



**Technical information**  
**Information technique**  
**Technische Auskunft**

**N02**

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**Applications**  
**Anwendungen**

**N04**

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**N42**

Inserts

Turning

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Threading

Drills

Cartridges

Brazed tools

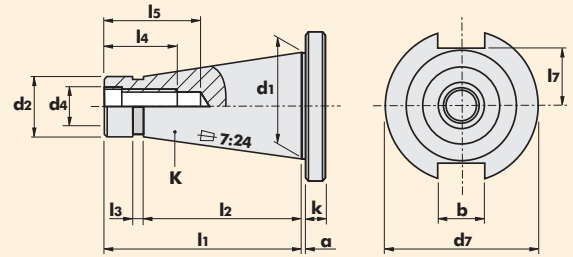
Milling cutters

Solid carbide

Boring heads

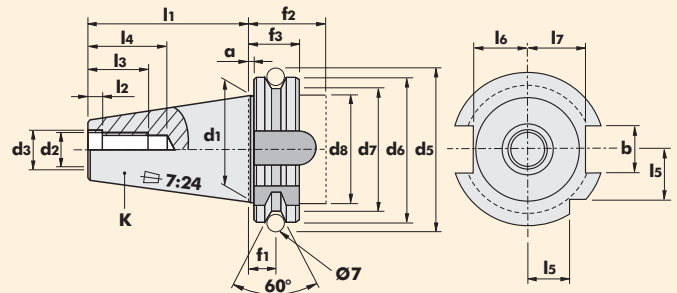
Arbors & adaptors

## DIN 2080



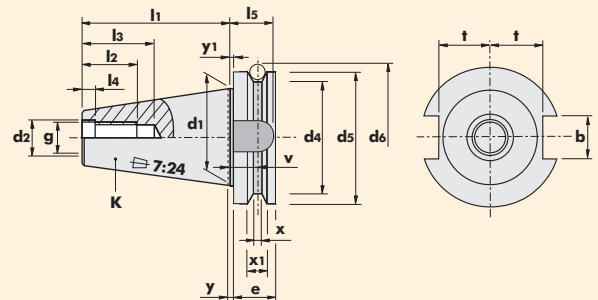
K	$\alpha_{\pm 0,2}$	$b_{H12}$	$d_1$	$d_2$	$d_4$	$d_7$	k	$l_1$	$l_2$	$l_3$	$l_4$	$l_5 \text{ min}$	$l_7 \text{ max}$
30	1,6	16,1	31,75	17,4	M12	50,0	8	68,4	48,4	3	24	33,5	16,2
40	1,6	16,1	44,45	25,3	M16	63,0	10	93,4	65,4	5	32	42,5	22,5
45	3,2	19,3	57,15	32,4	M20	80,0	12	106,8	82,8	6	40	52,5	29,0
50	3,2	25,7	69,85	39,6	M24	97,5	12	126,8	101,8	8	47	61,5	35,3
60	3,2	25,7	107,95	60,2	M30	156,0	16	206,8	161,8	10	59	76,0	60,0

## DIN 69871/A



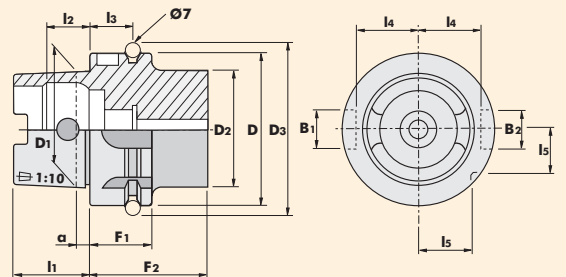
K	$f_1^{+0,1}$	$f_2 \text{ min}$	$f_3^{0,0,1}$	$l_1^{0,0,3}$	$l_2^{+0,0,5}$	$l_3 \text{ min}$	$l_4 \text{ min}$	$l_5^{0,0,3}$	$l_6^{0,0,4}$	$l_7^{0,0,4}$	$\alpha_{\pm 0,2}$	$b_{H12}$	$d_1$	$d_2$	$d_3^{H7}$	$d_5^{+0,0,5}$	$d_6^{0,0,1}$	$d_7^{0,0,5}$	$d_8 \text{ max}$
30	11,1	35	19,1	47,80	5,5	24	33,5	15,0	16,4	19,0	3,2	16,1	31,75	M12	13	59,30	50,00	44,30	45
40	11,1	35	19,1	68,40	8,2	32	42,5	18,5	22,8	25,0	3,2	16,1	44,45	M16	17	72,30	63,55	56,25	50
45	11,1	35	19,1	82,70	10,0	40	52,5	24,0	29,1	31,3	3,2	19,3	57,15	M20	21	91,35	82,55	75,25	63
50	11,1	35	19,1	101,75	11,5	47	61,5	30,0	35,5	37,7	3,2	25,7	69,85	M24	25	107,25	97,50	91,25	80
60	11,1	38	19,1	161,80	14,0	59	76,0	49,0	54,2	59,3	3,2	25,7	107,95	M30	32	164,75	155,00	147,70	130

## MAS BT



K	$D_1$	$l_1^{\pm 0,2}$	$d_2^{H8}$	$g_6^{H7}$	$l_2 \text{ min}$	$l_3 \text{ min}$	$l_4^{+0,0,5}$	$b_{H12}$	$l_5 \text{ min}$	$f_2^{0,0,2}$	$D_4$	$D_5^{H8}$	e	$v^{\pm 0,1}$	x	$x_1^{+0,1}$	$y^{\pm 0,4}$	$y_1^{+0,5}$
30	31,75	48,4	12,5	M12	24	34	7	16,1	17	16,3	38	46	20	13,6	4	8	2	7
35	38,10	56,4	12,5	M12	24	34	7	16,1	20	19,6	43	53	22	14,6	5	10	2	7
40	44,45	65,4	17,0	M16	30	43	9	16,1	21	22,6	53	63	25	16,6	5	10	2	9
45	57,15	82,8	21,0	M20	38	53	11	19,3	26	29,1	73	85	30	21,2	6	12	3	11
50	69,85	101,8	25,0	M24	45	62	13	25,7	31	35,4	85	100	35	23,2	7	15	3	13

## HSK



HSK	$D^{H10}$	$D_1$	$D_2^{\text{max}}$	$D_3^{0,1}$	$B_1^{H10}$	$B_2^{H10}$	$l_1^{\pm 0,2}$	$l_2^{\pm 0,1}$	$l_3^{\pm 0,1}$	$l_4^{\pm 0,2}$	$l_5^{\pm 0,3}$	$\alpha$	$F_1^{\pm 0,1}$	$F_2 \text{ min}$
32	32	24	26	37,00	9	7	16	8,92	16	13,0	9,5	3,2	20	35
40	40	30	34	45,00	11	9	20	11,42	16	17,0	12,0	4,0	20	35
50	50	38	42	59,30	14	12	25	14,13	18	21,0	15,5	5,0	26	42
63	63	48	53	72,30	18	16	32	18,13	18	26,5	20,0	6,3	26	42
80	80	60	67	88,80	20	18	40	22,85	18	34,0	25,0	8,0	26	42
100	100	75	85	109,75	22	20	50	28,56	20	44,0	31,5	10,0	29	45

<b>44</b>	<b>30</b>	<b>16</b>	<b>16</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>

Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

Solid carbide

Boring heads

Arbors & adaptors

**N03**

**1**

Short cylindric DIN-1835-A  <b>00</b>	Short Morse DIN 228  <b>30</b>	DIN 2080  <b>44</b>	ISO 7388 DIN 69871 A  <b>47</b>
ISO  <b>49</b>	BT System HSK  <b>52</b>	R-8  <b>80</b>	

**2**

Short cylindric DIN-1835-A  Ø16   Ø20   Ø25   Ø32   Ø40 <b>16 20 25 32 40</b>	Short Morse DIN 228  MK2   MK3   MK4   MK5 <b>02 03 04 05</b>	ISO DIN 2080  ISO 30   ISO 40   ISO 50 <b>30 40 50</b>	ISO 7388 DIN 69871 A  7388 30   7388 40   7388 50 <b>30 40 50</b>
BT System  BT 30   BT 40   BT 50 <b>30 40 50</b>	HSK  <b>50 63 100</b>	R-8  <b>80</b>	 <b>21</b>

**3**

 <b>06</b>	 <b>10</b>	 <b>16</b>	 <b>18</b>	 <b>19</b>
 <b>22</b>	 <b>23</b>	 <b>26</b>	 <b>28</b>	 <b>30</b>
 <b>31</b>	 <b>32</b>	 <b>33</b>	 <b>34</b>	 <b>35</b>
 <b>37</b>	 <b>NPU</b>	 <b>PS</b>	 Ø25   Ø32   Ø40 <b>25 32 40</b>	

**4**

K <sub>1</sub> - ISO  <b>30</b> ISO 40 <b>40</b> ISO 40	K <sub>1</sub> - MORSE  <b>01</b> MK1 <b>02</b> MK2 <b>03</b> MK3 <b>04</b> MK4	 Ø16   Ø22   Ø27   Ø32   Ø40   Ø60 <b>16 22 27 32 40 60</b>	 Ø25   Ø32   Ø40 <b>25 32 40</b>	 ER16   ER20   ER25   ER32   ER40 <b>16 20 25 32 40</b>
 B12   B16   B18 <b>12 16 18</b>	 Ø16   Ø20   Ø25   Ø32 <b>16 20 25 32</b>	 Ø8   Ø13   Ø16 <b>8 13 16</b>	 Ø6 ..... Ø32 <b>6 ... 32</b>	 M4-M12   M8-M20   M14-M33 <b>12 20 33</b>
	 Ø63   Ø80   Ø100 <b>63 80 100</b>			

Assembly fixture - ..... - .....

Inserts

**02. <sup>70</sup>/<sub>80</sub>**  
Flat  
  
Page N.08

**02. <sup>71</sup>/<sub>81</sub>**  
Inox  
  
Page N.08



Turning

Automatic lathes

**DIN 2080**

**716. <sup>3</sup>/<sub>4</sub>**  
Mill chuck  
  
Page N.09

**718. <sup>4</sup>/<sub>5</sub>**  
Mill chuck  
  
Page N.09

**719. <sup>4</sup>/<sub>5</sub>**  
Centering plug arbor  
  
Page N.09

**722. <sup>4</sup>/<sub>5</sub>**  
ISO taper adaptor  
  
Page N.09


**723. <sup>3</sup>/<sub>4</sub>**  
Mill adaptor  
  
Page N.10

**726. <sup>3</sup>/<sub>4</sub>**  
Drill adaptor  
  
Page N.10

Ceramic tools

Parting & grooving

**728. <sup>3</sup>/<sub>4</sub>**  
Drill chuck adaptor  
  
Page N.10

**730. <sup>4</sup>/<sub>5</sub>**  
End mill adaptor  
  
Page N.10

**731. <sup>3</sup>/<sub>4</sub>**  
Chuck taper for collets  
  
Page N.11

**HX-DIN** Drill chuck with hexagonal key lock system  
  
Page N.11

**NPUN-DIN** Integral drill chuck  
  
Page N.11



Threading

**DIN 69871/A**

Drills

**710. <sup>7</sup>/<sub>8</sub>**  
Cooling fluid supply unit  
  
Page N.12

**706. <sup>4</sup>/<sub>5</sub> L**  
Modular mill adaptor  
  
Page N.12

**716. <sup>7</sup>/<sub>8</sub> L**  
Mill chuck (Long)  
  
Page N.13

**716. <sup>7</sup>/<sub>8</sub>**  
Mill chuck  
  
Page N.13

**722.8**  
ISO Taper adaptor  
  
Page N.13


**723. <sup>7</sup>/<sub>8</sub>**  
Mill adaptor  
  
Page N.14

Cartridges

Brazed tools

**726. <sup>7</sup>/<sub>8</sub>**  
Drill adaptor  
  
Page N.14

**728. <sup>7</sup>/<sub>8</sub>**  
Drill chuck adaptor  
  
Page N.14

**730. <sup>4</sup>/<sub>5</sub>**  
End mill adaptor  
  
Page N.14


**731. <sup>7</sup>/<sub>8</sub>**  
Chuck for ER collets  
  
Page N.15

**734. <sup>7</sup>/<sub>8</sub>**  
Strong hold milling chucks  
  
Page N.15

**737. <sup>7</sup>/<sub>8</sub>**  
Quick change tapping heads  
  
Page N.15

Milling cutters

Solid carbide

**HX-ID** Drill chuck with hexagonal key lock system  
  
Page N.15

**NPU-ID** Integral drill chuck  
  
Page N.16

**PS-ID** High precision drill chuck  
  
Page N.16



Boring heads

Arbors & adaptors






MAS BT

<p><b>710.0</b> Cooling fluid supply unit</p>  <p>Page N.17</p>	<p><b>706.0</b> Modular mill adaptor</p>  <p>Page N.17</p>	<p><b>716.0L</b> Mill chuck (Long)</p>  <p>Page N.18</p>	<p><b>716.0</b> Mill chuck</p>  <p>Page N.18</p>	<p><b>722.0</b> ISO Taper adaptor</p>  <p>Page N.18</p>	<p><b>723.0</b> Mill adaptor</p>  <p>Page N.19</p>
<p><b>726.0</b> Drill adaptor</p>  <p>Page N.19</p>	<p><b>728.0</b> Drill chuck adaptor</p>  <p>Page N.19</p>	<p><b>730.0</b> End mill adaptor</p>  <p>Page N.19</p>	<p><b>731.0</b> Chuck for ER collets</p>  <p>Page N.20</p>	<p><b>734.0</b> Strong hold milling chucks</p>  <p>Page N.20</p>	<p><b>737.0</b> Quick change tapping heads</p>  <p>Page N.20</p>
<p><b>HX-BT</b> Drill chuck with hexagonal key lock system</p>  <p>Page N.20</p>	<p><b>NPU-BT</b> Integral drill chuck</p>  <p>Page N.21</p>	<p><b>PS-BT</b> High precision drill chuck</p>  <p>Page N.21</p>			

HSK

<p><b>506.4</b> Modular mill adaptor</p>  <p>Page N.22</p>	<p><b>516</b> Mill chuck</p>  <p>Page N.22</p>	<p><b>518</b> Mill chuck</p>  <p>Page N.22</p>	<p><b>526</b> Drill adaptor</p>  <p>Page N.22</p>	<p><b>530</b> End mill adaptor</p>  <p>Page N.23</p>	<p><b>531</b> Chuck for ER collets</p>  <p>Page N.23</p>
<p><b>533</b> Blank boring bars</p>  <p>Page N.23</p>	<p><b>535.4</b> Shrink fit chucks</p>  <p>Page N.24</p>	<p><b>HS-HSK</b> Drill chuck with hexagonal key lock system</p>  <p>Page N.24</p>	<p><b>NPU-HSK</b> Drill chuck</p>  <p>Page N.25</p>		

DIN 228/A

<p><b>CR</b> Drill chucks</p>  <p>Page N.26</p>	<p><b>E</b> Drill sleeves</p>  <p>Page N.26</p>	<p><b>HX-MT</b> Drill chuck with hexagonal key lock system</p>  <p>Page N.26</p>	<p><b>SPS-MT</b> Drill chuck</p>  <p>Page N.26</p>	<p><b>700.3</b> Chuck for ER collets</p>  <p>Page N.27</p>	
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Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters





Solid carbide

Boring heads

Arbors & adaptors

- Inserts
- Turning
- Automatic lathes
- Ceramic tools
- Parting & grooving
- Threading
- Drills
- Cartridges
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- Milling cutters
- Solid carbide
- Boring heads
- Arbors & adaptors

**R-8**

<p><b>816</b> Mill chuck</p>  <p>Page N.28</p>	<p><b>831</b> Taper for ER collets</p>  <p>Page N.28</p>	<p><b>HX-R8</b> Drill chuck with hexagonal key lock system</p>  <p>Page N.28</p>	<p><b>NPU-R8</b> Drill chuck</p>  <p>Page N.28</p>		
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**Cylindrical - Cylindrique - Zylindrisch**



<p><b>031</b> Chuck for ER collets</p>  <p>Page N.29</p>	<p><b>HX-CIL</b> Drill chuck with hexagonal key lock system</p>  <p>Page N.29</p>	<p><b>NPU-CIL</b> Drill chuck</p>  <p>Page N.29</p>	<p><b>6<sup>06</sup>/<sub>16</sub> 0</b> Modular cylindric shank</p>  <p>Page N.30</p>	<p><b>6<sup>3</sup>/<sub>25</sub> 6.0</b> Modular Morse shank</p>  <p>Page N.30</p>	<p><b>6<sup>16</sup>/<sub>25</sub> 0..HM</b> Cylindrical shank for milling heads</p>  <p>Page N.30</p>
<p><b>60°</b> Front contact extensions</p>  <p>Page N.30</p>	<p><b>61°</b> Front contact reducers</p>  <p>Page N.31</p>				

**Collets - Pincas - Spannzangen**

**Drill chucks - Mandrins perçage - Bohrfutter**

<p><b>ER</b> Collets</p>  <p>Page N.32</p>	<p><b>C</b> Collets</p>  <p>Page N.33</p>		<p><b>SP DIN 238</b> Keyless drill chucks</p>  <p>Page N.34</p>	<p><b>SPX DIN 238</b> Keyless drill chucks</p>  <p>Page N.34</p>	<p><b>CK CHUCK</b> Keyless drill chucks</p>  <p>Page N.34</p>
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**Lathe centres - Pointes tournantes - Mitnehmer-Spitze**

<p><b>RN</b></p>  <p>Page N.35</p>	<p><b>RC</b></p>  <p>Page N.35</p>				
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**Accessories - Pièces détachées - Zubehör**

<p><b>090..091</b> Clamping nuts-ER collets</p>  <p>Page N.36</p>	<p><b>092..094</b> Clamping nuts-ER collets</p>  <p>Page N.36</p>	<p><b>095..096</b> Clamping nuts-C collets</p>  <p>Page N.36</p>	<p><b>017..021</b> Spanner</p>  <p>Page N.36</p>	<p><b>016..020</b> Spanner</p>  <p>Page N.37</p>	<p><b>025..040</b> Spanner</p>  <p>Page N.37</p>
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**KX**  
Spanner



Page N.37

**70XX..73XX**  
Quick-change




Page N.38

**74XX..77XX**  
Quick-change




Page N.38

**960..961**  
Pull studs




Page N.40

**962..963**  
Pull studs




Page N.40

**964..965**  
Pull studs




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**966..967**  
Pull studs




Page N.40

**968..969**  
Pull studs



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**970..971**  
Pull studs



Page N.40


**097..099**  
Pull studs



Page N.41

**Kits- Ensembles - Sätze**

**SER**  
Collets ER



Page N.42

**KIT 731**  
Mill chuck



Page N.42

**662.0 (CLS)**  
Extensions



Page N.43

**KIT C32**  
Mill chuck



Page N.43

- Inserts
- Turning
- Automatic lathes
- Ceramic tools
- Parting & grooving
- Threading
- Drills
- Cartridges
- Brazed tools
- Milling cutters
- Solid carbide
- Boring heads
- Arbors & adaptors





- Inserts
- Turning
- Automatic lathes
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- Arbors & adaptors

**02.70**  
80



REF.	Types	DIN 2080	DIN 69871/A	MAS BT	HSK	CAPTO	KM
<b>02.30.70</b>		30	30	X	50	C5	50
<b>02.30.80</b>		X	X	30	X	X	X
<b>02.40.70</b>		40	40	40	63	C6	63
<b>02.50.70</b>		50	50	50	100	X	X



**02.71**  
81



REF.	Types	DIN 2080	DIN 69871/A	MAS BT	HSK	CAPTO	KM
<b>02.30.71</b>		30	30	X	50	C5	50
<b>02.30.81</b>		X	X	30	X	X	X
<b>02.40.71</b>		40	40	40	63	C6	63
<b>02.50.71</b>		50	50	50	100	X	X

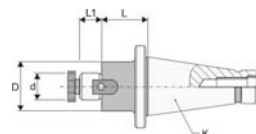


716<sup>3,4,5</sup>



REF.	K	d	D	L	L1
716.316	30	16	32	35	17
716.322	30	22	40	35	19
716.327	30	27	48	35	21
716.332	30	32	58	35	24
716.416	40	16	32	37	17
716.422	40	22	40	37	19
716.427	40	27	48	37	21
716.432	40	32	58	37	24
716.440	40	40	70	38	27
716.460	40	60	128	30	40
716.516	50	16	32	40	17
716.522	50	22	40	40	19
716.527	50	27	48	40	21
716.532	50	32	58	40	24
716.540	50	40	70	40	27
716.560	50	60	128	30	40

DIN 2080



Inserts

Turning

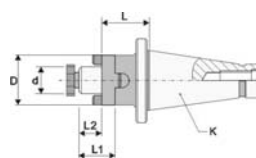
Automatic lathes

718<sup>4</sup>



REF.	K	d	D	L	L1	L2
718.416	40	16	32	52	27	17
718.422	40	22	40	52	31	19
718.427	40	27	48	52	33	21
718.432	40	32	58	52	38	24
718.440	40	40	70	52	41	27
718.516	50	16	32	55	27	17
718.522	50	22	40	55	31	19
718.527	50	27	48	55	33	21
718.532	50	32	58	55	38	24
718.540	50	40	70	55	41	27

DIN 2080



Ceramic tools

Parting & grooving

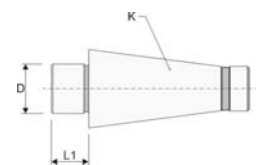
Threading

719<sup>4,5</sup>



REF.	K	L1	D
719.440	40	30	40
719.560	50	40	60

DIN 2080



Drills

Cartridges

Brazed tools

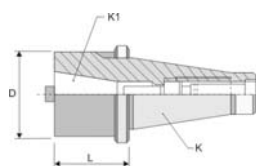
Milling cutters

722<sup>4,5</sup>



REF.	K	K1	D	L
722.430	40	30	50	50
722.540	50	40	63	50

DIN 2080



Solid carbide

Boring heads

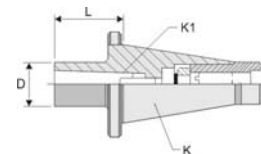
Arbors & adaptors

- Inserts
- Turning
- Automatic lathes
- Ceramic tools
- Parting & grooving
- Threading
- Drills
- Cartridges
- Brazed tools
- Milling cutters
- Solid carbide
- Boring heads
- Arbors & adaptors

**723**<sup>3,4,5</sup>



REF.	K	K1	D	L
723.302	30	MK2	32	50
723.303	30	MK3	40	76
723.402	40	MK2	32	50
723.403	40	MK3	40	65
723.404	40	MK4	48	95
723.503	50	MK3	40	65
723.504	50	MK4	48	65

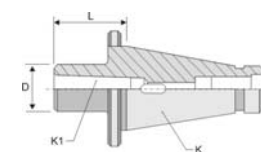


DIN 2080

**726**<sup>3,4,5</sup>



REF.	K	K1	D	L
726.302	30	MK2	32	50
726.303	30	MK3	40	76
726.401	40	MK1	25	50
726.402	40	MK2	32	50
726.403	40	MK3	40	65
726.404	40	MK4	48	95
726.503	50	MK3	48	65
726.504	50	MK4	63	70

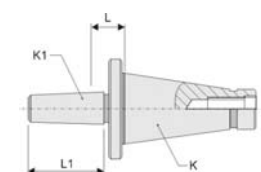


DIN 2080

**728**<sup>3,4,5</sup>



REF.	K	K1	L	L1
728.312	30	B12	15	18,5
728.316	30	B16	15	24,0
728.318	30	B18	15	32,0
728.412	40	B12	17	18,5
728.416	40	B16	17	24,0
728.418	40	B18	17	32,0
728.516	50	B16	20	24,0
728.518	50	B18	20	32,0

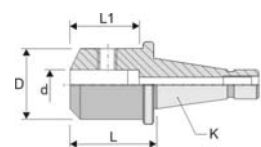


DIN 2080

**730**<sup>4,5</sup>



REF.	K	d	D	L	L1
730.410	40	10	35	50	39
730.412	40	12	42	50	44
730.416	40	16	48	63	47
730.420	40	20	52	63	49
730.425	40	25	65	80	54
730.432	40	32	72	80	58
730.516	50	16	48	63	47
730.520	50	20	52	63	49
730.525	50	25	65	80	54
730.532	50	32	72	80	58



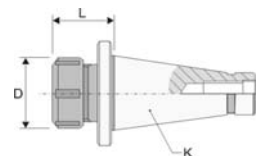
DIN 2080

**731**<sup>3</sup><sub>4</sub><sup>5</sup>



REF.	K	L	D	SIZE OF COLLETS	CLAMPING NUT	COLLET
<b>731.316</b>	30	38	24	1-10	090	ER16
<b>731.320</b>	30	38	32	1-13	091	ER20
<b>731.325</b>	30	39	42	1-16	092	ER25
<b>731.332</b>	30	50	50	2-20	093	ER32
<b>731.416</b>	40	50	24	1-10	090	ER16
<b>731.420</b>	40	50	34	1-13	091	ER20
<b>731.425</b>	40	50	42	1-16	092	ER25
<b>731.432</b>	40	50	50	2-20	093	ER32
<b>731.432L</b>	40	120	50	2-20	093	ER32
<b>731.440</b>	40	56	63	4-30	094	ER40
<b>731.440L</b>	40	120	63	4-30	094	ER40
<b>731.532</b>	50	70	50	2-20	093	ER32
<b>731.532L</b>	50	100	50	2-20	093	ER32
<b>731.540</b>	50	70	63	4-30	094	ER40
<b>731.540L</b>	50	100	63	4-30	094	ER40

DIN 2080

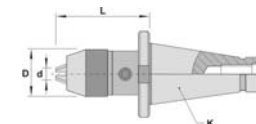


**HX-DIN**



REF.	d	K	L <sub>MIN</sub>	L <sub>MAX</sub>	D
<b>HX10-DIN40</b>	0-10	40	72	81	43
<b>HX13-DIN40</b>	1-13	40	86	97	53
<b>HX16-DIN40</b>	3-16	40	88	99	57
<b>HX10-DIN50</b>	0-10	50	74	83	43
<b>HX13-DIN50</b>	1-13	50	89	101	53
<b>HX16-DIN50</b>	3-16	50	92	103	57

DIN 2080

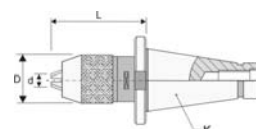


**NPU-DIN**



REF.	d	K	L <sub>MIN</sub>	L <sub>MAX</sub>	D
<b>NPU13-DIN40</b>	1-13	40	78	89	48
<b>NPU16-DIN40</b>	3-16	40	90	101	55
<b>NPU13-DIN50</b>	1-13	50	74	85	48
<b>NPU16-DIN50</b>	3-16	50	72	83	55

DIN 2080



Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

Solid carbide

Boring heads

Arbors & adaptors



- Inserts
- Turning
- Automatic lathes
- Ceramic tools
- Parting & grooving
- Threading
- Drills
- Cartridges
- Brazed tools
- Milling cutters
- Solid carbide
- Boring heads
- Arbors & adaptors

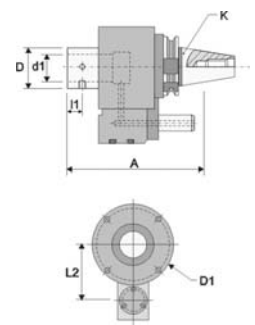
**710.<sup>7</sup>/<sub>8</sub>**



REF.	K	d1	A	D	D1	l1	l2	
<b>710.725</b>	40	25	152	45	95	15	65	166
<b>710.732</b>	40	32	152	48	95	16	65	166
<b>710.832</b>	50	32	152	48	95	16	80	166
<b>710.840</b>	50	40	166	58	110	17	80	166



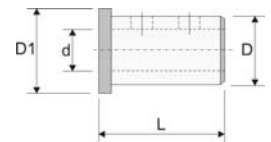
DIN 69871/A



**021**



REF.	D	d	D1	L
<b>021.25.16</b>	25	16	33	55
<b>021.25.20</b>	25	20	33	55
<b>021.32.16</b>	32	16	40	60
<b>021.32.20</b>	32	20	40	60
<b>021.32.25</b>	32	25	40	60
<b>021.40.16</b>	40	16	48	65
<b>021.40.20</b>	40	20	48	65
<b>021.40.25</b>	40	25	48	65
<b>021.40.32</b>	40	32	48	65

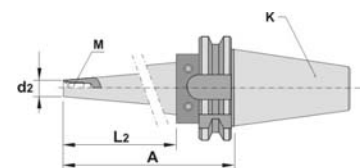


**706.<sup>4</sup>/<sub>5</sub> L**



REF.	K	L2	A	d2	M
<b>706.4.10</b>	40	50	70	18,0	M10
<b>706.4.10L120</b>	40	100	120	18,0	M10
<b>706.4.10L200</b>	40	158	200	18,0	M10
<b>706.4.10L250</b>	40	202	250	18,0	M10
<b>706.4.10L300</b>	40	258	300	18,0	M10
<b>706.4.12</b>	40	50	70	21,0	M12
<b>706.4.12L120</b>	40	100	120	21,0	M12
<b>706.4.12L200</b>	40	158	200	21,0	M12
<b>706.4.12L250</b>	40	202	250	21,0	M12
<b>706.4.12L300</b>	40	258	300	21,0	M12
<b>706.4.16</b>	40	50	70	29,0	M16
<b>706.4.16L120</b>	40	100	120	29,0	M16
<b>706.4.16L200</b>	40	158	200	29,0	M16
<b>706.4.16L250</b>	40	208	250	29,0	M16
<b>706.4.16L300</b>	40	252	300	29,0	M16
<b>706.5.12</b>	50	50	70	21,0	M12
<b>706.5.12L120</b>	50	100	120	21,0	M12
<b>706.5.12L250</b>	50	197	250	21,0	M12
<b>706.5.12L300</b>	50	247	300	21,0	M12
<b>706.5.12L400</b>	50	347	400	21,0	M12
<b>706.5.16</b>	50	100	120	29,0	M16
<b>706.5.16L170</b>	50	150	170	29,0	M16
<b>706.5.16L250</b>	50	197	250	29,0	M16
<b>706.5.16L300</b>	50	247	300	29,0	M16
<b>706.5.16L400</b>	50	347	400	29,0	M16
<b>706.5.16L500</b>	50	417	500	29,0	M16

DIN 69871/A

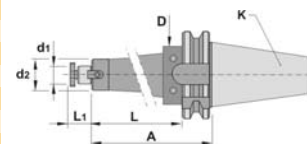


**716. L**

DIN 69871/A



REF.	K	D	A	L	L <sub>1</sub>	d <sub>1</sub>	d <sub>2</sub>
716.7.16L150	40	50	150	131	36	16	36
716.7.16L200	40	50	200	181	36	16	36
716.7.16L250	40	50	250	231	36	16	36
716.7.16L300	40	50	300	281	36	16	36
716.7.22L150	40	50	150	131	19	22	44
716.7.22L200	40	50	200	181	19	22	44
716.7.22L250	40	50	250	231	19	22	44
716.7.22L300	40	50	300	281	19	22	44
716.7.27L150	40	50	150	131	21	27	54
716.7.27L200	40	50	200	181	21	27	54
716.7.27L250	40	50	250	231	21	27	54
716.7.27L300	40	50	300	281	21	27	54
716.8.16L150	50	80	150	131	36	16	36
716.8.16L200	50	80	200	181	36	16	36
716.8.16L250	50	80	250	231	36	16	36
716.8.16L300	50	80	300	281	36	16	36
716.8.16L400	50	80	400	381	36	16	36
716.8.22L200	50	80	200	181	19	22	44
716.8.22L250	50	80	250	231	19	22	44
716.8.22L300	50	80	300	281	19	22	44
716.8.22L400	50	80	400	381	19	22	44
716.8.22L500	50	80	500	481	19	22	44
716.8.27L200	50	80	200	181	21	27	54
716.8.27L250	50	80	250	231	21	27	54
716.8.27L300	50	80	300	281	21	27	54
716.8.27L400	50	80	400	381	21	27	54
716.8.27L500	50	80	500	481	21	27	54
716.8.32L200	50	80	200	181	24	32	64
716.8.32L250	50	80	250	231	24	32	64
716.8.32L300	50	80	300	281	24	32	64
716.8.32L400	50	80	400	381	24	32	64
716.8.32L500	50	80	500	481	24	32	64

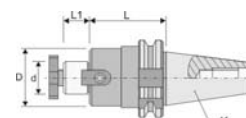


**716.7<sub>s</sub>**

DIN 69871/A



REF.	K	d	D	L	L <sub>1</sub>
716.716	40	16	32	44	17
716.722	40	22	40	44	19
716.727	40	27	48	44	21
716.732	40	32	58	59	24
716.740	40	40	70	59	27
716.816	50	16	32	44	17
716.822	50	22	40	44	19
716.827	50	27	48	47	21
716.832	50	32	58	47	24
716.840	50	40	70	59	27
716.860	50	60	128	75	40

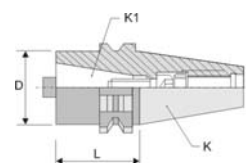


**722.8**

DIN 69871/A



REF.	K	K <sub>1</sub>	D	L
722.840	50	40	70	63



Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

Solid carbide

Boring heads

Arbors & adaptors



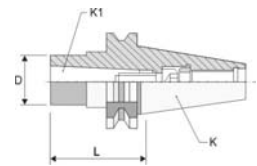
Inserts

**723.<sup>7</sup>/<sub>8</sub>**



REF.	K	K1	D	L
<b>723.702</b>	40	MK2	32	50
<b>723.703</b>	40	MK3	40	70
<b>723.704</b>	40	MK4	48	95
<b>723.803</b>	50	MK3	40	65
<b>723.804</b>	50	MK4	48	70

DIN 69871/A



Turning

Automatic lathes

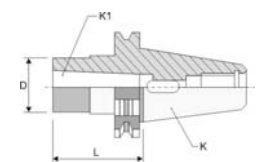
Ceramic tools

**726.<sup>7</sup>/<sub>8</sub>**



REF.	K	K1	D	L
<b>726.701</b>	40	MK1	25	50
<b>726.702</b>	40	MK2	32	50
<b>726.703</b>	40	MK3	40	70
<b>726.704</b>	40	MK4	48	95
<b>726.803</b>	50	MK3	40	65
<b>726.804</b>	50	MK4	48	95

DIN 69871/A



Parting & grooving

Threading

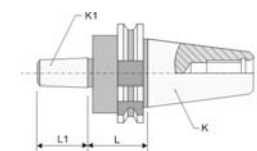
Drills

**728.<sup>7</sup>/<sub>8</sub>**



REF.	K	K1	L	L1
<b>728.712</b>	40	B12	25	18,5
<b>728.716</b>	40	B16	25	24,0
<b>728.718</b>	40	B18	25	32,0
<b>728.816</b>	50	B16	25	24,0
<b>728.818</b>	50	B18	25	32,0

DIN 69871/A



Cartridges

Brazed tools

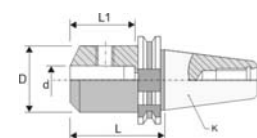
Milling cutters

**730.<sup>7</sup>/<sub>8</sub>**



REF.	K	d	D	L	L1
<b>730.710</b>	40	10	35	50	39
<b>730.712</b>	40	12	42	50	44
<b>730.716</b>	40	16	48	63	47
<b>730.720</b>	40	20	52	63	49
<b>730.725</b>	40	25	65	100	54
<b>730.732</b>	40	32	72	100	58
<b>730.816</b>	50	16	48	63	47
<b>730.820</b>	50	20	52	63	49
<b>730.825</b>	50	25	65	80	54
<b>730.832</b>	50	32	72	100	58

DIN 69871/A



Solid carbide

Boring heads

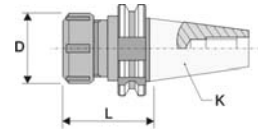
Arbors & adaptors

731.7/8



REF.	K	L	D	SIZE OF COLLETS	CLAMPING NUT	COLLET
731.716	40	60	28	1-10	090	ER16
731.720	40	70	34	1-13	091	ER20
731.725	40	70	42	1-16	092	ER25
731.732	40	70	50	2-20	093	ER32
731.732L	40	120	50	2-20	093	ER32
731.740	40	56	63	4-30	094	ER40
731.740L	40	120	63	4-30	094	ER40
731.832	50	70	50	2-20	093	ER32
731.832L	50	100	50	2-20	093	ER32
731.840	50	70	63	4-30	094	ER40
731.840L	50	120	63	4-30	094	ER40

DIN 69871/A



Inserts

Turning

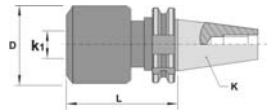
Automatic lathes

734.7



REF.	K	K1	D	L
734.720	40	20	54	105
734.732	40	32	72	105
734.832	50	32	72	105

DIN 69871/A



Ceramic tools

Parting & grooving

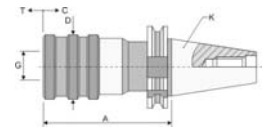
Threading

737.7/8



REF.	K	N°	G	Ø	A	D	C	T		
737.712	40	1	19	M4-M12	60	36	9	9	71XX	75XX
737.720	40	2	31	M8-M20	92	53	15	9	72XX	76XX
737.733	40	3	48	M14-M33	138	78	24	9	73XX	77XX
737.812	50	1	19	M4-M12	60	36	9	9	71XX	75XX
737.820	50	2	31	M8-M20	92	53	15	9	72XX	76XX
737.833	50	3	48	M14-M33	138	78	24	9	73XX	77XX

DIN 69871/A



Drills

Cartridges

Brazed tools

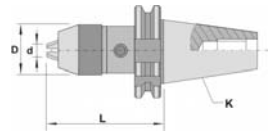
Milling cutters

HX-ID



REF.	K	d	D	L <sub>MIN</sub>	L <sub>MAX</sub>
HX10-ID40	40	0-10	43	77	85,5
HX10-ID40/R	40	0-10	43	77	85,5
HX13-ID40	40	1-13	53	91	103,0
HX13-ID40/R	40	1-13	53	91	103,0
HX16-ID40	40	3-16	57	94	105,0
HX16-ID40/R	40	3-16	57	94	105,0
HX10-ID50	50	0-10	43	79	87,5
HX10-ID50/R	50	0-10	43	79	87,5
HX13-ID50	50	1-13	53	93	105,0
HX13-ID50/R	50	1-13	53	93	105,0
HX16-ID50	50	3-16	57	96	107,0
HX16-ID50/R	50	3-16	57	96	107,0

DIN 69871/A



Solid carbide

Boring heads

Arbors & adaptors





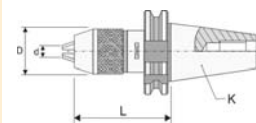
- Inserts
- Turning
- Automatic lathes
- Ceramic tools
- Parting & grooving
- Threading
- Drills
- Cartridges
- Brazed tools
- Milling cutters
- Solid carbide
- Boring heads
- Arbors & adaptors

**NPU-ID**



REF.	d	K	L <sub>MIN</sub>	L <sub>MAX</sub>	D
<b>NPU13-ID40</b>	1-13	40	80	91	48
<b>NPU16-ID40</b>	3-16	40	97	108	55
<b>NPU13-ID50</b>	1-13	50	78	89	48
<b>NPU16-ID50</b>	3-16	50	76	89	55

DIN 69871/A

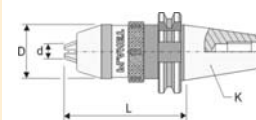


**PS-ID**



REF.	d	K	L <sub>MIN</sub>	L <sub>MAX</sub>	D
<b>PS13-ID40</b>	1-13	40	78	89	48
<b>PS13-ID50</b>	1-13	50	74	85	48

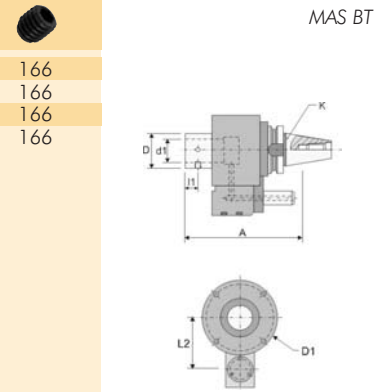
DIN 69871/A



710.º



REF.	K	d1	A	D	D1	l1	l2	
710.925	40	25	152	45	95	15	65	166
710.932	40	32	152	48	95	16	65	166
710.032	50	32	152	48	95	16	80	166
710.040	50	40	166	58	110	17	80	166

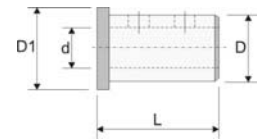


MAS BT

021



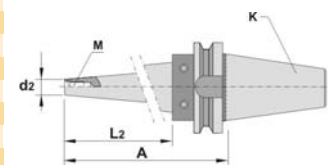
REF.	D	d	D1	L
021.25.16	25	16	33	55
021.25.20	25	20	33	55
021.32.16	32	16	40	60
021.32.20	32	20	40	60
021.32.25	32	25	40	60
021.40.16	40	16	48	65
021.40.20	40	20	48	65
021.40.25	40	25	48	65
021.40.32	40	32	48	65



706.º



REF.	K	L2	A	d2	M
706.9.10	40	50	80	18,0	M10
706.9.10L130	40	100	130	18,0	M10
706.9.10L200	40	158	200	18,0	M10
706.9.10L250	40	208	250	18,0	M10
706.9.10L300	40	258	300	18,0	M10
706.9.12	40	50	80	21,0	M12
706.9.12L130	40	100	130	21,0	M12
706.9.12L200	40	158	200	21,0	M12
706.9.12L250	40	208	250	21,0	M12
706.9.12L300	40	258	300	21,0	M12
706.9.16	40	50	80	29,0	M16
706.9.16L130	40	100	130	29,0	M16
706.9.16L200	40	158	200	29,0	M16
706.9.16L250	40	208	250	29,0	M16
706.9.16L300	40	258	300	29,0	M16
706.0.12	50	100	140	21,0	M12
706.0.12L190	50	150	190	21,0	M12
706.0.12L200	50	197	250	21,0	M12
706.0.12L250	50	247	300	21,0	M12
706.0.12L300	50	347	400	21,0	M12
706.0.16	50	100	140	29,0	M16
706.0.16L190	50	150	190	29,0	M16
706.0.16L250	50	197	250	29,0	M16
706.0.16L300	50	247	300	29,0	M16
706.0.16L400	50	347	400	29,0	M16
706.0.16L500	50	447	500	29,0	M16



MAS BT

Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

Solid carbide

Boring heads

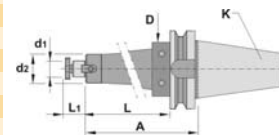
Arbors & adaptors

- Inserts
- Turning
- Automatic lathes
- Ceramic tools
- Parting & grooving
- Threading
- Drills
- Cartridges
- Brazed tools
- Milling cutters
- Solid carbide
- Boring heads
- Arbors & adaptors

**716.3L**



REF.	K	D	A	L	L1	d1	d2
716.9.16L150	40	50	150	116	36	16	36
716.9.16L200	40	50	200	166	36	16	36
716.9.16L250	40	50	250	216	36	16	36
716.9.16L300	40	50	300	266	36	16	36
716.9.22L150	40	50	150	116	19	22	44
716.9.22L200	40	50	200	166	19	22	44
716.9.22L250	40	50	250	216	19	22	44
716.9.22L300	40	50	300	266	19	22	44
716.9.27L150	40	50	150	116	21	27	54
716.9.27L200	40	50	200	166	21	27	54
716.9.27L250	40	50	250	216	21	27	54
716.9.27L300	40	50	300	266	21	27	54
716.0.16L150	50	80	150	112	36	16	36
716.0.16L200	50	80	200	162	36	16	36
716.0.16L250	50	80	250	212	36	16	36
716.0.16L300	50	80	300	262	36	16	36
716.0.16L400	50	80	400	362	36	16	36
716.0.22L200	50	80	200	162	19	22	44
716.0.22L250	50	80	250	212	19	22	44
716.0.22L300	50	80	300	262	19	22	44
716.0.22L400	50	80	400	362	19	22	44
716.0.22L500	50	80	500	462	19	22	44
716.0.27L200	50	80	200	162	21	27	54
716.0.27L250	50	80	250	212	21	27	54
716.0.27L300	50	80	300	262	21	27	54
716.0.27L400	50	80	400	362	21	27	54
716.0.27L500	50	80	500	462	21	27	54
716.0.32L200	50	80	200	162	24	32	54
716.0.32L250	50	80	250	212	24	32	64
716.0.32L300	50	80	300	262	24	32	64
716.0.32L400	50	80	400	362	24	32	64
716.0.32L500	50	80	500	462	24	32	64

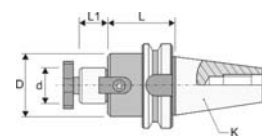


MAS BT

**716.3**



REF.	K	d	D	L	L1
716.916	40	16	32	44	17
716.922	40	22	40	44	19
716.927	40	27	48	47	21
716.932	40	32	58	50	24
716.940	40	40	70	52	27
716.016	50	16	32	55	17
716.022	50	22	40	55	19
716.027	50	27	48	58	21
716.032	50	32	58	61	24
716.040	50	40	70	63	27
716.060	50	60	128	25	40

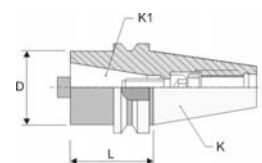


MAS BT

**722.0**



REF.	K	K1	D	L
722.040	50	40	78	70



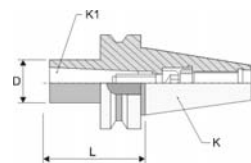
MAS BT

723.º



REF.	K	K1	D	L
723.902	40	MK2	32	50
723.903	40	MK3	40	70
723.904	40	MK4	48	95
723.003	50	MK3	40	65
723.004	50	MK4	48	70

MAS BT



Inserts

Turning

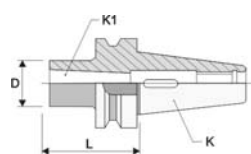
Automatic lathes

726.º



REF.	K	K1	D	L
726.901	40	MK1	25	50
726.902	40	MK2	32	50
726.903	40	MK3	40	70
726.904	40	MK4	48	95
726.003	50	MK3	40	65
726.004	50	MK4	48	95

MAS BT



Ceramic tools

Parting & grooving

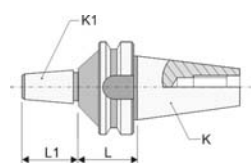
Threading

728.º



REF.	K	K1	L	L1
728.912	40	B12	32	18,5
728.916	40	B16	32	24,0
728.918	40	B18	32	32,0
728.016	50	B16	43	24,0
728.018	50	B18	43	32,0

MAS BT



Drills

Cartridges

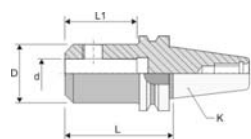
Brazed tools

730.º



REF.	K	d	D	L	L1
730.910	40	10	35	63	39
730.912	40	12	42	63	44
730.916	40	16	48	63	47
730.920	40	20	52	63	49
730.925	40	25	65	90	54
730.932	40	32	72	100	58
730.016	50	16	48	80	47
730.020	50	20	52	80	49
730.025	50	25	65	100	54
730.032	50	32	72	105	58

MAS BT



Solid carbide

Boring heads

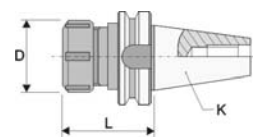
Arbors & adaptors

- Inserts
- Turning
- Automatic lathes
- Ceramic tools
- Parting & grooving
- Threading
- Drills
- Cartridges
- Brazed tools
- Milling cutters
- Solid carbide
- Boring heads
- Arbors & adaptors

**731.º**



REF.	K	L	D	SIZE OF COLLETS	CLAMPING NUT	COLLET
731.916	40	60	28	1-10	090	ER16
731.920	40	70	34	1-13	091	ER20
731.925	40	70	42	1-16	092	ER25
731.932	40	70	50	2-20	093	ER32
731.932L	40	135	50	2-20	093	ER32
731.940	40	80	63	4-30	094	ER40
731.940L	40	135	63	4-30	094	ER40
731.032	50	80	50	2-20	093	ER32
731.032L	50	120	50	2-20	093	ER32
731.040	50	80	63	4-30	094	ER40
731.040L	50	120	63	4-30	094	ER40

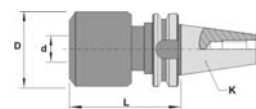


MAS BT

**734.º**



REF.	K	d	D	L
734.920	40	20	54	105
734.932	40	32	72	105
734.032	50	32	72	105

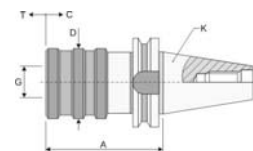


MAS BT

**737.º**



REF.	K	Nº	G	Ø	A	D	C	T		
737.912	40	1	19	M3-M12	60	36	9	9	71XX	75XX
737.920	40	2	31	M8-M20	92	53	15	9	72XX	76XX
737.933	40	3	48	M14-M33	138	78	24	9	73XX	77XX
737.012	50	1	19	M3-M12	60	36	9	9	71XX	75XX
737.020	50	2	31	M8-M20	92	53	15	9	72XX	76XX
737.033	50	3	48	M14-M33	138	78	24	9	73XX	77XX

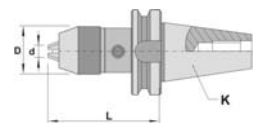


MAS BT

**HX-BT**



REF.	d	K	L <sub>MIN</sub>	L <sub>MAX</sub>	D
HX10-BT40	0-10	40	77	85,5	43
HX10-BT40/R	0-10	40	77	85,5	43
HX13-BT40	1-13	40	91	103,0	53
HX13-BT40/R	1-13	40	91	103,0	53
HX16-BT40	3-16	40	94	105,0	57
HX16-BT40/R	3-16	40	94	105,0	57
HX10-BT50	0-10	50	79	87,5	43
HX10-BT50/R	0-10	50	79	87,5	43
HX13-BT50	1-13	50	93	105,0	53
HX30-BT50/R	1-13	50	93	105,0	53
H610-BT50	3-16	50	96	107,0	57
6X10-BT50/R	3-16	50	96	107,0	57



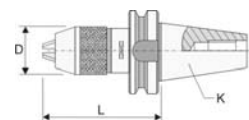
MAS BT

**NPU-BT**

MAS BT



REF.	d	K	L <sub>MIN</sub>	L <sub>MAX</sub>	D
<b>NPU13-BT40</b>	1-13	40	78	89	48
<b>NPU16-BT40</b>	3-16	40	90	101	55
<b>NPU13-BT50</b>	1-13	50	74	85	48
<b>NPU16-BT50</b>	3-16	50	72	83	55

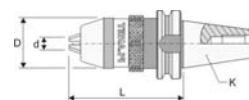


**PS-BT**

MAS BT



REF.	d	K	L <sub>MIN</sub>	L <sub>MAX</sub>	D
<b>PS13-BT40</b>	1-13	40	78	89	48
<b>PS16-BT40</b>	3-16	40	90	101	55
<b>PS13-BT50</b>	1-13	50	74	85	48
<b>PS16-BT50</b>	3-16	50	72	83	55



Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

Solid carbide

Boring heads

Arbors & adaptors

Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

Solid carbide

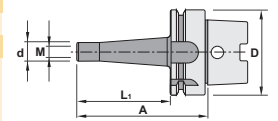
Boring heads

Arbors & adaptors

**506.4<sub>s</sub>**



REF.	D	L1	A	d	M
506.4.06	40	25	50	9,8	M6
506.4.06L	40	75	100	9,8	M6
506.4.08	40	25	50	12,8	M8
506.4.08L	40	75	100	12,8	M8
506.5.08	50	25	55	12,8	M8
506.5.06L	50	75	105	12,8	M8
506.5.10	50	25	55	12,8	M10
506.5.10L	50	75	105	12,8	M10

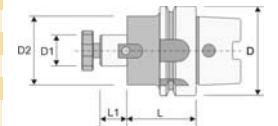


HSK

**516**



REF.	D	L	L1	D1	D2
516.522	50	60	19	22	50
516.527	50	60	21	27	60
516.622	63	50	19	22	50
516.627	63	60	21	27	60
516.632	63	60	24	32	70
516.640	63	60	27	40	89
516.122	100	50	19	22	50
516.127	100	50	21	27	60
516.132	100	50	24	32	70

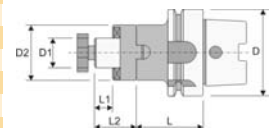


HSK-DIN 138

**518**



REF.	D	L	L1	L2	D1	D2
518.516	50	40	17	27	16	32
518.522	50	38	19	31	22	40
518.527	50	53	21	33	27	48
518.532	50	51	24	38	32	58
518.616	63	50	17	27	16	32
518.622	63	48	19	31	22	40
518.627	63	48	21	33	27	48
518.632	63	46	24	38	32	58
518.640	63	56	27	41	40	70
518.116	100	50	17	27	16	32
518.122	100	48	19	31	22	40
518.127	100	48	21	33	27	48
518.132	100	46	24	38	32	58
518.140	100	56	27	41	40	70

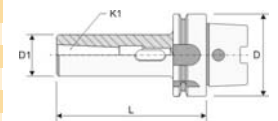


HSK

**526**



REF.	D	L	D1	K1
526.501	50	100	25	MK1
526.502	50	120	32	MK2
526.503	50	140	40	MK3
526.601	63	100	25	MK1
526.602	63	120	32	MK2
526.603	63	140	40	MK3
526.604	63	160	48	MK4
526.101	100	110	25	MK1
526.102	100	120	32	MK2
526.103	100	150	40	MK3
526.104	100	170	48	MK4
526.105	100	200	63	MK5



HSK-DIN 228B

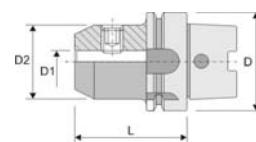


## 530



REF.	D	L	D1	D2
530.506	50	65	6	25
530.508	50	65	8	28
530.510	50	65	10	35
530.512	50	80	12	42
530.514	50	80	14	44
530.516	50	80	16	48
530.518	50	80	18	50
530.520	50	80	20	52
530.606	63	65	6	25
530.608	63	65	8	28
530.610	63	65	10	35
530.612	63	80	12	42
530.614	63	80	14	44
530.616	63	80	16	48
530.618	63	80	18	50
530.620	63	80	20	52
530.625	63	110	25	65
530.632	63	110	32	72
530.106	100	80	6	25
530.108	100	80	8	28
530.110	100	80	10	35
530.112	100	80	12	42
530.114	100	80	14	44
530.116	100	100	16	48
530.118	100	100	18	50
530.120	100	100	20	52
530.125	100	100	25	65
530.132	100	100	32	72

HSK-DIN 1835B



Inserts

Turning

Automatic  
lathesCeramic  
toolsParting &  
grooving

Threading

Drills

Cartridges

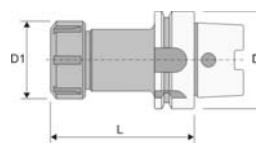
Brazen  
toolsMilling  
cuttersSolid  
carbideBoring  
headsArbors &  
adaptors

## 531



REF.	D	L	D1	COLLET	SIZE OF COLLETS
531.532	50	100	50	ER32	2-20
531.632	63	100	50	ER32	2-20
531.640	63	120	63	ER40	3-26
531.132	100	100	50	ER32	3-20
531.140	100	120	63	ER40	3-26

HSK-DIN 6499

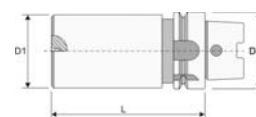


## 533



REF.	D	L	D1
533.563	50	200	63
533.680	63	250	80
533.600	63	250	100

HSK





**535**

Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

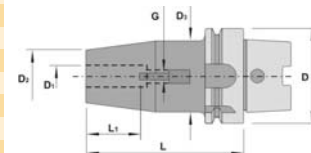
Solid carbide

Boring heads

Arbors & adaptors



REF.	D	D1	D2	L	L1	G
535.4.06	40	6	21	80	36	M5
535.4.08	40	8	21	80	36	M6
535.4.10	40	10	24	80	42	M8
535.4.12	40	12	24	90	47	M10
535.4.14	40	14	28	90	47	M10
535.4.16	40	16	28	90	50	M12
535.5.06	50	6	21	80	36	M5
535.5.08	50	8	21	80	36	M6
535.5.10	50	10	24	85	42	M8
535.5.12	50	12	24	90	47	M10
535.5.14	50	14	28	90	47	M10
535.5.16	50	16	28	95	50	M12
535.5.18	50	18	33	95	50	M12
535.5.20	50	20	33	100	52	M16
535.6.06L80	63	6	21	80	36	M5
535.6.06L120	63	6	21	120	36	M5
535.6.06L160	63	6	21	160	36	M5
535.6.08L80	63	8	21	80	36	M6
535.6.08L120	63	8	21	120	36	M6
535.6.08L160	63	8	21	160	36	M6
535.6.10L85	63	10	24	85	42	M8
535.6.10L120	63	10	24	120	42	M8
535.6.10L160	63	10	24	160	42	M8
535.6.12L90	63	12	24	90	47	M10
535.6.12L120	63	12	24	120	47	M10
535.6.12L160	63	12	24	160	47	M10
535.6.14	63	14	27	90	47	M10
535.6.16	63	16	27	95	50	M12
535.6.18	63	18	33	95	50	M12
535.6.20	63	20	33	100	52	M16
535.6.25	63	25	44	115	58	M20
535.6.32	63	32	44	120	58	M20
535.8.06	80	6	21	85	36	M5
535.8.08	80	8	21	85	36	M6
535.8.10	80	10	24	90	42	M8
535.8.12	80	12	24	95	47	M10
535.8.14	80	14	28	95	47	M10
535.8.16	80	16	28	100	50	M12
535.8.18	80	18	33	100	50	M12
535.8.20	80	20	33	105	52	M16
535.8.25	80	25	44	115	58	M20
535.8.32	80	32	44	120	58	M20
535.1.06	100	6	21	85	36	M5
535.1.08	100	8	21	85	36	M6
535.1.10	100	10	24	90	42	M8
535.1.12	100	12	24	95	47	M10
535.1.14	100	14	28	95	47	M10
535.1.16	100	16	28	100	50	M12
535.1.18	100	18	33	100	50	M12
535.1.20	100	20	33	105	52	M16
535.1.25	100	25	44	115	58	M20
535.1.32	100	32	44	120	58	M20

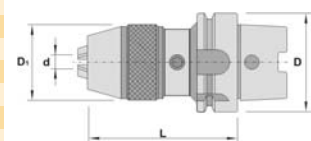


HSK

**HX-HSK**



REF.	D	d	D1	L <sub>MIN</sub>	L <sub>MAX</sub>
HX13-HSK50	50	1-13	53	116,0	127,0
HX13-HSK50/R	50	1-13	53	116,0	127,0
HX16-HSK50	50	3-16	57	119,0	131,0
HX16-HSK50/R	50	3-16	57	119,0	131,0
HX13-HSK63	63	1-13	53	115,0	126,0
HX13-HSK63/R	63	1-13	53	115,0	126,0
HX16-HSK63	63	3-16	57	117,5	129,5
HX16-HSK63/R	63	3-16	57	117,5	129,5
HX13-HSK100	100	1-13	53	108,5	119,5
HX13-HSK100/R	100	1-13	53	108,5	119,5
HX16-HSK100	100	3-16	57	111,0	123,0
HX16-HSK100/R	100	3-16	57	111,0	123,0

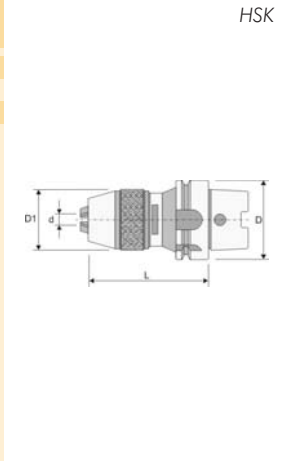


HSK/A-AD

**NPU-HSK**



REF.	D	L	D1	d
<b>NPU13-HSK50</b>	50	108	44	1-13
<b>NPU13-HSK63</b>	63	110	44	1-13
<b>NPU13-HSK100</b>	100	134	49	1-13



HSK

Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

Solid carbide

Boring heads

Arbors & adaptors

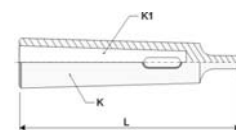
- Inserts
- Turning
- Automatic lathes
- Ceramic tools
- Parting & grooving
- Threading
- Drills
- Cartridges
- Brazed tools
- Milling cutters
- Solid carbide
- Boring heads
- Arbors & adaptors

**CR**



REF.	K	K1	L
CR-2x1	MK2	MK1	92
CR-3x1	MK3	MK1	99
CR-3x2	MK3	MK2	112
CR-4x2	MK4	MK2	124
CR-4x3	MK4	MK3	140
CR-5x3	MK5	MK3	156
CR-5x4	MK5	MK4	171

DIN 228/A



**E**



REF.	K	K1
E-12/2	MK2	B-12
E-16/2	MK2	B-16
E-18/2	MK2	B-18
E-16/3	MK3	B-16
E-18/3	MK3	B-18
E-16/4	MK4	B-16
E-18/4	MK4	B-18

DIN 228/A

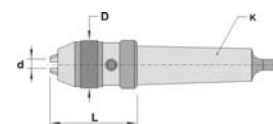


**HX-MT**



REF.	d	K	D	L <sub>MIN</sub>	L <sub>MAX</sub>
HX13-MT-2	1-13	MT-2	53	95,5	106,5
HX16-MT-2	3-16	MT-2	57	98,0	107,0
HX13-MT-3	1-13	MT-3	53	95,5	106,5
HX16-MT-3	3-16	MT-3	57	98,0	107,0
HX13-MT-4	1-13	MT-4	53	95,5	106,5
HX16-MT-4	3-16	MT-4	57	98,0	107,0

DIN 228/A

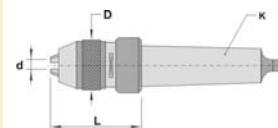


**SPS-MT**



REF.	d	K	D	L <sub>MIN</sub>	L <sub>MAX</sub>
SPS13-MT3	1-13	MK3	48	80	92
SPS16-MT3	3-16	MK3	54	85	96
SPS16-MT4	3-16	MK4	54	85	96

DIN 228/A

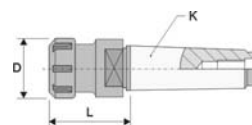


700.<sup>3</sup>/<sub>4</sub>



REF.	K	L	D	SIZE OF COLLETS	CLAMPING NUT	COLLET
700.332	MK3	70	50	2-20	093	ER32
700.340	MK3	80	63	4-30	093	ER40
700.432	MK4	60	50	2-20	093	ER32
700.440	MK4	81	63	4-30	094	ER40

DIN 228/A



Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

Solid carbide

Boring heads

Arbors & adaptors

Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

Solid carbide

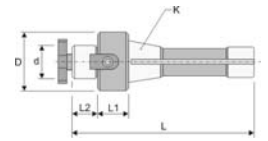
Boring heads

Arbors & adaptors

**816**



REF.	K	d	D	L	L1	L2
<b>816.016</b>	R8	16	32	137	25	17
<b>816.022</b>	R8	22	41	137	25	19
<b>816.027</b>	R8	27	43	137	25	21
<b>816.032</b>	R8	32	64	143	25	24
<b>816.040</b>	R8	40	70	143	25	27

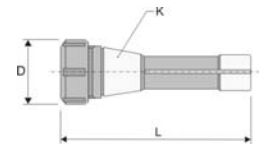


R-8

**831**



REF.	K	L	D	SIZE OF COLLETS	CLAMPING NUT	COLLET
<b>831.016</b>	R8	133	28	0.5-10	090	ER16
<b>831.032</b>	R8	133	50	2-20	093	ER32
<b>831.040</b>	R8	143	63	4-30	094	ER40

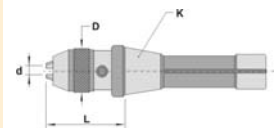


R-8

**HX-R8**



REF.	d	K	L <sub>MIN</sub>	L <sub>MAX</sub>	D
<b>HX13-R8</b>	1-13	R8	95,0	106,0	53
<b>HX16-R8</b>	3-16	R8	97,0	109,5	57

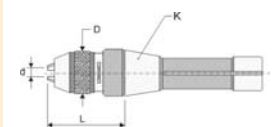


R-8

**NPU-R8**



REF.	d	K	L <sub>MIN</sub>	L <sub>MAX</sub>	D
<b>NPU08-R8</b>	0-13	R8	65	72	37



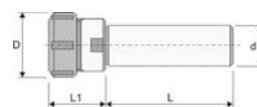
R-8

## 031



REF.	d	D	L	L1	SIZE OF COLLETS	CLAMPING NUT	COLLET
031.616	16	22	160	30	1-10	090	ER16
031.216	20	22	160	30	1-10	090	ER16
031.232	20	50	100	53	2-20	093	ER32
031.532	25	50	100	53	2-20	093	ER32
031.332	32	50	100	53	2-20	093	ER32
031.340	32	63	130	53	4-30	094	ER40
031.432	40	50	120	53	2-20	093	ER32
031.440	40	63	120	60	4-30	094	ER40

DIN 1835-A



Inserts

Turning

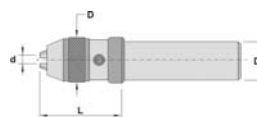
Automatic lathes

## HX-CIL



REF.	d	D1	LMIN	LMAX	D
HX13-CIL-20	1-13	20	92,5	103,5	53
HX16-CIL-20	3-16	20	95,0	107,0	57
HX13-CIL-25	1-13	25	92,5	103,5	53
HX16-CIL-25	3-16	25	95,0	107,0	57
HX13-CIL-32	1-13	32	92,5	103,5	53
HX16-CIL-32	3-16	32	95,0	107,0	57
HX13-CIL-40	1-13	40	92,5	103,5	53
HX16-CIL-40	3-16	40	95,0	107,0	57

DIN 1835-A



Ceramic tools

Parting &amp; grooving

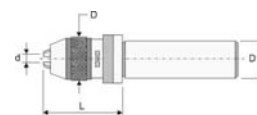
Threading

## NPU-CIL



REF.	d	D1	LMIN	LMAX	D
NPU08-CIL25	0-8	25	66	72	37
NPU13-CIL32	1-13	32	66	72	37
NPU16-CIL40	3-16	40	83	94	55

DIN 1835-A



Drills

Cartridges

Brazen tools

Milling cutters

Solid carbide

Boring heads

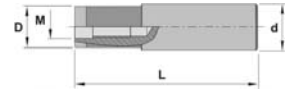
Arbors &amp; adaptors

Inserts

**6<sup>06</sup><sub>16</sub><sup>26</sup>.0**



REF.	d	L	M	D
606.010	20	125	M10	18
606.012	25	125	M12	21
606.006HD	12	125	M6	10
606.008HD	16	125	M8	14
616.006HD	12	150	M6	10
616.008HD	16	150	M8	14
616.010HD	20	150	M10	18
616.012HD	25	150	M12	21
626.010HD	20	200	M10	18
626.012HD	25	200	M12	21



Turning

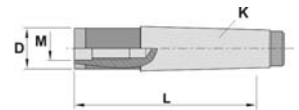
Automatic lathes

Ceramic tools

**6<sup>3</sup><sub>4</sub>6.0**



REF.	K	L	M	D
636.008	30	125	M8	14
636.010	30	125	M10	18
636.012	30	125	M12	21
646.016	40	154	M16	29



Parting & grooving

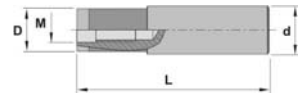
Threading

Drills

**6<sup>16</sup><sub>20</sub><sup>25</sup>.0..HM**



REF.	d	L	M	D
616.008HM	16	200	M8	13
620.010HM	20	225	M10	18
625.012HM	25	270	M12	21



Cartridges

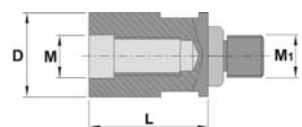
Brazed tools

Milling cutters

**60<sup>0</sup><sub>i</sub>**



REF.	D	L	M	M1
600.808	12,7	30	8	8
601.010	17,7	35	10	10
601.212	20,7	40	12	12
601.616	28,7	40	16	16



Solid carbide

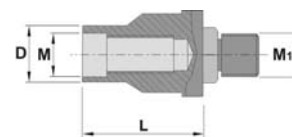
Boring heads

Arbors & adaptors

61°



REF.	D	L	M	M <sub>1</sub>
610.810	17,7	30	8	10
611.012	20,7	35	10	12
611.216	28,7	40	12	16
610.812	20,7	40	8	12
611.016	28,7	60	10	16



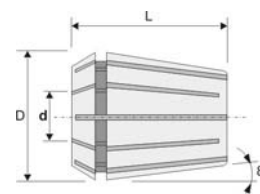
- Inserts
- Turning
- Automatic lathes
- Ceramic tools
- Parting & grooving
- Threading
- Drills
- Cartridges
- Brazed tools
- Milling cutters
- Solid carbide
- Boring heads
- Arbors & adaptors



- Inserts
- Turning
- Automatic lathes
- Ceramic tools
- Parting & grooving
- Threading
- Drills
- Cartridges
- Brazed tools
- Milling cutters
- Solid carbide
- Boring heads
- Arbors & adaptors

**ER**

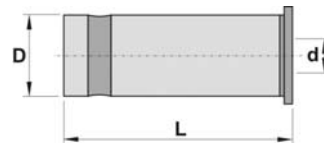
REF.	L	D	d
ER1601	27	17,5	01
ER1602	27	17,5	02
ER1603	27	17,5	03
ER1604	27	17,5	04
ER1605	27	17,5	05
ER1606	27	17,5	06
ER1607	27	17,5	07
ER1608	27	17,5	08
ER1609	27	17,5	09
ER1610	27	17,5	10
ER2001	31	21	01
ER2002	31	21	02
ER2003	31	21	03
ER2004	31	21	04
ER2005	31	21	05
ER2006	31	21	06
ER2007	31	21	07
ER2008	31	21	08
ER2009	31	21	09
ER2010	31	21	10
ER2011	31	21	11
ER2012	31	21	12
ER2013	31	21	13
ER2501	35	26	01
ER2502	35	26	02
ER2503	35	26	03
ER2504	35	26	04
ER2505	35	26	05
ER2506	35	26	06
ER2507	35	26	07
ER2508	35	26	08
ER2509	35	26	09
ER2510	35	26	10
ER2511	35	26	11
ER2512	35	26	12
ER2513	35	26	13
ER2514	35	26	14
ER2515	35	26	15
ER2516	35	26	16
ER3202	40	33	02
ER3203	40	33	03
ER3204	40	33	04
ER3205	40	33	05
ER3206	40	33	06
ER3207	40	33	07
ER3208	40	33	08
ER3209	40	33	09
ER3210	40	33	10
ER3211	40	33	11
ER3212	40	33	12
ER3213	40	33	13
ER3214	40	33	14
ER3215	40	33	15
ER3216	40	33	16
ER3217	40	33	17
ER3218	40	33	18
ER3219	40	33	19
ER3220	40	33	20
ER4003	46	41	03
ER4004	46	41	04
ER4005	46	41	05
ER4006	46	41	06
ER4007	46	41	07
ER4008	46	41	08
ER4009	46	41	09
ER4010	46	41	10
ER4011	46	41	11
ER4012	46	41	12
ER4013	46	41	13
ER4014	46	41	14
ER4015	46	41	15
ER4016	46	41	16
ER4017	46	41	17
ER4018	46	41	18
ER4019	46	41	19
ER4020	46	41	20
ER4021	46	41	21
ER4022	46	41	22
ER4023	46	41	23
ER4024	46	41	24
ER4025	46	41	25
ER4026	46	41	26



C



REF.	d	D	L
C2006	6	20	55
C2008	8	20	55
C2010	10	20	55
C2012	12	20	55
C2016	16	20	55
C3206	6	32	65
C3208	8	32	65
C3210	10	32	65
C3212	12	32	65
C3216	16	32	65
C3220	20	32	65
C3225	25	32	65



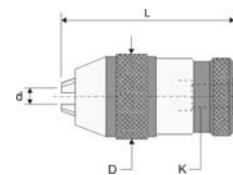
- Inserts
- Turning
- Automatic lathes
- Ceramic tools
- Parting & grooving
- Threading
- Drills
- Cartridges
- Brazed tools
- Milling cutters
- Solid carbide
- Boring heads
- Arbors & adaptors

Inserts

**SP DIN238**



REF.	d	K	L <sub>MIN</sub>	L <sub>MAX</sub>	D
SP08-B12	0-8	B12	67	67	37
SP10-B12	0-10	B12	81	81	41
SP10-B16	0-10	B16	81	81	41
SP13-B16	1-13	B16	88	88	46
SP16-B16	3-16	B16	95	95	55
SP16-B18	3-16	B18	95	95	55



Turning

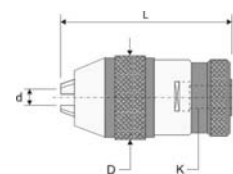
Automatic lathes

Ceramic tools

**SPX DIN238**



REF.	d	K	L <sub>MIN</sub>	L <sub>MAX</sub>	D
SPX08-B12	0-8	B12	67	67	37
SPX13-B16	1-13	B16	88	88	46
SPX16-B16	3-16	B16	95	95	55
SPX16-B18	3-16	B18	95	95	55



Parting & grooving

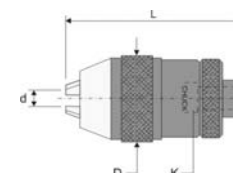
Threading

Drills

**CK CHUCK**



REF.	d	K	L <sub>MIN</sub>	L <sub>MAX</sub>	D
CK08-B12	0-8	B12	61	68	34
CK10-B12	0-10	B12	73	80	39
CK13-B16	1-13	B16	86	95	44
CK16-B16	3-16	B16	102	115	51
CK16-B18	3-16	B18	102	115	51
CK20-B18	5-20	B18	127	140	64



Cartridges

Brazed tools

Milling cutters

Solid carbide

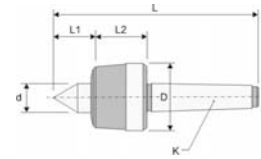
Boring heads

Arbors & adaptors

**RN**



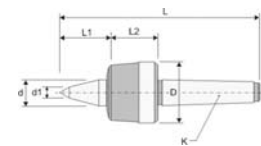
REF.	K	D	d	L1	L2	L
<b>R-200-N</b>	MK2	42	18	24	35	128
<b>R-300-N</b>	MK3	49	22	29	47	163
<b>R-400-N</b>	MK4	63	30	35	52	196
<b>R-500-N</b>	MK5	85	35	48	64	250



**RC**



REF.	K	D	d	d1	L1	L2	L
<b>R-300-C</b>	MK3	49	22	10	38	47	174
<b>R-400-C</b>	MK4	63	30	11	46	52	207
<b>R-500-C</b>	MK5	85	35	18	64	64	266



Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

Solid carbide

Boring heads

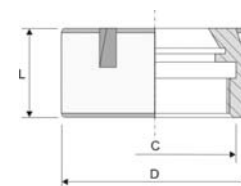
Arbors & adaptors

Inserts

**090..091**



REF.	L	C	D	COLLET
090	18	M19x1	22	ER16
091	19	M24x1	28	ER20

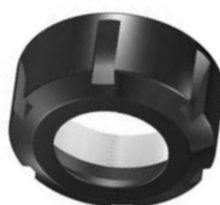


Turning

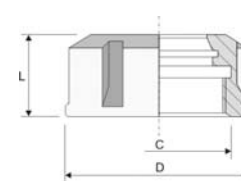
Automatic lathes

Ceramic tools

**092..094**



REF.	L	C	D	COLLET
092	20,0	M32x1,5	42	ER25
093	22,3	M40x1,5	50	ER32
094	25,3	M50x1,5	63	ER40

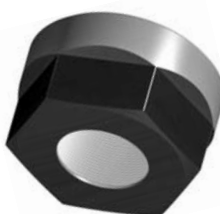


Parting & grooving

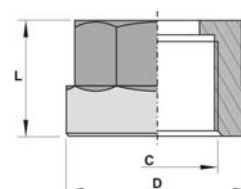
Threading

Drills

**095..096**



REF.	L	C	D	COLLET
095	17	M22x1,5	28	ER16
096	19	M25x1,5	34	ER20



Cartridges

Brazed tools

Milling cutters

**017..021**



REF.	CLAMPING NUTS
017	2190
021	2191

Solid carbide

Boring heads

Arbors & adaptors

## 016..020



## REF. CLAMPING NUTS

016	090
020	091

## 025..040



## REF. CLAMPING NUTS

025	092
032	093
040	094

## KX

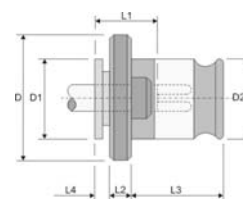


REF.	h	L	H
KX-12	9	100	100

## 70..73



REF.	THREAD RANGE	D	D1	D2	L1	L2	L3	L4
70XX	M1-M10	22	13	13	15	4	19,5	7
71XX	M3-M12	30	19	19	17	4	21,5	7
72XX	M8-M20	48	30	31	30	5	35,0	11
73XX	M14-M33	70	48	48	44	6	55,5	14



Inserts

Turning

Automatic  
lathesCeramic  
toolsParting &  
grooving

Threading

Drills

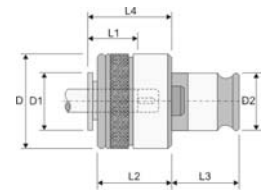
Cartridges

Brazen  
toolsMilling  
cuttersSolid  
carbideBoring  
headsArbors &  
adaptors

**74..77**



REF.	THREAD RANGE	D	D1	D2	L1	L2	L3	L4
<b>74XX</b>	M1-M10	22	13	13	15	20	19,5	21
<b>75XX</b>	M3-M12	30	19	19	17	25	21,5	25
<b>76XX</b>	M8-M20	48	30	31	30	31	35,0	34
<b>77XX</b>	M14-M33	70	48	48	44	41	55,5	45



Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

Solid carbide

Boring heads

Arbors & adaptors

## Table of adaptors

DIN	∅ x □	DIN 352	DIN 5156/5157	DIN 371	DIN 374	DIN 376	DIN 371	DIN 374/376
01	2,5 x 2,1	M1/1,8		M 1/1,8	M3,5	M3,5	1/16" Nr. 0/1	
02	2,8 x 2,1	M2 M2,2 M2,5		M2 M2,2 M2,5	M4	M4	3/32" Nr. 2 Nr. 3	
03	3,5 x 2,7	M3		M3	M5	M5	1/8" Nr. 4 Nr. 5	
04	4 x 3	M3,5		M3,5	M5,5	M5,5	Nr. 6	
05	4,5 x 3,4	M4		M4	M6	M6	5/32" Nr. 8	
06	5,5 x 4,3	-			M7	M7		
07	6 x 4,9	M4,5 M5 M6 M7 M8	G 1/16"	M4,5 M5 M6	M8	M8	Nr. 10/12 3/16" 7/32"	1/4" 5/16"
08	7 x 5,5	M10	G 1/8"	M7	M10	M10	1/4"	3/8"
09	8 x 6,2	M1		M8	M11	M11	5/16"	7/16"
10	9 x 7	M12		M9	M12	M12	3/8"	1/2"
11	10 x 8			M10				
12	11 x 9	M14	G 1/4"		M14	M14		9/16"
13	12 x 9	M16	G 3/8"		M16	M16		5/8"
14	14 x 11	M18			M18	M18		11/16" 3/4"
15	16 x 12	M20	G 1/2"		M20	M20		13/16"
16	18 x 14,5	M22 M24	G 5/8"		M22 M24	M22 M24		7/8" 15/16"
17	20 x 16	M27	G 3/4"		M27	M27		1"
18	22 x 18	M30	G 7/8"		M30	M30		1 1/8"
19	25 x 20	M33	G 1"		M33	M33		1 1/4"
20	28 x 22	M36	G 1 1/8 "		M36	M36		1 3/8"
21	32 x 24	M39 M42	G 1 1/4 "		M39 M42	M39 M42		1 1/2" 1 5/8"
22	36 x 29	M45 M48	G 1 3/8" G 1 1/2"		M45 M48	M45 M48		1 3/4" 1 7/8"

ISO 529	∅ x □	M - MF		UNC - UNF		BSW - BSF		BA
		Reduced Shank	Reinforced Shank	Reduced Shank	Reinforced Shank	Reduced Shank	Reinforced Shank	Reduced Shank
30	2,24 x 1,8	M3		Nr. 5		1/8		
31	2,5 x 2,0	M3,5	M1/2	Nr. 6	Nr. 0 Nr. 1			Nr. 11 Nr. 10 Nr. 9
32	2,8 x 2,24		M2,2 M2,5		Nr. 2 Nr. 3			Nr. 8 Nr. 7 Nr. 6
33	3,15 x 2,5	M4	M3	Nr. 8	Nr. 4 Nr. 5		1/8	Nr. 5
34	3,55 x 2,8	M4,5	M3,5	Nr. 10	Nr. 6	3/16		Nr. 4
35	4,0 x 3,15	M5	M4	Nr. 12		7/32		
36	4,5 x 3,55	M6	M4,5	1/4	Nr. 8	1/4		Nr. 3
37	5,0 x 4,0		M5		Nr. 10		3/16	Nr. 2
38	5,6 x 4,5	M7			Nr. 12	9/32	7/32	Nr. 1
39	6,3 x 5,0	M8	M6	5/16	1/4	5/16	1/4	Nr. 0
40	7,1 x 5,6	M9	M7	3/8		3/8	9/32	
41	8,0 x 6,3	M10	M8	7/16	5/16	7/16	5/16	
42	9,0 x 7,1	M12	M9	1/2		1/2		
11	10 x 8,0		M10		3/8		3/8	
43	11,2 x 9,0	M14		9/16		9/16		
44	12,5 x 10	M16		5/8		5/8		
45	14 x 11	M18 M20		3/4		11/16 3/4		
46	16 x 12,5	M22		7/8		7/8		
47	18 x 14	M24		1		1		
17	20 x 16	M27 M30		1 1/8		1 1/8		
48	22,4 x 18	M33		1 1/4		1 1/4		
19	25 x 20	M36		1 3/8		1 3/8		
49	28 x 22,4	M39 M42		1 1/2		1 1/2		
50	31,5 x 25	M45 M48		1 3/4		1 3/4		
51	35,5 x 28	M52		2		2		

Inserts

Turning

Automatic  
lathesCeramic  
toolsParting &  
grooving

Threading

Drills

Cartridges

Brazen  
toolsMilling  
cuttersSolid  
carbideBoring  
headsArbors &  
adaptors



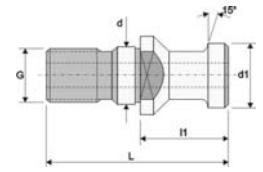
Inserts

**960..961**

FORM A



REF.	K	G	d	d1	L	l1
960	40	M16	17	19	54	26
961	50	M24	25	28	74	34



Turning

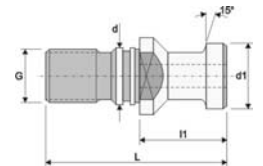
Automatic lathes

**962..963**

FORM B



REF.	K	G	d	d1	L	l1
962	40	M16	17	19	54	26
963	50	M24	25	28	74	34



Ceramic tools

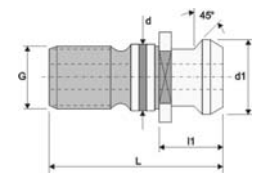
Parting & grooving

**964..965**

FORM B



REF.	K	G	d	d1	L	l1
964	40	M16	17	18,95	44,5	16,40
965	50	M24	25	29,10	65,5	25,55



Threading

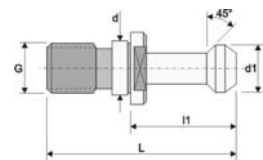
Drills

**966..967**

TYPE I



REF.	K	G	d	d1	L	l1
966	40	M16	17	15	60	35
967	50	M24	25	23	85	45



Cartridges

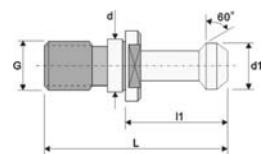
Brazed tools

**968..969**

TYPE II



REF.	K	G	d	d1	L	l1
968	40	M16	17	15	60	35
969	50	M24	25	23	85	45



Milling cutters

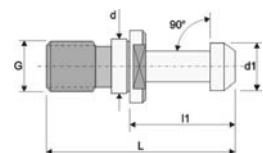
Solid carbide

**970..971**

TYPE III



REF.	K	G	d	d1	L	l1
970	40	M16	17	15	60	35
971	50	M24	25	23	85	45



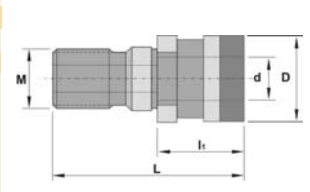
Boring heads

Arbors & adaptors

**097..099**



REF.	M	d	D	l <sub>1</sub>	L
<b>097</b>	M16	M16	25,00	53	25
<b>098</b>	M16	M16	25,00	56	28
<b>099</b>	M24	M24	39,29	68	25



- Inserts
- Turning
- Automatic lathes
- Ceramic tools
- Parting & grooving
- Threading
- Drills
- Cartridges
- Brazed tools
- Milling cutters
- Solid carbide
- Boring heads
- Arbors & adaptors

Inserts

Turning

Automatic  
lathes

Ceramic  
tools

Parting &  
grooving

Threading

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Cartridges

Brazed  
tools

Milling  
cutters

Solid  
carbide

Boring  
heads

Arbors &  
adaptors

**SER**



REF.	SIZE OF COLLETS
<b>SER16</b>	ER16= 1-2-3-4-5-6-7-8-9-10
<b>SER20</b>	ER20= 1-2-3-4-5-6-7-8-9-10-11-12-13
<b>SER25</b>	ER25= 1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16
<b>SER32</b>	ER32= 3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20
<b>SER40</b>	ER40= -4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26

**KIT 731**

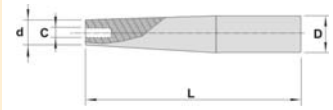


REF.	CHUCK	COLLET	SIZE OF COLLETS	CLAMPING NUT
<b>KIT 731.316</b>	731.316	ER16	10 (1-10)	090
<b>KIT 731.320</b>	731.320	ER20	12 (2-13)	091
<b>KIT 731.325</b>	731.325	ER25	15 (2-16)	092
<b>KIT 731.332</b>	731.332	ER32	18 (3-20)	093
<b>KIT 731.340</b>	731.340	ER40	23 (4-26)	094
<b>KIT 731.432</b>	731.432	ER32	18 (3-20)	093
<b>KIT 731.440</b>	731.440	ER40	23 (4-26)	094
<b>KIT 731.532</b>	731.532	ER32	18 (3-20)	093
<b>KIT 731.540</b>	731.540	ER40	23 (4-26)	094
<b>KIT 731.732</b>	731.732	ER32	18 (3-20)	093
<b>KIT 731.740</b>	731.740	ER40	23 (4-26)	094
<b>KIT 731.832</b>	731.832	ER32	18 (3-20)	093
<b>KIT 731.840</b>	731.840	ER40	23 (4-26)	094
<b>KIT 731.932</b>	731.932	ER32	18 (3-20)	093
<b>KIT 731.940</b>	731.940	ER40	23 (4-26)	094
<b>KIT 731.032</b>	731.032	ER32	18 (3-20)	093
<b>KIT 731.040</b>	731.040	ER40	23 (4-26)	094

662.0

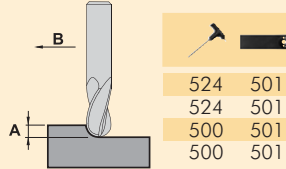


REF.	C	d	L	L
662.006	6	12	150	20
662.008	8	15	150	20
662.010	10	18	150	20
662.012	12	20	150	20



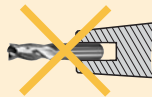
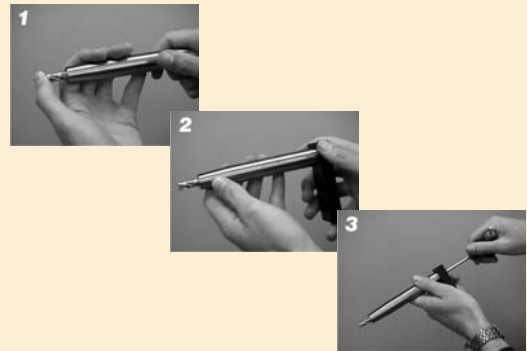
CUTTING CONDITIONS SUGGESTED

REF.	A	B	i	
662.006	6	0,05 x Z	524	501
662.008	8	0,05 x Z	524	501
662.010	10	0,05 x Z	500	501
662.012	12	0,05 x Z	500	501

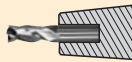


Instructions:

To obtain from CLS extensions a proper operation is very important to insert the end mill completely. CLS handle could get damaged due to a bad end mill position.



INCORRECT



CORRECT

KIT C32



REF.	Composition
KIT BT40 C20	1 49.40.34.20 + 5 collets c20: 6, 8, 10, 12, 16
KIT TC40 C20	1 47.40.34.20 + 5 collets c20: 6, 8, 10, 12, 16
KIT BT40 C32	1 49.40.34.32 + 7 collets c32: 6, 8, 10, 12, 16, 20, 25
KIT TC40 C32	1 47.40.34.32 + 7 collets c32: 6, 8, 10, 12, 16, 20, 25
KIT BT50 C32	1 49.50.34.32 + 7 collets c32: 6, 8, 10, 12, 16, 20, 25
KIT TC50 C32	1 47.50.34.32 + 7 collets c32: 6, 8, 10, 12, 16, 20, 25

Inserts

Turning

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Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

Solid carbide

Boring heads

Arbors & adaptors