

FAST MOVING TECHNOLOGY

*STÄUBLI*

# 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 light-weight 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 Staubli, 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.

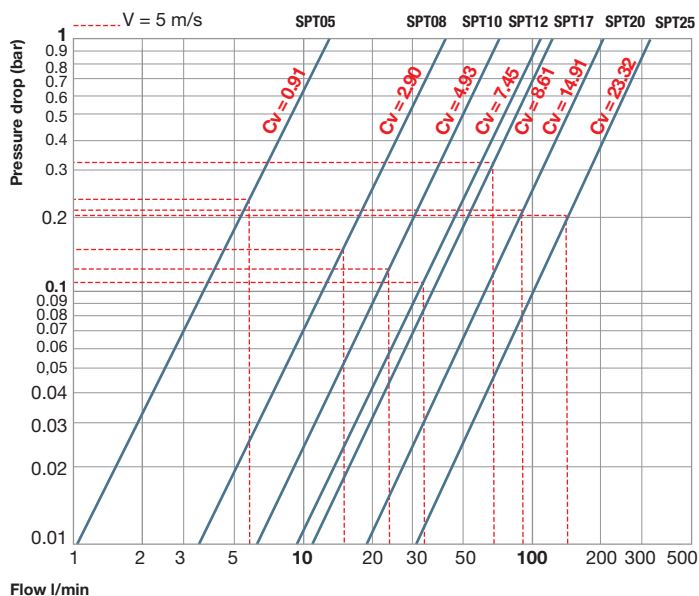
	SPT 05	SPT 08	SPT 10	SPT 12	SPT 17	SPT 20	SPT 25
Nominal diameter DN (mm)	5	8	10	12	17	20	25
Maximum allowable pressure (bar) With a temperature (C°)	from -40° to +150°C	40	20	20	20	20	16
	from +150° to +200°C	13	7	7	7	7	5
Shut off	double						

**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  symbol.

### KES kits to be ordered separately:

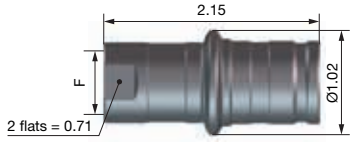
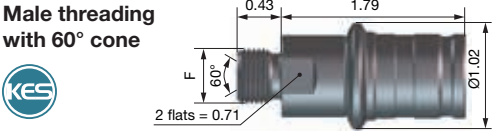
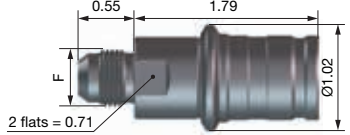
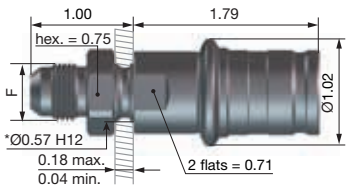
Threads	Part numbers
G 1/4	KES 01.9101/L
G 3/8	KES 01.9102/L
G 1/2	KES 01.9103/L
G 3/4	KES 01.9104/L
G 1	KES 01.9105/L
G 1 1/4	KES 01.9106/L

**Construction:** aluminium ring.

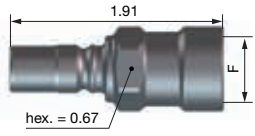

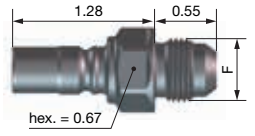
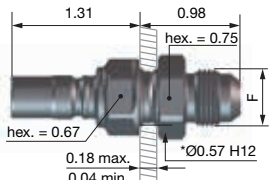
**Available with 4 grades of seals:** add the seal code at the end of the KES part numbers.

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

PART NUMBERS

SPT 05 sockets	Threading F	Weight (g)	Reference mated position*	Part numbers
<b>Female thread</b> 	G 1/4	34	L1 = 50.3 mm	SPT 05.1101/L/CG
<b>Male threading with 60° cone</b> 	G 1/4	33	L1 = 41.3 mm	SPT 05.1151/L/CG
<b>JIC male threading</b> 	UNF 9/16" – 18" JIC DASH 06	33	L1 = 41.2 mm	SPT 05.1655/L/CG
<b>Panel mounted, JIC male threading</b> 	UNF 9/16" – 18" JIC DASH 06	40	L1 = 41.2 mm	SPT 05.2655/L/CG

\*panel machining

SPT 05 plugs	Threading F	Weight (g)	Reference mated position*	Part numbers
<b>Female thread</b> 	G 1/4	16	L2 = 31.7 mm	SPT 05.7101/L/CG
<b>Male threading with 60° cone</b> 	G 1/4	11	L2 = 15.7 mm	SPT 05.7151/L/CG
<b>JIC male threading</b> 	UNF 9/16" – 18" JIC DASH 06	12	L2 = 15.7 mm	SPT 05.7655/L/CG
<b>Panel mounted, JIC male threading</b> 	UNF 9/16" – 18" JIC DASH 06	19	L2 = 15.7 mm	SPT 05.5655/L/CG

\*panel machining

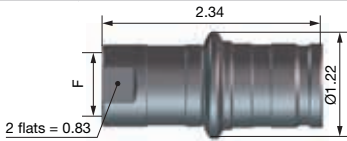
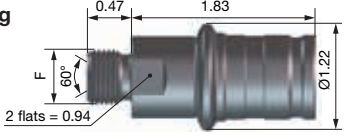
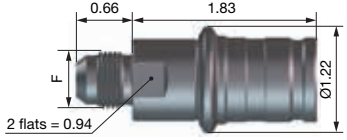
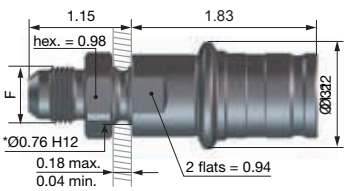
\*Dimension in mated position: L = L1 + L2



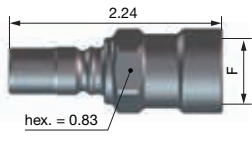
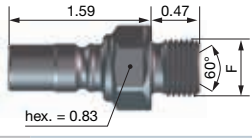
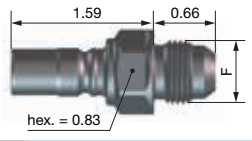
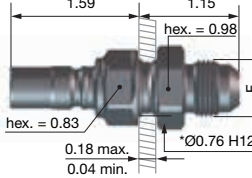
For pressure release valve, please contact us for more information.



## PART NUMBERS

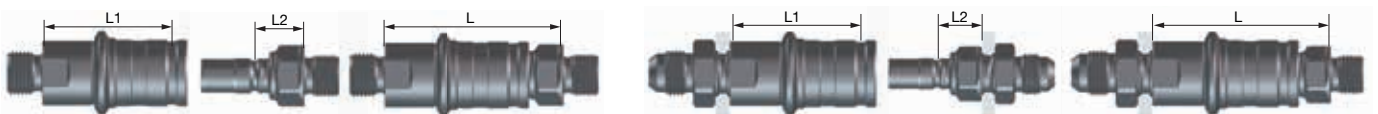
SPT 08 sockets	Threading F	Weight (g)	Reference mated position*	Part numbers
<b>Female thread</b> 	G 3/8	57	L1 = 53.7 mm	<b>SPT 08.1102/L/CG</b>
<b>Male threading with 60° cone</b> 	G 3/8	53	L1 = 40.6 mm	<b>SPT 08.1152/L/CG</b>
<b>JIC male threading</b> 	UNF 3/4" – 16" JIC DASH 08	57	L1 = 40.6 mm	<b>SPT 08.1656/L/CG</b>
<b>Panel mounted, JIC male threading</b> 	UNF 3/4" – 16" JIC DASH 08	70	L1 = 40.6 mm	<b>SPT 08.2656/L/CG</b>

\*panel machining

SPT 08 plugs	Threading F	Weight (g)	Reference mated position*	Part numbers
<b>Female thread</b> 	G 3/8	29	L2 = 36.3 mm	<b>SPT 08.7102/L/CG</b>
<b>Male threading with 60° cone</b> 	G 3/8	22	L2 = 19.7 mm	<b>SPT 08.7152/L/CG</b>
<b>JIC male threading</b> 	UNF 3/4" – 16" JIC DASH 08	25	L2 = 19.7 mm	<b>SPT 08.7656/L/CG</b>
<b>Panel mounted, JIC male threading</b> 	UNF 3/4" – 16" JIC DASH 08	38	L2 = 19.7 mm	<b>SPT 08.5656/L/CG</b>

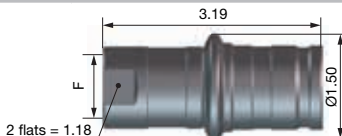
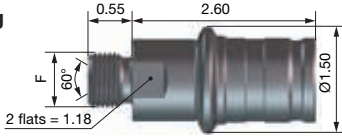
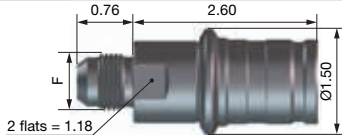
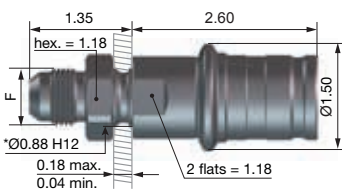
\*panel machining

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

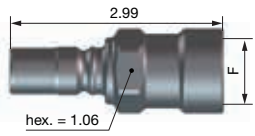
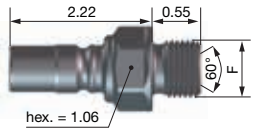
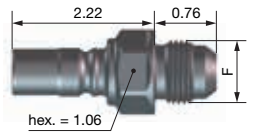
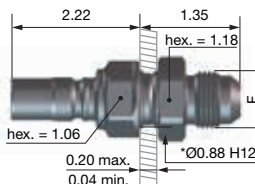


SPT couplings are delivered with Nitrile seals as standard, for other types of seals, add its code to the end of the part number (page 4). For pressure release valve, please contact us for more information.

PART NUMBERS

SPT 10 sockets	Threading F	Weight (g)	Reference mated position*	Part numbers
<b>Female thread</b> 	G 1/2	121	L1 = 74 mm	SPT 10.1103/L/CG
<b>Male threading with 60° cone</b> 	G 1/2	111	L1 = 59 mm	SPT 10.1153/L/CG
<b>JIC male threading</b> 	UNF 7/8" – 14" JIC DASH 10	115	L1 = 59 mm	SPT 10.1657/L/CG
<b>Panel mounted, JIC male threading</b> 	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
<b>Female thread</b> 	G 1/2	68	L2 = 44.4 mm	SPT 10.7103/L/CG
<b>Male threading with 60° cone</b> 	G 1/2	50	L2 = 24.8 mm	SPT 10.7153/L/CG
<b>JIC male threading</b> 	UNF 7/8" – 14" JIC DASH 10	56	L2 = 24.8 mm	SPT 10.7657/L/CG
<b>Panel mounted, JIC male threading</b> 	UNF 7/8" – 14" JIC DASH 10	100	L2 = 24.8 mm	SPT 10.5657/L/CG

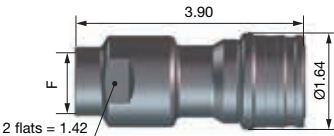

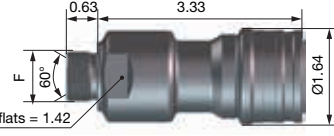
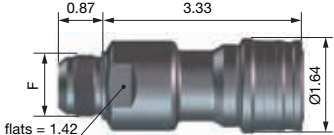
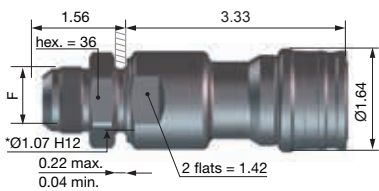
\*panel machining

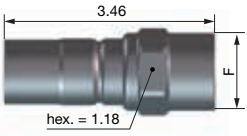

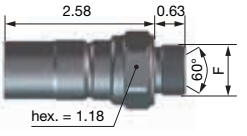

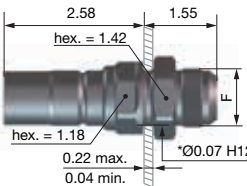
\*Dimension in mated position: L = L1 + L2



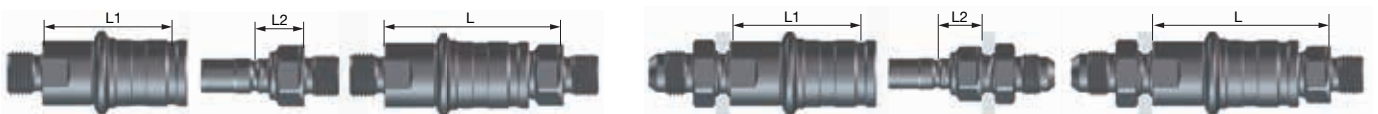
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 For pressure release valve, please contact us for more information.

## PART NUMBERS

SPT 12 sockets	Threading F	Weight (g)	Reference mated position*	Part numbers
<b>Female thread</b> 	G 3/4	188	L1 = 92.1 mm	<b>SPT 12.1104/L/CG</b>
<b>Male threading with 60° cone</b>  	G 3/4	181	L1 = 77.6 mm	<b>SPT 12.1154/L/CG</b>
<b>JIC male threading</b> 	UNF 1 1/16" – 12" JIC DASH 12	185	L1 = 77.6 mm	<b>SPT 12.1658/L/CG</b>
<b>Panel mounted. JIC male threading</b> 	UNF 1 1/16" – 12" JIC DASH 12	223	L1 = 75.2 mm	<b>SPT 12.2658/L/CG</b>

SPT 12 plugs	Threading F	Weight (g)	Reference mated position*	Part numbers
<b>Female thread</b> 	G 3/4	92	L2 = 50.1 mm	<b>SPT 12.7104/L/CG</b>
<b>Male threading with 60° cone</b>  	G 3/4	74	L2 = 27.6 mm	<b>SPT 12.7154/L/CG</b>
<b>JIC male threading</b> 	UNF 1/16" – 12" JIC DASH 12	76	L2 = 27.6 mm	<b>SPT 12.7658/L/CG</b>
<b>Panel mounted. JIC male threading</b> 	UNF 1/16" – 12" JIC DASH 12	116	L2 = 27.6 mm	<b>SPT 12.5658/L/CG</b>

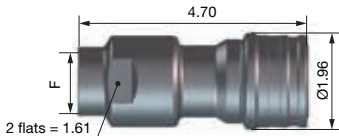
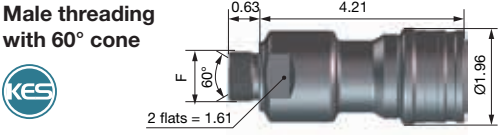
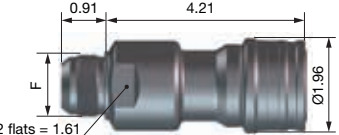
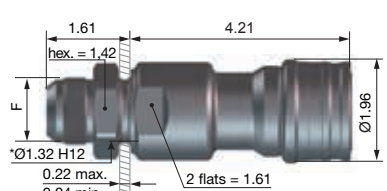
\*Dimension in mated position:  $L = L1 + L2$



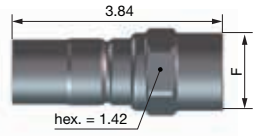

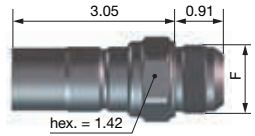
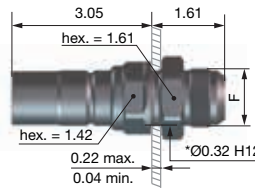
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PART NUMBERS

SPT 17 sockets	Threading F	Weight (g)	Reference mated position*	Part numbers
<b>Female thread</b> 	G 3/4	299	L1 = 110.5 mm	SPT 17.1104/L/CG
<b>Male threading with 60° cone</b> 	G 3/4	301	L1 = 98 mm	SPT 17.1154/L/CG
<b>JIC male threading</b> 	UNF 1 5/16" - 12" JIC DASH 16	307	L1 = 98 mm	SPT 17.1659/L/CG
<b>Panel mounted. JIC male threading</b> 	UNF 1 5/16" - 12" JIC DASH 16	354	L1 = 98 mm	SPT 17.2659/L/CG

\*panel machining

SPT 17 plugs	Threading F	Weight (g)	Reference mated position*	Part numbers
<b>Female thread</b> 	G 3/4	131	L2 = 53.6 mm	SPT 17.7104/L/CG
<b>Male threading with 60° cone</b> 	G 3/4	111	L2 = 33.6 mm	SPT 17.7154/L/CG
<b>JIC male threading</b> 	UNF 1 5/16" - 12" JIC DASH 16	141	L2 = 33.6 mm	SPT 17.7659/L/CG
<b>Panel mounted. JIC male threading</b> 	UNF 1 5/16" - 12" JIC DASH 16	214	L2 = 33.6 mm	SPT 17.5659/L/CG

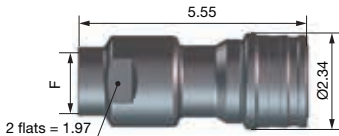
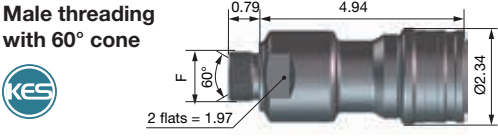
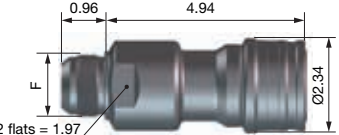
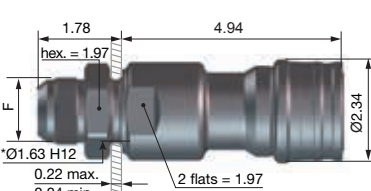
\*panel machining

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

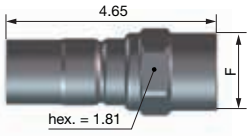
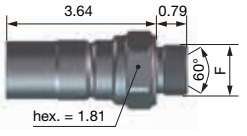

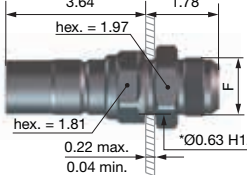


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## PART NUMBERS

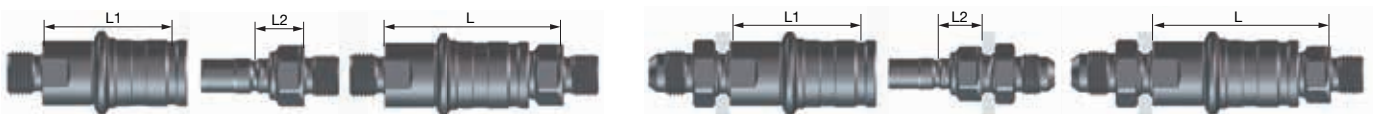
SPT 20 sockets	Threading F	Weight (g)	Reference mated position*	Part numbers
<b>Female thread</b> 	G 1	464	L1 = 131.1 mm	<b>SPT 20.1105/L/CG</b>
<b>Male threading with 60° cone</b> 	G 1	455	L1 = 116.1 mm	<b>SPT 20.1155/L/CG</b>
<b>JIC male threading</b> 	UNF 1 5/8" – 12" JIC DASH 20	466	L1 = 116 mm	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

\*panel machining

SPT 20 plugs	Threading F	Weight (g)	Reference mated position*	Part numbers
<b>Female thread</b> 	G 1	235	L2 = 62.6 mm	<b>SPT 20.7105/L/CG</b>
<b>Male threading with 60° cone</b> 	G 1	201	L2 = 37.1 mm	<b>SPT 20.7155/L/CG</b>
<b>JIC male threading</b> 	UNF 1 5/8" – 12" JIC DASH 20	205	L2 = 37.1 mm	<b>SPT 20.7660/L/CG</b>
<b>Panel mounted. JIC male threading</b> 	UNF 1 5/8" – 12" JIC DASH 20	360	L2 = 37.1 mm	<b>SPT 20.5660/L/CG</b>

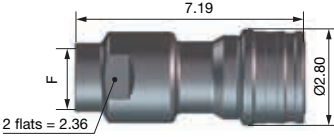
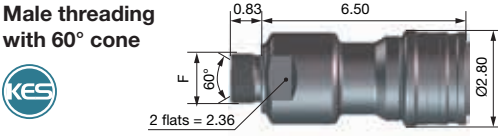
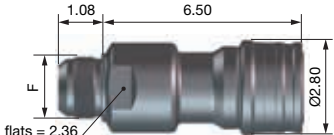
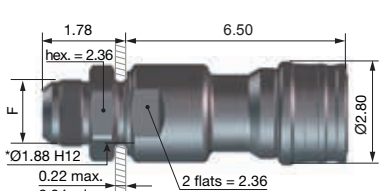
\*panel machining

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

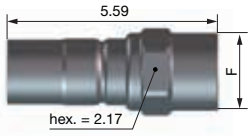

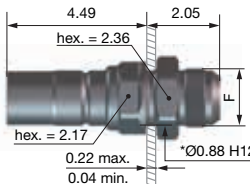


SPT couplings are delivered with Nitrile seals as standard, for other types of seals, add its code to the end of the part number (page 4). For pressure release valve, please contact us for more information.

PART NUMBERS

SPT 25 sockets	Threading F	Weight (g)	Reference mated position*	Part numbers
<b>Female thread</b> 	G 1 1/4	826	L1 = 171 mm	SPT 25.1106/L/CG
<b>Male threading with 60° cone</b> 	G 1 1/4	822	L1 = 153.5 mm	SPT 25.1156/L/CG
<b>JIC male threading</b> 	UNF 1 7/8" – 12" JIC DASH 24	834	L1 = 153.5 mm	SPT 25.1661/L/CG
<b>Panel mounted. JIC male threading</b> 	UNF 1 7/8" – 12" JIC DASH 24	1 112	L1 = 153.5 mm	SPT 25.2661/L/CG

\*panel machining

SPT 25 plugs	Threading F	Weight (g)	Reference mated position*	Part numbers
<b>Female thread</b> 	G 1 1/4	15.431	L2 = 76.7 mm	SPT 25.7106/L/CG
<b>Male threading with 60° cone</b> 	G 1 1/4	381	L2 = 76.7 mm	SPT 25.7156/L/CG
<b>JIC male threading</b> 	UNF 1 7/8" – 12" JIC DASH 24	398	L2 = 48.7 mm	SPT 25.7661/L/CG
<b>Panel mounted. JIC male threading</b> 	UNF 1 7/8" – 12" JIC DASH 24	675	L2 = 48.7 mm	SPT 25.5661/L/CG

\*panel machining

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



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