A double block and bleed valve offering unique solutions to High Integrity Pressure Protection Systems (HIPPS) applications for isolation and calibration of instrumented equipment.

**FEATURES**

- Compact and ergonomic single-piece body design reduces installation cost due to reduced weight and smaller envelope space than competitive designs.
- Unique single key interlock system provides enhanced safety with reduced chance of error.
- Easy to identify actuation position increases safety in process operations by visual confirmation of valve position.
- Application flexibility increases cost savings by utilizing only specification required valve[s] compared to competitive designs.
- Flexibility of design through a single design style provides a cost effective solution for single or multiple pressure tap points.
- Sequenced valve operation.
- PEEK seats (ANSI Classes 150 and 2500).
- Proximity switch [SIL3, ExII 1G Exia IIC T6] plus bracket.
- Compliant with Pressure Equipment Directive.
- Body material certified to EN10204 3.1.

**GENERAL APPLICATION**

Suitable for use in instrumented pressure protection systems requiring SIL3 capabilities and where full flow relief proves impractical. Process to instrument isolation with controlled operation of isolation and vent functions for operator and system safety.

**TECHNICAL DATA**

- **Materials:** Stainless steel, LT carbon steel, duplex, Inconel®
- **Sizes**
  - **Inlet:** 1” to 2” [DN 25 to 50]
  - **Outlet:** ½” [DN 15]
- **Connections:** Transition plate x threaded; Flanged x threaded
- **Pressure and temperature ratings:** Valve pressure ratings in accordance with ASME B16.5/API 6A (as applicable)
- **PEEK seats:** 400°F [204°C] max.
- **Minimum temperature rating:** -70°F [-57°C]
OVERVIEW

The Keyblok interlock manifold’s simple, single step key operation and quarter-turn positive visible indication provides a safer manifold for HIPPS applications.

It represents the ultimate solution in a range of compact, single-piece, forged-body assemblies, featuring a choice of end connections and mounting styles.

Interlock DBB valve assemblies are designed to comply with the following code requirements:
- ASME B16.34 Material wall thickness
- ASME VIII, DIV 1 Design procedures and materials
- ASME B1.20.1 National Pipe Threads
- Compliant to IEC 61508.2010 and IEC 61511:2003

SIL compliance

The Keyblok interlock manifold is suitable for use in SIL3 and above applications. Manifold arrangements: HFT0 = SIL3; HFT1 = SIL4; HFT2 = SIL4.

NOTES

1. Table from IEC61508-2 2010
2. Hardware Fault Tolerance = HFT
   - HFT: 0 = 1 out of 1
   - 1 = 1 out of 2
   - 2 = 2 out of 3
Optional versions
- Compliant to NACE MR0175.
- Master key per manifold set.
- Enclosure protection - designed and fitted solutions can be provided to meet with customer requirements.

Testing
All valves are tested in accordance with API 598 as standard.

BALL VALVE TECHNICAL SPECIFICATIONS

The Keyblok interlock DBB valve features our high performance ball valve design for reliable performance and bubble-tight isolation. The isolation and vent functions are achieved with our 10 mm (⅜”) bore ball valve which has a floating pattern, through bore - fully roddable, anti-static design.

- Precision machined solid ball and seats to provide effective isolation and repeatability, with a low operating force.
- Anti-blow out stem design.
- Valve design provides cavity relief and uni-directional flow.
- Fire-safe design and tested to API 607.
- Pressure rating up to 10,000 psig (680 barg).
- Temperature range -70°F to +400°F (-57°C to +204°C).
- Soft seat - PEEK.
- One piece stem design.
- Graphite fire-safe seal.
- SS 316 lever handle.
- T-ball vent valve.
- Cam handle anti-tamper system.

Quarter-turn ball valve for isolation and T-ball vent
INSTALLATION VARIANTS

DBB valve - The Keyblok interlock manifold is available in two designs to provide the ideal solution in accommodating different installation practices.

PRODUCT CONFIGURATIONS[1]

**Single transmitter assembly** - for individual tapping connections

**H64F style**
- Individual pressure tapping arrangement
- HFT0 = SIL3

Arrangement of three transmitters on individual tappings HFT2 = SIL4

1. It is important that any device (instrument) connected to the outlet of the manifold must be SIL3 or greater to maintain SIL compliance.
Multiple transmitter assemblies - for instrument redundancy applications

**H64T_TP*2 style**
1oo2 [one out of two] arrangement HFT1 = SIL4

**H64T_TP*3 style**
2oo3 [two out of three] arrangement HFT2 = SIL4

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**Option: Instrument enclosure for protection of assembly**

**H64T_TP** Enclosure style
Where environmental conditions require the manifold DBB assembly to be protected, we can provide design and supply to fit the manifold system into our instrument enclosure range to satisfy the installation specification.

1. It is important that any device (instrument) connected to the outlet of the manifold must be SIL2 or greater to maintain SIL compliance.
## SELECTION GUIDE

### Example: H64T E S S - 081A - 047B - TP52

<table>
<thead>
<tr>
<th>Configuration</th>
<th>H64T</th>
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### NOTES

1. When option TP*2 or 3 are selected, this identifies an assembly arrangement and includes the same number of DBB valve units within the supply.

   Use product configuration H64T coding.

2. For sour gas with chloride > 50 mg/l [ppm] - consult factory.

3. Inconel® is a registered trademark of the Special Metals Corporation.