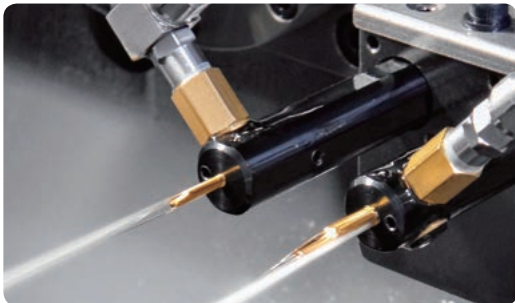


STICK DUO SPLASH

- Coolant through sleeves for ID Boring with Adjustable Overhang Mechanism -



■ No chip problems

STICK DUO SPLASH	External coolant
<i>No chip inside hole</i>	<i>Chip packed</i>
Material : 4140 Insert bar : SHFS040R005S Hole depth : .590" (15mm) Pilot hole : $\phi .201" \times 1.102" L (\phi 5.1 \times 28.0 \text{mm} L)$ Coolant Pressure : 725psi (5MPa)	

■ Choose from 2 coolant directions

I) For Blind hole	II) For Through hole
Just rotated 180 degrees	

■ 3 coolant connection options

② Rear Connection (Rc1/8)

③ Sealed end for closed unit

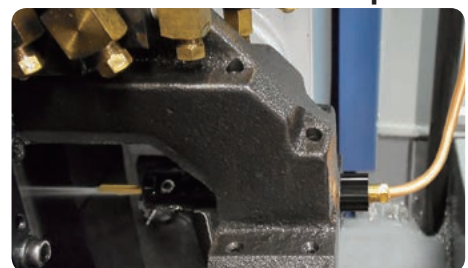
Adjustable overhang length (Hyper system)

① Front Connection (M6 x 1.0)

① Front Connection example



② Rear Connection example



STICK DUO SPLASH - Stick Duo Hyper with Coolant through -

HY-NBH-OH (Coolant through)

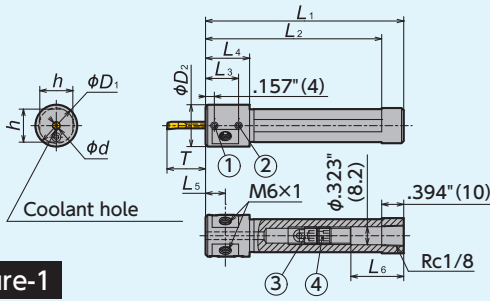


Figure-1

HY-NBH-OH (Coolant through)

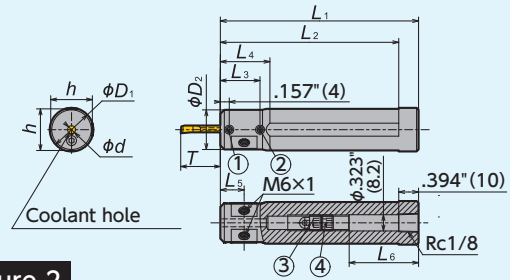


Figure-2

Item Number	Stock	Figure	ϕd		ϕD_1		ϕD_2	h	L_1	L_2	L_3	L_4	L_5	L_6	Overhang Length of Bar T			
			(Inch)	(mm)	(Inch)	(mm)									(mm)	(mm)	(mm)	(mm)
HY-NBH02016G-OH	●	1	.079	2.0	.630	16.0	19	15	90	80	15	19	9.5	29	.197	5.0	.709	18.0
HY-NBH02516G-OH	●	1	.098	2.5	.630	16.0	19	15	90	80	15	19	9.5	30	.248	6.3	.768	19.5
HY-NBH03016G-OH	●	1	.118	3.0	.630	16.0	19	15	90	80	15	19	9.5	31	.295	7.5	.827	21.0
HY-NBH03516G-OH	●	1	.138	3.5	.630	16.0	19	15	90	80	15	19	9.5	23	.346	8.8	.965	24.5
HY-NBH04016G-OH	●	1	.157	4.0	.630	16.0	19	15	90	80	20	24	12	23	.394	10.0	1.102	28.0
HY-NBH05016G-OH	●	1	.197	5.0	.630	16.0	19	15	90	80	20	24	12	16	.492	12.5	1.378	35.0
HY-NBH02019J-OH	●	2	.079	2.0	3/4	19.05	19.05	18	110	100	15	—	9.5	49	.197	5.0	.709	18.0
HY-NBH02519J-OH	●	2	.098	2.5	3/4	19.05	19.05	18	110	100	15	—	9.5	50	.248	6.3	.768	19.5
HY-NBH03019J-OH	●	2	.118	3.0	3/4	19.05	19.05	18	110	100	15	—	9.5	51	.295	7.5	.827	21.0
HY-NBH03519J-OH	●	2	.138	3.5	3/4	19.05	19.05	18	110	100	15	—	9.5	43	.346	8.8	.965	24.5
HY-NBH04019J-OH	●	2	.157	4.0	3/4	19.05	19.05	18	110	100	20	—	12	43	.394	10.0	1.102	28.0
HY-NBH05019J-OH	●	2	.197	5.0	3/4	19.05	19.05	18	110	100	20	—	12	36	.492	12.5	1.378	35.0
HY-NBH06019J-OH	●	2	.236	6.0	3/4	19.05	19.05	18	110	100	20	—	12	28.5	.591	15.0	1.654	42.0
HY-NBH02020J-OH	●	2	.079	2.0	.787	20.0	20	19	110	100	15	—	9.5	49	.197	5.0	.709	18.0
HY-NBH02520J-OH	●	2	.098	2.5	.787	20.0	20	19	110	100	15	—	9.5	50	.248	6.3	.768	19.5
HY-NBH03020J-OH	●	2	.118	3.0	.787	20.0	20	19	110	100	15	—	9.5	51	.295	7.5	.827	21.0
HY-NBH03520J-OH	●	2	.138	3.5	.787	20.0	20	19	110	100	15	—	9.5	43	.346	8.8	.965	24.5
HY-NBH04020J-OH	●	2	.157	4.0	.787	20.0	20	19	110	100	20	—	12	43	.394	10.0	1.102	28.0
HY-NBH05020J-OH	●	2	.197	5.0	.787	20.0	20	19	110	100	20	—	12	36	.492	12.5	1.378	35.0
HY-NBH06020J-OH	●	2	.236	6.0	.787	20.0	20	19	110	100	20	—	12	28.5	.591	15.0	1.654	42.0
HY-NBH02022X-OH	●	2	.079	2.0	.866	22.0	20	21	120	110	15	25	9.5	59	.197	5.0	.709	18.0
HY-NBH02522X-OH	●	2	.098	2.5	.866	22.0	20	21	120	110	15	25	9.5	60	.248	6.3	.768	19.5
HY-NBH03022X-OH	●	2	.118	3.0	.866	22.0	20	21	120	110	15	25	9.5	61	.295	7.5	.827	21.0
HY-NBH03522X-OH	●	2	.138	3.5	.866	22.0	20	21	120	110	15	25	9.5	53	.346	8.8	.965	24.5
HY-NBH04022X-OH	●	2	.157	4.0	.866	22.0	20	21	120	110	20	25	12	53	.394	10.0	1.102	28.0
HY-NBH05022X-OH	●	2	.197	5.0	.866	22.0	20	21	120	110	20	25	12	46	.492	12.5	1.378	35.0
HY-NBH06022X-OH	●	2	.236	6.0	.866	22.0	20	21	120	110	20	25	12	28.5	.591	15.0	1.654	42.0
HY-NBH02025.0K-OH	●	2	.079	2.0	.984	25.0	20	24	125	115	15	25	9.5	64	.197	5.0	.709	18.0
HY-NBH02525.0K-OH	●	2	.098	2.5	.984	25.0	20	24	125	115	15	25	9.5	65	.248	6.3	.768	19.5
HY-NBH03025.0K-OH	●	2	.118	3.0	.984	25.0	20	24	125	115	15	25	9.5	66	.295	7.5	.827	21.0
HY-NBH03525.0K-OH	●	2	.138	3.5	.984	25.0	20	24	125	115	15	25	9.5	58	.346	8.8	.965	24.5
HY-NBH04025.0K-OH	●	2	.157	4.0	.984	25.0	20	24	125	115	20	25	12	58	.394	10.0	1.102	28.0
HY-NBH05025.0K-OH	●	2	.197	5.0	.984	25.0	20	24	125	115	20	25	12	51	.492	12.5	1.378	35.0
HY-NBH06025.0K-OH	●	2	.236	6.0	.984	25.0	20	24	125	115	20	25	12	28.5	.591	15.0	1.654	42.0
HY-NBH02025.4K-OH	●	2	.079	2.0	1.000	25.4	20	24	125	115	15	25	9.5	64	.197	5.0	.709	18.0
HY-NBH02525.4K-OH	●	2	.098	2.5	1.000	25.4	20	24	125	115	15	25	9.5	65	.248	6.3	.768	19.5
HY-NBH03025.4K-OH	●	2	.118	3.0	1.000	25.4	20	24	125	115	15	25	9.5	66	.295	7.5	.827	21.0
HY-NBH03525.4K-OH	●	2	.138	3.5	1.000	25.4	20	24	125	115	15	25	9.5	58	.346	8.8	.965	24.5
HY-NBH04025.4K-OH	●	2	.157	4.0	1.000	25.4	20	24	125	115	20	25	12	58	.394	10.0	1.102	28.0
HY-NBH05025.4K-OH	●	2	.197	5.0	1.000	25.4	20	24	125	115	20	25	12	51	.492	12.5	1.378	35.0
HY-NBH06025.4K-OH	●	2	.236	6.0	1.000	25.4	20	24	125	115	20	25	12	28.5	.591	15.0	1.654	42.0

Parts for STICK DUO SPLASH

Item Number	Clamp Screw		Overhang Adjustment		
	①	②	③	④	⑤
HY-NBH ... -OH	SS04045FS	SS0406F	SS0811R-OH	SS0806F-OH (Through hole)	SS0806F
	M6 Screw		Wrench		
	⑥		for ①②	for ③④⑤	for ⑥
	SS0605SC		LW-2	LW-4×104	LW-3

Insert bars →V12

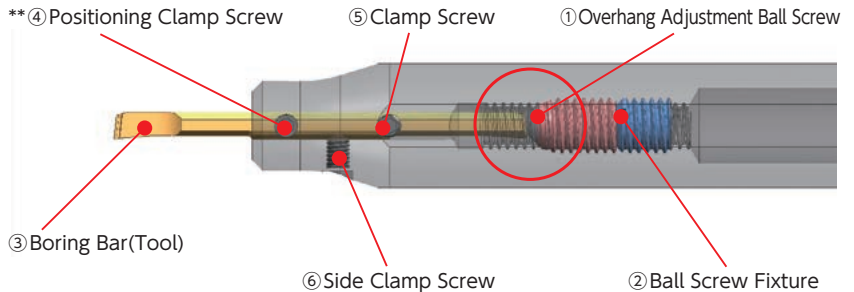
● : Stock
 ● : Stock (Newly added)
 ■□□□ : While stocks last
 R L : Stock (Right / Left-hand only)
 R L : Stock (Right / Left-hand only, Newly added)
 ○ : 1-2 week delivery
 ○ : 1-2 week delivery (Newly added)
 (R/L) : 1-2 week delivery (Right / Left-hand only)
 (R/L) : 1-2 week delivery (Right / Left-hand only, Newly added)
 ● : Coolant through

STICK DUO HYPER

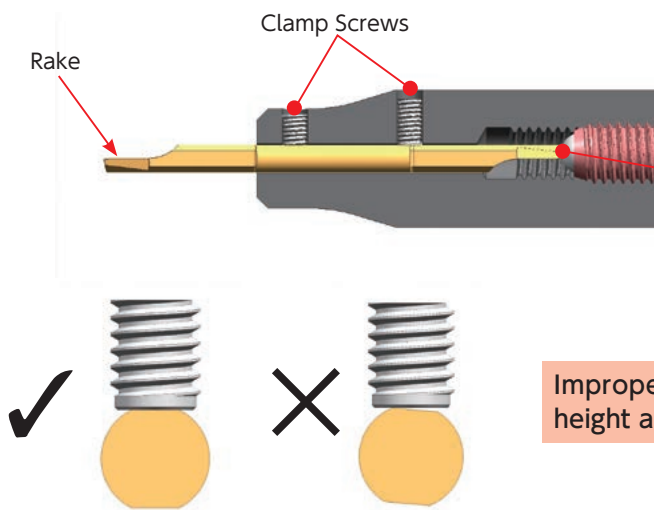
- Sleeves for ID Boring with Adjustable Overhang Mechanism -



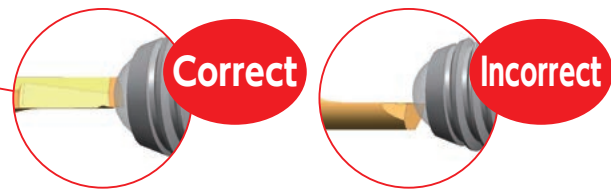
Can Index boring bars like inserts



Installation Procedure for STICK DUO Hyper



Caution: Improper installation dramatically increases the chance of chipping cutting edge



Improper clamping of boring bar causes unstable centerline height and offset

① Position the overhang adjustment ball screw to determine overhang amount

② Slide the ball screw fixture to secure the ball screw location

③ Insert a boring bar (tool)

Note: Make sure to insert the boring bar correctly so that the rake face is toward the side where the clamp screws are located

④ Secure the boring bar by tightening the positioning clamp screw ▶ Recommended Clamping Torque: 17.7 lb in

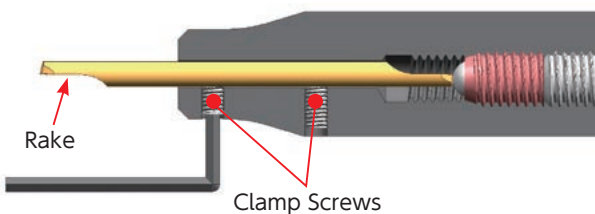
** Make sure to clamp the boring bar so that the flat surface of the bar makes proper contact with clamp screws

⑤ Secure the boring bar by tightening the remaining clamp screws ▶ Recommended Clamping Torque: 17.7 lb in

⑥ Even if 4 and 5 cannot be performed due to tool clearance and layout, the tool can be used by only securing the side clamp screw

Once the initial setup is complete, repeat the above procedures 3 thru 5 for each index

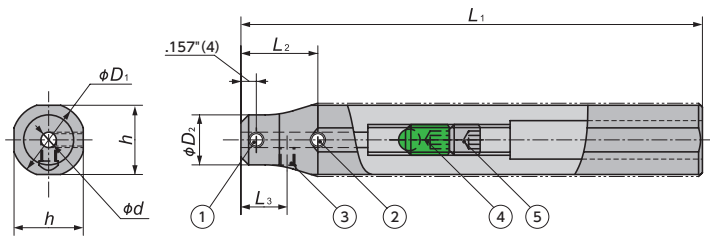
When the tool is installed upside down



Toolholder must be installed so that clamp screws and rake of the tool face toward the same side

STICK DUO HYPER

HY-NBH



Please refer to ϕd to find correct-size inserts (bars)

Item Number	Stock	ϕd		ϕD_1		ϕD_2	h	L_1	L_2	L_3	Clamp Screws		
		(Inch)	(mm)	(Inch)	(mm)						①	②	③
HY-NBH02016H	○	.079	2.0	.630	16.0	11	15	100	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH02516H	○	.098	2.5	.630	16.0	11.5	15	100	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03016H	○	.118	3.0	.630	16.0	12	15	100	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03516H	○	.138	3.5	.630	16.0	12.5	15	100	20	12	SS04045FS	SS0404F	SS0404F
HY-NBH04016H	○	.157	4.0	.630	16.0	13	15	100	20	12	SS04045FS	SS0404F	SS0404F
HY-NBH05016H	○	.197	5.0	.630	16.0	14	15	100	20	12	SS04045FS	SS0404F	SS0404F
HY-NBH02019K	●	.079	2.0	3/4	19.05	11	18	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH02519K	●	.098	2.5	3/4	19.05	11.5	18	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03019K	●	.118	3.0	3/4	19.05	12	18	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03519K	●	.138	3.5	3/4	19.05	12.5	18	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH04019K	●	.157	4.0	3/4	19.05	13	18	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH05019K	●	.197	5.0	3/4	19.05	14	18	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH02020K	○	.079	2.0	.787	20.0	11	19	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH02520K	○	.098	2.5	.787	20.0	11.5	19	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03020K	○	.118	3.0	.787	20.0	12	19	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03520K	○	.138	3.5	.787	20.0	12.5	19	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH04020K	○	.157	4.0	.787	20.0	13	19	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH05020K	○	.197	5.0	.787	20.0	14	19	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH02022K	●	.079	2.0	.866	22.0	11	21	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH02522K	●	.098	2.5	.866	22.0	11.5	21	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03022K	●	.118	3.0	.866	22.0	12	21	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03522K	●	.138	3.5	.866	22.0	12.5	21	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH04022K	●	.157	4.0	.866	22.0	13	21	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH05022K	●	.197	5.0	.866	22.0	14	21	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH02025K-MET	○	.079	2.0	.984	25.0	11	24	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH02525K-MET	○	.098	2.5	.984	25.0	11.5	24	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03025K-MET	○	.118	3.0	.984	25.0	12	24	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03525K-MET	○	.138	3.5	.984	25.0	12.5	24	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH04025K-MET	○	.157	4.0	.984	25.0	13	24	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH05025K-MET	○	.197	5.0	.984	25.0	14	24	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH02025K	●	.079	2.0	1.000	25.4	11	24	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH02525K	●	.098	2.5	1.000	25.4	11.5	24	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03025K	●	.118	3.0	1.000	25.4	12	24	125	15	9.5	SS04045FS	SS0406F	SS0404F
HY-NBH03525K	●	.138	3.5	1.000	25.4	12.5	24	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH04025K	●	.157	4.0	1.000	25.4	13	24	125	20	12	SS04045FS	SS0406F	SS0404F
HY-NBH05025K	●	.197	5.0	1.000	25.4	14	24	125	20	12	SS04045FS	SS0406F	SS0404F

ID Tooling

Spare Parts

Item Number	Overhang Adjustment		Wrench	
	④	⑤	for ①②③	for ④⑤
HY-NBH ... K	SS0812R	SS0808F	LW-2	LW-4×104

Insert bars V12

● : Stock
 ● : Stock (Newly added)
 ■□□□ : While stocks last
 R L : Stock (Right / Left-hand only)
 R L : Stock (Right / Left-hand only, Newly added)
 M : Mirror finish
 ○ : 1-2 week delivery
 ○ : 1-2 week delivery (Newly added)
 ● : Coolant through
 (R/L) : 1-2 week delivery (Right / Left-hand only)
 (R/L) : 1-2 week delivery (Right / Left-hand only, Newly added)

STICK DUO - Sleeves for ID machining -

NBH

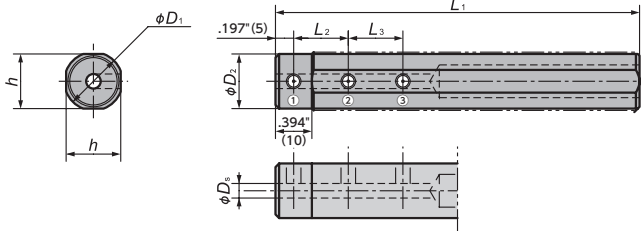


Figure-1

NBH

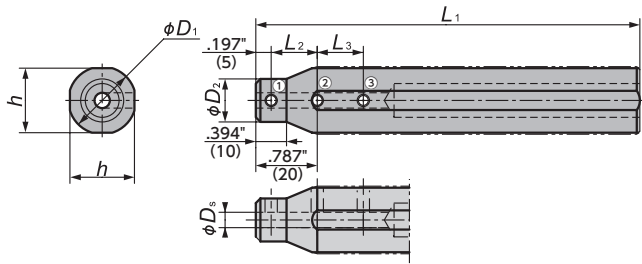


Figure-2

Item number	Figure	Stock	ϕD_s		ϕD_1		ϕD_2	h	L_1	L_2	L_3	Clamp screw			Wrench
			(Inch)	(mm)	(Inch)	(mm)						①	②	③	
NBH02015H	1	○	.079	2.0	5/8	15.875	15	15	100	10	—	SS0406F	SS0406F	—	LW-2
NBH02515H	1	○	.098	2.5	5/8	15.875	15	15	100	10	—	SS0406F	SS0406F	—	LW-2
NBH03015H	1	○	.118	3.0	5/8	15.875	15	15	100	10	10	SS0404F	SS0404F	SS0404F	LW-2
NBH03515H	1	○	.138	3.5	5/8	15.875	15	15	100	10	10	SS0404F	SS0404F	SS0404F	LW-2
NBH04015H	1	○	.157	4.0	5/8	15.875	15	15	100	15	15	SS0404F	SS0404F	SS0404F	LW-2
NBH04515H	1	○	.177	4.5	5/8	15.875	15	15	100	15	15	SS0404F	SS0404F	SS0404F	LW-2
NBH05015H	1	○	.197	5.0	5/8	15.875	15	15	100	15	15	SS0404F	SS0404F	SS0404F	LW-2
NBH06015H	1	○	.236	6.0	5/8	15.875	15	15	100	20	20	SS0404F	SS0404F	SS0404F	LW-2
NBH08015H	1	○	.315	8.0	5/8	15.875	15	15	100	20	20	SS0403F	SS0403F	SS0403F	LW-2
NBH02016H	1	○	.079	2.0	.630	16.0	15	15	100	10	—	SS0406F	SS0406F	—	LW-2
NBH02516H	1	○	.098	2.5	.630	16.0	15	15	100	10	—	SS0406F	SS0406F	—	LW-2
NBH03016H	1	○	.118	3.0	.630	16.0	15	15	100	10	10	SS0404F	SS0404F	SS0404F	LW-2
NBH03516H	1	○	.138	3.5	.630	16.0	15	15	100	10	10	SS0404F	SS0404F	SS0404F	LW-2
NBH04016H	1	○	.157	4.0	.630	16.0	15	15	100	15	15	SS0404F	SS0404F	SS0404F	LW-2
NBH04516H	1	○	.177	4.5	.630	16.0	15	15	100	15	15	SS0404F	SS0404F	SS0404F	LW-2
NBH05016H	1	○	.197	5.0	.630	16.0	15	15	100	15	15	SS0404F	SS0404F	SS0404F	LW-2
NBH06016H	1	●	.236	6.0	.630	16.0	15	15	100	20	20	SS0404F	SS0404F	SS0404F	LW-2
NBH07016H	1	○	.276	7.0	.630	16.0	15	15	100	20	20	SS0403F	SS0404F	SS0404F	LW-2
NBH08016H	1	●	.315	8.0	.630	16.0	15	15	100	20	20	SS0403F	SS0403F	SS0403F	LW-2
NBH02019K	1	○	.079	2.0	3/4	19.05	18	18	125	10	—	SS0408F	SS0408F	—	LW-2
NBH02519K	1	○	.098	2.5	3/4	19.05	18	18	125	10	—	SS0408F	SS0408F	—	LW-2
NBH03019K	1	○	.118	3.0	3/4	19.05	18	18	125	10	10	SS0406F	SS0406F	SS0406F	LW-2
NBH03519K	1	○	.138	3.5	3/4	19.05	18	18	125	10	10	SS0406F	SS0406F	SS0406F	LW-2
NBH04019K	1	○	.157	4.0	3/4	19.05	18	18	125	15	15	SS0406F	SS0406F	SS0406F	LW-2
NBH04519K	1	○	.177	4.5	3/4	19.05	18	18	125	15	15	SS0406F	SS0406F	SS0406F	LW-2
NBH05019K	1	○	.197	5.0	3/4	19.05	18	18	125	15	15	SS0406F	SS0406F	SS0406F	LW-2
NBH06019K	1	●	.236	6.0	3/4	19.05	18	18	125	20	20	SS0406F	SS0406F	SS0406F	LW-2
NBH07019K	1	○	.276	7.0	3/4	19.05	18	18	125	20	20	SS0404F	SS0404F	SS0404F	LW-2
NBH08019K	1	●	.315	8.0	3/4	19.05	18	18	125	20	20	SS0404F	SS0404F	SS0404F	LW-2
NBH10019K	1	○	.394	10.0	3/4	19.05	18	18	125	20	20	SS0403F	SS0404F	SS0404F	LW-2
NBH02020K	2	○	.079	2.0	.787	20.0	11	19	125	10	—	SS0404F	SS0404F	—	LW-2
NBH02520K	2	○	.098	2.5	.787	20.0	11	19	125	10	—	SS0404F	SS0404F	—	LW-2
NBH03020K	2	○	.118	3.0	.787	20.0	12	19	125	10	10	SS0404F	SS0404F	SS0406F	LW-2
NBH03520K	2	○	.138	3.5	.787	20.0	12	19	125	10	10	SS0404F	SS0404F	SS0406F	LW-2
NBH04020K	2	○	.157	4.0	.787	20.0	13	19	125	15	15	SS0404F	SS0406F	SS0406F	LW-2
NBH04520K	2	○	.177	4.5	.787	20.0	13	19	125	15	15	SS0404F	SS0406F	SS0406F	LW-2
NBH05020K	2	○	.197	5.0	.787	20.0	14	19	125	15	15	SS0404F	SS0406F	SS0406F	LW-2
NBH06020K	2	●	.236	6.0	.787	20.0	15	19	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH07020K	2	○	.276	7.0	.787	20.0	16	19	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH08020K	2	●	.315	8.0	.787	20.0	17	19	125	20	20	SS0404F	SS0404F	SS0404F	LW-2
NBH10020K	2	○	.394	10.0	.787	20.0	19	19	125	20	20	SS0404F	SS0404F	SS0404F	LW-2

Item number	Figure	Stock	ϕD_s		ϕD_1		ϕD_2	h_1	L_1	L_2	L_3	Clamp screw			Wrench
			(Inch)	(mm)	(Inch)	(mm)						(mm)	(mm)	(mm)	
NBH02022K	2	○	.079	2.0	.866	22.0	11	21	125	10	—	SS0404F	SS0406F	—	LW-2
NBH02522K	2	○	.098	2.5	.866	22.0	11	21	125	10	—	SS0404F	SS0406F	—	LW-2
NBH03022K	2	○	.118	3.0	.866	22.0	12	21	125	10	10	SS0404F	SS0406F	SS0408F	LW-2
NBH03522K	2	○	.138	3.5	.866	22.0	12	21	125	10	10	SS0404F	SS0406F	SS0406F	LW-2
NBH04022K	2	○	.157	4.0	.866	22.0	13	21	125	15	15	SS0404F	SS0406F	SS0406F	LW-2
NBH04522K	2	○	.177	4.5	.866	22.0	13	21	125	15	15	SS0404F	SS0406F	SS0406F	LW-2
NBH05022K	2	○	.197	5.0	.866	22.0	14	21	125	15	15	SS0404F	SS0406F	SS0406F	LW-2
NBH06022K	2	●	.236	6.0	.866	22.0	15	21	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH07022K	2	○	.276	7.0	.866	22.0	16	21	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH08022K	2	●	.315	8.0	.866	22.0	17	21	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH10022K	2	○	.394	10.0	.866	22.0	19	21	125	20	20	SS0404F	SS0404F	SS0404F	LW-2
NBH12022K	2	○	.472	12.0	.866	22.0	21	21	125	25	25	SS0404F	SS0404F	SS0404F	LW-2
NBH02023K	2	○	.079	2.0	.906	23.0	11	21	125	10	—	SS0404F	SS0406F	—	LW-2
NBH02523K	2	○	.098	2.5	.906	23.0	11	21	125	10	—	SS0404F	SS0406F	—	LW-2
NBH03023K	2	○	.118	3.0	.906	23.0	12	21	125	10	10	SS0404F	SS0406F	SS0408F	LW-2
NBH03523K	2	○	.138	3.5	.906	23.0	12	21	125	10	10	SS0404F	SS0406F	SS0406F	LW-2
NBH04023K	2	○	.157	4.0	.906	23.0	13	21	125	15	15	SS0404F	SS0406F	SS0406F	LW-2
NBH04523K	2	○	.177	4.5	.906	23.0	13	21	125	15	15	SS0404F	SS0406F	SS0406F	LW-2
NBH05023K	2	○	.197	5.0	.906	23.0	14	21	125	15	15	SS0404F	SS0406F	SS0406F	LW-2
NBH06023K	2	○	.236	6.0	.906	23.0	15	21	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH08023K	2	○	.315	8.0	.906	23.0	17	21	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH10023K	2	○	.394	10.0	.906	23.0	19	21	125	20	20	SS0404F	SS0404F	SS0404F	LW-2
NBH12023K	2	○	.472	12.0	.906	23.0	21	21	125	25	25	SS0404F	SS0404F	SS0404F	LW-2
NBH02025K-MET	2	○	.079	2.0	.984	25.0	11	24	125	10	—	SS0404F	SS0406F	—	LW-2
NBH02525K-MET	2	○	.098	2.5	.984	25.0	11	24	125	10	—	SS0404F	SS0406F	—	LW-2
NBH03025K-MET	2	○	.118	3.0	.984	25.0	12	24	125	10	10	SS0404F	SS0406F	SS0408F	LW-2
NBH03525K-MET	2	○	.138	3.5	.984	25.0	12	24	125	10	10	SS0404F	SS0406F	SS0408F	LW-2
NBH04025K-MET	2	○	.157	4.0	.984	25.0	13	24	125	15	15	SS0404F	SS0408F	SS0408F	LW-2
NBH04525K-MET	2	○	.177	4.5	.984	25.0	13	24	125	15	15	SS0404F	SS0408F	SS0408F	LW-2
NBH05025K-MET	2	○	.197	5.0	.984	25.0	14	24	125	15	15	SS0404F	SS0408F	SS0408F	LW-2
NBH06025K-MET	2	●	.236	6.0	.984	25.0	15	24	125	20	20	SS0404F	SS0408F	SS0408F	LW-2
NBH07025K-MET	2	○	.276	7.0	.984	25.0	16	24	125	20	20	SS0404F	SS0408F	SS0408F	LW-2
NBH08025K-MET	2	●	.315	8.0	.984	25.0	17	24	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH10025K-MET	2	○	.394	10.0	.984	25.0	19	24	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH12025K-MET	2	○	.472	12.0	.984	25.0	21	24	125	25	25	SS0404F	SS0404F	SS0404F	LW-2
NBH02025K	2	○	.079	2.0	1.000	25.4	11	24	125	10	—	SS0404F	SS0406F	—	LW-2
NBH02525K	2	○	.098	2.5	1.000	25.4	11	24	125	10	—	SS0404F	SS0406F	—	LW-2
NBH03025K	2	○	.118	3.0	1.000	25.4	12	24	125	10	10	SS0404F	SS0406F	SS0408F	LW-2
NBH03525K	2	○	.138	3.5	1.000	25.4	12	24	125	10	10	SS0404F	SS0406F	SS0408F	LW-2
NBH04025K	2	○	.157	4.0	1.000	25.4	13	24	125	15	15	SS0404F	SS0408F	SS0408F	LW-2
NBH04525K	2	○	.177	4.5	1.000	25.4	13	24	125	15	15	SS0404F	SS0408F	SS0408F	LW-2
NBH05025K	2	○	.197	5.0	1.000	25.4	14	24	125	15	15	SS0404F	SS0408F	SS0408F	LW-2
NBH06025K	2	●	.236	6.0	1.000	25.4	15	24	125	20	20	SS0404F	SS0408F	SS0408F	LW-2
NBH07025K	2	○	.276	7.0	1.000	25.4	16	24	125	20	20	SS0404F	SS0408F	SS0408F	LW-2
NBH08025K	2	●	.315	8.0	1.000	25.4	17	24	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH10025K	2	○	.394	10.0	1.000	25.4	19	24	125	20	20	SS0404F	SS0406F	SS0406F	LW-2
NBH12025K	2	○	.472	12.0	1.000	25.4	21	24	125	25	25	SS0404F	SS0404F	SS0404F	LW-2
NBH04532K	2	○	.177	4.5	1.260	32.0	13	30	125	15	15	SS0404F	SS0408F	SS0408F	LW-2
NBH05032K	2	○	.197	5.0	1.260	32.0	14	30	125	15	15	SS0404F	SS0408F	SS0408F	LW-2
NBH06032K	2	○	.236	6.0	1.260	32.0	15	30	125	20	20	SS0404F	SS0408F	SS0408F	LW-2
NBH07032K	2	○	.276	7.0	1.260	32.0	16	30	125	20	20	SS0404F	SS0408F	SS0408F	LW-2
NBH08032K	2	○	.315	8.0	1.260	32.0	17	30	125	20	20	SS0404F	SS0408F	SS0408F	LW-2
NBH10032K	2	○	.394	10.0	1.260	32.0	19	30	125	20	20	SS0404F	SS0408F	SS0408F	LW-2
NBH12032K	2	○	.472	12.0	1.260	32.0	21	30	125	25	25	SS0404F	SS0406F	SS0406F	LW-2
NBH14032K	2	○	.551	14.0	1.260	32.0	23	30	125	25	25	SS0504	SS0506	SS0506	LW-2.5
NBH16032K	2	○	.630	16.0	1.260	32.0	25	30	125	25	25	SS0504	SS0506	SS0506	LW-2.5

● : Stock
 ● : Stock (Newly added)
 □ : While stocks last

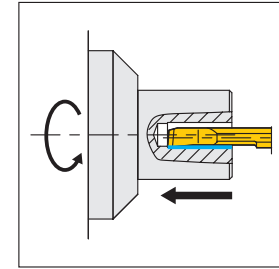
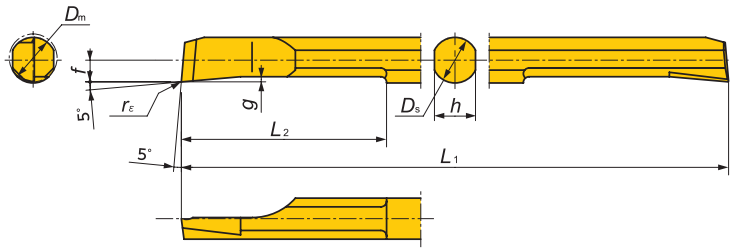
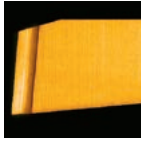
R L : Stock (Right / Left-hand only)
 R L : Stock (Right / Left-hand only, Newly added)
 M : Mirror finish

○ : 1-2 week delivery
 ○ : 1-2 week delivery (Newly added)
 ● : Coolant through

Ⓜ : 1-2 week delivery (Right / Left-hand only)
 Ⓜ : 1-2 week delivery (Right / Left-hand only, Newly added)

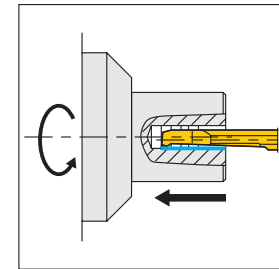
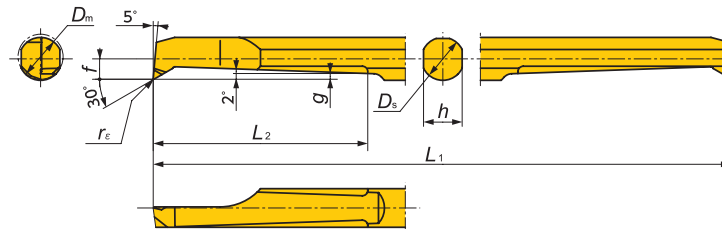
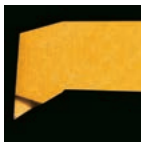
Insert bars V16

SBFS-S type (for ID Boring) Minimum Bore Diameter .087" (2.2mm)



Item Number	Ds		Min Bore Dia. Dm		L1	L2	f	h	g	rε		Chipbreaker	Coated Carbide	
	(Inch)	(mm)	(Inch)	(mm)						(Inch)	(mm)		DT4	ZM3
SBFS020R005S	.079	2	.087	2.2	50	10	0.9	1.8	0.25	.002	0.05	Type S	○	○
SBFS025R005S	.098	2.5	.106	2.7	50	12.5	1.15	2.3	0.30	.002	0.05	Type S	○	○
SBFS025R015S	.098	2.5	.106	2.7	50	12.5	1.15	2.3	0.30	.006	0.15	Type S	○	○
SBFS030R005S	.118	3	.126	3.2	50	15	1.4	2.7	0.40	.002	0.05	Type S	○	○
SBFS030R015S	.118	3	.126	3.2	50	15	1.4	2.7	0.40	.006	0.15	Type S	○	○
SBFS035R005S	.138	3.5	.146	3.7	60	17.5	1.65	3.2	0.40	.002	0.05	Type S	○	○
SBFS035R015S	.138	3.5	.146	3.7	60	17.5	1.65	3.2	0.40	.006	0.15	Type S	○	○
SBFS040R005S	.157	4	.165	4.2	60	20	1.9	3.6	0.45	.002	0.05	Type S	○	○
SBFS040R015S	.157	4	.165	4.2	60	20	1.9	3.6	0.45	.006	0.15	Type S	○	○
SBFS050R005S	.197	5	.205	5.2	70	25	2.4	4.5	0.50	.002	0.05	Type S	○	○
SBFS050R015S	.197	5	.205	5.2	70	25	2.4	4.5	0.50	.006	0.15	Type S	○	○
SBFS060R005S	.236	6	.244	6.2	80	30	2.9	5.4	0.60	.002	0.05	Type S	○	○
SBFS060R015S	.236	6	.244	6.2	80	30	2.9	5.4	0.60	.006	0.15	Type S	○	○

SBFB-F type (for ID Boring) Minimum Bore Diameter .087" (2.2mm)



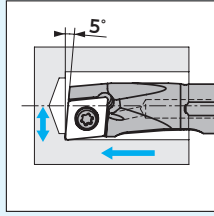
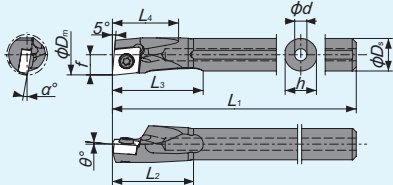
Evacuate chips backward

Item Number	Ds		Min Bore Dia. Dm		L1	L2	f	h	g	rε		Chipbreaker	Coated Carbide	
	(Inch)	(mm)	(Inch)	(mm)						(Inch)	(mm)		DT4	ZM3
SBFB020R005F	.087	2	.087	2.2	50	8	0.95	1.8	0.25	.002	0.05	Type F	○	○
SBFB025R005F	.098	2.5	.106	2.7	50	12.5	1.2	2.3	0.30	.002	0.05	Type F	○	○
SBFB025R015F	.098	2.5	.106	2.7	50	12.5	1.2	2.3	0.30	.006	0.15	Type F	○	○
SBFB030R005F	.118	3	.126	3.2	50	15	1.4	2.7	0.45	.002	0.05	Type F	○	○
SBFB030R015F	.118	3	.126	3.2	50	15	1.4	2.7	0.45	.006	0.15	Type F	○	○
SBFB035R005F	.138	3.5	.146	3.7	60	17.5	1.65	3.2	0.50	.002	0.05	Type F	○	○
SBFB035R015F	.138	3.5	.146	3.7	60	17.5	1.65	3.2	0.50	.006	0.15	Type F	○	○
SBFB040R005F	.157	4	.165	4.2	60	20	1.9	3.6	0.50	.002	0.05	Type F	○	○
SBFB040R015F	.157	4	.165	4.2	60	20	1.9	3.6	0.50	.006	0.15	Type F	○	○
SBFB050R005F	.197	5	.205	5.2	70	25	2.4	4.5	0.70	.002	0.05	Type F	○	○
SBFB050R015F	.197	5	.205	5.2	70	25	2.4	4.5	0.70	.006	0.15	Type F	○	○
SBFB060R005F	.236	6	.244	6.2	80	30	2.9	5.4	0.90	.002	0.05	Type F	○	○
SBFB060R015F	.236	6	.244	6.2	80	30	2.9	5.4	0.90	.006	0.15	Type F	○	○

Mogul Bar for 80° Diamond ("CC" style)

S-SCLC (Coolant through)

Steel shank



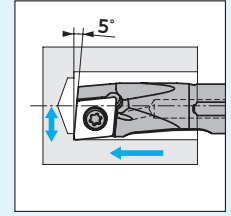
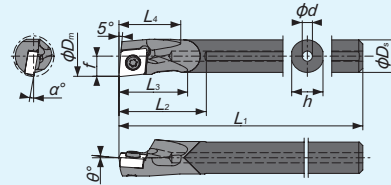
Right-Hand style shown

Figure-1

Minimum Bore Diameter .394"(10mm)

C-SCLC (Coolant through)

Carbide shank



Right-Hand style shown

Figure-2

"CC" style - Toolholders



Gage Insert	Item number*	Figure	Stock		ϕD_s	Min. bore Dia. ϕD_m	h	L_1	f	L_2	L_3	L_4	ϕd	θ	α	Std. corner radius r_c	Clamp screw	Wrench			
			R	L															(inch)	(mm)	(inch)
CC..21.5..	S08H-SCLC 3/8 06D10-OH	1	●	●	.315	8.0	.394	10.0	7.7	100	5.0	20.0	22.0	16.0	3.0	0°	-13°	.016	0.4	LR15-2.5 x 5	CLR-155
	S10K-SCLC 3/8 06D12-OH	1	●	●	.394	10.0	.472	12.0	9.6	125	6.0	24.0	27.5	20.0	3.5	0°	-11°	.016	0.4	LR15-2.5 x 5	CLR-155
	S12M-SCLC 3/8 06D14-OH	1	●	●	.472	12.0	.551	14.0	11.5	150	7.0	28.0	32.5	23.0	4.0	0°	-9°	.016	0.4	LR15-2.5 x 5	CLR-155
CC..32.5..	S16Q-SCLC 3/8 09D18-OH	1	●	●	.630	16.0	.709	18.0	15.4	180	9.0	36.0	42.5	30.0	5.0	0°	-10°	.016	0.4	LR15-4 x 8	LLR-25S-20 x 65
	C08K-SCLC 3/8 06D10-OH	2	●	○	.315	8.0	.394	10.0	7.7	125	5.0	21.5	16.5	15.0	2.5	0°	-13°	.016	0.4	LR15-2.5 x 5	CLR-155
CC..21.5..	C10M-SCLC 3/8 06D12-OH	2	●	○	.394	10.0	.472	12.0	9.6	150	6.0	25.0	20.0	19.5	2.5	0°	-11°	.016	0.4	LR15-2.5 x 5	CLR-155
	C12M-SCLC 3/8 06D14-OH	2	●	○	.472	12.0	.551	14.0	11.5	150	7.0	29.0	23.5	22.5	3.0	0°	-9°	.016	0.4	LR15-2.5 x 5	CLR-155

* "S" denotes steel shank, "C" denotes carbide shank

CC.. inserts - Carbide

(inch)	IC	T
CC..21.5	1/4	3/32
CC..32.5	3/8	5/32

● : 1st Choice ● : 2nd choice

Shape	Item Number	ISO Item Number	IC	R	Carbide										CVD	Diamond Coating	
					PVD Coated												
					ST4	DM4	DT4	QM3	TM4	VM1	ZM3	KM1	CP1	UC1			
	CCGT 32.501 YL	CCGT 09T300 YL	3/8	.001	●	●	●	●	●	●	●	●	●	●	●	●	
	CCGT 32.504M YL	CCGT 09T301M YL	3/8	.003	●	●	●	●	●	●	●	●	●	●	●	●	
	CCGT 32.508M YL	CCGT 09T302M YL	3/8	.007	●	●	●	●	●	●	●	●	●	●	●	●	
	CCGT 32.51M YL	CCGT 09T304M YL	3/8	.015	●	●	●	●	●	●	●	●	●	●	●	●	
	CCGT 32.52M YL	CCGT 09T308M YL	3/8	.031	●	●	●	●	●	●	●	●	●	●	●	●	
	CCGT 21.504M CL	CCGT 060201M CL	1/4	.003	○	○	○	○	○	○	○	○	○	○	○	○	
	CCGT 21.508M CL	CCGT 060202M CL	1/4	.007	○	○	○	○	○	○	○	○	○	○	○	○	
	CCGT 32.501 CL	CCGT 09T300 CL	3/8	.001	○	○	○	○	○	○	○	○	○	○	○	○	
	CCGT 32.504M CL	CCGT 09T301M CL	3/8	.003	○	○	○	○	○	○	○	○	○	○	○	○	
	CCGT 32.508M CL	CCGT 09T302M CL	3/8	.007	○	○	○	○	○	○	○	○	○	○	○	○	
	CCGT 32.51M CL	CCGT 09T304M CL	3/8	.015	○	○	○	○	○	○	○	○	○	○	○	○	
	CCGT 21.501 FNAM3	CCGT 060200 FNAM3	1/4	.001	○	○	○	○	○	○	○	○	○	○	○	○	
CCGT 21.504M FNAM3	CCGT 060201M FNAM3	1/4	.003	○	○	○	○	○	○	○	○	○	○	○	○		
CCGT 21.508M FNAM3	CCGT 060202M FNAM3	1/4	.007	○	○	○	○	○	○	○	○	○	○	○	○		
CCGT 21.508 FNAM3	CCGT 060202 FNAM3	1/4	.008	○	○	○	○	○	○	○	○	○	○	○	○		
CCGT 21.51M FNAM3	CCGT 060204M FNAM3	1/4	.015	○	○	○	○	○	○	○	○	○	○	○	○		
	CCGT 32.501 FNAM3	CCGT 09T300 FNAM3	3/8	.001	○	○	○	○	○	○	○	○	○	○	○	○	
	CCGT 32.504M FNAM3	CCGT 09T301M FNAM3	3/8	.003	○	○	○	○	○	○	○	○	○	○	○	○	
	CCGT 32.508M FNAM3	CCGT 09T302M FNAM3	3/8	.007	○	○	○	○	○	○	○	○	○	○	○	○	
	CCGT 32.508 FNAM3	CCGT 09T302 FNAM3	3/8	.008	○	○	○	○	○	○	○	○	○	○	○	○	
	CCGT 32.51M FNAM3	CCGT 09T304M FNAM3	3/8	.015	○	○	○	○	○	○	○	○	○	○	○	○	
	CCGT 32.51 FNAM3	CCGT 09T304 FNAM3	3/8	.016	○	○	○	○	○	○	○	○	○	○	○	○	
	CCGT 32.52 FNAM3	CCGT 09T308 FNAM3	3/8	.031	○	○	○	○	○	○	○	○	○	○	○	○	
	CCMT 21.508 FNAM3	CCMT 060202 FNAM3	1/4	.008	○	○	○	○	○	○	○	○	○	○	○	○	
	CCMT 21.51 FNAM3	CCMT 060204 FNAM3	1/4	.016	○	○	○	○	○	○	○	○	○	○	○	○	
CCMT 32.508 FNAM3	CCMT 09T302 FNAM3	3/8	.008	○	○	○	○	○	○	○	○	○	○	○	○		
	CCGT 21.501 AZ7	CCGT 060200 AZ7	1/4	.001	○	○	○	○	○	○	○	○	○	○	○	○	
	CCGT 21.504M AZ7	CCGT 060201M AZ7	1/4	.003	○	○	○	○	○	○	○	○	○	○	○	○	
	CCGT 21.508M AZ7	CCGT 060202M AZ7	1/4	.007	○	○	○	○	○	○	○	○	○	○	○	○	
	CCGT 32.501 AZ7	CCGT 09T300 AZ7	3/8	.001	○	○	○	○	○	○	○	○	○	○	○	○	
	CCGT 32.504M AZ7	CCGT 09T301M AZ7	3/8	.003	○	○	○	○	○	○	○	○	○	○	○	○	
	CCGT 32.508M AZ7	CCGT 09T302M AZ7	3/8	.007	○	○	○	○	○	○	○	○	○	○	○	○	

Chipbreakers for Mogul Bar

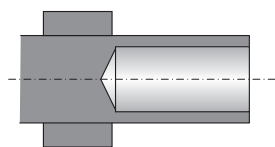
Molded Chipbreakers

Name	Chipbreaker Geometry	Features	ER Style	CC Style	CP Style	TC Style	TP Style
FG		● Evacuate chips BACKWARD at light depth of cut	—	—	—	—	
YL		● Great combination of sharpness and toughness ● Covers extremely wide range ● Excellent chip control	—		—	—	—
CL		● Double-positive geometry ● Sharp edge and low tool pressure ● Very wide chip control range	—		—	—	—
AM3		● Great combination of sharp edge and chip control	—			—	—
AZ7		● Excellent chip control at light feed and light depth of cut	—		—	—	—
ZR		● Covers a wide range of depth of cut under high-speed and low-feed conditions	—		—	—	—
AM5		● Provides both good cutting performance and chip control	—			—	—

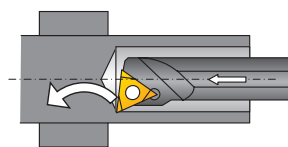
Ground Chipbreakers

Name	Chipbreaker Geometry	Features	ER Style	CC Style	CP Style	TC Style	TP Style
F05 • F1		● Exclusively designed for ID boring ● Evacuate chips BACKWARD					
S		● Sharp cutting edge with excellent chip control	—			—	—
U • U1		● Sharp cutting edge prevents work materials from work hardening	—		—	—	—
KHG		● Excellent chip control on finishing cuts ● For super high-precision machining	—		—	—	—
K		● Superb chip control on finishing applications	—	—	—		—
A • A1		● Tough cutting edge and good chip control ● General-purpose ID chipbreaker	—	—		—	—
A2		● Sharp cutting edge due to large rake angle		—	—	—	—
B1•B2•B3		● Stable cutting in boring thanks to sharp and tough cutting edge	—	—	—		

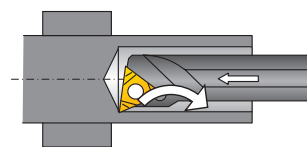
Boring on CNC Swiss-Type Lathes



Blind hole due to bar stock



Typical inserts direct chips forward
Then packed chips damage and break cutting edges



FG, F1 and F05 chipbreakers direct chips backward and prevent cutting edges from breaking

Note: Use right-hand inserts with FG, F1 and F05 chipbreakers for right-hand boring bars