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

- The patented ball-lock design enables one-handed operation and ensures a smooth and reliable connection
- 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

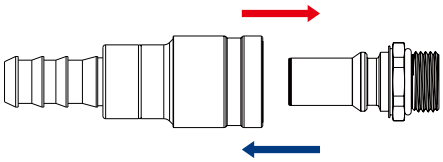
Technical Data

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		-40 ~ 302 °F (-40 ~ 150 °C)
Mating Cycles		> 5000 cycles

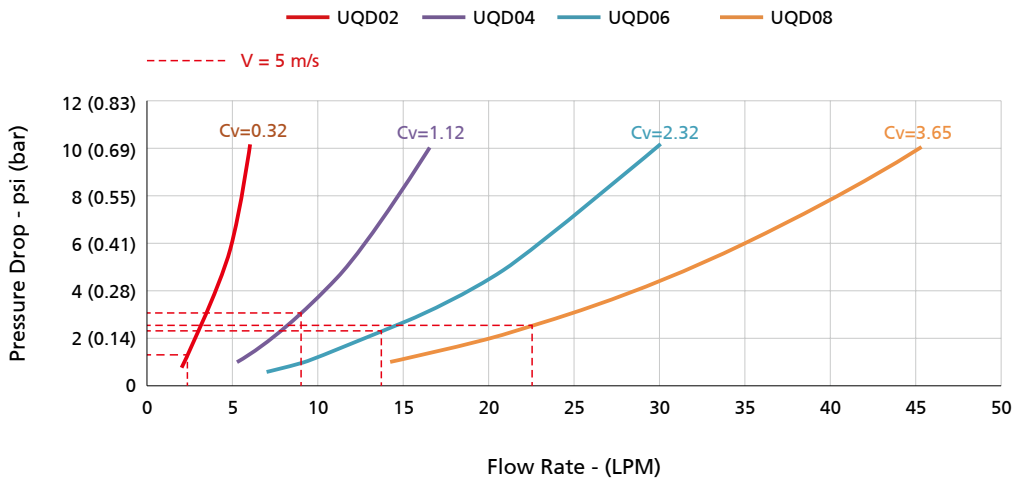
Series and Orifice Designator	Equivalent Orifice in. (mm)	Shutoff Valve	Max. Fluid Loss per Couple/Decouple Cycle (ml)	Max. Working Pressure psi (bar)	Min. Burst Pressure psi (bar)	Coupling Force (0 psi) N
UQD02	0.12 (3)	Bi-directional	0.01	232 (16)	696 (48)	45 ± 2
UQD04	0.20 (5)		0.02			50 ± 2
UQD06	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	2.3
UQD04	9.03
UQD06	13.77
UQD08	22.51

Test Conditions

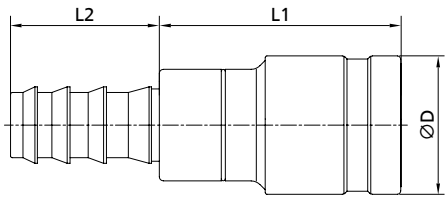
- Fluid: water (density: 998 kg/m^3, viscosity: 1.08 cSt)
- Flow Direction: socket → plug

FITOK

Dimensions and Ordering Information

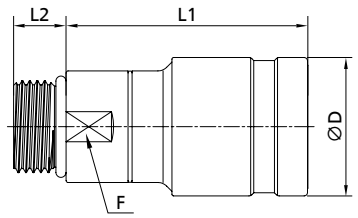
Sockets

Hose Connector



Connection Size in.	Basic Ordering Number	Dimensions, in. (mm)		
		L1	L2	ØD
1/4	-UQD02-MP4-B	1.57 (40.0)	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	2.13 (54)	1.11 (28.1)	1.14 (29.0)
5/8	-UQD08-MP10-B	2.38 (60.5)	1.42 (36.0)	1.32 (33.5)

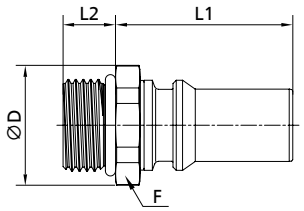
SAE/MS Straight Thread



Connection Size	Basic Ordering Number	Dimensions, in. (mm)			
		L1	L2	F/Flats	ØD
7/16-20 UNF-2A	-UQD02-ST7-B	1.57 (40.0)	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	2.13 (54)	0.44 (11.2)	0.87 (22.0)	1.14 (29.0)
7/8-14 UNF-2A	-UQD08-ST14-B	2.38 (60.5)	0.50 (12.7)	1.02 (26.0)	1.32 (33.5)

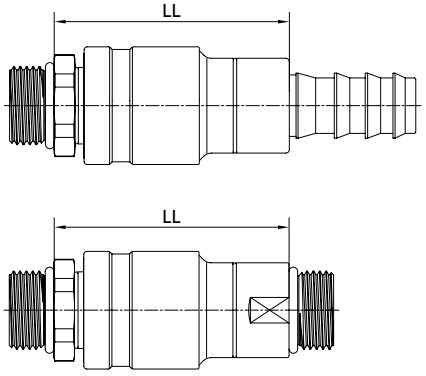
Plugs

SAE/MS Straight Thread



Connection Size	Basic Ordering Number	Dimensions, in. (mm)			
		L1	L2	F/Flats	ØD
7/16-20 UNF-2A	-UQD02-ST7-D	1.06 (27.0)	0.36 (9.1)	0.55 (14.0)	0.61 (15.5)
9/16-18 UNF-2A	-UQD04-ST9-D	1.37 (35.4)	0.39 (9.9)	0.67 (17.0)	0.73 (18.6)
3/4-16 UNF-2A	-UQD06-ST12-D	1.53 (38.9)	0.44 (11.2)	0.87 (22.0)	0.96 (24.5)
7/8-14 UNF-2A	-UQD08-ST14-D	1.69 (42.9)	0.50 (12.7)	1.06 (27.0)	1.14 (29)

Coupled Length



Series and Orifice Designator	Dimensions, in. (mm)
	LL
UQD02	1.86 (47.2)
UQD04	2.27 (57.6)
UQD06	2.45 (62.2)
UQD08	2.72 (69.2)

FITOK

Ordering Number Description

S4 - UQD08 - ST9 - B - BL

Material	
S4	304 SS
SS	316 SS
6L	316L SS

Series and Orifice Designator
UQD02
UQD04
UQD06
UQD08

Connection Type	
ST	SAE/MS Srtagith Thread
MP	Hose Connector

Connection Size	
4	1/4"
6	3/8"
7	7/16"
8	1/2"
9	9/16"
10	5/8"
12	3/4"
14	7/8"

Plug or Socket	
D	Plug with valve shuts off when decoupled
B	Socket with valve shuts off when decoupled

Color	
BL	Blue
RD	Red

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.