

VEGA[®]

CUTTING TOOLS



2018 EDITION

VEGA[®]
VEGA
CUTTING TOOLS

YAMAZEN.COM - 800.228.2969

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XHP-MB - Spiral Fluted Taps
High Speed Steel Class E - Vanadium

Steam Oxide
TiN



| INCH | | | | | | | | | | | | | | |
|--------------|-------|--------|--------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NOMINAL SIZE | TPI | | FLUTES | THREAD LIMITS | | | | | | | | | | |
| | NC/UC | NF/UNF | | H2 | | H3 | | H4 | | H5 | | H7 | | H11* |
| | | | | SO | TiN | SO | TiN | SO | TiN | SO | TiN | SO | TiN | SO |
| 2 | 56 | | 2 | 84623 | 84923 | | | | | | | | | |
| 3 | 48 | | | 84600 | | | | | | | | | | |
| 4 | 40 | | | 84601 | 84901 | 84602 | | 84629 | | 84634 | | | | |
| 4 | | 48 | | 84683 | | | | | | | | | | |
| 5 | 40 | | | 84603 | 84903 | | | | | | | | | |
| 6 | 32 | | 3 | 84604 | | 84605 | 84905 | | | 84635 | | 84665 | | |
| 6 | | 40 | | 84684 | | 84685 | | | | | | | | |
| 8 | 32 | | | 84606 | | 84607 | 84907 | | | 84637 | | 84667 | | |
| 8 | | 36 | | | | 84687 | | | | | | | | |
| 10 | 24 | | | 84624 | | 84609 | 84909 | | | 84639 | | 84669 | | |
| 10 | | 32 | | 84611 | | 84610 | 84910 | | | 84640 | | 84670 | | |
| 12 | 24 | | | | | 84688 | | | | | | | | |
| 12 | | 28 | | | | 84689 | | | | | | | | |
| 1/4 | 20 | | | | | 84613 | 84913 | | | 84643 | | 84673 | | 89002 |
| 1/4 | | 28 | | | | 84614 | 84914 | 84631 | | 84644 | | 84674 | | 89004 |
| 5/16 | 18 | | | | | 84615 | 84915 | | | 84645 | 84945 | 84675 | | 89006 |
| 5/16 | | 24 | | | | 84616 | 84916 | 84632 | | 84646 | | 84676 | | 89008 |
| 3/8 | 16 | | | | | 84617 | 84917 | | | 84647 | 84947 | 84677 | | 89010 |
| 3/8 | | 24 | | | | 84618 | 84918 | | | 84648 | | 84678 | | 89012 |
| 7/16 | 14 | | | | | 84619 | 84919 | | | 84649 | | | | |
| 7/16 | | 20 | | | 84620 | 84920 | | | 84650 | | | | | |
| 1/2 | 13 | | | | 84621 | 84921 | | | 84651 | 84951 | 84681 | | 89014 | |
| 1/2 | | 20 | | | 84622 | 84922 | | | 84652 | | 84682 | | | |
| 9/16 | 12 | | 4 | | 84653 | 84953 | | | | | | | | |
| 9/16 | | 18 | | | | 84654 | 84954 | | | | | | | |
| 9/16 | | 24 | | | | 84641 | | | | | | | | |
| 5/8 | 11 | | | | | 84625 | 84925 | | | 84655 | | | | 89018 |
| 5/8 | | 18 | | | | 84626 | 84926 | | | 84656 | | | | 89020 |
| 3/4 | 10 | | | | | 84627 | 84927 | | | 84657 | 84957 | | | 89022 |
| 3/4 | | 16 | | | | 84628 | 84928 | | | 84658 | | | | |
| 7/8 | 9 | | | | | | | | 84695 | 84995 | | | | |
| 7/8 | | 14 | | | | | | | 84696 | 84996 | | | | |
| 1 | 8 | | | | | | | | 84697 | 84997 | | | | |
| 1 | | 12 | | | | | | 84698 | | | | | | |
| 1-1/8 | 7 | | | | | | | 84661 | | | | | | |
| 1-1/4 | 7 | | | | | | | 84693 | | | | | | |

*H11 +0.005 oversize

APPLICATION

■ Steam Oxide Finish ■ TiN Coating

RECOMMENDED | USEABLE

■ Stainless Steel
■ Carbon Steel

■ Alloy Steel
■ Cast Iron

■ Non-Ferrous
■ Ductile Iron

■ Die Steel
■ Cast Iron

XHP-MB - Spiral Fluted Taps
High Speed Steel Class E - Vanadium

Steam Oxide
TiN



| | | METRIC | | | | | | | | | | | | | | | | |
|--------------|-------|--------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----|-------|-------|-----|--|--|
| NOMINAL SIZE | PITCH | FLUTES | THREAD LIMITS | | | | | | | | | | | | | | | |
| | | | D3 | | D4 | | D5 | | D6 | | D7 | | D8 | | | | | |
| | | | SO | TiN | SO | TiN | SO | TiN | SO | TiN | SO | TiN | SO | TiN | SO | TiN | | |
| M3 | 0.50 | 3 | 74615 | 74915 | | | | | | | | | | | | | | |
| M3.5 | 0.60 | | | | 74616 | 74916 | | | | | | | | | | | | |
| M4 | 0.70 | | | | 74617 | 74917 | | | | | | | | | | | | |
| M5 | 0.80 | | | | 74619 | 74919 | | | | | | | | | | | | |
| M6 | 1.00 | | | | | | 74620 | 74920 | | | | | | | | | | |
| M7 | 1.00 | | | | | | 74621 | 74921 | | | | | | | | | | |
| M8 | 1.00 | | | | | | 74622 | 74922 | | | | | | | | | | |
| M8 | 1.25 | | | | | | 74623 | 74923 | | | | | | | | | | |
| M10 | 1.25 | | | | | | 74624 | 74924 | | | | | | | | | | |
| M10 | 1.50 | | | | | | | | 74625 | 74925 | | | | | | | | |
| M12 | 1.25 | | | | | | | 74626 | 74926 | | | | | | | | | |
| M12 | 1.75 | | | | | | | | 74627 | 74927 | | | | | | | | |
| M14 | 1.50 | | | | | | | | 74628 | 74928 | | | | | | | | |
| M14 | 2.00 | | | | | | | | | | 74629 | 74929 | | | | | | |
| M16 | 1.50 | | | | | | | | 74630 | 74930 | | | | | | | | |
| M16 | 2.00 | | | | | | | | | | 74631 | 74931 | | | | | | |
| M18 | 1.50 | 4 | | | | | | 74632 | 74932 | | | | | | | | | |
| M18 | 2.50 | | | | | | | | | | 74633 | | | | | | | |
| M20 | 2.50 | | | | | | | | | | 74635 | | | | | | | |
| M20 | 2.50 | | | | | | | | | | | 74935 | | | | | | |
| M24 | 3.00 | | | | | | | | | | | | | 74639 | 74939 | | | |

APPLICATION

■ Steam Oxide Finish ■ TiN Coating

RECOMMENDED | USEABLE

■ Stainless Steel
■ Carbon Steel

■ Alloy Steel
■ Cast Iron

■ Non-Ferrous
■ Ductile Iron

■ Die Steel
■ Cast Iron

XHP-B - Spiral Fluted Taps
High Speed Steel Class E - Vanadium

Steam Oxide



| INCH | | | | | | |
|--------------|-------|--------|--------|-------|-------|-------|
| NOMINAL SIZE | TPI | | FLUTES | H3 | H4 | H5 |
| | NC/UC | NF/UNF | | S0 | S0 | S0 |
| 6 | 32 | | 3 | 34605 | | |
| 8 | 32 | | | 34607 | | |
| 10 | 24 | | | 34609 | | |
| 10 | | 32 | | 34610 | | |
| 1/4 | 20 | | | | | 34613 |
| 1/4 | | 28 | | | 34614 | |
| 5/16 | 18 | | | | | 34615 |
| 5/16 | | 24 | | | 34616 | |
| 3/8 | 16 | | | | | 34617 |
| 3/8 | | 24 | | | 34618 | |
| 7/16 | 14 | | | | | 34619 |
| 7/16 | | 20 | | | | 34620 |
| 1/2 | 13 | | | | | 34621 |
| 1/2 | | 20 | | | | 34622 |
| 5/8 | 11 | | | | | 34625 |
| 5/8 | | 18 | | | | 34626 |
| 3/4 | 10 | | 4 | | 34627 | |
| 3/4 | | 16 | | | | 34628 |

| METRIC | | | | | |
|--------------|-------|--------|---------------|-------|-------|
| NOMINAL SIZE | PITCH | FLUTES | THREAD LIMITS | | |
| | | | D5 | D6 | D7 |
| | | | S0 | S0 | S0 |
| M6 | 1.00 | 3 | 24620 | | |
| M8 | 1.25 | | 24623 | | |
| M10 | 1.50 | | | 24625 | |
| M12 | 1.75 | | | | 24627 |
| M14 | 1.50 | | | 24628 | |
| M14 | 2.00 | | | | 24629 |
| M16 | 1.50 | | | 24630 | |
| M16 | 2.00 | | | | 24631 |

APPLICATION

■ Steam Oxide Finish

RECOMMENDED | USEABLE

■ Stainless Steel
■ Carbon Steel

■ Alloy Steel

■ Die Steel
■ Cast Iron

XHP-P - Spiral Pointed Taps

High Speed Steel Class E - Vanadium

Steam Oxide
TiN



| INCH | | | | | | | | | | | | | |
|--------------|-------|--------|--------|---------------|-------|-------|-------|--------|-------|-------|-------|-------|-----|
| NOMINAL SIZE | TPI | | FLUTES | THREAD LIMITS | | | | | | | | | |
| | | | | H2 | | H3 | | H4 | | H5 | | H7 | |
| | NC/UC | NF/UNF | | SO | TiN | SO | TiN | SO | TiN | SO | TiN | SO | TiN |
| 2 | 56 | | 2 | 82623 | 82923 | | | | | | | | |
| 3 | 48 | | | 82600 | | | | | | | | | |
| 4 | 40 | | | 82601 | 82901 | 82602 | | 82612 | | | | | |
| 4 | | 48 | | 82683 | | | | | | | | | |
| 5 | 40 | | 3 | 82603 | 82903 | | | | | | | | |
| 6 | 32 | | | 82604 | | 82605 | 82905 | | | 82635 | | | |
| 6 | | 40 | | 82684 | | | | | | | | | |
| 8 | 32 | | | 82606 | | 82607 | 82907 | | | 82637 | | | |
| 8 | | 36 | | 82686 | | | | | | | | | |
| 10 | 24 | | | | | 82609 | 82909 | | | | | | |
| 10 | | 32 | | 82611 | | 82610 | 82910 | | | 82640 | | 82670 | |
| 12 | 24 | | | | | 82688 | | | | | | | |
| 12 | | 28 | | | | 82689 | | | | | | | |
| 1/4 | 20 | | | | | 82613 | 82913 | | | 82643 | 82943 | 82673 | |
| 1/4 | | 28 | | | | 82614 | 82914 | | | 82644 | | 82674 | |
| 5/16 | 18 | | | | | 82615 | 82915 | | | 82645 | 82945 | 82675 | |
| 5/16 | | 24 | | | | 82616 | 82916 | | | 82646 | | 82676 | |
| 3/8 | 16 | | | | | 82617 | 82917 | | | 82647 | 82947 | | |
| 3/8 | | 24 | | | | 82618 | 82918 | | | 82648 | | 82678 | |
| 7/16 | 14 | | | | | 82619 | 82919 | | | | | | |
| 7/16 | | 20 | | | | 82620 | 82920 | | | 82650 | | | |
| 1/2 | 13 | | | | | 82621 | 82921 | | | 82651 | 82951 | 82681 | |
| 1/2 | | 20 | | | | 82622 | 82922 | | | 82652 | | 82682 | |
| 9/16 | 12 | | | | | 82653 | 82953 | | | | | | |
| 9/16 | | 18 | | | 82654 | 82954 | | | | | | | |
| 5/8 | 11 | | | | 82625 | 82925 | | | 82655 | | | | |
| 5/8 | | 18 | | | 82626 | 82926 | | | | | | | |
| 3/4 | 10 | | | | 82627 | 82927 | | | 82657 | | | | |
| 3/4 | | 16 | | | 82628 | 82928 | | | 82658 | | | | |
| 7/8 | 9 | | | | | | | 82695 | | | | | |
| 7/8 | | 14 | | | | | | | 82996 | | | | |
| 1 | 8 | | | | | | | 82697 | 82997 | | | | |
| 1 | | 12 | | | | | | 826984 | | | | | |
| 1-1/4 | 7 | | | | | | | 82698 | | | | | |

Metric on next page

Note: Tap sizes at and larger than 7/16 do not have center point.

APPLICATION

■ Steam Oxide Finish ■ TiN Coating

RECOMMENDED | USEABLE

■ Stainless Steel
■ Carbon Steel

■ Alloy Steel

■ Die Steel
■ Cast Iron

XHP-P - Spiral Pointed Taps

High Speed Steel Class E - Vanadium

Steam Oxide
TiN



| METRIC | | | | | | | | | | | | | | |
|--------------|-------|--------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| NOMINAL SIZE | PITCH | FLUTES | THREAD LIMITS | | | | | | | | | | | |
| | | | D3 | | D4 | | D5 | | D6 | | D7 | | D8 | |
| | | | SO | TiN | SO | TiN | SO | TiN | SO | TiN | SO | TiN | SO | TiN |
| M3 | 0.50 | 3 | 72615 | 72915 | | | | | | | | | | |
| M3.5 | 0.60 | | | | 72616 | 72916 | | | | | | | | |
| M4 | 0.70 | | | | 72617 | 72917 | | | | | | | | |
| M5 | 0.80 | | | | 72619 | 72919 | | | | | | | | |
| M6 | 1.00 | | | | | | 72620 | 72920 | | | | | | |
| M7 | 1.00 | | | | | | 72621 | 72921 | | | | | | |
| M8 | 1.00 | | | | | | 72622 | 72922 | | | | | | |
| M8 | 1.25 | | | | | | 72623 | 72923 | | | | | | |
| M10 | 1.25 | | | | | | 72624 | 72924 | | | | | | |
| M10 | 1.50 | | | | | | | | 72625 | 72925 | | | | |
| M12 | 1.25 | | | | | | 72626 | 72926 | | | | | | |
| M12 | 1.75 | | | | | | | | 72627 | 72927 | | | | |
| M14 | 1.50 | | | | | | | | 72628 | 72928 | | | | |
| M14 | 2.00 | | | | | | | | | | 72629 | 72929 | | |
| M16 | 1.50 | | | | | | | | 72630 | 72930 | | | | |
| M16 | 2.00 | | | | | | | | | | 72631 | 72931 | | |
| M18 | 1.50 | | | | | | | | 72632 | 72932 | | | | |
| M18 | 2.50 | | | | | | | | | | 72633 | 72933 | | |
| M20 | 2.50 | | | | | | | | | | 72635 | 72935 | | |
| M24 | 3.00 | | | | | | | | | | | | 72639 | 72939 |

Note: Tap sizes at and larger than M12 do not have center point.

APPLICATION

■ Steam Oxide Finish ■ TiN Coating
■ RECOMMENDED ■ USEABLE

■ Stainless Steel
■ Carbon Steel

■ Alloy Steel
■ Cast Iron

■ Non-Ferrous
■ Ductile Iron

■ Die Steel
■ Cast Iron

XHP-PIPE 15° Spiral Fluted Pipe Taps

High Speed Steel Class E - Vanadium

Steam Oxide



| INCH | | | | |
|--------------|------|--------|---------------|-------|
| NOMINAL SIZE | TPI | FLUTES | THREAD LIMITS | |
| | | | NPT | NPTF |
| | | | SO | |
| 1/16 | 27 | 4 | 83640 | 83660 |
| 1/8 (LS) | 27 | | 83641 | 83661 |
| 1/8 (SS) | 27 | | 83642 | 83662 |
| 1/4 | 18 | | 83643 | 83663 |
| 3/8 | 18 | | 83644 | 83664 |
| 1/2 | 14 | | 83645 | 83665 |
| 3/4 | 14 | | 83646 | 83666 |
| 1 | 11.5 | | 83647 | 83667 |

APPLICATION

■ Steam Oxide Finish

RECOMMENDED | USEABLE

■ Stainless Steel
■ Carbon Steel

■ Alloy Steel

■ Die Steel

XDN-MB Spiral Fluted DIN Length Taps
High Speed Steel Class E - Vanadium

TiALN



| INCH | | | | | | | |
|--------------|--------|--------|--------|--------------|-------|-----|-------|
| NOMINAL SIZE | TPI | | FLUTES | CLASS OF FIT | OAL | | TiALN |
| | NC/UNC | NF/UNF | | | in | mm | |
| 4 | 40 | | 3 | 2B | 2.205 | 56 | 85900 |
| 6 | 32 | | | | 2.205 | 56 | 85903 |
| 8 | 32 | | | | 2.480 | 63 | 85906 |
| 10 | 24 | | | | 2.756 | 70 | 85909 |
| 10 | | 32 | | | 2.756 | 70 | 85912 |
| 1/4 | 20 | | | | 3.150 | 80 | 85915 |
| 1/4 | | 28 | | | 3.150 | 80 | 85918 |
| 5/16 | 18 | | | | 3.543 | 90 | 85921 |
| 5/16 | | 24 | | | 3.543 | 90 | 85924 |
| 3/8 | 16 | | | | 3.937 | 100 | 85927 |
| 3/8 | | 24 | | | 3.937 | 100 | 85930 |
| 7/16 | 14 | | | | 3.937 | 100 | 85933 |
| 7/16 | | 20 | | | 3.937 | 100 | 85936 |
| 1/2 | 13 | | | | 4.331 | 110 | 85939 |
| 1/2 | | 20 | | | 3.937 | 100 | 85942 |
| 5/8 | 11 | | | | 4.331 | 110 | 85945 |
| 5/8 | | 18 | 3.937 | 100 | 85948 | | |
| 3/4 | 10 | | 4.921 | 125 | 85951 | | |
| 3/4 | | 16 | 4.331 | 110 | 85954 | | |
| 1 | 8 | | 6.299 | 160 | 85957 | | |

| METRIC | | | | | | | |
|--------------|-------|--------|--------------|-------|-------|-------|-------|
| NOMINAL SIZE | PITCH | FLUTES | CLASS OF FIT | OAL | | TiALN | |
| | | | | in | mm | | |
| M3 | 0.50 | 3 | 6H | 2.205 | 56 | 75900 | |
| M4 | 0.70 | | | 2.480 | 63 | 75905 | |
| M5 | 0.80 | | | 2.756 | 70 | 75910 | |
| M6 | 1.00 | | | 3.150 | 80 | 75915 | |
| M8 | 1.25 | | | 3.543 | 90 | 75920 | |
| M10 | 1.25 | | | 3.937 | 100 | 75925 | |
| M10 | 1.50 | | | 3.937 | 100 | 75930 | |
| M12 | 1.25 | | | 3.937 | 100 | 75935 | |
| M12 | 1.50 | | | 3.937 | 100 | 75940 | |
| M12 | 1.75 | | | 4.331 | 110 | 75945 | |
| M16 | 2.00 | | | 4.331 | 110 | 75965 | |
| M18 | 1.50 | | | 4.331 | 110 | 75970 | |
| M20 | 1.50 | | | 4.921 | 125 | 75980 | |
| M20 | 2.50 | | | 4.921 | 125 | 75985 | |
| M24 | 3.00 | | | 4 | 6.299 | 160 | 75990 |

APPLICATION

- TiALN Coated

RECOMMENDED | USEABLE
- Stainless Steel
■ High Carbon Steel
- Alloy Steel
■ Cast Iron
- Die Steel

XDN-P Spiral Pointed Din Length Taps
High Speed Steel Class E - Vanadium

TiALN



| INCH | | | | | | | |
|--------------|--------|--------|--------|--------------|-------|-----|-------|
| NOMINAL SIZE | TPI | | FLUTES | CLASS OF FIT | OAL | | TiALN |
| | NC/UNC | NF/UNF | | | in | mm | |
| 4 | 40 | | 3 | 2B | 2.205 | 56 | 86900 |
| 6 | 32 | | | | 2.205 | 56 | 86903 |
| 8 | 32 | | | | 2.480 | 63 | 86906 |
| 10 | 24 | | | | 2.756 | 70 | 86909 |
| 10 | | 32 | | | 2.756 | 70 | 86912 |
| 1/4 | 20 | | | | 3.150 | 80 | 86915 |
| 1/4 | | 28 | | | 3.150 | 80 | 86918 |
| 5/16 | 18 | | | | 3.543 | 90 | 86921 |
| 5/16 | | 24 | | | 3.543 | 90 | 86924 |
| 3/8 | 16 | | | | 3.937 | 100 | 86927 |
| 3/8 | | 24 | | | 3.937 | 100 | 86930 |
| 7/16 | 14 | | | | 3.937 | 100 | 86933 |
| 7/16 | | 20 | | | 3.937 | 100 | 86936 |
| 1/2 | 13 | | | | 4.331 | 110 | 86939 |
| 1/2 | | 20 | | | 3.937 | 100 | 86942 |
| 5/8 | 11 | | | | 4.331 | 110 | 86945 |
| 5/8 | | 18 | | | 3.937 | 100 | 86948 |
| 3/4 | 10 | | | | 4.921 | 125 | 86951 |
| 1 | 8 | | | | 6.299 | 160 | 86957 |

| METRIC | | | | | | | |
|--------------|-------|--------|--------------|-------|-------|-------|-------|
| NOMINAL SIZE | PITCH | FLUTES | CLASS OF FIT | OAL | | TiALN | |
| | | | | in | mm | | |
| M3 | 0.50 | 3 | 6H | 2.205 | 56 | 76900 | |
| M4 | 0.70 | | | 2.480 | 63 | 76905 | |
| M5 | 0.80 | | | 2.756 | 70 | 76910 | |
| M6 | 1.00 | | | 3.150 | 80 | 76915 | |
| M8 | 1.25 | | | 3.543 | 90 | 76920 | |
| M10 | 1.25 | | | 3.937 | 100 | 76925 | |
| M10 | 1.50 | | | 3.937 | 100 | 76930 | |
| M12 | 1.50 | | | 3.937 | 100 | 76940 | |
| M12 | 1.75 | | | 4.331 | 110 | 76945 | |
| M14 | 1.50 | | | 3.937 | 100 | 76950 | |
| M14 | 2.00 | | | 4.331 | 110 | 76955 | |
| M16 | 2.00 | | | 4.331 | 110 | 76965 | |
| M24 | 3.00 | | | 4 | 6.299 | 160 | 76990 |

APPLICATION

■ TiALN Coated
RECOMMENDED | USEABLE

■ Stainless Steel
■ High Carbon Steel

■ Alloy Steel

■ Die Steel
■ Cast Iron

XLT-P Spiral Pointed Extension Taps - Bright
High Speed Steel Class E - Vanadium

* Coating available by request



| INCH | | | | | |
|--------------|--------|--------|--------|--------------|--------|
| NOMINAL SIZE | TPI | | FLUTES | THREAD LIMIT | |
| | NC/UNC | NF/UNF | | H2 | H3 |
| | | | | *BRIGHT | |
| 2 | 56 | | 2 | 82800 | |
| 4 | 40 | | | 82802 | |
| 8 | 32 | | 3 | | 82804 |
| 10 | 24 | | | | 82805 |
| 10 | | 32 | | | 82806 |
| 1/4 | 20 | | | | 82807 |
| 1/4 | | 28 | | | 82808 |
| 5/16 | 18 | | | | 82809 |
| 5/16 | | 24 | | | 82810 |
| 3/8 | 16 | | | | 82811 |
| 3/8 | | 24 | | | 82812 |
| 7/16 | 14 | | | | 82813 |
| 7/16 | | 20 | | | 82814 |
| 1/2 | 13 | | | | 82815 |
| 1/2 | | 20 | | | 82816 |
| 5/8 | 11 | | | | 828192 |
| 5/8 | | 18 | | | 828202 |

* Coating (TiN, TiCN, TiAlN) available by request at additional charge.
6 digit EDP only available in TiCN.

| METRIC | | | | | |
|--------------|-------|--------|--------------|-------|--------|
| NOMINAL SIZE | PITCH | FLUTES | THREAD LIMIT | | |
| | | | D3 | D5 | D6 |
| | | | *BRIGHT | | |
| M3 | 0.50 | 3 | 72870 | | |
| M6 | 1.00 | | | 72873 | |
| M8 | 1.25 | | | 72874 | |
| M10 | 1.50 | | | | 72875 |
| M12 | 1.75 | | | | 72876 |
| M14 | 1.50 | | | | 728772 |
| M16 | 1.50 | | | | 728792 |

* Coating (TiN, TiCN, TiAlN) available by request at additional charge.
6 digit EDP only available in TiCN.

APPLICATION

■ Bright
RECOMMENDED | USEABLE

■ Stainless Steel
■ Carbon Steel

■ Alloy Steel

■ Die Steel
■ Cast Iron

XLT-MB Spiral Fluted Extension Taps - Bright
High Speed Steel Class E - Vanadium

*Coating available by request



| INCH | | | | | | | |
|--------------|--------|--------|--------|------|---------------|---------------|--------|
| NOMINAL SIZE | TPI | | FLUTES | OAL | THREAD LENGTH | THREAD LIMITS | |
| | NC/UNC | NF/UNF | | | | H2 | H3 |
| | | | | | | *BRIGHT | |
| 2 | 56 | | 2 | 4.00 | 0.236 | 44800 | |
| 2 | 56 | | | 6.00 | 0.236 | 84800 | |
| 4 | 40 | | | 4.00 | 0.201 | 44802 | |
| 4 | 40 | | | | 0.201 | 84802 | |
| 6 | 32 | | 3 | 6.00 | 0.252 | | 84803 |
| 8 | 32 | | | | 0.252 | | 84804 |
| 10 | 24 | | | | 0.335 | | 84805 |
| 10 | | 32 | | | 0.335 | | 84806 |
| 1/4 | 20 | | | | 0.402 | | 84807 |
| 1/4 | | 28 | | | 0.402 | | 84808 |
| 5/16 | 18 | | | | 0.445 | | 84809 |
| 5/16 | | 24 | | | 0.445 | | 84810 |
| 3/8 | 16 | | | | 0.500 | | 84811 |
| 3/8 | | 24 | | | 0.500 | | 84812 |
| 7/16 | 14 | | | | 0.571 | | 84813 |
| 7/16 | | 20 | | | 0.571 | | 84814 |
| 1/2 | 13 | | | | 0.614 | | 84815 |
| 1/2 | | 20 | | | 0.614 | | 84816 |
| 5/8 | 11 | | | | 0.728 | | 848192 |
| 5/8 | | 18 | | | 0.728 | | 848202 |
| 3/4 | 10 | | 4 | 6.00 | 0.799 | | 848212 |
| 3/4 | | 16 | | | 0.799 | | 848222 |

* Coating (TiN, TiCN, TiAlN) available by request at additional charge.
6 digit EDP only available in TiCN

| METRIC | | | | | | |
|--------------|-------|--------|---------------|-------|-------|-------|
| NOMINAL SIZE | PITCH | FLUTES | THREAD LIMITS | | | |
| | | | D3 | D4 | D5 | D6 |
| | | | *BRIGHT | | | |
| M3 | 0.50 | 3 | 74870 | | | |
| M4 | 0.70 | | | 74871 | | |
| M5 | 0.80 | | | 74872 | | |
| M6 | 1.00 | | | | 74873 | |
| M8 | 1.25 | | | | 74874 | |
| M10 | 1.50 | | | | | 74875 |
| M12 | 1.75 | | | | | 74876 |

* Coating (TiN, TiCN, TiAlN) available by request at additional charge.

APPLICATION

■ Bright
RECOMMENDED | USEABLE

■ Stainless Steel
■ Carbon Steel

■ Alloy Steel

■ Die Steel
■ Cast Iron

XLT-P Spiral Pointed Oversize Extension Taps

High Speed Steel Class E - Vanadium

Steam Oxide



| INCH | | | | | | |
|--------------|--------|--|--------|------|----------------|-------------|
| NOMINAL SIZE | TPI | | FLUTES | OAL | SHANK DIAMETER | H11 |
| | NC/UNC | | | | | STEAM OXIDE |
| 1/4 | 20 | | 3 | 6.00 | 0.168 | 32807 |
| 5/16 | 18 | | | | 0.220 | 32809 |
| 3/8 | 16 | | | | 0.255 | 32811 |
| 1/2 | 13 | | | | 0.367 | 32815 |
| 5/8 | 11 | | | | 0.480 | 32817 |

*Note: Oversize for heat treatment.

APPLICATION

Steam Oxide Finish
 RECOMMENDED | USEABLE

- Stainless Steel
- Alloy Steel
- Die Steel
- Carbon Steel
- Die Maintenance
- Cast Iron

XEN-P For Nickel Based Alloys Spiral Pointed Taps

Powdered High Speed Steel

Steam Oxide



| INCH | | | | | |
|--------------|-------|--------|--------|---------------|-------|
| NOMINAL SIZE | TPI | | FLUTES | THREAD LIMITS | |
| | NC/UC | NF/UNF | | H2 | H3 |
| | | | | STEAM OXIDE | |
| 2 | 56 | | 2 | 85523 | |
| 4 | 40 | | | 85501 | |
| 5 | 40 | | | 85503 | |
| 6 | 32 | | | | 85505 |
| 8 | 32 | | | | 85507 |
| 10 | 24 | | | 85509 | |
| 10 | | 32 | | 85510 | |
| 1/4 | 20 | | | 85513 | |
| 1/4 | | 28 | | 85514 | |
| 5/16 | 18 | | 3 | 85515 | |
| 5/16 | | 24 | | 85516 | |
| 3/8 | 16 | | | 85517 | |
| 3/8 | | 24 | | 85518 | |
| 7/16 | 14 | | | 85519 | |
| 7/16 | | 20 | | 85520 | |
| 1/2 | 13 | | | 85521 | |
| 1/2 | | 20 | | 85522 | |
| 5/8 | 11 | | | 85525 | |
| 5/8 | | 18 | | 85526 | |
| 3/4 | 10 | | 4 | 85527 | |

| METRIC | | | | | |
|--------------|-------|--------|---------------|-------|-------|
| NOMINAL SIZE | PITCH | FLUTES | THREAD LIMITS | | |
| | | | D3 | D4 | D5 |
| | | | STEAM OXIDE | | |
| M3 | 0.50 | 3 | 75515 | | |
| M4 | 0.70 | | | 75517 | |
| M5 | 0.80 | | | 75519 | |
| M6 | 1.00 | | | | 75520 |
| M8 | 1.25 | | | | 75523 |

APPLICATION

Steam Oxide Finish
 RECOMMENDED

- Alloy Steel
- Nickel Base Alloy
- Stainless Steel
- Tool Steel
- 17-4 PH

XEN-MB Spiral Fluted Taps
Powdered High Speed Steel

Steam Oxide



| INCH | | | | | |
|--------------|-------|--------|--------|---------------|-------|
| NOMINAL SIZE | TPI | | FLUTES | THREAD LIMITS | |
| | NC/UC | NF/UNF | | H2 | H3 |
| | | | | STEAM OXIDE | |
| 2 | 56 | | 3 | 87523 | |
| 4 | 40 | | | 87501 | |
| 6 | 32 | | | | 87505 |
| 8 | 32 | | | | 87507 |
| 10 | 24 | | | | 87509 |
| 10 | | 32 | | | 87510 |
| 1/4 | 20 | | | | 87513 |
| 1/4 | | 28 | | | 87514 |
| 5/16 | 18 | | | | 87515 |
| 5/16 | | 24 | | | 87516 |
| 3/8 | 16 | | | | 87517 |
| 3/8 | | 24 | | | 87518 |
| 7/16 | 14 | | | | 87519 |
| 1/2 | 13 | | | | 87521 |
| 1/2 | | 20 | | | 87522 |
| 5/8 | 11 | | | | 87525 |
| 5/8 | | 18 | | | 87526 |
| 3/4 | 10 | | 4 | | 87527 |
| 3/4 | | 16 | | | 87528 |

| METRIC | | | | | | |
|--------------|-------|--------|---------------|-------|-------|-------|
| NOMINAL SIZE | PITCH | FLUTES | THREAD LIMITS | | | |
| | | | D3 | D4 | D5 | D6 |
| | | | STEAM OXIDE | | | |
| M3 | 0.50 | 3 | 77515 | | | |
| M4 | 0.70 | | | 77517 | | |
| M5 | 0.80 | | | 77519 | | |
| M6 | 1.00 | | | | 77520 | |
| M8 | 1.25 | | | | 77523 | |
| M10 | 1.50 | | | | | 77525 |
| M12 | 1.75 | | | | | 77527 |

APPLICATION

Steam Oxide Finish
 RECOMMENDED | USEABLE

Alloy Steel
 Nickel Based Alloy

Tool Steel
 Stainless Steel

17-4 PH

XET-P Left Hand Spiral, Right Hand Cut Taps For Titanium Alloys
Powdered High Speed Steel

Nitride



| INCH | | | | | |
|--------------|---------|--------|--------|--------------|-------|
| NOMINAL SIZE | TPI | | FLUTES | THREAD LIMIT | |
| | NC/UC | NF/UNF | | H2 | H3 |
| | NITRIDE | | | | |
| 2 | 56 | | 2 | 85623 | |
| 4 | 40 | | | 85601 | |
| 6 | 32 | | 3 | | 85605 |
| 8 | 32 | | | | 85607 |
| 10 | 24 | | | | 85609 |
| 10 | | 32 | | | 85610 |
| 1/4 | 20 | | | | 85613 |
| 1/4 | | 28 | | | 85614 |
| 5/16 | 18 | | | | 85615 |
| 3/8 | 16 | | | | 85617 |

| METRIC | | | | | |
|--------------|---------|--------|---------------|-------|-------|
| NOMINAL SIZE | PITCH | FLUTES | THREAD LIMITS | | |
| | | | D3 | D4 | D5 |
| | NITRIDE | | | | |
| M3 | 0.50 | 3 | 75615 | | |
| M4 | 0.70 | | | 75617 | |
| M5 | 0.80 | | | 75619 | |
| M6 | 1.00 | | | | 75620 |
| M8 | 1.25 | | | | 75623 |

XET-MB Spiral Fluted Taps For Titanium Alloys
Powdered High Speed Steel

Nitride



| INCH | | | | | |
|--------------|---------|--------|--------|--------------|-------|
| NOMINAL SIZE | TPI | | FLUTES | THREAD LIMIT | |
| | NC/UC | NF/UNF | | H2 | H3 |
| | NITRIDE | | | | |
| 2 | 56 | | 3 | 87623 | |
| 4 | 40 | | | 87601 | |
| 6 | 32 | | | | 87605 |
| 8 | 32 | | | | 87607 |
| 10 | 24 | | | | 87609 |
| 10 | | 32 | | | 87610 |
| 1/4 | 20 | | | | 87613 |
| 1/4 | | 28 | | | 87614 |
| 5/16 | | 24 | | | 87616 |
| 3/8 | 16 | | | | 87617 |
| 3/8 | | 24 | | | 87618 |
| 1/2 | 13 | | | | 87621 |

| METRIC | | | | | |
|--------------|---------|--------|---------------|-------|-------|
| NOMINAL SIZE | PITCH | FLUTES | THREAD LIMITS | | |
| | | | D3 | D4 | D5 |
| | NITRIDE | | | | |
| M3 | 0.50 | 3 | 77615 | | |
| M4 | 0.70 | | | 77617 | |
| M5 | 0.80 | | | 77619 | |
| M6 | 1.00 | | | | 77620 |

APPLICATION

■ Nitride

RECOMMENDED | USEABLE

■ Titanium Alloy
■ Nickel Base Alloy

■ Stainless Steel ■ Alloy Steel

XCT-MB Spiral Fluted Coolant-Through Taps

High Speed Steel Class E - Vanadium

TiALN



| INCH | | | | | |
|--------------|--------|--------|-------|--------------|----------|
| NOMINAL SIZE | TPI | FLUTES | OAL | THREAD LIMIT | TiALN |
| | NC/UNC | | | | |
| 1/4 | 20 | 3 | 3.937 | H3 | 64613-00 |
| 5/16 | 18 | | 3.937 | | 64615-00 |
| 3/8 | 16 | | 4.724 | | 64617-00 |
| 7/16 | 14 | | 4.724 | | 64619-00 |
| 1/2 | 13 | | 4.724 | | 64621-00 |
| 9/16 | 12 | | 5.906 | | 64653-00 |
| 5/8 | 11 | | 5.906 | | 64625-00 |
| 5/8 | 18 | | 5.906 | | 64626-00 |
| 3/4 | 10 | 4 | 5.906 | | 64627-00 |

*UNIFIED THREADS

| METRIC | | | | | | |
|--------------|-------|--------|-------|---------------|----------|----------|
| NOMINAL SIZE | PITCH | FLUTES | OAL | THREAD LIMITS | | |
| | | | | D5 | D6 | D8 |
| | | | | TiALN | | |
| M6 | 1.00 | 3 | 3.937 | 54620-00 | | |
| M8 | 1.25 | | 3.937 | | 54623-00 | |
| M10 | 1.50 | | 4.724 | | 54625-00 | |
| M12 | 1.25 | | 4.724 | 54626-00 | | |
| M12 | 1.75 | | 4.724 | | 54627-00 | |
| M16 | 2.00 | | 5.906 | | 54631-00 | |
| M20 | 2.50 | 4 | 5.906 | | | 54635-00 |

*ISO/METRIC THREADS

APPLICATION

■ TiALN Coated

RECOMMENDED | USEABLE

■ Carbon Steel
■ Stainless Steel

■ Alloy Steel

■ Non-Ferrous
■ Cast Iron

XCR-Roll Forming Taps

Cobalt - High Speed Steel

TiN



| INCH | | | | | |
|--------------|--------|--------|-------|--------------|---------|
| NOMINAL SIZE | TPI | | STYLE | CLASS OF FIT | TiN |
| | NC/UNC | NF/UNF | | | |
| 0 | | 80 | B | 2B | 93732TI |
| 2 | 56 | | B | | 93738TI |
| 4 | 40 | | B | | 93784TI |
| 6 | 32 | | P | | 93791TI |
| 6 | 32 | | B | | 93792TI |
| 8 | 32 | | B | | 93796TI |
| 8 | 32 | | P | | 93795TI |
| 10 | 24 | | P | | 93829TI |
| 10 | 24 | | B | | 93830TI |
| 10 | | 32 | P | | 93831TI |
| 10 | | 32 | B | | 93832TI |
| 1/4 | 20 | | P | | 93837TI |
| 1/4 | 20 | | B | | 93838TI |
| 5/16 | 18 | | P | | 93872TI |
| 3/8 | 16 | | P | | 93876TI |
| 3/8 | 16 | | B | | 93877TI |

| METRIC | | | | |
|--------------|-------|-------|--------------|---------|
| NOMINAL SIZE | PITCH | STYLE | CLASS OF FIT | TiN |
| M3 | 0.50 | B | 6H | 93990TI |
| M3 | 0.50 | P | | 93991TI |
| M4 | 0.70 | B | | 93992TI |
| M4 | 0.70 | P | | 93993TI |
| M5 | 0.80 | B | | 93994TI |
| M5 | 0.80 | P | | 93995TI |
| M6 | 1.00 | B | | 93996TI |
| M6 | 1.00 | P | | 93997TI |
| M8 | 1.25 | B | | 93998TI |
| M8 | 1.25 | P | | 93999TI |
| M10 | 1.50 | B | | 94000TI |
| M12 | 1.75 | B | | 94002TI |

| TAP DRILL SIZES FOR XCR TAPS | |
|------------------------------|------------|
| TAP SIZE | DRILL SIZE |
| 0-80 | #54 |
| 2-56 | 5/64 |
| 4-40 | #38 |
| 6-32 | 1/8 |
| 8/32 | #25 |
| 10-24 | 11/66 |
| 10-32 | #16 |
| 1/4-20 | #1 |
| 5/16-18 | L |
| 3/8-16 | S |
| M3X0.5 | 7/64 |
| M4X0.7 | 27 |
| M5X0.8 | 4.60MM |
| M6X1.00 | 5.50MM |
| M8X1.25 | L |
| M10X1.50 | 9.20MM |
| M12X1.75 | 7/16 |

APPLICATION

■ TiN Coating
RECOMMENDED

■ Low Carbon Steel ■ Non-Ferrous

TECHNICAL DATA

| XHP-PIPE | | | | | | |
|----------|--------|-------|---------------|-------------|------------|---------------|
| Tap Size | Pitch | OAL | Thread Length | Neck Length | Shank Dia. | Type |
| 1/16 | 27 | 2.125 | 0.689 | 0.256 | 0.313 | |
| 1/8 | 27 | 2.125 | 0.752 | 0.256 | 0.313 | Small shank |
| | 27 | 2.125 | 0.752 | 0.256 | 0.438 | Large shank |
| 1/4 | 18 | 2.438 | 1.063 | 0.256 | 0.563 | |
| 3/8 | 18 | 2.563 | 1.063 | 0.256 | 0.700 | |
| 1/2 | 14 | 3.125 | 1.374 | 0.579 | 0.688 | Reduced Shank |
| 3/4 | 14 | 3.250 | 1.374 | 0.565 | 0.906 | Reduced Shank |
| 1 | 11-1/2 | 3.750 | 1.752 | 0.678 | 1.125 | Reduced Shank |

| XHP-P, XCR, XET-P | | | | | | | |
|-------------------|-----|-----|-------|-------|-------|-------|------|
| Tap Size | UNC | UNF | L | L1 | Ln | ød | Type |
| 0 | | 80 | 1.634 | 0.319 | 0.358 | 0.141 | 1 |
| 2 | 56 | | 1.750 | 0.437 | 0.477 | 0.141 | |
| 3 | 48 | | 1.812 | 0.499 | 0.538 | 0.141 | |
| 4 | 40 | | 1.875 | 0.299 | 0.562 | 0.141 | |
| | | 48 | 1.875 | 0.299 | 0.562 | 0.141 | 2 |
| 5 | 40 | | 1.937 | 0.299 | 0.625 | 0.141 | |
| 6 | 32 | | 2.000 | 0.374 | 0.687 | 0.141 | |
| | | 40 | 2.000 | 0.374 | 0.687 | 0.141 | |
| 8 | 32 | | 2.125 | 0.374 | 0.750 | 0.168 | |
| | | 36 | 2.125 | 0.374 | 0.750 | 0.168 | |
| 10 | 24 | | 2.375 | 0.500 | 0.875 | 0.194 | |
| | | 32 | 2.375 | 0.500 | 0.875 | 0.194 | |
| 12 | 24 | | 2.375 | 0.500 | 0.937 | 0.220 | |
| | | 28 | 2.375 | 0.500 | 0.937 | 0.220 | |
| 1/4 | 20 | | 2.500 | 0.597 | 1.000 | 0.255 | 3 |
| | | 28 | 2.500 | 0.597 | 1.000 | 0.255 | |
| 5/16 | 18 | | 2.719 | 0.665 | 1.125 | 0.318 | |
| | | 24 | 2.719 | 0.665 | 1.125 | 0.318 | |
| 3/8 | 16 | | 2.938 | 0.752 | 1.250 | 0.381 | |
| | | 24 | 2.938 | 0.752 | 1.250 | 0.381 | |
| 7/16 | 14 | | 3.156 | 0.858 | 1.291 | 0.323 | |
| | | 20 | 3.156 | 0.858 | 1.291 | 0.323 | |
| 1/2 | 13 | | 3.375 | 0.921 | 1.354 | 0.367 | |
| | | 20 | 3.375 | 0.921 | 1.354 | 0.367 | |
| 9/16 | 12 | | 3.594 | 1.000 | 1.472 | 0.429 | |
| | | 18 | 3.594 | 1.000 | 1.472 | 0.429 | |
| 5/8 | 11 | | 3.813 | 1.091 | 1.563 | 0.480 | |
| | | 18 | 3.813 | 1.091 | 1.563 | 0.480 | |
| 3/4 | 10 | | 4.250 | 1.201 | 1.713 | 0.590 | |
| | | 16 | 4.250 | 1.201 | 1.713 | 0.590 | |
| 7/8 | 9 | | 4.688 | 1.335 | 1.886 | 0.697 | |
| | | 14 | 4.688 | 1.335 | 1.886 | 0.697 | |
| 1 | 8 | | 5.125 | 1.500 | 2.091 | 0.800 | |
| | | 12 | 5.125 | 1.500 | 2.091 | 0.800 | |
| 1-1/8 | 7 | | 5.437 | 1.713 | 2.382 | 0.896 | |
| | | 12 | 5.437 | 1.713 | 2.382 | 0.896 | |
| 1-1/4 | 7 | | 5.750 | 1.713 | 2.343 | 1.021 | |
| | | 12 | 5.750 | 1.713 | 2.343 | 1.021 | |

| XHP-P, XCR | | | | | | |
|------------|-------|-------|-------|-------|-------|------|
| Tap Size | Pitch | L | L1 | Ln | ød | Type |
| M3 | 0.5 | 1.938 | 0.236 | 0.625 | 0.141 | 2 |
| M3.5 | 0.6 | 2.000 | 0.283 | 0.688 | 0.141 | |
| M4 | 0.7 | 2.125 | 0.331 | 0.750 | 0.168 | |
| M5 | 0.8 | 2.375 | 0.378 | 0.875 | 0.194 | |
| M6 | 1 | 2.500 | 0.472 | 1.000 | 0.255 | |
| M7 | 1 | 2.719 | 0.472 | 1.125 | 0.318 | |
| M8 | 1 | 2.719 | 0.591 | 1.125 | 0.318 | |
| M8 | 1.25 | 2.719 | 0.591 | 1.125 | 0.318 | |
| M10 | 1.25 | 2.938 | 0.709 | 1.250 | 0.381 | |
| M10 | 1.5 | 2.938 | 0.709 | 1.250 | 0.381 | |
| M12 | 1.25 | 3.375 | 0.827 | 1.260 | 0.367 | 3 |
| M12 | 1.75 | 3.375 | 0.827 | 1.260 | 0.367 | |
| M14 | 1.5 | 3.594 | 0.945 | 1.417 | 0.429 | |
| M14 | 2 | 3.594 | 0.945 | 1.417 | 0.429 | |
| M16 | 1.5 | 3.813 | 0.945 | 1.417 | 0.480 | |
| M16 | 2 | 3.813 | 0.945 | 1.417 | 0.480 | |
| M18 | 1.5 | 4.031 | 1.181 | 1.693 | 0.542 | |
| M18 | 2.5 | 4.031 | 1.181 | 1.693 | 0.542 | |
| M20 | 2.5 | 4.469 | 1.181 | 1.732 | 0.652 | |
| M24 | 3 | 4.906 | 1.417 | 2.008 | 0.760 | |

| XET-MB | | | | | | | |
|----------|-----|-----|-------|-------|-------|-------|------|
| Tap Size | UNC | UNF | L | L1 | Ln | ød | Type |
| 4 | 40 | | 1.875 | 0.201 | 0.562 | 0.141 | 2 |
| 6 | 32 | | 2.000 | 0.252 | 0.687 | 0.141 | |
| 8 | 32 | | 2.125 | 0.252 | 0.750 | 0.168 | |
| 10 | 24 | | 2.375 | 0.335 | 0.875 | 0.194 | |
| | | 32 | 2.375 | 0.335 | 0.875 | 0.194 | |
| 1/4 | 20 | | 2.500 | 0.402 | 1.000 | 0.255 | |
| | | 28 | 2.500 | 0.402 | 1.000 | 0.255 | |
| 5/16 | 18 | | 2.719 | 0.445 | 1.125 | 0.318 | |
| | | 24 | 2.719 | 0.445 | 1.125 | 0.318 | |
| 3/8 | 16 | | 2.937 | 0.500 | 1.250 | 0.381 | |
| | | 24 | 2.937 | 0.500 | 1.250 | 0.381 | |
| 7/16 | 14 | | 3.157 | 0.571 | 1.713 | 0.323 | 3 |
| | | 20 | 3.157 | 0.571 | 1.713 | 0.323 | |
| 1/2 | 13 | | 3.375 | 0.614 | 1.933 | 0.367 | |
| | | 20 | 3.375 | 0.614 | 1.933 | 0.367 | |

| XEN-MB | | | | | | | |
|----------|-----|-----|-------|-------|-------|-------|------|
| Tap Size | UNC | UNF | L | L1 | Ln | ød | Type |
| 2 | 56 | | 1.750 | 0.437 | 0.476 | 0.141 | 1 |
| 4 | 40 | | 1.875 | 0.201 | 0.562 | 0.141 | |
| | | 48 | 1.875 | 0.201 | 0.562 | 0.141 | 2 |
| 5 | 40 | | 1.937 | 0.201 | 0.625 | 0.141 | |
| 6 | 32 | | 2.000 | 0.252 | 0.687 | 0.141 | |
| | | 40 | 2.000 | 0.252 | 0.687 | 0.141 | |
| 8 | 32 | | 2.125 | 0.252 | 0.750 | 0.168 | |
| | | 36 | 2.125 | 0.252 | 0.750 | 0.168 | |
| 10 | 24 | | 2.375 | 0.335 | 0.875 | 0.194 | |
| | | 32 | 2.375 | 0.335 | 0.875 | 0.194 | |
| 1/4 | 20 | | 2.500 | 0.402 | 1.000 | 0.255 | |
| | | 28 | 2.500 | 0.402 | 1.000 | 0.255 | |
| 5/16 | 18 | | 2.719 | 0.445 | 1.125 | 0.318 | 3 |
| | | 24 | 2.719 | 0.445 | 1.125 | 0.318 | |
| 3/8 | 16 | | 2.937 | 0.500 | 1.250 | 0.381 | |
| | | 24 | 2.937 | 0.500 | 1.250 | 0.381 | |
| 7/16 | 14 | | 3.157 | 0.571 | 1.713 | 0.323 | |
| | | 20 | 3.157 | 0.571 | 1.713 | 0.323 | |
| 1/2 | 13 | | 3.375 | 0.614 | 1.933 | 0.367 | |
| | | 20 | 3.375 | 0.614 | 1.933 | 0.367 | |
| 5/8 | 11 | | 3.813 | 0.728 | 2.126 | 0.480 | |
| | | 18 | 3.813 | 0.728 | 2.126 | 0.480 | |
| 3/4 | 10 | | 4.250 | 0.799 | 2.433 | 0.590 | |
| | | 16 | 4.250 | 0.799 | 2.433 | 0.590 | |

| XEN-MB | | | | | | |
|----------|-------|-------|-------|-------|-------|------|
| Tap Size | Pitch | L | L1 | Ln | ød | Type |
| M3 | 0.5 | 1.937 | 0.236 | 0.625 | 0.141 | 2 |
| M4 | 0.7 | 2.125 | 0.328 | 0.750 | 0.168 | |
| M5 | 0.8 | 2.375 | 0.376 | 0.875 | 0.194 | |
| M6 | 1 | 2.500 | 0.472 | 1.000 | 0.255 | |
| M8 | 1.25 | 2.719 | 0.591 | 1.125 | 0.318 | |

Recommended Cutting Speed (SFM) For Vega Taps Using Oil-Based Coolants

| Material Group | Material | Hardness Rc< | XHP S.O. | XHP TiN | XCM S.O. | XDN TiAIN | XEN S.O. | XCT S.O. | XTF TiCN |
|-----------------|----------------|--------------|----------|---------|----------|-----------|----------|----------|----------|
| Low Carb Steel | 1010, 1015 | 9 | 100 | | | 100 | | 120 | 120 |
| | 1018 | 9 | 100 | | | 100 | | 120 | 120 |
| Med. Carb Steel | 12L13 | 20 | 50 | 50 | | 50 | | 70 | 70 |
| | 1045, 1050 | 20 | 50 | 50 | | 50 | | 70 | 70 |
| Tool Steel | 4140 | 32 | | 25 | 25 | 25 | | 40 | 50 |
| | P20, H12 | 32 | | 25 | 25 | 25 | | 40 | 50 |
| | S-7, A-2 | 32 | | 25 | 25 | 25 | | 40 | 50 |
| Stainless Steel | 303, 304 | 12 | 25 | | | 25 | | 40 | 60 |
| | 316, 400 | 25 | 25 | 25 | | 25 | | 40 | 60 |
| | 17-4, 15-5 PH | 47 | | | | | 15 | | |
| High Temp. | Inconel | 33 | | | | | 10 | | |
| | Titanium | 38 | | | | | 15 | | |
| Iron | Grey Cast | 21 | | 40 | | 40 | | 70 | |
| | Ductile | 22 | 40 | 40 | | 40 | | 70 | |
| Non-Ferrous | Alum. Die Cast | | | 120 | | 120 | | 150 | 140 |
| | Brass/Bronze | | | 100 | | 100 | | 130 | 100 |
| | Copper, Mag | | | 100 | | 100 | | 120 | 100 |

Proper tapping speeds are very important in obtaining efficient tapping results.

| XEN-P | | | | | | | |
|----------|-----|-----|-------|-------|-------|-------|------|
| Tap Size | UNC | UNF | L | L1 | Ln | ød | Type |
| 2 | 56 | | 1.750 | 0.437 | 0.476 | 0.141 | 1 |
| 4 | 40 | | 1.875 | 0.296 | 0.562 | 0.141 | |
| | | 48 | 1.875 | 0.296 | 0.562 | 0.141 | 2 |
| 5 | 40 | | 1.937 | 0.299 | 0.625 | 0.141 | |
| 6 | 32 | | 2.000 | 0.374 | 0.687 | 0.141 | |
| | | 40 | 2.000 | 0.374 | 0.687 | 0.141 | |
| 8 | 32 | | 2.125 | 0.374 | 0.750 | 0.168 | |
| | | 36 | 2.125 | 0.374 | 0.750 | 0.168 | |
| 10 | 24 | | 2.375 | 0.500 | 0.875 | 0.194 | |
| | | 32 | 2.375 | 0.500 | 0.875 | 0.194 | |
| 1/4 | 20 | | 2.500 | 0.594 | 1.000 | 0.255 | |
| | | 28 | 2.500 | 0.594 | 1.000 | 0.255 | |
| 5/16 | 18 | | 2.719 | 0.662 | 1.125 | 0.318 | 3 |
| | | 24 | 2.719 | 0.662 | 1.125 | 0.318 | |
| 3/8 | 16 | | 2.937 | 0.752 | 1.250 | 0.381 | |
| | | 24 | 2.937 | 0.752 | 1.250 | 0.381 | |
| 7/16 | 14 | | 3.157 | 0.858 | 1.291 | 0.323 | |
| | | 20 | 3.157 | 0.858 | 1.291 | 0.323 | |
| 1/2 | 13 | | 3.375 | 0.921 | 1.354 | 0.367 | |
| | | 20 | 3.375 | 0.921 | 1.354 | 0.367 | |
| 5/8 | 11 | | 3.813 | 1.091 | 1.563 | 0.480 | |
| | | 18 | 3.813 | 1.091 | 1.563 | 0.480 | |
| 3/4 | 10 | | 4.250 | 1.201 | 1.713 | 0.590 | |
| | | 16 | 4.250 | 1.201 | 1.713 | 0.590 | |

| XEN-P | | | | | | |
|----------|-------|-------|-------|-------|-------|------|
| Tap Size | Pitch | L | L1 | Ln | ød | Type |
| M3 | 0.5 | 1.937 | 0.236 | 0.625 | 0.141 | 2 |
| M4 | 0.7 | 2.125 | 0.328 | 0.750 | 0.168 | |
| M5 | 0.8 | 2.375 | 0.376 | 0.875 | 0.194 | |
| M6 | 1 | 2.500 | 0.472 | 1.000 | 0.255 | |
| M8 | 1.25 | 2.719 | 0.591 | 1.125 | 0.318 | |

| XLT-P | | | | | | | |
|----------|-----|-----|-------|-------|-------|-------|------|
| Tap Size | UNC | UNF | L | L1 | Ln | ød | Type |
| 2 | 56 | | 4.000 | 0.335 | 0.844 | 0.141 | 1 |
| | | | 6.000 | 0.335 | 0.844 | 0.141 | |
| 3 | 48 | | 4.000 | 0.335 | 0.844 | 0.141 | 2 |
| | | | 6.000 | 0.335 | 0.844 | 0.141 | |
| 4 | 40 | | 4.000 | 0.299 | 1.000 | 0.141 | |
| | | | 6.000 | 0.299 | 1.000 | 0.141 | |
| 6 | 32 | | 6.000 | 0.374 | 1.125 | 0.141 | |
| 8 | 32 | | 6.000 | 0.374 | 1.250 | 0.168 | |
| 10 | 24 | | 6.000 | 0.500 | 1.375 | 0.194 | |
| | | 32 | 6.000 | 0.500 | 1.375 | 0.194 | |
| 1/4 | 20 | | 6.000 | 0.598 | 1.625 | 0.255 | |
| | | 28 | 6.000 | 0.598 | 1.625 | 0.255 | |
| 5/16 | 18 | | 6.000 | 0.665 | 1.750 | 0.318 | 3 |
| | | 24 | 6.000 | 0.665 | 1.750 | 0.318 | |
| 3/8 | 16 | | 6.000 | 0.754 | 2.000 | 0.381 | |
| | | 24 | 6.000 | 0.754 | 2.000 | 0.381 | |
| 7/16 | 14 | | 6.000 | 0.858 | 2.000 | 0.323 | |
| | | 20 | 6.000 | 0.858 | 2.000 | 0.323 | |
| 1/2 | 13 | | 6.000 | 0.921 | 2.000 | 0.367 | |
| | | 20 | 6.000 | 0.921 | 2.000 | 0.367 | |

| XLT-P | | | | | | |
|----------|-------|-------|-------|-------|-------|------|
| Tap Size | Pitch | L | L1 | Ln | ød | Type |
| M3 | 0.5 | 6.000 | 0.236 | 0.844 | 0.141 | 2 |
| M4 | 0.7 | 6.000 | 0.331 | 1.250 | 0.168 | |
| M5 | 0.5 | 6.000 | 0.378 | 1.375 | 0.194 | |
| M6 | 1 | 6.000 | 0.472 | 1.625 | 0.255 | |
| M8 | 1.25 | 6.000 | 0.589 | 1.750 | 0.318 | |
| M10 | 1.5 | 6.000 | 0.709 | 2.000 | 0.381 | 3 |
| M12 | 1.75 | 6.000 | 0.827 | 2.000 | 0.367 | |

| XDN-P | | | | | | | |
|----------|-----|-----|-------|-------|-------|-------|------|
| Tap Size | UNC | UNF | L | L1 | Ln | Ød | Type |
| 4 | 40 | | 2.205 | 0.299 | 0.709 | 0.141 | 2 |
| 6 | 32 | | 2.205 | 0.374 | 0.787 | 0.141 | |
| 8 | 32 | | 2.480 | 0.374 | 0.827 | 0.168 | |
| 10 | 24 | | 2.756 | 0.500 | 0.984 | 0.194 | |
| | | 32 | 2.756 | 0.500 | 0.984 | 0.194 | |
| 1/4 | 20 | | 3.150 | 0.597 | 1.181 | 0.255 | |
| | | 28 | 3.150 | 0.597 | 1.181 | 0.255 | |
| 5/16 | 18 | | 3.543 | 0.665 | 1.338 | 0.318 | |
| | | 24 | 3.543 | 0.665 | 1.338 | 0.318 | |
| 3/8 | 16 | | 3.937 | 0.752 | 1.338 | 0.381 | |
| | | 24 | 3.937 | 0.752 | 1.338 | 0.381 | |
| 7/16 | 14 | | 3.937 | 0.858 | 1.291 | 0.323 | 3 |
| | | 20 | 3.937 | 0.858 | 1.291 | 0.323 | |
| 1/2 | 13 | | 4.331 | 0.921 | 1.354 | 0.367 | |
| | | 20 | 3.937 | 0.921 | 1.354 | 0.367 | |
| 5/8 | 11 | | 4.331 | 1.091 | 1.563 | 0.480 | |
| | | 18 | 3.937 | 1.091 | 1.563 | 0.480 | |
| 3/4 | 10 | | 4.921 | 1.201 | 1.713 | 0.590 | |
| | | 16 | 4.331 | 1.201 | 1.713 | 0.590 | |
| 1 | 8 | | 6.299 | 1.778 | 2.091 | 0.800 | |

| XDN-P | | | | | | |
|----------|-------|-------|-------|-------|-------|------|
| Tap Size | Pitch | L | L1 | Ln | Ød | Type |
| M4 | 0.7 | 2.480 | 0.331 | 0.827 | 0.168 | 2 |
| M5 | 0.8 | 2.756 | 0.378 | 0.984 | 0.194 | |
| M6 | 1 | 3.150 | 0.472 | 1.181 | 0.255 | |
| M8 | 1.25 | 3.543 | 0.589 | 1.516 | 0.318 | |
| M10 | 1.25 | 3.937 | 0.709 | 1.535 | 0.381 | |
| | 1.5 | 3.937 | 0.709 | 1.535 | 0.381 | |
| M12 | 1.25 | 3.937 | 0.827 | 1.260 | 0.367 | 3 |
| | 1.5 | 3.937 | 0.827 | 1.260 | 0.367 | |
| | 1.75 | 4.331 | 0.827 | 1.260 | 0.367 | |
| M14 | 1.5 | 3.937 | 0.945 | 1.417 | 0.429 | |
| | 2 | 4.331 | 0.945 | 1.417 | 0.429 | |
| M16 | 1.5 | 3.937 | 0.945 | 1.417 | 0.480 | |
| | 2 | 4.331 | 0.945 | 1.417 | 0.480 | |
| M18 | 1.5 | 4.331 | 1.181 | 1.693 | 0.542 | |
| | 2.5 | 4.921 | 1.181 | 1.693 | 0.542 | |
| M20 | 1.5 | 4.921 | 1.181 | 1.732 | 0.652 | |
| | 2.5 | 5.512 | 1.181 | 1.732 | 0.652 | |
| M24 | 3 | 6.299 | 1.417 | 2.008 | 0.760 | |

| XDN-MB | | | | | | | |
|----------|-----|-----|-------|-------|-------|-------|------|
| Tap Size | UNC | UNF | L | L1 | Ln | Ød | Type |
| 4 | 40 | | 2.205 | 0.201 | 0.709 | 0.161 | 2 |
| 6 | 32 | | 2.205 | 0.252 | 0.787 | 0.161 | |
| 8 | 32 | | 2.480 | 0.252 | 0.827 | 0.168 | |
| 10 | 24 | | 2.756 | 0.335 | 0.984 | 0.194 | |
| | | 32 | 2.756 | 0.335 | 0.984 | 0.194 | |
| 1/4 | 20 | | 3.150 | 0.402 | 1.181 | 0.255 | |
| | | 28 | 3.150 | 0.402 | 1.181 | 0.255 | |
| 5/16 | 18 | | 3.543 | 0.445 | 1.378 | 0.318 | |
| | | 24 | 3.543 | 0.445 | 1.378 | 0.318 | |
| 3/8 | 16 | | 3.937 | 0.500 | 1.378 | 0.381 | |
| | | 24 | 3.937 | 0.500 | 1.378 | 0.381 | |
| 7/16 | 14 | | 3.937 | 0.571 | 1.713 | 0.323 | 3 |
| | | 20 | 3.937 | 0.571 | 1.713 | 0.323 | |
| 1/2 | 13 | | 4.331 | 0.614 | 1.933 | 0.367 | |
| | | 20 | 3.937 | 0.614 | 1.933 | 0.367 | |
| 5/8 | 11 | | 4.331 | 0.728 | 2.126 | 0.480 | |
| | | 18 | 3.937 | 0.728 | 2.126 | 0.480 | |
| 3/4 | 10 | | 4.921 | 0.799 | 2.433 | 0.590 | |
| | | 16 | 4.331 | 0.799 | 2.433 | 0.590 | |
| 1 | 8 | | 6.299 | 1.778 | 3.012 | 0.800 | |

| XDN-MB | | | | | | |
|----------|-------|-------|-------|-------|-------|------|
| Tap Size | Pitch | L | L1 | Ln | Ød | Type |
| M4 | 0.7 | 2.480 | 0.220 | 0.828 | 0.168 | 2 |
| M5 | 0.8 | 2.756 | 0.252 | 0.954 | 0.194 | |
| M6 | 1 | 3.150 | 0.315 | 1.181 | 0.255 | |
| M8 | 1.25 | 3.543 | 0.394 | 1.378 | 0.318 | |
| M10 | 1.25 | 3.937 | 0.472 | 1.535 | 0.381 | |
| | 1.5 | 3.937 | 0.472 | 1.535 | 0.381 | |
| M12 | 1.25 | 3.937 | 0.551 | 1.933 | 0.367 | 3 |
| | 1.5 | 3.937 | 0.551 | 1.933 | 0.367 | |
| | 1.75 | 4.331 | 0.551 | 1.933 | 0.367 | |
| M14 | 1.5 | 3.937 | 0.630 | 1.972 | 0.429 | |
| | 2 | 4.331 | 0.630 | 1.972 | 0.429 | |
| M16 | 1.5 | 3.937 | 0.630 | 2.126 | 0.480 | |
| | 2 | 4.331 | 0.630 | 2.126 | 0.480 | |
| M18 | 1.5 | 4.331 | 0.787 | 2.165 | 0.542 | |
| | 2.5 | 4.921 | 0.787 | 2.165 | 0.542 | |
| M20 | 1.5 | 4.921 | 0.787 | 2.433 | 0.652 | |
| | 2.5 | 5.512 | 0.787 | 2.433 | 0.652 | |
| M24 | 3 | 6.299 | 0.945 | 2.693 | 0.760 | |

Notes:

| XCT-MB | | | | | | | |
|----------|-----|-----|-------|-------|-------|-------|------|
| Tap Size | UNC | UNF | L | L1 | Ln | ød | Type |
| 1/4 | 20 | | 3.937 | 0.402 | 1.000 | 0.255 | 2 |
| | | 28 | 3.937 | 0.402 | 1.000 | 0.255 | |
| 5/16 | 18 | | 3.937 | 0.445 | 1.125 | 0.318 | |
| | | 24 | 3.937 | 0.445 | 1.125 | 0.318 | |
| 3/8 | 16 | | 4.724 | 0.500 | 1.250 | 0.381 | 3 |
| | | 24 | 4.724 | 0.500 | 1.250 | 0.381 | |
| 7/16 | 14 | | 4.724 | 0.571 | 1.713 | 0.323 | |
| | | 20 | 4.724 | 0.571 | 1.713 | 0.323 | |
| 1/2 | 13 | | 4.724 | 0.614 | 1.933 | 0.367 | |
| | | 20 | 4.724 | 0.614 | 1.933 | 0.367 | |
| 5/8 | 11 | | 5.906 | 0.728 | 2.126 | 0.480 | |
| | | 18 | 5.906 | 0.728 | 2.126 | 0.480 | |
| 3/4 | 10 | | 5.906 | 0.799 | 2.433 | 0.590 | |
| | | 16 | 5.906 | 0.799 | 2.433 | 0.590 | |

| XCT-MB | | | | | | | |
|----------|-------|-------|-------|-------|-------|------|--|
| Tap Size | Pitch | L | L1 | Ln | ød | Type | |
| M6 | 1 | 3.937 | 0.315 | 1.000 | 0.255 | 2 | |
| M8 | 1.25 | 3.937 | 0.394 | 1.125 | 0.318 | | |
| M10 | 1.25 | 4.724 | 0.472 | 1.250 | 0.381 | | |
| | 1.5 | 4.724 | 0.472 | 1.250 | 0.381 | | |
| M12 | 1.25 | 4.724 | 0.551 | 1.933 | 0.367 | 3 | |
| | 1.5 | 4.724 | 0.551 | 1.933 | 0.367 | | |
| | 1.75 | 4.724 | 0.551 | 1.933 | 0.367 | | |
| M14 | 1.5 | 5.906 | 0.630 | 1.972 | 0.429 | | |
| | 2 | 5.906 | 0.630 | 1.972 | 0.429 | | |
| M16 | 1.5 | 5.906 | 0.630 | 1.813 | 0.480 | | |
| | 2 | 5.906 | 0.630 | 2.126 | 0.480 | | |
| M20 | 2.5 | 5.906 | 0.787 | 2.433 | 0.652 | | |

There are many factors that affect proper tapping speeds, some of which are listed below:

TAP FACTORS

- Major diameters, pitch and lead
- Style of tap
- Length of chamfer
- Bottoming taps normally require slower speeds than plug tap

MECHANICAL FACTORS

- Type of tapping machine and holder
- Type of fixture
- Cutting fluids used
- Method of feeding tap
- Faster speeds of vertical tapping

MATERIAL FACTORS

- Variations in carbon content of steel
- Hard spots in material
- Depth of hole to be tapped

Notes:

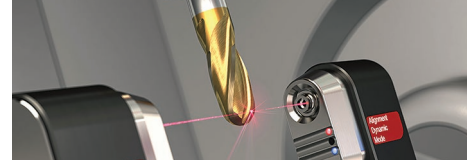
ALPS TOOL



- ER collet and ER TAP collet
- High precision ER collet from Japan
- Original patented design coolant through collet



- Water soluble mist collector
- Reduction in indoor air pollution
- Filter and filter-less options
- After filter option for oil mist
- Easy maintenance



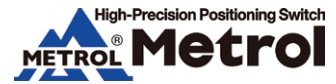
- Laser tool setter and touch probe
- Non-contact tool setting
- All tool parameters detection
- Extremely robust and long lasting
- Radio and infrared transmission probe system
- Contour measurement



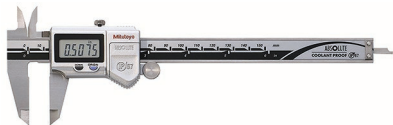
- Precision standard tool holders
- High precision SK collet holder, taper plus holders, end mill holders, high performance milling chuck
- Most accurate and precise collet chucks guaranteed runout within .0002"



- Shrink-fit tool holder
- High runout accuracy
- High rigidity
- High clamping force of 77 kg*m
- Special steel material
- High accessibility



- Tool setters and touch probe
- Improve machine accuracy of CNC machine tools
- Tool wear and breakage detection
- Tool length preset
- Radio transmission probe
- 1um repeatability



- Nationwide distributor for Mitutoyo inspection and quality solutions.



- Tool holder made with black oxide coating material
- High runout accuracy
- High clamping force
- Center through collet



- CNC rotary table
- High speed accurate indexing up to 83.3 RPM
- Outstanding water protection
- High-clamping torque up to 550Nm
- Easy maintenance



2018 Edition

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