the cover in Servofloat® quality (with patented annular gap seal for exceptionally low friction movements of the cylinder - domestic and foreign patents US-pat. 4406463) the seals, wiper ring (4), rod lip seal and O-ring (7) are fitted into part 1 of the cover as described in 6.3.1. The O-rings that contact the annular gap seal are placed in the grooves and then inserted into the annular gap seal in part 1 of the cover. The O-ring facing the pressure side (12) is cut to leave a slit of 2-4 mm.



6.3.4 Servobear® quality

For the cover in Servobear® quality (with hydrostatic bearing for minimum friction) the seals, wiper ring (4), rod lip seal (5) and O-ring (6) are fitted into the cover. Make sure that the O-ring is not twisted!

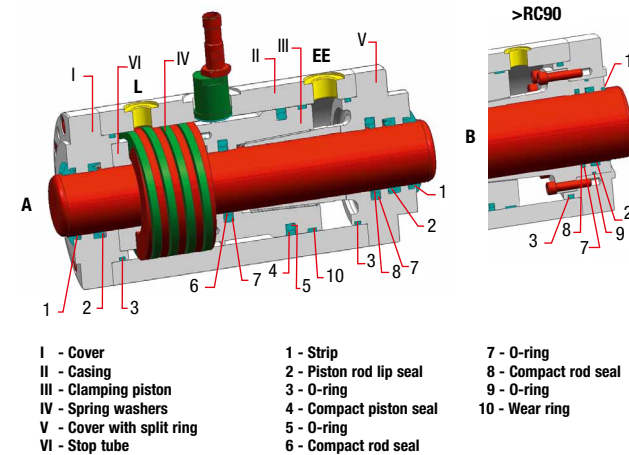


Attention: Make sure that the lip seals are not damaged when they are pushed through the piston rod thread. We recommend using the appropriate Hänchen assembly tools (see chapter 7.3).

6.4. Clamping device Ratio-Clamp®

Attention:

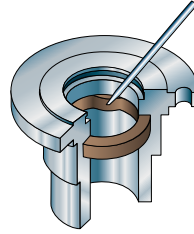
- The clamping device may only be dismantled when depressurized.
- Seals should only be replaced by trained experts.
- Check the clamping forces of the Ratio-Clamp® after changing wearing parts (e.g. seals) for safety reasons.
- If other individual parts of the clamping device have to be replaced after a longer period of use you should send the clamping device in to the works.



The instructions assume that the Ratio-Clamp® has been mounted on a cylinder or other part with its B-side.

6.4.1 Removing the wearing parts

This is best done by picking the seals with a pointed object (small screwdriver or scriber). Twist the seal out of the groove.



Hint: Replace the removed seal immediately by a new one, this greatly reduces the risk of incorrect installation. Carefully clean the installation spaces for the seals. Dirt inevitably leads to faults and damage.

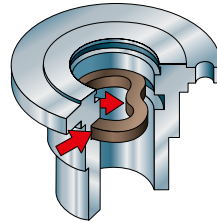
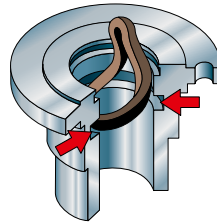
Note: Do not damage the base of the groove. We recommend using the appropriate Hänchen assembly tools (see chapter 7.3).

6.4.2 Fitting new seals

Cover (I) and cover with clamping sleeve (V)

Place the piston rod lip seal (2) in the corresponding groove.

Attention: The seal lip must always point towards the inside of the Ratio-Clamp®. Stretching the seal as shown in the illustration makes it easier to press it into the groove. Press the seal into the groove with a blunt object. The wiper ring (1), the compact rod seal with O-ring (8) and the O-rings (3 & 9) are inserted into the corresponding grooves in the same way. Do not twist the O-rings!



Clamping piston (III)

Insert the O-ring (7) into the groove without twisting! Stretch the compact rod seal (6) and press in. Check the fit in the groove and press the ring into the groove.

Slightly stretch the O-ring (5) by hand and insert into the groove without twisting! Slightly stretch the compact piston seal (4) by hand and slide it over the clamping piston, slip into the groove and press into place. Pay attention to a perfect fit.

Restretch the compact piston seal and the compact rod seal (4 + 6), if necessary. We recommend to use the suitable Hänchen assembly tools (see chapter 7.3).

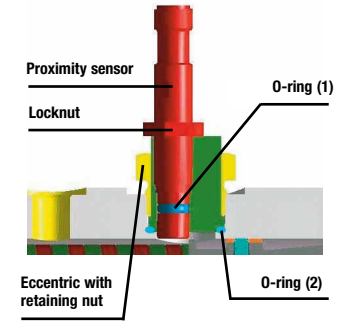
6.5 Cushioning

The adjustable final stroke cushioning is available for single rod and double rod cylinders. Information about the replacement of wearing parts is to be found in Chapter 5.4 Cushioning

6.6 Proximity sensors

Changing the O-ring (1) at the eccentric

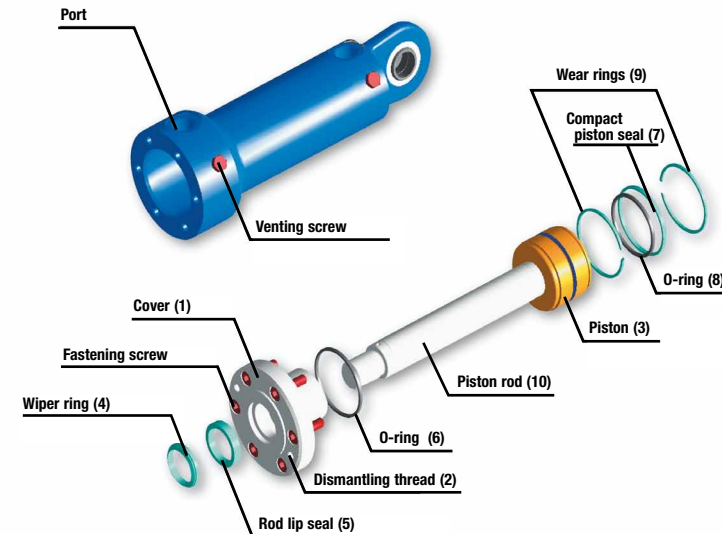
- Remove retaining nut for eccentric and connecting piece and unscrew the eccentric.
- Replace O-ring (2).
- Screw in eccentric and tighten with max. 70 Nm.



Changing the O-ring (1) at the proximity sensor

- Remove plug connector
- Loosen locknut
- Unscrew switch
- Lever the O-ring (1) out of the groove with a blunt object and cut it carefully. Do not damage the base of the groove.
- Insert the O-ring (1) into the groove. Do not twist the O-ring!
- Screw the Hänchen proximity sensor (identified by a marking on the proximity sensor itself) into the marked screw thread on the cylinder until it stops mechanically and then slacken by a 1/4 rotation unless otherwise specified. The switching point can be marginally adjusted by changing the screw-in depth of the proximity sensor.
- Re-tighten locknut (max. 70 Nm).

6.7 Piston rod



6.7.1 Removal

Piston (3)

Remove the slotted mud-scraping wear rings (9). Lever the compact piston seal (7) and O-ring below (8) out of the groove with a blunt object and cut it carefully.

Piston with grooved ring seals variant

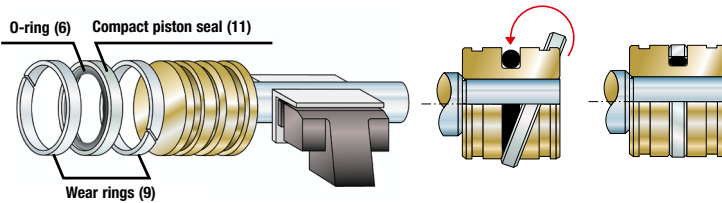
Twist the grooved ring seals out of the grooves with a blunt object (e.g. bending pliers, etc.).

Note: Do not damage the base of the groove.

6.7.2 Installation

Note: We recommend to use the suitable Hänchen assembly tool for installation (see chapter 7.3).

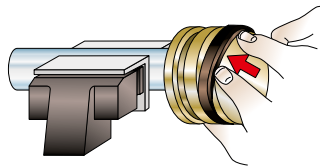
Compact piston seal type



Slightly stretch the O-ring (6) by hand and insert into the corresponding groove in the piston. The O-ring may not be twisted. Place part of the compact piston seal (11) in the groove and push the remainder over the edge of the piston and then press into the groove. Slightly spread the slotted mud-scraping wear rings and place them into the grooves.

Plain compression ring type

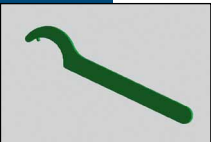
Place part of the plain compression ring in the groove and push the remainder over the edge of the piston.



7. Accessories

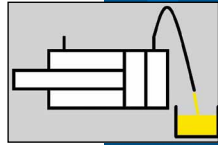
7.1 Hook wrench

Our hydraulic cylinders are designed with bore holes for hook wrenches on the piston rod. We recommend a hook wrench according to DIN 1810 to hold the rod in place during assembly (e.g. when fitting a rod eye with spherical plain bearing). Hook wrenches are available for diameters from 12 mm up to 200 mm (other sizes on request).



7.2 Venting system

Free air in the hydraulic cylinder affects the physical properties of the hydraulic oil and has other disadvantageous consequences for the components, operating performance and the fluid. The Hänchen venting set is used for the functionally vital venting of hydraulic cylinders. It is screwed directly into the vent connection on every Hänchen cylinder using a Minimesse coupling. A hydraulic cylinder can be quickly and easily vented without any additional tools using the Hänchen venting set.



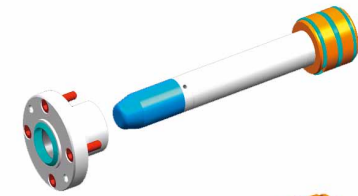
7.3 Hänchen assembly tool

We recommend the suitable Hänchen assembly tool for an easy and correct assembly of sealing elements. We would be pleased to advise you.

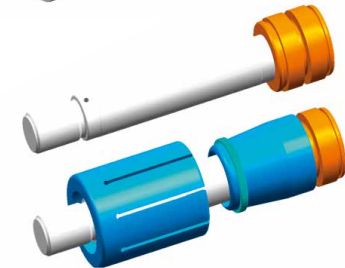


Basic Assembly Tool Set

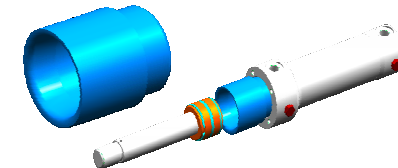
Assembly pin for piston rod



Assembly bushing and Assembly sleeve for piston seal



Assembly bushing for cylinder tube



7.3.1 Changing Cover Seals

With the Hänchen assembly tools

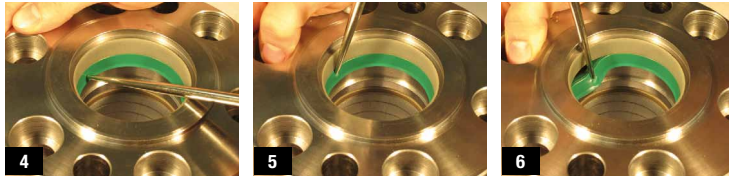
7.3.1.1 Dismantling of Seals

Qualities: **Standard / Servoslide® / Servocop®**

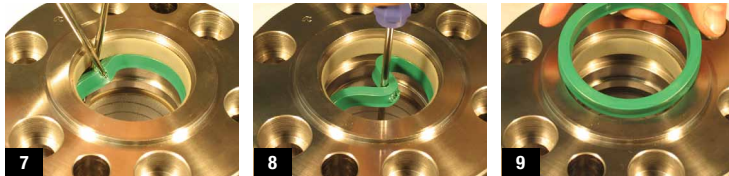
Remove **wiper ring** by hand (1-3).



Pierce the centre of the **lip seal** with a straight plugging tool (4).
Attention: do not pierce the base of the groove (5).

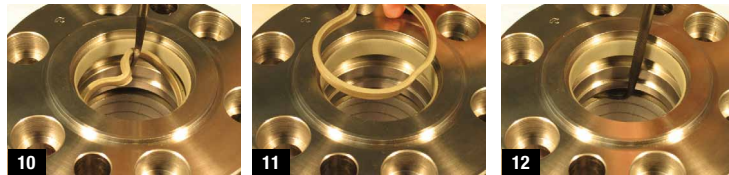


Push the **lip seal** inwards with the plugging tool (6) assisted by the rounded screwdriver (7-8). Remove the **lip seal** (9).



Below only for Servocop® Quality!

Dismantle the **compact rod seal** (10) as well as the lip seal with the plugging tool.
Remove **compact rod seal** (11). Pierce the **O-ring** with a curved plugging tool (12).
Attention: do not damage the groove.



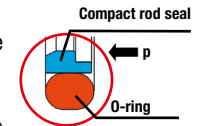
Turn curved plugging tool (13). Remove **O-ring** (14). Check groove of **lip seal** and the **compact rod seal** for damage or contamination (15). If necessary re-polish the sealing grooves and clean them. Do not polish with a grinding cloth as finishing particles can deposit themselves on the guiding elements.



7.3.1.2. Assembly of Seals

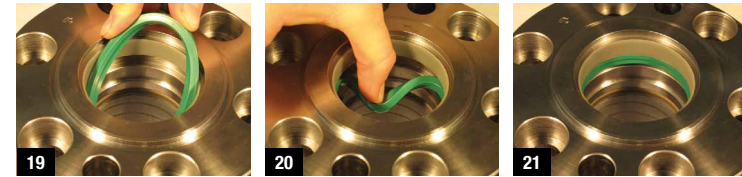
Only for Servocop® quality

Place **O-ring** in the groove of the **compact rod seal** (16). Squeeze **compact rod seal** as shown in illustration (kidney-shaped) (17). Place **compact rod seal** in the corresponding groove with the sealing edge in direction of the cylinder chamber and reshape (18).

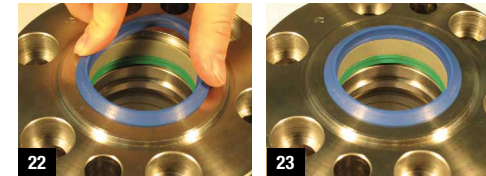


Below for qualities: Standard / Servoslide® / Servocop®

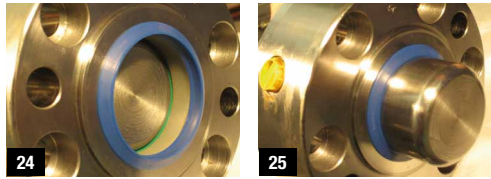
Place **lip seal** into the central groove (19-20) with the open side in direction of the cylinder chamber. The seal should be flush at the back (21).



Insert wiper ring (22-23)



Grease all seals with operating fluid and introduce assembly pin (24-25).

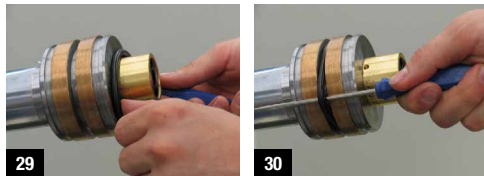


7.3.2 Assembly of Piston Seals

Place teflon seal (piston seal) on the assembly bushing for the piston seal (26). Push the piston seal to the end of the assembly bushing (28) with the assembly sleeve (27).



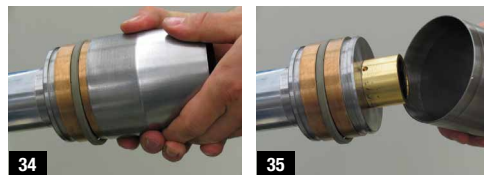
Mount **O-ring** in the piston groove with a rounded screw driver (29) and ensure untwisted mounting: when the **O-ring** is in the groove, turn 1-2x by 360° around the piston with the screw driver (30).



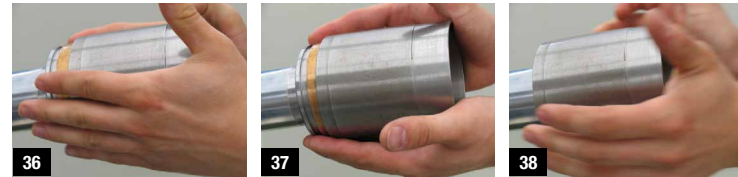
Place assembly bushing on piston (31) until the edge of the bushing is flush with the first edge of the piston groove. The **O-ring** must still be visible (32). Push the piston seal into the groove with the sleeve (33).



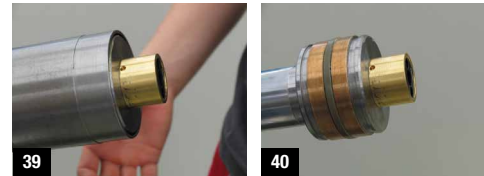
Remove assembly bushing (34-35). Grease the piston seal with operating fluid.



Resize the piston seal with the "assembly bushing cylinder tube" (36). Push bushing over the piston (37-38). (Time to resize approx. 10 seconds)



Remove "Assembly bushing cylinder tube" (39-40).



Pre-size wear ring (wiper) on piston (41).

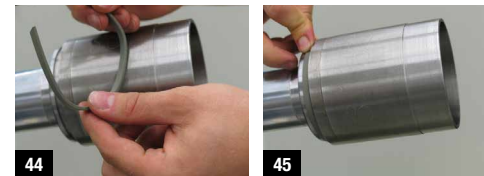
Insert into first groove of piston, with the opening positioned downwards (42).

Then push "assembly bushing cylinder tube" over the piston rod up to the last groove of the piston (43).

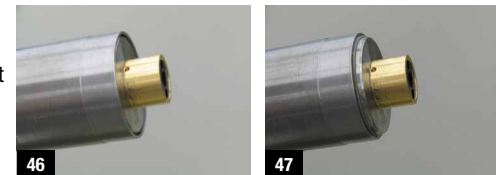


Also pre-size the second wear ring on the piston-Ø (44) and then insert the wear ring into the groove with the opening facing upwards (45)

The two wear ring openings should always be spaced at 180°.



Slide "assembly bushing cylinder tube" completely over the piston until the first wear ring is half visible (46-47).

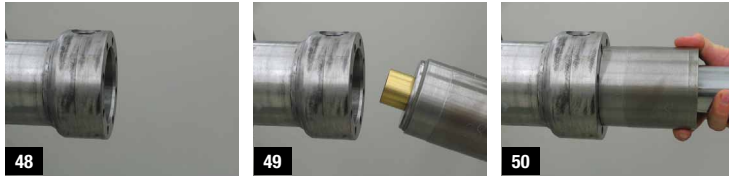


Attention: If it slips through do not slide back as the wear ring may be destroyed.

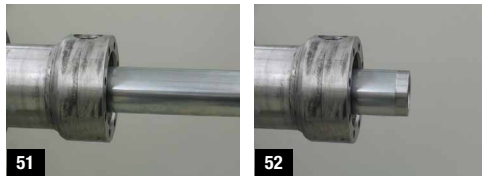
7.3.3 Installation of Piston Rod

Slightly grease the initial portion of the cleaned tube (48) and insert the piston rod with mounted assembly bushing into the cylinder tube (49).

Please take care that the teflon seal is not sheared. Hold "assembly bushing cylinder tube" firmly so that the piston rod is not damaged (50). The "assembly bushing cylinder tube" shall not fall on the piston rod.



Push piston rod into final position (51-52). In case of very long cylinders fit the cover first before pushing piston rod into final position, as otherwise there is the risk of tilting.



7.3.4 Assembly of Cover

Position the seal-fitted cover with assembly pin on piston rod (53-54).

First remove all fastening parts from the piston rod, especially locking pins and the like. Attention: Careful of squashing fingers! Secure assembly pin against falling. Remove assembly pin (55).



Adjust cover according to hole pattern, i.e. rotate into correct installation position (56).

Make sure that the **O-ring** is fitted correctly.

Tighten cover with at least 2 turns crosswise to cylinder tube (57).

Then tighten all screws crosswise according to the specified tightening torque (58).



8. Product range

You are looking for optimum hydraulic or electromechanical linear drive systems or cushioning or you are needing hydraulic cylinders for punching machines or test cylinders for simulation of real situations - you will find everything you need in the electronic Hänchen catalogue.

From individual cylinder components (standard parts and Hänchen standards) over the safety clamping device Ratio-Clamp®, cushioning elements and industrial shock absorbers, electronic components, proximity sensors and the corresponding plug connectors as well as add-on parts/fastening elements up to all screws - every part for your individual solution is to be found here.

For your safety: All parts are checked for quality and function and match.



Hydraulic cylinder

Hydraulic cylinder
with proximity sensors

Ratio-Test®
Test cylinder

Ratio-Clamp®
Rod clamping device

Industrial shock absorbers

Pressure intensifier

Air filter

Accessories/
fastening elements

Special-purpose cylinder

Ratio-Drive®
System solutions

Electronic catalogue



Best quality is our standard

40 year troublefree operation is no rarity for Hänchen cylinders. Reliability, compact design, long service life etc. are the properties of the Hänchen standard hydraulic cylinders. This also applies to the most today's applications. For more information, please visit our homepage.



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