



# GROOVING SYSTEM

Multifunctional solution for grooving, turning and profiling



|  |   |  |  |           |             |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|--|--|-----------|-------------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| <h1>NDB</h1><br><h2>GROOVING</h2>  | HC: coated carbide<br>HF: micrograin carbide<br>CVD: chemical vapour deposition<br>PVD: physical vapour deposition  | HC<br>CVD  | HC<br>CVD  | HF<br>PVD | HF<br>-     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Stable machining, light cut ● 1 <sup>st</sup> choice ○ suitable<br>General machining, medium cut ● 1 <sup>st</sup> choice ○ suitable<br>Unstable machining, heavy cut ☒ 1 <sup>st</sup> choice ☒ suitable | <b>JC7010</b><br><b>JC6025</b><br><b>JP5125</b><br><b>JU6015</b> | ●  | ●         | ○           | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| · 2 cutting edges<br>· Rectangular shape with elastic clamping<br>· Stable double-rail clamping system<br>· 3D chipbreaker for optimized chip control<br>· GT/GA: Straight cutting edge for multifunctional grooving<br>· RT/RA: Full radius for copying operations<br>· CW tolerance GT/RT: ±0.05<br>· CW tolerance GA/RA: ±0.025 | <b>Dimensions</b><br>   | ISO  | <b>Vc(m/min) - suggested cutting speed range (bold: 1<sup>st</sup> choice)</b> |           |             |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |   | <b>P</b>   | 140<br>300   | 80<br>180 |             |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |   | <b>M</b>   |  | 60<br>140 |             |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |   | <b>K</b>   | 180<br>380   | 50<br>120 |             |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |   | <b>N</b>   |  |           | 300<br>1000 |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |   | <b>S</b>   |  | 20<br>40  |             |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |   | <b>H</b>   |  |           |             |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

| Designation  |                      | CW  | RE  | INSL | S   | Stock |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|----------------------|-----|-----|------|-----|-------|---|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| <b>GT</b> grooving and turning<br><br><br><br>general purpose                | <b>NDBD20R02M-GT</b> | 2.0 | 0.2 | 16   | 3.5 | ●     | ● | ● | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | <b>NDBD30R04M-GT</b> | 3.0 | 0.4 | 21   | 4.8 | ●     | ● | ● | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | <b>NDBD40R04M-GT</b> | 4.0 | 0.4 | 21   | 4.8 | ●     | ● | ● | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | <b>NDBD50R04M-GT</b> | 5.0 | 0.4 | 26   | 5.8 | ●     | ● | ● | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | <b>NDBD60R08M-GT</b> | 6.0 | 0.8 | 26   | 5.8 | ●     | ● | ● | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | <b>NDBD80R08M-GT</b> | 8.0 | 0.8 | 31   | 6.5 | ●     | ● | ● | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>GA</b> grooving and turning<br><br><br><br>polished surface for aluminium | <b>NDBD20R02G-GA</b> | 2.0 | 0.2 | 16   | 3.5 |       |   |   | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | <b>NDBD30R04G-GA</b> | 3.0 | 0.4 | 21   | 4.8 |       |   |   | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | <b>NDBD40R04G-GA</b> | 4.0 | 0.4 | 21   | 4.8 |       |   |   | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>RT</b> profiling<br><br><br><br>general purpose                           | <b>NDBD20R10M-RT</b> | 2.0 | 1.0 | 16   | 3.5 |       |   |   | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | <b>NDBD30R15M-RT</b> | 3.0 | 1.5 | 21   | 4.8 |       |   |   | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | <b>NDBD40R20M-RT</b> | 4.0 | 2.0 | 21   | 4.8 | ●     |   |   | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | <b>NDBD50R25M-RT</b> | 5.0 | 2.5 | 26   | 5.8 | ●     |   |   | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | <b>NDBD60R30M-RT</b> | 6.0 | 3.0 | 26   | 5.8 | ●     |   |   | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | <b>NDBD80R40M-RT</b> | 8.0 | 4.0 | 31   | 6.5 |       |   |   | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>RA</b> profiling<br><br><br><br>polished surface for aluminium            | <b>NDBD20R10G-RA</b> | 2.0 | 1.0 | 16   | 3.5 |       |   |   | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | <b>NDBD30R15G-RA</b> | 3.0 | 1.5 | 21   | 4.8 |       |   |   | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | <b>NDBD40R20G-RA</b> | 4.0 | 2.0 | 21   | 4.8 |       |   |   | ● |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

● stock standard

**GT - GROOVING**

|               |       |      |             |      |
|---------------|-------|------|-------------|------|
| <b>NDBD20</b> | $f_n$ | 0.05 | <b>0.07</b> | 0.09 |
| <b>NDBD30</b> | $f_n$ | 0.07 | <b>0.10</b> | 0.13 |
| <b>NDBD40</b> | $f_n$ | 0.09 | <b>0.12</b> | 0.15 |
| <b>NDBD50</b> | $f_n$ | 0.11 | <b>0.15</b> | 0.19 |
| <b>NDBD60</b> | $f_n$ | 0.13 | <b>0.19</b> | 0.25 |
| <b>NDBD80</b> | $f_n$ | 0.18 | <b>0.26</b> | 0.34 |

**GT - TURNING**

|               |       |      |             |      |       |      |             |      |
|---------------|-------|------|-------------|------|-------|------|-------------|------|
| <b>NDBD20</b> | $a_p$ | 0.30 | <b>0.90</b> | 1.50 | $f_n$ | 0.10 | <b>0.12</b> | 0.14 |
| <b>NDBD30</b> | $a_p$ | 0.40 | <b>1.20</b> | 2.00 | $f_n$ | 0.16 | <b>0.18</b> | 0.20 |
| <b>NDBD40</b> | $a_p$ | 0.50 | <b>1.50</b> | 2.50 | $f_n$ | 0.18 | <b>0.21</b> | 0.24 |
| <b>NDBD50</b> | $a_p$ | 0.50 | <b>1.80</b> | 3.10 | $f_n$ | 0.20 | <b>0.25</b> | 0.30 |
| <b>NDBD60</b> | $a_p$ | 1.00 | <b>2.20</b> | 3.40 | $f_n$ | 0.24 | <b>0.33</b> | 0.42 |
| <b>NDBD80</b> | $a_p$ | 1.00 | <b>2.80</b> | 4.60 | $f_n$ | 0.32 | <b>0.44</b> | 0.56 |

**RT - COPYING**

|               |       |      |             |      |       |      |             |      |
|---------------|-------|------|-------------|------|-------|------|-------------|------|
| <b>NDBD20</b> | $a_p$ | 0.10 | <b>0.50</b> | 0.90 | $f_n$ | 0.12 | <b>0.15</b> | 0.18 |
| <b>NDBD30</b> | $a_p$ | 0.10 | <b>0.75</b> | 1.50 | $f_n$ | 0.18 | <b>0.23</b> | 0.28 |
| <b>NDBD40</b> | $a_p$ | 0.10 | <b>1.00</b> | 1.90 | $f_n$ | 0.20 | <b>0.27</b> | 0.34 |
| <b>NDBD50</b> | $a_p$ | 0.10 | <b>1.25</b> | 2.40 | $f_n$ | 0.22 | <b>0.33</b> | 0.42 |
| <b>NDBD60</b> | $a_p$ | 0.10 | <b>1.50</b> | 2.90 | $f_n$ | 0.24 | <b>0.37</b> | 0.50 |
| <b>NDBD80</b> | $a_p$ | 0.10 | <b>2.00</b> | 3.90 | $f_n$ | 0.32 | <b>0.49</b> | 0.66 |

**GA - GROOVING**

|               |       |      |             |      |
|---------------|-------|------|-------------|------|
| <b>NDBD20</b> | $f_n$ | 0.06 | <b>0.08</b> | 0.10 |
| <b>NDBD30</b> | $f_n$ | 0.08 | <b>0.12</b> | 0.16 |
| <b>NDBD40</b> | $f_n$ | 0.10 | <b>0.15</b> | 0.20 |

**GA - TURNING**

|               |       |      |             |      |       |      |             |      |
|---------------|-------|------|-------------|------|-------|------|-------------|------|
| <b>NDBD20</b> | $a_p$ | 0.20 | <b>0.80</b> | 1.40 | $f_n$ | 0.12 | <b>0.16</b> | 0.20 |
| <b>NDBD30</b> | $a_p$ | 0.20 | <b>1.00</b> | 1.80 | $f_n$ | 0.14 | <b>0.20</b> | 0.26 |
| <b>NDBD40</b> | $a_p$ | 0.40 | <b>1.40</b> | 2.40 | $f_n$ | 0.16 | <b>0.23</b> | 0.30 |

**RA - COPYING**

|               |       |      |             |      |       |      |             |      |
|---------------|-------|------|-------------|------|-------|------|-------------|------|
| <b>NDBD20</b> | $a_p$ | 0.10 | <b>0.50</b> | 0.90 | $f_n$ | 0.10 | <b>0.16</b> | 0.22 |
| <b>NDBD30</b> | $a_p$ | 0.10 | <b>0.75</b> | 1.50 | $f_n$ | 0.16 | <b>0.24</b> | 0.32 |
| <b>NDBD40</b> | $a_p$ | 0.10 | <b>1.00</b> | 1.90 | $f_n$ | 0.18 | <b>0.28</b> | 0.38 |

$a_p$ : depth of cut (mm)  
 $f_n$ : feed rate (mm/rev)

## NDB E

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| P | M | K | N | S | H |
| H | H | H | H |   |   |

- Tool holders for grooving and cut-off
- Radial reinforced shape available
- Multiple overhang available for each size
- Rigid and reliable monobloc type

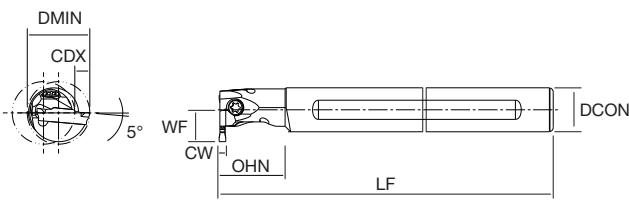

RR - RADIAL REINFORCED SHAPE right-hand shown

ST - STANDARD SHAPE right-hand shown

| Designation         |                     | Stock |   | CW | CDX | H  | HF | B   | LF  | LH | HBL | HBH  | WF   |
|---------------------|---------------------|-------|---|----|-----|----|----|-----|-----|----|-----|------|------|
|                     |                     | R     | L |    |     |    |    |     |     |    |     |      |      |
| RR                  | NDB E/r1212-2-CDX14 | ●     | ● | 2  | 14  | 12 | 12 | 12  | 120 | 25 | 24  | 2    | 12.2 |
|                     | NDB E/r1616-2-CDX14 | ●     | ● | 2  | 14  | 16 | 16 | 16  | 120 | 25 | 24  | 2    | 16.2 |
|                     | NDB E/r1616-3-CDX20 | ●     | ● | 3  | 20  | 16 | 16 | 16  | 120 | 31 | 30  | 2    | 16.3 |
| ST                  | NDB E/r2020-2-CDX14 | ●     | ● | 2  | 14  | 20 | 20 | 20  | 125 | 38 |     |      | 21.0 |
|                     | NDB E/r1616-3-CDX10 | ●     | ● | 3  | 10  | 16 | 16 | 16  | 120 | 35 |     |      | 16.2 |
|                     | NDB E/r2020-3-CDX10 | ●     | ● | 3  | 10  | 20 | 20 | 20  | 125 | 38 |     |      | 21.0 |
|                     | NDB E/r2020-3-CDX20 | ●     | ● | 3  | 20  | 20 | 20 | 20  | 125 | 40 |     |      | 21.0 |
|                     | NDB E/r2525-3-CDX10 | ●     | ● | 3  | 10  | 25 | 25 | 25  | 150 | 40 |     |      | 26.0 |
|                     | NDB E/r2525-3-CDX20 | ●     | ● | 3  | 20  | 25 | 25 | 25  | 150 | 45 |     |      | 26.0 |
|                     | NDB E/r2020-4-CDX10 | ●     | ● | 4  | 10  | 20 | 20 | 20  | 125 | 35 |     |      | 21.0 |
|                     | NDB E/r2020-4-CDX25 | ●     | ● | 4  | 25  | 20 | 20 | 20  | 125 | 50 |     |      | 21.0 |
|                     | NDB E/r2525-4-CDX10 | ●     | ● | 4  | 10  | 25 | 25 | 25  | 150 | 40 |     |      | 26.0 |
|                     | NDB E/r2525-4-CDX25 | ●     | ● | 4  | 25  | 25 | 25 | 25  | 150 | 50 |     |      | 26.0 |
|                     | NDB E/r2525-5-CDX10 | ●     | ● | 5  | 10  | 25 | 25 | 25  | 150 | 40 |     |      | 26.0 |
|                     | NDB E/r2525-5-CDX25 | ●     | ● | 5  | 25  | 25 | 25 | 25  | 150 | 50 |     |      | 26.0 |
|                     | NDB E/r2525-6-CDX15 | ●     | ● | 6  | 15  | 25 | 25 | 25  | 150 | 45 |     |      | 26.0 |
|                     | NDB E/r2525-6-CDX30 | ●     | ● | 6  | 30  | 25 | 25 | 25  | 150 | 56 |     |      | 26.0 |
|                     | NDB E/r2525-8-CDX15 | ●     | ● | 8  | 15  | 25 | 25 | 25  | 150 | 43 |     |      | 26.5 |
| NDB E/r2525-8-CDX30 | ●                   | ●     | 8 | 30 | 25  | 25 | 25 | 150 | 55  |    |     | 27.0 |      |

|             |       |        |       |        |
|-------------|-------|--------|-------|--------|
| Spare Parts | SCREW | WRENCH | SCREW | WRENCH |
|             |       |        |       |        |

|    |             |          |         |          |          |
|----|-------------|----------|---------|----------|----------|
| RR | NDB E/r1212 | NT-ST076 | NT-FT15 |          |          |
|    | NDB E/r1616 | NT-ST077 | NT-FT15 |          |          |
| ST | NDB E/r1616 |          |         | NT-SC001 | NT-WR040 |
|    | NDB E/r2020 |          |         | NT-SC001 | NT-WR040 |
|    | NDB E/r2525 |          |         | NT-SC002 | NT-WR040 |

|  |   |   |   |   |   |   |   |   |   |   |  |  |  |   |
|--|---|---|---|---|---|---|---|---|---|---|--|--|--|---|
| <h2 style="margin: 0;">NDB I</h2> <table border="1" style="margin: 5px auto; border-collapse: collapse; text-align: center;"> <tr> <td style="background-color: #0070C0; color: white;">P</td> <td style="background-color: #FFD700; color: black;">M</td> <td style="background-color: #DC143C; color: white;">K</td> <td style="background-color: #008000; color: white;">N</td> <td style="background-color: #800000; color: white;">S</td> <td style="background-color: #000000; color: white;">H</td> </tr> <tr> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td></td> <td></td> </tr> </table> <ul style="list-style-type: none"> <li>· Tool holder for internal grooving and copying</li> <li>· Multiple overhang available for each size</li> <li>· Vortex technology for a perfect chip ejection</li> <li>· Internal coolant</li> </ul> | P | M | K | N | S | H | H | H | H | H |  |  |  |  <p style="text-align: right; margin-top: 5px;">right-hand shown</p> |
| P  | M | K | N | S | H |   |   |   |   |   |  |  |  |   |
| H  | H | H | H |   |   |   |   |   |   |   |  |  |  |   |

|          | Designation         | Stock |   | CW | CDX | DMIN | DCON | LF  | WF   | OHN | WT   | MIID   |
|----------|---------------------|-------|---|----|-----|------|------|-----|------|-----|------|--------|
|          |                     | R     | L |    |     |      |      |     |      |     |      |        |
| INTERNAL | NDB I/1620V-2-CDX04 | ●     | ● | 2  | 4   | 20   | 16   | 150 | 11.5 | 25  | 0.25 | NDBD20 |
|          | NDB I/2025V-2-CDX06 | ●     | ● | 2  | 6   | 25   | 20   | 180 | 14.5 | 30  | 0.40 | NDBD20 |
|          | NDB I/2025V-3-CDX06 | ●     | ● | 3  | 6   | 25   | 20   | 180 | 14.5 | 30  | 0.40 | NDBD30 |
|          | NDB I/2532V-3-CDX08 | ●     | ● | 3  | 8   | 32   | 25   | 200 | 19.0 | 40  | 0.70 | NDBD30 |
|          | NDB I/3240V-3-CDX10 | ●     | ● | 3  | 10  | 40   | 32   | 220 | 23.5 | 50  | 1.30 | NDBD30 |
|          | NDB I/2532V-4-CDX08 | ●     | ● | 4  | 8   | 32   | 25   | 200 | 19.0 | 40  | 0.70 | NDBD40 |
|          | NDB I/3240V-4-CDX10 | ●     | ● | 4  | 10  | 40   | 32   | 220 | 23.5 | 50  | 1.30 | NDBD40 |

|             |   |   |
|-------------|---|---|
| Spare Parts |  |  |
|-------------|---|---|

|    |            |          |         |
|----|------------|----------|---------|
| RR | NDB I/1620 | NT-ST050 | NT-TX15 |
|    | NDB I/1600 | NT-ST051 | NT-TX20 |



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