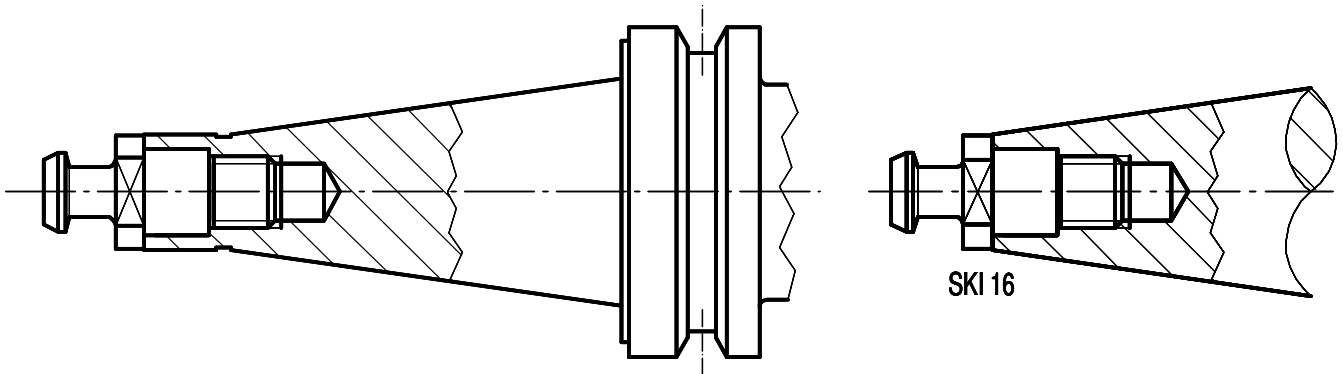


Werkzeugsysteme

Tooling Systems

Systèmes d'outillages

SKI



- Die **Schulter-/Plananlage (SKI)** verhindert ein Entziehen der Werkzeugaufnahme in die Spindel und erhöht die Stabilität. Sie ermöglicht eine sehr genaue Längeneinstellung der Werkzeuge.
- **Spannen und Werkzeugwechsel:** manuell und/oder automatisch
- **Kühlen:** Durch das Spindelzentrum
- **Momentübertragung:** durch Reibung
- Internationales Patent für Europa, Japan, USA – **Patent Nr. 4 770 576**

- The **taper and face system (shoulder-/taper contact, SKI)** prevents the tool holder from driving into the spindle and it increases the stability. It ensures the accurate pre-setting of the tool.
- **Clamping and tool change:** manual and/or automatic
- **Cooling:** Through the spindle centre
- **Drive:** by friction
- International patent for Europe, Japan, USA – **Patent No. 4 770 576**

- Le système **cône – face (SKI)** évite l'enfoncement du porte-outils dans la broche et augmente sa stabilité. Il garantit un pré réglage précis de l'outil.
- **Serrage et changement d'outil:** manuel et/ou automatique
- **Arrosage:** par le centre
- **Entraînement :** par frottement
- Brevet d'internationale pour l'Europe, le Japon, les USA – **numéro de brevet 4 770 576**

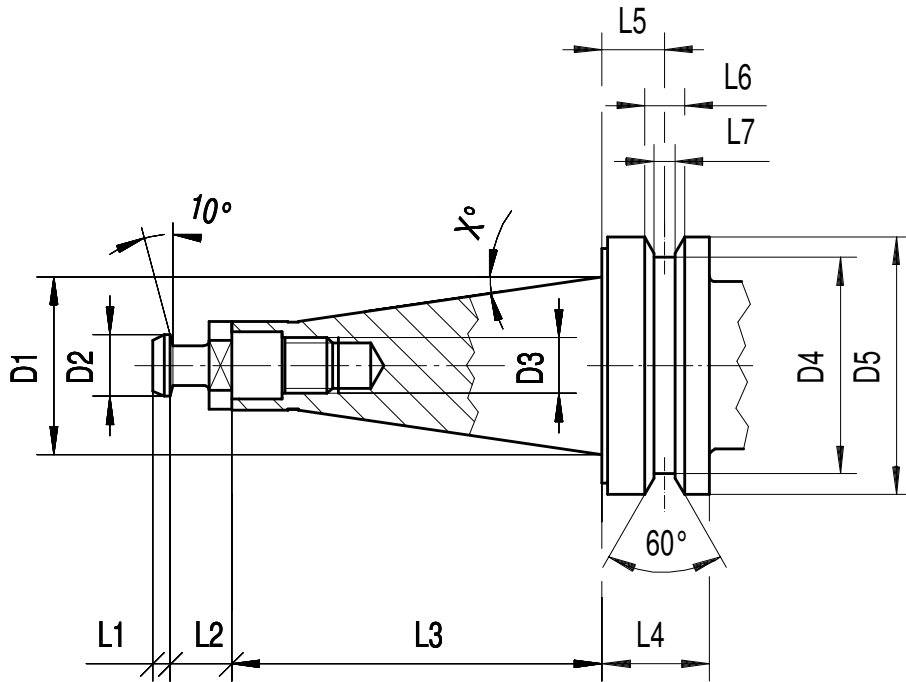
Werkzeugsysteme

Tooling Systems

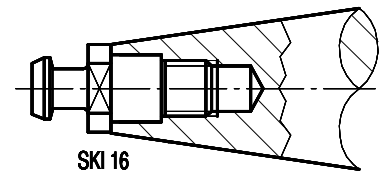
Systèmes d'outillages

Abmessungen
 Dimensions
 Dimensions

SKI



Optisch für:
 optical for:
 pour l'optique:
 SKI 16



SKI	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5	L6	L7	X°
16	16.0	6.3	M5	17.46	22.0	2.5	9.0	21.0	5.5	2.75	3.2	-	8°
20	20.0	8.0	M6	22.0	28.0	2.5	9.5	33.5	8.0	4.0	4.5	2.0	8°
25	25.0	9.0	M8	31.0	37.0	3.0	10.0	36.0	12.0	7.0	4.5	2.0	8°
30	31.75	11.0	M10	38.75	46.05	3.0	11.0	54.0	19.1	11.1	7.0	3.75	8°17'50"
40	44.45	13.5	M12	55.75	63.55	3.5	12.5	80.0	19.1	11.1	7.0	3.75	8°17'50"

[mm]

8° 17' 50" = 8.29722° = 7/24

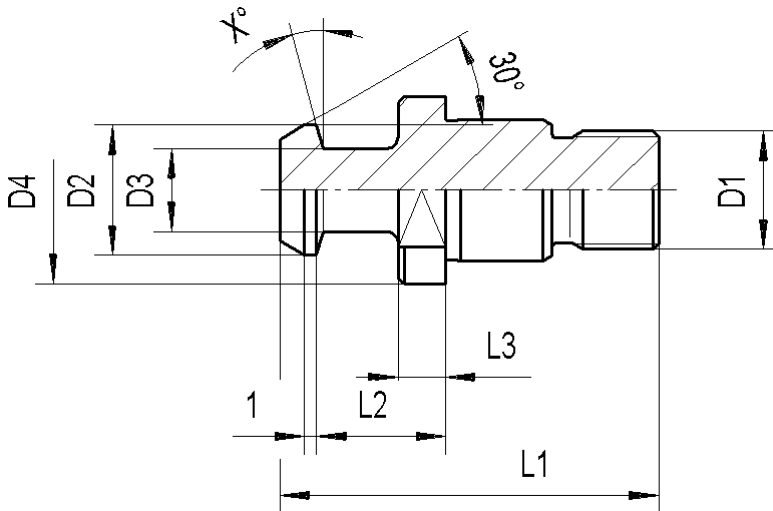
Werkzeugsysteme

Tooling Systems

Systemes d'outillages

Anzugsbolzen
 Retention Knob
 Tirant

SKI



Grösse Size Grandeur	D1 [mm]	Artikelnummer Number of Article Numéro d'article	D2 [mm]	D3 [mm]	D4 [mm]	L1 [mm]	L2 [mm]	L3 [mm]	X°
SKI 16	M5	ZA16.000	6.3	4.2	9.5	26.0	9.0	3.0	10°
SKI 20	M6	ZA20.000	8.0	5.0	13.0	26.0	9.5	3.8	10°
SKI 25	M8	ZA25.000	9.0	6.0	17.8	29.0	10.0	4.0	10°
SKI 30	M10	ZA30.000	11.0	8.0	18.8	34.0	11.0	3.7	10°
SKI 40	M12	ZA40.000	13.5	9.5	25.1	36.0	12.5	4.8	10°

Alte Version (bis etwa Ende 2007)
 Old Version (until end of 2007)

**ALTE VERSION
 OLD VERSION
 VERSION VIEILLE**

Grösse Size Grandeur	D1 [mm]	Artikelnummer Number of Article Numéro d'article	D2 [mm]	D3 [mm]	D4 [mm]	L1 [mm]	L2 [mm]	L3 [mm]	X°
SKI 20	M6		8.0	5.0	9.9	26.0	9.5	3.8	10°
SKI 30	M10	ZA30.001	10.0	7.0	18.8	33.0	10.0	4	10°

Alte und neue Version sind komplett austauschbar auf beide Seiten!
 Old and new Versions are fully interchangeable on both Sides!
 Ancien et nouvelle version sont entièrement interchangeables sur les deux côtés!

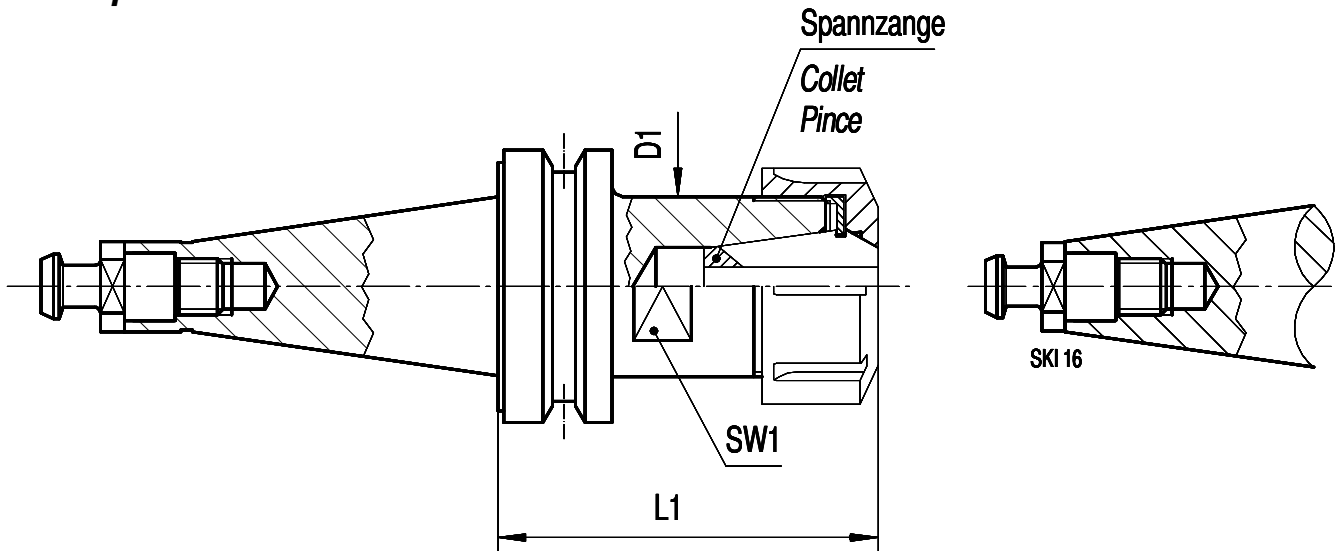
Werkzeugsysteme

Tooling Systems

Systèmes d'outillages

Spannzangenhalter
 Collet Chuck
 Porte-pinces

SKI



Grösse Size Grandeur	Spannzange Collet Pince	Artikelnummer Number of Article Numéro d'article	D1 [mm]	L1 [mm]	SW1 [mm]	Muttergrösse Nut Size Grandeur d'écrou	Artikelnummer Number of Article Numéro d'article
SKI 16	EX 12	HS16.000	13.0	24.5	11.0	EXPE 12	ZM12.001
SKI 20	ER/EX 16	HS20.000	20.0	35.0	18.0	EXPE 16	ZM16.000
SKI 25	ER/EX 20	HS25.000	25.0	40.5	22.0	EXE 20	ZM20.000
SKI 30	ER/EX 25	HS30.000	32.0	55.0	27.0	EXE 25	ZM25.000
SKI 40	ER/EX 32	HS40.000	40.0	58.0	36.0	EXE 32	ZM32.000

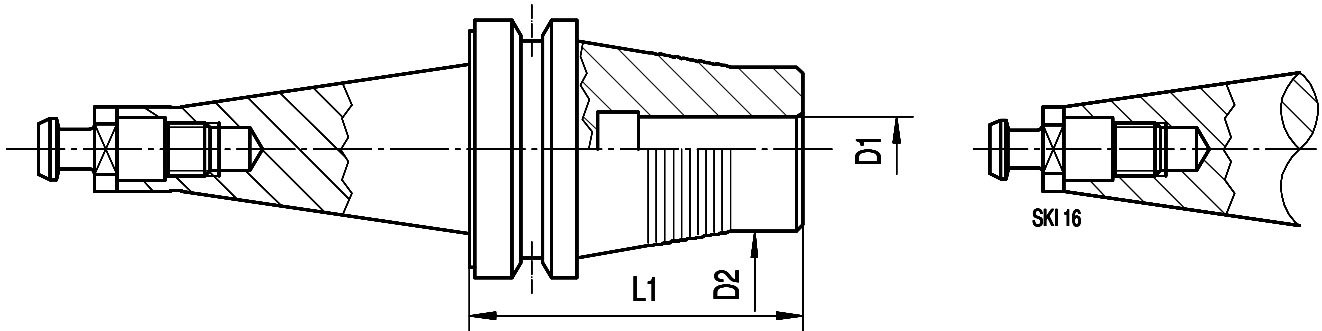
Werkzeugsysteme

Tooling Systems

Systèmes d'outillages

Schrumpffutter
 Shrink-fit Millholder
 Porte-fraises pour frettage

SKI



Grösse Size Grandeur	D1 [mm]	D2 [mm]	L1 [mm]	Artikelnummer Number of Article Numéro d'article	Grösse Size Grandeur	D1 [mm]	D2 [mm]	L1 [mm]	Artikelnummer Number of Article Numéro d'article
SKI 25	3.0		50.0	HG25.903	SKI 30	3.0	14.0	50.0	HG30.003
SKI 25	3.0		100.0	HG25.913	SKI 30	4.0	14.0	50.0	HG30.004
SKI 25	4.0	14.0	34.0	HG25.004	SKI 30	6.0	19.0	60.0	HG30.006
SKI 25	4.0		50.0	HG25.904	SKI 30	8.0	21.0	60.0	HG30.008
SKI 25	4.0		100.0	HG25.914	SKI 30	10.0	23.0	60.0	HG30.010
SKI 25	6.0	19.0	40.0	HG25.006	SKI 30	12.0	25.0	60.0	HG30.012
SKI 25	6.0		50.0	HG25.906	SKI 30	16.0	29.0	66.0	HG30.016
SKI 25	8.0	21.0	40.0	HG25.008					
SKI 25	8.0		50.0	HG25.908					
SKI 25	10.0	23.0	40.0	HG25.010					
SKI 25	10.0		50.0	HG25.910					
SKI 25	12.0	25.0	40.0	HG25.012					
SKI 25	12.0		50.0	HG25.912					

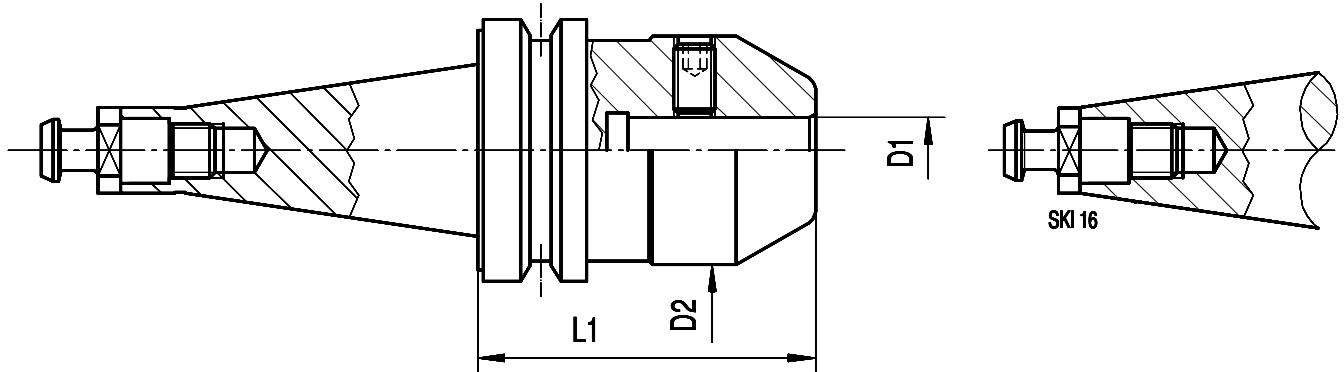
Werkzeugsysteme

Tooling Systems

Systemes d'outillages

Fräserhalter für zylindrische Schäfte (Weldon)
 Millholder for round Shank with Flat (Weldon)
 Porte-fraises pour queue cylindrique (Weldon)

SKI



Grösse Size Grandeur	D1 [mm]	D2 [mm]	L1 [mm]	Artikelnummer Number of Article Numéro d'article	Grösse Size Grandeur	D1 [mm]	D2 [mm]	L1 [mm]	Artikelnummer Number of Article Numéro d'article
SKI 16	3.0	19.7	16.0	HW16.030	SKI 25	12.0	36.0	42.0	HW25.120
SKI 16	4.0			HW16.040	SKI 25/ISO 40	12.0	41.7	49.0	HW25.121
SKI 16	5.0			HW16.050					
SKI 16	6.0	22.7	30.5	HW16.060	SKI 30	10.0	34.7	46.0	HW30.100
SKI 16	8.0	27.7	33.0	HW16.080	SKI 30/ISO 40	10.0	34.7	46.0	HW30.101
					SKI 30	12.0	41.7	50.0	HW30.120
SKI 20	2.5	12.0	48.0	HW20.025	SKI 30/ISO 40	12.0	41.7	48.5	HW30.121
SKI 20	3.0	19.7	21.0	HW20.030	SKI 30	16.0	47.7	55.0	HW30.160
SKI 20	4.0	21.7	22.0	HW20.040	SKI 30/ISO 40	16.0	47.7	51.0	HW30.161
SKI 20	5.0	21.7	22.0	HW20.050	SKI 30	20.0	51.7	57.0	HW30.200
SKI 20	6.0	24.7	31.0	HW20.060	SKI 30/ISO 40	20.0	49.0	53.0	HW30.201
SKI 20	8.0	27.5	32.0	HW20.080	SKI 30	25.0			HW30.250
SKI 20	10.0	28.0	35.0	HW20.100					
SKI 20	12.0			HW20.120	SKI 40	6.0	24.7	42.0	HW40.060
SKI 20	16.0			HW20.160	SKI 40	8.0	27.7	43.0	HW40.080
					SKI 40	10.0	34.7	46.0	HW40.100
SKI 25	6.0	24.7	35.0	HW25.060	SKI 40	12.0	41.7	50.0	HW40.120
SKI 25/ISO 40	6.0	24.7	42.0	HW25.061	SKI 40	16.0	47.7	52.0	HW40.160
SKI 25	8.0	27.7	36.0	HW25.080	SKI 40	20.0	51.7	54.0	HW40.200
SKI 25/ISO 40	8.0	27.7	43.0	HW25.081	SKI 40	25.0	64.7	51.0	HW40.250
SKI 25	10.0	34.7	39.0	HW25.100	SKI 40	30.0	69.0	59.0	HW40.300
SKI 25/ISO 40	10.0	34.7	46.0	HW25.101	SKI 40	32.0	65.0	73.0	HW40.320

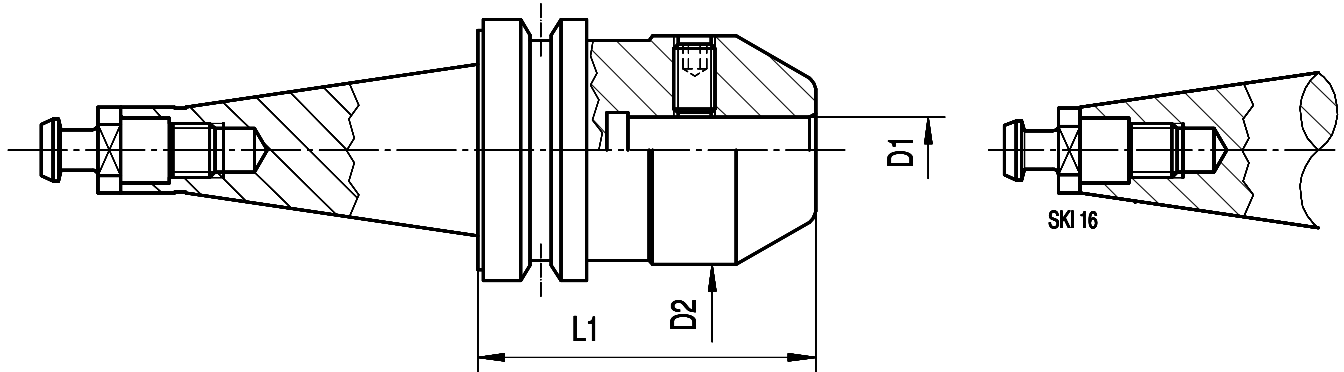
Werkzeugsysteme

Tooling Systems

Systemes d'outillages

Fräserhalter für zylindrische Schäfte (Weldon)
 Millholder for round Shank with Flat (Weldon)
 Porte-fraises pour queue cylindrique (Weldon)

SKI



Grösse Size Grandeur	D1 [Inch]	D2 [mm]	L1 [mm]	Artikelnummer Number of Article Numéro d'article	Grösse Size Grandeur	D1 [Inch]	D2 [mm]	L1 [mm]	Artikelnummer Number of Article Numéro d'article
SKI 20	1/8"	19.7	21.0	HW20.051	SKI 40	3/8"	34.0	45.0	HW40.050
					SKI 40	1/2"	40.4	49.0	HW40.051
SKI 30	1/8"	19.7	36.0	HW30.050	SKI 40	5/8"	46.7	53.0	HW40.052
SKI 30	1/2"	40.4	50.0	HW30.051	SKI 40	3/4"	50.0	55.0	HW40.053
SKI 30	3/4"	50.0	57.5	HW30.052	SKI 40	7/8"	56.4	56.0	HW40.054
SKI 30	1/4"	25.4	42.0	HW30.053	SKI 40	1/4"	25.4	42.0	HW40.056
SKI 30	3/8"	34.0	46.0	HW30.054					
SKI 30	5/8"	47.5	55.0	HW30.055					

Werkzeugsysteme

Tooling Systems

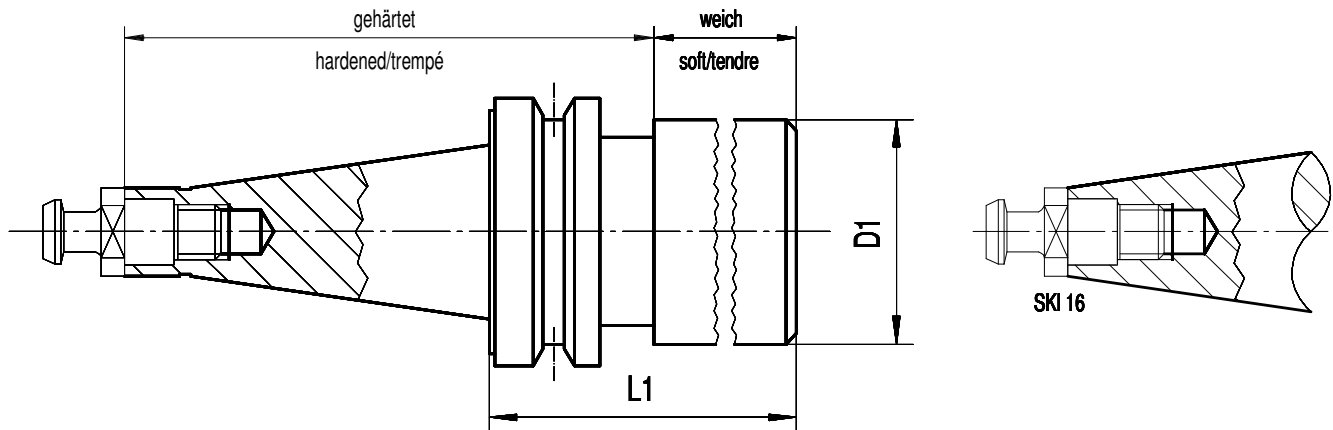
Systemes d'outillages

Vorgearbeiteter Dorn (Rohling)

Blank Arbor

Tasseau ébauché

SKI



Grösse Size Grandeur	D1 x L1 [mm]	Artikelnummer Number of Article Numéro d'article	Grösse Size Grandeur	D1 x L1 [mm]	Artikelnummer Number of Article Numéro d'article
SKI 16	22.0 x 45.0	HV16.000			
SKI 16	12.0 x 80.0	HV16.001			
SKI 20	27.6 x 58.5	HV20.000			
SKI 25	36.5 x 70.0	HV25.000			
SKI 25	22.0 x 80.0	HV25.003			
SKI 30	46.0 x 90.0	HV30.000			
SKI 40	63.0 x 120.0	HV40.000			

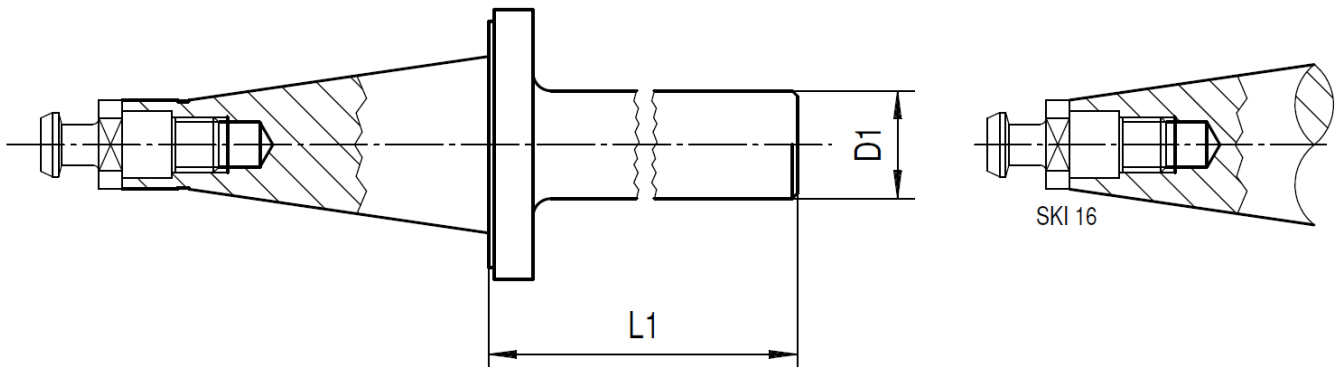
Werkzeugsysteme

Tooling Systems

Systemes d'outillages

Kontrolldorn
Checking Arbor
Mandrin de contrôle

SKI



Grösse Size Grandeur	D1 x L1 [mm]	Artikelnummer Number of Article Numéro d'article	Grösse Size Grandeur	D1 x L1 [mm]	Artikelnummer Number of Article Numéro d'article
SKI 16	14.0 x 53.0	HK16.000	SKI 30	25.0 x 105.0	HK30.000
SKI 20	16.0 x 72.5	HK20.000	SKI 40	30.0 x 130.0	HK40.000
SKI 25	20.0 x 84.0	HK25.000	SKI 50	40.0 x 215.0	HK50.000