

For Medium Pressure

Zerospill Cupla

Low spill type for medium pressure use

Working pressure 3.5 MPa (35 kgf/cm ²)	Valve structure Two-way shut-off (Non-Spill)	Applicable fluids			
		Water	Hydraulic oil	Chemicals	Air Gas

Unique seal design reduces both liquid spillage and air ingress.

- New valve design offers smooth zero-friction movement.
- Push to connect design.
- The variety of body materials, sizes and end configurations has been standardized to comply with wide range of applications.
- Automatic shut-off valves in both socket and plug prevent fluid spill out on disconnection.



Specifications				
Body material		Brass, Stainless steel (SUS 304)		
Applicable fluids		Water, Hydraulic Oil, Air, Gas		
Size (Thread)		1/4", 3/8", 1/2", 3/4", 1"		
Working pressure	MPa	3.5		
	kgf/cm ²	35		
	bar	35		
	PSI	508		
Seal material	Seal material	Mark	Working temperature range	Remarks
	Nitrile rubber	NBR (SG)	-20°C to +80°C	Standard material
	Fluoro rubber	FKM (X-100)	-20°C to +180°C	Standard material
Working temperature range	Ethylene-propylene rubber	EPDM (EPT)	-40°C to +150°C	Standard material

Note: Applicable fluids depend on the body material and seal material.
Acceptable working temperature range depends on operating conditions.

Max. Tightening Torque		Nm {kgf·cm}				
Size (Thread)		1/4"	3/8"	1/2"	3/4"	1"
Torque	Brass	9 {92}	12 {122}	30 {306}	50 {510}	65 {663}
	Stainless steel	14 {143}	22 {224}	60 {612}	90 {918}	120 {1224}

Flow Direction

Fluid may flow in either direction from plug or from socket side when coupled.

Interchangeability

Different size socket and plug cannot be connected to each other.

Min. Cross-Sectional Area	(mm ²)				
Model	ZEL-2SP	ZEL-3SP	ZEL-4SP	ZEL-6SP	ZEL-8SP
Min. cross-sectional area	31	60.5	86.5	160.6	188.7

Suitability for Vacuum	1.3 x 10 ⁻¹ Pa {1 x 10 ⁻³ mmHg}		
Socket only	Plug only	When connected	
—	—	Operational	

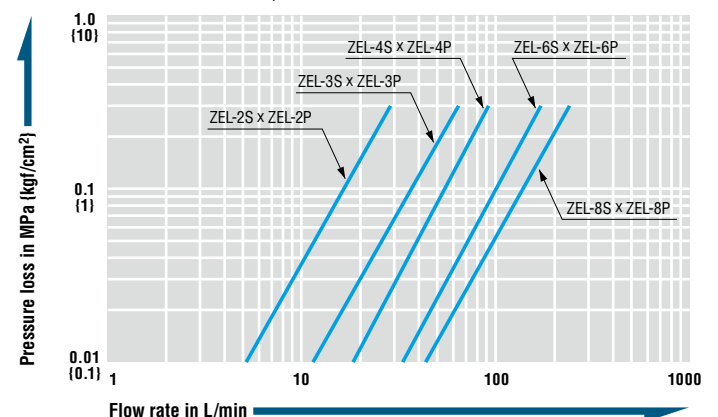
Admixture of Air on Connection	Admixture of air may vary depending upon the usage conditions. (mL)				
Model	ZEL-2SP	ZEL-3SP	ZEL-4SP	ZEL-6SP	ZEL-8SP
Volume of air admixture	0.16	0.21	0.37	1.12	1.52

Volume of Spillage per Disconnection	Volume of spillage may vary depending upon the usage conditions. (mL)				
Model	ZEL-2SP	ZEL-3SP	ZEL-4SP	ZEL-6SP	ZEL-8SP
Volume of spillage	0.06	0.12	0.20	0.43	0.55

* Repeated connections and disconnections of Cuplas or the use of fluids with low viscosity may cause some spillage.

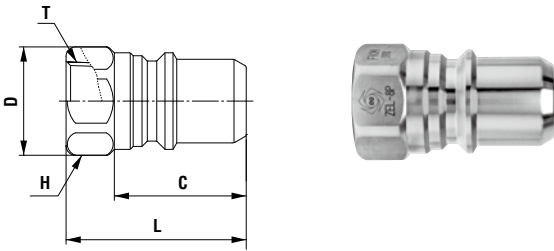
Flow Rate – Pressure Loss Characteristics

[Test conditions] • Fluid : Water • Temperature : 25°C to 27°C



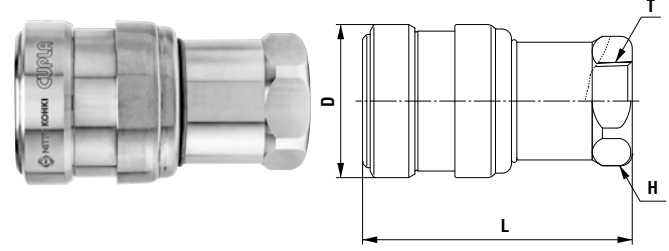
Models and Dimensions

Plug Female thread



Model	Application	Mass (g)		Dimensions (mm)				
		Brass	Stainless steel	L	C	øD	H (WAF)	T
ZEL-2P	R 1/4	34	32	39	26.1	19	Hex.17	Rc 1/4
ZEL-3P	R 3/8	67	63	44.5	32	25	Hex.23	Rc 3/8
ZEL-4P	R 1/2	117	109	52.5	36.8	32	Hex.29	Rc 1/2
ZEL-6P	R 3/4	264	248	68.5	48	39.5	Hex.36	Rc 3/4
ZEL-8P	R 1	359	339	76.5	56	46	Hex.42	Rc 1

Socket Female thread



Model	Application	Mass (g)		Dimensions (mm)			
		Brass	Stainless steel	L	øD	H (WAF)	T
ZEL-2S	R 1/4	133	125	(56)	28	Hex.21	Rc 1/4
ZEL-3S	R 3/8	255	239	(66)	35	Hex.27	Rc 3/8
ZEL-4S	R 1/2	404	382	(76)	42	Hex.32	Rc 1/2
ZEL-6S	R 3/4	829	784	(95.5)	55	Hex.42	Rc 3/4
ZEL-8S	R 1	1406	1326	(114.5)	65	Hex.50	Rc 1

* The photos above show stainless steel model ZEL-8P and ZEL-8S. The profiles of brass couplings are the same as those of the stainless steel couplings.

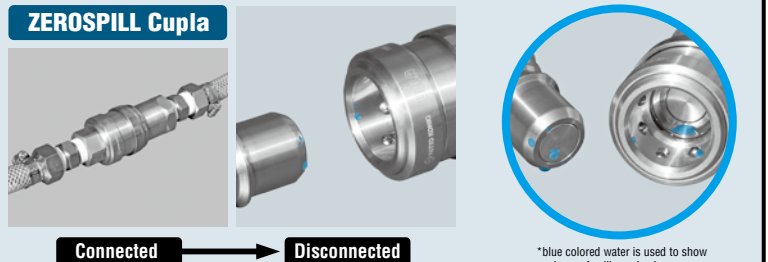
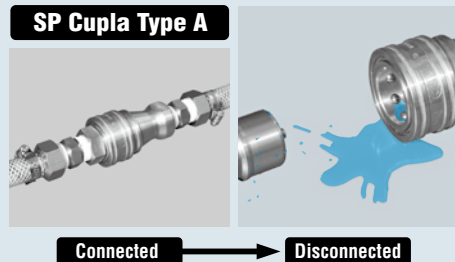
Main Features

Unique seal design reduces both liquid spillage and air ingress

To compare with Nitto SP Cupla Type A.

Volume of spillage:
about 96% less vs SP Cupla Type A

Volume of air ingress:
about 94% less vs SP Cupla Type A



Reliable zero friction valve

New valve design offers smooth zero-friction movement resulting in reduced chance of malfunction caused by deterioration of valve parts.

Push-to-connect design One-hand easy operation

Just push the plug into the socket for simple and secure connection. This reduces connection time and improves efficiency.



Just push the plug into the socket → Simple and secure connection

Accessory

Cupla Adapter for Braided Hose Connection

Can be screwed into Cuplas with female threads, 3/8", 1/2", 3/4"

