

## DOUBLE YOUR OCTO STYLE GEOMETRY FROM 8 TO 16 CUTTING EDGES!



Multi-Purpose



Wiper



Anti-Notch



Keen Edge



Non-Ferrous



Flat Top



SiN

### Features and Benefits

- 2-Side-Technology applied to octo shaped inserts for a cost-per-edge economy benefit
- Same insert fits RH & LH cutter bodies
- Same insert fits screw-held and wedge-held cutter bodies
- Carbide and SiN insert grade options for iron applications
- Faceted corner and anti-notch geometries to diffuse failure modes common to iron
- 32-63 Ra surface finishes when using integrated wiper of multi-purpose inserts
- 20-40 Ra surface finishes when using wiper insert in one or two pockets
- Cutter bodies ported with coolant

**Diameter Range:**  
1.50-12.00

**Depth of Cut:**  
Octo+05: .12  
Octo+09: .20

**Hand:**  
RH & LH

**Cutter Series:**  
ON5H / ON6H / OP1N / OP6N

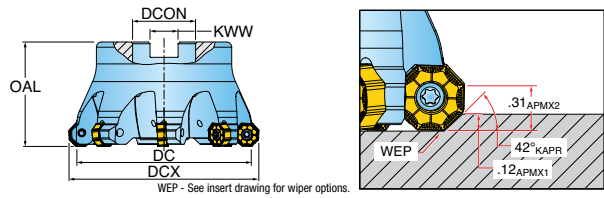
**Insert Series:**  
ONCU05, ONCQ09 & ONCU09

**Materials:**  
Aluminum, Iron, Steel, Stainless Steel, Hi-Temps & Titanium

**PRODUCT  
ANNOUNCEMENT  
UPDATE  
2018**

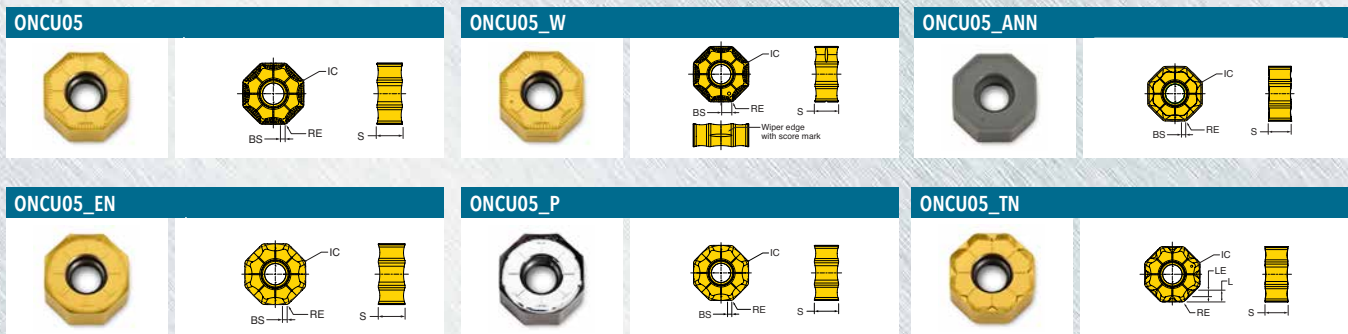
**SERIES ON5H, ON6H (05 INSERT)**

**45° FACE MILL**








| Part Number | DC Cutting Dia. | DCX Cutting Dia. Max. | OAL Overall Length | ZEFF Effective Teeth | DCON Bore Diameter | KWW Keyway | CSP Coolant |
|-------------|-----------------|-----------------------|--------------------|----------------------|--------------------|------------|-------------|
| ON6H-15R01  | 1.500           | 1.83                  | 1.570              | 4                    | 0.500              | 0.250      | Yes         |
| ON5H-20R01  | 2.000           | 2.33                  | 1.570              | 6                    | 0.750              | 0.312      | Yes         |
| ON6H-20R01  | 2.000           | 2.33                  | 1.570              | 4                    | 0.750              | 0.312      | Yes         |
| ON6H-25R01  | 2.500           | 2.83                  | 1.570              | 6                    | 0.750              | 0.312      | Yes         |
| ON5H-30R01  | 3.000           | 3.33                  | 1.750              | 10                   | 1.000              | 0.375      | Yes         |
| ON6H-30R01  | 3.000           | 3.33                  | 1.750              | 7                    | 1.000              | 0.375      | Yes         |
| ON5H-40R01  | 4.000           | 4.33                  | 2.375              | 12                   | 1.500              | 0.625      | Yes         |
| ON6H-40R01  | 4.000           | 4.33                  | 2.375              | 8                    | 1.500              | 0.625      | Yes         |
| ON6H-50R01  | 5.000           | 5.33                  | 2.375              | 10                   | 1.500              | 0.625      | Yes         |
| ON5H-60R01  | 6.000           | 6.33                  | 2.375              | 18                   | 1.500              | 0.625      | No          |
| ON6H-60R01  | 6.000           | 6.33                  | 2.375              | 12                   | 1.500              | 0.625      | No          |

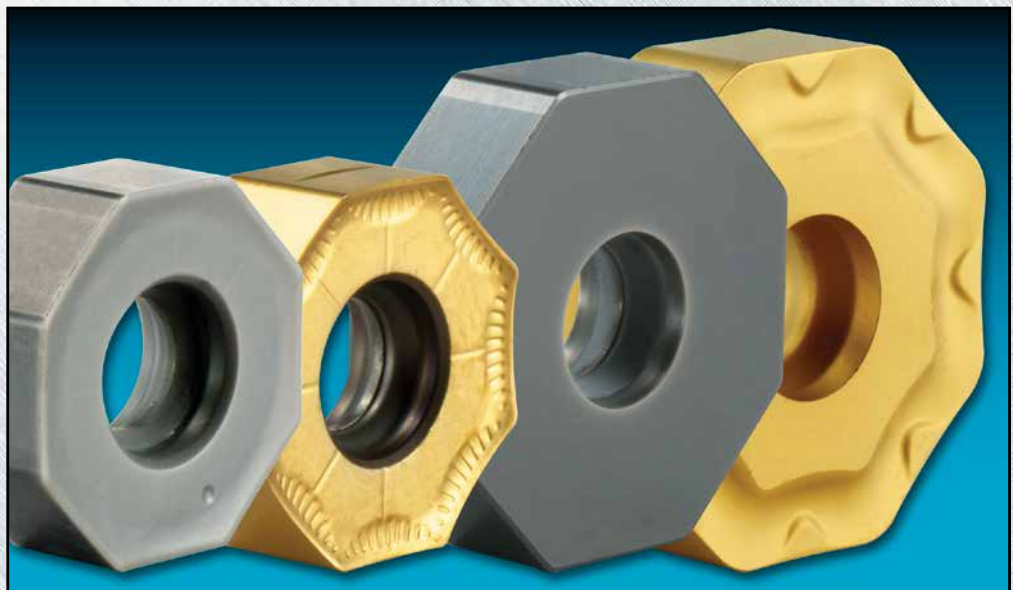
**05 INSERTS**



| Part Number     | Application    | RE Corner Radius | BS Wiper Length | IC Inscribed Circle Dia. | S Thickness (To Cutting Edge) | NOI Number of Indexes | IH Insert Hand | Grade  |        |        |        |       |        |        |        |       |  |   |   |
|-----------------|----------------|------------------|-----------------|--------------------------|-------------------------------|-----------------------|----------------|--------|--------|--------|--------|-------|--------|--------|--------|-------|--|---|---|
|                 |                |                  |                 |                          |                               |                       |                | IN2505 | IN2005 | IN2035 | IN4030 | IN70N | IN2010 | IN6515 | IN4010 | IN10K |  |   |   |
| ONCU0505ANTN-HR | Multi-Purpose  | 0.031 R          | 0.028           | 0.521                    | 0.216                         | 16                    | Neutral        | •      | •      | •      | •      |       |        |        |        |       |  |   |   |
| ONCU0505ANTN-W  | Wiper          | 0.031 R          | 0.095           | 0.521                    | 0.217                         | 4                     | Neutral        | •      |        |        |        |       |        |        |        |       |  |   |   |
| ONCU0505ANN     | SiN for Iron   | 0.031 R          | 0.028           | 0.521                    | 0.230                         | 16                    | Neutral        |        |        |        |        |       | •      |        |        |       |  |   |   |
| ONCU0505ANEN    | Keen Edge      | 0.031 R          | 0.028           | 0.521                    | 0.230                         | 16                    | Neutral        | •      |        | •      | •      |       |        | •      | •      | •     |  |   |   |
| ONCU0505ANFN-P  | Grd/Pol for Al | 0.031 R          | 0.028           | 0.521                    | 0.230                         | 16                    | Neutral        |        |        |        |        |       |        |        |        |       |  |   | • |
| ONCU050520TN    | Anti-Notch     | 0.078 R          |                 | 0.522                    | 0.213                         | 16                    | Neutral        | •      |        |        |        |       |        |        |        |       |  | • | • |

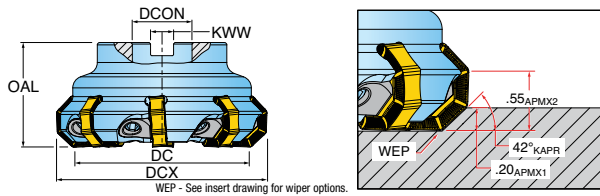
**05 HARDWARE**

|            |  |  |  |  |  |
|------------|---|---|---|---|--|
|            | Insert Screw  | Driver Handle   | Driver Blade  | Retention Bolt  | Optional Coolant Bolt  |
| ON6H-15R01 | SM40-100-10   | DS-A00T   | DS-T156B  | SD-04-86  | -  |
| ON5H-20R01 | SM40-100-10   | DS-A00T   | DS-T156B  | SD-06-46  | SD-06-89   |
| ON6H-20R01 | SM40-100-10   | DS-A00T   | DS-T156B  | SD-06-46  | SD-06-89   |
| ON6H-25R01 | SM40-100-10   | DS-A00T   | DS-T156B  | SD-06-46  | SD-06-89   |
| ON5H-30R01 | SM40-100-10   | DS-A00T   | DS-T156B  | SD-08-46  | SD-08-92   |
| ON6H-30R01 | SM40-100-10   | DS-A00T   | DS-T156B  | SD-08-46  | SD-08-92   |
| ON5H-40R01 | SM40-100-10   | DS-A00T   | DS-T156B  | SD-12-82  | SD-12-99   |
| ON6H-40R01 | SM40-100-10   | DS-A00T   | DS-T156B  | SD-12-82  | SD-12-99   |
| ON6H-50R01 | SM40-100-10   | DS-A00T   | DS-T156B  | SD-12-82  | SD-12-99   |
| ON5H-60R01 | SM40-100-10   | DS-A00T   | DS-T156B  | -   | -  |
| ON6H-60R01 | SM40-100-10   | DS-A00T   | DS-T156B  | -   | -  |



**SERIES OP1N (09 INSERT)**

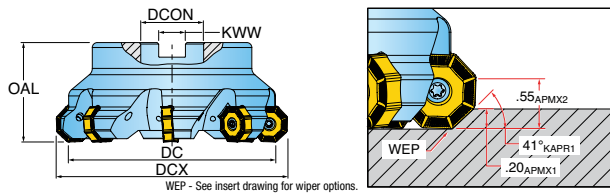
**45° FACE MILL WITH WEDGE-HELD INSERTS**



| Part Number | DC Cutting Dia. | DCX Cutting Dia. Max. | OAL Overall Length | ZEFF Effective Teeth | DCON Bore Diameter | KWW Keyway | DBC Bolt Circle | HAND Hand |
|-------------|-----------------|-----------------------|--------------------|----------------------|--------------------|------------|-----------------|-----------|
| OP1N-30R01  | 3.000           | 3.53                  | 1.750              | 8                    | 1.000              | 0.375      | NA              | Right     |
| OP1N-40R01  | 4.000           | 4.53                  | 2.375              | 12                   | 1.500              | 0.625      | NA              | Right     |
| OP1N-50R01  | 5.000           | 5.53                  | 2.375              | 15                   | 1.500              | 0.625      | NA              | Right     |
| OP1N-60R01  | 6.000           | 6.53                  | 2.375              | 19                   | 1.500              | 0.625      | NA              | Right     |
| OP1N-80L01  | 8.000           | 8.53                  | 2.375              | 24                   | 2.500              | 1.000      | 4.00            | Left      |
| OP1N-80R01  | 8.000           | 8.53                  | 2.375              | 24                   | 2.500              | 1.000      | 4.00            | Right     |
| OP1N-10L01  | 10.000          | 10.53                 | 2.375              | 30                   | 2.500              | 1.000      | 4.00            | Left      |
| OP1N-10R01  | 10.000          | 10.53                 | 2.375              | 30                   | 2.500              | 1.000      | 4.00            | Right     |
| OP1N-12L01  | 12.000          | 12.53                 | 2.375              | 38                   | 2.500              | 1.000      | 4.00, 7.00      | Left      |
| OP1N-12R01  | 12.000          | 12.53                 | 2.375              | 38                   | 2.500              | 1.000      | 4.00, 7.00      | Right     |

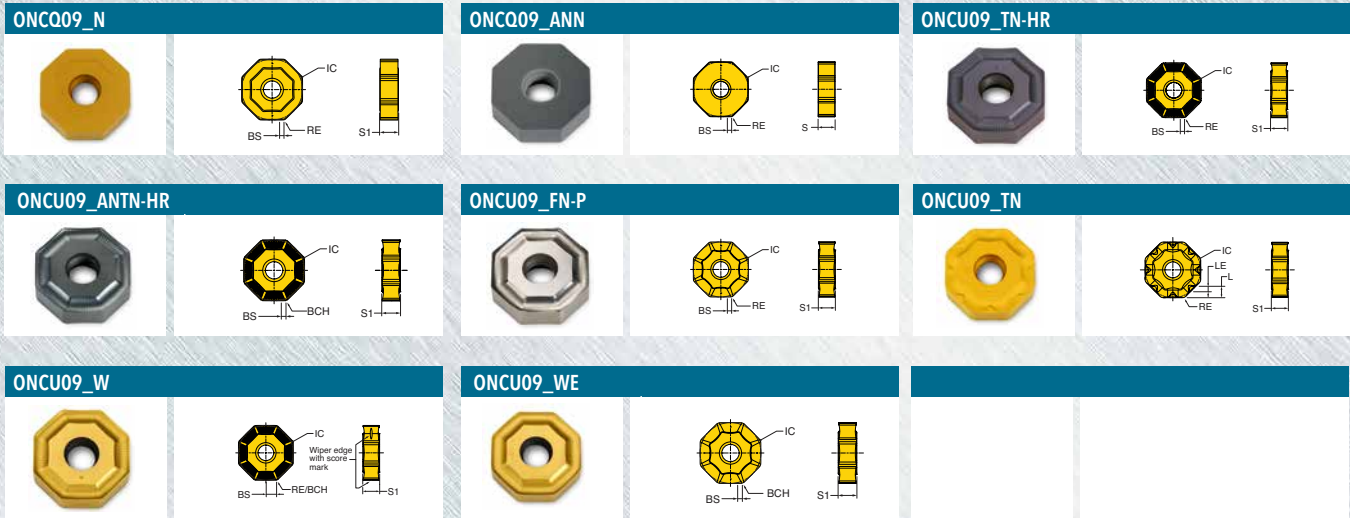
**SERIES OP6N (09 INSERT)**

**45° FACE MILL**



| Part Number | DC Cutting Dia. | DCX Cutting Dia. Max. | OAL Overall Length | ZEFF Effective Teeth | DCON Bore Diameter | KWW Keyway | DBC Bolt Circle | CSP Coolant |
|-------------|-----------------|-----------------------|--------------------|----------------------|--------------------|------------|-----------------|-------------|
| OP6N-25R01  | 2.500           | 3.04                  | 1.570              | 5                    | 0.750              | 0.312      | NA              | Yes         |
| OP6N-30R01  | 3.000           | 3.54                  | 1.750              | 6                    | 1.000              | 0.375      | NA              | Yes         |
| OP6N-40R01  | 4.000           | 4.54                  | 2.375              | 7                    | 1.500              | 0.625      | NA              | Yes         |
| OP6N-50R01  | 5.000           | 5.54                  | 2.375              | 8                    | 1.500              | 0.625      | NA              | Yes         |
| OP6N-60R01  | 6.000           | 6.54                  | 2.375              | 10                   | 1.500              | 0.625      | NA              | No          |
| OP6N-80R01  | 8.000           | 8.54                  | 2.375              | 12                   | 2.500              | 1.000      | 4.00            | No          |
| OP6N-10R01  | 10.000          | 10.54                 | 2.375              | 14                   | 2.500              | 1.000      | 4.00            | No          |
| OP6N-12R01  | 12.000          | 12.54                 | 2.375              | 16                   | 2.500              | 1.000      | 4.00, 7.00      | No          |





09 INSERTS








| Part Number     | Application   | RE/BCH<br>Corner Radius/<br>Chamfer | BS<br>Wiper<br>Length | IC<br>Inscribed Circle Dia. | S<br>Thickness<br>(To Cutting Edge) | NOI<br>Number of Indexes | IH<br>Insert<br>Hand |
|-----------------|---------------|-------------------------------------|-----------------------|-----------------------------|-------------------------------------|--------------------------|----------------------|
| ONCQ090612TN    | Flat Top      | 0.047 R                             | 0.031                 | 0.842                       | 0.260                               | 16                       | Neutral              |
| ONCQ0906ANN     | SiN for Iron  | 0.047 R                             | 0.031                 | 0.842                       | 0.258                               | 16                       | Neutral              |
| ONCU090612TN-HR | Multi-Purpose | 0.047 R                             | 0.031                 | 0.842                       | 0.258                               | 16                       | Neutral              |
| ONCU090638TN-HR | Multi-Purpose | 0.150 R                             | -                     | 0.842                       | 0.258                               | 16                       | Neutral              |
| ONCU0906ANTN-HR | Multi-Purpose | 0.030 Faceted                       | 0.031                 | 0.842                       | 0.258                               | 16                       | Neutral              |
| ONCU090612FN-P  | Non-Ferrous   | 0.047 R                             | 0.031                 | 0.842                       | 0.258                               | 16                       | Neutral              |
| ONCU090630TN    | Anti-Notch    | 0.118 R                             | -                     | 0.842                       | 0.258                               | 16                       | Neutral              |
| ONCU090612TN-W  | Wiper         | 0.047 R                             | 0.157                 | 0.842                       | 0.258                               | 4                        | Neutral              |
| ONCU0906ANTN-W  | Wiper         | 0.030 Faceted                       | 0.157                 | 0.842                       | 0.258                               | 4                        | Neutral              |
| ONCU0906ANFN-WE | Keen Edge     | 0.030 Faceted                       | 0.031                 | 0.842                       | 0.258                               | 16                       | Neutral              |

| Part Number     | Grade | IN2505 | IN2005 | IN2035 | IN4030 | IN70N | IN2030 | IN6515 | IN2010 | IN4010 | IN6510 | IN4005 | IN2510 | IN2004 | IN10K |
|-----------------|-------|--------|--------|--------|--------|-------|--------|--------|--------|--------|--------|--------|--------|--------|-------|
| ONCQ090612TN    |       |        | •      |        |        |       |        | •      |        |        | •      | •      |        |        |       |
| ONCQ0906ANN     |       |        |        |        |        | •     |        |        |        |        |        |        |        |        |       |
| ONCU090612TN-HR |       |        | •      | •      | •      |       | •      |        |        |        |        | •      |        |        |       |
| ONCU090638TN-HR |       |        |        |        |        |       | •      |        | •      |        |        |        |        |        |       |
| ONCU0906ANTN-HR |       |        |        |        | •      |       |        |        | •      | •      |        |        |        |        |       |
| ONCU090612FN-P  |       |        |        |        |        |       |        |        |        |        |        |        |        |        | •     |
| ONCU090630TN    |       |        |        |        | •      |       |        | •      | •      | •      | •      |        |        |        |       |
| ONCU090612TN-W  |       | •      |        |        |        |       |        |        |        |        |        |        |        |        |       |
| ONCU0906ANTN-W  |       |        |        |        |        |       |        |        |        |        |        |        |        |        | •     |
| ONCU0906ANFN-WE |       |        |        | •      | •      |       |        | •      |        | •      |        |        | •      | •      |       |

## 09 HARDWARE

| OP1N       |  |  |  |  |
|------------|---|---|---|---|
|            | Driver  | Wedge   | Adjusting Screw   | Retention Bolt  |
| OP1N-30R01 | DS-H04T   | 2M0813-01   | SB080-03  | SD-08-46  |
| OP1N-40R01 | DS-H04T   | 2M0813-01   | SB080-03  | SD-12-82  |
| OP1N-50R01 | DS-H04T   | 2M0813-01   | SB080-03  | SD-12-82  |
| OP1N-60R01 | DS-H04T   | 2M0813-01   | SB080-03  | SD-12-82  |
| OP1N-80L01 | DS-H04T   | 2M0813-01   | SB080-03  | -   |
| OP1N-80R01 | DS-H04T   | 2M0813-01   | SB080-03  | -   |
| OP1N-10L01 | DS-H04T   | 2M0813-01   | SB080-03  | -   |
| OP1N-10R01 | DS-H04T   | 2M0813-01   | SB080-03  | -   |
| OP1N-12L01 | DS-H04T   | 2M0813-01   | SB080-03  | -   |
| OP1N-12R01 | DS-H04T   | 2M0813-01   | SB080-03  | -   |

| OP6N       |  |  |  |  |  |
|------------|---|---|---|---|---|
|            | Insert Screw  | Driver Handle   | Driver Blade  | Retention Bolt  | Optional Coolant Bolt   |
| OP6N-25R01 | SM50-130-R0   | DS-A00T   | DS-T206B  | SD-06-46  | SD-06-89  |
| OP6N-30R01 | SM50-130-R0   | DS-A00T   | DS-T206B  | SD-08-46  | SD-08-92  |
| OP6N-40R01 | SM50-130-R0   | DS-A00T   | DS-T206B  | SD-12-82  | SD-12-99  |
| OP6N-50R01 | SM50-130-R0   | DS-A00T   | DS-T206B  | SD-12-82  | SD-12-99  |
| OP6N-60R01 | SM50-130-R0   | DS-A00T   | DS-T206B  | -   | -   |
| OP6N-80R01 | SM50-130-R0   | DS-A00T   | DS-T206B  | -   | -   |
| OP6N-10R01 | SM50-130-R0   | DS-A00T   | DS-T206B  | -   | -   |
| OP6N-12R01 | SM50-130-R0   | DS-A00T   | DS-T206B  | -   | -   |

## OPERATING GUIDELINES

| Material        | Brinell Hardness              | SFM       | Feed per Insert (inch) | Grade     |        |        |        |        |        |        |        |        |        | Coolant |        |        |                                    |       |
|-----------------|-------------------------------|-----------|------------------------|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|--------|------------------------------------|-------|
|                 |                               |           |                        | IN10K     | IN2004 | IN2005 | IN2505 | IN4005 | IN2030 | IN4030 | IN2035 | IN2010 | IN2510 |         | IN4010 | IN6510 | IN6515                             | IN70N |
| Aluminum        | 7075-T6, 6061-T6, 2024        | -         | 1500-10000             | .006-.012 | 1      |        |        |        |        |        |        |        |        |         |        |        | Yes                                |       |
| Cast Iron       | Gray                          | 150-250   | 500-1000               | .008-.016 | 3      |        |        |        |        | 1      | 2      |        |        |         |        |        | No                                 |       |
|                 |                               |           | 1800+                  | .005-.008 |        |        |        |        |        |        |        |        |        |         |        |        |                                    |       |
|                 | Nodular                       |           | 400-800                | .007-.014 | 3      |        |        |        |        |        | 2      | 1      |        |         |        |        |                                    |       |
|                 |                               |           | 1500+                  | .004-.007 |        |        |        |        |        |        |        |        | 1      |         |        |        |                                    |       |
| Steel           | Low Carbon 1018, 8620         | 100-250   | 400-1000               | .006-.015 |        |        |        |        |        |        |        |        |        |         |        |        | No                                 |       |
|                 | High Carbon F-6180            | 250-400   | 400-800                | .006-.012 |        |        |        |        |        |        |        |        |        |         |        |        |                                    |       |
|                 | Alloyed Steel 4140, 4340      | 150-300   | 300-700                |           |        |        | 2      | 1      |        |        |        |        |        |         |        |        |                                    |       |
|                 | Tool Steel A-6, D-1, D-2      | Up to 300 | 300-500                |           |        |        |        |        |        |        |        |        |        |         |        |        |                                    |       |
| Stainless Steel | 300 Series, 304, 316          | -         | 300-700                | .005-.009 |        |        |        |        |        |        |        |        |        |         |        |        | May not be required at high speeds |       |
|                 | 400 Series 15-5 PH            | Up to 320 | 400-700                |           |        |        | 3      | 2      | 1      |        |        |        |        |         |        |        |                                    |       |
|                 | 13-8 PH                       | -         | 200-400                |           |        |        |        |        |        |        |        |        |        |         |        | Yes    |                                    |       |
| Nickel Alloys   | Inconel, Hastelloy, Waspalloy | -         | 75-120                 | .003-.006 |        |        | 2      | 3      | 1      |        |        |        |        |         |        |        | Yes                                |       |
| Titanium        | 6AL-4V                        | -         | 100-150                | .004-.007 |        |        | 3      | 2      | 1      |        |        |        |        |         |        |        | Yes                                |       |