

USER MANUAL

VERSA - series



Model 1



Model 2

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FOR MORE INFORMATION

HYTORC Nederland BV | Platinawerf 8 - 6641 TL Beuningen - NEDERLAND | Tel: +31(0)24 - 3 660 660 | www.hytorc.nl

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1. WELCOME AT HYTORC

Thank you for buying HYTORC equipment.

This user manual and safety instructions is designed to provide you with the basic knowledge required to operate and maintain your new HYTORC equipment.

Please read this manual carefully and follow the instructions provided. If you still have any questions regarding HYTORC bolting equipment, please do not hesitate and call us at +31 (0) 24 3660 660 or contact us at info@hytorc.nl.

You also find more information on our website www.hytorc.nl.

2. GENERAL INFORMATION

Your purchase of HYTORC equipment entitles you to the following HYTORC services:

- Instructions to your employees within your organization by a HYTORC specialist
- Free annual inspection of your HYTORC equipment
- 24-hour service
- When you need help abroad? No problem! We help you!
- HYTORC equipment according to the newest technology
- A full year complete warranty
- In case of failure under warranty of standard tools, substitutional rental equipment can be supplied at request
- Qualified work force employable for solutions at difficult challenges

3. SAFETY INSTRUCTIONS

Warning: Your HYTORC torque machine is a power tool, and as with any power tool, certain safety precautions should be observed to avoid accidents or personal injury. The following instructions will assist you.

- **Read all instructions.**
- **Keep work area clean and well lit.**
- **Consider work area environment.** Electrical Pumps should never be used in an atmosphere that can be considered potentially volatile. If there is any doubt, use an air pump. Note: Metal-to-metal contact can cause sparks, precautions should be taken.
- **Avoid premature tool starting.** The Pump Remote Control is for the TOOL OPERATOR only.

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- **Stay clear during operation.** In most cases, the tool will allow “hands free” operation. If the tool must be held or steadied during operation, use alternative means of securing the tool to the application.
- **Guard against electric shock.** Ensure the pump is properly grounded and the proper voltage is being used.
- **Store equipment properly.** When not in use, tools and accessories should be properly stored to avoid deterioration.
- **Use right tool.** Do not force small tools or attachments to do the job of a larger tool. Do not use a tool for purposes not intended.
- **Proper safety attire.** When handling/operation hydraulic equipment use work gloves, hard hats, safety shoes and other applicable clothing.
- **Use safety glasses with side covers.**
- **Moving equipment.** Do not use hydraulic hoses, uni-swivels, pump power or remote cords as means of moving the equipment.
- **Maintain your HYTORC equipment with care.** For top performance, inspect tools, power pack and accessories for visual damage frequently and always prior to use. Always follow instruction for proper tool and pump maintenance. Refer to the Operations Maintenance Section in chapter 10 for further clarification.
- **Stay alert!** Watch what you are doing. Use Common sense. Do not use power equipment under the influence of any mood altering substances.
- **Prior to operation:**
 - Ensure that all hydraulic connections are securely connected and there is no leakage;
 - Verify that the hydraulic hoses are not kinked or otherwise damaged;
 - Ensure the square drive and its retainer are fully and securely engaged;
 - Be certain that all connectors, elbows, fitting and swivels are not bent, loose or damaged.
- **Prior to use:**
 - Check sockets for size, quality and flaws (do not use if questionable);
 - Cycle tool to ensure proper function;
 - Locate a solid, secure reaction point;
 - Be sure the reaction arm retaining clamp is fully engaged;
 - Be sure the hydraulic hoses are free of the reaction point;
 - Pressurize the system momentarily; if the tool tends to “ride up” or to “creep”, stop and re-adjust the reaction arm to a more solid and secure position.
- **Stay away of the reaction points.** Remain clear of the reaction arm during operation and never punt body parts between reaction arm and reaction surfaces!

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- **Always use quality accessories.** Always use top quality impact sockets in good condition that are the correct size and fully engage the nut. Hidden flaws, however, remain a possibility that could cause breakage, so stay clear of sockets during operation.
- **Do not use other equipment to enhance performance.** For example a hammer on the socket or tool.

Comment:

HYTORC pumps are designed to operate HYTORC tools only and vice versa. Damage may occur to the pump or the product that is being operated due to misuse.

You can find a version of the instructions on the reverse side of the torque charts.
STORE THESE SAFETY INSTRUCTIONS WITH YOUR HYTORC TOOL!

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4. INTRODUCTION

The VERSA-series is a low clearance torque wrench, specially designed for applications with limited clearance above the nut or bolt head. The small radius of the ratchet link needs little space and the long neck can also reach deep-lying nuts.

To tighten or loosen nuts with sockets, HYTORC has different tools with square drive, such as the Avanti, MXT and EDGE.

5. BEFORE USE

All HYTORC products have been tested and are ready for use at delivery. In some cases, you need to fill the supplied hydraulic oil in the pump unit before use.

The system accuracy of your HYTORC tool is within $\pm 3\%$. This accuracy can be certified through calibration by our own calibration system. All new tools are delivered with a calibration certificate.

A HYTORC torque tool is only complete with a hydraulic pump and a high-pressure twin hose. To assure a safe and good operation of your equipment it is necessary to operate correctly and maintain regularly

6. CONNECTING THE HYDRAULIC PUMP UNIT

Important

- Before use you have to fill the HYTORC pump units with, the separate delivered, hydraulic oil (if it is not already done prior to delivery).
- If you operate your HYTORC torque tool with another pump brand, please note the restricted pressure of 700 BAR maximum

6.1 Before use – Check pumps

Air driven pump units

- Use at least an $\frac{3}{4}$ " air hose and $\frac{1}{2}$ " couplers. The working pressure is 6-10 BAR. During running the air pressure is not allowed to drop under 4,5 BAR.
- Check the water separator by opening the drain.
- Check if the oil level in the lubricator is sufficient. And check during running if the lubricator drops the subscribed drops of oil, approximately 4-6 drops per minute for most pumps.

Electrical driven pump units

- Assure yourself of using the right voltage according the pump specifications. You find these on the pump cover or electrical box.
- Beware of overvoltage and undervoltage! (too long or too thin extension cable will cause a voltage decrease).
- Use the hydraulic pump only if the green/yellow grounding cables are connected.
- If needed, use an 2,5 mm² electrical extension cable, unreel the cable wince completely.

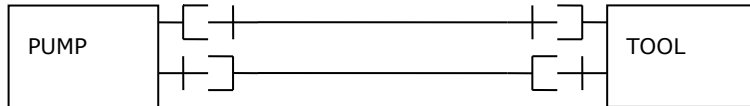
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6.2 Hose connection

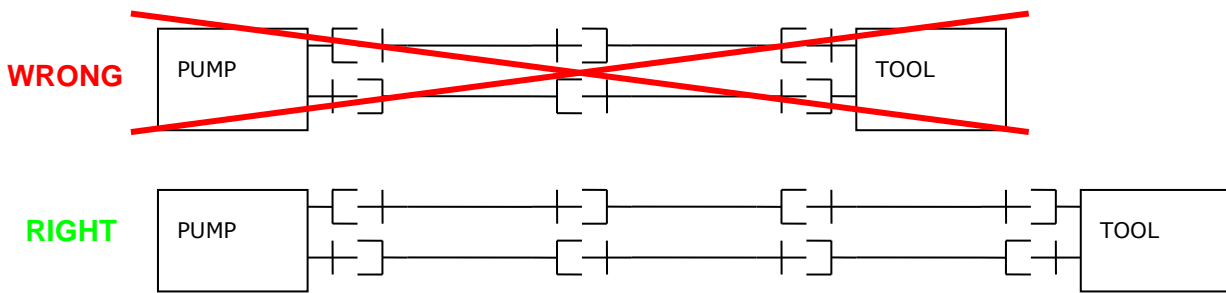
A twin hose connects the torque wrench and the hydraulic pump unit. Each hose has couplers at each end. One hose has female couplers at both ends and the other hose has male couplers at both ends. To avoid tool malfunction, do not reverse connectors!



We have three different types of couplers; rotating couplers, rotating couplers with locking devices and quick couplers. The different types cannot be connected between each other.

IMPORTANT

You cannot connect 2 or 4 hoses to each other. If necessary, you can connect 3 or 5 hoses. Use always an odd number of hoses.



- Push the hose parts and couplers to each other.
- Screw the couplers hand tight. Do not use locking pliers.
- If you want to detach, disconnect the return hose first. If impossible, press once briefly on the remote control push button.

Attention! During operation the couplers can become loose unnoticed, this makes oil flow impossible. The tool operates no longer.

**ASSURE YOURSELF THAT ALL COUPLERS ON THE PUMP AS WELL AS ON THE TOOL ARE TIGHTENED PROPERLY!
THIS IS THE MOST COMMON OPERATION FAILURE!**

6.3 After use

- Reel the hoses.
- Protect the couplers against dirt and damage by connecting the end parts of the hose to each other.

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7. SETTING OF TORQUE VALUE / BOLT LOAD

The HYTORC hydraulic pump unit has a working range of 20 BAR until maximum 700 BAR. Within this range the pressure is infinitely adjustable.

Follow the next steps to adjust the right torque:

1. Every tool type has his own pressure/torque chart, supplied with your HYTORC tool. Search for the right torque in the preferable column (Nm, kgm or ft.lbs.) in the chart and read the right pressure to adjust the pump in BAR (right) or PSI (left).

DRUK PRESSURE	AANHAALMOMENT IN			DRUK PRESSURE
	Ft.lbs	Kgm	Nm	
PSI				BAR
1.000	164	23	219	70
1.200	197	28	262	84
1.400	231	32	306	98

2. Turn the wing nut (on the tank cover of the pump unit) completely leftwards = upwards. If a locking knob exists, please release this one first.
3. Put the torque tool somewhere on the ground or another safe place without placing on a nut.
4. Pick up the remote control and push the start/run button. The pump starts running and the tool makes one stroke. Repeat twice and check if the tool turns fine.
5. NEXT: AS FROM NOW KEEP THE START BUTTON PRESSED!



6. Turn the wing nut to the right until the pressure gauge presents the desirable pressure. After setting, you can release the start button.

7. Push the button after several seconds again and check the pressure. Fix the locking if adjustment is fine. Finally, check the pressure again.



Important

To change the pressure you first have to turn the wing nut back to lower pressure (0). Next you can set the desired pressure like explained in this chapter.

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8. USE OF THE LOW CLEARANCE WRENCH

Place the hydraulic cylinder with the low clearance ratchet on the nut and beware to place the ratchet over the nut completely. Even when the nut is painted or rusted!

8.1 Change the ratchets

The VERSA-series use interchangeable ratcheting links. It is possible to use the hydraulic cylinder with different sizes of ratchets. Every size has its own ratchet. Before you change the ratchet, run the pump unit connected to the hydraulic cylinder to retract the pistons to start position. Change the ratchet as follows:

8.1.1 Versa - Model 1



1. Firmly hold the cylinder and pull out the two safety pins as shown on the picture.

2. Next you slide the cylinder out of the ratchet. Inside you will find another safety pin. Push out the pin.



3. You can take the ratchet from the cylinder and replace it for another one.

4. Before assembling, place the third safety pin inside first. Next, you slide the cylinder in the ratchet and ensure that the safety pin holes of cylinder and ratchet are in line.



5. Finally, you replace the safety pins. After changing the ratchet, you have to test if the hexagon of the tool turns and everything operates as desired, before placing the tool on the nut.

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8.1.2 Versa- Model 2

Model 2 has only 1 link pin. If you pull out this one, you can easily swing up the hydraulic cylinder and take off the ratchet.

Next you take another ratchet link, place the 'hook' on the end of the cylinder into the cutout on the top of the ratchet link. The cylinder is then swung down to rest along the base of the link side plate. At this point, the link pin hole of the cylinder and the ratchet link will align. Insert the link pin to secure both parts.



8.2 Rotating direction

For tightening, simply engage the nut with the right side of the link facing down. For loosening, the left side of the link faces down. The direction is indicated with an arrow sign on the tool.



Loosening



Tightening

8.3 Reaction point

- Place the tool at the bolted connection and move the tool by hand towards the reaction point. Ensure if hoses are clear of any obstacles.
- Ensure if the steel reaction pad portion of the ratchet abuts solidly to the chosen reaction point.
- Ensure that no odd parts are in the operation zone. Keep in mind that the tool can move a bit while operating. Ensure hydraulic hoses and couplers are clear of any obstacles during operation.
- Stay clear of the tool and reaction point with your fingers or other body parts!
- Press the start button for one second button to find out if everything works properly.

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8.4 To tighten a bolted connection

By pushing down on the remote control button in the advance position, the rear of the tool will be pushed back until the reaction surface will contact its reaction point. Continue to hold down the advance button as the ratchet turns until you hear a “click” which will signify the hydraulic cylinder inside the tool is fully extended and will not turn the ratchet further. Continuing to hold down the remote control button will result in a rapid build-up of pressure to the point where the gauge reads what was pre-set prior to applying the wrench.

Attention: The reading of full pre-set pressure after the cylinder is extended DOES NOT INDICATE that this pressure (torque) is applied to the bolt. It only indicates that the cylinder is fully extended and cannot turn the nut further until the tool automatically resets itself. Releasing the remote control button will retract the cylinder.

- The tool will automatically reset itself and the operator will hear a “click”.
- Push the button again for the next cycle and the socket will turn.
- Repeat this step till the nut finally stops turning.
- Successive cycles are made until the tool “STALLS” at the pre-set Torque with accuracy within $\pm 3\%$.

8.5 To loosen a bolted connection

- Adjust the pressure of the pump to its maximum of 700 BAR or 10.000 PSI.
- Check the rotating direction of the hexagon or square drive, and change if necessary.
- Check the position of the reaction pad and change if necessary.
- Place the tool on the bolted connection.
- Press the button of the remote control and keep it pressed till the socket or ratchet turns and stops again. As the cylinder extends fully, you will hear a “click”.
- Release the remote control button and wait till the cylinder automatically retracts. You again hear a “click”.
- Press the button again and repeat this as long as necessary till the connection is loose.

Comment: If the bolted connection does not loosen, it is an indication that you may require the next larger size tool to loosen the bolt. If you do not have this in your possession, please contact HYTORC to find a good solution.

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9. MALFUNCTIONS AND SOLUTIONS

9.1 Torque wrench

- The tool does not operate anymore → check if all couplers (as well on the tool as on the pump) are tightened properly. The coupling nut of the female coupler has to be tightened completely to the collar of the male coupler.

9.2 Driving piston

- Cylinder part cannot be taken off the tool → check if the piston is retracted completely → check if the piston is in its start position.

9.3 Pumps

- The pump pressure at a fixed adjustment repeats inaccurately → pump pressure adjusting valve is dirty or damaged → loose the valve and cover the hole with a towel, start the motor for 2 seconds, clean valve and assemble it again → renew the valve if the problem is not solved.
- Pump runs and produces pressure but the tool does not turn → check coupler connections.
- The tool turns in the wrong direction → probably two or an even number of hoses is connected to each other or the male and female couplers are interchanged.
- The tool is running slower than usually → adjust pump pressure to 700 BAR and shut off the pump when the start button is pressed → the pressure drops quickly to about 100 BAR but has to remain there. If the pressure drops to zero, it indicates an internal leakage. Please contact HYTORC Nederland B.V. +31 (0)24-3660660

9.3.1 Air pump units

- Pump motor does not start → kink in the air hose of the remote control → unreel the hose completely.
- Pump motor does not start → starter valve (position 21) is defect → press small knob of the starter valve while ON/OFF handle (position 9) stands at ON.
- Pump runs slowly or irregular → too low air pressure → minimum of 4 BAR with running motor → clean dirty filter → dirt in the air motor.
- The motor does not run or switch → this indicates a defect of the control valve in the pump unit.
If necessary, contact HYTORC Nederland B.V. at +31 (0)24-3660660.

9.3.2 Electrical pump units

- Motor makes strange noise and produces no pressure → check rotating direction.
- Motor runs too slow or stops automatically after starting → voltage drop in the power. Usually too thin or too long extension cable is used. Check pump unit with the main plug directly in the electric point.
- Motor runs but does not switch from forward to reverse → rupture in the remote control cable → valve block defect.
- Motor does not run → no electrical power or rupture in supply cable.

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10. MAINTENANCE

10.1 Inspection before each use

- Check if both oil levels of the pump unit are sufficient.
- Check power supply (air pressure minimum 5 BAR or the right E-voltage).
- Check if the cables and air hose supply of the remote control are not damaged.
- Unreel the hose of the remote control at air pumps completely. Bending of the small air hose can cause failures.
- Check if supply cables are not damaged.
- Check if the hydraulic hoses are not damaged. The working pressure is 700 BAR. Adjust pump pressure at 200 BAR. Check if the needle returns repeatable. Resume at 400 BAR and 700 BAR.
- Drain if there is water in the separator.
- Oil pressure gauges are filled with glycerine. If glycerine level drops, you have a leakage and repair is needed. When gauge is getting filled with hydraulic oil, this is also an indication of internal leakage.
- After each time the tool is used, clean it and check the grease inside the tool.

10.2 Small maintenance

- Hydraulic oil:
Change the oil after 40 operation hours completely or at least 2 times a year. Use only High-grade oil, ISO VG 46 or 32.
- Filter at the pump:
This filter must be changed 3 times a year at normal use and more often if the unit is used each day.
- Quick couplers hoses:
Clean dirty or rigid couplers or replace them.
- Coal brush assembly (electrical unit):
Check and if necessary renew.

10.3 Maintenance at HYTORC

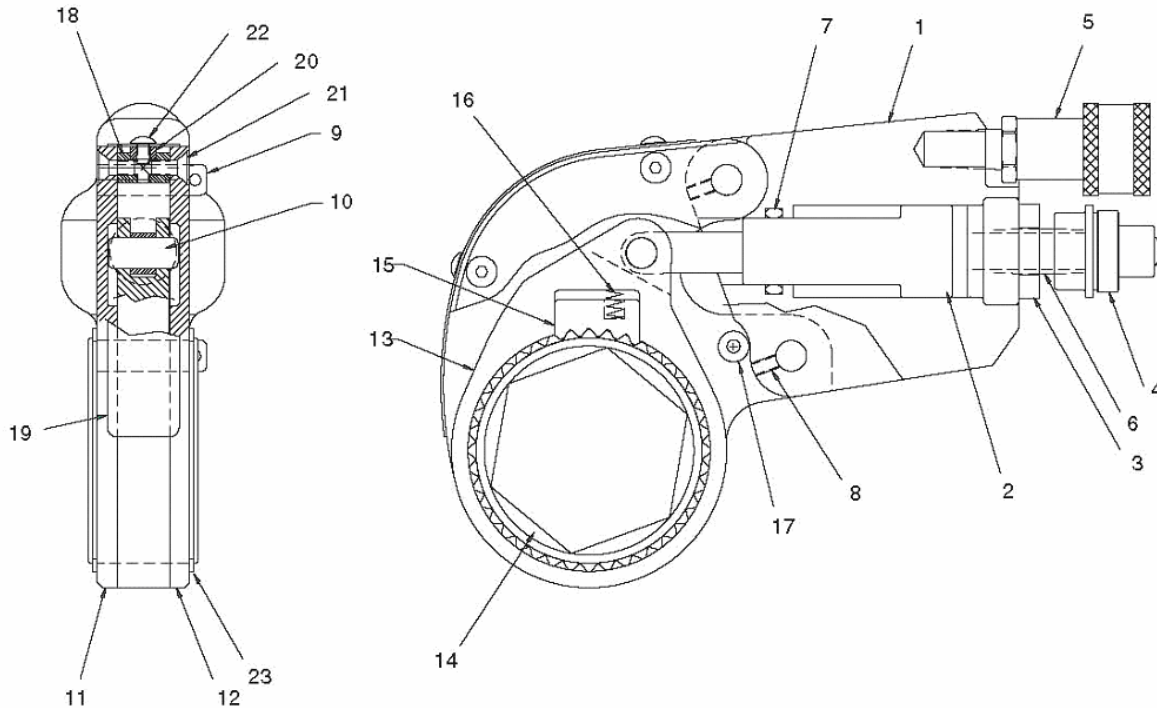
- Torque wrench:
Depending of the usage, but at least once a year, disassemble the complete tool, clean, inspect, change small springs and lubricate again. Inspection on capacity at 100, 200, 300 and 700 BAR.
- Pump unit:
Calibrate pump pressure gauge 1 time a year and fill glycerine level.
- Motor (electrical and air driven):
The rotor axle and bearings; 1 time a year cleaning and lubrication.
- Remote control (air driven unit):
Check the air hoses at flow obstructions and if necessary repair. The operation buttons are supplied with a small spring and have to open and close easily.
- Clean the control valves.

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11. PART LIST VERSA-SERIES (MODEL 1)



ITEM	DESCRIPTION	VERSA-2	VERSA-4	VERSA-8	VERSA-20
1	Housing	LC-02-01	LC-04-01	LC-08-01	LC-20-01
2	Piston Rod Assembly	LC-02-06	LC-04-06	LC-08-06	LC-20-06
3	End Cap With Seal	LC-02-02	LC-04-02	LC-08-02	LC-20-02
4	Male Coupler	90155	90155	90155	90155
5	Female Coupler	90156	90156	90156	90156
6	Male Hex Nipple	90101	90101	90101	90101
7	Seal Kit	LC-02-13	LC-04-13	LC-08-13	LC-20-13
8	Link Pin Retaining Screw	LC-02-12	LC-04-12	LC-08-12	LC-20-12
9	Link Pin With Ring	LC-02-10	LC-04-10	LC-08-10	LC-20-10
10	Rod Pin	LC-02-05	LC-04-05	LC-08-05	LC-20-05
11	Side Plate Left	LC-02-52L	LC-04-52L	LC-08-52L	LC-20-52L
12	Side Plate Right	LC-02-52R	LC-04-52R	LC-08-52R	LC-20-52R
13	Drive Plate	LC-02-35	LC-04-35	LC-08-35	LC-20-35
14	Ratchet	LC-02-28	LC-04-28	LC-08-28	LC-20-28
15	Drive Pawl	LC-02-22	LC-04-22	LC-08-22	LC-20-22
16	Drive Pawl Spring	LC-02-27	LC-04-27	LC-08-27	LC-20-27
17	Side Plate Spacer	LC-02-32	LC-04-32	LC-08-32	LC-20-32
18	Side Plate Spacer/Shroud	LC-02-47	LC-04-47	LC-08-47	LC-20-47
19	Shroud	LC-02-43	LC-04-43	LC-08-43	LC-20-43
20	Shroud Spacer	LC-02-36	LC-04-36	LC-08-36	LC-20-36
21	Side Plate Screws	LC-02-50	LC-04-50	LC-08-50	LC-20-50
22	Shroud Screws	LC-02-44	LC-04-44	LC-08-44	LC-20-44
23	Side Plate Retaining Ring	LC-02-31	LC-04-31	LC-08-31	LC-20-31

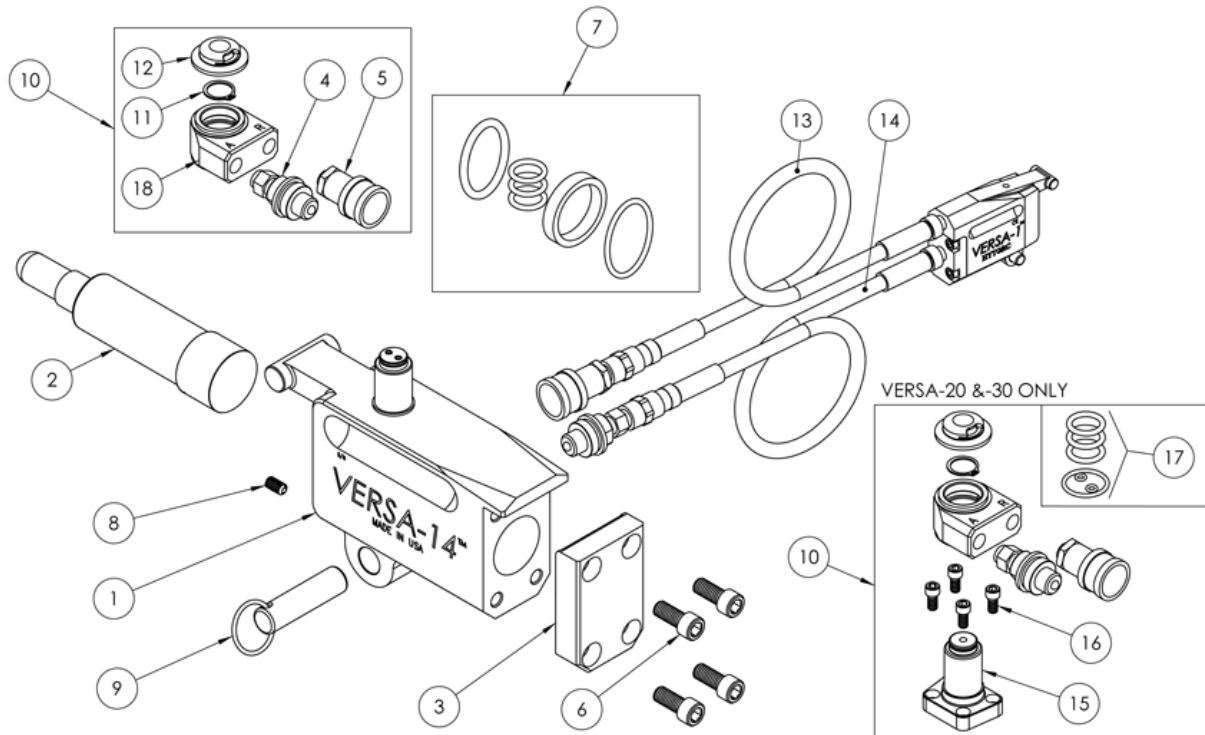
Note. While writing this manual there was still no part list of the VERSA available. Since the VERSA is a renewed LC and consists of similar parts, the LC part list is mentioned above. When you reorder parts, please mention that you have a VERSA model 1 instead of a LC.

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12. PART LIST VERSA-SERIES (MODEL 2) - HOUSING



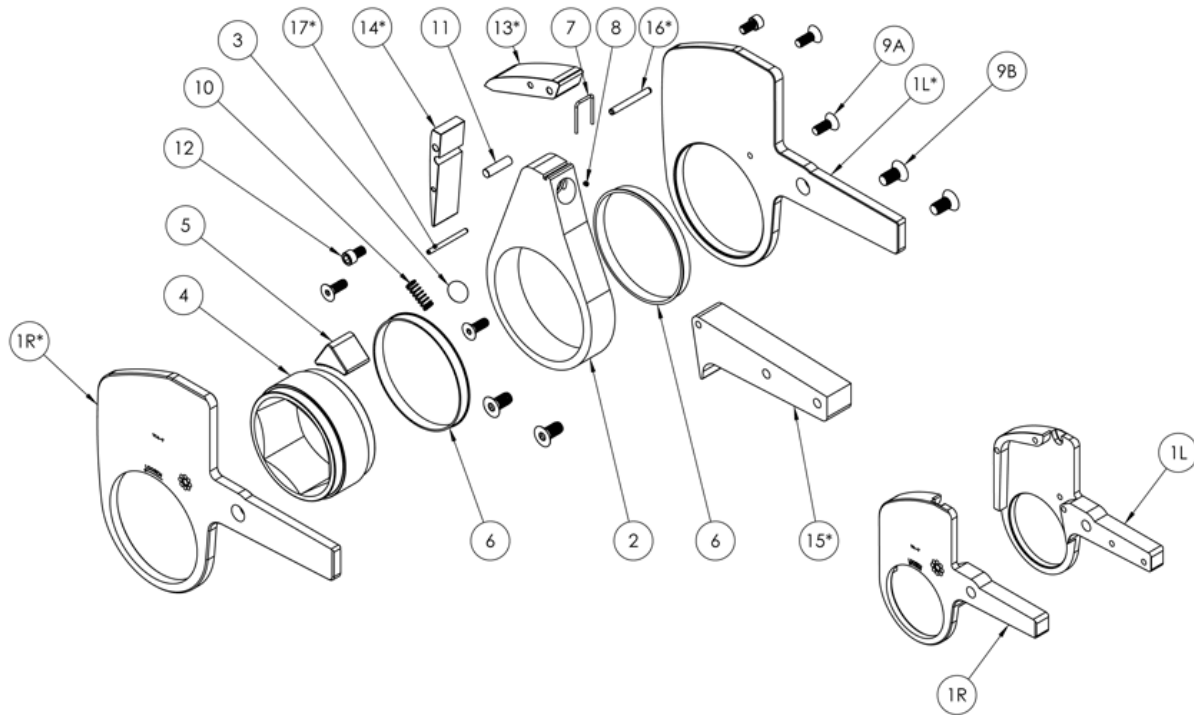
ITEM	DESCRIPTION	VERSA-1	VERSA-2	VERSA-4	VERSA-8	VERSA-14	VERSA-20	VERSA-30
1	HOUSING	VERSA-01-01	VERSA-02-01	VERSA-04-01	VERSA-08-01	VERSA-14-01	VERSA-20-01	VERSA-30-01
2	PISTON ROD ASSEMBLY	VERSA-01-06	VERSA-02-06	VERSA-04-06	VERSA-08-06	VERSA-14-06	VERSA-20-06	VERSA-30-06
3	END CAP WITH SEAL	VERSA-01-02	VERSA-02-02	VERSA-04-02	VERSA-08-02	VERSA-14-02	VERSA-20-02	VERSA-30-02
4	MALE COUPLER	N/A	090155-1/8	090155-1/4	090155-1/4	090155-1/4	090155-1/4	090155-1/4
5	FEMALE COUPLER	N/A	090156-1	90156	90156	90156	90156	90156
6	END CAP SCREWS	VERSA-01-34	VERSA-02-34	VERSA-04-34	VERSA-08-34	VERSA-14-34	VERSA-20-34	VERSA-30-34
7	SEAL KIT	VERSA-01-13	VERSA-02-13	VERSA-04-13	VERSA-08-13	VERSA-14-13	VERSA-20-13	VERSA-30-13
8	LINK PIN RETAINER	VERSA-01-12	ST-02-19	ST-04-19	ST-08-19	VERSA-14-12	VERSA-20-12	VERSA-30-12
9	LINK PIN WITH RING	VERSA-01-10	XLCT-02-10	XLCT-04-10	XLCT-08-10	XLCT-14-10	VERSA-20-10	XLCT-30-10
10	UNISWIVEL ASSEMBLY	N/A	VERSA-002	VERSA-004	VERSA-004	VERSA-004	VERSA-020	VERSA-020
11	SAFETY CAP RETAINING RING	N/A	VERSA-02-504	VERSA-04-504	VERSA-04-504	VERSA-04-504	VERSA-04-504	VERSA-04-504
12	SAFETY CAP	N/A	VERSA2-SF013	XLT-SF003	XLT-SF003	XLT-SF003	XLT-SF003	XLT-SF003
13	HOSE WHIP WITH FEMALE COUPLER	090160-18F	N/A	N/A	N/A	N/A	N/A	N/A
14	HOSE WHIP WITH MALE COUPLER	090160-18M	N/A	N/A	N/A	N/A	N/A	N/A
15	SWIVEL POST	N/A	N/A	N/A	N/A	N/A	XLT-SF001	XLT-SF001
16	POST MOUNTING SCREWS	N/A	N/A	N/A	N/A	N/A	XLT-00-004	XLT-00-004
17	UNISWIVEL SEAL KIT	N/A	VERSA-002-00	VERSA-004-00	VERSA-004-00	VERSA-004-00	XLT-001-00	XLT-001-00
18	SWIVEL BLOCK WITH COUPLERS	N/A	VERSA-002-SW	VERSA-004-SW	VERSA-004-SW	VERSA-004-SW	VERSA-004-SW	VERSA-004-SW
19	TOOL MAINTENANCE KIT	MK-VERSA-01	MK-VERSA-02	MK-VERSA-04	MK-VERSA-08	MK-VERSA-14	MK-VERSA-20	MK-VERSA-30
20	60 X 180 UNISWIVEL (OPTIONAL)	N/A	VERSA-002-1	VERSA-004-1	VERSA-004-1	VERSA-004-1	VERSA-004-1	VERSA-004-1

FOR MORE INFORMATION

HYTORC Nederland BV | Platinawerf 8 - 6641 TL Beuningen - NEDERLAND | Tel: +31(0)24 - 3 660 660 | www.hytorc.nl

HYTORC Benelux BVBA | Ysselaarlaan 65B - 2630 Aartselaar - BELGIË | Tel : +32(0)38 - 705 220 | www.hytorc-benelux.be

13. PART LIST VERSA-SERIES (MODEL 2) – LOW CLEARANCE LINK



ITEM	DESCRIPTION	VERSA-1	VERSA-2	VERSA-4	VERSA-8	VERSA-14	VERSA-20	VERSA-30
1	SIDE PLATE RIGHT/LEFT	VERSA-01-52R/L #	VERSA-02-52R/L #	VERSA-04-52R/L #	VERSA-08-52R/L #	VERSA-14-52R/L #	VERSA-20-52R/L #	VERSA-30-52R/L #
2	DRIVE PLATE	VERSA-01-35 #	VERSA-02-35 #	VERSA-04-35 #	VERSA-08-35 #	VERSA-14-35 #	VERSA-20-35 #	VERSA-30-35 #
3	SPHERE SEGMENT	VERSA-01-21	VERSA-02-21	VERSA-04-21	VERSA-08-21	VERSA-14-21	VERSA-20-21	VERSA-30-21
4	RATCHET	VERSA-01-28 #	VERSA-02-28 #	VERSA-04-28 #	VERSA-08-28 #	VERSA-14-28 #	VERSA-20-28 #	VERSA-30-28 #
5	DRIVE SEGMENT	VERSA-01-20	VERSA-02-20	VERSA-04-20	VERSA-08-20	VERSA-14-20	VERSA-20-20	VERSA-30-20
6	SIDE PLATE SLEEVE	VERSA-01-55 #	VERSA-02-55 #	VERSA-04-55 #	VERSA-08-55 #	VERSA-14-55 #	VERSA-20-55 #	VERSA-30-55 #
7	SPRING WIRE	VERSA-01-37	VERSA-02-37	VERSA-04-37	VERSA-08-37	VERSA-14-37	VERSA-20-37	VERSA-30-37
8	SPRING WIRE SET SCREW	VERSA-01-38	VERSA-02-38	VERSA-04-38	VERSA-08-38	VERSA-14-38	VERSA-20-38	VERSA-30-38
9A	SIDE PLATE SCREW TOP	VERSA-01-51	VERSA-02-51	VERSA-04-51	VERSA-08-51	VERSA-14-51	VERSA-20-51	VERSA-30-51
9B	SIDE PLATE SCREW REAR	VERSA-01-51	VERSA-02-51	VERSA-04-51	VERSA-08-51	VERSA-14-49	VERSA-20-49	VERSA-30-49
10	DRIVE SEGMENT SPRING	VERSA-01-27	VERSA-02-27	VERSA-04-27	VERSA-08-27	VERSA-14-27	VERSA-20-27	VERSA-30-27
11	DRIVE PLATE STOPPER ROD	VERSA-01-42	VERSA-02-42	VERSA-04-42	VERSA-08-42	VERSA-14-42	VERSA-20-42	VERSA-30-42
12	SIDE PLATE SCREW MIDDLE	VERSA-01-50	VERSA-02-50	VERSA-04-50	VERSA-08-50	VERSA-14-50	VERSA-20-50	VERSA-30-50
13	TOP SPACER	N/A	VERSA-02-45T-01/02	VERSA-04-45T-01/02	VERSA-08-45T	VERSA-14-45T	VERSA-20-45T	VERSA-30-45T
14	FRONT SPACER	N/A	VERSA-02-45F #	VERSA-04-45F #	VERSA-08-45F #	VERSA-14-45F #	VERSA-20-45F #	VERSA-30-45F #
15	REAR SPACER	N/A	VERSA-02-45R #	VERSA-04-45R #	VERSA-08-45R #	VERSA-14-45R #	VERSA-20-45R #	VERSA-30-45R #
16	SIDE PLATE ROLL PIN TOP	N/A	VERSA-02-48T	VERSA-04-48T	VERSA-08-48T	VERSA-14-48T	VERSA-20-48T	VERSA-30-48T
17	SIDE PLATE ROLL PIN MIDDLE	N/A	VERSA-02-48F	VERSA-04-48F	VERSA-08-48F	VERSA-14-48F	VERSA-20-48F	VERSA-30-48F
18	LINK MAINTENANCE KIT	MK-VERSA-01-LK	MK-VERSA-02-LK	MK-VERSA-04-LK	MK-VERSA-08-LK	MK-VERSA-14-LK	MK-VERSA-20-LK	MK-VERSA-30-LK

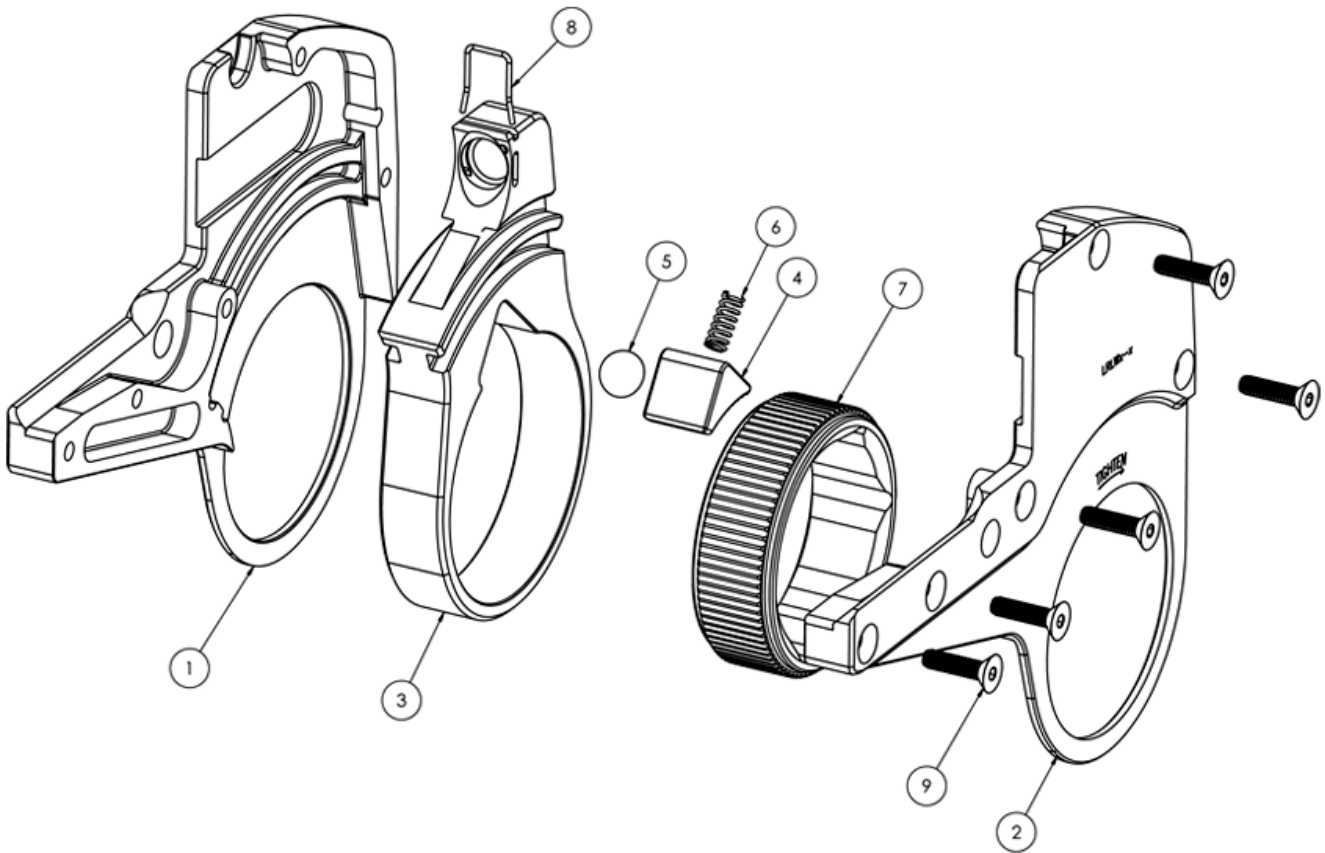
NOTE: "#" DESIGNATES LINK BLANK NUMBER
 *VERSA-1 PARTS ONLY

FOR MORE INFORMATION

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14. PART LIST VERSA-SERIES SLIM LINK



ITEM	DESCRIPTION	VERSA-02-SLIM	VERSA-04-SLIM	VERSA-08-SLIM
1	SIDE PLATE, RIGHT, SLIM	VERSA-02-52R # SLIM	VERSA-04-52R # SLIM	VERSA-08-52R # SLIM
2	SIDE PLATE, LEFT, SLIM	VERSA-02-52L # SLIM	VERSA-04-52L # SLIM	VERSA-08-52L # SLIM
3	DRIVE PLATE, SLIM #	VERSA-02-35 # SLIM	VERSA-04-35 # SLIM	VERSA-08-35 # SLIM
4	DRIVE SEGMENT, SLIM	VERSA 02-20 # SLIM	VERSA-04-20 # SLIM	VERSA-08-20 # SLIM
5	SEGMENT SPHERE	VERSA-02-21	VERSA-04-21	VERSA-08-21
6	DRIVE SEGMENT SPRING	VERSA-02-27	VERSA-04-27	VERSA-08-27
7	DRIVE RATCHET, SLIM	VERSA-02-28 # SLIM	VERSA-04-28 # SLIM	VERSA-08-28 # SLIM
8	SPRING WIRE	VERSA-02-37	VERSA-04-37	VERSA-08-37
9	SCREW KIT	VERSA-02-50 SLIM	VERSA-04-50 SLIM	VERSA-08-50 SLIM

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