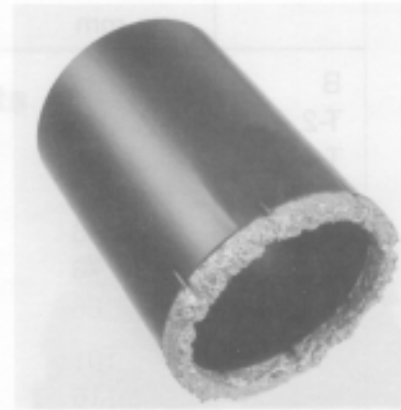


## 4.7 Dieckmann TC bits, TC reaming shells and borit bits



The **Dieckmann** tungsten carbide bits have octagonal tungsten carbide inserts which are fixed at an angle of 10° to form the cutting edges. The quality of the tungsten carbide chosen has been specially developed for rotary drilling to give high wear resistance.

The carbide inserts can be reground, thus high penetration rates can be maintained throughout the entire service life of each bit.

TC bits are normally used for coring in softer rock formations, for overburden drilling and for cleaning drill holes.

**Dieckmann** also has a complete range of tungsten carbide reaming shells.

In non consolidated formations, e.g. limestone, it may be more economic to use tungsten carbide reaming shells rather than diamond reaming shells.

The **Dieckmann** borit bits are another type of carbide bits manufactured with crushed tungsten carbide with a granular size of 3-6 mm, mixed with a special alloy.

Borit bits cause less vibration, offer better core recovery than standard TC bits and allow to washover steel.

### Remarks:

If a type of TC bit, TC reaming shell or borit bit not shown in the tables is required, **Dieckmann** will probably have all necessary data to produce the bit or the reaming shell. If not, a drawing or a sample will be sufficient for us to do it.

All american size TC bits, TC reaming shells and borit bits are available too.

Select

15	3123 OHX	95.4	HXB-1
15	3123 OHX	95.4	HXB-2
20	3117 734	6 x 7-3/4	size
18	3117 515	4 x 5-1/2	large
14	3117 378	2-3/4 x 2-7/8	DCDMA
20	3118 0CP	125.8	CP

Dieckmann TC bits, TC reaming shells and borit bits metric sizes:

type	size mm	ref.-no. TC bit	ref.-no. TC reaming shell	ref.-no. borit bit
B	36 x 22	3501 036	3601 036	3701 036
	46 x 32	3501 046	3601 046	3701 046
	56 x 42	3501 056	3601 056	3701 056
	66 x 52	3501 066	3601 066	3701 066
	76 x 62	3501 076	3601 076	3701 076
	86 x 72	3501 086	3601 086	3701 086
	101 x 87	3501 101	3601 101	3701 101
	116 x 102	3501 116	3601 116	3701 116
	131 x 117	3501 131	3601 131	3701 131
	146 x 132	3501 146	3601 146	3701 146
T-2	36 x 22	3502 036	3602 036	3702 036
	46 x 32	3502 046	3602 046	3702 046
	56 x 42	3502 056	3602 056	3702 056
	66 x 52	3502 066	3602 066	3702 066
	76 x 62	3502 076	3602 076	3702 076
	86 x 72	3502 086	3602 086	3702 086
	101 x 84	3502 101	3602 101	3702 101
T-6	76 x 57	3503 076	3603 076	3703 076
	86 x 67	3503 086	3603 086	3703 086
	101 x 79	3503 101	3603 101	3703 101
	116 x 93	3503 116	3603 116	3703 116
	131 x 108	3503 131	3603 131	3703 131
	146 x 123	3503 146	3603 146	3703 146
T-6-S	76 x 48	3504 076	-	3704 076
	86 x 58	3504 086	-	3704 086
	101 x 72	3504 101	-	3704 101
	116 x 86	3504 116	-	3704 116
	131 x 101	3504 131	-	3704 131
	146 x 116	3504 146	-	3704 146
TT	46 x 35.6	3505 046	3605 046	3705 046
	56 x 45.6	3505 056	3605 056	3705 056
D	76 x 56	3506 076	3606 076	3706 076
	86 x 66	3506 086	3606 086	3706 086
	101 x 81	3506 101	3606 101	3706 101
	116 x 96	3506 116	3606 116	3706 116
	131 x 110	3506 131	3606 131	3706 131
	146 x 122	3506 146	3606 146	3706 146



### 3. TC bits, TC reaming shells and borit bits metric sizes:

type	size mm	ref.-no. TC bit	ref.-no. TC reaming shell	ref.-no. borit bit
K-3	66 x 38	3507 066	3607 066	3707 066
	76 x 48	3507 076	3607 076	3707 076
	86 x 58	3507 086	3607 086	3707 086
	101 x 72	3507 101	3607 101	3707 101
	116 x 86	3507 116	3607 116	3707 116
	131 x 101	3507 131	3607 131	3707 131
	146 x 116	3507 146	3607 146	3707 146
	176 x 140	3507 176	3607 176	3707 176
F	101 x 72	3508 101	-	3708 101
	116 x 86	3508 116	-	3708 116
	131 x 101	3508 131	-	3708 131
	146 x 116	3508 146	-	3708 146
Z	66 x 44	3509 066	3609 066	3709 066
	76 x 54	3509 076	3609 076	3709 076
	86 x 62	3509 086	3609 086	3709 086
	101 x 75	3509 101	3609 101	3709 101
	116 x 90	3509 116	3609 116	3709 116
	131 x 105	3509 131	3609 131	3709 131
	146 x 120	3509 146	3609 146	3709 146
Y	66 x 44	3510 066	-	3710 066
	76 x 54	3510 076	-	3710 076
	86 x 62	3510 086	-	3710 086
	101 x 75	3510 101	-	3710 101
Casing shoes	46 x 37	3512 046	-	3712 046
	56 x 47	3512 056	-	3712 056
	66 x 57	3512 066	-	3712 066
	76 x 67	3512 076	-	3712 076
	86 x 77	3512 086	-	3712 086
	101 x 89	3512 101	-	3712 101
	116 x 104	3512 116	-	3712 116
	131 x 119	3512 131	-	3712 131
146 x 134	3512 146	-	3712 146	



TC bits, TC reaming shells and borit bits metric sizes:

type	size mm	ref.-no. TC bit	ref.-no. TC reaming shell	ref.-no. borit bit
Casing bits	46 x 35	3513 046	-	3713 046
	56 x 45	3513 056	-	3713 056
	66 x 55	3513 066	-	3713 066
	76 x 65	3513 076	-	3713 076
	86 x 75	3513 086	-	3713 086
	101 x 86.5	3513 101	-	3713 101
	116 x 101.5	3513 116	-	3713 116
	131 x 116.5	3513 131	-	3713 131
	146 x 131.5	3513 146	-	3713 146
SK-6-L	146 x 102	3524 146	3624 146	3724 146
Geobor	150 x 102	3524 150	3624 150	3724 150
CSK-146	165 x 102	3524 165	3624 165	3724 165

4.8.2 Flushing water recommendations

Dieckmann gives the following recommendations for the speed of the flushing water in the space between rod and borehole:

$$v = 0.3 - 0.5 \text{ m/s}$$

$$\pi \cdot d \cdot p = 0.015 \cdot a \cdot (od - id) \cdot p$$

$v$  = speed of flushing water in m/s  
 $d$  = diameter of rod in mm  
 $od$  = diameter of borehole (or bit) in mm  
 $id$  = diameter of rod in mm  
 $p$  = water volume in liters per minute  
 $a$  = 3.1416

Example (using bit 75 Ø 78 x 82 mm, CR80):

$v = 0.3 - 0.5 \text{ m/s}$   
 $\pi \cdot d \cdot p = 0.015 \cdot a \cdot (od - id) \cdot p$   
 $od = 78 \text{ mm}$   
 $id = 60 \text{ mm}$

