

## GROOVING NDB

Inserts .C8

Holder .C10

Parameters .C13

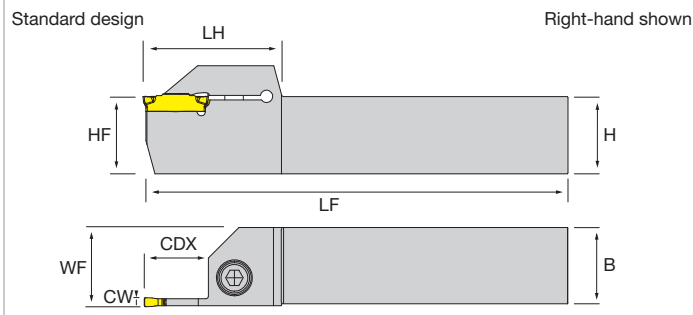
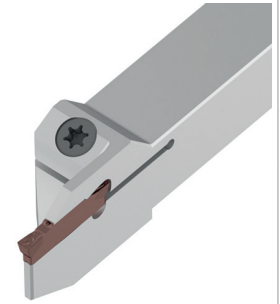
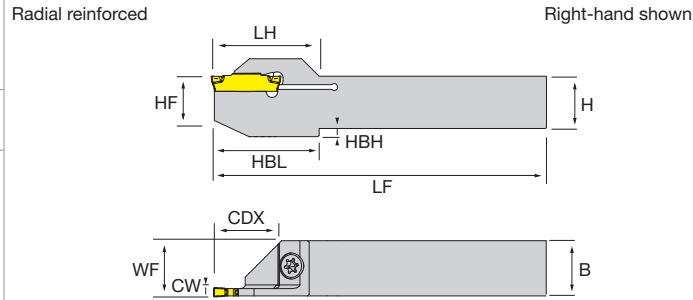




## NDB E

### NDB system

- External holders for NDB double sided grooving insert
- Different grooving depth (CDX) available for different groove width
- Clamp fastened and loosened by screw
- Improved holding system, automatically positioned, reliable and efficient



Designation	CW	CDX	H	B	WF	LF	LH	HF	HBL	HBH	Stock
<b>LEFT-HAND WITH RADIAL REINFORCEMENT</b>											
NDB EL1212-2-CDX14	2	14	12	12	12.2	120	29	12	26	2	●
NDB EL1616-2-CDX14	2	14	16	16	16.2	120	29	16	26	2	●
NDB EL1616-3-CDX20	3	20	16	16	16.3	120	35	16	32	2	●
<b>LEFT-HAND</b>											
NDB EL2020-2-CDX14	2	14	20	20	21	125	38	20	-	-	●
NDB EL1616-3-CDX10	3	10	16	16	16.2	120	35	16	-	-	●
NDB EL2020-3-CDX10	3	10	20	20	21	125	38	20	-	-	●
NDB EL2020-3-CDX20	3	20	20	20	21	125	40	20	-	-	●
NDB EL2525-3-CDX10	3	10	25	25	26	150	40	25	-	-	●
NDB EL2525-3-CDX20	3	20	25	25	26	150	45	25	-	-	●
NDB EL2020-4-CDX10	4	10	20	20	21	125	35	20	-	-	●
NDB EL2020-4-CDX25	4	25	20	20	21	125	50	20	-	-	●
NDB EL2525-4-CDX10	4	10	25	25	26	150	40	25	-	-	●
NDB EL2525-4-CDX25	4	25	25	25	26	150	50	25	-	-	●
NDB EL2525-5-CDX10	5	10	25	25	26	150	40	25	-	-	●
NDB EL2525-5-CDX25	5	25	25	25	26	150	50	25	-	-	●
NDB EL2525-6-CDX15	6	15	25	25	26	150	45	25	-	-	●
NDB EL2525-6-CDX30	6	30	25	25	26	150	56	25	-	-	●
NDB EL2525-8-CDX15	8	15	25	25	26.5	150	43	25	-	-	●
NDB EL2525-8-CDX30	8	30	25	25	27	150	55	25	-	-	●
<b>RIGHT-HAND WITH RADIAL REINFORCEMENT</b>											
NDB ER1212-2-CDX14	2	14	12	12	12.2	120	29	12	26	2	●
NDB ER1616-2-CDX14	2	14	16	16	16.2	120	29	16	26	2	●
NDB ER1616-3-CDX20	3	20	16	16	16.3	120	35	16	32	2	●
<b>RIGHT-HAND</b>											
NDB ER2020-2-CDX14	2	14	20	20	21	125	38	20	-	-	●
NDB ER1616-3-CDX10	3	10	16	16	16.2	120	35	16	-	-	●
NDB ER2020-3-CDX10	3	10	20	20	21	125	38	20	-	-	●
NDB ER2020-3-CDX20	3	20	20	20	21	125	40	20	-	-	●
NDB ER2525-3-CDX10	3	10	25	25	26	150	40	25	-	-	●
NDB ER2525-3-CDX20	3	20	25	25	26	150	45	45	-	-	●
NDB ER2020-4-CDX10	4	10	20	20	21	125	35	20	-	-	●
NDB ER2020-4-CDX25	4	25	20	20	21	125	50	20	-	-	●

★ 1st choice, ☆ suitable, ● stock standard, ⊙ non-stock standard (no MOQ), ○ non-stock standard (MOQ), ▲ upcoming product, ▽ stock exhaustion

Designation	CW	CDX	H	B	WF	LF	LH	HF	HBL	HBH	Stock
NDB ER2525-4-CDX10	4	10	25	25	26	150	40	25	-	-	●
NDB ER2525-4-CDX25	4	25	25	25	26	150	50	25	-	-	●
NDB ER2525-5-CDX10	5	10	25	25	26	150	40	25	-	-	●
NDB ER2525-5-CDX25	5	25	25	25	26	150	50	25	-	-	●
NDB ER2525-6-CDX15	6	15	25	25	26	150	45	25	-	-	●
NDB ER2525-6-CDX30	6	30	25	25	26	150	56	25	-	-	●
NDB ER2525-8-CDX15	8	15	25	25	26.5	150	43	25	-	-	●
NDB ER2525-8-CDX30	8	30	25	25	27	150	55	25	-	-	●

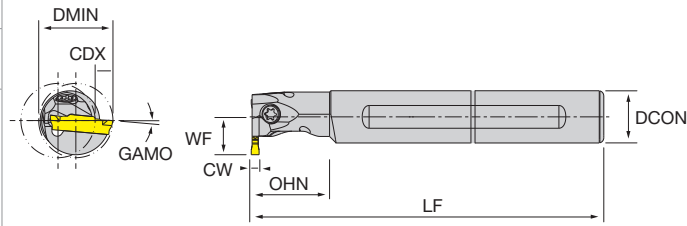
★ 1st choice, ☆ suitable, ● stock standard, ◎ non-stock standard (no MOQ), ○ non-stock standard (MOQ), ▲ upcoming product, ▽ stock exhaustion

Spare parts	Locking screw	Flag wrench	L wrench
NDB E $\frac{1}{8}$ 1212-2-CDX14	NT-ST076	NT-FT15	-
NDB E $\frac{1}{8}$ 1616-2-CDX14	NT-ST077	NT-FT15	-
NDB E $\frac{1}{8}$ 1616-3-CDX10	NT-SC001	-	NT-WR040
NDB E $\frac{1}{8}$ 1616-3-CDX20	NT-ST077	NT-FT15	-
NDB E $\frac{1}{8}$ 2020-○-CDX○	NT-SC001	-	NT-WR040
NDB E $\frac{1}{8}$ 2525-○-CDX○	NT-SC002	-	NT-WR040

## NDB I

### NDB system

- Internal holders for NDB double-headed grooving insert
- Vortex boring bar (anti-vibration steel) with coolant through
- Special chip evacuation path
- Clamp tightened by screw



Designation	CW	CDX	DMIN	DCON	WF	LF	OHN	GAMO				Stock
<b>LEFT-HAND</b>												
NDB IL1620V-2-CDX04	2	4	20	16	11.5	150	25	15°				●
NDB IL2025V-2-CDX06	2	6	25	20	14.5	180	30	15°				●
NDB IL2025V-3-CDX06	3	6	25	20	14.5	180	30	15°				●
NDB IL2532V-3-CDX08	3	8	32	25	19	200	40	15°				●
NDB IL3240V-3-CDX10	3	10	40	32	23.5	220	50	15°				●
NDB IL2532V-4-CDX08	4	8	32	25	19	200	40	15°				●
NDB IL3240V-4-CDX10	4	10	40	32	23.5	220	50	15°				●
<b>RIGHT-HAND</b>												
NDB IR1620V-2-CDX04	2	4	20	16	11.5	150	25	15°				●
NDB IR2025V-2-CDX06	2	6	25	20	14.5	180	30	15°				●
NDB IR2025V-3-CDX06	3	6	25	20	14.5	180	30	15°				●
NDB IR2532V-3-CDX08	3	8	32	25	19	200	40	15°				●
NDB IR3240V-3-CDX10	3	10	40	32	23.5	220	50	15°				●
NDB IR2532V-4-CDX08	4	8	32	25	19	200	40	15°				●
NDB IR3240V-4-CDX10	4	10	40	32	23.5	220	50	15°				●

★ 1st choice, ☆ suitable, ● stock standard, ◎ non-stock standard (no MOQ), ○ non-stock standard (MOQ), ▲ upcoming product, ▽ stock exhaustion

Spare parts	Locking screw	L wrench
NDB I/IR1620V-2-CDX04	NT-ST40115T15	NT-TX15
NDB I/IR2025V-2-CDX06	NT-ST051	NT-TX20

ISO 513	MATERIAL	HARDNESS HB	JG8025			JP5120			JP5125					
			min	start	max	min	start	max	min	start	max			
P1 - P2	Free cutting steel and low carbon (ex. 1.0715/9 smn 28/avp, 1.0503/c45)	≤ 200	○	170	250	330	●	100	150	200	○	100	140	180
			●	160	225	290	●	90	130	170	●	80	120	160
			⊕	140	195	250					⊕	70	100	130
P3 - P4	Medium and high alloy steel (ex. 1.7225/42 CrMo 4, 1.3505/100 Cr 6)	200 ÷ 300	○	150	220	290	●	90	130	170	○	80	120	160
			●	140	205	270	●	80	110	140	●	70	100	120
			⊕	130	190	250					⊕	60	80	100
P5 - P6	High tensile strength and tool steel (ex. 1.2344/X 40 CrMoV 5 1/ORVAR, Hardox400®)	300 ÷ 400	○	140	205	270	●	80	115	150	○	70	100	130
			●	130	190	250	●	70	100	130	●	60	90	120
			⊕	120	170	220					⊕	60	80	100
ISO 513	MATERIAL	HARDNESS HB	JP5120			JP5125								
P7	Ferritic and martensitic stainless steel (ex. 1.4021/X 20 Cr 13/AISI420)	≤ 200	●	100	150	200	○	100	140	180				
			●	90	130	170	●	80	120	160				
			⊕				⊕	70	100	130				
P8	Precipitation hardening stainless steel (ex. 1.4548/X 5 CrNiCuNb 17 4/17-4-PH)	≤ 450	●	70	90	110	○	60	80	100				
			●	60	80	100	●	50	70	90				
			⊕				⊕	50	60	70				
M1	Austenitic stainless steel (ex. 1.4305/X 10 CrNiS 18 9/AISI303)	> 200	●	70	110	150	○	60	100	140				
			●	60	100	140	●	50	90	130				
			⊕				⊕	50	80	110				
M2 - M3	Austenitic and Duplex stainless steel (ex. 1.4401/X 5 CrNiMo 17 12 2/AISI316)		●	70	100	130	○	60	90	120				
			●	60	90	120	●	60	80	100				
			⊕				⊕	50	70	90				
ISO 513	MATERIAL	HARDNESS HB	JG7010			JP5120			JP5125					
K1	Grey cast iron (ex. 0.6025/GG 25/EN-GJL-250)	150 ÷ 250	●	180	280	380	●	110	150	190	○	100	140	180
			●	150	225	300	●	90	130	170	●	80	115	150
			⊕	130	195	260					⊕	60	90	120
K2	Nodular cast iron (ex. 0.7050/GGG 50/EN-GJS-500-7)	150 ÷ 350	●	150	200	250	●	90	130	170	○	80	120	160
			●	130	175	220	●	80	110	140	●	70	95	120
			⊕	120	160	200					⊕	60	80	100
K3 - K4	Austenitic and ADI cast iron (ex. 0.6660/GGL-NiCr 20 2/Ni-Resist 2, GJS-1000-5/ADI1000)	250 ÷ 500	●	140	190	240	●	80	110	140	○	70	105	140
			●	120	165	210	●	70	100	130	●	60	90	120
			⊕	110	155	200					⊕	50	75	100
ISO 513	MATERIAL	HARDNESS HB	JU6015											
N1	Aluminium alloys ≤ Si 12% (ex. 3.4365/AlZn5.5MgCu/ERGA)		●	400	700	1000								
			●	300	500	700								
			⊕	200	400	600								
N2	Aluminium alloys Si > 12% (ex. 3.2382/G-AlSi12)		●	200	300	400								
			●	200	250	300								
			⊕	100	150	200								

Complete workpiece materials p. M1.

INDEXABLE

A - TURNING

B - THREADING

C - GROOVING

D - MILLING

E - DRILLING

F - ACCESSORIES

G - SPARE PARTS

INDEXABLE

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DESIGNATION	Grooving			Turning and Profiling						Cut-off			
	FEED RATE			DEPTH OF CUT			FEED RATE			FEED RATE			
	fn (mm/rev)			ap (mm)			fn (mm/rev)			fn (mm/rev)			
	min	start	max	min	start	max	min	start	max	min	start	max	
STRAIGHT EDGE	NDBD20R020-G0	0.06	<b>0.08</b>	0.10	0.30	<b>0.90</b>	1.50	0.10	<b>0.13</b>	0.16	-	-	-
	NDBD30R040-G0	0.07	<b>0.10</b>	0.13	0.40	<b>1.20</b>	2.00	0.16	<b>0.18</b>	0.20	-	-	-
	NDBD40R040-G0	0.10	<b>0.12</b>	0.14	0.50	<b>1.50</b>	2.50	0.18	<b>0.21</b>	0.24	-	-	-
	NDBD50R040-G0	0.11	<b>0.15</b>	0.19	0.60	<b>1.80</b>	3.00	0.20	<b>0.25</b>	0.30	-	-	-
	NDBD60R080-G0	0.13	<b>0.19</b>	0.25	0.70	<b>2.10</b>	3.50	0.24	<b>0.33</b>	0.42	-	-	-
	NDBD80R080-G0	0.18	<b>0.26</b>	0.34	0.80	<b>2.65</b>	4.50	0.32	<b>0.44</b>	0.56	-	-	-
FULL RADIUS	NDBD20R100-R0	0.06	<b>0.09</b>	0.12	0.00	<b>0.50</b>	1.00	0.14	<b>0.18</b>	0.22	-	-	-
	NDBD30R150-R0	0.08	<b>0.11</b>	0.14	0.00	<b>0.75</b>	1.50	0.18	<b>0.23</b>	0.28	-	-	-
	NDBD40R200-R0	0.10	<b>0.13</b>	0.16	0.00	<b>1.00</b>	2.00	0.20	<b>0.27</b>	0.34	-	-	-
	NDBD50R250-R0	0.12	<b>0.16</b>	0.20	0.00	<b>1.25</b>	2.50	0.24	<b>0.33</b>	0.42	-	-	-
	NDBD60R300-R0	0.13	<b>0.19</b>	0.25	0.00	<b>1.50</b>	3.00	0.24	<b>0.37</b>	0.50	-	-	-
	NDBD80R400-R0	0.18	<b>0.26</b>	0.34	0.00	<b>2.00</b>	4.00	0.32	<b>0.49</b>	0.66	-	-	-
CONCAVE EDGE	NDBD20R02M-CA	-	-	-	-	-	-	-	-	-	0.04	<b>0.06</b>	0.08
	NDBD30R04M-CA	-	-	-	-	-	-	-	-	-	0.06	<b>0.08</b>	0.10
	NDBD30R04M-CT	-	-	-	-	-	-	-	-	-	0.08	<b>0.13</b>	0.18