



# ***SBCouplings***

***Safety Break-Away Couplings***



## **Service Instruction**

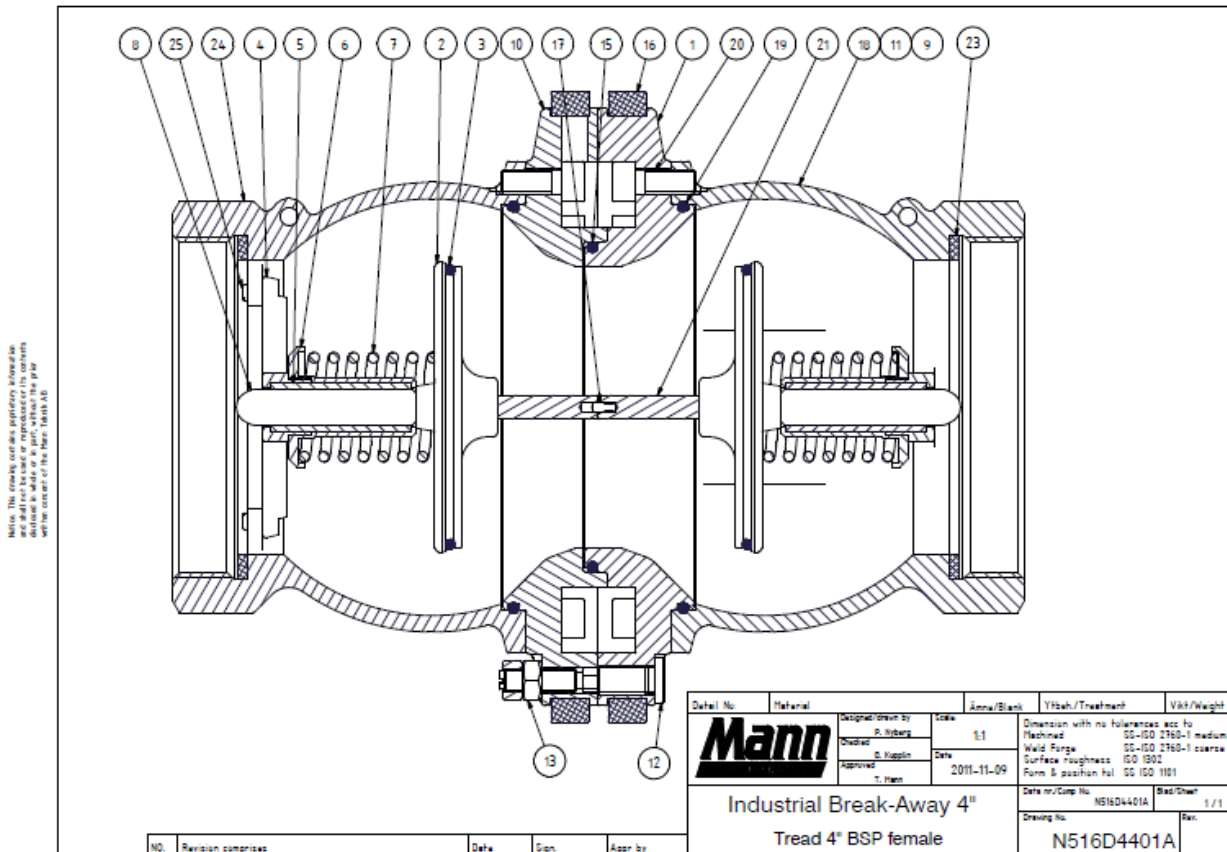
### **4" Industrial Type**

Subject to design changes

Art. nr: PR-050901-0121 Version: 120103



## Material: Al, Br, SS



- Parts needed for service:** Spare part kit and O-ring kit (see p.3)
- Type of connection:** Threaded and Flanged couplings have the same service instruction.
- Perform a service:** If leaking  
Every year  
Change of media



**Please note!**  
Make sure that you are using the right type of O-rings and seals for the media you are using. We are using a standard grease Mann no F1 for standard media, by special media please contact us.

## Maintenance and service instruction



Always depressurise the system and rinse off the parts before beginning any maintenance work. Use protective goggles. Do not handle O-ring seals 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. Inspect the coupling surface for cleanliness and corrosion.
2. Inspect the O-ring in the house unit connection for serviceability and correct seating in the groove.
3. Inspect the hose unit swivel for free rotation.
4. Inspect the tank- and hose unit for faultlessness and external signs of seizure.

## Three-month inspection

1. Exterior cleaning of the coupling halves with a neutral cleanser.
2. Careful “daily inspection” of cleaned units.

## Once a year

1. Exchange sealing and washer at least once a year.
2. Refill the hose unit ball bearing grooves with grease
3. Replace worn or damaged components. Repair procedures are straightforward and no special tools are required.

Check the state of the connection surface and verify that it is clean before proceeding with the connection.

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

### **Use only original Mann Technik spare parts for maintenance.**

Spare part kit (S-N5-xx)

O-ring kit (O-N5-yy)

xx and yy means the material key according to the product catalogue. You will find it also as the 6<sup>th</sup> to 9<sup>th</sup> sign in the serial number (e.g. N516Dxxyy).

### After release

When the coupling should go into service there is a danger that the fluid will spurt out. Special protective measures such as personal protection equipment must therefore be adopted. Always ensure the system is cleaned in the proper manner. After cleaning, remove any residue from the cleaning agent.



- a. Wear suitable personal safety equipment.
- b. Make sure that the coupling is depressurized and empty.
- c. Clean coupling before disassembly (use cleaning agent suitable for the pumped fluid).



### Visual inspection

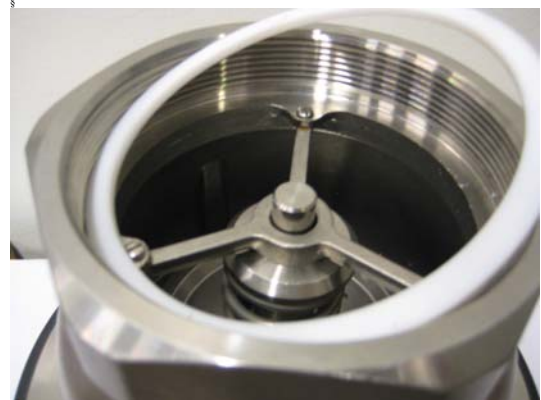
Screw out the destroyed parts of the breaking bolts.

Check for dirt, seal damage and any obvious physical damage (such as impacts, etc.).



### Disassemble

Remove the flat seal and unscrew the three 3 screws that lock the spindle steering.



### Disassemble

Press down the spindle steering and turn it free.  
Release it carefully



Piston guide is spring loaded. Risk of injury.

Using our special tool makes work easier and therefore increases safety.

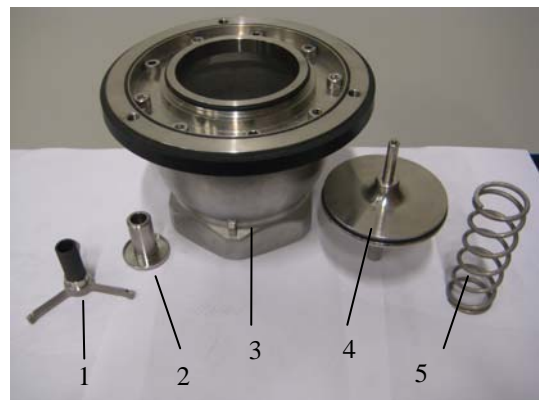
Repeat the same procedure with the second half.



### Detail parts after disassembling

Take out all the parts from the body

1. Spindle steering and PTFE-bushing
2. Spring cap
3. Body
4. Piston
5. Spring



### Piston oring

Replace the O-ring (pos.3) on the piston with a new greased O-ring. Have an equal pressure around the O-ring. The O-ring must be pressed into the groove on the piston.

Use only grease which is suitable for O-ring material.

For mounting the new O-ring use Mann Tek spare parts only. Special tools are helpful for a good fit of the O-ring.





### Inner body O-ring

Remove the 9 screws and remove the coupling flange from the body.

Replace the O-ring on the body with a new greased O-ring. Use only grease which is suitable for the O-ring material.

Mount back the coupling flange to the body, use Loctite® 243 on the nine screws.

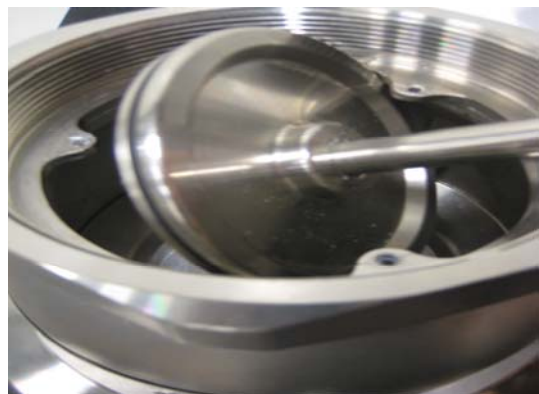
Tool: Allen Key 6 mm



### Mounting piston

The piston is bigger in diameter than the three brackets for the piston guide.

Introduce the piston as shown. Put it into a relaxing position in the valve seat. Take care, the piston is sticking out on the other side.



### Reassemble coupling halves

Fit the spring with spring cap and spindle steering with PTFE-bushing. Press down the spindle steering and turn, to fix it in its position.



### Locking the spindle steering

Fit the screws into the given holes in the body and fixate the spindle steering by mounting the three locking screws. Use Loctite® 243 for locking the screws.

Mount back the flat seal.



### Outer body O-ring

Replace the O-ring (pos.15) on the body with a new greased O-ring.

Use only grease which is suitable for O-ring material.



### Breaking bolts

Screw in the bolts into the intended position.



Loctite® is registered trademark of Henkel.

### Reassemble coupling

Set both halves onto each other and press them carefully together. The breaking pins should align to the bore holes in the second half.

Using a press makes work easier.



### Fix breaking bolts

Screw on the nuts by hand until stop when halves are pressed together. Fasten it a little bit with a wrench, max 45 degrees.

Screw on the second nut and lock the first one. Hold the first one with a wrench to avoid forces on the breaking bolt.

Tool: Standard Wrench 13mm



Do not use force for tightening! Risk of destroying bolts.



### Ready to use

After the coupling is completely reassembled provide a pressure test according to test procedure on page 9.





## TEST PROCEDURE

After each service a pressure and tightness test of each coupling is mandatory. Test each half separately before you connect both halves with the breaking pins. The following test parameters are in accordance with EN12266, EN14432 and ISO5208:

Shell tightness test (water): 1,5 x Working Pressure (see 1.2) stop time 1 min.

Seat tightness test (air): 6 bar +/- 1bar stop time 15 s.

0,1 x Working Pressure stop time 15 s.

If a pressure test should be achieved for the coupling mounted in an assembly follow the respective test instructions for the equipment but do not exceed our recommended maximum test pressure of the coupling which you will find in the following table. If testing with higher pressure is necessary please ask our sales department for a special test bolt kit.

Maximum Test Pressure depending on size and breaking force:

DN 25		DN 50		DN 65		DN 80		DN 100		DN 125		DN 150	
kN	bar	kN	bar	kN	bar	kN	bar	kN	bar	kN	bar	kN	bar
		4	10	7	10	11	10	18	10	28	10	40	10
		6	16	10	16	15	16	24	16	37	16	54	16
		7	20	12	20	18	20	28	20	45	20	65	20
		9	25	15	20	23	25	36	25	56	25	81	25
												92	25
3	16	12	50	20	30	30	32	48	35	75	40	108	40
3,2	16	13	37,5	22	37,5	33	37,5	52	37,5	81	37,5	117	37,5

**Approved couplings get stamped on the piston.**

**Number tested: 100%**

### Storage

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

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