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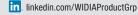


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# HOLEMAKING

# eBore™

## Digital Fine Boring System





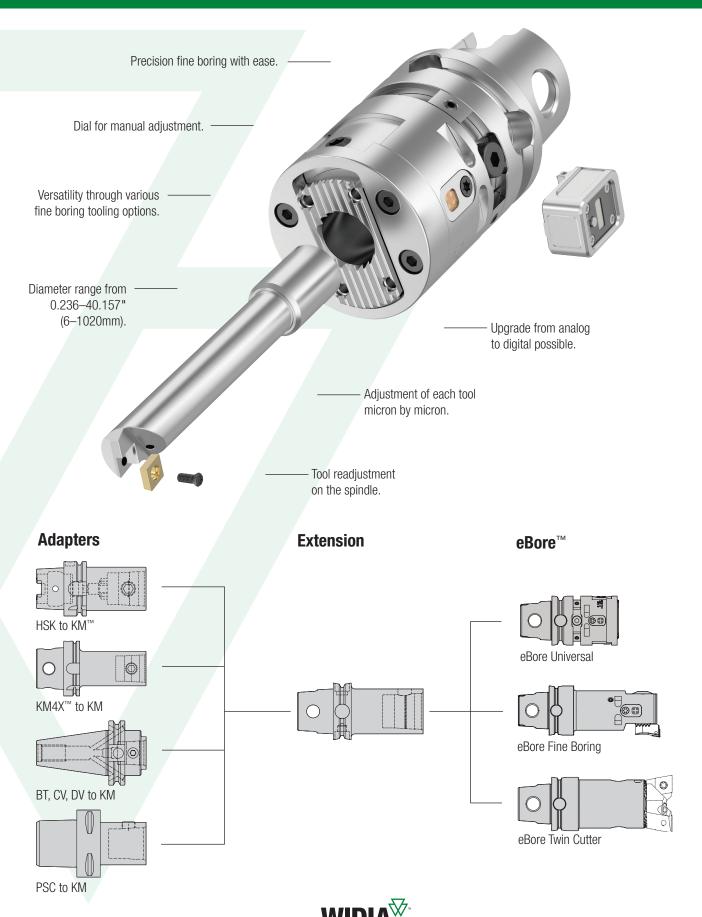
One digital display for all fine boring tools.

The eBore boring system covers a diameter range from 0.236–40.157" (6–1020mm) by providing state-of-the-art fine boring tooling solutions that have one thing in common: all of them are digital ready.

The digital eBore display provides the option to readjust the tool on the spindle, reducing setup time and idle time.

**One for all** — One eBore digital display serving all eBore fine boring tools.

Micron by micron, the precision adjustment of each tool is just as easy as 1, 2, 3.



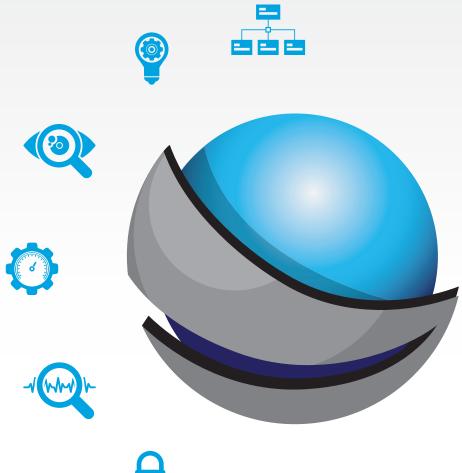
#### **Tool Selection Guide • Fine Boring**

| Series                 | eBore™ Universal          | eBore Fine Boring Tool      | eBore Bridge<br>Finishing Tools | eBore Twin Cutters             |  |
|------------------------|---------------------------|-----------------------------|---------------------------------|--------------------------------|--|
| Page                   | 44                        | 49                          | 50                              | 53                             |  |
| Workpiece material     |                           |                             |                                 |                                |  |
| Primary                | P M K N S                 | P M K N S                   | P M K N S                       | P M K N S                      |  |
| Secondary              | н                         | н                           | н                               |                                |  |
| Boring range [BR1]     | 6–152mm<br>(0.236–5.984") | 20–205mm<br>(0.787–8.071")  | 200–1020mm<br>(7.874–40.157")   | 19,5–1020mm<br>(7.677–40.157") |  |
| Accuracy               |                           |                             | IT9                             |                                |  |
| Cylindricity           |                           | 10 μm<br>(0.0004")          |                                 |                                |  |
| Position               |                           | >20 μm<br>(>0.0008")        |                                 |                                |  |
| Surface roughness (Ra) |                           | 1,0–5,0 μm<br>(40–200 μ-in) |                                 |                                |  |
| Surface roughness (Ra) |                           | 1,0–5,0 μm<br>(40–200 μ-in) |                                 |                                |  |
| Surface roughness (Ra) |                           | 0,8–2,0 μm<br>(32–80 μ-in)  |                                 | 1,0–5,0 μm<br>(40–200 μ-in)    |  |
| Surface roughness (Ra) |                           | 0,8–2,0 μm<br>(32–80 μ-in)  |                                 | 1,0–2,0 μm<br>(40–80 μ-in)     |  |
| Surface roughness (Ra) |                           | 0,8–2,0 μm<br>(32–80 μ-in)  |                                 | 1,0–5,0 μm<br>(40–200 μ-in)    |  |
| Surface roughness (Ra) |                           | < 1,                        | 2 μm<br>: μ-in)                 |                                |  |
| Coolant                | •                         |                             |                                 |                                |  |
| Main Operations        |                           |                             |                                 |                                |  |



# The NOVO™ Application Provides the Digital Power

To Get Information Quicker Than Ever Before.







#### **Export Compatibility to Mastercam®**

Select tools, save into "job lists".

Interactive feed & speed calculators.

Find inventory availability.

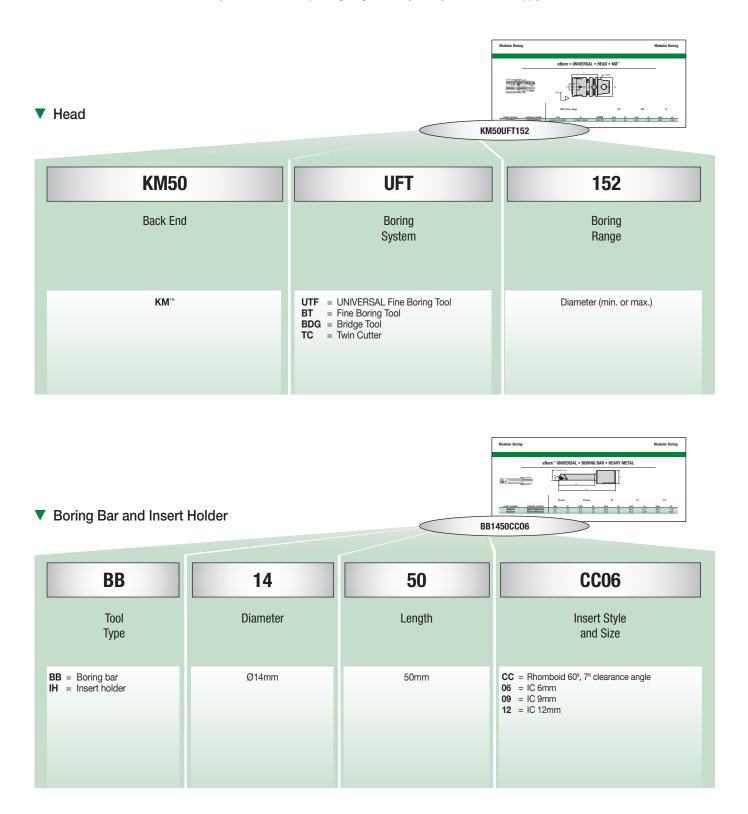
Download 2-D and 3-D models.

Easy interface with many CAM and tool management data systems.

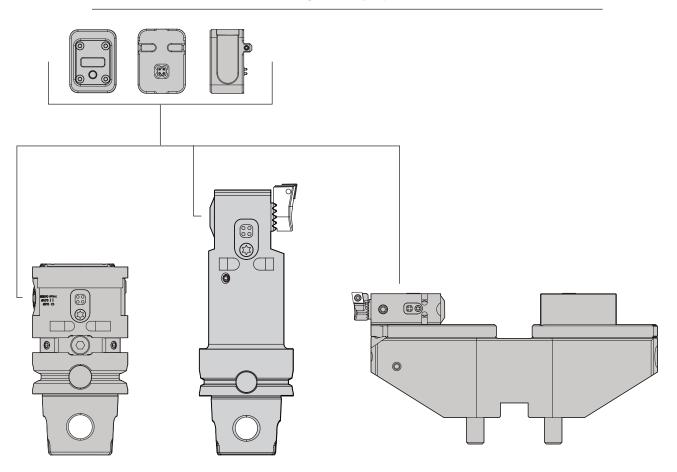


#### **eBore<sup>™</sup> • CATALOG NUMBERING SYSTEM**

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



### $\textbf{eBore}^{\text{\tiny{TM}}} \textbf{ Digital Display Overview}$

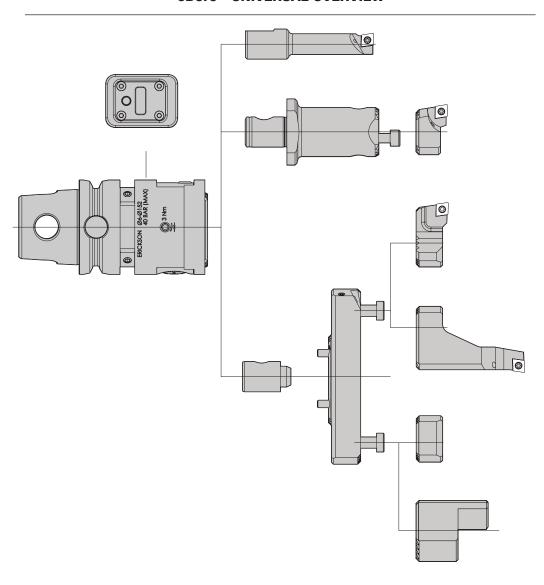


#### **eBore DIGITAL DISPLAY**

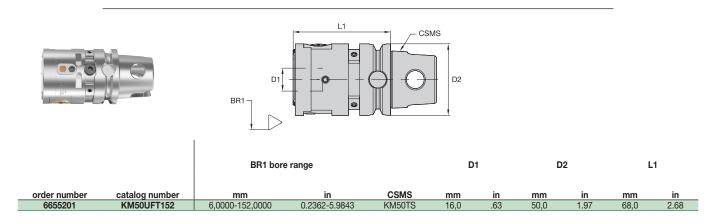


| order number | catalog number |
|--------------|----------------|
| 6655307      | FBDD0001IN     |
| 6655306      | ERDD0001M      |

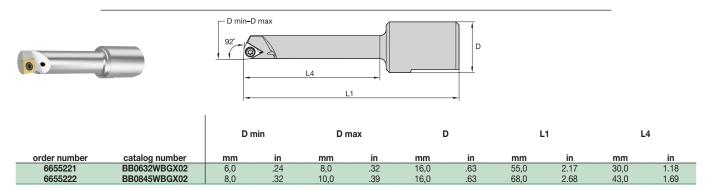
#### **eBore™ UNIVERSAL OVERVIEW**



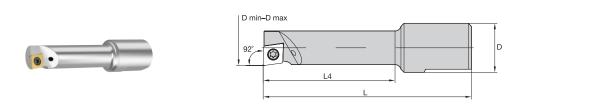
#### **eBore • UNIVERSAL • HEAD • KM**™



#### **eBore™ UNIVERSAL • BORING BAR • HEAVY METAL**

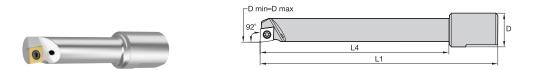


#### **eBore UNIVERSAL • BORING BAR • STEEL**



|              |                | D m  | in  | D n  | D max |      | )   | ı    | -    | L    | 4    |
|--------------|----------------|------|-----|------|-------|------|-----|------|------|------|------|
| order number | catalog number | mm   | in  | mm   | in    | mm   | in  | mm   | in   | mm   | in   |
| 6655202      | BB0622WBGX02   | 6,0  | .24 | 8,0  | .32   | 16,0 | .63 | 45,0 | 1.77 | 20,0 | .79  |
| 6655203      | BB0830WBGX02   | 8,0  | .32 | 10,0 | .39   | 16,0 | .63 | 53,0 | 2.09 | 28,0 | 1.10 |
| 6655204      | BB1025CC06     | 10,0 | .39 | 12,0 | .47   | 16,0 | .63 | 48,0 | 1.89 | 23,0 | .91  |
| 6655205      | BB1035CC06     | 10,0 | .39 | 12,0 | .47   | 16,0 | .63 | 58,0 | 2.28 | 33,0 | 1.30 |
| 6655206      | BB1230CC06     | 12,0 | .47 | 14,0 | .55   | 16,0 | .63 | 53,0 | 2.09 | 28,0 | 1.10 |
| 6655207      | BB1245CC06     | 12,0 | .47 | 14,0 | .55   | 16,0 | .63 | 68,0 | 2.68 | 43,0 | 1.69 |
| 6655208      | BB1435CC06     | 14,0 | .55 | 16,0 | .63   | 16,0 | .63 | 58,0 | 2.28 | 34,0 | 1.34 |
| 6655209      | BB1450CC06     | 14,0 | .55 | 16,0 | .63   | 16,0 | .63 | 73,0 | 2.87 | 48,4 | 1.91 |
| 6655210      | BB1560CC06     | 15,0 | .59 | 20,0 | .79   | 16,0 | .63 | 83,0 | 3.27 | 57,8 | 2.28 |
| 6655211      | BB1640CC06     | 16,0 | .63 | 20,0 | .79   | 16,0 | .63 | 63,0 | 2.48 | 40,0 | 1.57 |
| 6655212      | BB2070CC06     | 20,0 | .79 | 25,0 | .87   | 16,0 | .63 | 93,0 | 3.66 | 70,0 | 2.76 |
| 6655213      | BB2570CC06     | 25,0 | .98 | 30,0 | 1.18  | 16,0 | .63 | 93,0 | 3.66 | 70,0 | 2.76 |

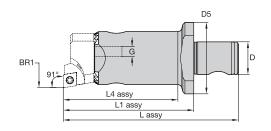
#### **eBore UNIVERSAL • BORING BAR • CARBIDE**



|              |                | D m  | D min D max |      | D   | )    | L   | 1 L4  |      | 4     |      |
|--------------|----------------|------|-------------|------|-----|------|-----|-------|------|-------|------|
| order number | catalog number | mm   | in          | mm   | in  | mm   | in  | mm    | in   | mm    | in   |
| 6655214      | BB1055CC06     | 10,0 | .39         | 12,0 | .47 | 16,0 | .63 | 78,0  | 3.07 | 55,0  | 2.17 |
| 6655215      | BB1075CC06     | 10,0 | .39         | 12,0 | .47 | 16,0 | .63 | 98,0  | 3.86 | 75,0  | 2.95 |
| 6655216      | BB1290CC06     | 12,0 | .47         | 14,0 | .55 | 16,0 | .63 | 113,0 | 4.45 | 90,0  | 3.54 |
| 6655217      | BB1475CC06     | 14,0 | .55         | 16,0 | .63 | 16,0 | .63 | 98,0  | 3.86 | 75,0  | 2.95 |
| 6655218      | BB14100CC06    | 14,0 | .55         | 16,0 | .63 | 16,0 | .63 | 123,0 | 4.84 | 100,0 | 3.94 |
| 6655219      | BB1690CC06     | 16,0 | .63         | 20,0 | .79 | 16,0 | .63 | 113,0 | 4.45 | 90,0  | 3.54 |
| 6655220      | BB16120CC06    | 16.0 | .63         | 20.0 | .79 | 16.0 | .63 | 143.0 | 5.63 | 120.0 | 4.72 |

#### **eBore™ UNIVERSAL • EXTENSION**

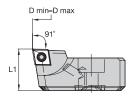




|              |                | BR              | 1             | D    | )   | D    | 95   | L1 a  | ssy  | L2 a | assy |       |
|--------------|----------------|-----------------|---------------|------|-----|------|------|-------|------|------|------|-------|
| order number | catalog number | mm              | in            | mm   | in  | mm   | in   | mm    | in   | mm   | in   | G     |
| 6655223      | UFTE64         | 29,0000         | 1.1417        | 16,0 | .63 | 35,0 | 1.38 | 64,0  | 2.52 | 56,2 | 2.21 | M5X20 |
| 6655224      | UFTE100        | 29,0000-53,0000 | 1.1417-2.0866 | 16,0 | .63 | 35,0 | 1.38 | 100,0 | 3.94 | 92,2 | 3.63 | M5X20 |

#### **eBore UNIVERSAL • INSERT HOLDER • CC06**

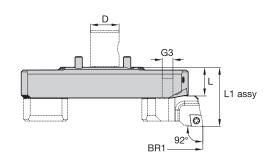




|              |                | Dı   | min  | Dm    | nax  | L1   |     |  |
|--------------|----------------|------|------|-------|------|------|-----|--|
| order number | catalog number | mm   | in   | mm    | in   | mm   | in  |  |
| 6655226      | IH02916CC06    | 29,0 | 1.14 | 41,0  | 1.61 | 16,0 | .63 |  |
| 6655227      | IH04016CC06    | 40,0 | 1.57 | 53,0  | 2.09 | 16,0 | .63 |  |
| 6655228      | IH05216CC06    | 52,0 | 2.05 | 77,0  | 3.03 | 16,5 | .65 |  |
| 6655229      | IH07616CC06    | 76.0 | 2.99 | 102,0 | 4.02 | 16,5 | .65 |  |

#### **eBore UNIVERSAL • BRIDGE**





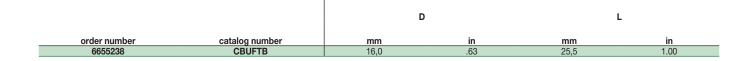
|                             | BR       | BR1    |      | D   |      |     | L1 a | L1 assy |        |
|-----------------------------|----------|--------|------|-----|------|-----|------|---------|--------|
| order number catalog number | mm       | in     | mm   | in  | mm   | in  | mm   | in      | G3     |
| 6655233 UFTB06816           | 68,0000  | 2.6772 | 16,0 | .63 | 17,1 | .67 | 32,5 | 1.28    | M4X0.7 |
| 6655234 UFTB09616           | 96,0000  | 3.7795 | 16,0 | .63 | 17,1 | .67 | 32,5 | 1.28    | M4X0.7 |
| 6655235 UFTB12416           | 124,0000 | 4.8819 | 16,0 | .63 | 17,1 | .67 | 32,5 | 1.28    | M4X0.7 |

11

#### **eBore™ UNIVERSAL • COOLANT CONNECTOR**







#### **eBore UNIVERSAL • INSERT HOLDER I.D. • CC06**

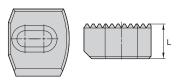




|              |                | D    | min  | D m   | ax   | L1   |     |  |
|--------------|----------------|------|------|-------|------|------|-----|--|
| order number | catalog number | mm   | in   | mm    | in   | mm   | in  |  |
| 6655236      | IHUFTBCC06     | 68,0 | 2.68 | 152,0 | 5.98 | 16,5 | .65 |  |

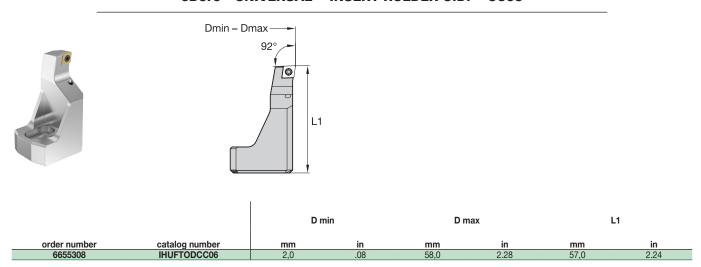
#### **eBore UNIVERSAL • COUNTERWEIGHT I.D.**



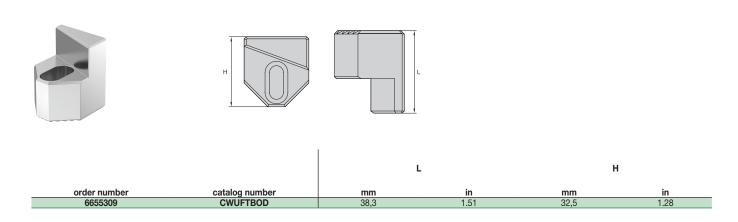


|              |                | L    |     |
|--------------|----------------|------|-----|
| order number | catalog number | mm   | in  |
| 6655237      | CWUFTB         | 14,0 | .55 |

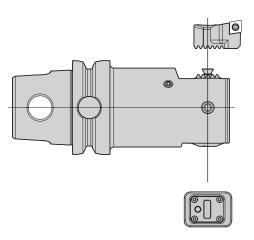
#### eBore™ UNIVERSAL • INSERT HOLDER O.D. • CC06



#### **eBore UNIVERSAL • COUNTERWEIGHT O.D.**

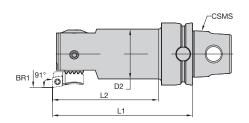


#### **eBore<sup>™</sup> FINE BORING OVERVIEW**



#### **eBore FINE BORING • CUTTING UNIT • KM™**

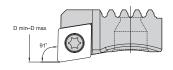




|              |                | BR1               |               |        | D    | 2    | L1 assy |      | L2 assy |      |
|--------------|----------------|-------------------|---------------|--------|------|------|---------|------|---------|------|
| order number | catalog number | mm                | in            | CSMS   | mm   | in   | mm      | in   | mm      | in   |
| 6655290      | KM32BT024532   | 24,5000-29,5000   | 0.9646-1.1614 | KM32TS | 23,0 | .91  | 90,0    | 3.54 | 78,0    | 3.07 |
| 6655292      | KM32BT02942    | 29,0000-44,0000   | 1.1417-1.7323 | KM32TS | 27,0 | 1.06 | 100,0   | 3.94 | 88,0    | 3.46 |
| 6655294      | KM40BT04352    | 43,0000-54,0000   | 1.6929-2.1260 | KM40TS | 32,0 | 1.26 | 90,0    | 3.54 | 68,0    | 2.68 |
| 6655295      | KM50BT05357    | 53,0000-66,0000   | 2.0866-2.5984 | KM50TS | 42,0 | 1.65 | 90,0    | 3.54 | 68,0    | 3.54 |
| 6655297      | KM50BT06557    | 65,0000-83,0000   | 2.5591-3.2677 | KM50TS | 50,0 | 1.97 | 90,0    | 3.54 | 90,0    | 3.54 |
| 6655298      | KM63BT08272    | 82,0000-103,0000  | 3.2283-4.0551 | KM63TS | 63,0 | 2.48 | 100,0   | 3.94 | 100,0   | 3.94 |
| 6655299      | KM80BT10072    | 100,0000-130,0000 | 3.9370-5.1181 | KM80TS | 80,0 | 3.15 | 120,0   | 4.74 | 120,0   | 4.74 |
| 6655300      | KM80BT12572    | 125,0000-167,5000 | 4.9213-6.9545 | KM80TS | _    | _    | 120,0   | 4.72 | 120,0   | 4.72 |
| 6655301      | KM80BT162572   | 162,5000-205,0000 | 6.3976-8.0709 | KM80TS | _    | _    | 150,0   | 5.91 | 150,0   | 5.91 |

#### **eBore FINE FINISHING • INSERT HOLDER**

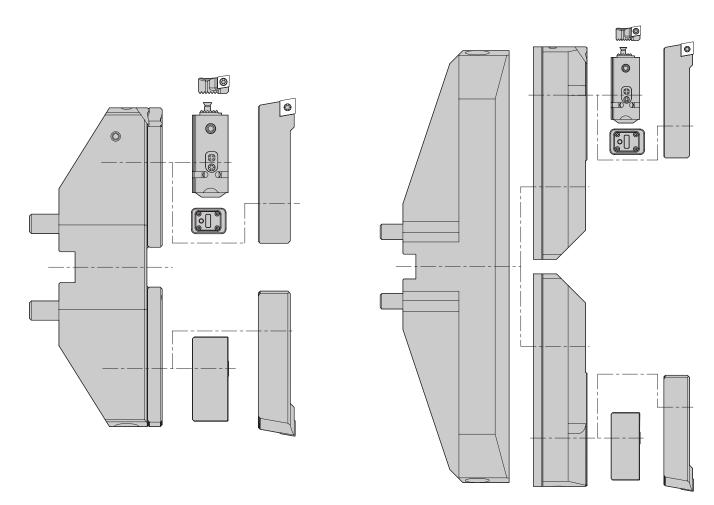




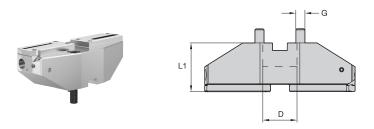
|              |                | D    | min  | D m   | nax  |
|--------------|----------------|------|------|-------|------|
| order number | catalog number | mm   | in   | mm    | in   |
| 6655291      | IHBT024CC06    | 24,5 | .96  | 29,5  | 1.16 |
| 6655293      | IHBT036CC06    | 29,0 | 1.14 | 42,0  | 1.65 |
| 6655206      | IMBLUESCOUR    | 53.0 | 2.00 | 205.0 | 9.07 |

#### **eBore<sup>™</sup> BRIDGE TOOLS OVERVIEW**

eBore — Bridge S (Small) eBore — Bridge L (Large)



#### eBore • BRIDGE S

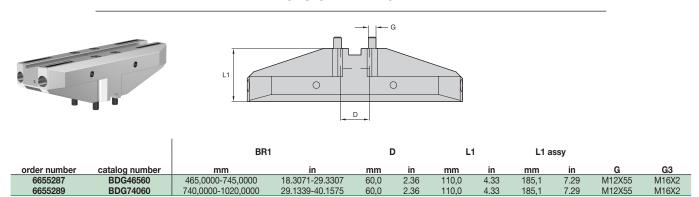


|              |                | BR                | BR1             |      | D L1 |      |      | L1 a  | issy |        |       |
|--------------|----------------|-------------------|-----------------|------|------|------|------|-------|------|--------|-------|
| order number | catalog number | mm                | in              | mm   | in   | mm   | in   | mm    | in   | G      | G3    |
| 6655282      | BDG20060       | 200,0000-280,0000 | 7.8740-11.0236  | 60,0 | 2.36 | 85,0 | 3.35 | 115,1 | 4.53 | M10X50 | M16X2 |
| 6655284      | BDG27560       | 275,0000-355,0000 | 10.8268-13.9764 | 60,0 | 2.36 | 85,0 | 3.35 | 115,1 | 4.53 | M10X50 | M16X2 |
| 6655285      | BDG35060       | 350,0000-430,0000 | 13.7795-16.9291 | 60,0 | 2.36 | 85,0 | 3.35 | 115,1 | 4.53 | M10X50 | M16X2 |
| 6655286      | BDG42560       | 425,0000-505,0000 | 16.7323-19.8819 | 60,0 | 2.36 | 85,0 | 3.35 | 115,1 | 4.53 | M10X50 | M16X2 |

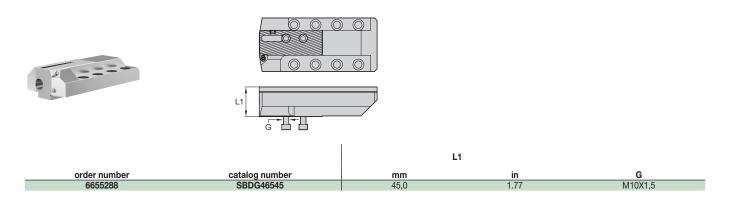
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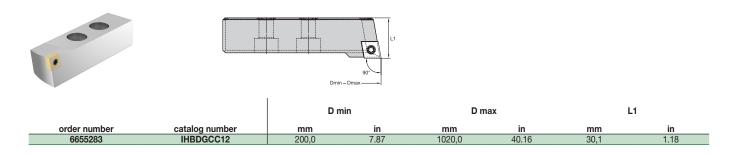
#### eBore<sup>™</sup> • BRIDGE L



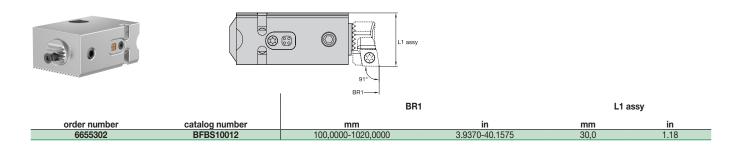
#### **eBore** • BRIDGE L • EXTENDER



#### eBore • BRIDGE S/L • INSERT HOLDER • CC12

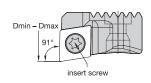


#### eBore • BRIDGE S/L • SLIDE



#### **eBore**<sup>™</sup> • **BRIDGE S/L** • **INSERT HOLDER** • **CC09**

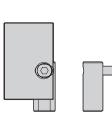


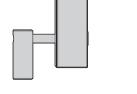


|              |                | D m   | in   | D m    | ax    |
|--------------|----------------|-------|------|--------|-------|
| order number | catalog number | mm    | in   | mm     | in    |
| 6655303      | IHBFBSCC09     | 200,0 | 7.87 | 1020,0 | 40.16 |

#### eBore • BRIDGE S/L • SLIDE • COUNTERWEIGHT

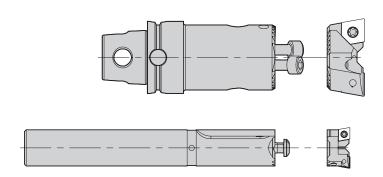




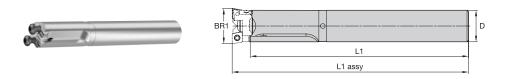


|              |                |      | -    |
|--------------|----------------|------|------|
| order number | catalog number | mm   | in   |
| 6655305      | CWBFBS         | 68,2 | 2.69 |

#### **eBore™ TWIN CUTTER OVERVIEW**



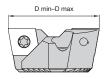
#### **eBore • TWIN CUTTER • STRAIGHT SHANK**



|              |                | BR1             |               |      | D    |     | L1    |      | L1 assy |      |
|--------------|----------------|-----------------|---------------|------|------|-----|-------|------|---------|------|
| order number | catalog number | mm              | in            | CSMS | mm   | in  | mm    | in   | mm      | in   |
| 6655239      | SS18TC0195     | 19,5000-23,0000 | 0.7677-0.9055 | _    | 18,0 | .71 | 138,0 | 5.43 | 150,0   | 5.91 |
| 6655241      | SS20TC0225     | 22,2000         | 0.8858        | _    | 20,0 | .79 | 138,0 | 5.43 | 150,0   | 5.91 |
| 6655243      | SS23TC0255     | 25 5000-30 0000 | 1 0039-1 1881 | _    | 23.0 | 91  | 148.2 | 5.83 | 160.0   | 6.30 |

#### **eBore • TWIN CUTTER • STRAIGHT SHANK • INSERT HOLDER**

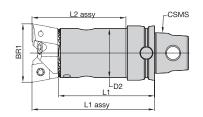




|              |                | Dı   | min  | D n  | nax  |
|--------------|----------------|------|------|------|------|
| order number | catalog number | mm   | in   | mm   | in   |
| 6655240      | IHTC0195CC06   | 19,5 | .77  | 23,0 | .91  |
| 6655242      | IHTC0225CC06   | 22,5 | .89  | 26,0 | 1.02 |
| 6655244      | IHTC0255CC06   | 25,5 | 1.00 | 30,0 | 1.18 |

#### **eBore<sup>™</sup> • TWIN CUTTER • KM<sup>™</sup>**

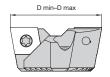




|              |                | BR1               |               |        | D     | 2    | L     | ı    | L1 a  | ssy  | L2 a  | ssy  |
|--------------|----------------|-------------------|---------------|--------|-------|------|-------|------|-------|------|-------|------|
| order number | catalog number | mm                | in            | CSMS   | mm    | in   | mm    | in   | mm    | in   | mm    | in   |
| 6655245      | KM32TC029      | 29,0000-37,0000   | 1.1417-1.4567 | KM32TS | 25,0  | .98  | 86,0  | 3.36 | 100,0 | 3.94 | 88,0  | 3.46 |
| 6655247      | KM32TC036      | 36,0000-44,0000   | 1.4173-1.7323 | KM32TS | 30,0  | 1.18 | 86,0  | 3.39 | 100,0 | 3.94 | 79,5  | 3.13 |
| 6655249      | KM40TC043      | 43,0000-54,0000   | 1.6929-2.1260 | KM40TS | 36,0  | 1.42 | 70,0  | 2.76 | 90,0  | 3.54 | 69,0  | 2.72 |
| 6655271      | KM40TC053      | 53,0000-66,0000   | 2.0866-2.5984 | KM40TS | 40,0  | 1.57 | 70,0  | 2.76 | 90,1  | 3.55 | 90,1  | 3.55 |
| 6655273      | KM50TC065      | 65,0000-83,0000   | 2.5591-3.2677 | KM50TS | 50,0  | 1.97 | 70,0  | 2.76 | 90,1  | 3.55 | 90,1  | 3.55 |
| 6655275      | KM63TC082      | 82,0000-103,0000  | 3.2283-4.0551 | KM63TS | 63,0  | 2.48 | 70,0  | 2.76 | 100,1 | 3.94 | 100,1 | 3.94 |
| 6655277      | KM80TC100      | 100,0000-155,0000 | 3.9370-6.1024 | KM80TS | 80,0  | 3.15 | 90,0  | 3.54 | 120,1 | 4.73 | 120,1 | 4.73 |
| 6655280      | KM80TC150      | 150,0000-205,0000 | 5.9055-8.0709 | KM80TS | 125,0 | 4.92 | 120,0 | 4.72 | 150,1 | 5.91 | 150,1 | 5.91 |

#### **eBore • TWIN CUTTER • KM • INSERT HOLDER**

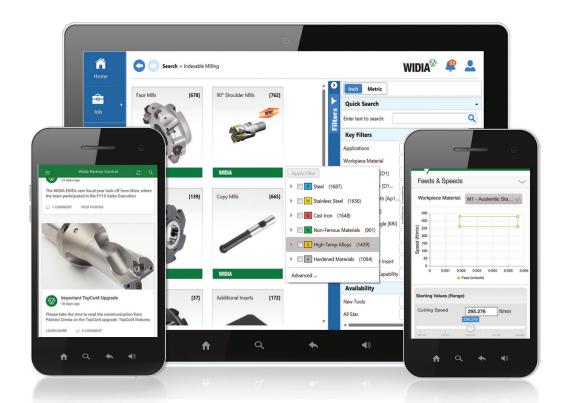




|              |                | D min |      | D m   | ax   |
|--------------|----------------|-------|------|-------|------|
| order number | catalog number | mm    | in   | mm    | in   |
| 6655246      | IHTC029CC09    | 29,0  | 1.14 | 37,0  | 1.46 |
| 6655248      | IHTC036CC09    | 36,0  | 1.42 | 44,0  | 1.73 |
| 6655250      | IHTC043CC12    | 43,0  | 1.69 | 54,0  | 2.13 |
| 6655272      | IHTC053CC12    | 53,0  | 2.09 | 66,0  | 2.60 |
| 6655274      | IHTC065CC12    | 65,0  | 2.56 | 83,0  | 3.27 |
| 6655276      | IHTC082CC12    | 82,0  | 3.23 | 103,0 | 4.06 |
| 6655278      | IHTC100CC12    | 100,0 | 3.94 | 130,0 | 5.12 |
| 6655279      | IHTC125CC12    | 125,0 | 4.92 | 155,0 | 6.10 |
| 6655281      | IHTC150CC12    | 150,0 | 5.91 | 205,0 | 8.07 |

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#### Notes



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#### IMPORTANT SAFETY INSTRUCTIONS: READ BEFORE USING THE TOOLS IN THIS CATALOG

# METALCUTTING SAFETY

#### **Projectile and Fragmentation Hazards**

Modern metalcutting operations involve high spindle and cutter speeds and high temperatures and cutting forces. Hot metal chips may fly off the workpiece during metalcutting. Although cutting tools are designed and manufactured to withstand high cutting forces and temperatures, they can sometimes fragment, particularly if they are subjected to over-stress, severe impact, or other abuse.

To avoid injury:

- Always wear appropriate personal protective equipment, including safety goggles, when operating metalcutting machines or working nearby.
- Always make sure all machine guards are in place.

#### **Breathing and Skin Contact Hazards**

Grinding carbide or other advanced cutting tool materials produces dust or mist containing metallic particles. Breathing this dust or mist — especially over an extended period — can cause temporary or permanent lung disease or make existing medical conditions worse. Contact with this dust or mist can irritate eyes, skin, and mucous membranes and may make existing skin conditions worse.

To avoid injury:

- Always wear breathing protection and safety goggles when grinding.
- Provide ventilation control and collect and properly dispose of dust, mist, or sludge from grinding.
- · Avoid skin contact with dust or mist.

For more information, read the applicable Material Safety Data Sheet provided by WIDIA and consult General Industry Safety and Health Regulations, Part 1910, Title 29 of the Code of Federal Regulations.

These safety instructions are general guidelines. Many variables affect machining operations. It is impossible to cover every specific situation. The technical information included in this catalog and recommendations on machining practices may not apply to your particular operation.

For more information, consult the WIDIA Metalcutting Safety booklet, available free from WIDIA at +1 724 539 5747 or fax +1 724 539 5439. For specific product safety and environmental questions, contact our Corporate Environmental Health and Safety Office at +1 724 539 5066 or fax +1 724 539 5372.

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