SERVICE INSTRUCTION

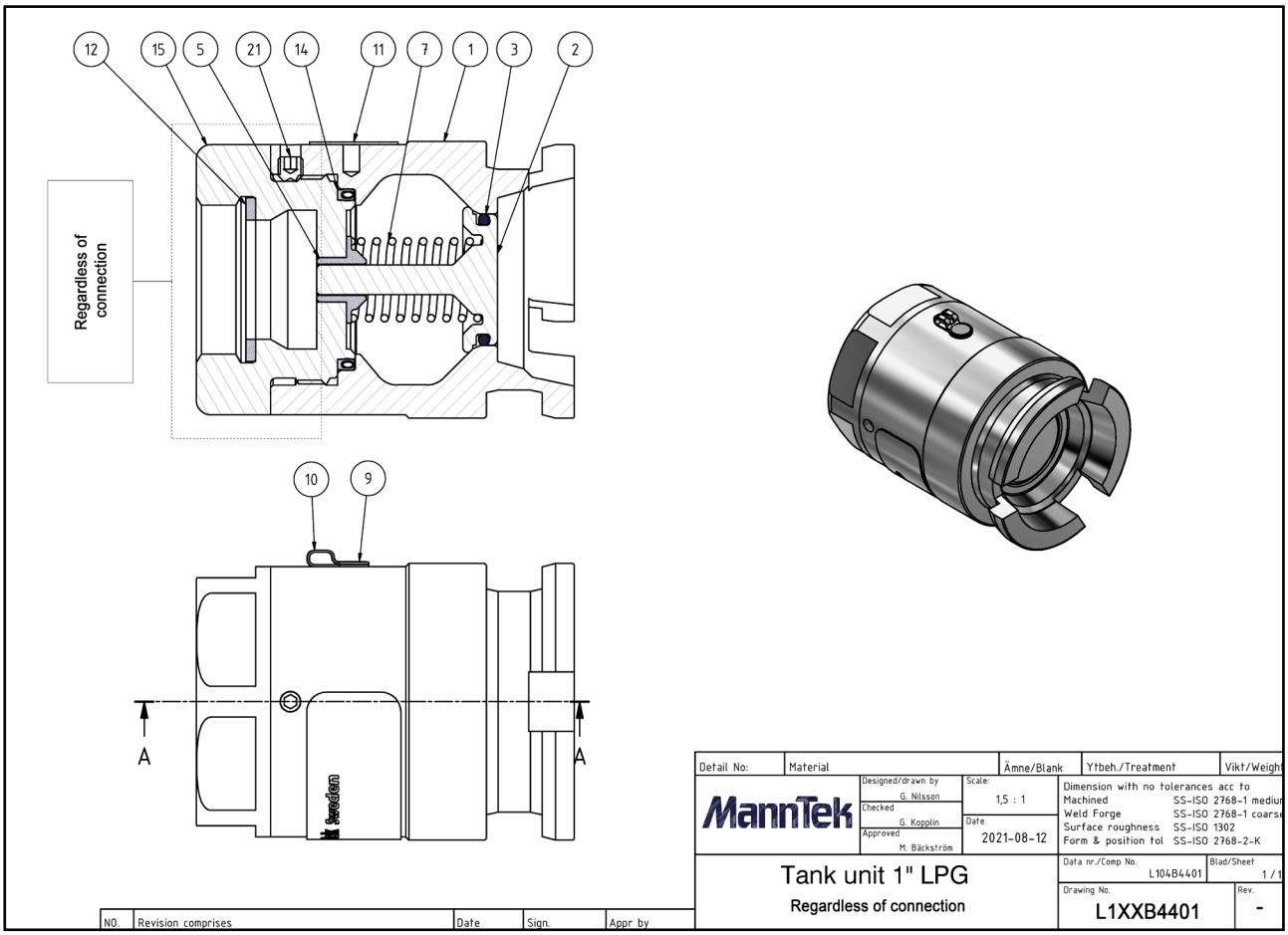
DGC - Tank Unit

1” - B-Version

VERSION: 220908

MannTek

DGC – TANK UNIT – 1” – A-VERSION



MATERIAL:	Brass, Stainless Steel
TYPE OF CONNECTION:	Threaded and Flanged couplings have the same service instruction.
PERFORM A SERVICE:	If leaking According to application service plan, (see regular service p.4) If change of media

PLEASE NOTE

Make sure that you are using the correct material of O-rings and seals for the media you are using. We use a standard silicone based grease which is suitable for most applications, if you are unsure of suitability for your media please contact us.

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ITEMS NEEDED FOR SERVICE

PARTS NEEDED FOR SERVICE:	Spare part kit and Sealing kit (for order numbers see the info box at the bottom of this page)
USEFUL TOOLS:	Tool 001 (O-Ring Tools)* Allen Key 2,5 mm *Can be ordered from MannTek
SPARE PART KIT INCLUDES:	1 pc. PTFE bushing
OTHERS:	Fluoroflon® grease. (Chemical neutral silicon oil with PTFE. Used for O-rings)
CLEANING AGENTS:	Strong clean® (Petroleum based degreasing agent) Alcohol (95 % chemical clean ethanol)
PERFORM A SERVICE:	If leaking According to application service plan, (see regular service p.3) If change of media

PLEASE NOTE

Use only original MannTek spare parts for maintenance

Spare part kit (S-L1-XX)

Sealing kit (O-L1-YY)

yy means the O-ring material key, xx means the coupling material according to the product catalogue. You will find it also as the 6th to 9th sign in the serial number (e.g. L103BxxyyA).

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MAINTENANCE AND SERVICE

Always de-pressurise the system and rinse off the parts before beginning any maintenance work. Use protective goggles. Do not handle O-ring seals without gloves if the material appears charred, gummy or sticky.

Use tweezers and wear neoprene or PVC gloves. Do not touch adjacent parts with unprotected hands. Rinse off the parts once again before starting the "daily inspection".

DAILY INSPECTION

1. Visually inspect the coupling for cleanliness, wear, loose parts, damage and signs of corrosion.
2. Visually inspect the front face of the coupling for wear, dirt and damage.
3. Visually inspect the coupling for leaks.

REGULAR SERVICE

The regular service interval is very much depending on local regulations and application conditions. If nothing else is specified or agreed and it is a new application with unknown parameters we recommend to make a first service after one year and then decide depending on the inspection result about further intervals.

The service procedure shall be as follows:

1. Replace the tank unit O-ring and seal. (and flat seal for BSP connections)
2. Replace worn or damaged components.

Check the state of the connection surface and verify that it is clean before proceeding with the connection. Minor scratches on the sealing surfaces can sometimes be polished out.

Couple the serviced tank unit to a usable hose unit as appropriate and check for the correct operation of the valve actuating and bayonet locking mechanism. Couple and uncouple the unit(s) several times.

DISASSEMBLE

If necessary remove the flat seal.*
NPT-thread and flange don't have a flat sealing.

Make sure you don't scratch the seal face.

*the flat seal is not part of the O-Ring kit or Spare part kit and needs to be ordered separately.

Remove the locking screw (pos.21, according to drawing on page 2). Turn the connection part (pos.15) it until its free from the body (pos.1). Release it carefully.

WARNING. The connection part is spring loaded. Risk of injury.

Use Allen Key 2,5 mm

Take out the connection part (pos.15), bushing (pos.5) and spring (pos.7).

Remove the piston (pos.2).

CHANGE THE SEAL

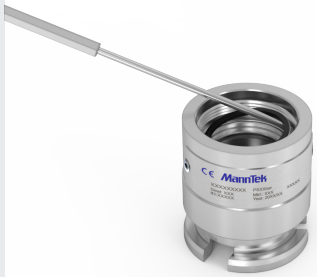
Change the O-ring (pos. 3) on the piston. Use Fluoroflon® grease on the new O-ring.
Be careful to not scratch any sealing surfaces. Use a O-ring hook to make sure that the O-ring doesn't get twisted.

Use O-ring hooks (Tool 001)

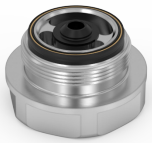
Press the O-ring in the groove by using your fingers and by pressing it equally around the groove. Try to press the O-ring as smooth as possible to avoid it being raised out of the groove.

Remove the seal from the coupling body. If you dont have a seal in the body, check the connection part as the seal can be stuck there sometimes.

Use O-ring hooks (Tool 001)



Place the new seal on the connection part. Placing it there instead of in the coupling body ensures, that the sealing doesn't get damaged when mounting the parts together later.



CHANGE THE BUSHING

Change the PTFE bushing (pos. 5) in the piston guide to a new one.

REASSEMBLE

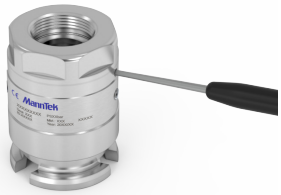
Refit the piston (pos.2)

Refit the spring (pos.7), bushing (pos.5) and connection part (pos.15).

Screw the connection part (pos.15) back in place.

Fasten the connection part, using the locking screw (pos.21)

Use Allen Key 2,5 mm



Refit the original flat seal or fit a new one depending upon the condition.

TEST THE COUPLING

Perform a visual inspection ensuring that everything is in its place. Also do a connection/ disconnection with a hose unit that doesn't have any fluid inside

Finally, do a tightness test according to the test procedure described on the next page.

If the coupling functions correctly you are ready to mount the tank unit back in your application again.

TEST PROCEDURE

After each major service a pressure test and a leak test of each coupling is required.

If only the O-Ring kit is replaced a leak test is enough.

If any pressure bearing parts are changed, a pressure test with water must first be made at 1,5 times the working pressure before testing the coupling with air for the leak test.

The following test parameters are in accordance with EN12266 and EN14432:

TEST PROCEDURE	TEST PRESSURE	ACCEPTANCE CRITERIA
Tightness test (air)	6 bar +/- 1 bar	No visually detectable leakage for the duration of the test**
	6 bar +/- 1 bar	
Shell pressure test (water) (if applicable)	⚠ 1,5x working pressure*	

TABLE 1 – TEST PRESSURE

NOMINAL SIZE	MINIMUM TEST DURATION
Up to DN 50	15 s
DN 65 to DN 150	60 s

TABLE 2 – MINIMUM TEST DURATION

TEST PROCEDURE:

- Plug the tank unit with the appropriate end connection and fill it with the test media (e.g. air or water).
- Apply the test pressure specified in Table 1 (please note that for a seal leak test, both a low pressure and a high pressure test are required).
- Maintain the test pressure for the keeping time specified in table 2.
- Make sure that there is no visually detectable leakage.
- Couple the serviced tank unit to a usable hose unit and test for leakage.
- After successful test results dry the coupling before use.

*If a pressure test is required for the coupling fitted to a hose as part of an assembly, follow the respective test instructions for the hose or loading arm but do not exceed 1,5 x Working Pressure of the coupling.

** In order to detect leakage when testing with air, make sure to put water on the sealing surface fully submerge in water. Initial leakage might be due to air trapped behind the seal.

STORAGE

Store coupling in a dry, dust free, dark place, in ambient temperature.