



PRODUCT CATALOG

Dry Break Quick Disconnect Couplings

304 SS / 316 SS | Liquid Cooling | Dry-Break Interlock

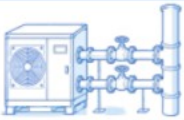


Product Overview & Applications



Applications and System Integration

Beyond Fluid FD83-compatible dry-break interlock valves are designed for liquid-cooling mainline service where secure maintenance, quick connection and controlled low-spillage disconnection are required. The product family supports multiple interface styles for integration into modern cooling systems.



CDU Mainline

Secure and fast connection between CDU and facility piping.



Manifold Inlet / Outlet

Reliable isolation and quick service access for manifold connections.



Rack-Level Liquid Cooling

Easy connection to rack-level cooling modules and distribution units.



Containerized Data Center

Ideal for prefabricated and containerized liquid cooling systems.

Product Family - Multiple Interface Options

Tri-Clamp Type



Threaded Type

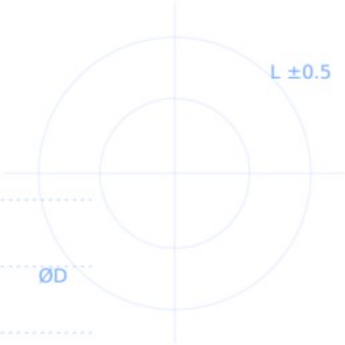


Barbed Type



Core Advantages

- ✓ FD83-style interface compatibility
- ✓ Mechanical interlock protection
- ✓ Low-spillage dry-break disconnection
- ✓ Large-bore mainline flow path
- ✓ 304 / 316 stainless steel construction



Size	DN	Inner Diameter
NPS 1	DN25	20 mm
NPS 2	DN50	40 mm
NPS 3	DN80	76 mm

Unique dual interlock safety feature. Full-flow characteristics.

Characteristics:

- Compact stainless-steel construction extends life for safer operations, easy maintenance and space optimization.
- No spillage of fluid when connecting and disconnecting
- Proprietary profile with patented locking pin design and lever handle.



Markets/Applications

- Data center source line
- Electrification cooling
- Industrial fluid transfer



Sells Against

- Stäubli TDU 24 Series
- Johnson TSZ Series
- CEJN OCP Large QC
- Danfoss FD83 QC



Features

- **Identical coupling halves** with safe mechanism to **prevent accidental opening** of coupling when disconnected and **no spillage**
- **Full-flow** feature **reduces pressure drop** and **maximizes system efficiency**
- **304/316 Stainless steel** body material and **EPDM** standard seal material for **high corrosion resistance** and broad **fluid compatibility**
- **2 Sizes available** (1" and 2") with different **end-connection types**

Product Highlights & Service Benefits



Product Highlights and Service Benefits

The Beyond Fluid FD83-compatible dry-break interlock valve is designed for secure liquid-cooling mainline service. Its external architecture emphasizes safe handling, compact installation, low-spillage maintenance and reliable stainless-steel construction for modern data-center cooling systems.

- 1 Dual Interlock Handles
- 2 Central Protective Collar
- 3 Compact Symmetrical Body
- 4 Dry-Break Service Interface
- 5 Tri-Clamp Ferrule Ends
- 6 Matte Stainless Housing



Key Service Advantages

- ↔ Quick connection and controlled disconnection
- ▣ Mechanical interlock for safer maintenance
- Low-spillage servicing for liquid-cooling loops
- ↗ Compact profile for mainline integration
- ◇ 304 / 316 stainless steel body options
- ≈ Suitable for water and water-glycol systems

Body Material	304 / 316 Stainless Steel
Seal Material	EPDM / FKM
Working Medium	Water / Water-Glycol
Nominal Size	NPS 1-3
Connection Type	Tri-Clamp / Threaded / Barbed
Service Focus	Mainline Maintenance & Isolation

Validation, Specifications & OEM Program



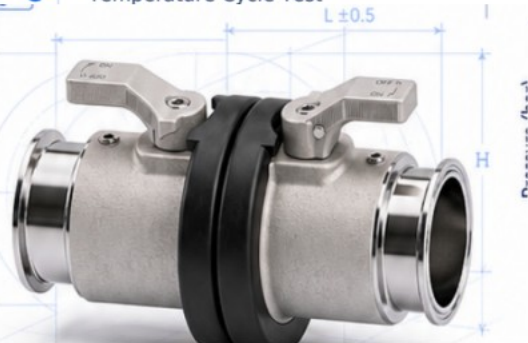
Validation, Specifications and White-Label Program

To support engineering review and overseas channel development, Beyond Fluid provides a structured validation framework, configurable product specifications and OEM / white-label support for liquid-cooling projects.

Size	DN	Inner Diameter	Material	Connection	Application
NPS 1	DN25	20 mm	304 / 316	Tri-Clamp / Threaded / Barbed	Compact mainline
NPS 2	DN50	40 mm	304 / 316	Tri-Clamp / Threaded / Barbed	Standard mainline
NPS 3	DN80	76 mm	304 / 316	Tri-Clamp / Threaded / Barbed	High-flow mainline

Validation Framework

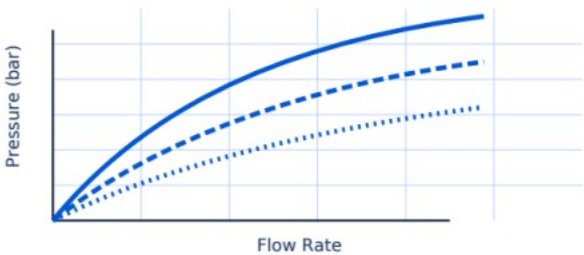
- Hydrostatic Pressure Test
- Pressure Hold & Leakage Test
- Pressure Drop / Flow Test
- Dry-Break Spillage Evaluation
- Interlock Torque Test
- Side Load Test
- Temperature Cycle Test



OEM / White Label Support

- No-logo white-label supply
- Custom laser marking
- Custom packaging and part number
- Customer-specific documentation
- Seal and connection customization

Performance Verification



Validated data and detailed test protocols available according

Working Pressure & Temperature Range



Working Pressure and Temperature Range

Beyond Fluid FD83-compatible dry-break interlock valves are designed for reliable liquid-cooling mainline service. Pressure capability and temperature suitability are key factors for safe operation, maintenance planning and long-term system compatibility.



Working Pressure

Up to 50 bar*

Designed for liquid-cooling mainline applications requiring secure isolation, controlled servicing and reliable pressure containment.

- ✓ Supports stable mainline operation
- ✓ Suitable for maintenance and isolation service
- ✓ Hydrostatic and leakage verification available

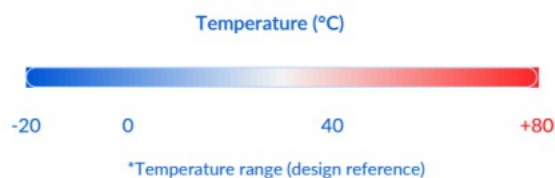


Working Temperature

-20°C to +80°C*

Suitable for water and water-glycol cooling media across typical data-center liquid-cooling environments.

- ✓ Supports common liquid-cooling conditions
- ✓ Compatible with water / water-glycol systems
- ✓ Seal material selection available



Reference Notes



Working Medium:
Water / Water-Glycol



Seal Material:
EPDM / FKM



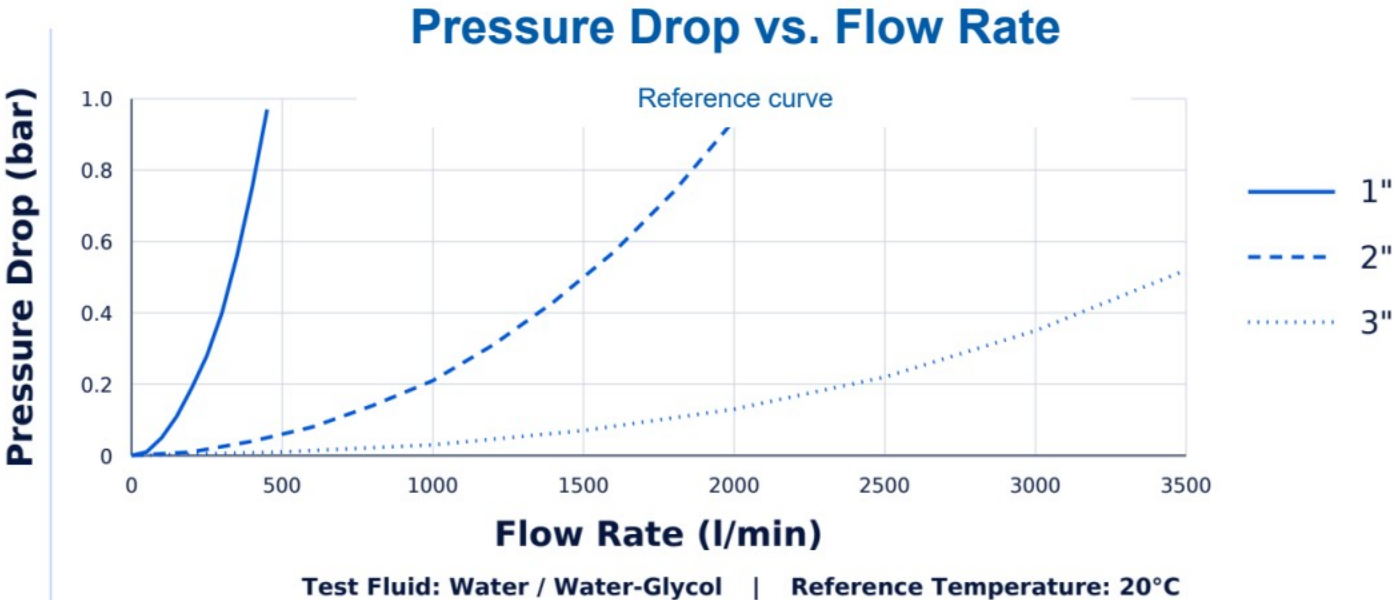
Final values subject to product validation and configuration

*Maximum working pressure and temperature range are design references. Actual performance may vary based on configuration, materials and validation results.

Performance Data & Technical Specifications

Performance Data and Technical Specifications

The following reference data summarize the nominal flow performance and pressure-related specifications of Beyond Fluid FD83-compatible dry-break interlock ball valves. Values are provided for product literature reference and may vary depending on size, connection type, sealing material and validation conditions.



Size	DN	ID (mm)	Max. Working Pressure	Min. Burst Pressure	Rated Flow (lpm)	Rated Flow (gpm)	Fluid Spillage (cc.max)	Cv
1"	DN25	20	16 bar / 232 psi	48 bar / 696 psi	216	57	2.8	34
2"	DN50	40	16 bar / 232 psi	48 bar / 696 psi	899	238	11.7	143
3"	DN80	76	16 bar / 232 psi	48 bar / 696 psi	3240	856	42.0	520

Reference Notes



Working Medium:
Water / Water-Glycol



Seal Material:
EPDM / FKM



Reference values for product literature; final data subject to validation and configuration.

The above data are reference values for product literature and may vary depending on



Part Number	Body Size	Port Size	Thread	Type	A (mm)	B (mm)	Hex (mm)
TF83-2052-16-16	1	1	1-11 1/2	Female NPTF	95.5	71.6	41
TF83-2046-16-16	1	1	NA	1" Hose Barb	84.2	71.6	-
TF83-2092-16-16	1	1	NA	1" Hose Barb 90 deg	142.3	71.6	-
TF83-2140-16-16	1	1	G1-11	Male BSPP ISO 1179-2	95.5	71.6	41
TF83-2126-16-16	1	1	G1-11	Female BSPP ISO 1179-1	84.3	71.6	41
TF83-2128-16-16	1	1	NA	Sanitary Flange 1"	79.6	71.6	-
TF83-2126-32-32	2	2	G2-11	Female BSPP ISO 1179-1	112.0	105.3	70
TF83-2046-32-32	2	2	NA	2" Hose Barb	156.8	105.3	-
TF83-2128-32-32	2	2	NA	Sanitary Flange 2"	102.4	105.3	-
TF83-2052-32-32	2	2	2-11 1/2	Female NPT	112.6	105.3	70
TF83-2092-32-32	2	2	NA	2" Hose Barb 90 deg	155.2	105.3	-
TF83-2175-32-32	2	2	G2-11	Male BSPP ISO 1179-3	134.3	105.3	75



MAIN CONFIGURATIONS



1" / DN25



2" / DN50



Threaded / Hose Barb /
Sanitary Flange



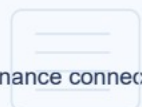
FD83-Compatible



Dry-Break Interlock
Design



- Other end connections available upon request.
- Dimensions are for reference only and may vary depending on final configuration.
- Suitable for data center liquid cooling, CDU manifolds, rack-level distribution and mainline maintenance connections.





Precision Fluid System Components

Dry Break Quick Disconnect Couplings

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