

## HCB All fluids





## Safety, an essential quality...



### **Eliminate leaks, to ensure the integrity of fluids and to keep the workplace clean.**

Our flat face technology ensures continuity of sealing during connection and disconnection:

- no pollution can enter your fluid circuits
- safety for the user, no contamination of the workplace.

### **Lock your circuits and work in perfect safety.**

Locking is by a quick and easy push and turn movement. This technology is totally reliable and provides excellent resistance to vibration.



### **Identify your circuits to prevent wrong connections:**

- lock/key sets:
  - thanks to foolproof mechanical matching (coloured pin), the socket can only be connected to its own plug (and vice versa).
  - each safety key is associated with a colour providing visual identification of the circuits.
- coloured plates for flush fitting sockets.



### **Material traceability:**

We can supply a 3.1 certificate of analysis on request.

**CAD drawing available on request**



**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.



## ... performance, an operational quality

### By preventing leaks in your circuits we improve their efficiency.

- excellent efficiency (flow/pressure loss ratio) regardless of the fluid flow direction.
- compatibility with a large number of fluids thanks to stainless steel manufacture and a wide range of seal materials.

### Ergonomic: HCB couplings are easy to handle.

The special design of the locking ring provides comfortable manipulation and is easy to grip.

The absence of sharp edges or rough surfaces means that:

- the ring can be handled with gloves without any risk of tearing.
- the coupling is easy to clean.

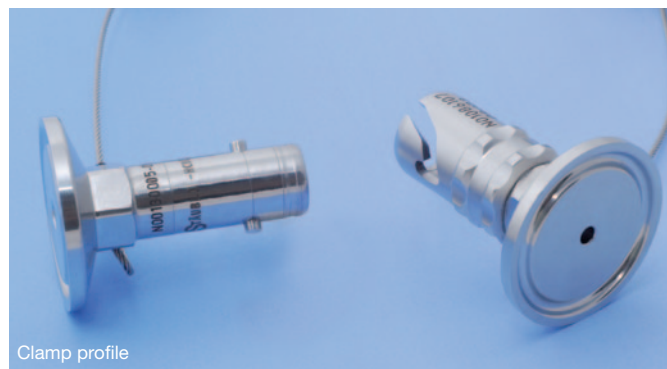
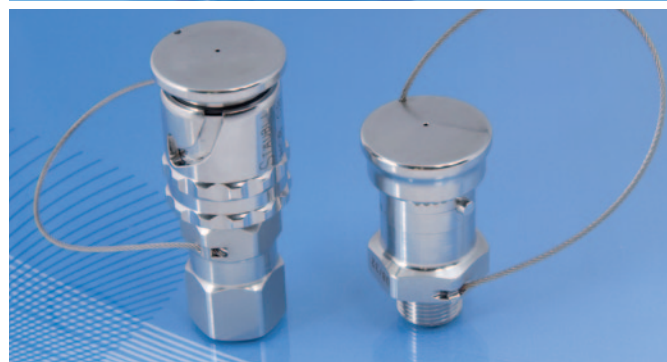
Handwheel option (VT) available for diameters 16 and 20, for a better gripping and easier locking (see page 6).



### Thanks to its compact design the HCB range suits all configurations.

- flush fitting sockets
- space saving and improved cleanliness: when the socket and the plug are connected, their respective dust caps fit together.

**Possibility of having HCB sockets and plugs with Clamp profiles:** on request.



Clamp profile



## Technical characteristics

### Construction

- Mainly stainless steel 316 series with electrolytic polishing + passivation. For more information, consult us.
- Flush socket plate materials:
  - standard, stainless steel
  - optional, coloured anodised light alloy
- Protective dust caps:
  - standard: polyamide (PA)
  - optional: stainless steel 316 series


### Usage recommendations

- For fluids with degreasing properties: please contact us.

### KES sealing-kit



Composed of a retaining ring and an O-ring seal, the KES ensure a perfect resistance between the socket and your support.

The compatible part-numbers with this option are characterized by the symbol  in part-number boards pages 7 to 11.

For more information about KES, please consult our documentation P003.



<b>Bore diameter</b>	
<b>Shut off</b>	
<b>Max. working pressure *</b>	
<b>Max. static pressure with the 4 safety lock/key sets</b>	
<b>Operating temperature** (without dust caps or with stainless steel dust caps) depending on the seal material</b>	Nitrile
	Fluorocarbon
	Ethylene-propylene
	- For FDA option - For USP option
	Perfluoroelastomer
	Fluorosilicon: max. working pressure = 50 bar

### Max. temperatures of polyamide dust caps

### Compressed air flow/pressure loss tables

Direction of flow: plug > socket

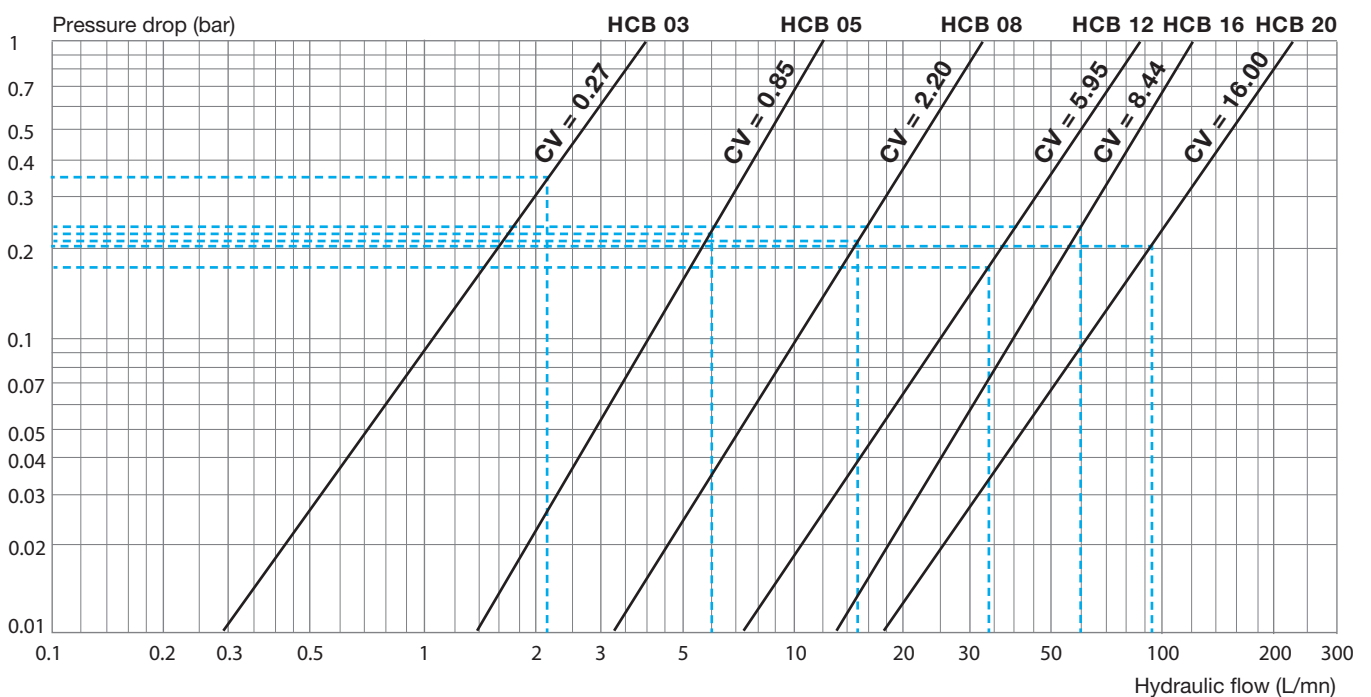
### Test conditions:

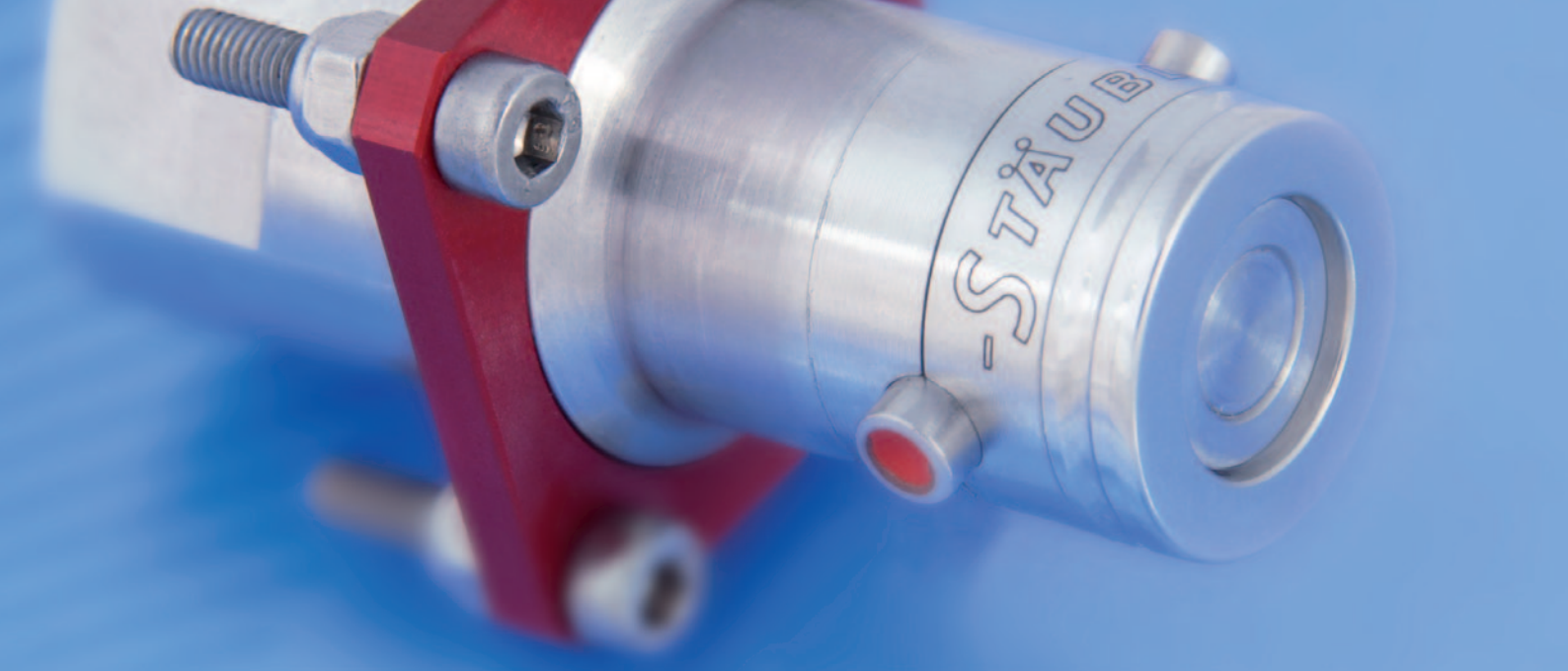
Water  
Density: 998 kg/m<sup>3</sup>  
Viscosity: 1.08 cSt

\*Other pressures and other conditions of use: please consult us.  
\*\*The minimal temperatures of use are given for static conditions and exempt from mechanical stress



	HCB 03	HCB 05	HCB 08	HCB 12	HCB 16	HCB 20
	<b>3 mm</b>	<b>5 mm</b>	<b>8 mm</b>	<b>12 mm</b>	<b>16 mm</b>	<b>20 mm</b>
	350 bar	160 bar	80 bar	50 bar	50 bar	50 bar
	350 bar	160 bar	80 bar	50 bar	50 bar	50 bar
(NBR)	-15°C to +100°C	-15°C to +100°C	-15°C to +100°C	-15°C to +100°C	-15°C to +100°C	-15°C to +100°C
(FPM)	-10°C to +200°C	-10°C to +200°C	-10°C to +200°C	-10°C to +200°C	-10°C to +200°C	-10°C to +200°C
(EPDM)	-20°C to +150°C	-20°C to +150°C	-20°C to +150°C	-20°C to +150°C	-20°C to +150°C	-20°C to +150°C
	-20°C to +150°C	-20°C to +150°C	-20°C to +150°C	-20°C to +150°C	-20°C to +150°C	-20°C to +150°C
	-20°C to +70°C steam: until 150°C	-20°C to +70°C steam: until 150°C	-20°C to +70°C steam: until 150°C	-20°C to +70°C steam: until 150°C	-20°C to +70°C steam: until 150°C	-20°C to +70°C steam: until 150°C
(FFKM)	0°C to +250°C	0°C to +250°C	0°C to +250°C	0°C to +250°C	0°C to +250°C	0°C to +250°C
(FMQ)	-40°C to +175°C	-40°C to +175°C	-40°C to +175°C	-40°C to +175°C	-40°C to +175°C	-40°C to +175°C
	-20°C to +100°C	-20°C to +100°C	-20°C to +100°C	-20°C to +100°C	-20°C to +100°C	-20°C to +100°C





## Options

To construct your part-number, add to the standard part-number (in the order shown below) the type of seal and any options.

Example of a complete part-number with options:

HCB XX.XXX / IC / JV / 3 / KR / BM / VT

1 2 3 4 5 6

**1 Standard part-number** (pages 7 to 11)  
with Nitrile seal

2 Seal material (other than Nitrile)	code
Fluorocarbon (FPM)	JV
Ethylene-propylene (EPDM)	JE
Ethylene-propylene with FDA* option	JE/FDA
Ethylene-propylene with USP** option	JE/USP
Perfluoroelastomer (FFKM)	JK
Fluorosilicon (FMQ)	JS3

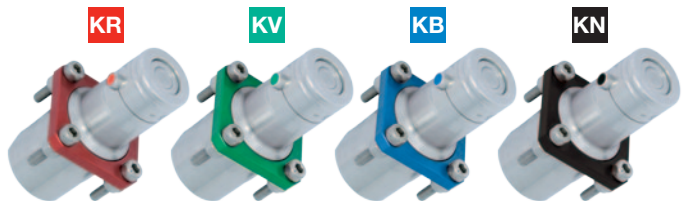
\*In compliance with "FDA requirements"

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

3 Mechanical & colour key locking for HCB 03, 05, 08, 12 and 16	code
Red	3
Green	45
Blue	6
Black	9



4 Coloured plates for flush bulkhead sockets for HCB 03, 05 and 08	code
Red	KR
Green	KV
Blue	KB
Black	KN



**5 Stainless steel dust caps** BM code

**6 Handwheel** (only for HCB 16 and 20) VT code

# Socket part-numbers

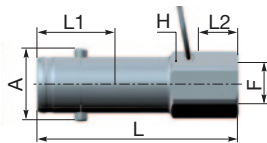
## Length of the socket/plug combination in the coupled position:

Socket length + plug length - L1

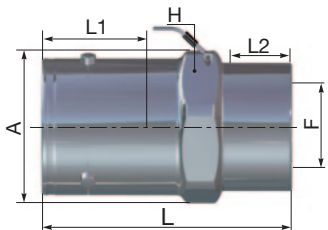
Model	HCB 03	HCB 05	HCB 08	HCB 12	HCB 16	HCB 20
Length L1 (mm)	18	19	23.5	36.3	37	39.6

## Female thread

Models HCB 03, 05, 08 and 12



Models HCB 16 and 20

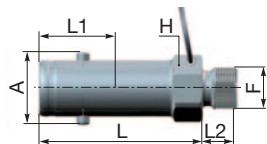


Model	F thread	Dimensions (mm)				Standard part-numbers
		A	L	L2	H/flats	
HCB 03	G 1/8	16.5	47	9	14	HCB 03.1100 / IC
	NPT 1/8	16.5	45.5	7	14	HCB 03.1200 / IC
	UNF 3/8 - 24 *	16.5	47	10	14	HCB 03.1309 / IC
HCB 05	G 1/4	21.5	47	12	19	HCB 05.1101 / IC
	NPT 1/4	21.5	46.5	11	19	HCB 05.1201 / IC
	UNF 1/2 - 20 *	21.5	44.5	11.5	19	HCB 05.1313 / IC
HCB 08	G 3/8	28	50	13	27	HCB 08.1102 / IC
	NPT 3/8	28	50	11	27	HCB 08.1202 / IC
	UNF 3/4 - 16 *	28	51	14.5	27	HCB 08.1319 / IC
HCB 12	G 1/2	39.5	64.9	15	36	HCB 12.1103 / IC
	NPT 1/2	39.5	68.4	14	36	HCB 12.1203 / IC
HCB 16	G 3/4	51	76.2	17	46	HCB 16.1104 / IC
	NPT 3/4	51	73.7	14	46	HCB 16.1204 / IC
HCB 20	G 1	56	86.5	21	50	HCB 20.1105 / IC
	NPT 1	56	84	18	50	HCB 20.1205 / IC

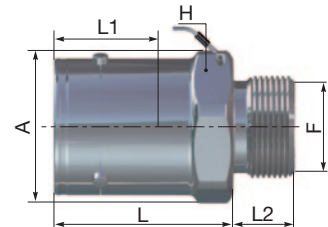
\*To SAE J 1926 standard

## Male thread, with 60° cone and integrated tightness

Models HCB 03, 05, 08 and 12



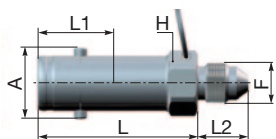
Models HCB 16 and 20



Model	F thread	Dimensions (mm)				Standard part-numbers
		A	L	L2	H/flats	
HCB 03	G 1/8	16.5	38	8	14	HCB 03.1150 / IC
	NPT 1/8	16.5	38	9.5	14	HCB 03.1250 / IC
HCB 05	G 1/4	21.5	33.5	11	19	HCB 05.1151 / IC
	NPT 1/4	21.5	33.5	14.5	19	HCB 05.1251 / IC
HCB 08	G 3/8	28	37.5	12	27	HCB 08.1152 / IC
	NPT 3/8	28	37.5	14.5	27	HCB 08.1252 / IC
HCB 12	G 1/2	39.5	55.9	14	36	HCB 12.1153 / IC
	NPT 1/2	39.5	53.9	18.5	36	HCB 12.1253 / IC
HCB 16	G 3/4	51	58.2	16	46	HCB 16.1154 / IC
	NPT 3/4	51	58.2	18.5	46	HCB 16.1254 / IC
HCB 20	G 1	56	64.5	20	50	HCB 20.1155 / IC
	NPT 1	56	64.5	23.5	50	HCB 20.1255 / IC

## Male thread: JIC 37°

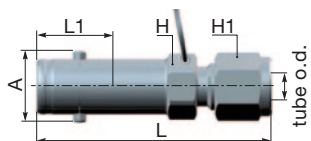
To ISO 8434 standard



Model	F thread	Dimensions (mm)				Standard part-numbers
		A	L	L2	H/flats	
HCB 03	UNF 3/8 - 24 (DASH 3)	16.5	38	12	14	HCB 03.1652 / IC
HCB 05	UNF 9/16 - 18 (DASH 6)	21.5	33.5	14	19	HCB 05.1655 / IC
HCB 08	UNF 3/4 - 16 (DASH 8)	28	37.5	16.5	27	HCB 08.1656 / IC

## For calibrated stainless steel tubes

Characteristics of the stainless tubes: according to standards ISO 1127 class D4 and ASTM A 269 class 1 (assembling instruction RV1300100)



Model	Tube o.d./thickness	Dimensions (mm)				Standard part-numbers
		A	L	H/flats	H1/flats	
HCB 03	Ø 6 mm/1 mm	16.5	55.5	14	14	HCB 03.1766 / IC
	Ø 1/4 "/1.25 mm	16.5	55	14	14	HCB 03.1753 / IC
HCB 05	Ø 8 mm/1.50 mm	21.5	52	19	17	HCB 05.1768 / IC
	Ø 3/8 "/1.65 mm	21.5	54	19	19	HCB 05.1755 / IC
HCB 08	Ø 12 mm/1.50 mm	28	60	27	22	HCB 08.1772 / IC
	Ø 1/2 "/2.10 mm	28	59	27	22	HCB 08.1756 / IC

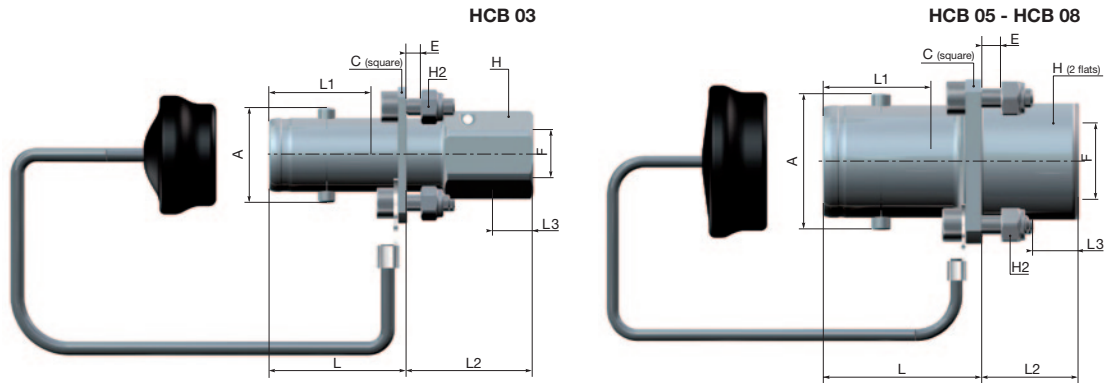
"Clamp" profile: on request.

# Bulkhead socket part-numbers

## Length of the socket/plug combination in the coupled position:

Socket length + plug length - L1

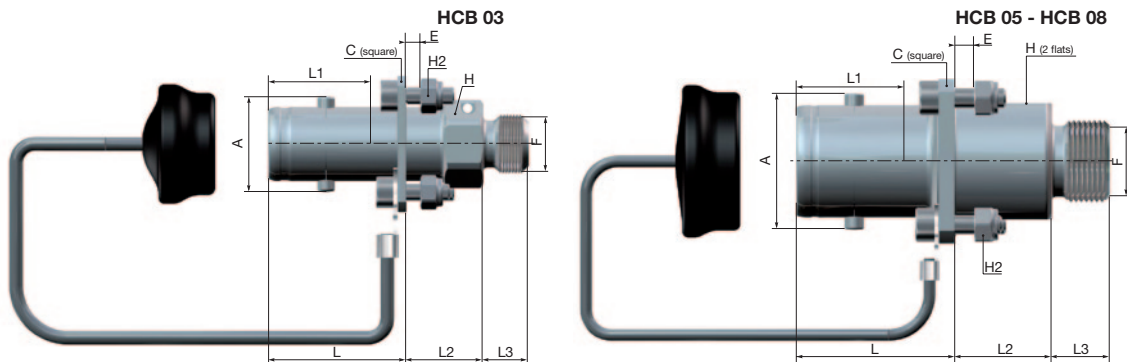
Model	HCB 03	HCB 05	HCB 08	HCB 12	HCB 16	HCB 20
Length L1 (mm)	18	19	23.5	36.3	37	39.6



## Female thread

Model	F thread	Dimensions (mm)								Standard part-numbers
		A	C	L	L2	L3	E min./max.	H/flats	H2/flats	
HCB 03	G 1/8	16.5	24	24.5	22.5	9	1 / 3.5	14	5.5	HCB 03.2100 / IC
	NPT 1/8	16.5	24	24.5	21	7	1 / 3.5	14	5.5	HCB 03.2200 / IC
	UNF 3/8 - 24 *	16.5	24	24.5	22.5	10	1 / 3.5	14	5.5	HCB 03.2309 / IC
HCB 05	G 1/4	21.5	28	29.5	22.5	12	1 / 5	19	5.5	HCB 05.2101 / IC
	NPT 1/4	21.5	28	29.5	22	11	1 / 5	19	5.5	HCB 05.2201 / IC
	UNF 1/2 - 20 *	21.5	28	29.5	21.5	11.5	1 / 5	19	5.5	HCB 05.2313 / IC
HCB 08	G 3/8	28	34	33	20	13	1 / 5	24	7	HCB 08.2102 / IC
	NPT 3/8	28	34	33	20	11	1 / 5	24	7	HCB 08.2202 / IC
	UNF 3/4 - 16 *	28	34	33	20	14.5	1 / 5	24	7	HCB 08.2319 / IC

\*To SAE J 1926 standard

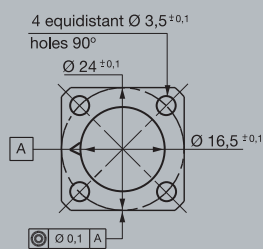


## Male thread, with 60° cone and integrated tightness

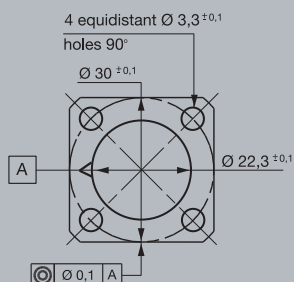
Model	F thread	Dimensions (mm)								Standard part-numbers
		A	C	L	L2	L3	E min./max.	H/flats	H2/flats	
HCB 03	G 1/8	16.5	24	24.5	13.5	8	1 / 3.5	14	5.5	HCB 03.2150 / IC
	NPT 1/8	16.5	24	24.5	13.5	9.5	1 / 3.5	14	5.5	HCB 03.2250 / IC
HCB 05	G 1/4	21.5	28	29.5	19	11	1 / 5	19	5.5	HCB 05.2151 / IC
	NPT 1/4	21.5	28	29.5	19	14.5	1 / 5	19	5.5	HCB 05.2251 / IC
HCB 08	G 3/8	28	34	33	20	12	1 / 5	24	7	HCB 08.2152 / IC
	NPT 3/8	28	34	33	20	14.5	1 / 5	24	7	HCB 08.2252 / IC

## Bulkhead socket installation

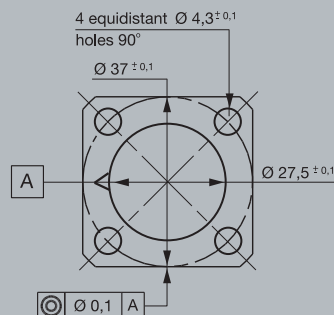
### HCB 03



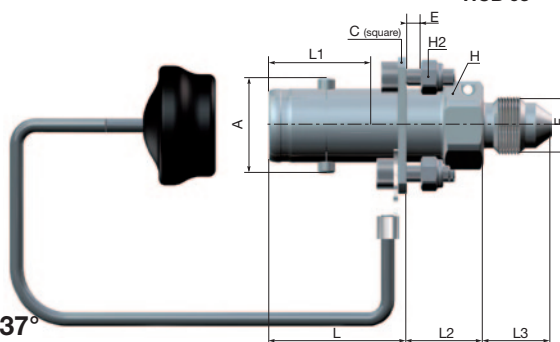
### HCB 05



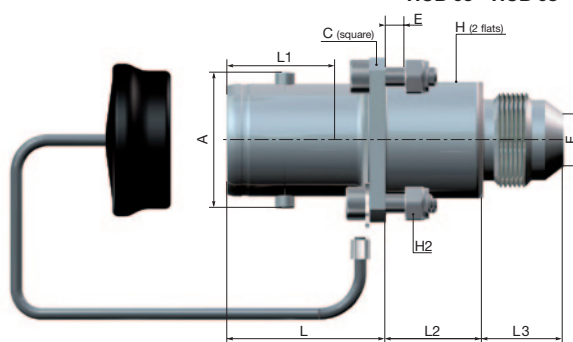
### HCB 08



### HCB 03



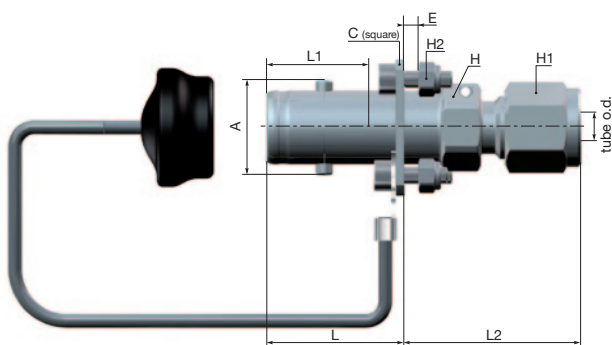
### HCB 05 - HCB 08



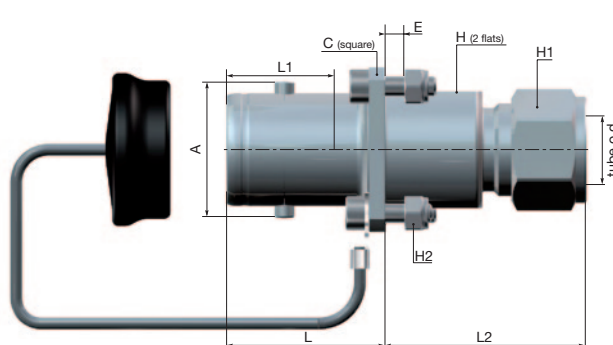
Male thread: JIC 37°  
To ISO 8434 standard

Model	F thread	Dimensions (mm)								Standard part-numbers
		A	C	L	L2	L3	E min./max.	H/flats	H2/flats	
HCB 03	UNF 3/8 - 24 (DASH 3)	16.5	24	24.5	13.5	12	1 / 3.5	14	5.5	HCB 03.2652 / IC
HCB 05	UNF 9/16 - 18 (DASH 6)	21.5	28	29.5	19	14	1 / 5	19	5.5	HCB 05.2655 / IC
HCB 08	UNF 3/4 - 16 (DASH 8)	28	34	33	20	16.5	1 / 5	24	7	HCB 08.2656 / IC

### HCB 03



### HCB 05 - HCB 08

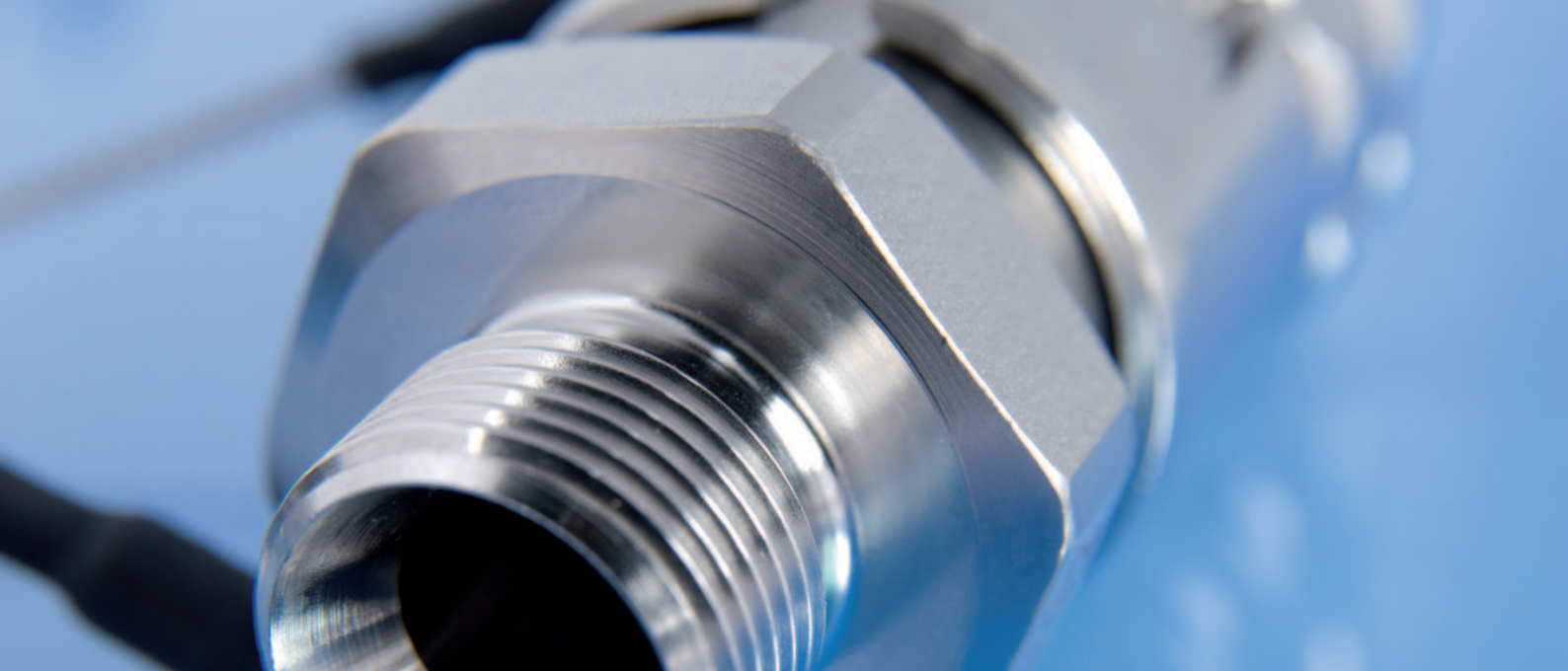


### For calibrated stainless steel tubes

Characteristics of the stainless tubes: according to standards ISO 1127 class D4 and ASTM A 269 class 1 (assembling instruction RV1300100)

Model	Tube o.d./thickness	Dimensions (mm)								Standard part-numbers
		A	C	L	L2	E min./max.	H/flats	H1/flats	H2/flats	
HCB 03	Ø 6 mm/1 mm	16.5	24	24.5	31	1 / 3.5	14	14	5.5	HCB 03.2766 / IC
	Ø 1/4 "/1.25 mm	16.5	24	24.5	30.5	1 / 3.5	14	14	5.5	HCB 03.2753 / IC
HCB 05	Ø 8 mm/1.50 mm	21.5	28	29.5	37.5	1 / 5	19	17	5.5	HCB 05.2768 / IC
	Ø 3/8 "/1.65 mm	21.5	28	29.5	39.5	1 / 5	19	19	5.5	HCB 05.2755 / IC
HCB 08	Ø 12 mm/1.50 mm	28	34	33	41.5	1 / 5	24	22	7	HCB 08.2772 / IC
	Ø 1/2 "/2.10 mm	28	34	33	40.5	1 / 5	24	22	7	HCB 08.2756 / IC

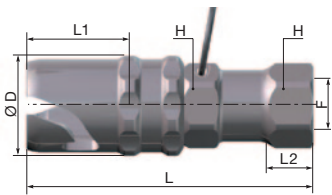
"Clamp" profile: on request.



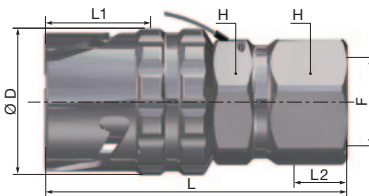
## Plug part-numbers

### Female thread

Models HCB 03, 05, 08 and 12



Model HCB 16 and 20

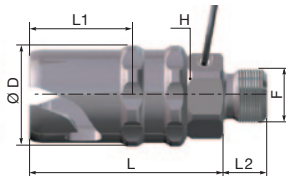


Model	F thread	Dimensions (mm)				Standard part-numbers
		Ø D	L	L2	H/flats	
HCB 03	G 1/8	19	52.5	9	14	HCB 03.7100 / IC
	NPT 1/8	19	50.5	7	14	HCB 03.7200 / IC
	UNF 3/8 - 24 *	19	53	10	14	HCB 03.7309 / IC
HCB 05	G 1/4	23.5	61.5	12	19	HCB 05.7101 / IC
	NPT 1/4	23.5	61	11	19	HCB 05.7201 / IC
	UNF 1/2 - 20 *	23.5	60.5	11.5	19	HCB 05.7313 / IC
HCB 08	G 3/8	30.5	68.5	13	22	HCB 08.7102 / IC
	NPT 3/8	30.5	66.5	11	22	HCB 08.7202 / IC
	UNF 3/4 - 16 *	30.5	70	14.5	22	HCB 08.7319 / IC
HCB 12	G 1/2	41.5	91.6	15	27	HCB 12.7103 / IC
	NPT 1/2	41.5	90.7	14	27	HCB 12.7203 / IC
HCB 16	G 3/4	52	100.5	17	36	HCB 16.7104 / IC
	NPT 3/4	52	97.6	14	36	HCB 16.7204 / IC
HCB 20	G 1	58	110.5	21	41	HCB 20.7105 / IC
	NPT 1	58	107.6	18	41	HCB 20.7205 / IC

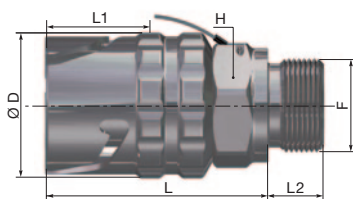
\*To SAE J 1926 standard

### Male thread, with 60° cone and integrated tightness

Models HCB 03, 05, 08 and 12



Model HCB 16 and 20



Model	F thread	Dimensions (mm)				Standard part-numbers
		Ø D	L	L2	H/flats	
HCB 03	G 1/8	19	35.5	8	14	HCB 03.7150 / IC
	NPT 1/8	19	35.5	9.5	14	HCB 03.7250 / IC
HCB 05	G 1/4	23.5	37.5	11	19	HCB 05.7151 / IC
	NPT 1/4	23.5	37.5	14.5	19	HCB 05.7251 / IC
HCB 08	G 3/8	30.5	44	12	22	HCB 08.7152 / IC
	NPT 3/8	30.5	44	14.5	22	HCB 08.7252 / IC
HCB 12	G 1/2	41.5	72.9	14	27	HCB 12.7153 / IC
	NPT 1/2	41.5	72.9	18.5	27	HCB 12.7253 / IC
HCB 16	G 3/4	52	79.2	16	36	HCB 16.7154 / IC
	NPT 3/4	52	79.2	18.5	36	HCB 16.7254 / IC
HCB 20	G 1	58	84.6	20	41	HCB 20.7155 / IC
	NPT 1	58	84.6	23.5	41	HCB 20.7255 / IC



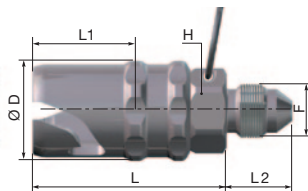
**Length of the socket/plug combination in the coupled position:**

Socket length + plug length - L1

Model	HCB 03	HCB 05	HCB 08	HCB 12	HCB 16	HCB 20
Length L1 (mm)	18	19	23.5	36.3	37	39.6

**Male thread: JIC 37°**

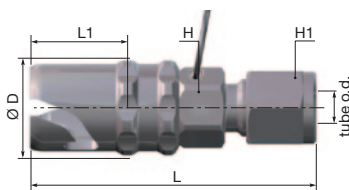
To ISO 8434 standard



Model	F thread	Dimensions (mm)				Standard part-numbers
		Ø D	L	L2	H/flats	
HCB 03	UNF 3/8 - 24 (DASH 3)	19	35.5	12	14	HCB 03.7652 / IC
HCB 05	UNF 9/16 - 18 (DASH 6)	23.5	37.5	14	19	HCB 05.7655 / IC
HCB 08	UNF 3/4 - 16 (DASH 8)	30.5	44	16.5	22	HCB 08.7656 / IC

**For calibrated stainless steel tubes**

Characteristics of the stainless tubes: according to standards ISO 1127 class D4 and ASTM A 269 class 1 (assembling instruction RV1300100)



Model	Tube o.d./ thickness	Dimensions (mm)				Standard part-numbers
		Ø D	L	H/flats	H1/flats	
HCB 03	Ø 6 mm/1 mm	19	55.5	14	14	HCB 03.7766 / IC
	Ø 1/4 "/1.25 mm	19	55	14	14	HCB 03.7753 / IC
HCB 05	Ø 8 mm/1.50 mm	23.5	60.5	19	17	HCB 05.7768 / IC
	Ø 3/8 "/1.65 mm	23.5	62.5	19	19	HCB 05.7755 / IC
HCB 08	Ø 12 mm/1.50 mm	30.5	73	22	22	HCB 08.7772 / IC
	Ø 1/2 "/2.10 mm	30.5	72	22	22	HCB 08.7756 / IC

"Clamp" profile: on request.

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