

Quick release couplings SPC

Self aligning and flat faced

Applications

- Machine tools :
connection and disconnection
of machining heads
and broaching heads.
- Machine tools :
hydraulic clamping and palletisation.
- Cooling :
- cooling of inserts and modules
on moulds,
- electronic cooling.

- Complete integration
into the machine.
- 2 installation options.
- Optimum flow.
- Compensation
for misalignment
at connection.
- Interface 0.
- Flat face
non-spill design.



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Quick release couplings SPC

Self aligning and flat faced

Reliability

The SPC is designed for high frequency use of up to 1 million connections.

Non spill flat faced design

The flat faced SPC design prevents the introduction of air as well as any dirt from the working area into the circuit.

2 installation options for complete integration into the machine

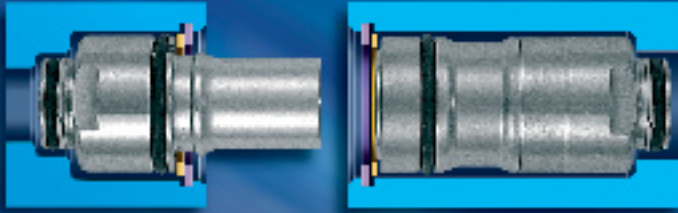
- Recessed installation into pocket to give the SPC minimum outside dimensions with in addition a 0 interface between plug and socket and therefore extra space saving.
- due to the 2 installation options, the SPC can be adapted to all your needs :
 - either floating on both sides (socket and plug installed recessed into pockets)
 - or plug installed fixed (socket installed recessed into the pocket and plug screwed in)

Take-up of any misalignment at connection

Optimum flow

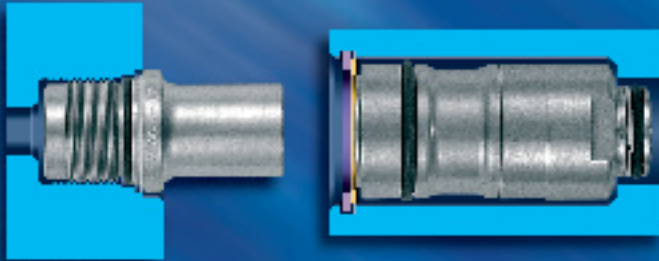
The SPC range is compact and guarantees an excellent flow for minimal outside dimensions, whichever the direction of flow. **In addition, the SPC maintains full flow even if the coupling is not fully connected. This tolerance is 2 mm.**

Floating on both sides : interface 0



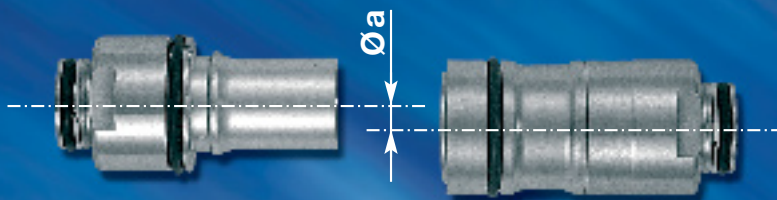
- Recessed installation into pocket and fixing onto the machine by elastic ring

Plug rigidly installed with 0 or 4,2 mm interface



- Plug screwed into the machine with O ring sealing

Take up of all misalignment at connection



$\varnothing_{\max. a}=0,5 \text{ mm}$ for "floating both sides" version
 $\varnothing_{\max. a}=0,25 \text{ mm}$ for "plug mounted rigid" version

To ensure take up of misalignment at connection, the pocket centers must be within the circle $\varnothing a$.

- A form of preguiding combined with an elastic connection permits a take-up of misalignment between plug and socket at connection

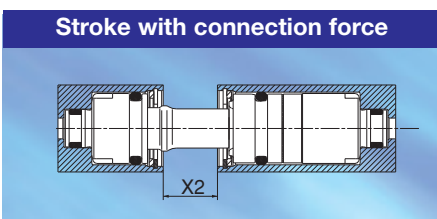
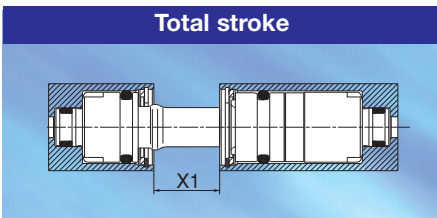
Technical Features



Materials

- High resistance stainless steel
- Fluorocarbon seals (FPM) as standard.
Other seals : ask us to establish the chemical compatibility of the fluids in question.

Connection stroke



Nominal bore	(mm)	03
Operating temperatures* (with FPM seals)		-10°C to +150°C
Max. working pressure	(bar)	450
Connection force	(N)	45
Connection stroke	(mm)	X ₁ = 12 X ₂ = 9,5
Repulsion cross section	(cm ²)	0,30
Volume of air introduced** at connection	(cm ³)	0,002
Spillage** at disconnection	(cm ³)	0,002
Volume of liquid displaced	Socket side (cm ³)	0,21
	Plug side (cm ³)	0,17
Weight	Socket (g)	17,5
	Plug in pocket (g)	12
	Screwed plug (g)	7

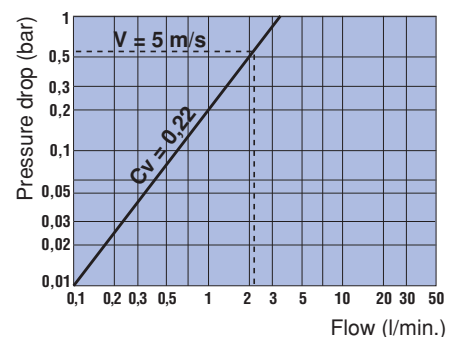
* For temperatures outside this range, please consult us.

** These are not cumulative values : they decrease with the number of cycles.

Hydraulic flow/pressure drop graph

Test conditions

Direction of flow :
plug → socket Hydraulic
Oil INVAROL FJ13 (H515)
Density : 833 kg/m³ at 40°C
Viscosity : 13.4 cst at 40°C



SPC 05



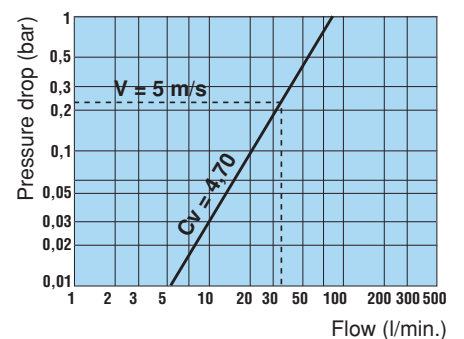
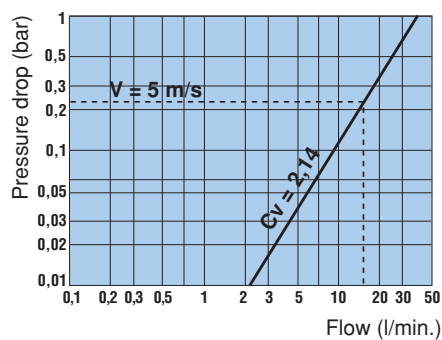
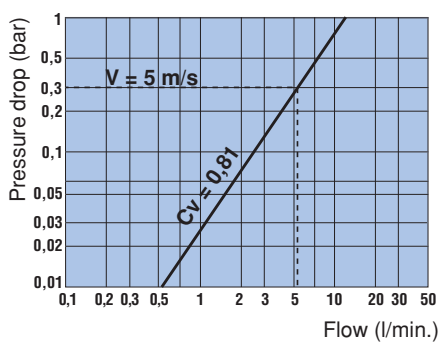
SPC 08



SPC 12



	05	08	12
	-10°C to +150°C	-10°C to +150°C	-10°C to +150°C
	300	250	160
	60	90	160
	$X_1 = 17,5$ $X_2 = 14,5$	$X_1 = 20,5$ $X_2 = 16,5$	$X_1 = 28$ $X_2 = 23,5$
	0,85	1,77	3,60
	0,025	0,055	0,063
	0,015	0,026	0,038
	1,01	2,26	6,80
	0,79	2,00	5,59
	48,5	81	197,5
	32	62	147
	21,5	39	87

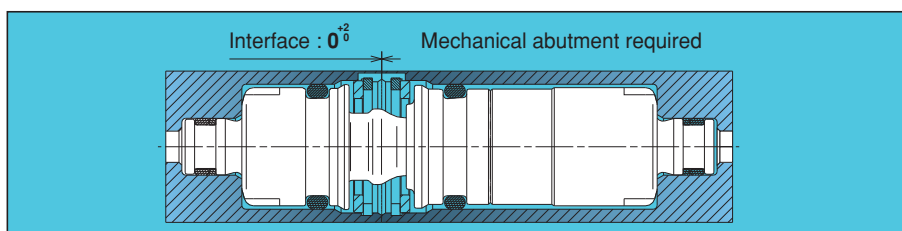
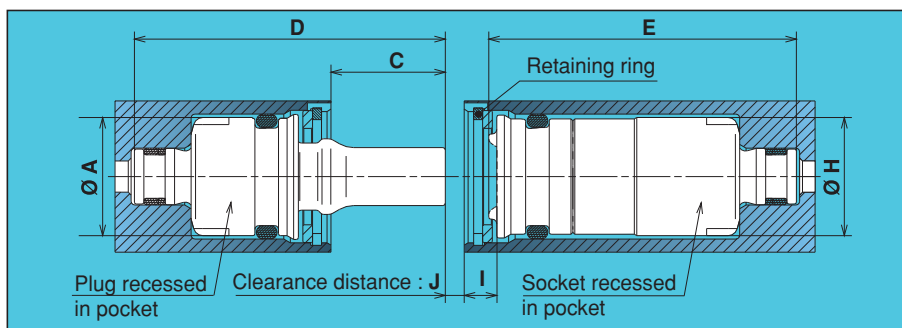


Installation

1. Recessed SPC plug and socket

Models	Drawing references *
SPC 03	R 335 010 10
SPC 05	R 335 011 10
SPC 08	R 335 012 10
SPC 12	R 335 013 10

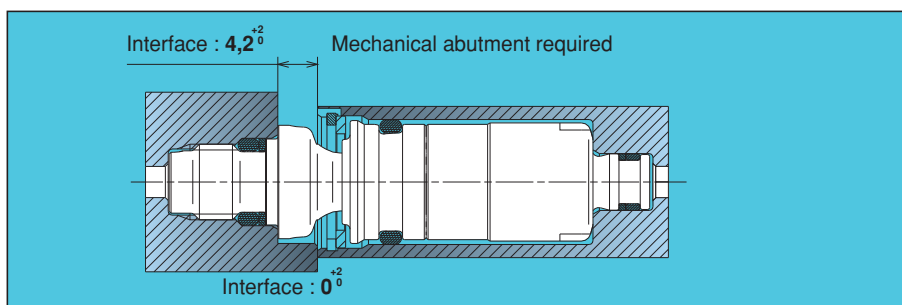
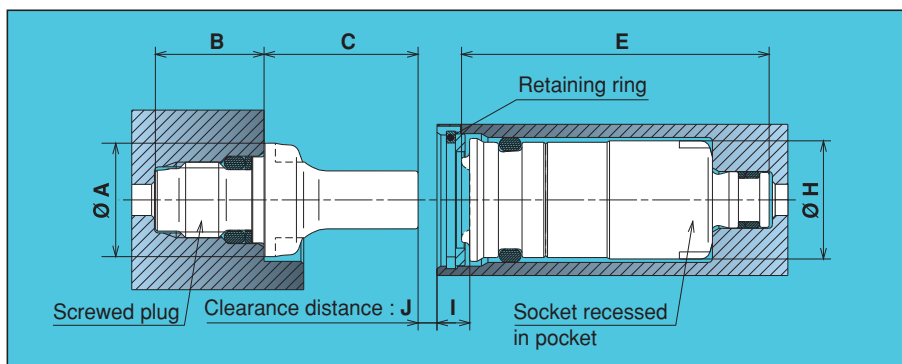
* for design and machining of recessed pocket



2. SPC with screwed plug and socket installed recessed in pocket

Models	Drawing references *
SPC 03	R 335 010 11
SPC 05	R 335 011 11
SPC 08	R 335 012 11
SPC 12	R 335 013 11

* for design and machining of recessed pocket

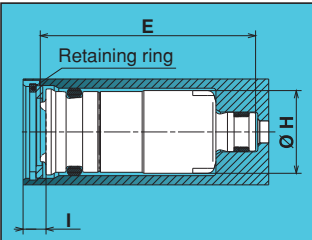


3. Installation tool

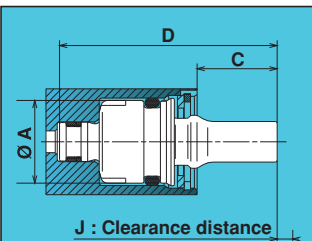
Models	Installation tool for screwed plug	Removal tool for socket
SPC 03	R 135 910 00	R 235 900 01
SPC 05	R 135 911 00	R 235 901 01
SPC 08	R 135 912 00	R 235 902 01
SPC 12	R 135 913 00	R 235 903 01

Part Numbers

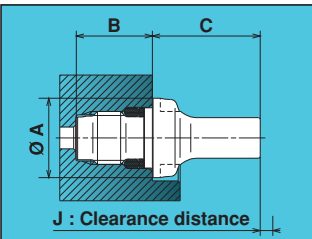
1. Sockets

	Models	Dimensions (mm)				Part Numbers
		E	G	ØH	I	
	SPC 03	32,5	SB	12,5	3,5	SPC 03.2000/IA/JV
	SPC 05	42	DIN472	18,5	4	SPC 05.2000/IA/JV
	SPC 08	46	DIN472	23,5	5	SPC 08.2000/IA/JV
	SPC 12	67,5	DIN472	31,5	5,5	SPC 12.2000/IA/JV

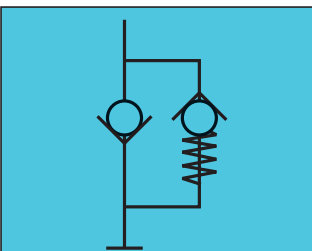
2. Plugs installed recessed in pocket

	Models	Dimensions (mm)				Part Numbers
		ØA	D	C	J	
	SPC 03	12,5	33	12	2	SPC 03.5000/IA/JV
	SPC 05	18,5	43,5	17,5	2	SPC 05.5000/IA/JV
	SPC 08	23,5	49,5	20,5	2	SPC 08.5000/IA/JV
	SPC 12	31,5	64	28	2	SPC 12.5000/IA/JV

3. Screwed plug

	Models	Threading	Dimensions (mm)				Part Numbers
			F	ØA	B	C	
	SPC 03	M8 x 1	12	11,5	16,5	2	SPC 03.5408/IA/MD/JV
	SPC 05	M14 x 1,5	17,5	16	21,5	2	SPC 05.5414/IA/MD/JV
	SPC 08	M18 x 1,5	22	18,5	24,5	2	SPC 08.5418/IA/MD/JV
	SPC 12	M24 x 1,5	28,5	23	32	2	SPC 12.5424/IA/MD/JV

4. Option : sockets with valve to eliminate overpressure in the circuit

	Models	Part Numbers	Opening pressure at ± 5% (bar)
	SPC 03	SPC 03.2000/IA/JV/CD	13
	SPC 05	SPC 05.2000/IA/JV/CD	6,5
	SPC 08	SPC 08.2000/IA/JV/CD	5
	SPC 12	SPC 12.2000/IA/JV/CD	4,3

We retain the right to carry out any modifications to our products without prior notice.



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