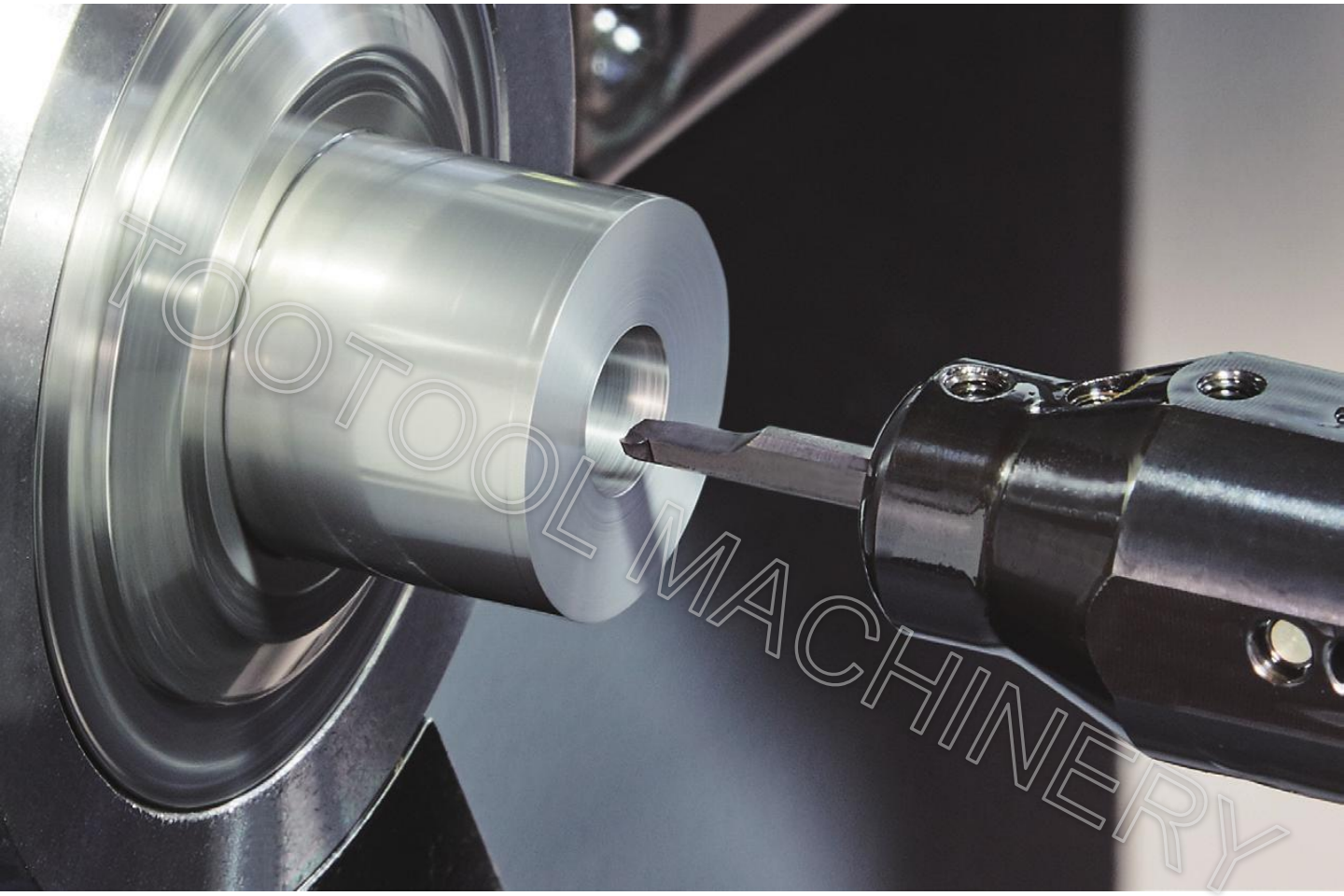
TOOTOOL

Small Internal Machining

THE NEW VALUE FRONTIER



TTOOLTEC®

NINGBO TOOTOOL MACHINERY CO., LTD

www.ttooltec.com

Carbide Tiny Tools with Coolant

● Ultrafine grain cutting edge.

● Smooth edge treatment for precision machining to achieve excellent surface accuracy and prevent breakage

● carbide Tiny tools with internal coolant hole can apply coolant directly to the tip of the tool

● Grinding grade chipbreaker to achieve the best chip control.

● New coating treatment, higher wear resistance and versatility

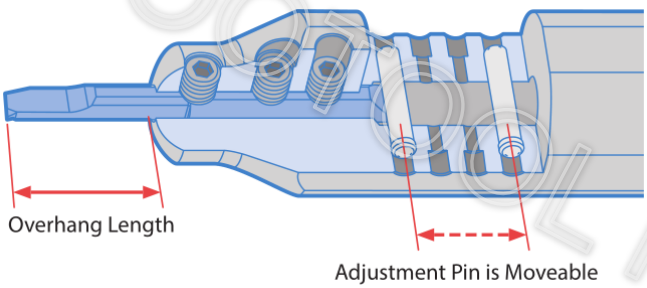
Customized Sleeve with Positioning Function

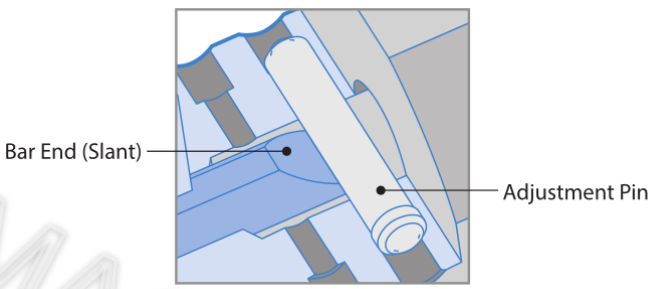
TCL Bar

Easy Adjustment and High Precision for a Wide Range of Machining Applications

1 Adjustable Overhang Length

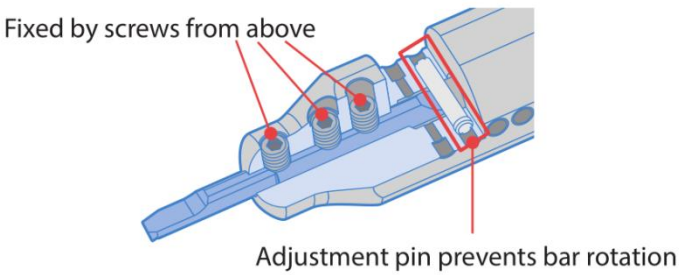
For TCL sleeves with coolant holes and positioning function, the overhang length can be set by moving adjustment pins



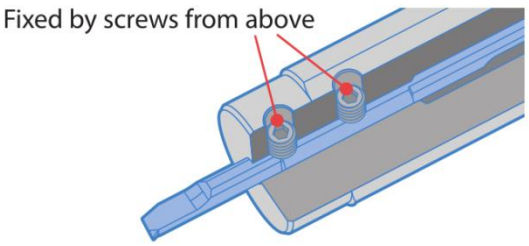


2 Minimized Deviation of Cutting Diameter

TCL Bar



TSL Bar



3 How to Select Sleeves

TCL

With Adjust Structure
with Coolant Hole

Smooth coolant flow due to special head design

● The TCL Bar prevents deviation with high-rigidity clamping

● Unique design provides a smooth supply of coolant

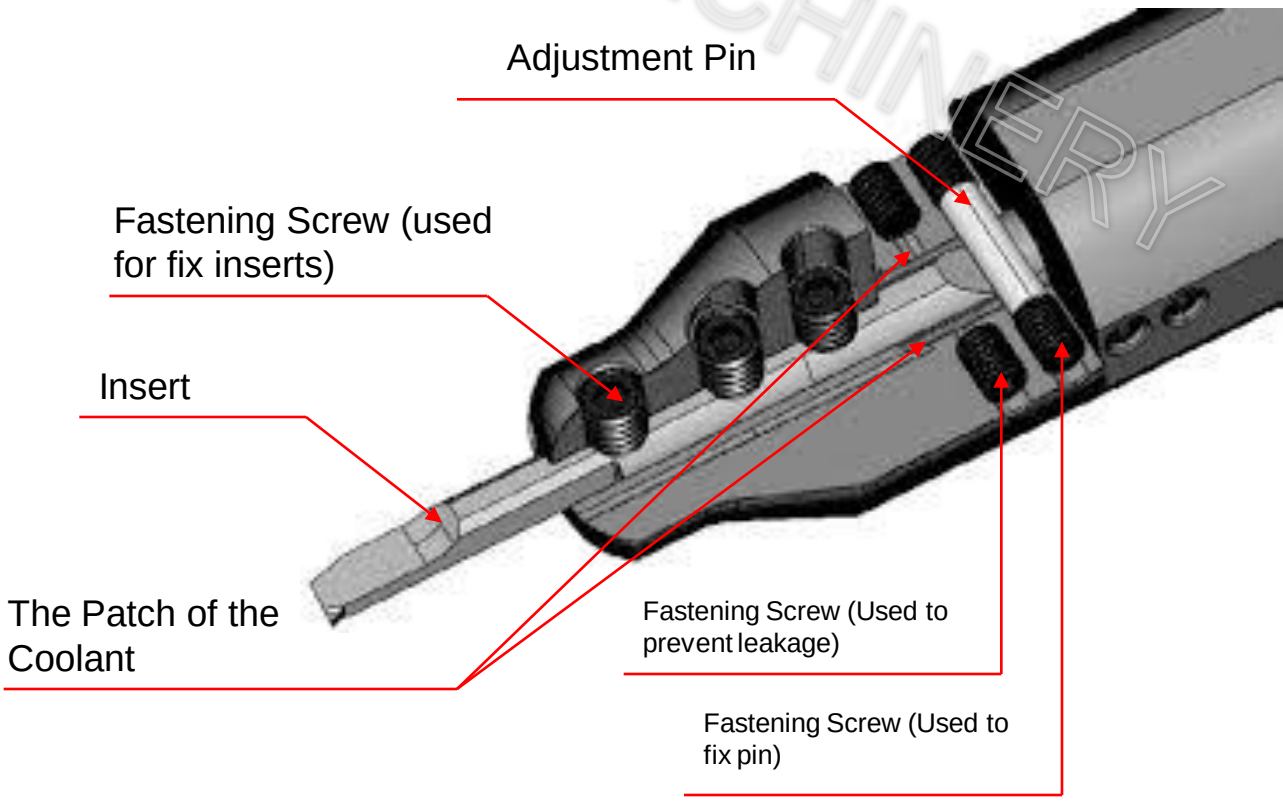
TSL-N

Only with Coolant Hole
for Cost Oriented
Machining

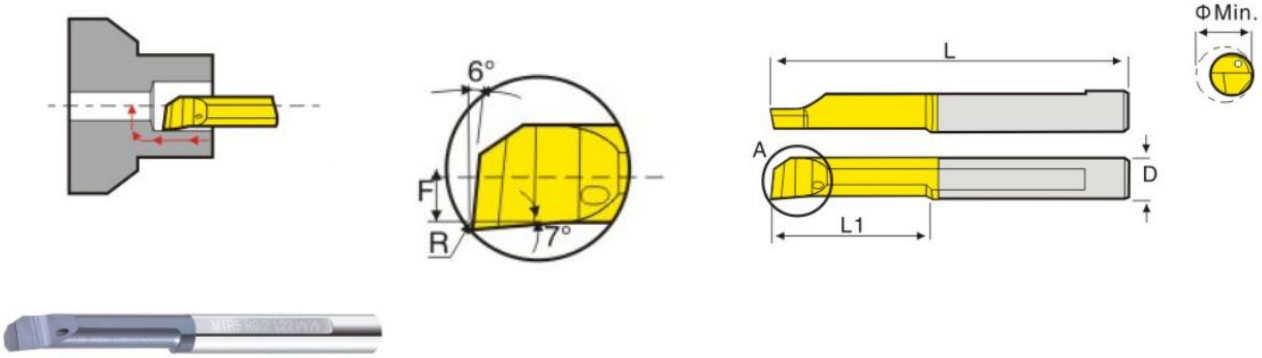
● Increase the coolant hole, so that the cutting fluid closer to the tip, extend the life of the tool

● More conducive to chip removal

● Improve product finish

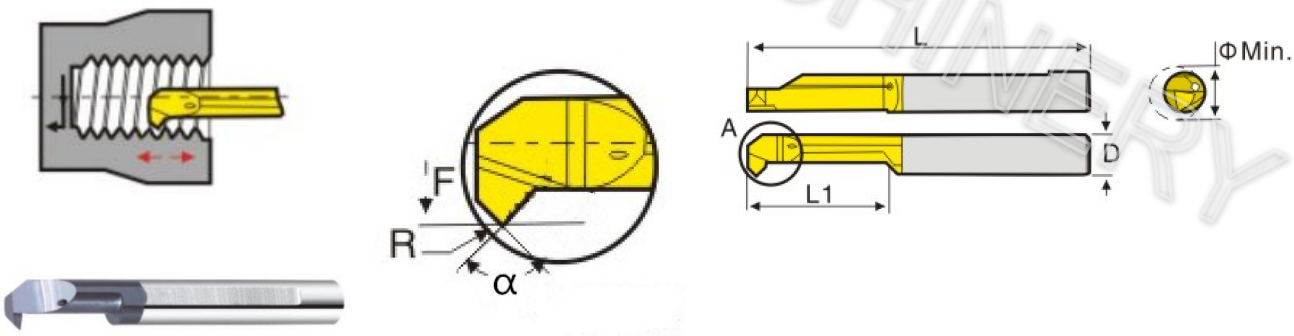


Boring with coolant



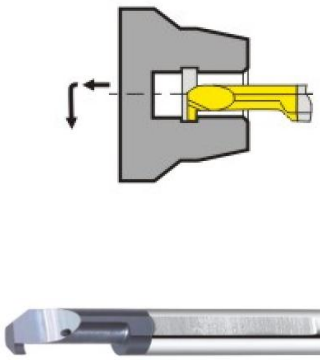
Designation		Dmin	D	L	L1	R	F
TT	040BR/L 15-R0.20-C	4.1	4.0	51	15	0.2	1.7
	040BR/L 22-R0.20-C	4.1	4.0	51	22	0.2	1.7
	050BR/L 15-R0.20-C	5.1	5.0	51	15	0.2	2.1
	050BR/L 22-R0.20-C	5.1	5.0	51	22	0.2	2.1
	060BR/L 22-R0.20-C	6.1	6.0	51	22	0.2	2.8

Threading with coolant – Partial Profile



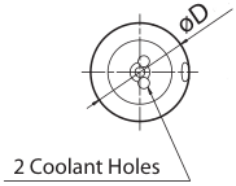
Designation		Dmin	α	Pitch Range		D	L	L1	F
				mm	TPI				
TT	040TR/L 15-A60-C	4.1	60°	0.80-1.00	32-24	4.0	51	15	1.8
	050BR/L 15-A60-C	5.1	60°	1.00-1.25	24-20	5.0	51	15	2.3
	060BR/L 15-A60-C	6.0	60°	1.00-1.50	24-16	6.0	51	15	2.6
	060BR/L 22-A60-C	6.0	60°	1.00-1.50	24-16	6.0	51	22	2.6

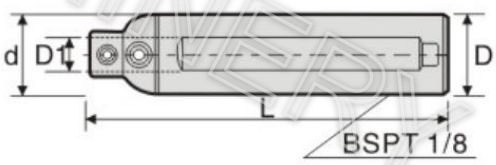
Square Grooving with coolant



Designation		Dmin	D	L	L1	B	T	F
TT	040GR/L 10-B100-C	4.1	4.0	51	10	1.0	1.0	1.7
	040GR/L10 -B150-C	4.1	4.0	51	10	1.5	1.0	1.7
	050GR/L 15-B100-C	5.1	5.0	51	15	1.0	1.2	2.3
	050GR/L 15-B150-C	5.1	5.0	51	15	1.5	1.2	2.3
	050GR/L 15-B200-C	5.1	5.0	51	15	2.0	1.2	2.3
	060GR/L 15-B100-C	6.1	6.0	51	15	1.0	1.4	2.8
	060GR/L 15-B150-C	6.1	6.0	51	15	1.5	1.4	2.8
	060GR/L 15-B200-C	6.1	6.0	51	15	2.0	1.4	2.8

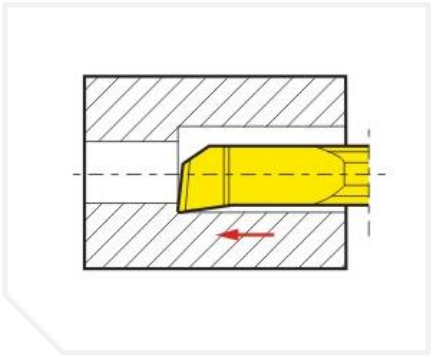
Applicable Sleeve

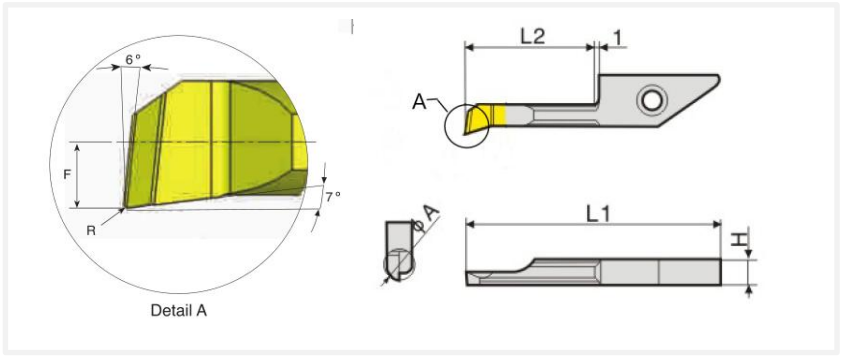




Designation		D1	D	L	d	Spare Parts	
						Screw	Wrench
TCL	0316-100L-2C	3.0	16	100	12.0	S3	L1.5
	0416-100L-2C	4.0	16	100	13.0	S4	L2.0
	0516-100L-2C	5.0	16	100	14.7	S4	L2.5
	0616-100L-2C	6.0	16	100	15.0	S5	L2.5
	0716-100L-2C	7.0	16	100	15.5	S6	L3.0
	0620-100L-2C	6.0	20	100	17.0	S5	L3.0
	0720-100L-2C	7.0	20	100	17.5	S6	L3.0
	0820-100L-2C	8.0	20	100	19.0	S6	L3.0
	1020-100L-2C	10.0	20	100	19.7	S6	L3.0

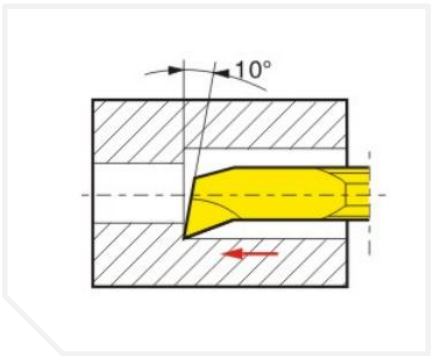
VN#BR Type (Boring)

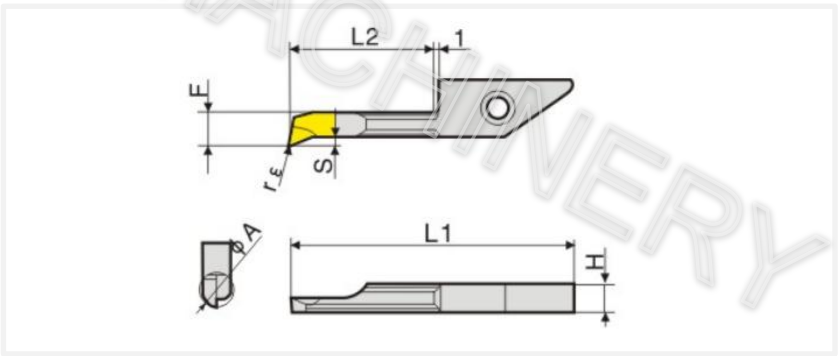




Designation		ΦA Dmin	L1	L2	H	R	F
VN	020BR 11-R0.1	2.0	30.8	11	3.9	0.10-0.15	0.8
	030BR 11-R0.1	3.0	30.8	11	3.9	0.10-0.15	1.3
	040BR 11-R0.2	4.0	30.8	11	3.9	0.20	1.7
	040BR 20-R0.2	4.0	39.8	20	3.9	0.20	1.7
	050BR 11-R0.2	5.0	30.8	11	3.9	0.20	2.1
	050BR 20-R0.2	5.0	39.8	20	3.9	0.20	2.1
	060BR 20-R0.2	6.0	39.8	20	3.9	0.20	2.8
	060BR 30-R0.2	6.0	49.8	30	3.9	0.20	2.8
	070BR 20-R0.2	7.0	39.8	20	3.9	0.20	3.3
	070BR 30-R0.2	7.0	49.8	30	3.9	0.20	3.3

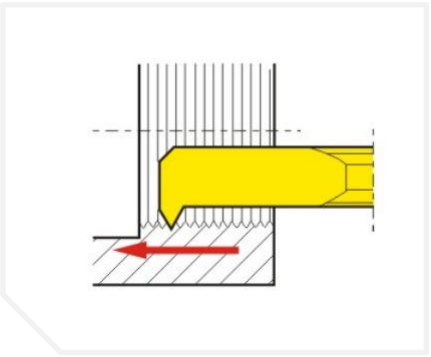
VN#PR Type (Profiling and Boring)

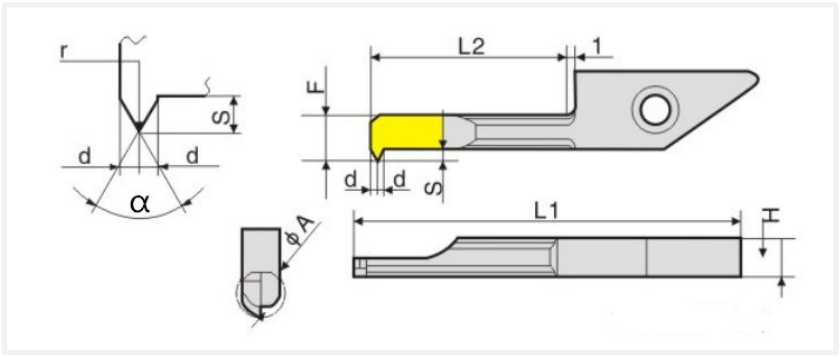




Designation		ΦA Dmin	L1	L2	H	rε	F	S
VN	020PR 11-R0.1	2.0	30.8	11	3.9	0.10-0.15	1.8	0.25
	030PR 11-R0.1	3.0	30.8	11	3.9	0.10-0.15	2.6	0.40
	040PR 11-R0.2	4.0	30.8	11	3.9	0.20	3.5	0.50
	050PR 11-R0.2	5.0	30.8	11	3.9	0.20	4.5	0.70
	050PR 20-R0.2	5.0	39.8	20	3.9	0.20	4.5	0.70
	060PR 20-R0.2	6.0	39.8	20	3.9	0.20	5.3	1.00
	060PR 30-R0.2	6.0	49.8	30	3.9	0.20	5.3	1.00
	070PR 20-R0.2	7.0	39.8	20	3.9	0.20	6.2	1.00
	070PR 30-R0.2	7.0	49.8	30	3.9	0.20	6.2	1.00

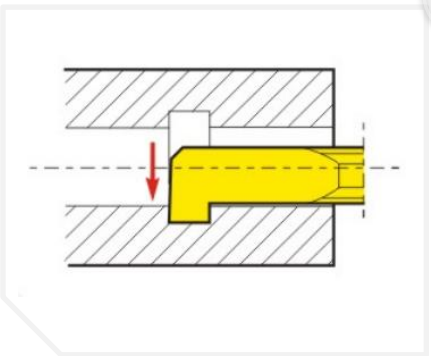
VN#TR Type (Threading)

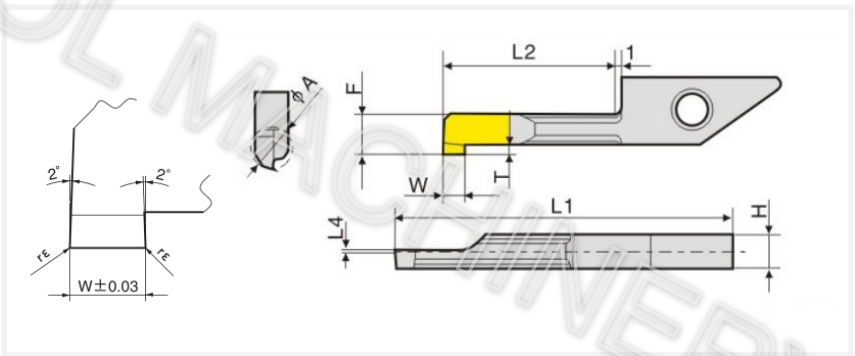




Designation		ΦA Dmin	L1	L2	H	α	F	S	d	Thread Range mm	Thread Range TPI
VN	050TR 11-A55	5.0	30.8	11	3.9	55°	3.8	1.3	0.6	0.50-1.25	48-20
	060TR 11-A55	6.0	30.8	11	3.9	55°	4.6	1.6	0.8	0.50-1.25	48-20
	060TR 20-A55	6.0	39.8	20	3.9	55°	4.6	1.6	0.8	0.50-1.25	48-20
	050TR 11-A60	5.0	30.8	11	3.9	60°	3.8	1.3	0.6	1.00-1.25	24-20
	060TR 11-A60	6.0	30.8	11	3.9	60°	4.6	1.6	0.8	1.00-1.25	24-20
	060TR 20-A60	6.0	39.8	20	3.9	60°	4.6	1.6	0.8	1.00-1.25	24-20

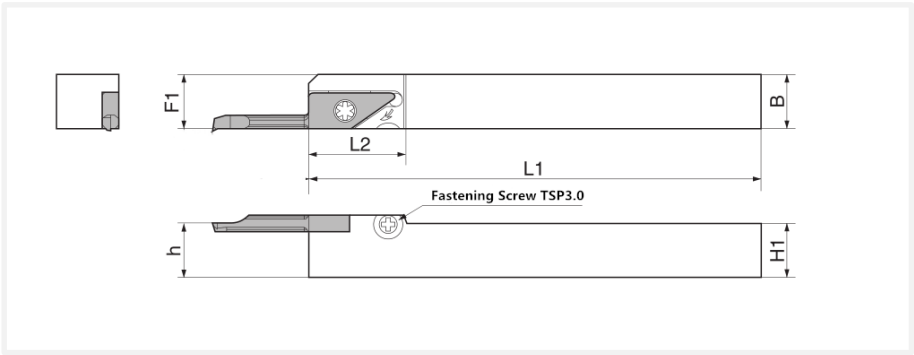
VN#GR Type (Square Grooving)





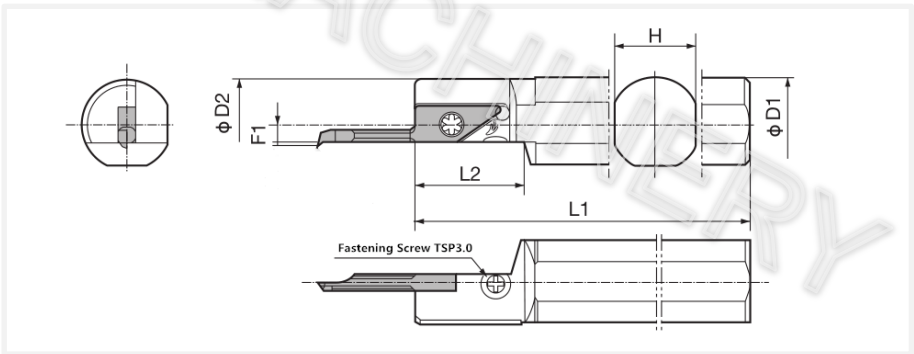
Designation		ΦA Dmin	L1	L2	H	rε	W	T	L4
VN	040GR 11-B100	4.0	30.8	11	3.9	0.03-0.05	1.0	1.0	0.1
	040GR 11-B150	4.0	30.8	11	3.9	0.03-0.05	1.5	1.0	0.1
	040GR 11-B200	4.0	30.8	11	3.9	0.03-0.05	2.0	1.0	0.1
	050GR 11-B100	5.0	30.8	11	3.9	0.03-0.05	1.0	1.2	0.1
	050GR 11-B150	5.0	30.8	11	3.9	0.03-0.05	1.5	1.2	0.1
	050GR 11-B200	5.0	30.8	11	3.9	0.03-0.05	2.0	1.2	0.1
	060GR 20-B100	6.0	39.8	20	3.9	0.03-0.05	1.0	1.4	0.3
	060GR 20-B150	6.0	39.8	20	3.9	0.03-0.05	1.5	1.4	0.3
	060GR 20-B200	6.0	39.8	20	3.9	0.03-0.05	2.0	1.4	0.3
	070GR 20-B100	7.0	39.8	20	3.9	0.03-0.05	1.0	2.0	0.3
	070GR 20-B150	7.0	39.8	20	3.9	0.03-0.05	1.5	2.0	0.3
	070GR 20-B200	7.0	39.8	20	3.9	0.03-0.05	2.0	2.0	0.3

SVNR



Designations		Dimension (mm)						Applicable Insert	Spare Parts	
		B	H1	h	L1	L2	F1		Screw	Wrench
SVNR	1010H-12N	10	10	10	100	22	10	VN#BR VN#PR VN#TR VN#GR	TSP3.0	T-8
	1212X-12N	12	12	12	120	22	12			
	1616X-12N	16	16	16	120	22	16			
	2020X-12N	20	20	20	120	22	20			
	2525M-12N	25	25	25	150	22	25			

S...SVNR



Designations	Dimension (mm)						Applicable Insert	Spare Parts	
	ΦD1	ΦD2	H	L1	L2	F1		Screw	Wrench
S12F-SVNR12N	12	11.5	11.0	80	23	4.3	VN#BR VN#PR VN#TR VN#GR	TSP3.0	T-8
S14G-SVNR12N	14	13.5	13.0	90	23	4.3			
S16H-SVNR12N	16	15.5	14.8	100	24	6.3			
S19H-SVNR12N	19	18.5	17.8	100	24	6.3			
S20H-SVNR12N	20	19.5	18.4	100	24	6.3			
S25H-SVNR12N	25	24.5	23.4	100	24	6.3			