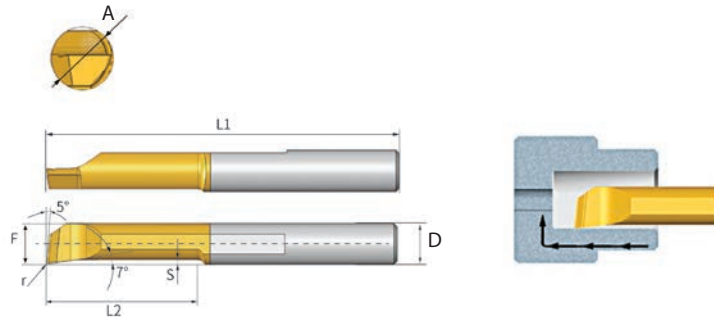
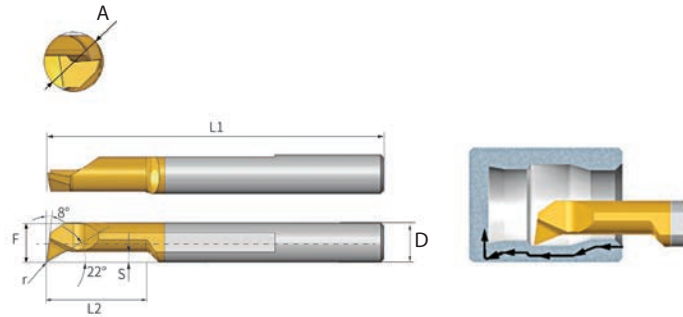


Product Type	Min.Dia A	D	r	L1	L2	F	S
TR1.0R05L4	1.0	4	0.05	40	4	0.9	0.10
TR1.5R05L5	1.5	4	0.05	40	5	1.4	0.15
TR1.5R1L5	1.5	4	0.10	40	5	1.4	0.15
TR1.5R05L8	1.5	4	0.05	40	8	1.4	0.15
TR1.5R1L8	1.5	4	0.10	40	8	1.4	0.15
TR2R05L6	2.1	4	0.05	40	6	1.85	0.20
TR2R1L6	2.1	4	0.10	40	6	1.85	0.20
TR2R05L10	2.1	4	0.05	40	10	1.85	0.20
TR2R1L10	2.1	4	0.10	40	10	1.85	0.20
TR2.5R05L8	2.6	4	0.05	40	8	2.35	0.25
TR2.5R1L8	2.6	4	0.10	40	8	2.35	0.25
TR2.5R15L8	2.6	4	0.15	40	8	2.35	0.25
TR2.5R05L12	2.6	4	0.05	40	12	2.35	0.25
TR2.5R1L12	2.6	4	0.10	40	12	2.35	0.25
TR2.5R15L12	2.6	4	0.15	40	12	2.35	0.25
TR3R05L10	3.1	4	0.05	40	10	2.8	0.30
TR3R1L10	3.1	4	0.10	40	10	2.8	0.30
TR3R15L10	3.1	4	0.15	40	10	2.8	0.30
TR3R05L15	3.1	4	0.05	46	15	2.8	0.30
TR3R1L15	3.1	4	0.10	46	15	2.8	0.30
TR3R15L15	3.1	4	0.15	46	15	2.8	0.30
TR3.5R15L15	3.6	4	0.15	45	15	3.3	0.35
TR3.5R15L20	3.6	4	0.15	50	20	3.3	0.35
TR4R05L12	4.1	4	0.05	46	12	3.8	0.40
TR4R1L12	4.1	4	0.10	46	12	3.8	0.40
TR4R2L12	4.1	4	0.20	46	12	3.8	0.40
TR4R05L16	4.1	4	0.05	46	16	3.8	0.40
TR4R1L16	4.1	4	0.10	46	16	3.8	0.40
TR4R2L16	4.1	4	0.20	46	16	3.8	0.40
TR4R05L20	4.1	4	0.05	50	20	3.8	0.40
TR4R1L20	4.1	4	0.10	50	20	3.8	0.40
TR4R2L20	4.1	4	0.20	50	20	3.8	0.40

TR Internal Boring

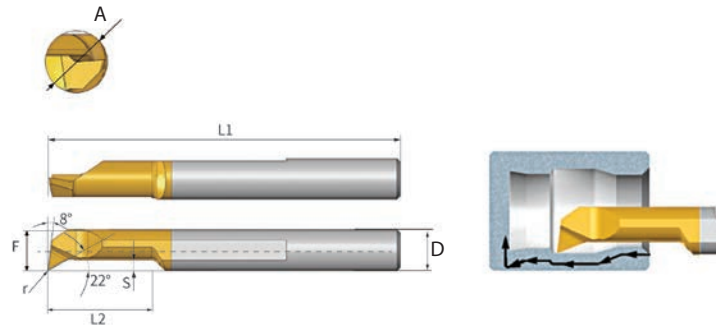


Product Type	Min.Dia A	D	r	L1	L2	F	S
TR5R05L15	5.1	5	0.05	50	15	4.8	0.50
TR5R1L15	5.1	5	0.10	50	15	4.8	0.50
TR5R2L15	5.1	5	0.20	50	15	4.8	0.50
TR5R05L20	5.1	5	0.05	54	20	4.8	0.50
TR5R1L20	5.1	5	0.10	54	20	4.8	0.50
TR5R2L20	5.1	5	0.20	54	20	4.8	0.50
TR5R05L25	5.1	5	0.05	60	25	4.8	0.50
TR5R1L25	5.1	5	0.10	60	25	4.8	0.50
TR5R2L25	5.1	5	0.20	60	25	4.8	0.50
TR5R2L35	5.1	5	0.20	70	35	4.8	0.50
TR6R05L15	6.1	6	0.05	50	15	5.8	0.60
TR6R1L15	6.1	6	0.10	50	15	5.8	0.60
TR6R2L15	6.1	6	0.20	50	15	5.8	0.60
TR6R05L22	6.1	6	0.05	60	22	5.8	0.60
TR6R1L22	6.1	6	0.10	60	22	5.8	0.60
TR6R2L22	6.1	6	0.20	60	22	5.8	0.60
TR6R05L30	6.1	6	0.05	65	30	5.8	0.60
TR6R1L30	6.1	6	0.10	65	30	5.8	0.60
TR6R2L30	6.1	6	0.20	65	30	5.8	0.60
TR6R2L35	6.1	6	0.20	75	35	5.8	0.60
TR6R2L40	6.1	6	0.20	75	40	5.8	0.60
TR7R1L25	7.1	7	0.10	65	25	6.8	0.70
TR7R2L25	7.1	7	0.20	65	25	6.8	0.70
TR7R1L30	7.1	7	0.10	70	30	6.8	0.70
TR7R2L30	7.1	7	0.20	70	30	6.8	0.70
TR7R2L35	7.1	7	0.20	70	35	6.8	0.70
TR8R1L30	8.1	8	0.10	65	30	7.8	0.80
TR8R2L30	8.1	8	0.20	65	30	7.8	0.80
TR8R2L40	8.1	8	0.20	75	40	7.8	0.80



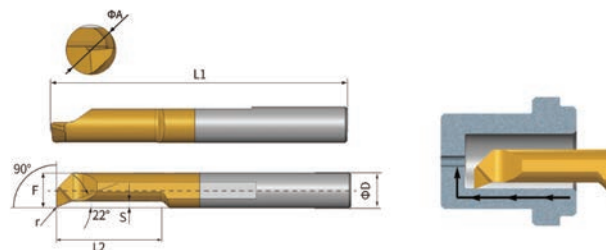
Product Type	Min.Dia A	D	r	L1	L2	F	S
PR1.0R05L4	1.0	4	0.05	40	4	0.9	0.15
PR1.2R05L4	1.2	4	0.05	40	4	1.1	0.15
PR1.5R05L5	1.5	4	0.05	40	5	1.4	0.20
PR1.5R1L5	1.5	4	0.10	40	5	1.4	0.20
PR1.5R05L8	1.5	4	0.05	40	8	1.4	0.20
PR1.5R1L8	1.5	4	0.10	40	8	1.4	0.20
PR1.8R05L5	1.8	4	0.05	40	5	1.7	0.20
PR1.8R1L5	1.8	4	0.10	40	5	1.7	0.20
PR1.8R05L9	1.8	4	0.05	40	9	1.7	0.20
PR1.8R1L9	1.8	4	0.10	40	9	1.7	0.20
PR2R05L6	2.1	4	0.05	40	6	1.85	0.25
RR2R1L6	2.1	4	0.10	40	6	1.85	0.25
PR2R05L10	2.1	4	0.05	40	10	1.85	0.25
PR2R1L10	2.1	4	0.10	40	10	1.85	0.25
PR2.5R05L8	2.6	4	0.05	40	8	2.35	0.30
PR2.5R1L8	2.6	4	0.10	40	8	2.35	0.30
PR2.5R15L8	2.6	4	0.15	40	8	2.35	0.30
PR2.5R05L12	2.6	4	0.05	40	12	2.35	0.30
PR2.5R1L12	2.6	4	0.10	40	12	2.35	0.30
PR2.5R15L12	2.6	4	0.15	40	12	2.35	0.30
PR3R05L10	3.1	4	0.05	40	10	2.8	0.50
PR3R1L10	3.1	4	0.10	40	10	2.8	0.50
PR3R15L10	3.1	4	0.15	40	10	2.8	0.50
PR3R05L15	3.1	4	0.05	46	15	2.8	0.50
PR3R1L15	3.1	4	0.10	46	15	2.8	0.50
PR3R15L15	3.1	4	0.15	46	15	2.8	0.50
PR4R05L12	4.1	4	0.05	46	12	3.8	0.60
PR4R1L12	4.1	4	0.10	46	12	3.8	0.60
PR4R2L12	4.1	4	0.20	46	12	3.8	0.60
PR4R05L16	4.1	4	0.05	46	16	3.8	0.60
PR4R1L16	4.1	4	0.10	46	16	3.8	0.60
PR4R2L16	4.1	4	0.20	46	16	3.8	0.60

PR Profiling and Boring



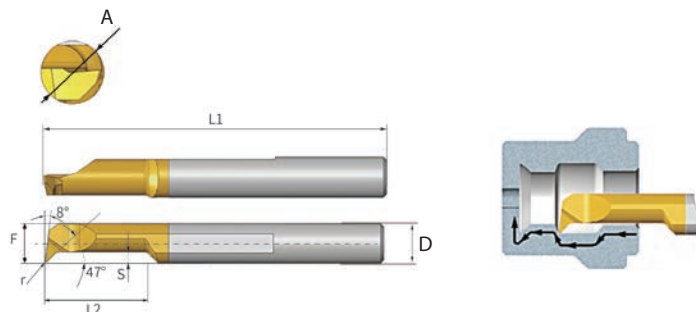
Product Type	Min.Dia A	D	r	L1	L2	F	S
PR4R05L20	4.1	4	0.05	50	20	3.8	0.60
PR4R1L20	4.1	4	0.10	50	20	3.8	0.60
PR4R2L20	4.1	4	0.20	50	20	3.8	0.60
PR5R05L15	5.1	5	0.05	50	15	4.8	0.80
PR5R1L15	5.1	5	0.10	50	15	4.8	0.80
PR5R2L15	5.1	5	0.20	50	15	4.8	0.80
PR5R05L20	5.1	5	0.05	54	20	4.8	0.80
PR5R1L20	5.1	5	0.10	54	20	4.8	0.80
PR5R2L20	5.1	5	0.20	54	20	4.8	0.80
PR5R05L25	5.1	5	0.05	60	25	4.8	0.80
PR5R1L25	5.1	5	0.10	60	25	4.8	0.80
PR5R2L25	5.1	5	0.20	60	25	4.8	0.80
PR6R05L15	6.1	6	0.05	50	15	5.8	1.00
PR6R1L15	6.1	6	0.10	50	15	5.8	1.00
PR6R2L15	6.1	6	0.20	50	15	5.8	1.00
PR6R05L22	6.1	6	0.05	60	22	5.8	1.00
PR6R1L22	6.1	6	0.10	60	22	5.8	1.00
PR6R2L22	6.1	6	0.20	60	22	5.8	1.00
PR6R05L30	6.1	6	0.05	65	30	5.8	1.00
PR6R1L30	6.1	6	0.10	65	30	5.8	1.00
PR6R2L30	6.1	6	0.20	65	30	5.8	1.00
PR7R1L25	7.1	7	0.10	65	25	6.8	1.20
PR7R2L25	7.1	7	0.20	65	25	6.8	1.20
PR7R1L30	7.1	7	0.10	70	30	6.8	1.20
PR7R2L30	7.1	7	0.20	70	30	6.8	1.20
PR8R1L30	8.1	8	0.10	65	30	7.8	1.50
PR8R2L30	8.1	8	0.20	65	30	7.8	1.50
PR8R2L40	8.1	8	0.20	75	40	7.8	1.50

UR PROFILING, 90°FACE CUTTING



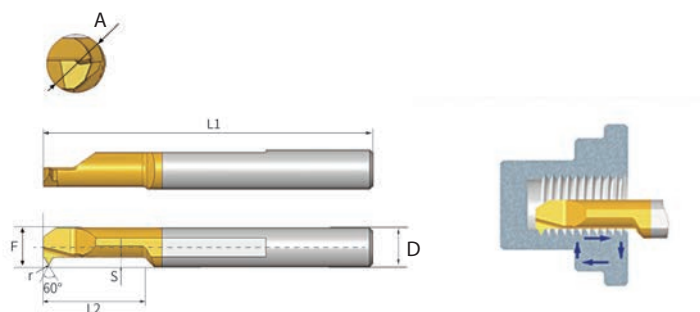
Product Type	Min.Dia (mm) A	D	r	L1	L2	F	S
UR3R0.1L10	3.1	4	0.10	40	10	2.8	0.40
UR4R0.1L12	4.1	4	0.10	46	12	3.8	0.50
UR5R0.15L15	5.1	5	0.15	50	15	4.8	0.70
UR6R0.15L22	6.1	6	0.15	60	22	5.8	0.90

QR Internal Profiling and Boring



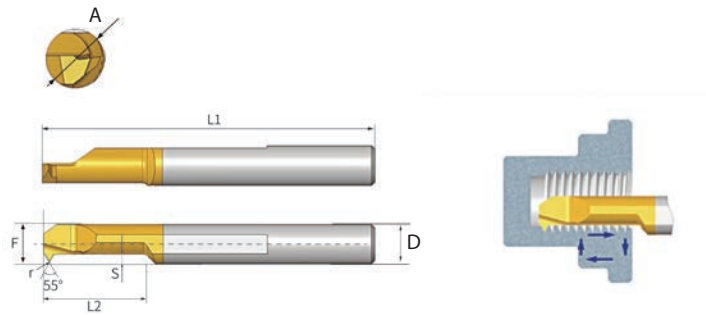
Product Type	Min.Dia A	D	r	L1	L2	F	S
QR3R1L10	3.1	4	0.10	40	10	2.8	0.60
QR3R1L15	3.1	4	0.10	46	15	2.8	0.60
QR4R1L12	4.1	4	0.10	46	12	3.8	0.80
QR4R1L20	4.1	4	0.10	50	20	3.8	0.80
QR5R15L15	5.1	5	0.15	50	15	4.8	1.00
QR5R15L25	5.1	5	0.15	60	25	4.8	1.00
QR6R15L20	6.1	6	0.15	50	20	5.8	1.20
QR6R15L30	6.1	6	0.15	60	30	5.8	1.20
QR8R2L22	8.1	8	0.20	60	22	7.8	1.50
QR8R2L30	8.1	8	0.20	65	30	7.8	1.50

IR Internal Threading



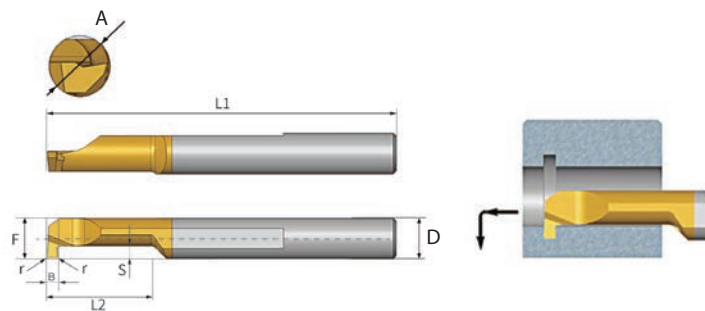
Product Type	Min.Dia A	D	r	L1	L2	F	S	Pitch Range
IR1.5L4A60	1.5	4	0.03	40	4	1.4	0.40	0.25-0.4
IR2.0L6A60	2	4	0.03	40	6	1.9	0.50	0.25-0.5
IR2.5L8A60	2.5	4	0.03	40	8	2.4	0.60	0.25-0.6
IR3L10A60	3	4	0.05	40	10	2.9	1.00	0.4-0.8
IR4L12A60R05	4	4	0.05	46	12	3.9	1.20	0.4-1.0
IR4L12A60	4	4	0.10	46	12	3.9	1.20	0.8-1.0
IR5L15A60R05	5	5	0.05	50	15	4.9	1.50	0.4-1.5
IR5L15A60	5	5	0.10	50	15	4.9	1.50	0.8-1.5
IR6L20A60R05	6	6	0.05	60	20	5.9	1.80	0.4-1.75
IR6L20A60	6	6	0.10	60	20	5.9	1.80	0.8-1.75
IR8L25A60	8	8	0.10	65	25	7.9	2.20	0.8-2.0
IR8L30A60	8	8	0.10	65	30	7.9	2.20	0.8-2.0

IR Internal Threading



Product Type	Min.Dia A	D	r	L1	L2	F	S	Pitch Range
IR3L10A55	3.1	4	0.05	40	10	2.9	1.00	48-24
IR4L12A55	4.1	4	0.05	46	12	3.9	1.20	48-24
IR5L15A55	5.1	5	0.08	50	15	4.9	1.60	48-16
IR6L20A55	6.1	6	0.08	60	20	5.9	1.90	48-12
IR8L25A55	8.1	8	0.15	65	25	7.9	2.50	26-11
IR8L30A55	8.1	8	0.15	65	30	7.9	2.50	26-11

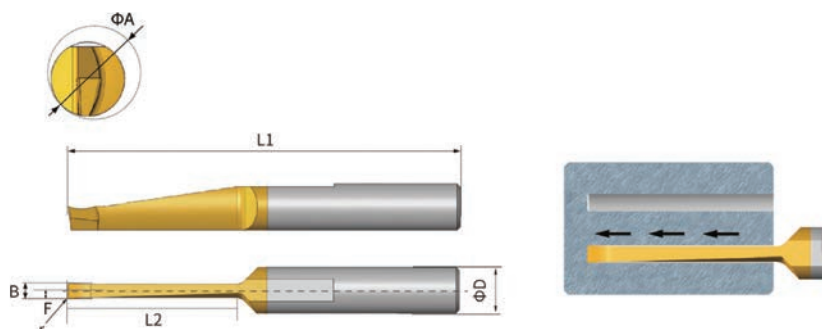
GR Internal Grooving



Product Type	Min.Dia A	D	r	L1	L2	F	S	B
GR3B0.5L10	3.0	4	0.05	40	10	2.8	0.80	0.50
GR3B0.75L10	3.0	4	0.05	40	10	2.8	0.80	0.75
GR3B1.0L10	3.0	4	0.05	40	10	2.8	0.80	1.00
GR4B0.5L12	4.0	4	0.05	46	12	3.8	1.00	0.50
GR4B0.75L12	4.0	4	0.05	46	12	3.8	1.00	0.75
GR4B1.0L12	4.0	4	0.05	46	12	3.8	1.00	1.00
GR4B1.5L12	4.0	4	0.05	46	12	3.8	1.00	1.50
GR5B1.0L15	5.0	5	0.10	50	15	4.8	1.50	1.00
GR5B1.5L15	5.0	5	0.10	50	15	4.8	1.50	1.50
GR5B2.0L15	5.0	5	0.10	50	15	4.8	1.50	2.00
GR6B1.0L20	6.0	6	0.10	60	20	5.8	2.00	1.00
GR6B1.5L20	6.0	6	0.10	60	20	5.8	2.00	1.50
GR6B2.0L20	6.0	6	0.10	60	20	5.8	2.00	2.00
GR7B1.0L22	7.0	7	0.10	60	22	6.8	2.00	1.00
GR7B1.5L22	7.0	7	0.10	60	22	6.8	2.50	1.50
GR7B2.0L22	7.0	7	0.10	60	22	6.8	2.50	2.00
GR8B1.0L22	8.0	8	0.10	65	25	7.8	1.80	1.00
GR8B1.5L25	8.0	8	0.10	65	25	7.8	2.50	1.50
GR8B2.0L25	8.0	8	0.10	65	25	7.8	2.50	2.00
GR8B2.5L25	8.0	8	0.10	65	25	7.8	2.50	2.50

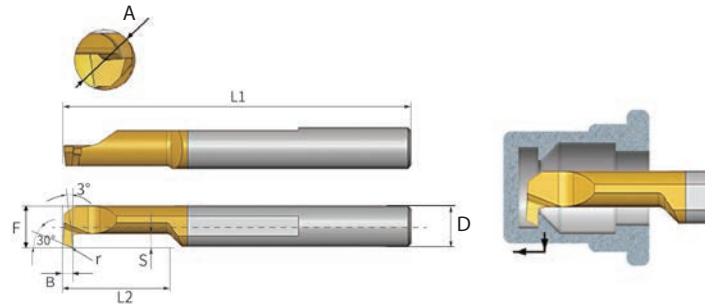
Product Type	Min.Dia (mm) ΦA	ØD	r	L1	L2	F	S	B
GR2.5B0.5L5	2.5	4	0.05	40	5	2.35	0.65	0.50
GR2.5B0.75L5	2.5	4	0.05	40	5	2.35	0.65	0.75
GR3B0.5L5	3.0	4	0.05	40	5	2.8	0.80	0.50
GR3B0.75L5	3.0	4	0.05	40	5	2.8	0.80	0.75
GR3B1.0L5	3.0	4	0.05	40	5	2.8	0.80	1.00
GR4B0.5L6	4.0	4	0.05	40	6	3.8	1.00	0.50
GR4B0.75L6	4.0	4	0.05	40	6	3.8	1.00	0.75
GR4B1.0L6	4.0	4	0.05	40	6	3.8	1.00	1.00
GR4B1.5L6	4.0	4	0.05	40	6	3.8	1.00	1.50
GR5B1.0L8	5.0	5	0.10	45	8	4.8	1.50	1.00
GR5B1.5L8	5.0	5	0.10	45	8	4.8	1.50	1.50
GR5B2.0L8	5.0	5	0.10	45	8	4.8	1.50	2.00
GR6B1.0L10	6.0	6	0.10	50	10	5.8	2.00	1.00
GR6B1.5L10	6.0	6	0.10	50	10	5.8	2.00	1.50
GR6B2.0L10	6.0	6	0.10	50	10	5.8	2.00	2.00

VR DEEP FACE GROOVING



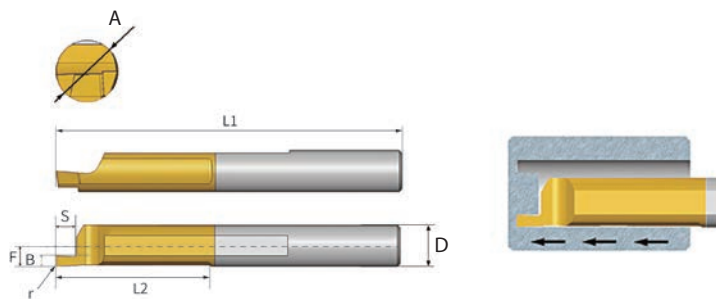
Product Type	Min.Dia (mm) ΦA	ØD	r	L1	L2	F	B
VR8B2.0L15	12	8	0.02	60	15	1.1	2.00
VR8B2.5L15	12	8	0.02	60	15	1.4	2.50
VR8B3.0L15	12	8	0.02	60	15	1.6	3.00

XR Reverse boring cutter



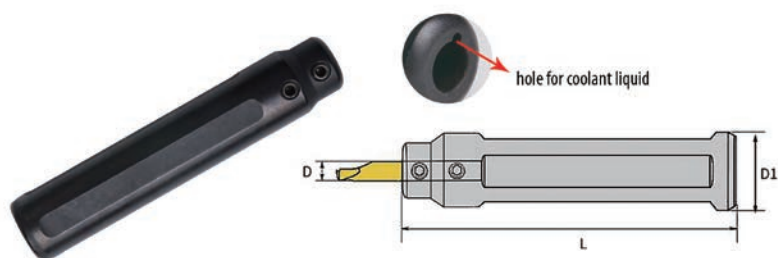
Product Type	Min.Dia A	D	r	L1	L2	F	S	B
XR4R1L16	4.1	4	0.10	46	16	3.8	1.00	1.3
XR5R1L20	5.1	5	0.10	54	20	4.8	1.30	1.5
XR6R1L25	6.1	6	0.10	60	25	5.8	1.60	1.5

FR Face Grooving



Product Type	Min.Dia A	D	r	L1	L2	F	S	B
FR4B0.5L12	5	4	0.05	40	12	1.9	1.0	0.50
FR4B1.0L12	5	4	0.05	40	12	1.9	1.5	1.00
FR4B1.5L12	5	4	0.05	40	12	1.9	2.0	1.50
FR5B1.0L15	6	5	0.10	50	15	2.4	1.5	1.00
FR5B1.5L15	6	5	0.10	50	15	2.4	2.5	1.50
FR5B2.0L15	6	5	0.10	50	15	2.4	3.0	2.00
FR6B1.0L20	8	6	0.10	50	20	2.9	2.0	1.00
FR6B1.5L20	8	6	0.10	50	20	2.9	2.5	1.50
FR6B2.0L20	8	6	0.10	50	20	2.9	3.0	2.00
FR6B3.0L20	8	6	0.10	50	20	2.9	4.5	3.00
FR8B2.5L22	10	8	0.10	60	22	3.9	3.5	2.50

TINY TOOLS TOOLHOLDER



Product Type	D	D1	L
HB16-4-L100	16	4	100
HB16-5-L100	16	5	100
HB16-6-L100	16	6	100
HB16-7-L100	16	7	100
HB16-8-L100	16	8	100
HB20-4-L100	20	4	100
HB20-5-L100	20	5	100
HB20-6-L100	20	6	100
HB20-7-L100	20	7	100
HB20-8-L100	20	8	100
HB22-4-L100	22	4	100
HB22-5-L100	22	5	100
HB22-6-L100	22	6	100
HB22-7-L100	22	7	100
HB22-8-L100	22	8	100
HB25-4-L100	25	4	100
HB25-5-L100	25	5	100
HB25-6-L100	25	6	100
HB25-7-L100	25	7	100
HB25-8-L100	25	8	100
HB25.4-4-L100	25.4	4	100
HB25.4-5-L100	25.4	5	100
HB25.4-6-L100	25.4	6	100
HB25.4-7-L100	25.4	7	100
HB25.4-8-L100	25.4	8	100

COATING ITEM

Coated Description	Color	Application	Performance parameter
TU12	Gold 	Universal use for \leq HRC45 material; Stainless(austenitic&Martensite,303,304,316F...); Steel(Bearing steel quenched steel Cr-Mo steelMn steel...); Koveralloy; Superalloy;Copper; Iron castingPig iron Nickel alloy,PMMA...	Complex coating:durable and lubricious
TU25	Bronze 	Universal use for \leq HRC60 material; Stainless(austenitic&Martensite,316L 303,304,321,316F,High Nickel Stainless...); Steel(Bearing steel,quenched steel,Cr-Mo ste,Mn steel...); Koveralloy; Superalloy;Copper; Iron castingPig iron Nickel alloy.	Durable High temperature resistance \leq 1100 High hardness 3300Hiv0.05
TK25	Black Blue 	Special use for mild material ; Espcial for Pure iron , special for mild steel & mild stainless,like 304.	Lubricious
TC25	Black/ Rainbow 	Special use for viscous Material;; Aluminium PMMA Polyethylene.CFRP	Minimum friction coefficient 0.1-0.2
TS25	Champagne Gold 	Special use for titanium alloy.	Special for titanium alloy
TN25	None coated 	Nonferrous Metals include Aluminium	