FAST MOVING TECHNOLOGY



# Quick-release couplings SPT/CG

# **Thermal management**



# Performance and safety combined...





### Fluids:

- Glycol water
- Heat transfer oil
- Cooling water
- etc.

### **Applications:**

- Cooling electronic components:
  - converters
  - medical imaging
  - telecommunications, data centers
  - radars, etc
- Thermoregulation
- Water cooling unit (chiller)





# ...to ensure perfect integration into your applications

### Flush-face technology

To guarantee the integrity of the fluids; no pollution enters the circuits on connection or disconnection of the coupling.

### **Non-spill couplings**

- Ensures the integrity of the installations and the safety of the operators.
- No environmental contamination caused by fluid loss on disconnection.
- Suitable for electrical and high voltage environments.

# Secure locking and high strength materials

- Due to the large number of balls, locking is extremely strong and ideally suited to harsh conditions. (e.g. shocks and vibrations).
- The SPT range is designed to resist corrosion and withstand corrosive fluids.

### **Optimum flow rates**

The internal design of SPT couplings guarantees the lowest possible pressure loss resulting in optimal flow.

### **Compactness and lightness**

To achieve the compact size and lightweight design, the materials used for construction are special aluminium alloys.

### **Compatible solutions**

A wide choice of elastomers enables the SPT range to be compatible with the majority of fluids and covers a wide range of temperatures.

### **Protection of installations**

During disconnection your circuits may be exposed to heat which causes pressure to rise. To combat this, we offer a pressure release valve (PRV) option.

### **CAD** models

To help support you from the design stages of your projects, Staubli can provide CAD models of our SPT range.

### The opportunity to spend less and contribute to a sustainable development program.

With Stäubli, you can rely on the performance of your equipment, reliability of long-term investments and no workplace pollution.

## **TECHNICAL SPECIFICATIONS**

Types of seals	Code	Operating temperatures (°C)
Nitrile	Standard	-15° to +100°
Fluorocarbon	JV	-10° to +200°
Perfluoroelastomer in the fluid (other: Fluorocarbon)	JKV	0° to +200°
Fluorosilicone	JS3	-40° to +175° (down to -50° depending on the fluid)
Ethylene-propylene	JE	-20° to +150°

SPT couplings are delivered with Nitrile seals as standard, for other types of seals, add its code to the end of the part number. E.g.: SPT 05.1101/L/CG/JV for a SPT with a Fluorocarbon seal.

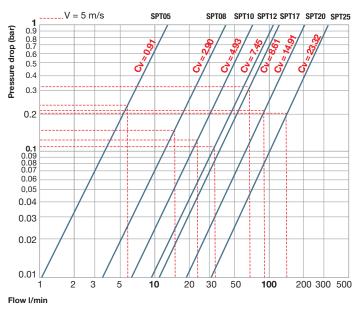
		SPT 05	SPT 08	SPT 10	SPT 12	SPT 17	SPT 20	SPT 25
Nominal diameter DN (mm)		5	8	10	12	17	20	25
Maximum allowable pressure (bar)	from -40° to +150°C	40	20	20	20	20	20	16
With a temperature (C $^{\circ}$ )	from +150° to +200°C	13	7	7	7	7	7	5
Shut off		double						

**Recommendation:** The working temperatures and pressures are given for the plug /socket sets. It is essential to ensure that the other components in the circuit are also appropriate for the application (hoses, connectors, etc).

# Construction

Aluminium alloy with surface treatment.

# Hydraulic charts flow rate / pressure drop



### **Test conditions:**

Direction of flow: plug ----- socket

• Plugs and sockets used: male threaded versions

# Sealing kits



KES sealing kits consist of a retaining ring and O-ring to create a perfect seal between the couplings and its base. Sockets

and plugs that are compatible with this option are indicated by the e symbol.

### KES kits to be ordered separately:

Threads	Part numbers
G 1/4	KES 01.9101/L
G 3/8	KES 01.9102/L
G 1/2	KES 01.9103/L
G 3/4	KES 01.9104/L
G 1	KES 01.9105/L
G 1 1/4	KES 01.9106/L

### Construction: aluminium ring.

Available with 4 grades of seals: add the seal code at the end of the KES part numbers.

KES kit seal	Seal code
Nitrile	no code
Fluorocarbon compatible with SPT equipped with perfluoroelastomer	/JV
Fluorosilicone	/JS3
Ethylene-propylene	/JE



SPT 05 socket	S	Threading F	Weight (g)	Reference mated position*	Part numbers
Female thread	2.15 2 flats = 0.71	G 1/4	34	L1 = 50.3 mm	SPT 05.1101/L/CG
Male threading with 60° cone	2 flats = 0.71	G 1/4	33	L1 = 41.3 mm	SPT 05.1151/L/CG
JIC male threading	2 flats = 0.71	UNF 9/16" – DASH 06	18" JIC 33	L1 = 41.2 mm	SPT 05.1655/L/CG
Panel mounted, JIC male threading	1.00 1.79 hex. = 0.75 0.05 H12 0.18 max. 0.04 min. 2 flats = 0.71	UNF 9/16" – DASH 06	18" JIC 40	L1 = 41.2 mm	SPT 05.2655/L/CG

\*panel machining

SPT 05 plugs		Threading F	Weight (g)	Reference mated position*	Part numbers
Female thread	1.91 hex. = 0.67	G 1/4	16	L2 = 31.7 mm	SPT 05.7101/L/CG
Male threading with 60° cone	1.28 0.55 hex. = 0.67	G 1/4	11	L2 = 15.7 mm	SPT 05.7151/L/CG
JIC male threading	1.28 0.55 hex. = 0.67	UNF 9/16" – 18" JIC DASH 06	12	L2 = 15.7 mm	SPT 05.7655/L/CG
Panel mounted. JIC male threading	1.31 0.98 hex. = 0.75 hex. = 0.67 0.18 max. 0.04 min.	UNF 9/16" – 18" JIC DASH 06	19	L2 = 15.7 mm	SPT 05.5655/L/CG



For pressure release valve, please contact us for more information.

SPT 08 sock	ets		Threading F	Weight (g)	Reference mated position*	Part numbers
Female thread	2 flats = 0.83		G 3/8	57	L1 = 53.7 mm	SPT 08.1102/L/CG
Male threadi with 60° con	-	1.83	G 3/8	53	L1 = 40.6 mm	SPT 08.1152/L/CG
JIC male threading	2 flats = 0.94	1.83	UNF 3/4" – 16" JIC DASH 08	57	L1 = 40.6 mm	SPT 08.1656/L/CG
Panel mounted, JIC male threading	1.15 hex. = 0.98 0.76 H12 0.18 max. 0.04 min.	1.83	UNF 3/4" – 16" JIC DASH 08	70	L1 = 40.6 mm	SPT 08.2656/L/CG

\*panel machining

SPT 08 plugs		Threading F	Weight (g)	Reference mated position*	Part numbers
Female thread	2.24 hex. = 0.83	G 3/8	29	L2 = 36.3 mm	SPT 08.7102/L/CG
Male threading with 60° cone	1.59 0.47 8) u hex. = 0.83	G 3/8	22	L2 = 19.7 mm	SPT 08.7152/L/CG
JIC male threading	1.59 0.66 hex. = 0.83	UNF 3/4" – 16" JIC DASH 08	25	L2 = 19.7 mm	SPT 08.7656/L/CG
Panel mounted. JIC male threading	1.59 1.15 hex. = 0.98 0.18 max. 0.04 min.	UNF 3/4" – 16" JIC DASH 08	38	L2 = 19.7 mm	SPT 08.5656/L/CG

\*Dimension in mated position: L = L1 + L2





SPT 10 socket	S	Threading F	Weight (g)	Reference mated position*	Part numbers
Female thread	3.19 2 flats = 1.18	G 1/2	121	L1 = 74 mm	SPT 10.1103/L/CG
Male threading with 60° cone	9 2 flats = 1.18	G 1/2	111	L1 = 59 mm	SPT 10.1153/L/CG
JIC male threading	2 flats = 1.18	UNF 7/8" – 14" JIC DASH 10	115	L1 = 59 mm	SPT 10.1657/L/CG
Panel mounted, JIC male threading	1.35 2.60 hex. = 1.18 .0.88 H12 .0.04 min. 2 flats = 1.18	UNF 7/8" – 14" JIC DASH 10	161	L1 = 59 mm	SPT 10.2657/L/CG
*panel machining					
SPT 10 plugs		Threading F	Weight (g)	Reference mated position*	Part numbers
Female thread	2.99	G 1/2	68	L2 = 44.4 mm	SPT 10.7103/L/CG

	hex. = 1.06				
Male threading with 60° cone	2.22 0.55 8 u hex. = 1.06	G 1/2	50	L2 = 24.8 mm	SPT 10.7153/L/CG
JIC male threading	2.22 0.76 hex. = 1.06	UNF 7/8" – 14" JIC DASH 10	56	L2 = 24.8 mm	SPT 10.7657/L/CG
Panel mounted. JIC male threading	2.22 1.35 hex. = 1.18 hex. = 1.18 hex. = 1.18 0.20 max 0.04 min.	UNF 7/8" – 14" JIC DASH 10	100	L2 = 24.8 mm	SPT 10.5657/L/CG

\*Dimension in mated position: L = L1 + L2



thread thread $\underbrace{I_{\text{threading}}}_{2 \text{ flats = 1.42}} \qquad G \ 3/4 \qquad 181 \qquad L1 = 77.6 \text{ mm} \qquad SPT \ 12.1154/L/CG$ $\underbrace{I_{\text{streading}}}_{2 \text{ flats = 1.42}} \qquad \underbrace{I_{\text{streading}}}_{2  flats = 1.4$	SPT 12 sockets	Threading F	Weight (g)	Reference mated position*	Part numbers
with 60° cone 2  flats = 1.42 JIC male threading 2  flats = 1.42 UNF 1 1/16" - 12" JIC DASH 12 UNF 1 1/16" - 12" JIC DASH 12 L1 = 77.6 mm SPT 12.1658/L/CG	thread	G 3/4	188	L1 = 92.1 mm	SPT 12.1104/L/CG
JIC male threading       UNF 1 1/16" - 12" JIC       185       L1 = 77.6 mm       SPT 12.1658/L/CG         Panel mounted. JIC male $\frac{1.56}{hex.= 36}$ $\frac{3.33}{hex.= 36}$ UNF 1 1/16" - 12" JIC       223       L1 = 75.2 mm       SPT 12.2658/L/CG	with 60° cone	G 3/4	181	L1 = 77.6 mm	SPT 12.1154/L/CG
mounted. JIC male $\frac{1.56}{\text{hex.} = 36}$ $3.33$	threading		185	L1 = 77.6 mm	SPT 12.1658/L/CG
*panel machining $22 \text{ max.}$ $2 \text{ flats = 1.42}$	mounted. JIC male threading		223	L1 = 75.2 mm	SPT 12.2658/L/CG

SPT 12 plugs		Threading F	Weight (g)	Reference mated position*	Part numbers
Female thread	3.46	G 3/4	92	L2 = 50.1 mm	SPT 12.7104/L/CG
	hex. = 1.18				
Male threading with 60° cone	2.58 0.63	G 3/4	74	L2 = 27.6 mm	SPT 12.7154/L/CG
	hex. = 1.18				
JIC male threading	2.58	UNF 1/16" – 12" JIC DASH 12	76	L2 = 27.6 mm	SPT 12.7658/L/CG
	hex. = 1.18				
Panel mounted. JIC male	2.58 1.55 hex. = 1.42	UNF 1/16" – 12" JIC DASH 12	116	L2 = 27.6 mm	SPT 12.5658/L/CG
threading	hex. = 1.18				
*panel machining	0.22 max. 0.04 min.				

\*Dimension in mated position: L = L1 + L2





Female 4.70				Part numbers
thread	G 3/4	299	L1 = 110.5 mm	SPT 17.1104/L/CG
$\frac{1}{2 \text{ flats} = 1.61}$				
Male threading with 60° cone	G 3/4	301	L1 = 98 mm	SPT 17.1154/L/CG
2 flats = 1.61				
	UNF 1 5/16" – 12" JIC DASH 16	307	L1 = 98 mm	SPT 17.1659/L/CG
2 flats = 1.61				
mounted.	UNF 1 5/16" – 12" JIC DASH 16	354	L1 = 98 mm	SPT 17.2659/L/CG
JIC male threading *panel machining				

SPT 17 plugs		Threading F	Weight (g)	Reference mated position*	Part numbers
Female thread	3.84	G 3/4	131	L2 = 53.6 mm	SPT 17.7104/L/CG
Male threading with 60° cone	3.05 0.63 0.63 0.63 0.63 0.64 0.63 0.64 0.64 0.63	G 3/4	111	L2 = 33.6 mm	SPT 17.7154/L/CG
JIC male threading	3.05 0.91 hex. = 1.42	UNF 1 5/16" – 12" JIC DASH 16	141	L2 = 33.6 mm	SPT 17.7659/L/CG
Panel mounted. JIC male threading	3.05 hex. = 1.61 hex. = 1.42 0.22 max. 0.04 min.	UNF 1 5/16" – 12" JIC DASH 16	214	L2 = 33.6 mm	SPT 17.5659/L/CG

\*Dimension in mated position: L = L1 + L2



SPT 20 sockets	Threading F	Weight (g)	Reference mated position*	Part numbers
Female thread	G 1	464	L1 = 131.1 mm	SPT 20.1105/L/CG
Male threading with 60° cone	G 1	455	L1 = 116.1 mm	SPT 20.1155/L/CG
JIC male threading	UNF 1 5/8" – 12" JIC DASH 20	466	L1 = 116 mm	SPT 20.1660/L/CG
Panel mounted. JIC male threading	UNF 1 5/8" – 12" JIC DASH 20	622	L1 = 116 mm	SPT 20.2660/L/CG

SPT 20 plugs		Threading F	Weight (g)	Reference mated position*	Part numbers
Female thread	4.65	G 1	235	L2 = 62.6 mm	SPT 20.7105/L/CG
Male threading with 60° cone	3.64 0.79 0.79 0.79 0.79 0.79 0.79 0.4	G 1	201	L2 = 37.1 mm	SPT 20.7155/L/CG
JIC male threading	3.64 0.96 hex. = 1.81	UNF 1 5/8" – 12" JIC DASH 20	205	L2 = 37.1 mm	SPT 20.7660/L/CG
Panel mounted. JIC male threading	3.64 hex. = 1.97 hex. = 1.81 0.22 max. 0.04 min.	UNF 1 5/8" – 12" JIC DASH 20	360	L2 = 37.1 mm	SPT 20.5660/L/CG

\*Dimension in mated position: L = L1 + L2





SPT 25 sockets	Threading F	Weight (g)	Reference mated position*	Part numbers
Female thread	G 1 1/4	826	L1 = 171 mm	SPT 25.1106/L/CG
Male threading with 60° cone	G 1 1/4	822	L1 = 153.5 mm	SPT 25.1156/L/CG
JIC male threading	UNF 1 7/8" – 12" JIC DASH 24	834	L1 = 153.5 mm	SPT 25.1661/L/CG
Panel mounted. JIC male threading	UNF 1 7/8" – 12" JIC DASH 24	1 112	L1 = 153.5 mm	SPT 25.2661/L/CG
*panel machining $0.22 \text{ max.}$ $2 \text{ flats} = 2.36$				

SPT 25 plugs		Threading F	Weight (g)	Reference mated position*	Part numbers
Female thread	5.59 hex. = 2.17	G 1 1/4	15.431	L2 = 76.7 mm	SPT 25.7106/L/CG
Male threading with 60° cone	4.49 0.83 00 u hex. = 2.17	G 1 1/4	381	L2 = 76.7 mm	SPT 25.7156/L/CG
JIC male threading	4.49 hex. = 2.17	UNF 1 7/8" – 12" JIC DASH 24	398	L2 = 48.7 mm	SPT 25.7661/L/CG
Panel mounted. JIC male threading	4.49 hex. = 2.36 hex. = 2.17 0.22 max. 0.04 min.	UNF 1 7/8" – 12" JIC DASH 24	675	L2 = 48.7 mm	SPT 25.5661/L/CG

\*Dimension in mated position: L = L1 + L2





• Stäubli Units O Representatives/Agents

# Global presence of the Stäubli Group

www.staubli.com

Staubli is a trademark of Stäubli International AG, registered in Switzerland and other countries. © Stäubli 2022. We reserve the right to modify product specifications without prior notice. corporate.communications@staubli.com | Photocredits: Stäubli, Sémaphore, Thinkstockphotos, Fotolia.com / Fir.

