



**KOMET KUB Pentron™**

Solid drilling up to 5xD

# KOMET KUB Pentron™

## Continuous drilling to 5 x D

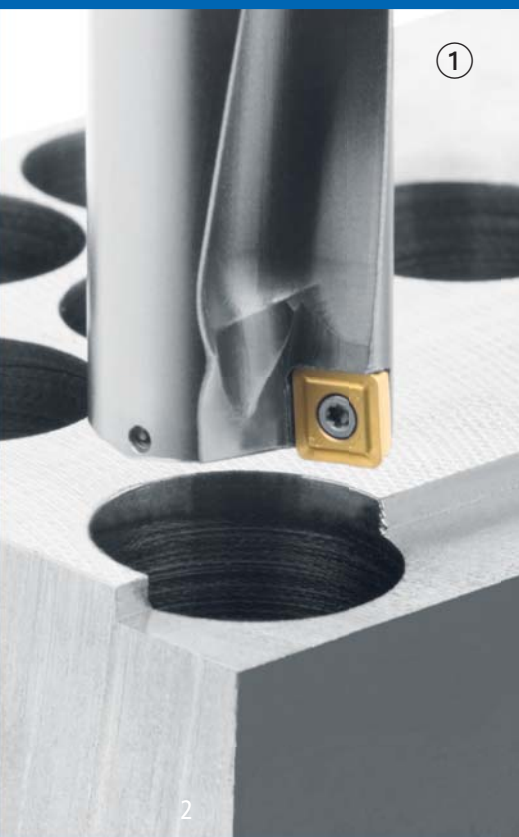
### Applications:

- For large drilling depths
- Ideal for extreme working situations
- For use with steel, cast metal, aluminum and stainless materials

### Benefits for you:

- **Maximum functionality and life with excellent drilling performance**  
due to optimum main body stability and a special surface treatment
- **Optimum dimensional accuracy in the most difficult drilling conditions to 5xD**
- **Cost savings and ease of handling**  
due to identical internal and external indexable inserts
- **Maximum tool life**  
due to four fully useable cutting edges of modern substrates with appropriate coatings.

- ① Extreme applications in the 5xD region: drilling on an edge
- ② Extreme applications in the 5xD region: drilling into a corner
- ③ Extreme applications in the 5xD region: stackplate drilling
- ④ Extreme applications in the 5xD region: drilling on a welded seam or uneven surfaces



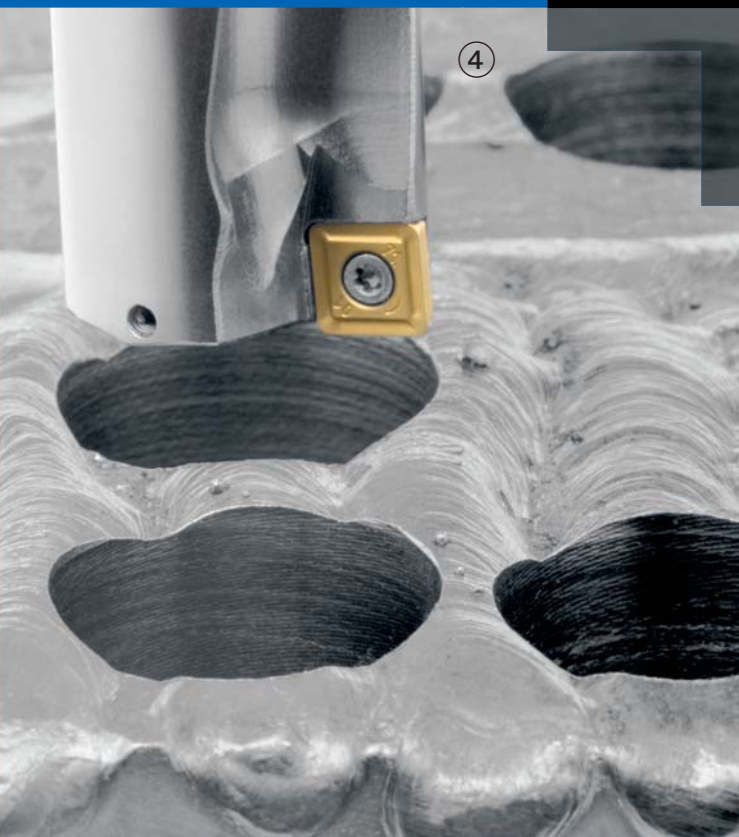
## KOMET KUB Pentron™ continuous drill

In developing the KOMET KUB Pentron™, KOMET has blazed a completely new trail.

It has combined key features such as real accuracy, top performance parameters and deep drilling depths in a single tool.

In comparison with the usual indexable insert drills available now on the market, the KOMET KUB Pentron™ gives up to 20% higher cut and feed values, right through to a 5xD length/diameter ratio.

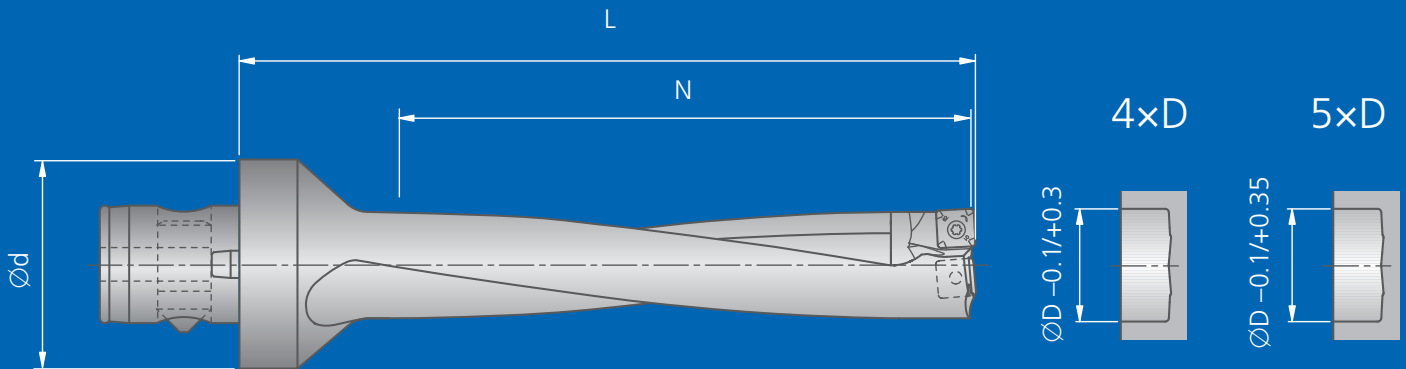
It can handle extreme working conditions that were only previously feasible with 3xD.





# KOMET KUB Pentron™

Ø 0.656 – 1.000 inch

Insert drill with ABS® connection, R.H. cutting



Dimension are in inch

ØD	* max. diameter offset	ABS Ød	4xD				5xD			
			Order No.	N	L		Order No.	N	L	
0.656	0.676	50	<b>U44 51670</b>	2.624	3.898	0.95	<b>U45 51670</b>	3.280	4.567	
0.687	0.707	50	<b>U44 51750</b>	2.748	4.055	0.97	<b>U45 51750</b>	3.435	4.764	
0.703	0.723	50	<b>U44 51790</b>	2.812	4.055	0.97	<b>U45 51790</b>	3.515	4.764	
0.750	0.770	50	<b>U44 51910</b>	3.000	4.409	1.08	<b>U45 51910</b>	3.750	5.197	
0.765	0.785	50	<b>U44 51940</b>	3.060	4.409	1.10	<b>U45 51940</b>	3.825	5.197	
0.781	0.801	50	<b>U44 51980</b>	3.124	4.409	1.12	<b>U45 51980</b>	3.905	5.197	
0.812	0.832	50	<b>U44 52060</b>	3.248	4.567	1.12	<b>U45 52060</b>	4.060	5.394	
0.828	0.842	50	<b>U44 52100</b>	3.312	4.567	1.12	<b>U45 52100</b>	4.140	5.394	
0.875	0.895	50	<b>U44 52220</b>	3.500	4.882	1.19	<b>U45 52220</b>	4.375	5.787	
0.906	0.926	50	<b>U44 52300</b>	3.624	4.882	1.23	<b>U45 52300</b>	4.530	5.787	
0.937	0.957	50	<b>U44 52380</b>	3.748	5.039	1.26	<b>U45 52380</b>	4.685	5.984	
0.985	1.005	50	<b>U44 52500</b>	3.940	5.236	1.32	<b>U45 52500</b>	4.925	6.220	
1.000	1.020	50	<b>U44 51540</b>	4.000	5.394	1.34	<b>U45 52540</b>	5.000	6.417	

**Supply includes:** KUB Pentron™ drill with assembly parts. Please order insert and accessories separately.  
Adjustment device see Compass catalog – chapter 5"

L / D	Through Hole	Blind Hole	Welded Joint	Slanted Surface	Curved Surface	Cross Hole	Center drilled Hole	Interrupted Cut	Stackplate	Rough Boring	Adjustable Diameter
4xD											
5xD											

● highly recommended ● recommended ○ may be suitable: see technical notes, page 29 ✕ not recommended

Insert Recommendation						
Order No. size	ISO Insert Description	Qty	P M K N S H	Insert clamping screw  Order No. Description	Starting clamping torque in-lbs	TORX PLUS®  Order No. Description
<b>W80 12010.048425</b> <b>W80 12010.042730</b> <b>W80 12010.046115</b> <b>W80 12010.047710</b>	SOGX 050204-01 BK8425 SOGX 050204-01 BK2730 SOGX 050204-01 BK6115 ⚠ SOGX 050204-01 BK7710	2		<b>N00 56041</b> S/M2x4.3-6IP	5.49	<b>L05 00810</b> 6IP
<b>W80 18010.068425</b> <b>W80 18010.062730</b> <b>W80 18010.066115</b> <b>W80 18010.067710</b>	SOGX 060206-01 BK8425 SOGX 060206-01 BK2730 SOGX 060206-01 BK6115 ⚠ SOGX 060206-01 BK7710	2		<b>N00 57553</b> S/M2.2x5.5-6IP	8.9	<b>L05 00810</b> 6IP
<b>W80 20010.088425</b> <b>W80 20010.082730</b> <b>W80 20010.086115</b> <b>W80 20010.087710</b>	SOGX 07T208-01 BK8425 SOGX 07T208-01 BK2730 SOGX 07T208-01 BK6115 ⚠ SOGX 07T208-01 BK7710	2		<b>N00 57553</b> S/M2.2x5.5-6IP	8.9	<b>L05 00810</b> 6IP
<b>W80 24010.088425</b> <b>W80 24010.082730</b> <b>W80 24010.086115</b> <b>W80 24010.087710</b>	SOGX 080308-01 BK8425 SOGX 080308-01 BK2730 SOGX 080308-01 BK6115 ⚠ SOGX 080308-01 BK7710	2		<b>N00 57571</b> S/M2.5x6.3-8IP	11.3	<b>L05 00830</b> 8IP

**Guideline values for solid drilling and alternative inserts: page 24 - 28**

EP 0 547 049 and other patents (ABS®), Patented design (KUB Pentron™)

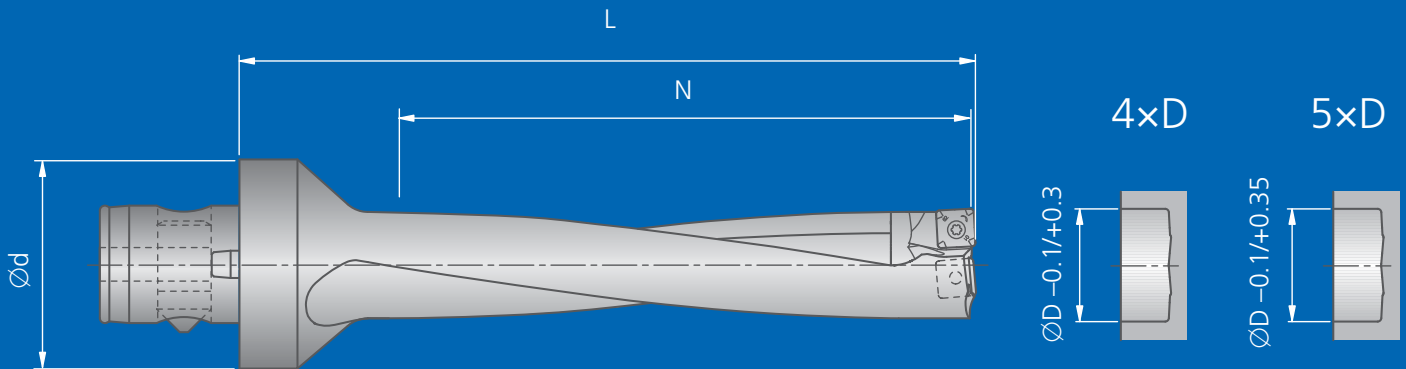


Note: Only use this insert with KUB Pentron™ as an external cutting edge: SOGX ... -01 (geometry 01) in BK6115

# KOMET KUB Pentron™

Ø 1.031 – 1.437 inch

Insert drill with ABS® connection, R.H. cutting



Dimension are in inch

ØD	* max. diameter offset	ABS Ød	4xD				5xD			
			Order No.	N	L	lbs	Order No.	N	L	lbs
1.031	1.051	50	<b>U44 52620</b>	4.124	5.590	1.34	<b>U45 52620</b>	5.155	6.653	1.45
1.062	1.082	50	<b>U44 52700</b>	4.248	5.590	1.37	<b>U45 52700</b>	5.310	6.653	1.48
1.109	1.129	50	<b>U44 52820</b>	4.436	5.945	1.48	<b>U45 52820</b>	5.545	7.087	1.61
1.125	1.145	50	<b>U44 52860</b>	4.500	5.945	1.50	<b>U45 52860</b>	5.625	7.087	1.65
1.156	1.176	50	<b>U44 52940</b>	4.624	6.102	1.54	<b>U45 52940</b>	5.780	7.283	1.70
1.187	1.207	63	<b>U44 63020</b>	4.748	6.417	2.27	<b>U45 63020</b>	5.935	7.638	2.47
1.218	1.238	63	<b>U44 63090</b>	4.872	6.417	2.34	<b>U45 63090</b>	6.090	7.638	2.53
1.250	1.270	63	<b>U44 63150</b>	5.000	6.575	2.42	<b>U45 63180</b>	6.250	7.835	2.62
1.281	1.301	63	<b>U44 63250</b>	5.124	6.772	2.53	<b>U45 63250</b>	6.405	8.071	2.75
1.312	1.332	63	<b>U44 63330</b>	5.248	6.929	2.60	<b>U45 63330</b>	6.560	8.268	2.82
1.328	1.348	63	<b>U44 63370</b>	5.312	6.929	2.62	<b>U45 63370</b>	6.640	8.268	2.84
1.375	1.395	63	<b>U44 63490</b>	5.500	7.126	2.73	<b>U45 63490</b>	6.875	8.504	3.00
1.437	1.457	63	<b>U44 63650</b>	5.748	7.480	2.95	<b>U45 63650</b>	7.185	8.937	3.26

**Supply includes:** KUB Pentron™ drill with assembly parts. Please order insert and accessories separately.  
Adjustment device see Compass catalog – chapter 5"

L / D	Through Hole	Blind Hole	Welded Joint	Slanted Surface	Curved Surface	Cross Hole	Center drilled Hole	Interrupted Cut	Stackplate	Rough Boring	Adjustable Diameter
4xD											
5xD											

● highly recommended ● recommended ○ may be suitable: see technical notes, page 29 ✕ not recommended

Insert Recommendation						Insert clamping screw	Starting clamping torque	TORX PLUS®			
Order No. size	ISO Insert Description	Qty	P	M	K	N	S	H	Order No. Description	in-lbs	Order No. Description
<b>W80 28010.088425</b> <b>W80 28010.082730</b> <b>W80 28010.086115</b> <b>W80 28010.087710</b>	SOGX 09T308-01 BK8425 SOGX 09T308-01 BK2730 SOGX 09T308-01 BK6115 ⚠ SOGX 09T308-01 BK7710	2	●	●	●	●	●	○	<b>N00 57251</b> S3076-8IP	5.49	<b>L05 00830</b> 8IP
<b>W80 32010.088425</b> <b>W80 32010.082730</b> <b>W80 32010.086115</b> <b>W80 32010.087710</b>	SOGX 100408-01 BK8425 SOGX 100408-01 BK2730 SOGX 100408-01 BK6115 ⚠ SOGX 100408-01 BK7710	2	●	●	●	●	●	○	<b>N00 57261</b> S3575-15IP	8.9	<b>L05 00860</b> 15IP
<b>W80 38010.088425</b> <b>W80 38010.082730</b> <b>W80 38010.086115</b> <b>W80 38010.087710</b>	SOGX 110408-01 BK8425 SOGX 110408-01 BK2730 SOGX 110408-01 BK6115 ⚠ SOGX 110408-01 BK7710	2	●	●	●	●	●	○	<b>N00 57261</b> S3575-15IP	11.3	<b>L05 00860</b> 15IP

**Guideline values for solid drilling and alternative inserts: page 24 - 28**

EP 0 547 049 and other patents (ABS®), Patented design (KUB Pentron™)

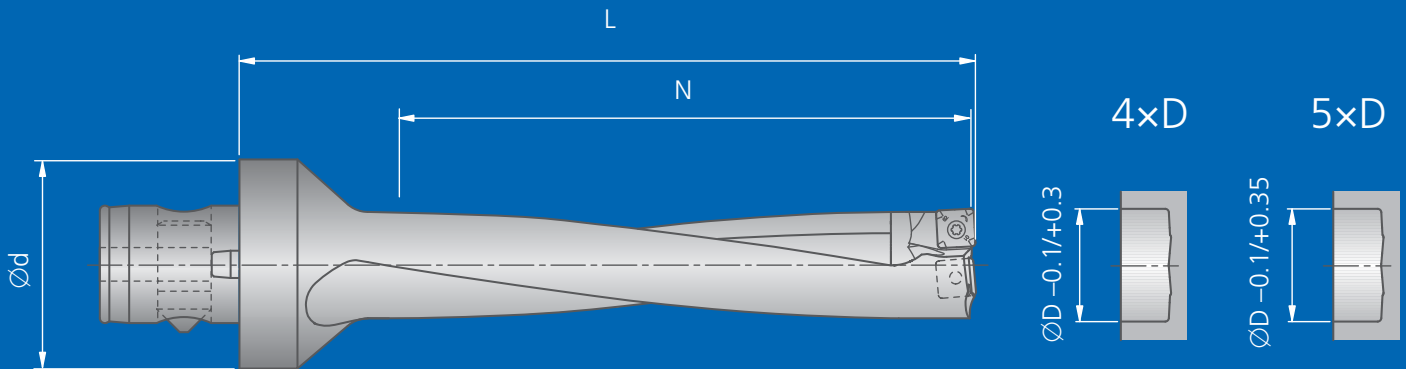


Note: Only use this insert with KUB Pentron™ as an external cutting edge: SOGX ... -01 (geometry 01) in BK6115

# KOMET KUB Pentron™

Ø 1.469 – 1.750 inch

Insert drill with ABS® connection, R.H. cutting



Dimension are in inch

ØD	* max. diameter offset	ABS Ød	4xD				5xD			
			Order No.	N	L	lbs	Order No.	N	L	lbs
1.469	1.489	63	<b>U44 63730</b>	5.876	7.638	3.04	<b>U45 63730</b>	7.345	9.134	3.35
1.500	1.520	63	<b>U44 63810</b>	6.000	7.835	3.13	<b>U45 63810</b>	7.500	9.370	3.46
1.562	1.582	63	<b>U44 63970</b>	6.248	7.992	3.31	<b>U45 63970</b>	7.810	9.567	3.66
1.625	1.645	63	<b>U44 64130</b>	6.500	8.346	3.57	<b>U45 64130</b>	8.125	10.000	4.01
1.656	1.676	63	<b>U44 64210</b>	6.624	8.543	3.66	<b>U45 64210</b>	8.280	10.236	4.17
1.687	1.707	63	<b>U44 64290</b>	6.748	8.543	3.75	<b>U45 64290</b>	8.435	10.236	4.23
1.750	1.770	63	<b>U44 64450</b>	7.000	8.898	4.06	<b>U45 64450</b>	8.750	10.669	4.61

**Supply includes:** KUB Pentron™ drill with assembly parts. Please order insert and accessories separately.  
Adjustment device see Compass catalog – chapter 5"



L / D	Through Hole	Blind Hole	Welded Joint	Slanted Surface	Curved Surface	Cross Hole	Center drilled Hole	Interrupted Cut	Stackplate	Rough Boring	Adjustable Diameter
4xD											
5xD											

● highly recommended ● recommended ○ may be suitable: see technical notes, page 29 ✕ not recommended

Insert Recommendation						Insert clamping screw	Starting clamping torque	TORX PLUS®			
Order No. size	ISO Insert Description	Qty	P	M	K	N	S	H	Order No. Description	in-lbs	Order No. Description
 <b>W80 42010.088425</b> <b>W80 42010.082730</b> <b>W80 42010.086115</b> <b>W80 42010.087710</b>	SOGX 120408-01 BK8425 SOGX 120408-01 BK2730 SOGX 120408-01 BK6115 ⚠ SOGX 120408-01 BK7710	2	●	●	●	●	○	○	<b>N00 57301</b> S45100-20IP	5.49	<b>L05 00870</b> 20IP
<b>W80 46010.088425</b> <b>W80 46010.082730</b> <b>W80 46010.086115</b> <b>W80 46010.087710</b>	SOGX 130408-01 BK8425 SOGX 130408-01 BK2730 SOGX 130408-01 BK6115 ⚠ SOGX 130408-01 BK7710	2	●	●	●	●	○	○	<b>N00 57301</b> S45100-20IP	8.9	<b>L05 00870</b> 20IP

**Guideline values for solid drilling and alternative inserts: page 24 - 28**

EP 0 547 049 and other patents (ABS®), Patented design (KUB Pentron™)

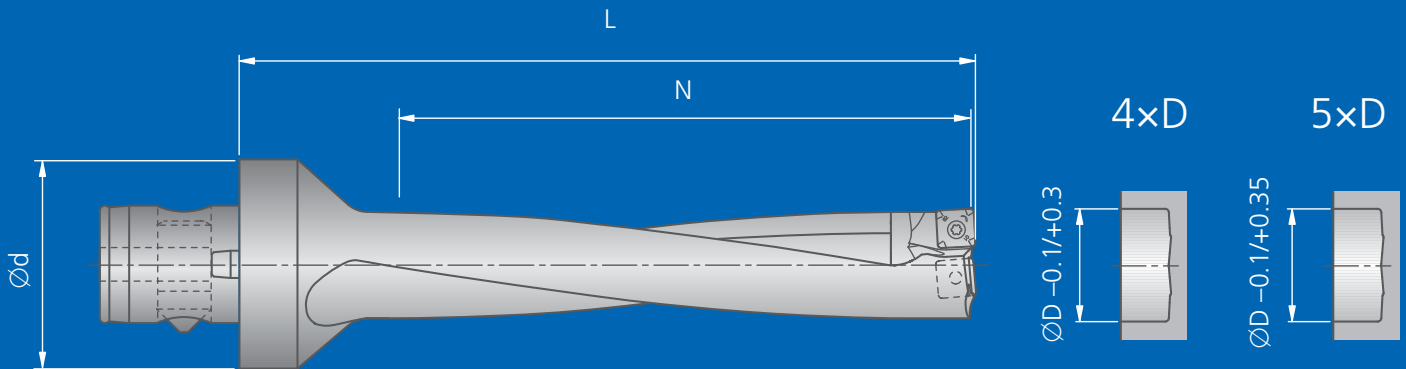


Note: Only use this insert with KUB Pentron™ as an external cutting edge: SOGX ... -01 (geometry 01) in BK6115

# KOMET KUB Pentron™

Ø 16.5 – 26.0 mm

Insert drill with ABS® connection, R.H. cutting



Dimension are in mm

ØD	* max. diameter offset	ABS Ød	4xD				5xD			
			Order No.	N	L	lbs	Order No.	N	L	lbs
16.5	17.0	50	U44 51650	68	99	0.95	U45 51650	85	116	0.97
17.0	17.5	50	U44 51700	68	99	0.95	U45 51700	85	116	0.97
17.5	18.0	50	U44 51750	72	103	0.97	U45 51750	90	121	0.99
18.0	18.5	50	U44 51800	72	103	0.97	U45 51800	90	121	0.99
18.5	19.0	50	U44 51850	76	108	1.04	U45 51850	95	127	1.12
19.0	19.5	50	U44 51900	76	108	1.08	U45 51900	95	127	1.15
19.5	20.0	50	U44 51950	80	112	1.10	U45 51950	100	132	1.17
20.0	20.5	50	U44 52000	80	112	1.12	U45 52000	100	132	1.17
20.5	21.0	50	U44 52050	84	116	1.12	U45 52050	105	137	1.17
21.0	21.5	50	U44 52100	84	116	1.12	U45 52100	105	137	1.19
21.5	22.0	50	U44 52150	88	120	1.15	U45 52150	110	142	1.21
22.0	22.5	50	U44 52200	88	120	1.17	U45 52200	110	142	1.23
22.5	23.0	50	U44 52250	92	124	1.21	U45 52250	115	147	1.30
23.0	23.5	50	U44 52300	92	124	1.23	U45 52300	115	147	1.32
23.5	24.0	50	U44 52350	96	128	1.23	U45 52350	120	152	1.32
24.0	24.5	50	U44 52400	96	128	1.26	U45 52400	120	152	1.34
24.5	25.0	50	U44 52450	100	133	1.30	U45 52450	125	158	1.39
25.0	25.5	50	U44 52500	100	133	1.32	U45 52500	125	158	1.41
25.5	26.0	50	U44 52550	104	137	1.34	U45 52550	130	163	1.45
26.0	26.5	50	U44 52600	104	137	1.39	U45 52600	130	163	1.50

**Supply includes:** KUB Pentron™ drill with assembly parts. Please order insert and accessories separately.

Adjustment device see Compass catalog – chapter 5"

L / D	Through Hole	Blind Hole	Welded Joint	Slanted Surface	Curved Surface	Cross Hole	Center drilled Hole	Interrupted Cut	Stackplate	Rough Boring	Adjustable Diameter
4xD	●	●	●	●	●	●	●	○	●	✕	●
5xD	●	●	●	●	●	●	●	✕	●	✕	●

● highly recommended ● recommended ○ may be suitable: see technical notes, page 29 ✕ not recommended

Insert Recommendation					Insert clamping screw	Starting clamping torque	TORX PLUS®
Order No. size	ISO Insert Description	Qty	P M K N S H	Order No. Description	in-lbs	Order No. Description	
<b>W80 12010.048425</b> <b>W80 12010.042730</b> <b>W80 12010.046115</b> <b>W80 12010.047710</b>	SOGX 050204-01 BK8425 SOGX 050204-01 BK2730 SOGX 050204-01 BK6115 ⚠ SOGX 050204-01 BK7710	2		<b>N00 56041</b> S/M2×4.3-6IP	5.49	<b>L05 00810</b> 6IP	
<b>W80 18010.068425</b> <b>W80 18010.062730</b> <b>W80 18010.066115</b> <b>W80 18010.067710</b>	SOGX 060206-01 BK8425 SOGX 060206-01 BK2730 SOGX 060206-01 BK6115 ⚠ SOGX 060206-01 BK7710	2		<b>N00 57553</b> S/M2.2×5.5-6IP	8.9	<b>L05 00810</b> 6IP	
<b>W80 20010.088425</b> <b>W80 20010.082730</b> <b>W80 20010.086115</b> <b>W80 20010.087710</b>	SOGX 07T208-01 BK8425 SOGX 07T208-01 BK2730 SOGX 07T208-01 BK6115 ⚠ SOGX 07T208-01 BK7710	2		<b>N00 57553</b> S/M2.2×5.5-6IP	8.9	<b>L05 00810</b> 6IP	
<b>W80 24010.088425</b> <b>W80 24010.082730</b> <b>W80 24010.086115</b> <b>W80 24010.087710</b>	SOGX 080308-01 BK8425 SOGX 080308-01 BK2730 SOGX 080308-01 BK6115 ⚠ SOGX 080308-01 BK7710	2		<b>N00 57571</b> S/M2.5×6.3-8IP	11.3	<b>L05 00830</b> 8IP	

**Guideline values for solid drilling and alternative inserts: page 24 - 28**

EP 0 547 049 and other patents (ABS®), Patented design (KUB Pentron™)

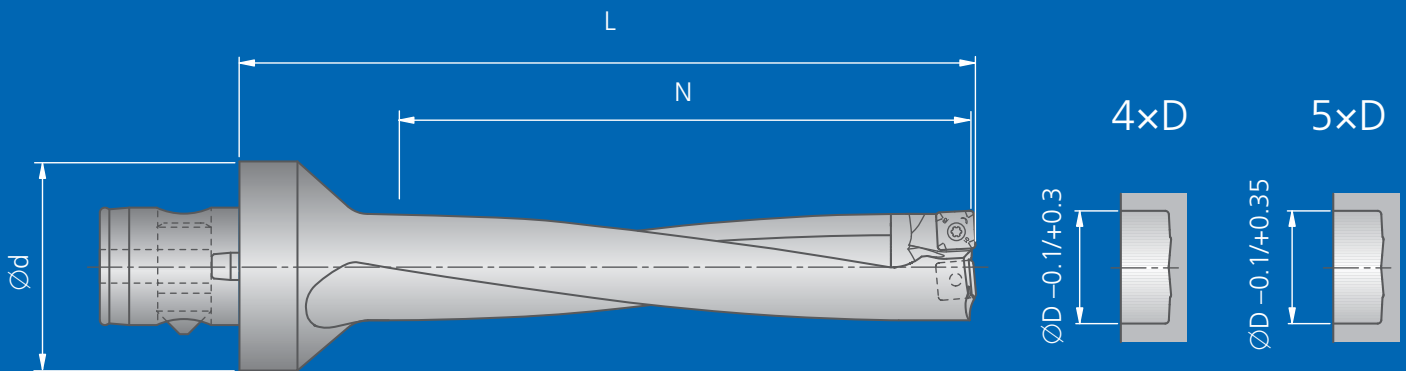


Note: Only use this insert with KUB Pentron™ as an external cutting edge: SOGX ... -01 (geometry 01) in BK6115

# KOMET KUB Pentron™

Ø 26.5 – 37.0 mm

Insert drill with ABS® connection, R.H. cutting



Dimension are in mm

ØD	* max. diameter offset	ABS Ød	4xD				5xD			
			Order No.	N	L	lbs	Order No.	N	L	lbs
26.5	27.0	50	U44 52650	108	142	1.34	U45 52650	135	169	1.45
27.0	27.5	50	U44 52700	108	142	1.37	U45 52700	135	169	1.48
27.5	28.0	50	U44 52750	112	146	1.41	U45 52750	140	174	1.54
28.0	28.5	50	U44 52800	112	146	1.43	U45 52800	140	174	1.56
28.5	29.0	50	U44 52850	116	151	1.50	U45 52850	145	180	1.63
29.0	29.5	50	U44 52900	116	151	1.52	U45 52900	145	180	1.67
29.5	30.0	50	U44 52950	120	155	1.54	U45 52950	150	185	1.70
30.0	30.5	50	U44 53000	120	155	1.56	U45 53000	150	185	1.74
30.5	31.0	63	U44 63050	124	163	2.31	U45 63050	155	194	2.49
31.0	31.5	63	U44 63100	124	163	2.36	U45 63100	155	194	2.53
31.5	32.0	63	U44 63150	128	167	2.42	U45 63150	160	199	2.60
32.0	32.5	63	U44 63200	128	167	2.45	U45 63200	160	199	2.64
32.5	33.0	63	U44 63250	132	172	2.53	U45 63250	165	205	2.75
33.0	33.5	63	U44 63300	132	172	2.58	U45 63300	165	205	2.80
33.5	34.0	63	U44 63350	136	176	2.60	U45 63350	170	210	2.84
34.0	34.5	63	U44 63400	136	176	2.62	U45 63400	170	210	2.87
34.5	35.0	63	U44 63450	140	181	2.71	U45 63450	175	216	2.95
35.0	35.5	63	U44 63500	140	181	2.73	U45 63500	175	216	3.00
35.5	36.0	63	U44 63550	144	185	2.80	U45 63550	180	221	3.09
36.0	36.5	63	U44 63600	144	185	2.84	U45 63600	180	221	3.13
36.5	37.0	63	U44 63650	148	190	2.94	U45 63650	185	227	3.26
37.0	37.5	63	U44 63700	148	190	3.00	U45 63700	185	227	3.31

Supply includes: KUB Pentron™ drill with assembly parts. Please order insert and accessories separately.

Adjustment device see Compass catalog – chapter 5"

L / D	Through Hole	Blind Hole	Welded Joint	Slanted Surface	Curved Surface	Cross Hole	Center drilled Hole	Interrupted Cut	Stackplate	Rough Boring	Adjustable Diameter
4xD											
5xD											

● highly recommended ● recommended ○ may be suitable: see technical notes, page 29 ✕ not recommended

Insert Recommendation					Insert clamping screw	Starting clamping torque	TORX PLUS®
Order No. size	ISO Insert Description	Qty	P M K N S H	Order No. Description	in-lbs	Order No. Description	
<b>W80 28010.088425</b> <b>W80 28010.082730</b> <b>W80 28010.086115</b> <b>W80 28010.087710</b>	SOGX 09T308-01 BK8425 SOGX 09T308-01 BK2730 SOGX 09T308-01 BK6115 ⚠ SOGX 09T308-01 BK7710	2		<b>N00 57251</b> S3076-8IP	5.49	<b>L05 00830</b> 8IP	
<b>W80 32010.088425</b> <b>W80 32010.082730</b> <b>W80 32010.086115</b> <b>W80 32010.087710</b>	SOGX 100408-01 BK8425 SOGX 100408-01 BK2730 SOGX 100408-01 BK6115 ⚠ SOGX 100408-01 BK7710	2		<b>N00 57261</b> S3575-15IP	8.9	<b>L05 00860</b> 15IP	
<b>W80 38010.088425</b> <b>W80 38010.082730</b> <b>W80 38010.086115</b> <b>W80 38010.087710</b>	SOGX 110408-01 BK8425 SOGX 110408-01 BK2730 SOGX 110408-01 BK6115 ⚠ SOGX 110408-01 BK7710	2		<b>N00 57261</b> S3575-15IP	11.3	<b>L05 00860</b> 15IP	

**Guideline values for solid drilling and alternative inserts: page 24 - 28**

EP 0 547 049 and other patents (ABS®), Patented design (KUB Pentron™)

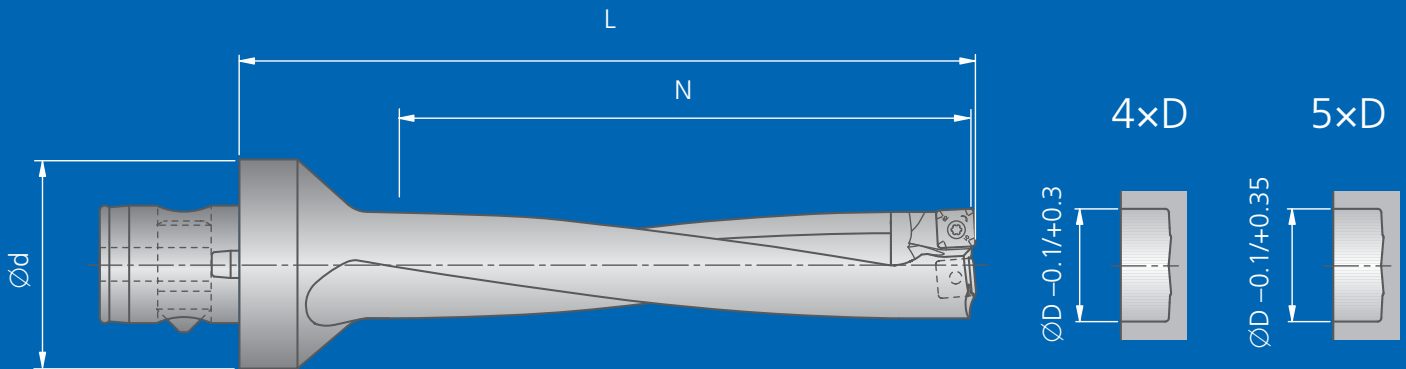


Note: Only use this insert with KUB Pentron™ as an external cutting edge: SOGX ... -01 (geometry 01) in BK6115

# KOMET KUB Pentron™

Ø 37.5 – 44.5 mm

Insert drill with ABS® connection, R.H. cutting



Dimension are in mm

ØD	* max. diameter offset	ABS Ød	4xD				5xD			
			Order No.	N	L	lbs	Order No.	N	L	lbs
37.5	38.0	63	U44 63750	152	194	3.06	U45 63750	190	232	3.37
38.0	38.5	63	U44 63800	152	194	3.09	U45 63800	190	232	3.42
38.5	39.0	63	U44 63850	156	199	3.15	U45 63850	195	238	3.48
39.0	39.5	63	U44 63900	156	199	3.17	U45 63900	195	238	3.53
39.5	40.0	63	U44 63950	160	203	3.28	U45 63950	200	243	3.64
40.0	40.5	63	U44 64000	160	203	3.33	U45 64000	200	243	3.70
40.5	41.0	63	U44 64050	164	208	3.44	U45 64050	205	249	3.84
41.0	41.5	63	U44 64100	164	208	3.48	U45 64100	205	249	3.90
41.5	42.0	63	U44 64150	168	212	3.59	U45 64150	210	254	4.03
42.0	42.5	63	U44 64200	168	212	3.64	U45 64200	210	254	4.10
42.5	43.0	63	U44 64250	172	217	3.70	U45 64250	215	260	4.19
43.0	43.5	63	U44 64300	172	217	3.75	U45 64300	215	260	4.23
43.5	44.0	63	U44 64350	176	221	3.86	U45 64350	220	265	4.39
44.0	44.5	63	U44 64400	176	221	3.92	U45 64400	220	265	4.45
44.5	45.0	63	U44 64450	180	226	4.06	U45 64450	225	271	4.61

**Supply includes:** KUB Pentron™ drill with assembly parts. Please order insert and accessories separately.  
Adjustment device see Compass catalog – chapter 5"

L / D	Through Hole	Blind Hole	Welded Joint	Slanted Surface	Curved Surface	Cross Hole	Center drilled Hole	Interrupted Cut	Stackplate	Rough Boring	Adjustable Diameter
4xD											
5xD											

● highly recommended ● recommended ○ may be suitable: see technical notes, page 29 ✕ not recommended

Insert Recommendation					Insert clamping screw	Starting clamping torque	TORX PLUS®
Order No. size	ISO Insert Description	Qty	P M K N S H	Order No. Description	in-lbs	Order No. Description	
<b>W80 42010.088425</b> <b>W80 42010.082730</b> <b>W80 42010.086115</b> <b>W80 42010.087710</b>	SOGX 120408-01 BK8425 SOGX 120408-01 BK2730 SOGX 120408-01 BK6115 ⚠ SOGX 120408-01 BK7710	2		<b>N00 57301</b> S45100-20IP	5.49	<b>L05 00870</b> 20IP	
<b>W80 46010.088425</b> <b>W80 46010.082730</b> <b>W80 46010.086115</b> <b>W80 46010.087710</b>	SOGX 130408-01 BK8425 SOGX 130408-01 BK2730 SOGX 130408-01 BK6115 ⚠ SOGX 130408-01 BK7710	2		<b>N00 57301</b> S45100-20IP	8.9	<b>L05 00870</b> 20IP	

**Guideline values for solid drilling and alternative inserts: page 24 - 28**

EP 0 547 049 and other patents (ABS®), Patented design (KUB Pentron™)

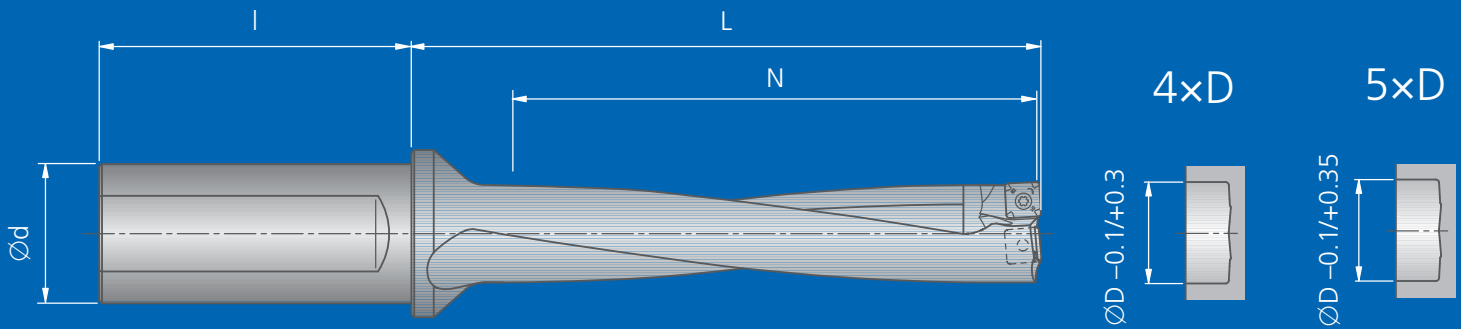


Note: Only use this insert with KUB Pentron™ as an external cutting edge: SOGX ... -01 (geometry 01) in BK6115

# KOMET KUB Pentron™

Ø 0.752 – 1.000 inch

Insert drill with cylindrical shank ISO 9766, R.H. cutting



Dimension are in inch

ØD	* max. diameter offset	cylindrical shank Ød x l	4xD				5xD			
			Order No.	N	L	lbs	Order No.	N	L	lbs
0.750	0.772	1.00x3.25	<b>U44 81910</b>	3.000	3.858	0.57	<b>U45 81910</b>	3.750	4.646	0.62
0.765	0.784	1.00x3.25	<b>U44 81940</b>	3.060	3.858	0.60	<b>U45 81940</b>	3.825	4.646	0.64
0.781	0.800	1.00x3.25	<b>U44 81980</b>	3.124	3.858	0.62	<b>U45 81980</b>	3.905	4.646	0.66
0.812	0.831	1.00x3.25	<b>U44 82060</b>	3.248	4.055	0.64	<b>U45 82060</b>	4.060	4.882	0.68
0.828	0.847	1.00x3.25	<b>U44 82100</b>	3.312	4.055	0.68	<b>U45 82100</b>	4.140	4.882	0.73
0.843	0.863	1.00x3.25	<b>U44 82140</b>	3.372	4.213	0.68	<b>U45 82140</b>	4.215	5.079	0.75
0.875	0.894	1.00x3.25	<b>U44 82220</b>	3.500	4.409	0.71	<b>U45 82220</b>	4.375	5.315	0.77
0.906	0.926	1.00x3.25	<b>U44 82300</b>	3.624	4.409	0.77	<b>U45 82300</b>	4.530	5.315	0.84
0.937	0.957	1.25x3.25	<b>U44 82380</b>	3.748	4.567	1.12	<b>U45 82380</b>	4.685	5.512	1.19
0.985	1.004	1.25x3.25	<b>U44 82500</b>	3.940	4.764	1.19	<b>U45 82500</b>	4.925	5.748	1.30
1.000	1.020	1.25x3.25	<b>U44 82540</b>	4.000	4.921	1.21	<b>U45 82540</b>	5.000	5.945	1.32

Supply includes: KUB Pentron™ drill with assembly parts. Please order insert and accessories separately.  
Adjustment device see Compass Catalog – chapter 5



L / D	Through Hole	Blind Hole	Welded Joint	Slanted Surface	Curved Surface	Cross Hole	Center drilled Hole	Interrupted Cut	Stackplate	Rough Boring	Adjustable Diameter
4xD											
5xD											

● highly recommended ● recommended ○ may be suitable: see technical notes, page 29 ✗ not recommended

Insert Recommendation					Insert clamping screw	Starting clamping torque	TORX PLUS®
Order No. size	ISO Insert Description	Qty	P M K N S H	Order No. Description	in-lbs	Order No. Description	
 <b>W80 18010.068425</b> <b>W80 18010.062730</b> <b>W80 18010.066115</b> <b>W80 18010.067710</b>	SOGX 060206-01 BK8425 SOGX 060206-01 BK2730 SOGX 060206-01 BK6115 ⚠ SOGX 060206-01 BK7710	2		<b>N00 57553</b> S/M2.2×5.5-6IP	8.9	<b>L05 00810</b> 6IP	
<b>W80 20010.088425</b> <b>W80 20010.082730</b> <b>W80 20010.086115</b> <b>W80 20010.087710</b>	SOGX 07T208-01 BK8425 SOGX 07T208-01 BK2730 SOGX 07T208-01 BK6115 ⚠ SOGX 07T208-01 BK7710	2		<b>N00 57553</b> S/M2.2×5.5-6IP	8.9	<b>L05 00810</b> 6IP	
<b>W80 24010.088425</b> <b>W80 24010.082730</b> <b>W80 24010.086115</b> <b>W80 24010.087710</b>	SOGX 080308-01 BK8425 SOGX 080308-01 BK2730 SOGX 080308-01 BK6115 ⚠ SOGX 080308-01 BK7710	2		<b>N00 57571</b> S/M2.5×6.3-8IP	11.3	<b>L05 00830</b> 8IP	

Guideline values for solid drilling and alternative inserts: page 24 - 28

Patented design (KUB Pentron™)

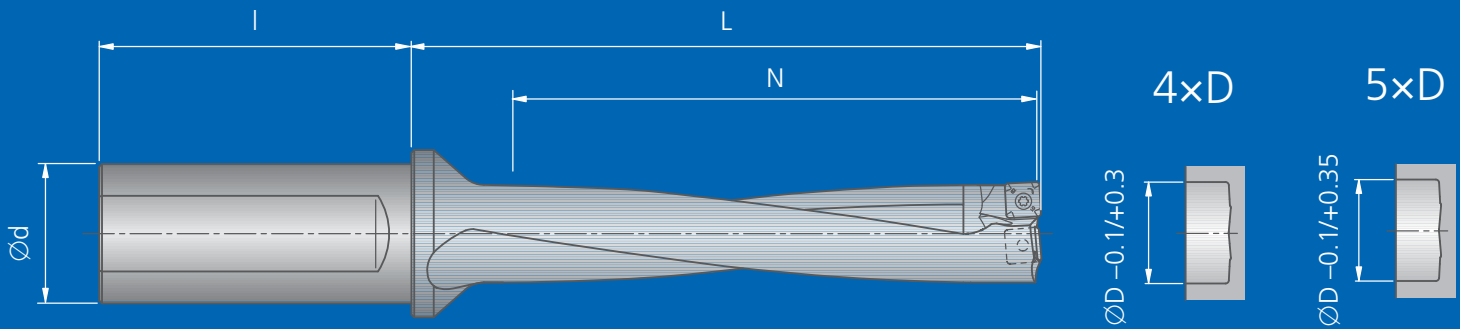


Note: Only use this insert with KUB Pentron™ as an external cutting edge:  
 SOGX ... -01 (geometry 01) in BK6115

# KOMET KUB Pentron™

## Ø 16.5 – 26.0 mm

Insert drill with cylindrical shank ISO 9766, R.H. cutting



Dimension are in mm

ØD	* max. diameter offset	cylindrical shank Ød x l	4xD				5xD			
			Order No.	N	L	lbs	Order No.	N	L	lbs
16.5	17.0	20x50	<b>U44 01650</b>	68	85	0.53	<b>U45 01650</b>	85	102	0.57
16.7*	17.2	20x50	<b>U44 01700</b>	68	85	0.55	<b>U45 01670</b>	85	102	0.57
17.0	17.5	20x50	<b>U44 01700</b>	68	85	0.55	<b>U45 01700</b>	85	102	0.57
17.5	18.0	20x50	<b>U44 11750</b>	72	89	0.55	<b>U45 11750</b>	90	107	0.60
17.9	18.4	25x56	<b>U44 11790</b>	72	89	0.57	<b>U45 11790</b>	90	107	0.62
18.0	18.5	25x56	<b>U44 11800</b>	72	89	0.57	<b>U45 11800</b>	90	107	0.62
18.5	19.0	25x56	<b>U44 11850</b>	76	94	0.57	<b>U45 11850</b>	95	113	0.62
19.0	19.5	25x56	<b>U44 11900</b>	76	94	0.60	<b>U45 11900</b>	95	113	0.64
19.5	20.0	25x56	<b>U44 11950</b>	80	98	0.62	<b>U45 11950</b>	100	118	0.66
20.0	20.5	25x56	<b>U44 12000</b>	80	98	0.64	<b>U45 12000</b>	100	118	0.68
20.5	21.0	25x56	<b>U44 12050</b>	84	103	0.68	<b>U45 12050</b>	105	124	0.73
21.0	21.5	25x56	<b>U44 12100</b>	84	103	0.68	<b>U45 12100</b>	105	124	0.75
21.5	22.0	25x56	<b>U44 12150</b>	88	107	0.71	<b>U45 12150</b>	110	129	0.77
22.0	22.5	25x56	<b>U44 12200</b>	88	107	0.73	<b>U45 12200</b>	110	129	0.79
22.5	23.0	25x56	<b>U44 12250</b>	92	112	0.77	<b>U45 12250</b>	115	135	0.84
23.0	23.5	25x56	<b>U44 12300</b>	92	112	0.79	<b>U45 12300</b>	115	135	0.86
23.5	24.0	32x60	<b>U44 22350</b>	96	116	1.12	<b>U45 22350</b>	120	140	1.19
24.0	24.5	32x60	<b>U44 22400</b>	96	116	1.12	<b>U45 22400</b>	120	140	1.21
24.5	25.0	32x60	<b>U44 22450</b>	100	121	1.19	<b>U45 22450</b>	125	146	1.30
25.0	25.5	32x60	<b>U44 22500</b>	100	121	1.21	<b>U45 22500</b>	125	146	1.32
25.5	26.0	32x60	<b>U44 22550</b>	104	125	1.23	<b>U45 22550</b>	130	151	1.34
26.0	26.5	32x60	<b>U44 22600</b>	104	125	1.26	<b>U45 22600</b>	130	151	1.37

Supply includes: KUB Pentron™ drill with assembly parts. Please order insert and accessories separately.

Adjustment device see Compass Catalog – chapter 5

L / D	Through Hole	Blind Hole	Welded Joint	Slanted Surface	Curved Surface	Cross Hole	Center drilled Hole	Interrupted Cut	Stackplate	Rough Boring	Adjustable Diameter
4xD											
5xD											

● highly recommended ● recommended ○ may be suitable: see technical notes, page 29 ✕ not recommended

Insert Recommendation					Insert clamping screw	Starting clamping torque	TORX PLUS®
Order No. size	ISO Insert Description	Qty	P M K N S H	Order No. Description	in-lbs	Order No. Description	
<b>W80 12010.048425</b> <b>W80 12010.042730</b> <b>W80 12010.046115</b> <b>W80 12010.047710</b>	SOGX 050204-01 BK8425 SOGX 050204-01 BK2730 SOGX 050204-01 BK6115 ⚠ SOGX 050204-01 BK7710	2		<b>N00 56041</b> S/M2×4.3-6IP	5.49	<b>L05 00810</b> 6IP	
<b>W80 18010.068425</b> <b>W80 18010.062730</b> <b>W80 18010.066115</b> <b>W80 18010.067710</b>	SOGX 060206-01 BK8425 SOGX 060206-01 BK2730 SOGX 060206-01 BK6115 ⚠ SOGX 060206-01 BK7710	2		<b>N00 57553</b> S/M2.2×5.5-6IP	8.9	<b>L05 00810</b> 6IP	
<b>W80 20010.088425</b> <b>W80 20010.082730</b> <b>W80 20010.086115</b> <b>W80 20010.087710</b>	SOGX 07T208-01 BK8425 SOGX 07T208-01 BK2730 SOGX 07T208-01 BK6115 ⚠ SOGX 07T208-01 BK7710	2		<b>N00 57553</b> S/M2.2×5.5-6IP	8.9	<b>L05 00810</b> 6IP	
<b>W80 24010.088425</b> <b>W80 24010.082730</b> <b>W80 24010.086115</b> <b>W80 24010.087710</b>	SOGX 080308-01 BK8425 SOGX 080308-01 BK2730 SOGX 080308-01 BK6115 ⚠ SOGX 080308-01 BK7710	2		<b>N00 57571</b> S/M2.5×6.3-8IP	11.3	<b>L05 00830</b> 8IP	

Guideline values for solid drilling and alternative inserts: page 24 - 28

Patented design (KUB Pentron™)

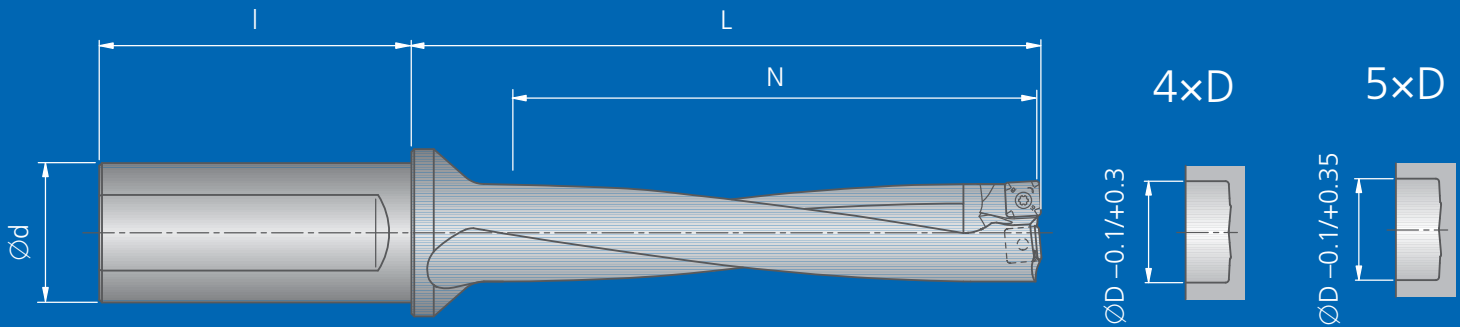


Note: Only use this insert with KUB Pentron™ as an external cutting edge: SOGX ... -01 (geometry 01) in BK6115

# KOMET KUB Pentron™

## Ø 26.2 – 37.0 mm

Insert drill with cylindrical shank ISO 9766, R.H. cutting



Dimension are in mm

ØD	* max. diameter offset	cylindrical shank Ød x l	4xD				5xD			
			Order No.	N	L	lbs	Order No.	N	L	lbs
26.2*	26.7	32x60	<b>U44 22620</b>	102	130	1.26	<b>U45 22620</b>	135	157	1.39
26.5	27.0	32x60	<b>U44 22650</b>	108	130	1.26	<b>U45 22650</b>	135	157	1.39
27.0	27.5	32x60	<b>U44 22700</b>	108	130	1.28	<b>U45 22700</b>	135	157	1.41
27.5	28.0	32x60	<b>U44 22750</b>	112	134	1.32	<b>U45 22750</b>	140	162	1.46
28.0	28.5	32x60	<b>U44 22800</b>	112	134	1.37	<b>U45 22800</b>	140	162	1.50
28.2*	28.6	32x60	<b>U44 22820</b>	116	139	1.39	<b>U45 22820</b>	145	168	1.54
28.5	29.0	32x60	<b>U44 22850</b>	116	139	1.41	<b>U45 22850</b>	145	168	1.57
28.6*	29.1	32x60	<b>U44 22860</b>	116	139	1.41	<b>U45 22860</b>	145	168	1.57
29.0	29.5	32x60	<b>U44 22900</b>	116	139	1.43	<b>U45 22900</b>	145	168	1.59
29.4*	29.9	32x60	<b>U44 22940</b>	120	143	1.46	<b>U45 22940</b>	150	173	1.61
29.5	30.0	32x60	<b>U44 22950</b>	120	143	1.46	<b>U45 22950</b>	150	173	1.61
30.0	30.5	32x60	<b>U44 23000</b>	120	143	1.48	<b>U45 23000</b>	150	173	1.65
30.2*	30.7	40x68	<b>U44 33020</b>	124	148	1.96	<b>U45 33020</b>	155	179	2.18
30.5	31.0	40x68	<b>U44 33050</b>	124	148	1.98	<b>U45 33050</b>	155	179	2.20
30.9*	31.4	40x68	<b>U44 33090</b>	124	148	2.01	<b>U45 33090</b>	155	179	2.23
31.0	31.5	40x68	<b>U44 33100</b>	124	148	2.03	<b>U45 33100</b>	155	179	2.23
31.5	32.0	40x68	<b>U44 33150</b>	128	152	2.12	<b>U45 33150</b>	160	184	2.31
31.8*	32.3	40x68	<b>U44 33180</b>	128	152	2.14	<b>U45 33180</b>	160	184	2.31
32.0	32.5	40x68	<b>U44 33200</b>	128	152	2.14	<b>U45 33200</b>	160	184	2.34
32.5	33.0	40x68	<b>U44 33250</b>	132	157	2.23	<b>U45 33250</b>	165	190	2.43
33.0	33.5	40x68	<b>U44 33300</b>	132	157	2.25	<b>U45 33300</b>	165	190	2.47
33.2*	33.7	40x68	<b>U44 33320</b>	136	161	2.23	<b>U45 33320</b>	170	195	2.49
33.3*	33.8	40x68	<b>U44 33330</b>	136	161	2.25	<b>U45 33330</b>	170	195	2.49
33.5	34.0	40x68	<b>U44 33350</b>	136	161	2.27	<b>U45 33350</b>	170	195	2.51
33.7*	34.2	40x68	<b>U44 33370</b>	136	161	2.27	<b>U45 33370</b>	170	195	2.51
34.0	34.5	40x68	<b>U44 33400</b>	136	161	2.29	<b>U45 33400</b>	170	195	2.54
34.5	35.0	40x68	<b>U44 33450</b>	140	166	2.38	<b>U45 33450</b>	175	201	2.62
34.9*	35.4	40x68	<b>U44 33490</b>	140	166	2.40	<b>U45 33490</b>	175	201	2.67
35.0	35.5	40x68	<b>U44 33500</b>	140	166	2.40	<b>U45 33500</b>	175	201	2.67
35.5	36.0	40x68	<b>U44 33550</b>	144	170	2.49	<b>U45 33550</b>	180	206	2.76
36.0	36.5	40x68	<b>U44 33600</b>	144	170	2.51	<b>U45 33600</b>	180	206	2.80
36.5	37.0	40x68	<b>U44 33650</b>	148	175	2.60	<b>U45 33650</b>	185	212	2.91
37.0	37.5	40x68	<b>U44 33700</b>	148	175	2.65	<b>U45 33700</b>	185	212	2.95

Supply includes: KUB Pentron™ drill with assembly parts. Please order insert and accessories separately.

\* Please contact KOMET for delivery.

L / D	Through Hole	Blind Hole	Welded Joint	Slanted Surface	Curved Surface	Cross Hole	Center drilled Hole	Interrupted Cut	Stackplate	Rough Boring	Adjustable Diameter
4xD											
5xD											

● highly recommended ● recommended ○ may be suitable: see technical notes, page 29 ✕ not recommended

Insert Recommendation					Insert clamping screw	Starting clamping torque	TORX PLUS®
Order No. size	ISO Insert Description	Qty	P M K N S H	Order No. Description	in-lbs	Order No. Description	
<b>W80 28010.088425</b> <b>W80 28010.082730</b> <b>W80 28010.086115</b> <b>W80 28010.087710</b>	SOGX 09T308-01 BK8425 SOGX 09T308-01 BK2730 SOGX 09T308-01 BK6115 ⚠ SOGX 09T308-01 BK7710	2		<b>N00 57251</b> S3076-8IP	5.49	<b>L05 00830</b> 8IP	
<b>W80 32010.088425</b> <b>W80 32010.082730</b> <b>W80 32010.086115</b> <b>W80 32010.087710</b>	SOGX 100408-01 BK8425 SOGX 100408-01 BK2730 SOGX 100408-01 BK6115 ⚠ SOGX 100408-01 BK7710	2		<b>N00 57261</b> S3575-15IP	8.9	<b>L05 00860</b> 15IP	
<b>W80 38010.088425</b> <b>W80 38010.082730</b> <b>W80 38010.086115</b> <b>W80 38010.087710</b>	SOGX 110408-01 BK8425 SOGX 110408-01 BK2730 SOGX 110408-01 BK6115 ⚠ SOGX 110408-01 BK7710	2		<b>N00 57261</b> S3575-15IP	11.3	<b>L05 00860</b> 15IP	

Guideline values for solid drilling and alternative inserts: page 24 - 28

Patented design (KUB Pentron™)

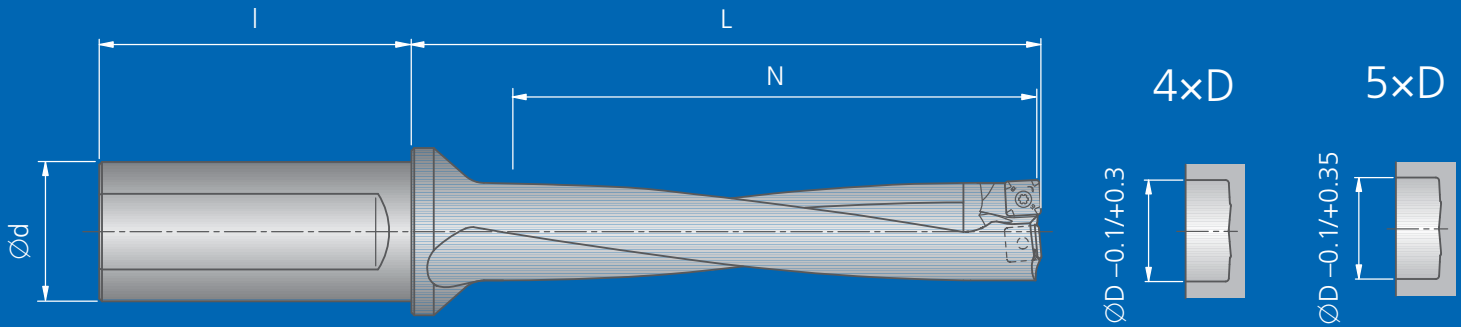


Note: Only use this insert with KUB Pentron™ as an external cutting edge: SOGX ... -01 (geometry 01) in BK6115

# KOMET KUB Pentron™

## Ø 37.3 – 44.5 mm

Insert drill with cylindrical shank ISO 9766, R.H. cutting



Dimension are in mm

ØD	* max. diameter offset	ABS Ød	4xD				5xD			
			Order No.	N	L	lbs	Order No.	N	L	lbs
37.3*	37.8	40x68	<b>U44 33730</b>	152	179	2.69	<b>U45 33730</b>	190	217	3.00
37.5	38.0	40x68	<b>U44 33750</b>	152	179	2.71	<b>U45 33750</b>	190	217	3.02
38.0	38.5	40x68	<b>U44 33800</b>	152	179	2.73	<b>U45 33800</b>	190	217	3.06
38.1*	38.6	40x68	<b>U44 33810</b>	156	184	2.80	<b>U45 33810</b>	195	223	3.11
38.5	39.0	40x68	<b>U44 33850</b>	156	184	2.82	<b>U45 33850</b>	195	223	3.15
39.0	39.5	40x68	<b>U44 33900</b>	156	184	2.84	<b>U45 33900</b>	195	223	3.20
39.5	40.0	40x68	<b>U44 33950</b>	160	188	2.95	<b>U45 33950</b>	200	228	3.31
39.7*	40.2	40x68	<b>U44 33970</b>	160	188	2.95	<b>U45 33970</b>	200	228	3.33
40.0	40.5	40x68	<b>U44 34000</b>	160	188	2.98	<b>U45 34000</b>	200	228	3.35
40.5	41.0	40x68	<b>U44 34050</b>	164	193	3.09	<b>U45 34050</b>	205	234	3.48
41.0	41.5	40x68	<b>U44 34100</b>	164	193	3.13	<b>U45 34100</b>	205	234	3.55
41.3*	41.8	40x68	<b>U44 34130</b>	168	197	3.22	<b>U45 34130</b>	210	239	3.66
41.5	42.0	40x68	<b>U44 34150</b>	168	197	3.24	<b>U45 34150</b>	210	239	3.68
42.0	42.5	40x68	<b>U44 34200</b>	168	197	3.28	<b>U45 34200</b>	210	239	3.75
42.1*	42.6	40x68	<b>U44 34210</b>	172	202	3.35	<b>U45 34210</b>	215	245	3.81
42.5	43.0	40x68	<b>U44 34250</b>	172	202	3.37	<b>U45 34250</b>	215	245	3.84
42.9*	43.4	40x68	<b>U44 34290</b>	172	202	3.40	<b>U45 34290</b>	215	245	3.88
43.0	43.5	40x68	<b>U44 34300</b>	172	202	3.40	<b>U45 34300</b>	215	245	3.88
43.5	44.0	40x68	<b>U44 34350</b>	176	206	3.53	<b>U45 34350</b>	220	250	4.01
44.0	44.5	40x68	<b>U44 34400</b>	176	206	3.57	<b>U45 34400</b>	220	250	4.08
44.5	45.0	40x68	<b>U44 34450</b>	180	211	3.70	<b>U45 34450</b>	225	256	4.23

Supply includes: KUB Pentron™ drill with assembly parts. Please order insert and accessories separately.

\* Please contact KOMET for delivery.

L / D	Through Hole	Blind Hole	Welded Joint	Slanted Surface	Curved Surface	Cross Hole	Center drilled Hole	Interrupted Cut	Stackplate	Rough Boring	Adjustable Diameter
4xD	●	●	●	●	●	●	●	○	●	✗	●
5xD	●	●	●	●	●	●	●	✗	●	✗	●

● highly recommended ● recommended ○ may be suitable: see technical notes, page 29 ✗ not recommended

Insert Recommendation					Insert clamping screw	Starting clamping torque	TORX PLUS®
Order No. size	ISO Insert Description	Qty	P M K N S H	Order No. Description	in-lbs	Order No. Description	
<b>W80 42010.088425</b> <b>W80 42010.082730</b> <b>W80 42010.086115</b> <b>W80 42010.087710</b>	SOGX 120408-01 BK8425 SOGX 120408-01 BK2730 SOGX 120408-01 BK6115 ⚠ SOGX 120408-01 BK7710	2		<b>N00 57301</b> S45100-20IP	5.49	<b>L05 00870</b> 20IP	
<b>W80 46010.088425</b> <b>W80 46010.082730</b> <b>W80 46010.086115</b> <b>W80 46010.087710</b>	SOGX 130408-01 BK8425 SOGX 130408-01 BK2730 SOGX 130408-01 BK6115 ⚠ SOGX 130408-01 BK7710	2		<b>N00 57301</b> S45100-20IP	8.9	<b>L05 00870</b> 20IP	

Guideline values for solid drilling and alternative inserts: page 24 - 28

Patented design (KUB Pentron™)








Note: Only use this insert with KUB Pentron™ as an external cutting edge: SOGX ... -01 (geometry 01) in BK6115

# KOMET KUB Pentron™

## Guideline values for solid drilling

Ø 0.634 – 1.752 inch  
(Ø 16.1 – 44.5 mm)

Material group	Tensile Strength Rm (lbf/in²)	Hardness HB	Material	Material Example material code/DIN	Cutting Speed v <sub>c</sub> (ft/min)														
					4xD														
																			
					BK8425			BK2730			BK6425			BK6115			BK7710		
min	opt.	max	min	opt.	max	min	opt.	max	min	opt.	max	min	opt.	max					
P	1.0	≤ 72500	<b>Unalloyed steels</b>	St37-2 / 1.0037; 95Mn28 / 1.0715; St44-2 / 1.0044	660	850	1050	520	720	920	890	1050	1210	820	980	1150	-	-	-
	2.0	72500-130000	<b>Low alloy steels</b>	St52-2 / 1.0050, C55 / 1.0525, 16MnCr5 / 1.7131	590	720	850	520	660	790	790	920	1050	720	850	980	-	-	-
	2.1	< 72500	<b>Lead alloys</b>	95MnPb28 / 1.0718	660	850	1050	520	720	920	890	1050	1210	820	980	1150	-	-	-
	3.0	> 130000	<b>High alloy steel</b> heat resistant structural, heat treated, nitride and tools steels	42CrMo4 / 1.7225, CK60 / 1.1221	460	590	720	390	520	660	720	850	980	660	790	920	-	-	-
	4.0	> 130000	<b>Tool steels</b>	X6CrMo4 / 1.2341, X165CrMoV12 / 1.2601	390	520	660	330	460	590	620	720	820	560	660	750	-	-	-
	4.1		<b>HSS</b>			160	230	300	430	200	260	260	330	390	230	300	360	-	-
S	5.0		<b>Special alloys:</b> Inconel, Hastelloy, Nimonic, etc	Inconel 718 / 2.4668, Nimonic 80A / 2.4631															
	5.1	58000	<b>Titanium, Titanium alloys</b>	TiAl5Sn2 / 3.7114															
M	6.0	≤ 87000	<b>Stainless steel:</b> Austenitic, 300 series	X2CrNi189 / 1.4306, X5CrNiMo1810 / 1.4401	490	560	690	460	590	720	620	720	820	690	790	890	-	-	-
	6.1	< 130000	<b>Stainless steel</b>	X8CrNb17 / 1.4511, X10CrNiMoTi1810 / 1.4571	390	490	660	390	520	660	560	660	750	620	720	820	-	-	-
	7.0	> 130000	<b>Stainless steel:</b> martensitic / ferritic, 400 series	X10CrAl7 / 1.4713, X8CrS-38-18 / 1.4862	360	490	620	390	520	660	560	660	750	620	720	820	-	-	-
K	8.0		180 <b>Gray cast iron</b>	GG-25 / 0.6025, GG-35 / 0.6035	460	590	720	390	520	660	490	660	820	520	790	1050	-	-	-
	8.1		250 <b>Alloy gray cast iron</b>	GG-NiCr202 / 0.6660	390	490	590	330	430	520	330	460	590	330	460	590	-	-	-
	9.0	≤ 87000	130 <b>Nodular cast iron</b> ferritic	GGG-40 / 0.7040	460	590	720	390	520	660	390	520	660	390	520	660	-	-	-
	9.1		230 <b>Nodular cast iron</b> ferritic / pearlitic	GGG-50 / 0.7050 GGG-55 / 0.7055 GTW-55 / 0.8055	390	490	590	360	430	520	330	460	590	330	460	590	-	-	-
	10.0	> 87000	250 <b>Nodular cast iron</b> pearlitic <b>Malleable cast iron</b>	GGG-60 / 0.7060 GTS-65 / 0.8165	360	460	560	300	390	490	300	390	490	300	390	490	-	-	-
	10.1		200 <b>Alloyed nodular cast iron</b>	GGG-NiCr20-2 / 0.7661	360	460	560	300	390	490	300	390	490	300	390	490	-	-	-
10.2		300 <b>Vermicular cast iron</b>	GGV Ti < 0,2 GGV Ti > 0,2	300	360	430	260	330	390	230	330	430	230	330	430	-	-	-	
N	12.0		90 <b>Copper alloy, Brass, Lead-alloy Bronze, Lead bronze:</b> good cut	CuZn36Pb3 / 2.1182, G-CuPb15Sn / 2.1182	490	660	820	490	660	820	-	-	-	490	820	1150	-	-	-
	12.1		100 <b>Copper alloy, Brass, Bronze:</b> average cut	CuZn40Al1 / 2.0550, E-Cu57 / 2.0060	660	980	1310	660	980	1310	-	-	-	820	1150	450	-	-	-
	13.0		60 <b>Wrought aluminum alloys</b>	AlMg1 / 3.3315, AlMnCu / 3.0517	980	1310	1640	980	1310	1640	-	-	-	980	1640	700	-	-	-
	13.1		75 <b>Aluminum alloy:</b> Si-content <10% <b>Magnesium alloy</b>	G-AlMg5 / 3.3561, G-AlSi9Mg / 3.2373	590	820	1050	590	820	1050	-	-	-	690	920	1150	-	-	-
	14.0		100 <b>Aluminum alloy:</b> Si-content >10%	G-AlSi10Mg / 3.2381	490	660	820	490	660	820	-	-	-	460	720	980	-	-	-
H	15.0	203000	<b>Hardened steels</b> < 45 HRC																
	16.0	261000	<b>Hardened steels</b> > 45 HRC																










# KOMET KUB Pentron™

## Guideline values for solid drilling

Ø 0.634 – 1.752 inch  
(Ø 16.1 – 44.5 mm)

Material group	Tensile Strength Rm (lbf/in²)	Hardness HB	Material	Material Example material code/DIN	Cutting Speed v <sub>c</sub> (ft/min)														
					5xD														
																			
					BK8425			BK2730			BK6425			BK6115			BK7710		
min	opt.	max	min	opt.	max	min	opt.	max	min	opt.	max	min	opt.	max					
P	1.0	≤ 72500	<b>Unalloyed steels</b>	St37-2 / 1.0037; 95Mn28 / 1.0715; St44-2 / 1.0044	660	850	1050	520	720	920	890	1050	1210	820	980	1150	-		
	2.0	72500-130000	<b>Low alloy steels</b>	St52-2 / 1.0050, C55 / 1.0525, 16MnCr5 / 1.7131	590	720	850	520	660	790	790	920	1050	720	850	980	-		
	2.1	< 72500	<b>Lead alloys</b>	95MnPb28 / 1.0718	660	850	1050	520	720	920	890	1050	1210	820	980	1150	-		
	3.0	> 130000	<b>High alloy steel</b> heat resistant structural, heat treated, nitride and tools steels	42CrMo4 / 1.7225, CK60 / 1.1221	460	590	720	390	520	660	720	850	980	660	790	920	-		
	4.0	> 130000	<b>Tool steels</b>	X6CrMo4 / 1.2341, X165CrMoV12 / 1.2601	390	520	660	330	460	590	620	720	820	560	660	750	-		
	4.1		<b>HSS</b>		160	230	300	430	200	260	260	330	390	230	300	360	-		
S	5.0	250	<b>Special alloys:</b> Inconel, Hastelloy, Nimonic, etc	Inconel 718 / 2.4668, Nimonic 80A / 2.4631	-- on request --														
	5.1	58000	<b>Titanium, Titanium alloys</b>	TiAl5Sn2 / 3.7114	-- on request --														
M	6.0	≤ 87000	<b>Stainless steel:</b> Austenitic, 300 series	X2CrNi189 / 1.4306, X5CrNiMo1810 / 1.4401	490	560	690	460	590	720	620	720	820	690	790	890	-		
	6.1	< 130000	<b>Stainless steel</b>	X8CrNb17 / 1.4511, X10CrNiMoTi1810 / 1.4571	390	490	660	390	520	660	560	660	750	620	720	820	-		
	7.0	> 130000	<b>Stainless steel:</b> martensitic / ferritic, 400 series	X10CrAl7 / 1.4713, X8CrS-38-18 / 1.4862	360	490	620	390	520	660	560	660	750	620	720	820	-		
K	8.0	180	<b>Gray cast iron</b>	GG-25 / 0.6025, GG-35 / 0.6035	460	590	720	390	520	660	490	660	820	520	790	1050	-		
	8.1	250	<b>Alloy gray cast iron</b>	GG-NiCr202 / 0.6660	390	490	590	330	430	520	330	460	590	330	460	590	-		
	9.0	≤ 87000	<b>Nodular cast iron</b> ferritic	GGG-40 / 0.7040	460	590	720	390	520	660	390	520	660	390	520	660	-		
	9.1	230	<b>Nodular cast iron</b> ferritic / pearlitic	GGG-50 / 0.7050 GGG-55 / 0.7055 GTW-55 / 0.8055	390	490	590	360	430	520	330	460	590	330	460	590	-		
	10.0	> 87000	<b>Nodular cast iron</b> pearlitic <b>Malleable cast iron</b>	GGG-60 / 0.7060 GTS-65 / 0.8165	360	460	560	300	390	490	300	390	490	300	390	490	-		
	10.1	200	<b>Alloyed nodular cast iron</b>	GGG-NiCr20-2 / 0.7661	360	460	560	300	390	490	300	390	490	300	390	490	-		
10.2	300	<b>Vermicular cast iron</b>	GGV Ti < 0,2 GGV Ti > 0,2	300	360	430	260	330	390	230	330	430	230	330	430	-			
N	12.0	90	<b>Copper alloy, Brass, Lead-alloy Bronze, Lead bronze:</b> good cut	CuZn36Pb3 / 2.1182, G-CuPb15Sn / 2.1182	490	660	820	490	660	820	-	-	-	490	820	1150			
	12.1	100	<b>Copper alloy, Brass, Bronze:</b> average cut	CuZn40Al1 / 2.0550, E-Cu57 / 2.0060	660	980	1310	660	980	1310	-	-	-	820	1150	450			
	13.0	60	<b>Wrought aluminum alloys</b>	AlMg1 / 3.3315, AlMnCu / 3.0517	980	1310	1640	980	1310	1640	-	-	-	980	1640	700			
	13.1	75	<b>Aluminum alloy:</b> Si-content <10% <b>Magnesium alloy</b>	G-AlMg5 / 3.3561, G-AlSi9Mg / 3.2373	590	820	1050	590	820	1050	-	-	-	690	920	1150			
	14.0	100	<b>Aluminum alloy:</b> Si-content >10%	G-AlSi10Mg / 3.2381	490	660	820	490	660	820	-	-	-	460	720	980			
H	15.0	203000	<b>Hardened steels</b> < 45 HRC		-- on request --														
	16.0	261000	<b>Hardened steels</b> > 45 HRC		-- on request --														

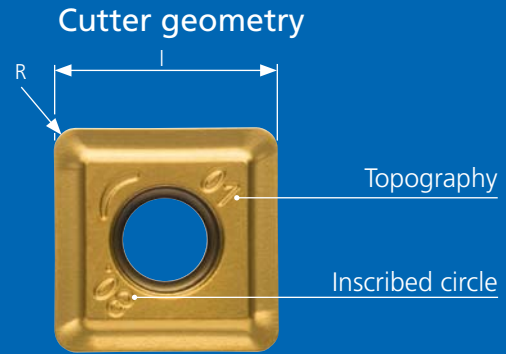


# KOMET KUB Pentron™ Inserts W80..01 (SOGX)

## Application range

### Solid drilling

BK8425: Allrounder, steel, stainless steel, cast iron  
 BK2730: Stainless steel  
 BK6425: steel, stainless steel  
 BK6115: Cast iron, steel, stainless steel HPC type  
 BK7710: Non ferrous metals



( ) = mm

ISO-Code	Order No. <small>enter carbide code</small>	Carbide Grades					I	R
		CVD coated		BK2730	PVD coated			
		BK6115 6115	BK6425 6425		BK7710 7710	BK8425 8425		
SOGX 050204-01	<b>W80 12010.04..</b>	▲	▲	▲	▲	▲	0.217 (5.5)	0.016 (0.4)
SOGX 060206-01	<b>W80 18010.06..</b>	▲	▲	▲	▲	▲	0.244 (6.2)	0.024 (0.6)
SOGX 07T208-01	<b>W80 20010.08..</b>	▲	▲	▲	▲	▲	0.280 (7.1)	0.031 (0.8)
SOGX 080308-01	<b>W80 24010.08..</b>	▲	▲	▲	▲	▲	0.315 (8.0)	0.031 (0.8)
SOGX 09T308-01	<b>W80 28010.08..</b>	▲	▲	▲	▲	▲	0.350 (8.9)	0.031 (0.8)
SOGX 100408-01	<b>W80 32010.08..</b>	▲	▲	▲	▲	▲	0.386 (9.8)	0.031 (0.8)
SOGX 110408-01	<b>W80 38010.08..</b>	▲	▲	▲	▲	▲	0.429 (10.9)	0.031 (0.8)
SOGX 120408-01	<b>W80 42010.08..</b>	▲	▲	▲	▲	▲	0.472 (12.0)	0.031 (0.8)
SOGX 130408-01	<b>W80 46010.08..</b>	▲	▲	▲	▲	▲	0.520 (13.2)	0.031 (0.8)
Mild steel / tool steel	<b>P</b>	●	●			●	Order example: ISO-Code SOGX 060206-01 Carbide grades BK6425 Order No. W80 18010.066425	
Stainless and acid-resistant steel	<b>M</b>	●	●	●		●		
Grey cast iron, nodular cast iron	<b>K</b>	●	●	●		●		
Non-ferrous metals	<b>N</b>				●	●		
Heat-resistant steels	<b>S</b>			●				
Hardened tool steel	<b>H</b>	●						

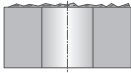
## Alternative Inserts for higher cutting speed

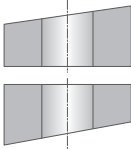
( ) = mm

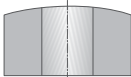
Ø D	Order No. ▽▽ size	ISO-Code	for higher cutting speeds					
			P	M	K	N	S	H
0.634 – 0.709 (16.1 – 18.0)	<b>W80 12010.046425</b> <b>W80 12010.046115</b>	SOGX 050204-01 BK6425 SOGX 050204-01 BK6115 ⚠	●	●				
0.710 – 0.787 (18.1 – 20.0)	<b>W80 18010.066425</b> <b>W80 18010.066115</b>	SOGX 060206-01 BK6425 SOGX 060206-01 BK6115 ⚠	●	●				
0.788 – 0.905 (20.1 – 23.0)	<b>W80 20010.086425</b> <b>W80 20010.086115</b>	SOGX 07T208-01 BK6425 SOGX 07T208-01 BK6115 ⚠	●	●				
0.906 – 1.024 (23.1 – 26.0)	<b>W80 24010.086425</b> <b>W80 24010.086115</b>	SOGX 080308-01 BK6425 SOGX 080308-01 BK6115 ⚠	●	●				
1.025 – 1.181 (26.1 – 30.0)	<b>W80 28010.086425</b> <b>W80 28010.086115</b>	SOGX 09T308-01 BK6425 SOGX 09T308-01 BK6115 ⚠	●	●				
1.182 – 1.299 (30.1 – 33.0)	<b>W80 32010.086425</b> <b>W80 32010.086115</b>	SOGX 100408-01 BK6425 SOGX 100408-01 BK6115 ⚠	●	●				
1.183 – 1.457 (33.1 – 37.0)	<b>W80 38010.086425</b> <b>W80 38010.086115</b>	SOGX 110408-01 BK6425 SOGX 110408-01 BK6115 ⚠	●	●				
1.458 – 1.653 (37.1 – 42.0)	<b>W80 42010.086425</b> <b>W80 42010.086115</b>	SOGX 120408-01 BK6425 SOGX 120408-01 BK6115 ⚠	●	●				
1.654 – 1.752 (42.1 – 44.5)	<b>W80 46010.086425</b> <b>W80 46010.086115</b>	SOGX 130408-01 BK6425 SOGX 130408-01 BK6115 ⚠	●	●				

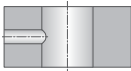


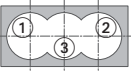
Note: Only use this insert with KUB Pentron™ as an external cutting edge:  
 SOGX ... -01 (geometry 01) in BK6115

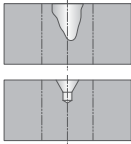
1.  **Starting on uneven surfaces (cast surfaces)**
- when inserting and withdrawing the drill, reduce the feed rate by approx. 30-50% (depending on component stability, clamping and surface quality)


2.  **Starting on angled surfaces / angled bore exit**
- when inserting the drill, reduce the feed rate by approx. 30-60% until full diameter is reached
  - when withdrawing the drill after interruption to the cut, reduce the feed rate by approx. 30-60%
  - use tough insert and stable corner radius

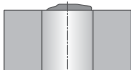
3.  **Starting on curved surfaces**
- when inserting the drill, reduce the feed rate by approx. 30-60% until full diameter is reached
  - when withdrawing the drill after interruption to the cut, reduce the feed rate by approx. 30-60% (depending on component stability and clamping).

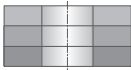
4.  **Drilling through a cross bore**
- when inserting and withdrawing the drill, reduce the feed rate by approx. 30-50% (depending on component stability, clamping and surface quality)
  - in the vicinity of the cross bore, reduce the feed rate by 50%
  - watch for chip jamming around tool
  - use tough insert and stable corner radius

5.  **Drilling a chamber**
- first bore No. 1 + 2, then bore No. 3
  - check distribution is symmetrical
  - avoid chip jams
  - use tough insert and stable corner radius
  - Continuous drilling: when inserting the drill, reduce the feed rate by approx. 30-60% (depending on component stability and clamping)
  - Interruption to cut: when drilling the cut interruption, reduce the feed rate by approx. 50-60%

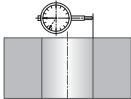
6.  **Starting on a groove or large centering bore**
- when inserting the drill, reduce the feed rate by approx. 30-50% until centering depth is reached
  - reduce feed rate
  - use tough insert for internal cutting edge
  - spot face if required

7.  **Starting on an edge**
- when inserting and withdrawing the drill, reduce the feed rate by approx. 30-50% (depending on component stability, clamping and surface quality)
  - use tough insert and stable corner radius

8.  **Starting on a welded seam**
- when inserting the drill, reduce the feed rate by approx. 30-60% until full diameter is reached
  - when withdrawing the drill after interruption to the cut, reduce the feed rate by approx. 30-60% (depending on component stability and clamping).

9.  **Drilling through stacked plates**
- good workpiece clamping required
  - max. gap = 1 mm

10.  **Roughing**
- *not recommended*

11.  **Adjustable**
- when inserting and withdrawing the drill reduce the feed rate by approx. 30-50% until full bore diameter is reached (depending on component stability and clamping).
  - use tough insert and stable corner radius

Note: The application details shown depend on the environmental and application conditions (e.g. machine, ambient temperature, use of lubricant/coolant and the machining result required). These are subject to correct operating conditions, correct application and compliance with the spindle speed limits given for the tools.

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