

SPC All fluids





Applications

Machine tools :

- Connection and disconnection of machining heads
- Hydraulic clamping and palletisation...

Cooling:

- Inserts and modules on moulds
- Electronics

Perfectly designed...

5 diameters available: 3, 5, 8, 12 and 20 mm

Pollution-preventing flat faced design ensures fluid integrity

- No introduction of air or contaminants into your circuits
- No pollution of the working area
- Cleaning facilitated before connection

Flat faced



Reliability

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

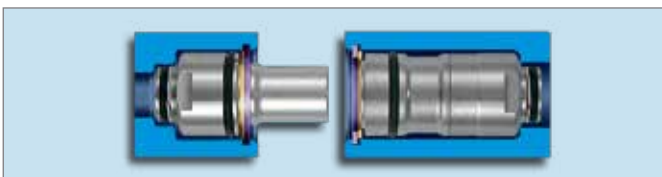
Efficiency

The SPC range is compact and guarantees an excellent flow for minimal outside dimensions, whatever the direction of flow.

In addition, the SPC maintains full flow even if the coupling is not fully connected. This tolerance is 2 mm.

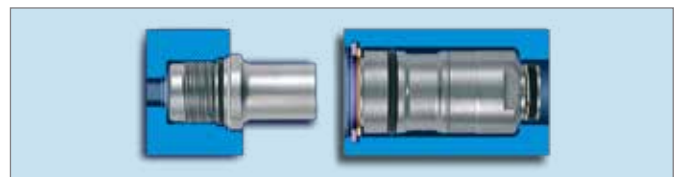
2 possible installation options for complete integration into the machine

Floating on both sides: interface 0



Socket and plug recessed into pocket and fixed onto the machine by elasticated ring.

Rigidly installed plug: interface 0 or 4.2 mm



Socket recessed into pocket and plug screwed into the machine with O ring sealing.

Recessed installation into pocket provides the minimum outside dimensions.

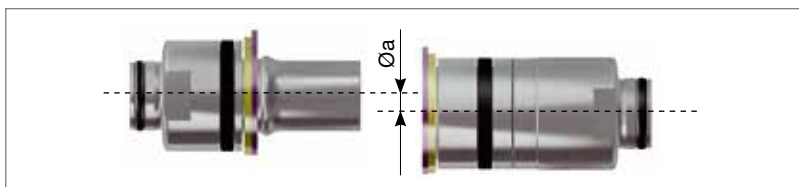
In addition, in the case of floating installation, 0 interface between plug and socket represents extra space saving. Due to the 2 installation options, the SPC can be adapted to all your needs.

... to fully integrate with your machine

Take up of misalignment on connection

- A form of preguiding combined with an elasticated connection permits a take-up of misalignment between plug and socket on connection.
- To ensure take up of misalignment on connection, the pocket centres must be **within the diameter of circle a**.

Take up of all misalignment on connection

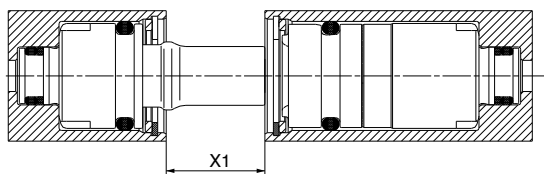


Ø max. a (mm)	SPC 03 - 05 - 08 - 12	SPC 20
"Floating both sides" version	0.5	1.5
"Rigidly installed plug" version	0.25	0.75

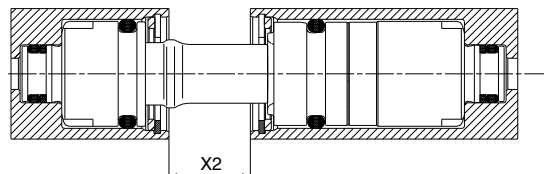
3D files available on request, for perfect integration of the connections into your projects from conception.



Total stroke



Stroke with connection force



X1 and X2 values: see technical data pages 4 and 5.



Technical data

	SPC 03	SPC 05	SPC 08	SPC 12	SPC 20
Nominal bore (mm)	3	5	8	12	20
Max. Working pressure (bar)	450	300	250	160	160
Connection force (N)	45	60	90	160	286
Connection stroke (mm)	$X_1 = 12$ $X_2 = 9.5$	$X_1 = 17.5$ $X_2 = 14.5$	$X_1 = 20.5$ $X_2 = 16.5$	$X_1 = 28$ $X_2 = 23.5$	$X_1 = 40$ $X_2 = 28.4$
Repulsion cross section (cm²)	0.30	0.85	1.77	3.60	9.60
Volume of air introduced* at connection (cm³)	0.002	0.025	0.055	0.063	0.092
Spillage* at disconnection (cm³)	0.002	0.015	0.026	0.038	0.051
Volume of liquid displaced (cm³)					
- Socket side	0.21	1.01	2.26	6.80	24.12
- Plug side	0.17	0.79	2.00	5.59	22.2
Weight (g)					
- Socket	17.5	48.5	81	197.5	515
- Plug in pocket	12	32	62	147	365
- Screwed plug	7	21.5	39	87	290

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

Operating temperatures depending upon the type of seal**

Types of seal	Operating temperatures
Nitrile (NBR)	- 15 to + 100 °
Fluorocarbon (FPM)	- 10 to + 150 °
Ethylene-Propylene (EPDM)***	- 20 to + 150 °

For use outside the indicated temperature ranges: consult us.

** The minimal temperatures of use are given for static conditions and exempt from mechanical stress.

Sealing

3 types of seal:

- Nitrile (NBR)
- Fluorocarbon (FPM)
- Ethylene-Propylene (EPDM)***

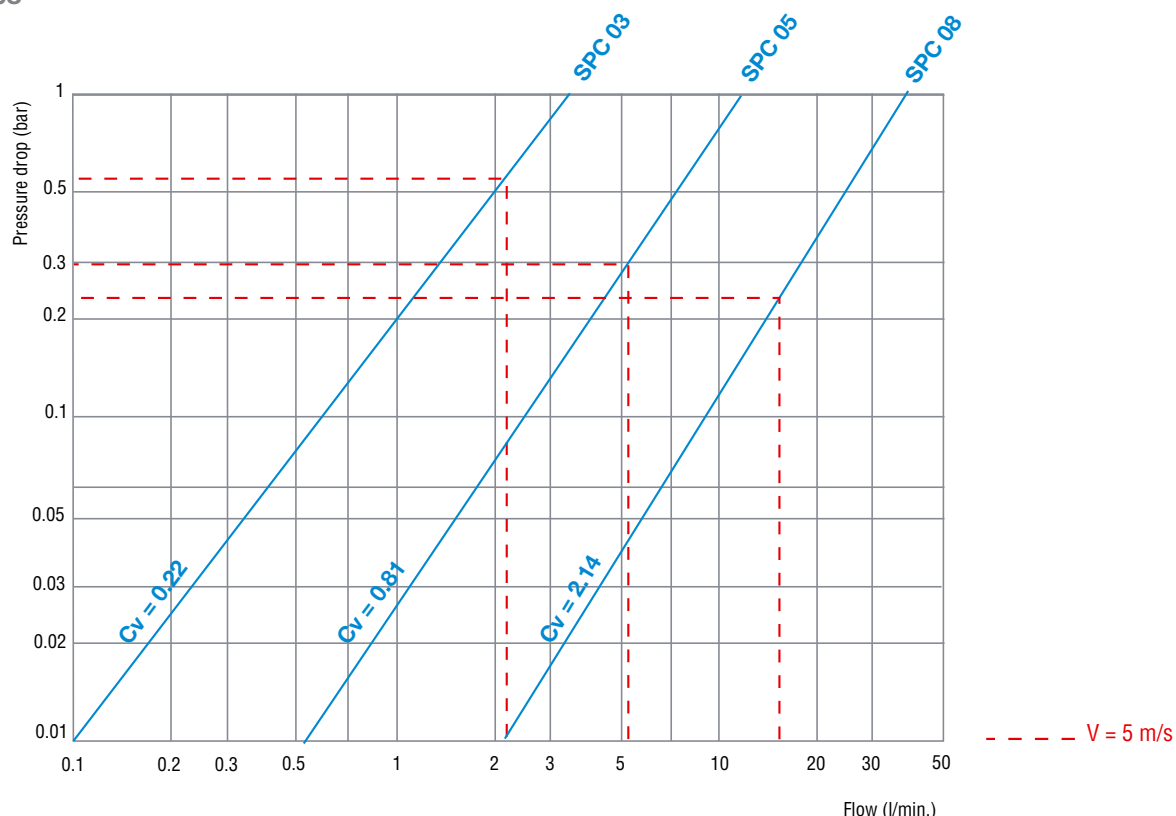
*** Important! The use and any contact of this seal with fluids of mineral origin (oil, fat...) is highly inadvisable.

Construction

High resistance stainless steel.

Hydraulic flow rate / pressure drop charts

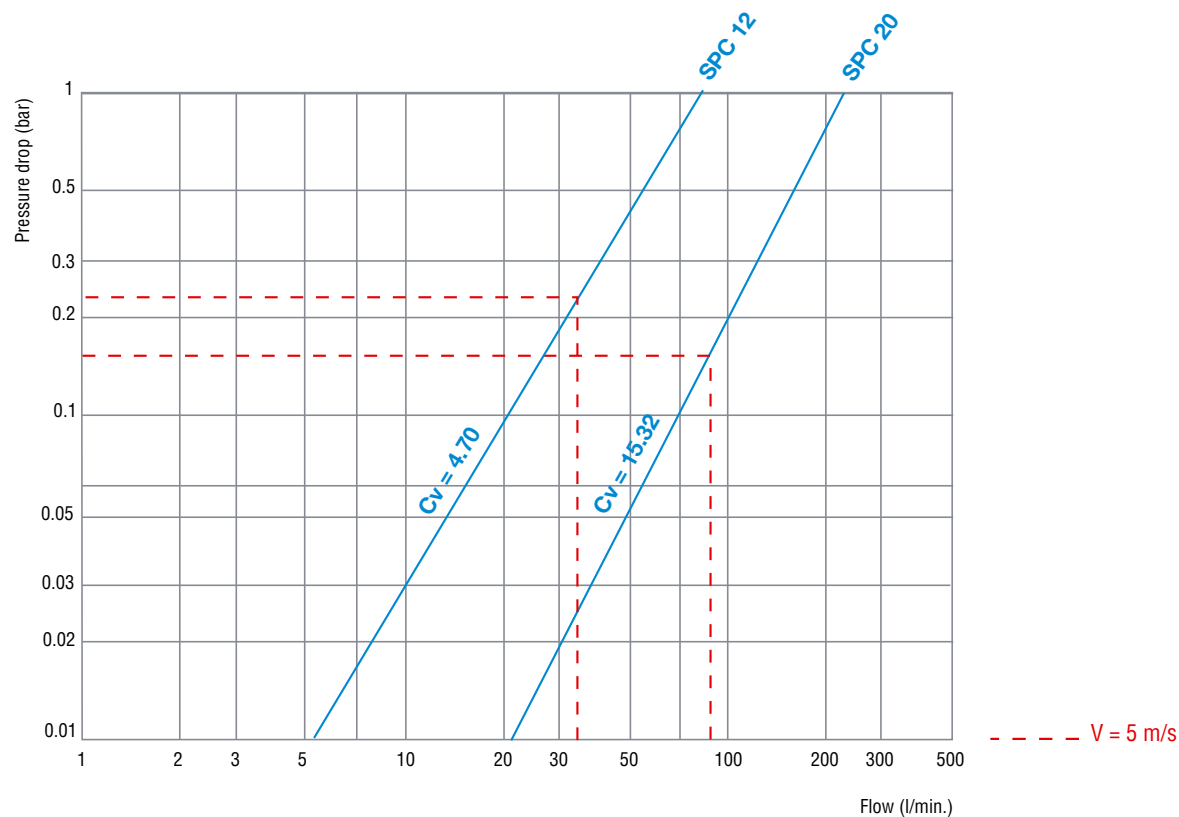
SPC 03, 05 and 08



Test conditions

- Fluid: hydraulic oil INVAROL FJ13 (H515)
- Density: 833 Kg/m³ at 40° C
- Viscosity: 13.4 cSt at 40° C
- Direction of flow: Plug → Socket

SPC 12 and 20

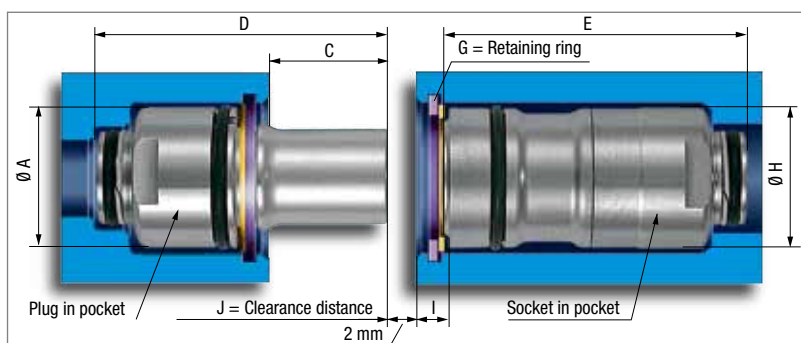


Flow (l/mn) for a speed of 5 m/s

SPC 03	SPC 05	SPC 08	SPC 12	SPC 20
2.1	5.9	15.1	33.9	94.3

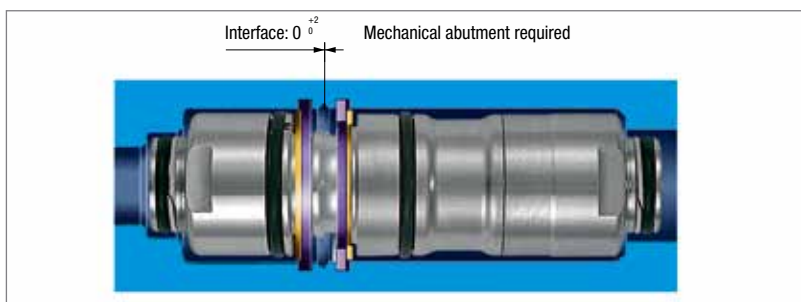
Installation

1 - SPC with socket and plug recessed into pocket

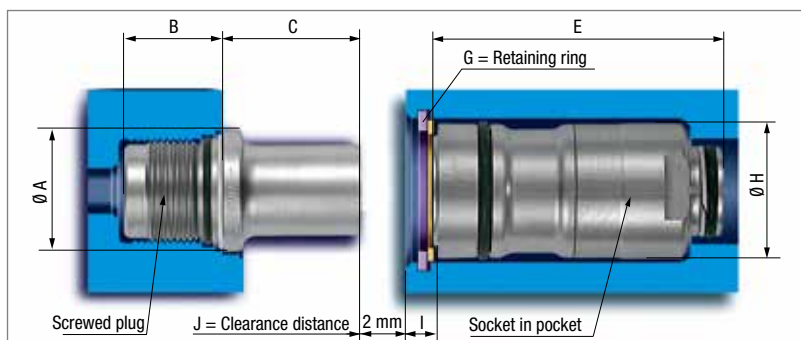


Models	Drawing part-numbers*
SPC 03	R 335 010 10
SPC 05	R 335 011 10
SPC 08	R 335 012 10
SPC 12	R 335 013 10
SPC 20	R 335 015 10

* For design and machining recessed pocket.

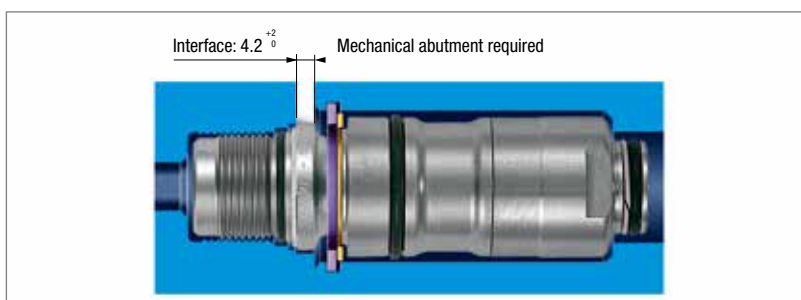


2 - SPC with socket recessed into pocket and screwed plug





Models	Drawing part-numbers*
SPC 03	R 335 010 11
SPC 05	R 335 011 11
SPC 08	R 335 012 11
SPC 12	R 335 013 11
SPC 20	R 335 015 11

* For design and machining recessed pocket.

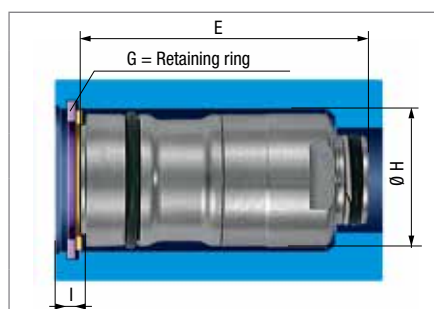


3 - Installation tools

Models	Installation tools for screwed plug		Extractions tools 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
SPC 20		R 135 915 00		R 235 905 01

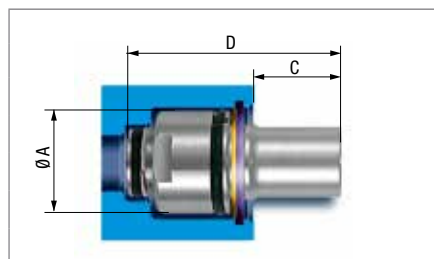
Part-numbers

Sockets



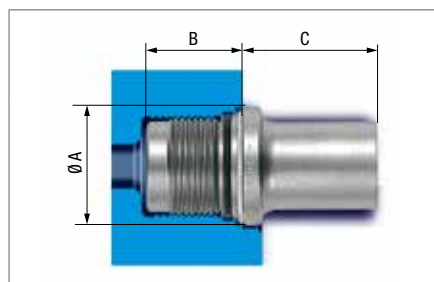
Models	Dimensions (mm)				Part-numbers
	E	G	Ø H	I	
SPC 03	32.5	SB	12.5	3.5	SPC 03.2000/IA
SPC 05	42	DIN 472	18.5	4	SPC 05.2000/IA
SPC 08	46	DIN 472	23.5	5	SPC 08.2000/IA
SPC 12	67.5	DIN 472	31.5	5.5	SPC 12.2000/IA
SPC 20	82	DIN 472	48	11.6	SPC 20.2000/IA

Plugs recessed into pocket



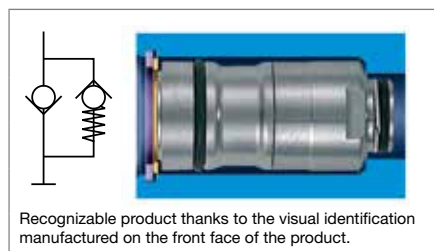
Models	Dimensions (mm)			Part-numbers
	Ø A	D	C	
SPC 03	12.5	33	12	SPC 03.5000/IA
SPC 05	18.5	43.5	17.5	SPC 05.5000/IA
SPC 08	23.5	49.5	20.5	SPC 08.5000/IA
SPC 12	31.5	64	28	SPC 12.5000/IA
SPC 20	46	82	40	SPC 20.5000/IA

Screwed plugs

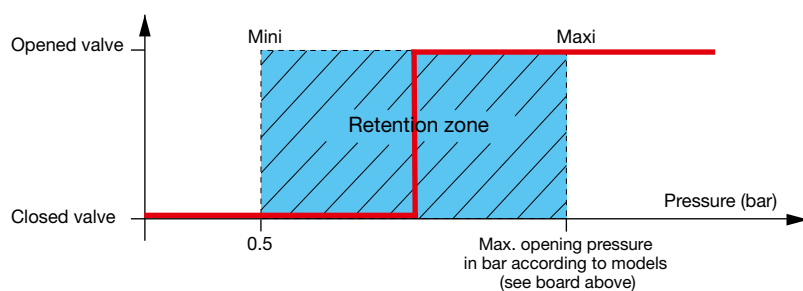


Models	Thread F	Dimensions (mm)			Part-numbers
		Ø A	B	C	
SPC 03	M8 x 1	12	11.5	16.5	SPC 03.5408/IA/MD
SPC 05	M14 x 1.5	17.5	16	21.5	SPC 05.5414/IA/MD
SPC 08	M18 x 1.5	22	18.5	24.5	SPC 08.5418/IA/MD
SPC 12	M24 x 1.5	28.5	23	32	SPC 12.5424/IA/MD
SPC 20	M38 x 1.5	46	30.7	44.5	SPC 20.5438/IA/MD

CD option: sockets with a discharge valve (limit the residual pressures in the circuit)



Models	Part-numbers	Max. opening pressure (bar) (see principal plan below)
SPC 03	SPC 03.2000/IA/CD	15
SPC 05	SPC 05.2000/IA/CD	8.5
SPC 08	SPC 08.2000/IA/CD	7
SPC 12	SPC 12.2000/IA/CD	6



- Nitrile seals in standard
- Other available seals:
 - Fluorocarbon (FPM) seal = add **/JV** code at the end of part-numbers above
 - Ethylene-propylene (EPDM) seal = add **/JE** code at the end of part-numbers above

We reserve the right to modify product specification without prior notice.

For contact details: www.staubli.com/connectors/contacts



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Stäubli Faverges - CS 30070 - F - 74210 Faverges - Tel.: +33 4 50 65 67 97 - Fax: +33 4 50 65 60 69 - E-mail: connectors.sales@staubli.com
www.staubli.com

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