
 Stucchi®	Service manual	000300018/E
	Screw to connect coupling VOF / VOFX	Rev. 0
		Page 1

REVISION STATUS

Date emiss./rev.	Revision index	Modified pages	Modification description
29/04/2016	0	--	Document issuance

Completed by: Maffioletti M.	Signature:	Qualification: UT	Date: 29/04/2016
Approved by: Pasino R.	Signature:	Qualification: DTE	Date: 29/04/2016

 Stucchi®	Service manual	000300018/E
	Screw to connect coupling VOF / VOFX	Rev. 0
		Page 2

Contents


WARNINGS	3
INSTRUCTIONS FOR STORAGE OF PRODUCTS IN STOCK	4
PACKAGE CONTENTS	4
GENERAL DESCRIPTION OF THE SYSTEM	4
Main components	4
Marking	4
Available codes	4
INSTALLATION	5
Hydraulic connections	5
Female coupling	5
Male coupling	5
INSTRUCTIONS FOR USE	6
Setup prior to the first assembly	6
Before each commissioning	6
Before each system storage	6
Protection of the couplings when disconnected	6
Connection sequence	7
Disconnection sequence	8
CLEANING AND MAINTENANCE	8
Cleaning	8
Ordinary maintenance	8
Extraordinary maintenance	8
TROUBLESHOOTING	9
AVAILABLE SPARE PARTS	10
Female coupling seal replacement	10
Female/male coupling valve replacement	10
ACCESSORIES	10
CONTACTS	11

Appendix 1: Poppet female coupling seal replacement

WARNINGS	1/A
RECOMMENDATIONS FOR STORAGE OF THE PRODUCTS	1/A
TYPES OF SEALS COMPOUNDS AND COMPATIBLE GREASES	1/A
INSTRUCTIONS FOR SPARE KIT REPLACEMENT	2/A

Appendix 2: Poppet valve replacement

WARNINGS	1/B
RECOMMENDATIONS FOR STORAGE OF THE PRODUCTS	1/B
EQUIPMENT FOR ELASTIC RING REPLACEMENT	1/B
INSTRUCTIONS FOR SPARE KIT REPLACEMENT	2/B

 Stucchi®	Service manual	000300018/E
	Screw to connect coupling VOF / VOFX	Rev. 0
		Page 3


The following instructions are a supplement and must be used as a single document together with the technical data sheet and the product drawing.

A copy of this document must be given to the personnel responsible for the selection and/or use of the product.



WARNINGS

- Read the following instructions and the general instructions at <http://www.stucchi.it/en/content/knowhow/instructions-and-warning> carefully before installing and using the product.
- Inappropriate use of the product may cause malfunction or security risks.
- Use exclusively the type of fluid indicated on the technical data sheet. In case of using different fluids, first contact Stucchi Technical Support.
- The product is required for using pressure oil, for pressures indicated in the technical data sheet: in case of malfunctions, leakage or improper use, there can be risks related to high pressure oil leaks and/or ejection of component parts.
- Before installation, make sure that the part number is correct.
- Before proceeding with the installation, verify that the structures on which the products will be installed and the surrounding areas are clean.
- The product must be installed, operated and serviced exclusively by qualified personnel. Unqualified personnel must be kept safe distance from the above operations.
- It is recommended to use the product on systems with a degree of controlled contamination (19/17/14 according to ISO/DIS 4406 and 8 in accordance with NAS 1638 or higher grade): dirt can wear/damage product components causing malfunction and/or decrease in performance.
- During installation, adequately protect products from potential contaminants, such as metal debris, dirt, dust or paint residues.
- Remove the protective caps on the quick couplings only before installing the pipes.
- Do not use improper tools, during installation or maintenance, which may cause damage and/or malfunction.
- Appropriate security measures to prevent damage to persons or property as a result of any pressure drop in the circuit caused by the coupling must be provided by the user.
- In case of damage to the seals or other parts of the coupling, there is a risk of serious injuries by hydraulic oil injection and/or burns, as a result of oil leakage under pressure and/or high temperature.
- In case of suspected oil leakage, do not perform inspections with bare hands: always use a sheet of paper, able to highlight the leakage, without risk for the operator's safety, and to adequately absorb any oil jet (liquid or spray).
- In case of oil leakage, do not operate the system. Stop the system, releasing pressure and bringing it to room temperature.
- Do not manually operate the valves of the quick couplings to release the pressure inside the circuit, when disconnected.
- Do not operate the system when damage is visible on quick couplings components.
- Do not disassemble, modify or tamper with the couplings.
- Do not insert foreign objects between the couplings during the connection, disconnection or use in general.
- Do not use differently as shown in this document.
- Do not use outside the operating parameters indicated in the product technical data sheet.
- Do not connect with the dynamic pressure in the circuit.
- Before performing maintenance or cleaning the product, release the residual pressure in the circuit and bring the system to room temperature.
- Do not direct high pressure jets on the coupling valves or on the seals (for example during cleaning with a pressure washer).
- For cleaning the couplings, do not use aggressive or incompatible fluids for seals.
- Use only original spare seals.
- In the event of malfunctions and sliding of the coupling parts, replace them.
- In case of replacement of one of the two parts damaged (M or F) which constitute the quick coupling, also replace the other half corresponding coupling.

 Stucchi®	Service manual	000300018/E
	Screw to connect coupling VOF / VOFX	
	Rev. 0	
		Page 4

INSTRUCTIONS FOR STORAGE OF PRODUCTS IN STOCK

For optimal maintenance of products and to avoid damage before installation, use the following recommendations:

- the product must be kept in its original packaging to protect the components (with special attention to the seals) from dirt, dust and ultraviolet radiation.
- the product must be kept in a dry place, away from corrosive atmospheres and atmospheric agents, grease and/or oil not compatible with the installed seals, dirt, away from heat and magnetic fields.
- keep away from ozone sources as extremely detrimental for the seals.

PACKAGE CONTENTS

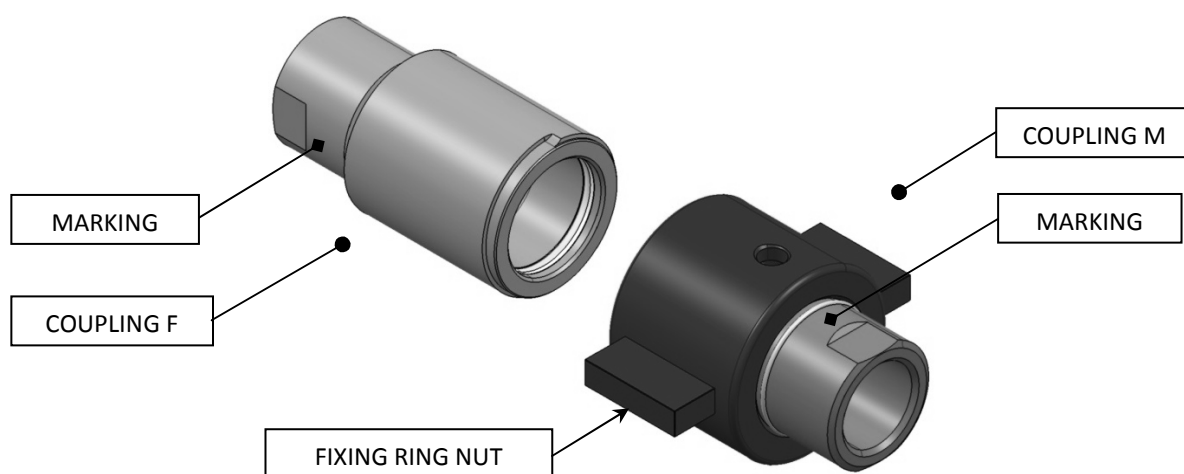
The product code and its description on the identification label are shown.

GENERAL DESCRIPTION OF THE SYSTEM

The VOF series is a quick couplings series in carbon steel with screw connection, connectable with residual pressure (in one of the two parts of the coupling).

The VOFX series is a stainless steel quick couplings series with screw connection, connectable with residual pressure (in one of the two parts of the coupling).

Main components




Marking

STUCCHI	-	COUPLER	-	VOF VOFX	-	100	-	BSP
Manufacturer		Type of coupling (M = COUPLER / F = NIPPLE)		Family	Nominal size		Connecting thread	

Available codes

The list of codes of products available can be found in the technical data sheets of VOF series (code 000100033) and VOFX (code 000100034).

 Stucchi®	Service manual	000300018/E
	Screw to connect coupling VOF / VOFX	Rev. 0
		Page 5

INSTALLATION

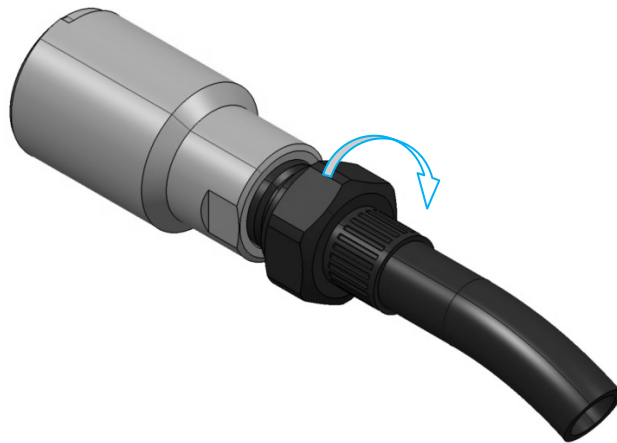


Before installing the pipes, immediately remove the protective caps from the quick couplings.

Hydraulic connections

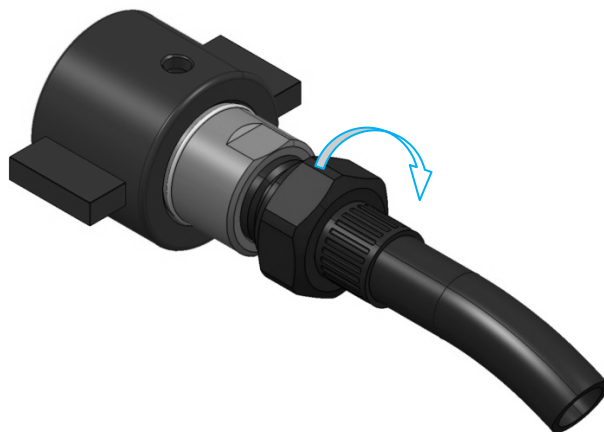
Female coupling

Connect the pipe to the coupling with spanner and counter spanner. DO NOT use pliers or other tools which may affect the performances of the coupling. Tighten the pipe fittings to the correct torque indicated by the referenced standards/specifications of the manufacturer of pipe fittings.




Male coupling

Connect the pipe to the coupling with spanner and counter spanner. DO NOT use pliers or other tools which may affect the performances of the coupling. Tighten the pipe fittings to the correct torque indicated by the referenced standards/specifications of the manufacturer of pipe fittings.



CAUTION: at least one of the two hydraulic connections must be carried out by using a flexible hose.

 Stucchi®	Service manual	000300018/E
	Screw to connect coupling VOF / VOFX	Rev. 0
		Page 6

INSTRUCTIONS FOR USE



CAUTION: for the risks related to the use of the product, see “WARNINGS” of this document.

Setup prior to the first assembly

Before the commissioning of the couplings the following operations must be performed by qualified personnel:

- tighten the pipe fittings to the correct torque indicated by the referenced standards/specifications of the manufacturer of the pipe fittings.
- clean, using only non-aggressive fluids and compatible for seals, the valve seat of the female coupling and the front face of the male coupling, to avoid the inclusion of contaminants in the hydraulic circuit;
- connect the system up to end stop;
- verify that the quick couplings perform a full stroke, through the appropriate hole in the fixing ring nut;
- verify absence of damage on the quick couplings;
- verify absence of oil leakage;
- disconnect the system;
- to repeat the attempt connecting and disconnecting a few times, to ensure it is properly repeatable.

The system is ready to be used at operating conditions.

Test the functionality in operating conditions.

Before each commissioning

Before each connection, verify:

- absence of oil leakage;
- that the system is clean, with special attention to the quick couplings, especially on the connecting surfaces;
- the quick couplings for damage.

Before each system storage

After each disconnection verify:

- absence of oil leakage;
- that the system is clean, with special attention to the quick couplings;
- the quick couplings for damage.

Protection of the couplings when disconnected

When the coupling is disconnected, protect it, preferably using the appropriate Stucchi caps (see the “ACCESSORIES” section of this document), from the exposure to:

- dirt and/or corrosive environment;
- shocks which may damage the quick couplings.

Connection sequence

- Before connecting, cleaning, using only non-aggressive fluids and compatible for seals, the valve seat of the female coupling and the front face of the male coupling, to prevent dirt entering the circuit.
- Screw the fixing ring nut on the female coupling (fig. 1) with spanner and counter spanner until a mechanical stop (fig. 2) and being careful not to intervene on the connection of the female pipe, apply a tightening torque that does not allow the unscrewing of the fixing ring nut in operating conditions.
- Verify, through the appropriate inspection hole on the fixing ring nut, that the male coupling and the female coupling have reached the mechanical stop position, which ensures the complete connection (fig. 3).

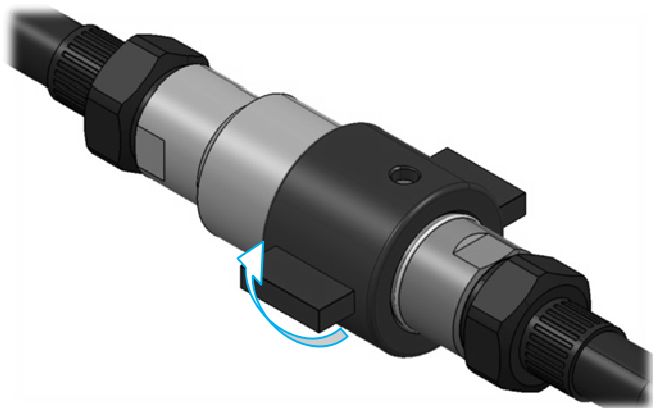


Fig. 1

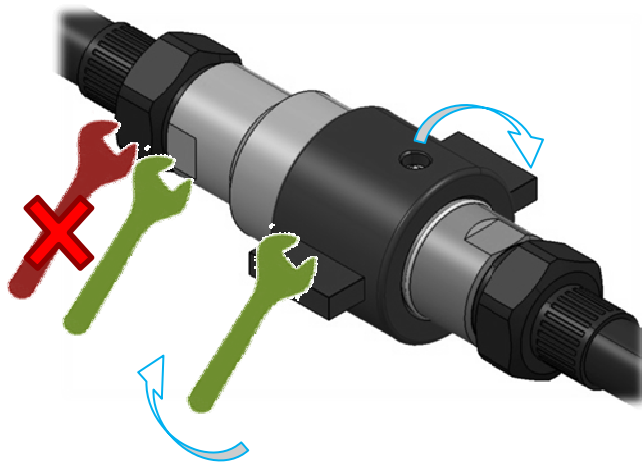


Fig. 2

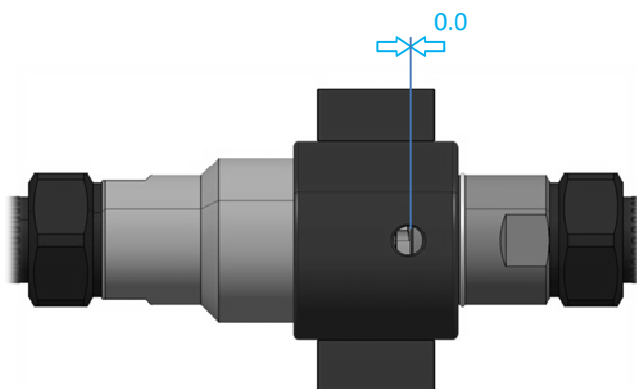



Fig. 3

 Stucchi®	Service manual	000300018/E
	Screw to connect coupling VOF / VOFX	
		Rev. 0
		Page 8

Disconnection sequence

- Loosen the fixing ring nut of the female coupling, with spanner and counter spanner, making sure not to intervene on the pipe connection of the female coupling (fig. 1).
- Completely unscrew the fixing ring nut, separating the two couplings.

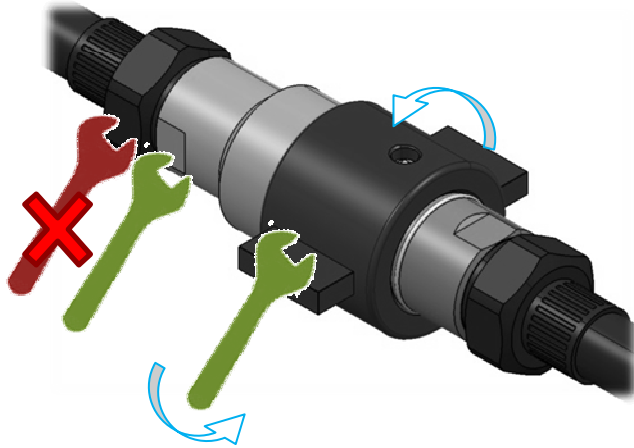


Fig. 1

CLEANING AND MAINTENANCE



CAUTION: for risks related to the product cleaning and maintenance, see “WARNINGS” of this document.

Cleaning

We recommend, before each commissioning, to clean the system, to remove dirt which during use can be accumulated. Do not direct high pressure jets on the valve seat of the female coupling and on the front face of the male coupling (e.g. during pressure washer cleaning).

Ordinary maintenance


Monthly check:

- absence of oil leakage;
- that the pipe fittings are tighten to the correct torque indicated by the referenced standards/specifications of the manufacturer of the pipe fittings.

Extraordinary maintenance

In the case of coupling failure, or leakage, see “TROUBLESHOOTING” in this document.

In case of failure different from that stated in the “TROUBLESHOOTING” of this document, or in case the problem could not be solved using the troubleshooting, proceed to the replacement of the corresponding torque coupling.

 Stucchi®	Service manual	000300018/E
	Screw to connect coupling VOF / VOFX	Rev. 0
		Page 9

TROUBLESHOOTING

A	OIL LEAKAGE FROM THE MALE COUPLING DISCONNECTED
A1	Locate the origin of the leakage.
A2	If the leakage was from the valve, replace the valve and the internal smalley ring of the coupling.
A3	Verify that the leakage is not due to the pipe connection.
A4	If the check in step A3 proves positive, verify the correct closing torque between pipe and male coupling.
B	OIL LEAKAGE FROM THE FEMALE COUPLING DISCONNECTED
B1	Locate the origin of the leakage.
B2	If the leakage was from the valve, replace the valve and the internal smalley ring of the coupling.
B3	Verify that the leakage is not due to the pipe connection.
B4	If the check in step B3 proves positive, verify the proper closing of the torque between the pipe and the female coupling.
C	OIL LEAKAGE FROM THE COUPLINGS CONNECTED
C1	Locate the origin of the leakage.
C2	Provide for the replacement of the seal in the connection configuration of the female coupling.
C3	If leakage persists, replace the torque coupling.
D	THE MALE COUPLING DOES NOT CONNECT WITH THE FEMALE COUPLING
D1	Verify that there are no foreign bodies between the two couplings.
D2	Verify that there are no impediments on the coupling thread.
D3	If the problem persists, do not force the connection and contact Technical Support.
E	THE COUPLINGS DO NOT DISCONNECT
E1	Unlock the ring nut with proper tools.
E2	If the problem persists, do not force the disconnection and contact Technical Support.

AVAILABLE SPARE PARTS

COUPLING		DESCRIPTION
VOF34	F	SEAL KIT
VOFX34	F+M	VALVE KIT
VOF100	F	SEAL KIT
VOFX100	F+M	VALVE KIT
VOF114	F	SEAL KIT
VOFX114	F+M	VALVE KIT
VOF112	F	SEAL KIT
VOFX112	F+M	VALVE KIT
VOF200	F	SEAL KIT
VOFX200	F+M	VALVE KIT

Female coupling seal replacement


In case of leakage in coupled configuration, it is possible to replace the female coupling seal: for doing this, please refer to the proper instruction "Poppet female coupling seal replacement" code 000310001, available at the "Appendix 1" of this manual.

Female/male coupling valve replacement

In case of leakage from the female or male coupling valve, it is possible to replace it: for doing this, please refer to the proper instruction "Poppet valve replacement" code 000310002, available at the "Appendix 2" of this manual.

ACCESSORIES

COUPLING		DESCRIPTION	MATERIAL
VOF34 VOFX34	F	ANODISED CAP	Aluminium
		CAP	Stainless steel
VOF100 VOFX100	M	ANODISED CAP	Aluminium
		CAP	Stainless steel
VOF114 VOFX114	F	ANODISED CAP	Aluminium
		CAP	Stainless steel
VOF112 VOFX112	M	ANODISED CAP	Aluminium
		CAP	Stainless steel
VOF200 VOFX200	F	ANODISED CAP	Aluminium
		CAP	Stainless steel
VOF200 VOFX200	M	ANODISED CAP	Aluminium
		CAP	Stainless steel

 Stucchi®	Service manual	000300018/E
	Screw to connect coupling VOF / VOFX	Rev. 0
		Page 11

CONTACTS


Stucchi S.p.A.

Via delle Arti e dei Mestieri, 17

24040 Pagazzano (BG) Italy

✉ assistenza@stucchi.it

☎ (+39) 0363 380100

 Stucchi®	Spare kit instruction	000310001/E
	Poppet female coupling seal replacement	Rev. 0
		Page 1/A

The following instructions are a supplement and must be used together with the service manual of the quick couplings.

A copy of this document shall be distributed to the personnel responsible for the quick couplings maintenance.



WARNINGS

- Maintenance operations must be performed by qualified personnel only.
- Before performing maintenance operations, read carefully the following instructions.
- Before performing maintenance operations, check that the spare kit code is correct for the product.
- Maintenance operations must be performed in areas that are clean and protected by potential contaminants.
- Before performing maintenance operations, make sure that the spare kits and the surrounding areas are clean.
- During maintenance operations, avoid using incorrect tools which could cause damages and/or malfunctions.
- A misuse of the spare seals can cause malfunctions and safety risks.
- Before performing maintenance operations on the quick coupling, exhaust the residual pressure within the hydraulic system and let the system cool down.
- Do not operate manually the valve of the quick coupling to exhaust the pressure inside the circuit, when the system is disconnected.

RECOMMENDATIONS FOR STORAGE OF THE PRODUCTS

For an optimal preservation of the products and to avoid damages before installation:

- the product must be kept in the original package to protect the components from dirt, dust and ultraviolet radiations;
- the product must be stored in a dry place, sheltered from corrosive atmospheres, atmospheric agents, grease, oil, dirt and far from sources of heat and magnetic fields;
- keep away from ozone-generating sources, since they are very detrimental for seals.

TYPES OF SEALS COMPOUNDS AND COMPATIBLE GREASES

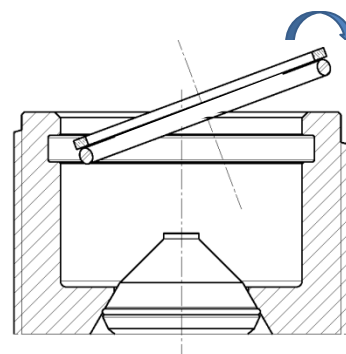
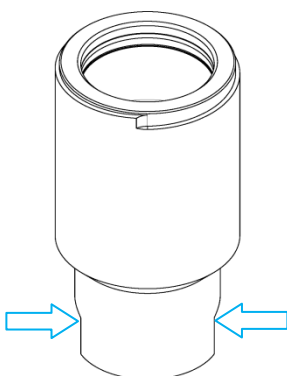
SEAL COMPOUND (DIN/ISO 1629)	TYPE OF COMPATIBLE GREASE	RECOMMENDED GREASE
NBR, HNBR, FPM, MVQ, MFQ, PUR	MINERAL	PAKER LI/2
EPDM, CR	SILICONE	ROTOSFER GWF4



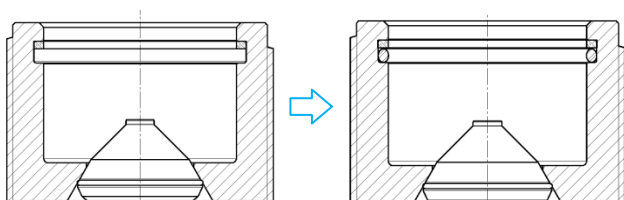
INSTRUCTIONS FOR SPARE KIT REPLACEMENT



1. Lock the coupling, by using the special wrench hexagon (or flats), in a vice with aluminum jaws, to avoid damages to the hexagon surface. Do not apply an excessive force on the vice, but enough to keep the coupling in position, to avoid deformations.
2. Using a special tool (blunt and non-marring, to avoid scratches), extract the seal from its housing.



3. Replace the seal: insert the backup ring first (PTFE, white), arranging it at the top of the housing, and then the O-Ring (rubber, black), slightly lubricating them with compatible grease. Compatible greases are listed in the table at the previous paragraph "TYPES OF SEALS COMPOUNDS AND COMPATIBLE GREASES".
4. Test the connection/disconnection of the quick couplings without pressure, to verify that the connection works properly and the movement of the valves is correct.
5. Connect the quick couplings, pressurize them at low pressure and verify that there are no leaks.
6. If the checks are positive, it's possible to continue the standard working cycle.



In case of questions or maintenance problems, please contact Stucchi Customer Service.

 Stucchi®	Spare kit instruction	000310002/E
	Poppet valve replacement	
	Rev. 0	
		Page 1/B

The following instructions are a supplement and must be used together with the service manual of the quick couplings.

A copy of this document shall be distributed to the personnel responsible for the quick couplings maintenance.



WARNINGS

- Maintenance operations must be performed by qualified personnel only.
- Before performing maintenance operations, read carefully the following instructions.
- Before performing maintenance operations, check that the spare kit code is correct for the product.
- Maintenance operations must be performed in areas that are clean and protected by potential contaminants.
- Before performing maintenance operations, make sure that the spare kits and the surrounding areas are clean.
- During maintenance operations, avoid using incorrect tools which could cause damages and/or malfunctions.
- A misuse of the spare seals can cause malfunctions and safety risks.
- Before performing maintenance operations on the quick coupling, exhaust the residual pressure within the hydraulic system and let the system cool down.
- Do not operate manually the valve of the quick coupling to exhaust the pressure inside the circuit, when the system is disconnected.

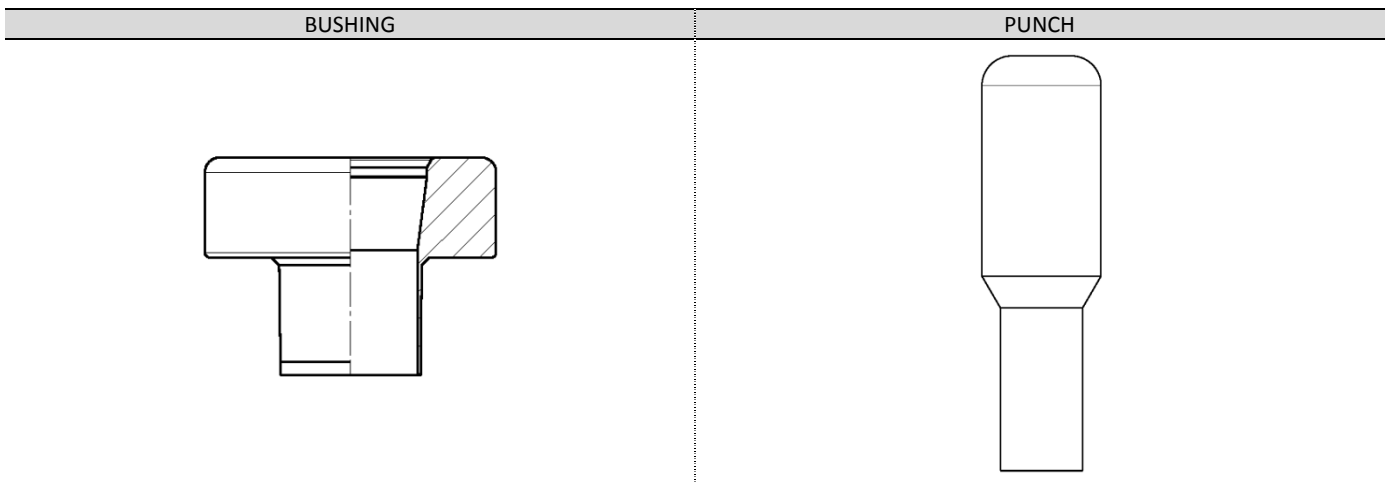
RECOMMENDATIONS FOR STORAGE OF THE PRODUCTS

For an optimal preservation of the products and to avoid damages before installation:

- the product must be kept in the original package to protect the components from dirt, dust and ultraviolet radiations;
- the product must be stored in a dry place, sheltered from corrosive atmospheres, atmospheric agents, grease, oil, dirt and far from sources of heat and magnetic fields;
- keep away from ozone-generating sources, since they are very detrimental for seals.

EQUIPMENT FOR ELASTIC RING REPLACEMENT

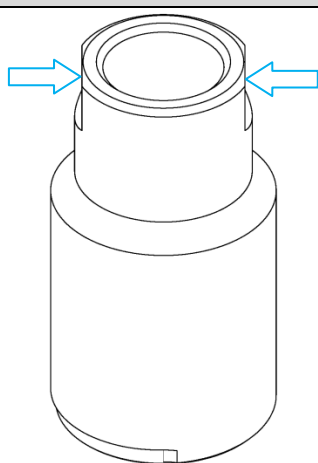
For the replacement of the elastic ring inside the coupling, the following equipment is required (NOT supplied by Stucchi):



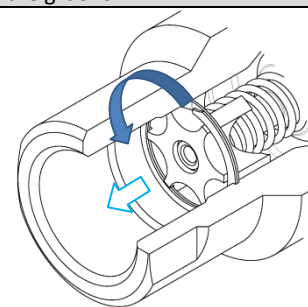
The bushing has to be long enough to protect the elastic ring from the thread, to avoid the elastic ring to get stuck or damages to the thread.

INSTRUCTIONS FOR SPARE KIT REPLACEMENT


1. Lock the coupling, by using the special wrench hexagon (or flats), in a vice with aluminum jaws, to avoid damages to the hexagon surface. Do not apply an excessive force on the vice, but enough to keep the coupling in position, to avoid deformations.

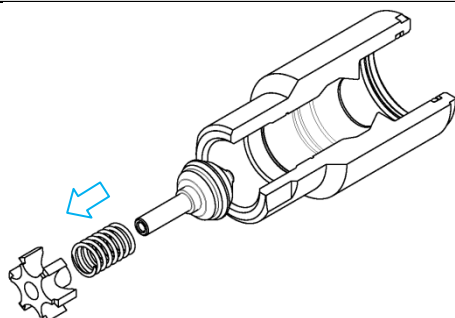


2. Using a screwdriver, being careful not to scratch the internal surface of the coupling, insert it in the predisposed notch at the end of the elastic ring. Push the retainer with a blunt, non-marring tool, avoiding to scratch its surface, and pry out and up the first end of the elastic ring. Extract the elastic ring, spiraling it around until it is free from the groove.

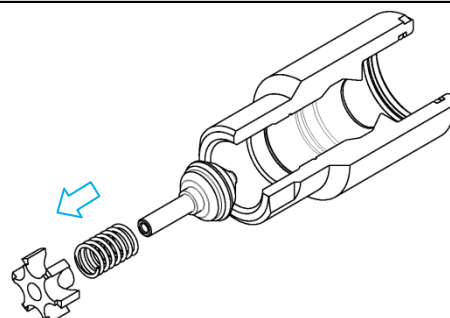


While removing the elastic ring, be careful to the risk of ejection of the retainer, due to the spring.

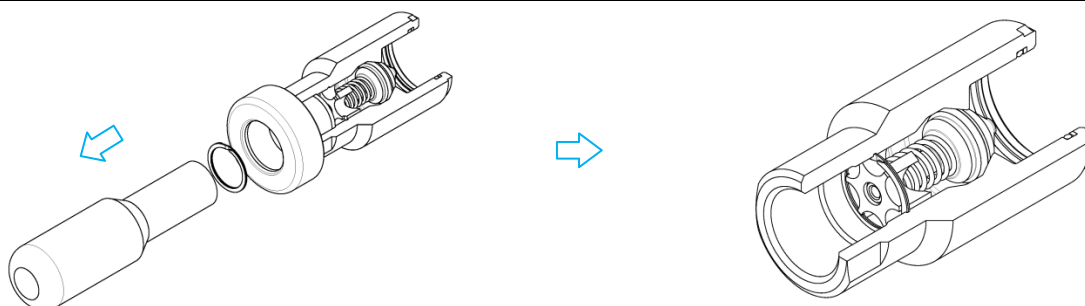
3. Remove from the coupling, in the following sequencer: the retainer, the spring and the valve.



4. Insert in the coupling the new components, in the following sequence: the valve, the spring and the retainer, being careful not to scratch the seal of the valve, during the insertion.



5. Insert the bushing in the hose connection thread and the elastic ring in the bushing. Using the punch, push the elastic ring in the cone of the bushing, until it fits in its locking groove.



6. Test the connection/disconnection of the quick couplings without pressure, to verify that the connection works properly and the movement of the valves is correct.

7. Pressurize the quick couplings at low pressure in disconnected position and verify that there are no leaks. If the checks are positive, it's possible to continue the standard working cycle.

In case of questions or maintenance problems, please contact Stucchi Customer Service.