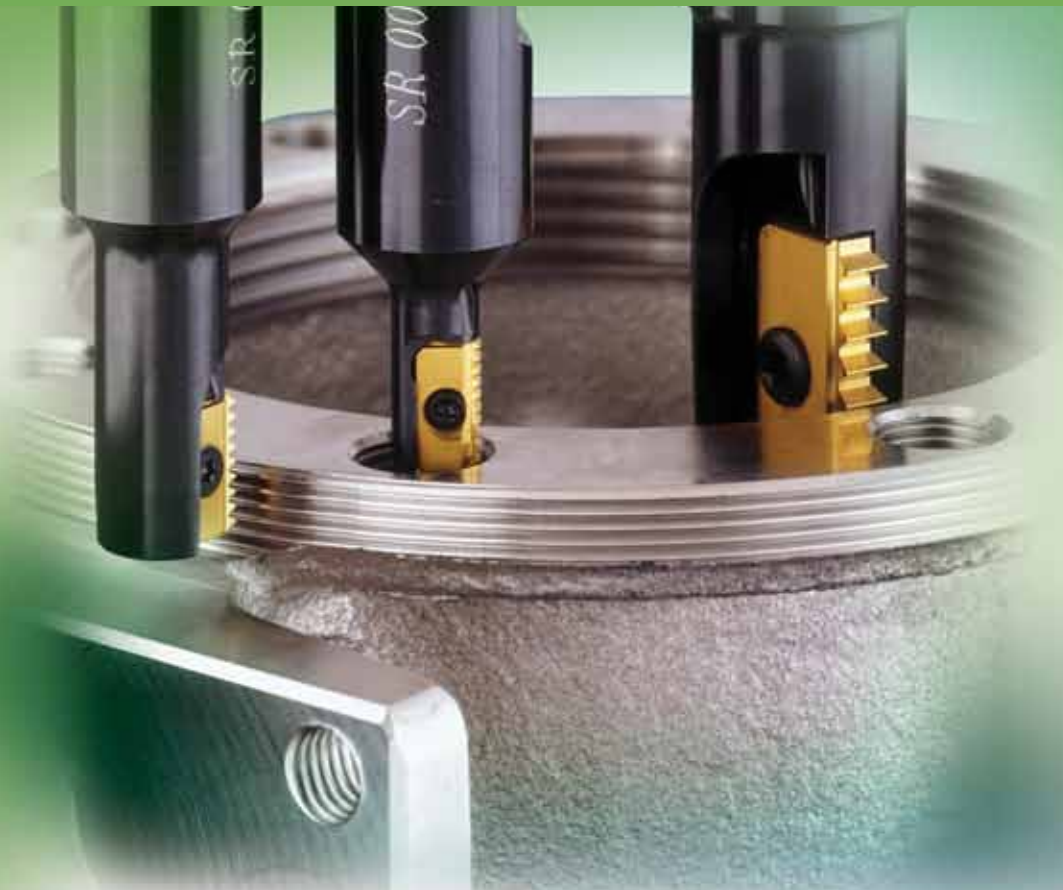


Mill - Thread Inserts and Kits



**Mill-Thread tools for threading on CNC milling machines
by using helical interpolation programs**

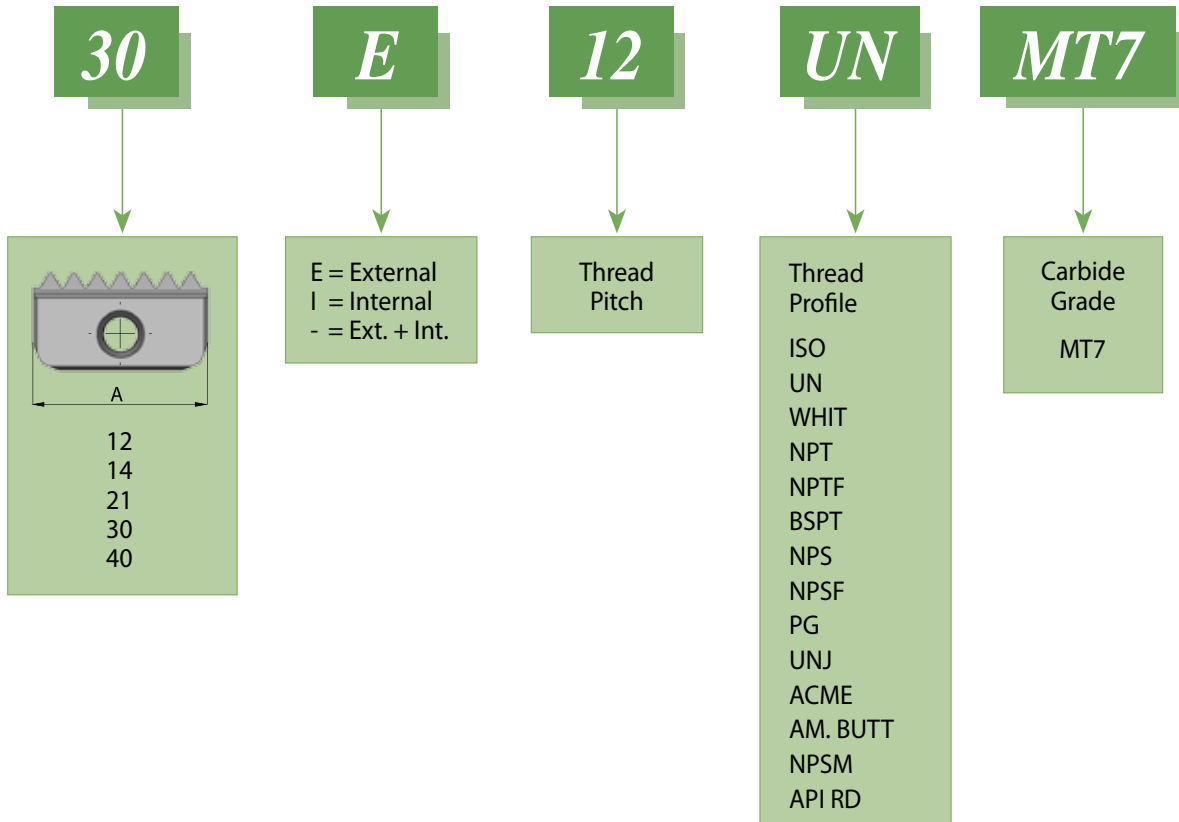
Advantages of Mill-Thread Tools

- Same toolholder and insert can produce both right-hand and left-hand threads.
- A single insert & toolholder can produce a given thread on many diameters (External & Internal).
- Prismatic shape of insert's tail ensures exact and reliable clamping in the toolholder.
- Most inserts are double sided, having two cutting edges.
- Thread is produced in one tool pass.
- MT tools can produce tapered threads.
- Improved productivity thanks to increased cutting speeds and multitooth type carbide inserts.
- Threading to one pitch of a shoulder in a blind hole.
- Longer tool life thanks to a special multilayer coating process.
- Lower tooling costs, considerably less expensive than using taps and dies.
- Since lower machine power is required, a smaller machine can produce larger threads in a single operation with less idle time and tool changes.

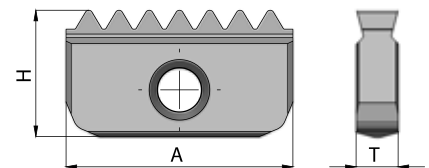
| Contents: | Page: | Contents: | Page: |
|------------------------|--------------|-------------------|--------------|
| Product Identification | 172 | NPSM | 178 |
| ISO | 173 | PG - DIN 40430 | 178 |
| UN | 174 | UNJ | 179 |
| WHIT | 175 | American Buttress | 179 |
| BSPT | 175 | Acme | 180 |
| NPT | 176 | API RD | 180 |
| NPTF | 176 | Internal ISO Kits | 181 |
| NPS | 177 | Special Tools | 182 |
| NPSF | 177 | | |

Product Identification

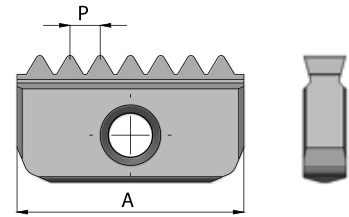
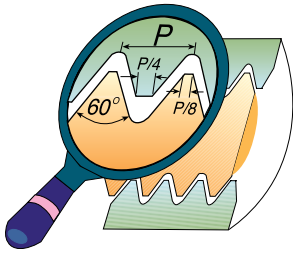
Mill-Thread Inserts Ordering Codes



| | Insert Size = A | | | | |
|---|-----------------|-------|-------|-------|-------|
| | 12 mm | 14 mm | 21 mm | 30 mm | 40 mm |
| H | .248 | .295 | .472 | .630 | .787 |
| T | .114 | .122 | .185 | .217 | .248 |



ISO

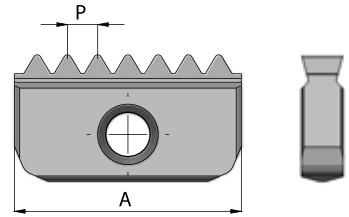
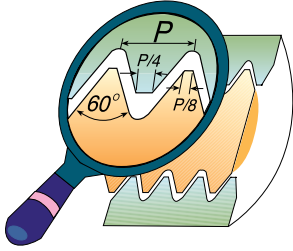


| Pitch mm | | Insert Size = A | | | | |
|-------------|------|-----------------|---------------|---------------|----------------|----------------|
| | | 12 mm .472 | 14 mm .551 | 21 mm .827 | 30 mm 1.181 | 40 mm 1.575 |
| 0.5 | Ext. | | | | | |
| 0.5 | Int. | * 12 I 0.5 ISO | 14 I 0.5 ISO | | | |
| 0.75 | Ext. | | 14 E 0.75 ISO | | | |
| 0.75 | Int. | * 12 I 0.75 ISO | 14 I 0.75 ISO | | | |
| 1.0 | Ext. | | 14 E 1.0 ISO | 21 E 1.0 ISO | | |
| 1.0 | Int. | * 12 I 1.0 ISO | 14 I 1.0 ISO | 21 I 1.0 ISO | | |
| 1.25 | Ext. | | 14 E 1.25 ISO | | | |
| 1.25 | Int. | * 12 I 1.25 ISO | 14 I 1.25 ISO | | | |
| 1.5 | Ext. | | 14 E 1.5 ISO | 21 E 1.5 ISO | 30 E 1.5 ISO | 40 E 1.5 ISO |
| 1.5 | Int. | * 12 I 1.5 ISO | 14 I 1.5 ISO | 21 I 1.5 ISO | 30 I 1.5 ISO | 40 I 1.5 ISO |
| 1.75 | Ext. | | 14 E 1.75 ISO | | | |
| 1.75 | Int. | | 14 I 1.75 ISO | 21 I 1.75 ISO | | |
| 2.0 | Ext. | | 14 E 2.0 ISO | 21 E 2.0 ISO | 30 E 2.0 ISO | 40 E 2.0 ISO |
| 2.0 | Int. | | 14 I 2.0 ISO | 21 I 2.0 ISO | 30 I 2.0 ISO | 40 I 2.0 ISO |
| 2.5 | Ext. | | 14 E 2.5 ISO | 21 E 2.5 ISO | | |
| 2.5 | Int. | | 14 I 2.5 ISO | 21 I 2.5 ISO | | |
| 3.0 | Ext. | | | 21 E 3.0 ISO | 30 E 3.0 ISO | 40 E 3.0 ISO |
| 3.0 | Int. | | | 21 I 3.0 ISO | 30 I 3.0 ISO | 40 I 3.0 ISO |
| 3.5 | Ext. | | | | 30 E 3.5 ISO | |
| 3.5 | Int. | | | 21 I 3.5 ISO | 30 I 3.5 ISO | 40 I 3.5 ISO |
| 4.0 | Ext. | | | | 30 E 4.0 ISO | 40 E 4.0 ISO |
| 4.0 | Int. | | | | 30 I 4.0 ISO | 40 I 4.0 ISO |
| 4.5 | Ext. | | | | | |
| 4.5 | Int. | | | | 30 I 4.5 ISO | 40 I 4.5 ISO |
| 5.0 | Ext. | | | | | 40 E 5.0 ISO |
| 5.0 | Int. | | | | 30 I 5.0 ISO | 40 I 5.0 ISO |
| 5.5 | Ext. | | | | | |
| 5.5 | Int. | | | | 30 I 5.5 ISO | 40 I 5.5 ISO |
| 6.0 | Ext. | | | | | 40 E 6.0 ISO |
| 6.0 | Int. | | | | | 40 I 6.0 ISO |

* One cutting edge

Order example: 14 I 1.5 ISO MT7

UN UNC, UNF, UNEF, UNS



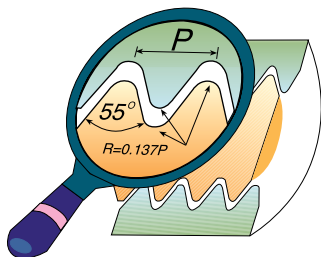
| Pitch TPI | | Insert Size = A | | | | |
|--------------|------|-----------------|---------------|---------------|----------------|----------------|
| | | 12 mm .472 | 14 mm .551 | 21 mm .827 | 30 mm 1.181 | 40 mm 1.575 |
| 32 | Ext. | | 14 E 32 UN | | | |
| 32 | Int. | * 12 32 UN | 14 32 UN | | | |
| 28 | Ext. | | 14 E 28 UN | | | |
| 28 | Int. | * 12 28 UN | 14 28 UN | | | |
| 27 | Ext. | | | | | |
| 27 | Int. | | 14 27 UN | | | |
| 24 | Ext. | | 14 E 24 UN | 21 E 24 UN | | |
| 24 | Int. | * 12 24 UN | 14 24 UN | 21 24 UN | | |
| 20 | Ext. | | 14 E 20 UN | 21 E 20 UN | 30 E 20 UN | |
| 20 | Int. | * 12 20 UN | 14 20 UN | 21 20 UN | 30 20 UN | |
| 18 | Ext. | | 14 E 18 UN | 21 E 18 UN | 30 E 18 UN | |
| 18 | Int. | * 12 18 UN | 14 18 UN | 21 18 UN | 30 18 UN | |
| 16 | Ext. | | 14 E 16 UN | 21 E 16 UN | 30 E 16 UN | 40 E 16 UN |
| 16 | Int. | * 12 16 UN | 14 16 UN | 21 16 UN | 30 16 UN | 40 16 UN |
| 14 | Ext. | | 14 E 14 UN | 21 E 14 UN | 30 E 14 UN | 40 E 14 UN |
| 14 | Int. | | 14 14 UN | 21 14 UN | 30 14 UN | 40 14 UN |
| 13 | Ext. | | 14 E 13 UN | | | |
| 12 | Ext. | | 14 E 12 UN | 21 E 12 UN | 30 E 12 UN | 40 E 12 UN |
| 12 | Int. | | 14 12 UN | 21 12 UN | 30 12 UN | 40 12 UN |
| 11 | Ext. | | 14 E 11 UN | 21 E 11 UN | | |
| 11 | Int. | | 14 11 UN | | | |
| 10 | Ext. | | * 14 E 10 UN | 21 E 10 UN | 30 E 10 UN | 40 E 10 UN |
| 10 | Int. | | 14 10 UN | 21 10 UN | 30 10 UN | 40 10 UN |
| 9 | Ext. | | | | | |
| 9 | Int. | | ** 14 9 UN | | | |
| 8 | Ext. | | | | 30 E 8 UN | 40 E 8 UN |
| 8 | Int. | | | 21 8 UN | 30 8 UN | 40 8 UN |
| 7 | Ext. | | | | | |
| 7 | Int. | | | 21 7 UN | | |
| 6 | Ext. | | | | 30 E 6 UN | 40 E 6 UN |
| 6 | Int. | | | | 30 6 UN | 40 6 UN |
| 5 | Ext. | | | | | |
| 5 | Int. | | | | 30 5 UN | |
| 4.5 | Ext. | | | | | |
| 4.5 | Int. | | | | | 40 4.5UN |
| 4 | Ext. | | | | | |
| 4 | Int. | | | | | 40 4 UN |

* One cutting edge

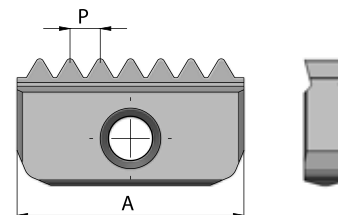
** Cannot be used with carbide shank Toolholders.

Order example: 21 | 18 UN MT7

WHIT BSW, BSF, BSP



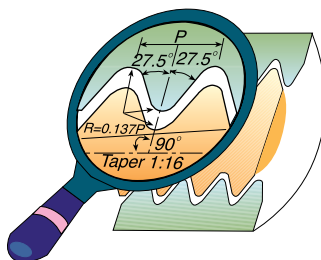
Same Insert for External and Internal thread.



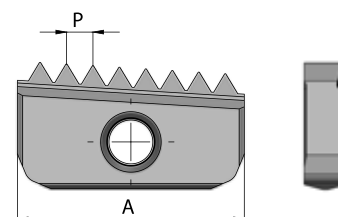
| Pitch TPI | Insert Size = A | | | | |
|--------------|-----------------|---------------|---------------|----------------|----------------|
| | 12 mm .472 | 14 mm .551 | 21 mm .827 | 30 mm 1.181 | 40 mm 1.575 |
| 24 | | 14-24 W | | | |
| 20 | | 14-20 W | 21-20 W | | |
| 19 | * 12 - 19 W | 14-19 W | 21-19 W | | |
| 18 | | 14-18 W | | | |
| 16 | | 14-16 W | 21-16 W | 30-16 W | |
| 14 | | 14-14 W | 21-14 W | 30-14 W | |
| 12 | | 14-12 W | | | |
| 11 | | * 14-11 W | 21-11 W | 30-11 W | 40-11 W |
| 10 | | | 21-10 W | | |
| 8 | | | | | 40- 8 W |

* One cutting edge
Order example: 21-11 W MT7

BSPT



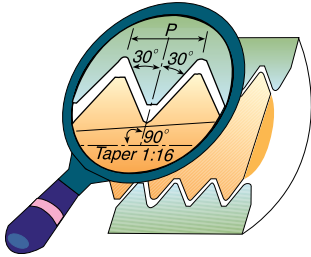
Conical pipe thread inserts are one-sided and may be used for both External and Internal threading.



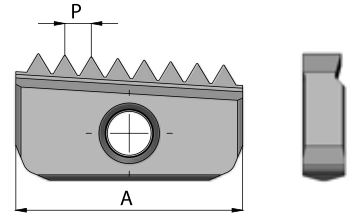
| Pitch TPI | Insert Size = A | | | | |
|--------------|-----------------|---------------|---------------|----------------|----------------|
| | 12 mm .472 | 14 mm .551 | 21 mm .827 | 30 mm 1.181 | 40 mm 1.575 |
| 19 | 12-19 BSPT | 14-19 BSPT | | | |
| 14 | | 14-14 BSPT | 21-14 BSPT | | |
| 11 | | | 21-11 BSPT | 30-11 BSPT | 40-11 BSPT |

Order example: 14-19 BSPT MT7
For conical preparation end mills see page 253

NPT



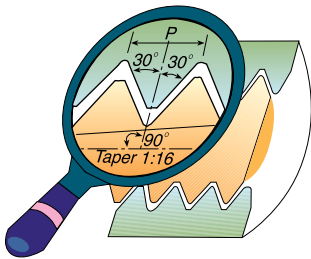
Conical pipe thread inserts are one-sided and may be used for both External and Internal threading.



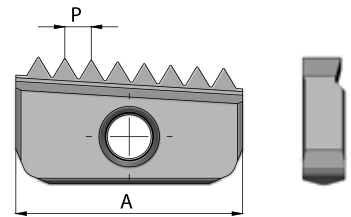
| Pitch TPI | Insert Size = A | | | | |
|--------------|-----------------|---------------|---------------|----------------|----------------|
| | 12 mm .472 | 14 mm .551 | 21 mm .827 | 30 mm 1.181 | 40 mm 1.575 |
| 18 | 12-18 NPT | 14-18 NPT | | | |
| 14 | | 14-14 NPT | 21-14 NPT | | |
| 11.5 | | | 21-11.5 NPT | 30-11.5 NPT | 40-11.5 NPT |
| 8 | | | | 30- 8 NPT | 40- 8 NPT |

Order example: 30-11.5 NPT MT7

NPTF



Conical pipe thread inserts are one-sided and may be used for both External and Internal threading.

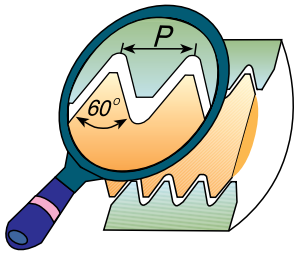


| Pitch TPI | Insert Size = A | | | | |
|--------------|-----------------|---------------|---------------|----------------|----------------|
| | 12 mm .472 | 14 mm .551 | 21 mm .827 | 30 mm 1.181 | 40 mm 1.575 |
| 18 | 12-18 NPTF | 14-18 NPTF | | | |
| 14 | | 14-14 NPTF | 21-14 NPTF | | |
| 11.5 | | | 21-11.5 NPTF | 30-11.5 NPTF | 40-11.5 NPTF |
| 8 | | | | 30- 8 NPTF | 40- 8 NPTF |

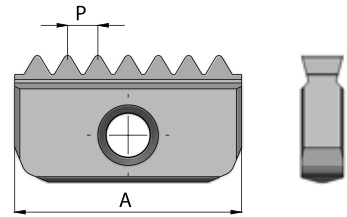
Order example: 21-14 NPTF MT7

For conical preparation end mills see page 253

NPS



Same Insert for External and Internal thread

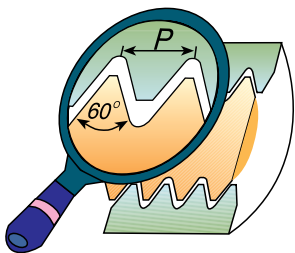


| Pitch TPI | Insert Size = A | | | | |
|--------------|-----------------|---------------|---------------|----------------|----------------|
| | 12 mm .472 | 14 mm .551 | 21 mm .827 | 30 mm 1.181 | 40 mm 1.575 |
| 18 | * 12-18 NPS | 14-18 NPS | | | |
| 14 | | 14-14 NPS | 21-14 NPS | | |
| 11.5 | | | 21-11.5 NPS | 30-11.5 NPS | 40-11.5 NPS |
| 8 | | | | 30- 8 NPS | 40- 8 NPS |

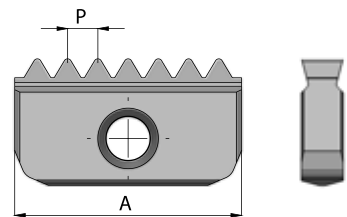
Order example: 30-11.5 NPS MT7

* One cutting edge

NPSF



Same Insert for External and Internal thread

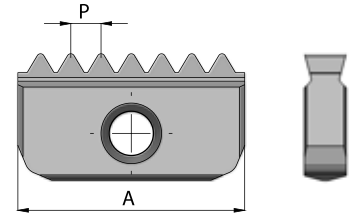
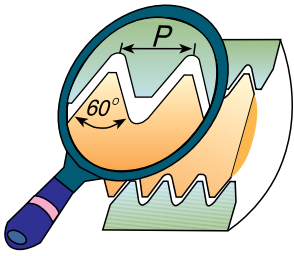


| Pitch TPI | Insert Size = A | | | | |
|--------------|-----------------|---------------|---------------|----------------|----------------|
| | 12 mm .472 | 14 mm .551 | 21 mm .827 | 30 mm 1.181 | 40 mm 1.575 |
| 18 | * 12-18 NPSF | 14-18 NPSF | | | |
| 14 | | 14-14 NPSF | 21-14 NPSF | | |
| 11.5 | | | 21-11.5 NPSF | 30-11.5 NPSF | 40-11.5 NPSF |
| 8 | | | | 30- 8 NPSF | 40- 8 NPSF |

Order example: 21-14 NPSF MT7

* One cutting edge

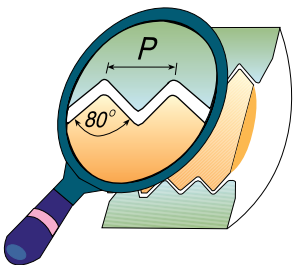
NPSM



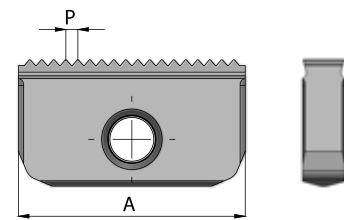
| Pitch TPI | | Insert Size = A | | | | |
|--------------|------|-----------------|---------------|----------------|----------------|----------------|
| | | 12 mm .472 | 14 mm .551 | 21 mm .827 | 30 mm 1.181 | 40 mm 1.575 |
| 18 | Ext. | | 14 E 18 NPSM | | | |
| 18 | Int. | 12 I 18 NPSM | 14 I 18 NPSM | | | |
| 14 | Ext. | | | 21 E 14 NPSM | | |
| 14 | Int. | | 14 I 14 NPSM | 21 I 14 NPSM | | |
| 11.5 | Ext. | | | 21 E 11.5 NPSM | 30 E 11.5 NPSM | 40 E 11.5 NPSM |
| 11.5 | Int. | | | 21 I 11.5 NPSM | 30 I 11.5 NPSM | 40 I 11.5 NPSM |
| 8 | Ext. | | | | 30 E 8 NPSM | 40 E 8 NPSM |
| 8 | Int. | | | | 30 I 8 NPSM | 40 I 8 NPSM |

Order example: 21 I 11.5 NPSM MT7

PG - DIN 40430



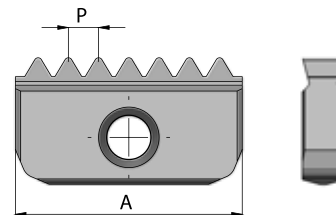
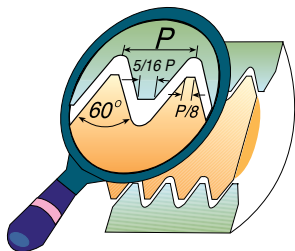
Same Insert for External and Internal thread



| Pitch TPI | Insert Size = A | | |
|--------------|----------------------------------|-------------------------------------|-----------------------------|
| | 14 mm .551 | 21 mm .827 | 30 mm 1.181 |
| 18 | 14-18 PG (PG 9, 11, 13.5, 16) | 21-18 PG (PG 16) | |
| 16 | | 21-16 PG (PG 21, 29, 36, 42, 48) | 30-16 PG (PG 36, 42, 48) |

Order example: 21-18 PG MT7

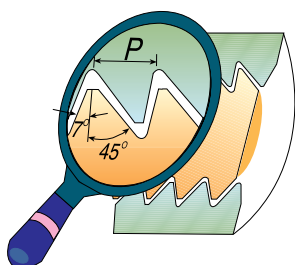
UNJ



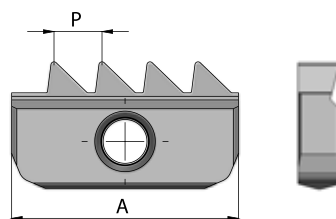
| Pitch TPI | | Insert Size = A | |
|--------------|------|-----------------|---------------|
| | | 14 mm .551 | 21 mm .827 |
| 24 | Ext. | 14 E 24 UNJ | 21 E 24 UNJ |
| 24 | Int. | 14 I 24 UNJ | 21 I 24 UNJ |
| 20 | Ext. | 14 E 20 UNJ | 21 E 20 UNJ |
| 20 | Int. | 14 I 20 UNJ | 21 I 20 UNJ |
| 18 | Ext. | 14 E 18 UNJ | 21 E 18 UNJ |
| 18 | Int. | 14 I 18 UNJ | 21 I 18 UNJ |
| 16 | Ext. | 14 E 16 UNJ | 21 E 16 UNJ |
| 16 | Int. | 14 I 16 UNJ | 21 I 16 UNJ |
| 14 | Ext. | 14 E 14 UNJ | 21 E 14 UNJ |
| 14 | Int. | 14 I 14 UNJ | 21 I 14 UNJ |
| 12 | Ext. | 14 E 12 UNJ | 21 E 12 UNJ |
| 12 | Int. | 14 I 12 UNJ | 21 I 12 UNJ |

Order example: 21E 16 UNJ MT7

American Buttress



ABUT thread inserts are one-sided and may be used for both External and Internal threading

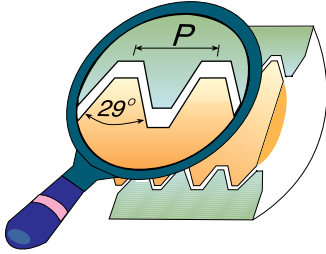


| Pitch TPI | Insert Size = A | | |
|--------------|-----------------|----------------|----------------|
| | 21 mm .827 | 30 mm 1.181 | 40 mm 1.575 |
| 16 | 21 - 16 ABUT | 30 - 16 ABUT | |
| 12 | 21 - 12 ABUT | 30 - 12 ABUT | |
| 10 | 21 - 10 ABUT | 30 - 10 ABUT | |
| 8 | 21 - 8 ABUT | 30 - 8 ABUT | |
| 6 | | 30 - 6 ABUT | |
| 4 | | * 30 - 4 ABUT | 40 - 4 ABUT |

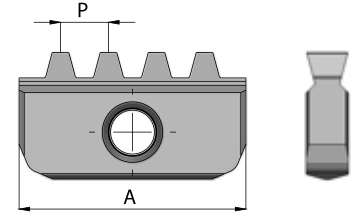
Order example: 30 - 6 ABUT MT7

* Inserts to be used only on Multi-Insert toolholders see page 187

ACME



Inserts for Internal threads



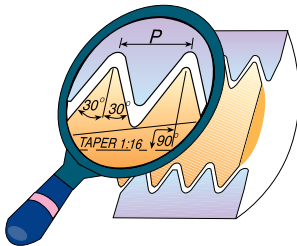
| Pitch TPI | | Insert Size = A | | |
|--------------|------|-----------------|----------------|----------------|
| | | 21 mm .827 | 30 mm 1.181 | 40 mm 1.575 |
| 12 | Int. | 21 12 ACME | 30 12 ACME | |
| 10 | Int. | 21 10 ACME | 30 10 ACME | |
| 8 | Int. | 21 8 ACME | 30 8 ACME | |
| 6 | Int. | | 30 6 ACME | |
| 5 | Int. | | 30 5 ACME | |
| 4 | Int. | | * 30 4 ACME | 40 4 ACME |
| 3.5 | Int. | | | 40 3.5 ACME |
| 3 | Int. | | | ** 40 3 ACME |

Order example: 21 | 8 ACME MT7

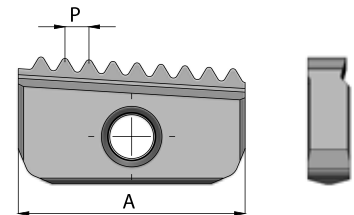
* Inserts to be used only on Multi-Insert toolholders see page 187

** One cutting edge

API RD



Same Insert for External and Internal thread



| Pitch TPI | | Insert Size = A | | |
|--------------|--|-----------------|----------------|----------------|
| | | 21 mm .827 | 30 mm 1.181 | 40 mm 1.575 |
| 10 | | 21 - 10 API RD | 30 - 10 API RD | |
| 8 | | | 30 - 8 API RD | 40 - 8 API RD |

Order example: 30 - 8 API RD MT7

Internal UN Kits



| MTK 12 I UN | MTK 14 I UN |
|-------------------|-------------------|
| <u>INSERTS</u> | <u>INSERTS</u> |
| 12 32 UN | 14 24 UN |
| 12 24 UN | 14 24 UN |
| 12 20 UN | 14 20 UN |
| 12 20 UN | 14 20 UN |
| 12 16 UN | 14 16 UN |
| 12 16 UN | 14 16 UN |
| <u>TOOLHOLDER</u> | <u>TOOLHOLDER</u> |
| SR 0375 H12 | SR 0670 H14 |
| <u>KEY</u> | <u>KEY</u> |
| K12 | K14 |
| <u>SCREW</u> | <u>SCREW</u> |
| S12 | S14 |

Order example : MTK 14 I UN

Special Tools



In addition to standard products, Carmex manufactures special tools and inserts according to customers' requests. Special tools are supplied in short delivery times.

