

# CUTTERS

- 2 FLUTE SLOT
- MULTI FLUTE
- SCREWED SHANK
- PLAIN SHANK



## METRIC SLOT DRILLS SHORT SERIES

| GROUP          | 2 FLUTE PLAIN SHANK REGULAR LENGTH   |
|----------------|--|
| Surface Finish | Bright   |
| Shank Type     | Plain  |
| Flute Type     | 30°  |
| Material       | HSS - Co8e   |
| Application    | Milling keyways and slots to size in one cut. Designed for plunging operations. High tensile steels and other difficult materials. |

| SIZE (D) | PART number |
|----------|-------------|
| 2        | 3100200     |
| 2.5      | 3100250     |
| 3        | 3100300     |
| 3.5      | 3100350     |
| 4        | 3100400     |
| 4.5      | 3100450     |
| 5        | 3100500     |
| 5.5      | 3100550     |
| 6        | 3100600     |
| 6.5      | 3100650     |
| 7        | 3100700     |
| 7.5      | 3100750     |
| 8        | 3100800     |
| 8.5      | 3100850     |
| 9        | 3100900     |
| 9.5      | 3100950     |
| 10       | 3101000     |
| 11       | 3101100     |
| 12       | 3101200     |
| 13       | 3101300     |
| 14       | 3101400     |
| 15       | 3101500     |
| 16       | 3101600     |
| 17       | 3101700     |
| 18       | 3101800     |
| 19       | 3101900     |



## METRIC SLOT DRILLS SHORT SERIES

| GROUP          | 2 FLUTE PLAIN SHANK REGULAR LENGTH   |
|----------------|--|
| Surface Finish | Bright   |
| Shank Type     | Plain  |
| Flute Type     | 30°  |
| Material       | HSS - Co8e   |
| Application    | Milling keyways and slots to size in one cut. Designed for plunging operations. High tensile steels and other difficult materials. |

| D  | PART number |
|----|-------------|
| 20 | 3102000     |
| 22 | 3102200     |
| 24 | 3102400     |
| 25 | 3102500     |



## METRIC SLOT DRILLS LONG SERIES

| GROUP          | 2 FLUTE PLAIN SHANK LONG SERIES  |
|----------------|--|
| Surface Finish | Bright   |
| Shank Type     | Plain  |
| Flute Type     | 30°  |
| Material       | HSS - Co8e   |
| Application    | Milling keyways and slots to size in one cut. Designed for plunging operations. High tensile steels and other difficult materials. |

| D   | PART number |
|-----|-------------|
| 3   | 3110300     |
| 3.5 | 3110350     |
| 4   | 3110400     |
| 4.5 | 3110450     |
| 5   | 3110500     |
| 5.5 | 3110550     |
| 6   | 3110600     |
| 6.5 | 3110650     |
| 7   | 3110700     |
| 7.5 | 3110750     |
| 8   | 3110800     |
| 8.5 | 3110850     |
| 9   | 3110900     |
| 9.5 | 3110950     |
| 10  | 3111000     |
| 11  | 3111100     |
| 12  | 3111200     |
| 14  | 3111400     |
| 16  | 3111600     |
| 18  | 3111800     |



## METRIC SLOT DRILLS LONG SERIES

| GROUP          | 2 FLUTE PLAIN SHANK LONG SERIES  |
|----------------|--|
| Surface Finish | Bright   |
| Shank Type     | Plain  |
| Flute Type     | 30°  |
| Material       | HSS - Co8e   |
| Application    | Milling keyways and slots to size in one cut. Designed for plunging operations. High tensile steels and other difficult materials. |

| SIZE (D) | PART number |
|----------|-------------|
| 20       | 3112000     |
| 22       | 3112200     |
| 24       | 3112400     |
| 25       | 3112500     |



## IMPERIAL SLOT DRILLS SHORT SERIES

| GROUP          | 2 FLUTE PLAIN SHANK REGULAR LENGTH   |
|----------------|--|
| Surface Finish | Bright   |
| Shank Type     | Plain  |
| Flute Type     | 30°  |
| Material       | HSS - Co8e   |
| Application    | Milling keyways and slots to size in one cut. Designed for plunging operations. High tensile steels and other difficult materials. |

| SIZE (D) | PART number |
|----------|-------------|
| 1/4      | 3170635     |
| 5/16     | 3170794     |
| 3/8      | 3170953     |
| 1/2      | 3171270     |
| 5/8      | 3171588     |
| 3/4      | 3171905     |
| 7/8      | 3172223     |
| 1        | 3172540     |



## IMPERIAL SLOT DRILLS LONG SERIES

| GROUP          | 2 FLUTE PLAIN SHANK LONG SERIES  |
|----------------|--|
| Surface Finish | Bright   |
| Shank Type     | Plain  |
| Flute Type     | 30°  |
| Material       | HSS - Co8e   |
| Application    | Milling keyways and slots to size in one cut. Designed for plunging operations. High tensile steels and other difficult materials. |

| D    | PART number |
|------|-------------|
| 1/4  | 3180635     |
| 5/16 | 3180794     |
| 3/8  | 3180953     |
| 1/2  | 3181270     |
| 5/8  | 3181588     |
| 3/4  | 3181905     |



## METRIC END MILLS SHORT SERIES

| GROUP          | MULTI FLUTE PLAIN SHANK REGULAR LENGTH                                 |
|----------------|--|
| Surface Finish | Bright   |
| Shank Type     | Plain  |
| Flute Type     | 30°  |
| Material       | HSS - Co8e   |
| Application    | For profile milling,high tensile steels and other difficult materials. |

| SIZE (D) | PART number |
|----------|-------------|
| 3        | 3140300     |
| 4        | 3140400     |
| 5        | 3140500     |
| 6        | 3140600     |
| 7        | 3140700     |
| 8        | 3140800     |
| 9        | 3140900     |
| 10       | 3141000     |
| 11       | 3141100     |
| 12       | 3141200     |
| 13       | 3141300     |
| 14       | 3141400     |
| 15       | 3141500     |
| 16       | 3141600     |
| 18       | 3141800     |
| 19       | 3141900     |
| 20       | 3142000     |
| 22       | 3142200     |
| 24       | 3142400     |
| 25       | 3142500     |





## METRIC END MILLS LONG SERIES

| GROUP          | MULTI FLUTE PLAIN SHANK LONG SERIES                                    |
|----------------|--|
| Surface Finish | Bright   |
| Shank Type     | Plain  |
| Flute Type     | 30°  |
| Material       | HSS - Co8e   |
| Application    | For profile milling,high tensile steels and other difficult materials. |

| SIZE (D) | PART number |
|----------|-------------|
| 3        | 3150300     |
| 4        | 3150400     |
| 5        | 3150500     |
| 6        | 3150600     |
| 7        | 3150700     |
| 8        | 3150800     |
| 9        | 3150900     |
| 10       | 3151000     |
| 11       | 3151100     |
| 12       | 3151200     |
| 14       | 3151400     |
| 16       | 3151600     |
| 18       | 3151800     |
| 19       | 3151900     |
| 20       | 3152000     |
| 22       | 3152200     |
| 24       | 3152400     |
| 25       | 3152500     |



## IMPERIAL END MILLS SHORT SERIES

| GROUP          | MULTI FLUTE PLAIN SHANK REGULAR LENGTH                                 |
|----------------|--|
| Surface Finish | Bright   |
| Shank Type     | Plain  |
| Flute Type     | 30°  |
| Material       | HSS - Co8e   |
| Application    | For profile milling,high tensile steels and other difficult materials. |

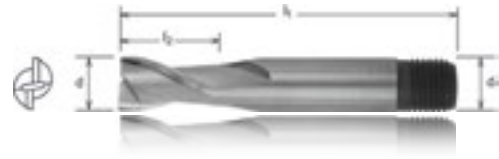
| D    | PART number |
|------|-------------|
| 1/4  | 3140635     |
| 5/16 | 3140794     |
| 3/8  | 3140953     |
| 1/2  | 3141270     |
| 5/8  | 3141588     |
| 3/4  | 3141905     |
| 7/8  | 3142223     |
| 1    | 3142540     |



## IMPERIAL END MILLS LONG SERIES

| GROUP          | MULTI FLUTE PLAIN SHANK LONG SERIES                                    |
|----------------|--|
| Surface Finish | Bright   |
| Shank Type     | Plain  |
| Flute Type     | 30°  |
| Material       | HSS - Co8e   |
| Application    | For profile milling,high tensile steels and other difficult materials. |

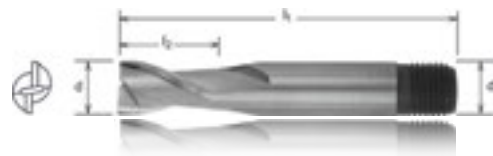
| D    | PART number |
|------|-------------|
| 1/4  | 3200635     |
| 5/16 | 3200794     |
| 3/8  | 3200953     |
| 1/2  | 3201270     |
| 5/8  | 3201588     |
| 3/4  | 3201905     |
| 7/8  | 3202223     |
| 1    | 3202540     |



## METRIC SLOT DRILLS SHORT SERIES

| GROUP          | 2 FLUTE THREADED SHANK REGULAR LENGTH  |
|----------------|--|
| Surface Finish | Bright   |
| Shank Type     | Threaded Parallel Shank  |
| Flute Type     | 30° Helix  |
| Material       | HSS - Co8e   |
| Application    | Milling Keyways and Slots to Size In One Cut.<br>Designed for Plunging Operations.<br>High Tensile Steels and Other Difficult Materials. |

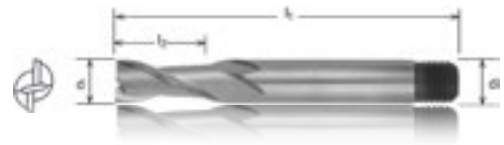
| D   | L1 | L2 | D1 | PART number |
|-----|----|----|----|-------------|
| 2   | 4  | 48 | 6  | 3480200     |
| 2.5 | 5  | 49 | 6  | 3480250     |
| 3   | 5  | 49 | 6  | 3480300     |
| 3.5 | 6  | 50 | 6  | 3480350     |
| 4   | 7  | 51 | 6  | 3480400     |
| 5   | 8  | 52 | 6  | 3480500     |
| 6   | 8  | 52 | 6  | 3480600     |
| 6.5 | 10 | 60 | 10 | 3480650     |
| 7   | 10 | 60 | 10 | 3480700     |
| 7.5 | 10 | 60 | 10 | 3480750     |
| 8   | 11 | 61 | 10 | 3480800     |
| 9   | 11 | 61 | 10 | 3480900     |
| 10  | 13 | 63 | 10 | 3481000     |
| 11  | 13 | 70 | 12 | 3481100     |
| 12  | 16 | 73 | 12 | 3481200     |
| 13  | 16 | 73 | 12 | 3481300     |
| 14  | 16 | 73 | 12 | 3481400     |
| 15  | 16 | 73 | 12 | 3481500     |
| 16  | 19 | 79 | 16 | 3481600     |
| 17  | 19 | 79 | 16 | 3481700     |
| 18  | 19 | 79 | 16 | 3481800     |
| 19  | 19 | 79 | 16 | 3481900     |



## METRIC SLOT DRILLS SHORT SERIES

| GROUP          | 2 FLUTE THREADED SHANK REG LENGTH  |
|----------------|--|
| Surface Finish | Bright   |
| Shank Type     | Threaded Parallel Shank  |
| Flute Type     | 30° Helix  |
| Material       | HSS - Co8e   |
| Application    | Milling Keyways and Slots to Size in One Cut.<br>Designed for Plunging Operations.<br>High Tensile Steels and Other Difficult Materials. |

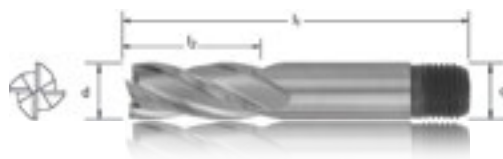
| D  | L1 | L2  | D1 | PART number |
|----|----|-----|----|-------------|
| 20 | 19 | 79  | 16 | 3482000     |
| 22 | 26 | 102 | 25 | 3482200     |
| 24 | 26 | 102 | 25 | 3482400     |
| 25 | 26 | 102 | 25 | 3482500     |
| 28 | 26 | 102 | 25 | 3482800     |
| 30 | 26 | 102 | 25 | 3483000     |
| 32 | 32 | 112 | 32 | 3483200     |
| 36 | 32 | 112 | 32 | 3483600     |
| 40 | 38 | 118 | 32 | 3484000     |
| 45 | 38 | 118 | 32 | 3484500     |
| 50 | 45 | 125 | 32 | 3485000     |



## METRIC SLOT DRILLS LONG SERIES

| GROUP          | 2 FLUTE THREADED SHANK LONG SERIES   |
|----------------|--|
| Surface Finish | Bright   |
| Shank Type     | Threaded Parallel Shank  |
| Flute Type     | 30° Helix  |
| Material       | HSS - Co8e   |
| Application    | Milling Keyways and Slots to Size in One Cut.<br>Designed for Plunging Operations.<br>High Tensile Steels and Other Difficult Materials. |

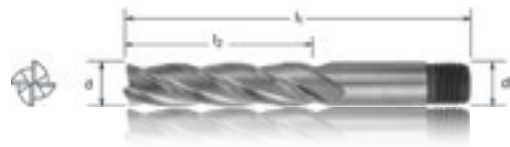
| D  | L1   | L2    | D1 | PART number |
|----|------|-------|----|-------------|
| 2  | 4    | 51    | 6  | 3500200     |
| 3  | 11   | 60.5  | 6  | 3500300     |
| 4  | 12.5 | 66.5  | 6  | 3500400     |
| 5  | 12.5 | 70    | 6  | 3500500     |
| 6  | 16   | 76    | 6  | 3500600     |
| 7  | 16   | 76    | 10 | 3500700     |
| 8  | 19   | 79.5  | 10 | 3500800     |
| 9  | 22   | 82.5  | 10 | 3500900     |
| 10 | 22   | 82.5  | 10 | 3501000     |
| 11 | 22   | 89    | 12 | 3501100     |
| 12 | 25.5 | 95    | 12 | 3501200     |
| 13 | 25.5 | 95    | 12 | 3501300     |
| 14 | 28.5 | 101.5 | 12 | 3501400     |
| 15 | 31.5 | 108   | 12 | 3501500     |
| 16 | 31.5 | 108   | 16 | 3501600     |
| 17 | 35   | 114.5 | 16 | 3501700     |
| 18 | 35   | 114.5 | 16 | 3501800     |
| 19 | 38   | 120.5 | 16 | 3501900     |
| 20 | 38   | 120.5 | 16 | 3502000     |



**METRIC END MILLS SHORT SERIES**

| GROUP          | MULTI FLUTE THREADED SHANK REG LENGTH                                  |
|----------------|--|
| Surface Finish | Bright   |
| Shank Type     | Threaded Parallel Shank  |
| Flute Type     | 30° Helix  |
| Material       | HSS - Co8e   |
| Application    | For Profile Milling, High Tensile Steels and Other Difficult Materials |

| D  | L1   | L2    | D1 | No of Flute | PART number |
|----|------|-------|----|-------------|-------------|
| 3  | 9.5  | 54    | 6  | 4           | 3440300     |
| 4  | 12.5 | 57    | 6  | 4           | 3440400     |
| 5  | 16   | 60.5  | 6  | 4           | 3440500     |
| 6  | 16   | 60.5  | 6  | 4           | 3440600     |
| 7  | 15   | 60.5  | 10 | 4           | 3440700     |
| 8  | 18   | 63.5  | 10 | 4           | 3440800     |
| 10 | 21   | 66.5  | 10 | 4           | 3441000     |
| 12 | 24   | 70    | 12 | 4           | 3441200     |
| 14 | 28.5 | 73    | 12 | 4           | 3441400     |
| 16 | 26.5 | 77    | 16 | 4           | 3441600     |
| 18 | 35   | 80    | 16 | 4           | 3441800     |
| 20 | 38   | 83.5  | 16 | 4           | 3442000     |
| 22 | 41.5 | 98.5  | 25 | 6           | 3442200     |
| 25 | 44.5 | 101.5 | 25 | 6           | 3442500     |
| 28 | 46   | 104.5 | 25 | 6           | 3442800     |
| 30 | 46   | 104.5 | 25 | 6           | 3443000     |
| 32 | 51   | 112.5 | 32 | 6           | 3443200     |
| 40 | 55.5 | 117.5 | 32 | 6           | 3444000     |
| 45 | 57   | 119   | 32 | 6           | 3444500     |
| 50 | 65   | 127   | 32 | 8           | 3445000     |

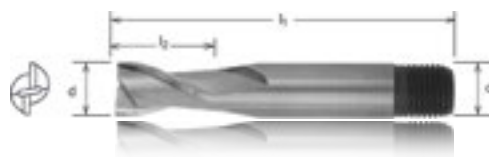


## METRIC END MILLS LONG SERIES

| GROUP          | MULTI FLUTE THREADED SHANK LONG SERIES                                 |
|----------------|--|
| Surface Finish | Bright   |
| Shank Type     | Threaded Parallel Shank  |
| Flute Type     | 30° Helix  |
| Material       | HSS - Co8e   |
| Application    | For Profile Milling, High Tensile Steels and Other Difficult Materials |

| D  | L1   | L2    | D1 | No. OF FLUTES | PART number |
|----|------|-------|----|---------------|-------------|
| 3  | 19   | 63.5  | 6  | 4             | 3460300     |
| 4  | 25.5 | 70    | 6  | 4             | 3460400     |
| 5  | 31.5 | 76    | 6  | 4             | 3460500     |
| 6  | 31.5 | 76    | 6  | 4             | 3460600     |
| 8  | 34   | 79.5  | 10 | 4             | 3460800     |
| 10 | 37   | 82.5  | 10 | 4             | 3461000     |
| 12 | 49.5 | 95    | 12 | 4             | 3461200     |
| 14 | 57   | 101.5 | 12 | 4             | 3461400     |
| 16 | 58.5 | 108.5 | 16 | 4             | 3461600     |
| 18 | 70   | 115   | 16 | 4             | 3461800     |
| 20 | 76   | 121.5 | 16 | 4             | 3462000     |

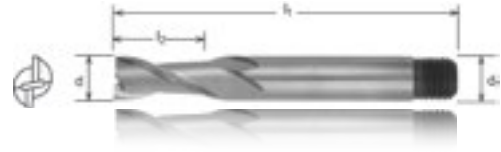




## IMPERIAL SLOT DRILLS SHORT SERIES

| GROUP          | 4 FLUTE THREADED SHANK REG LENGTH  |
|----------------|--|
| Surface Finish | Bright   |
| Shank Type     | Threaded Parallel Shank  |
| Flute Type     | 30° Helix  |
| Material       | HSS - Co8e   |
| Application    | Milling Keyways and Slots to Size in One Cut.<br>Designed for Plunging Operations.<br>High Tensile Steels and Other Difficult Materials. |

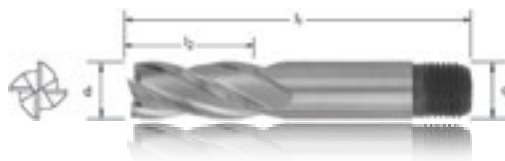
| D     | L1 | L2  | D1    | PART number |
|-------|----|-----|-------|-------------|
| 1/8   | 8  | 51  | 1/4   | 3490318     |
| 3/16  | 10 | 52  | 1/4   | 3490476     |
| 1/4   | 11 | 56  | 1/4   | 3490635     |
| 5/16  | 13 | 60  | 3/8   | 3490794     |
| 3/8   | 14 | 60  | 3/8   | 3490953     |
| 7/16  | 17 | 65  | 1/2   | 3491111     |
| 1/2   | 19 | 67  | 1/2   | 3491270     |
| 9/16  | 22 | 69  | 1/2   | 3491429     |
| 5/8   | 22 | 72  | 5/8   | 3491588     |
| 3/4   | 25 | 77  | 5/8   | 3491905     |
| 7/8   | 25 | 100 | 1"    | 3492223     |
| 1"    | 27 | 95  | 1"    | 3492540     |
| 1.1/8 | 30 | 95  | 1"    | 3492858     |
| 1.1/4 | 35 | 117 | 1.1/4 | 3493175     |
| 1.3/8 | 40 | 111 | 1.1/4 | 3493493     |
| 1.1/2 | 43 | 115 | 1.1/4 | 3493810     |
| 1.5/8 | 48 | 118 | 1.1/4 | 3494128     |
| 1.3/4 | 48 | 118 | 1.1/4 | 3494445     |
| 2"    | 51 | 118 | 1.1/4 | 3495080     |



**IMPERIAL SLOT DRILL LONG SERIES**

| GROUP          | 2 FLUTE THREADED SHANK LONG SERIES   |
|----------------|--|
| Surface Finish | Bright   |
| Shank Type     | Threaded Parallel Shank  |
| Flute Type     | 30° Helix  |
| Material       | HSS - Co8e   |
| Application    | Milling Keyways and Slots to Size in One Cut.<br>Designed for Plunging Operations.<br>High Tensile Steels and Other Difficult Materials. |

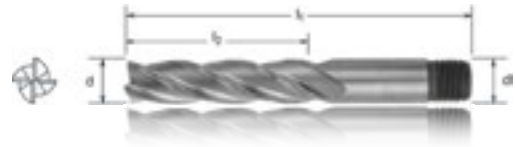
| D     | L1 | L2  | D1    | PART number |
|-------|----|-----|-------|-------------|
| 1/8   | 11 | 64  | 1/4   | 3430318     |
| 3/16  | 13 | 70  | 1/4   | 3430476     |
| 1/4   | 16 | 76  | 1/4   | 3430635     |
| 5/16  | 19 | 79  | 3/8   | 3430794     |
| 3/8   | 22 | 83  | 3/8   | 3430953     |
| 7/16  | 22 | 89  | 1/2   | 3431111     |
| 1/2   | 25 | 95  | 1/2   | 3431270     |
| 9/16  | 29 | 102 | 1/2   | 3431429     |
| 5/8   | 32 | 108 | 5/8   | 3431588     |
| 3/4   | 38 | 121 | 5/8   | 3431905     |
| 7/8   | 42 | 140 | 1"    | 3432223     |
| 1"    | 44 | 159 | 1"    | 3432540     |
| 1.1/8 | 48 | 159 | 1"    | 3432858     |
| 1.1/4 | 51 | 159 | 1.1/4 | 3433175     |
| 1.3/8 | 54 | 159 | 1.1/4 | 3433493     |
| 1.1/2 | 57 | 159 | 1.1/4 | 3433810     |



## IMPERIAL END MILLS SHORT SERIES

| GROUP          | MULTI FLUTE THREADED SHANK REG LENGTH                                  |
|----------------|--|
| Surface Finish | Bright   |
| Shank Type     | Threaded Parallel Shank  |
| Flute Type     | 30° Helix  |
| Material       | HSS - Co8e   |
| Application    | For Profile Milling, High Tensile Steels and Other Difficult Materials |

| D     | L1 | L2  | D1    | No. OF FLUTES | PART number |
|-------|----|-----|-------|---------------|-------------|
| 1/8   | 10 | 54  | 1/4   | 4             | 3450318     |
| 3/16  | 13 | 57  | 1/4   | 4             | 3450476     |
| 1/4   | 16 | 60  | 1/4   | 4             | 3450635     |
| 5/16  | 18 | 64  | 3/8   | 4             | 3450794     |
| 3/8   | 22 | 67  | 3/8   | 4             | 3450953     |
| 7/16  | 22 | 67  | 1/2   | 4             | 3451111     |
| 1/2   | 24 | 70  | 1/2   | 4             | 3451270     |
| 9/16  | 29 | 73  | 1/2   | 4             | 3451429     |
| 5/8   | 32 | 77  | 5/8   | 4             | 3451588     |
| 3/4   | 38 | 83  | 5/8   | 4             | 3451905     |
| 7/8   | 41 | 98  | 1"    | 6             | 3452223     |
| 1"    | 43 | 102 | 1"    | 6             | 3452540     |
| 1.1/8 | 46 | 105 | 1"    | 6             | 3452858     |
| 1.1/4 | 51 | 113 | 1.1/4 | 6             | 3453175     |
| 1.3/8 | 54 | 116 | 1.1/4 | 6             | 3453493     |
| 1.1/2 | 54 | 116 | 1.1/4 | 6             | 3453810     |
| 1.3/4 | 57 | 119 | 1.1/4 | 8             | 3454445     |
| 2"    | 65 | 127 | 1.1/4 | 8             | 3455080     |



## IMPERIAL END MILLS LONG SERIES

| GROUP          | MULTI FLUTE THREADED SHANK LONG SERIES                                 |
|----------------|--|
| Surface Finish | Bright   |
| Shank Type     | Threaded Parallel Shank  |
| Flute Type     | 30° Helix  |
| Material       | HSS - Co8e   |
| Application    | For Profile Milling, High Tensile Steels and Other Difficult Materials |

| D     | L1  | L2  | D1    | No. OF FLUTES | PART number |
|-------|-----|-----|-------|---------------|-------------|
| 1/8   | 19  | 64  | 1/4   | 4             | 3470318     |
| 3/16  | 25  | 70  | 1/4   | 4             | 3470476     |
| 1/4   | 32  | 76  | 1/4   | 4             | 3470635     |
| 5/16  | 34  | 79  | 3/8   | 4             | 3470794     |
| 3/8   | 37  | 83  | 3/8   | 4             | 3470953     |
| 7/16  | 42  | 89  | 1/2   | 4             | 3471111     |
| 1/2   | 49  | 95  | 1/2   | 4             | 3471270     |
| 9/16  | 57  | 102 | 1/2   | 4             | 3471429     |
| 5/8   | 59  | 109 | 5/8   | 4             | 3471588     |
| 3/4   | 76  | 121 | 5/8   | 4             | 3471905     |
| 7/8   | 86  | 143 | 1"    | 6             | 3472223     |
| 1"    | 100 | 157 | 1"    | 6             | 3472540     |
| 1.1/8 | 100 | 157 | 1"    | 6             | 3472858     |
| 1.1/4 | 102 | 164 | 1.1/4 | 6             | 3473175     |
| 1.3/8 | 102 | 164 | 1.1/4 | 6             | 3473493     |
| 1.1/2 | 102 | 164 | 1.1/4 | 6             | 3473810     |
| 1.3/4 | 102 | 164 | 1.1/4 | 8             | 3474445     |
| 2"    | 102 | 164 | 1.1/4 | 8             | 3475080     |

