



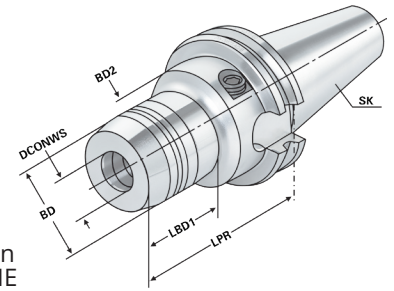
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Verwendung:
Zur Aufnahme von Werkzeugen mit Zylinderschaft nach DIN 1835 Form A+B+E und DIN 6535 Form HB+HE (größer Ø 20 mm nur mit Reduzierung).

Application:
For mounting straight-shank tools acc. DIN 1835 form A+B+E and DIN 6535 form HB+HE (larger than Ø 20 mm only with reduction sleeve).

Application:
Pour le serrage d'outils à queue cylindrique selon DIN 1835 forme A+B+E et DIN 6535 forme HB+HE (à partir de Ø 20 mm seulement avec réduction).

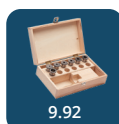


Bestell-Nr. Order no. Référence	SK	DCONWS	LPR	BD	BD2	LSCX	ADJRGA	LBD1	DRVS	THID
403.H06	SK 40	6	68	26	50	37	10	33	5	M6x1
403.H08	SK 40	8	68	28	50	37	10	33	5	M6x1
403.H10	SK 40	10	72	30	50	42	10	37	5	M8x1
403.H12	SK 40	12	77	32	50	47	10	42	5	M8x1
403.H14	SK 40	14	77	34	50	47	10	42	5	M10x1
403.H16	SK 40	16	80	38	50	52	10	43	5	M10x1
403.H18	SK 40	18	80	40	50	52	10	43	5	M10x1
403.H20	SK 40	20	82	42	50	52	10	47	5	M10x1
403.H25	SK 40	25	117	50	63	58	10	51	6	M12x1
403.H32	SK 40	32	117	60	63	64	10	51	6	M12x1
403.H06.1	SK 40	6	110	26	50	37	10	33	5	M6x1
403.H08.1	SK 40	8	110	28	50	37	10	33	5	M6x1
403.H10.1	SK 40	10	110	30	50	42	10	37	5	M8x1
403.H12.1	SK 40	12	110	32	50	47	10	42	5	M8x1
403.H14.1	SK 40	14	110	34	50	47	10	42	5	M10x1
403.H16.1	SK 40	16	110	38	50	52	10	43	5	M10x1
403.H18.1	SK 40	18	110	40	50	52	10	43	5	M12x1
403.H20.1	SK 40	20	110	42	50	52	10	47	5	M12x1
403.H06.2	SK 40	6	150	26	50	42	10	110	5	M6x1
403.H08.2	SK 40	8	150	28	50	42	10	110	5	M6x1
403.H10.2	SK 40	10	150	30	50	42	10	110	5	M8x1
403.H12.2	SK 40	12	150	32	50	47	10	110	5	M8x1
403.H14.2	SK 40	14	150	34	50	47	10	110	5	M10x1
403.H16.2	SK 40	16	150	38	50	52	10	110	5	M10x1
403.H18.2	SK 40	18	150	40	50	52	10	110	5	M12x1
403.H20.2	SK 40	20	150	42	50	52	10	110	5	M12x1
403.H25.2	SK 40	25	150	50	63	58	10	94	6	M12x1

LSCX = Einspannlänge, max.
LSCX = Clamping depth, max.
LSCX = Profondeur d'insertion, max.

ADJRGA = Verstellweg, max.
ADJRGA = Length adjustment range, max.
ADJRGA = Course de réglage, max.

Lieferumfang: Ohne Spanschlüssel
Delivery: Without wrench
Livraison: Sans clé de serrage

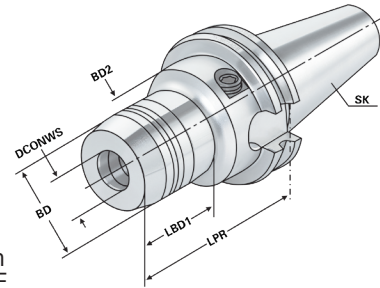




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ISO 7388-1 Form AD/AF (AD/B) ≤ 3µm G2.5 25.000 min⁻¹ RFID Chip

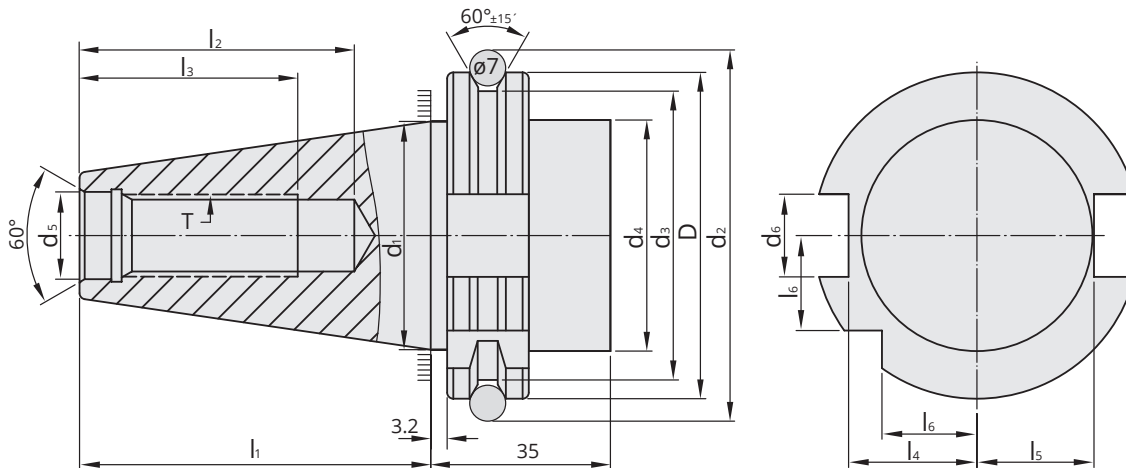
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Bestell-Nr. Order no. Référence	SK	DCONWS	LPR	BD	BD2	LSCX	ADJRGA	LBD1	DRVS	THID
503.H06	SK 50	6	68	26	50	37	10	33	5	M6x1
503.H08	SK 50	8	68	28	50	37	10	33	5	M6x1
503.H10	SK 50	10	72	30	50	42	10	37	5	M8x1
503.H12	SK 50	12	77	32	50	47	10	42	5	M8x1
503.H14	SK 50	14	77	34	50	47	10	42	5	M10x1
503.H16	SK 50	16	80	38	50	52	10	45	5	M12x1
503.H18	SK 50	18	80	40	50	52	10	45	5	M12x1
503.H20	SK 50	20	82	42	50	52	10	47	5	M12x1
503.H25	SK 50	25	87	50	63	58	10	52	6	M12x1
503.H32	SK 50	32	91	60	63	64	10	56	6	M12x1
503.H06.1	SK 50	6	110	26	50	37	10	33	5	M6x1
503.H08.1	SK 50	8	110	28	50	37	10	33	5	M6x1
503.H10.1	SK 50	10	110	30	50	42	10	37	5	M8x1
503.H12.1	SK 50	12	110	32	50	47	10	42	5	M8x1
503.H14.1	SK 50	14	110	34	50	47	10	42	5	M10x1
503.H16.1	SK 50	16	110	38	50	52	10	45	5	M12x1
503.H18.1	SK 50	18	110	40	50	52	10	45	5	M12x1
503.H20.1	SK 50	20	110	42	50	52	10	47	5	M12x1
503.H25.1	SK 50	25	110	50	63	58	10	52	6	M16x1
503.H32.1	SK 50	32	110	60	63	64	10	56	6	M16x1
503.H06.2	SK 50	6	150	26	50	37	10	110	5	M6x1
503.H08.2	SK 50	8	150	28	50	37	10	110	5	M6x1
503.H10.2	SK 50	10	150	30	50	42	10	110	5	M8x1
503.H12.2	SK 50	12	150	32	50	47	10	110	5	M8x1
503.H14.2	SK 50	14	150	34	50	47	10	110	5	M10x1
503.H16.2	SK 50	16	150	38	50	52	10	110	5	M12x1
503.H18.2	SK 50	18	150	40	50	52	10	110	5	M12x1
503.H20.2	SK 50	20	150	42	50	52	10	110	5	M12x1
503.H25.2	SK 50	25	150	50	50	52	10	110	6	M16x1
503.H32.2	SK 50	32	150	60	63	64	10	110	6	M16x1
503.H40.2	SK 50	40	150	63	63	74	10	131	6	M16x1

LSCX = Einspannlänge, max. ADJRGA = Verstellweg, max.
LSCX = Clamping depth, max. ADJRGA = Length adjustment range, max.
LSCX = Profondeur d'insertion, max. ADJRGA = Course de réglage, max.

Lieferumfang: Ohne Spannschlüssel
Delivery: Without wrench
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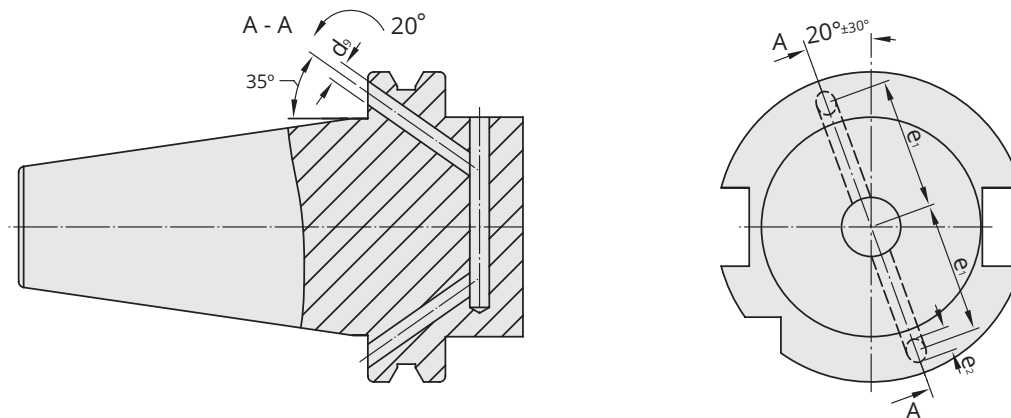
SK	D	d ₁	d ₂	d ₃	d ₄	d ₅	d ₆	d ₉	l ₁	l ₂	l ₃	l ₄	l ₅	l ₆	e ₁	e ₂	T
	⁰ _{-0,1}		±0,05	⁰ _{-0,5}	max	H7	H12		⁰ _{-0,3}	min	min	⁰ _{-0,4}	⁰ _{-0,4}	⁰ _{-0,3}	±0,1	max	
30	50,00	31,75	59,30	44,30	45	13	16,1	4	47,8	33,5	24	19	16,4	15	21	5	M12
40	63,55	44,45	72,30	56,25	50	17	16,1	4	68,4	42,5	32	25	22,8	18,5	27	5	M16
50	97,50	69,85	107,25	91,25	80	25	25,7	6	101,75	61,5	47	37,7	35,5	30	42	7	M24

Vorgewuchtet G 6,3 15.000 min⁻¹
Pre-balanced
 Pré-équilibré

G 2,5 Feinwuchten gegen Aufpreis
G 2.5 Fine balancing at extra charge
 G 2,5 Équilibrage de précision moyennant un supplément

Mit innerer Kühlmittelzufuhr über den Bund - Form AD/AF (ehemals AD/B)

With internal coolant through the collar - form AD/AF (formerly AD/B)
Avec arrosage interne par la collerette - forme AD/AF (anciennement AD/B)



Werkstoff: Legierter Einsatzstahl mit einer Zugfestigkeit im Kern von min. 950 N / mm². Einsatzgehärtet HRC 60 ± 2 (HV 700 ± 50), Härtetiefe 0,8 mm ± 0,2 mm, brüniert und präzisionsgeschliffen.

Form AD/AF: Lieferung in Ausführung AD, Form AF (B) mit lösbaren Gewindestiften verschlossen.

Genauigkeit: Kegelwinkel - Toleranzqualität < AT 3 nach DIN 7187 und DIN 2080.

Material: Alloyed case-hardened steel, tensile core strength of min. 950 N / mm². Case hardened HRC 60 ± 2 (HV 700 ± 50), hardening depth 0.8 mm ± 0.2 mm, black-finished and precisely grinded.

Form AD/AF: Delivery in form AD, type (B) closed with releasable headless screws.

Accuracy: Quality of taper < AT 3 according to DIN 7187 and DIN 2080.

Matière: Acier de cémentation allié. Résistance à la traction dans le noyau d'au moins 950 N / mm². Cémenté et trempé HRC 60 ± 2 (HV 700 ± 50), profondeur de trempé 0,8 mm ± 0,2 mm, brunie et rectifiée avec précision.

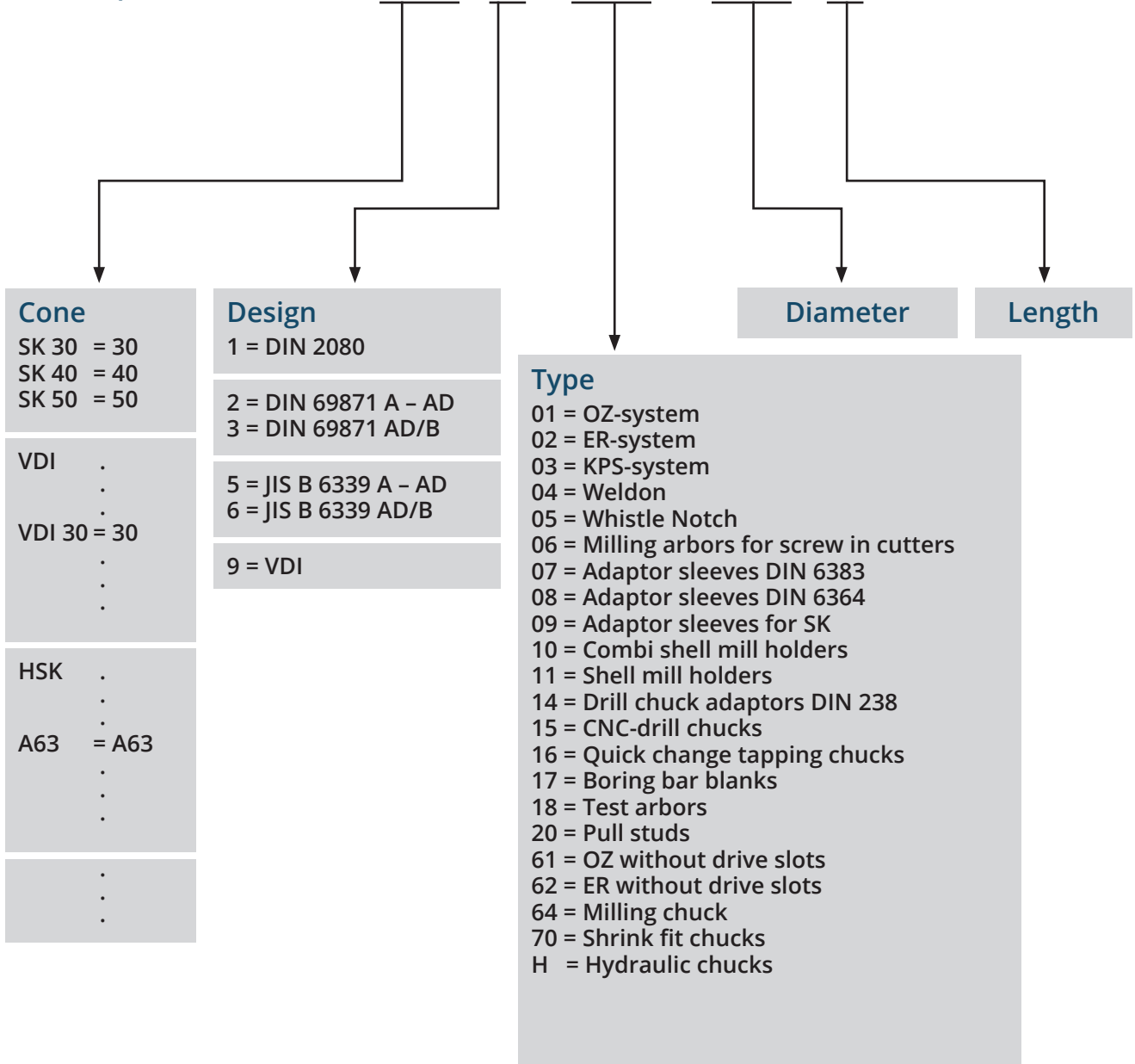
Forme AD/AF: Livraison en forme AD, forme AF (B) fermée avec de vis sans tête amovibles.

Précision: Angle de cône - qualité de tolérance < AT 3 selon DIN 7187 et DIN 2080



Example:

40 3 . 02 . 20 . 1





Modern machining processes place heavy demands on tool holding. Hydraulic expansion chucks provide excellent clamping characteristics combined with precise concentricity. Furthermore, they enable a simple and fast tool change.

Turning the pressure screw generates sufficient pressure in the pressure chamber resulting in an elastic deformation of the clamping bush, providing powerful tool clamping and precise concentricity. A safe and powerful fit is guaranteed. If reduction sleeves are applied that are able to hold varying tool diameters, the tool application may be extended without problem. If such sleeves are not applied, it is essential to observe the minimum clamping length!


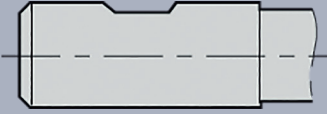

Advantages

- precise tool clamping with a maximum 3 µm deviation from concentricity
- transmission of high torque through (excellent clamping) optimised bush clamping system
- high speed compatibility (no centrifugal forces from clamping segments)
- precise concentricity, therefore excellent surface qualities and dimensional accuracy of the workpiece
- rapid tool change thanks to simple operation of the clamping screw
- optimal tool life
- hydraulic cushioning has vibration absorbing effect

Chart of technical data

Clamping Ø [mm]	Tightening torque [Nm]	Minimum clamping depth of the tool [mm]	Admissible transmissible torque [Nm]	Shank tolerance	max. RPM [min ⁻¹]	
					LPR ≤ 125 mm	LPR > 125 mm
6	10	27	12	h6	40.000	20.000
8	10	27	30	h6	40.000	20.000
10	10	31	40	h6	40.000	20.000
12	10	36	70	h6	40.000	20.000
14	10	36	100	h6	40.000	20.000
16	10	39	135	h6	40.000	20.000
18	10	39	180	h6	40.000	20.000
20	10	41	220	h6	40.000	20.000
25	10	47	500	h6	20.000	10.000
32	10	51	700	h6	20.000	10.000

Usable shank types

DIN 6535 DIN 1835-1	Ø 6 - 20 mm	Ø 25 - 32 mm	Using Reduction sleeves
 Form HA	✓	✓	✓
 Form HB/ E	✓	✗	✓
 Form HE/ E	✗	✗	✓
Run out (↗)		≤ 0,003 mm	≤ 0,005 mm



To ensure a flawless function of the hydraulic expansion chucks, please observe the following instructions:

Usage of straight shank tools according to DIN 1835 and DIN 6535 form (HA) and B (HB) up to \varnothing 20 mm shaft diameter with tolerance h_6 , precision grinded $Ra_{min} = 0.3$.

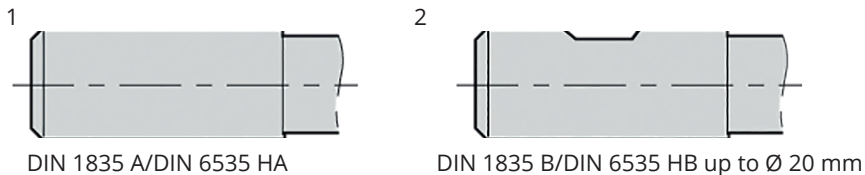
Shafts according to DIN 6535 form HE (Whistle Notch) can only be clamped by using reduction sleeves. All hydraulic expansion chucks are standard balanced to G 6.3 15,000 rev/min.

Clamping and unclamping the tool

1. Clean the holding fixture bore and the tool shaft of grease and dirt. Insert tools up to the end stop. Observe the minimum clamping depth and the length adjustment range.
2. Clamp the shaft by turning the clamping screw up to the end stop. The tool is clamped. To avoid breaking of the hydraulic sleeve, do not carry out clamping action without a tool.
3. To unclamp the tool, turn the screw approx. 5 to 6 revs. counter clockwise and remove the tool.



Note: Never clamp without a clamped tooling!



Cleaning

Attention should be paid to the cleanliness of the holding fixture bore and the tool shaft.

Temperature

Optimal temperature range between 10 – 50°. Do not use with temperatures above 80°.

Storage

Store the hydraulic expansion chuck untensioned, cleaned and lightly oiled.

Clamping shafts

Clamp only tool shafts conforming to the requirements of DIN 1835 form A and form B (up to 20 mm).

