

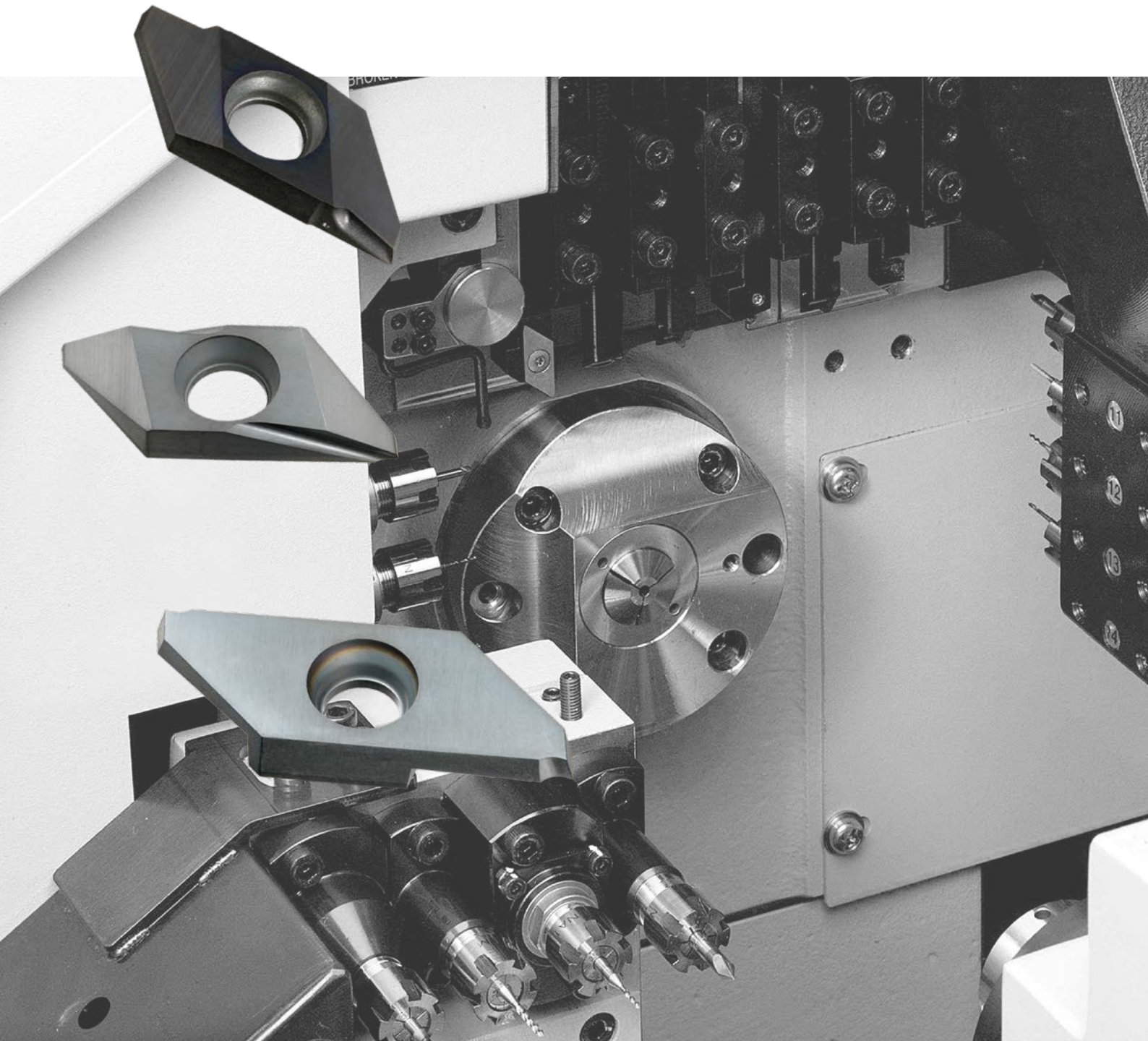
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# BTAH / CTBH / CTAH

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PVD COATED INSERT EXPANSION  
FOR SMALL PARTS MACHINING

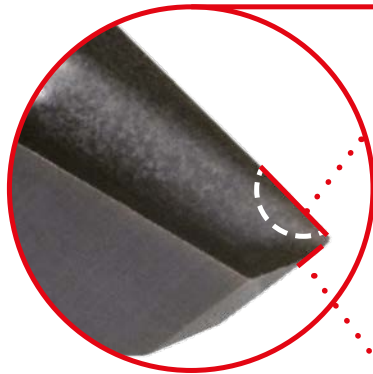
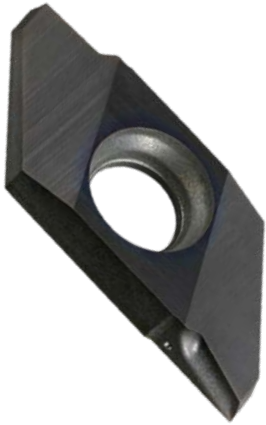
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# SMB BREAKER

## MOULDED TYPE INSERT FOR BACK TURNING

### THE MOULDED CHIPBREAKER IMPROVES SURFACE FINISHES



Efficient single pass final cutting achieves good surface finishes

Prevents chipping of the end face when grooving.

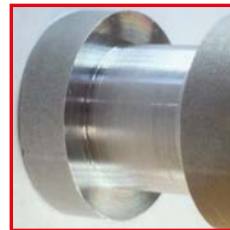
Highly efficient machining and good surface finishes due to the wiper geometry.

## CUTTING PERFORMANCE

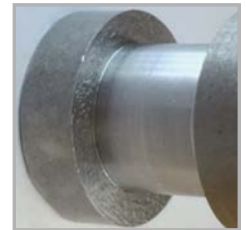
### CORNER RADIUS WITH A MINUS TOLERANCE

01M: R0.08 mm 02M: R0.18 mm

Material	Low carbon steel
Tool	BTAT723501MR-SMB
Grade	VP15TF
Vc (m/min)	100
ap (mm)	2.5
f - Grooving (mm/rev)	0.03
f - External (mm/rev)	0.04
Coolant	Wet cutting (water-soluble)
Machine	CNC automatic lathe



SMB BREAKER



Conventional  
(Ground type)

### EXCELLENT WEAR RESISTANCE

### COMPARED TO CONVENTIONAL PRODUCTS WHEN MACHINING DIN X5CRNI189

Material	DIN X5CrNi189
Tool	BTAT723501MR-SMB
Grade	VP15TF
Vc (m/min)	60
ap (mm)	2.5
f - Grooving (mm/rev)	0.02
f - External (mm/rev)	0.04
Number of workpieces	100
Coolant	Wet cutting (water-insoluble)
Machine	Automatic lathe



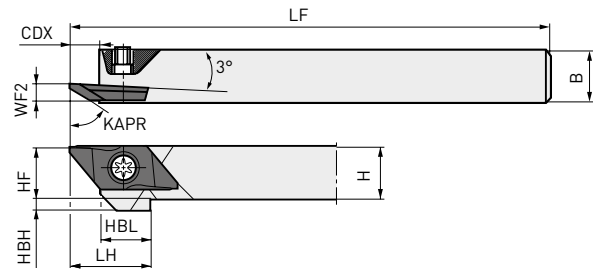
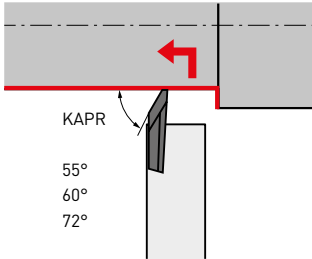
SMB BREAKER



Conventional  
(Ground type)

# BTAH

## EXTERNAL BACK TURNING



Right hand tool holder shown.

Order number	Stock		Insert type	H	B	LF	LH	HF	WF2	HBH	HBL	CDX	*	
	R	L											Clamp screw	Wrench
BTahr/L0810-50	●	★	BTAT	8	10	120	15	8	3.5	4	9.5	5.5	NS402W	NKY15S
BTahr/L1010-50	●	★		10	10	120	15	10	3.5	2	9.5	5.5	NS402W	NKY15S
BTahr/L1212-50	●	★		12	12	120	15	12	3.5	—	9.5	5.5	NS403W	NKY15S
BTahr1616-50	●			16	16	120	15	16	3.5	—	9.5	5.5	NS403W	NKY15S

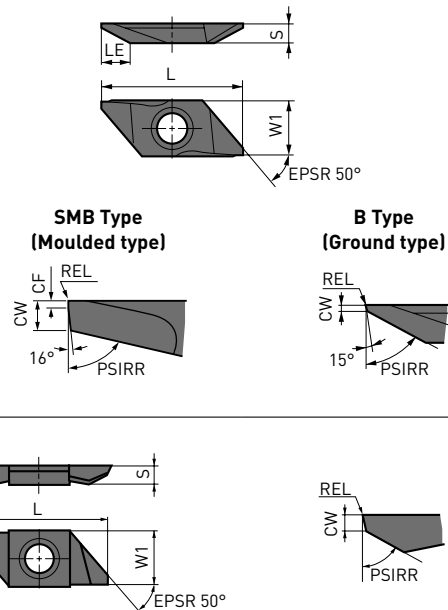
\* Clamp torque (N • m) : NS402W=1.0, NS403W=1.0

1. Please use right hand insert for right hand holder and left hand insert for left hand holder.
2. Set the maximum depth of cut at under 60 % of the effective cutting edge length (LE).

## INSERTS

Order number	Hand	VP15TF	MS6015	PSIRR/L	Geometry						
					REL	CF	L	W1	CW	S	LE*
<b>WITH BREAKER</b>											
BTAT7235V5R-SMB	R	●		72°	0.05	0.3	20	8	1.4	2.5	3.5
BTAT723501MR-SMB	R	●		72°	0.08	0.3	20	8	1.4	2.5	3.5
BTAT723502MR-SMB	R	●		72°	0.18	0.3	20	8	1.4	2.5	3.5
BTAT552800R-B	R	●	●	55°	0	0	20	8	0.5	2.5	2.8
BTAT552800L-B	L	★		55°	0	0	20	8	0.5	2.5	2.8
BTAT552801R-B	R	●	●	55°	0.1	0	20	8	0.5	2.5	2.8
BTAT552801L-B	L	★		55°	0.1	0	20	8	0.5	2.5	2.8
BTAT603500R-B	R	●	●	60°	0	0	20	8	0.5	2.5	3.5
BTAT603500L-B	L	★		60°	0	0	20	8	0.5	2.5	3.5
BTAT603501MR-B	R		●	60°	0.08	0	20	8	0.5	2.5	3.5
BTAT603501R-B	R	●	●	60°	0.1	0	20	8	0.5	2.5	3.5
BTAT603501L-B	L	★		60°	0.1	0	20	8	0.5	2.5	3.5
<b>WITHOUT BREAKER</b>											
BTAT605000RX	R	●		60°	0	0	20	8	1.25	2.5	5.0

Right hand insert shown.



(5 inserts in one case)

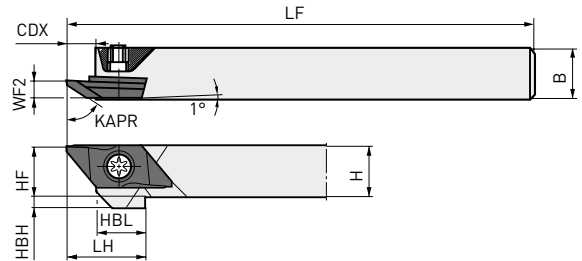
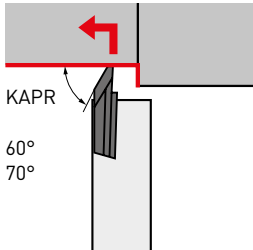
\* Value with insert on the holder.



● : Inventory maintained. ★ : Inventory maintained in Japan.

# CTBH

## EXTERNAL BACK TURNING



Right hand tool holder shown.

Order number	Stock		Insert type	H	B	LF	LH	HF	WF2	HBH	HBL	CDX	Clamp screw*	Wrench
	R	L												
CTBHR/L1010-160	●	●		10	10	120	19.5	10	3.4	2	12	7.5	NS402W	NKY15S
CTBHR/L1212-160	●	●	BTBT ○○○○	12	12	120	19.5	12	3.4	—	12	7.5	NS403W	NKY15S
CTBHR/L1616-160	●	●		16	16	120	19.5	16	3.4	—	12	7.5	NS403W	NKY15S

\* Clamp torque (N • m): NS402W = 1.0, NS403W = 1.0

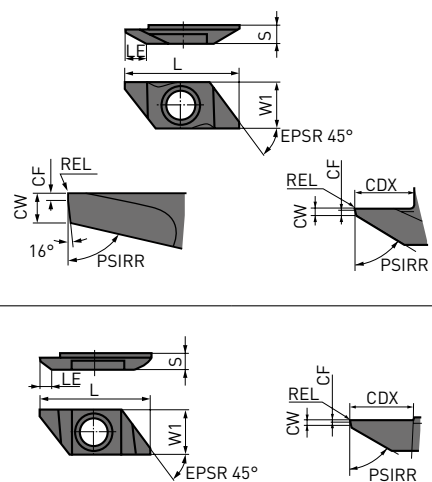
1. Please use right hand insert for right hand holder and left hand insert for left hand holder.
2. Set the maximum depth of cut at under 60 % of the effective cutting edge length (LE).

## INSERTS

Order number	Hand	VP15TF	MS6015	PSIRR/L	REL	CF	L	W1	CW	S	CDX	LE* <sup>1</sup>	
<b>WITH BREAKER</b>													
BTBT7055V5R-SMB	R	●			70°	0.05	0.3	25	9.4	1.35	3.5	6.5	5.5
BTBT705501MR-SMB	R	●			70°	0.08	0.3	25	9.4	1.35	3.5	6.5	5.5
BTBT705502MR-SMB	R	●			70°	0.18	0.3	25	9.4	1.35	3.5	6.5	5.5
BTBT604500R-B	R	●	●		60°	0	0.2	25	9.4	0.7	3.5	5.5	4.5
BTBT604500L-B	L	★			60°	0	0.2	25	9.4	0.7	3.5	5.5	4.5
BTBT604501MR-B	R		●		60°	0.08	0.3	25	9.4	0.7	3.5	5.5	4.5
BTBT604501R-B	R	●	●		60°	0.1	0.3	25	9.4	0.7	3.5	5.5	4.5
BTBT604501L-B	L	★			60°	0.1	0.3	25	9.4	0.7	3.5	5.5	4.5
<b>WITHOUT BREAKER</b>													
BTBT606000R	R	●			60°	0	0.2	25	9.4	0.7	3.5	7	6.0
BTBT606000L	L	★			60°	0	0.2	25	9.4	0.7	3.5	7	6.0

### Geometry

Right hand insert shown.



(5 inserts in one case)

\*<sup>1</sup> Value with insert on the holder.

1. SMB type (Moulded)
2. B type (Ground)



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# BTAH / CTBH

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## RECOMMENDED CUTTING CONDITIONS

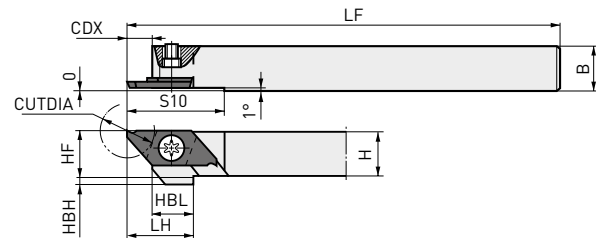
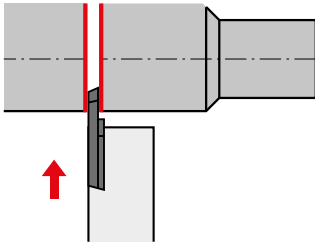
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	Material	Hardness	Grade	Vc	f
P	Carbon steels · Alloy steels	180HB - 280HB	MS6015 / VP15TF	100 (50 - 150)	0.08 (0.01 - 0.15)
	Free cutting steels	—	MS6015	110 (30 - 180)	0.08 (0.01 - 0.15)
M	Stainless steels	<200HB	VP15TF	80 (50 - 120)	0.06 (0.02 - 0.1 )
N	Non-ferrous metals	—	MS6015	150 (70 - 230)	0.09 (0.03 - 0.15)



# CTAH

## EXTERNAL CUTTING OFF



Right hand tool holder shown.

Order number	Stock		Insert type	H	B	HF	LF	LH	CDX	HBH	HBL	S10	CUTDIA*1	*3	*3
	R	L													
CTAHR/L0810-120	●	●	CTAT ○○○○	8	10	8	120	15	5.5	4	9.5	22	12 (8)*2	NS402W	NKY15S
CTAHR/L1010-120	●	●		10	10	10	120	15	5.5	2	9.5	22			
CTAHR/L1212-120	●	●		12	12	12	120	15	5.5	—	9.5	22			
CTAHR/L1616-120	●	●		16	16	16	120	15	5.5	—	9.5	22			

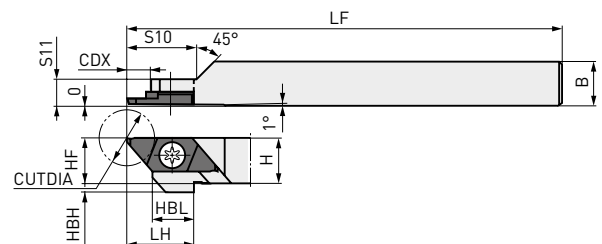
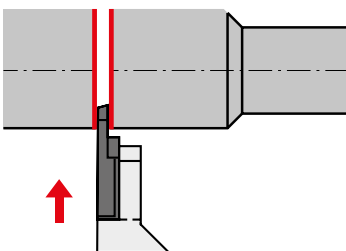
\*1 CUTDIA: Max. cut off diameter

\*2 When the parting off width (CW) is 0.7 mm.

\*3 Clamp torque (N • m): NS401 = 3.5

# CTAH-S

## EXTERNAL CUTTING OFF



Right hand tool holder shown.

Order number	Stock		Insert type	H	B	HF	LF	LH	CDX	HBH	HBL	S10	S11	CUTDIA*1	*3	*3
	R															
CTAHR1010-120S	●		CTAT ○○○○	10	10	10	80	15	16	2	9.5	16	5.5	12 (8)*2	NS401	NKY25R

\*1 CUTDIA: Max. cut off diameter

\*2 When the parting off width (CW) is 0.7 mm.

\*3 Clamp torque (N • m): NS401 = 3.5



# INSERTS

Order number	Hand	VP15TF	MS6015	CW	CDX	RER/L	L	W1	S	LBB	CUTDIA*	Set geometry	Insert geometry	Geometry
														Right hand insert shown.
<b>WITH BREAKER</b>														
CTAT07080V5RR-B	R	●		0.7	4.5	0.05	20	8	2.5	1.5	8			
CTAT10120V5RR-B	R	●	●	1.0	6.7	0.05	20	8	2.5	1.5	12			
CTAT15120V5RR-B	R	●	●	1.5	6.7	0.05	20	8	2.5	1.5	12			
CTAT20120V5RR-B	R	●	●	2.0	6.7	0.05	20	8	2.5	1.5	12			
CTAT15120V5RR-BX	R	●		1.5	6.7	0.05	20	8	2.5	1.5	12			
CTAT20120V5RR-BX	R	●		2.0	6.7	0.05	20	8	2.5	1.5	12			
CTAT10120V5RN-B	N	●	●	1.0	6.7	0.05	20	8	2.5	1.5	12			
CTAT15120V5RN-B	N	●	●	1.5	6.7	0.05	20	8	2.5	1.5	12			
CTAT20120V5RN-B	N	●	●	2.0	6.7	0.05	20	8	2.5	1.5	12			
CTAT15120V5RN-BX	N	●		1.5	6.7	0.05	20	8	2.5	1.5	12			
CTAT20120V5RN-BX	N	●		2.0	6.7	0.05	20	8	2.5	1.5	12			
CTAT10110V5RL-B	L	●		1.0	6.7	0.05	20	8	2.5	1.5	11			
CTAT15110V5RL-B	L	●		1.5	6.7	0.05	20	8	2.5	1.5	11			
CTAT20110V5RL-B	L	●		2.0	6.7	0.05	20	8	2.5	1.5	11			
<b>WITHOUT BREAKER</b>														
CTAT1012000RR	R	●	●	1.0	6.7	0	20	8	2.5	3.5	12			
CTAT1512000RR	R	●	●	1.5	6.7	0	20	8	2.5	3.5	12			
CTAT2012000RR	R	●	●	2.0	6.7	0	20	8	2.5	3.5	12			
<b>WITH BREAKER</b>														
CTAT07080V5LL-B	L	●		0.7	4.5	0.05	20	8	2.5	1.5	8			
CTAT10120V5LL-B	L	●		1.0	6.7	0	20	8	2.5	1.5	12			
CTAT15120V5LL-B	L	●		1.5	6.7	0	20	8	2.5	1.5	12			
CTAT20120V5LL-B	L	●		2.0	6.7	0	20	8	2.5	1.5	12			
CTAT10120V5LN-B	N	●	●	1.0	6.7	0.05	20	8	2.5	1.5	12			
CTAT15120V5LN-B	N	●	●	1.5	6.7	0.05	20	8	2.5	1.5	12			
CTAT20120V5LN-B	N	●	●	2.0	6.7	0.05	20	8	2.5	1.5	12			
CTAT10110V5LR-B	R	●	●	1.0	6.7	0.05	20	8	2.5	1.5	11			
CTAT15110V5LR-B	R	●	●	1.5	6.7	0.05	20	8	2.5	1.5	11			
CTAT20110V5LR-B	R	●	●	2.0	6.7	0.05	20	8	2.5	1.5	11			
<b>WITHOUT BREAKER</b>														
CTAT1012000LL	L	●		1.0	6.7	0	20	8	2.5	3.5	12			
CTAT1512000LL	L	●		1.5	6.7	0	20	8	2.5	3.5	12			
CTAT2012000LL	L	●		2.0	6.7	0	20	8	2.5	3.5	12			

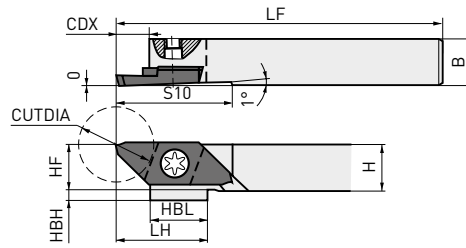
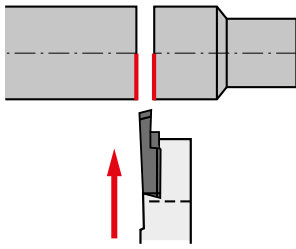
{5 inserts in one case}

\* CUTDIA: Max. cut off diameter






# CTBH

## EXTERNAL CUTTING OFF



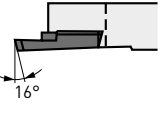
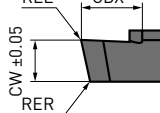
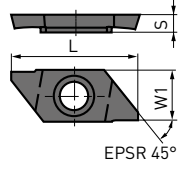
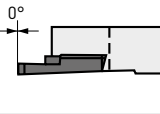
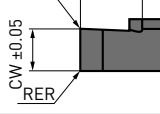
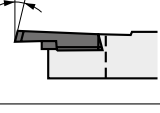
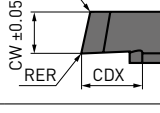
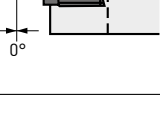
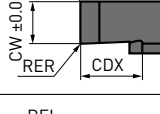
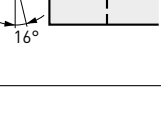
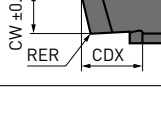


Right hand tool holder shown.

Order number	Stock		Insert type	H	B	HF	LF	LH	CDX	HBH	HBL	S10	CUTDIA* <sup>1</sup>	 * <sup>2</sup>	
	R	L													
CTBHR/L1010-160	●	●		10	10	10	120	19.5	7.5	2	9.5	25	16	NS402W	NKY15S
CTBHR/L1212-160	●	●	CTBT 	12	12	12	120	19.5	7.5	—	9.5	25	16	NS403W	NKY15S
CTBHR/L1616-160	●	●		16	16	16	120	19.5	7.5	—	9.5	25	16	NS403W	NKY15S

\*<sup>1</sup> CUTDIA: Max. cut off diameter

\*<sup>2</sup> Clamp torque (N • m): NS402W = 1.0, NS403W = 1.0

## INSERTS

Order number	Hand	VP15TF	MS6015	CW	CDX	RER/L	L	W1	S	CUTDIA*	Set geometry	Insert geometry	Geometry
													Right hand insert shown.
<b>WITH BREAKER</b>													
CTBT15160V5RR-B	R	●	●	1.5	9.2	0.05	25	9.4	3.5	16			
CTBT20160V5RR-B	R	●	●	2.0	9.2	0.05	25	9.4	3.5	16			
CTBT20160V5RN-B	N	●	●	2.0	9.2	0.05	25	9.4	3.5	16			
CTBT20160V5LL-B	L	●	●	2.0	9.2	0.05	25	9.4	3.5	16			
CTBT20160V5LN-B	N	●	●	2.0	9.2	0.05	25	9.4	3.5	16			
CTBT20145V5LR-B	R	●	●	2.0	9.2	0.05	25	9.4	3.5	14.5			

[5 inserts in one case]

\* CUTDIA: Max. cut off diameter





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# CTAH / CTAH-S / CTBH

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## RECOMMENDED CUTTING CONDITIONS

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	Material	Hardness	Grade	Vc	f
P	Carbon steels · Alloy steels	180HB – 280HB	MS6015 / VP15TF	100 (50 – 150)	0.05 (0.02 – 0.09)
	Free cutting steels	–	MS6015	110 (30 – 180)	0.05 (0.01 – 0.09)
M	Stainless steels	<200HB	VP15TF	80 (50 – 120)	0.03 (0.02 – 0.05)
N	Non-ferrous metals	–	MS6015	150 (70 – 230)	0.07 (0.03 – 0.11)







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