

FAST MOVING TECHNOLOGY

*STÄUBLI*

# Quick-release couplings NCB

All fluid



Reliable and versatile connections for all industry sectors





**Visual identification**

To ensure clear identification of the different circuits we can offer red or blue sleeves for the operators ease.

**Compatible with the SCB range**

The new NCB range is fully compatible with the previous SCB range, which enables our customers to interchange with their existing connectors and only replace them as required.

**Flush-face technology**

Stäubli's flush-face technology guarantees clean connection and disconnection, without spillage. It's anti-pollution features ensures no pollution of the circuits or the environment.

**Locking options**

- 3 locking versions are available:
- Ball locking system (standard option)
  - Safety locking system (VS option)
  - Screw locking system (VR option for higher pressure levels).

**Easy cleaning**

The high quality surface finish and systematic electrolytic polishing in the fluid stream allows for easy and efficient cleaning.

**Corrosion resistance**

The NCB range is constructed from mainly 316L stainless steel.

**A full range**


NCB products are available in four nominal bore diameters: 04, 08, 12 and 20 mm making them compatible with a wide variety of assemblies, as well as being easily adaptable to pre-existing system interfaces (bulkheads, threads etc.). Different seal types are also available.

**Traceability of material**

Traceability of components and products, from metal casting right through to the finished connector, is available on request from Stäubli.

**Industries**

- Chemical
- Agri-food
- Railway
- Automotive
- Maritime
- Nuclear
- Electronics cooling
- Plastics
- Oil and gas, etc.

 **The opportunity to spend less and contribute to a sustainable development programme**

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

# Technical specifications

## Construction

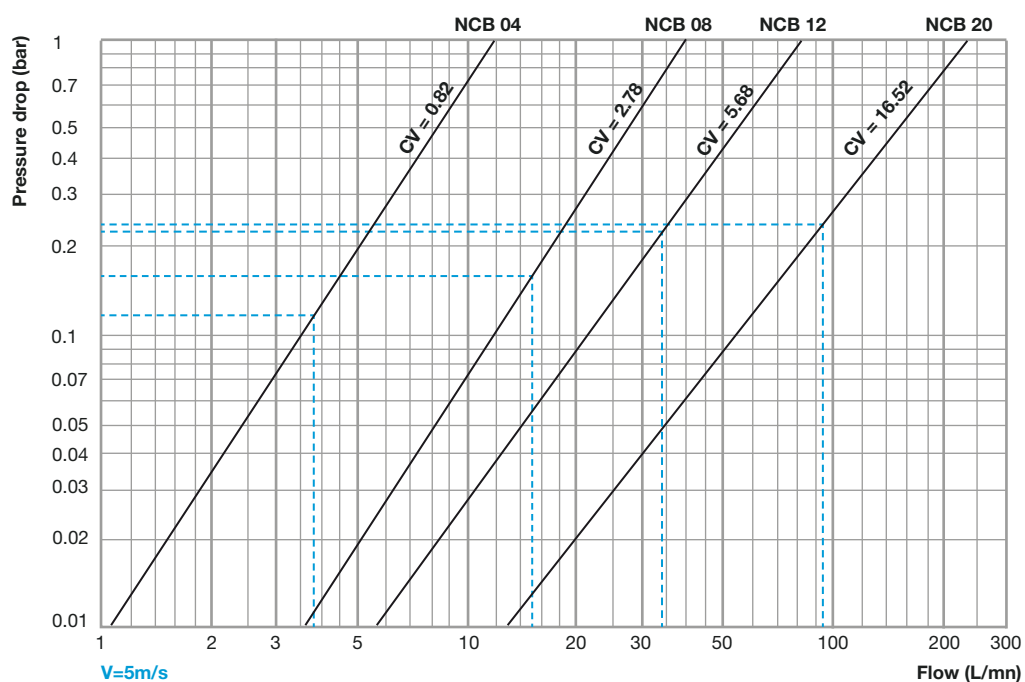
- Mainly stainless steel 316 series.  
Please contact us for further information.
- Sealing
  - Nitrile seal (NBR), as standard
  - Other seal materials available, please see page 6
- Identification sleeves (available in red or blue), are made of light anodised alloy
- Protective caps:
  - On the sockets: POM.H
  - On the plugs: Chloroprene

## Recommendations for use

- For heat transfer fluids, hydrofluorocarbons and other fluids with degreasing properties: please contact us for further recommendations.
- To ensure efficient operation of our connectors, maximum particle size should not exceed 100 µm.



## Hydraulic flow rate / pressure drop charts



**Direction of flow:**  
Plug → Socket

**Test conditions:**

- Water
- Density: 998 kg/m<sup>3</sup>
- Viscosity: 1,08 cSt

PART NUMBERS

# NCB 04 & NCB 08

		NCB 04	NCB 08	
<b>Bore diameters (mm)</b>		4	8	
<b>Bore section (mm<sup>2</sup>)</b>		12,5	50	
<b>Version</b>		Automatic	Automatic	Screw locking
<b>Maximum allowable pressure</b>		160	80	160
<b>PS (bar)</b>	With JS3 seal	50	50	50
<b>Vacuum retention in connected and disconnected positions (Ncm<sup>3</sup>/s)</b>		1.10 <sup>-3</sup>	1.10 <sup>-3</sup>	1.10 <sup>-3</sup>
<b>Minimum and maximum allowable temperatures TS (°C), without cap, according to seal type</b>	Standard nitrile (NBR)	- 15°C to + 100°C	- 15°C to + 100°C	
	Fluorocarbon (JV)	- 10°C to + 200°C	- 10°C to + 200°C	
	Ethylene Propylene (JE)	- 20°C to + 150°C	- 20°C to + 150°C	
	Perfluoroelastomer (JK)	0°C to + 250°C	0°C to + 250°C	
	Fluorosilicone (JS3)	- 45°C to + 175°C	- 45°C to + 175°C	
<b>Minimum and maximum allowable temperatures TS (°C) for using cap</b>		- 20°C to + 100°C		- 20°C to + 100°C
<b>Loss of fluid on disconnection (cm<sup>3</sup>)</b>		0.0035	0.0116	0.0116

# NCB 12 & NCB 20

		NCB 12		NCB 20	
<b>Bore diameters (mm)</b>		12		20	
<b>Bore section (mm<sup>2</sup>)</b>		113		314	
<b>Version</b>		Automatic	Screw locking	Automatic	Screw locking
<b>Maximum allowable pressure</b>		80	160	100	160
<b>PS (bar)</b>	With JS3 seal	50	50	50	50
<b>Vacuum retention in connected and disconnected positions (Ncm<sup>3</sup>/s)</b>		1.10 <sup>-3</sup>	1.10 <sup>-3</sup>	-	1.10 <sup>-3</sup>
<b>Minimum and maximum allowable temperatures TS (°C), without cap, according to seal type</b>	Standard nitrile (NBR)	- 15°C to + 100°C		- 15°C to + 100°C	
	Fluorocarbon (JV)	- 10°C to + 200°C		- 10°C to + 200°C	
	Ethylene Propylene (JE)	- 20°C to + 150°C		- 20°C to + 150°C	
	Perfluoroelastomer (JK)	0°C to + 250°C		0°C to + 250°C	
	Fluorosilicone (JS3)	- 45°C to + 175°C		- 45°C to + 175°C	
<b>Minimum and maximum allowable temperatures TS (°C) for using cap</b>		- 20°C to + 100°C		- 20°C to + 100°C	
<b>Loss of fluid on disconnection (cm<sup>3</sup>)</b>		0.0200	0.0200	0.0500	0.2300



# Part Numbers & options

To create your part number, select the standard part number, (and in the order as shown below), select the type of seal (other than nitrile) and then any other additions.

Example of a complete part number with options:

NCBXX.XXX / IC / VS / JV / KR  
1   2   3   4

\*VS option is unavailable on diameter 20mm nominal bore.

\*\*In compliance with FDA requirements

\*\*\*In compliance with requirements for class VI - 70°C of the in vivo §<88> tests according to USP34, National Formulary 29 of 2011.

\*\*\*\*RD option unavailable on NCB 04, NCB 04/VR and NCB 20/VR.

1	<b>Standard part number with nitrile seal</b>	(pages 7 to 11)
2	<b>Type of locking</b>	
	Safety locking*	VS
	Screw locking	VR
3	<b>Seal type (except for nitrile)</b>	
	Fluorocarbon (FPM)	JV
	Ethylene Propylene (EPDM)	JE
	Ethylene Propylene (EPDM) with FDA** option	JE/FDA
	Ethylene Propylene (EPDM) with USP*** option	JE/USP
	Perfluoroelastomer (FFKM)	JK
	Fluorosilicone (FMQ)	JS3
4	<b>Identification using colour-coded ring or sleeve except for NCB 20</b>	
	Red	KR
	Blue	KB
5	<b>Type of spring</b>	
	Hard spring ****	RD

## Sealing kits KES (to be ordered separately)



KES sealing kits consist of a retaining ring and O-ring to create a perfect seal between the socket or plug and it's base.

Part numbers that are compatible with this option are indicated with the symbol in the part number tables on pages 7 to 11.

Select the specific ring and seal materials for your application using our brochure: KES RP0030101.

## Socket part numbers



**Length of the socket/plug combination in the couple position:**

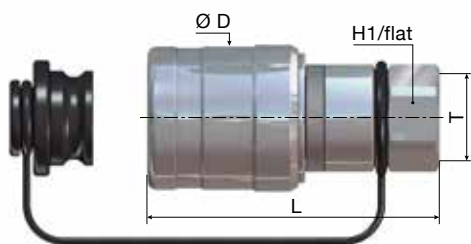
$$L = (L \text{ Socket} + L \text{ plug}) - X$$

Model	NCB 04	NCB 08	NCB 12	NCB 20
Length X (mm)	13.7	17.8	22.6	30.3



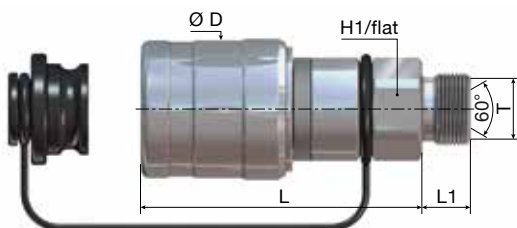
PART NUMBERS

Female thread sockets



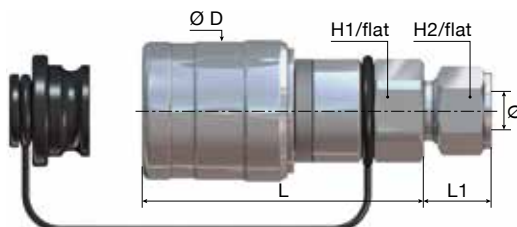
Models	Thread T	Sizes				Part numbers
		Ø D	L	L1	H1/flat	
NCB 04	G 1/4	31	65		19	NCB 04.1101/IC
	NPT 1/4	31	65		19	NCB 04.1201/IC
	Rc 1/4	31	65		19	NCB 04.1111/IC
	UN 7/16 - 20	31	65		19	NCB 04.1311/IC
NCB 08	G 1/2	40.5	81		27	NCB 08.1103/IC
	NPT 1/2	40.5	81		27	NCB 08.1203/IC
	Rc 1/2	40.5	81		27	NCB 08.1113/IC
	UN 9/16	40.5	81		27	NCB 08.1314/IC
NCB 12	G 3/4	52	90.5		90.5	NCB 12.1104/IC
	NPT 3/4	52	90.5		90.5	NCB 12.1204/IC
	Rc 3/4	52	90.5		90.5	NCB 12.1114/IC
	UN 7/8 - 14	52	90.5		90.5	NCB 12.1322/IC
NCB 20	G 1	69	112.5		41	NCB 20.1105/IC
	NPT 1	69	112.5		41	NCB 20.1205/IC
	Rc 1	69	112.5		41	NCB 20.1115/IC

Male thread sockets cone 60°



NCB 04	G 1/4	31	65	11	19	NCB 04.1151/IC
NCB 08	G 1/2	40.5	81	14	27	NCB 08.1153/IC
NCB 12	G 3/4	52	90.5	16	32	NCB 12.1154/IC
NCB 20	G 1	69	112.5	20	41	NCB 20.1155/IC

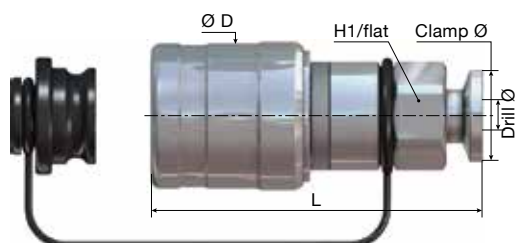
Sockets for calibrated\* stainless steel tubing



Models	Outer tubing Ø	Sizes					Part numbers
		Ø D	L	L1	H1/flat	H2/flat	
NCB 04	8 mm	31	65	17	19	17	NCB 04.1768/IC
NCB 08	12 mm	40.5	81	19.5	27	22	NCB 08.1772/IC

\* Features of stainless steel tubing: in compliance with ISO 1127 standard class D4 and ASTM A269 class 1 (Assembly instructions RV 1300 100).

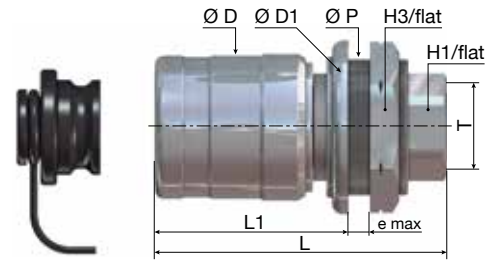
Clamp sockets



Models	Clamp Ø	Drill Ø	Sizes		Part numbers
			Ø D	L	
NCB 04	25 mm	4.57 mm	31	75	NCB 04.1025
NCB 08	25 mm	10.3 mm	40.5	81	NCB 08.1025
	50 mm	18.1 mm	40.5	90	NCB 08.1050
NCB 12	50 mm	18.1 mm	52	100	NCB 12.1050
NCB 20	50 mm	27.7 mm	69	124.5	NCB 20.1050

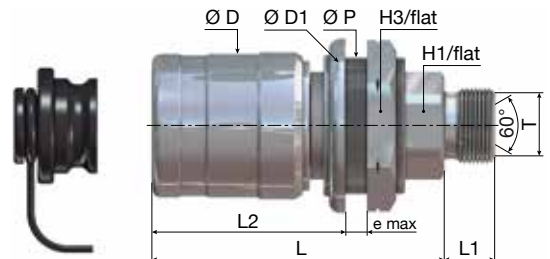
# PART NUMBERS

## Panel mount female thread sockets



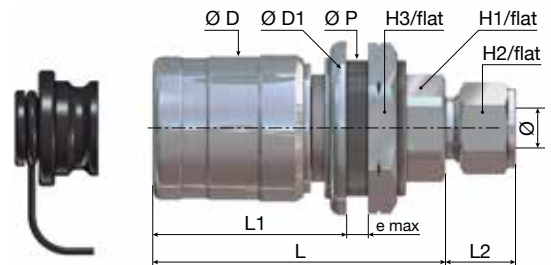
Models	Thread T	Sizes								Part numbers
		Ø D	Ø D1	L	L1	H1/flat	H3/flat	Ø P	e max	
NCB 04	G 1/4	31	37	65	44.5	19	32	28	6	<b>NCB 04.2101/IC</b>
	NPT 1/4	31	37	65	44.5	19	32	28	6	<b>NCB 04.2201/IC</b>
	Rc 1/4	31	37	65	44.5	19	32	28	6	<b>NCB 04.2111/IC</b>
	UN 7/16 - 20	31	37	65	44.5	19	32	28	6	<b>NCB 04.2311/IC</b>
NCB 08	G 1/2	40.5	48	81	53.5	27	41	38	9	<b>NCB 08.2103/IC</b>
	NPT 1/2	40.5	48	81	53.5	27	41	38	9	<b>NCB 08.2203/IC</b>
	Rc 1/2	40.5	48	81	53.5	27	41	38	9	<b>NCB 08.2113/IC</b>
	UN 9/16 - 18	40.5	48	81	53.5	27	41	38	9	<b>NCB 08.2314/IC</b>
NCB 12	G 3/4	52	60	90.5	60	32	55	50	9	<b>NCB 12.2104/IC</b>
	NPT 3/4	52	60	90.5	60	32	55	50	9	<b>NCB 12.2204/IC</b>
	Rc 3/4	52	60	90.5	60	32	55	50	9	<b>NCB 12.2114/IC</b>
	UN 7/8 - 14	52	60	90.5	60	32	55	50	9	<b>NCB 12.2322/IC</b>

## Panel mount male thread cone 60° sockets



Models	Thread T	Sizes								Part numbers	
		Ø D	Ø D1	L	L1	L2	H1/flat	H3/flat	Ø P		e max
NCB 04	G 1/4	31	37	65	11	44.5	19	32	28	6	<b>NCB 04.2151/IC</b>
NCB 08	G 1/2	40.5	48	81	14	53.5	27	41	38	9	<b>NCB 08.2153/IC</b>
NCB 12	G 3/4	52	60	90.5	16	60	32	55	50	9	<b>NCB 12.2154/IC</b>

## Panel mount sockets for calibrated\* stainless steel tubing

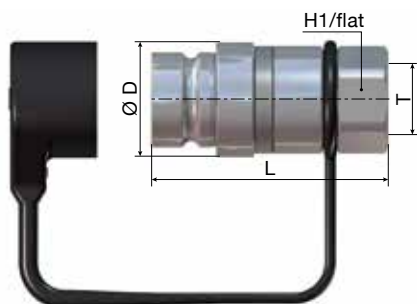


Models	Ø ext. tube	Sizes									Part numbers	
		Ø D	Ø D1	L	L1	L2	H1/flat	H2/flat	H3/flat	Ø P		e max
NCB 04	8 mm	31	37	65	44.5	44.5	19	17	32	28	6	<b>NCB 04.2768/IC</b>
NCB 08	12 mm	40.5	48	81	53.5	53.5	27	22	41	38	9	<b>NCB 08.2772/IC</b>

\* Features of stainless steel tubing: in compliance with ISO 1127 standard class D4 and ASTM A269 class 1 (Assembly instructions RV 1300 100).

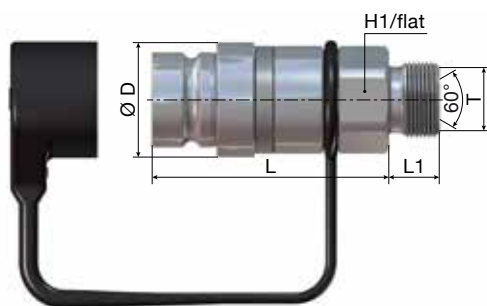
PART NUMBERS

Female thread plugs



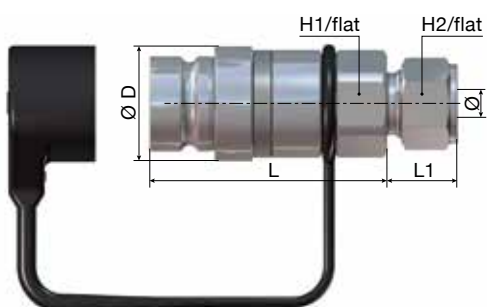
Models	Thread T	Sizes			Part numbers
		Ø D	L	H1/flat	
NCB 04	G 1/4	23	55.5	19	NCB 04.7101/IC
	NPT 1/4	23	55.5	19	NCB 04.7201/IC
	Rc 1/4	23	55.5	19	NCB 04.7111/IC
	UN 7/16 - 20	23	55.5	19	NCB 04.7311/IC
NCB 08	G 1/2	32	65.5	27	NCB 08.7103/IC
	NPT 1/2	32	65.5	27	NCB 08.7203/IC
	Rc 1/2	32	65.5	27	NCB 08.7113/IC
	UN 9/16	32	65.5	27	NCB 08.7314/IC
NCB 12	G 3/4	42	75	32	NCB 12.7104/IC
	NPT 3/4	42	75	32	NCB 12.7204/IC
	Rc 3/4	42	75	32	NCB 12.7114/IC
	UN 7/8 - 14	42	75	32	NCB 12.7322/IC
NCB 20	G 1	58	96	41	NCB 20.7105/IC
	NPT 1	58	96	41	NCB 20.7205/IC
	Rc 1	58	96	41	NCB 20.7115/IC

Male thread plugs with cone 60°



Models	Thread T	Sizes				Part numbers
		Ø D	L	L1	H1/flat	
NCB 04	G 1/4	23	55.5	11	19	NCB 04.7151/IC
NCB 08	G 1/2	32	65.5	14	27	NCB 08.7153/IC
NCB 12	G 3/4	42	75	16	32	NCB 12.7154/IC
NCB 20	G 1	58	96	20	41	NCB 20.7155/IC

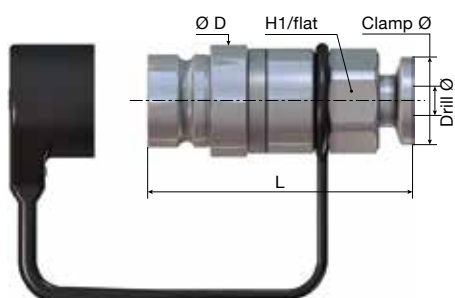
Plugs for calibrated\* stainless steel tubing



Models	Outer tubing Ø	Sizes					Part numbers
		Ø D	L	L1	H1/flat	H2/flat	
NCB 04	8 mm	23	55.5	17	19	17	NCB 04.7768/IC
NCB 08	12 mm	32	65.5	19.5	27	22	NCB 08.7772/IC

\* Features of stainless steel tubing: in compliance with ISO 1127 standard class D4 and ASTM A269 class 1 (Assembly instructions RV 1300 100).

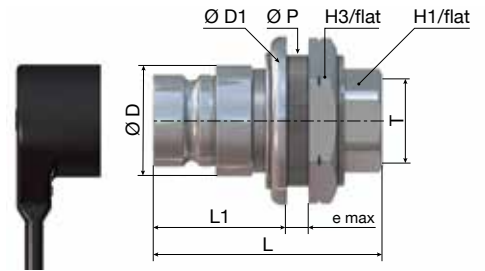
Clamp plugs



Models	Clamp Ø	Drill Ø	Sizes		Part numbers
			Ø D	L	
NCB 04	25 mm	4.57 mm	23	65.5	NCB 04.7025
NCB 08	25 mm	10.3 mm	32	75.5	NCB 08.7025
	50 mm	18.1 mm	32	74.5	NCB 08.7050
NCB 12	50 mm	18.1 mm	42	84.5	NCB 12.7050
NCB 20	50 mm	27.7 mm	58	108	NCB 20.7050

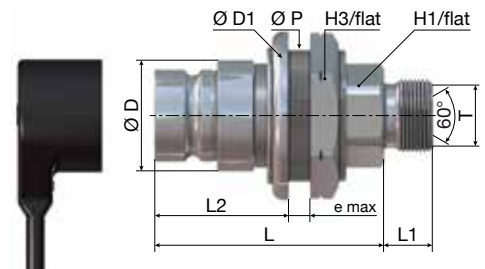
# PART NUMBERS

## Panel mount female thread plugs



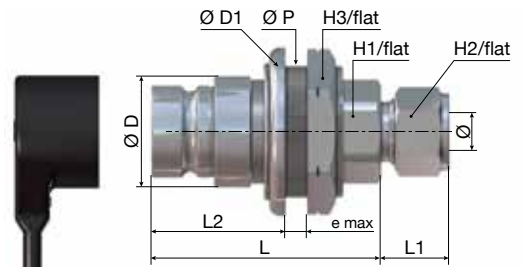
Models	Thread T	Sizes								Part numbers
		Ø D	Ø D1	L	L1	H1/flat	H3/flat	Ø P	e max	
NCB 04	G 1/4	23	37	55.5	35	19	32	28	6	NCB 04.5101/IC
	NPT 1/4	23	37	55.5	35	19	32	28	6	NCB 04.5201/IC
	Rc 1/4	23	37	55.5	35	19	32	28	6	NCB 04.5111/IC
	UN 7/16 - 20	23	37	55.5	35	19	32	28	6	NCB 04.5311/IC
NCB 08	G 1/2	32	48	65.5	38	27	41	38	9	NCB 08.5103/IC
	NPT 1/2	32	48	65.5	38	27	41	38	9	NCB 08.5203/IC
	Rc 1/2	32	48	65.5	38	27	41	38	9	NCB 08.5113/IC
	UN 9/16 - 18	32	48	65.5	38	27	41	38	9	NCB 08.5314/IC
NCB 12	G 3/4	42	60	75	45	32	55	50	9	NCB 12.5104/IC
	NPT 3/4	42	60	75	45	32	55	50	9	NCB 12.5204/IC
	Rc 3/4	42	60	75	45	32	55	50	9	NCB 12.5114/IC
	UN 7/8 - 14	42	60	75	45	32	55	50	9	NCB 12.5322/IC

## Panel mount male thread cone 60° plugs



Models	Thread T	Sizes								Part numbers	
		Ø D	Ø D1	L	L1	L2	H1/flat	H3/flat	Ø P		e max
NCB 04	G 1/4	23	37	55.5	11	35	19	32	28	6	NCB 04.5151/IC
NCB 08	G 1/2	32	48	65.5	14	38	27	41	38	9	NCB 08.5153/IC
NCB 12	G 3/4	42	60	75	16	45	32	55	50	9	NCB 12.5154/IC

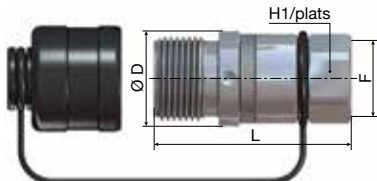



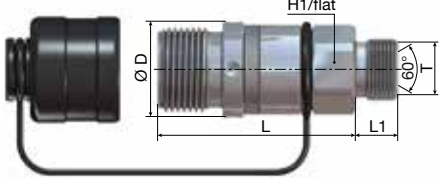



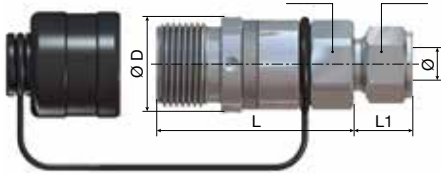
## Panel mount plugs for calibrated\* stainless steel tubing



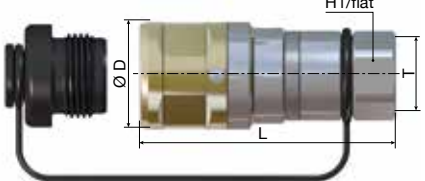



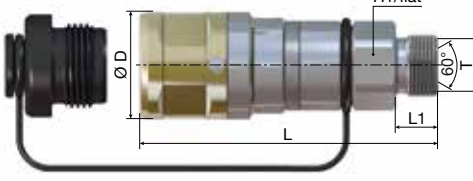



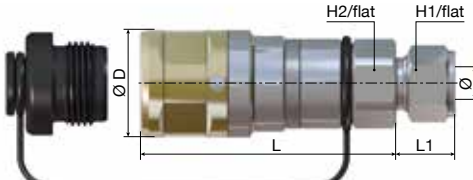
Models	Outer tubing Ø	Sizes										Part numbers
		Ø D	Ø D1	L	L1	L2	H1/flat	H2/flat	H3/flat	Ø P	e max	
NCB 04	8 mm	23	37	72.5	17	35	19	17	32	28	6	NCB 04.5768/IC
NCB 08	12 mm	32	48	65.5	19.5	38	27	22	41	38	9	NCB 08.5772/IC

\* Features of stainless steel tubing: in compliance with ISO 1127 standard class D4 and ASTM A269 class 1 (Assembly instructions RV 1300 100).

PART NUMBERS

Sockets to be screwed	Models	Thread T	Sizes			Part numbers	
			Ø D	L	H1/flat		
<b>Female thread sockets</b> 	NCB 08	 G 1/2	32	65.5	27	NCB 08.1103/IC/VR	
		Rc 1/2	32	65.5	27	NCB 08.1113/IC/VR	
		NPT 1/2	32	65.5	27	NCB 08.1203/IC/VR	
		UN 9/16 - 18	32	65.5	27	NCB 08.1314/IC/VR	
	NCB 12	 G 3/4	43	75	32	NCB 12.1104/IC/VR	
		NPT 3/4	43	75	32	NCB 12.1204/IC/VR	
		Rc 3/4	43	75	32	NCB 12.1114/IC/VR	
		UN 7/8 - 14	43	75	32	NCB 12.1322/IC/VR	
	NCB 20	 G 1	61	96	41	NCB 20.1105/IC/VR	
		NPT 1	61	96	41	NCB 20.1205/IC/VR	
		Rc 1	61	96	41	NCB 20.1115/IC/VR	
	<b>Male thread sockets cone 60°</b> 	Models	Thread T	Sizes			
			Ø D	L	L1	H1/flat	
NCB 08		 G 1/2	32	65.5	14	27	NCB 08.1153/IC/VR
NCB 12		 G 3/4	43	75	16	32	NCB 12.1154/IC/VR
NCB 20		 G 1	61	96	20	41	NCB 20.1155/IC/VR
<b>Sockets for calibrated* stainless steel tubing</b> 	Models	Outer tubing Ø	Sizes				Part numbers
			Ø D	L	L1	H1/flat	
NCB 08	12 mm	32	85	19,5	27	22	NCB 08.1772/IC/VR

\* Features of stainless steel tubing: in compliance with ISO 1127 standard class D4 and ASTM A269 class 1 (Assembly instructions RV 1300 100).

PLUGS to be screwed	Models	Thread T	Sizes			Part numbers	
			Ø D	L	H1/flat		
<b>Female thread plugs</b> 	NCB 08	 G 1/2	35.5	84.5	27	NCB 08.7103/IC/VR	
		NPT 1/2	35.5	84.5	27	NCB 08.7113/IC/VR	
		Rc 1/2	35.5	84.5	27	NCB 08.7203/IC/VR	
		UN 9/16 - 18	35.5	84.5	27	NCB 08.7314/IC/VR	
	NCB 12	 G 3/4	46.5	94.5	32	NCB 12.7104/IC/VR	
		NPT 3/4	46.5	94.5	32	NCB 12.7204/IC/VR	
		Rc 3/4	46.5	94.5	32	NCB 12.7114/IC/VR	
		UN 7/8 - 14	46.5	94.5	32	NCB 12.7322/IC/VR	
	NCB 20	 G 1	64.5	117	41	NCB 20.7105/IC/VR	
		NPT 1	64.5	117	41	NCB 20.7205/IC/VR	
		Rc 1	64.5	117	41	NCB 20.7115/IC/VR	
	<b>Male thread plugs with cone 60°</b> 	Models	Thread T	Sizes			Part numbers
			Ø D	L	L1	H1/flat	
NCB 08		 G 1/2	35.5	65.5	14	27	NCB 08.7153/IC/VR
NCB 12		 G 3/4	46.5	94.5	16	32	NCB 12.7154/IC/VR
NCB 20		 G 1	64.5	117	20	41	NCB 20.7155/IC/VR
<b>Plugs for calibrated* stainless steel tubing</b> 	Models	Outer tubing Ø	Sizes				Part numbers
			Ø D	L	L1	H1/flat	
NCB 08	12 mm	35.5	84.5	19.5	22	27	NCB 08.7772/IC/VR

\* Features of stainless steel tubing: in compliance with ISO 1127 standard class D4 and ASTM A269 class 1 (Assembly instructions RV 1300 100).



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