



NPLUS Universal Quick Disconnect (UQD/UQDB)

One clean connection, every liquid cooling rack

液冷专用通用快插接头

NPLUS Universal Quick Disconnect (UQD)

NPLUS UQD is designed for data center thermal management applications, available in four OCP-referenced sizes and two color options. It follows the Universal Quick Disconnect concept for compact in-rack liquid cooling connections.

The series uses push-to-connect, flat-face, double shut-off construction. Red and blue identification supports cold and hot loop separation, with QR or batch marking available.

Product Features

- Designed with reference to OCP Universal Quick Disconnect specification
- Push-to-connect design for fast rack service and module replacement
- High-flow, flat-face valves with double shut-off and no-spillage intent
- Nplus reference data: OCP rated flow exceeded by at least 25%
- Best-in-class force-to-connect target values referenced by size
- Standard seal material: EPDM-P (peroxide cured)
- Standard material: 303/304 stainless steel with broad fluid compatibility
- Color anodized aluminum sleeves for red/blue identification
- Color-coded sleeves on socket and O-rings on plug
- Compact socket versions for sizes UQD02, UQD04 and UQD06
- QR code identification for part tracking and traceability
- Terminal end options: ORB, BSPP on plug and push-on hose on socket
- Additional thread and hose configurations available upon request
- Operating temperature range: 5°C (41°F) to 65°C (149°F)
- Typical working pressure: 6.9 bar; smaller sizes up to 20 bar
- All wetted O-rings/seals to be qualified per IEC/UL 62368-1 G.15.2.3



产品特点

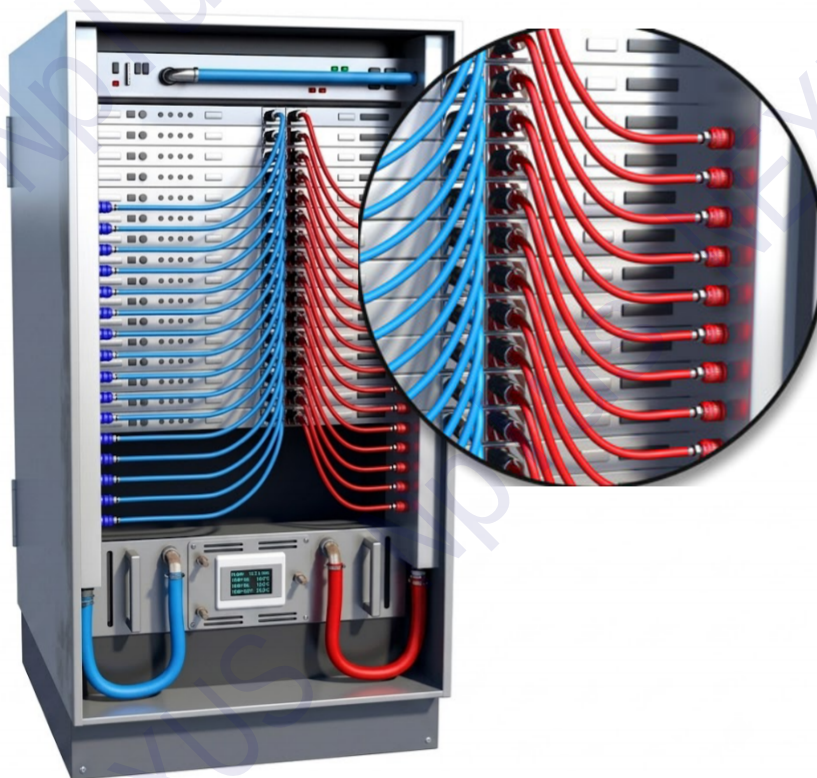
面向数据中心液冷冷板、机柜内软管和 Manifold 支路连接场景；支持红/蓝识别、双端自封、平面密封、低残液和批次追溯。

Solutions to your liquid cooling challenges



Inner Rack Solutions

NPLUS direct-to-chip cooling connection solutions extend into racks through efficient routing of flexible hoses and helium-testable couplings.



NPLUS provides a portfolio of liquid cooling valves, UQD couplings, hose assemblies and branch isolation modules for data center thermal management systems.

UQD

Universal Quick Disconnect Coupling

Designed for high flow rate and low-spillage service, the UQD coupling is suited to compact in-rack applications with small and medium hose lines.



Physical characteristics

技术规范 · Technical Specification

N+

楠加敏科
Nplus NEXUS

规格 Specification	主体尺寸 Main body size	标称流量 直径 Nominal flow diameter	最大工作压力 Maximum working pressure						最小爆破压力 Minimum burst pressure						额定流量 Rated flow	Cr值 Cr value	空气渗入 Air wraps in	流体溢 Fluid overflow	
			连接后 After connection		阴接头 Female connector		阳接头 Male joint		连接后 After connection		阴接头 Female connector		阳接头 Male joint						
	in	mm	bar	psi	bar	psi	bar	psi	bar	psi	bar	psi	bar	psi	lpm				gpm
UQD02	1/8	2.8	20	290	20	290	20	290	60	870	60	870	60	870	2.1	0.6	0.33	0.004	0.007
UQD04	1/4	5.5	16	232	16	232	16	232	48	696	48	696	48	696	6.4	1.7	1.37	0.024	0.01
UQD06	3/8	6.3	6.9	100	6.9	100	6.9	100	20.7	300	20.7	300	20.7	300	11.4	3.0	2.37	0.027	0.022
UQD08	1/2	8.9	6.9	100	6.9	100	6.9	100	20.7	300	20.7	300	20.7	300	17.8	4.7	5.32	0.029	0.030

规格 Specification	连接力 Connection force		推荐扭矩 Recommended torque				
	N	lb	ORB尺寸 ORB Size	N-m		BSP尺寸 BSP Size	N-m
UQD02	48	10.79	7/16-20	11-12		1/8"	8-9
UQD04	50	11.24	9/16-18	18-20		3/8"	18-20
UQD06	73	16.41	3/4-16	52-57		3/8"	18-20
UQD08	87	19.56	7/8-14	58-64		1/2"	34-37

温度范围 (密封圈承受温度)	Temperature range (temperature that the sealing ring can withstand)	-20°C至+220°C
密封圈材料	Sealing ring material	丁腈橡胶 氟橡胶 硅橡胶 三元乙丙橡胶

* Defined per OCP specifications; rated flow is the reference flow used to measure pressure drop and determine published Cv.

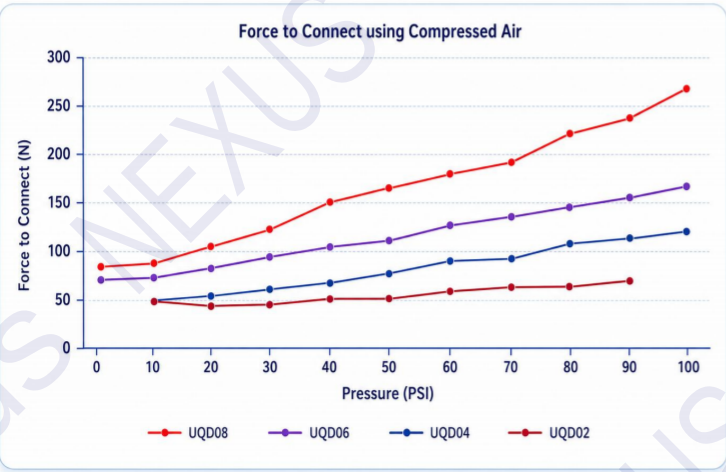
Applications & Markets

- Liquid cooling application
- Data center application

Seal Elastomer Data

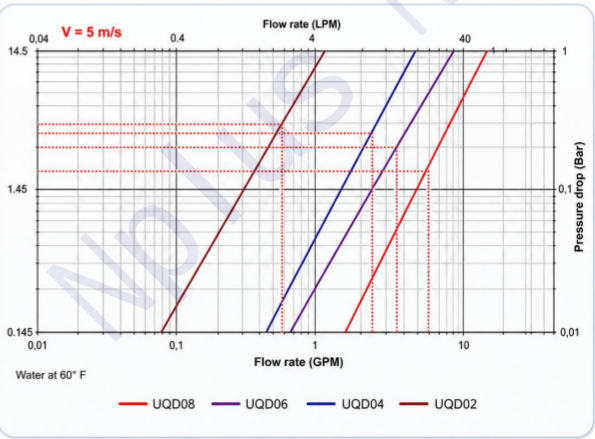
Seal Elastomer	Operation Temperature Range C°	Operation Temperature Range F°
EPDM-P	-40°C +150°C	-40°F +302°F

Force to Connect vs Pressure



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.

Flow Data

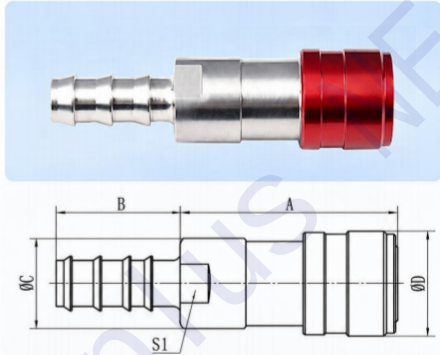


Size	Flow at 5m/s (lpm)	Flow at 5 m/s (gpm)
UQD02	2.4	0.62
UQD04	9.4	2.5
UQD06	14.7	3.9
UQD08	23.6	6.2

Socket (Female) part

UQD	详情	尺寸									
	螺纹/端头尺寸	A		B		ØC		ØD		S1对边	
	软管尾端	mm	in	mm	in	mm	in	mm	in	mm	in
UQD02	1/4	46.2	1.82	19	0.75	15.5	0.61	23	0.91	14	0.55
UQD04	3/8	49.5	1.95	23.7	0.93	9	0.36	24.6	0.97	18	0.71
UQD06	1/2	61.1	2.41	25.8	1.02	24	0.94	31.7	1.25	22	0.87
UQD08	5/8	68.4	2.69	39	1.54	30	1.18	35	1.38	27	1.06

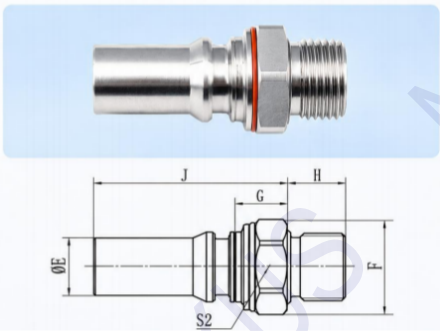
母插座 (Socket)



Plug (Male) part

UQD	详情	尺寸											
	螺纹/端头尺寸	ØE		F		G		H		J		S2六方	
	BSP	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
UQD02	1/8	6.65	0.26	17.32	0.68	8.7	0.34	8	0.31	30.4	1.20	15	0.59
UQD04	3/8	11.07	0.44	25.4	1.00	9.8	0.39	11.2	0.44	37.9	1.49	22	0.87
UQD06	3/8	14.3	0.56	25.4	1.00	10	0.39	11.2	0.44	41.6	1.64	22	0.87
UQD08	1/2	17.48	0.69	34.64	1.36	12	0.47	14.5	0.57	47.6	1.87	30	1.18

公插座 (Plug) - BSPP 外螺纹

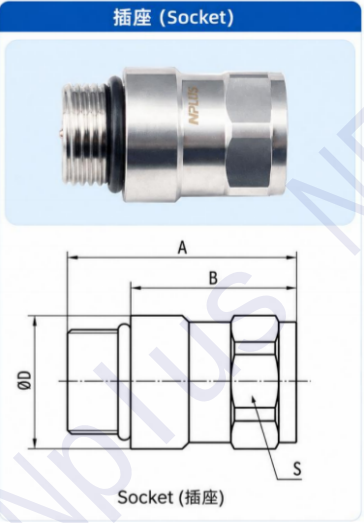


Note 1: RD suffix corresponds to RED and BL suffix to BLUE.

Socket (Female) part

Socket (插座)

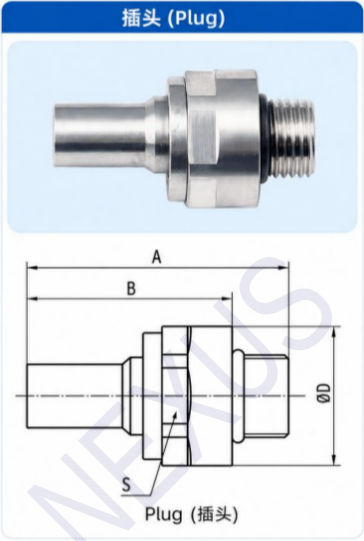
UQDB	螺纹/端头尺寸	A		B		ØD		S六方	
	ORB	mm	in	mm	in	mm	in	mm	in
UQDB02	9/16-18	39.5	1.56	29.6	1.17	21	0.83	19	0.75
UQDB04	3/4-16	39.6	1.56	28.5	1.12	24	0.94	22	0.87
UQDB06	7/8-14	52.5	2.07	39.8	1.57	29	1.14	27	1.06
UQDB08	11/16-12	57.5	2.26	42.4	1.67	37	1.46	34	1.34



Plug (Male) part

Plug (插头)

UQDB	螺纹/端头尺寸	A		B		ØD		S六方	
	ORB	mm	in	mm	in	mm	in	mm	in
UQDB02	7/16-20	39.6	1.56	30.5	1.20	21	0.83	19	0.75
UQDB04	9/16-18	45.3	1.78	35.3	1.39	24	0.94	22	0.87
UQDB06	3/4-16	52.7	2.07	41.6	1.64	29	1.14	27	1.06
UQDB08	7/8-14	60.7	2.39	48	1.89	37	1.46	34	1.34



NPLUS®

技术规范：Technical specification

规格 Specification	主体尺寸 Main body size	标称流量 直径 Nominal flow diameter	最大工作压力 Maximum working pressure						最小爆破压力 Minimum burst pressure						额定流量 Rated flow		Cr值 Cr value	空气裹入 Air wraps in	流体溢出 Fluid overflow
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UQD02	1/8	2.8	20	290	20	290	20	290	60	870	60	870	60	870	2.1	0.6	0.33	0.004	0.007
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温度范围（密封圈承受温度）
Temperature range (temperature that the sealing ring can withstand)

-20℃至+220℃

密封圈材料
Sealing ring material

丁腈橡胶 氟橡胶 硅橡胶 三元乙丙橡胶

Note 1: RD suffix corresponds to RED and BL suffix to BLUE.



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温州楠加敏科流体控制有限公司

Liquid Cooling Valves & Connections 液冷阀门与连接件解决方案

Website: Nplusnexus.com

Product line: UQD/UQDB coupling / UQD ball valve / dry-break
interlock ball valve / liquid cooling clamps / electric mini ball valve

This NPLUS layout and parameter sheet was produced using the supplied Nplus UQD fact sheet as the structural and technical reference.

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