Fact sheet

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 wetted o-rings/seals are qualified/ certified as per IEC/UL 6268-1 G.15.2.3

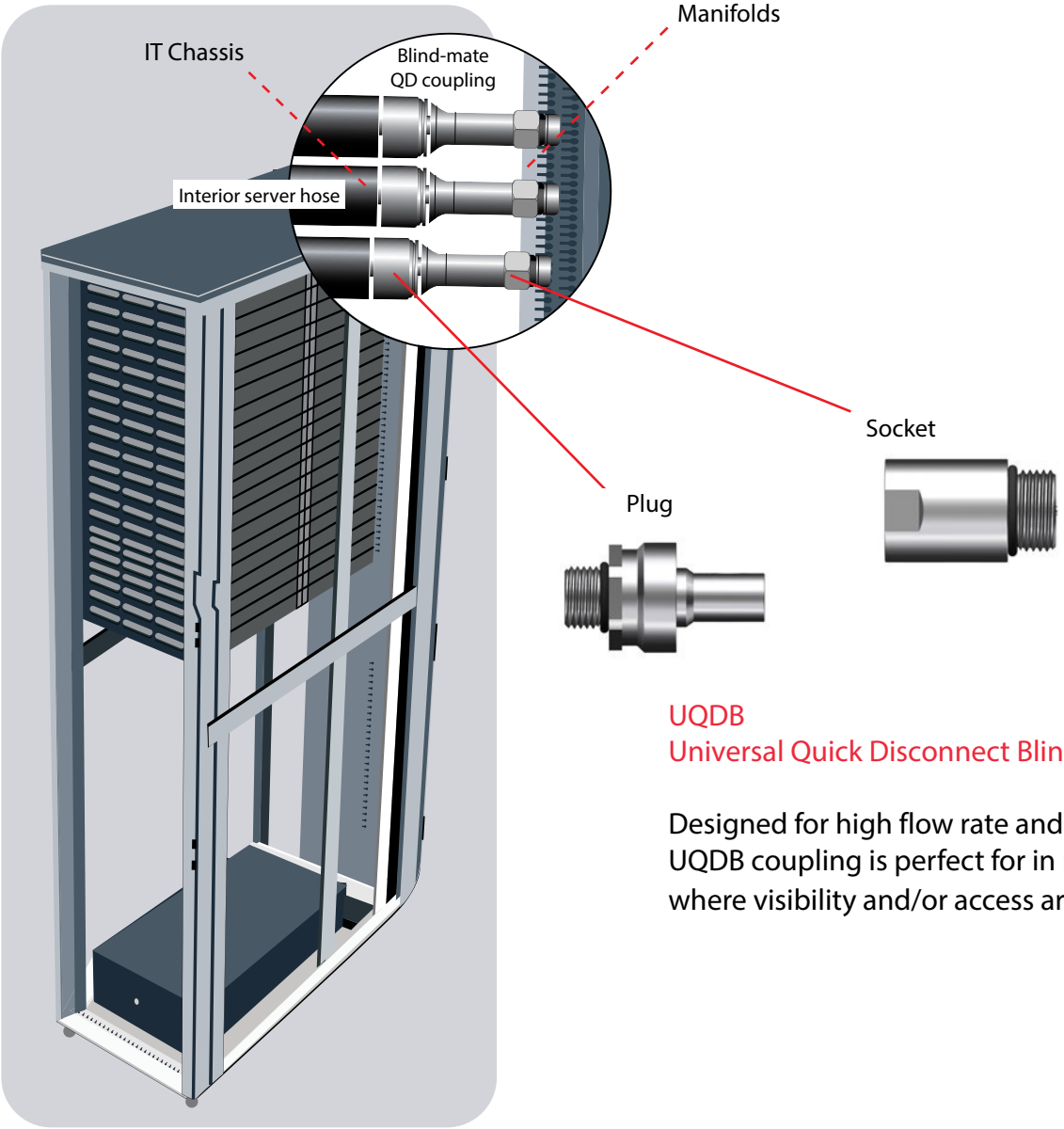
OCP INSPIRED™

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.



UQDB
Universal Quick Disconnect Blind-Mate

Designed for high flow rate and no spillage, the UQDB coupling is perfect for in rack applications where visibility and/or access are limited

Physical characteristics

Size	Body Size	Nominal Flow Diameter	Max operating pressure						Min burst pressure						Rated Flow*		Cv Value	Air Inclusion	Fluid Loss	Misalignment (radial)
			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.

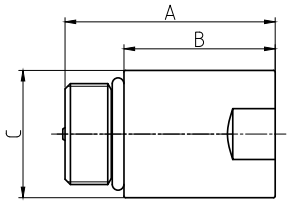


Figure 1
Socket

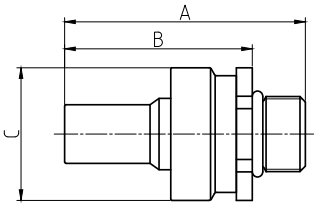


Figure 2
Plug

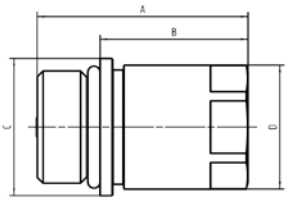
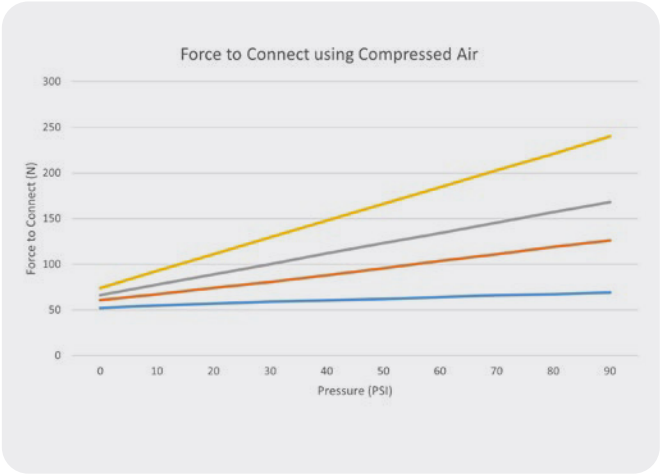


Figure 3
Socket

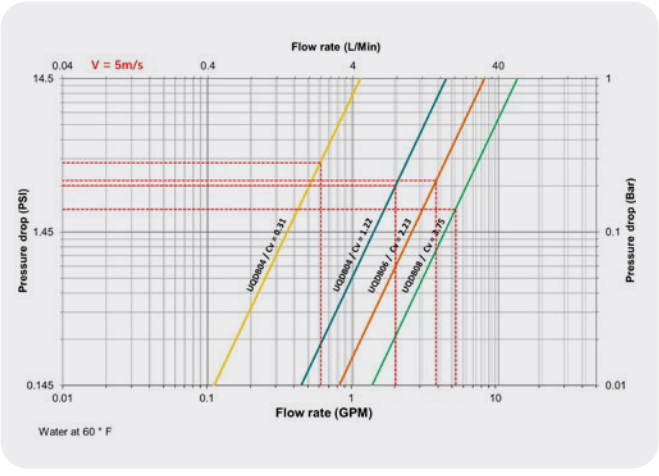
Dimensions

OCP UQDB size	Part number	Order number	Part	Material	Details	Fig.	Dimensions								E2E length	
					Thread/size		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



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