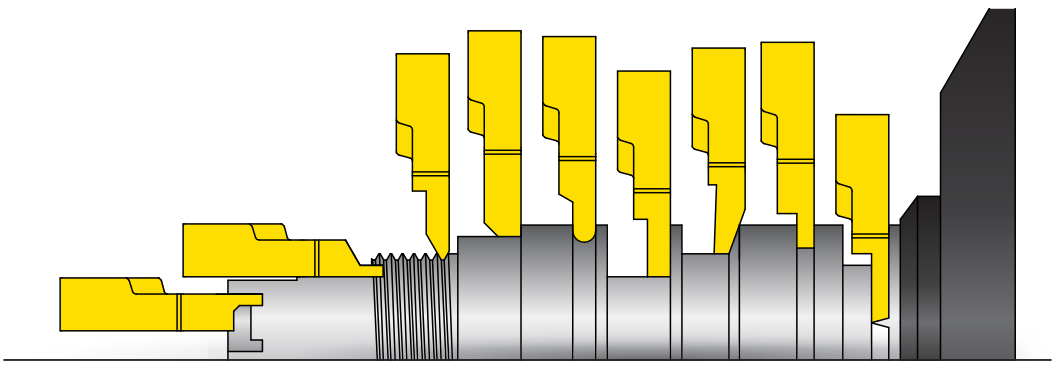
EXTERNAL MACHINING

ST-Cut

Precise Tools for Small Parts Machining



METRIC

GROOVEX
Innovative Grooving & Turning Solutions

ST-Cut

Precise Tools for Small Parts Machining

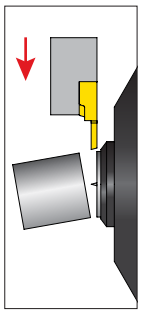
Vargus is pleased to introduce the New ST-Cut, an innovative solution for machining small parts on Swiss type machines.

Features and Benefits:

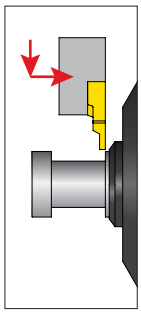
- Unique insert replacement system
- Quick and easy change of insert inside the machine from both sides of the tool
- High repeatability of the cutting edge on all axes
- 17mm maximum parting off diameter, with up to 3mm notch width
- Excellent rigidity
- Insert edge treatment for increased tool life

ST-Cut Applications

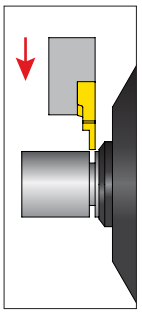
Parting Off



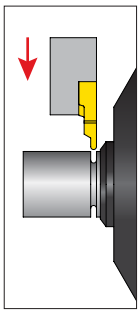
Groove & Turn



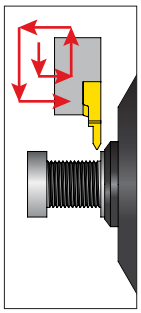
Square Grooving



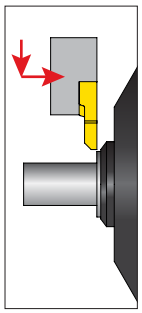
Round Grooving



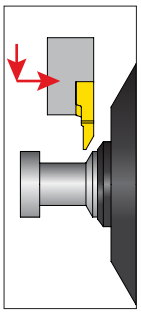
Threading



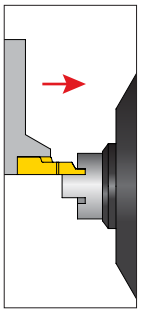
Front Turning



Back Turning



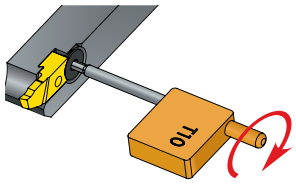
Face Grooving



Custom-made according to customer's application

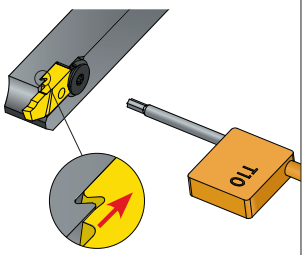
ST-Cut Unique Clamping System

1 Loosen the screw by turning it clockwise about 3-4 turns (for RH tools)*

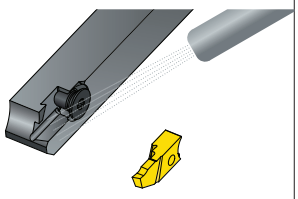


* Counterclockwise for LH tools

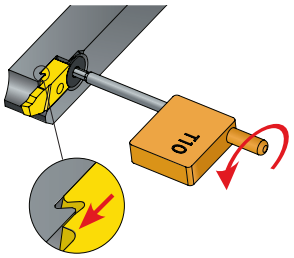
2 Push the insert back slightly and remove the insert in a circular motion



3 Thoroughly clean the insert pocket

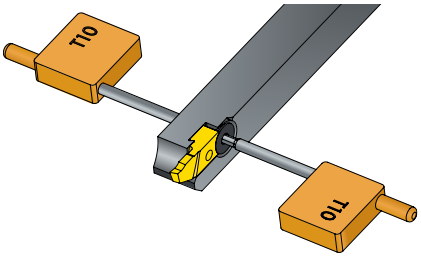


4 Tighten the screw by turning it counterclockwise (for RH tools)*



* Clockwise for LH tools

Double-sided screws for maximum accessibility on the machine



CONTENTS:

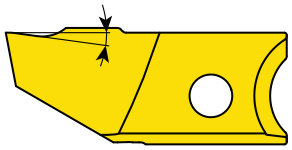
ST-Cut Technical Data

Geo-Rake Angle

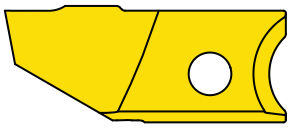
The maximum diameter for parting off is 17.0mm, and up to 3.0mm notch width.
The insert corner can pass the center of rotation up to 0.2mm maximum.

Rake Angle

8° / 17°



0°



Positive Rake Angle Chip Former

Recommended for specific applications, depending on the type of application and workpiece material.
Relatively sharp edge, designed for less build-up on the insert cutting edge.
Highly recommended for Gummy materials such Stainless Steel and Titanium.

Vargus also offers custom-made rake angles for defined applications.

0° Rake Angle Chip Former

Insert geometry designed for general use applications.
Relatively dull edge, which creates fewer fractures.
Recommended for High Alloy Steels and hard abrasive materials.

Grades

ST-Cut inserts are offered in two different grades: **VPG** and **VS020**.
VPG is PVD coated, for medium and high speeds.
VS020 is uncoated to ensure a sharper cutting edge, crucial for very small parts when the cutting speeds are relatively low and light cutting is required.

Grade	Application	Sample
VPG	Sub-micron substrate for a wide range of applications. Excellent anti-fracture resistance. AlTiN PVD coated P20, for medium to high cutting speeds. Excellent for alloy steel, stainless steel, and Titanium.	
VS020	Uncoated Sub-micron substrate for a wide range of applications. Excellent anti-fracture resistance. Recommended for medium to low cutting speeds. Excellent for alloy steel, stainless steel, and Titanium.	

Cutting Recommendations and Tool Types

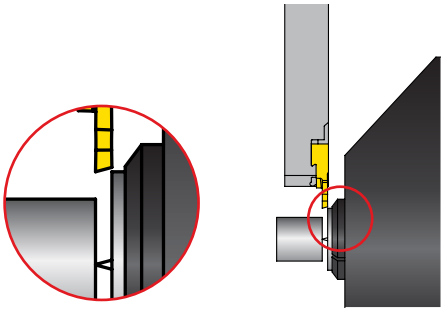


Figure 1:
Parting Off Close to Main Spindle - STER…-85 RH tool with RH insert/RH lead angle

When parting off small diameter parts, without the support of the sub spindle, it is recommended to use an ST-Cut Parting Off insert with a lead angle, thereby eliminating the center boss (See Figure 1).

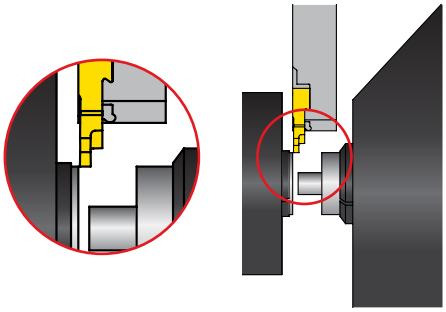


Figure 2:
Parting Off Close to Sub Spindle - STEL…-85 LH tool with LH insert

When a sub spindle is used, which is the recommended method when parting off small parts, a neutral insert with a tougher notch is recommended to avoid scratches and burrs on the sides of the workpiece (See Figure 2).

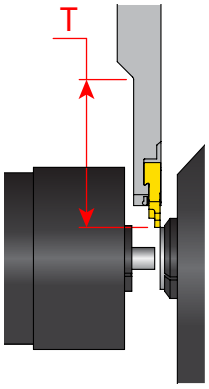


Figure 3:
Parting Off Close to Main Spindle – STESR…-85 RH tool with RH insert (LH tool also available)

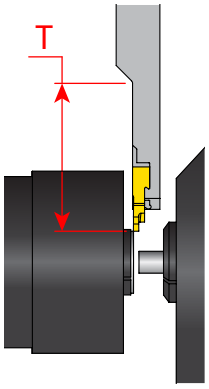
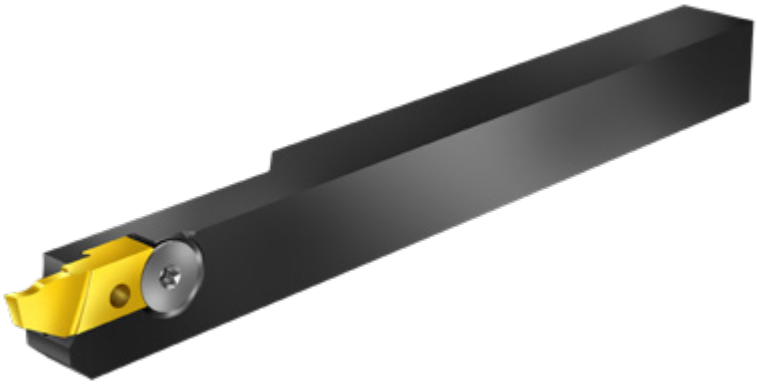


Figure 4:
Parting Off Close to Sub Spindle – STESRS…-85 RH tool with LH insert

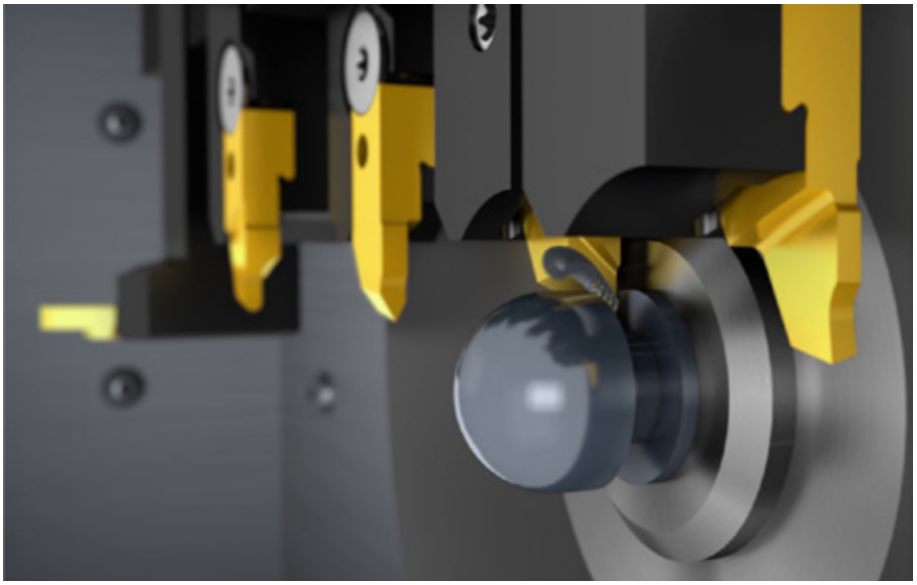
The ST-Cut tool offering includes "Stepped Tools" – STESR/L and STESRS – for short part lengths, where both the main and the sub-spindles are used.
The maximum length exceeding the center of the workpiece is 0.20mm (See Figures 3 and 4).



ST-Cut Recommended Cutting Speeds

In bar-feeder machines (Swiss Type, Slide Machines, etc.), turn speed limitations of the bar feeder often dictate the actual cutting speed.
The recommended cutting speeds in the table below should be used if the machine can achieve such speeds.
ST-Cut tools are also designed to work at much lower speeds, and up to 40% faster if needed, depending on the material properties, such as hardness and tensile strength.

Material Group	Vargus No.	Material		Vc [m/min]		
				Turning	Parting Off	Threading
P Steel	1	**Unalloyed Steel** Low Carbon Steel		150	110	150
	2					
	3					
	4	**Low Alloy Steel** Alloy Steel < 750 Rm [N/mm²]		100	75	100
	5					
	6					
	7	**High Alloy Steel** Alloy Steel > 750 Rm [N/mm²]		75	55	75
	8					
	9					
M Stainless Steel	11	**Stainless Steel** Stainless Steel		65	50	65
	12					
N(K) Non-Ferrous Metals	34	**Aluminum Alloys** Aluminum Si > 12%		500	380	200
	35					
	36					
	37					
	39	**Copper and Copper Alloys** Brass, Bronze		350	250	150
	40					
S(M) Heat Resistant Material	19	**High Temperature Alloys and Titanium Alloys**	Titanium < 600 Rm [N/mm²]	60	40	50
	20					
	21					
	22		Titanium > 900 Rm [N/mm²]	35	30	35
	23					
	24					



ST-Cut Nominal Feeds and Depth of Cut

The cutting conditions for Parting Off and Turning applications in the table below are recommended starting points, which may be increased by up to 30%, depending on material properties, such as hardness and tensile strength.

Material Group	Vargus No.	Material		Cutting Width (mm)	Parting Off	Turning	
					Feed (mm/rev)	Depth of Cut (mm)	Feed (mm/rev)
P Steel	1	**Unalloyed Steel** Low Carbon Steel		0.5 - 1.0	0.04	0.05 -1.2	0.06
	2			1.2 - 1.8	0.08	1.2 - 2.5	0.12
	3			2.0 - 3.0	0.12	2.5 - 4.0	0.18
	4	**Low Alloy Steel** Alloy Steel < 750 Rm [N/mm²]		0.5 - 1.0	0.03	0.05 - 1.2	0.04
	5			1.2 - 1.8	0.06	1.2 - 2.5	0.08
	6			2.0 - 3.0	0.10	2.5 - 4.0	0.14
	7	**High Alloy Steel** Alloy Steel > 750 Rm [N/mm²]		0.5 - 1.0	0.02	0.05 - 1.2	0.03
	8			1.2 - 1.8	0.05	1.2 - 2.5	0.08
	9			2.0 - 3.0	0.08	2.5 - 4.0	0.12
M Stainless Steel	11	**Stainless Steel**		0.5 - 1.0	0.025	0.04 - 0.08	0.04
	12			1.2 - 1.8	0.035	0.08 - 1.5	0.05
				2.0 - 3.0	0.06	1.5 - 3.0	0.08
N(K) Non-Ferrous Metals	34	**Aluminum Alloys** Aluminum Si > 12%		0.5 - 1.0	0.06	0.05 - 1.2	0.08
	35			1.2 - 1.8	0.12	1.2 - 2.5	0.18
	36			2.0 - 3.0	0.18	2.5 - 4.0	0.25
	37	**Copper and Copper Alloys** Brass, Bronze		0.5 - 1.0	0.06	0.05 - 1.2	0.08
	39			1.2 - 1.8	0.12	1.2 - 2.5	0.18
	40			2.0 - 3.0	0.18	2.5 - 4.0	0.25
S(M) Heat Resistant Material	19	**High Temperature Alloys and Titanium Alloys**	Titanium < 600 Rm [N/mm²]	0.5 - 1.0	0.02	0.04 - 0.08	0.03
	20			1.2 - 1.8	0.04	0.08 - 1.5	0.06
	21			2.0 - 3.0	0.06	1.5 - 3.0	0.10
	22		Titanium > 900 Rm [N/mm²]	0.5 - 1.0	0.01	0.04 - 0.08	0.02
	23			1.2 - 1.8	0.025	0.08 - 1.5	0.04
	24			2.0 - 3.0	0.04	1.5 - 3.0	0.08

ST-Cut Inserts

ST-Cut Inserts Ordering Code System

ST	85	R	P	0	-	0.7		35	00	-	00	R	E	
1	2	3	4	5		6	7	8	9		10	11	12	13

1- Line Name
ST - ST Cut

2 - Max. Radial Depth
85 - 8.5mm

3 - RH or LH
R - Right Hand
L - Left Hand

4 - Application
P - Parting Off
T - Groove Turn
S - Square Grooving
R - Round Grooving
TH - Threading
FT - Front Turning
BT - Back Turning
FG - Face Grooving Internal
FP - Face Grooving External

5 - Rake Angle
0 - 0°
6 - 6°
10 - 10°
12 - 12°
15 - 15°
17 - 17°

6 - Grooving Width
0.5 - 3.0mm

6 - Corner Radius for Round Grooving Inserts
0.2 - 1.5mm

7 - Thread Standard and Pitch (Threading)
60 - Partial 60°
55 - Partial 55°

8 - t max
15 - 1.5mm
35 - 3.5mm
50 - 5.0mm
55 - 5.5mm
70 - 7.0mm
85 - 8.5mm

9 - Corner Radius
00 - 0.0mm
0.05 - 0.05mm

10 - Approach Angle (for Parting Off)
00 - 0°
06 - 6°
15 - 15°

11 - Corner Lead Direction (Parting Off)
R - Right Hand Direction
L - Left Hand Direction
None - Neutral Direction

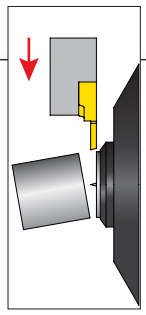
11 - Helix Side (Threading)
RH - Right Hand Helix
LH - Left Hand Helix

12 - Special Insert Structure
E - Treated Cutting Edge
W - Wiper
C - Chamfer
CW - Chamfer & Wiper
RW - Radius & Wiper

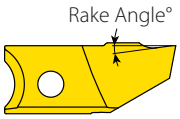
12 - Threading
R - Close to Right Shoulder
L - Close to Left Shoulder
None - Neutral

13 - Grade
VPG
VS020

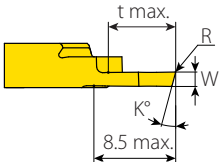
Parting Off



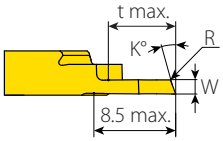
LH Insert



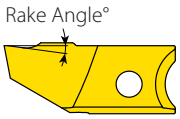
LH Insert
LH K-Direction



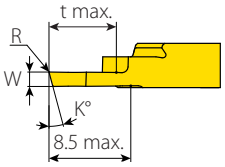
LH Insert
RH K-Direction



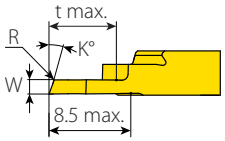
RH Insert



RH Insert
RH K-Direction



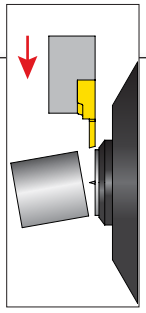
RH Insert
LH K-Direction



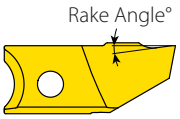
Ordering Code	Dimensions mm						Special Structure	Grade	
	W	R	t max	K°	K° - Direction	Rake Angle		VS020	VPG
ST85RP0-0.515-00-15R	0.50	0	1.50	15	R	0	-	○	●
ST85LP0-0.515-00-15L	0.50	0	1.50	15	L	0	-	○	●
ST85RP0-0.735-00-06RE	0.70	0	3.50	6	R	0	E	○	●
ST85LP0-0.735-00-06LE	0.70	0	3.50	6	L	0	E	○	●
ST85RP0-1.050-00-06RE	1.00	0	5.00	6	R	0	E	○	●
ST85LP0-1.050-00-06LE	1.00	0	5.00	6	L	0	E	○	●
ST85RP0-1.550-00-15RE	1.50	0	5.00	15	R	0	E	○	●
ST85LP0-1.550-00-15LE	1.50	0	5.00	15	L	0	E	○	●
ST85RP0-1.570-0.05-15RE	1.50	0.05	7.00	15	R	0	E	○	●
ST85LP0-1.570-0.05-15LE	1.50	0.05	7.00	15	L	0	E	○	●
ST85RP0-2.085-00-15RE	2.00	0	8.50	15	R	0	E	○	●
ST85LP0-2.085-00-15LE	2.00	0	8.50	15	L	0	E	○	●
ST85RP0-2.085-0.05-15RE	2.00	0.05	8.50	15	R	0	E	○	●
ST85LP0-2.085-0.05-15LE	2.00	0.05	8.50	15	L	0	E	○	●
ST85RP8-0.735-00-15RE	0.70	0	3.50	15	R	8	E	○	●
ST85LP8-0.735-00-15LE	0.70	0	3.50	15	L	8	E	○	●
ST85RP8-1.050-00-15RE	1.00	0	5.00	15	R	8	E	○	●
ST85LP8-1.050-00-15LE	1.00	0	5.00	15	L	8	E	○	●
ST85RP8-0.735-00-15R	0.70	0	3.50	15	R	8	-	○	●
ST85LP8-0.735-00-15L	0.70	0	3.50	15	L	8	-	○	●
ST85RP8-1.050-00-15R	1.00	0	5.00	15	R	8	-	○	●
ST85LP8-1.050-00-15L	1.00	0	5.00	15	L	8	-	○	●
ST85RP8-1.570-00-15RE	1.50	0	7.00	15	R	8	E	○	●
ST85LP8-1.570-00-15LE	1.50	0	7.00	15	L	8	E	○	●
ST85RP8-1.570-0.05-15RE	1.50	0.05	7.00	15	R	8	E	○	●
ST85RP8-1.570-0.05-15LE	1.50	0.05	7.00	15	L	8	E	○	●
ST85RP8-2.085-00-15RE	2.00	0	8.50	15	R	8	E	○	●
ST85LP8-2.085-00-15LE	2.00	0	8.50	15	L	8	E	○	●
ST85RP8-2.085-0.05-15RE	2.00	0.05	8.50	15	R	8	E	○	●
ST85LP8-2.085-0.05-15LE	2.00	0.05	8.50	15	L	8	E	○	●

● In stock ○ Available upon request

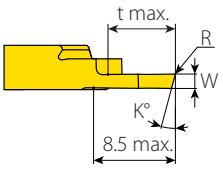
Parting Off



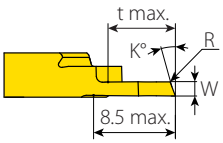
LH Insert



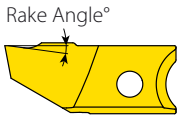
LH Insert
LH K-Direction



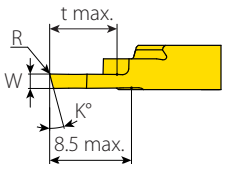
LH Insert
RH K-Direction



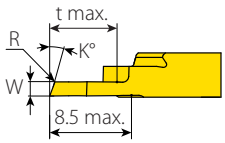
RH Insert



RH Insert
RH K-Direction

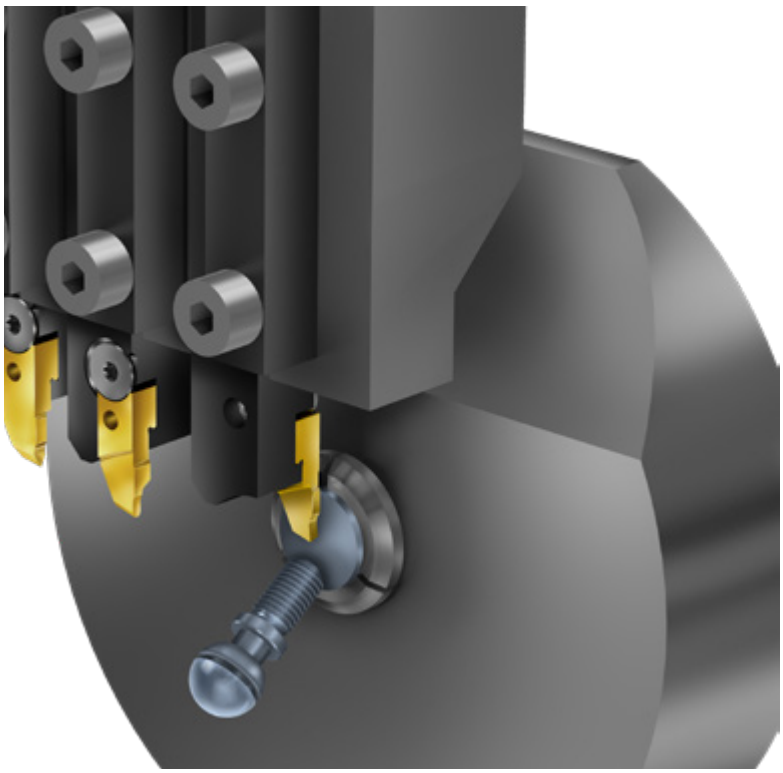


RH Insert
LH K-Direction

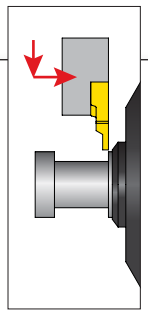


Ordering Code	Dimensions mm						Special Structure	Grade	
	W	R	t max	K°	K° - Direction	Rake Angle		VS020	VPG
ST85RP17-0.735-00-15RE	0.70	0	3.50	15	R	17	E	○	●
ST85LP17-0.735-00-15LE	0.70	0	3.50	15	L	17	E	○	●
ST85RP17-1.050-00-15RE	1.00	0	5.00	15	R	17	E	○	●
ST85LP17-1.050-00-15LE	1.00	0	5.00	15	L	17	E	○	●
ST85RP17-1.570-00-15RE	1.50	0	7.00	15	R	17	E	○	●
ST85LP17-1.570-00-15LE	1.50	0	7.00	15	L	17	E	○	●
ST85RP17-1.570-0.05-15RE	1.50	0.05	7.00	15	R	17	E	○	●
ST85RP17-1.570-0.05-15LE	1.50	0.05	7.00	15	L	17	E	○	●
ST85RP17-2.085-00-15RE	2.00	0	8.50	15	R	17	E	○	●
ST85LP17-2.085-00-15LE	2.00	0	8.50	15	L	17	E	○	●
ST85RP17-2.085-0.05-15RE	2.00	0.05	8.50	15	R	17	E	○	●
ST85LP17-2.085-0.05-15LE	2.00	0.05	8.50	15	L	17	E	○	●

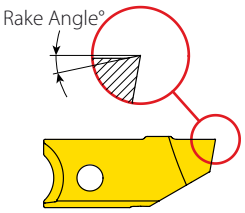
● In stock ○ Available upon request

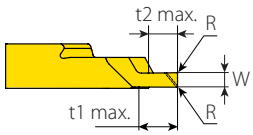


Groove & Turn

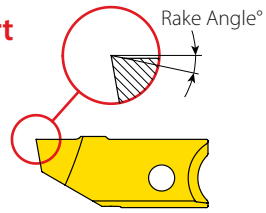


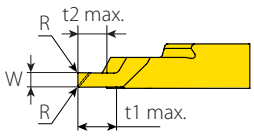
LH Insert





RH Insert





Groove & Turn Right Hand Inserts

Ordering Code	Dimensions mm					Special Structure	Grade	
	W	R	t1 max	t2 max	Rake Angle		VS020	VPG
ST85RT12-0.515-0.03E	0.50	0.03	4.00	1.50	12	E	○	●
ST85RT12-1.025-00E	1.00	0.00	4.00	2.50	12	E	○	●
ST85RT12-1.025-0.05E	1.00	0.05	4.00	2.50	12	E	○	●
ST85RT12-1.530-00E	1.50	0.00	4.00	3.00	12	E	○	●
ST85RT12-1.530-0.08E	1.50	0.08	4.00	3.00	12	E	○	●
ST85RT12-2.040-0.08E	2.00	0.08	6.50	4.00	12	E	○	●
ST85RT12-2.560-0.10E	2.50	0.10	6.50	6.00	12	E	○	●
ST85RT12-3.065-0.20E	3.00	0.20	6.50	6.50	12	E	○	●

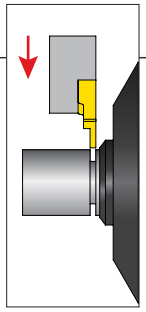
● In stock ○ Available upon request

Groove & Turn Left Hand Inserts

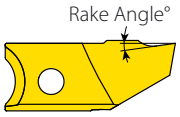
Ordering Code	Dimensions mm					Special Structure	Grade	
	W	R	t1 max	t2 max	Rake Angle		VS020	VPG
ST85LT12-0.515-0.03E	0.50	0.03	4.00	1.50	12	E	○	●
ST85LT12-1.025-00E	1.00	0.00	4.00	2.50	12	E	○	●
ST85LT12-1.025-0.05E	1.00	0.05	4.00	2.50	12	E	○	●
ST85LT12-1.530-00E	1.50	0.00	4.00	3.00	12	E	○	●
ST85LT12-1.530-0.08E	1.50	0.08	4.00	3.00	12	E	○	●
ST85LT12-2.040-0.08E	2.00	0.08	6.50	4.00	12	E	○	●
ST85LT12-2.560-0.10E	2.50	0.10	6.50	6.00	12	E	○	●
ST85LT12-3.065-0.20E	3.00	0.20	6.50	6.50	12	E	○	●

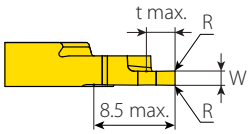
● In stock ○ Available upon request

Square Grooving

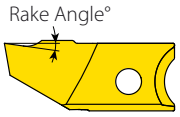


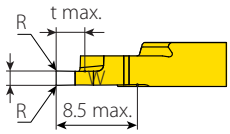
LH Insert





RH Insert





Square Grooving Right Hand Inserts

Ordering Code	Dimensions mm				Special Structure	Grade	
	W	R	t max	Rake Angle		VS020	VPG
ST85RS0-0.820-00E	0.80	0.00	2.00	0	E	○	●
ST85RS8-0.820-00E	0.80	0.00	2.00	8	E	○	●
ST85RS0-1.025-00E	1.00	0.00	2.50	0	E	○	●
ST85RS8-1.025-00E	1.00	0.00	2.50	8	E	○	●
ST85RS8-1.025-0.05E	1.00	0.05	2.50	8	E	○	●
ST85RS0-1.230-00E	1.20	0.00	3.00	0	E	○	●
ST85RS8-1.230-00E	1.20	0.00	3.00	8	E	○	●
ST85RS0-1.530-00E	1.50	0.00	3.00	0	E	○	●
ST85RS8-1.530-00E	1.50	0.00	3.00	8	E	○	●
ST85RS8-1.530-0.05E	1.50	0.05	3.00	8	E	○	●
ST85RS0-1.840-00E	1.80	0.00	4.00	0	E	○	●
ST85RS0-2.040-00E	2.00	0.00	4.00	0	E	○	●
ST85RS0-2.560-00E	2.50	0.00	6.00	0	E	○	●
ST85RS0-3.065-00E	3.00	0.00	6.50	0	E	○	●

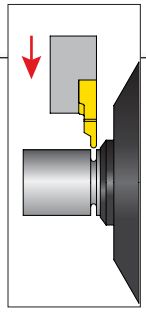
● In stock ○ Available upon request

Square Grooving Left Hand Inserts

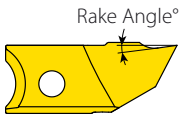
Ordering Code	Dimensions mm				Special Structure	Grade	
	W	R	t max	Rake Angle		VS020	VPG
ST85LS0-0.820-00E	0.80	0.00	2.00	0	E	○	●
ST85LS8-0.820-00E	0.80	0.00	2.00	8	E	○	●
ST85LS0-1.025-00E	1.00	0.00	2.50	0	E	○	●
ST85LS8-1.025-00E	1.00	0.00	2.50	8	E	○	●
ST85LS8-1.025-0.05E	1.00	0.05	2.50	8	E	○	●
ST85LS0-1.230-00E	1.20	0.00	3.00	0	E	○	●
ST85LS8-1.230-00E	1.20	0.00	3.00	8	E	○	●
ST85LS0-1.530-00E	1.50	0.00	3.00	0	E	○	●
ST85LS8-1.530-00E	1.50	0.00	3.00	8	E	○	●
ST85LS8-1.530-0.05E	1.50	0.05	3.00	8	E	○	●
ST85LS0-1.840-00E	1.80	0.00	4.00	0	E	○	●
ST85LS0-2.040-00E	2.00	0.00	4.00	0	E	○	●
ST85LS0-2.560-00E	2.50	0.00	6.00	0	E	○	●
ST85LS0-3.065-00E	3.00	0.00	6.50	0	E	○	●

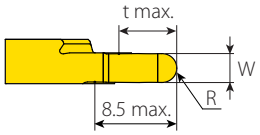
● In stock ○ Available upon request

Round Grooving

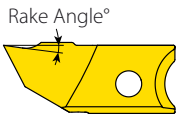


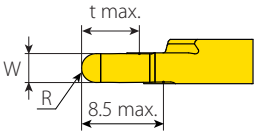
LH Insert





RH Insert





Round Grooving Right Hand Inserts

Ordering Code	Dimensions mm				Special Structure	Grade	
	W	R	t max	Rake Angle		VS020	VPG
ST85RR0-0.215E	0.40	0.20	1.50	0	E	○	●
ST85RR0-0.520E	1.00	0.50	2.00	0	E	○	●
ST85RR0-0.7530E	1.50	0.75	3.00	0	E	○	●
ST85RR0-1.040E	2.00	1.00	4.00	0	E	○	●
ST85RR8-1.040E	2.00	1.00	4.00	8	E	○	●
ST85RR0-1.2550E	2.50	1.25	5.00	0	E	○	●
ST85RR0-1.560E	3.00	1.50	6.00	0	E	○	●
ST85RR8-1.560E	3.00	1.50	6.00	8	E	○	●

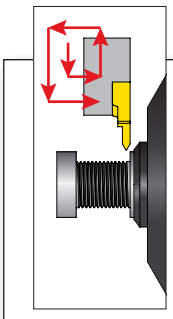
● In stock ○ Available upon request

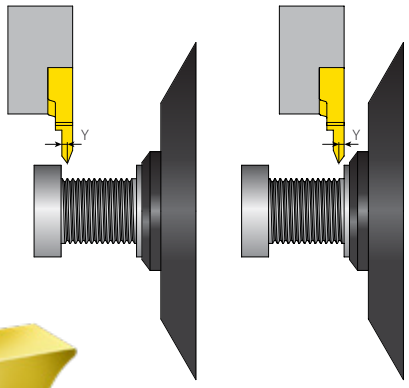
Round Grooving Left Hand Inserts

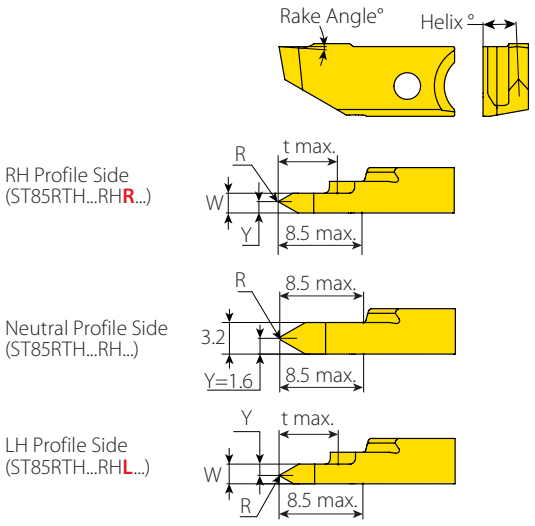
Ordering Code	Dimensions mm				Special Structure	Grade	
	W	R	t max	Rake Angle		VS020	VPG
ST85LR0-0.215E	0.40	0.20	1.50	0	E	○	●
ST85LR0-0.520E	1.00	0.50	2.00	0	E	○	●
ST85LR0-0.7530E	1.50	0.75	3.00	0	E	○	●
ST85LR0-1.040E	2.00	1.00	4.00	0	E	○	●
ST85LR8-1.040E	2.00	1.00	4.00	8	E	○	●
ST85LR0-1.2550E	2.50	1.25	5.00	0	E	○	●
ST85LR0-1.560E	3.00	1.50	6.00	0	E	○	●
ST85LR8-1.560E	3.00	1.50	6.00	8	E	○	●

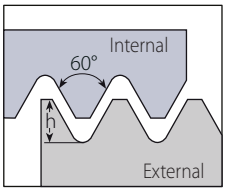
● In stock ○ Available upon request

Partial Profile 60°









Partial Profile 60° Right Hand Inserts

Ordering Code	Dimensions mm				Pitch						Grade	
	W	R	t max	Y	mm / TPI	No. of Passes	Rake Angle	Helix °	Thread Direction	Profile Side	VS020	VPG
ST85RTH4AA60RHR	1.00	0.00	2.50	0.15	0.075 - 0.25/508-100	3-4	4	6	RH	R	○	●
ST85RTH4AA60RHL	1.00	0.00	2.50	0.15	0.075 - 0.25/508-100	3-4	4	6	RH	L	○	●
ST85RTH4AB60RHR	1.50	0.02	4.50	0.30	0.25 - 0.5/80-46	4-6	4	4	RH	R	○	●
ST85RTH4AB60RHL	1.50	0.02	4.50	0.30	0.25 - 0.5/80-46	4-6	4	4	RH	L	○	●
ST85RTH4A60RHR	2.00	0.05	6.5	0.85	0.5 - 1.5/46-16	4-10	4	2.5	RH	R	○	●
ST85RTH4A60RHL	2.00	0.05	6.5	0.85	0.5 - 1.5/46-16	4-10	4	2.5	RH	L	○	●
ST85RTH4G60RH	3.20	0.20	8.5	1.60	1.75 - 3.0/14-8	5-14	4	1.5	RH	N	○	●

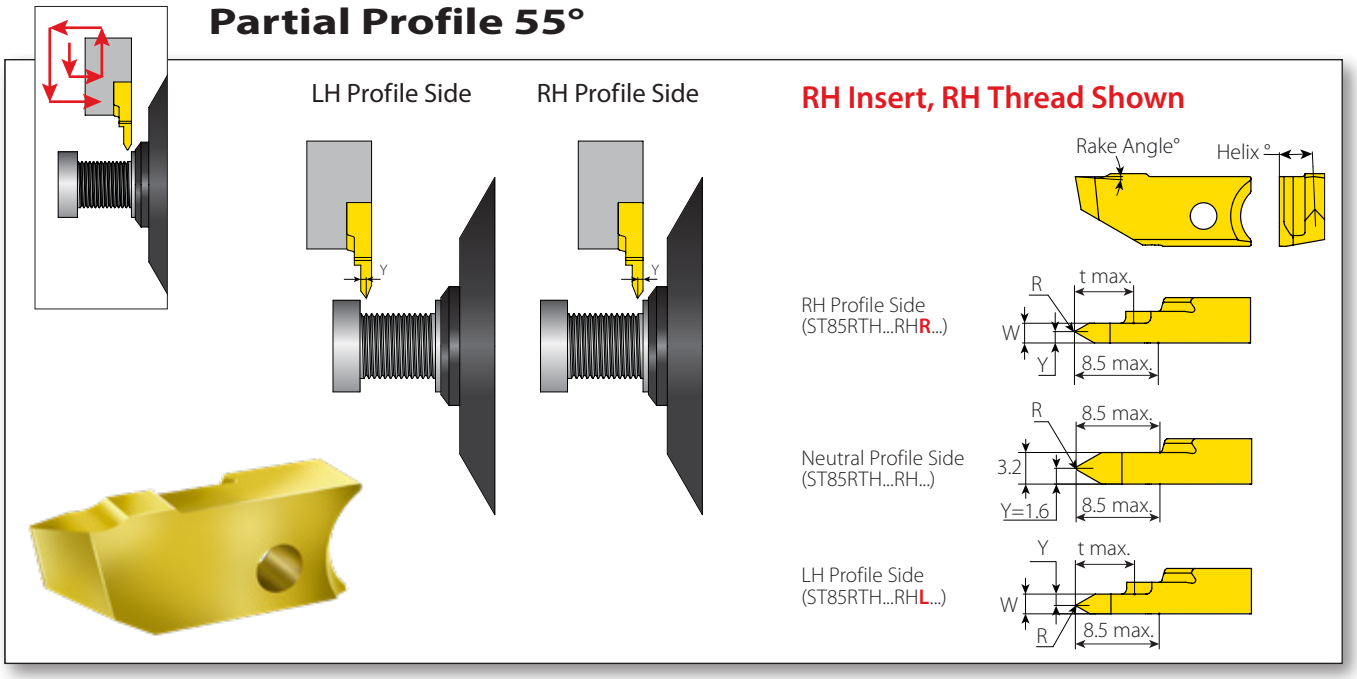
● In stock ○ Available upon request

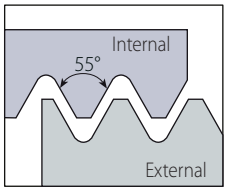
Partial Profile 60° Left Hand Inserts

Ordering Code	Dimensions mm				Pitch						Grade	
	W	R	t max	Y	mm / TPI	No. of Passes	Rake Angle	Helix °	Thread Direction	Profile Side	VS020	VPG
ST85LTH4AA60RHR	1.00	0.00	2.50	0.15	0.075 - 0.25/508-100	3-4	4	6	RH	R	○	●
ST85LTH4AA60RHL	1.00	0.00	2.50	0.15	0.075 - 0.25/508-100	3-4	4	6	RH	L	○	●
ST85LTH4AB60RHR	1.50	0.02	4.50	0.30	0.25 - 0.5/80-46	4-6	4	4	RH	R	○	●
ST85LTH4AB60RHL	1.50	0.02	4.50	0.30	0.25 - 0.5/80-46	4-6	4	4	RH	L	○	●
ST85LTH4A60RHR	2.00	0.05	6.5	0.85	0.5 - 1.5/46-16	4-10	4	2.5	RH	R	○	●
ST85LTH4A60RHL	2.00	0.05	6.5	0.85	0.5 - 1.5/46-16	4-10	4	2.5	RH	L	○	●
ST85LTH4G60RH	3.20	0.20	8.5	1.60	1.75 - 3.0/14-8	5-14	4	1.5	RH	N	○	●

● In stock ○ Available upon request

Partial Profile 55°





Partial Profile 55° Right Hand Inserts

Ordering Code	Dimensions mm				Pitch						Grade	
	W	R	t max	Y	mm / TPI	No. of Passes	Rake Angle	Helix °	Thread Direction	Profile Side	VS020	VPG
ST85RTH4A55RHR	2.00	0.06	6.50	0.85	0.5 - 1.5/46-16	4-10	4	2.5	RH	R	○	●
ST85RTH4A55RHL	2.00	0.06	6.50	0.85	0.5 - 1.5/46-16	4-10	4	2.5	RH	L	○	●
ST85RTH4G55RH	3.20	0.25	8.50	1.60	1.75 - 3.0/14-8	5-14	4	1.5	RH	N	○	●

● In stock ○ Available upon request

Partial Profile 55° Left Hand Inserts

Ordering Code	Dimensions mm				Pitch						Grade	
	W	R	t max	Y	mm / TPI	No. of Passes	Rake Angle	Helix °	Thread Direction	Profile Side	VS020	VPG
ST85LTH4A55RHR	2.00	0.06	6.50	0.85	0.5 - 1.5/46-16	4-10	4	2.5	RH	R	○	●
ST85LTH4A55RHL	2.00	0.06	6.50	0.85	0.5 - 1.5/46-16	4-10	4	2.5	RH	L	○	●
ST85LTH4G55RH	3.20	0.25	8.50	1.60	1.75 - 3.0/14-8	5-14	4	1.5	RH	N	○	●

● In stock ○ Available upon request

ST-Cut External Tools

ST-Cut Tools - Ordering Code System

ST	E		SR	810		85	T30	
1	2	3	4	5	-	6	7	8

1- Line Name	2 - Type	3 - Approach Angle	4 - RH or LH
ST - ST Cut	E - Square Shank R - Round Shank	None - 0° 90 - 90° 45 - 45°	R - RH Tool L - LH Tool SR - RH Stepped Shank, Sub spindle relief. See figure 1 SL - LH Stepped Shank, Main spindle relief SRS - RH Stepped Shank. Insert close to Sub spindle (left side). See figure 2 SLS - LH Stepped Shank. Close to Main spindle (right side)

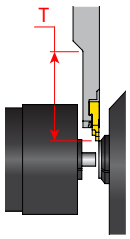


Figure 1
SR Tool - RH tool with RH insert

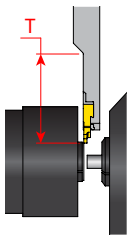


Figure 2
SRS Tool - RH tool with LH insert

5 - Shank Size / Diameter	6 - Max Radial Depth	7 - Radial Depth Depth (Stepped Toolholders)	8 - Coolant
0810 - 8x10mm 1010 - 10x10mm 1212 - 12x12mm 1616 - 16x16mm 2020 - 20x20mm 10 - Ø10mm	85 - Max Radial Depth 8.5mm	None - Non Stepped Shank T30 - Limit Depth of Step 30mm T40 - Limit Depth of Step 40mm	None - No coolant C - Coolant

Torque Limiting Accessories (Sold Separately):

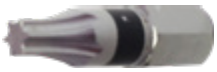
Torque Limiting Handles

Ordering Code	Item Number	Range
VTRF 	013-01038	0.6 Nm to 3.0 Nm

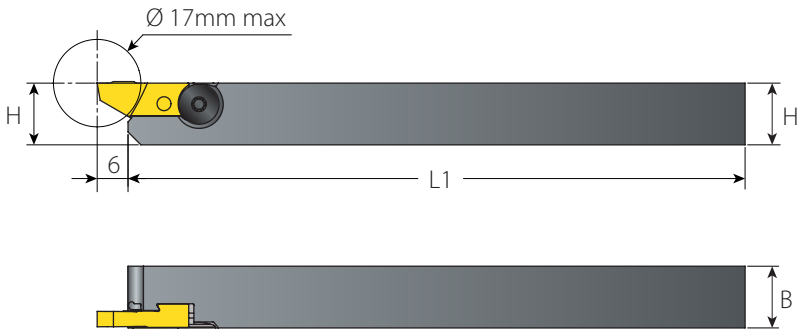
Torque Limiting Adapters

	Ordering Code	Item Number	Torque Max (Nm)
	D02-12 -3.0Nm	013-01084	3.0

Torque Limiting Bits

	Ordering Code	Item Number	Bit Type
	BIT25-TX10	013-01094	Torx

Square Shank Tools



* Right hand shown

Square Shank Right Hand Tools

Spare Parts

Insert Size	Ordering Code	Dimensions mm		Screw	Key	Torque Limiting Adapter*
		HxB	L1			
85	STER0810-85	8x10	110	SM5x0.8x9-T10 LH Torque Limit: 3.0Nm	K3T	D02-12-3.0Nm
	STER1010-85	10x10	110			
	STER1212-85	12x12	120			
	STER1616-85	16x16	120			
	STER2020-85	20x20	120			

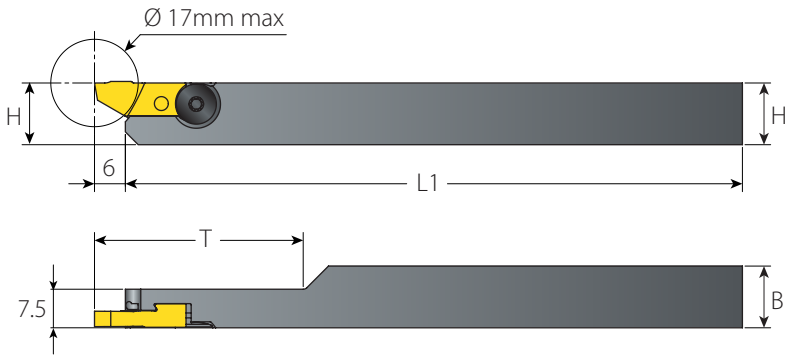
Square Shank Left Hand Tools

Spare Parts

Insert Size	Ordering Code	Dimensions mm		Screw	Key	Torque Limiting Adapter*
		HxB	L1			
85	STEL0810-85	8x10	110	SM5x0.8x9-T10 Torque Limit: 3.0Nm	K3T	D02-12-3.0Nm
	STEL1010-85	10x10	110			
	STEL1212-85	12x12	120			
	STEL1616-85	16x16	120			
	STEL2020-85	20x20	120			

* Item sold separately. See page 15 for more details.

Stepped Square Shank Tools



* Right hand shown

Stepped Square Shank Right Hand Tools (STESR)

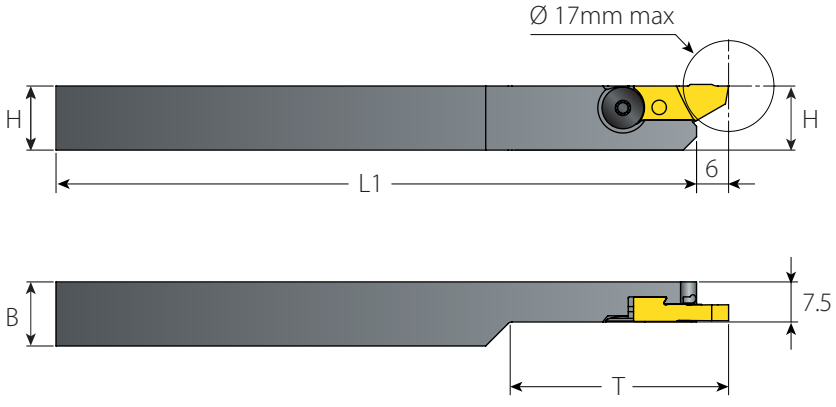
Spare Parts

Insert Size	Ordering Code	Dimensions mm			Screw	Key	Torque Limiting Adapter*
		HxB	L1	T			
85	STESR0810-85T30	08x10	110	30	SM5x0.5x7-T10 LH Torque Limit: 3.0Nm	K3T	D02-12-3.0Nm
	STESR1010-85T30	10x10	110	30			
	STESR1212-85T40	12x12	120	40			
	STESR1616-85T40	16x16	120	40			

Stepped Square Shank Left Hand Tools (STESL)

Spare Parts

Insert Size	Ordering Code	Dimensions mm			Screw	Key	Torque Limiting Adapter*
		HxB	L1	T			
85	STESL0810-85T30	08x10	110	30	SM5x0.5x7-T10 Torque Limit: 3.0Nm	K3T	D02-12-3.0Nm
	STESL1010-85T30	10x10	110	30			
	STESL1212-85T40	12x12	120	40			
	STESL1616-85T40	16x16	120	40			



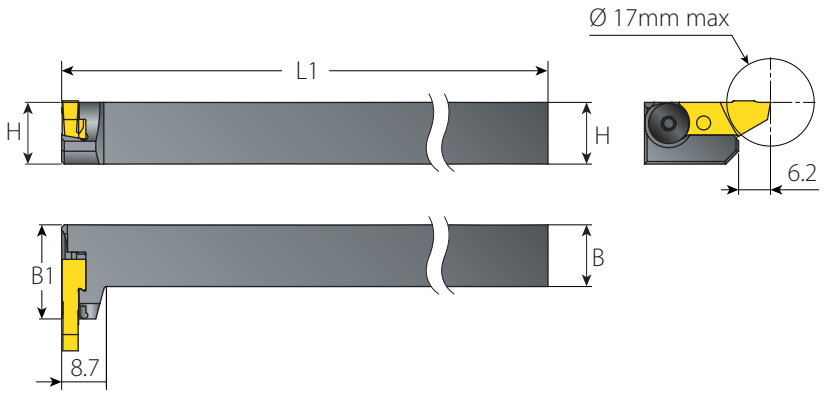
Stepped Square Shank Right Hand Tools (STESRS) **

Spare Parts

Insert Size	Ordering Code	Dimensions mm			Screw	Key	Torque Limiting Adapter*
		HxB	L1	T			
85	STESRS1010-85T30	10x10	110	30	SM5x0.5x7-T10 Torque Limit: 3.0Nm	K3T	D02-12-3.0Nm
	STESRS1212-85T40	12x12	120	40			
	STESRS1616-85T40	16x16	120	40			

* Item sold separately. See page 15 for more details.
** STESRS...-85T... - RH tool with LH Inserts. See page 4.

Square Shanks 90° Tools



* Right hand shown

Square Shank 90° Right Hand Tools **

Insert Size	Ordering Code	Dimensions mm		
		HxB	L1	B1
85	STE90R1010-85	10x10	110	18.3
	STE90R1212-85	12x12	120	18.3

Spare Parts

		
Screw	Key	Torque Limiting Adapter*
SM5x0.8x9-T10 Torque Limit: 3.0Nm	K3T	D02-12-3.0Nm

* Item sold separately. See page 15 for more details.

** STE90R...-85. - RH tool with LH Inserts

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