

Liquid Cooling Universal Quick Disconnect UQD Series



Introduction

UQD Series Liquid Cooling Universal Quick Disconnect provides convenient operation and reliable performance for rapid coupling and decoupling between rack servers and coolant supply/return manifolds in data center thermal management systems. Designed in accordance with the OCP Universal Quick Disconnect (UQD) Specification, the UQD Series outperforms the specification requirements. These connectors deliver high reliability, durability, compatibility, and ease of use, offering robust support for data center thermal management systems.



Features

- ⦿ Push-to-connect design enables fast, one-handed operation.
- ⦿ Flat-face sealing design ensures fluid loss when decoupled is lower than OCP specification requirements.
- ⦿ Optimized flow path design provides low flow resistance and high flow capacity, ensuring efficient heat transfer.
- ⦿ Allows for connection and disconnection while under pressure.
- ⦿ Four standard orifice sizes to meet different flow requirements, with custom end connections available upon request.
- ⦿ Blue or red markings for easy identification of cooling circuit inlet (supply) and outlet (return).
- ⦿ Every FITOK UQD leak tested with helium prior to shipment.

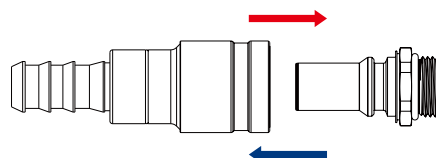
Technical Data

Standard Materials	Body	304 SS (Optional: 316 SS, 316L SS, or other materials upon request)
	Seal	EPDM
Media		Ethylene glycol coolant, propylene glycol coolant, deionized water, etc.
Working Temperature		-4 ~ 302 °F (-20 ~ 150 °C)
Mating Cycles		> 5000 cycles

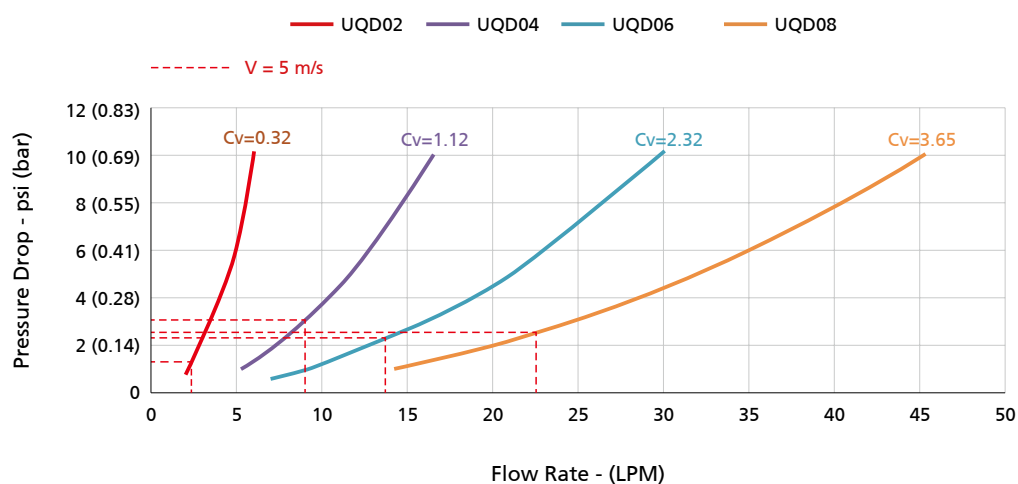
Series and Orifice Designator	Equivalent Orifice in. (mm)	Shutoff Valve	Max. Fluid Loss per Couple/Decouple Cycle (ml)	Max. Working Pressure psi (bar)	Min. Burst Pressure psi (bar)	Coupling Force (0 psi) N
UQD02	0.12 (3)	Bi-directional	0.01	232 (16)	696 (48)	45 ± 2
UQD04	0.20 (5)		0.02			50 ± 2
UQD06	0.28 (7)		0.03			70 ± 5
UQD08	0.39 (10)		0.05			100 ± 10

Flow Coefficient (Cv)

Series and Orifice Designator	Socket  Plug	Plug  Socket
UQD02	0.32	0.33
UQD04	1.12	1.15
UQD06	2.32	2.37
UQD08	3.65	3.70



Flow Rate / Pressure Drop Chart



Flow for a Speed of 5 m/s

Series and Orifice Designator	Flow Rate (LPM)
UQD02	2.14
UQD04	9.03
UQD06	13.77
UQD08	22.51

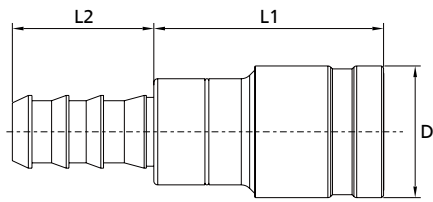
Test Conditions

- ⊙ Fluid: water (density: 998 kg/m³, viscosity: 1.08 cSt)
- ⊙ Flow Direction: socket  plug

Dimensions and Ordering Information

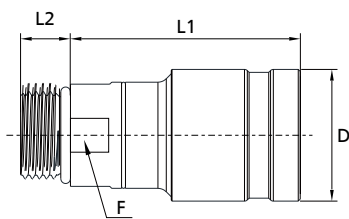
Sockets

Hose Connector



Connection Size in.	Basic Ordering Number	Dimensions, in. (mm)		
		L	L2	D
1/4	-UQD02-MP4-B	1.50 (39.0)	0.82 (20.8)	0.73 (18.5)
3/8	-UQD04-MP6-B	1.95 (49.6)	0.93 (23.6)	0.96 (24.5)
1/2	-UQD06-MP8-B	2.17 (55.2)	1.11 (28.1)	1.14 (29.0)
5/8	-UQD08-MP10-B	2.30 (58.5)	1.42 (36.0)	1.32 (33.5)

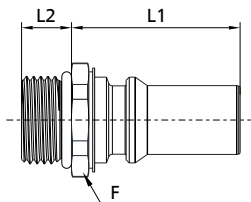
SAE/MS Straight Thread



Connection Size	Basic Ordering Number	Dimensions, in. (mm)			
		L	L2	F/Flats	D
7/16-20 UNF-2A	-UQD02-ST7-B	1.50 (39.0)	0.36 (9.1)	0.53 (13.5)	0.73 (18.5)
9/16-18 UNF-2A	-UQD04-ST9-B	1.95 (49.6)	0.39 (9.9)	0.71 (18.0)	0.96 (24.5)
3/4-16 UNF-2A	-UQD06-ST12-B	2.17 (55.2)	0.44 (11.2)	0.87 (22.0)	1.14 (29.0)
7/8-14 UNF-2A	-UQD08-ST14-B	2.30 (58.5)	0.50 (12.7)	1.02 (26.0)	1.32 (33.5)

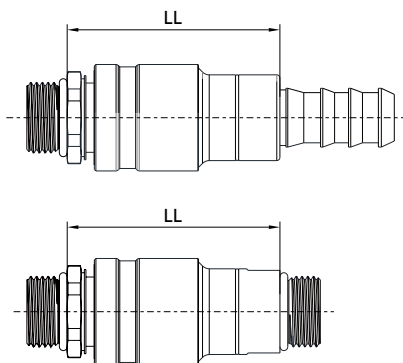
Plugs

SAE/MS Straight Thread



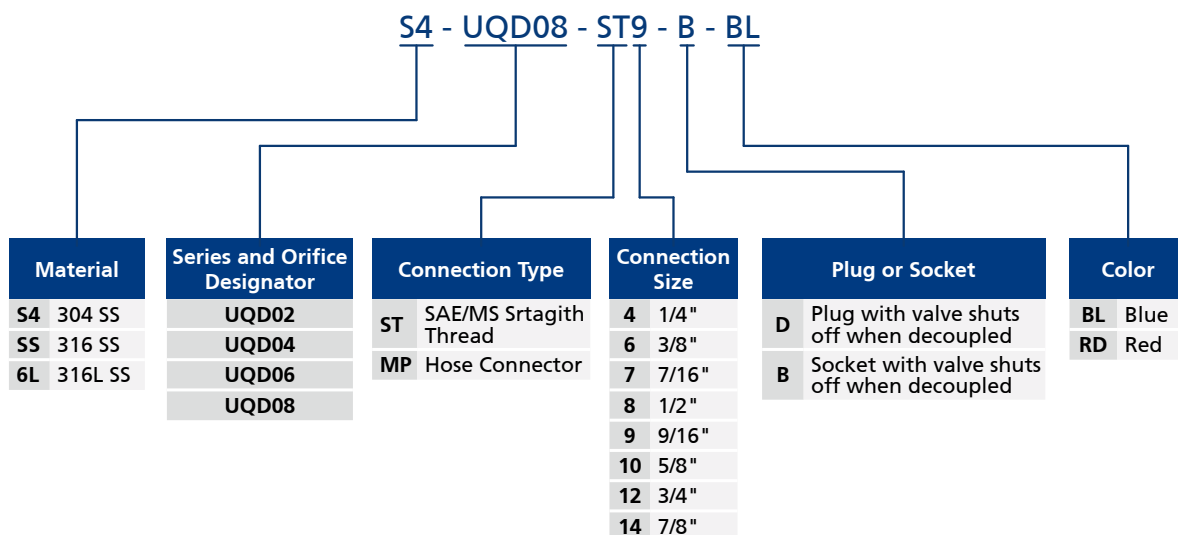
Connection Size	Basic Ordering Number	Dimensions, in. (mm)		
		L	L2	F/Flats
7/16-20 UNF-2A	-UQD02-ST7-D	1.06 (27.0)	0.36 (9.1)	0.55 (14.0)
9/16-18 UNF-2A	-UQD04-ST9-D	1.37 (35.4)	0.39 (9.9)	0.67 (17.0)
3/4-16 UNF-2A	-UQD06-ST12-D	1.53 (38.9)	0.44 (11.2)	0.87 (22.0)
7/8-14 UNF-2A	-UQD08-ST14-D	1.69 (42.9)	0.50 (12.7)	1.06 (27.0)

Coupled Length



Series and Orifice Designator	Dimensions, in. (mm)
	LL
UQD02	1.81 (46.0)
UQD04	2.26 (57.5)
UQD06	2.50 (63.4)
UQD08	2.65 (67.2)

Ordering Number Description



Notes:

1. "Ordering Number Description" is a reference to understand the combination rules of FITOK product part number.
Not all combinations are available.
2. dimensions are for reference only and are subject to change.