

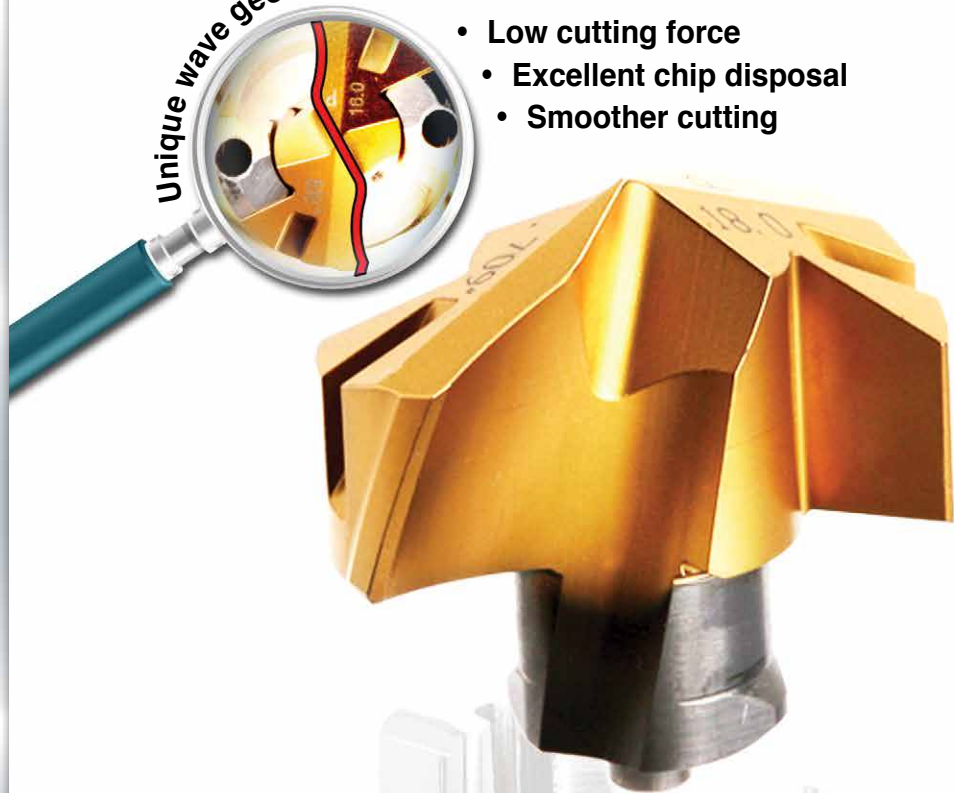
# DRILL RUSH



# DRILL-RUSH

Unique wave geometry

- Low cutting force
- Excellent chip disposal
- Smoother cutting



## Optimum solution in drilling



New multi-layered coating & Special treatment (TT9080 PVD)

- High wear & chipping resistance for long tool life
- High speed & feed endurance

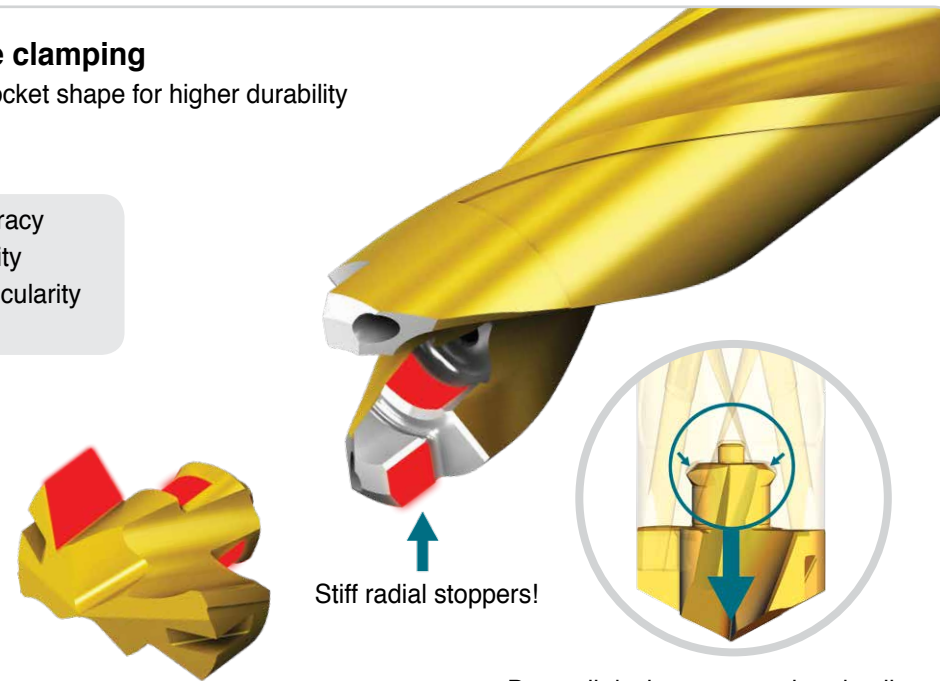
## Unique clamping system

### Innovative clamping

Optimized pocket shape for higher durability

High accuracy

- Cylindricity
- Perpendicularity
- Run-out



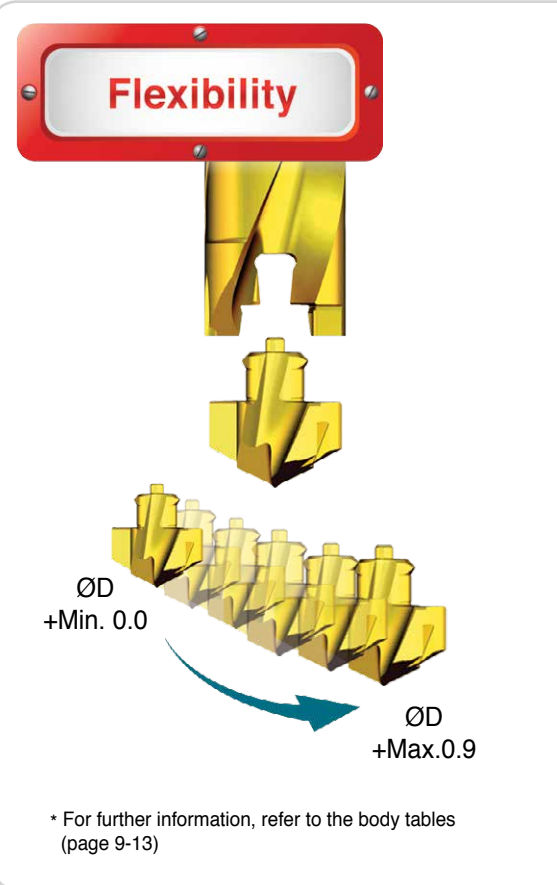
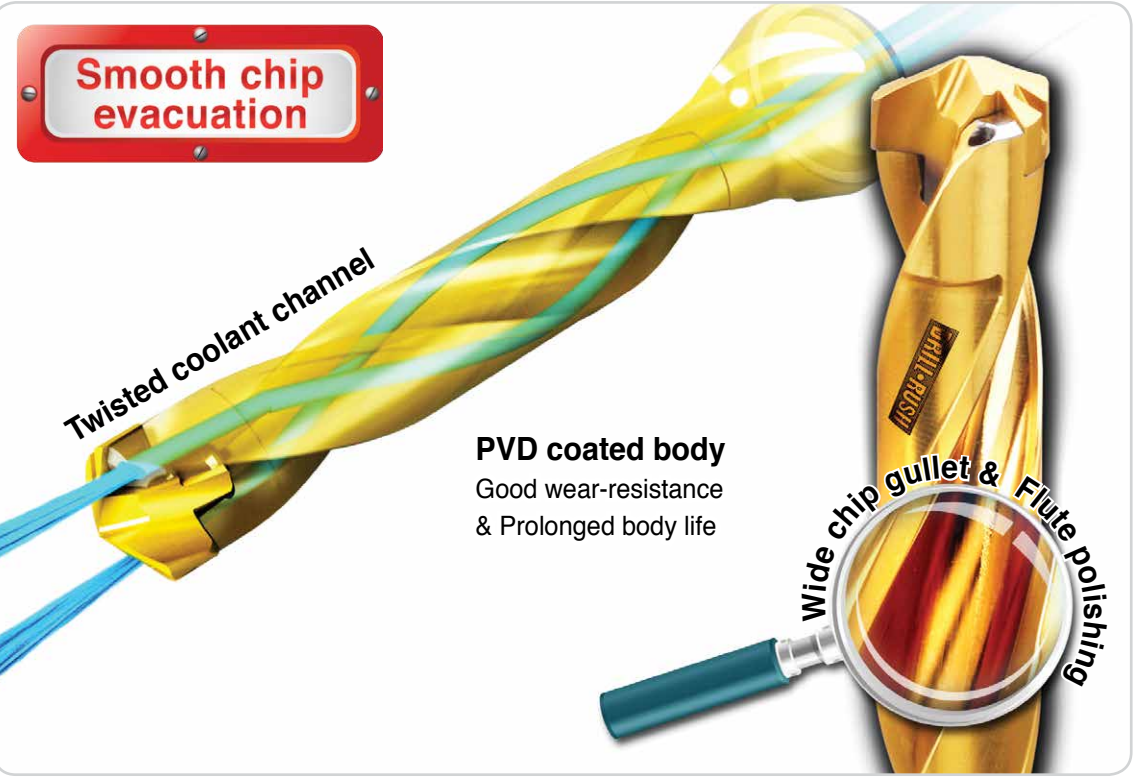
Stiff radial stoppers!

Dovetail design prevents head pull-out

### Quick change

Head indexing on the machine





**Versatile products**

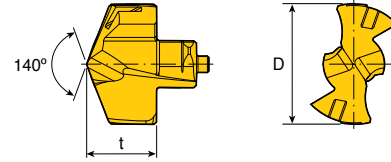
- DRILLRUSH for adjustable chamfering
- Economical standard solution to replace special tools with high cost
    - : Minimized cycle time & improved economy
  - Two standard chamfering inserts for high productivity
  - Adjustable step length
    - : Easy to adjust by hole dimensions



- DRILLRUSH for pre-thread drilling
- Cost effective solution with maximum performance
    - : Improved body rigidity
  - Balanced cutting with two standard chamfering inserts
    - : Double effective for high productivity
  - Unique chamfer insert for chamfer and counter boring
    - : Available for both blind & through-hole applications



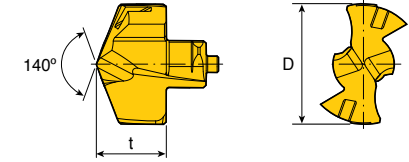
**TCD...P/M/K**



• Grade: TT9080

Designation	Dimension (mm)		
	D	t	Pocket size
<b>TCD - 070-P/M/K</b>	7.0	4.6	7
<b>071-P/M/K</b>	7.1	4.6	7
<b>072-P/M/K</b>	7.2	4.6	7
<b>073-P/M/K</b>	7.3	4.6	7
<b>074-P/M/K</b>	7.4	4.6	7
<b>075-P/M/K</b>	7.5	4.6	7
<b>076-P/M/K</b>	7.6	4.6	7
<b>077-P/M/K</b>	7.7	4.6	7
<b>078-P/M/K</b>	7.8	4.6	7
<b>079-P/M/K</b>	7.9	4.6	7
<b>080-P/M/K</b>	8.0	5.4	8
<b>081-P/M/K</b>	8.1	5.4	8
<b>082-P/M/K</b>	8.2	5.4	8
<b>083-P/M/K</b>	8.3	5.4	8
<b>084-P/M/K</b>	8.4	5.4	8
<b>085-P/M/K</b>	8.5	5.4	8
<b>086-P/M/K</b>	8.6	5.4	8
<b>087-P/M/K</b>	8.7	5.4	8
<b>088-P/M/K</b>	8.8	5.4	8
<b>089-P/M/K</b>	8.9	5.4	8
<b>090-P/M/K</b>	9.0	5.8	9
<b>091-P/M/K</b>	9.1	5.8	9
<b>092-P/M/K</b>	9.2	5.8	9
<b>093-P/M/K</b>	9.3	5.8	9
<b>094-P/M/K</b>	9.4	5.8	9
<b>095-P/M/K</b>	9.5	5.8	9
<b>096-P/M/K</b>	9.6	5.8	9
<b>097-P/M/K</b>	9.7	5.8	9
<b>098-P/M/K</b>	9.8	5.8	9
<b>099-P/M/K</b>	9.9	5.8	9
<b>100-P/M/K</b>	10.0	6.2	10
<b>101-P/M/K</b>	10.1	6.2	10
<b>102-P/M/K</b>	10.2	6.2	10
<b>103-P/M/K</b>	10.3	6.2	10
<b>104-P/M/K</b>	10.4	6.2	10
<b>105-P/M/K</b>	10.5	6.2	10
<b>106-P/M/K</b>	10.6	6.2	10
<b>107-P/M/K</b>	10.7	6.2	10
<b>108-P/M/K</b>	10.8	6.2	10
<b>109-P/M/K</b>	10.9	6.2	10
<b>110-P/M/K</b>	11.0	6.6	11
<b>111-P/M/K</b>	11.1	6.6	11
<b>112-P/M/K</b>	11.2	6.6	11
<b>113-P/M/K</b>	11.3	6.6	11
<b>114-P/M/K</b>	11.4	6.6	11
<b>115-P/M/K</b>	11.5	6.6	11
<b>116-P/M/K</b>	11.6	6.6	11
<b>117-P/M/K</b>	11.7	6.6	11

**TCD...P/M/K**



• Grade: TT9080

Designation	Dimension (mm)		
	D	t	Pocket size
<b>TCD - 166-P/M/K</b>	16.6	9.3	16
<b>167-P/M/K</b>	16.7	9.3	16
<b>168-P/M/K</b>	16.8	9.3	16
<b>169-P/M/K</b>	16.9	9.3	16
<b>170-P/M/K</b>	17.0	9.9	17
<b>171-P/M/K</b>	17.1	9.9	17
<b>172-P/M/K</b>	17.2	9.9	17
<b>173-P/M/K</b>	17.3	9.9	17
<b>174-P/M/K</b>	17.4	9.9	17
<b>175-P/M/K</b>	17.5	9.9	17
<b>176-P/M/K</b>	17.6	9.9	17
<b>177-P/M/K</b>	17.7	9.9	17
<b>178-P/M/K</b>	17.8	9.9	17
<b>179-P/M/K</b>	17.9	9.9	17
<b>180-P/M/K</b>	18.0	10.5	18
<b>181-P/M/K</b>	18.1	10.5	18
<b>182-P/M/K</b>	18.2	10.5	18
<b>183-P/M/K</b>	18.3	10.5	18
<b>184-P/M/K</b>	18.4	10.5	18
<b>185-P/M/K</b>	18.5	10.5	18
<b>186-P/M/K</b>	18.6	10.5	18
<b>187-P/M/K</b>	18.7	10.5	18
<b>188-P/M/K</b>	18.8	10.5	18
<b>189-P/M/K</b>	18.9	10.5	18
<b>190-P/M/K</b>	19.0	11.0	19
<b>191-P/M/K</b>	19.1	11.0	19
<b>192-P/M/K</b>	19.2	11.0	19
<b>193-P/M/K</b>	19.3	11.0	19
<b>194-P/M/K</b>	19.4	11.0	19
<b>195-P/M/K</b>	19.5	11.0	19
<b>196-P/M/K</b>	19.6	11.0	19
<b>197-P/M/K</b>	19.7	11.0	19
<b>198-P/M/K</b>	19.8	11.0	19
<b>199-P/M/K</b>	19.9	11.0	19
<b>200-P/M/K</b>	20.0	11.6	20
<b>201-P/M/K</b>	20.1	11.6	20
<b>202-P/M/K</b>	20.2	11.6	20
<b>203-P/M/K</b>	20.3	11.6	20
<b>204-P/M/K</b>	20.4	11.6	20
<b>205-P/M/K</b>	20.5	11.6	20
<b>206-P/M/K</b>	20.6	11.6	20
<b>207-P/M/K</b>	20.7	11.6	20
<b>208-P/M/K</b>	20.8	11.6	20
<b>209-P/M/K</b>	20.9	11.6	20
<b>210-P/M/K</b>	21.0	12.1	21
<b>211-P/M/K</b>	21.1	12.1	21
<b>212-P/M/K</b>	21.2	12.1	21
<b>213-P/M/K</b>	21.3	12.1	21

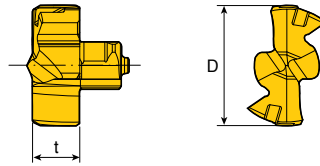
Designation	Dimension (mm)		
	D	t	Pocket size
<b>TCD - 214-P/M/K</b>	21.4	12.1	21
<b>215-P/M/K</b>	21.5	12.1	21
<b>216-P/M/K</b>	21.6	12.1	21
<b>217-P/M/K</b>	21.7	12.1	21
<b>218-P/M/K</b>	21.8	12.1	21
<b>219-P/M/K</b>	21.9	12.1	21
<b>220-P/M/K</b>	22.0	12.7	22
<b>221-P/M/K</b>	22.1	12.7	22
<b>222-P/M/K</b>	22.2	12.7	22
<b>223-P/M/K</b>	22.3	12.7	22
<b>224-P/M/K</b>	22.4	12.7	22
<b>225-P/M/K</b>	22.5	12.7	22
<b>226-P/M/K</b>	22.6	12.7	22
<b>227-P/M/K</b>	22.7	12.7	22
<b>228-P/M/K</b>	22.8	12.7	22
<b>229-P/M/K</b>	22.9	12.7	22
<b>230-P/M/K</b>	23.0	13.3	23
<b>231-P/M/K</b>	23.1	13.3	23
<b>232-P/M/K</b>	23.2	13.3	23
<b>233-P/M/K</b>	23.3	13.3	23
<b>234-P/M/K</b>	23.4	13.3	23
<b>235-P/M/K</b>	23.5	13.3	23
<b>236-P/M/K</b>	23.6	13.3	23
<b>237-P/M/K</b>	23.7	13.3	23
<b>238-P/M/K</b>	23.8	13.3	23
<b>239-P/M/K</b>	23.9	13.3	23
<b>240-P/M/K</b>	24.0	13.9	24
<b>241-P/M/K</b>	24.1	13.9	24
<b>242-P/M/K</b>	24.2	13.9	24
<b>243-P/M/K</b>	24.3	13.9	24
<b>244-P/M/K</b>	24.4	13.9	24
<b>245-P/M/K</b>	24.5	13.9	24
<b>246-P/M/K</b>	24.6	13.9	24
<b>247-P/M/K</b>	24.7	13.9	24
<b>248-P/M/K</b>	24.8	13.9	24
<b>249-P/M/K</b>	24.9	13.9	24
<b>250-P/M/K</b>	25.0	14.5	25
<b>251-P/M/K</b>	25.1	14.5	25
<b>252-P/M/K</b>	25.2	14.5	25
<b>253-P/M/K</b>	25.3	14.5	25
<b>254-P/M/K</b>	25.4	14.5	25
<b>255-P/M/K</b>	25.5	14.5	25
<b>256-P/M/K</b>	25.6	14.5	25
<b>257-P/M/K</b>	25.7	14.5	25
<b>258-P/M/K</b>	25.8	14.5	25
<b>259-P/M/K</b>	25.9	14.5	25

• Drill head can be ordered by an application.  
Order example) Diameter 10.0mm drill head for ISO P application: TCD-100-P TT9080

• **P** Steel **M** Stainless steel **K** Cast iron **N** Non ferrous (On request)

**TCD...F**

Drill head for flat bottom machining

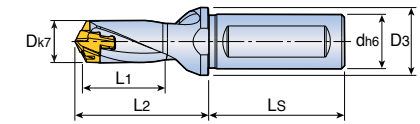


• Grade: TT9080

Designation	Dimension (mm)		
	D	t	Pocket size
<b>TCD - 080-F</b>	8.0	4.0	8
<b>085-F</b>	8.5	4.0	8
<b>090-F</b>	9.0	4.2	9
<b>095-F</b>	9.5	4.2	9
<b>100-F</b>	10.0	4.4	10
<b>105-F</b>	10.5	4.4	10
<b>110-F</b>	11.0	4.5	11
<b>115-F</b>	11.5	4.5	11
<b>120-F</b>	12.0	4.8	12
<b>125-F</b>	12.5	4.8	12
<b>130-F</b>	13.0	5.1	13
<b>135-F</b>	13.5	5.1	13
<b>140-F</b>	14.0	5.5	14
<b>145-F</b>	14.5	5.5	14
<b>150-F</b>	15.0	5.9	15
<b>155-F</b>	15.5	5.9	15
<b>160-F</b>	16.0	6.3	16
<b>165-F</b>	16.5	6.3	16
<b>170-F</b>	17.0	6.6	17
<b>175-F</b>	17.5	6.6	17
<b>180-F</b>	18.0	6.9	18
<b>185-F</b>	18.5	6.9	18
<b>190-F</b>	19.0	7.2	19
<b>195-F</b>	19.5	7.2	19
<b>200-F</b>	20.0	8.2	20
<b>205-F</b>	20.5	8.2	20
<b>210-F</b>	21.0	8.6	21
<b>215-F</b>	21.5	8.6	21
<b>220-F</b>	22.0	8.9	22
<b>225-F</b>	22.5	8.9	22
<b>230-F</b>	23.0	9.3	23
<b>235-F</b>	23.5	9.3	23
<b>240-F</b>	24.0	9.7	24
<b>245-F</b>	24.5	9.7	24
<b>250-F</b>	25.0	10.1	25
<b>254-F</b>	25.4	10.1	25
<b>255-F</b>	25.5	10.1	25

**TCD...T...-1.5D**

Head changeable drill holder - Weldon type shank

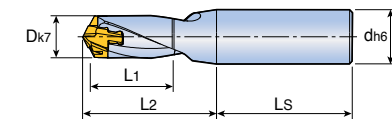


• Drilling depth: 1.5xDiameter

Designation	Dimension (mm)							Clamping key
	D range	d	D3	L1	L2	LS	Pocket size	
<b>TCD 070-074-12T3-1.5D</b>	7.0-7.4	12	16	11	25.1	45	7	K TCD D060-D099
<b>075-079-12T3-1.5D</b>	7.5-7.9	12	16	11.3	25.9	45	7	
<b>080-089-12T3-1.5D</b>	8.0-8.9	12	16	12	27.9	45	8	K TCD D100-D199
<b>090-099-12T3-1.5D</b>	9.0-9.9	12	16	14	29.3	45	9	
<b>100-109-16T3-1.5D</b>	10.0-10.9	16	20	15	31.2	48	10	
<b>110-119-16T3-1.5D</b>	11.0-11.9	16	20	17	33.1	48	11	
<b>120-129-16T3-1.5D</b>	12.0-12.9	16	20	18	35.0	48	12	
<b>130-139-16T3-1.5D</b>	13.0-13.9	16	20	20	37.1	48	13	
<b>140-149-16T3-1.5D</b>	14.0-14.9	16	20	21	41.1	48	14	
<b>150-159-20T3-1.5D</b>	15.0-15.9	20	25	23	46.2	50	15	
<b>160-169-20T3-1.5D</b>	16.0-16.9	20	25	24	49.3	50	16	
<b>170-179-20T3-1.5D</b>	17.0-17.9	20	25	26	52.4	50	17	
<b>180-189-25T2-1.5D</b>	18.0-18.9	25	32	27	55.5	56	18	K TCD D200-D269
<b>190-199-25T2-1.5D</b>	19.0-19.9	25	32	29	58.5	56	19	
<b>200-209-25T2-1.5D</b>	20.0-20.9	25	32	30	61.6	56	20	
<b>210-219-25T2-1.5D</b>	21.0-21.9	25	32	32	64.7	56	21	
<b>220-229-25T2-1.5D</b>	22.0-22.9	25	32	33	67.8	56	22	
<b>230-239-32T2-1.5D</b>	23.0-23.9	32	42	35	70.9	60	23	
<b>240-249-32T2-1.5D</b>	24.0-24.9	32	42	36	74.0	60	24	
<b>250-259-32T2-1.5D</b>	25.0-25.9	32	42	38	77.0	60	25	

**TCD...S0-1.5D**

Head changeable drill holder - Cylindrical type shank

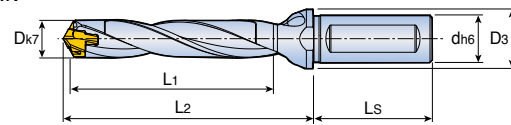


• Drilling depth: 1.5xDiameter

Designation	Dimension (mm)						Clamping key
	D range	d	L1	L2	LS	Pocket size	
<b>TCD 070-074-12S0-1.5D</b>	7.0-7.4	12	11	25.1	45	7	K TCD D060-D099
<b>075-079-12S0-1.5D</b>	7.5-7.9	12	11.3	25.9	45	7	
<b>080-089-12S0-1.5D</b>	8.0-8.9	12	12	27.9	45	8	K TCD D100-D199
<b>090-099-12S0-1.5D</b>	9.0-9.9	12	14	29.3	45	9	
<b>100-109-16S0-1.5D</b>	10.0-10.9	16	15	31.2	48	10	
<b>110-119-16S0-1.5D</b>	11.0-11.9	16	17	33.1	48	11	
<b>120-129-16S0-1.5D</b>	12.0-12.9	16	18	35.0	48	12	
<b>130-139-16S0-1.5D</b>	13.0-13.9	16	20	37.1	48	13	
<b>140-149-16S0-1.5D</b>	14.0-14.9	16	21	41.1	48	14	
<b>150-159-20S0-1.5D</b>	15.0-15.9	20	23	46.2	50	15	
<b>160-169-20S0-1.5D</b>	16.0-16.9	20	24	49.3	50	16	
<b>170-179-20S0-1.5D</b>	17.0-17.9	20	26	52.4	50	17	
<b>180-189-25S0-1.5D</b>	18.0-18.9	25	27	55.5	56	18	K TCD D200-D269
<b>190-199-25S0-1.5D</b>	19.0-19.9	25	29	58.5	56	19	
<b>200-209-25S0-1.5D</b>	20.0-20.9	25	30	61.6	56	20	
<b>210-219-25S0-1.5D</b>	21.0-21.9	25	32	64.7	56	21	
<b>220-229-25S0-1.5D</b>	22.0-22.9	25	33	67.8	56	22	
<b>230-239-32S0-1.5D</b>	23.0-23.9	32	35	70.9	60	23	
<b>240-249-32S0-1.5D</b>	24.0-24.9	32	36	74.0	60	24	
<b>250-259-32S0-1.5D</b>	25.0-25.9	32	38	77.0	60	25	

**TCD...T...-3D**

Head changeable drill holder - Weldon type shank

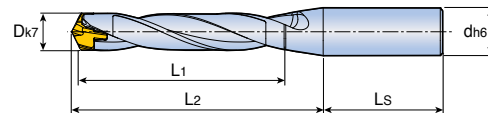


• Drilling depth: 3xDiameter

Designation	Dimension (mm)							Clamping key	
	D range	d	D3	L1	L2	LS	Pocket size		
<b>TCD 070-074-12T3-3D</b>	7.0-7.4	12	16	21	35.6	45	7	K TCD D060-D099	
<b>075-079-12T3-3D</b>	7.5-7.9	12	16	23	37.1	45	7		
<b>080-084-12T3-3D</b>	8.0-8.4	12	16	24	39.4	45	8		
<b>085-089-12T3-3D</b>	8.5-8.9	12	16	26	40.9	45	8		
<b>090-094-12T3-3D</b>	9.0-9.4	12	16	27	42.8	45	9		
<b>095-099-12T3-3D</b>	9.5-9.9	12	16	29	44.3	45	9		
<b>100-104-16T3-3D</b>	10.0-10.4	16	20	30	46.2	48	10		K TCD D100-D199
<b>105-109-16T3-3D</b>	10.5-10.9	16	20	32	47.7	48	10		
<b>110-114-16T3-3D</b>	11.0-11.4	16	20	33	49.6	48	11		
<b>115-119-16T3-3D</b>	11.5-11.9	16	20	35	51.1	48	11		
<b>120-124-16T3-3D</b>	12.0-12.4	16	20	36	53.0	48	12		
<b>125-129-16T3-3D</b>	12.5-12.9	16	20	37	54.5	48	12		
<b>130-134-16T3-3D</b>	13.0-13.4	16	20	39	56.6	48	13		
<b>135-139-16T3-3D</b>	13.5-13.9	16	20	41	58.1	48	13		
<b>140-144-16T3-3D</b>	14.0-14.4	16	20	42	62.1	48	14		
<b>145-149-16T3-3D</b>	14.5-14.9	16	20	44	63.6	48	14		
<b>150-159-20T3-3D</b>	15.0-15.9	20	25	45	68.7	50	15	K TCD D200-D269	
<b>160-169-20T3-3D</b>	16.0-16.9	20	25	48	73.3	50	16		
<b>170-179-20T3-3D</b>	17.0-17.9	20	25	51	77.9	50	17		
<b>180-189-25T2-3D</b>	18.0-18.9	25	32	54	82.5	56	18		
<b>190-199-25T2-3D</b>	19.0-19.9	25	32	57	87.0	56	19		
<b>200-209-25T2-3D</b>	20.0-20.9	25	32	60	91.6	56	20		
<b>210-219-25T2-3D</b>	21.0-21.9	25	32	63	96.2	56	21		
<b>220-229-25T2-3D</b>	22.0-22.9	25	32	66	100.8	56	22		
<b>230-239-32T2-3D</b>	23.0-23.9	32	42	69	105.4	60	23		
<b>240-249-32T2-3D</b>	24.0-24.9	32	42	72	109.9	60	24		
<b>250-259-32T2-3D</b>	25.0-25.9	32	42	75	114.5	60	25		

**TCD...S0-3D**

Head changeable drill holder - Cylindrical type shank

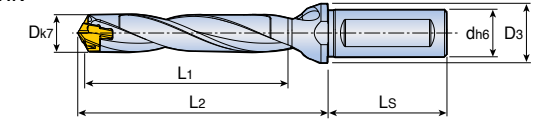


• Drilling depth: 3xDiameter

Designation	Dimension (mm)						Clamping key	
	D range	d	L1	L2	LS	Pocket size		
<b>TCD 070-074-12S0-3D</b>	7.0-7.4	12	21	35.6	45	7	K TCD D060-D099	
<b>075-079-12S0-3D</b>	7.5-7.9	12	23	37.1	45	7		
<b>080-084-12S0-3D</b>	8.0-8.4	12	24	39.4	45	8		
<b>085-089-12S0-3D</b>	8.5-8.9	12	26	40.9	45	8		
<b>090-094-12S0-3D</b>	9.0-9.4	12	27	42.8	45	9		
<b>095-099-12S0-3D</b>	9.5-9.9	12	29	44.3	45	9		
<b>100-104-16S0-3D</b>	10.0-10.4	16	30	46.2	48	10		K TCD D100-D199
<b>105-109-16S0-3D</b>	10.5-10.9	16	32	47.7	48	10		
<b>110-114-16S0-3D</b>	11.0-11.4	16	33	49.6	48	11		
<b>115-119-16S0-3D</b>	11.5-11.9	16	35	51.1	48	11		
<b>120-124-16S0-3D</b>	12.0-12.4	16	36	53.0	48	12		
<b>125-129-16S0-3D</b>	12.5-12.9	16	37	54.5	48	12		
<b>130-134-16S0-3D</b>	13.0-13.4	16	39	56.6	48	13		
<b>135-139-16S0-3D</b>	13.5-13.9	16	41	58.1	48	13		
<b>140-144-16S0-3D</b>	14.0-14.4	16	42	62.1	48	14		
<b>145-149-16S0-3D</b>	14.5-14.9	16	44	63.6	48	14		
<b>150-159-20S0-3D</b>	15.0-15.9	20	45	68.7	50	15	K TCD D200-D269	
<b>160-169-20S0-3D</b>	16.0-16.9	20	48	73.3	50	16		
<b>170-179-20S0-3D</b>	17.0-17.9	20	51	77.9	50	17		
<b>180-189-25S0-3D</b>	18.0-18.9	25	54	82.5	56	18		
<b>190-199-25S0-3D</b>	19.0-19.9	25	57	87.0	56	19		
<b>200-209-25S0-3D</b>	20.0-20.9	25	60	91.6	56	20		
<b>210-219-25S0-3D</b>	21.0-21.9	25	63	96.2	56	21		
<b>220-229-25S0-3D</b>	22.0-22.9	25	66	100.8	56	22		
<b>230-239-32S0-3D</b>	23.0-23.9	32	69	105.4	60	23		
<b>240-249-32S0-3D</b>	24.0-24.9	32	72	109.9	60	24		
<b>250-259-32S0-3D</b>	25.0-25.9	32	75	114.5	60	25		

**TCD...T...-5D**

Head changeable drill holder - Weldon type shank

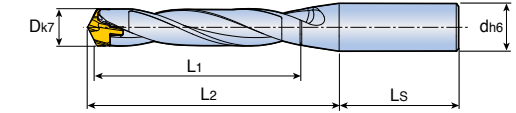


• Drilling depth: 5xDiameter

Designation	Dimension (mm)							Clamping key	
	D range	d	D3	L1	L2	LS	Pocket size		
<b>TCD 070-074-12T3-5D</b>	7.0-7.4	12	16	35	49.6	45	7	K TCD D060-D099	
<b>075-079-12T3-5D</b>	7.5-7.9	12	16	38	52.1	45	7		
<b>080-084-12T3-5D</b>	8.0-8.4	12	16	40	55.4	45	8		
<b>085-089-12T3-5D</b>	8.5-8.9	12	16	43	57.9	45	8		
<b>090-094-12T3-5D</b>	9.0-9.4	12	16	45	60.8	45	9		
<b>095-099-12T3-5D</b>	9.5-9.9	12	16	48	63.3	45	9		
<b>100-104-16T3-5D</b>	10.0-10.4	16	20	50	66.2	48	10		K TCD D100-D199
<b>105-109-16T3-5D</b>	10.5-10.9	16	20	53	68.7	48	10		
<b>110-114-16T3-5D</b>	11.0-11.4	16	20	55	71.6	48	11		
<b>115-119-16T3-5D</b>	11.5-11.9	16	20	58	74.1	48	11		
<b>120-124-16T3-5D</b>	12.0-12.4	16	20	60	77.0	48	12		
<b>125-129-16T3-5D</b>	12.5-12.9	16	20	62	79.5	48	12		
<b>130-134-16T3-5D</b>	13.0-13.4	16	20	65	82.6	48	13		
<b>135-139-16T3-5D</b>	13.5-13.9	16	20	68	85.1	48	13		
<b>140-144-16T3-5D</b>	14.0-14.4	16	20	70	90.2	48	14		
<b>145-149-16T3-5D</b>	14.5-14.9	16	20	73	92.7	48	14		
<b>150-159-20T3-5D</b>	15.0-15.9	20	25	75	98.7	50	15	K TCD D200-D269	
<b>160-169-20T3-5D</b>	16.0-16.9	20	25	80	105.3	50	16		
<b>170-179-20T3-5D</b>	17.0-17.9	20	25	85	111.9	50	17		
<b>180-189-25T2-5D</b>	18.0-18.9	25	32	90	118.5	56	18		
<b>190-199-25T2-5D</b>	19.0-19.9	25	32	95	125.0	56	19		
<b>200-209-25T2-5D</b>	20.0-20.9	25	32	100	131.6	56	20		
<b>210-219-25T2-5D</b>	21.0-21.9	25	32	105	138.2	56	21		
<b>220-229-25T2-5D</b>	22.0-22.9	25	32	110	144.8	56	22		
<b>230-239-32T2-5D</b>	23.0-23.9	32	42	115	151.4	60	23		
<b>240-249-32T2-5D</b>	24.0-24.9	32	42	120	158.0	60	24		
<b>250-259-32T2-5D</b>	25.0-25.9	32	42	125	164.5	60	25		

**TCD...S0-5D**

Head changeable drill holder - Cylindrical type shank

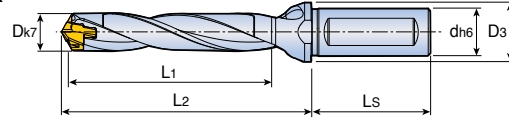


• Drilling depth: 5xDiameter

Designation	Dimension (mm)						Clamping key	
	D range	d	L1	L2	LS	Pocket size		
<b>TCD 070-074-12S0-5D</b>	7.0-7.4	12	35	49.6	45	7	K TCD D060-D099	
<b>075-079-12S0-5D</b>	7.5-7.9	12	38	52.1	45	7		
<b>080-084-12S0-5D</b>	8.0-8.4	12	40	55.4	45	8		
<b>085-089-12S0-5D</b>	8.5-8.9	12	43	57.9	45	8		
<b>090-094-12S0-5D</b>	9.0-9.4	12	45	60.8	45	9		
<b>095-099-12S0-5D</b>	9.5-9.9	12	48	63.3	45	9		
<b>100-104-16S0-5D</b>	10.0-10.4	16	50	66.2	48	10		K TCD D100-D199
<b>105-109-16S0-5D</b>	10.5-10.9	16	53	68.7	48	10		
<b>110-114-16S0-5D</b>	11.0-11.4	16	55	71.6	48	11		
<b>115-119-16S0-5D</b>	11.5-11.9	16	58	74.1	48	11		
<b>120-124-16S0-5D</b>	12.0-12.4	16	60	77.0	48	12		
<b>125-129-16S0-5D</b>	12.5-12.9	16	62	79.5	48	12		
<b>130-134-16S0-5D</b>	13.0-13.4	16	65	82.6	48	13		
<b>135-139-16S0-5D</b>	13.5-13.9	16	68	85.1	48	13		
<b>140-144-16S0-5D</b>	14.0-14.4	16	70	90.2	48	14		
<b>145-149-16S0-5D</b>	14.5-14.9	16	73	92.7	48	14		
<b>150-159-20S0-5D</b>	15.0-15.9	20	75	98.7	50	15	K TCD D200-D269	
<b>160-169-20S0-5D</b>	16.0-16.9	20	80	105.3	50	16		
<b>170-179-20S0-5D</b>	17.0-17.9	20	85	111.9	50	17		
<b>180-189-25S0-5D</b>	18.0-18.9	25	90	118.5	56	18		
<b>190-199-25S0-5D</b>	19.0-19.9	25	95	125.0	56	19		
<b>200-209-25S0-5D</b>	20.0-20.9	25	100	131.6	56	20		
<b>210-219-25S0-5D</b>	21.0-21.9	25	105	138.2	56	21		
<b>220-229-25S0-5D</b>	22.0-22.9	25	110	144.8	56	22		
<b>230-239-32S0-5D</b>	23.0-23.9	32	115	151.4	60	23		
<b>240-249-32S0-5D</b>	24.0-24.9	32	120	158.0	60	24		
<b>250-259-32S0-5D</b>	25.0-25.9	32	125	164.5	60	25		

**TCD...T...-8D**

Head changeable drill holder - Weldon type shank



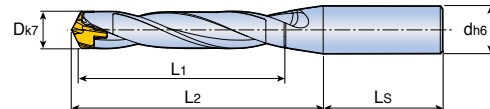
• Drilling depth: 8xDiameter

Designation	Dimension (mm)							Clamping key	
	D range	d	D3	L1	L2	Ls	Pocket size		
TCD 070-074-12T3-8D	7.0-7.4	12	16	56	70.6	45	7	K TCD D060-D099	
075-079-12T3-8D	7.5-7.9	12	16	60	74.6	45	7		
080-084-12T3-8D	8.0-8.4	12	16	64	79.4	45	8		
085-089-12T3-8D	8.5-8.9	12	16	68	84.4	45	8		
090-094-12T3-8D	9.0-9.4	12	16	72	87.8	45	9		
095-099-12T3-8D	9.5-9.9	12	16	76	92.7	45	9		
100-104-16T3-8D	10.0-10.4	16	20	80	96.2	48	10		K TCD D100-D199
105-109-16T3-8D	10.5-10.9	16	20	84	100.2	48	10		
110-114-16T3-8D	11.0-11.4	16	20	88	104.6	48	11		
115-119-16T3-8D	11.5-11.9	16	20	92	108.6	48	11		
120-124-16T3-8D	12.0-12.4	16	20	96	113.0	48	12		
125-129-16T3-8D	12.5-12.9	16	20	100	117.0	48	12		
130-134-16T3-8D	13.0-13.4	16	20	104	121.6	48	13		
135-139-16T3-8D	13.5-13.9	16	20	108	125.6	48	13		
140-144-16T3-8D	14.0-14.4	16	20	112	132.1	48	14		
145-149-16T3-8D	14.5-14.9	16	20	116	136.2	48	14		
150-159-20T3-8D	15.0-15.9	20	25	120	143.7	50	15	K TCD D200-D269	
160-169-20T3-8D	16.0-16.9	20	25	128	153.3	50	16		
170-179-20T3-8D	17.0-17.9	20	25	136	162.9	50	17		
180-189-25T2-8D	18.0-18.9	25	32	144	172.5	56	18		
190-199-25T2-8D	19.0-19.9	25	32	152	182.0	56	19		
200-209-25T2-8D	20.0-20.9	25	32	160	191.6	56	20		
210-219-25T2-8D	21.0-21.9	25	32	168	201.2	56	21		
220-229-25T2-8D	22.0-22.9	25	32	176	210.8	56	22		
230-239-32T2-8D	23.0-23.9	32	42	184	220.4	60	23		
240-249-32T2-8D	24.0-24.9	32	42	192	230.0	60	24		
250-259-32T2-8D	25.0-25.9	32	42	200	239.5	60	25		

• It is recommended to make the pilot hole with a 1.5D holder

**TCD...S0-8D**

Head changeable drill holder - Cylindrical type shank



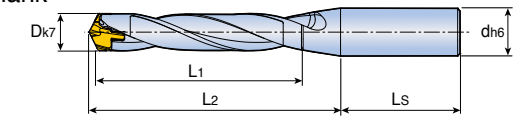
• Drilling depth: 8xDiameter

Designation	Dimension (mm)						Clamping key	
	D range	d	L1	L2	Ls	Pocket size		
TCD 070-074-12S0-8D	7.0-7.4	12	56	70.6	45	7	K TCD D060-D099	
075-079-12S0-8D	7.5-7.9	12	60	74.6	45	7		
080-084-12S0-8D	8.0-8.4	12	64	79.4	45	8		
085-089-12S0-8D	8.5-8.9	12	68	84.4	45	8		
090-094-12S0-8D	9.0-9.4	12	72	87.8	45	9		
095-099-12S0-8D	9.5-9.9	12	76	92.7	45	9		
100-104-16S0-8D	10.0-10.4	16	80	96.2	48	10		K TCD D100-D199
105-109-16S0-8D	10.5-10.9	16	84	100.2	48	10		
110-114-16S0-8D	11.0-11.4	16	88	104.6	48	11		
115-119-16S0-8D	11.5-11.9	16	92	108.6	48	11		
120-124-16S0-8D	12.0-12.4	16	96	113.0	48	12		
125-129-16S0-8D	12.5-12.9	16	100	117.0	48	12		
130-134-16S0-8D	13.0-13.4	16	104	121.6	48	13		
135-139-16S0-8D	13.5-13.9	16	108	125.6	48	13		
140-144-16S0-8D	14.0-14.4	16	112	132.1	48	14		
145-149-16S0-8D	14.5-14.9	16	116	136.2	48	14		
150-159-20S0-8D	15.0-15.9	20	120	143.7	50	15	K TCD D200-D269	
160-169-20S0-8D	16.0-16.9	20	128	153.3	50	16		
170-179-20S0-8D	17.0-17.9	20	136	162.9	50	17		
180-189-25S0-8D	18.0-18.9	25	144	172.5	56	18		
190-199-25S0-8D	19.0-19.9	25	152	182.0	56	19		
200-209-25S0-8D	20.0-20.9	25	160	191.6	56	20		
210-219-25S0-8D	21.0-21.9	25	168	201.2	56	21		
220-229-25S0-8D	22.0-22.9	25	176	210.8	56	22		
230-239-32S0-8D	23.0-23.9	32	184	220.4	60	23		
240-249-32S0-8D	24.0-24.9	32	192	230.0	60	24		
250-259-32S0-8D	25.0-25.9	32	200	239.5	60	25		

• It is recommended to make the pilot hole with a 1.5D holder

**TCD...S0-12D**

Head changeable drill holder - Cylindrical type shank



• Drilling depth: 12xDiameter

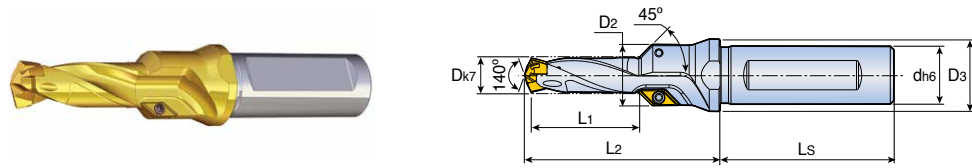
Designation	Dimension (mm)						Clamping key	
	D range	d	L1	L2	Ls	Pocket size		
TCD 120-124-16S0-12D	12.0-12.4	16	144	161	48	12	K TCD D100-D199	
125-129-16S0-12D	12.5-12.9	16	150	167	48	12		
130-134-16S0-12D	13.0-13.4	16	156	173	48	13		
135-139-16S0-12D	13.5-13.9	16	162	179	48	13		
140-144-16S0-12D	14.0-14.4	16	168	188	48	14		
145-149-16S0-12D	14.5-14.9	16	174	194	48	14		
150-159-20S0-12D	15.0-15.9	20	180	210	50	15		
160-169-20S0-12D	16.0-16.9	20	192	224	50	16		
170-179-20S0-12D	17.0-17.9	20	204	238	50	17		
180-189-25S0-12D	18.0-18.9	25	216	252	56	18		
190-199-25S0-12D	19.0-19.9	25	228	266	56	19		
200-209-25S0-12D	20.0-20.9	25	240	280	56	20		K TCD D200-D269
210-219-25S0-12D	21.0-21.9	25	252	294	56	21		
220-229-25S0-12D	22.0-22.9	25	264	308	56	22		

• It is recommended to make the pilot hole with a 1.5D holder



**TCD...-M**

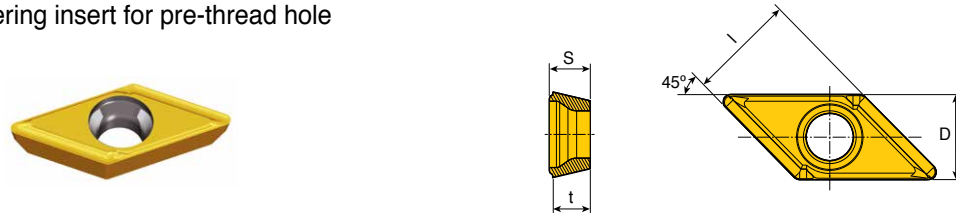
Head changeable drill holder for pre-thread hole



ISO thread	Drill Dia. (D)	Designation	Dimension (mm)						Drill dia. range	Insert	Clamping key
			L1	L2	Ls	D2	d	D3			
M10	8.5	<b>TCD 085X26X12T3-M10</b>	26	50	45	15.5	12	16	8.5-8.9	AOMT	K TCD D060-D099
M12	10.2	<b>102X30X16T3-M12</b>	30	54	48	17.0	16	20	10.0-10.4	060204-C45	K TCD D100-D199
M14	12.0	<b>120X35X16T3-M14</b>	35	61	48	19.0	16	20	12.0-12.4		K TCD D100-D199
M16	14.0	<b>140X39X20T3-M16</b>	39	69	50	21.0	20	25	14.0-14.4		K TCD D100-D199
M20	17.5	<b>175X42X20T3-M20</b>	42	72	50	24.5	20	27	17.0-17.9		K TCD D100-D199
M24	21.0	<b>210X48X25T2-M24</b>	48	80	56	28.0	25	32	21.0-21.9		K TCD D200-D269

**AOMT 060204-C45**

Chamfering insert for pre-thread hole



• Grade: TT9080

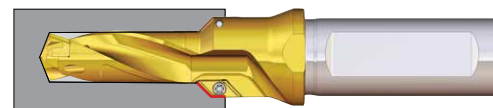
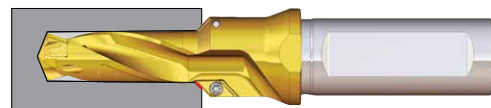
Description	W	L	S	t
<b>AOMT 060204-C45</b>	4.4	5.66	2.16	1.96

Drilling with **chamfer (45°)**

Drilling with **counter boring**

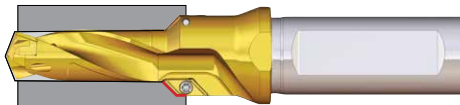
Blind hole

Blind hole



Through hole

Through hole



**CFR D...-A45**

Chamfering ring tool

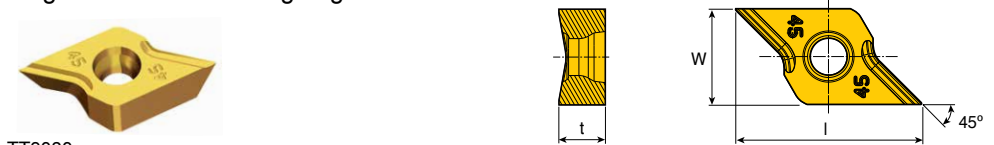


Designation	Dimension (mm)		Chamfer size	Insert screw	Wrench	Clamping screw	L-wrench
	D3	B					
<b>CFR D100-A45</b>	34	20	3	SO 25065I	TD 7	SH M3x0.5x10 <sup>(1)</sup>	L-W2.5
<b>D105-A45</b>	34	20	3				
<b>D110-A45</b>	34	20	3				
<b>D115-A45</b>	34	20	3				
<b>D120-A45</b>	34	20	3				
<b>D125-A45</b>	34	20	3				
<b>D130-A45</b>	34	20	3				
<b>D135-A45</b>	34	20	3				
<b>D140-A45</b>	38	22	3				
<b>D145-A45</b>	38	22	3				
<b>D150-A45</b>	38	22	3	SO 25065I	TD 7	SH M4x0.7x12 <sup>(2)</sup>	L-W3
<b>D160-A45</b>	42	23	3				
<b>D170-A45</b>	42	23	3				
<b>D180-A45</b>	42	23	3				
<b>D190-A45</b>	42	24	3				
<b>D200-A45</b>	42	24	3				
<b>D210-A45</b>	47	24	3				
<b>D220-A45</b>	47	24	3				
<b>D230-A45</b>	47	24	3				
<b>D240-A45</b>	47	24	3				
<b>D250-A45</b>	47	24	3	SO 25065I	TD 7	SH M5x0.8x16 <sup>(3)</sup>	L-W4
<b>D260-A45</b>	47	24	3				
<b>D270-A45</b>	47	24	3				
<b>D280-A45</b>	47	24	3				
<b>D290-A45</b>	47	24	3				
<b>D300-A45</b>	47	24	3				
<b>D310-A45</b>	47	24	3				
<b>D320-A45</b>	47	24	3				
<b>D330-A45</b>	47	24	3				
<b>D340-A45</b>	47	24	3				

•<sup>(1)</sup>Clamping torque: 3 [N•m] •<sup>(2)</sup>Clamping torque: 4 [N•m] •<sup>(3)</sup>Clamping torque: 5-6 [N•m]

**CRNG 0802-45CD**

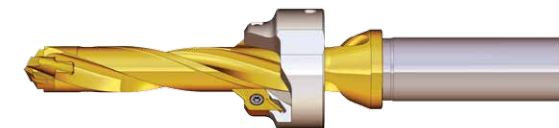
Chamfering insert for chamfering ring



• Grade: TT9080

Designation	W	l	t
<b>CRNG 0802-45CD</b>	7.5	14.80	3.65

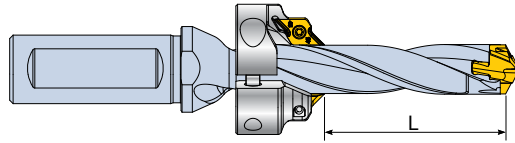
**Assembly**



Diameter range	Chamfering ring description	Diameter range	Chamfering ring description
10.0-10.4	CFR D100-A45	16.0-16.9	CFR D160-A45
10.5-10.9	CFR D105-A45	17.0-17.9	CFR D170-A45
11.0-11.4	CFR D110-A45	18.0-18.9	CFR D180-A45
11.5-11.9	CFR D115-A45	19.0-19.9	CFR D190-A45
12.0-12.4	CFR D120-A45	20.0-20.9	CFR D200-A45
12.4-12.9	CFR D125-A45	21.0-21.9	CFR D210-A45
13.0-13.4	CFR D130-A45	22.0-22.9	CFR D220-A45
13.5-13.9	CFR D135-A45	23.0-23.9	CFR D230-A45
14.0-14.4	CFR D140-A45	24.0-24.9	CFR D240-A45
14.5-14.9	CFR D145-A45	25.0-25.9	CFR D250-A45
15.0-15.9	CFR D150-A45		



### DRILLRUSH



	Designation	CFR designation	L	
			min	max
3D	TCD 130-134-16T3/S0-3D	CFR D130-A45	19	19
	135-139-16T3/S0-3D	CFR D135-A45	19	20
	140-144-16T3/S0-3D	CFR D140-A45	21	22
	145-149-16T3/S0-3D	CFR D145-A45	22	23
	150-159-20T3/S0-3D	CFR D150-A45	23	23
	160-169-20T3/S0-3D	CFR D160-A45	24	25
	170-179-20T3/S0-3D	CFR D170-A45	26	28
	180-189-25T2/S0-3D	CFR D180-A45	27	30
	190-199-25T2/S0-3D	CFR D190-A45	29	33
	200-209-25T2/S0-3D	CFR D200-A45	30	36
	210-219-25T2/S0-3D	CFR D210-A45	32	39
	220-229-25T2/S0-3D	CFR D220-A45	33	42
	230-239-32T2/S0-3D	CFR D230-A45	35	45
240-249-32T2/S0-3D	CFR D240-A45	36	48	
250-259-32T2/S0-3D	CFR D250-A45	38	51	
5D	TCD 100-104-16T3/S0-5D	CFR D100-A45	28	28
	105-109-16T3/S0-5D	CFR D105-A45	29	30
	110-114-16T3/S0-5D	CFR D110-A45	31	33
	115-119-16T3/S0-5D	CFR D115-A45	32	35
	120-124-16T3/S0-5D	CFR D120-A45	33	45
	125-129-16T3/S0-5D	CFR D125-A45	34	40
	130-134-16T3/S0-5D	CFR D130-A45	36	43
	135-139-16T3/S0-5D	CFR D135-A45	37	43
	140-144-16T3/S0-5D	CFR D140-A45	38	48
	145-149-16T3/S0-5D	CFR D145-A45	39	48
	150-159-20T3/S0-5D	CFR D150-A45	41	53
	160-169-20T3/S0-5D	CFR D160-A45	43	58
	170-179-20T3/S0-5D	CFR D170-A45	46	63
180-189-25T2/S0-5D	CFR D180-A45	48	68	
190-199-25T2/S0-5D	CFR D190-A45	51	73	
200-209-25T2/S0-5D	CFR D200-A45	53	78	
210-219-25T2/S0-5D	CFR D210-A45	56	79	
220-229-25T2/S0-5D	CFR D220-A45	58	84	
230-239-32T2/S0-5D	CFR D230-A45	61	89	
240-249-32T2/S0-5D	CFR D240-A45	63	94	
250-259-32T2/S0-5D	CFR D250-A45	66	99	
8D	TCD 100-104-16T3/S0-8D	CFR D100-A45	45	58
	105-109-16T3/S0-8D	CFR D105-A45	49	62
	110-114-16T3/S0-8D	CFR D110-A45	49	66
	115-119-16T3/S0-8D	CFR D115-A45	53	70
	120-124-16T3/S0-8D	CFR D120-A45	53	74
	125-129-16T3/S0-8D	CFR D125-A45	57	78
	130-134-16T3/S0-8D	CFR D130-A45	57	82
	135-139-16T3/S0-8D	CFR D135-A45	61	84
	140-144-16T3/S0-8D	CFR D140-A45	61	88
	145-149-16T3/S0-8D	CFR D145-A45	65	92
	150-159-20T3/S0-8D	CFR D150-A45	65	96
	160-169-20T3/S0-8D	CFR D160-A45	69	103
	170-179-20T3/S0-8D	CFR D170-A45	73	111

	Designation	CFR designation	L	
			min	max
8D	TCD 180-189-25T2/S0-8D	CFR D180-A45	77	118
	190-199-25T2/S0-8D	CFR D190-A45	81	126
	200-209-25T2/S0-8D	CFR D200-A45	85	134
	210-219-25T2/S0-8D	CFR D210-A45	89	142
	220-229-25T2/S0-8D	CFR D220-A45	93	150
	230-239-32T2/S0-8D	CFR D230-A45	97	158
	240-249-32T2/S0-8D	CFR D240-A45	101	166
	250-259-32T2/S0-8D	CFR D250-A45	105	174
12D	TCD 120-124-16S0-12D	CFR D120-A45	87	121
	125-129-16S0-12D	CFR D125-A45	90	127
	130-134-16S0-12D	CFR D130-A45	93	133
	135-139-16S0-12D	CFR D135-A45	96	137
	140-144-16S0-12D	CFR D140-A45	99	143
	145-149-16S0-12D	CFR D145-A45	102	149
	150-159-20S0-12D	CFR D150-A45	105	155
	160-169-20S0-12D	CFR D160-A45	111	166
	170-179-20S0-12D	CFR D170-A45	117	178
	180-189-25S0-12D	CFR D180-A45	123	189
	190-199-25S0-12D	CFR D190-A45	129	201
	200-209-25S0-12D	CFR D200-A45	135	213
210-219-25S0-12D	CFR D210-A45	141	225	
220-229-25S0-12D	CFR D220-A45	147	237	

### Drilling head mounting procedure

- 1 Clean the pocket and add oil**
- 2 Mount the drill head on the pocket**
- 3 Insert key into the slot head**
- 4 Tighten the head by rotating the key clockwise**

### Indication of head wear

**Wear limit**

**Power restriction**

<sup>(1)</sup> New drill head  
<sup>(2)</sup> Worn-out drilling head

**Vibration noise drastically increases**

**Diameter change**

**Surface finish declines**

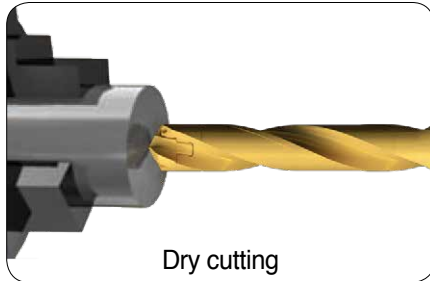
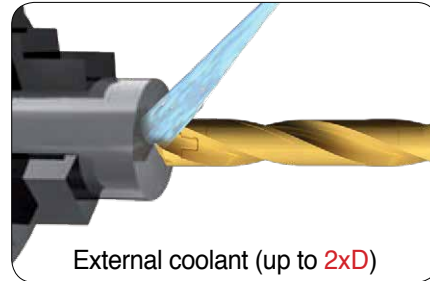
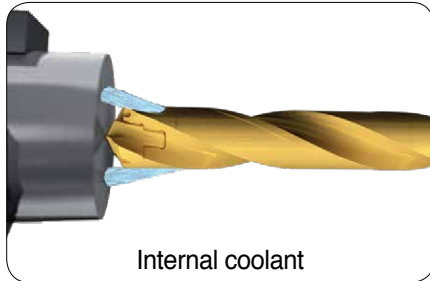
### Maximum runout

**Rotational runout**

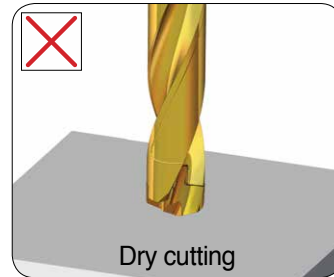
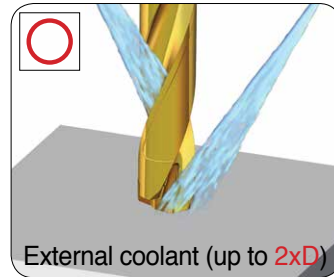
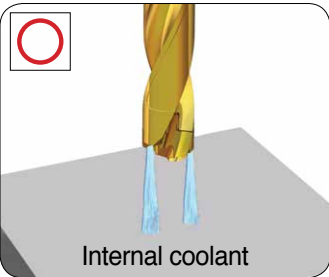
**Stationary runout**



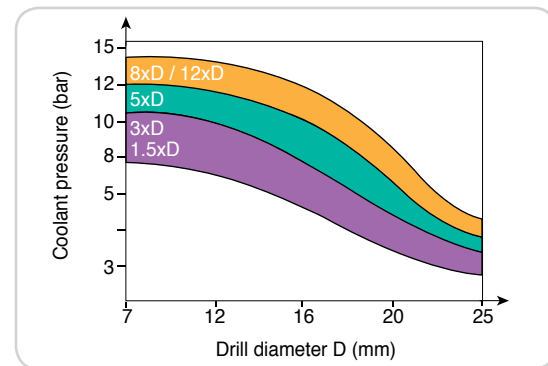
**Coolant recommendations (Lathe)**



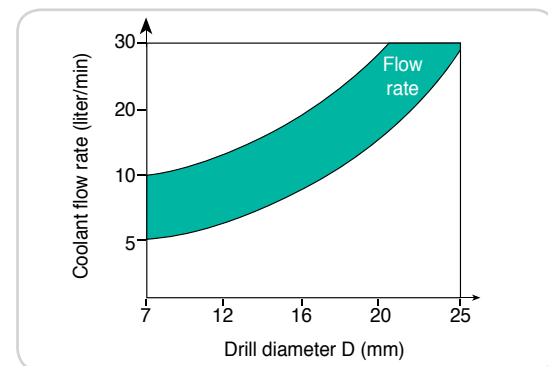
**Coolant recommendations (MCT)**



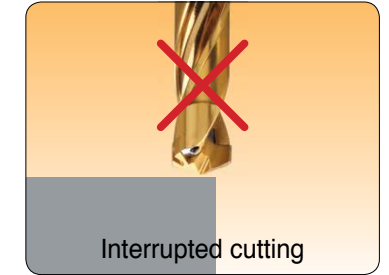
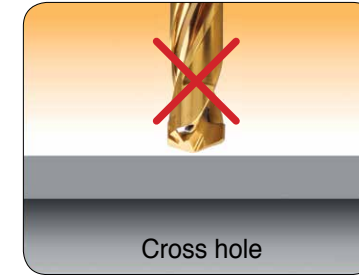
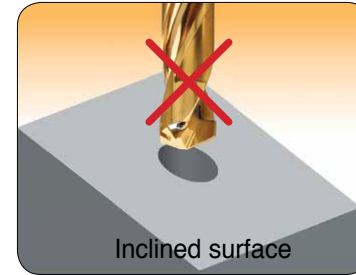
**Recommended coolant pressure (bar)**



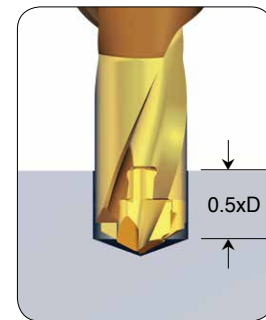
**Recommended coolant flow rate (liter/min)**



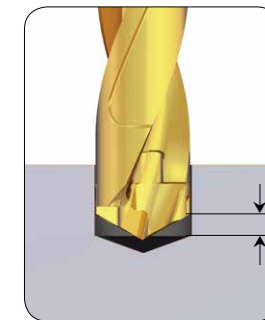
**Drilling limitation**



**Recommended procedure for using 8xD, 12xD holder**



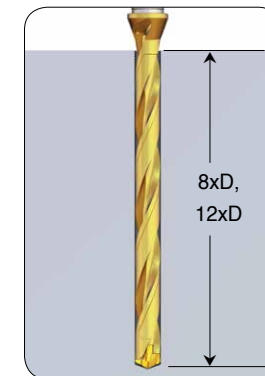
- 1 Pre-hole drilling : diameter(D) X 0.5 ~ diameter(D) X 1.5 depth : using standard 1.5xD holder



- 2 Approach the pre-hole at reduced speed and feed



- 3 Activate the cooling system : for 2 ~ 3 seconds



- 4 After drilling, exit from hole at reduced speed and feed

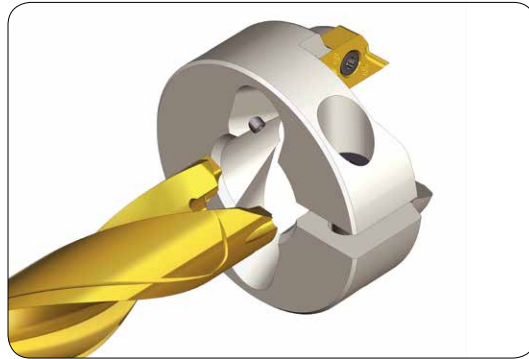
**Plug for stationary machines**

TaeguTec supplies special plugs with an internal thread for coolant connections used on lathes that can be pressed into the cavity on the back end of the shank.

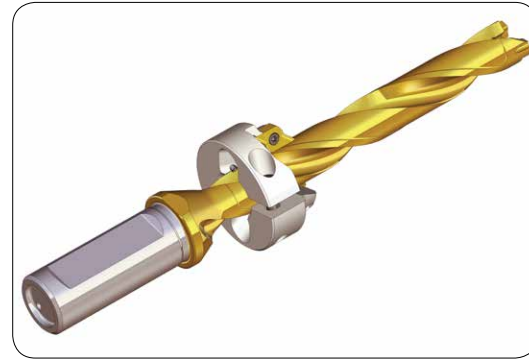
Item No.	Description	Shank Diameter	Internal Thread
6102019	PL-TCD-12	12	G 1/16
6102020	PL-TCD-16	16	G 1/16
6102021	PL-TCD-20	20	G 1/8
6102022	PL-TCD-25	25	G 1/8
6102023	PL-TCD-32	32	G 1/8



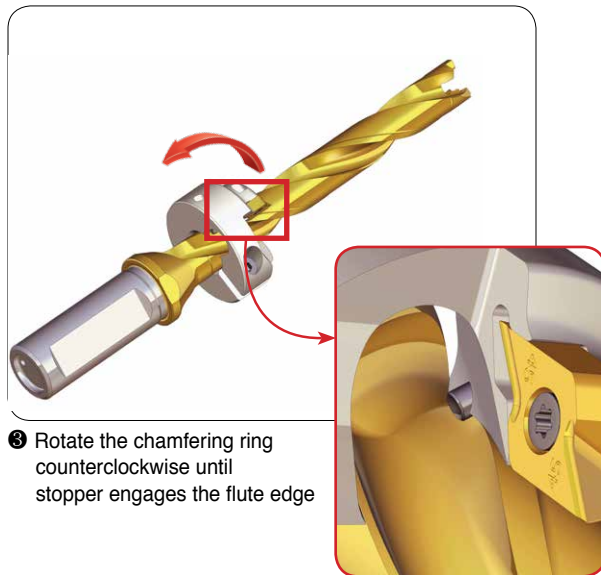
**Assembly of chamfering ring**



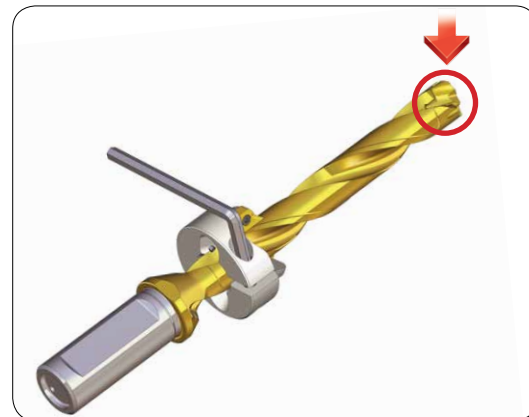
1 Insert the chamfering ring on to the drill body. The stopper must be inside the flute.



2 Slide the chamfering ring to the desired position

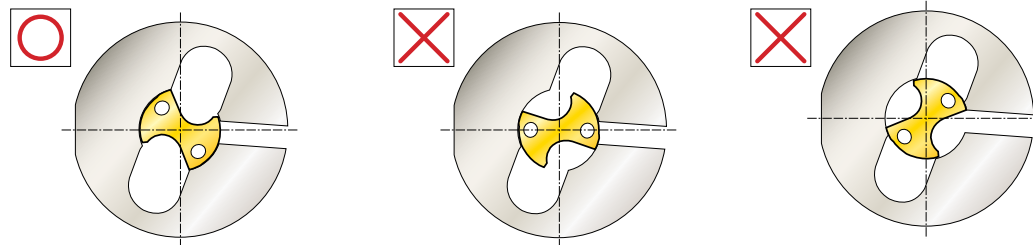


3 Rotate the chamfering ring counterclockwise until stopper engages the flute edge

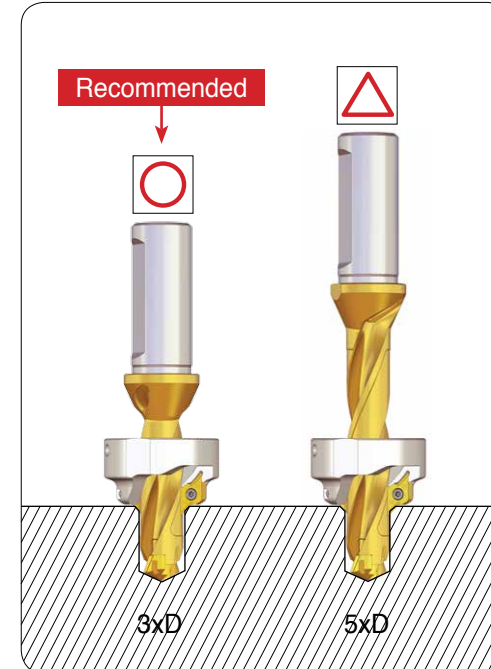


4 Tighten the chamfering ring and clamp the drill head

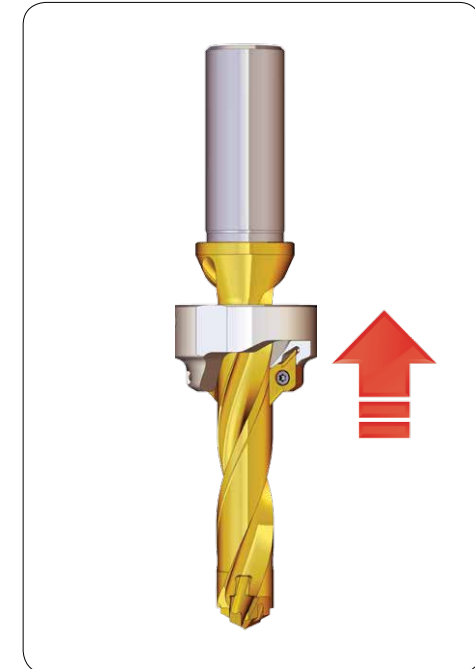
**When the chamfering ring is clamped correctly, the drill flute will be aligned with the chamfering ring flute.**



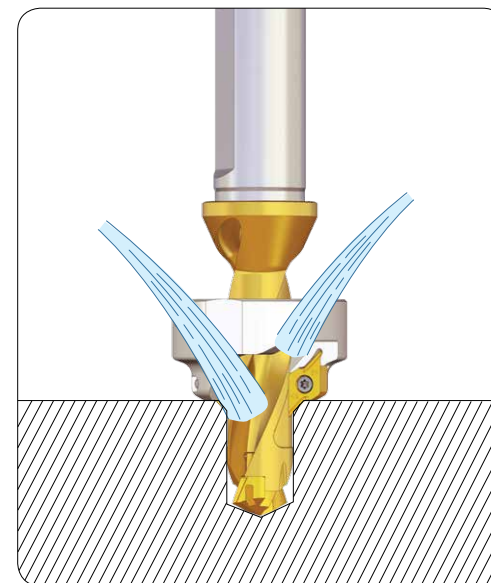
**Recommendations for stable machining**



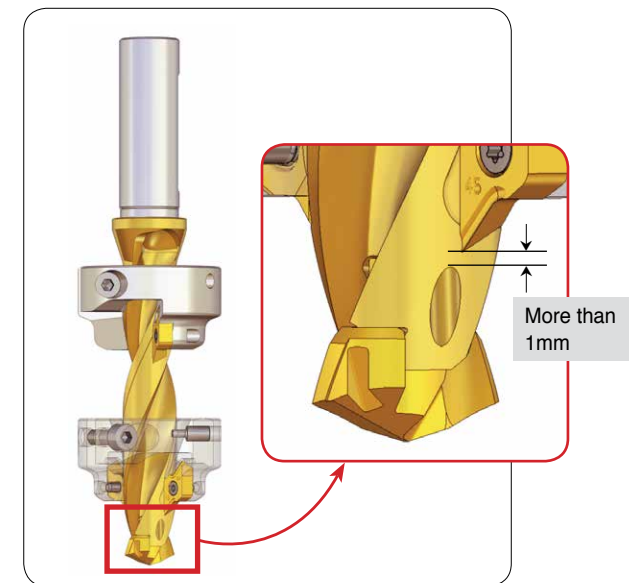
1 If possible, always use a short holder. If not, reduce the cutting speed to minimize vibration.



2 Mount the chamfering ring as close as possible to the drilling shank



3 For better insert life, apply external and internal coolant to the insert



4 When mounting the chamfering ring, please ensure that it does not block the coolant

**Recommended cutting conditions**

According to DIN/ISO513 and VDI 3323

ISO	Material	Condition	Tensile strength Rm (N/mm <sup>2</sup> )	Hardness (HB)	Mtl. No.	Cutting speed Vc(m/min)	DRILL RUSH						
							Feed vs. Drill diameter( mm/rev)						
							D<10	D= 10-11.9	D= 12-13.9	D= 14-15.9	D= 16-19.9	D= 20-25.9	
P	Non-alloy steel, cast steel, free cutting steel	<0.25%C Annealed	420	125	1	80-110-140							
		>=0.25%C Annealed	650	190	2	80-105-130	0.12	0.15	0.18	0.20	0.25	0.25	
		<0.55%C Quenched and tempered	850	250	3	80-100-120	0.17	0.21	0.24	0.27	0.35	0.35	
		>=0.55%C Annealed	750	220	4	70-90-110	0.22	0.28	0.30	0.35	0.45	0.45	
		Quenched and tempered	1000	300	5	50-70-90							
	Low alloy steel and cast steel (less than 5% of alloying elements)	Annealed	600	200	6	70-95-120							
		Quenched and tempered	930	275	7	70-90-110	0.12	0.14	0.16	0.18	0.23	0.25	
			1000	300	8	50-70-90	0.18	0.21	0.24	0.26	0.31	0.35	
			1200	350	9	40-55-70	0.25	0.28	0.32	0.35	0.40	0.45	
High alloy steel, cast steel and tool steel.	Annealed	680	200	10	50-70-90	0.12	0.12	0.15	0.18	0.20	0.22		
	Quenched and tempered	1100	325	11	40-60-80	0.16	0.17	0.20	0.23	0.25	0.27		
M	Stainless steel and cast steel	Ferritic / martensitic	680	200	12	40-55-70	0.10	0.12	0.14	0.16	0.16	0.18	
		Martensitic	820	240	13	40-55-70	0.12	0.15	0.17	0.20	0.21	0.24	
		Austenitic	600	180	14	30-50-70	0.15	0.18	0.20	0.24	0.26	0.30	
K	Gray cast iron (GG)	Ferritic		160	15	90-125-160							
		Pearlitic		250	16	80-110-140							
	Cast iron nodular (GGG)	Ferritic		180	17	90-135-180	0.15	0.20	0.25	0.30	0.35	0.35	
		Pearlitic		260	18	80-110-140	0.22	0.27	0.32	0.37	0.45	0.37	
Malleable cast iron	Ferritic		130	19	90-125-160	0.30	0.35	0.40	0.45	0.55	0.60		
	Pearlitic		230	20	80-110-140								
N	Aluminum - wrought alloy	Not cureable		60	21	90-155-220							
		Cured		100	22	90-155-220							
	Aluminum-cast, alloyed	<=12% Si Not cureable		75	23	90-155-220							
		Cured		90	24	90-155-220	0.20	0.25	0.30	0.35	0.40	0.45	
		>12% Si High temp.		130	25	80-120-160	0.27	0.32	0.37	0.42	0.50	0.57	
	Copper alloys	>1% Pb Free cutting		110	26	90-155-220	0.35	0.40	0.45	0.50	0.60	0.70	
		Brass		90	27	90-155-220							
	Non-metallic	Electrolytic copper		100	28	90-155-220							
Duroplastics, fiber plastics				29									
S	High temp. alloys	Fe based	Annealed		200	31	30-45-60						
			Cured		280	32	20-35-50	0.06	0.08	0.10	0.12	0.12	0.14
		Ni or Co based	Annealed		250	33	20-35-50	0.08	0.10	0.12	0.15	0.16	0.18
			Cured		350	34	20-35-50	0.11	0.13	0.15	0.18	0.20	0.22
			Cast		320	35	20-35-50						
	Titanium, Ti alloys		RM400	36	20-35-50	0.06	0.08	0.10	0.12	0.14	0.16		
Alpha+beta alloys cured		RM1050	37	20-35-50	0.09	0.11	0.14	0.16	0.18	0.20			
H	Hardened steel		55HRC	38	20-35-50	0.06	0.08	0.10	0.12	0.14	0.16		
			60HRC	39	20-35-50	0.09	0.11	0.14	0.16	0.18	0.20		
	Chilled cast iron		400	40									
		Cast iron nodular		55HRC	41								

- For over 8xD, please reduce the cutting condition.
- For more information of material groups, see the TaeguTec concise catalogue "Material conversion table" section.

■ Steel   
 ■ Stainless steel   
 ■ Cast iron   
 ■ Nonferrous   
 ■ High temp. alloys   
 ■ Hardened steel

**Tailor-made order form**

Specific dimensions

Through     Blind  
 ØD1 \_\_\_\_\_ L1 \_\_\_\_\_  
 α1 \_\_\_\_\_ S \_\_\_\_\_  
 •Hole tolerance \_\_\_\_\_

Through     Blind  
 ØD1 \_\_\_\_\_ ØD2 \_\_\_\_\_  
 L1 \_\_\_\_\_ L2 \_\_\_\_\_  
 α1 \_\_\_\_\_  
 •Hole tolerance \_\_\_\_\_

Through     Blind  
 ØD1 \_\_\_\_\_ ØD2 \_\_\_\_\_  
 L1 \_\_\_\_\_ L2 \_\_\_\_\_  
 α1 \_\_\_\_\_ α2 \_\_\_\_\_  
 S \_\_\_\_\_  
 •Hole tolerance \_\_\_\_\_

**Comment**

**Technical data**

- Machine type  
 Machining center  Lathe   
 Spindle - Vertical  Horizontal   
 Machine name \_\_\_\_\_  
 Power \_\_\_\_\_ Kw
- Coolant supply  
 Internal  External   
 Coolant pressure \_\_\_\_\_ bar  
 Coolant type \_\_\_\_\_

**Workpiece**

- Part Name \_\_\_\_\_
- Material \_\_\_\_\_
- Hardness \_\_\_\_\_

**Shank type**

Cylindrical type  
 Whistle notch type  
 Cylindrical with flat type  
 Weldon type

Shank dia \_\_\_\_\_  
 Shank length \_\_\_\_\_

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