

LQR® Lock and Quick Release Connector for Mechanical and Electrical Applications

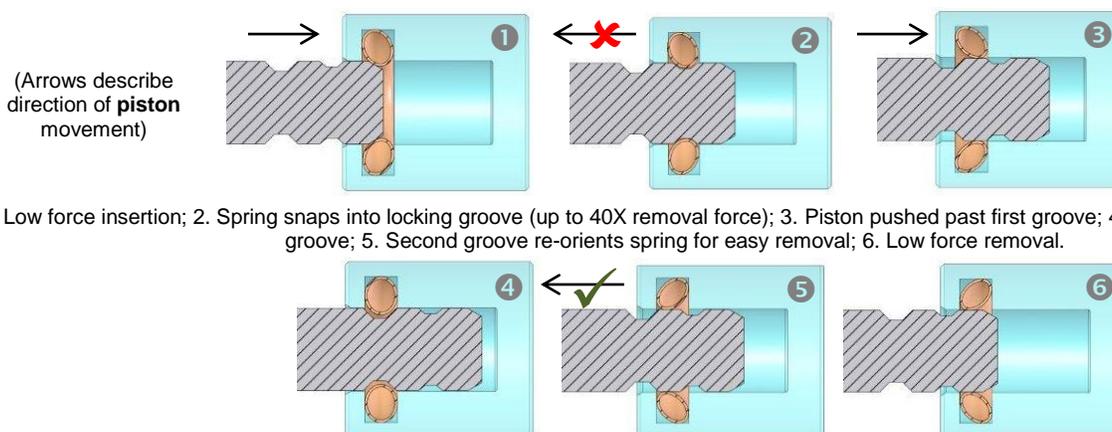
The LQR® Lock and Quick Release Connector consists of a piston with dual grooves and a single Bal Seal Canted Coil Spring® retained in a housing with a single groove. When the piston is inserted to the first groove, it is held in the “locked” position. When the piston is advanced to the next groove, the spring is re-oriented and breakaway force is dramatically reduced, facilitating easy release. The LQR allows for precisely-controlled lock and quick release functionality.

Applications:

Quick-release electrical connectors, solder-free electrical connections, underwater connectors, satellite/orbital connectors, mechanical lock connectors, quick fasteners, fluidic connectors and tamper-proof applications.

Operating parameters:

The LQR connector can be used in an unlimited range of sizes, temperatures (from cryogenic up to 1000°F/537°C or higher), almost any media and a nearly unlimited number of cycles*. The piston configuration can be adjusted to facilitate a wide variety of connection and removal forces, while the locking force can support extreme loads.



1. Low force insertion; 2. Spring snaps into locking groove (up to 40X removal force); 3. Piston pushed past first groove; 4. Spring snaps into second groove; 5. Second groove re-oriens spring for easy removal; 6. Low force removal.

Features

- A locking connector that offers the added benefit of reliable, built-in electrical conductivity and a means of quick, low force release with a minimum number of components
- Integrated Bal Seal Canted Coil Spring® provides adjustable connection and removal forces - from a few grams to hundreds of pounds
- Adjustable locking forces - from 5 to 40 times the insertion force
- Repeatable insertion and removal forces**
- Wide variety of removal techniques - from simple push-pull to positive and tamper-proof indicators
- Housing or piston mounted versions available
- Temperature and media compatibility limited only by housing, piston and spring materials

For more information about this and other connecting, conducting and EMI shielding solutions, please contact your Bal Seal technical sales representative or visit www.balseal.com.

*The LQR system is custom engineered to specific application requirements. Its actual performance capabilities are subject to testing and verification in customer applications. **If locking mechanism is overloaded, the spring will be damaged and will require replacement.

It is essential that the customer run evaluation testing under actual service conditions with a sufficient safety factor to determine if the proposed, supplied or purchased Bal Seal Engineering, Inc. products are suitable for the intended purpose and to confirm expected results. Bal Seal Engineering, Inc. shall not be liable for any loss or damage of any kind or nature that may result from the use of, reference to, or reliance on the information contained herein, including but not limited to consequential, special (including loss of profits) direct, indirect, incidental or similar damages, even if Bal Seal Engineering, Inc. has been advised of the possibility of such damages. © 2012, Bal Seal Engineering, Inc. Products contained herein may be covered by all or in part by one or more of the following U.S. Patents: 8,054,459. Products contained herein may be covered all or in part by various pending U.S. Patents.