



Dynisco BP520 Burst Plugs

Reliable, Secure Pressure-Relief System
with Burst Indication

Installation Instructions



WARNING:

- a. Read the complete instructions before attempting to install the rupture disk. Before using this piece of equipment, consult your plant safety officer for local requirements.
- b. It is the user's responsibility for the design of adequate venting and installation of adequate vent piping. The burst plug inner diameter and any attached vent tubing must not limit the flow and prevent pressure from adequately venting after a burst. It is the user responsibility to ensure proper venting of a system to relieve the specific pressure.
- c. Locate the rupture disk where people or property will not be exposed to the system discharge in the event of rupture. Vent toxic or flammable fumes to a safe location to prevent personnel injury or property damage.
- d. The burst pressure of the rupture disk is directly affected by its operating temperature. It is the user's responsibility to specify the correct burst pressure rating and to install the burst plug in a location operating within its specified temperature range. Failure to utilize a rupture disk within its operating temperature could cause premature failure or over-pressurization of the system.
- e. It is the user's responsibility to ensure that the burst plug snout length and temperature gradient are appropriate so that after burst, molten polymer flows sufficiently to push the T-cap out the end of the snout. Failure to do so could result in polymer solidifying in the snout and over pressurizing of the system and no electrical burst indication.
- f. It is recommended that the user install and burst a sample plug, to confirm that the burst plug functions correctly in their particular application.
- g. The intended function of the electrical indication is to alert personnel to the occurrence of burst to help prevent the accumulation of expelled polymer. It should not be utilized as part of a safety system designed to protect personnel. It's possible that once the wire is sheared after a burst, the sheared ends of the wire will not separate from the snout or may contact another common electrically conductive surface. This could result in failure of electrical burst indication (still showing a closed circuit after burst). It is the users responsibility to evaluate the consequences of unintentional shorting, opening or grounding of the wire.
- h. Particles may discharge when the rupture disk ruptures. These particles may be part of the rupture disk itself, or other environmental matter in the system. It i the user's responsibility to ensure that the particles are directed to a safe area to prevent personnel injury or property damage.
- i. Rupture disk service life is affected by corrosion, creep and fatigue, and physical damage. These conditions will derate the rupture disk to a lower pressure. The user should be prepared to handle a premature failure of the rupture disk. The media or other environmental conditions should not allow for any buildup or solidification of media on the rupture disk. This may increase the burst rating of the rupture disk.



- j. Dynisco rupture disks, when installed correctly, will provide a very good seal for liquids and most gases or vapors. However, Dynisco cannot guarantee the leakage rate of the disk seal without prior knowledge of the requirement and details of the piping layout. Consult Dynisco for guidance if leakage is critical to the installation.
- k. The customer and/or its installer shall be responsible for the proper installation of the rupture disk device into a system. Recommended torque values do not consider piping stress or alignment.
- l. Customer and/or its installers shall be responsible for improper installation and physical damage resulting there from, including, but not limited to, damage resulting from leakage, improper torquing, and/or failure to follow installation instructions.
- m. Dynisco standard Terms and Conditions of Sale apply unless otherwise stated.



Removal, Inspection and Preparation:

- 1 Removing the existing Assembly
 - a Burst plugs should only be removed after the extruder has been depressurized and the polymer is still molten, even if the burst plug has burst.
 - b If removing an intact burst plug, wipe tip with a soft cloth immediately after removal. The burst plug must be removed before using an abrasive material or wire brush to clean the extruder barrel.
 - c Loosen and remove the burst assembly with the appropriate tool. Take care not to damage the receiving equipment.
- 2 Inspect the Receiving Equipment
 - a Inspect the seat area for any scratches, dents, or nicks. Imperfections on these surfaces can cause leaks. DO NOT USE if any scratches, dents or nicks are detected, (contact Dynisco immediately for instructions).
 - b Inspect and clean the receiving threads, use thread chase or other suitable cleaning device. Threads must be in good condition to receive the rupture disk device. Utilize the Dynisco Machining tool kit for proper hole sizing and Dynisco cleaning kit for hole inspection.
- 3 Inspect the Rupture Disk Device
 - a Carefully remove the rupture disk device from its packaging and check the seat area, exposed threads and pre-bulged surface of the disk for any scratches, dents, or nicks. Imperfections on these surfaces can cause leaks. DO NOT USE if any scratches, dents or nicks are detected, contact Dynisco immediately for instructions.
 - b Installation of a damaged assembly may result in premature rupture of the disk.

Burst Plug Installation:

- 1 To prevent galling, lightly coat burst plug threads with a high temperature anti-seize material.
- 2 Insert the new assembly into the pre-tapped opening in the receiving equipment.
- 3 Start threading by hand to ensure the threads are matched and in good condition. DO NOT FORCE THE THREADS. Continue threading the assembly by hand until fully seated.
- 4 An adequate seal, in a properly machined and maintained port, is obtained with 100 in-lbs mounting torque. Maximum recommended torque is 500 in-lbs. Tighten as required to prevent leakage with the appropriate tool (wrench, screwdriver, spanner, etc.) DO NOT OVER TIGHTEN as this can damage sealing surfaces and threads.
- 5 For assemblies having tapered pipe threads; use Teflon tape or other suitable pipe thread sealants as required if compatible with the process medium.



Burst Indication Installation:

BP520 plugs are supplied with integral 'pop top' style indication. A 26 AWG indicator wire is pre-assembled into the unit and supplied with bare leads. The wire is threaded through the hex-head of the burst plug and a 'T' shaped 'pop top' cap. When the burst plug ruptures, the T-cap is pushed out by the subsequent flowing media, shearing the burst indicator wire, opening a 'normally closed' circuit and indicating a burst event to a monitoring device. The T-cap is attached to a metal retainer strap designed to hold & secure the T-cap following a burst event.

1. **WARNING:** Burst Plugs and indication must be properly installed and safely vented in order to avoid injury, damage and loss of product.
2. **WARNING:** Do not install the BP520 burst plug without the metal retainer strap properly installed under the hex head of the plug.
3. **Electrical Connection**
 - i. Only competent qualified personnel should install and complete the BP520 electrical connections. It is the end users responsibility to ensure a safe installation that is compatible with user electrical requirements. The end user should evaluate the consequences in their system of shorting, opening or grounding of the wire.
 - ii. The burst indication wire, if provided by Dynisco, has an operating temperature range of -73C to 205C, and is rated to carry a current of 1A at 30C.
 - iii. The burst indication wiring/circuit should ideally be connected to a latching input. With a latching input if the burst indication circuit opens at any time (even momentarily) the input should latch to the open position.
 - iv. After the burst indication wire has sheared, the ends of the burst indication wire may have live voltages. Take necessary precautions to avoid injury to equipment and personnel.
4. **Intrinsically Safe Installations (where required)**
 - i. The BP520 with integral pop-top indication is not intrinsically safe by itself, but is intrinsically safe only when employed in a properly designed intrinsically safesystem.
 - ii. The BP520 with integral pop-top indication is a passive "simple apparatus" concept allowing it to be used in intrinsically safe systems without the need for certification.
 - iii. If required, refer to ANSI/ISA-RP12.06.01 for the Recommended Practice for Intrinsically Safe Systems.

BP520 Burst Plug

