

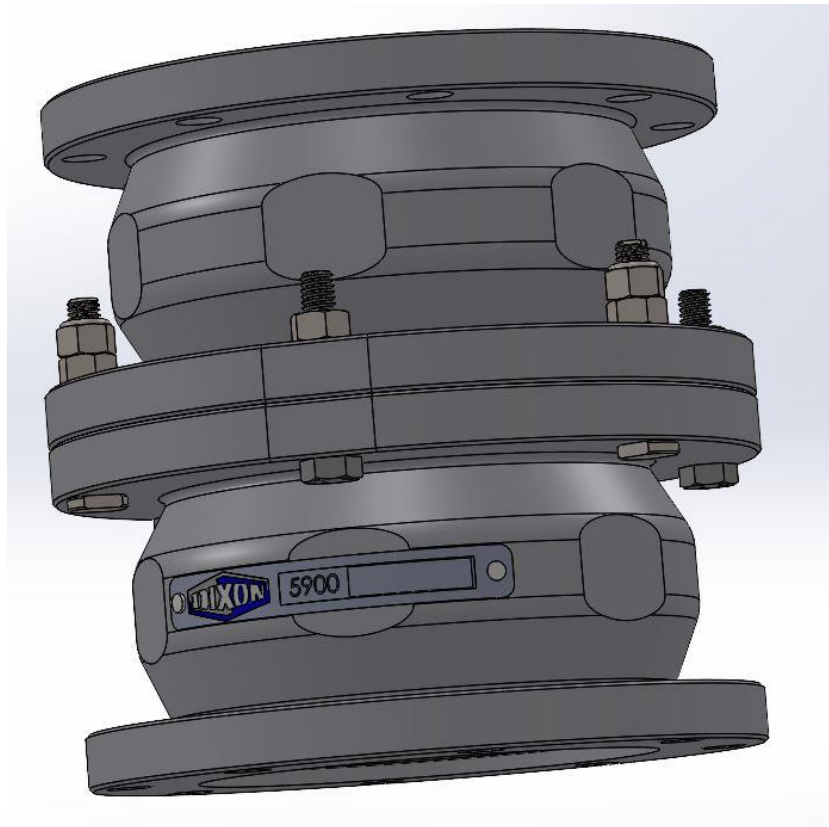
Maintenance & Operating Instructions

For

Dixon Bayco

Industrial Fluid Controls

5900 SERIES BREAKAWAY COUPLINGS



The Right Connection®

dixonvalve.com

IMPORTANT: To properly operate and maintain your DIXON breakaway coupler the following instructions are provided. Please read with care as improper handling or maintenance may cause a hazardous condition.

CAUTION: Do not modify your DIXON breakaway coupler for any reason. It could result in a hazardous condition, or injury due to operating difficulties or malfunction.

Intended use: This break-away coupling is designed to be used on the supply line, filling a mobile hauling vehicle. In the event the operator fails to disconnect the supply line, and proceeds to drive away, the coupling will shear. Once the coupling is broken, the two halves will seal, preventing free flow of the material from its supply line, and from the vehicle. The coupling was designed specifically for the industry and application stated above. Use of this coupling in another industry, or application, will need consultation with DIXON BAYCO engineering prior to sale.

Product inspection: Upon receiving a DIXON breakaway coupling, a thorough inspection should be done of the assembly. Any signs of impact to the unit from shipping, or indications that the two halves are not mated correctly will require a replacement. Ensure the coupler halves are free of any packing materials internally. Be sure the (3) break bolts are visually intact.

CAUTION:

- This breakaway coupling is designed to stop the free flow of material once an incident occurs. During separation there will be a small amount of material that escapes from between the coupler halves. There is risk to exposure during separation.
- These couplings are available in various housing and seal materials. Be sure that both are compatible with the material being transferred.
- Installation must be done by qualified and authorized personnel.
- Prior to installation the system must be fully depressurized. The system must then be fully drained to avoid exposure or hazardous conditions.
- Prior to installation the pressure rating of the coupling should be checked against the operating pressure of the system. **The installer is responsible for making sure the system operating pressures do not exceed the maximum rating of the coupling.**

BREAK BOLT TABLE:

Table 1: *Based on standard offering form factor, type (A) break bolts.*

Coupler break force derating chart based on internal system pressure. Break force listed is for a straight axial pull only (i.e. in-line with the break bolts).

System Pressure at (bar / psi)	5900xxxx400A Break Force in (kN / lbf)
0 bar / 0 psi	47.9 kN / 10776 lbf
6 bar / 87 psi	39.1 kN / 8786 lbf
10 bar / 145 psi	34.8 kN / 7812 lbf
16 bar / 232 psi	28.3 kN / 6350 lbf
25 bar / 362 psi*	18.6 kN / 4166 lbf

***MAXIMUM WORKING PRESSURE NOT TO EXCEED (25 bar / 362 psi) for standard offering form factor, type (A) break bolts.**

NOTE: All system components must have a break force in excess of that listed in Table 1 above.

RECOMMENDED BREAK FORCE vs. HOSE BURST PRESSURE

Table 2: *Based on minimum hose burst pressure of (100 bar / 1450 psi)*

Hose Burst Pressure at (bar / psi)	Recommended Force at Break in (kN / psi)
30 bar / 435 psi	18 kN / 405 psi
40 bar / 580 psi	24 kN / 540 psi
48 bar / 695 psi	28 kN / 630 psi
60 bar / 870 psi	36 kN / 810 psi
80 bar / 1160 psi	48 kN / 1080 psi
100 bar / 1450 psi	52 kN / 1170 psi

Preinstallation safety checks:

DIXON breakaway couplers are properly adjusted, tested and ready to use upon leaving the factory. Installations must be done by certified and approved personnel only. Inspect the coupling for dirt or debris, inside and out, before installation. Be sure all gaskets are compatible with the material in the system. Make sure there are no external load factors being placed on the breakaway coupling. Any forces exerted on the coupling externally could cause further derating of the coupling, and possible premature shear. Do not adjust or tamper with factory installed break bolts/nuts: this WILL VOID THE WARRANTY. If the flow rate of the system exceeds 17 ft/s it may be necessary to assess static dissipation to ground.

Installation:

1. Fully shut down the system flow, closing all valves, and draining the line.
2. Install the breakaway fitting in desired location by installing all flange bolts and tightening down in a cross pattern.
3. After the coupler is secured by the flange ends, remove the (3) bolts with single (non Nyloc) nuts. IF THESE BOLTS ARE NOT REMOVED THE COUPLER WILL NOT FUNCTION.
4. Test for leaks.

Instructions for use:

Couplers should be inspected for leaks daily. Making sure the coupler is free of dirt, and debris will help reveal small leaks or physical damage. If a leak is detected, seal maintenance may be required. BEFORE MAINTENANCE, BE SURE APPROPRIATE PPE IS BEING USE.

Seal and hardware maintenance:

Only factory break bolts and seals may be used. Use of non-factory supplied components may cause damage to the unit and result in injury

1. Before any disassembly or maintenance occurs, fully depressurize and close all valves. Drain the line completely.
2. Remove the bolts from both flange ends, separating the coupler from the line.
3. CAUTION, once the coupler is out, the unit should be placed into a vice, or press, before loosening the (3) break bolts. THE COUPLER IS SPRING LOADED, AND MAY CAUSE INJURY.

4. With the coupler contained, begin by removing the Nyloc nuts on the break bolts.
5. Once the Nyloc nuts are removed, loosen and remove, each remaining nut.
6. With all nuts removed, the coupler halves should separate freely. **SLOWLY REDUCE PRESSURE ON THE COUPLER** and allow the check valves to close fully before removing all pressure. **CAUTION, FLUID MAY BE RETAINED AND RELEASED DURING SEPARATION.**
7. Now that the halves are separated, looking at the flange side, apply pressure onto the spider in the center. **THE SPIDER IS SPRING LOADED.**
8. While pressure is being applied to the spider, remove the snap ring holding the spider.
9. After the snap ring is removed **SLOWLY DECREASE PRESSURE** on the spider. After the spring is disengaged, the internals will come out for seal/component maintenance.

Reassembly:

Before reassembly be sure to grease all seals with compatible grease. Grease should be compatible with seals and material being transferred

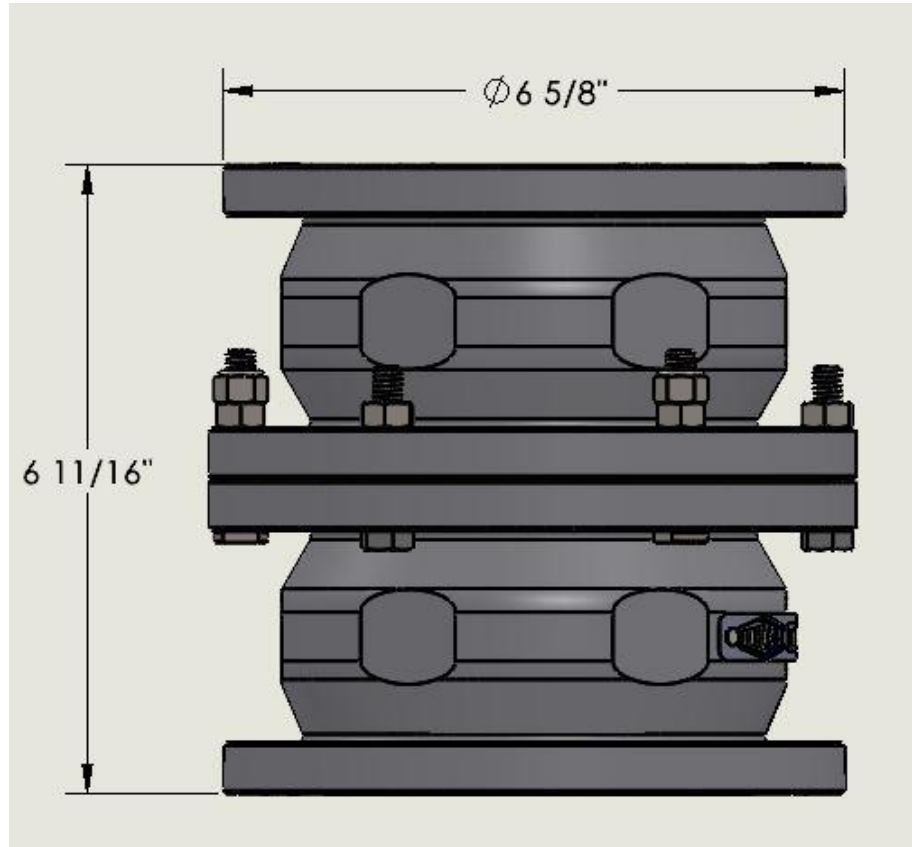
1. Place the poppet into the coupler half making sure the poppet is centered to the opening.
2. Place the spring into the spring seat on the rear of the poppet.
3. Using a press, or other means, place the spider into the spring and depress the spider below the level of the snap ring groove. **BE SURE THE SPIDER IS SECURE UNDER PRESSURE TO AVOID INJURY.**
4. With the spider depressed and secured, place the snap ring back into the grove.
5. You can now release the pressure and repeat the process on the other coupler half.

****Water pressure test each half to 1.5x the working system pressure, for 1 minute, before moving to step 6****

6. After both coupler halves are fully assembled, align the mating standoff posts in the center of the poppets on either half.
7. Align the flange flats and depress the coupler halves, making sure the standoffs stay mated, until the flanges meet. **BE SURE THE HALVES ARE SECURE TO AVOID INJURY.**
8. With the coupler depressed fully and secure, tighten the (3) standard nuts onto the break bolts. **Tighten these to a maximum of 35 in/lbs. Do not overtighten.**
9. After these are in place, secure the Nyloc nuts over top of them, **tighten to 35 in/lbs. OVER TIGHTENING EITHER NUT MAY CAUSE DAMAGE TO THE BREAK BOLTS, CAUSING COUPLER FAILURE.**

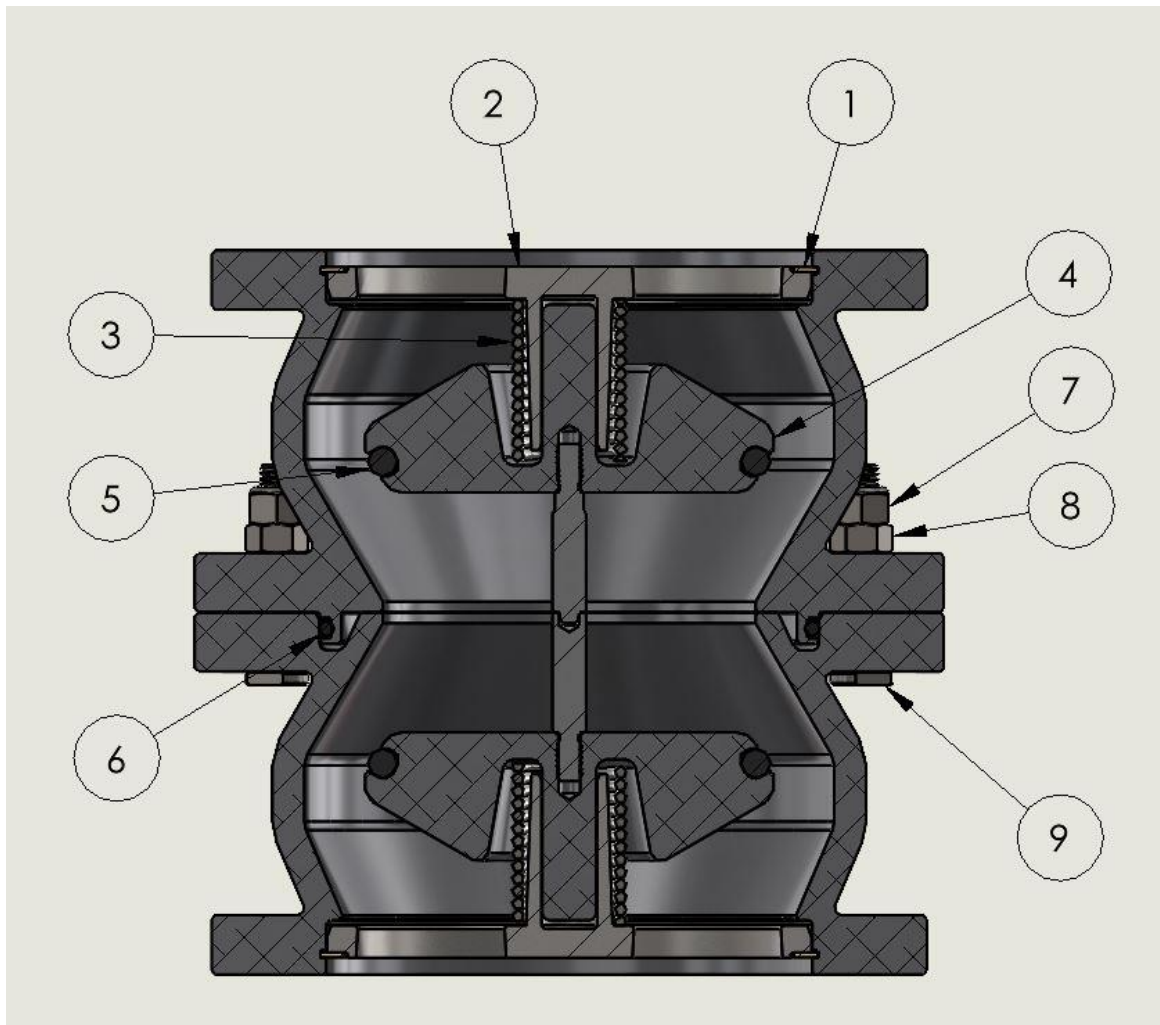
****With the coupler assembled, repeat the 1.5x working pressure water test, for 1 minute****

Once the coupler is assembled, overall dimensions should match below.



COMPONENTS LIST:

1. Snap ring
2. Spider
3. Spring
4. Poppet
5. Poppet o-ring
6. Coupler o-ring
7. Nyloc nut
8. Nut
9. Break bolt



For Sales and Service Contact

Europe:
Dixon Group Europe Ltd.
Preston, England
Phone: +44 (0) 1772 323529
Fax: +44 (0) 1772 314664
Email: enquiries@dixoneurope.co.uk

Mexico:
Dixva, S. de R.L. de C.V.
Monterrey, N.L.
Phone: 01-800-00-DIXON (34966)
Fax: 01-81-8354-8197
E-mail: contactenos@dixonvalve.com.mx

Canada:
Dixon Group Canada Limited
Innisfil (Barrie), Ontario
Phone: 705-436-1125
Fax: 705-436-6251
Toll Free: 877-963-4966
E-mail: isales@dixongroupcanada.com

Asia Pacific:
Dixon (Asia Pacific) Pty Ltd Wingfield,
South Australia
Phone: +61 8 8202 6000
Fax: +61 8 8202 6099
E-mail: enquiries@dixonvalve.com.au

USA:
Dixon Bayco USA
Chestertown, Maryland
Phone: 410-778-2000
Fax: 410-778-4702
Toll Free: 800-355-1991
E-mail: dixonbayco@dixonvalve.com



The Right Connection®

dixonvalve.com