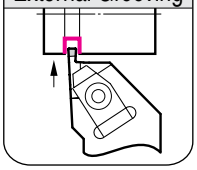
Characteristics

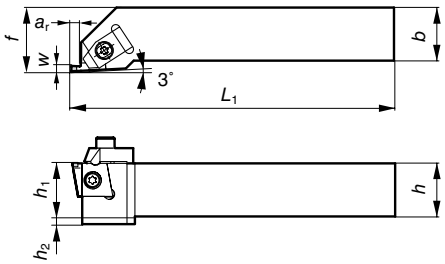
- Tangentially-mounted insert enhances tool rigidity.
- New double clamping holder design improves stability during continuous and interrupted cutting, and also allows traverse tool movement.
- Long tool life in interrupted cutting applications with the new Coated SUMIBORON BNC30G for grooving. (BN250/BN2000 recommended for continuous cutting applications.)
- Suited for grooving various types of hardened steel. Variety of widths available from 1.5 to 6.0mm.

Hardened Steel Grooves

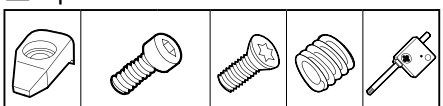
GWB
External Grooving



External



Spare Parts

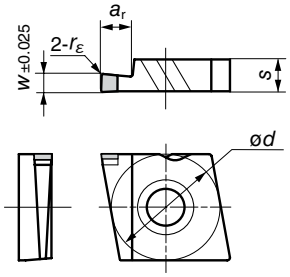


Holders

Cat. No.	Stock R	Stock L	Dimensions (mm) h	b	L_1	f	h_1	h_2	Grooving Width (mm) w	Max. Grooving Depth (mm) a_r	Applicable Insert No.	Clamp	Cap Screw	Recommended Tightening Torque (N·m)	Screw	Spring	Spanner
GWB R/L 2020-45			20	20	151 (150)	25	20	5	**1.5≤w≤4.5**	**3.5 to 5.0**	❶	TF-72 (Right Hand) TF-73 (Left Hand)	BX0520T	**5.0**	BFTX0511N	GSP06	TRX20
GWB R/L 2525-45	●	●	25	25	151 (150)	30	25	—									
GWB R/L 2525-60	●	●	25	25	151	30	25	—	**4.5<w≤6.0**	**5.0**	❷						

Dimensions in parentheses are taken when "w" 3.0 or less. * Right handed toolholders are applicable with right handed inserts.

Inserts



Cat. No.	Stock BN2000 R	BN2000 L	BN250 R	BN250 L	BNC30G R	BNC30G L	Dimensions (mm) w	a_r	r_ε	ød	s	Insert No.	Applicable Holder
CGA R/L 1504150	●	●	▲	▲	●	●	**1.5**	3.5	0.2	15.875	4.76	❶	GWB R/L 2020-45 GWB R/L 2525-45
CGA R/L 1504200	●	●	▲	▲	●	●	**2.0**	3.5					
CGA R/L 1504250	●	●	▲	▲	●	●	**2.5**	4.0					
CGA R/L 1504300	●	●	▲	▲	●	●	**3.0**	4.0					
CGA R/L 1504350	●	●	▲	▲	●	●	**3.5**	5.0					
CGA R/L 1504400	●	●	▲	▲	●	●	**4.0**	5.0					
CGA R/L 1504450	●	●	▲	▲	●	●	**4.5**	5.0					
CGA R/L 1506500	●	●	▲	▲	●	●	**5.0**	5.0	0.2	15.875	6.35	❷	GWB R/L 2525-60
CGA R/L 1506550	●	●	▲	▲	●	●	**5.5**	5.0					
CGA R/L 1506600	●	●	▲	▲	●	●	**6.0**	5.0					

* It is also possible to manufacture grooving widths other than those listed above (w = 1.5 to 6.0mm)

Characteristics of Grades

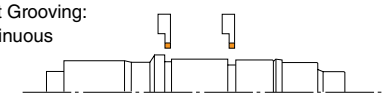
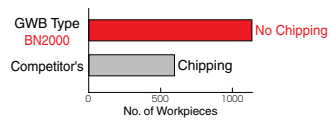
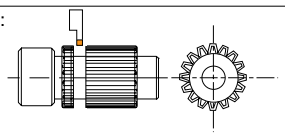
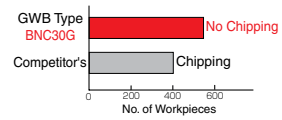
Grade	Application	Characteristics	HV (GPa)	TRS (GPa)
BN2000 	Continuous Grooving	General purpose grade with superior wear resistance	31 to 34	1.0 to 1.1
BNC30G 	Interrupted Grooving	Recommended for interrupted cutting. Features a tough substrate, and special ceramic coating that exhibits both peel-off and wear resistance.	33 to 35	1.1 to 1.2

Recommended Cutting Conditions

Cutting Conditions	H Hardened Steel
Cutting Speed v_c (m/min)	80 to 120
Feed Rate f (mm/rev)	0.04 to 0.08

* In order to avoid thermal cracking of the SUMIBORON cutting edge during interrupted cutting, ensure that the work is thoroughly dry before cutting.

Application Examples

Process	Work Material	Tool No.	Cutting Conditions	Tool Life Comparison
Shaft Grooving: Continuous  Required Finish for Groove Sides: Ra 0.4µm	Carburised Steel 58 to 62 HRC	CGAR1504200 BN2000	v_c : 120m/min f : 0.05mm/rev Grooving Depth : 2mm Dry	
Spline Depth: Interrupted 	Carburised Steel 58 to 62 HRC	CGAR1504200 BNC30G	v_c : 100m/min f : 0.05mm/rev Grooving Depth : 1.6mm Dry	

▲ mark : To be replaced by new item (Please confirm stock availability)