

For High Purity Chemicals

Semicon Cupla

SCAL Type

For semiconductor manufacturing equipment

Working pressure	Valve structure	Applicable fluids			
0.2 MPa (2 kgf/cm ²)	Two-way shut-off (Non-Spill)	High purity chemicals	Water	Gas	Air

Body is polytetrafluoroethylene (PTFE).

- Polytetrafluoroethylene (PTFE) body gives excellent resistance to chemicals.
- Unique seal design ensures minimal liquid spill.
- Both socket and plug have built-in automatic shut-off valves that prevent fluid from outflowing when disconnected.
- No dissolution of metal ions from part in contact with liquid ensures excellent reliability.
- Push-to-connect design.
- Flanged socket body makes it easy to push down sleeve even when wearing gloves.
- All components are cleaned, assembled, inspected and then packed in a clean room.
- Concaved surface of the plug end prevents liquid loss and protects the plug seal surface from damage if dropped or hit.
- To prevent incorrect connection, a keyed type sleeve is available on a made-to-order basis.
- Ten key angle positions are available. The appearance of the keyed type body slightly differs from that of the standard type.



Specifications				
Body material	Polytetrafluoroethylene (PTFE)			
Size (Thread)	1/4", 3/8", 1/2", 3/4", 1" 1/4-18NPT, 3/8-18NPT, 1/2-14NPT, 3/4-14NPT, 1-11.5NPT			
Pressure unit	MPa	kgf/cm ²	bar	PSI
Working pressure	0.2	2	2	29
Seal material	Socket	Seal material	Mark	Working temperature range
Working temperature range	O-ring	Perfluoroelastomer	P	+5°C to +50°C
	Valve	Fluoropolymer resin (PFA)		
Remarks	Standard material			

Max. Tightening amount (approximate)

With seal tape wrapped on the male thread, screw it firmly by hand, and then add more tightening with a wrench as shown below.

1 3/4 to 2 turns	1/4" • 3/8" • 1/2" • 3/4" • 1" Size
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Whichever method, overtightening may damage the thread and cause leakage, so take extra care.

Interchangeability

The model name (SCAL-□S (P)) with the same digit in □ are interchangeable regardless of end configurations.

Model (SCAL-□)	Min. Cross-Sectional Area (mm ²)					
	2S (-NPT) 2P (-NPT)	3S (-NPT) 3P (-NPT)	4S (-NPT) 4P (-NPT)	6S (-NPT) 6P (-NPT)	8S (-NPT) 8P (-NPT)	12S (-NPT/-FL-P) 12P (-NPT/-FL-P)
Min. Cross-Sectional Area	24	41	59	108	234	611

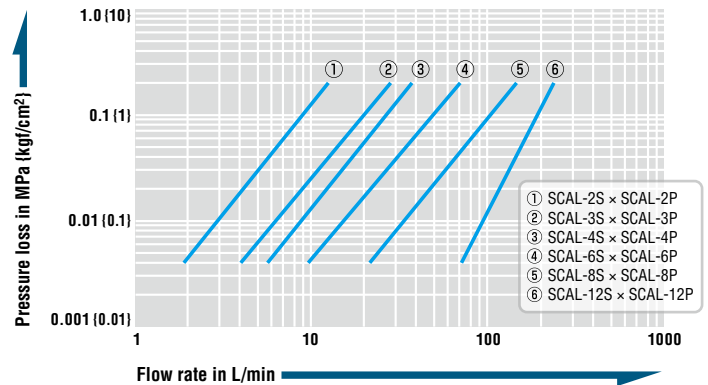
Volume of Spillage per Disconnection

Volume of spillage may vary depending upon the usage conditions. (mL)

Model (SCAL-□)	2S (-NPT) 2P (-NPT)	3S (-NPT) 3P (-NPT)	4S (-NPT) 4P (-NPT)	6S (-NPT) 6P (-NPT)	8S (-NPT) 8P (-NPT)	12S (-NPT/-FL-P) 12P (-NPT/-FL-P)
Volume of spillage	0.07	0.09	0.13	0.20	0.59	1.26

Flow Rate – Pressure Loss Characteristics

[Test conditions] • Fluid : Water • Temperature : 20°C ± 5°C



Models and Dimensions

WAF : WAF stands for width across flats.

Model	Mass (g)	Dimensions (mm)			
		L	øD	H(WAF)	T
SCAL-2P	37	50	27.5	24	Rc 1/4
SCAL-2P-NPT					1/4-18NPT
SCAL-3P	73	63	34.5	30	Rc 3/8
SCAL-3P-NPT					3/8-18NPT
SCAL-4P	107	72	39.5	36	Rc 1/2
SCAL-4P-NPT					1/2-14NPT
SCAL-6P	153	77	48	41	Rc 3/4
SCAL-6P-NPT					3/4-14NPT
SCAL-8P	348	109	59	50	Rc 1
SCAL-8P-NPT					1-11.5NPT
*SCAL-12P-NPT	740	126	80	75	1 1/2-11.5NPT

*Made-to-order item

- Plug comes with a cap made of high density polyethylene (HDPE).
- Outer appearance of NPT thread type differs slightly from that of the above.
- Please contact us about end configurations other than female thread such as flange and male thread.
- Excessive tightening will damage the threaded part and result in leakage.
- Note: A very small amount of gas can permeate polytetrafluoroethylene (PTFE) bellows in the socket.

Model	Mass (g)	Dimensions (mm)			
		L	øD	H(WAF)	T
SCAL-2S	97	(60.5)	40.5	27	Rc 1/4
SCAL-2S-NPT					1/4-18NPT
SCAL-3S	135	(69.5)	47	32	Rc 3/8
SCAL-3S-NPT					3/8-18NPT
SCAL-4S	177	(76)	52	36	Rc 1/2
SCAL-4S-NPT					1/2-14NPT
SCAL-6S	339	(90)	65	46	Rc 3/4
SCAL-6S-NPT					3/4-14NPT
SCAL-8S	656	(109)	80	60	Rc 1
SCAL-8S-NPT					1-11.5NPT
*SCAL-12S-NPT	1580	(144.5)	108	80	1 1/2-11.5NPT

*Made-to-order item

Before use, please be sure to read "Safety Guide" described at the end of this book and "Instruction Sheet" that comes with the products.