# GOLD•RHINO™

**Prices:**
- **20 – 25% less than comparable 1/2" IC Insert**

**Insert Selection:**
- **CNMG / DNMG / SNMG / TNMG**
- **12 Grades for all Material Types**
- **10 Unique Chipbreakers & Flat Top**
- **Coated Carbide and Uncoated Cermet**

**Holder Selection:**
- **12 External Holder Styles (3/4" to 1" shanks)**
- **6 Boring Bar Styles (5/8" to 1-1/4" shanks)**
- **5 Quick Change Styles (C4)**

**Application Information:**
- **Cutting Depth Range: .005" - .177"**
- **Feed Rate Range: .002 - .028 ipr**


Member IMC Group
Ingersoll Cutting Tools

## Gold•Rhino™ ISO Turning Inserts

Ingersoll is pleased to launch Gold-Rhino, a series of robust smaller ISO turning inserts to meet the manufacturing industry's need to reduce machining costs and increase competitiveness.

Smaller inserts are nothing new in the ISO turning world. The difference is that Gold-Rhino inserts retain the same or similar thickness of larger IC inserts. The result is a strong, compact insert with the durability of a larger insert. When combined with a new, multi-directional clamping system in the holder and insert screw hole, these inserts provide very stable, rigid clamping, making them an ideal option even in interrupted cuts. The result is excellent performance at a price 20%-25% lower than comparable 1/2" IC inserts.

Gold-Rhino inserts feature 10 chip breakers in CNMG, DNMG, SNMG and TNMG shapes, and are available in 12 grades. This comprehensive offering of geometries and grades provides many options to improve chip-breaking, extend tool life and provide immediate cost savings in all materials.

# GOLD•RHINO™

## SAME PERFORMANCE AT 20-25% LOWER PRICE!

### SMALL inserts with superior durability and the SAME THICKNESS as ISO inserts


### Actual size of insert


Current trends in manufacturing feature work piece components with reduced stock conditions due to improved casting and forging technology. In these cases, depths of cut in rough turning are predominantly in the range of .040"~.080" per side, rendering conventional ISO turning inserts with .500" long cutting edges inefficient due to their disproportionate size.

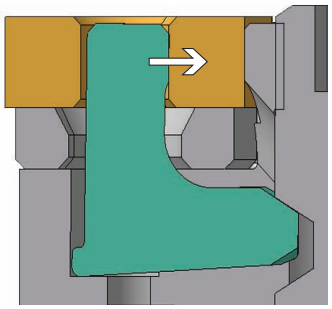
In the modern machining environment with high focus on cost reduction, Ingersoll is pleased to launch Gold-Rhino, a series of smaller, but robust, ISO turning inserts to meet the manufacturing industry's needs of reduced machining costs and increased competitiveness.

# GOLD RHINO™

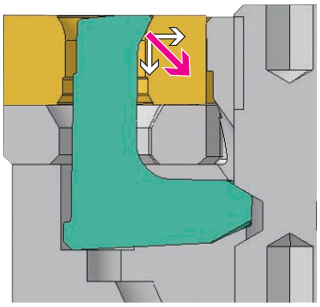
## Excellent insert rigidity! Strong clamping holder!

## "Next generation clamping system"

**Conventional ISO clamping structure**
Single directional clamping force



**GOLD RHINO™ clamping structure**
Multi-directional clamping forces

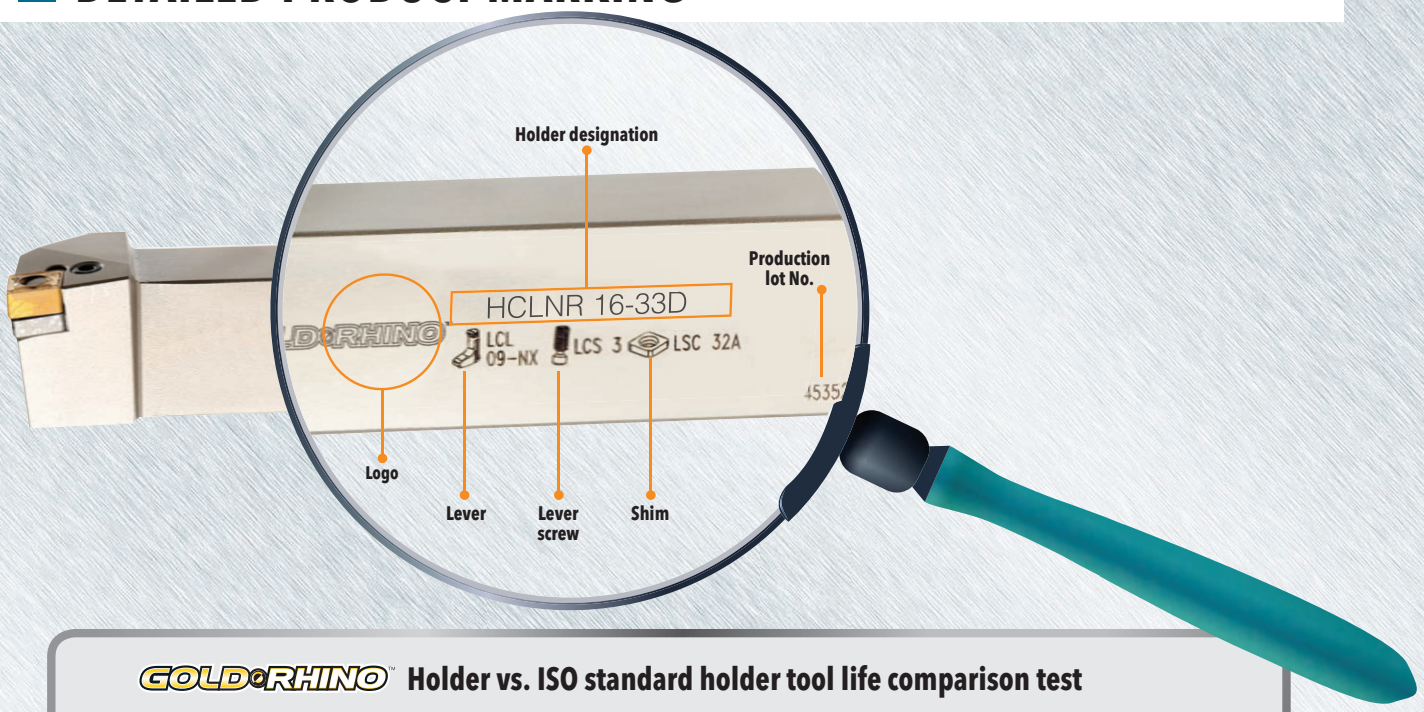


### Features

- Exceptionally stable machining due to multi-directional clamping forces over the existing conventional ISO lever holder's single direction clamping force
- Excellent productivity and longer, stable tool life in high feed turning applications
- Optimal performance in interrupted cutting on weak/old machine set-ups

# GOLD RHINO™

## DETAILED PRODUCT MARKING




### GOLD RHINO™ Holder vs. ISO standard holder tool life comparison test

**Interrupted cut** (Ingersoll tech center)

- Work piece: Medium carbon alloy steel
- Process: Interrupted facing
- Cutting condition: V=330sfm, f=.024ipr, d=.160", Dry

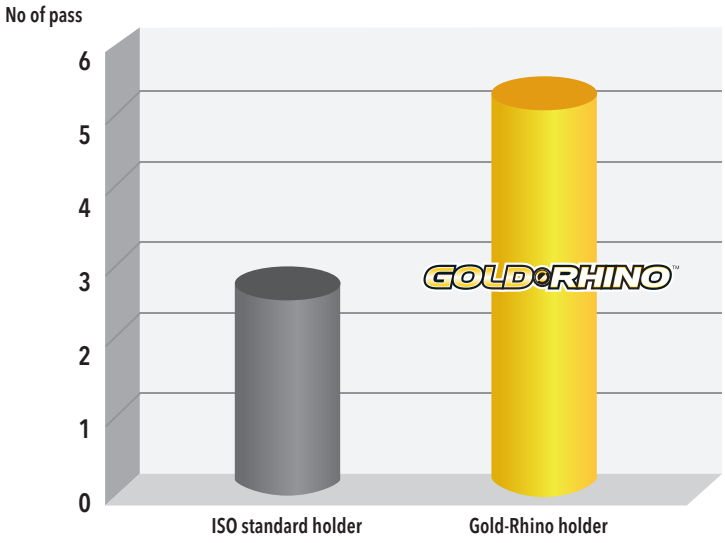
**Comparison test**

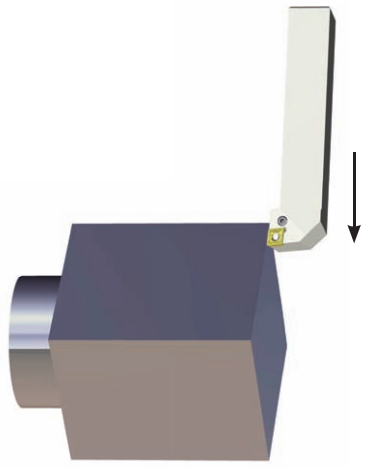
❶ CNMG 432 + PCLNR 2525 M12 holder (ISO standard holder)

❷ CNMG 332 + HCLNR 16-33D ( Gold-Rhino holder)

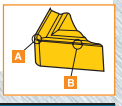
* Chip breaker & grade are the same

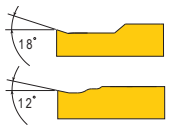
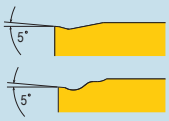
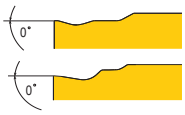
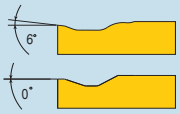
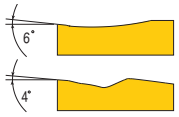
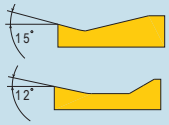
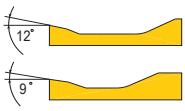
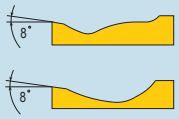
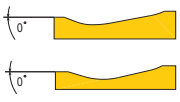
### Insert life



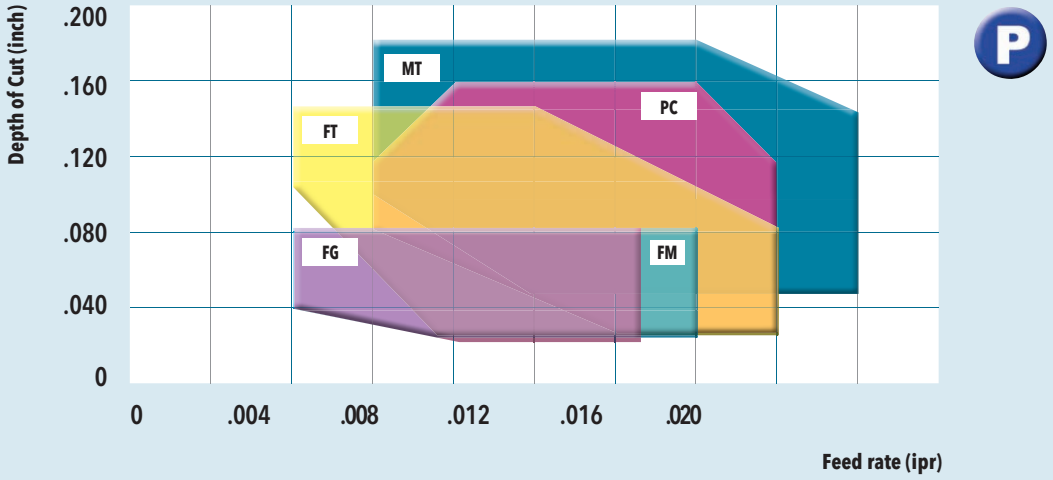
# CHIPBREAKERS



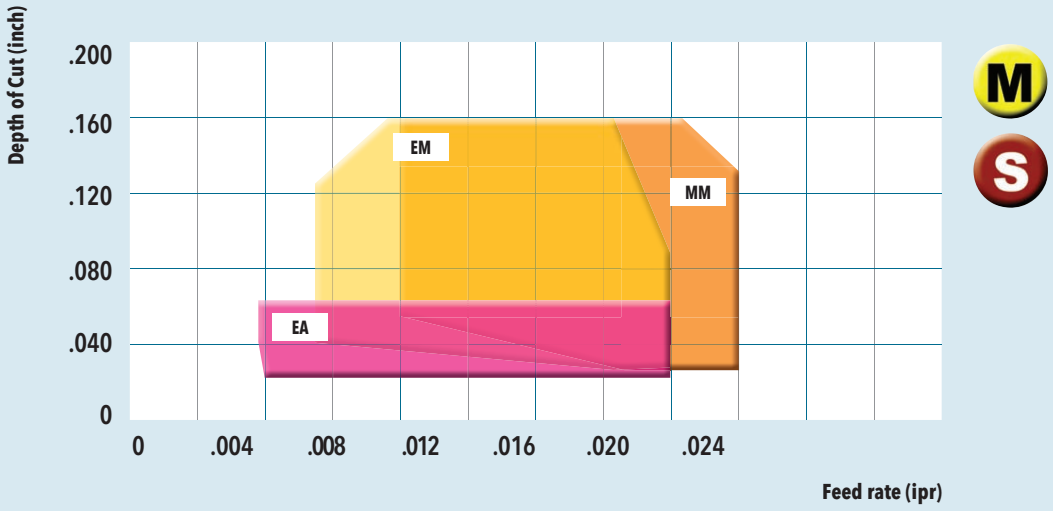

| Chipbreaker | | | | Range & Features |
|---|---|---|---|---|
| **FG** |  |   | A B | • For finishing and semi-finishing applications<br>• For steel application<br>• Low cutting forces |
| **FM** |  |   | A B | • For steel machining<br>• Solution for a wide range from semi-finishing to semi-medium machining |
| **FT** |  |   | A B | • For steel machining<br>• Strong, serrated cutting edge for excellent chip evacuation in wider depth of cut range for both profiling and step machining<br>• Semi-finishing and medium machining<br>• Excellent chip breaking for automotive components |
| **PC** |  |   | A B | • For semi-finishing to medium applications<br>• Ideal for Steel & Automotive components<br>• Excellent chip control on medium applications |
| **MT** |  |   | A B | • Suitable for continuous and interrupted cutting<br>• For medium rough applications<br>• Steel, cast iron and stainless steel<br>• Tough rake angle for general use |
| **EA** |  |   | A B | • For finishing applications<br>• Exotic materials<br>• Excellent chip control at low feeds and depths of cut |
| **EM** |  |   | A B | • For medium applications<br>• Stainless steel machining<br>• Sharp land design for low cutting force |
| **MM** |  |   | A B | • For general machining on stainless steel and steel<br>• Positive rake angle provides excellent chip evacuation |
| **MG-** |  |   | A B | • For medium rough applications<br>• For general machining on cast iron<br>• Strong rake geometry |
| **TNGG** |  |   | A | • Ground Insert<br>• Suitable for general purpose machining<br>• Lower cutting force and increased adhesion force<br>• Improved dimension and finishing surface accuracy |

## CHIPBREAKERS

**Steel** - Workpiece: Medium carbon steel / Cutting speed (Vc): 650 sfm



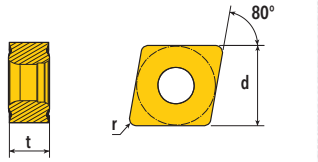

**Stainless Steel** - Workpiece: Stainless steel / Cutting speed (Vc): 650 sfm



# GOLD RHINO™

## CNMG Negative 80° Rhombic Inserts

| Designation | d | t | r |
|---|---|---|---|
| CNMG 331 | 0.375 | 0.187 | 0.016 |
| CNMG 332 | 0.375 | 0.187 | 0.031 |
| CNMG 333 | 0.375 | 0.187 | 0.047 |

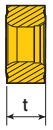


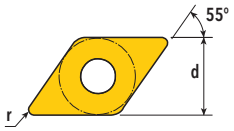

| ISO TURN | GOLD RHINO |
|---|---|
|  |  |

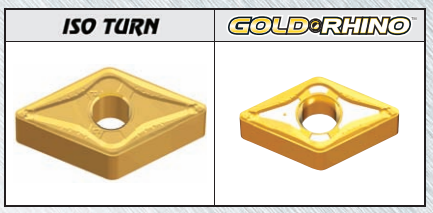
| Insert | Designation | | Recommended Parameters | | Grade | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Cermet | CVD Coated | | | | | | | | | PVD Coated | |
| | ANSI | ISO | feed (ipr) | ap (inch) | CT3000 | TT7005 | TT7015 | TT8115 | TT8125 | TT8135 | TT9215 | TT9225 | TT9235 | TT5100 | TT5080 | TT9080 |
|  | CNMA332 | CNMA090408 | .006-.024 | .039-.157 | | ● | ● | | | | | | | | | |
| | CNMA333 | CNMA090412 | .006-.028 | .039-.157 | | ● | ● | | | | | | | | | |
|  | CNMG331 | CNMG090404 | .004-.018 | .020-.157 | | ● | ● | | | | | | | | | |
| | CNMG332 | CNMG090408 | .004-.020 | .020-.157 | | ● | ● | | | | | | | | | |
| | CNMG333 | CNMG090412 | .004-.022 | .020-.157 | | ● | ● | | | | | | | | | |
|  | CNMG331EA | CNMG090404EA | .002-.012 | .005-.059 | | | | | | | ● | ● | ● | | ● | ● |
| | CNMG332EA | CNMG090408EA | .003-.020 | .006-.059 | | | | | | | ● | ● | ● | | ● | ● |
|  | CNMG332EM | CNMG090404EM | .005-.020 | .020-.157 | | | | | | | ● | ● | ● | | ● | ● |
| | CNMG333EM | CNMG090408EM | .006-.020 | .028-.157 | | | | | | | ● | ● | ● | | ● | ● |
|  | CNMG331FG | CNMG090404FG | .003-.012 | .008-.079 | | | | ● | ● | | | | | ● | | |
| | CNMG332FG | CNMG090408FG | .004-.014 | .020-.079 | | | | ● | ● | | | | | ● | | |
| | CNMG333FG | CNMG090412FG | .006-.016 | .020-.079 | | | | ● | ● | | | | | ● | | |
|  | CNMG331FM | CNMG090404FM | .003-.012 | .010-.079 | ● | | | ● | ● | ● | | | | ● | | |
| | CNMG332FM | CNMG090408FM | .004-.014 | .012-.079 | ● | | | ● | ● | ● | | | | ● | | |
| | CNMG333FM | CNMG090412FM | .006-.016 | .014-.079 | ● | | | ● | ● | ● | | | | ● | | |
|  | CNMG331FT | CNMG090404FT | .003-.012 | .016-.138 | | | | ● | ● | ● | | | | ● | | |
| | CNMG332FT | CNMG090408FT | .004-.016 | .020-.138 | | | | ● | ● | ● | | | | ● | | |
| | CNMG333FT | CNMG090412FT | .006-.020 | .024-.138 | | | | ● | ● | ● | | | | ● | | |
|  | CNMG331MM | CNMG090404MM | .006-.018 | .016-.157 | | | | ● | ● | ● | ● | ● | ● | ● | | |
| | CNMG332MM | CNMG090408MM | .008-.020 | .020-.157 | | | | ● | ● | ● | ● | ● | ● | ● | | |
| | CNMG333MM | CNMG090412MM | .009-.020 | .028-.157 | | | | ● | ● | ● | ● | ● | ● | ● | | |
|  | CNMG331MT | CNMG090404MT | .004-.014 | .031-.177 | | | | ● | ● | ● | | | | ● | | |
| | CNMG332MT | CNMG090408MT | .006-.018 | .039-.177 | | | | ● | ● | ● | | | | ● | | |
| | CNMG333MT | CNMG090412MT | .008-.022 | .047-.177 | | | | ● | ● | ● | | | | ● | | |
|  | CNMG331PC | CNMG090404PC | .004-.012 | .016-.157 | | | | ● | ● | ● | | | | ● | | |
| | CNMG332PC | CNMG090408PC | .006-.016 | .020-.157 | | | | ● | ● | ● | | | | ● | | |
| | CNMG333PC | CNMG090412PC | .007-.020 | .024-.157 | | | | ● | ● | ● | | | | ● | | |

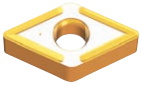
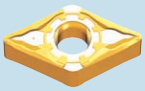
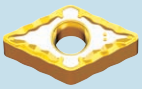
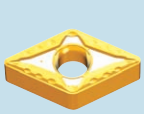
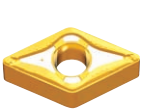
# DNMG Negative 55° Rhombic Inserts

| Designation | d | t | r |
|---|---|---|---|
| DNMG 3.53.51 | 0.437 | 0.219 | 0.016 |
| DNMG 3.53.52 | 0.437 | 0.219 | 0.031 |
| DNMG 3.53.53 | 0.437 | 0.219 | 0.047 |



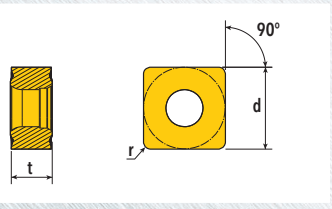




| Insert | Designation | | Recommended Parameters | | Grade | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Cermet | CVD Coated | | | | | | | | PVD Coated | |
| | ANSI | ISO | feed (ipr) | ap (inch) | CT3000 | TT7005 | TT7015 | TT8115 | TT8125 | TT8135 | TT9215 | TT9225 | TT9235 | TT5100 | TT5080 | TT9080 |
|  | DNMG3.53.51 | DNMG130504 | .004-.018 | .020-.157 | | ● | ● | | | | | | | | | |
| | DNMG3.53.52 | DNMG130508 | .004-.020 | .020-.157 | | ● | ● | | | | | | | | | |
| | DNMG3.53.53 | DNMG130512 | .004-.022 | .020-.157 | | ● | ● | | | | | | | | | |
|  | DNMG3.53.51EA | DNMG130504EA | .002-.012 | .005-.059 | | | | | | | ● | ● | ● | | ● | ● |
| | DNMG3.53.52EA | DNMG130508EA | .003-.016 | .006-.059 | | | | | | | ● | ● | ● | | ● | ● |
|  | DNMG3.53.52EM | DNMG130508EM | .005-.016 | .020-.157 | | | | | | | ● | ● | ● | | ● | ● |
| | DNMG3.53.53EM | DNMG130512EM | .006-.016 | .028-.157 | | | | | | | ● | ● | ● | | ● | ● |
|  | DNMG3.53.51FG | DNMG130504FG | .003-.012 | .008-.079 | | | | ● | ● | | | | | ● | | |
| | DNMG3.53.52FG | DNMG130508FG | .004-.014 | .020-.079 | | | | ● | ● | | | | | ● | | |
| | DNMG3.53.53FG | DNMG130512FG | .006-.016 | .020-.079 | | | | ● | ● | | | | | ● | | |
|  | DNMG3.53.51FM | DNMG130504FM | .003-.012 | .010-.079 | ● | | | ● | ● | ● | | | | ● | | |
| | DNMG3.53.52FM | DNMG130508FM | .004-.014 | .012-.079 | ● | | | ● | ● | ● | | | | ● | | |
| | DNMG3.53.53FM | DNMG130512FM | .006-.016 | .014-.079 | ● | | | ● | ● | ● | | | | ● | | |
|  | DNMG3.53.51FT | DNMG130504FT | .003-.012 | .010-.138 | | | | ● | ● | ● | | | | ● | | |
| | DNMG3.53.52FT | DNMG130508FT | .004-.016 | .012-.138 | | | | ● | ● | ● | | | | ● | | |
| | DNMG3.53.53FT | DNMG130512FT | .006-.020 | .014-.118 | | | | ● | ● | ● | | | | ● | | |
|  | DNMG3.53.51MM | DNMG130504MM | .006-.018 | .016-.177 | | | | ● | ● | ● | ● | ● | ● | ● | | |
| | DNMG3.53.52MM | DNMG130508MM | .008-.020 | .020-.177 | | | | ● | ● | ● | ● | ● | ● | ● | | |
| | DNMG3.53.53MM | DNMG130512MM | .009-.020 | .028-.177 | | | | ● | ● | ● | ● | ● | ● | ● | | |
|  | DNMG3.53.51MT | DNMG130504MT | .004-.014 | .031-.177 | | | | ● | ● | ● | | | | ● | | |
| | DNMG3.53.52MT | DNMG130508MT | .006-.018 | .039-.177 | | | | ● | ● | ● | | | | ● | | |
| | DNMG3.53.53MT | DNMG130512MT | .008-.022 | .047-.177 | | | | ● | ● | ● | | | | ● | | |
|  | DNMG3.53.51PC | DNMG130504PC | .004-.012 | .016-.157 | | | | ● | ● | ● | | | | ● | | |
| | DNMG3.53.52PC | DNMG130508PC | .006-.016 | .020-.157 | | | | ● | ● | ● | | | | ● | | |
| | DNMG3.53.53PC | DNMG130512PC | .007-.020 | .024-.157 | | | | ● | ● | ● | | | | ● | | |

# SNMG Negative 90° Square Inserts

| Designation | d | t | r |
|---|---|---|---|
| SNMG 331 | 0.375 | 0.187 | 0.016 |
| SNMG 332 | 0.375 | 0.187 | 0.031 |
| SNMG 333 | 0.375 | 0.187 | 0.047 |

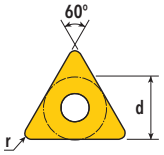



| ISO TURN | GOLD RHINO |
|---|---|
|  |  |

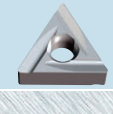
| Insert | Designation | | Recommended Parameters | | Grade | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Cermet | CVD Coated | | | | | | | | | PVD Coated | |
| | ANSI | ISO | feed (mm/rev) | ap (mm) | CT3000 | TT7005 | TT7015 | TT8115 | TT8125 | TT8135 | TT9215 | TT9225 | TT9235 | TT5100 | TT5080 | TT9080 |
|  | SNMG331 | SNMG090404 | .004-.018 | .020-.157 | | ● | ● | | | | | | | | | |
| | SNMG332 | SNMG090408 | .004-.020 | .020-.157 | | ● | ● | | | | | | | | | |
| | SNMG333 | SNMG090412 | .004-.022 | .020-.157 | | ● | ● | | | | | | | | | |
|  | SNMG331EA | SNMG090404EA | .002-.012 | .005-.059 | | | | | | | ● | ● | ● | | ● | ● |
| | SNMG332EA | SNMG090408EA | .003-.016 | .006-.059 | | | | | | | ● | ● | ● | | ● | ● |
|  | SNMG332EM | SNMG090404EM | .005-.016 | .020-.157 | | | | | | | ● | ● | ● | | ● | ● |
| | SNMG333EM | SNMG090408EM | .006-.016 | .028-.157 | | | | | | | ● | ● | ● | | ● | ● |
|  | SNMG331FG | SNMG090404FG | .003-.012 | .008-.079 | | | | ● | ● | | | | | ● | | |
| | SNMG332FG | SNMG090408FG | .004-.014 | .020-.079 | | | | ● | ● | | | | | ● | | |
| | SNMG333FG | SNMG090412FG | .006-.016 | .020-.079 | | | | ● | ● | | | | | ● | | |
|  | SNMG331FM | SNMG090404FM | .003-.012 | .010-.079 | ● | | | ● | ● | ● | | | | ● | | |
| | SNMG332FM | SNMG090408FM | .004-.014 | .012-.079 | ● | | | ● | ● | ● | | | | ● | | |
| | SNMG333FM | SNMG090412FM | .006-.016 | .014-.079 | ● | | | ● | ● | ● | | | | ● | | |
|  | SNMG331MM | SNMG090404MM | .006-.018 | .016-.157 | | | | ● | ● | ● | ● | ● | ● | ● | | |
| | SNMG332MM | SNMG090408MM | .008-.020 | .020-.157 | | | | ● | ● | ● | ● | ● | ● | ● | | |
| | SNMG333MM | SNMG090412MM | .009-.020 | .028-.157 | | | | ● | ● | ● | ● | ● | ● | ● | | |
|  | SNMG331MT | SNMG090404MT | .004-.014 | .031-.157 | | | | ● | ● | ● | | | | ● | | |
| | SNMG332MT | SNMG090408MT | .006-.018 | .039-.157 | | | | ● | ● | ● | | | | ● | | |
| | SNMG333MT | SNMG090412MT | .008-.022 | .047-.157 | | | | ● | ● | ● | | | | ● | | |
|  | SNMG331PC | SNMG090404PC | .004-.012 | .016-.138 | | | | ● | ● | ● | | | | ● | | |
| | SNMG332PC | SNMG090408PC | .006-.016 | .020-.138 | | | | ● | ● | ● | | | | ● | | |
| | SNMG333PC | SNMG090412PC | .007-.020 | .024-.138 | | | | ● | ● | ● | | | | ● | | |

# TNMG Negative 60° Triangular Inserts

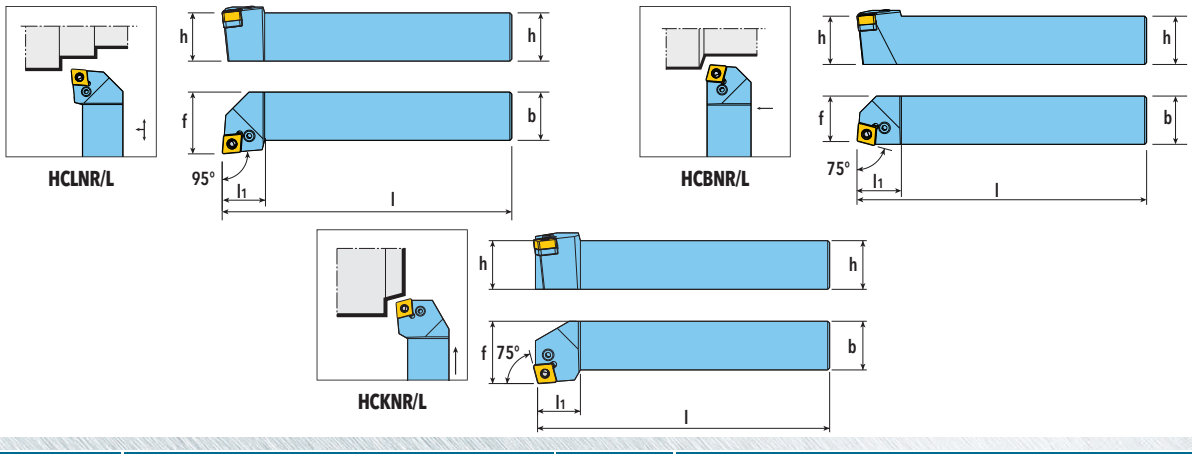
| Designation | d | t | r |
|---|---|---|---|
| TNMG 2.531 | 0.313 | 0.187 | 0.016 |
| TNMG 2.532 | 0.313 | 0.187 | 0.031 |
| TNMG 2.533 | 0.313 | 0.187 | 0.047 |


| ISO TURN | GOLD RHINO |
|---|---|
|  |  |

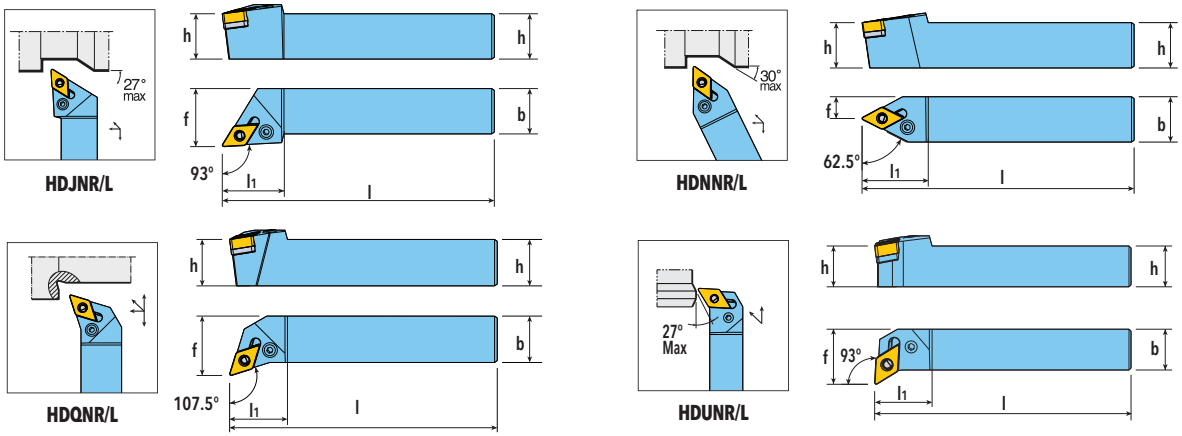
| Insert | Designation | | Recommended Parameters | | Grade | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Cermet | CVD Coated | | | | | | | | | PVD Coated | |
| | ANSI | ISO | feed (mm/rev) | ap (mm) | CT3000 | TT7005 | TT7015 | TT8115 | TT8125 | TT8135 | TT9215 | TT9225 | TT9235 | TT5100 | TT5080 | TT9080 |
|  | TNMG2.531 | TNMG130404 | .004-.018 | .020-.157 | | ● | ● | | | | | | | | | |
| | TNMG2.532 | TNMG130408 | .004-.020 | .020-.157 | | ● | ● | | | | | | | | | |
| | TNMG2.533 | TNMG130412 | .004-.022 | .020-.157 | | ● | ● | | | | | | | | | |
|  | TNMG2.531EA | TNMG130404EA | .002-.012 | .005-.059 | | | | | | | ● | ● | ● | | ● | ● |
| | TNMG2.532EA | TNMG130408EA | .003-.016 | .006-.059 | | | | | | | ● | ● | ● | | ● | ● |
|  | TNMG2.531EM | TNMG130404EM | .005-.016 | .020-.157 | | | | | | | ● | ● | ● | | ● | ● |
| | TNMG2.532EM | TNMG130408EM | .006-.016 | .028-.157 | | | | | | | ● | ● | ● | | ● | ● |
|  | TNMG2.531FG | TNMG130404FG | .003-.012 | .010-.059 | | | | ● | ● | | | | | ● | | |
| | TNMG2.532FG | TNMG130408FG | .004-.014 | .012-.059 | | | | ● | ● | | | | | ● | | |
| | TNMG2.533FG | TNMG130412FG | .006-.016 | .014-.059 | | | | ● | ● | | | | | ● | | |
|  | TNMG2.531FM | TNMG130404FM | .003-.012 | .010-.059 | ● | | | ● | ● | ● | | | | ● | | |
| | TNMG2.532FM | TNMG130408FM | .004-.014 | .012-.059 | ● | | | ● | ● | ● | | | | ● | | |
| | TNMG2.533FM | TNMG130412FM | .006-.016 | .014-.059 | ● | | | ● | ● | ● | | | | ● | | |
|  | TNMG2.531FT | TNMG130404FT | .003-.012 | .010-.098 | | | | ● | ● | ● | | | | ● | | |
| | TNMG2.532FT | TNMG130408FT | .004-.016 | .012-.098 | | | | ● | ● | ● | | | | ● | | |
| | TNMG2.533FT | TNMG130412FT | .006-,020 | .014-.098 | | | | ● | ● | ● | | | | ● | | |
|  | TNMG2.531MM | TNMG130404MM | .006-.018 | .016-.138 | | | | ● | ● | ● | ● | ● | ● | ● | | |
| | TNMG2.532MM | TNMG130408MM | .008-,020 | .020-.138 | | | | ● | ● | ● | ● | ● | ● | ● | | |
| | TNMG2.533MM | TNMG130412MM | .009-,020 | .028-.138 | | | | ● | ● | ● | ● | ● | ● | ● | | |
|  | TNMG2.531MT | TNMG130404MT | .004-.014 | .031-.138 | | | | ● | ● | ● | | | | ● | | |
| | TNMG2.532MT | TNMG130408MT | .006-.018 | .040-.138 | | | | ● | ● | ● | | | | ● | | |
| | TNMG2.533MT | TNMG130412MT | .008-.022 | .047-.138 | | | | ● | ● | ● | | | | ● | | |
|  | TNMG2.531PC | TNMG130404PC | .004-.012 | .016-.118 | | | | ● | ● | ● | | | | ● | | |
| | TNMG2.532PC | TNMG130408PC | .006-.016 | .020-.118 | | | | ● | ● | ● | | | | ● | | |
| | TNMG2.533PC | TNMG130412PC | .007-,020 | .024-.118 | | | | ● | ● | ● | | | | ● | | |
|  | TNGG2.531R/L | TNMG130404R/L | .005-.012 | .039-.118 | ● | | | | | | | | | | | |
| | TNGG2.532R/L | TNMG130408R/L | .006-.014 | .051-.118 | ● | | | | | | | | | | | |

## HCLNR/L HCBNR/L HCKNR/L



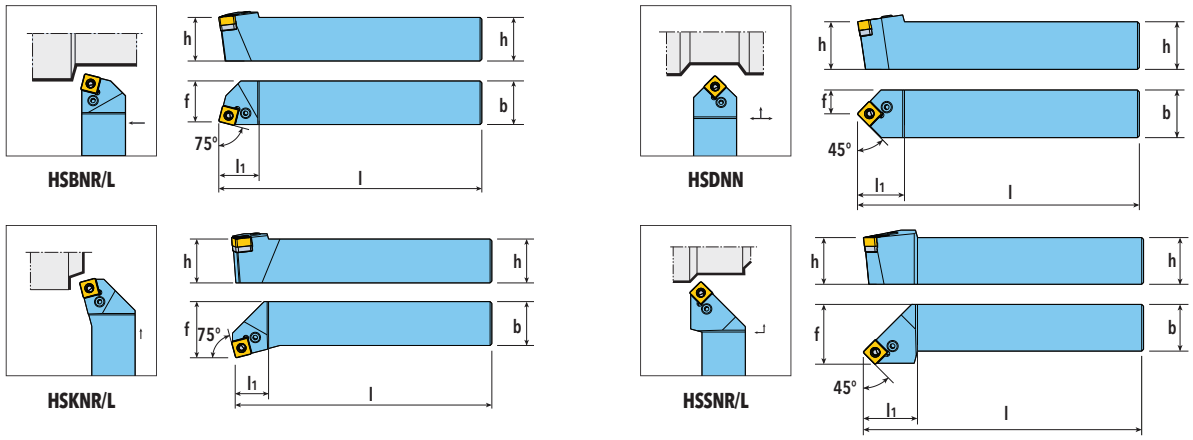

| Designation | Dimensions (inch) | | | | | Insert | Components | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | h | b | l | l1 | f | | Lever | Screw | Seat | Seat Pin | Wrench |
| HCLNR/L 10-33A | 0.625 | 0.625 | 4.00 | 0.87 | 0.750 | CNMG33_ | LCL09-NX | LCS3 | LSC32A | LSP3A | L-W2.5 |
| HCLNR/L 12-33B | 0.750 | 0.750 | 4.50 | 0.87 | 1.000 | | | | | | |
| HCLNR/L 16-33D | 1.000 | 1.000 | 6.00 | 0.87 | 1.250 | | | | | | |
| HCBNR/L 12-33B | 0.750 | 0.750 | 4.50 | 0.91 | 0.691 | CNMG33_ | LCL09-NX | LCS3 | LSC32A | LSP3A | L-W2.5 |
| HCBNR/L 16-33D | 1.000 | 1.000 | 6.00 | 0.91 | 0.941 | | | | | | |
| HCKNR/L 16-33D | 1.000 | 1.000 | 6.00 | 0.87 | 1.250 | CNMG33_ | LCL09-NX | LCS3 | LSC32A | LSP3A | L-W2.5 |

## HDJNR/L HDNNR/L HDQNR/L HDUNR/L



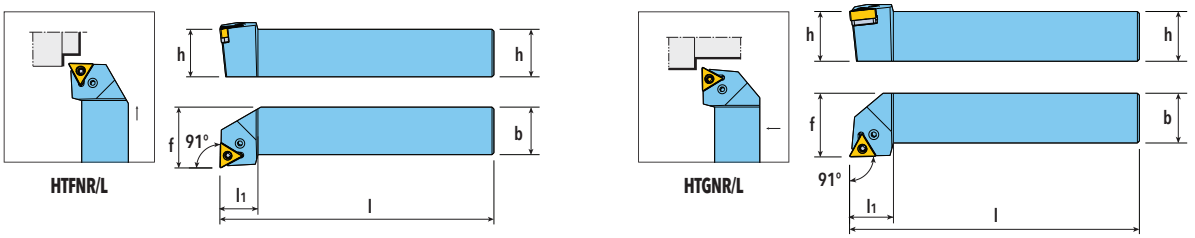

| Designation | Dimensions (inch) | | | | | Insert | Components | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | h | b | l | l1 | f | | Lever | Screw | Seat | Seat Pin | Wrench |
| HDJNR/L 12-3.53.5B | 0.750 | 0.750 | 4.50 | 1.34 | 1.000 | DNMG3.53.5_ | LCL11-NX | LCS4 | LSD3.52 | LSP4 | L-W3 |
| HDJNR/L 16-3.53.5D | 1.000 | 1.000 | 6.00 | 1.34 | 1.250 | | | | | | |
| HDUNR/L 16-3.53.5D | 1.000 | 1.000 | 6.00 | 1.102 | 1.365 | DNMG3.53.5_ | LCL11-NX | LCS4 | LSD3.52 | LSP4 | L-W3 |
| HDNNR/L 12-3.53.5B | 0.750 | 0.750 | 4.50 | 1.44 | 0.375 | DNMG3.53.5_ | LCL11-NX | LCS4 | LSD3.52 | LSP4 | L-W3 |
| HDNNR/L 16-3.53.5D | 1.000 | 1.000 | 6.00 | 1.44 | 0.500 | | | | | | |
| HDQNR/L 12-3.53.5B | 0.750 | 0.750 | 4.50 | 1.22 | 1.000 | DNMG3.53.5_ | LCL11-NX | LCS4 | LSD3.52 | LSP4 | L-W3 |
| HDQNR/L 16-3.53.5D | 1.000 | 1.000 | 6.00 | 1.22 | 1.250 | | | | | | |

## HSBNR/L HSDNN HSKNR/L HSSNR/L



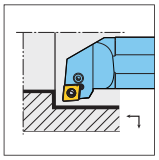

| Designation | Dimensions (inch) | | | | | Insert | Components | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | h | b | l | l1 | f | | Lever | Screw | Seat | Seat Pin | Wrench |
| HSBNR/L 12-33B | 0.750 | 0.750 | 4.50 | 0.91 | 0.691 | SNMG33_ | LCL09-NX | LCS3 | LSS32A | LSP3A | L-W2.5 |
| HSBNR/L 16-33D | 1.000 | 1.000 | 6.00 | 0.91 | 0.941 | | | | | | |
| HSDNN 12-33B | 0.750 | 0.750 | 4.50 | 0.98 | 0.375 | SNMG33_ | LCL09-NX | LCS3 | LSS32A | LSP3A | L-W2.5 |
| HSDNN 16-33D | 1.000 | 1.000 | 6.00 | 0.98 | 0.500 | | | | | | |
| HSKNR/L 12-33B | 0.750 | 0.750 | 4.50 | 0.75 | 1.000 | SNMG33_ | LCL09-NX | LCS3 | LSS32A | LSP3A | L-W2.5 |
| HSKNR/L 16-33D | 1.000 | 1.000 | 6.00 | 0.75 | 1.250 | | | | | | |
| HSSNR/L 12-33B | 0.750 | 0.750 | 4.50 | 0.85 | 1.000 | SNMG33_ | LCL09-NX | LCS3 | LSS32A | LSP3A | L-W2.5 |
| HSSNR/L 16-33D | 1.000 | 1.000 | 6.00 | 1.14 | 1.250 | | | | | | |

## HTFNR/L HTGNR/L

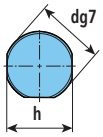


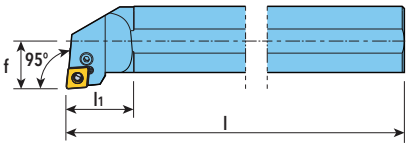

| Designation | Dimensions (inch) | | | | | Insert | Components | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | h | b | l | l1 | f | | Lever | Screw | Seat | Seat Pin | Wrench |
| HTFNR/L 12-2.53B | 0.750 | 0.750 | 4.50 | 0.79 | 1.000 | TNMG2.53_ | LCL08-NX | LCS3-NX | LST2.51.8 | LSP3B | L-W2.5 |
| HTFNR/L 16-2.53D | 1.000 | 1.000 | 6.00 | 0.79 | 1.250 | | | | | | |
| HTGNR/L 10-2.53A | 0.625 | 0.625 | 4.00 | 0.87 | 0.750 | | | | | | |
| HTGNR/L 12-2.53B | 0.750 | 0.750 | 4.50 | 0.87 | 1.000 | TNMG2.53_ | LCL08-NX | LCS3-NX | LST2.51.8 | LSP3B | L-W2.5 |
| HTGNR/L 16-2.53D | 1.000 | 1.000 | 6.00 | 0.87 | 1.250 | | | | | | |

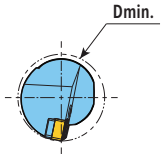
## A-HCLNR/L



A-HCLNR/L

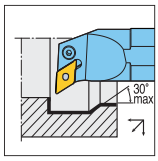


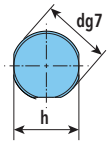



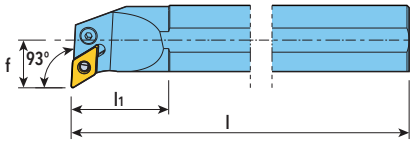

| Designation | Dimensions (inch) | | | | | | Insert | Components | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | d | h | l | l1 | f | Dmin | | Lever | Screw | Seat | Seat Pin | Snap Ring | Wrench |
| A10R-HCLNR/L-33 | 0.625 | 0.583 | 8.00 | 0.98 | 0.406 | 0.750 | CNMG 33_ | LCL09B-NX | LCS3B | – | – | LSR3B | L-W2 |
| A12S-HCLNR/L-33 | 0.750 | 0.669 | 10.00 | 1.10 | 0.500 | 1.000 | | | | | | | |
| A16T-HCLNR/L-33 | 1.000 | 0.921 | 12.00 | 1.22 | 0.640 | 1.250 | | | | | | | |
| A20U-HCLNR/L-33 | 1.250 | 1.169 | 14.00 | 1.22 | 0.765 | 1.500 | | LCL09-NX | LCS3 | LSC32 | LSP3A | – | L-W2.5 |

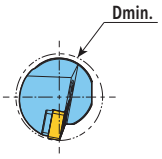
## A-HDUNR/L A-HDZNR/L

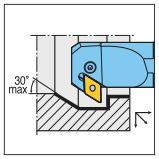



A-HDUNR/L

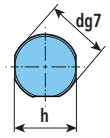


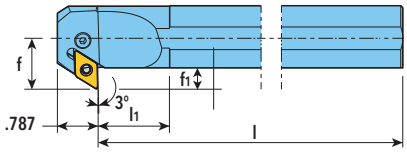



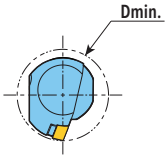




A-HDZNR/L

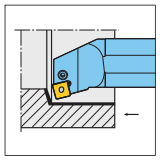


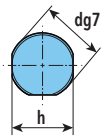



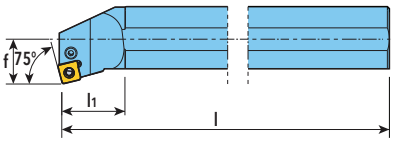

| Designation | Dimensions (inch) | | | | | | | Insert | Components | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | d | h | l | l1 | f | f1 | Dmin | | Lever | Screw | Seat | Seat Pin | Wrench |
| A20U-HDUNR/L-3.53.5 | 1.250 | 1.169 | 14.00 | 1.77 | 1.000 | – | 1.750 | DNMG3.53.5_ | LCL11-NX | LCS4S | LSD3.52B | LSP4 | L-W3 |
| A20U-HDZNR/L-3.53.5 | 1.250 | 1.169 | 14.00 | 1.36 | 1.000 | 0.434 | 1.750 | | | | | | |

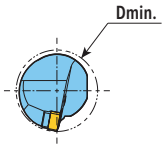
## A-HSKNR/L



S-PSKNR/L

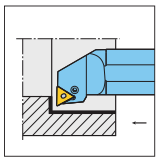


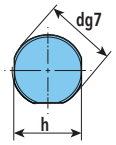



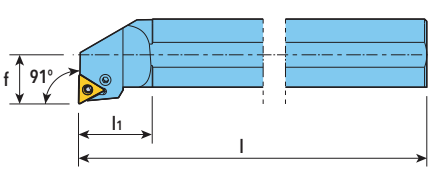

| Designation | Dimensions (inch) | | | | | | Insert | Components | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | d | h | l | l1 | f | Dmin | | Lever | Screw | Seat | Seat Pin | Snap Ring | Wrench |
| A16T-HSKNR/L-33 | 1.000 | 0.921 | 12.00 | 1.22 | 0.640 | 1.250 | SNMG33_ | LCL09B-NX | LCS3B | – | – | LSR3B | L-W2 |
| A20U-HSKNR/L-33 | 1.250 | 1.169 | 14.00 | 1.22 | 0.765 | 1.500 | | LCL09-NX | LCS3 | LSS32 | LSP3A | – | L-W2.5 |

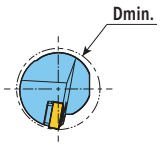
## A-HTFNR/L



A-HTFNR/L

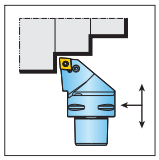


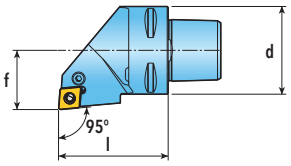




| Designation | Dimensions (inch) | | | | | | Insert | Components | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | d | h | l | l1 | f | Dmin | | Lever | Screw | Seat | Seat Pin | Snap Ring | Wrench |
| A10R-HTFNR/L-2.53 | 0.625 | 0.583 | 8.00 | 0.98 | 0.406 | 0.750 | TNMG2.53_ | LCL08B-NX | LCS3B | – | – | LSR3B | L-W2 |
| A12S-HTFNR/L-2.53 | 0.750 | 0.669 | 10.00 | 1.10 | 0.500 | 1.000 | | | | | | | |
| A16T-HTFNR/L-2.53 | 1.000 | 0.921 | 12.00 | 1.30 | 0.640 | 1.250 | | | | | | | |
| A20U-HTFNR/L-2.53 | 0.750 | 1.169 | 14.00 | 1.30 | 0.765 | 1.500 | | LCL08-NX | LCS3-NX | LST2.51.8B | LSP3B | – | L-W2.5 |

## HCLNR/L*

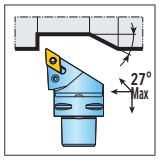


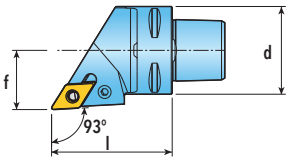



*compatable with Sandvik's COROMANT CAPTO* (**) system.

| Designation | Dimension (mm) | | | Insert | Components | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Lever | Screw | Shim | Shim Pin | Nozzle | Wrench |
| | d | f | l | | | | | | | |
| C4-HCLNR/L 27050-0904 | 40 | 27 | 50 | CNMG 33 □ | LCL 09-NX | LCS 3 | LSC 32 | LSP 3A | NZ 83 | L-W 2.5 |

## HDJNR/L*

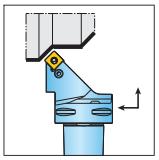


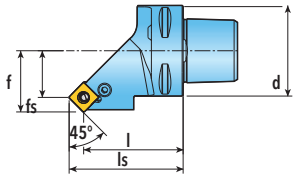




*compatable with Sandvik's COROMANT CAPTO* (**) system.

| Designation | Dimension (mm) | | | Insert | Components | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Lever | Screw | Shim | Shim Pin | Nozzle | Wrench |
| | d | f | l | | | | | | | |
| C4-HDJNR/L 27055-1305 | 40 | 27 | 55 | DNMG 3.53.5 □ | LCL 11-NX | LCS 4 | LSD 3.52 | LSP 4 | NZ 83 | L-W 3 |

## HSSNR/L*

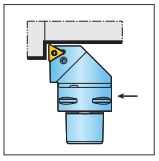


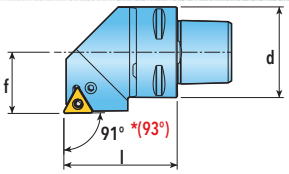



*compatable with Sandvik's COROMANT CAPTO* (**) system.

| Designation | Dimension (mm) | | | | | Insert | Components | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Lever | Screw | Shim | Shim Pin | Nozzle | Wrench |
| | d | f | fs | l | ls | | | | | | | |
| C4-HSSNR/L 27042-0904 | 40 | 27 | 20.6 | 44 | 50.3 | SNMG 33 □ | LCL 09-NX | LCS 3 | LSS 32A | LSP 3A | NZ 83 | L-W 2.5 |

## HTGNR/L* HTJNR/L*






*compatable with Sandvik's COROMANT CAPTO* (**) system.

| Designation | Dimension (mm) | | | Insert | Components | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Lever | Screw | Shim | Shim Pin | Nozzle | Wrench |
| | d | f | l | | | | | | | |
| C4-HTGNR/L 27050-1304 | 40 | 27 | 50 | TNMG 2.53 □ | LCL 08-NX | LCS 3-NX | LST 2.51.8 | LSP 3B | NZ 83 | L-W 2.5 |
| [1]C4-HTJNR/L 27050-1304 | 40 | 27 | 50 | | | | | | | |

[1]Marked : Entering angle of HTJNR/L is 93 degrees. (**) The trademark COROMANT CAPTO® is owned by Sandvik Intellectual Property AB.