



TOOL-FLO



TOOL-FLO
CR-5B75-4E
TF22675 G50

TOOL-FLO
CR-6R-71
TF14828 AT50

TOOL-FLO
CR-6R-31
TF14828 AT50

TOOL-FLO
CR-6R-31E
TF14828 AT50

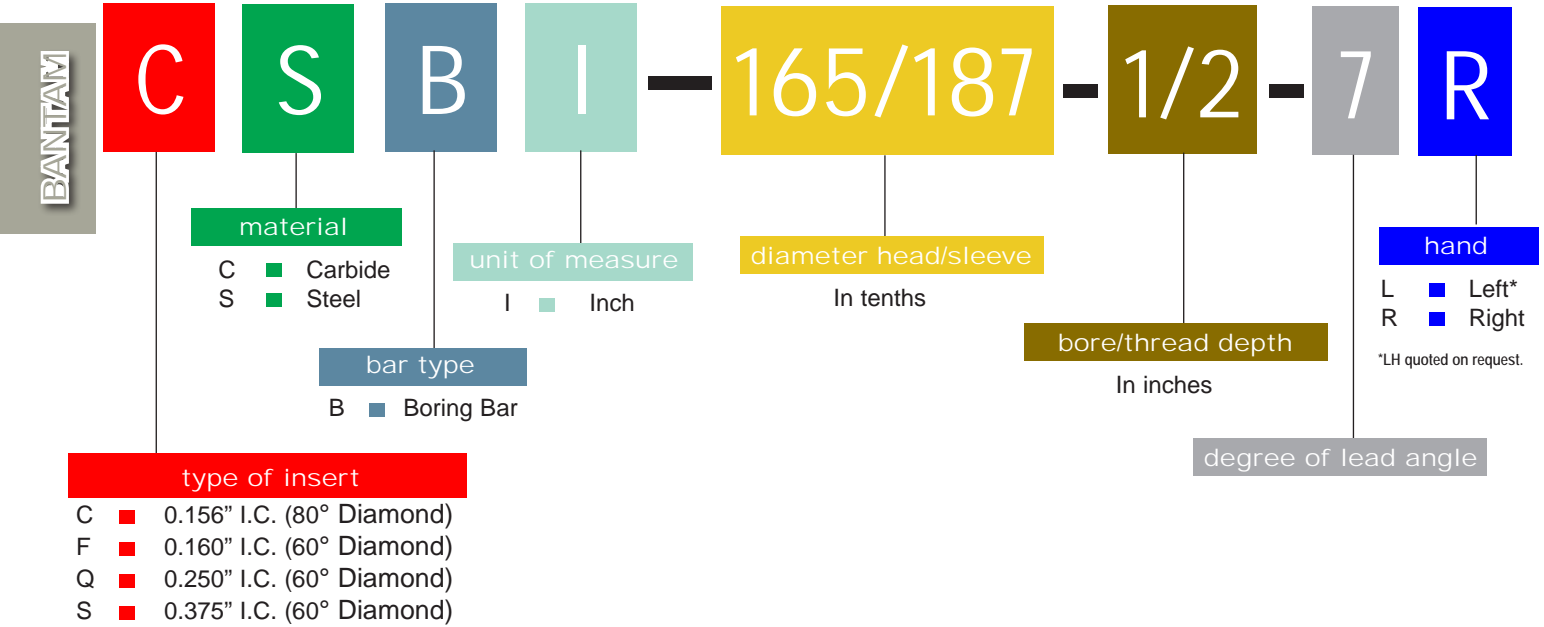
TOOL-FLO
CR-6R-31
TF14828 AT50

BANTAM

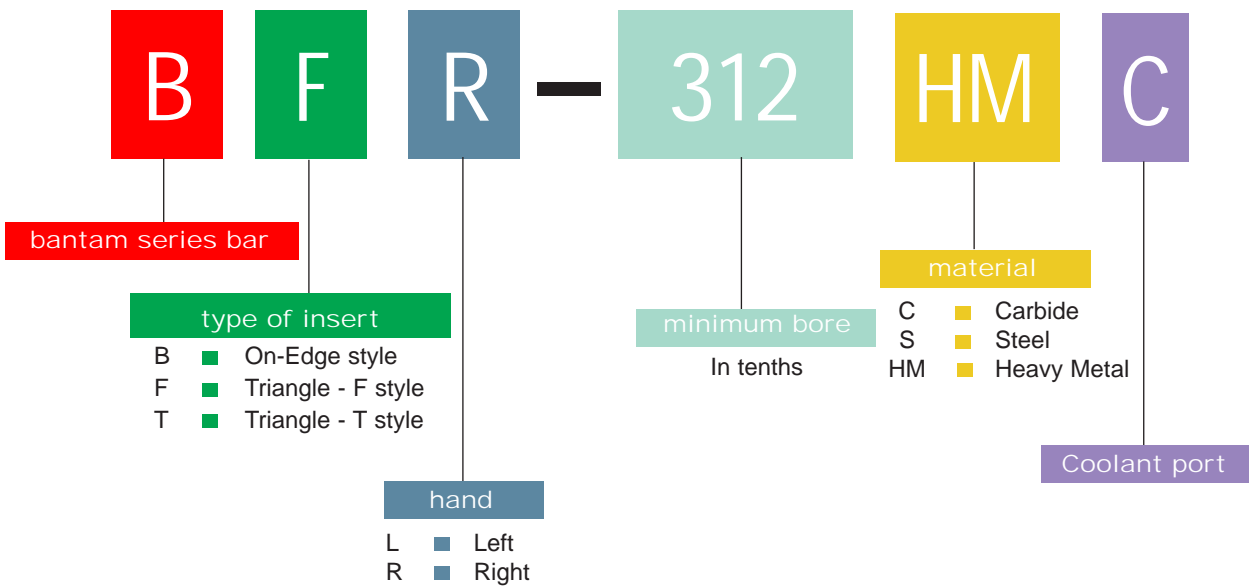
Small diameter
Threading • Boring • Grooving



Bantam Boring Bar Nomenclature Chart



Bantam Grooving/Threading Bar Nomenclature Chart

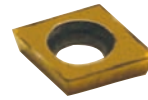
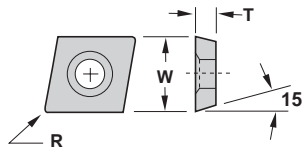




MINIMUM BORE .180

BORING

CDCD

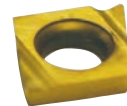
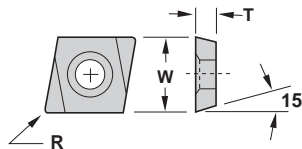


Description	EDP Code	T	W	R					
					C22	GP22	GP4	AC22	AC4
CDCD-500	9BCD500	.040	.156	.002	●	●	●	●	●
CDCD-505	9BCD505	.040	.156	.007	●	●	●	●	●
CDCD-51	9BCD51	.040	.156	.015	●	●	●	●	●

Uncoated		TiN Coated		AlTiN Coated	
C22	GP22	GP4	AC22	AC4	
●	●	●	●	●	●

BORING - Positive Rake

CDCG



Description	EDP Code	T	W	R					
					C22	GP22	GP4	AC22	AC4
CDCG-500L	9BCG500L	.040	.156	.002	●	●	●	●	●
CDCG-505L	9BCG505L	.040	.156	.007	●	●	●	●	●
CDCG-51L	9BCG51L	.040	.156	.015	●	●	●	●	●

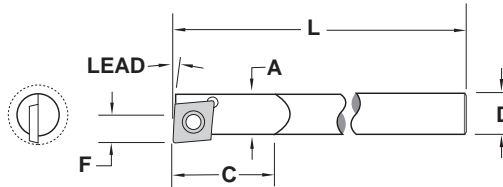
Uncoated		TiN Coated		AlTiN Coated	
C22	GP22	GP4	AC22	AC4	
●	●	●	●	●	●

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● High performance choice in optimal conditions.
▲ Recommended grade under general conditions.

Cast Iron	●	▲			
Non-Ferrous	●	▲			
Stainless/High Temp	●	▲			
Steel	●	▲			

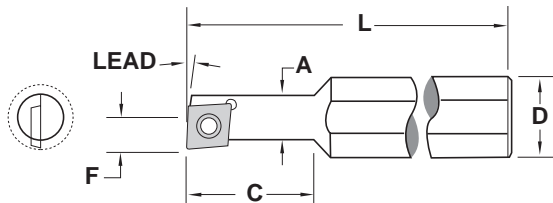
CCBI/CSBI



Description	EDP Code	Stk	Material	Insert	Lead	A	D	L	C	F	Min Bore	Screw*
CSBI-165/187-1/2-7R	9BCS16187R	●	Steel	CDCD/G	7°	.165	.187	2.50	.500	.094	.180	TS1
CCBI-165/156-6-7R	9BCC16157R	●	Carbide	CDCD/G	7°	.165	.156	6.00	---	.094	.180	TS1
CSBI-180/187-2 1/2-5R	9BCS18185R	●	Steel	CDCD/G	5°	.180	.187	2.50	.500	.104	.208	TS1
CCBI-180/187-4-5R	9BCC18185R	●	Carbide	CDCD/G	5°	.189	.187	4.00	---	.104	.208	TS1
CSBI-250-3-5R	9BCS255R	●	Steel	CDCD/G	5°	.260	.250	3.00	---	.145	.285	TS1
CCBI-250-4-5R	9BCC255R	●	Carbide	CDCD/G	5°	.258	.250	4.00	---	.145	.285	TS1
CSBI-250-3-0R	9BCS250R	●	Steel	CDCD/G	0°	.260	.250	3.00	---	.152	.292	TS1
CCBI-250-4-0R	9BCC250R	●	Carbide	CDCD/G	0°	.258	.250	4.00	---	.152	.292	TS1

*TS1 screw uses K05 wrench

CCBI/CSBI



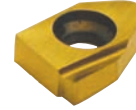
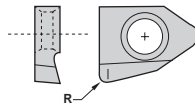
Description	EDP Code	Stk	Material	Insert	Lead	A	D	L	C	F	Min Bore	Screw*
CSBI-180/500-1/2-5R	9BCS18505R	●	Steel	CDCD/G	5°	.180	.500	2.75	.500	.104	.208	TS1
CCBI-180/500-7/8-5R	9BCC18505R	●	Carbide	CDCD/G	5°	.189	.500	2.37	.875	.104	.208	TS1
CSBI-250/500-3/4-5R	9BCS25505R	●	Steel	CDCD/G	5°	.260	.500	2.75	.750	.145	.285	TS1
CCBI-250/500-1 1/4-5R	9BCC25505R	●	Carbide	CDCD/G	5°	.258	.500	2.75	1.25	.145	.285	TS1
CSBI-250/500-3/4-0R	9BCS25500R	●	Steel	CDCD/G	0°	.260	.500	2.75	.750	.152	.292	TS1
CCBI-250/500-1 1/4-0R	9BCC25500R	●	Carbide	CDCD/G	0°	.258	.500	2.75	1.25	.152	.292	TS1

*TS1 screw uses K05 wrench



MINIMUM BORE .250

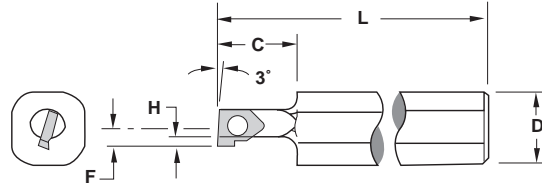
BORING
BSBR



	Uncoated	TIN Coated	AlTiN Coated
C22	GP22	GP4	AC22
		●	AC4

Description	EDP Code	R
BSBR-005	9BSBR	.005

BSR

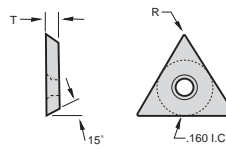


Description	EDP Code	Stk	Material	Insert	Coolant Port	L	D	C	H	F**	Min. Bore	Screw*
BSR-250S	9B250S	●	Steel	BSBR		5.000	.500	.500	.050	.125	.250	TS1
BSR-250SC	9B250SC	●	Steel	BSBR	✓	5.000	.500	.500	.050	.125	.250	TS1

*TS1 screw uses K05 wrench
** Dimension over sharp point

MINIMUM BORE .275 - .360

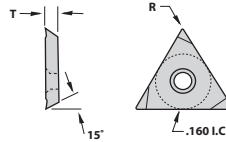
BORING
TDAB



	Uncoated	TIN Coated	AlTiN Coated
C22	GP22	GP4	AC22
	●	●	AC4

Description	EDP Code	R	T
TDAB-505	9BDB505	.007	.047
TDAB-51	9BDB51	.015	.047

BORING - Positive Rake
TDCG



	Uncoated	TIN Coated	AlTiN Coated
C22	GP22	GP4	AC22
	●	●	AC4

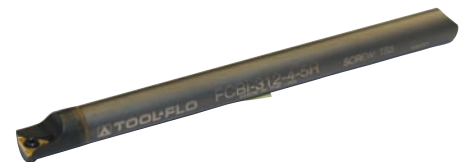
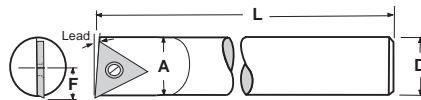
Description	EDP Code	R	T
TDCG-505L	9BDG505L	.007	.047
TDCG-51L	9BDG51L	.015	.047

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- ▲ Recommended grade under general conditions.

Cast Iron	●	▲			
Non-Ferrous	●	▲			
Stainless/High Temp	●	▲			
Steel	●	▲			

FCBI/FSBI

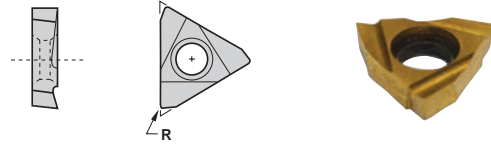


Description	EDP Code	Stk	Material	Insert	Lead	A	D	L	F	Min. Bore	Screw*
FCBI-187-4-5R	9BFC185R	●	Carbide	TDAB/TDCG	5°	.203	.187	4.000	.126	.275	TS3
FCBI-250-4-5R	9BFC255R	●	Carbide	TDAB/TDCG	5°	.250	.250	4.000	.156	.300	TS3
FSBI-250-4-5R	9BFS255R	●	Steel	TDAB/TDCG	5°	.260	.250	4.000	.156	.300	TS3
FCBI-312-4-5R	9BFC315R	●	Carbide	TDAB/TDCG	5°	.312	.312	4.000	.187	.360	TS3

*TS3 screw uses K1 wrench



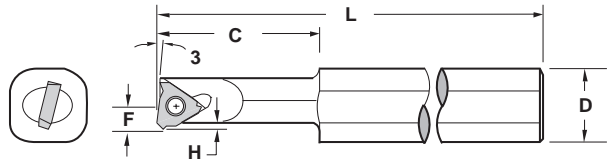
MINIMUM BORE .312 BORING BFR3



Uncoated	TIN Coated	AITIN Coated
C22	GP22	GP4
	AC22	AC4

Description	EDP Code	R
BFR3-BR	9BFR3B	.005

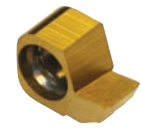
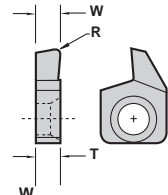
BFR3



Description	EDP Code	Stk	Material	Insert	Coolant Port	L	D	C	H	F	Min. Bore	Screw*
BFR-312S	9BF312S	●	Steel	BFR3		5.000	.500	.500	.050	.150	.312	TS25
BFR-312SC	9BF312SC	●	Steel	BFR3	✓	5.000	.500	.500	.050	.150	.312	TS25
BFR-312HM	9BF312HM	●	Heavy Metal	BFR3		5.000	.500	1.250	.050	.150	.312	TS25
BFR-312HMC	9BF312HMC	●	Heavy Metal	BFR3	✓	5.000	.500	1.250	.050	.150	.312	TS25

*TS25 screw uses K2 wrench

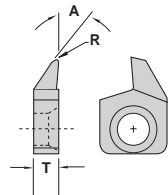
MINIMUM BORE .312 - .440 BORING BNBR/L



Uncoated	TIN Coated	AITIN Coated
C22	GP22	GP4
	AC22	AC4

Description	EDP Code	W	R	T
BNBR-125W	9BB125R	.125	.005/.010	.137
BNBL-125W	9BB125L	.125	.005/.010	.137

Back Turning BNPR/L



Uncoated	TIN Coated	AITIN Coated
C22	GP22	GP4
	AC22	AC4

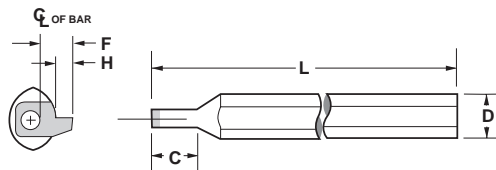
Description	EDP Code	A	R	T
BNPR-015R	9BP015R	45°	.015	.137
BNPL-015R	9BP015L	45°	.015	.137

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Cast Iron	●	▲		
Non-Ferrous	●	▲		
Stainless/High Temp	●	▲		
Steel	●	▲		

BB

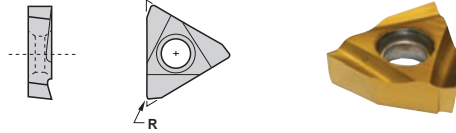


Description	EDP Code	Stk	Material	Insert	L	D	C	F	H	Min. Bore	Screw*
BB-312S	9B312S	●	Steel	BNBR/L BNPR/L	5.000	.500	.750	.156	.070	.312	TS25
BB-344S	9B344S	●	Steel	BNBR/L BNPR/L	5.000	.500	.750	.152	.070	.344	TS25
BB-375S	9B375S	●	Steel	BNBR/L BNPR/L	5.000	.500	.750	.1625	.070	.375	TS25
BB-440S	9B440S	●	Steel	BNBR/L BNPR/L	5.000	.500	1.000	.190	.070	.440	TS25
BB-312HM	9B312HM	●	Heavy Metal	BNBR/L BNPR/L	5.000	.500	1.000	.156	.070	.312	TS25
BB-344HM	9B344HM	●	Heavy Metal	BNBR/L BNPR/L	5.000	.500	1.000	.152	.070	.344	TS25
BB-375HM	9B375HM	●	Heavy Metal	BNBR/L BNPR/L	5.000	.500	1.250	.1625	.070	.375	TS25
BB-440HM	9B440HM	●	Heavy Metal	BNBR/L BNPR/L	5.000	.500	1.500	.190	.070	.440	TS25
BB-312C	9B312C	●	Carbide	BNBR/L BNPR/L	5.000	.500	1.250	.156	.070	.312	TS25
BB-440C	9B440C	●	Carbide	BNBR/L BNPR/L	5.000	.500	1.500	.190	.070	.440	TS25

*TS25 screw uses K2 wrench



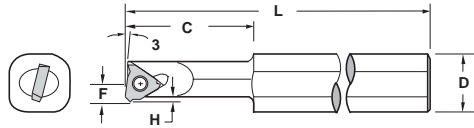
MINIMUM BORE .400 BORING BFR4



Description	EDP Code	R
BFR4-BR	9BFR4B	.005

Uncoated	TIN Coated	AlTiN Coated
C22	GP22	AC22
	GP4	AC4

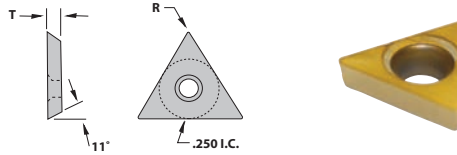
BFR4



Description	EDP Code	Stk	Material	Insert	Coolant Port	L	D	C	H	F**	Min. Bore	Screw*
BFR-400S	9BF400S	●	Steel	BFR4		5.000	.500	1.000	.050	.237	.400	TS25
BFR-400SC	9BF400SC	●	Steel	BFR4	✓	5.000	.500	1.000	.050	.237	.400	TS25
BFR-400HM	9BF400HM	●	Heavy Metal	BFR4		5.000	.500	1.000	.050	.237	.400	TS25
BFR-400HMC	9BF400HMC	●	Heavy Metal	BFR4	✓	5.000	.500	1.000	.050	.237	.400	TS25

*TS25 screw uses K2 wrench
** Dimension over sharp point

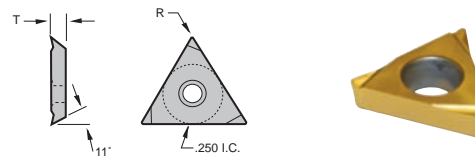
MINIMUM BORE .438 BORING TPCB



Description	EDP Code	R	T
TPCB-2205	9BPB2205	.007	.096
TPCB-221	9BPB221	.015	.096

Uncoated	TIN Coated	AlTiN Coated
C22	GP22	AC22
	GP4	AC4

BORING - Positive Rake TPCG



Description	EDP Code	R	T
TPCG-2205L	9BPG2205	.007	.096
TPCG-221L	9BPG221L	.015	.096

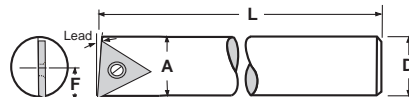
Uncoated	TIN Coated	AlTiN Coated
C22	GP22	AC22
	GP4	AC4

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- ▲ Recommended grade under general conditions.

Cast Iron	●	▲		
Non-Ferrous	●	▲		
Stainless/High Temp	●	▲		
Steel	●	▲		

QCBI/QSBI



Description	EDP Code	Stk	Material	Insert	Lead	A	D	L	F	Min. Bore	Screw*
QSBI-375-5-5R	9BQS375R	●	Steel	TPCB/G	5°	.385	.375	5.000	.221	.438	TS6
QCBI-375-6-5R	9BQC375R	●	Carbide	TPCB/G	5°	.390	.375	6.000	.211	.438	TS6
QCBI-500-8-5R	9BQC505R	●	Carbide	TPCB/G	5°	.510	.500	8.000	.296	.563	TS6

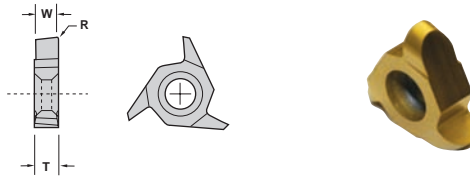
*TS6 screw uses K3 wrench



BANTAM

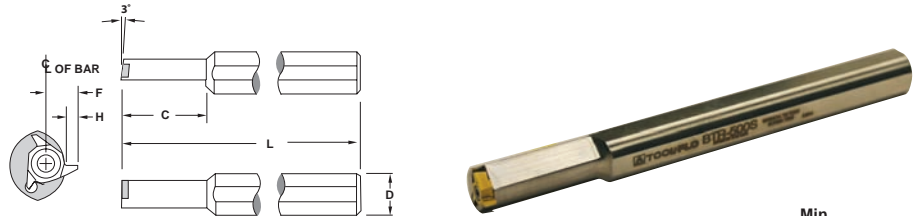
MINIMUM BORE .500

BORING
BTBR/L



Description	EDP Code	W	R	T	Coating				
					C22	GP22	GP4	AC22	AC4
BTBR-125	9BTB125R	.125	.005/.010	.130		●	●		
BTBL-125	9BTB125L	.125	.005/.010	.130		●	●		

BTR/L

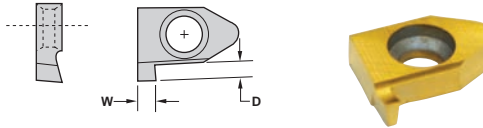


Description	EDP Code	Stk	Material	Insert	L	D	C	H	F	Min. Bore	Screw*
BTL-500S	9BTL500S	●	Steel	BTBL	5.000	.500	1.250	.075	.225	.500	TS25
BTR-500HM	9BTR500HM	●	Heavy Metal	BTBR	5.000	.500	1.500	.075	.225	.500	TS25
BTL-500HM	9BTL500HM	●	Heavy Metal	BTBL	5.000	.500	1.500	.075	.225	.500	TS25

*TS25 screw uses K2 wrench
** Dimension over sharp point

MINIMUM BORE .250

GROOVING
BSGR



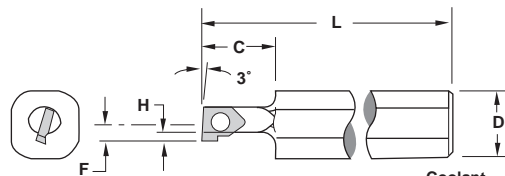
Description	EDP Code	W	D	Coating				
				C22	GP22	GP4	AC22	AC4
BSGR-015W	9BSG015R	.015	.030			●		
BSGR-020W	9BSG020R	.020	.050			●		
BSGR-031W	9BSG031R	.031	.050			●		
BSGR-047W	9BSG047R	.047	.050			●		

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- ▲ Recommended grade under general conditions.

Cast Iron	●	▲			
Non-Ferrous	●	▲			
Stainless/High Temp	●	▲			
Steel	●	▲			

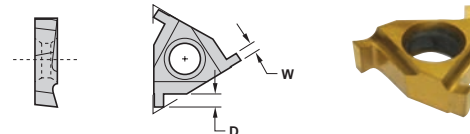
BSR



Description	EDP Code	Stk	Material	Insert	Coolant Port	L	D	C	H	F**	Min. Bore	Screw
BSR-250SC	9B250SC	●	Steel	BSGR	✓	5.000	.500	.500	.050	.157	.250	TS20

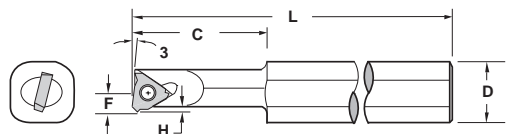
MINIMUM BORE .312

GROOVING
BFR3



Description	EDP Code	W	D	Coating				
				C22	GP22	GP4	AC22	AC4
BFR3-015W	9BFR3G015	.015	.020			●		
BFR3-020W	9BFR3G020	.020	.030			●		
BFR3-031W	9BFR3G031	.031	.035			●		

BFR3



Description	EDP Code	Stk	Material	Insert	Coolant Port	L	D	C	H	F	Min. Bore	Screw*
BFR-312SC	9BF312SC	●	Steel	BFR3	✓	5.000	.500	1.000	.050	.150	.312	TS25
BFR-312HM	9BF312HM	●	Heavy Metal	BFR3		5.000	.500	1.000	.050	.150	.312	TS25
BFR-312HMC	9BF312HMC	●	Heavy Metal	BFR3	✓	5.000	.500	1.000	.050	.150	.312	TS25

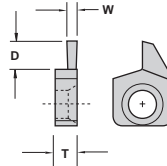
*TS25 screw uses K2 wrench

BANTAM



MINIMUM BORE .312 - .440

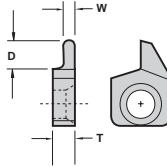
GROOVING
BNGR/L



RH Shown

Description	EDP Code	W	D	T	Coating Options				
					C22	GP22	GP4	AC22	AC4
BNGR-031W	9BG031R	.031	.050	.137					
BNGL-031W	9BG031L	.031	.050	.137	●	●	●		
BNGR-047W	9BG047R	.047	.070	.137	●	●	●		
BNGL-047W	9BG047L	.047	.070	.137	●	●	●		
BNGR-062W	9BG062R	.062	.070	.137	●	●	●		
BNGL-062W	9BG062L	.062	.070	.137	●	●	●		
BNGR-094W	9BG094R	.094	.070	.137	●	●	●		
BNGL-094W	9BG094L	.094	.070	.137	●	●	●		
BNGR-125W	9BG125R	.125	.070	.137	●	●	●		
BNGL-125W	9BG125L	.125	.070	.137	●	●	●		

GROOVING - Full Nose Radius BNRR/L



RH Shown

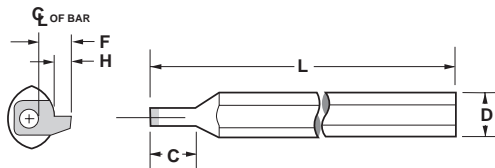
Description	EDP Code	W	R	D	T	Coating Options				
						C22	GP22	GP4	AC22	AC4
BNRR-031W	9BR031R	.031	.0155	.050	.137					
BNRL-031W	9BR031L	.031	.0155	.050	.137	●	●	●		
BNRR-047W	9BR047R	.047	.0235	.070	.137	●	●	●		
BNRL-047W	9BR047L	.047	.0235	.070	.137	●	●	●		
BNRR-062W	9BR062R	.062	.0310	.070	.137	●	●	●		
BNRL-062W	9BR062L	.062	.0310	.070	.137	●	●	●		
BNRR-094W	9BR094R	.094	.0470	.070	.137	●	●	●		
BNRL-094W	9BR094L	.094	.0470	.070	.137	●	●	●		
BNRR-125W	9BR125R	.125	.0625	.070	.137	●	●	●		
BNRL-125W	9BR125L	.125	.0625	.070	.137	●	●	●		

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- High performance choice in optimal conditions.
- ▲ Recommended grade under general conditions.

Material	C22	GP22	GP4	AC22	AC4
Cast Iron		●	▲		
Non-Ferrous	●	▲			
Stainless/High Temp	●	▲			
Steel	●	▲			

BB

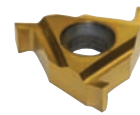
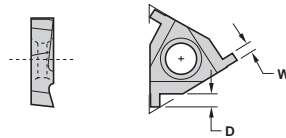


Description	EDP Code	Stk	Material	Insert	L	D	C	F	H	Min. Bore	Screw*
BB-312S	9B312S	●	Steel	BNBR/L BNRR/L	5.000	.500	.750	.156	.070	.312	TS25
BB-344S	9B344S	●	Steel	BNBR/L BNRR/L	5.000	.500	.750	.152	.070	.344	TS25
BB-375S	9B375S	●	Steel	BNBR/L BNRR/L	5.000	.500	.750	.1625	.070	.375	TS25
BB-440S	9B440S	●	Steel	BNBR/L BNRR/L	5.000	.500	1.000	.190	.070	.440	TS25
BB-312HM	9B312HM	●	Heavy Metal	BNBR/L BNRR/L	5.000	.500	1.000	.156	.070	.312	TS25
BB-344HM	9B344HM	●	Heavy Metal	BNBR/L BNRR/L	5.000	.500	1.000	.152	.070	.344	TS25
BB-375HM	9B375HM	●	Heavy Metal	BNBR/L BNRR/L	5.000	.500	1.250	.1625	.070	.375	TS25
BB-440HM	9B440HM	●	Heavy Metal	BNBR/L BNRR/L	5.000	.500	1.500	.190	.070	.440	TS25
BB-312C	9B312C	●	Carbide	BNBR/L BNRR/L	5.000	.500	1.250	.156	.070	.312	TS25
BB-440C	9B440C	●	Carbide	BNBR/L BNRR/L	5.000	.500	1.500	.190	.070	.440	TS25

*TS25 screw uses K2 wrench



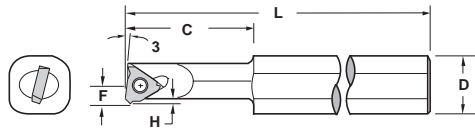
MINIMUM BORE .400 GROOVING BFR4



Uncoated	TIN Coated	ATIN Coated
C22	GP22	AC22
	GP4	AC4

Description	EDP Code	W	D
BFR4-015W	9BFR4G015	.015	.035
BFR4-020W	9BFR4G020	.020	.035
BFR4-031W	9BFR4G031	.031	.035

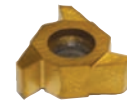
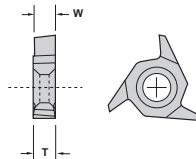
BFR4



Description	EDP Code	Stk	Material	Insert	Coolant Port	L	D	C	H	F**	Min. Bore	Screw
BFR-400S	9BF400S	●	Steel	BFR4		5.000	.500	1.000	.050	.237	.400	TS25
BFR-400SC	9BF400SC	●	Steel	BFR4	✓	5.000	.500	1.000	.050	.237	.400	TS25
BFR-400HM	9BF400HM	●	Heavy Metal	BFR4		5.000	.500	1.000	.050	.237	.400	TS25
BFR-400HMC	9BF400HMC	●	Heavy Metal	BFR4	✓	5.000	.500	1.000	.050	.237	.400	TS25

*TS25 screw uses K2 wrench
** Dimension over sharp point

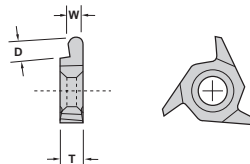
MINIMUM BORE .500 GROOVING BTGR/L



Uncoated	TIN Coated	ATIN Coated
C22	GP22	AC22
	GP4	AC4

Description	EDP Code	W	D	T
BTGR-031W	9BTG031R	.031	.050	.130
BTGL-031W	9BTG031L	.031	.050	.130
BTGR-047W	9BTG047R	.047	.070	.130
BTGL-047W	9BTG047L	.047	.070	.130
BTGR-062W	9BTG062R	.062	.075	.130
BTGL-062W	9BTG062L	.062	.075	.130
BTGR-094W	9BTG094R	.094	.075	.130
BTGL-094W	9BTG094L	.094	.075	.130
BTGR-125W	9BTG125R	.125	.075	.130
BTGL-125W	9BTG125L	.125	.075	.130

GROOVING - Full Nose Radius BTRR/L



Uncoated	TIN Coated	ATIN Coated
C22	GP22	AC22
	GP4	AC4

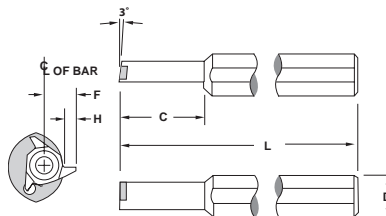
Description	EDP Code	W	R	D	T
BTRR-031W	9BTR031R	.031	.0155	.050	.130
BTRL-031W	9BTR031L	.031	.0155	.050	.130
BTRR-047W	9BTR047R	.047	.0235	.070	.130
BTRL-047W	9BTR047L	.047	.0235	.070	.130
BTRR-062W	9BTR062R	.062	.0310	.075	.130
BTRL-062W	9BTR062L	.062	.0310	.075	.130
BTRR-094W	9BTR094R	.094	.0470	.075	.130
BTRL-094W	9BTR094L	.094	.0470	.075	.130
BTRR-125W	9BTR125R	.125	.0625	.075	.130
BTRL-125W	9BTR125L	.125	.0625	.075	.130

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- ▲ Recommended grade under general conditions.

Cast Iron	●
Non-Ferrous	●
Stainless/High Temp	●
Steel	●

BTR/L



Description	EDP Code	Stk	Material	Insert	L	D	C	H	F	Min. Bore	Screw*
BTR-500S	9BTR500S	●	Steel	BTBR/BTRR	5.000	.500	1.250	.075	.225	.500	TS25
BTL-500S	9BTL500S	●	Steel	BTBL/BTRL	5.000	.500	1.250	.075	.225	.500	TS25
BTR-500HM	9BTR500HM	●	Heavy Metal	BTBR/BTRR	5.000	.500	1.500	.075	.225	.500	TS25
BTL-500HM	9BTL500HM	●	Heavy Metal	BTBL/BTRL	5.000	.500	1.500	.075	.225	.500	TS25

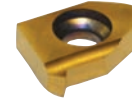
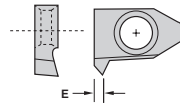
*TS25 screw uses K2 wrench



MINIMUM BORE .250

THREADING - NPT

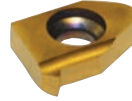
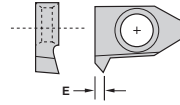
BSVR



Description	EDP Code	TPI	E	Coating Options					
				C22	GP22	GP4	AC22	AC4	
BSVR-14NPT	9BSV14R	14	.045	Uncoated	TIN Coated	AITIN Coated			
BSVR-18NPT	9BSV18R	18	.033	●	●				
BSVR-27NPT	9BSV27R	27	.026	●	●				

THREADING - UN

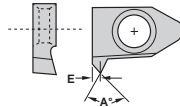
BSVR



Description	EDP Code	TPI	E	Coating Options					
				C22	GP22	GP4	AC22	AC4	
BSVR-12UN	9BSU12R	12	.040	Uncoated	TIN Coated	AITIN Coated			
BSVR-16UN	9BSU16R	16	.031	●	●				
BSVR-18UN	9BSU18R	18	.029	●	●				
BSVR-20UN	9BSU20R	20	.026	●	●				
BSVR-24UN	9BSU24R	24	.023	●	●				
BSVR-28UN	9BSU28R	28	.021	●	●				
BSVR-32UN	9BSU32R	32	.019	●	●				

THREADING - 55°/60° V

BSVR



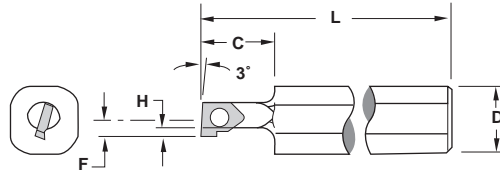
Description	EDP Code	TPI	R/F	E	A	Coating Options				
						C22	GP22	GP4	AC22	AC4
BSVR-55	9BSV55R	16-48	.003F	.039	55°			●		
BSVR-60	9BSV60R	16-48	.003R	.039	60°			●		

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Cast Iron			●		
Non-Ferrous		●			
Stainless/High Temp		●			
Steel		●			

BSR



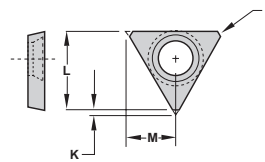
Description	EDP Code	Stk	Material	Insert	Coolant Port	L	D	C	H	F**	Min. Bore	Screw*
BSR-250SC	9B250SC	●	Steel	BSVR	✓	5.000	.500	.500	.050	.157	.250	TS1

*TS1 screw uses K05 wrench
** Dimension over sharp point

MINIMUM BORE .312

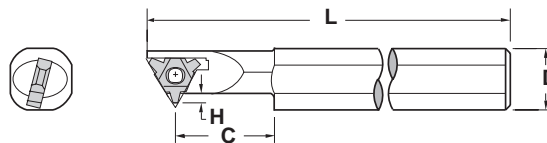
THREADING - 60° V

BHV



Description	EDP Code	TPI	F	Coating Options					
				C22	GP22	GP4	AC22	AC4	
BHV-002	9BHV002	16-48	.002	Uncoated	TIN Coated	AITIN Coated			

BHR

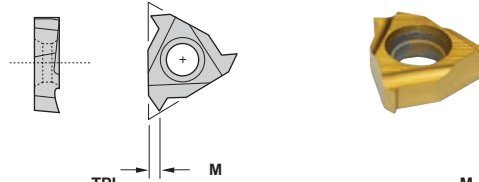


Description	EDP Code	Stk	Material	Insert	L	D	C	H	Min. Bore	Screw*
BHR-312HM	9BHR312HM	●	Heavy Metal	BHV	4.000	.500	1.000	.060	.312	TS3

*TS3 screw uses K1 wrench

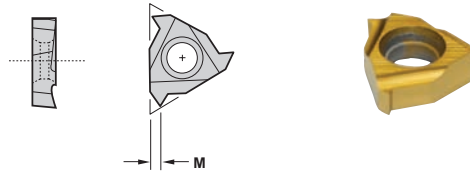


MINIMUM BORE .312 THREADING - NPT BFR3



Description	EDP Code	TPI	M	Coating				
				C22	GP22	GP4	AC22	AC4
BFR3-18NPT	9BFR3V18	18	.033		●	●		
BFR3-27NPT	9BFR3V27	27	.026		●	●		

THREADING - UN BFR3



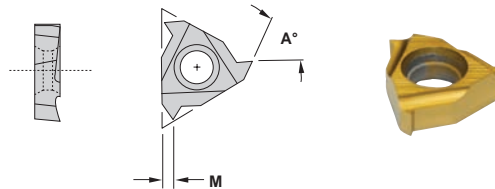
Description	EDP Code	TPI	M	Coating				
				C22	GP22	GP4	AC22	AC4
BFR3-20UN	9BFR3U20	20	.026			●		
BFR3-24UN	9BFR3U24	24	.026			●		
BFR3-28UN	9BFR3U28	28	.021			●		
BFR3-32UN	9BFR3U32	32	.019	●	●			

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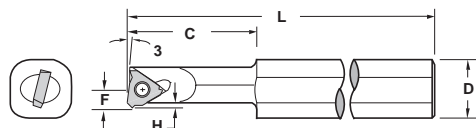
Cast Iron		●			
Non-Ferrous		●			
Stainless/High Temp					
Steel		●			

THREADING - 55°/60° V BFR3



Description	EDP Code	TPI	M	A	Coating				
					C22	GP22	GP4	AC22	AC4
BFR3-55V	9BFR3V55	20-48	.028	55°					
BFR3-60V	9BFR3V60	27-48	.031	60°		●	●		

BFR3



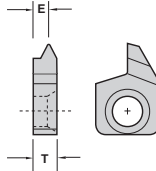
Description	EDP Code	Stk	Material	Insert	Coolant		L	D	C	H	F	Min. Bore	Screw*
					Port								
BFR-312S	9BF312S	●	Steel	BFR3			5.000	.500	.500	.050	.150	.312	TS25
BFR-312SC	9BF312SC	●	Steel	BFR3	✓		5.000	.500	.500	.050	.150	.312	TS25
BFR-312HM	9BF312HM	●	Heavy Metal	BFR3			5.000	.500	1.250	.050	.150	.312	TS25
BFR-312HMC	9BF312HMC	●	Heavy Metal	BFR3	✓		5.000	.500	1.250	.050	.150	.312	TS25

*TS25 screw uses K2 wrench



MINIMUM BORE .312 - .440

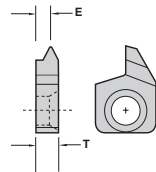
THREADING - NPT
BNVR/L



Description	EDP Code	TPI	E	T	Uncoated		TiN Coated		AlTiN Coated	
					C22	GP22	GP4	AC22	AC4	
BNVR-14NPT	9BNP14R	14	.040	.137		●	●			
BNVL-14NPT	9BNP14L	14	.040	.137		●	●			
BNVR-18NPT	9BNP18R	18	.030	.137		●	●			
BNVL-18NPT	9BNP18L	18	.030	.137		●	●			
BNVR-27NPT	9BNP27R	27	.030	.137		●	●			
BNVL-27NPT	9BNP27L	27	.030	.137		●	●			

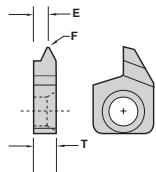
MINIMUM BORE .312 - .440

THREADING - UN
BNVR/L



Description	EDP Code	TPI	E	T	Uncoated		TiN Coated		AlTiN Coated	
					C22	GP22	GP4	AC22	AC4	
BNVR-12UN	9BNV12R	12	.040	.137		●	●			
BNVL-12UN	9BNV12L	12	.040	.137		●	●			
BNVR-16UN	9BNV16R	16	.031	.137		●	●			
BNVL-16UN	9BNV16L	16	.031	.137		●	●			
BNVR-18UN	9BNV18R	18	.031	.137		●	●			
BNVL-18UN	9BNV18L	18	.031	.137		●	●			
BNVR-20UN	9BNV20R	20	.030	.137		●	●			
BNVL-20UN	9BNV20L	20	.030	.137		●	●			
BNVR-24UN	9BNV24R	24	.030	.137		●	●			
BNVL-24UN	9BNV24L	24	.030	.137		●	●			
BNVR-28UN	9BNV28R	28	.030	.137		●	●			
BNVL-28UN	9BNV28L	28	.030	.137		●	●			
BNVR-32UN	9BNV32R	32	.030	.137		●	●			
BNVL-32UN	9BNV32L	32	.030	.137		●	●			

THREADING - 60° V
BNVR/L



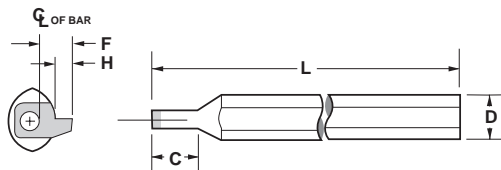
Description	EDP Code	TPI	F	E	T	Uncoated		TiN Coated		AlTiN Coated	
						GFI	C22	GP22	GP4	AC22	AC4
BNVR-60	9BNV60R	18-40	.003F	.095	.137	●	●	●	●		●
BNVL-60	9BNV60L	18-40	.003F	.095	.137	●	●	●	●		●

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- ▲ Recommended grade under general conditions.

Material	Uncoated	TiN Coated	AlTiN Coated
Cast Iron			●
Non-Ferrous		●	
Stainless/High Temp		●	
Steel		●	

BB



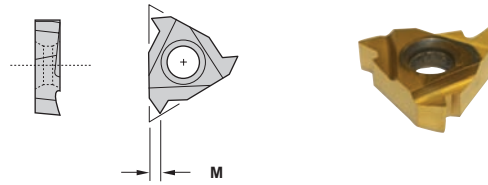
Description	EDP Code	Stk	Material	Insert	L	D	C	F	H	Min. Bore	Screw*
BB-312S	9B312S	●	Steel	BNVR/L	5.000	.500	.750	.156	.070	.312	TS25
BB-344S	9B344S	●	Steel	BNVR/L	5.000	.500	.750	.152	.070	.344	TS25
BB-375S	9B375S	●	Steel	BNVR/L	5.000	.500	.750	.1625	.070	.375	TS25
BB-440S	9B440S	●	Steel	BNVR/L	5.000	.500	1.000	.190	.070	.440	TS25
BB-312HM	9B312HM	●	Heavy Metal	BNVR/L	5.000	.500	1.000	.156	.070	.312	TS25
BB-344HM	9B344HM	●	Heavy Metal	BNVR/L	5.000	.500	1.000	.152	.070	.344	TS25
BB-375HM	9B375HM	●	Heavy Metal	BNVR/L	5.000	.500	1.250	.1625	.070	.375	TS25
BB-440HM	9B440HM	●	Heavy Metal	BNVR/L	5.000	.500	1.500	.190	.070	.440	TS25
BB-312C	9B312C	●	Carbide	BNVR/L	5.000	.500	1.250	.156	.070	.312	TS25
BB-440C	9B440C	●	Carbide	BNVR/L	5.000	.500	1.500	.190	.070	.440	TS25

*TS25 screw uses K2 wrench



BANTAM

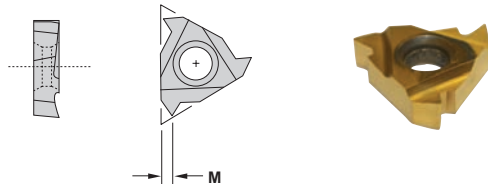
MINIMUM BORE .400 THREADING - NPT BFR4



Description	EDP Code	TPI	M	Coating				
				C22	GP22	GP4	AC22	AC4
BFR4-18NPT	9BFR4V18	18	.033		●			
BFR4-27NPT	9BFR4V27	27	.026		●			

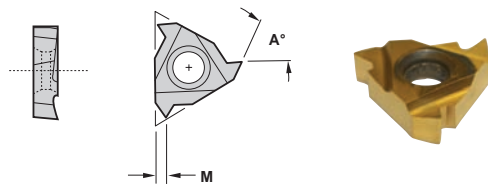
BANTAM

THREADING - UN BFR4



Description	EDP Code	TPI	M	Coating				
				C22	GP22	GP4	AC22	AC4
BFR4-12UN	9BFR4U12	12	.043		●			
BFR4-14UN	9BFR4U14	14	.039		●			
BFR4-16UN	9BFR4U16	16	.034		●			
BFR4-20UN	9BFR4U20	20	.026		●			
BFR4-24UN	9BFR4U24	24	.026		●			
BFR4-28UN	9BFR4U28	28	.021		●			
BFR4-32UN	9BFR4U32	32	.019		●			

THREADING - 55°/60° V BFR4



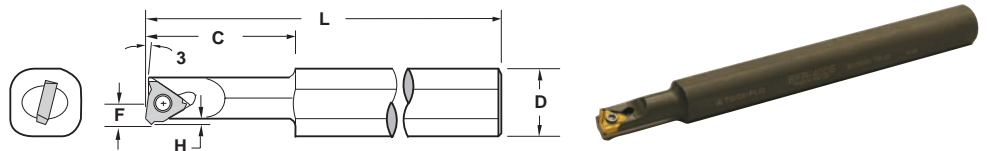
Description	EDP Code	TPI	M	A	Coating				
					C22	GP22	GP4	AC22	AC4
BFR4-55V	9BFR4V55	14-48	.043	55°		●	●		
BFR4-60V	9BFR4V60	14-48	.043	60°		●	●		

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● High performance choice in optimal conditions.
▲ Recommended grade under general conditions.

	Cast Iron	Non-Ferrous	Stainless/High Temp	Steel
●	●	▲		
▲				

BFR4



Description	EDP Code	Stk	Material	Insert	Coolant Port	L	D	C	H	F**	Min. Bore	Screw*
BFR-400S	9BF400S	●	Steel	BFR4		5.000	.500	1.000	.050	.237	.400	TS25
BFR-400SC	9BF400SC	●	Steel	BFR4	✓	5.000	.500	1.000	.050	.237	.400	TS25
BFR-400HM	9BF400HM	●	Heavy Metal	BFR4		5.000	.500	1.000	.050	.237	.400	TS25
BFR-400HMC	9BF400HMC	●	Heavy Metal	BFR4	✓	5.000	.500	1.000	.050	.237	.400	TS25

*TS25 screw uses K2 wrench
** Dimension over sharp point



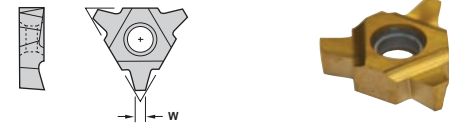
MINIMUM BORE .450 THREADING - ACME BHR4



	Uncoated	TIN Coated	AlTiN Coated
C22	GP22	GP4	AC22
		●	●
		●	●
		●	●

Description	EDP Code	TPI	W
BHR4-8ACME	9BHA080R	8	.0411
BHR4-10ACME	9BHA100R	10	.0319
BHR4-12ACME	9BHA120R	12	.0283
BHR4-16ACME	9BHA160R	16	.0206

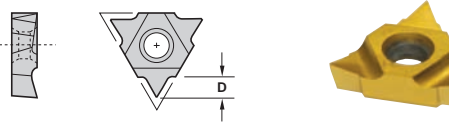
THREADING - STUB ACME BHR4



	C22	GP22	GP4	AC22	AC4
			●		
			●		
			●		

Description	EDP Code	TPI	W
BHR4-8STACME	9BHA081R	8	.0476
BHR4-10STACME	9BHA101R	10	.0370
BHR4-12STACME	9BHA121R	12	.0326
BHR4-16STACME	9BHA161R	16	.0238

THREADING - 60° V BHR4



	C22	GP22	GP4	AC22	AC4
			●	●	
			●		
			●		

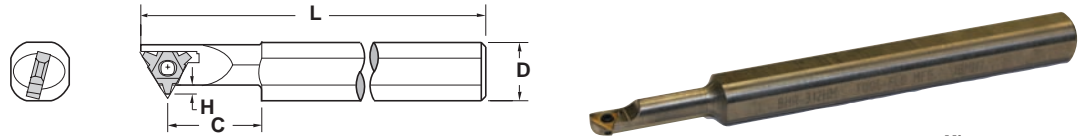
Description	EDP Code	TPI	D
BHR4-60V	9BH460R	16-48	.075

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- ▲ Recommended grade under general conditions.

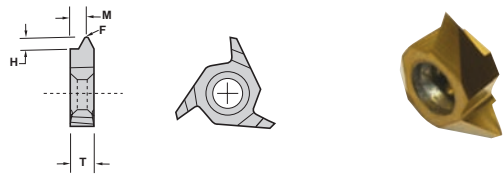
Cast Iron	●	▲			
Non-Ferrous	●	▲			
Stainless/High Temp	●	▲			
Steel	●	▲			

BHR4



Description	EDP Code	Stk	Material	Insert	L	D	C	H	Min. Bore	Screw
BHR-450S	9BHR450S	●	Steel	BHR4	5.000	.500	1.000	.075	.450	TS25
BHR-450HM	9BHR450HM	●	Heavy Metal	BHR4	5.000	.500	1.000	.075	.450	TS25

MINIMUM BORE .500 THREADING - 60° V BTVR/L



	Uncoated	TIN Coated	AlTiN Coated
C22	GP22	GP4	AC22
		●	●
		●	●

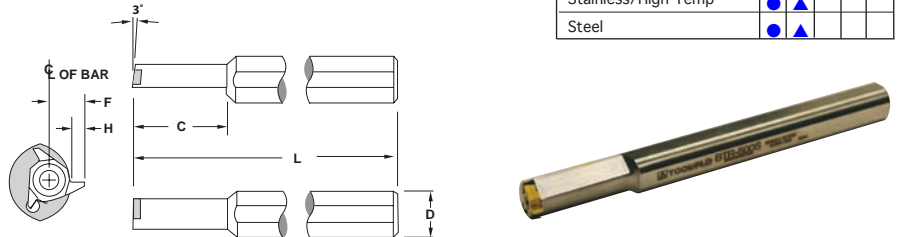
Description	EDP Code	TPI	M	H	T	F
BTVR-60	9BTV60R	8-40	.047	.075	.130	.004
BTVL-60	9BTV60L	8-40	.047	.075	.130	.004

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- High performance choice in optimal conditions.
- ▲ Recommended grade under general conditions.

Cast Iron	●	▲			
Non-Ferrous	●	▲			
Stainless/High Temp	●	▲			
Steel	●	▲			

BTR/L



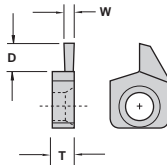
Description	EDP Code	Stk	Material	Insert	L	D	C	H	F	Min. Bore	Screw*
BTR-500S	9BTR500S	●	Steel	BTVR	5.000	.500	1.250	.075	.225	.500	TS25
BTL-500S	9BTL500S	●	Steel	BTVL	5.000	.500	1.250	.075	.225	.500	TS25
BTR-500HM	9BTR500HM	●	Heavy Metal	BTVR	5.000	.500	1.500	.075	.225	.500	TS25
BTL-500HM	9BTL500HM	●	Heavy Metal	BTVL	5.000	.500	1.500	.075	.225	.500	TS25

*TS25 screw uses K2 wrench



MINIMUM BORE .516

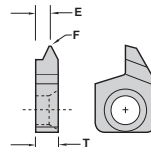
CIRCULAR INTERPOLATING MILLGROOVING BNGR



Description	EDP Code	W	D	T						
					C22	GP22	GP4	AC22	AC4	
BNGR-031W	9BG031R	.031	.050	.137		●	●			
BNGR-047W	9BG047R	.047	.070	.137		●	●			
BNGR-062W	9BG062R	.062	.070	.137		●	●			
BNGR-094W	9BG094R	.094	.070	.137		●	●			
BNGR-125W	9BG125R	.125	.070	.137		●	●			

Uncoated		TIN Coated		AlTiN Coated	
C22	GP22	GP4	AC22	AC4	
	●	●			
	●	●			
	●	●			
	●	●			
	●	●			

THREADMILLING BNVR



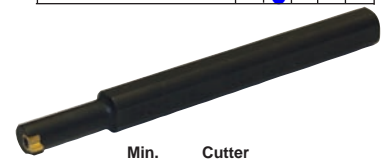
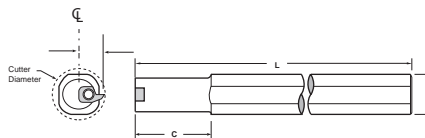
Description	EDP Code	TPI	F	E	T					
						GFI	GP22	GP4	AC22	AC4
BNVR-60	9BNV60R	18-40	.003F	.095	.137	●	●	●		●
BNVL-60	9BNV60L	18-40	.003F	.095	.137	●	●	●		●

Cast Iron		Non-Ferrous		Stainless/High Temp		Steel	
GFI	GP22	GP4	AC22	AC4			
			●				
		●					
		●					
		●					

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▲ Recommended grade under general conditions.

CIRCULAR INTERPOLATING THREADMILLING & MILLGROOVING BBC



Description	EDP Code	Stk	Material	Insert	L	D	C	Min. Dia.	Cutter Dia.	Screw*
BBC-516S	9BC516S	●	Steel	BN_R/L	5.000	.500	1.250	.800	.516	TS25
BBC-516HM	9BC516HM	●	Heavy Metal	BN_R/L	5.000	.500	1.500	.800	.516	TS25

*TS25 screw uses K2 wrench

Bantam Series Kits

THREADING KITS V-THREADING KIT #1

Kit Contents

1	BFR-312S
10	BFR3-60V GP22
1	T8 WRENCH
1	TS25 SCREW

18NPT-THREADING KIT #2

Kit Contents

1	BFR-312S
10	BFR3-18NPT GP22
1	T8 WRENCH
1	TS25 SCREW

27NPT-THREADING KIT #3

Kit Contents

1	BFR-312S
10	BFR3-27NPT GP22
1	T8 WRENCH
1	TS25 SCREW

GROOVING KITS W.031 GROOVING KIT #4

Kit Contents

1	BB-312S
10	BNGR-031W GP4
1	T8 WRENCH
1	TS25 SCREW

W.047 GROOVING KIT #5

Kit Contents

1	BB-312S
10	BNGR-047W GP4
1	T8 WRENCH
1	TS25 SCREW

W.062 GROOVING KIT #6

Kit Contents

1	BB-312S
10	BNGR-062W GP4
1	T8 WRENCH
1	TS25 SCREW

BORING KITS .180 MIN BORE KIT #7

Kit Contents

1	CSBI-165/187-1/2-7R
10	CDCG-505L GP22
1	T6 WRENCH
1	TS1 SCREW

.285 MIN BORE KIT #8

Kit Contents

1	CSBI-250-3-5R
10	CDCG-505L GP22
1	T6 WRENCH
1	TS1 SCREW





Technical Information

		SURFACE FOOTAGE PER MINUTE (SFPM)					
Tool-Flo grade		uncoated		TiN coated		AlTiN coated	
		GFI	C22	GP4	GP22	AC4	AC22
WORKPIECE MATERIAL	Alloy Steel 4000 Series	60-120			100-250	100-180	200-500
	Aluminum		80-200		200-400		300-600
	Carbon Steel		80-150		80-200	100-210	200-500
	Ductile Iron	60-120			100-250		200-500
	Non Metals	60-120	80-150	60-150	200-400		300-600
	Stainless Steel 300 Series	60-120	80-150	60-150	100-250	80-180	150-350
	Stainless Steel 400 Series	60-120		60-150	100-300	80-180	200-500

		FEED RATE		
Application		THREADING	GROOVING	BORING
WORKPIECE MATERIAL	Alloy Steel 4000 Series	Set by pitch (DOC per pass= .002-.004)	IPR=.002-.004	.002-.004
	Aluminum Non-Metals	Set by pitch (DOC per pass= .004-.006)	IPR=.004-.006	.004-.006
	Carbon Steel	Set by pitch (DOC per pass= .002-.004)	IPR=.002-.004	.002-.004
	300Stainless Steel High Temp Alloys	Set by pitch (DOC per pass= .002-.004)	IPR=.002-.004	.002-.004
	Stainless Steel 400 Series	Set by pitch (DOC per pass= .002-.004)	IPR=.002-.004	.002-.004

CUTTING DATA

TOOL-FLO MFG, on all threading and grooving bars, sets the cutting edge of inserts above centerline. This decreases the deflection reducing the load on the insert. The result is a better finish with less chatter. We recommend following the same procedure for boring operations.

*When using the BB-312S/HM bar with a grooving insert .062 wide or greater, reduce the recommended IPR by 50%.

GRADE CROSSOVER CHART

TOOL-FLO	CIRCLE	EVEREDE
C22	C2,C3,C25	CS2,CM2
GFI	C50	CS-4, CS-6, CS-7
GP22	CG5/CM-10	CVM-2, CV-7
GP4	C-4	CT-7
AC22	CG6	CA2
AC4	C70	CC-7