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INDEX

BORING TOOLS

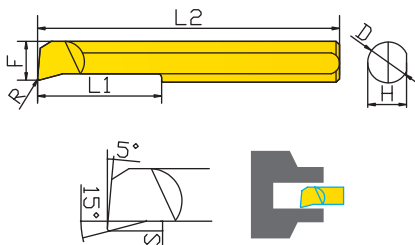
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T20 SOLID TIP-BAR FOR MICRO BORING

SBFR

SBFR Universal - Boring



Specification	F	L1	S	R	D	L2	H	DMIN	T20
SBFR10030R005-D4	0.8	3	0.2	0.05	D4	40	3.7	1	○
SBFR15050R010-D4	1.2	5	0.2	0.1	D4	40	3.7	1.5	○
SBFR20070R010-D4	1.7	7	0.2	0.1	D4	40	3.7	2	○
SBFR25070R010-D4	2.3	7	0.4	0.1	D4	40	3.7	2.5	○
SBFR25120R010-D4	2.3	12	0.4	0.1	D4	40	3.7	2.5	○
SBFR30100R010-D4	2.7	10	0.4	0.1	D4	50	3.7	3	○
SBFR30150R010-D4	2.7	15	0.4	0.1	D4	50	3.7	3	○
SBFR35100R015-D4	3.2	10	0.5	0.15	D4	50	3.7	3.5	○
SBFR35150R015-D4	3.2	15	0.5	0.15	D4	50	3.7	3.5	○
SBFR40100R015-D4	3.7	10	0.5	0.15	D4	50	3.7	4	○
SBFR40150R015-D4	3.7	15	0.5	0.15	D4	50	3.7	4	○
SBFR40200R015-D4	3.7	20	0.5	0.15	D4	50	3.7	4	○
SBFR45150R015-D4	4.0	15	0.5	0.15	D4	50	3.7	4.5	○
SBFR45200R015-D4	4.0	20	0.5	0.15	D4	50	3.7	4.5	○
SBFR45200R020-D6	4.7	15	0.9	0.2	D6	50	5.7	5	○
SBFR50200R020-D6	4.7	20	0.9	0.2	D6	50	5.7	5	○
SBFR50250R020-D6	4.7	25	0.9	0.2	D6	50	5.7	5	○
SBFR55150R020-D6	5.2	15	0.9	0.2	D6	50	5.7	5.5	○
SBFR55200R020-D6	5.2	20	0.9	0.2	D6	50	5.7	5.5	○
SBFR55250R020-D6	5.2	25	0.9	0.2	D6	50	5.7	5.5	○
SBFR60150R020-D6	5.7	15	0.9	0.2	D6	50	5.7	6	○
SBFR60200R020-D6	5.7	20	0.9	0.2	D6	50	5.7	6	○
SBFR60250R020-D6	5.7	25	0.9	0.2	D6	50	5.7	6	○

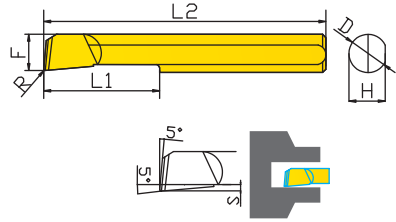
Unit: mm

T20 SOLID TIP-BAR FOR MICRO BORING



SBTR

SBTR Tough Edge - Boring



Specification	F	L1	S	R	D	L2	H	DMIN	T20
SBTR14L R0	0.85	4	0.15	0	D4	40	3.7	1	○
SBTR14L R0.1	0.85	4	0.15	0.1	D4	40	3.7	1	○
SBTR1.55L R0.05	1.3	5	0.2	0.05	D4	40	3.7	1.5	○
SBTR1.55L R0.1	1.3	5	0.2	0.1	D4	40	3.7	1.5	○
SBTR26L R0.05	1.8	6	0.25	0.05	D4	40	3.7	2	○
SBTR26L R0.1	1.8	6	0.25	0.1	D4	40	3.7	2	○
SBTR2.57L R0.05	2.3	7	0.3	0.05	D4	40	3.7	2.5	○
SBTR2.57L R0.1	2.3	7	0.3	0.1	D4	40	3.7	2.5	○
SBTR36L R0.05	2.7	6	0.3	0.05	D4	50	3.7	3	○
SBTR36L R0.1	2.7	6	0.3	0.1	D4	50	3.7	3	○
SBTR36L R0.2	2.7	6	0.3	0.2	D4	50	3.7	3	○
SBTR310L R0.05	2.7	10	0.3	0.05	D4	50	3.7	3	○
SBTR310L R0.1	2.7	10	0.3	0.1	D4	50	3.7	3	○
SBTR310L R0.2	2.7	10	0.3	0.2	D4	50	3.7	3	○
SBTR315L R0.1	2.7	15	0.3	0.1	D4	50	3.7	3	○
SBTR315L R0.2	2.7	15	0.3	0.2	D4	50	3.7	3	○
SBTR3.512L R0.1	3.3	12	0.3	0.1	D4	50	3.7	3.5	○
SBTR3.512L R0.2	3.3	12	0.3	0.2	D4	50	3.7	3.5	○
SBTR48L R0.05	3.7	8	0.4	0.05	D4	50	3.7	4	○
SBTR48L R0.1	3.7	8	0.4	0.1	D4	50	3.7	4	○
SBTR48L R0.2	3.7	8	0.4	0.2	D4	50	3.7	4	○
SBTR410L R0.1	3.7	10	0.4	0.1	D4	50	3.7	4	○
SBTR410L R0.2	3.7	10	0.4	0.2	D4	50	3.7	4	○
SBTR415L R0.05	3.7	15	0.4	0.05	D4	50	3.7	4	○
SBTR415L R0.1	3.7	15	0.4	0.1	D4	50	3.7	4	○
SBTR415L R0.2	3.7	15	0.4	0.2	D4	50	3.7	4	○
SBTR422L R0.1	3.7	22	0.4	0.1	D4	50	3.7	4	○
SBTR422L R0.2	3.7	22	0.4	0.2	D4	50	3.7	4	○
SBTR512L R0.1	4.7	12	0.5	0.1	D5	50	4.7	5	○
SBTR512L R0.2	4.7	12	0.5	0.2	D5	50	4.7	5	○
SBTR520L R0.1	4.7	20	0.5	0.1	D5	50	4.7	5	○
SBTR520L R0.2	4.7	20	0.5	0.2	D5	50	4.7	5	○
SBTR522L R0.1	4.7	22	0.5	0.1	D5	50	4.7	5	○
SBTR522L R0.2	4.7	22	0.5	0.2	D5	50	5.7	5	○
SBTR612L R0.1	5.7	12	0.5	0.1	D6	50	5.7	6	○
SBTR612L R0.2	5.7	12	0.5	0.2	D6	50	5.7	6	○
SBTR620L R0.1	5.7	20	0.5	0.1	D6	50	5.7	6	○
SBTR620L R0.2	5.7	20	0.5	0.2	D6	50	5.7	6	○
SBTR620L R0.4	5.7	20	0.5	0.4	D6	50	5.7	6	○
SBTR622L R0.1	5.7	22	0.5	0.1	D6	50	5.7	6	○
SBTR622L R0.2	5.7	22	0.5	0.2	D6	50	5.7	6	○
SBTR725L R0.2	6.5	25	0.5	0.2	D7	50	6.7	7	○
SBTR830L R0.2	7.5	30	0.5	0.2	D8	60	7.6	8	○
SBTR830L R0.4	7.5	30	0.5	0.4	D8	60	7.6	8	○

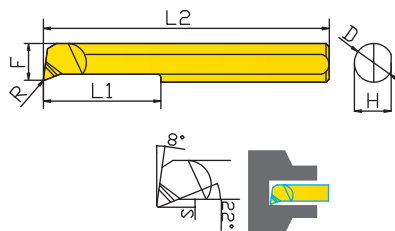
Unit: mm



T20 SOLID TIP-BAR FOR MICRO BORING

SBPR

SBPR Sharp Edge - Boring



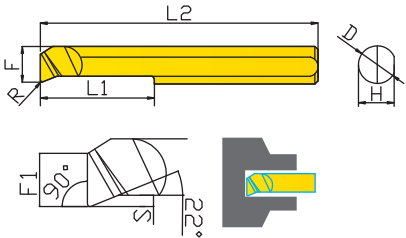
Specification	F	L1	S	R	D	L2	H	DMIN	T20
SBPR14L R0	0.85	4	0.15	0	D4	40	3.7	1	○
SBPR14L R0.05	0.85	4	0.15	0.05	D4	40	3.7	1	○
SBPR26L R0.05	1.8	6	0.3	0.05	D4	40	3.7	2	○
SBPR26L R0.1	1.8	6	0.3	0.1	D4	40	3.7	2	○
SBPR36L R0.05	2.7	6	0.3	0.05	D4	50	3.7	3	○
SBPR36L R0.1	2.7	6	0.3	0.1	D4	50	3.7	3	○
SBPR36L R0.2	2.7	6	0.3	0.2	D4	50	3.7	3	○
SBPR310L R0.05	2.7	10	0.3	0.05	D4	50	3.7	3	○
SBPR310L R0.1	2.7	10	0.3	0.1	D4	50	3.7	3	○
SBPR310L R0.2	2.7	10	0.3	0.2	D4	50	3.7	3	○
SBPR315L R0.1	2.7	15	0.3	0.1	D4	50	3.7	3	○
SBPR315L R0.2	2.7	15	0.3	0.2	D4	50	3.7	3	○
SBPR48L R0.05	3.7	8	0.7	0.05	D4	50	3.7	4	○
SBPR48L R0.1	3.7	8	0.7	0.1	D4	50	3.7	4	○
SBPR48L R0.2	3.7	8	0.7	0.2	D4	50	3.7	4	○
SBPR415L R0.05	3.7	15	0.7	0.05	D4	50	3.7	4	○
SBPR415L R0.1	3.7	15	0.7	0.1	D4	50	3.7	4	○
SBPR415L R0.2	3.7	15	0.7	0.2	D4	50	3.7	4	○
SBPR422L R0.1	3.7	22	0.7	0.1	D4	50	3.7	4	○
SBPR422L R0.2	3.7	22	0.7	0.2	D4	50	3.7	4	○
SBPR515L R0.1	4.7	15	1.2	0.1	D5	50	4.7	5	○
SBPR515L R0.2	4.7	15	1.2	0.2	D5	50	4.7	5	○
SBPR520L R0.05	4.7	20	1.2	0.05	D5	50	4.7	5	○
SBPR520L R0.1	4.7	20	1.2	0.1	D5	50	4.7	5	○
SBPR520L R0.2	4.7	20	1.2	0.2	D5	50	4.7	5	○
SBPR522L R0.1	4.7	22	1.2	0.1	D5	50	4.7	5	○
SBPR522L R0.2	4.7	22	1.2	0.2	D5	50	4.7	5	○
SBPR615L R0.1	5.7	15	1.2	0.1	D6	50	5.7	6	○
SBPR615L R0.2	5.7	15	1.2	0.2	D6	50	5.7	6	○
SBPR620L R0.05	5.7	20	1.2	0.05	D6	50	5.7	6	○
SBPR620L R0.1	5.7	20	1.2	0.1	D6	50	5.7	6	○
SBPR620L R0.2	5.7	20	1.2	0.2	D6	50	5.7	6	○
SBPR622L R0.1	5.7	22	1.2	0.1	D6	50	5.7	6	○
SBPR622L R0.2	5.7	22	1.2	0.2	D6	50	5.7	6	○
SBPR725L R0.15	6.5	25	1.5	0.15	D7	50	6.7	7	○
SBPR822L R0.2	7.5	22	1.5	0.2	D8	60	7.6	8	○
SBPR830L R0.15	7.5	30	1.5	0.15	D8	60	7.6	8	○
SBPR830L R0.3	7.5	30	1.5	0.3	D8	60	7.6	8	○

Unit: mm



SBUR

SBUR Boring - Internal Facing

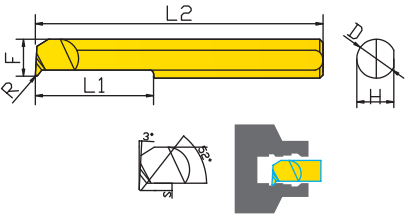


Specification	F	L1	F1	S	R	D	L2	H	DMIN	T20
SBUR310L R0.1	2.7	10	1.3	0.4	0.1	D4	50	3.7	3	○
SBUR415L R0.1	3.7	15	1.7	0.5	0.1	D4	50	3.7	4	○
SBUR520L R0.2	4.7	20	2.1	0.7	0.2	D5	50	4.7	5	○
SBUR620L R0.2	5.7	20	2.8	1.0	0.2	D6	50	5.7	6	○
SBUR725L R0.2	6.7	25	3.2	1.0	0.2	D7	50	6.7	7	○
SBUR830L R0.2	7.7	30	3.8	1.0	0.2	D8	60	7.6	8	○

Unit: mm

SBQR

SBQR Boring - Internal Profiling



Specification	F	L1	S	R	D	L2	H	DMIN	T20
SBQR310L R0.1	2.9	10	0.6	0.1	D4	50	3.7	3	○
SBQR310L R0.2	2.9	10	0.6	0.2	D4	50	3.7	3	○
SBQR410L R0.1	3.9	10	0.8	0.1	D4	50	3.7	4	○
SBQR410L R0.2	3.9	10	0.8	0.2	D4	50	3.7	4	○
SBQR515L R0.1	4.9	15	1.0	0.1	D5	50	4.7	5	○
SBQR515L R0.2	4.9	15	1.0	0.2	D5	50	4.7	5	○
SBQR615L R0.1	5.9	15	1.0	0.1	D6	50	5.7	6	○
SBQR615L R0.2	5.9	15	1.0	0.2	D6	50	5.7	6	○
SBQR720L R0.2	6.5	20	1.5	0.2	D7	50	6.7	7	○
SBQR825L R0.1	7.5	25	2.0	0.1	D8	60	7.6	8	○
SBQR825L R0.2	7.5	25	2.0	0.2	D8	60	7.6	8	○

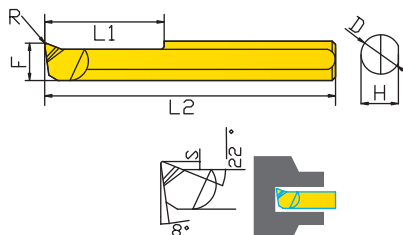
Unit: mm



T20 SOLID TIP-BAR FOR MICRO BORING

SBPL

SBPL Boring - Left Hand

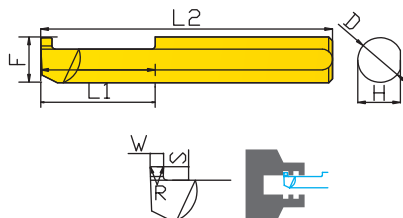


Specification	F	L1	S	R	D	L2	H	DMIN	T20
SBPL26L R0.1	1.8	6	0.3	0.1	D4	40	3.7	2	○
SBPL310L R0.1	2.7	10	0.3	0.1	D4	50	3.7	3	○
SBPL415L R0.1	3.7	15	0.7	0.1	D4	50	3.7	4	○
SBPL520L R0.2	4.7	20	1.2	0.2	D5	50	4.7	5	○
SBPL620L R0.2	5.7	20	1.2	0.2	D6	50	5.7	6	○
SBPL725L R0.2	6.5	25	1.5	0.2	D7	50	6.7	7	○
SBPL830L R0.2	7.5	30	1.5	0.2	D8	60	7.6	8	○

Unit: mm

SBWL

SBWL Internal Grooving - Left Hand



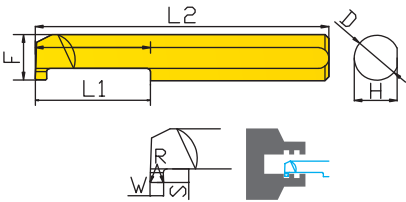
Specification	W	S	L1	R	F	D	L2	H	DMIN	T20
SBWL05050R005-D3	0.5	1.0	5	0.05	2.8	D3	40	2.7	3	○
SBWL08050R005-D3	0.8	1.0	5	0.05	2.8	D3	40	2.7	3	○
SBWL10050R005-D3	1.0	1.0	5	0.05	2.8	D3	40	2.7	3	○
SBWL15050R005-D3	1.5	1.0	5	0.05	2.8	D3	40	2.7	3	○
SBWL05050R005-D4	0.5	1.0	5	0.05	3.8	D4	40	3.7	4	○
SBWL08050R005-D4	0.8	1.0	5	0.05	3.8	D4	40	3.7	4	○
SBWL10050R005-D4	1.0	1.5	5	0.05	3.8	D4	40	3.7	4	○
SBWL15050R005-D4	1.5	1.5	5	0.05	3.8	D4	40	3.7	4	○
SBWL10050R010-D5	1.0	1.5	5	0.1	4.8	D5	40	4.7	5	○
SBWL12050R010-D5	1.2	1.5	5	0.1	4.8	D5	40	4.7	5	○
SBWL15050R010-D5	1.5	2.0	5	0.1	4.8	D5	40	4.7	5	○
SBWL20050R010-D5	2.0	2.0	5	0.1	4.8	D5	40	4.7	5	○
SBWL10060R015-D6	1.0	2.0	6	0.15	5.8	D6	40	5.7	6	○
SBWL15060R015-D6	1.5	2.0	6	0.15	5.8	D6	40	5.7	6	○
SBWL20060R015-D6	2.0	2.0	6	0.15	5.8	D6	40	5.7	6	○
SBWL25060R015-D6	2.5	2.5	6	0.15	5.8	D6	40	5.7	6	○
SBWL10100R015-D8	1.0	3.0	10	0.15	7.8	D8	50	7.6	7	○
SBWL15100R015-D8	1.5	3.0	10	0.15	7.8	D8	50	7.6	7	○
SBWL20100R015-D8	2.0	3.0	10	0.15	7.8	D8	50	7.6	7	○
SBWL25100R015-D8	2.5	3.0	10	0.15	7.8	D8	50	7.6	7	○

Unit: mm



SBWR

SBWR Internal Grooving



Short Flute Length

Specification	W	S	L1	R	F	D	L2	H	DMIN	T20
SBWR05050R005-D3	0.5	1.0	5	0.05	2.8	D3	40	2.7	3	○
SBWR08050R005-D3	0.8	1.0	5	0.05	2.8	D3	40	2.7	3	○
SBWR10050R005-D3	1.0	1.0	5	0.05	2.8	D3	40	2.7	3	○
SBWR15050R005-D3	1.5	1.0	5	0.05	2.8	D3	40	2.7	3	○
SBWR05050R005-D4	0.5	1.0	5	0.05	3.8	D4	40	3.7	4	○
SBWR08050R005-D4	0.8	1.0	5	0.05	3.8	D4	40	3.7	4	○
SBWR10050R005-D4	1.0	1.5	5	0.05	3.8	D4	40	3.7	4	○
SBWR15050R005-D4	1.5	1.5	5	0.05	3.8	D4	40	3.7	4	○
SBWR10050R010-D5	1.0	1.5	5	0.1	4.8	D5	40	4.7	5	○
SBWR12050R010-D5	1.2	1.5	5	0.1	4.8	D5	40	4.7	5	○
SBWR15050R010-D5	1.5	2.0	5	0.1	4.8	D5	40	4.7	5	○
SBWR20050R010-D5	2.0	2.0	5	0.1	4.8	D5	40	4.7	5	○
SBWR10060R015-D6	1.0	2.0	6	0.15	5.8	D6	40	5.7	6	○
SBWR15060R015-D6	1.5	2.0	6	0.15	5.8	D6	40	5.7	6	○
SBWR20060R015-D6	2.0	2.0	6	0.15	5.8	D6	40	5.7	6	○
SBWR25060R015-D6	2.5	2.5	6	0.15	5.8	D6	40	5.7	6	○
SBWR10100R015-D8	1.0	3.0	10	0.15	7.8	D8	50	7.6	8	○
SBWR15100R015-D8	1.5	3.0	10	0.15	7.8	D8	50	7.6	8	○
SBWR20100R015-D8	2.0	3.0	10	0.15	7.8	D8	50	7.6	8	○
SBWR25100R015-D8	2.5	3.0	10	0.15	7.8	D8	50	7.6	8	○

Long Flute Length

Specification	W	S	L1	R	F	D	L2	H	DMIN	T20
SBWR05100R005-D4	0.5	1.0	10	0.05	3.8	D4	50	3.7	4	○
SBWR08100R005-D4	0.8	1.0	10	0.05	3.8	D4	50	3.7	4	○
SBWR10100R005-D4	1.0	1.5	10	0.05	3.8	D4	50	3.7	4	○
SBWR15100R005-D4	1.5	1.5	10	0.05	3.8	D4	50	3.7	4	○
SBWR10100R010-D5	1.0	1.5	10	0.1	4.8	D5	50	4.7	5	○
SBWR12100R010-D5	1.2	1.5	10	0.1	4.8	D5	50	4.7	5	○
SBWR15100R010-D5	1.5	2.0	10	0.1	4.8	D5	50	4.7	5	○
SBWR20100R010-D5	2.0	2.0	10	0.1	4.8	D5	50	4.7	5	○
SBWR10120R015-D6	1.0	2.0	12	0.15	5.8	D6	50	5.7	6	○
SBWR15120R015-D6	1.5	2.0	12	0.15	5.8	D6	50	5.7	6	○
SBWR20120R015-D6	2.0	2.0	12	0.15	5.8	D6	50	5.7	6	○
SBWR25160R015-D6	2.5	2.5	16	0.15	5.8	D6	50	5.7	6	○
SBWR10160R015-D8	1.0	3.0	16	0.15	7.8	D8	50	7.6	8	○
SBWR15160R015-D8	1.5	3.0	16	0.15	7.8	D8	50	7.6	8	○
SBWR20160R015-D8	2.0	3.0	16	0.15	7.8	D8	50	7.6	8	○
SBWR25160R015-D8	2.5	3.0	16	0.15	7.8	D8	50	7.6	8	○

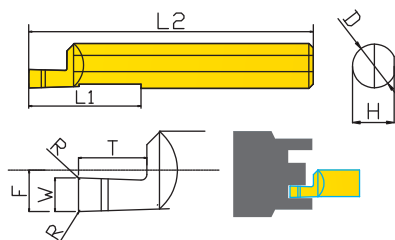
Unit: mm



T20 SOLID TIP-BAR FOR MICRO BORING

SMFR

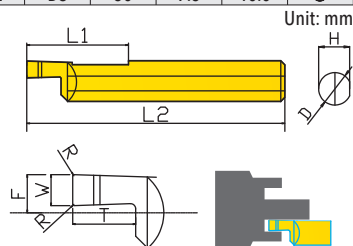
SMFR Face Grooving - Right Hand



Specification	F	L1	T	W	R	D	L2	H	DMIN	T20
SMFR415L W0.5	1.95	15	1.0	0.5	0.05	D4	50	3.5	6.0	○
SMFR415L W0.75	1.95	15	1.5	0.75	0.05	D4	50	3.5	6.0	○
SMFR415L W1.0	1.95	15	1.5	1.0	0.05	D4	50	3.5	6.0	○
SMFR415L W1.5	1.95	15	2.8	1.5	0.05	D4	50	3.5	6.0	○
SMFR522L W0.75	2.45	22	1.5	0.75	0.1	D5	50	4.5	6.0	○
SMFR522L W1.0	2.45	22	1.5	1.0	0.1	D5	50	4.5	6.0	○
SMFR522L W1.5	2.45	22	2.5	1.5	0.1	D5	50	4.5	6.0	○
SMFR522L W2.0	2.45	22	4.0	2.0	0.1	D5	50	4.5	6.0	○
SMFR622L W0.75	2.95	22	1.5	0.75	0.1	D6	50	5.5	8.0	○
SMFR622L W1.0	2.95	22	2.0	1.0	0.1	D6	50	5.5	8.0	○
SMFR622L W1.5	2.95	22	3.0	1.5	0.1	D6	50	5.5	8.0	○
SMFR622L W2.0	2.95	22	4.0	2.0	0.1	D6	50	5.5	8.0	○
SMFR622L W2.5	2.95	22	5.0	2.5	0.1	D6	50	5.5	8.0	○
SMFR820L W1.5	3.95	20	4.0	1.5	0.2	D8	50	7.5	10.0	○
SMFR820L W2.0	3.95	20	4.0	2.0	0.2	D8	50	7.5	10.0	○
SMFR820L W2.5	3.95	20	5.0	2.5	0.2	D8	50	7.5	10.0	○
SMFR820L W3.0	3.95	20	6.0	3.0	0.2	D8	50	7.5	10.0	○

SMFL

SMFL Face Grooving - Left Hand



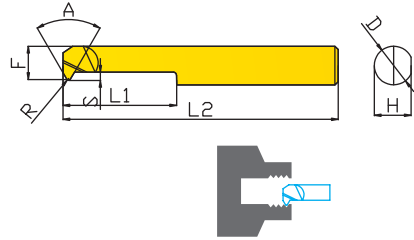
Specification	F	L1	T	W	R	D	L2	H	DMIN	T20
SMFL415L W0.5	1.95	15	1.0	0.5	0.05	D4	50	3.5	6.0	○
SMFL415L W0.75	1.95	15	1.5	0.75	0.05	D4	50	3.5	6.0	○
SMFL415L W1.0	1.95	15	1.5	1.0	0.05	D4	50	3.5	6.0	○
SMFL415L W1.5	1.95	15	2.8	1.5	0.05	D4	50	3.5	6.0	○
SMFL522L W0.75	2.45	22	1.5	0.75	0.1	D5	50	4.5	6.0	○
SMFL522L W1.0	2.45	22	1.5	1.0	0.1	D5	50	4.5	6.0	○
SMFL522L W1.5	2.45	22	2.5	1.5	0.1	D5	50	4.5	6.0	○
SMFL522L W2.0	2.45	22	4.0	2.0	0.1	D5	50	4.5	6.0	○
SMFL622L W0.75	2.95	22	1.5	0.75	0.1	D6	50	5.5	8.0	○
SMFL622L W1.0	2.95	22	2.0	1.0	0.1	D6	50	5.5	8.0	○
SMFL622L W1.5	2.95	22	3.0	1.5	0.1	D6	50	5.5	8.0	○
SMFL622L W2.0	2.95	22	4.0	2.0	0.1	D6	50	5.5	8.0	○
SMFL622L W2.5	2.95	22	5.0	2.5	0.1	D6	50	5.5	8.0	○
SMFL820L W1.5	3.95	20	4.0	1.5	0.2	D8	50	7.5	10.0	○
SMFL820L W2.0	3.95	20	4.0	2.0	0.2	D8	50	7.5	10.0	○
SMFL820L W2.5	3.95	20	5.0	2.5	0.2	D8	50	7.5	10.0	○
SMFL820L W3.0	3.95	20	6.0	3.0	0.2	D8	50	7.5	10.0	○

Unit: mm

T20 SOLID TIP-BAR FOR MICRO BORING



STIR STIR Internal Threading



60° - Right Hand

Specification	F	L1	S	R	D	H	Metric	Pitch(mm)		DMIN	T20
								min	max		
STIR14050-60°	1.4	5	0.4	0	D4	3.7	M2	0.25	0.45	1.5	○
STIR18070-60°	1.8	7	0.6	0	D4	3.7	M2.5	0.25	0.7	2.0	○
STIR24070-60°	2.4	7	0.5	0	D4	3.7	M3	0.35	0.6	2.5	○
STIR30120-60°	3.0	12	0.85	0.03	D4	3.7	M4	0.5	0.8	3.1	○
STIR40100-60°	3.85	10	1.1	0.05	D4	3.7	M5/M6	0.5	1.0	4.0	○
STIR40150-60°	3.85	15	1.1	0.05	D4	3.7	M5/M6	0.5	1.0	4.0	○
STIR50150-60°	4.8	15	1.5	0.05	D5	4.7	M8	0.75	1.5	5.0	○
STIR50220-60°	4.8	22	1.5	0.05	D5	4.7	M8	0.75	1.5	5.0	○
STIR60150-60°	5.6	15	1.8	0.08	D6	5.7	M10	0.75	1.75	6.0	○
STIR60200-60°	5.6	20	1.8	0.08	D6	5.7	M10	0.75	1.75	6.0	○
STIR80220-60°	7.8	22	2.2	0.08	D8	7.6	M12	1.0	2.0	8.0	○

60° - Left Hand

Specification	F	L1	S	R	D	H	Metric	Pitch(mm)		DMIN	T20
								min	max		
STIL40150-60°	3.85	15	1.1	0.05	D4	3.7	M5/M6	0.5	1.0	4.1	○
STIL50150-60°	4.8	15	1.5	0.05	D5	4.7	M8	0.75	1.5	5.1	○
STIL60200-60°	5.6	20	1.8	0.08	D6	5.7	M10	0.75	1.75	6.0	○
STIL80220-60°	7.8	22	2.2	0.08	D8	7.6	M12	1.0	2.0	8.0	○

55° - Right Hand

Specification	F	L1	S	R	D	H	Metric	Pitch(mm)		DMIN	T20
								min	max		
STIR40150-55°	3.85	15	1.1	0.05	D4	3.7	-	-	-	4.0	○
STIR50150-55°	4.8	15	1.5	0.05	D5	4.7	-	-	-	5.0	○
STIR60200-55°	5.6	20	1.8	0.08	D6	5.7	-	-	-	6.0	○
STIR80220-55°	7.8	22	2.2	0.08	D8	7.6	-	-	-	8.0	○

55° - Left Hand

Specification	F	L1	S	R	D	H	Metric	Pitch(mm)		DMIN	T20
								min	max		
STIL40150-55°	3.85	15	1.1	0.05	D4	3.7	-	-	-	4.0	○
STIL50150-55°	4.8	15	1.5	0.05	D5	4.7	-	-	-	5.0	○
STIL60200-55°	5.6	20	1.8	0.08	D6	5.7	-	-	-	6.0	○
STIL80220-55°	7.8	22	2.2	0.08	D8	7.6	-	-	-	8.0	○

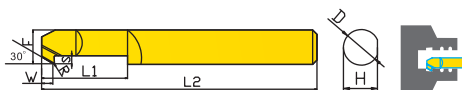
Unit: mm



T20 SOLID TIP-BAR FOR MICRO BORING

SBXR

SBXR Internal Back Grooving - Corner Radius



Specification	F	W	S	L1	R	D	L2	H	DMIN	T20
SBXR4R0.1 10L	3.8	1.5	1.0	10	0.1	D4	50	3.7	4	○
SBXR5R0.15 15L	4.8	2.0	1.5	15	0.15	D5	50	4.7	5	○
SBXR6R0.2 20L	5.8	2.0	2.0	20	0.2	D6	50	5.7	6	○

Unit: mm

SBKR

SBKR Internal Grooving - Corner Radius



Specification	F	S	L1	R	D	L2	H	DMIN	T20
SBKR4R0.5 10L	3.8	1.0	10	0.5	D4	50	3.7	4	○
SBKR4R0.75 10L	3.8	1.0	10	0.75	D4	50	3.7	4	○
SBKR6R0.5 15L	5.8	1.5	15	0.5	D6	50	5.7	6	○
SBKR6R0.75 15L	5.8	1.5	15	0.75	D6	50	5.7	6	○
SBKR6R1.0 15L	5.8	1.5	15	1.0	D6	50	5.7	6	○

Unit: mm

SBDR

SBDR Boring - Internal Chamfering - Internal Grooving

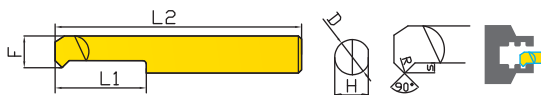


Specification	F	L1	S	R	D	L2	H	W	DMIN	T20
SBDR410L R0.2	3.8	10	0.8	0.2	D4	50	3.7	1.5	4	○
SBDR515L R0.2	4.8	15	1.2	0.2	D5	50	4.7	1.5	5	○
SBDR615L R0.2	5.8	15	1.4	0.2	D6	50	5.7	1.5	6	○

Unit: mm

SBCR

SBCR Boring - Internal Chamfering



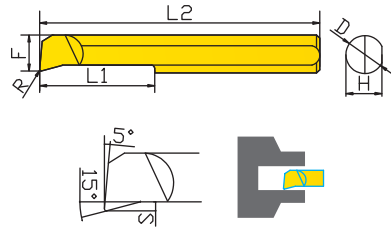
Specification	F	L1	S	R	D	L2	H	T20
SBCR310L R0.2	2.8	10	0.5	0.2	D4	50	3.7	○
SBCR415L R0.2	3.7	15	0.8	0.2	D4	50	3.7	○
SBCR515L R0.2	4.7	15	1.2	0.2	D5	50	4.7	○
SBCR615L R0.2	5.7	15	1.5	0.2	D6	50	5.7	○

Unit: mm

T30 SOLID TIP-BAR FOR MICRO BORING



GNR
GNR Boring



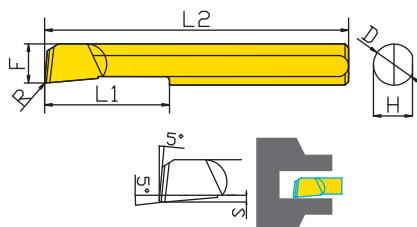
Specification	F	L1	S	R	D	L2	H	DMIN	T30
GNR10030R005-D4	0.8	3	0.2	0.05	D4	40	3.7	1	○
GNR15050R010-D4	1.2	5	0.2	0.1	D4	40	3.7	1.5	○
GNR20070R010-D4	1.7	7	0.2	0.1	D4	40	3.7	2	○
GNR25070R010-D4	2.3	7	0.4	0.1	D4	40	3.7	2.5	○
GNR25120R010-D4	2.3	12	0.4	0.1	D4	40	3.7	2.5	○
GNR30100R010-D4	2.7	10	0.4	0.1	D4	50	3.7	3	○
GNR30150R010-D4	2.7	15	0.4	0.1	D4	50	3.7	3	○
GNR35100R015-D4	3.2	10	0.5	0.15	D4	50	3.7	3.5	○
GNR35150R015-D4	3.2	15	0.5	0.15	D4	50	3.7	3.5	○
GNR40100R015-D4	3.7	10	0.5	0.15	D4	50	3.7	4	○
GNR40150R015-D4	3.7	15	0.5	0.15	D4	50	3.7	4	○
GNR40200R015-D4	3.7	20	0.5	0.15	D4	50	3.7	4	○
GNR45150R015-D4	4.0	15	0.5	0.15	D4	50	3.7	4.5	○
GNR45200R015-D4	4.0	20	0.5	0.15	D4	50	3.7	4.5	○
GNR50150R020-D6	4.7	15	0.9	0.2	D6	50	5.7	5	○
GNR50200R020-D6	4.7	20	0.9	0.2	D6	50	5.7	5	○
GNR50250R020-D6	4.7	25	0.9	0.2	D6	50	5.7	5	○
GNR55150R020-D6	5.2	15	0.9	0.2	D6	50	5.7	5.5	○
GNR55200R020-D6	5.2	20	0.9	0.2	D6	50	5.7	5.5	○
GNR55250R020-D6	5.2	25	0.9	0.2	D6	50	5.7	5.5	○
GNR60150R020-D6	5.7	15	0.9	0.2	D6	50	5.7	6	○
GNR60200R020-D6	5.7	20	0.9	0.2	D6	50	5.7	6	○
GNR60250R020-D6	5.7	25	0.9	0.2	D6	50	5.7	6	○

Unit: mm



T30 SOLID TIP-BAR FOR MICRO BORING

GTR
GTR Boring



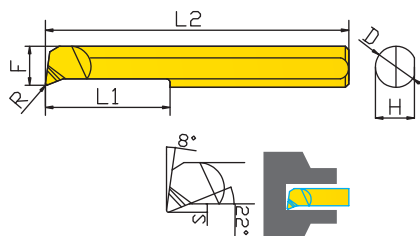
Specification	F	L1	S	R	D	L2	H	DMIN	T30
GTR14L R0	0.85	4	0.15	0	D4	40	3.7	1	○
GTR14L R0.1	0.85	4	0.15	0.1	D4	40	3.7	1	○
GTR1.55L R0.05	1.3	5	0.2	0.05	D4	40	3.7	1.5	○
GTR1.55L R0.1	1.3	5	0.2	0.1	D4	40	3.7	1.5	○
GTR26L R0.05	1.8	6	0.25	0.05	D4	40	3.7	2	○
GTR26L R0.1	1.8	6	0.25	0.1	D4	50	3.7	2	○
GTR2.57L R0.05	2.3	7	0.3	0.05	D4	50	3.7	2.5	○
GTR2.57L R0.1	2.3	7	0.3	0.1	D4	50	3.7	2.5	○
GTR36L R0.05	2.7	6	0.3	0.05	D4	50	3.7	3	○
GTR36L R0.1	2.7	6	0.3	0.1	D4	50	3.7	3	○
GTR36L R0.2	2.7	6	0.3	0.2	D4	50	3.7	3	○
GTR310L R0.05	2.7	10	0.3	0.05	D4	50	3.7	3	○
GTR310L R0.1	2.7	10	0.3	0.1	D4	50	3.7	3	○
GTR310L R0.2	2.7	10	0.3	0.2	D4	50	3.7	3	○
GTR315L R0.1	2.7	15	0.3	0.1	D4	50	3.7	3	○
GTR315L R0.2	2.7	15	0.3	0.2	D4	50	3.7	3	○
GTR3.512L R0.1	3.3	12	0.3	0.1	D4	50	3.7	3.5	○
GTR3.512L R0.2	3.3	12	0.3	0.2	D4	50	3.7	3.5	○
GTR48L R0.05	3.7	8	0.4	0.05	D4	50	3.7	4	○
GTR48L R0.1	3.7	8	0.4	0.1	D4	50	3.7	4	○
GTR48L R0.2	3.7	8	0.4	0.2	D4	50	3.7	4	○
GTR410L R0.1	3.7	10	0.4	0.1	D4	50	3.7	4	○
GTR410L R0.2	3.7	10	0.4	0.2	D4	50	3.7	4	○
GTR415L R0.05	3.7	15	0.4	0.05	D4	50	3.7	4	○
GTR415L R0.1	3.7	15	0.4	0.1	D4	50	3.7	4	○
GTR415L R0.2	3.7	15	0.4	0.2	D4	50	3.7	4	○
GTR422L R0.1	3.7	22	0.4	0.1	D4	50	3.7	4	○
GTR422L R0.2	3.7	22	0.4	0.2	D4	50	3.7	4	○
GTR512L R0.1	4.7	12	0.5	0.1	D5	50	4.7	5	○
GTR512L R0.2	4.7	12	0.5	0.2	D5	50	4.7	5	○
GTR520L R0.1	4.7	20	0.5	0.1	D5	50	4.7	5	○
GTR520L R0.2	4.7	20	0.5	0.2	D5	50	4.7	5	○
GTR522L R0.1	4.7	22	0.5	0.1	D5	50	4.7	5	○
GTR522L R0.2	4.7	22	0.5	0.2	D5	50	4.7	5	○
GTR612L R0.1	5.7	12	0.5	0.1	D6	50	5.7	6	○
GTR612L R0.2	5.7	12	0.5	0.2	D6	50	5.7	6	○
GTR620L R0.1	5.7	20	0.5	0.1	D6	50	5.7	6	○
GTR620L R0.2	5.7	20	0.5	0.2	D6	50	5.7	6	○
GTR620L R0.4	5.7	20	0.5	0.4	D6	50	5.7	6	○
GTR622L R0.1	5.7	22	0.5	0.1	D6	50	5.7	6	○
GTR622L R0.2	5.7	22	0.5	0.2	D6	50	5.7	6	○
GTR725L R0.2	6.5	25	0.5	0.2	D7	50	6.7	7	○
GTR830L R0.2	7.5	30	0.5	0.2	D8	60	7.6	8	○
GTR830L R0.4	7.5	30	0.5	0.4	D8	60	7.6	8	○

Unit: mm

T30 SOLID TIP-BAR FOR MICRO BORING



GPR GPR Boring



Specification	F	L1	S	R	D	L2	H	DMIN	T30
GPR14L R0	0.85	4	0.15	0	D4	40	3.7	1	○
GPR14L R0.05	0.85	4	0.15	0.05	D4	40	3.7	1	○
GPR26L R0.05	1.8	6	0.3	0.05	D4	40	3.7	2	○
GPR26L R0.1	1.8	6	0.3	0.1	D4	40	3.7	2	○
GPR36L R0.05	2.7	6	0.3	0.05	D4	50	3.7	3	○
GPR36L R0.1	2.7	6	0.3	0.1	D4	50	3.7	3	○
GPR36L R0.2	2.7	6	0.3	0.2	D4	50	3.7	3	○
GPR310L R0.05	2.7	10	0.3	0.05	D4	50	3.7	3	○
GPR310L R0.1	2.7	10	0.3	0.1	D4	50	3.7	3	○
GPR310L R0.2	2.7	10	0.3	0.2	D4	50	3.7	3	○
GPR315L R0.1	2.7	15	0.3	0.1	D4	50	3.7	3	○
GPR315L R0.2	2.7	15	0.3	0.2	D4	50	3.7	3	○
GPR48L R0.05	3.7	8	0.7	0.05	D4	50	3.7	4	○
GPR48L R0.1	3.7	8	0.7	0.1	D4	50	3.7	4	○
GPR48L R0.2	3.7	8	0.7	0.2	D4	50	3.7	4	○
GPR415L R0.05	3.7	15	0.7	0.05	D4	50	3.7	4	○
GPR415L R0.1	3.7	15	0.7	0.1	D4	50	3.7	4	○
GPR415L R0.2	3.7	15	0.7	0.2	D4	50	3.7	4	○
GPR422L R0.1	3.7	22	0.7	0.1	D4	50	3.7	4	○
GPR422L R0.2	3.7	22	0.7	0.2	D4	50	3.7	4	○
GPR515L R0.1	4.7	15	1.2	0.1	D5	50	4.7	5	○
GPR515L R0.2	4.7	15	1.2	0.2	D5	50	4.7	5	○
GPR520L R0.05	4.7	20	1.2	0.05	D5	50	4.7	5	○
GPR520L R0.1	4.7	20	1.2	0.1	D5	50	4.7	5	○
GPR520L R0.2	4.7	20	1.2	0.2	D5	50	4.7	5	○
GPR522L R0.1	4.7	22	1.2	0.1	D5	50	4.7	5	○
GPR522L R0.2	4.7	22	1.2	0.2	D5	50	4.7	5	○
GPR615L R0.1	5.7	15	1.2	0.1	D6	50	5.7	6	○
GPR615L R0.2	5.7	15	1.2	0.2	D6	50	5.7	6	○
GPR620L R0.05	5.7	20	1.2	0.05	D6	50	5.7	6	○
GPR620L R0.1	5.7	20	1.2	0.1	D6	50	5.7	6	○
GPR620L R0.2	5.7	20	1.2	0.2	D6	50	5.7	6	○
GPR622L R0.1	5.7	22	1.2	0.1	D6	50	5.7	6	○
GPR622L R0.2	5.7	22	1.2	0.2	D6	50	5.7	6	○
GPR725L R0.15	6.5	25	1.5	0.15	D7	50	6.7	7	○
GPR822L R0.2	7.5	22	1.5	0.2	D8	60	7.6	8	○
GPR830L R0.15	7.5	30	1.5	0.15	D8	60	7.6	8	○
GPR830L R0.3	7.5	30	1.5	0.3	D8	60	7.6	8	○

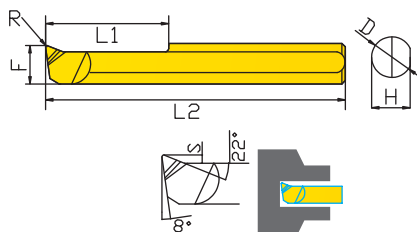
Unit: mm



T30 SOLID TIP-BAR FOR MICRO BORING

GPL

GPL Boring - Left Hand

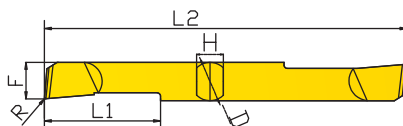


Specification	F	L1	S	R	D	L2	H	DMIN	T30
GPL26L R0.1	1.8	6	0.3	0.1	D4	40	3.7	2	○
GPL310L R0.1	2.7	10	0.3	0.1	D4	50	3.7	3	○
GPL415L R0.1	3.7	15	0.7	0.1	D4	50	3.7	4	○
GPL520L R0.2	4.7	20	1.2	0.2	D5	50	4.7	5	○
GPL620L R0.2	5.7	20	1.2	0.2	D6	50	5.7	6	○
GPL725L R0.2	6.5	25	1.5	0.2	D7	50	6.7	7	○
GPL830L R0.2	7.5	30	1.5	0.2	D8	60	7.6	8	○

Unit: mm

2GTR

2GTR Boring - Double Cutting Edges



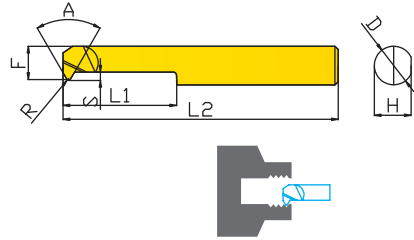
Specification	F	L1	S	R	D	L2	H	DMIN	T30
2GTR25L R0.05	1.8	5	0.15	0.05	D3	50	2.7	2	○
2GTR315L R0.1	2.7	15	0.3	0.1	D3	50	2.7	3	○
2GTR415L R0.15	3.7	15	0.4	0.15	D4	60	3.6	4	○
2GTR525L R0.1	4.7	25	0.5	0.1	D5	75	4.4	5	○
2GTR525L R0.2	4.7	25	0.5	0.2	D5	75	4.4	5	○
2GTR625L R0.1	5.7	25	0.5	0.1	D6	75	5.4	6	○
2GTR625L R0.2	5.7	25	0.5	0.2	D6	75	5.4	6	○

Unit: mm

T30 SOLID TIP-BAR FOR MICRO BORING



GIR GIR Internal Threading



60° - Right Hand

Specification	F	L1	S	R	D	H	Metric	Pitch(mm)		DMIN	T30
								min	max		
GIR14050-60°	1.4	5	0.4	0	D4	3.7	M2	0.25	0.45	1.5	○
GIR18070-60°	1.8	7	0.6	0	D4	3.7	M2.5	0.25	0.7	2.0	○
GIR24070-60°	2.4	7	0.5	0	D4	3.7	M3	0.35	0.6	2.5	○
GIR30120-60°	3.0	12	0.85	0.03	D4	3.7	M4	0.5	0.8	3.1	○
GIR40100-60°	3.85	10	1.1	0.05	D4	3.7	M5/M6	0.5	1.0	4.0	○
GIR40150-60°	3.85	15	1.1	0.05	D4	3.7	M5/M6	0.5	1.0	4.0	○
GIR50150-60°	4.8	15	1.5	0.05	D5	4.7	M8	0.75	1.5	5.0	○
GIR50220-60°	4.8	22	1.5	0.05	D5	4.7	M8	0.75	1.5	5.0	○
GIR60150-60°	5.6	15	1.8	0.08	D6	5.7	M10	0.75	1.75	6.0	○
GIR60200-60°	5.6	20	1.8	0.08	D6	5.7	M10	0.75	1.75	6.0	○
GIR80220-60°	7.8	22	2.2	0.08	D8	7.6	M12	1.0	2.0	8.0	○

60° - Left Hand

Specification	F	L1	S	R	D	H	Metric	Pitch(mm)		DMIN	T30
								min	max		
GIL40150-60°	3.85	15	1.1	0.05	D4	3.7	M5/M6	0.5	1.0	4.1	○
GIL50150-60°	4.8	15	1.5	0.05	D5	4.7	M8	0.75	1.5	5.1	○
GIL60200-60°	5.6	20	1.8	0.08	D6	5.7	M10	0.75	1.75	6.0	○
GIL80220-60°	7.8	22	2.2	0.08	D8	7.6	M12	1.0	2.0	8.0	○

55° - Right Hand

Specification	F	L1	S	R	D	H	Metric	Pitch(mm)		DMIN	T30
								min	max		
GIR40150-55°	3.85	15	1.1	0.05	D4	3.7	-	-	-	4.0	○
GIR50150-55°	4.8	15	1.5	0.05	D5	4.7	-	-	-	5.0	○
GIR60200-55°	5.6	20	1.8	0.08	D6	5.7	-	-	-	6.0	○
GIR80220-55°	7.8	22	2.2	0.08	D8	7.6	-	-	-	8.0	○

55° - Left Hand

Specification	F	L1	S	R	D	H	Metric	Pitch(mm)		DMIN	T30
								min	max		
GIL40150-55°	3.85	15	1.1	0.05	D4	3.7	-	-	-	4.0	○
GIL50150-55°	4.8	15	1.5	0.05	D5	4.7	-	-	-	5.0	○
GIL60200-55°	5.6	20	1.8	0.08	D6	5.7	-	-	-	6.0	○
GIL80220-55°	7.8	22	2.2	0.08	D8	7.6	-	-	-	8.0	○

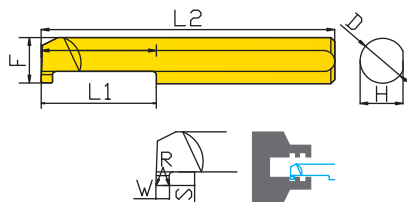
Unit: mm



T30 SOLID TIP-BAR FOR MICRO BORING

GWR

GWR Internal Grooving



Short Flute Length

Specification	W	S	L1	R	F	D	L2	H	DMIN	T30
GWR05050R005-D3	0.5	1.0	5	0.05	2.8	D3	40	2.7	3	○
GWR08050R005-D3	0.8	1.0	5	0.05	2.8	D3	40	2.7	3	○
GWR10050R005-D3	1.0	1.0	5	0.05	2.8	D3	40	2.7	3	○
GWR15050R005-D3	1.5	1.0	5	0.05	2.8	D3	40	2.7	3	○
GWR05050R005-D4	0.5	1.0	5	0.05	3.8	D4	40	3.7	4	○
GWR08050R005-D4	0.8	1.0	5	0.05	3.8	D4	40	3.7	4	○
GWR10050R005-D4	1.0	1.5	5	0.05	3.8	D4	40	3.7	4	○
GWR15050R005-D4	1.5	1.5	5	0.05	3.8	D4	40	3.7	4	○
GWR10050R010-D5	1.0	1.5	5	0.1	4.8	D5	40	4.7	5	○
GWR12050R010-D5	1.2	1.5	5	0.1	4.8	D5	40	4.7	5	○
GWR15050R010-D5	1.5	2.0	5	0.1	4.8	D5	40	4.7	5	○
GWR20050R010-D5	2.0	2.0	5	0.1	4.8	D5	40	4.7	5	○
GWR10060R015-D6	1.0	2.0	6	0.15	5.8	D6	40	5.7	6	○
GWR15060R015-D6	1.5	2.0	6	0.15	5.8	D6	40	5.7	6	○
GWR20060R015-D6	2.0	2.0	6	0.15	5.8	D6	40	5.7	6	○
GWR25060R015-D6	2.5	2.5	6	0.15	5.8	D6	40	5.7	6	○
GWR10100R015-D8	1.0	3.0	10	0.15	7.8	D8	50	7.6	8	○
GWR15100R015-D8	1.5	3.0	10	0.15	7.8	D8	50	7.6	8	○
GWR20100R015-D8	2.0	3.0	10	0.15	7.8	D8	50	7.6	8	○
GWR25100R015-D8	2.5	3.0	10	0.15	7.8	D8	50	7.6	8	○

Long Flute Length

Specification	W	S	L1	R	F	D	L2	H	DMIN	T30
GWR05100R005-D4	0.5	1.0	10	0.05	3.8	D4	50	3.7	4	○
GWR08100R005-D4	0.8	1.0	10	0.05	3.8	D4	50	3.7	4	○
GWR10100R005-D4	1.0	1.5	10	0.05	3.8	D4	50	3.7	4	○
GWR15100R005-D4	1.5	1.5	10	0.05	3.8	D4	50	3.7	4	○
GWR10100R010-D5	1.0	1.5	10	0.1	4.8	D5	50	4.7	5	○
GWR12100R010-D5	1.2	1.5	10	0.1	4.8	D5	50	4.7	5	○
GWR15100R010-D5	1.5	2.0	10	0.1	4.8	D5	50	4.7	5	○
GWR20100R010-D5	2.0	2.0	10	0.1	4.8	D5	50	4.7	5	○
GWR10120R015-D6	1.0	2.0	12	0.15	5.8	D6	50	5.7	6	○
GWR15120R015-D6	1.5	2.0	12	0.15	5.8	D6	50	5.7	6	○
GWR20120R015-D6	2.0	2.0	12	0.15	5.8	D6	50	5.7	6	○
GWR25160R015-D6	2.5	2.5	16	0.15	5.8	D6	50	5.7	6	○
GWR10160R015-D8	1.0	3.0	16	0.15	7.8	D8	50	7.6	8	○
GWR15160R015-D8	1.5	3.0	16	0.15	7.8	D8	50	7.6	8	○
GWR20160R015-D8	2.0	3.0	16	0.15	7.8	D8	50	7.6	8	○
GWR25160R015-D8	2.5	3.0	16	0.15	7.8	D8	50	7.6	8	○

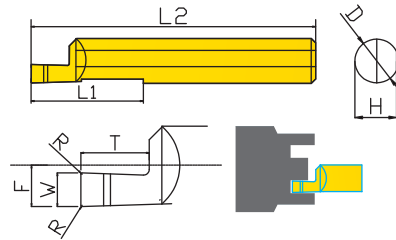
Unit: mm

T30 SOLID TIP-BAR FOR MICRO BORING



GFR

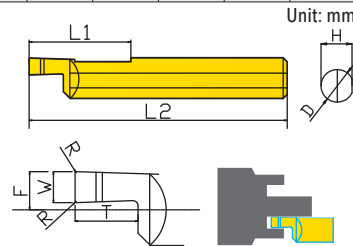
GFR Face Grooving - Right Hand



Specification	F	L1	T	W	R	D	L2	H	DMIN	T30
GFR415L W0.5	1.95	15	1.0	0.5	0.05	D4	50	3.5	6.0	○
GFR415L W0.75	1.95	15	1.5	0.75	0.05	D4	50	3.5	6.0	○
GFR415L W1.0	1.95	15	1.5	1.0	0.05	D4	50	3.5	6.0	○
GFR415L W1.5	1.95	15	2.8	1.5	0.05	D4	50	3.5	6.0	○
GFR522L W0.75	2.45	22	1.5	0.75	0.1	D5	50	4.5	6.0	○
GFR522L W1.0	2.45	22	1.5	1.0	0.1	D5	50	4.5	6.0	○
GFR522L W1.5	2.45	22	2.5	1.5	0.1	D5	50	4.5	6.0	○
GFR522L W2.0	2.45	22	4.0	2.0	0.1	D5	50	4.5	6.0	○
GFR622L W0.75	2.95	22	1.5	0.75	0.1	D6	50	5.5	8.0	○
GFR622L W1.0	2.95	22	2.0	1.0	0.1	D6	50	5.5	8.0	○
GFR622L W1.5	2.95	22	3.0	1.5	0.1	D6	50	5.5	8.0	○
GFR622L W2.0	2.95	22	4.0	2.0	0.1	D6	50	5.5	8.0	○
GFR622L W2.5	2.95	22	5.0	2.5	0.1	D6	50	5.5	8.0	○
GFR820L W1.5	3.95	20	4.0	1.5	0.2	D8	50	7.5	10.0	○
GFR820L W2.0	3.95	20	4.0	2.0	0.2	D8	50	7.5	10.0	○
GFR820L W2.5	3.95	20	5.0	2.5	0.2	D8	50	7.5	10.0	○
GFR820L W3.0	3.95	20	6.0	3.0	0.2	D8	50	7.5	10.0	○

GFL

GFL Face Grooving - Left Hand



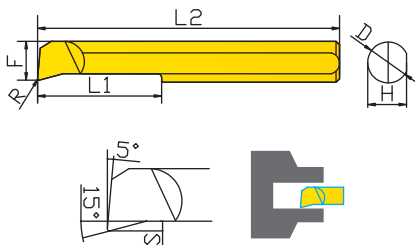
Specification	F	L1	T	W	R	D	L2	H	DMIN	T30
GFL415L W0.5	1.95	15	1.0	0.5	0.05	D4	50	3.5	6.0	○
GFL415L W0.75	1.95	15	1.5	0.75	0.05	D4	50	3.5	6.0	○
GFL415L W1.0	1.95	15	1.5	1.0	0.05	D4	50	3.5	6.0	○
GFL415L W1.5	1.95	15	2.8	1.5	0.05	D4	50	3.5	6.0	○
GFL522L W0.75	2.45	22	1.5	0.75	0.1	D5	50	4.5	6.0	○
GFL522L W1.0	2.45	22	1.5	1.0	0.1	D5	50	4.5	6.0	○
GFL522L W1.5	2.45	22	2.5	1.5	0.1	D5	50	4.5	6.0	○
GFL522L W2.0	2.45	22	4.0	2.0	0.1	D5	50	4.5	6.0	○
GFL622L W0.75	2.95	22	1.5	0.75	0.1	D6	50	5.5	8.0	○
GFL622L W1.0	2.95	22	2.0	1.0	0.1	D6	50	5.5	8.0	○
GFL622L W1.5	2.95	22	3.0	1.5	0.1	D6	50	5.5	8.0	○
GFL622L W2.0	2.95	22	4.0	2.0	0.1	D6	50	5.5	8.0	○
GFL622L W2.5	2.95	22	5.0	2.5	0.1	D6	50	5.5	8.0	○
GFL820L W1.5	3.95	20	4.0	1.5	0.2	D8	50	7.5	10.0	○
GFL820L W2.0	3.95	20	4.0	2.0	0.2	D8	50	7.5	10.0	○
GFL820L W2.5	3.95	20	5.0	2.5	0.2	D8	50	7.5	10.0	○
GFL820L W3.0	3.95	20	6.0	3.0	0.2	D8	50	7.5	10.0	○

Unit: mm



T40 SOLID TIP-BAR FOR MICRO BORING

MNR
MNR Boring



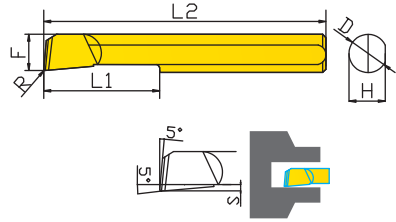
Specification	F	L1	S	R	D	L2	H	DMIN	T40
MNR10030R005-D4	0.8	3	0.2	0.05	D4	40	3.7	1	○
MNR15050R010-D4	1.2	5	0.2	0.1	D4	40	3.7	1.5	○
MNR20070R010-D4	1.7	7	0.2	0.1	D4	40	3.7	2	○
MNR25070R010-D4	2.3	7	0.4	0.1	D4	40	3.7	2.5	○
MNR25120R010-D4	2.3	12	0.4	0.1	D4	40	3.7	2.5	○
MNR30100R010-D4	2.7	10	0.4	0.1	D4	50	3.7	3	○
MNR30150R010-D4	2.7	15	0.4	0.1	D4	50	3.7	3	○
MNR35100R015-D4	3.2	10	0.5	0.15	D4	50	3.7	3.5	○
MNR35150R015-D4	3.2	15	0.5	0.15	D4	50	3.7	3.5	○
MNR40100R015-D4	3.7	10	0.5	0.15	D4	50	3.7	4	○
MNR40150R015-D4	3.7	15	0.5	0.15	D4	50	3.7	4	○
MNR40200R015-D4	3.7	20	0.5	0.15	D4	50	3.7	4	○
MNR45150R015-D4	4.0	15	0.5	0.15	D4	50	3.7	4.5	○
MNR45200R015-D4	4.0	20	0.5	0.15	D4	50	3.7	4.5	○
MNR50150R020-D6	4.7	15	0.9	0.2	D6	50	5.7	5	○
MNR50200R020-D6	4.7	20	0.9	0.2	D6	50	5.7	5	○
MNR50250R020-D6	4.7	25	0.9	0.2	D6	50	5.7	5	○
MNR55150R020-D6	5.2	15	0.9	0.2	D6	50	5.7	5.5	○
MNR55200R020-D6	5.2	20	0.9	0.2	D6	50	5.7	5.5	○
MNR55250R020-D6	5.2	25	0.9	0.2	D6	50	5.7	5.5	○
MNR60150R020-D6	5.7	15	0.9	0.2	D6	50	5.7	6	○
MNR60200R020-D6	5.7	20	0.9	0.2	D6	50	5.7	6	○
MNR60250R020-D6	5.7	25	0.9	0.2	D6	50	5.7	6	○

Unit: mm

T40 SOLID TIP-BAR FOR MICRO BORING



MTR MTR Boring



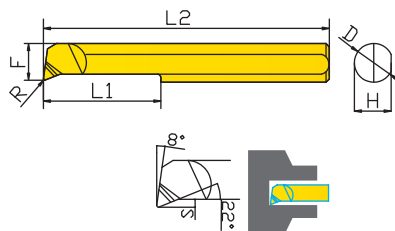
Specification	F	L1	S	R	D	L2	H	DMIN	T40
MTR14L R0	0.85	4	0.15	0	D4	40	3.7	1	○
MTR14L R0.1	0.85	4	0.15	0.1	D4	40	3.7	1	○
MTR1.55L R0.05	1.3	5	0.2	0.05	D4	40	3.7	1.5	○
MTR1.55L R0.1	1.3	5	0.2	0.1	D4	40	3.7	1.5	○
MTR26L R0.05	1.8	6	0.25	0.05	D4	40	3.7	2	○
MTR26L R0.1	1.8	6	0.25	0.1	D4	40	3.7	2	○
MTR2.57L R0.05	2.3	7	0.3	0.05	D4	40	3.7	2.5	○
MTR2.57L R0.1	2.3	7	0.3	0.1	D4	40	3.7	2.5	○
MTR36L R0.05	2.7	6	0.3	0.05	D4	50	3.7	3	○
MTR36L R0.1	2.7	6	0.3	0.1	D4	50	3.7	3	○
MTR36L R0.2	2.7	6	0.3	0.2	D4	50	3.7	3	○
MTR310L R0.05	2.7	10	0.3	0.05	D4	50	3.7	3	○
MTR310L R0.1	2.7	10	0.3	0.1	D4	50	3.7	3	○
MTR310L R0.2	2.7	10	0.3	0.2	D4	50	3.7	3	○
MTR315L R0.1	2.7	15	0.3	0.1	D4	50	3.7	3	○
MTR315L R0.2	2.7	15	0.3	0.2	D4	50	3.7	3	○
MTR3.512L R0.1	3.3	12	0.3	0.1	D4	50	3.7	3.5	○
MTR3.512L R0.2	3.3	12	0.3	0.2	D4	50	3.7	3.5	○
MTR48L R0.05	3.7	8	0.4	0.05	D4	50	3.7	4	○
MTR48L R0.1	3.7	8	0.4	0.1	D4	50	3.7	4	○
MTR48L R0.2	3.7	8	0.4	0.2	D4	50	3.7	4	○
MTR410L R0.1	3.7	10	0.4	0.1	D4	50	3.7	4	○
MTR410L R0.2	3.7	10	0.4	0.2	D4	50	3.7	4	○
MTR415L R0.05	3.7	15	0.4	0.05	D4	50	3.7	4	○
MTR415L R0.1	3.7	15	0.4	0.1	D4	50	3.7	4	○
MTR415L R0.2	3.7	15	0.4	0.2	D4	50	3.7	4	○
MTR422L R0.1	3.7	22	0.4	0.1	D4	50	3.7	4	○
MTR422L R0.2	3.7	22	0.4	0.2	D4	50	3.7	4	○
MTR512L R0.1	4.7	12	0.5	0.1	D5	50	4.7	5	○
MTR512L R0.2	4.7	12	0.5	0.2	D5	50	4.7	5	○
MTR520L R0.1	4.7	20	0.5	0.1	D5	50	4.7	5	○
MTR520L R0.2	4.7	20	0.5	0.2	D5	50	4.7	5	○
MTR522L R0.1	4.7	22	0.5	0.1	D5	50	4.7	5	○
MTR522L R0.2	4.7	22	0.5	0.2	D5	50	4.7	5	○
MTR612L R0.1	5.7	12	0.5	0.1	D6	50	5.7	6	○
MTR612L R0.2	5.7	12	0.5	0.2	D6	50	5.7	6	○
MTR620L R0.1	5.7	20	0.5	0.1	D6	50	5.7	6	○
MTR620L R0.2	5.7	20	0.5	0.2	D6	50	5.7	6	○
MTR620L R0.4	5.7	20	0.5	0.4	D6	50	5.7	6	○
MTR622L R0.1	5.7	22	0.5	0.1	D6	50	5.7	6	○
MTR622L R0.2	5.7	22	0.5	0.2	D6	50	5.7	6	○
MTR725L R0.2	6.5	25	0.5	0.2	D7	50	6.7	7	○
MTR830L R0.2	7.5	30	0.5	0.2	D8	60	7.6	8	○
MTR830L R0.4	7.5	30	0.5	0.4	D8	60	7.6	8	○

Unit: mm



T40 SOLID TIP-BAR FOR MICRO BORING

MPR MPR Boring



Specification	F	L1	S	R	D	L2	H	DMIN	T40
MPR14L R0	0.85	4	0.15	0	D4	40	3.7	1	○
MPR14L R0.05	0.85	4	0.15	0.05	D4	40	3.7	1	○
MPR26L R0.05	1.8	6	0.3	0.05	D4	40	3.7	2	○
MPR26L R0.1	1.8	6	0.3	0.1	D4	40	3.7	2	○
MPR36L R0.05	2.7	6	0.3	0.05	D4	50	3.7	3	○
MPR36L R0.1	2.7	6	0.3	0.1	D4	50	3.7	3	○
MPR36L R0.2	2.7	6	0.3	0.2	D4	50	3.7	3	○
MPR310L R0.05	2.7	10	0.3	0.05	D4	50	3.7	3	○
MPR310L R0.1	2.7	10	0.3	0.1	D4	50	3.7	3	○
MPR310L R0.2	2.7	10	0.3	0.2	D4	50	3.7	3	○
MPR315L R0.1	2.7	15	0.3	0.1	D4	50	3.7	3	○
MPR315L R0.2	2.7	15	0.3	0.2	D4	50	3.7	3	○
MPR48L R0.05	3.7	8	0.7	0.05	D4	50	3.7	4	○
MPR48L R0.1	3.7	8	0.7	0.1	D4	50	3.7	4	○
MPR48L R0.2	3.7	8	0.7	0.2	D4	50	3.7	4	○
MPR415L R0.05	3.7	15	0.7	0.05	D4	50	3.7	4	○
MPR415L R0.1	3.7	15	0.7	0.1	D4	50	3.7	4	○
MPR415L R0.2	3.7	15	0.7	0.2	D4	50	3.7	4	○
MPR422L R0.1	3.7	22	0.7	0.1	D4	50	3.7	4	○
MPR422L R0.2	3.7	22	0.7	0.2	D4	50	3.7	4	○
MPR515L R0.1	4.7	15	1.2	0.1	D5	50	4.7	5	○
MPR515L R0.2	4.7	15	1.2	0.2	D5	50	4.7	5	○
MPR520L R0.05	4.7	20	1.2	0.05	D5	50	4.7	5	○
MPR520L R0.1	4.7	20	1.2	0.1	D5	50	4.7	5	○
MPR520L R0.2	4.7	20	1.2	0.2	D5	50	4.7	5	○
MPR522L R0.1	4.7	22	1.2	0.1	D5	50	4.7	5	○
MPR522L R0.2	4.7	22	1.2	0.2	D5	50	4.7	5	○
MPR615L R0.1	5.7	15	1.2	0.1	D6	50	5.7	6	○
MPR615L R0.2	5.7	15	1.2	0.2	D6	50	5.7	6	○
MPR620L R0.05	5.7	20	1.2	0.05	D6	50	5.7	6	○
MPR620L R0.1	5.7	20	1.2	0.1	D6	50	5.7	6	○
MPR620L R0.2	5.7	20	1.2	0.2	D6	50	5.7	6	○
MPR622L R0.1	5.7	22	1.2	0.1	D6	50	5.7	6	○
MPR622L R0.2	5.7	22	1.2	0.2	D6	50	5.7	6	○
MPR725L R0.15	6.5	25	1.5	0.15	D7	50	6.7	7	○
MPR822L R0.2	7.5	22	1.5	0.2	D8	60	7.6	8	○
MPR830L R0.15	7.5	30	1.5	0.15	D8	60	7.6	8	○
MPR830L R0.3	7.5	30	1.5	0.3	D8	60	7.6	8	○

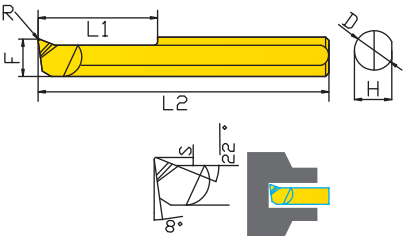
Unit: mm

T40 SOLID TIP-BAR FOR MICRO BORING



MPL

MPL Boring - Left Hand

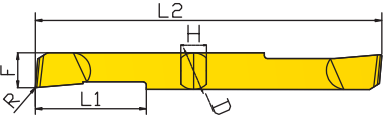


Specification	F	L1	S	R	D	L2	H	DMIN	T40
MPL26L R0.1	1.8	6	0.3	0.1	D4	40	3.7	2	○
MPL310L R0.1	2.7	10	0.3	0.1	D4	50	3.7	3	○
MPL415L R0.1	3.7	15	0.7	0.1	D4	50	3.7	4	○
MPL520L R0.2	4.7	20	1.2	0.2	D5	50	4.7	5	○
MPL620L R0.2	5.7	20	1.2	0.2	D6	50	5.7	6	○
MPL725L R0.2	6.5	25	1.5	0.2	D7	50	6.7	7	○
MPL830L R0.2	7.5	30	1.5	0.2	D8	60	7.6	8	○

Unit: mm

2MTR

2MTR Boring - Double Cutting Edges



Specification	F	L1	S	R	D	L2	H	DMIN	T40
2MTR25L R0.05	1.8	5	0.15	0.05	D3	50	2.7	2	○
2MTR315L R0.1	2.7	15	0.3	0.1	D3	50	2.7	3	○
2MTR415L R0.15	3.7	15	0.4	0.15	D4	60	3.6	4	○
2MTR525L R0.1	4.7	25	0.5	0.1	D5	75	4.4	5	○
2MTR625L R0.2	4.7	25	0.5	0.2	D5	75	4.4	5	○
2MTR725L R0.1	5.7	25	0.5	0.1	D6	75	5.4	6	○
2MTR825L R0.2	5.7	25	0.5	0.2	D6	75	5.4	6	○

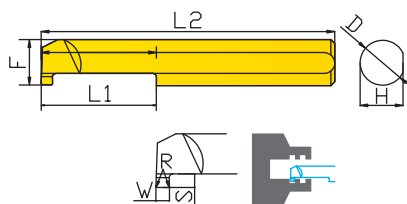
Unit: mm



T40 SOLID TIP-BAR FOR MICRO BORING

MWR

MWR Internal Grooving



Short Flute Length

Specification	W	S	L1	R	F	D	L2	H	DMIN	T40
MWR05050R005-D3	0.5	1.0	5	0.05	2.8	D3	40	2.7	3	○
MWR08050R005-D3	0.8	1.0	5	0.05	2.8	D3	40	2.7	3	○
MWR10050R005-D3	1.0	1.0	5	0.05	2.8	D3	40	2.7	3	○
MWR15050R005-D3	1.5	1.0	5	0.05	2.8	D3	40	2.7	3	○
MWR05050R005-D4	0.5	1.0	5	0.05	3.8	D4	40	3.7	4	○
MWR08050R005-D4	0.8	1.0	5	0.05	3.8	D4	40	3.7	4	○
MWR10050R005-D4	1.0	1.5	5	0.05	3.8	D4	40	3.7	4	○
MWR15050R005-D4	1.5	1.5	5	0.05	3.8	D4	40	3.7	4	○
MWR10050R010-D5	1.0	1.5	5	0.1	4.8	D5	40	4.7	5	○
MWR12050R010-D5	1.2	1.5	5	0.1	4.8	D5	40	4.7	5	○
MWR15050R010-D5	1.5	2.0	5	0.1	4.8	D5	40	4.7	5	○
MWR20050R010-D5	2.0	2.0	5	0.1	4.8	D5	40	4.7	5	○
MWR10060R015-D6	1.0	2.0	6	0.15	5.8	D6	40	5.7	6	○
MWR15060R015-D6	1.5	2.0	6	0.15	5.8	D6	40	5.7	6	○
MWR20060R015-D6	2.0	2.0	6	0.15	5.8	D6	40	5.7	6	○
MWR25060R015-D6	2.5	2.5	6	0.15	5.8	D6	40	5.7	6	○
MWR10100R015-D8	1.0	3.0	10	0.15	7.8	D8	50	7.6	8	○
MWR15100R015-D8	1.5	3.0	10	0.15	7.8	D8	50	7.6	8	○
MWR20100R015-D8	2.0	3.0	10	0.15	7.8	D8	50	7.6	8	○
MWR25100R015-D8	2.5	3.0	10	0.15	7.8	D8	50	7.6	8	○

Long Flute Length

Specification	W	S	L1	R	F	D	L2	H	DMIN	T40
MWR05100R005-D4	0.5	1.0	10	0.05	3.8	D4	50	3.7	4	○
MWR08100R005-D4	0.8	1.0	10	0.05	3.8	D4	50	3.7	4	○
MWR10100R005-D4	1.0	1.5	10	0.05	3.8	D4	50	3.7	4	○
MWR15100R005-D4	1.5	1.5	10	0.05	3.8	D4	50	3.7	4	○
MWR10100R010-D5	1.0	1.5	10	0.1	4.8	D5	50	4.7	5	○
MWR12100R010-D5	1.2	1.5	10	0.1	4.8	D5	50	4.7	5	○
MWR15100R010-D5	1.5	2.0	10	0.1	4.8	D5	50	4.7	5	○
MWR20100R010-D5	2.0	2.0	10	0.1	4.8	D5	50	4.7	5	○
MWR10120R015-D6	1.0	2.0	12	0.15	5.8	D6	50	5.7	6	○
MWR15120R015-D6	1.5	2.0	12	0.15	5.8	D6	50	5.7	6	○
MWR20120R015-D6	2.0	2.0	12	0.15	5.8	D6	50	5.7	6	○
MWR25160R015-D6	2.5	2.5	16	0.15	5.8	D6	50	5.7	6	○
MWR10160R015-D8	1.0	3.0	16	0.15	7.8	D8	50	7.6	8	○
MWR15160R015-D8	1.5	3.0	16	0.15	7.8	D8	50	7.6	8	○
MWR20160R015-D8	2.0	3.0	16	0.15	7.8	D8	50	7.6	8	○
MWR25160R015-D8	2.5	3.0	16	0.15	7.8	D8	50	7.6	8	○

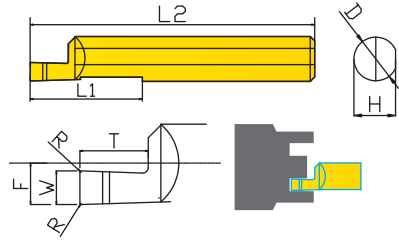
Unit: mm

T40 SOLID TIP-BAR FOR MICRO BORING



MFR

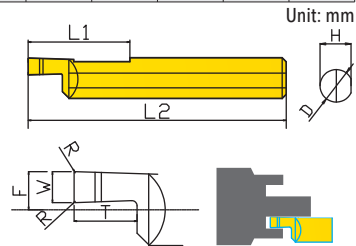
MFR Face Grooving - Right Hand



Specification	F	L1	T	W	R	D	L2	H	DMIN	T40
MFR415L W0.5	1.95	15	1.0	0.5	0.05	D4	50	3.5	6.0	○
MFR415L W0.75	1.95	15	1.5	0.75	0.05	D4	50	3.5	6.0	○
MFR415L W1.0	1.95	15	1.5	1.0	0.05	D4	50	3.5	6.0	○
MFR415L W1.5	1.95	15	2.8	1.5	0.05	D4	50	3.5	6.0	○
MFR522L W0.75	2.45	22	1.5	0.75	0.1	D5	50	4.5	6.0	○
MFR522L W1.0	2.45	22	1.5	1.0	0.1	D5	50	4.5	6.0	○
MFR522L W1.5	2.45	22	2.5	1.5	0.1	D5	50	4.5	6.0	○
MFR522L W2.0	2.45	22	4.0	2.0	0.1	D5	50	4.5	6.0	○
MFR622L W0.75	2.95	22	1.5	0.75	0.1	D6	50	5.5	8.0	○
MFR622L W1.0	2.95	22	2.0	1.0	0.1	D6	50	5.5	8.0	○
MFR622L W1.5	2.95	22	3.0	1.5	0.1	D6	50	5.5	8.0	○
MFR622L W2.0	2.95	22	4.0	2.0	0.1	D6	50	5.5	8.0	○
MFR622L W2.5	2.95	22	5.0	2.5	0.1	D6	50	5.5	8.0	○
MFR820L W1.5	3.95	20	4.0	1.5	0.2	D8	50	7.5	10.0	○
MFR820L W2.0	3.95	20	4.0	2.0	0.2	D8	50	7.5	10.0	○
MFR820L W2.5	3.95	20	5.0	2.5	0.2	D8	50	7.5	10.0	○
MFR820L W3.0	3.95	20	6.0	3.0	0.2	D8	50	7.5	10.0	○

MFL

MFL Face Grooving - Left Hand



Specification	F	L1	T	W	R	D	L2	H	DMIN	T40
MFL415L W0.5	1.95	15	1.0	0.5	0.05	D4	50	3.5	6.0	○
MFL415L W0.75	1.95	15	1.5	0.75	0.05	D4	50	3.5	6.0	○
MFL415L W1.0	1.95	15	1.5	1.0	0.05	D4	50	3.5	6.0	○
MFL415L W1.5	1.95	15	2.8	1.5	0.05	D4	50	3.5	6.0	○
MFL522L W0.75	2.45	22	1.5	0.75	0.1	D5	50	4.5	6.0	○
MFL522L W1.0	2.45	22	1.5	1.0	0.1	D5	50	4.5	6.0	○
MFL522L W1.5	2.45	22	2.5	1.5	0.1	D5	50	4.5	6.0	○
MFL522L W2.0	2.45	22	4.0	2.0	0.1	D5	50	4.5	6.0	○
MFL622L W0.75	2.95	22	1.5	0.75	0.1	D6	50	5.5	8.0	○
MFL622L W1.0	2.95	22	2.0	1.0	0.1	D6	50	5.5	8.0	○
MFL622L W1.5	2.95	22	3.0	1.5	0.1	D6	50	5.5	8.0	○
MFL622L W2.0	2.95	22	4.0	2.0	0.1	D6	50	5.5	8.0	○
MFL622L W2.5	2.95	22	5.0	2.5	0.1	D6	50	5.5	8.0	○
MFL820L W1.5	3.95	20	4.0	1.5	0.2	D8	50	7.5	10.0	○
MFL820L W2.0	3.95	20	4.0	2.0	0.2	D8	50	7.5	10.0	○
MFL820L W2.5	3.95	20	5.0	2.5	0.2	D8	50	7.5	10.0	○
MFL820L W3.0	3.95	20	6.0	3.0	0.2	D8	50	7.5	10.0	○

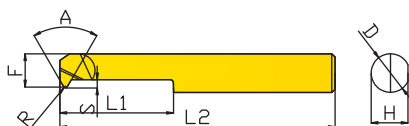
Unit: mm



T40 SOLID TIP-BAR FOR MICRO BORING

MIR

MIR Internal Threading



60° - Right Hand

Specification	F	L1	S	R	D	H	Metric	Pitch(mm) min	max	DMIN	T40
MIR14050-60°	1.4	5	0.4	0	D4	3.7	M2	0.25	0.45	1.5	○
MIR18070-60°	1.8	7	0.6	0	D4	3.7	M2.5	0.25	0.7	2.0	○
MIR24070-60°	2.4	7	0.5	0	D4	3.7	M3	0.35	0.6	2.5	○
MIR30120-60°	3.0	12	0.85	0.03	D4	3.7	M4	0.5	0.8	3.1	○
MIR40100-60°	3.85	10	1.1	0.05	D4	3.7	M5/M6	0.5	1.0	4.0	○
MIR40150-60°	3.85	15	1.1	0.05	D4	3.7	M5/M6	0.5	1.0	4.0	○
MIR50150-60°	4.8	15	1.5	0.05	D5	4.7	M8	0.75	1.5	5.0	○
MIR50220-60°	4.8	22	1.5	0.05	D5	4.7	M8	0.75	1.5	5.0	○
MIR60150-60°	5.6	15	1.8	0.08	D6	5.7	M10	0.75	1.75	6.0	○
MIR60200-60°	5.6	20	1.8	0.08	D6	5.7	M10	0.75	1.75	6.0	○
MIR80220-60°	7.8	22	2.2	0.08	D8	7.6	M12	1.0	2.0	8.0	○

60° - Left Hand

Specification	F	L1	S	R	D	H	Metric	Pitch(mm) min	max	DMIN	T40
MIL40150-60°	3.85	15	1.1	0.05	D4	3.7	M5/M6	0.5	1.0	4.1	○
MIL50150-60°	4.8	15	1.5	0.05	D5	4.7	M8	0.75	1.5	5.1	○
MIL60200-60°	5.6	20	1.8	0.08	D6	5.7	M10	0.75	1.75	6.0	○
MIL80220-60°	7.8	22	2.2	0.08	D8	7.6	M12	1.0	2.0	8.0	○

55° - Right Hand

Specification	F	L1	S	R	D	H	Metric	Pitch(mm) min	max	DMIN	T40
MIR40150-55°	3.85	15	1.1	0.05	D4	3.7	-	-	-	4.0	○
MIR50150-55°	4.8	15	1.5	0.05	D5	4.7	-	-	-	5.0	○
MIR60200-55°	5.6	20	1.8	0.08	D6	5.7	-	-	-	6.0	○
MIR80220-55°	7.8	22	2.2	0.08	D8	7.6	-	-	-	8.0	○

55° - Left Hand

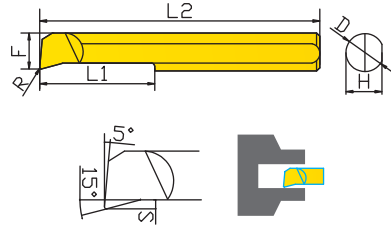
Specification	F	L1	S	R	D	H	Metric	Pitch(mm) min	max	DMIN	T40
MIL40150-55°	3.85	15	1.1	0.05	D4	3.7	-	-	-	4.0	○
MIL50150-55°	4.8	15	1.5	0.05	D5	4.7	-	-	-	5.0	○
MIL60200-55°	5.6	20	1.8	0.08	D6	5.7	-	-	-	6.0	○
MIL80220-55°	7.8	22	2.2	0.08	D8	7.6	-	-	-	8.0	○

Unit: mm

T10 SOLID TIP-BAR FOR MICRO BORING



XNR
XNR Boring



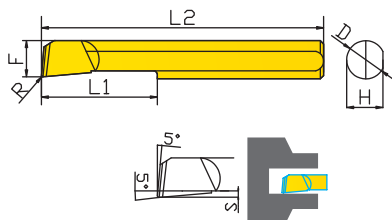
Specification	F	L1	S	R	D	L2	H	DMIN	T10
XNR10030R005-D4	0.8	3	0.2	0.05	D4	40	3.7	1	○
XNR15050R010-D4	1.2	5	0.2	0.1	D4	40	3.7	1.5	○
XNR20070R010-D4	1.7	7	0.2	0.1	D4	40	3.7	2	○
XNR25070R010-D4	2.3	7	0.4	0.1	D4	40	3.7	2.5	○
XNR25120R010-D4	2.3	12	0.4	0.1	D4	40	3.7	2.5	○
XNR30100R010-D4	2.7	10	0.4	0.1	D4	50	3.7	3	○
XNR30150R010-D4	2.7	15	0.4	0.1	D4	50	3.7	3	○
XNR35100R015-D4	3.2	10	0.5	0.15	D4	50	3.7	3.5	○
XNR35150R015-D4	3.2	15	0.5	0.15	D4	50	3.7	3.5	○
XNR40100R015-D4	3.7	10	0.5	0.15	D4	50	3.7	4	○
XNR40150R015-D4	3.7	15	0.5	0.15	D4	50	3.7	4	○
XNR40200R015-D4	3.7	20	0.5	0.15	D4	50	3.7	4	○
XNR45150R015-D4	4.0	15	0.5	0.15	D4	50	3.7	4.5	○
XNR45200R015-D4	4.0	20	0.5	0.15	D4	50	3.7	4.5	○
XNR50150R020-D6	4.7	15	0.9	0.2	D6	50	5.7	5	○
XNR50200R020-D6	4.7	20	0.9	0.2	D6	50	5.7	5	○
XNR50250R020-D6	4.7	25	0.9	0.2	D6	50	5.7	5	○
XNR55150R020-D6	5.2	15	0.9	0.2	D6	50	5.7	5.5	○
XNR55200R020-D6	5.2	20	0.9	0.2	D6	50	5.7	5.5	○
XNR55250R020-D6	5.2	25	0.9	0.2	D6	50	5.7	5.5	○
XNR60150R020-D6	5.7	15	0.9	0.2	D6	50	5.7	6	○
XNR60200R020-D6	5.7	20	0.9	0.2	D6	50	5.7	6	○
XNR60250R020-D6	5.7	25	0.9	0.2	D6	50	5.7	6	○

Unit: mm



T10 SOLID TIP-BAR FOR MICRO BORING

XTR XTR Boring



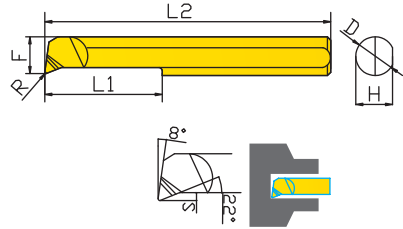
Specification	F	L1	S	R	D	L2	H	DMIN	T10
XTR14L R0	0.85	4	0.15	0	D4	40	3.7	1	○
XTR14L R0.1	0.85	4	0.15	0.1	D4	40	3.7	1	○
XTR1.55L R0.05	1.3	5	0.2	0.05	D4	40	3.7	1.5	○
XTR1.55L R0.1	1.3	5	0.2	0.1	D4	40	3.7	1.5	○
XTR26L R0.05	1.8	6	0.25	0.05	D4	40	3.7	2	○
XTR26L R0.1	1.8	6	0.25	0.1	D4	40	3.7	2	○
XTR2.57L R0.05	2.3	7	0.3	0.05	D4	40	3.7	2.5	○
XTR2.57L R0.1	2.3	7	0.3	0.1	D4	40	3.7	2.5	○
XTR36L R0.05	2.7	6	0.3	0.05	D4	50	3.7	3	○
XTR36L R0.1	2.7	6	0.3	0.1	D4	50	3.7	3	○
XTR36L R0.2	2.7	6	0.3	0.2	D4	50	3.7	3	○
XTR310L R0.05	2.7	10	0.3	0.05	D4	50	3.7	3	○
XTR310L R0.1	2.7	10	0.3	0.1	D4	50	3.7	3	○
XTR310L R0.2	2.7	10	0.3	0.2	D4	50	3.7	3	○
XTR315L R0.1	2.7	15	0.3	0.1	D4	50	3.7	3	○
XTR315L R0.2	2.7	15	0.3	0.2	D4	50	3.7	3	○
XTR3.512L R0.1	3.3	12	0.3	0.1	D4	50	3.7	3.5	○
XTR3.512L R0.2	3.3	12	0.3	0.2	D4	50	3.7	3.5	○
XTR48L R0.05	3.7	8	0.4	0.05	D4	50	3.7	4	○
XTR48L R0.1	3.7	8	0.4	0.1	D4	50	3.7	4	○
XTR48L R0.2	3.7	8	0.4	0.2	D4	50	3.7	4	○
XTR410L R0.1	3.7	10	0.4	0.1	D4	50	3.7	4	○
XTR410L R0.2	3.7	10	0.4	0.2	D4	50	3.7	4	○
XTR415L R0.05	3.7	15	0.4	0.05	D4	50	3.7	4	○
XTR415L R0.1	3.7	15	0.4	0.1	D4	50	3.7	4	○
XTR415L R0.2	3.7	15	0.4	0.2	D4	50	3.7	4	○
XTR422L R0.1	3.7	22	0.4	0.1	D4	50	3.7	4	○
XTR422L R0.2	3.7	22	0.4	0.2	D4	50	3.7	4	○
XTR512L R0.1	4.7	12	0.5	0.1	D5	50	4.7	5	○
XTR512L R0.2	4.7	12	0.5	0.2	D5	50	4.7	5	○
XTR520L R0.1	4.7	20	0.5	0.1	D5	50	4.7	5	○
XTR520L R0.2	4.7	20	0.5	0.2	D5	50	4.7	5	○
XTR522L R0.1	4.7	22	0.5	0.1	D5	50	4.7	5	○
XTR522L R0.2	4.7	22	0.5	0.2	D5	50	5.7	5	○
XTR612L R0.1	5.7	12	0.5	0.1	D6	50	5.7	6	○
XTR612L R0.2	5.7	12	0.5	0.2	D6	50	5.7	6	○
XTR620L R0.1	5.7	20	0.5	0.1	D6	50	5.7	6	○
XTR620L R0.2	5.7	20	0.5	0.2	D6	50	5.7	6	○
XTR620L R0.4	5.7	20	0.5	0.4	D6	50	5.7	6	○
XTR622L R0.1	5.7	22	0.5	0.1	D6	50	5.7	6	○
XTR622L R0.2	5.7	22	0.5	0.2	D6	50	5.7	6	○
XTR725L R0.2	6.5	25	0.5	0.2	D7	50	6.7	7	○
XTR830L R0.2	7.5	30	0.5	0.2	D8	60	7.6	8	○
XTR830L R0.4	7.5	30	0.5	0.4	D8	60	7.6	8	○

Unit: mm

T10 SOLID TIP-BAR FOR MICRO BORING



XPR XPR Boring



Specification	F	L1	S	R	D	L2	H	DMIN	T10
XPR14L R0	0.85	4	0.15	0	D4	40	3.7	1	○
XPR14L R0.05	0.85	4	0.15	0.05	D4	40	3.7	1	○
XPR26L R0.05	1.8	6	0.3	0.05	D4	40	3.7	2	○
XPR26L R0.1	1.8	6	0.3	0.1	D4	40	3.7	2	○
XPR36L R0.05	2.7	6	0.3	0.05	D4	50	3.7	3	○
XPR36L R0.1	2.7	6	0.3	0.1	D4	50	3.7	3	○
XPR36L R0.2	2.7	6	0.3	0.2	D4	50	3.7	3	○
XPR310L R0.05	2.7	10	0.3	0.05	D4	50	3.7	3	○
XPR310L R0.1	2.7	10	0.3	0.1	D4	50	3.7	3	○
XPR310L R0.2	2.7	10	0.3	0.2	D4	50	3.7	3	○
XPR315L R0.1	2.7	15	0.3	0.1	D4	50	3.7	3	○
XPR315L R0.2	2.7	15	0.3	0.2	D4	50	3.7	3	○
XPR48L R0.05	3.7	8	0.7	0.05	D4	50	3.7	4	○
XPR48L R0.1	3.7	8	0.7	0.1	D4	50	3.7	4	○
XPR48L R0.2	3.7	8	0.7	0.2	D4	50	3.7	4	○
XPR415L R0.05	3.7	15	0.7	0.05	D4	50	3.7	4	○
XPR415L R0.1	3.7	15	0.7	0.1	D4	50	3.7	4	○
XPR415L R0.2	3.7	15	0.7	0.2	D4	50	3.7	4	○
XPR422L R0.1	3.7	22	0.7	0.1	D4	50	3.7	4	○
XPR422L R0.2	3.7	22	0.7	0.2	D4	50	3.7	4	○
XPR515L R0.1	4.7	15	1.2	0.1	D5	50	4.7	5	○
XPR515L R0.2	4.7	15	1.2	0.2	D5	50	4.7	5	○
XPR520L R0.05	4.7	20	1.2	0.05	D5	50	4.7	5	○
XPR520L R0.1	4.7	20	1.2	0.1	D5	50	4.7	5	○
XPR520L R0.2	4.7	20	1.2	0.2	D5	50	4.7	5	○
XPR522L R0.1	4.7	22	1.2	0.1	D5	50	4.7	5	○
XPR522L R0.2	4.7	22	1.2	0.2	D5	50	4.7	5	○
XPR615L R0.1	5.7	15	1.2	0.1	D6	50	5.7	6	○
XPR615L R0.2	5.7	15	1.2	0.2	D6	50	5.7	6	○
XPR620L R0.05	5.7	20	1.2	0.05	D6	50	5.7	6	○
XPR620L R0.1	5.7	20	1.2	0.1	D6	50	5.7	6	○
XPR620L R0.2	5.7	20	1.2	0.2	D6	50	5.7	6	○
XPR622L R0.1	5.7	22	1.2	0.1	D6	50	5.7	6	○
XPR622L R0.2	5.7	22	1.2	0.2	D6	50	5.7	6	○
XPR725L R0.15	6.5	25	1.5	0.15	D7	50	6.7	7	○
XPR822L R0.2	7.5	22	1.5	0.2	D8	60	7.6	8	○
XPR830L R0.15	7.5	30	1.5	0.15	D8	60	7.6	8	○
XPR830L R0.3	7.5	30	1.5	0.3	D8	60	7.6	8	○

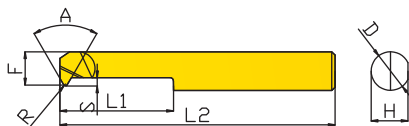
Unit: mm



T10 SOLID TIP-BAR FOR MICRO BORING

XTIR

XTIR Internal Threading



60° - Right Hand

Specification	F	L1	S	R	D	H	Metric	Pitch(mm) min	max	DMIN	T10
XIR14050-60°	1.4	5	0.4	0	D4	3.7	M2	0.25	0.45	1.5	○
XIR18070-60°	1.8	7	0.6	0	D4	3.7	M2.5	0.25	0.7	2.0	○
XIR24070-60°	2.4	7	0.5	0	D4	3.7	M3	0.35	0.6	2.5	○
XIR30120-60°	3.0	12	0.85	0.03	D4	3.7	M4	0.5	0.8	3.1	○
XIR40100-60°	3.85	10	1.1	0.05	D4	3.7	M5/M6	0.5	1.0	4.0	○
XIR40150-60°	3.85	15	1.1	0.05	D4	3.7	M5/M6	0.5	1.0	4.0	○
XIR50150-60°	4.8	15	1.5	0.05	D5	4.7	M8	0.75	1.5	5.0	○
XIR50220-60°	4.8	22	1.5	0.05	D5	4.7	M8	0.75	1.5	5.0	○
XIR60150-60°	5.6	15	1.8	0.08	D6	5.7	M10	0.75	1.75	6.0	○
XIR60200-60°	5.6	20	1.8	0.08	D6	5.7	M10	0.75	1.75	6.0	○
XIR80220-60°	7.8	22	2.2	0.08	D8	7.6	M12	1.0	2.0	8.0	○

60° - Left Hand

Specification	F	L1	S	R	D	H	Metric	Pitch(mm) min	max	DMIN	T10
XIL40150-60°	3.85	15	1.1	0.05	D4	3.7	M5/M6	0.5	1.0	4.1	○
XIL50150-60°	4.8	15	1.5	0.05	D5	4.7	M8	0.75	1.5	5.1	○
XIL60200-60°	5.6	20	1.8	0.08	D6	5.7	M10	0.75	1.75	6.0	○
XIL80220-60°	7.8	22	2.2	0.08	D8	7.6	M12	1.0	2.0	8.0	○

55° - Right Hand

Specification	F	L1	S	R	D	H	Metric	Pitch(mm) min	max	DMIN	T10
XIR40150-55°	3.85	15	1.1	0.05	D4	3.7	-	-	-	4.0	○
XIR50150-55°	4.8	15	1.5	0.05	D5	4.7	-	-	-	5.0	○
XIR60200-55°	5.6	20	1.8	0.08	D6	5.7	-	-	-	6.0	○
XIR80220-55°	7.8	22	2.2	0.08	D8	7.6	-	-	-	8.0	○

55° - Left Hand

Specification	F	L1	S	R	D	H	Metric	TPI min	max	DMIN	T10
XIL40150-55°	3.85	15	1.1	0.05	D4	3.7	-	-	-	4.0	○
XIL50150-55°	4.8	15	1.5	0.05	D5	4.7	-	-	-	5.0	○
XIL60200-55°	5.6	20	1.8	0.08	D6	5.7	-	-	-	6.0	○
XIL80220-55°	7.8	22	2.2	0.08	D8	7.6	-	-	-	8.0	○

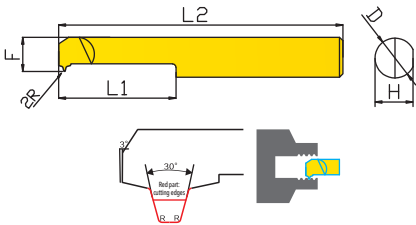
Unit: mm

T10 SOLID TIP-BAR FOR MICRO BORING



XTR

XTR Internal Threading - TR-30°

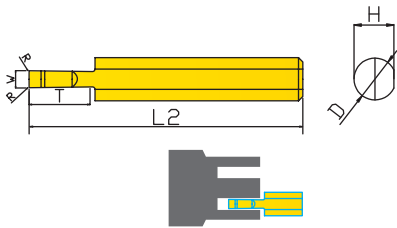


Specification	F	L1	R	D	L2	H	A	Tr	T10
XTR8x1.5 25L	6.1	25	0.075	D8	60	7.6	30°	TR8x1.5 TR9x1.5 TR10x1.5	○
XTR9x2 25L	6.7	25	0.25	D8	60	7.6	30°	TR9x2.0 TR10x2.0 TR11x2.0	○
XTR14x2 35L	9.8	35	0.25	D10	75	9.5	30°	TR14x2.0 TR16x2.0	○
XTR11x3 35L	7.2	35	0.25	D8	75	7.6	30°	TR11x3.0 TR12x3.0	○
XTR14x3 35L	9.8	35	0.25	D10	75	9.5	30°	TR14x3.0 TR22x3.0	○

Unit: mm

XMVR

XMVR Deep Face Grooving



Specification	W	T	R	D	H	L2	DMIN	T10
XMVR8 20L W2.0	2.0	20	0.2	D8	7.5	50	D15	○
XMVR8 25L W3.0	3.0	25	0.2	D8	7.5	50	D15	○
XMVR8 25L W4.0	4.0	25	0.2	D8	7.5	50	D15	○

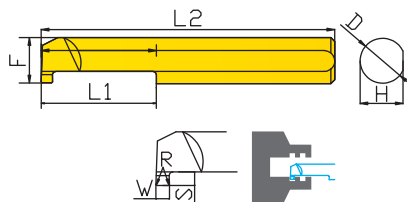
Unit: mm



T10 SOLID TIP-BAR FOR MICRO BORING

XWR

XWR Internal Grooving



Short Flute Length

Specification	W	S	L1	R	F	D	L2	H	DMIN	T10
XWR05050R005-D3	0.5	1.0	5	0.05	2.8	D3	40	2.7	3	○
XWR08050R005-D3	0.8	1.0	5	0.05	2.8	D3	40	2.7	3	○
XWR10050R005-D3	1.0	1.0	5	0.05	2.8	D3	40	2.7	3	○
XWR15050R005-D3	1.5	1.0	5	0.05	2.8	D3	40	2.7	3	○
XWR05050R005-D4	0.5	1.0	5	0.05	3.8	D4	40	3.7	4	○
XWR08050R005-D4	0.8	1.0	5	0.05	3.8	D4	40	3.7	4	○
XWR10050R005-D4	1.0	1.5	5	0.05	3.8	D4	40	3.7	4	○
XWR15050R005-D4	1.5	1.5	5	0.05	3.8	D4	40	3.7	4	○
XWR10050R010-D5	1.0	1.5	5	0.1	4.8	D5	40	4.7	5	○
XWR12050R010-D5	1.2	1.5	5	0.1	4.8	D5	40	4.7	5	○
XWR15050R010-D5	1.5	2.0	5	0.1	4.8	D5	40	4.7	5	○
XWR20050R010-D5	2.0	2.0	5	0.1	4.8	D5	40	4.7	5	○
XWR10060R015-D6	1.0	2.0	6	0.15	5.8	D6	40	5.7	6	○
XWR15060R015-D6	1.5	2.0	6	0.15	5.8	D6	40	5.7	6	○
XWR20060R015-D6	2.0	2.0	6	0.15	5.8	D6	40	5.7	6	○
XWR25060R015-D6	2.5	2.5	6	0.15	5.8	D6	40	5.7	6	○
XWR10100R015-D8	1.0	3.0	10	0.15	7.8	D8	50	7.6	8	○
XWR15100R015-D8	1.5	3.0	10	0.15	7.8	D8	50	7.6	8	○
XWR20100R015-D8	2.0	3.0	10	0.15	7.8	D8	50	7.6	8	○
XWR25100R015-D8	2.5	3.0	10	0.15	7.8	D8	50	7.6	8	○

Long Flute Length

Specification	W	S	L1	R	F	D	L2	H	DMIN	T10
XWR05100R005-D4	0.5	1.0	10	0.05	3.8	D4	50	3.7	4	○
XWR08100R005-D4	0.8	1.0	10	0.05	3.8	D4	50	3.7	4	○
XWR10100R005-D4	1.0	1.5	10	0.05	3.8	D4	50	3.7	4	○
XWR15100R005-D4	1.5	1.5	10	0.05	3.8	D4	50	3.7	4	○
XWR10100R010-D5	1.0	1.5	10	0.1	4.8	D5	50	4.7	5	○
XWR12100R010-D5	1.2	1.5	10	0.1	4.8	D5	50	4.7	5	○
XWR15100R010-D5	1.5	2.0	10	0.1	4.8	D5	50	4.7	5	○
XWR20100R010-D5	2.0	2.0	10	0.1	4.8	D5	50	4.7	5	○
XWR10120R015-D6	1.0	2.0	12	0.15	5.8	D6	50	5.7	6	○
XWR15120R015-D6	1.5	2.0	12	0.15	5.8	D6	50	5.7	6	○
XWR20120R015-D6	2.0	2.0	12	0.15	5.8	D6	50	5.7	6	○
XWR25160R015-D6	2.5	2.5	16	0.15	5.8	D6	50	5.7	6	○
XWR10160R015-D8	1.0	3.0	16	0.15	7.8	D8	50	7.6	8	○
XWR15160R015-D8	1.5	3.0	16	0.15	7.8	D8	50	7.6	8	○
XWR20160R015-D8	2.0	3.0	16	0.15	7.8	D8	50	7.6	8	○
XWR25160R015-D8	2.5	3.0	16	0.15	7.8	D8	50	7.6	8	○

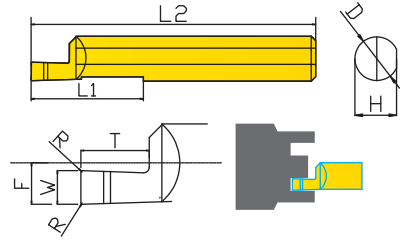
Unit: mm

T10 SOLID TIP-BAR FOR MICRO BORING



XFR

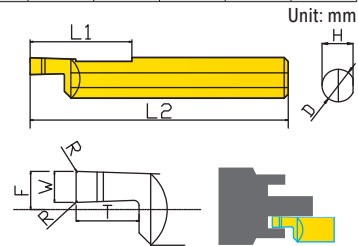
XFR Face Grooving - Right Hand



Specification	F	L1	T	W	R	D	L2	H	DMIN	T10
XFR415L W0.5	1.95	15	1.0	0.5	0.05	D4	50	3.5	6.0	○
XFR415L W0.75	1.95	15	1.5	0.75	0.05	D4	50	3.5	6.0	○
XFR415L W1.0	1.95	15	1.5	1.0	0.05	D4	50	3.5	6.0	○
XFR415L W1.5	1.95	15	2.8	1.5	0.05	D4	50	3.5	6.0	○
XFR522L W0.75	2.45	22	1.5	0.75	0.1	D5	50	4.5	6.0	○
XFR522L W1.0	2.45	22	1.5	1.0	0.1	D5	50	4.5	6.0	○
XFR522L W1.5	2.45	22	2.5	1.5	0.1	D5	50	4.5	6.0	○
XFR522L W2.0	2.45	22	4.0	2.0	0.1	D5	50	4.5	6.0	○
XFR622L W0.75	2.95	22	1.5	0.75	0.1	D6	50	5.5	8.0	○
XFR622L W1.0	2.95	22	2.0	1.0	0.1	D6	50	5.5	8.0	○
XFR622L W1.5	2.95	22	3.0	1.5	0.1	D6	50	5.5	8.0	○
XFR622L W2.0	2.95	22	4.0	2.0	0.1	D6	50	5.5	8.0	○
XFR622L W2.5	2.95	22	5.0	2.5	0.1	D6	50	5.5	8.0	○
XFR820L W1.5	3.95	20	4.0	1.5	0.2	D8	50	7.5	10.0	○
XFR820L W2.0	3.95	20	4.0	2.0	0.2	D8	50	7.5	10.0	○
XFR820L W2.5	3.95	20	5.0	2.5	0.2	D8	50	7.5	10.0	○
XFR820L W3.0	3.95	20	6.0	3.0	0.2	D8	50	7.5	10.0	○

XFL

XFL Face Grooving - Left Hand



Specification	F	L1	T	W	R	D	L2	H	DMIN	T10
XFL415L W0.5	1.95	15	1.0	0.5	0.05	D4	50	3.5	6.0	○
XFL415L W0.75	1.95	15	1.5	0.75	0.05	D4	50	3.5	6.0	○
XFL415L W1.0	1.95	15	1.5	1.0	0.05	D4	50	3.5	6.0	○
XFL415L W1.5	1.95	15	2.8	1.5	0.05	D4	50	3.5	6.0	○
XFL522L W0.75	2.45	22	1.5	0.75	0.1	D5	50	4.5	6.0	○
XFL522L W1.0	2.45	22	1.5	1.0	0.1	D5	50	4.5	6.0	○
XFL522L W1.5	2.45	22	2.5	1.5	0.1	D5	50	4.5	6.0	○
XFL522L W2.0	2.45	22	4.0	2.0	0.1	D5	50	4.5	6.0	○
XFL622L W0.75	2.95	22	1.5	0.75	0.1	D6	50	5.5	8.0	○
XFL622L W1.0	2.95	22	2.0	1.0	0.1	D6	50	5.5	8.0	○
XFL622L W1.5	2.95	22	3.0	1.5	0.1	D6	50	5.5	8.0	○
XFL622L W2.0	2.95	22	4.0	2.0	0.1	D6	50	5.5	8.0	○
XFL622L W2.5	2.95	22	5.0	2.5	0.1	D6	50	5.5	8.0	○
XFL820L W1.5	3.95	20	4.0	1.5	0.2	D8	50	7.5	10.0	○
XFL820L W2.0	3.95	20	4.0	2.0	0.2	D8	50	7.5	10.0	○
XFL820L W2.5	3.95	20	5.0	2.5	0.2	D8	50	7.5	10.0	○
XFL820L W3.0	3.95	20	6.0	3.0	0.2	D8	50	7.5	10.0	○

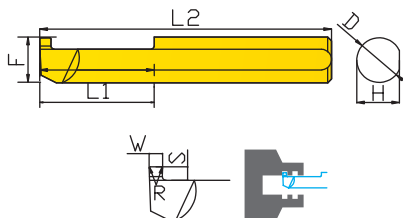
Unit: mm



T10 SOLID TIP-BAR FOR MICRO BORING

XWL

XWL Internal Grooving - Left Hand



Specification	W	S	L1	R	F	D	L2	H	DMIN	T20
XWL05050R005-D3	0.5	1.0	5	0.05	2.8	D3	40	2.7	3	○
XWL08050R005-D3	0.8	1.0	5	0.05	2.8	D3	40	2.7	3	○
XWL10050R005-D3	1.0	1.0	5	0.05	2.8	D3	40	2.7	3	○
XWL15050R005-D3	1.5	1.0	5	0.05	2.8	D3	40	2.7	3	○
XWL05050R005-D4	0.5	1.0	5	0.05	3.8	D4	40	3.7	4	○
XWL08050R005-D4	0.8	1.0	5	0.05	3.8	D4	40	3.7	4	○
XWL10050R005-D4	1.0	1.5	5	0.05	3.8	D4	40	3.7	4	○
XWL15050R005-D4	1.5	1.5	5	0.05	3.8	D4	40	3.7	4	○
XWL10050R010-D5	1.0	1.5	5	0.1	4.8	D5	40	4.7	5	○
XWL12050R010-D5	1.2	1.5	5	0.1	4.8	D5	40	4.7	5	○
XWL15050R010-D5	1.5	2.0	5	0.1	4.8	D5	40	4.7	5	○
XWL20050R010-D5	2.0	2.0	5	0.1	4.8	D5	40	4.7	5	○
XWL10060R015-D6	1.0	2.0	6	0.15	5.8	D6	40	5.7	6	○
XWL15060R015-D6	1.5	2.0	6	0.15	5.8	D6	40	5.7	6	○
XWL20060R015-D6	2.0	2.0	6	0.15	5.8	D6	40	5.7	6	○
XWL25060R015-D6	2.5	2.5	6	0.15	5.8	D6	40	5.7	6	○
XWL10100R015-D8	1.0	3.0	10	0.15	7.8	D8	50	7.6	7	○
XWL15100R015-D8	1.5	3.0	10	0.15	7.8	D8	50	7.6	7	○
XWL20100R015-D8	2.0	3.0	10	0.15	7.8	D8	50	7.6	7	○
XWL25100R015-D8	2.5	3.0	10	0.15	7.8	D8	50	7.6	7	○

Unit: mm

SHB

SHB Holder



Specification	D	d
SHB1603	16	3.0
SHB1604	16	4.0
SHB1605	16	5.0
SHB1606	16	6.0
SHB1607	16	7.0
SHB1905-03	19.05	3.0
SHB1905-04	19.05	4.0
SHB1905-05	19.05	5.0
SHB1905-06	19.05	6.0
SHB1905-07	19.05	7.0
SHB1905-08	19.05	8.0

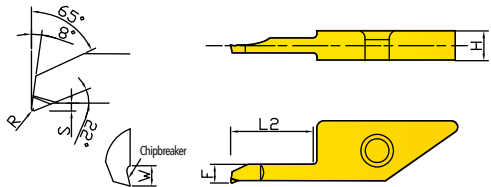
Specification	D	d
SHB2003	20	3.0
SHB2004	20	4.0
SHB2005	20	5.0
SHB2006	20	6.0
SHB2007	20	7.0
SHB2008	20	8.0
SHB2203	22	3.0
SHB2204	22	4.0
SHB2205	22	5.0
SHB2206	22	6.0
SHB2207	22	7.0
SHB2208	22	8.0

Specification	D	d
SHB25.3	25	3.0
SHB2504	25	4.0
SHB2505	25	5.0
SHB2506	25	6.0
SHB2507	25	7.0
SHB2508	25	8.0
SHB25.4-03	25.4	3.0
SHB25.4-04	25.4	4.0
SHB25.4-05	25.4	5.0
SHB25.4-06	25.4	6.0
SHB25.4-07	25.4	7.0
SHB25.4-08	25.4	8.0



VNBR

**VNBR Boring - With
Chipbreaker**

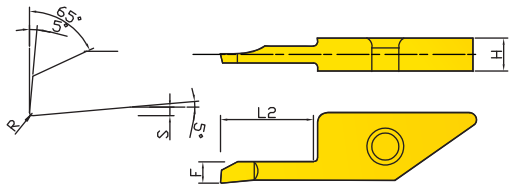


Specification	H	W	L2	F	S	R	DMIN	T10	T20	T30
VNBR01505-005S	3.9	0.7	5.0	1.3	0.2	0.05	1.5	○	○	○
VNBR0206-01S	3.9	0.8	6.0	1.8	0.25	0.1	2.0	○	○	○
VNBR025085-01S	3.9	0.8	8.5	2.3	0.4	0.1	2.5	○	○	○
VNBR0311-01S	3.9	0.8	11.0	2.6	0.4	0.1	3.0	○	○	○
VNBR0311-02S	3.9	0.8	11.0	2.6	0.4	0.2	3.0	○	○	○
VNBR03515-01S	3.9	0.8	15.0	3.0	0.5	0.1	3.5	○	○	○
VNBR0415-01S	3.9	0.8	15.0	3.5	0.5	0.1	4.0	○	○	○
VNBR0415-02S	3.9	0.8	15.0	3.5	0.5	0.2	4.0	○	○	○
VNBR0515-01S	3.9	1.0	15.0	4.5	0.7	0.1	5.0	○	○	○
VNBR0515-02S	3.9	1.0	15.0	4.5	0.7	0.2	5.0	○	○	○
VNBR0615-01S	3.9	1.2	15.0	5.3	1.0	0.1	6.0	○	○	○
VNBR0615-02S	3.9	1.2	15.0	5.3	1.0	0.2	6.0	○	○	○

Unit: mm

VNBR

**VNBR Boring - Without
Chipbreaker**



Specification	H	L2	F	S	R	DMIN	T10	T20	T30
VNBR0206-01NB	3.9	6.0	1.8	0.2	0.1	2.0	○	○	○
VNBR0206-02NB	3.9	6.0	1.8	0.2	0.2	2.0	○	○	○
VNBR0311-01NB	3.9	11.0	2.6	0.25	0.1	3.0	○	○	○
VNBR0311-02NB	3.9	11.0	2.6	0.25	0.2	3.0	○	○	○
VNBR0415-01NB	3.9	15.0	3.5	0.25	0.1	4.0	○	○	○
VNBR0415-02NB	3.9	15.0	3.5	0.25	0.2	4.0	○	○	○
VNBR0515-01NB	3.9	15.0	4.5	0.25	0.1	5.0	○	○	○
VNBR0515-02NB	3.9	15.0	4.5	0.25	0.2	5.0	○	○	○
VNBR0615-01NB	3.9	15.0	5.3	0.25	0.1	6.0	○	○	○
VNBR0615-02NB	3.9	15.0	5.3	0.25	0.2	6.0	○	○	○

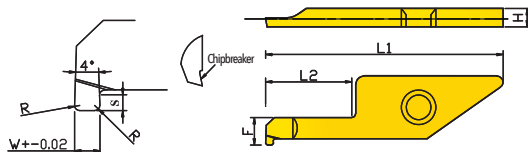
Unit: mm



VN** SOLID TIP-BAR FOR MICRO BORING

VNGR

VNGR Internal Grooving

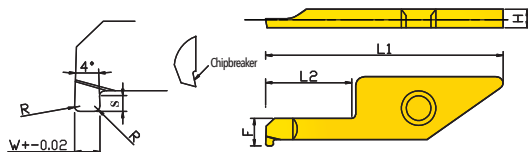


Specification	H	W	L2	F	S	R	DMIN	T10	T20	T30
VNGR0410-11	3.9	1.0	11.0	3.5	0.8	0.05	4	○	○	○
VNGR0420-11	3.9	2.0	11.0	3.5	0.8	0.05	4	○	○	○
VNGR0510-11	3.9	1.0	11.0	4.4	1.2	0.05	5	○	○	○
VNGR0520-11	3.9	2.0	11.0	4.4	1.2	0.05	5	○	○	○
VNGR0610-15	3.9	1.0	15.0	5.2	2.0	0.05	6	○	○	○
VNGR0620-15	3.9	2.0	15.0	5.2	2.0	0.05	6	○	○	○
VNGR0710-15	3.9	1.0	15.0	6.2	2.0	0.05	7	○	○	○
VNGR0720-15	3.9	2.0	15.0	6.2	2.0	0.05	7	○	○	○

Unit: mm

VNTR

VNTR Internal Threading

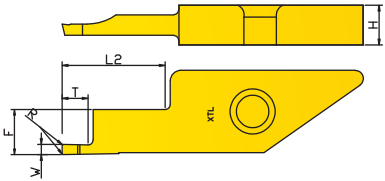


Specification	H	L1	L2	F	S	d	R	Metric		Unified		DMIN	T10	T20	T30
								Nominal Thread	Pitch(mm)	Nominal Thread	Pitch(TPI)				
VNTR014-05	3.9	25.8	5.0	1.4	0.5	0.4	0.05	M2	P0.4	N0.1-72UMF	1-72	D1.6	○	○	○
VNTR018-06	3.9	25.8	6.0	1.8	0.5	0.4	0.05	M2.5	P0.35-0.45	N0.2-64UMF N0.3-56UMF	2-64 3-56	D2.1	○	○	○
VNTR024-06	3.9	25.8	6.0	2.4	0.5	0.4	0.05	M3-M3.5	P0.35-0.6	N0.4-48UMF N0.5-44UMF	4-48 5-44	D2.6	○	○	○
VNTR030-11	3.9	30.8	11.0	3.0	0.8	0.5	0.05	M4-M5	P0.5-0.8	N0.6-40UMF N0.8-36UMF	6-40 8-36	D3.3	○	○	○
VNTR045-11	3.9	30.8	11.0	3.6	1.3	0.6	0.05	M6 ↑	P0.75-P1.25	1/4-20UNC 1/4-28UNC	28-20	D4.5	○	○	○
VNTR060-11	3.9	30.8	11.0	4.6	1.6	0.8	0.05	M8 ↑	P0.75-P1.5	5/16-18UNC 5/16-24UNC	24-18	D6.0	○	○	○

Unit: mm



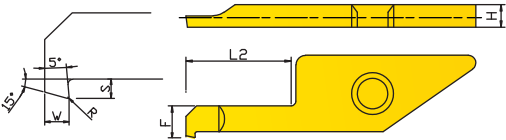
VNFG
VNFG Internal/Face Grooving



Specification	H	W	T	L2	F	R	DMIN	T10	T20	T30
VNFG0810-10	3.9	1.0	3.0	10.0	4.4	0.05	8	○	○	○
VNFG0820-10	3.9	2.0	5.0	10.0	4.4	0.05	8	○	○	○
VNFG0830-10	3.9	3.0	6.0	10.0	4.4	0.05	8	○	○	○
VNFG0840-12	3.9	4.0	12.0	12.0	4.0	0.3	8	○	○	○

Unit: mm

VNBTR
VNBTR Back Boring



Specification	H	W	L2	F	S	R	DMIN	T10	T20	T30
VNBTR04150-005	3.9	1.5	15.0	3.6	1.0	0.05	4	○	○	○
VNBTR05150-005	3.9	1.5	15.0	4.6	1.3	0.05	5	○	○	○
VNBTR06150-005	3.9	1.5	15.0	5.6	1.5	0.05	6	○	○	○

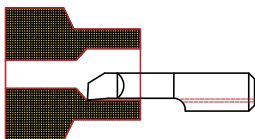
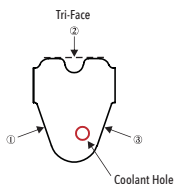
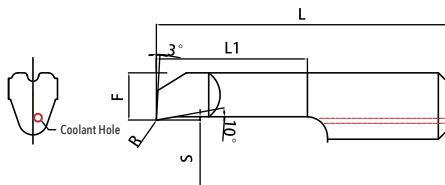
Unit: mm



CB** SOLID TIP-BAR FOR MICRO BORING

CBFR

CBFR Universal - Boring

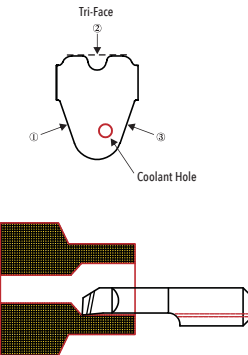
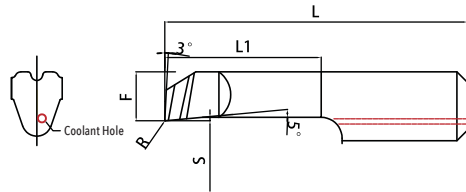


Specification	F	S	L1	L	R	DMIN
CBFR100 050 R005	0.9	0.15	5.0	25	0.05	D1.0
CBFR150 060 R005	1.4	0.2	6.0	25	0.05	D1.5
CBFR150 060 R010	1.4	0.2	6.0	25	0.1	D1.5
CBFR200 060 R005	1.9	0.2	6.0	25	0.05	D2.0
CBFR200 060 R010	1.9	0.2	6.0	25	0.1	D2.0
CBFR200 100 R005	1.9	0.2	10.0	25	0.05	D2.0
CBFR200 100 R010	1.9	0.2	10.0	25	0.1	D2.0
CBFR250 100 R005	2.3	0.3	10.0	25	0.05	D2.5
CBFR250 100 R010	2.3	0.3	10.0	25	0.1	D2.5
CBFR250 150 R005	2.3	0.3	15.0	30	0.05	D2.5
CBFR250 150 R010	2.3	0.3	15.0	30	0.1	D2.5
CBFR300 100 R005	2.7	0.4	10.0	25	0.05	D3.0
CBFR300 100 R010	2.7	0.4	10.0	25	0.1	D3.0
CBFR300 100 R020	2.7	0.4	10.0	25	0.05	D3.0
CBFR300 150 R005	2.7	0.4	15.0	30	0.1	D3.0
CBFR300 150 R010	2.7	0.4	15.0	30	0.2	D3.0
CBFR300 150 R020	2.7	0.4	15.0	30	0.05	D3.0
CBFR300 200 R005	2.7	0.4	20.0	35	0.1	D3.0
CBFR300 200 R010	2.7	0.4	20.0	35	0.2	D3.0
CBFR300 200 R020	2.7	0.4	20.0	35	0.05	D3.0
CBFR350 100 R010	3.2	0.4	10.0	25	0.1	D3.5
CBFR350 100 R020	3.2	0.4	10.0	25	0.2	D3.5
CBFR350 150 R010	3.2	0.4	15.0	30	0.1	D3.5
CBFR350 150 R020	3.2	0.4	15.0	30	0.2	D3.5
CBFR400 100 R010	3.7	0.5	10.0	25	0.1	D4.0
CBFR400 100 R020	3.7	0.5	10.0	25	0.2	D4.0
CBFR400 150 R010	3.7	0.5	15.0	30	0.1	D4.0
CBFR400 150 R020	3.7	0.5	15.0	30	0.2	D4.0
CBFR400 200 R010	3.7	0.5	20.0	35	0.1	D4.0
CBFR400 200 R020	3.7	0.5	20.0	35	0.2	D4.0
CBFR500 150 R010	4.7	0.6	15.0	30	0.1	D5.0
CBFR500 150 R020	4.7	0.6	15.0	30	0.2	D5.0
CBFR500 200 R010	4.7	0.6	20.0	35	0.1	D5.0
CBFR500 200 R020	4.7	0.6	20.0	35	0.2	D5.0
CBFR500 300 R010	4.7	0.6	30.0	45	0.1	D5.0
CBFR500 300 R020	4.7	0.6	30.0	45	0.2	D5.0
CBFR600 150 R010	5.7	0.6	15.0	30	0.1	D6.0
CBFR600 150 R020	5.7	0.6	15.0	30	0.2	D6.0
CBFR600 200 R010	5.7	0.6	20.0	35	0.1	D6.0
CBFR600 200 R020	5.7	0.6	20.0	35	0.2	D6.0
CBFR600 300 R010	5.7	0.6	30.0	45	0.1	D6.0
CBFR600 300 R020	5.7	0.6	30.0	45	0.2	D6.0
CBFR680 150 R010	6.4	0.7	15.0	30	0.1	D7.0
CBFR680 150 R020	6.4	0.7	15.0	30	0.2	D7.0
CBFR680 200 R010	6.4	0.7	20.0	35	0.1	D7.0
CBFR680 200 R020	6.4	0.7	20.0	35	0.2	D7.0
CBFR680 300 R010	6.4	0.7	30.0	45	0.1	D7.0
CBFR680 300 R020	6.4	0.7	30.0	45	0.2	D7.0

Unit: mm



CBTR
CBTR Tough Edge - Boring



Specification	F	S	L1	L	R	DMIN
CBTR100 050 R005	0.9	0.15	5.0	25	0.05	D1.0
CBTR150 060 R005	1.4	0.2	6.0	25	0.05	D1.5
CBTR150 060 R010	1.4	0.2	6.0	25	0.1	D1.5
CBTR200 060 R005	1.9	0.2	6.0	25	0.05	D2.0
CBTR200 060 R010	1.9	0.2	6.0	25	0.1	D2.0
CBTR200 100 R005	1.9	0.2	10.0	25	0.05	D2.0
CBTR200 100 R010	1.9	0.2	10.0	25	0.1	D2.0
CBTR250 100 R005	2.3	0.2	10.0	25	0.05	D2.5
CBTR250 100 R010	2.3	0.2	10.0	25	0.1	D2.5
CBTR250 150 R005	2.3	0.2	15.0	30	0.05	D2.5
CBTR250 150 R010	2.3	0.2	15.0	30	0.1	D2.5
CBTR300 100 R005	2.7	0.2	10.0	25	0.05	D3.0
CBTR300 100 R010	2.7	0.2	10.0	25	0.1	D3.0
CBTR300 100 R020	2.7	0.2	10.0	25	0.05	D3.0
CBTR300 150 R005	2.7	0.2	15.0	30	0.1	D3.0
CBTR300 150 R010	2.7	0.2	15.0	30	0.2	D3.0
CBTR300 150 R020	2.7	0.2	15.0	30	0.05	D3.0
CBTR300 200 R005	2.7	0.2	20.0	35	0.1	D3.0
CBTR300 200 R010	2.7	0.2	20.0	35	0.2	D3.0
CBTR300 200 R020	2.7	0.2	20.0	35	0.05	D3.0
CBTR350 100 R010	3.2	0.3	10.0	25	0.1	D3.5
CBTR350 100 R020	3.2	0.3	10.0	25	0.2	D3.5
CBTR350 150 R010	3.2	0.3	15.0	30	0.1	D3.5
CBTR350 150 R020	3.2	0.3	15.0	30	0.2	D3.5
CBTR400 100 R010	3.7	0.3	10.0	25	0.1	D4.0
CBTR400 100 R020	3.7	0.3	10.0	25	0.2	D4.0
CBTR400 150 R010	3.7	0.3	15.0	30	0.1	D4.0
CBTR400 150 R020	3.7	0.3	15.0	30	0.2	D4.0
CBTR400 200 R010	3.7	0.3	20.0	35	0.1	D4.0
CBTR400 200 R020	3.7	0.3	20.0	35	0.2	D4.0
CBTR500 150 R010	4.7	0.4	15.0	30	0.1	D5.0
CBTR500 150 R020	4.7	0.4	15.0	30	0.2	D5.0
CBTR500 200 R010	4.7	0.4	20.0	35	0.1	D5.0
CBTR500 200 R020	4.7	0.4	20.0	35	0.2	D5.0
CBTR500 300 R010	4.7	0.4	30.0	45	0.1	D5.0
CBTR500 300 R020	4.7	0.4	30.0	45	0.2	D5.0
CBTR600 150 R010	5.7	0.4	15.0	30	0.1	D6.0
CBTR600 150 R020	5.7	0.4	15.0	30	0.2	D6.0
CBTR600 200 R010	5.7	0.4	20.0	35	0.1	D6.0
CBTR600 200 R020	5.7	0.4	20.0	35	0.2	D6.0
CBTR600 300 R010	5.7	0.4	30.0	45	0.1	D6.0
CBTR600 300 R020	5.7	0.4	30.0	45	0.2	D6.0
CBTR680 150 R010	6.4	0.4	15.0	30	0.1	D7.0
CBTR680 150 R020	6.4	0.4	15.0	30	0.2	D7.0
CBTR680 200 R010	6.4	0.4	20.0	35	0.1	D7.0
CBTR680 200 R020	6.4	0.4	20.0	35	0.2	D7.0
CBTR680 300 R010	6.4	0.4	30.0	45	0.1	D7.0
CBTR680 300 R020	6.4	0.4	30.0	45	0.2	D7.0

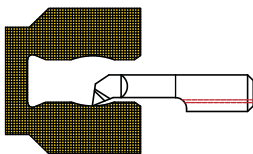
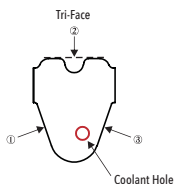
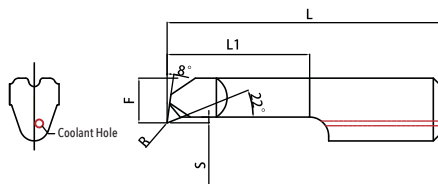
Unit: mm



CB** SOLID TIP-BAR FOR MICRO BORING

CBPR

CBPR Sharp Edge - Boring



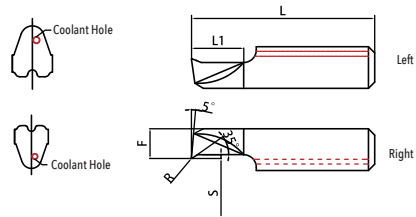
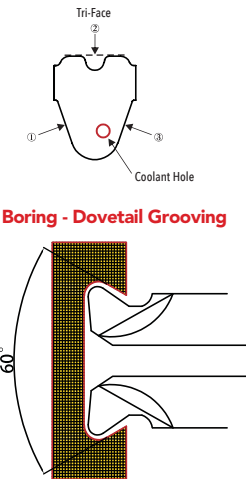
Specification	F	S	L1	L	R	DMIN
CBPR100 040 R005	0.9	0.15	4.0	25	0.05	D1.0
CBPR150 050 R005	1.4	0.2	5.0	25	0.05	D1.5
CBPR150 050 R010	1.4	0.2	5.0	25	0.1	D1.5
CBPR200 080 R005	1.9	0.2	8.0	25	0.05	D2.0
CBPR200 080 R010	1.9	0.2	8.0	25	0.1	D2.0
CBPR250 080 R005	2.3	0.3	8.0	25	0.05	D2.5
CBPR250 080 R010	2.3	0.3	8.0	25	0.1	D2.5
CBPR300 100 R005	2.7	0.4	10.0	25	0.05	D3.0
CBPR300 100 R010	2.7	0.4	10.0	25	0.1	D3.0
CBPR300 100 R020	2.7	0.4	10.0	25	0.05	D3.0
CBPR300 150 R005	2.7	0.4	15.0	30	0.1	D3.0
CBPR300 150 R010	2.7	0.4	15.0	30	0.05	D3.0
CBPR300 150 R020	2.7	0.4	15.0	30	0.1	D3.0
CBPR300 200 R005	2.7	0.4	20.0	35	0.05	D3.0
CBPR300 200 R010	2.7	0.4	20.0	35	0.1	D3.0
CBPR300 200 R020	2.7	0.4	20.0	35	0.2	D3.0
CBPR350 100 R010	3.2	0.4	10.0	25	0.1	D3.5
CBPR350 100 R020	3.2	0.4	10.0	25	0.2	D3.5
CBPR350 150 R010	3.2	0.4	15.0	30	0.1	D3.5
CBPR350 150 R020	3.2	0.4	15.0	30	0.2	D3.5
CBPR400 100 R010	3.7	0.5	10.0	25	0.1	D4.0
CBPR400 100 R020	3.7	0.5	10.0	25	0.2	D4.0
CBPR400 150 R010	3.7	0.5	15.0	30	0.1	D4.0
CBPR400 150 R020	3.7	0.5	15.0	30	0.2	D4.0
CBPR400 200 R010	3.7	0.5	20.0	35	0.1	D4.0
CBPR400 200 R020	3.7	0.5	20.0	35	0.2	D4.0
CBPR500 150 R010	4.7	0.6	15.0	30	0.1	D5.0
CBPR500 150 R020	4.7	0.6	15.0	30	0.2	D5.0
CBPR500 200 R010	4.7	0.6	20.0	35	0.1	D5.0
CBPR500 200 R020	4.7	0.6	20.0	35	0.2	D5.0
CBPR500 300 R010	4.7	0.6	30.0	45	0.1	D5.0
CBPR500 300 R020	4.7	0.6	30.0	45	0.2	D5.0
CBPR600 150 R010	5.7	0.6	15.0	30	0.1	D6.0
CBPR600 150 R020	5.7	0.6	15.0	30	0.2	D6.0
CBPR600 200 R010	5.7	0.6	20.0	35	0.1	D6.0
CBPR600 200 R020	5.7	0.6	20.0	35	0.2	D6.0
CBPR600 300 R010	5.7	0.6	30.0	45	0.1	D6.0
CBPR600 300 R020	5.7	0.6	30.0	45	0.2	D6.0
CBPR680 150 R010	6.4	0.7	15.0	30	0.1	D7.0
CBPR680 150 R020	6.4	0.7	15.0	30	0.2	D7.0
CBPR680 200 R010	6.4	0.7	20.0	35	0.1	D7.0
CBPR680 200 R020	6.4	0.7	20.0	35	0.2	D7.0
CBPR680 300 R010	6.4	0.7	30.0	45	0.1	D7.0
CBPR680 300 R020	6.4	0.7	30.0	45	0.2	D7.0

Unit: mm



CBNR

CBNR Boring - Dovetail Grooving

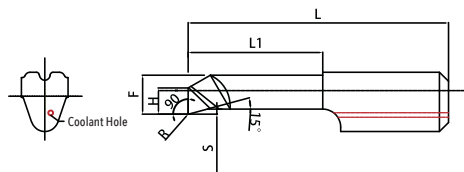
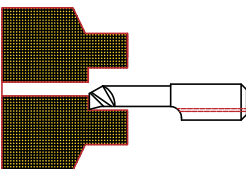


Specification	F	S	L1	L	R	DMIN
CBNR300 060 R020(R)	2.7	1.2	6.0	25	0.2	D3.0
CBNL300 060 R020(L)	2.7	1.2	6.0	25	0.2	D3.0
CBNR400 060 R020(R)	3.7	1.6	6.0	25	0.2	D4.0
CBNL400 060 R020(L)	3.7	1.6	6.0	25	0.2	D4.0
CBNR500 080 R020(R)	4.7	2.0	8.0	25	0.2	D5.0
CBNL500 080 R020(L)	4.7	2.0	8.0	25	0.2	D5.0
CBNR500 150 R020(R)	4.7	2.0	15.0	30	0.2	D5.0
CBNL500 150 R020(L)	4.7	2.0	15.0	30	0.2	D5.0
CBNR600 080 R020(R)	5.7	2.3	9.0	25	0.2	D6.0
CBNL600 080 R020(L)	5.7	2.3	9.0	25	0.2	D6.0
CBNR600 200 R020(R)	5.7	2.3	20.0	35	0.2	D6.0
CBNL600 200 R020(L)	5.7	2.3	20.0	35	0.2	D6.0
CBNR700 080 R020(R)	6.4	2.6	8.0	25	0.2	D7.0
CBNL700 080 R020(L)	6.4	2.6	8.0	25	0.2	D7.0
CBNR700 200 R020(R)	6.4	2.6	20.0	35	0.2	D7.0
CBNL700 200 R020(L)	6.4	2.6	20.0	35	0.2	D7.0

Unit: mm

CBUR

CBUR Boring



Specification	F	S	H	L1	L	R	DMIN
CBUR300 100 R010	2.9	0.4	1.3	10.0	25	0.1	D3.0
CBUR300 150 R010	2.9	0.4	1.3	15.0	30	0.1	D3.0
CBUR400 100 R010	3.9	0.5	1.7	10.0	25	0.1	D4.0
CBUR400 150 R010	3.9	0.5	1.7	15.0	30	0.1	D4.0
CBUR500 100 R010	4.9	0.5	2.1	10.0	25	0.1	D5.0
CBUR500 200 R010	4.9	0.5	2.1	20.0	35	0.1	D5.0
CBUR600 100 R010	5.9	0.5	2.8	10.0	25	0.1	D6.0
CBUR600 200 R010	5.9	0.5	2.8	20.0	35	0.1	D6.0

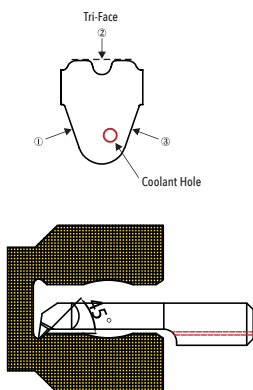
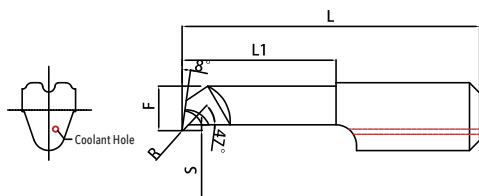
Unit: mm



CB** SOLID TIP-BAR FOR MICRO BORING

CBQR

CBQR Boring - Internal Profiling

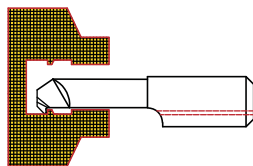
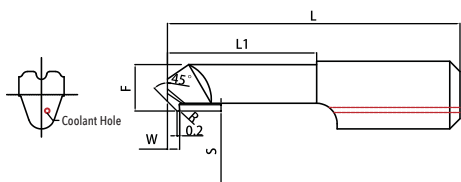


Specification	F	S	L1	L	R	DMIN
CBQR300 100 R010	2.8	0.8	10.0	25	0.1	D3.0
CBQR300 100 R020	2.8	0.8	10.0	25	0.2	D3.0
CBQR350 100 R010	3.3	1.0	10.0	25	0.1	D3.5
CBQR350 100 R020	3.3	1.0	10.0	25	0.2	D3.5
CBQR400 100 R010	3.7	1.0	10.0	25	0.1	D4.0
CBQR400 100 R020	3.7	1.0	10.0	25	0.2	D4.0
CBQR400 200 R010	3.7	1.0	20.0	35	0.1	D4.0
CBQR400 200 R020	3.7	1.0	20.0	35	0.2	D4.0
CBQR500 100 R010	4.7	1.2	10.0	25	0.1	D5.0
CBQR500 100 R020	4.7	1.2	10.0	25	0.2	D5.0
CBQR500 200 R010	4.7	1.2	20.0	35	0.1	D5.0
CBQR500 200 R020	4.7	1.2	20.0	35	0.2	D5.0
CBQR600 150 R010	5.7	1.5	15.0	30	0.1	D6.0
CBQR600 150 R020	5.7	1.5	15.0	30	0.2	D6.0
CBQR600 300 R010	5.7	1.5	30.0	45	0.1	D6.0
CBQR600 300 R020	5.7	1.5	30.0	45	0.2	D6.0
CBQR700 150 R010	6.4	1.8	15.0	30	0.1	D7.0
CBQR700 150 R020	6.4	1.8	15.0	30	0.2	D7.0
CBQR700 300 R010	6.4	1.8	30.0	45	0.1	D7.0
CBQR700 300 R020	6.4	1.8	30.0	45	0.2	D7.0

Unit: mm

CBXR

CBXR Back Boring



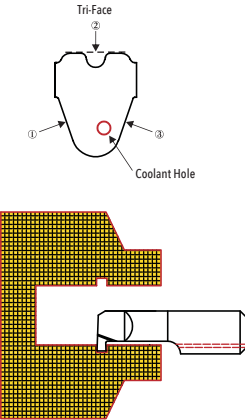
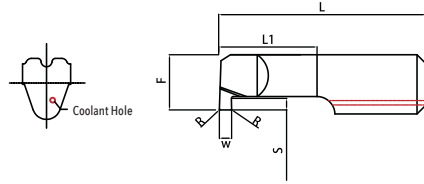
Specification	F	S	H	L1	L	R	DMIN
CBXR300 100 R010	2.8	1.0	1.0	10.0	25	0.1	D3.0
CBXR400 100 R010	3.8	1.0	1.0	10.0	25	0.1	D4.0
CBXR400 200 R010	3.8	1.0	1.0	20.0	35	0.1	D4.0
CBXR500 150 R010	4.8	1.5	1.5	15.0	30	0.1	D5.0
CBXR500 300 R010	4.8	1.5	1.5	30.0	45	0.1	D5.0
CBXR600 150 R010	5.8	1.5	1.5	15.0	30	0.1	D6.0
CBXR600 300 R010	5.8	1.5	1.5	30.0	45	0.1	D6.0
CBXR700 150 R010	6.4	1.5	1.5	15.0	30	0.1	D7.0
CBXR700 300 R010	6.4	1.5	1.5	30.0	45	0.1	D7.0

Unit: mm



CBGR

CBGR Internal Grooving

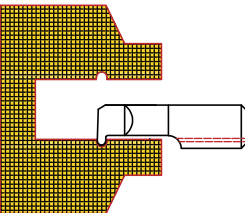
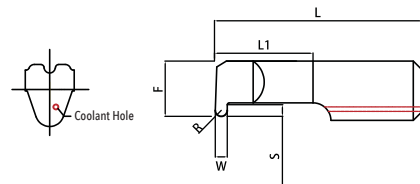


Specification	F	S	W	L1	L	R	DMIN
CBGR030 100 D30	2.8	0.5	0.3	10.0	25	0.05	D3.0
CBGR100 100 D30	2.8	0.8	1.0	10.0	25	0.05	D3.0
CBGR050 100 D40	3.8	1.0	0.5	10.0	25	0.05	D4.0
CBGR100 100 D40	3.8	1.0	1.0	10.0	25	0.05	D4.0
CBGR150 100 D40	3.8	1.0	1.5	10.0	25	0.05	D4.0
CBGR100 100 D50	4.7	1.2	1.0	10.0	25	0.05	D5.0
CBGR150 100 D50	4.7	1.2	1.5	10.0	25	0.05	D5.0
CBGR200 100 D50	4.7	1.2	2.0	10.0	25	0.05	D5.0
CBGR100 100 D60	5.7	2.0	1.0	10.0	25	0.05	D6.0
CBGR150 100 D60	5.7	2.0	1.5	10.0	25	0.05	D6.0
CBGR200 100 D60	5.7	2.0	2.0	10.0	25	0.05	D6.0
CBGR250 100 D60	5.7	2.0	2.5	10.0	25	0.05	D6.0
CBGR100 100 D70	6.2	2.0	1.0	10.0	25	0.05	D7.0
CBGR150 100 D70	6.2	2.5	1.5	10.0	25	0.05	D7.0
CBGR200 100 D70	6.2	2.5	2.0	10.0	25	0.05	D7.0
CBGR100 200 D70	6.2	2.5	1.0	20.0	35	0.05	D7.0
CBGR150 200 D70	6.2	2.5	1.5	20.0	35	0.05	D7.0
CBGR200 200 D70	6.2	2.5	2.0	20.0	35	0.05	D7.0
CBGR100 300 D70	6.2	2.5	1.0	30.0	45	0.05	D7.0
CBGR150 300 D70	6.2	2.5	1.5	30.0	45	0.05	D7.0
CBGR200 300 D70	6.2	2.5	2.0	30.0	45	0.05	D7.0

Unit: mm

CBKR

CBKR Internal Grooving with Corner Radius



Specification	F	S	W	L1	L	R	DMIN
CBKR400 100 R050	3.8	1.0	1.0	10.0	25	0.5	D4.0
CBKR400 100 R075	3.8	1.0	1.5	10.0	25	0.75	D4.0
CBKR500 150 R050	4.8	1.2	1.0	15.0	30	0.5	D5.0
CBKR500 150 R075	4.8	1.2	1.5	15.0	30	0.75	D5.0
CBKR500 150 R100	4.8	1.2	2.0	15.0	30	1.0	D5.0
CBKR600 150 R050	5.8	1.6	1.0	15.0	30	0.5	D6.0
CBKR600 150 R075	5.8	1.6	1.5	15.0	30	0.75	D6.0
CBKR600 150 R100	5.8	1.6	2.0	15.0	30	1.0	D6.0

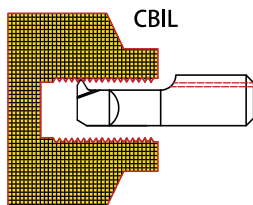
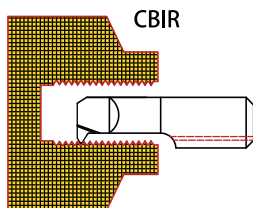
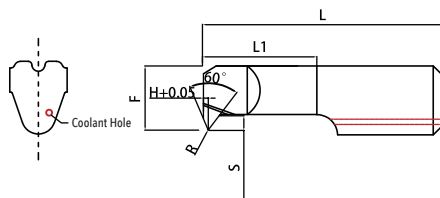
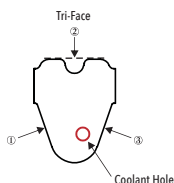
Unit: mm



CB** SOLID TIP-BAR FOR MICRO BORING

CBIR

CBIR Internal Threading A60°



Specification	F	S	H	L1	L	R	DMIN
CBIR300 100 A60 R005	2.8	0.7	0.5	10.0	25	0.05	D3.0
CBIR300 150 A60 R005	2.8	0.7	0.5	15.0	30	0.05	D3.0
CBIR400 100 A60 R005	3.7	1.1	0.6	10.0	25	0.05	D4.0
CBIR400 150 A60 R005	3.7	1.1	0.6	15.0	30	0.05	D4.0
CBIR500 100 A60 R010	4.7	1.3	0.6	10.0	25	0.1	D5.0
CBIR500 200 A60 R010	4.7	1.3	0.6	20.0	35	0.1	D5.0
CBIR500 300 A60 R010	4.7	1.3	0.6	30.0	45	0.1	D5.0
CBIR600 100 A60 R015	6.0	1.7	0.8	10.0	25	0.15	D7.0
CBIR600 200 A60 R015	6.0	1.7	0.8	20.0	35	0.15	D7.0
CBIR600 300 A60 R015	6.0	1.7	0.8	30.0	45	0.15	D7.0

CBIL - Left Hand - A60°

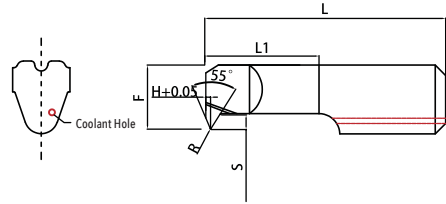
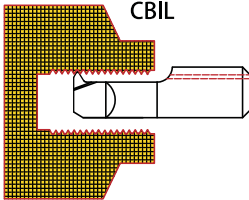
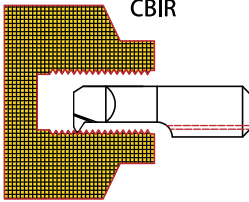
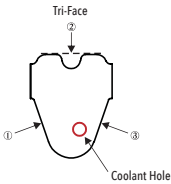
Specification	F	S	H	L1	L	R	DMIN
CBIL300 100 A60 R005	2.8	0.7	0.5	10.0	25	0.05	D3.0
CBIL300 150 A60 R005	2.8	0.7	0.5	15.0	30	0.05	D3.0
CBIL400 100 A60 R005	3.7	1.1	0.6	10.0	25	0.05	D4.0
CBIL400 150 A60 R005	3.7	1.1	0.6	15.0	30	0.05	D4.0
CBIL500 100 A60 R010	4.7	1.3	0.6	10.0	25	0.1	D5.0
CBIL500 200 A60 R010	4.7	1.3	0.6	20.0	35	0.1	D5.0
CBIL500 300 A60 R010	4.7	1.3	0.6	30.0	45	0.1	D5.0
CBIL600 100 A60 R015	6.0	1.7	0.8	10.0	25	0.15	D7.0
CBIL600 200 A60 R015	6.0	1.7	0.8	20.0	35	0.15	D7.0
CBIL600 300 A60 R015	6.0	1.7	0.8	30.0	45	0.15	D7.0

Unit: mm



CBIR

CBIR Internal Threading A55°



Specification	F	S	H	L1	L	R	DMIN
CBIR300 100 A55 R005	2.8	0.7	0.5	10.0	25	0.1	D3.0
CBIR300 150 A55 R005	2.8	0.7	0.5	15.0	30	0.1	D3.0
CBIR400 100 A55 R005	3.7	1.1	0.6	10.0	25	0.1	D4.0
CBIR400 150 A55 R005	3.7	1.1	0.6	15.0	30	0.1	D4.0
CBIR500 100 A55 R010	4.7	1.3	0.6	10.0	25	0.2	D5.0
CBIR500 200 A55 R010	4.7	1.3	0.6	20.0	35	0.2	D5.0
CBIR500 300 A55 R010	4.7	1.3	0.6	30.0	45	0.2	D5.0
CBIR600 100 A55 R015	6.0	1.7	0.8	10.0	25	0.2	D7.0
CBIR600 200 A55 R015	6.0	1.7	0.8	20.0	35	0.2	D7.0
CBIR600 300 A55 R015	6.0	1.7	0.8	30.0	45	0.2	D7.0

CBIL - Left Hand - A55°

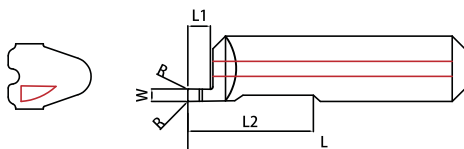
Specification	F	S	H	L1	L	R	DMIN
CBIL300 100 A55 R005	2.8	0.7	0.5	10.0	25	0.1	D3.0
CBIL300 150 A55 R005	2.8	0.7	0.5	15.0	30	0.1	D3.0
CBIL400 100 A55 R005	3.7	1.1	0.6	10.0	25	0.1	D4.0
CBIL400 150 A55 R005	3.7	1.1	0.6	15.0	30	0.1	D4.0
CBIL500 100 A55 R010	4.7	1.3	0.6	10.0	25	0.2	D5.0
CBIL500 200 A55 R010	4.7	1.3	0.6	20.0	35	0.2	D5.0
CBIL500 300 A55 R010	4.7	1.3	0.6	30.0	45	0.2	D5.0
CBIL600 100 A55 R015	6.0	1.7	0.8	10.0	25	0.2	D7.0
CBIL600 200 A55 R015	6.0	1.7	0.8	20.0	35	0.2	D7.0
CBIL600 300 A55 R015	6.0	1.7	0.8	30.0	45	0.2	D7.0

Unit: mm

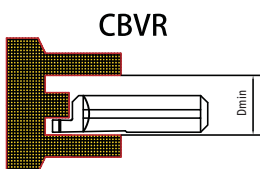


CB** SOLID TIP-BAR FOR MICRO BORING

CBVR CBVR Face Grooving

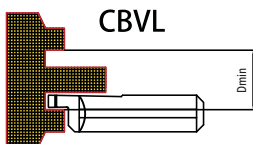


Left Hand



Specification	W	L1	L2	L	R	DMIN
CBVR080 150 W0.5	0.5	1.5	15.0	25	0.05	D8.0
CBVR080 150 W1.0	1.0	4.0	15.0	25	0.1	D8.0
CBVR080 150 W1.5	1.5	5.0	15.0	25	0.1	D8.0
CBVR080 150 W2.0	2.0	8.0	15.0	25	0.1	D8.0
CBVR100 220 W1.0	1.0	4.0	22.0	35	0.1	D10.0
CBVR100 220 W1.5	1.5	6.0	22.0	35	0.1	D10.0
CBVR100 220 W2.0	2.0	10.0	22.0	35	0.1	D10.0
CBVR100 220 W2.5	2.5	10.0	22.0	35	0.1	D10.0
CBVR100 220 W3.0	3.0	12.0	22.0	35	0.1	D10.0
CBVR100 220 W4.0	4.0	15.0	22.0	35	0.1	D10.0

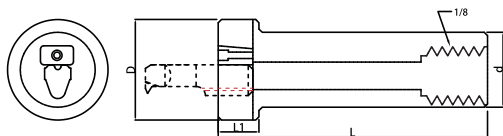
Right Hand



Specification	W	L1	L2	L	R	DMIN
CBVL080 150 W0.5	0.5	1.5	15.0	25	0.05	D8.0
CBVL080 150 W1.0	1.0	4.0	15.0	25	0.1	D8.0
CBVL080 150 W1.5	1.5	5.0	15.0	25	0.1	D8.0
CBVL080 150 W2.0	2.0	8.0	15.0	25	0.1	D8.0
CBVL100 220 W1.0	1.0	4.0	22.0	35	0.1	D10.0
CBVL100 220 W1.5	1.5	6.0	22.0	35	0.1	D10.0
CBVL100 220 W2.0	2.0	10.0	22.0	35	0.1	D10.0
CBVL100 220 W2.5	2.5	10.0	22.0	35	0.1	D10.0
CBVL100 220 W3.0	3.0	12.0	22.0	35	0.1	D10.0
CBVL100 220 W4.0	4.0	15.0	22.0	35	0.1	D10.0

Unit: mm

CBR CBR Holder



Specification	d	D	L	L1
CBR 16	16	24	80	15
CBR 19.05	19.05	24	80	15
CBR 20	20	24	80	15
CBR 22	22	24	80	15
CBR 25	25	25	80	15
CBR 25.4	25.4	25.4	80	15

Unit: mm

This image shows a full page of blank graph paper. The grid consists of small, uniform squares formed by thin, light gray lines. There are no margins, text, or other markings on the page.



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