



 **HYDRAULIC CHUCKS**

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## QUICK FACTS ABOUT SPV SPINTEC HYDRAULIC CHUCKS

### Why you should use our Hydraulic chucks

- High clamping torque, 320 Nm at a Ø20 mm shank in a standard hydraulic chuck.
- Runout accuracy better than 0,003 mm.
- Quick assembly method of the tool. No special equipment needed.
- Balanced for 10 000 RPM (G 6.3) as standard - can be supplied fine balanced up to 30 000 RPM (G 2.5).
- Available with quick length adjustment from the side of the chuck (Quick-Set).
- The widest range of hydraulic chucks on the market. Available for all applications.

### Why you should use our Hydraulic chucks with milling membrane (+)

- They offer all the advantages of our standard Hydraulic chucks.
- Very stable tool fixing.
- Permits up to twice the recommended axial and radial cutting depths.
- Reduces vibration.

### SPV Spintec's Hydraulic chucks offer you:

- Up to 50 % longer lifetime of the tool compared to conventional tool holder systems.
- Increased surface finish.
- Permits machining with much closer tolerances.
- Quicker and simpler tool changes.

### Runout accuracy

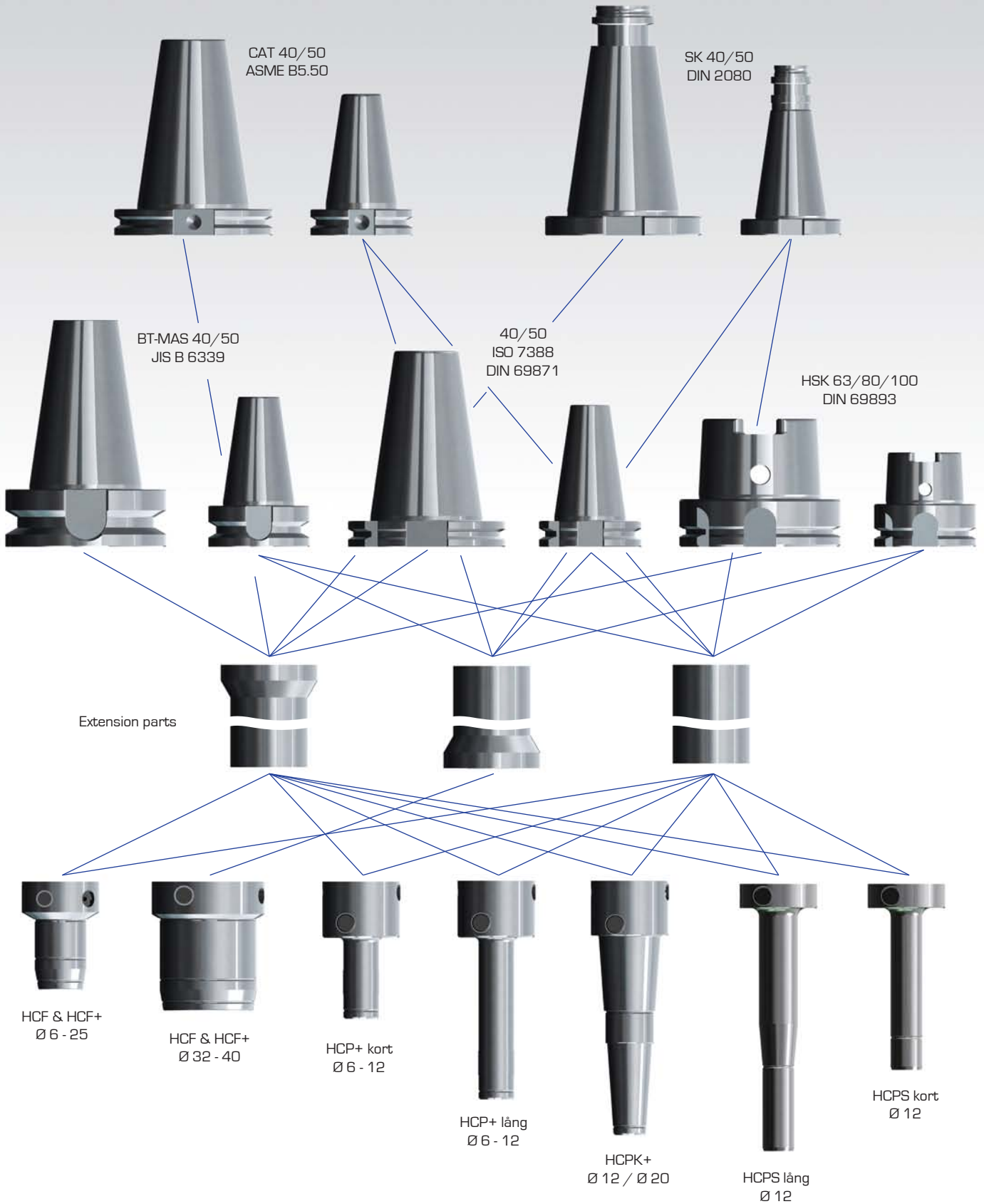
All of our Hydraulic chuck models are made with runout accuracy better than **0,003 mm**.

This means that you can machine to closer tolerances and tool lifetime is extended - giving you better overall economy.



# SYSTEM OVERVIEW

## Optional combinations for our Hydraulic Chucks



EXAMPLES OF DIFFERENT HYDRAULIC CHUCKS



■ Type HCF / HCF+  
Short standard chuck



■ Type HCFL / HCFL+  
Extended standard chuck



■ Type HCP+  
Pen-chuck



■ Type HCPK+  
long tapered chuck



■ Type HCPS  
Extra long and  
slim pen-chuck

■ Typ HCK+  
Extra short chuck



## Milling membrane (+)

### Facts about Hydraulic chucks with our milling membrane (+) - The original!

SPV Spintec's hexagonal milling membrane (+membrane) permits though, vibration-free milling. A highly stable tool anchorage makes it possible to machine at greater feed rates and with greater axial and radial depths of cut than normally recommended.

#### Limitations of conventional hydraulic chucks

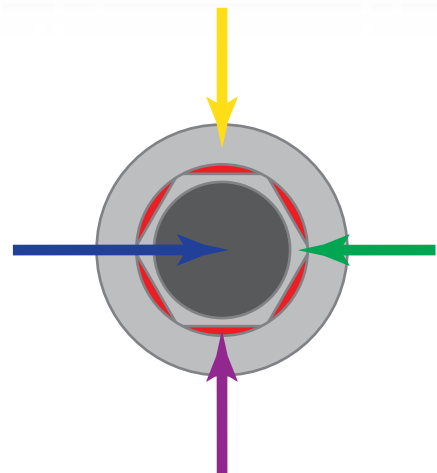
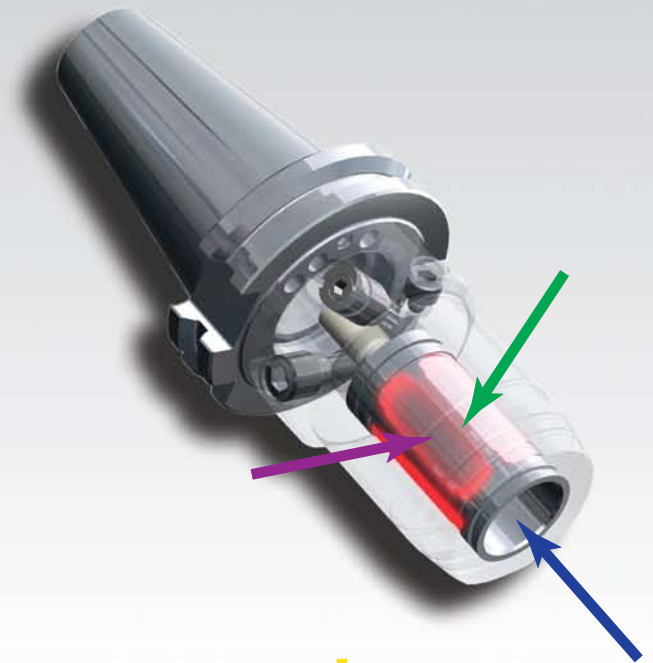
The limitation in the use of hydraulic chucks has frequently been the use of recommended cutting data for heavy duty milling. Customers have often been obliged to purchase specially shortened hydraulic milling chucks with increased torque when they have needed to remove a large amount of material in the shortest possible time.

We have eliminated this limitation and offer our customers the opportunity of using our developed hydraulic milling chuck for both drilling and milling, which offers better overall economy.

#### Development - history

The development started when British Aerospace in England had problems with milling vibration, which lead to very short lifetime for their expensive solid metal cutting tools.

BA tried several commercially available retention systems but did not find a satisfactory solution. At that time SPV developed the hexagonal milling membrane which was found in tests at British Aerospace to multiply the period of contact several times over and in some cases, enabled them to double both radial and axial cutting depths.



**Yellow arrow**  
Outer housing, hydraulic chuck.

**Blue arrow**  
Tool (drill, cutter, etc.)

**Purple arrow**  
Hydraulic chamber which combines with high hydraulic pressure in the chuck to provide stable anchorage, with long, linear, thinwall gripping surfaces which protect the tool from flexing.

**Green arrow**  
The remaining material between the hydraulic chambers creates - reinforcement ribs - which minimise vibration and stiffen the membrane.

A calculation and simulation of loading cases using the Finite Element Method (FEM) and 3D-models was done in collaboration with the Mälardalen University College in Eskilstuna, to verify the results offered by the new design, and to make a comparison with the traditional cylindrical membrane design in hydraulic chucks.

### Testing

A trial was done in the spring of 2003 at SECO in Fagersta, in an attempt to verify any limits there might be on cutting data. An extract from the test report (P-1006, 2003-04-29 at SECO, Fagersta) shows the following.

#### Test sample:

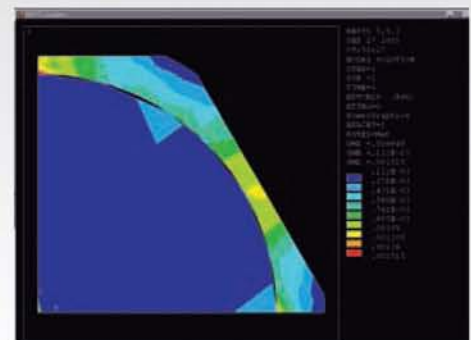
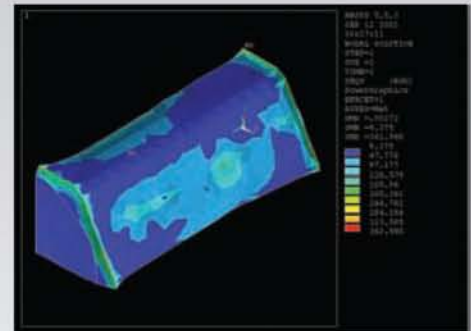
Hydraulic chucks, HCF+ with hexagonal membrane.

#### Machining tool:

Solid 3-blade hard metal cutters, made by Jabro, with Tribon coating in dimensions  $\varnothing 10$ ,  $\varnothing 12$  and  $\varnothing 20$  mm.

#### Work piece:

Square bar, 75x75 mm made from heat treatable steel SS 2244-05, hardness 270 - 315 HB.



### Test summary:

The results show that the hydraulic chucks equipped with a hexagonal membrane (+membrane) can manage up to twice the recommended axial and radial cutting depth without tool chipping or vibration which affects surface finish. In practice, this means that the possible swarf yield has been multiplied by four.

#### HCF+ chucks:

- Hydraulic chucks, HCF+, with tools  $\varnothing 10$ ,  $\varnothing 12$  and  $\varnothing 20$  can manage the the cutting data in Jabro's recommendation for coarse slab milling.
- 2 x recommended axial cutting depth is quite OK, without any vibration arising that could damage the tool.
- 2 x recommended radial cutting depth is quite OK.

#### Coarse slab milling with rotational speed and feed rate to Jabro's recommendations:

Recommended depth of cut:  
axial = 1x tool diameter  
radial = 0,4 x tool diameter

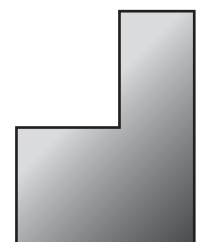
This gives a chip area of:  
 $1 \times D \text{ mm} \times 0,4 \times D \text{ mm} = 0,4 \times D \text{ mm}^2$



#### Coarse slab milling with rotational speed and feed rate to Jabro's recommendations:

HCF+ test with twice the recommended depth of cut, axially and radially.

This gives a chip area of:  
 $2 \times D \text{ mm} \times 0,8 \times D \text{ mm} = 1,6 \times D \text{ mm}^2$



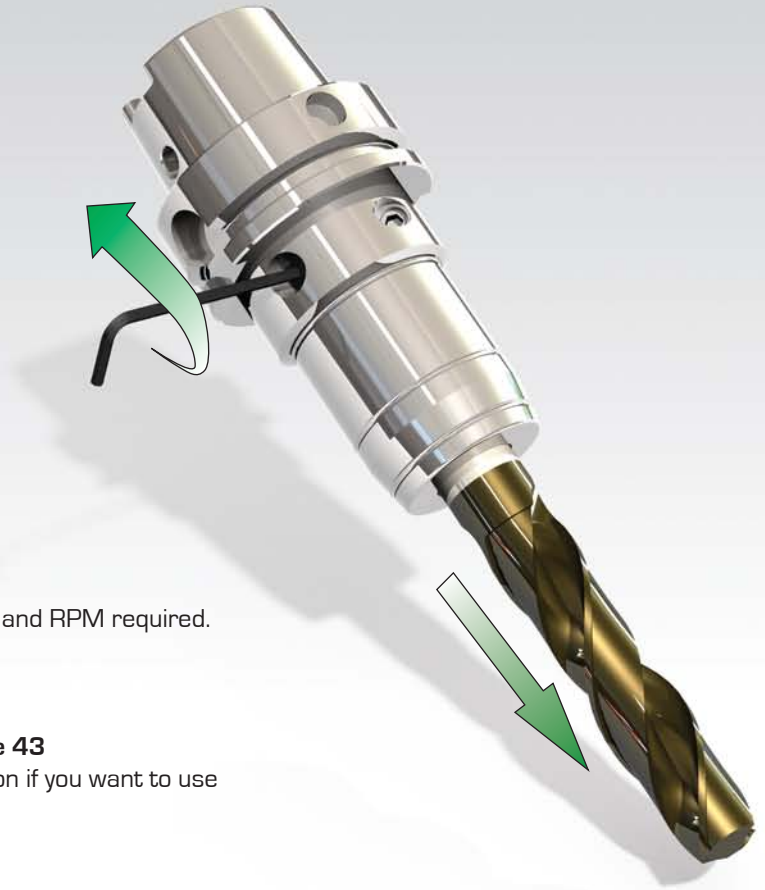
## OPTION

### Quick-Set and Fine balancing

In most of our hydraulic chucks, it is possible to combine the standard version of the chuck with one or more optional features. In this way, you can design your hydraulic chucks to suit your needs.

**Q Quick-Set**  
Rapid tool length adjustment.  
Using this function, you can adjust tool length (up to 10mm) with a key from the side of the chuck. The Quick-Set is quick and easy to use, saves time and offers high precision.

**G Fine Balancing**  
Supplementary balancing G 2.5  
to SS-ISO 1940/1 up to 30 000 RPM  
depending on size.



When ordering, please specify Q or G, our part number, and RPM required.

#### Reduction sleeves with Quick-Set, please refer to page 43

Sleeves must also be equipped with the Quick-Set function if you want to use Quick-Set with reduction sleeves.

### Torque table

Tool diameter Ø D mm	HCF / HCF+	HCK+	HCP+	HCPK+	HCPS
6	15 Nm		15 Nm		
8	20 Nm		20 Nm		
10	40 Nm		40 Nm		
12	80 Nm		80 Nm	80 Nm	80 Nm
14	110 Nm				
16	130 Nm				
18	190 Nm				
20	320 Nm	600 Nm		320 Nm	
25	400 Nm				
32	650 Nm	1200 Nm			
40	1200 Nm				



## HANDLING, MAINTENANCE

## Operation of hydraulic chucks

### 1. Cleaning.

It is very important that both the tool shank and the inside of the chuck are free from grease and other contamination. Use an alcohol based degreaser.

### 2. Tightening the hydraulic operation screw.

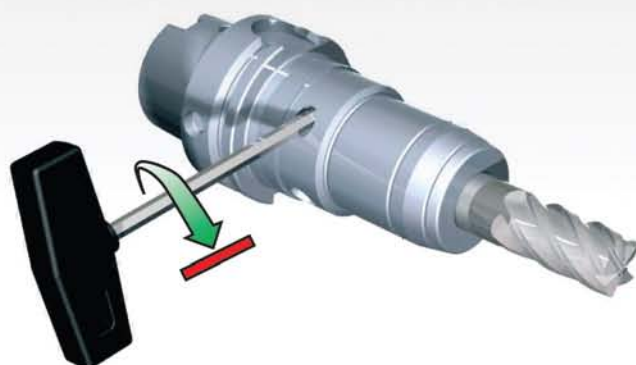
The screw must always be tightened to the fixed stop. Never tighten the screw without a tool in the chuck, since there is a risk that the hydraulic chamber could be deformed.

### 3. Tool insertion length.

The tool must be inserted to a fixed stop, to prevent the hydraulic chamber from being deformed by the pressure. When reduction sleeves are used, at least 60% of the length of the tool shank must be used.

### 4. Working temperature

Ideal and optimised working temperature is between 20° och 50 ° C. Do not store hydraulic chucks where the temperature could exceed 50 ° C.



## Tool shank

#### Standard chucks - type HCF / HCFL

In standard chucks from  $\varnothing 6$  up to  $\varnothing 20$ , Weldon shanks can be used directly in the chucks. Shank tolerance h6.

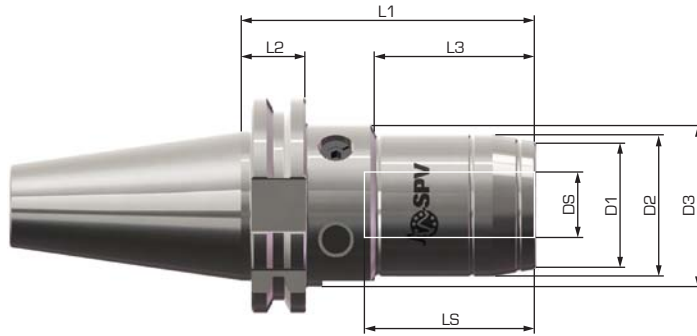
#### Chucks with milling membrane (+) - type HCF+ / HCFL+ / HCPK+ / HCP+ / HCK+

In chucks with milling membrane (+) only cylindrical shanks can be used directly in the chuck. Shank tolerance h6.

#### Other types of tool shank - all

Other types of tool shank such as Weldon, Whistlenotch can be used in combination with a reduction sleeve in the chuck.

## STANDARD CHUCK



### TYPE HCF

DS mm	FITTING TYPE	D1 mm	D2 mm	D3 mm	L1 mm	L2 mm	L3 mm	LS mm	Art.no
6	ISO 40	21,5	26	49,5	80,5	19,1	29,5	37,5	54800
	ISO 50	21,5	26	48	87	19,1	43,5	37,5	56630
8	ISO 40	23,5	28	49,5	80,5	19,1	30	37,5	54801
	ISO 50	23,5	28	48	87	19,1	43,5	37,5	56631
10	ISO 40	25,5	30	49,5	80,5	19,1	31	42,5	54802
	ISO 50	25,5	30	48	87	19,1	43,5	42,5	56632
12	ISO 40	27,5	32	49,5	80,5	19,1	31,5	47,5	54803
	ISO 45	27,5	32	48	87	19,1	44,5	47,5	56803
	ISO 50	27,5	32	48	87	19,1	44,5	47,5	56633
14	ISO 40	27,5	32	49,5	80,5	19,1	31,5	47,5	54804
	ISO 50	29,5	34	48	87	19,1	44,5	47,5	56634
16	ISO 40	34,5	38	49,5	80,5	19,1	33	51	54805
	ISO 50	33,5	38	48	87	19,1	47,5	52,5	56635
18	ISO 40	38	42	49,5	80,5	19,1	34	51	54806
	ISO 50	35,5	40	48	87	19,1	47,5	52,5	54836
20	ISO 40	38	42	49,5	80,5	19,1	34	51	54807
	ISO 45	37,5	42	48	87	19,1	47,5	52,5	56807
	ISO 50	37,5	42	48	87	19,1	47,5	52,5	56637
25	ISO 40	43,5	48	48	91	19,1	71	55	56628
	ISO 50	43,5	48	48	91	19,1	71	55	56638
32	ISO 40	55,5	60	70	120	19,1	57	65	56629
	ISO 50	55,5	60	70	100	19,1	57	65	56639

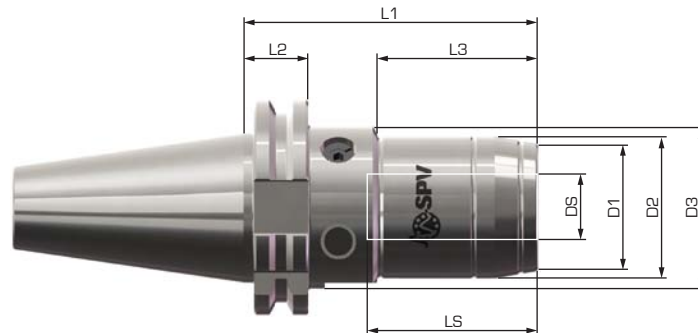
### Options for HCF

■ Dimensions which can be used with reduction sleeves  
Other tool diameters [DS]  
or with ISO 45 please enquire.

Q Quick-Set (quick length adjustment - 10mm from chuck side)  
G Supplementary balancing up to 30 000 RPM (depending on size)

Centre adjustment screw as standard. Balanced for 10 000 RPM G6,3 as standard.

## CHUCK WITH MILLING MEMBRANE [+]



## TYPE HCF+

DS mm	FITTING TYPE	D1 mm	D2 mm	D3 mm	L1 mm	L2 mm	L3 mm	L5 mm	Art.no
6	ISO 40	21,5	26	49,5	80,5	19,1	29,5	37,5	54800+
	ISO 50	21,5	26	48	87	19,1	43,5	37,5	56630+
8	ISO 40	23,5	28	49,5	80,5	19,1	30	37,5	54801+
	ISO 50	23,5	28	48	87	19,1	43,5	37,5	56631+
10	ISO 40	25,5	30	49,5	80,5	19,1	31	42,5	54802+
	ISO 50	25,5	30	48	87	19,1	43,5	42,5	56632+
12	ISO 40	27,5	32	49,5	80,5	19,1	31,5	47,5	54803+
	ISO 50	27,5	32	48	87	19,1	44,5	47,5	56633+
14	ISO 40	27,5	32	49,5	80,5	19,1	31,5	47,5	54804+
	ISO 50	29,5	34	48	87	19,1	44,5	47,5	56634+
16	ISO 40	34,5	38	49,5	80,5	19,1	33	51	54805+
	ISO 50	33,5	38	48	87	19,1	47,5	52,5	56635+
18	ISO 40	38	42	49,5	80,5	19,1	34	51	54806+
	ISO 50	35,5	40	48	87	19,1	47,5	52,5	54836+
20	ISO 40	38	42	49,5	80,5	19,1	34	51	54807+
	ISO 50	37,5	42	48	87	19,1	47,5	52,5	56637+
25	ISO 40	43,5	48	48	91	19,1	71	55	56628+
	ISO 50	43,5	48	48	91	19,1	71	55	56638+
32	ISO 40	55,5	60	70	120	19,1	57	65	56629+
	ISO 50	55,5	60	70	100	19,1	57	65	56639+
40	ISO 50	65	70	70	105	19,1	86	70	56113+

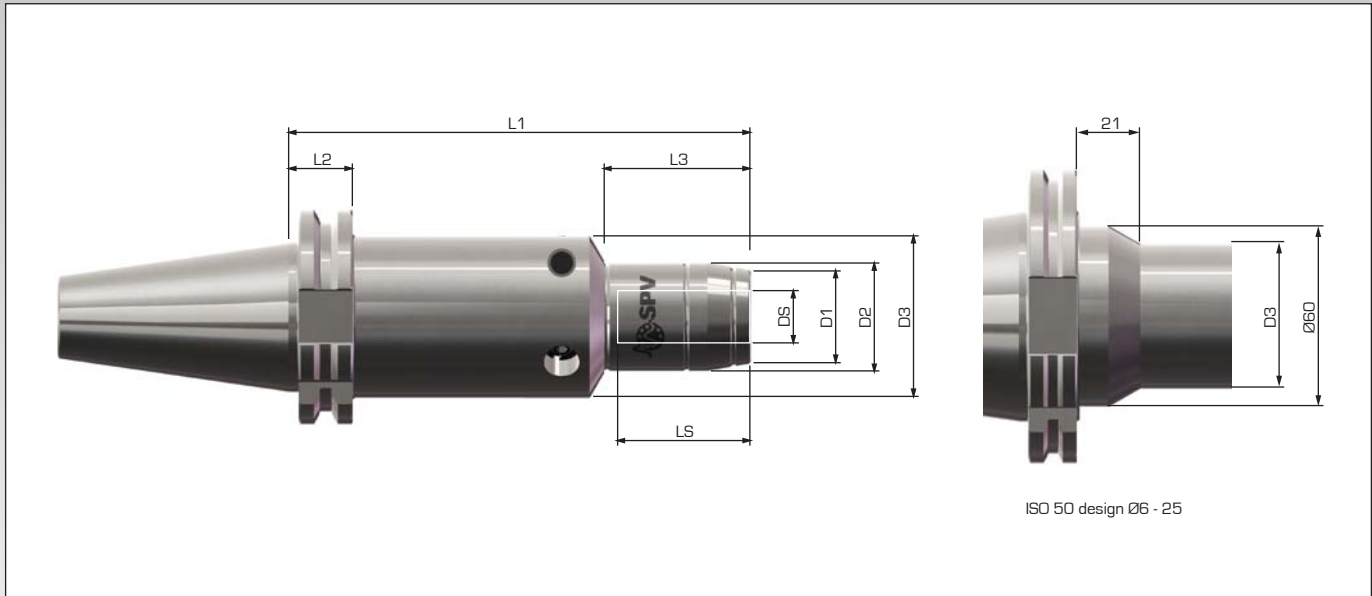
## Options for HCF+

■ Dimensions which can be used with reduction sleeves  
Other tool diameters [DS] or with ISO 45 please enquire.

Q Quick-Set (quick length adjustment - 10mm from chuck side)  
G Supplementary balancing up to 30 000 RPM (depending on size)

Centre adjustment screw as standard. Balanced for 10 000 RPM G6,3 as standard.

## EXTENDED STANDARD CHUCK



### TYPE HCFL with example of min and max length

DS mm	FITTING TYPE	D1 mm	D2 mm	D3 mm	L1 mm	L2 mm	L3 mm	LS mm	Art.no
6	ISO 40	21,5	26	48	130	19,1	43,5	37,5	56700
	ISO 40	21,5	26	48	130-480	19,1	43,5	37,5	▲
	ISO 50	21,5	26	48	160	19,1	43,5	37,5	56710
	ISO 50	21,5	26	48	160-445	19,1	43,5	37,5	▲
8	ISO 40	23,5	28	48	130	19,1	43,5	37,5	56701
	ISO 40	23,5	28	48	130-480	19,1	43,5	37,5	▲
	ISO 50	23,5	28	48	160	19,1	43,5	37,5	56711
	ISO 50	23,5	28	48	160-445	19,1	43,5	37,5	▲
10	ISO 40	25,5	30	48	130	19,1	43,5	42,5	56702
	ISO 40	25,5	30	48	130-480	19,1	43,5	42,5	▲
	ISO 50	25,5	30	48	160	19,1	43,5	42,5	56712
	ISO 50	25,5	30	48	160-445	19,1	43,5	42,5	▲
12	ISO 40	27,5	32	48	130	19,1	44,5	47,5	56703
	ISO 40	27,5	32	48	130-480	19,1	44,5	47,5	▲
	ISO 45	27,5	32	48	160	19,1	44,5	47,5	56753
	ISO 45	27,5	32	48	160-445	19,1	44,5	47,5	▲
	ISO 50	27,5	32	48	160	19,1	44,5	47,5	56713
	ISO 50	27,5	32	48	160-445	19,1	44,5	47,5	▲
14	ISO 40	29,5	34	48	130	19,1	44,5	47,5	56704
	ISO 40	29,5	34	48	130-480	19,1	44,5	47,5	▲
	ISO 50	29,5	34	48	160	19,1	44,5	47,5	56714
	ISO 50	29,5	34	48	160-445	19,1	44,5	47,5	▲
16	ISO 40	33,5	38	48	130	19,1	47,5	52,5	56705
	ISO 40	33,5	38	48	130-480	19,1	47,5	52,5	▲
	ISO 50	33,5	38	48	160	19,1	47,5	52,5	56715
	ISO 50	33,5	38	48	160-445	19,1	47,5	52,5	▲
18	ISO 40	35,5	40	48	130	19,1	47,5	52,5	56706
	ISO 40	35,5	40	48	130-480	19,1	47,5	52,5	▲
	ISO 50	35,5	40	48	160	19,1	47,5	52,5	56716
	ISO 50	35,5	40	48	160-445	19,1	47,5	52,5	▲

**TYPE HCFL** with example of min and max length

DS mm	FÄSTE TYP	D1 mm	D2 mm	D3 mm	L1 mm	L2 mm	L3 mm	LS mm	Art.nr
20	ISO 40	37,5	42	48	130	19,1	47,5	52,5	56707
	ISO 40	37,5	42	48	130-480	19,1	47,5	52,5	▲
	ISO 45	37,5	42	48	160	19,1	47,5	52,5	56757
	ISO 45	37,5	42	48	160-445	19,1	47,5	52,5	▲
	ISO 50	37,5	42	48	160	19,1	47,5	52,5	56717
	ISO 50	37,5	42	48	160-445	19,1	47,5	52,5	▲
25	ISO 40	43,5	48	48	134	19,1	114	55	56708
	ISO 40	43,5	48	48	134-480	19,1	—	55	▲
	ISO 50	43,5	48	48	164	19,1	123	55	56718
	ISO 50	43,5	48	48	164-445	19,1	—	55	▲
32	ISO 40	55,5	60	70	140	19,1	57	65	56709
	ISO 40	55,5	60	70	140-480	19,1	57	65	▲
	ISO 50	55,5	60	70	140	19,1	57	65	56719
	ISO 50	55,5	60	70	140-445	19,1	57	65	▲

**Options for HCFL**

■ Dimensions which can be used with reduction sleeves  
Other tool diameters [DS] or with ISO 45 please enquire.

▲ Depending on chosen length L1

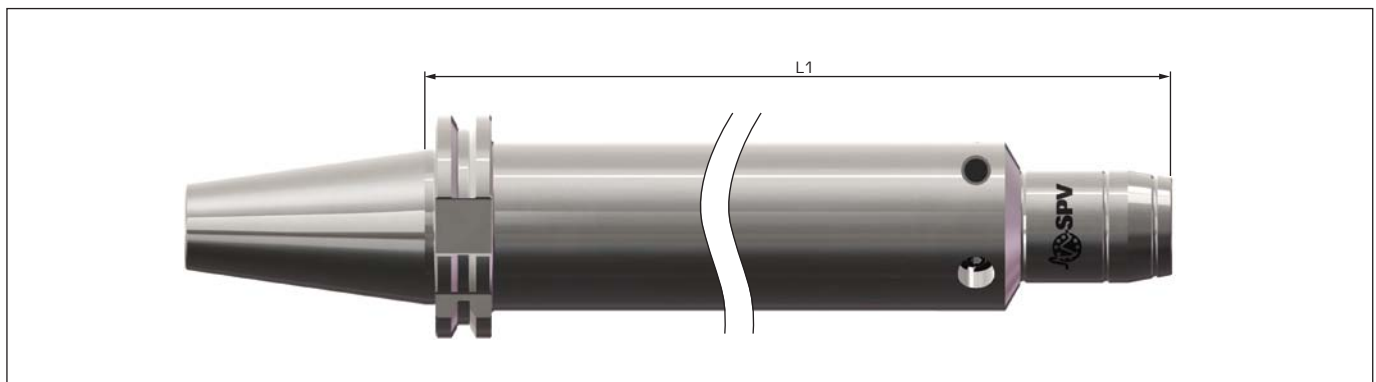
Q Quick-Set (quick length adjustment - 10mm from chuck side)

G Supplementary balancing up to 30 000 RPM (depending on size)

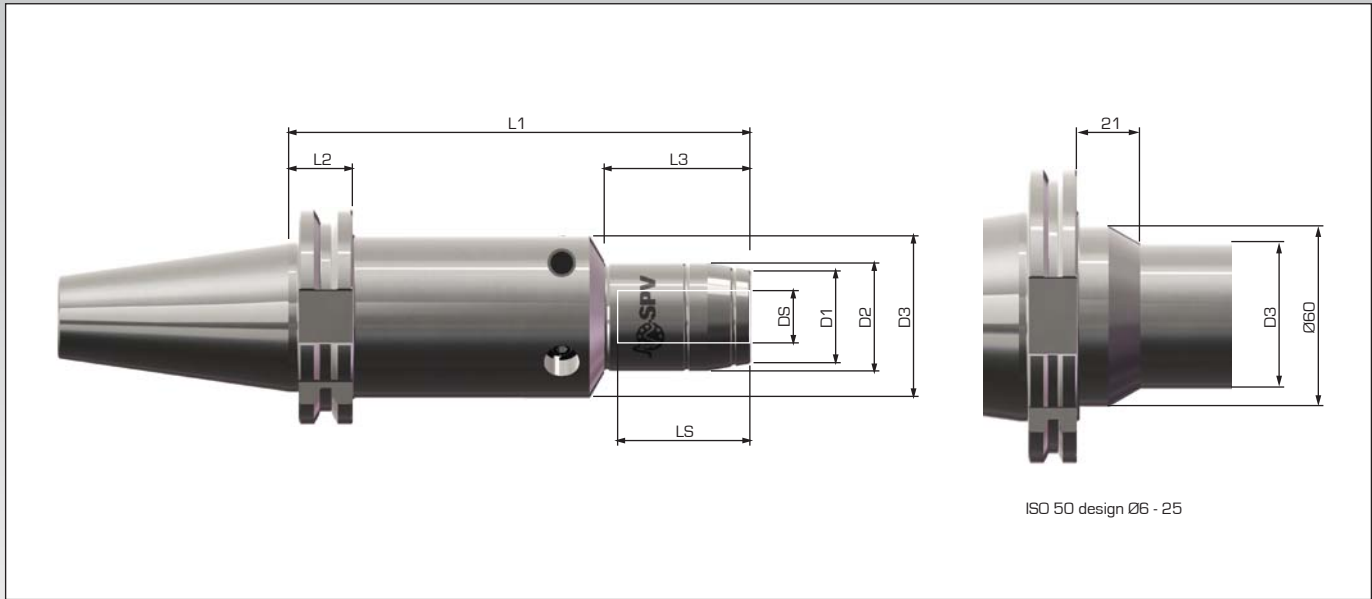
Centre adjustment screw as standard. Balanced for 10 000 RPM G6,3 as standard.

**Extra long chucks type HCFL** any length L1 as table

Ordering example: ISO 40 , Ø 20 , L1 = 290 mm , type HCFL Art.no: 56707/290



EXTENDED CHUCK WITH MILLING MEMBRANE [+]



TYPE HCFL+ [milling membrane] with example of min and max length

DS mm	FITTING TYPE	D1 mm	D2 mm	D3 mm	L1 mm	L2 mm	L3 mm	LS mm	Art.no
6	ISO 40	21,5	26	48	130	19,1	43,5	37,5	56700+
	ISO 40	21,5	26	48	130-480	19,1	43,5	37,5	▲
	ISO 50	21,5	26	48	160	19,1	43,5	37,5	56710+
	ISO 50	21,5	26	48	160-445	19,1	43,5	37,5	▲
8	ISO 40	23,5	28	48	130	19,1	43,5	37,5	56701+
	ISO 40	23,5	28	48	130-480	19,1	43,5	37,5	▲
	ISO 50	23,5	28	48	160	19,1	43,5	37,5	56711+
	ISO 50	23,5	28	48	160-445	19,1	43,5	37,5	▲
10	ISO 40	25,5	30	48	130	19,1	43,5	42,5	56702+
	ISO 40	25,5	30	48	130-480	19,1	43,5	42,5	▲
	ISO 50	25,5	30	48	160	19,1	43,5	42,5	56712+
	ISO 50	25,5	30	48	160-445	19,1	43,5	42,5	▲
12	ISO 40	27,5	32	48	130	19,1	44,5	47,5	56703+
	ISO 40	27,5	32	48	130-480	19,1	44,5	47,5	▲
	ISO 50	27,5	32	48	160	19,1	44,5	47,5	56713+
	ISO 50	27,5	32	48	160-445	19,1	44,5	47,5	▲
14	ISO 40	29,5	34	48	130	19,1	44,5	47,5	56704+
	ISO 40	29,5	34	48	130-480	19,1	44,5	47,5	▲
	ISO 50	29,5	34	48	160	19,1	44,5	47,5	56714+
	ISO 50	29,5	34	48	160-445	19,1	44,5	47,5	▲
16	ISO 40	33,5	38	48	130	19,1	47,5	52,5	56705+
	ISO 40	33,5	38	48	130-480	19,1	47,5	52,5	▲
	ISO 50	33,5	38	48	160	19,1	47,5	52,5	56715+
	ISO 50	33,5	38	48	160-445	19,1	47,5	52,5	▲
18	ISO 40	35,5	40	48	130	19,1	47,5	52,5	56706+
	ISO 40	35,5	40	48	130-480	19,1	47,5	52,5	▲
	ISO 50	35,5	40	48	160	19,1	47,5	52,5	56716+
	ISO 50	35,5	40	48	160-445	19,1	47,5	52,5	▲

**TYPE HCFL+** [milling membrane] with example of min and max length

DS mm	FITTING TYPE	D1 mm	D2 mm	D3 mm	L1 mm	L2 mm	L3 mm	LS mm	Art.no
20	ISO 40	37,5	42	48	130	19,1	47,5	52,5	56707+
	ISO 40	37,5	42	48	130-480	19,1	47,5	52,5	▲
	ISO 50	37,5	42	48	160	19,1	47,5	52,5	56717+
	ISO 50	37,5	42	48	160-445	19,1	47,5	52,5	▲
25	ISO 40	43,5	48	48	134	19,1	114	55	56708+
	ISO 40	43,5	48	48	134-480	19,1	—	55	▲
	ISO 50	43,5	48	48	164	19,1	123	55	56718+
	ISO 50	43,5	48	48	164-445	19,1	—	55	▲
32	ISO 40	55,5	60	70	140	19,1	57	65	56709+
	ISO 40	55,5	60	70	140-480	19,1	57	65	▲
	ISO 50	55,5	60	70	140	19,1	57	65	56719+
	ISO 50	55,5	60	70	140-445	19,1	57	65	▲

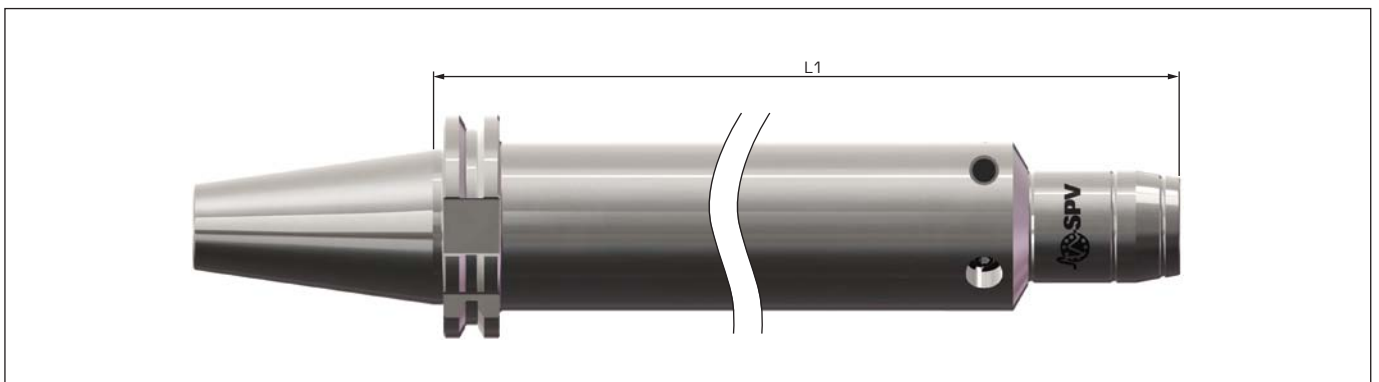
**Options for HCFL+**

- Dimensions which can be used with reduction sleeves. Other tool diameters [DS] or with ISO 45 please enquire.
- ▲ Depending on chosen length L1

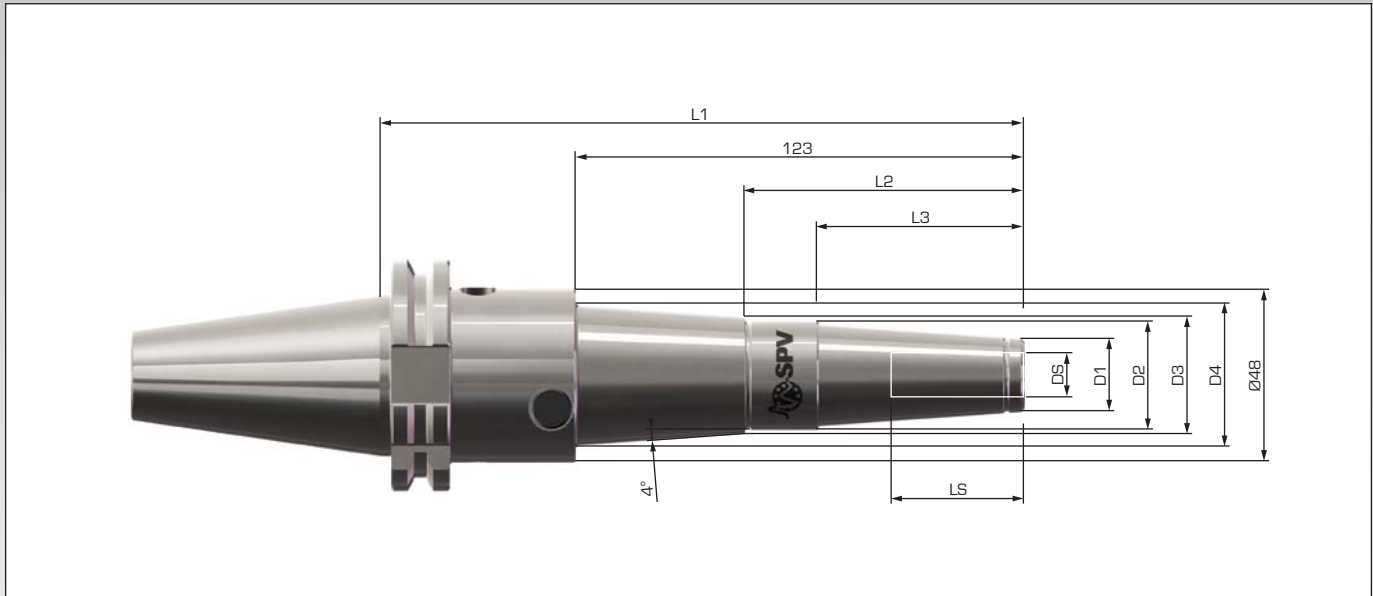
- Q Quick-Set (quick length adjustment - 10mm from chuck side)
  - G Supplementary balancing up to 30 000 RPM (depending on size)
- Centre adjustment screw as standard. Balanced for 10 000 RPM G6,3 as standard.

**Extra long chucks type HCFL+** any length L1 as table

Ordering example: ISO 40 , Ø 20 , L1 = 290 mm , typ HCFL+ Art.no: 56707+/290



## TAPERED CHUCK WITH MILLING MEMBRANE [+]



### TYPE HCPK+ [milling membrane]

DS mm	FITTING TYPE	D1 mm	D2 mm	D3 mm	D3 mm	L1 mm	L2 mm	L3 mm	LS mm	Art.no
12	ISO 40	20	30	32	40,5	177	76,8	57	44	59183+
	ISO 40	20	30	32	40,5	217-480	76,8	57	44	▲
	ISO 50	20	30	32	40,5	177	76,8	57	44	59193+
	ISO 50	20	30	32	40,5	217-445	76,8	57	44	▲
20	ISO 40	32	39	42	50,5	177	74,8	55	52	59187+
	ISO 40	32	39	42	50,5	217-480	74,8	55	52	▲
	ISO 50	32	39	42	50,5	177	74,8	55	52	59197+
	ISO 50	32	39	42	50,5	217-445	74,8	55	52	▲

### Tillval för HCPK+

■ Dimensions which can be used with reduction sleeves. ISO 45 please enquire.

▲ Depending on chosen length L1

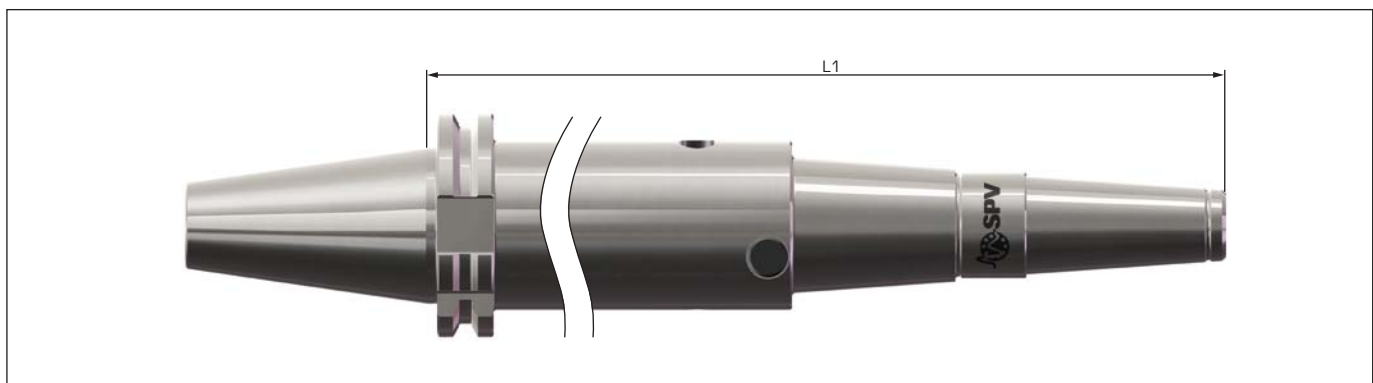
Q Quick-Set (quick length adjustment - 10mm from chuck side)

G Supplementary balancing up to 30 000 RPM (depending on size)

Centre adjustment screw as standard. Balanced for 10 000 RPM G6,3 as standard.

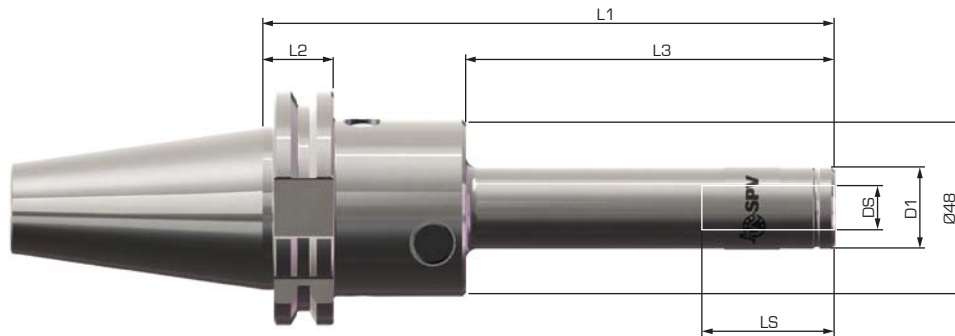
### Extra long chucks type HCPK+ [milling membrane] any length L1 as table

Ordering example: ISO 40 , Ø 20 , L1 = 277 mm , type HCPK+ Art.no: 59187+/277





## PEN-CHUCK WITH MILLING MEMBRANE [+]



## TYPE HCP+ [milling membrane]

DS mm	FITTING TYPE	D1 mm	L1 mm	L2 mm	L3 mm	L5 mm	Art.no
6	ISO 40	22,5	105	19,1	50	37,5	59000+
	ISO 40	22,5	155	19,1	100	37,5	59010+
	ISO 50	22,5	105	19,1	50	37,5	59050+
	ISO 50	22,5	155	19,1	100	37,5	59060+
8	ISO 40	22,5	105	19,1	50	37,5	59001+
	ISO 40	22,5	155	19,1	100	37,5	59011+
	ISO 50	22,5	105	19,1	50	37,5	59051+
	ISO 50	22,5	155	19,1	100	37,5	59061+
10	ISO 40	22,5	105	19,1	50	42,5	59002+
	ISO 40	22,5	155	19,1	100	42,5	59012+
	ISO 50	22,5	105	19,1	50	42,5	59052+
	ISO 50	22,5	155	19,1	100	42,5	59062+
12	ISO 40	22,5	105	19,1	50	44	59003+
	ISO 40	22,5	155	19,1	100	44	59013+
	ISO 50	22,5	105	19,1	50	44	59053+
	ISO 50	22,5	155	19,1	100	44	59063+

## Options for HCP+

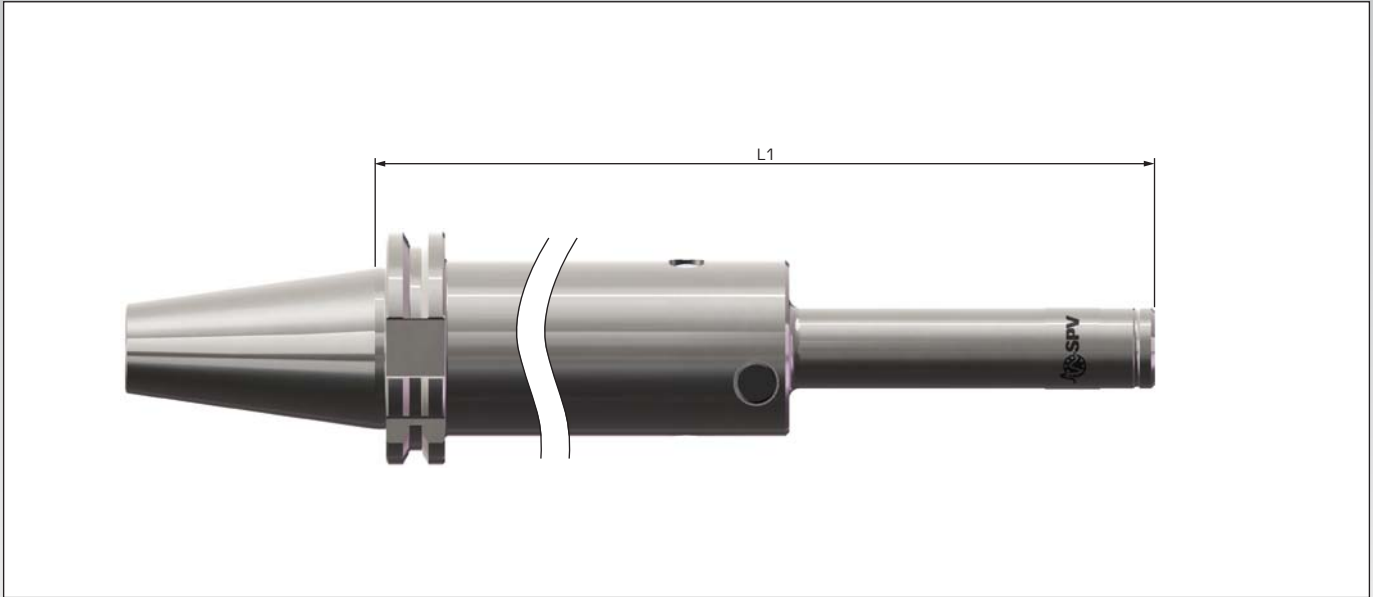
- Dimensions which can be used with reduction sleeves. Other tool diameters [DS] or with ISO 45 please enquire.

- ▲ Depending on chosen length L1

- Q Quick-Set (quick length adjustment - 10mm from chuck side)
- G Supplementary balancing up to 30 000 RPM (depending on size)

Centre adjustment screw as standard. Balanced for 10 000 RPM G6,3 as standard.

## EXTRA LONG PEN-CHUCKS HCP [+]



### Extra long chucks type HCP+ [milling membrane] any length L1 as below

Ordering example:

ISO 40,  $\varnothing$  12, L1 = 255 mm, type HCP+ Art.no: 59013+/255  
 Max L1 : ISO 40 = 480 mm ISO 50 = 445 mm

## EXTRA SHORT CHUCK WITH MILLING MEMBRANE [+]



### TYPE HCK+ [milling membrane] extra short length

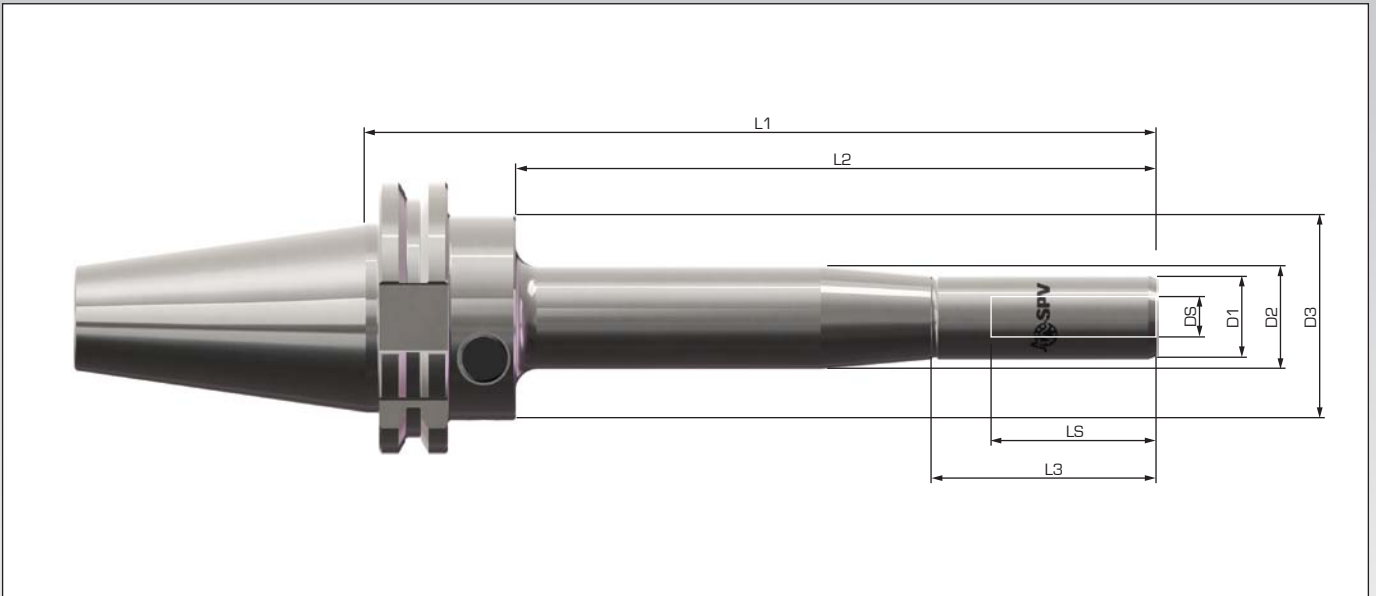
DS mm	FITTING TYPE	D1 mm	L1 mm	LS mm	Art.no
20	ISO 40	61	56	70	66122+

### Options for HCK+

■ Dimensions which can be used with reduction sleeves.

**G** Supplementary balancing up to 30 000 RPM (depending on size)  
 Centre adjustment screw as standard. Balanced for 10 000 RPM G6,3 as standard.

EXTRA LONG/SLIM PEN-CHUCK



TYPE HCPS

DS mm	FITTING TYPE	D1 mm	D2 mm	D3 mm	L1 mm	L2 mm	L3 mm	L5 mm	Art.no
12	ISO 40	19,5	—	48	135	100	—	42	59623
	ISO 50	19,5	—	48	135	100	—	42	59633
12	ISO 40	19,5	24	48	185	150	52	42	59723
	ISO 50	19,5	24	48	185	150	52	42	59733

Options for HCPS

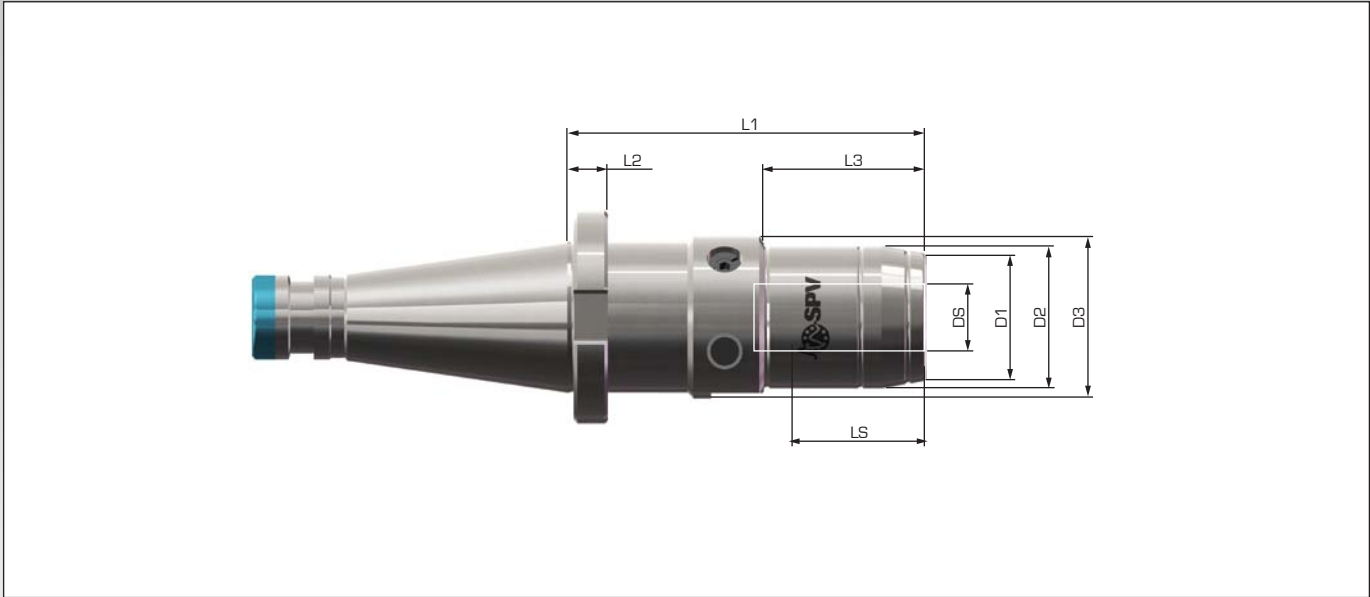
■ Dimensions which can be used with reduction sleeves.

ISO 45 please enquire.

**G** Supplementary balancing up to 30 000 RPM (depending on size)

Centre adjustment screw as standard. Balanced for 10 000 RPM G6,3 as standard.

## STANDARD CHUCK



### TYPE HCF standard length

DS mm	FITTING TYPE	D1 mm	D2 mm	D3 mm	L1 mm	L2 mm	L3 mm	L5 mm	Art.no
12	SK 40	27,5	32	48	105	11,5	43,5	47,5	56563
	SK 50	27,5	32	48	83	15,1	43,5	47,5	56573
20	SK 40	37,5	42	48	105	11,5	47,5	52,5	56567
	SK 50	37,5	42	48	83	15,1	47,5	52,5	56577
32	SK 50	55,5	60	70	96	15,1	57	65	56579

### Options for HCF

**■** Dimensions which can be used with reduction sleeves

Other tool diameters [DS] please enquire

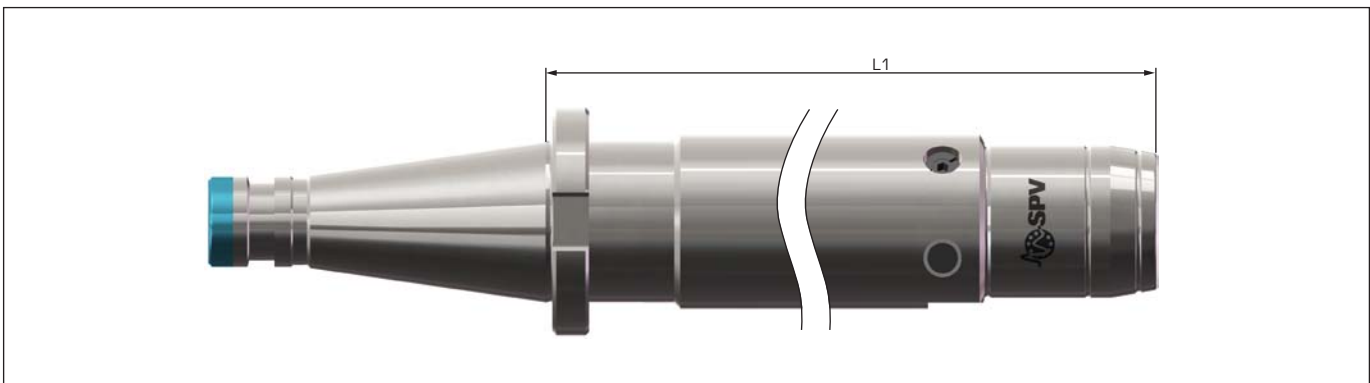
**Q** Quick-Set (quick length adjustment - 10mm from chuck side)  
**G** Supplementary balancing up to 30 000 RPM (depending on size)

Centre adjustment screw as standard. Balanced for 10 000 RPM G6,3 as standard.

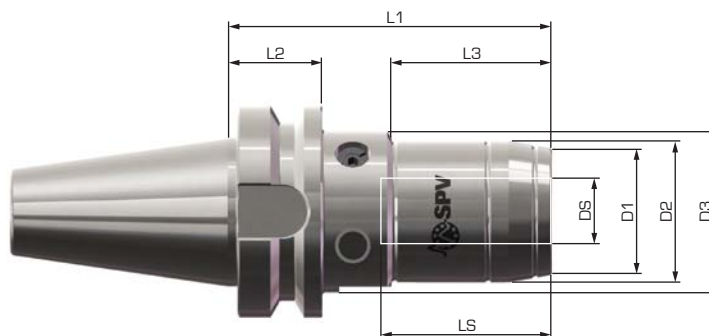
### Extra long chucks type HCF any length L1 as table

Ordering example:

SK 40 , Ø20 , L1 = 290 mm , type HCF Art.no: 56567/290  
 Max L1 : SK 40 = 450 mm SK 50 = 420 mm



## STANDARD CHUCK



## TYPE HCF standard length

DS mm	FITTING TYPE	D1 mm	D2 mm	D3 mm	L1 mm	L2 mm	L3 mm	LS mm	Art.no
6	BT 40	21,5	26	48	95	27	43,5	37,5	56640
	BT 50	21,5	26	48	106	38	43,5	37,5	56650
8	BT 40	23,5	28	48	95	27	43,5	37,5	56641
	BT 50	23,5	28	48	106	38	43,5	37,5	56651
10	BT 40	25,5	30	48	95	27	43,5	42,5	56642
	BT 50	25,5	30	48	106	38	43,5	42,5	56652
12	BT 40	27,5	32	48	95	27	44,5	47,5	56643
	BT 50	27,5	32	48	106	38	44,5	47,5	56653
14	BT 40	29,5	34	48	95	27	44,5	47,5	56644
	BT 50	29,5	34	48	106	38	44,5	47,5	56654
16	BT 40	33,5	38	48	95	27	47,5	52,5	56645
	BT 50	33,5	38	48	106	38	47,5	52,5	56655
18	BT 40	35,5	40	48	95	27	47,5	52,5	56646
	BT 50	35,5	40	48	106	38	47,5	52,5	56656
20	BT 40	37,5	42	48	95	27	47,5	52,5	56647
	BT 50	37,5	42	48	106	38	47,5	52,5	56657
25	BT 40	43,5	48	48	99	27	72	55	56648
	BT 50	43,5	48	48	110	38	72	55	56658
32	BT 40	55,5	60	70	108	27	57	65	56649
	BT 50	55,5	60	70	119	38	57	65	56659

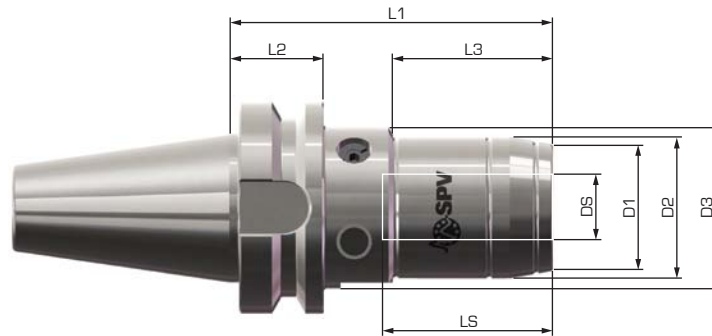
## Options for HCF

■ Dimensions which can be used with reduction sleeves

**Q** Quick-Set (quick length adjustment - 10mm from chuck side)  
**G** Supplementary balancing up to 30 000 RPM (depending on size)

Centre adjustment screw as standard. Balanced for 10 000 RPM G6,3 as standard.

## CHUCK WITH MILLING MEMBRANE [+]



### TYPE HCF+ [milling membrane] standard length

DS mm	FITTING TYPE	D1 mm	D2 mm	D3 mm	L1 mm	L2 mm	L3 mm	LS mm	Art.no
6	BT 40	21,5	26	48	95	27	43,5	37,5	56640+
	BT 50	21,5	26	48	106	38	43,5	37,5	56650+
8	BT 40	23,5	28	48	95	27	43,5	37,5	56641+
	BT 50	23,5	28	48	106	38	43,5	37,5	56651+
10	BT 40	25,5	30	48	95	27	43,5	42,5	56642+
	BT 50	25,5	30	48	106	38	43,5	42,5	56652+
12	BT 40	27,5	32	48	95	27	43,5	47,5	56643+
	BT 50	27,5	32	48	106	38	43,5	47,5	56653+
14	BT 40	29,5	34	48	95	27	43,5	47,5	56644+
	BT 50	29,5	34	48	106	38	43,5	47,5	56654+
16	BT 40	33,5	38	48	95	27	47,5	52,5	56645+
	BT 50	33,5	38	48	106	38	47,5	52,5	56655+
18	BT 40	35,5	40	48	95	27	47,5	52,5	56646+
	BT 50	35,5	40	48	106	38	47,5	52,5	56656+
20	BT 40	37,5	42	48	95	27	47,5	52,5	56647+
	BT 50	37,5	42	48	106	38	47,5	52,5	56657+
25	BT 40	43,5	48	48	99	27	72	55	56648+
	BT 50	43,5	48	48	110	38	72	55	56658+
32	BT 40	55,5	60	70	108	27	57	65	56649+
	BT 50	55,5	60	70	119	38	57	65	56659+
40	BT 50	65	70	70	124	38	85	70	56114+

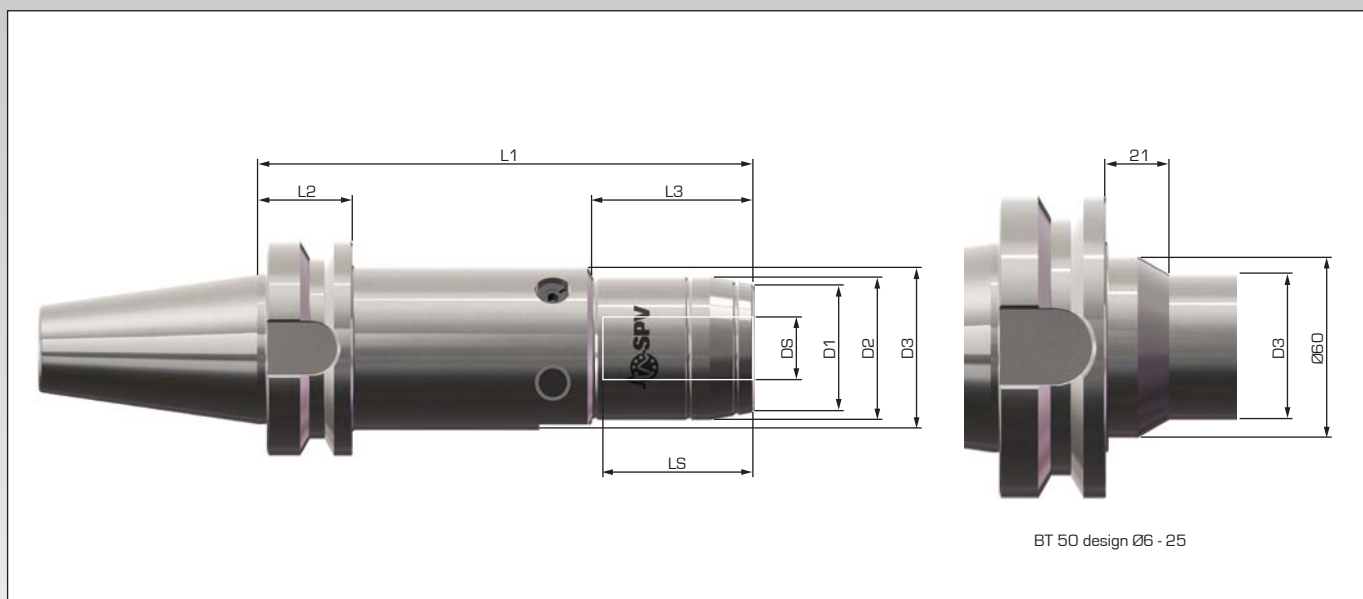
### Options for HCF+

■ Dimensions which can be used with reduction sleeves

**Q** Quick-Set (quick length adjustment - 10mm from chuck side)  
**G** Supplementary balancing up to 30 000 RPM (depending on size)

Centre adjustment screw as standard. Balanced for 10 000 RPM G6,3 as standard.

## EXTENDED STANDARD CHUCK



### TYPE HCFL with example of min and max length

DS mm	FITTING TYPE	D1 mm	D2 mm	D3 mm	L1 mm	L2 mm	L3 mm	LS mm	Art.no
6	BT 40	21,5	26	48	135	27	43,5	37,5	56720
	BT 40	21,5	26	48	135-485	27	43,5	37,5	▲
	BT 50	21,5	26	48	160	38	43,5	37,5	56730
	BT 50	21,5	26	48	160-445	38	43,5	37,5	▲
8	BT 40	23,5	28	48	135	27	43,5	37,5	56721
	BT 40	23,5	28	48	135-485	27	43,5	37,5	▲
	BT 50	23,5	28	48	160	38	43,5	37,5	56731
	BT 50	23,5	28	48	160-445	38	43,5	37,5	▲
10	BT 40	25,5	30	48	135	27	43,5	42,5	56722
	BT 40	25,5	30	48	135-485	27	43,5	42,5	▲
	BT 50	25,5	30	48	160	38	43,5	42,5	56732
	BT 50	25,5	30	48	160-445	38	43,5	42,5	▲
12	BT 40	27,5	32	48	135	27	44,5	47,5	56723
	BT 40	27,5	32	48	135-485	27	44,5	47,5	▲
	BT 50	27,5	32	48	160	38	44,5	47,5	56733
	BT 50	27,5	32	48	160-445	38	44,5	47,5	▲
14	BT 40	29,5	34	48	135	27	44,5	47,5	56724
	BT 40	29,5	34	48	135-485	27	44,5	47,5	▲
	BT 50	29,5	34	48	160	38	44,5	47,5	56734
	BT 50	29,5	34	48	160-445	38	44,5	47,5	▲
16	BT 40	33,5	38	48	135	27	47,5	52,5	56725
	BT 40	33,5	38	48	135-485	27	47,5	52,5	▲
	BT 50	33,5	38	48	160	38	47,5	52,5	56735
	BT 50	33,5	38	48	160-445	38	47,5	52,5	▲
18	BT 40	35,5	40	48	135	27	47,5	52,5	56726
	BT 40	35,5	40	48	135-485	27	47,5	52,5	▲
	BT 50	35,5	40	48	160	38	47,5	52,5	56736
	BT 50	35,5	40	48	160-445	38	47,5	52,5	▲

**TYPE HCFL** with example of min and max length

DS mm	FITTING TYPE	D1 mm	D2 mm	D3 mm	L1 mm	L2 mm	L3 mm	LS mm	Art.no
20	BT 40	37,5	42	48	135	27	47,5	52,5	56727
	BT 40	37,5	42	48	135-485	27	47,5	52,5	▲
	BT 50	37,5	42	48	160	38	47,5	52,5	56737
	BT 50	37,5	42	48	160-445	38	47,5	52,5	▲
25	BT 40	43,5	48	48	139	27	111	55	56728
	BT 40	43,5	48	48	139-485	27	–	55	▲
	BT 50	43,5	48	48	164	38	105	55	56738
	BT 50	43,5	48	48	164-445	38	–	55	▲
32	BT 40	55,5	60	70	148	27	57	65	56729
	BT 40	55,5	60	70	148-485	27	57	65	▲
	BT 50	55,5	60	70	159	38	57	65	56739
	BT 50	55,5	60	70	159-445	38	57	65	▲

**Options for HCFL**

■ Dimensions which can be used with reduction sleeves

▲ Depending on chosen length L1

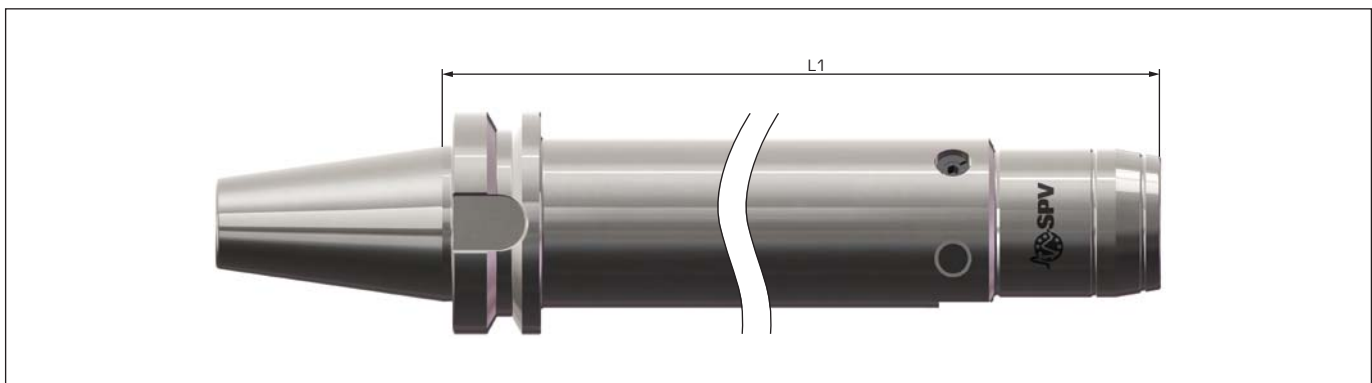
**Q** Quick-Set (quick length adjustment - 10mm from chuck side)

**G** Supplementary balancing up to 30 000 RPM (depending on size)

Centre adjustment screw as standard. Balanced for 10 000 RPM G6,3 as standard.

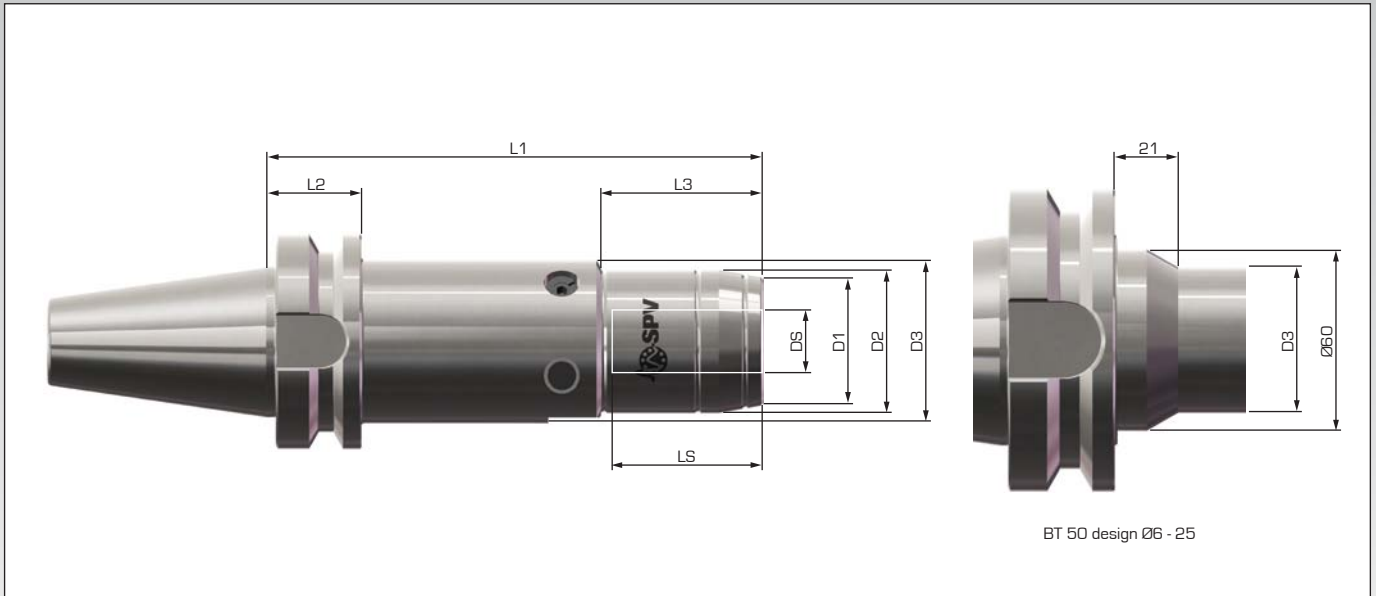
**Extra long chucks type HCFL** with example of min and max length

Ordering example: BT 40 , Ø 20 , L1 = 295 mm , type HCFL Art.no: 56727/295





## EXTENDED CHUCK WITH MILLING MEMBRANE [+]



### TYPE HCFL+ with example of min and max length

DS mm	FITTING TYPE	D1 mm	D2 mm	D3 mm	L1 mm	L2 mm	L3 mm	LS mm	Art.no
6	BT 40	21,5	26	48	135	27	43,5	37,5	56720+
	BT 40	21,5	26	48	135-485	27	43,5	37,5	▲
	BT 50	21,5	26	48	160	38	43,5	37,5	56730+
	BT 50	21,5	26	48	160-445	38	43,5	37,5	▲
8	BT 40	23,5	28	48	135	27	43,5	37,5	56721+
	BT 40	23,5	28	48	135-485	27	43,5	37,5	▲
	BT 50	23,5	28	48	160	38	43,5	37,5	56731+
	BT 50	23,5	28	48	160-445	38	43,5	37,5	▲
10	BT 40	25,5	30	48	135	27	43,5	42,5	56722+
	BT 40	25,5	30	48	135-485	27	43,5	42,5	▲
	BT 50	25,5	30	48	160	38	43,5	42,5	56732+
	BT 50	25,5	30	48	160-445	38	43,5	42,5	▲
12	BT 40	27,5	32	48	135	27	44,5	47,5	56723+
	BT 40	27,5	32	48	135-485	27	44,5	47,5	▲
	BT 50	27,5	32	48	160	38	44,5	47,5	56733+
	BT 50	27,5	32	48	160-445	38	44,5	47,5	▲
14	BT 40	29,5	34	48	135	27	44,5	47,5	56724+
	BT 40	29,5	34	48	135-485	27	44,5	47,5	▲
	BT 50	29,5	34	48	160	38	44,5	47,5	56734+
	BT 50	29,5	34	48	160-445	38	44,5	47,5	▲
16	BT 40	33,5	38	48	135	27	47,5	52,5	56725+
	BT 40	33,5	38	48	135-485	27	47,5	52,5	▲
	BT 50	33,5	38	48	160	38	47,5	52,5	56735+
	BT 50	33,5	38	48	160-445	38	47,5	52,5	▲
18	BT 40	35,5	40	48	135	27	47,5	52,5	56726+
	BT 40	35,5	40	48	135-485	27	47,5	52,5	▲
	BT 50	35,5	40	48	160	38	47,5	52,5	56736+
	BT 50	35,5	40	48	160-445	38	47,5	52,5	▲

**TYPE HCFL+** with example of min and max length

DS mm	FITTING TYPE	D1 mm	D2 mm	D3 mm	L1 mm	L2 mm	L3 mm	LS mm	Art.no
20	BT 40	37,5	42	48	135	27	47,5	52,5	56727+
	BT 40	37,5	42	48	135-485	27	47,5	52,5	▲
	BT 50	37,5	42	48	160	38	47,5	52,5	56737+
	BT 50	37,5	42	48	160-445	38	47,5	52,5	▲
25	BT 40	43,5	48	48	139	27	111	55	56728+
	BT 40	43,5	48	48	139-485	27	–	55	▲
	BT 50	43,5	48	48	164	38	105	55	56738+
	BT 50	43,5	48	48	164-445	38	–	55	▲
32	BT 40	55,5	60	70	148	27	57	65	56729+
	BT 40	55,5	60	70	148-485	27	57	65	▲
	BT 50	55,5	60	70	159	38	57	65	56739+
	BT 50	55,5	60	70	159-445	38	57	65	▲

**Options for HCFL+**

■ Dimensions which can be used with reduction sleeves.

▲ Depending on chosen length L1

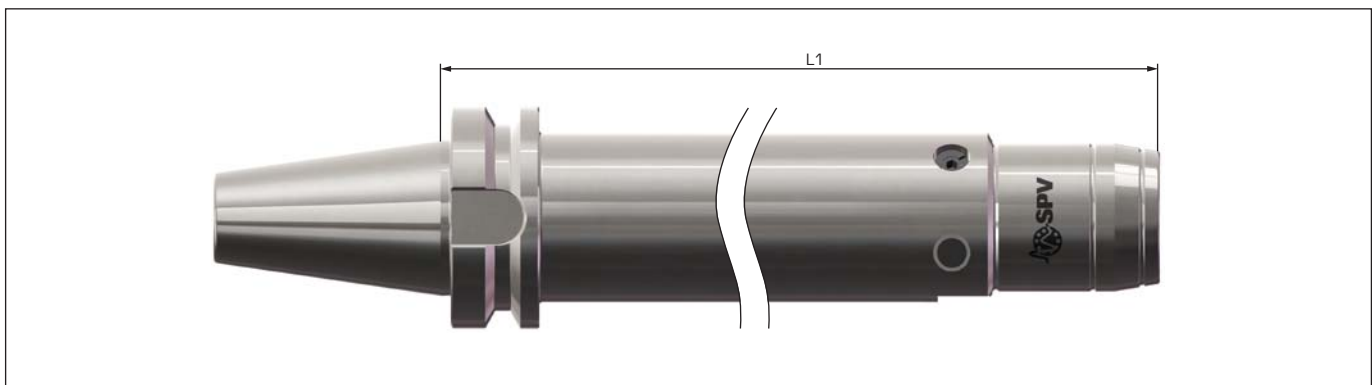
**Q** Quick-Set (quick length adjustment - 10mm from chuck side)

**G** Supplementary balancing up to 30 000 RPM (depending on size)

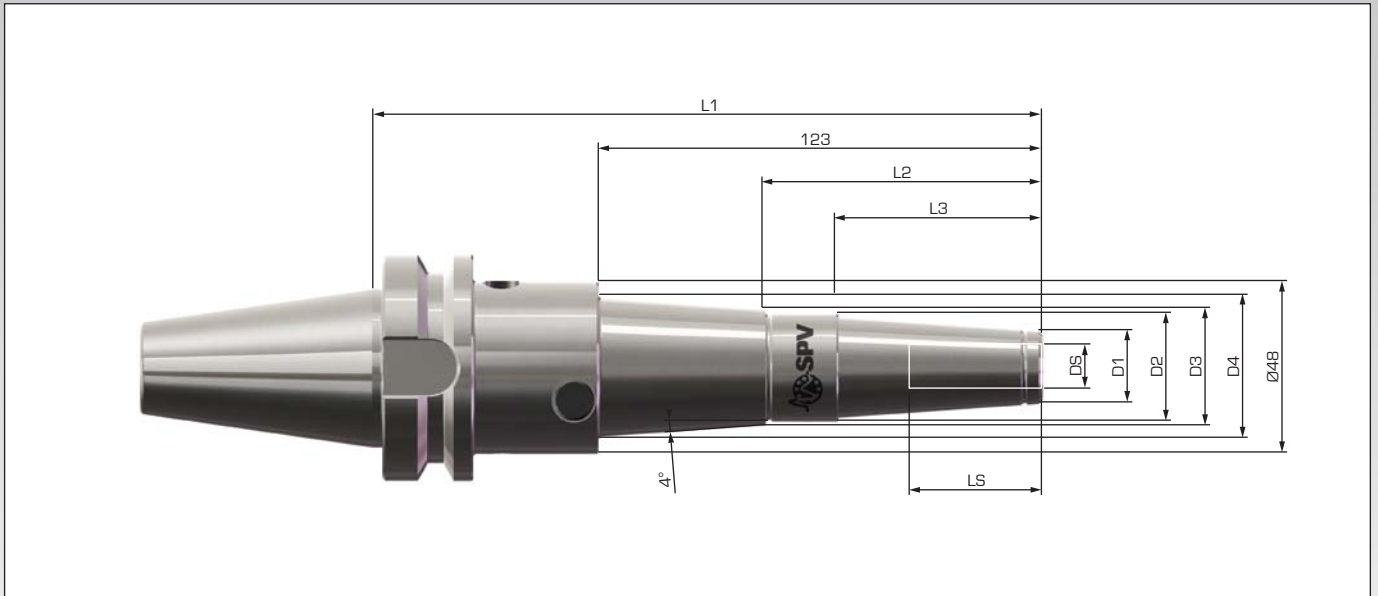
Centre adjustment screw as standard. Balanced for 10 000 RPM G6,3 as standard.

**Extra long chucks type HCFL+** with example of min and max length

Ordering example: BT 40 , Ø 20 , L1 = 295 mm , type HCFL+ Art.no: 56727+ / 295



## TAPERED CHUCK WITH MILLING MEMBRANE [+]



### TYPE HCPK+ [milling membrane]

DS mm	FITTING TYPE	D1 mm	D2 mm	D3 mm	D3 mm	L1 mm	L2 mm	L3 mm	LS mm	Art.no
12	BT 40	20	30	32	40,5	185	76,8	57	44	59143+
	BT 40	20	30	32	40,5	225-485	76,8	57	44	▲
	BT 50	20	30	32	40,5	196	76,8	57	44	59173+
	BT 50	20	30	32	40,5	236-445	76,8	57	44	▲
20	BT 40	32	39	42	50,5	185	74,8	55	52	59147+
	BT 40	32	39	42	50,5	225-485	74,8	55	52	▲
	BT 50	32	39	42	50,5	196	74,8	55	52	59177+
	BT 50	32	39	42	50,5	236-445	74,8	55	52	▲

### Options for HCPK+

■ Dimensions which can be used with reduction sleeves

▲ Depending on chosen length L1

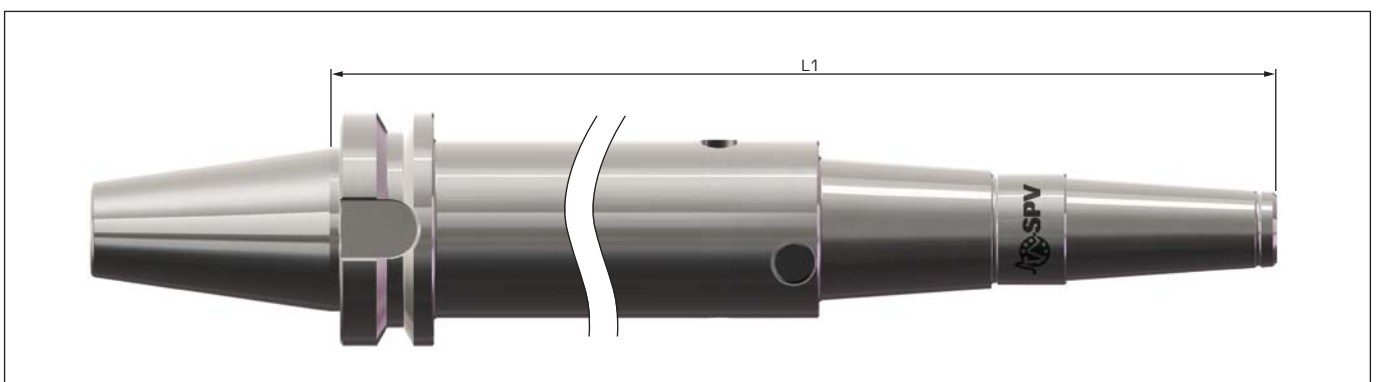
**Q** Quick-Set (quick length adjustment - 10mm from chuck side)

**G** Supplementary balancing up to 30 000 RPM (depending on size)

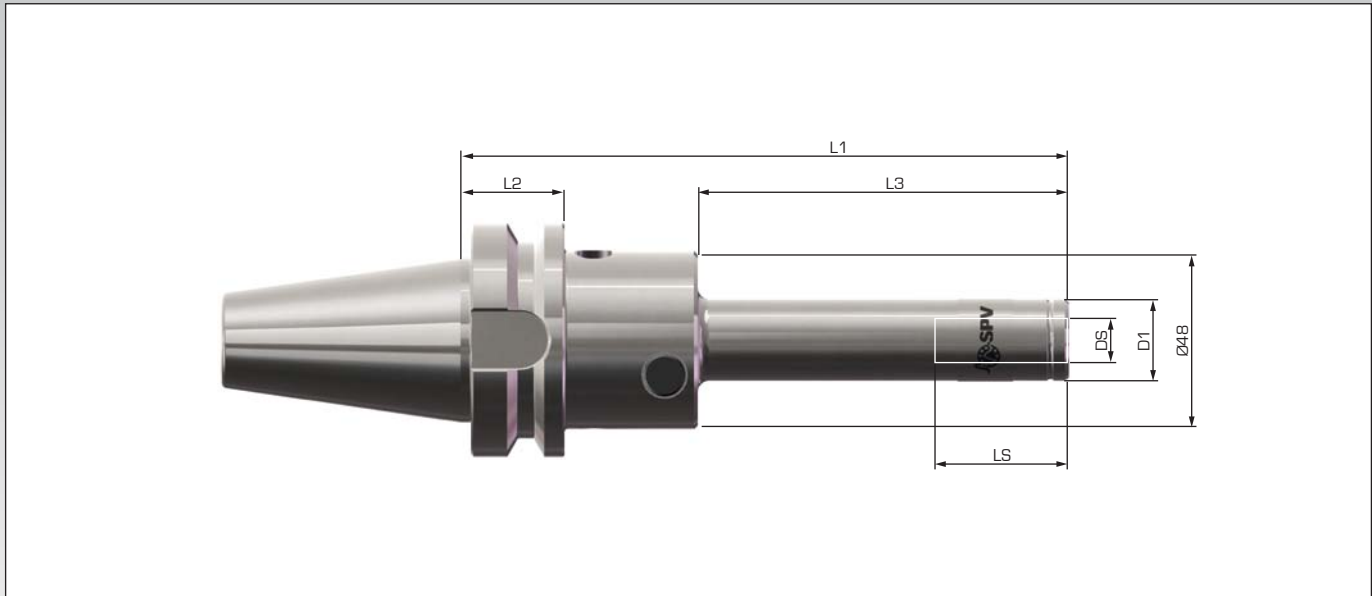
Balanced for 10 000 RPM G6,3 as standard.

### Extra long chucks type HCPK+ [milling membrane] any length L1 as table

Ordering example: BT 40 , Ø 20 , L1 = 285 mm , type HCPK+ Art.no: 59147+ /285



## PEN-CHUCK WITH MILLING MEMBRANE [+]



### TYPE HCP+ [milling membrane]

DS mm	FITTING TYPE	D1 mm	L1 mm	L2 mm	L3 mm	L5 mm	Art.no
6	BT 40	22,5	113	27	50	37,5	59100+
	BT 40	22,5	163	27	100	37,5	59110+
	BT 50	22,5	124	38	50	37,5	59150+
	BT 50	22,5	174	38	100	37,5	59160+
8	BT 40	22,5	113	27	50	37,5	59101+
	BT 40	22,5	163	27	100	37,5	59111+
	BT 50	22,5	124	38	50	37,5	59151+
	BT 50	22,5	174	38	100	37,5	59161+
10	BT 40	22,5	113	27	50	42,5	59102+
	BT 40	22,5	163	27	100	42,5	59112+
	BT 50	22,5	124	38	50	42,5	59152+
	BT 50	22,5	174	38	100	42,5	59162+
12	BT 40	22,5	113	27	50	44	59103+
	BT 40	22,5	163	27	100	44	59113+
	BT 50	22,5	124	38	50	44	59153+
	BT 50	22,5	174	38	100	44	59163+

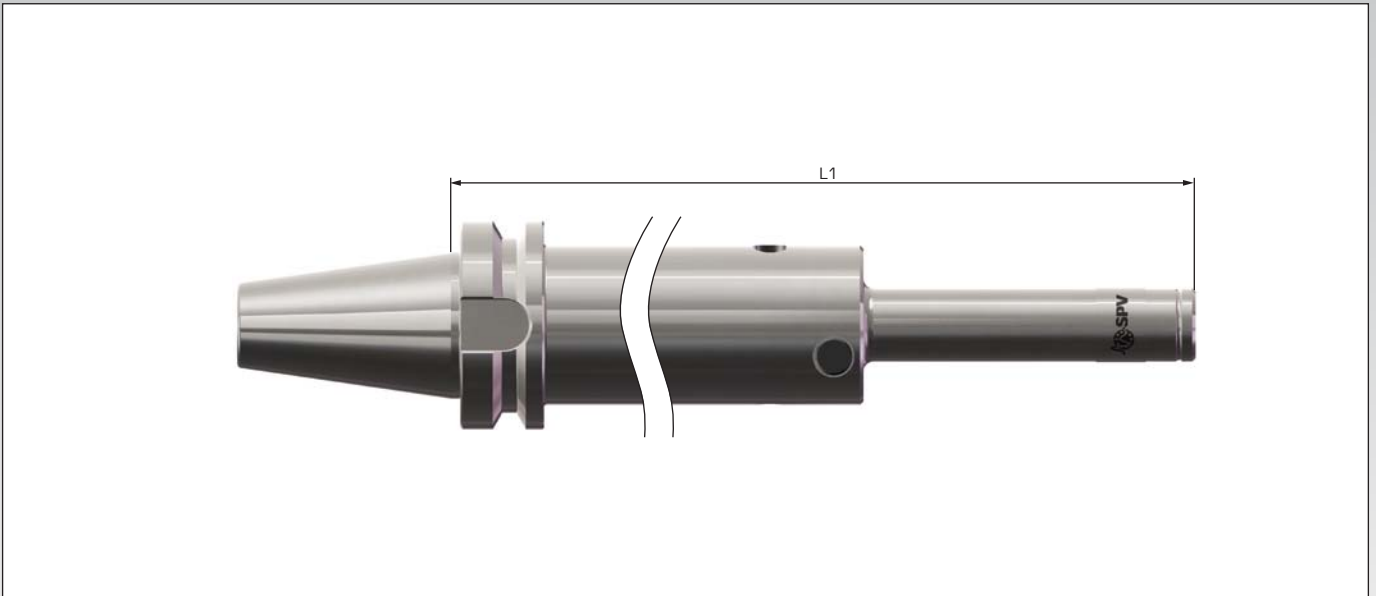
### Options for HCP+

■ Dimensions which can be used with reduction sleeves

- Q** Quick-Set (quick length adjustment - 10mm from chuck side)
- G** Supplementary balancing up to 30 000 RPM (depending on size)

Balanced for 10 000 RPM G6,3 as standard.

## EXTRA LONG PEN-CHUCKS HCP+

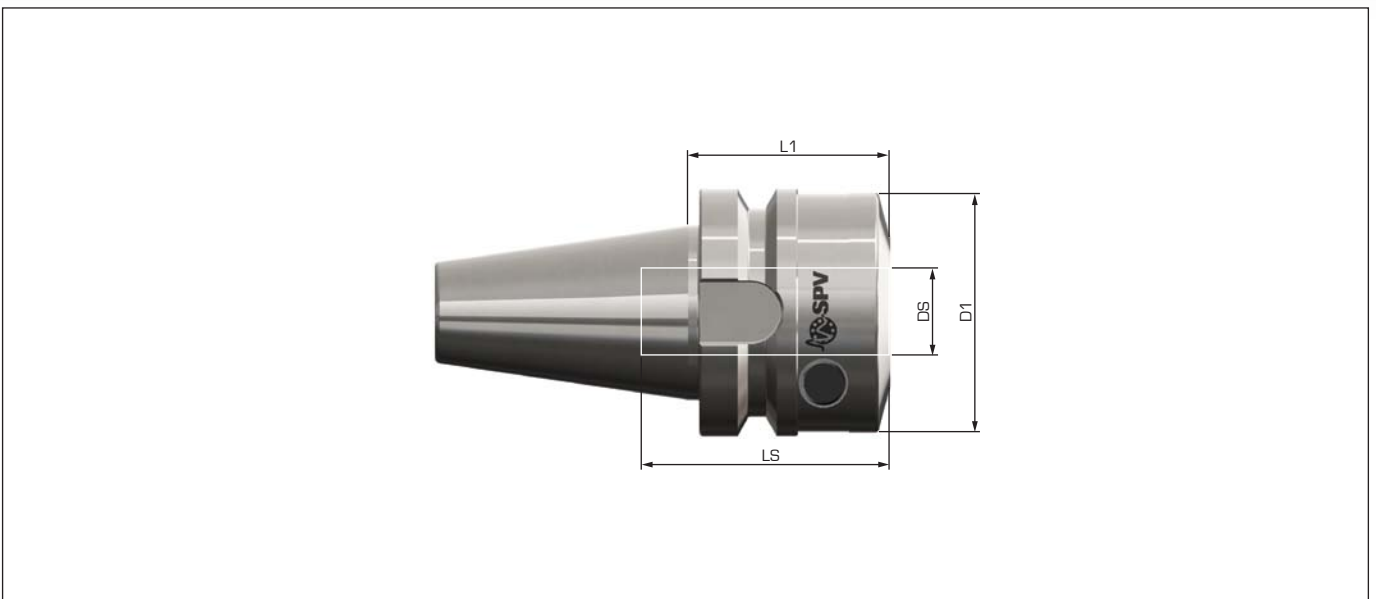


### Extra long pen-chucks type HCP+ [milling membrane] any length L1 as below

Ordering example:

BT 40 , Ø 12 , L1 = 263 mm , type HCP+ Art.no: 59113+/263  
 Max L1 : BT 40 = 485 mm BT 50 = 445 mm

## EXTRA SHORT CHUCK WITH MILLING MEMBRANE [+]



### TYPE HCK+ [milling membrane] extra short length

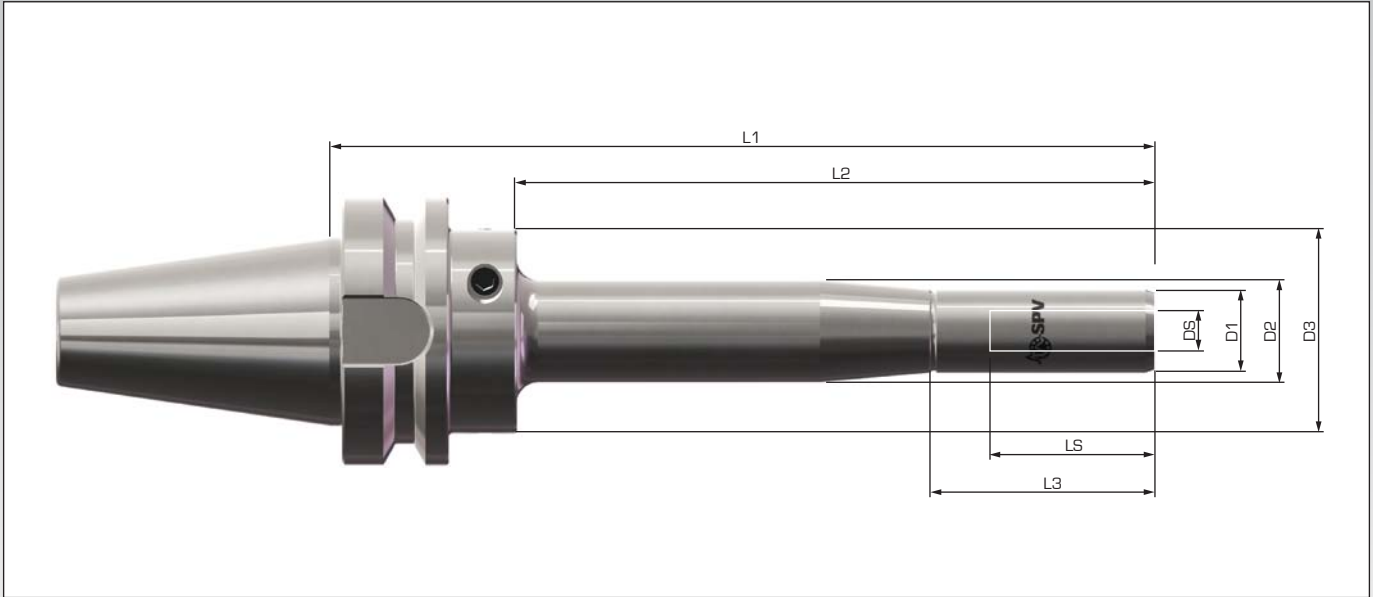
DS mm	FITTING TYPE	D1 mm	L1 mm	LS mm	Art.no
20	BT 40	61	56	70	66125+

### Options for HCK+

■ Dimensions which can be used with reduction sleeves

**G** Supplementary balancing up to 30 000 RPM (depending on size)  
 Centre adjustment screw as standard. Balanced for 10 000 RPM G6,3 as standard.

EXTRA LONG/SLIM PEN-CHUCK



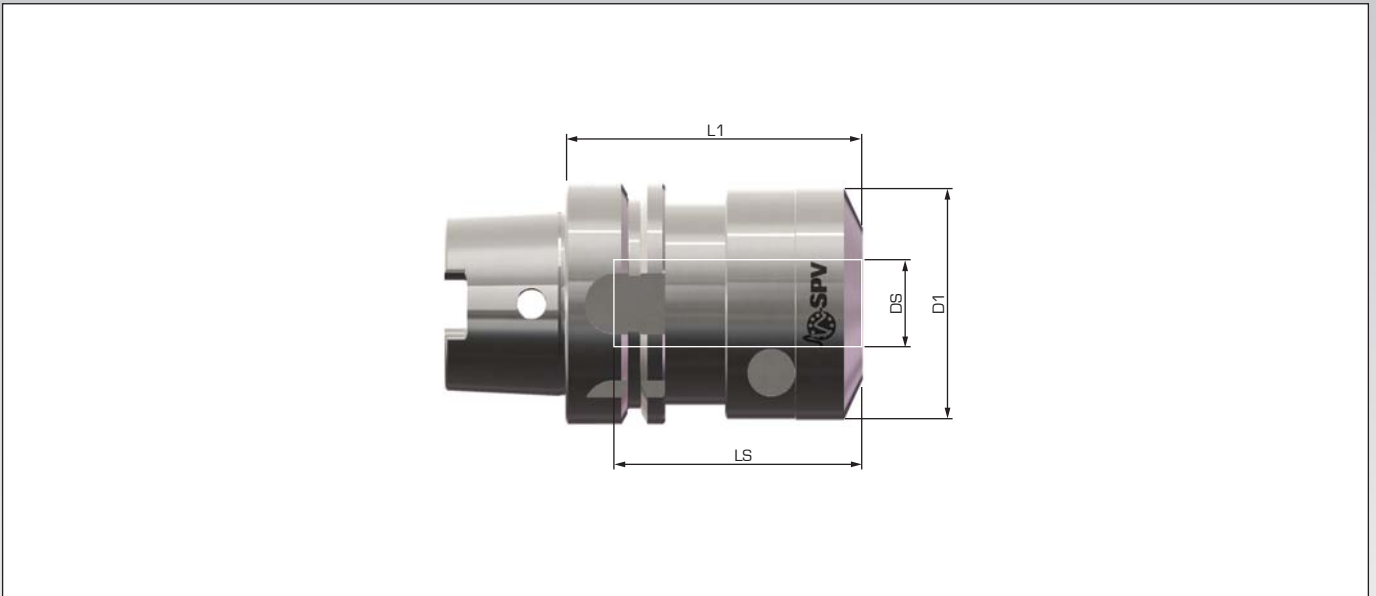
TYPE HCPS

DS mm	FITTING TYPE	D1 mm	D2 mm	D3 mm	L1 mm	L2 mm	L3 mm	L5 mm	Art.no
12	BT 40	19,5	48	—	143	100	—	42	59603
	BT 50	19,5	48	—	154	100	—	42	59613
12	BT 40	19,5	48	24	193	150	52	42	59703
	BT 50	19,5	48	24	204	150	52	42	59713

Options for HCPS

<p>■ Dimensions which can be used with reduction sleeves</p>	<p><b>G</b> Supplementary balancing up to 30 000 RPM (depending on size)</p> <p>Balanced for 10 000 RPM G6,3 as standard.</p>
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EXTRA SHORT CHUCK WITH MILLING MEMBRANE [+]



Extra short chucks type HCK+ [milling membrane] extra short length

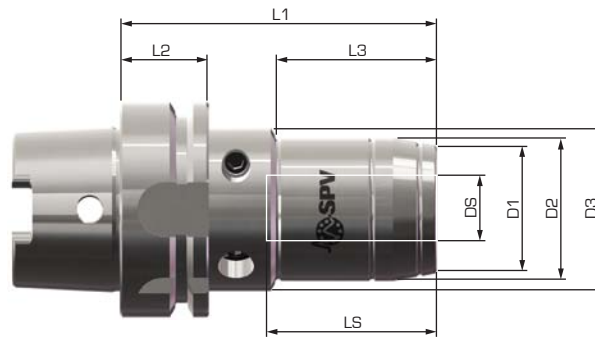
DS mm	FITTING TYPE	D1 mm	L1 mm	LS mm	Art.no
20	HSK-A 63	61	78	51,8	66109+
32	HSK-A 63	82	88	61,8	66111+

Options for HCK+

■ Dimensions which can be used with reduction sleeves

**G** Supplementary balancing up to 30 000 RPM (depending on size)  
Balanced for 10 000 RPM G6,3 as standard. Coolant tube is included as standard.

## STANDARD CHUCK



### TYP HCF standard length

DS mm	FITTING TYPE	D1 mm	D2 mm	D3 mm	L1 mm	L2 mm	L3 mm	LS mm	Art.no
6	HSK-A 63	21,5	26	50	71,5	26	24,5	37,5	54870
	HSK-A 80	21,5	26	48	127	26	43,5	37,5	56670
	HSK-A 100	21,5	26	48	140	29	43,5	37,5	56680
8	HSK-A 63	24	28	50	71,5	26	25,5	37,5	54871
	HSK-A 80	23,5	28	48	127	26	43,5	37,5	56671
	HSK-A 100	23,5	28	48	140	29	43,5	37,5	56681
10	HSK-A 63	26	30	50	81,5	26	35,5	42,5	54872
	HSK-A 80	25,5	30	48	127	26	43,5	42,5	56672
	HSK-A 100	25,5	30	48	140	29	43,5	42,5	56682
12	HSK-A 40	28	32	42	94,5	20	41,5	47,5	54853
	HSK-A 50	28	32	42	86,5	20	43,5	47,5	54863
	HSK-A 63	28	32	50	86,5	26	41,5	47,5	54873
	HSK-A 80	27,5	32	48	127	26	44,5	47,5	56673
	HSK-A 100	27,5	32	48	140	29	44,5	47,5	56683
14	HSK-A 63	30	34	50	86,5	26	41,5	47,5	54874
	HSK-A 80	29,5	34	48	127	26	44,5	47,5	56674
	HSK-A 100	29,5	34	48	140	29	44,5	47,5	56684
16	HSK-A 63	34	38	50	91,5	26	48	52,5	54875
	HSK-A 80	33,5	38	48	127	26	47,5	52,5	56675
	HSK-A 100	33,5	38	48	140	29	47,5	52,5	56685
18	HSK-A 63	35,5	40	50	91,5	26	48,5	52,5	54876
	HSK-A 80	35,5	40	48	127	26	47,5	52,5	56676
	HSK-A 100	35,5	40	48	140	29	47,5	52,5	56686



**TYPE HCF** standard length

DS mm	FITTING TYPE	D1 mm	D2 mm	D3 mm	L1 mm	L2 mm	L3 mm	LS mm	Art.no
20	HSK-A 50	38	42	42	91,5	20	65,5	51	54867
	HSK-A 63	38	42	50	91,5	26	49,5	52,5	54877
	HSK-A 80	37,5	42	48	127	26	47,5	52,5	56677
	HSK-A 100	37,5	42	48	140	29	47,5	52,5	56687
25	HSK-A 63	53	57	63	121	26	52	61	54878
	HSK-A 80	43,5	48	48	131	26	105	55	56678
	HSK-A 100	43,5	48	48	144	29	115	55	56688
32	HSK-A 63	60	64	75	126	26	62	65	54879
	HSK-A 80	55,5	60	70	140	26	57	65	56679
	HSK-A 100	55,5	60	70	153	29	57	65	56689

**Options for HCF**

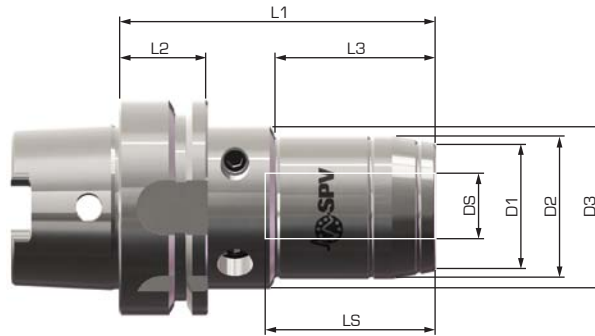
■ Dimensions which can be used with reduction sleeves

Other types of HSK, form C, E and F please enquire

**Q** Quick-Set (quick length adjustment - 10mm from chuck side)  
**G** Supplementary balancing up to 30 000 RPM (depending on size)

Centre adjustment screw as standard. Balanced for 10 000 RPM G6,3 as standard. Coolant tube is included as standard.

## CHUCK WITH MILLING MEMBRANE [+]



### TYPE HCF+ [milling membrane] standard length

DS mm	FITTING TYPE	D1 mm	D2 mm	D3 mm	L1 mm	L2 mm	L3 mm	L5 mm	Art.no
6	HSK-A 63	21,5	26	50	71,5	26	24,5	37,5	54870+
	HSK-A 80	21,5	26	48	127	26	43,5	37,5	56670+
	HSK-A 100	21,5	26	48	140	29	43,5	37,5	56680+
8	HSK-A 63	24	28	50	71,5	26	25,5	37,5	54871+
	HSK-A 80	23,5	28	48	127	26	43,5	37,5	56671+
	HSK-A 100	23,5	28	48	140	29	43,5	37,5	56681+
10	HSK-A 63	26	30	50	81,5	26	35,5	42,5	54872+
	HSK-A 80	25,5	30	48	127	26	43,5	42,5	56672+
	HSK-A 100	25,5	30	48	140	29	43,5	42,5	56682+
12	HSK-A 40	28	32	42	94,5	20	41,5	47,5	54853+
	HSK-A 50	28	32	42	86,5	26	43,5	47,5	54863+
	HSK-A 63	28	32	50	86,5	26	41,5	47,5	54873+
	HSK-A 80	27,5	32	48	127	26	44,5	47,5	56673+
	HSK-A 100	27,5	32	48	140	29	44,5	47,5	56683+
14	HSK-A 63	30	34	50	86,5	26	41,5	47,5	54874+
	HSK-A 80	29,5	34	48	127	26	44,5	47,5	56674+
	HSK-A 100	29,5	34	48	140	29	44,5	47,5	56684+
16	HSK-A 63	34	38	50	91,5	26	48	52,5	54875+
	HSK-A 80	33,5	38	48	127	26	47,5	52,5	56675+
	HSK-A 100	33,5	38	48	140	29	47,5	52,5	56685+
18	HSK-A 63	35,5	40	50	91,5	26	48,5	52,5	54876+
	HSK-A 80	35,5	40	48	127	26	47,5	52,5	56676+
	HSK-A 100	35,5	40	48	140	29	47,5	52,5	56686+

**TYPE HCF+** [milling membrane] standard length

DS mm	FITTING TYPE	D1 mm	D2 mm	D3 mm	L1 mm	L2 mm	L3 mm	LS mm	Art.no
20	HSK-A 50	38	42	42	91,5	20	65,5	51	54867+
	HSK-A 63	38	42	50	91,5	26	49,5	52,5	54877+
	HSK-A 80	37,5	42	48	127	26	47,5	52,5	56677+
	HSK-A 100	37,5	42	48	140	29	47,5	52,5	56687+
25	HSK-A 63	53	57	63	121	26	52	61	54878+
	HSK-A 80	43,5	48	48	131	26	105	55	56678+
	HSK-A 100	43,5	48	48	144	29	115	55	56688+
32	HSK-A 63	60	64	75	126	26	62	65	54879+
	HSK-A 80	55,5	60	70	140	26	57	65	56679+
	HSK-A 100	55,5	60	70	153	29	57	65	56689+
40	HSK-A 100	65	70	70	158	29	85	70	56120+

**Options for HCF+**

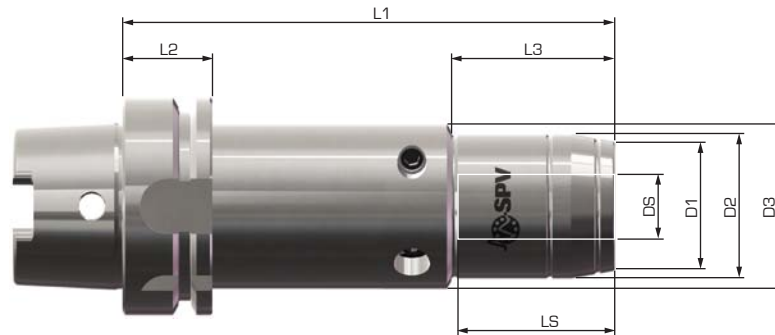
■ Dimensions which can be used with reduction sleeves

Other types of HSK, form C, E and F please enquire

**Q** Quick-Set (quick length adjustment - 10mm from chuck side)  
**G** Supplementary balancing up to 30 000 RPM (depending on size)

Centre adjustment screw as standard. Balanced for 10 000 RPM G6,3 as standard. Coolant tube is included as standard.

## EXTENDED STANDARD CHUCK



### TYPE HCFL with example of min and max length

DS mm	FITTING TYPE	D1 mm	D2 mm	D3 mm	L1 mm	L2 mm	L3 mm	L5 mm	Art.no
6	HSK-A 63	21,5	26	48	140	26	43,5	37,5	56660
	HSK-A 63	21,5	26	48	140-515	26	43,5	37,5	▲
	HSK-A 80	21,5	26	48	167	26	43,5	37,5	56690
	HSK-A 80	21,5	26	48	167-510	26	43,5	37,5	▲
	HSK-A 100	21,5	26	48	180	29	43,5	37,5	56760
	HSK-A 100	21,5	26	48	180-500	29	43,5	37,5	▲
8	HSK-A 63	23,5	28	48	140	26	43,5	37,5	56661
	HSK-A 63	23,5	28	48	140-515	26	43,5	37,5	▲
	HSK-A 80	23,5	28	48	167	26	43,5	37,5	56691
	HSK-A 80	23,5	28	48	167-510	26	43,5	37,5	▲
	HSK-A 100	23,5	28	48	180	29	43,5	37,5	56761
	HSK-A 100	23,5	28	48	180-500	29	43,5	37,5	▲
10	HSK-A 63	25,5	30	48	140	26	43,5	42,5	56662
	HSK-A 63	25,5	30	48	140-515	26	43,5	42,5	▲
	HSK-A 80	25,5	30	48	167	26	43,5	42,5	56692
	HSK-A 80	25,5	30	48	167-510	26	43,5	42,5	▲
	HSK-A 100	25,5	30	48	180	29	43,5	42,5	56762
	HSK-A 100	25,5	30	48	180-500	29	43,5	42,5	▲
12	HSK-A 63	27,5	32	48	140	26	44,5	47,5	56663
	HSK-A 63	27,5	32	48	180-515	26	44,5	47,5	▲
	HSK-A 80	27,5	32	48	167	26	44,5	47,5	56693
	HSK-A 80	27,5	32	48	167-510	26	44,5	47,5	▲
	HSK-A 100	27,5	32	48	180	29	44,5	47,5	56763
	HSK-A 100	27,5	32	48	180-500	29	44,5	47,5	▲
14	HSK-A 63	29,5	34	48	140	26	44,5	47,5	56664
	HSK-A 63	29,5	34	48	140-515	26	44,5	47,5	▲
	HSK-A 80	29,5	34	48	167	26	44,5	47,5	56694
	HSK-A 80	29,5	34	48	167-510	26	44,5	47,5	▲
	HSK-A 100	29,5	34	48	180	29	44,5	47,5	56764
	HSK-A 100	29,5	34	48	180-500	29	44,5	47,5	▲
16	HSK-A 63	33,5	38	48	140	26	47,5	52,5	56665
	HSK-A 63	33,5	38	48	140-515	26	47,5	52,5	▲
	HSK-A 80	33,5	38	48	167	26	47,5	52,5	56695
	HSK-A 80	33,5	38	48	167-510	26	47,5	52,5	▲
	HSK-A 100	33,5	38	48	180	29	47,5	52,5	56765
	HSK-A 100	33,5	38	48	180-500	29	47,5	52,5	▲

**TYPE HCFL** with example of min and max length

DS mm	FÄSTE TYP	D1 mm	D2 mm	D3 mm	L1 mm	L2 mm	L3 mm	LS mm	Art.nr
18	HSK-A 63	35,5	40	48	140	26	47,5	52,5	56666
	HSK-A 63	35,5	40	48	140-515	26	47,5	52,5	▲
	HSK-A 80	35,5	40	48	167	26	47,5	52,5	56696
	HSK-A 80	35,5	40	48	167-510	26	47,5	52,5	▲
	HSK-A 100	35,5	40	48	180	29	47,5	52,5	56766
	HSK-A 100	35,5	40	48	180-500	29	47,5	52,5	▲
20	HSK-A 63	37,5	42	48	140	26	47,5	52,5	56667
	HSK-A 63	37,5	42	48	140-515	26	47,5	52,5	▲
	HSK-A 80	37,5	42	48	167	26	47,5	52,5	56697
	HSK-A 80	37,5	42	48	167-510	26	47,5	52,5	▲
	HSK-A 100	37,5	42	48	180	29	47,5	52,5	56767
	HSK-A 100	37,5	42	48	180-500	29	47,5	52,5	▲
25	HSK-A 63	43,5	48	48	144	26	118	55	56668
	HSK-A 63	43,5	48	48	144-515	26	—	55	▲
	HSK-A 80	43,5	48	48	171	26	145	55	56698
	HSK-A 80	43,5	48	48	171-510	26	—	55	▲
	HSK-A 100	43,5	48	48	184	29	155	55	56768
	HSK-A 100	43,5	48	48	184-500	29	—	55	▲
32	HSK-A 63	55,5	60	70	193	26	57	65	56669
	HSK-A 63	55,5	60	70	153-515	26	57	65	▲
	HSK-A 80	55,5	60	70	180	26	57	65	56699
	HSK-A 80	55,5	60	70	180-510	26	57	65	▲
	HSK-A 100	55,5	60	70	193	29	57	65	56769
	HSK-A 100	55,5	60	70	193-500	29	57	65	▲

**Options for HCFL**

■ Dimensions which can be used with reduction sleeves

Other types of HSK, form C, E and F please enquire

▲ Depending on chosen length L1

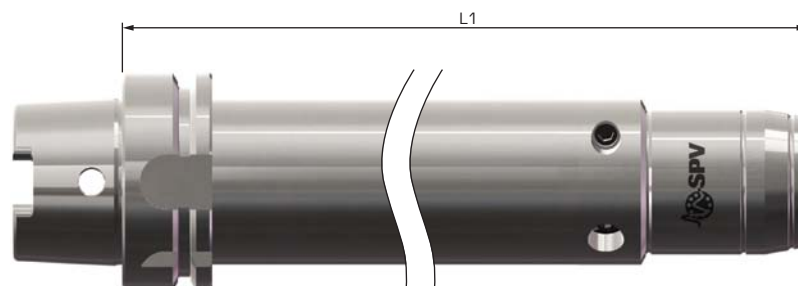
**Q** Quick-Set (quick length adjustment - 10mm from chuck side)

**G** Supplementary balancing up to 30 000 RPM (depending on size)

Centre adjustment screw as standard. Balanced for 10 000 RPM G6,3 as standard. Coolant tube is included as standard.

**Extra long chucks type HCFL+** any length L1 as table

Ordering example: HSK-63, Ø 20, L1 = 300 mm, type HCFL Art.no: 56667/300



EXTENDED CHUCK WITH MILLING MEMBRANE [+]



TYPE HCFL+ [milling membrane] with example of min and max length

DS mm	FITTING TYPE	D1 mm	D2 mm	D3 mm	L1 mm	L2 mm	L3 mm	L5 mm	Art.no
6	HSK-A 63	21,5	26	48	140	26	43,5	37,5	56660+
	HSK-A 63	21,5	26	48	140-515	26	43,5	37,5	▲
	HSK-A 80	21,5	26	48	167	26	43,5	37,5	56690+
	HSK-A 80	21,5	26	48	167-510	26	43,5	37,5	▲
	HSK-A 100	21,5	26	48	180	29	43,5	37,5	56760+
	HSK-A 100	21,5	26	48	180-500	29	43,5	37,5	▲
8	HSK-A 63	23,5	28	48	140	26	43,5	37,5	56661+
	HSK-A 63	23,5	28	48	140-515	26	43,5	37,5	▲
	HSK-A 80	23,5	28	48	167	26	43,5	37,5	56691+
	HSK-A 80	23,5	28	48	167-510	26	43,5	37,5	▲
	HSK-A 100	23,5	28	48	180	29	43,5	37,5	56761+
	HSK-A 100	23,5	28	48	180-500	29	43,5	37,5	▲
10	HSK-A 63	25,5	30	48	140	26	43,5	42,5	56662+
	HSK-A 63	25,5	30	48	140-515	26	43,5	42,5	▲
	HSK-A 80	25,5	30	48	167	26	43,5	42,5	56692+
	HSK-A 80	25,5	30	48	167-510	26	43,5	42,5	▲
	HSK-A 100	25,5	30	48	180	29	43,5	42,5	56762+
	HSK-A 100	25,5	30	48	180-500	29	43,5	42,5	▲
12	HSK-A 63	27,5	32	48	140	26	44,5	47,5	56663+
	HSK-A 63	27,5	32	48	180-515	26	44,5	47,5	▲
	HSK-A 80	27,5	32	48	167	26	44,5	47,5	56693+
	HSK-A 80	27,5	32	48	167-510	26	44,5	47,5	▲
	HSK-A 100	27,5	32	48	180	29	44,5	47,5	56763+
	HSK-A 100	27,5	32	48	180-500	29	44,5	47,5	▲
14	HSK-A 63	29,5	34	48	140	26	44,5	47,5	56664+
	HSK-A 63	29,5	34	48	140-515	26	44,5	47,5	▲
	HSK-A 80	29,5	34	48	167	26	44,5	47,5	56694+
	HSK-A 80	29,5	34	48	167-510	26	44,5	47,5	▲
	HSK-A 100	29,5	34	48	180	29	44,5	47,5	56764+
	HSK-A 100	29,5	34	48	180-500	29	44,5	47,5	▲
16	HSK-A 63	33,5	38	48	140	26	47,5	52,5	56665+
	HSK-A 63	33,5	38	48	140-515	26	47,5	52,5	▲
	HSK-A 80	33,5	38	48	167	26	47,5	52,5	56695+
	HSK-A 80	33,5	38	48	167-510	26	47,5	52,5	▲
	HSK-A 100	33,5	38	48	180	29	47,5	52,5	56765+
	HSK-A 100	33,5	38	48	180-500	29	47,5	52,5	▲

**TYPE HCFL+** [milling membrane] with example of min and max length

DS mm	FITTING TYPE	D1 mm	D2 mm	D3 mm	L1 mm	L2 mm	L3 mm	LS mm	Art.no
18	HSK-A 63	35,5	40	48	140	26	47,5	52,5	56666+
	HSK-A 63	35,5	40	48	140-515	26	47,5	52,5	▲
	HSK-A 80	35,5	40	48	167	26	47,5	52,5	56696+
	HSK-A 80	35,5	40	48	167-510	26	47,5	52,5	▲
	HSK-A 100	35,5	40	48	180	29	47,5	52,5	56766+
	HSK-A 100	35,5	40	48	180-500	29	47,5	52,5	▲
20	HSK-A 63	37,5	42	48	140	26	47,5	52,5	56667+
	HSK-A 63	37,5	42	48	140-515	26	47,5	52,5	▲
	HSK-A 80	37,5	42	48	167	26	47,5	52,5	56697+
	HSK-A 80	37,5	42	48	167-510	26	47,5	52,5	▲
	HSK-A 100	37,5	42	48	180	29	47,5	52,5	56767+
	HSK-A 100	37,5	42	48	180-500	29	47,5	52,5	▲
25	HSK-A 63	43,5	48	48	144	26	118	55	56668+
	HSK-A 63	43,5	48	48	144-515	26	—	55	▲
	HSK-A 80	43,5	48	48	171	26	145	55	56698+
	HSK-A 80	43,5	48	48	171-510	26	—	55	▲
	HSK-A 100	43,5	48	48	184	29	155	55	56768+
	HSK-A 100	43,5	48	48	184-500	29	—	55	▲
32	HSK-A 63	55,5	60	70	193	26	57	65	56669+
	HSK-A 63	55,5	60	70	153-515	26	57	65	▲
	HSK-A 80	55,5	60	70	180	26	57	65	56699+
	HSK-A 80	55,5	60	70	180-510	26	57	65	▲
	HSK-A 100	55,5	60	70	193	29	57	65	56769+
	HSK-A 100	55,5	60	70	193-500	29	57	65	▲

**Options for HCFL+**

■ Dimensions which can be used with reduction sleeves

Other types of HSK, form C, E and F please enquire

▲ Depending on chosen length L1

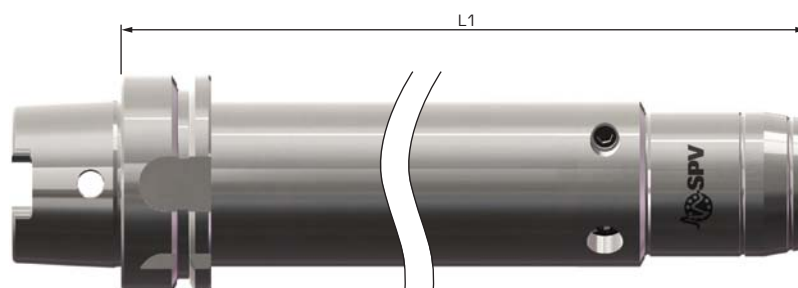
**Q** Quick-Set [quick length adjustment - 10mm from chuck side]

**G** Supplementary balancing up to 30 000 RPM [depending on size]

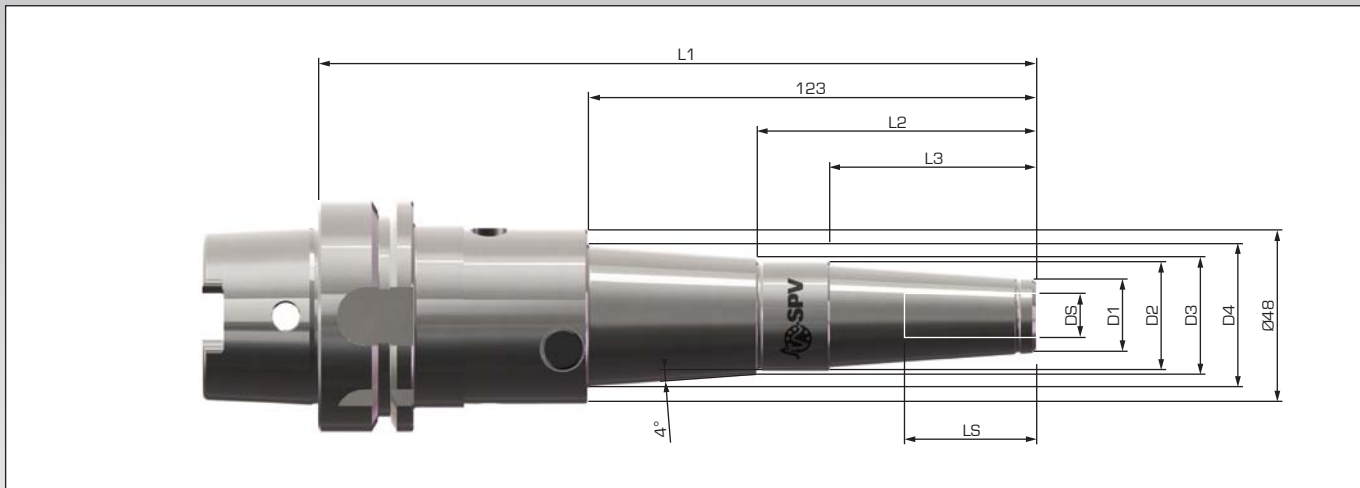
Centre adjustment screw as standard. Balanced for 10 000 RPM G6,3 as standard. Coolant tube is included as standard.

**Extra long chucks type HCFL+** [milling membrane] any length L1 as table

Ordering example: HSK-63, Ø 20, L1 = 300 mm, type HCFL+ Art.no: 56667+/300



## TAPERED CHUCK WITH MILLING MEMBRANE [+]



### TYPE HCPK+ [milling membrane]

DS mm	FITTING TYPE	D1 mm	D2 mm	D3 mm	D4 mm	L1 mm	L2 mm	L3 mm	LS mm	Art.no
12	HSK-A 63	20	30	32	40,5	197	76,8	57	44	54103+
	HSK-A 63	20	30	32	40,5	237-515	76,8	57	44	▲
	HSK-A 80	20	30	32	40,5	217	76,8	57	44	54113+
	HSK-A 80	20	30	32	40,5	257-510	76,8	57	44	▲
	HSK-A 100	20	30	32	40,5	230	76,8	57	44	54123+
	HSK-A 100	20	30	32	40,5	270-500	76,8	57	44	▲
20	HSK-A 63	32	39	42	50,5	197	74,8	55	52	54107+
	HSK-A 63	32	39	42	50,5	237-515	74,8	55	52	▲
	HSK-A 80	32	39	42	50,5	217	74,8	55	52	54117+
	HSK-A 80	32	39	42	50,5	257-510	74,8	55	52	▲
	HSK-A 100	32	39	42	50,5	230	74,8	55	52	54127+
	HSK-A 100	32	39	42	50,5	270-500	74,8	55	52	▲

### Options for HCPK+

■ Dimensions which can be used with reduction sleeves

Other types of HSK, form C, E and F please enquire

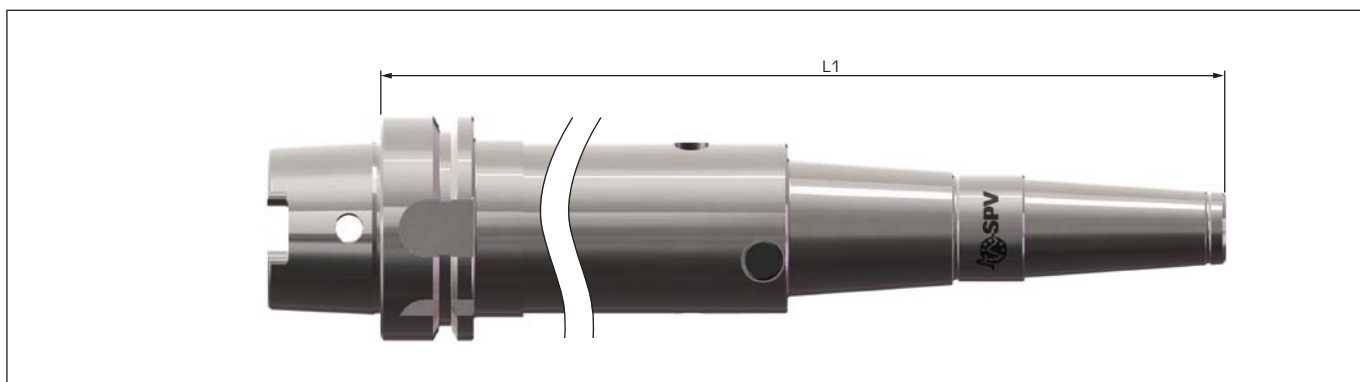
▲ Depending on chosen length L1

**Q** Quick-Set (quick length adjustment - 10mm from chuck side)  
**G** Supplementary balancing up to 30 000 RPM (depending on size)

Centre adjustment screw as standard. Balanced for 10 000 RPM G6,3 as standard. Coolant tube is included as standard.

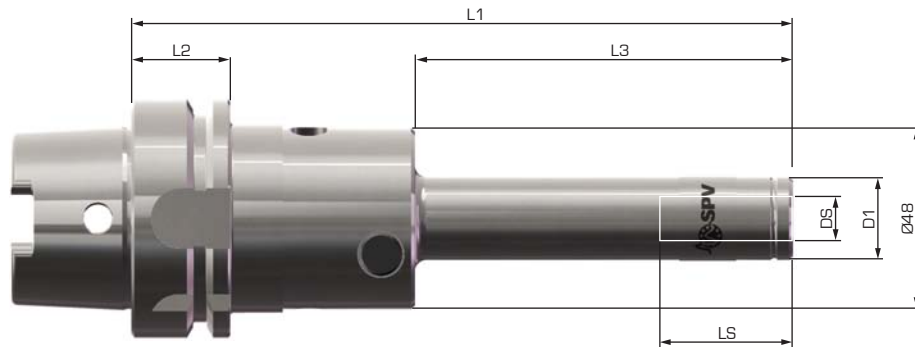
### Extra long chucks type HCPK+ [milling membrane] any length L1 as table

Ordering example: HSK-63, Ø 20, L1 = 297 mm, type HCPK+ Art.no: 54107+/297





PEN-CHUCK WITH MILLING MEMBRANE [+]



TYPE HCP+ [milling membrane]

DS mm	FITTING TYPE	D1 mm	L1 mm	L2 mm	L3 mm	L5 mm	Art.no
6	HSK-A 63	22,5	125	26	50	37,5	59300+
	HSK-A 63	22,5	175	26	100	37,5	59310+
	HSK-A 80	22,5	145	26	50	37,5	59235+
	HSK-A 80	22,5	195	26	100	37,5	59240+
	HSK-A 100	22,5	158	29	50	37,5	59350+
	HSK-A 100	22,5	208	29	100	37,5	59360+
8	HSK-A 63	22,5	125	26	50	37,5	59301+
	HSK-A 63	22,5	175	26	100	37,5	59311+
	HSK-A 80	22,5	145	26	50	37,5	59236+
	HSK-A 80	22,5	195	26	100	37,5	59241+
	HSK-A 100	22,5	158	29	50	37,5	59351+
	HSK-A 100	22,5	208	29	100	37,5	59361+
10	HSK-A 63	22,5	125	26	50	42,5	59302+
	HSK-A 63	22,5	175	26	100	42,5	59312+
	HSK-A 80	22,5	145	26	50	42,5	59237+
	HSK-A 80	22,5	195	26	100	42,5	59242+
	HSK-A 100	22,5	158	29	50	42,5	59352+
	HSK-A 100	22,5	208	29	100	42,5	59362+
12	HSK-A 63	22,5	125	26	50	44	59303+
	HSK-A 63	22,5	175	26	100	44	59313+
	HSK-A 80	22,5	145	26	50	44	59238+
	HSK-A 80	22,5	195	26	100	44	59243+
	HSK-A 100	22,5	158	29	50	44	59353+
	HSK-A 100	22,5	208	29	100	44	59363+

Options for HCP+

■ Dimensions which can be used with reduction sleeves

Other types of HSK, form C, E and F please enquire

Q Quick-Set (quick length adjustment - 10mm from chuck side)

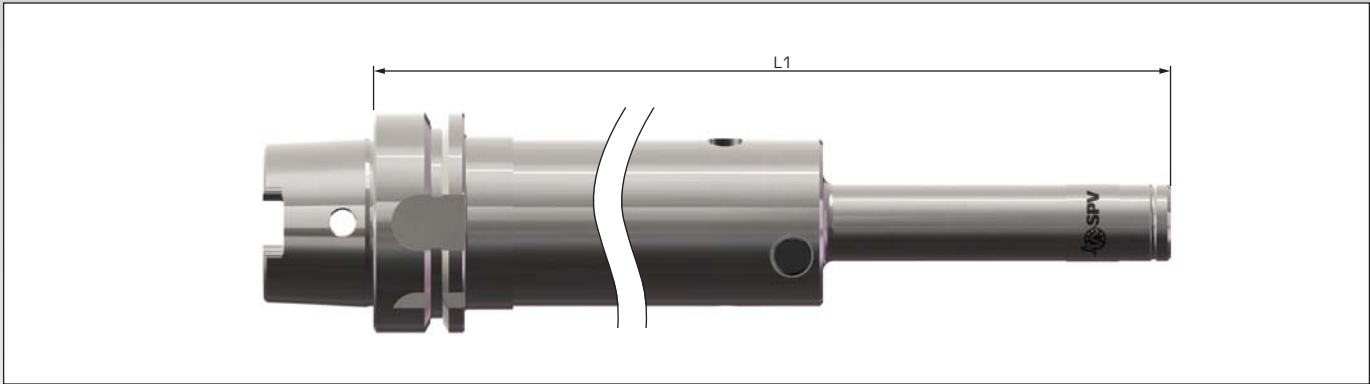
G Supplementary balancing up to 30 000 RPM (depending on size)

Centre adjustment screw as standard. Balanced for 10 000 RPM G6,3 as standard. Coolant tube is included as standard.

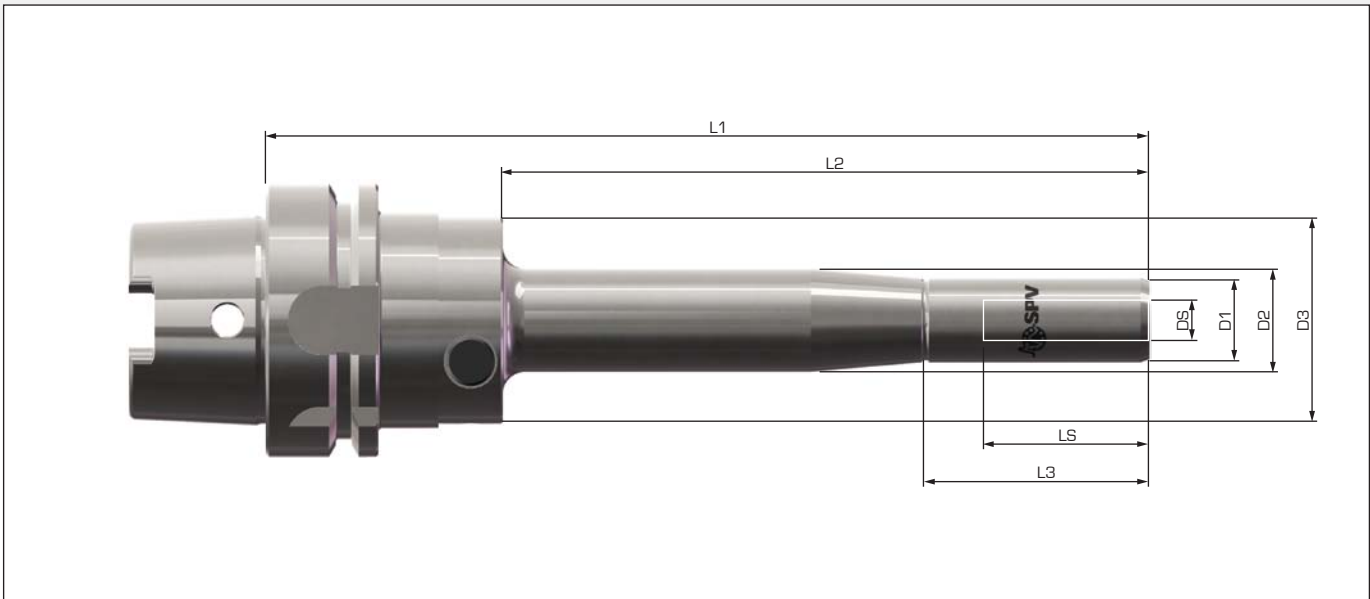
**Extra long pen-chuck HCP+ [milling membrane] any length L1 as below**

Ordering example:

HSK-96 , Ø12 , L1 = 275 mm , type HCP+ **Art.no: 59313+/275**  
 Max L1 : HSK-63 = 515 mm HSK-80 = 510 mm HSK-100 = 500 mm



**EXTRA LONG/SLIM PEN-CHUCK**



**TYPE HCPS**

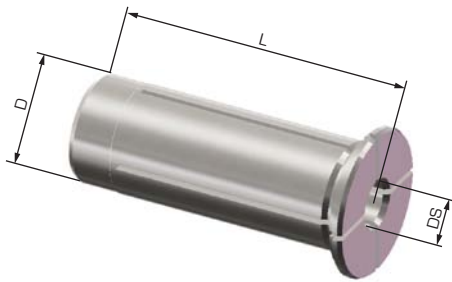
DS mm	FITTING TYPE	D1 mm	D2 mm	D3 mm	L1 mm	L2 mm	L3 mm	L5 mm	Art.no
12	BT 40	19,5	48	—	143	100	—	42	59603
	BT 50	19,5	48	—	154	100	—	42	59613
12	BT 40	19,5	48	24	193	150	52	42	59703
	BT 50	19,5	48	24	204	150	52	42	59713

**Options for HCPS**

■ Dimensions which can be used with reduction sleeves

**G** Supplementary balancing up to 30 000 RPM (depending on size)  
 Balanced for 10 000 RPM G6,3 as standard. Coolant tube is included as standard.

## REDUCTION SLEEVES



Sealed sleeve with rubber tip

Unsealed sleeve is obtained by removing the rubber tip

Other dimensions, please enquire

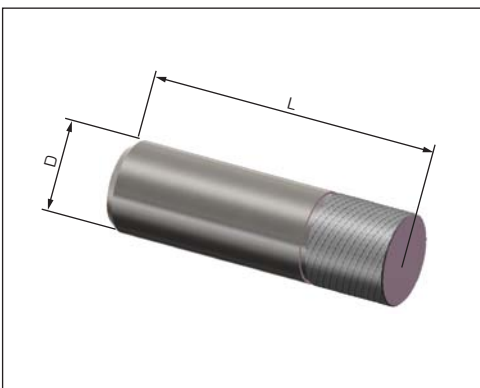
### Standard sleeves

D mm	DS mm	L mm	Art.no
12	3	44	90003
	4		90004
	5		90005
	6		90006
	8		90008
	10		90010
20	3	50	90103
	4		90104
	5		90105
	6		90106
	8		90108
	10		90110
	12		90112
	14		90114
	16		90116
32	6	63	90206
	8		90208
	10		90210
	12		90212
	14		90214
	16		90216
	18		90218
	20		90220
	25		90225

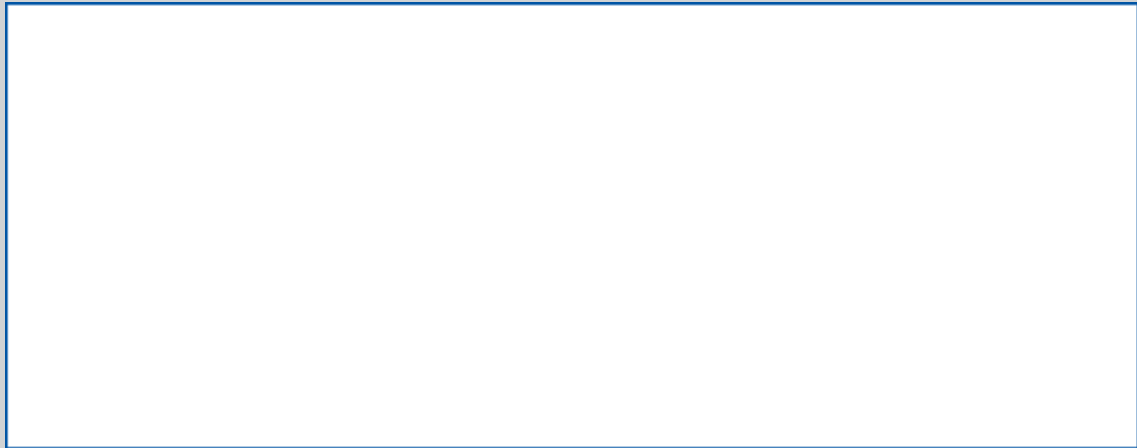
### With Quick-Set [adjustable]

D mm	DS mm	L mm	Art.no
20	6	53	65800Q
	8		65801Q
	10		65802Q
	12		65803Q
	14		65804Q
32	10	64,5	65807Q
	12		65808Q
	14		65809Q
	16		65810Q
	18		65811Q
	20		65812Q
40	25	71	65813Q
	16		66904Q
	20		66905Q
	25		66906Q
	32		66907Q

## TORQUE MANDREL



D mm	L mm	Art.no	D mm	L mm	Art.no
6	56	66800	16	68	66804
8	56	66801	18	68	66809
10	60	66802	20	72	66805
12	65	66803	25	76	66806
14	65	66808	32	83	66807



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