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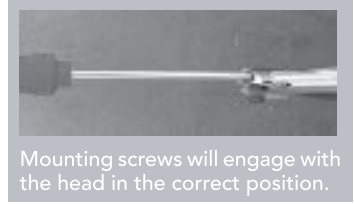
**TCEA**

REPLACEABLE TIP DRILL

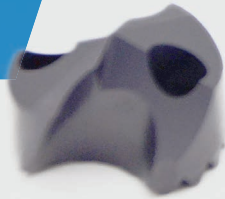
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## EASY ASSEMBLY

1. Confirm drill tip is compatible with drill body by checking diameter range listed on shank.
2. Place TCEA replaceable carbide head on TCEA drill body so that the screw mounting holes line up.
3. Insert assembly screws and tighten securely after screw mounting holes are lined up.



## RECOMMENDED MATERIAL GROUP



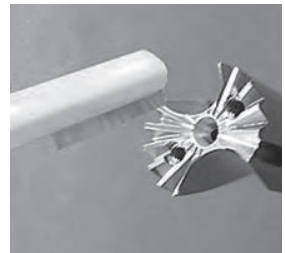
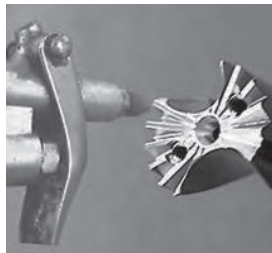
## CLEANING & BRUSHING

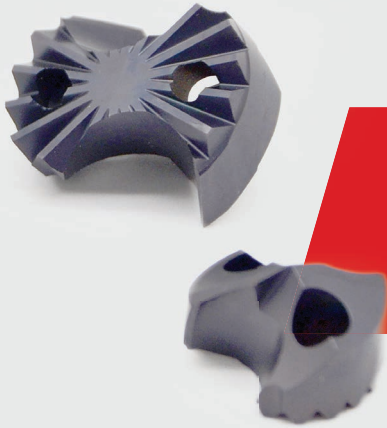
### AIR CLEANING

Remove the used head and any debris from the serrated parts of the holder with an air blower.

### BRUSHING

Use a wire or nylon brush to remove debris left behind by air blower.





# TCEA

## REPLACEABLE TIP DRILL

### FEATURES & BENEFITS

- Available in 3xD, 5xD, 8xD hardened steel in diameters ranging from (12–32mm) bodies that can accept multiple diameters\*
- Drill tips standard edge preparation for steel applications
- Drill tips can be reground

HEADS	TOOL HOLDER (L/D)	ØDC RANGE (mm)
TCEA	3xD	12.00 – 32.00
	5xD	12.00 – 32.00
	8xD	12.00 – 32.00

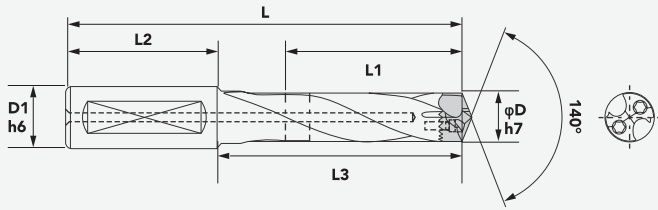
- Drill tip serrations allow for easy assembly and superior repeatability
- Coolant through drill bodies

# TCEA

## DRILL BODY



Drill Dia	3D			Shank Size		Screw	Wrench
	D	Order Code	L1	L	L2		
$12.0 \leq D < 12.5$	TC03-120-XP16	44	105	48	16	TCEA02208	L2
$12.5 \leq D < 13.0$	TC03-125-XP16	44	105	48	16		
$13.0 \leq D < 13.5$	TC03-130-XP16	47	110	48	16		
$13.5 \leq D \leq 14.5$	TC03-140-XP16	52,5	116,5	48	16		
$14.5 < D \leq 15.5$	TC03-150-XP20	55,5	126,5	50	20		
$15.5 < D \leq 16.5$	TC03-160-XP20	59,5	131,5	50	20	TCEA02509	L2.5
$16.5 < D \leq 17.5$	TC03-170-XP20	62,5	136,5	50	20		
$17.5 < D \leq 18.5$	TC03-180-XP20	66,5	141,5	50	20		
$18.5 < D \leq 19.5$	TC03-190-XP25	69,5	156,5	56	25	TCEA03011	L3
$19.5 < D \leq 20.5$	TC03-200-XP25	73,5	156,5	56	25		
$20.5 < D \leq 21.5$	TC03-210-XP25	76,5	156,5	56	25		
$21.5 < D \leq 22.8$	TC03-220-XP25	80,1	161,1	56	25	TCEA03512	L3.5
$22.8 < D \leq 23.8$	TC03-230-XP25	82,6	160,6	56	25		
$23.8 < D \leq 24.8$	TC03-240-XP32	86,2	170,2	60	32	TCEA04014	L4
$24.8 < D \leq 25.8$	TC03-250-XP32	88	170	60	32		
$25.8 < D \leq 26.8$	TC03-260-XP32	92	175	60	32		
$26.8 < D \leq 27.8$	TC03-270-XP32	94	175	60	32	TCEA04515	L4.5
$27.8 < D \leq 28.8$	TC03-280-XP32	97	180	60	32		
$28.8 < D \leq 29.8$	TC03-290-XP32	100	185	60	32		
$29.8 < D \leq 30.8$	TC03-300-XP32	104	185	60	32		
$30.8 < D \leq 32.0$	TC03-320-XP32	110	195	60	32		



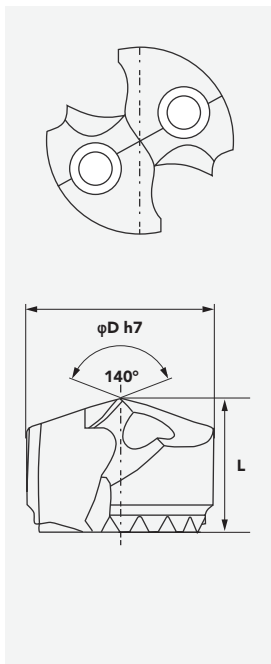
Drill Dia	3D			Shank Size		Screw	Wrench
D	Order Code	L1	L	L2	D1		L2
12.0 ≤ D < 12.5	TC03-120-XP16	44	105	48	16	TCEA02208	L2
12.5 ≤ D < 13.0	TC03-125-XP16	44	105	48	16		
13.0 ≤ D < 13.5	TC03-130-XP16	47	110	48	16		
13.5 ≤ D ≤ 14.5	TC03-140-XP16	52,5	116,5	48	16		
14.5 < D ≤ 15.5	TC03-150-XP20	55,5	126,5	50	20		
15.5 < D ≤ 16.5	TC03-160-XP20	59,5	131,5	50	20	TCEA02509	L2.5
16.5 < D ≤ 17.5	TC03-170-XP20	62,5	136,5	50	20		
17.5 < D ≤ 18.5	TC03-180-XP20	66,5	141,5	50	20		
18.5 < D ≤ 19.5	TC03-190-XP25	69,5	156,5	56	25	TCEA03011	L3
19.5 < D ≤ 20.5	TC03-200-XP25	73,5	156,5	56	25		
20.5 < D ≤ 21.5	TC03-210-XP25	76,5	156,5	56	25		
21.5 < D ≤ 22.8	TC03-220-XP25	80,1	161,1	56	25	TCEA03512	L3.5
22.8 < D ≤ 23.8	TC03-230-XP25	82,6	160,6	56	25		
23.8 < D ≤ 24.8	TC03-240-XP32	86,2	170,2	60	32	TCEA04014	L4
24.8 < D ≤ 25.8	TC03-250-XP32	88	170	60	32		
25.8 < D ≤ 26.8	TC03-260-XP32	92	175	60	32		
26.8 < D ≤ 27.8	TC03-270-XP32	94	175	60	32		
27.8 < D ≤ 28.8	TC03-280-XP32	97	180	60	32	TCEA04515	L4.5
28.8 < D ≤ 29.8	TC03-290-XP32	100	185	60	32		
29.8 < D ≤ 30.8	TC03-300-XP32	104	185	60	32		
30.8 < D ≤ 32.0	TC03-320-XP32	110	195	60	32		

NOTE: SPECIAL DIAMETERS AVAILABLE ON REQUEST

# TCEA

## DRILL TIPS

Order Codes	D	L
TCEA-1200	12,0	9,1
TCEA-1250	12,5	9,4
TCEA-1300	13,0	9,7
TCEA-1350	13,5	10,3
TCEA-1400	14,0	10,3
TCEA-1450	14,5	10,3
TCEA-1500	15,0	11,0
TCEA-1550	15,5	11,0
TCEA-1600	16,0	11,6
TCEA-1650	16,5	11,6
TCEA-1700	17,0	12,2
TCEA-1750	17,5	12,2
TCEA-1800	18,0	12,9
TCEA-1850	18,5	12,9
TCEA-1900	19,0	13,5
TCEA-1950	19,5	13,5
TCEA-2000	20,0	14,1
TCEA-2050	20,5	14,1
TCEA-2100	21,0	14,8
TCEA-2150	21,5	14,8
TCEA-2200	22,0	15,0



Order Codes	D	L
TCEA-2250	22,5	15,0
TCEA-2300	23,0	15,1
TCEA-2350	23,5	15,1
TCEA-2400	24,0	15,4
TCEA-2450	24,5	15,4
TCEA-2500	25,0	15,8
TCEA-2550	25,5	15,8
TCEA-2600	26,0	16,4
TCEA-2650	26,5	16,4
TCEA-2700	27,0	17,1
TCEA-2750	27,5	17,1
TCEA-2800	28,0	17,7
TCEA-2850	28,5	17,7
TCEA-2900	29,0	18,3
TCEA-2950	29,5	18,3
TCEA-3000	30,0	19,0
TCEA-3050	30,5	19,0
TCEA-3100	31,0	21,0
TCEA-3150	31,5	21,0
TCEA-3200	32,0	21,0



## RECOMMENDED CUTTING PARAMETERS

MATERIAL GROUP		CUTTING SPEED RANGE – m/min			RECOMMENDED FEED RATE BY DIA. (mm-Rev)			
		MIN	STARTING VALUE	MAX	12.0	18.0	24.0	32.0
P	10	90	130	180	0.15-0.3	0.20-0.47	0.27-0.51	0.32-0.51
	20	110	150	190	0.15-0.3	0.20-0.47	0.27-0.51	0.32-0.51
	30	50	80	110	0.17-0.39	0.19-0.48	0.32-0.54	0.30-0.46
	40	50	80	110	0.17-0.39	0.19-0.48	0.32-0.54	0.30-0.46
M	10	30	60	90	0.09-0.14	0.12-0.20	0.15-0.24	0.18-0.28
	20	30	50	90	0.09-0.14	0.12-0.20	0.15-0.24	0.18-0.28
	30	20	40	60	0.09-0.14	0.12-0.20	0.15-0.24	0.18-0.28
K	10	100	175	90	0.16-0.30	0.26-0.50	0.30-0.55	0.37-0.70
	20	100	180	90	0.16-0.30	0.26-0.50	0.30-0.55	0.37-0.70
	30	70	100	60	0.17-0.32	0.22-0.46	0.30-0.55	0.25-0.53

Drill Head Size (in/mm)	Screw	Recommended Tightening Torque (in/lbs.)
.4688 – .6102	TCEA02208	6.6 to 8.8
12.00 – 15.50		
.6103 – .7283	TCEA02509	8.2 to 11.0
15.51 – 18.50		
.7284 – .8464	TCEA03011	16.3 to 21.6
18.51 – 21.50		
.8465 – .9763	TCEA03512	24.2 to 32.9
21.51 – 24.80		
.9764 – 1.0944	TCEA04014	36.6 to 48.8
24.81 – 27.80		
1.0945 – 1.3189	TCEA04515	44.0 to 58.7
27.81 – 33.50		

### NOTE

- Wear safety gloves and glasses
- Remove TCEA body from adaptor when replacing TCEA tip
- New tips left outside the box for long, may be contaminated
- Serrations may contain some debris. Remove any foreign particles to avoid loose screws that leads to tip and body breakage.



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