



# Danfoss Hansen® Universal Quick Disconnect Blind-Mate (UQDB)

One partner, every solution

# Danfoss Hansen® Universal Quick Disconnect Blind-Mate (UQDB)

Danfoss Hansen **Universal Quick Disconnect Blind-Mate (UQDB)** has been designed with OCP (Open Compute Project) community to set industry standard for thermal management application in data centers.

This quick disconnect coupling is available in 4 different sizes (as the UQD: -02/-04/-06/-08) and complies with OCP specification requirements.

Danfoss UQDB offers a self-alignment feature to help connect in location with limited access or visibility and guarantees 100% helium-leak testing on every coupling.



## Features and Benefits

- Designed per OCP UQDB specifications
- “Blind-connection” thanks to self- alignment feature with radial compensation of 1 mm
- Push-to-connect design
- Direct connection between servers and manifolds
- High flow and reduced pressure drop for an improved system efficiency
- Flat-face dry break design to avoid spillage during connection/ disconnection
- Sizes available: -02/-04/-06/-08
- High reliability and 100% helium-leak tested
- Standard material: 303/304 stainless steel for excellent corrosion resistance
- Standard seal material: EPDM-P (Peroxide cured) for excellent fluid compatibility
- Terminal ends are ORB
- Operating temperature range: 5°C (41°F) to 65°C (149°F)
- Typical working pressure: 6.9 bar
- QR code marking to help identify and track production parts
- All EPDM peroxide-cured seals and O-rings used in our products are certified in accordance with IEC 62368-1 G.15.2.3 under file MH67791, Volume 1.

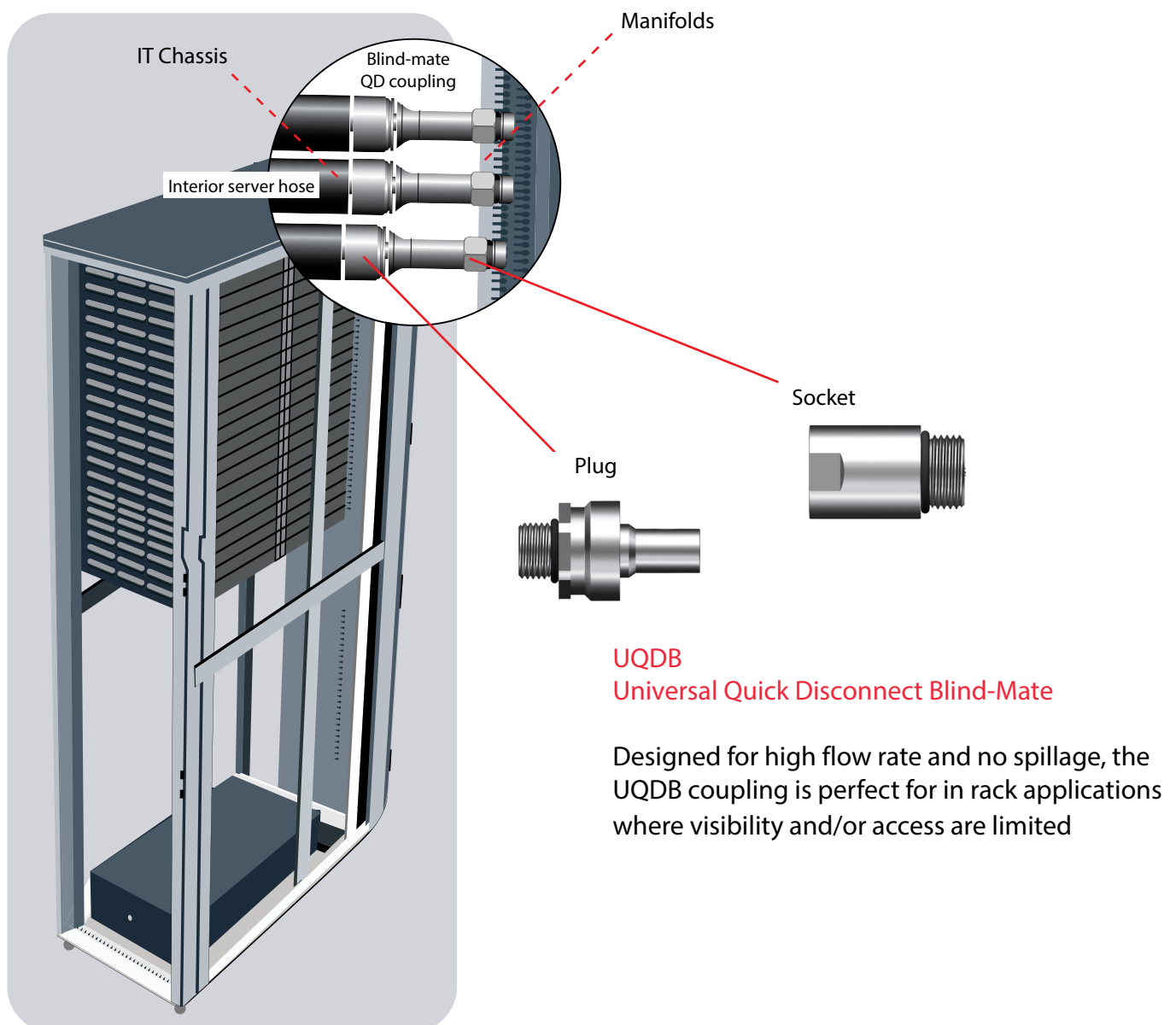


# Solutions to your liquid cooling challenges

## Inner Rack Solutions

Danfoss' direct-to-chip cooling solutions extend into the racks through efficient routing of flexible, kink-free hoses, and leak free, helium-tested couplings.

Danfoss has a **comprehensive portfolio of premium fluid conveyance products** to meet your thermal management system needs.



Physical characteristics

| Size   | Body Size | Nominal Flow Dia-meter | Max operating pressure |                      |                  |           |                      |                  | Min burst pressure |                      |                  |           |                      |                  | Rated Flow* |       | Cv Value | Air Inclusion | Fluid Loss | Mis-alignment (radial) |
|--------|-----------|------------------------|------------------------|----------------------|------------------|-----------|----------------------|------------------|--------------------|----------------------|------------------|-----------|----------------------|------------------|-------------|-------|----------|---------------|------------|------------------------|
|        |           |                        | Connected              | Socket / Female Half | Plug / Male Half | Connected | Socket / Female Half | Plug / Male Half | Connected          | Socket / Female Half | Plug / Male Half | Connected | Socket / Female Half | Plug / Male Half |             |       |          |               |            |                        |
|        | (in)      | (mm)                   | (bar)                  | (psi)                | (bar)            | (psi)     | (bar)                | (psi)            | (bar)              | (psi)                | (bar)            | (psi)     | (bar)                | (psi)            | (lpm)       | (gpm) | -        | cc. max.      | cc. max.   | (mm)                   |
| UQDB02 | 1/8       | 3.15                   | 20                     | 290                  | 20               | 290       | 20                   | 290              | 60                 | 870                  | 60               | 870       | 60                   | 870              | 2.1         | 0.55  | 0.31     | 0.04          | 0.02       | 1                      |
| UQDB04 | 1/4       | 5.7                    | 16                     | 232                  | 16               | 232       | 16                   | 232              | 48                 | 696                  | 48               | 696       | 48                   | 696              | 6.4         | 1.7   | 1.22     | 0.04          | 0.025      | 1                      |
| UQDB06 | 3/8       | 7.9                    | 10                     | 145                  | 10               | 145       | 10                   | 145              | 30                 | 435                  | 30               | 435       | 30                   | 435              | 11.36       | 3.0   | 2.23     | 0.093         | 0.035      | 1                      |
| UQDB08 | 1/2       | 9.3                    | 6.89                   | 100                  | 6.89             | 100       | 6.89                 | 100              | 20.68              | 300                  | 20.68            | 300       | 20.68                | 300              | 17.8        | 4.7   | 3.76     | 0.096         | 0.044      | 1                      |

\* Defined per OCP specifications, Rated Flow is the reference flow rate used to measure pressure drop and determine the published Cv (flow coefficient)

Applications & Markets

- Direct-to-chip liquid cooling
- Thermal management

Seal Elastomer Data

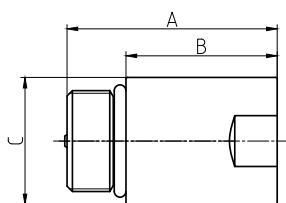
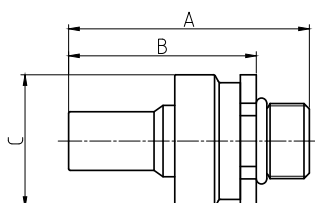
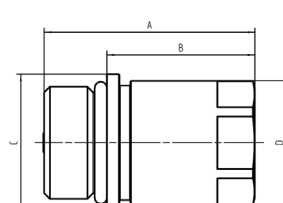
| Seal Elastomer | Operation Temperature Range |              |
|----------------|-----------------------------|--------------|
|                | °C                          | °F           |
| EPDM-P         | -40°C +150°C                | -40°F +302°F |

| Size   | Performance Parameters |    |                |                    |                 |                    |
|--------|------------------------|----|----------------|--------------------|-----------------|--------------------|
|        | Force to Connect       |    | Plug           | Recommended Torque | Socket          | Recommended Torque |
|        | N                      | lb | ORB Size       | N.m                | ORB Size        | N.m                |
| UQDB02 | 53                     | 12 | 7/16-20 UNF-2A | 9-10               | 9/16-18 UNF-2A  | 15-17              |
| UQDB04 | 62                     | 14 | 9/16-18 UNF-2A | 15-17              | 3/4-16 UNF-2A   | 25-28              |
| UQDB06 | 67                     | 15 | 3/4-16 UNF-2A  | 25-28              | 7/8-14 UNF-2A   | 30-33              |
| UQDB08 | 71                     | 16 | 7/8-14 UNF-2A  | 30-33              | 1 1/16-12 UN-2A | 48-53              |

Flow Data

| Size   | Flow at 5m/s (lpm) | Flow at 5 m/s (gpm) |
|--------|--------------------|---------------------|
| UQBD02 | 2,3                | 0,60                |
| UQDB04 | 7,8                | 2,0                 |
| UQDB06 | 14,7               | 3,9                 |
| UQDB08 | 20,6               | 5,4                 |

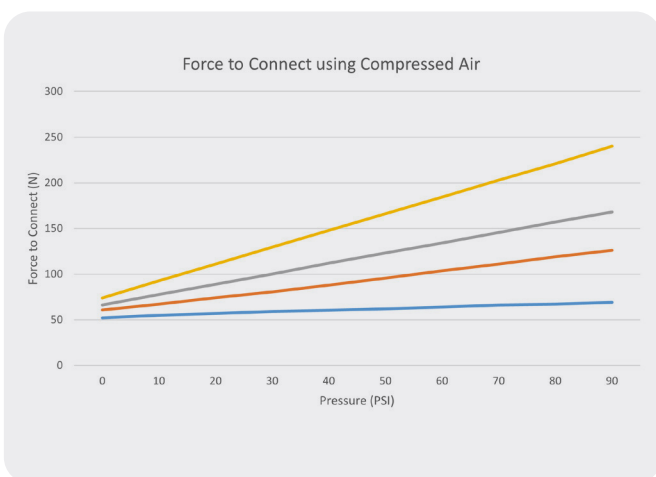
A reference flow rate corresponding to 5 m/s is widely adopted in industry to balance pressure drop and flow stability. While not the maximum allowable flow, it offers an optimal balance between system performance and component sizing.

Figure 1  
SocketFigure 2  
PlugFigure 3  
Socket

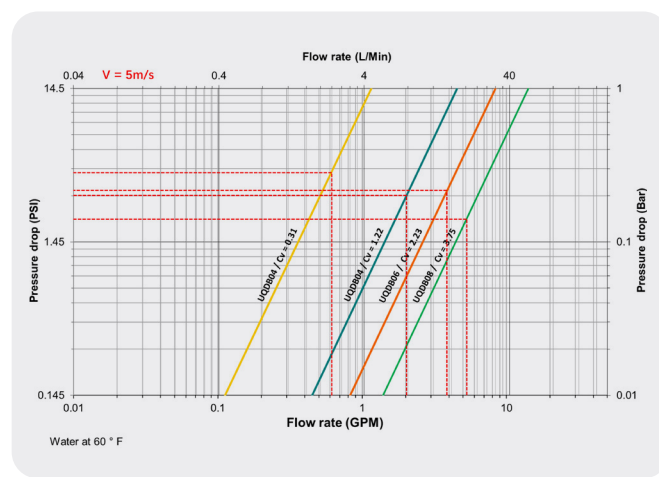
## Dimensions

| OCP UQDB size | Part number   | Order number | Part   | Material | Details     |      | Dimensions |      |       |      |      |      |      |      | E2E length  |             |
|---------------|---------------|--------------|--------|----------|-------------|------|------------|------|-------|------|------|------|------|------|-------------|-------------|
|               |               |              |        |          | Thread/size | Fig. | A          |      | B     |      | C    |      | D    |      |             |             |
|               |               |              |        |          | ORB         | n°   | (mm)       | (in) | (mm)  | (in) | (mm) | (in) | (mm) | (in) | (mm)        | (in)        |
| UQDB02        | 2UQBS56ORM    | 2UQBS56ORM   | Socket | SS303    | 9/16"-18    | 1    | 33.60      | 1.32 | 23.6  | 0.93 | 20   | 0.79 |      |      | 35.8 - 37.2 | 1.41 - 1.47 |
| UQDB02        | 2UQBP44ORM    | 2UQBP44ORM   | Plug   | SS303    | 7/16"-20    | 2    | 36.10      | 1.42 | 27    | 1.06 | 20   | 0.79 |      |      |             |             |
| UQDB04        | 4UQBS75ORM    | 4UQBS75ORM   | Socket | SS303    | 3/4"-16     | 1    | 39.60      | 1.55 | 28.5  | 1.12 | 23.6 | 0.92 |      |      | 44.0 - 45.4 | 1.73 - 1.79 |
| UQDB04        | 4UQBP56ORM    | 4UQBP56ORM   | Plug   | SS303    | 9/16"-18    | 2    | 45.32      | 1.78 | 35.3  | 1.39 | 25   | 0.98 |      |      |             |             |
| UQDB06        | 6UQBS87ORM    | 6UQBS87ORM   | Socket | SS303    | 7/8"-14     | 1    | 44.40      | 1.74 | 31.7  | 1.24 | 28.4 | 1.11 |      |      | 47.5 - 48.9 | 1.87 - 1.93 |
| UQDB06        | 6UQBP75ORM    | 6UQBP75ORM   | Plug   | SS303    | 3/4" -16    | 2    | 49.90      | 1.96 | 38.9  | 1.53 | 28.4 | 1.11 |      |      |             |             |
| UQDB08 v2     | 8UQBS106ORMV2 | 11367197     | Socket | SS303    | 1 1/16"-12  | 3    | 50.66      | 2.00 | 35.56 | 1.40 | 33   | 1.30 | 29.8 | 1.17 | 50.9-51.9   | 2.00-2.04   |
| UQDB08 v2     | 8UQBS106ORMV2 | 11368123     | Socket | SS304    | 1 1/16"-12  | 3    | 50.66      | 2.00 | 35.56 | 1.40 | 33   | 1.30 | 29.8 | 1.17 | 50.9-51.9   | 2.00-2.04   |
| UQDB08        | 8UQBP87ORM    | 8UQBP87ORM   | Plug   | SS303    | 7/8"-14     | 2    | 55.60      | 2.19 | 42.9  | 1.69 | 31.3 | 1.23 |      |      | 51.8 – 53.2 | 2.04 - 2.09 |

## Force to Connect vs Pressure



## Flow Data





**Beijing Hansen Fluid Technology Co., Ltd.**

*Danfoss Data center liquid cooling authorized distributor*

Rm2115, Tower C, Wangjing SOHO,  
Chaoyang district Beijing , China  
Tel 010-8428 2935  
Mobile 13910962635 WeChat  
www.hansenfluid.com  
max\_yang@hansenfluid.com

Any information, including, but not limited to information on selection of product, its application or use, product design, weight, dimensions, capacity or any other technical data in product manuals, catalogues descriptions, advertisements, etc. and whether made available in writing, orally, electronically, online or via download, shall be considered informative, and is only binding if and to the extent, explicit reference is made in a quotation or order confirmation. Danfoss cannot accept any responsibility for possible errors in catalogues, brochures, videos and other material. Danfoss reserves the right to alter its products without notice. This also applies to products ordered but not delivered provided that such alterations can be made without changes to form, fit or function of the product. All trademarks in this material are property of Danfoss A/S or Danfoss group companies. Danfoss and the Danfoss logo are trademarks of Danfoss A/S. All rights reserved.

**Danfoss A/S**  
Nordborgvej 81  
6430 Nordborg  
Denmark  
danfoss@danfoss.com  
CVR reg. no. 20165715