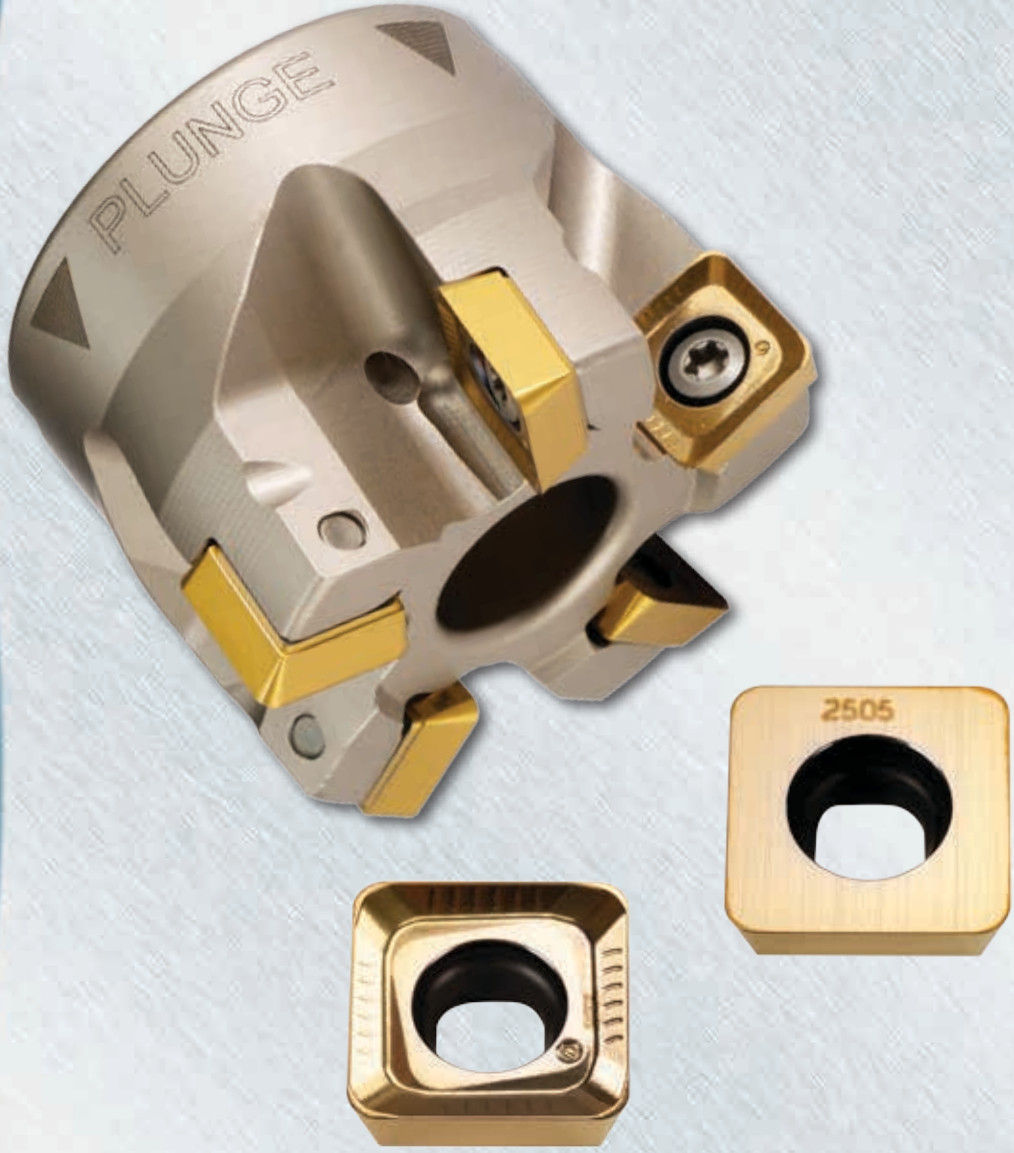
# HI-QUAD PLUNGE™




**Diameters:**
**2.00" - 4.00"**

**Insert Styles:**
**SDMS1305**
**SDES1305**

**Grades:**
**IN2530, IN2535,**
**IN4005, IN4015,**
**IN4030, IN4035**

**Materials:**
**Iron, Steel, Stainless Steel,**
**Hi-Temp Alloys**

NEW PRODUCT ANNOUNCEMENT 2014

## Hi-Quad Plunge Roughing Cutters with Four Cutting Edges

**Features and Benefits**

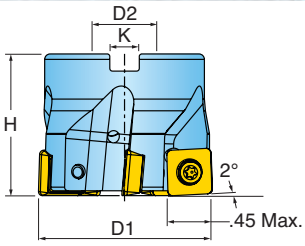
- .45" max. radial depth of cut capability (depending on corner radius)
- Excels in general purpose roughing and long reach plunge applications
- Perfect for roughing on small spindle machines
- Inserts offered with clean shearing Hi-Temp Alloy geometry and strong Flat Top geometry
- Internal coolant supply

Member IMC Group Ingersoll Cutting Tools

## HiQUAD PLUNGE™ SERIES QHU

### PLUNGE ROUGHING CUTTERS

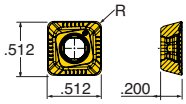
Plunge | Coolant



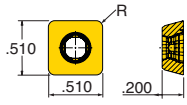

| Cutter Number | D1 Effective Diameter | # of Inserts | H Height | D2 Bore Diameter | K Keyway | Retention Bolt | Optional Coolant Bolt |
|---|---|---|---|---|---|---|---|
| QHU-20015D1R01 | 2.000 | 5 | 1.570 | 0.750 | 0.31 | SD-06-46 | SD-06-89 |
| QHU-20015D1R02 | 2.000 | 4 | 1.570 | 0.750 | 0.31 | SD-06-46 | SD-06-89 |
| QHU-25015D1R01 | 2.500 | 5 | 1.570 | 0.750 | 0.31 | SD-06-46 | SD-06-89 |
| QHU-30017D3R01 | 3.000 | 7 | 1.750 | 1.000 | 0.38 | SD-08-46 | SD-08-92 |
| QHU-30017D3R02 | 3.000 | 5 | 1.750 | 1.000 | 0.38 | SD-08-46 | SD-08-92 |
| QHU-40023D5R01 | 4.000 | 9 | 2.375 | 1.500 | 0.63 | SD-12-82 | SD-12-99 |
| QHU-40023D5R02 | 4.000 | 7 | 2.375 | 1.500 | 0.63 | SD-12-82 | SD-12-99 |

## HiQUAD PLUNGE™ INSERTS

### SDMS




### SDES




| Part Number | Application | R Corner | Indexes | Grade | IN2530 | IN2535 | IN4005 | IN4030 | IN4035 | IN4015 |
|---|---|---|---|---|---|---|---|---|---|---|
| SDMS130512R-PP | Hi-Temp/Stainless | R.047 | 4 | | | | | • | • | |
| SDMS130516R-PP | Hi-Temp /Stainless | R.062 | 4 | | • | • | • | • | • | |
| SDES130508N-PF | Multi-Purpose Flat Top | R.031 | 4 | | | | • | • | | • |
| SDES130516N-PF | Multi-Purpose Flat Top | R.062 | 4 | | | | • | • | | • |
| SDES130524N-PF | Multi-Purpose Flat Top | R.093 | 4 | | | | • | • | | |
| SDES130532N-PF | Multi-Purpose Flat Top | R.125 | 4 | | | | • | • | | |
| SDES130508N-PF1 | Hi-Temp Flat Top | R.031 | 4 | | | | | • | • | |
| SDES130516N-PF1 | Hi-Temp Flat Top | R.062 | 4 | | | | | • | • | |
| SDES130524N-PF1 | Hi-Temp Flat Top | R.093 | 4 | | | | | • | • | |
| SDES130532N-PF1 | Hi-Temp Flat Top | R.125 | 4 | | | | | • | • | |

## HiQUAD PLUNGE™ HARDWARE

| Insert Screw | Driver Handle | Insert Driver Blade | Optional Torque Wrench | Optional Insert Driver Blade |
|---|---|---|---|---|
| SM40-100-R0 | DS-A00T | DS-T156B | DT-35-02 | DS-T15B1 |

# HiQuad Plunge™ OPERATING GUIDELINES

| HiQuad Plungers - Series QHU | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Material | | Brinnell Hardness | SFM | Feed per Insert | IN2530 | IN2535 | IN4005 | IN4030 | IN4035 | IN4015 | Coolant |
| Aluminum | 6061 T6, 7075 T6, 2024 | - | 1500 - 8000 | .004 - .010 | | | | | | 1 | Yes |
| Cast Iron | Gray | 150 - 250 | 250 - 800 | .005 - .012 | | | 2 | | | 1 | No |
| | Nodular | | 200 - 800 | | | | | | | | |
| Steel | Low Carbon 1018, 8620 | 100 - 250 | 250 - 800 | .004 - .012 | 3 | | 2 | 1 | | | No |
| | High Carbon F-6180 | 250 - 400 | 200 - 700 | .005 - .012 | | | | | | | |
| | Alloyed Steel 4140, 4340 | 150 - 300 | 250 - 700 | | | | | | | | |
| | Tool Steel A-6, D-1, D-2 | Up to 300 | | | | | | | | | |
| Stainless Steel | 300 Series, 304, 316 | - | 250 - 600 | .004 - .008 | 5 | 2 | 4 | 3 | 1 | | May not be required at high speeds |
| | 400 Series 15-5 PH | Up to 320 | 300 - 700 | .005 - .010 | | | | | | | |
| | 13-8 PH | - | 200 - 250 | .004 - .008 | | | | | | | Yes |
| Nickel Alloys | Inconel, Hastelloy, Waspalloy | - | 75-120 | .004 - .008 | | 2 | 4 | 3 | 1 | | Yes |
| Titanium | 6AL-4V | - | 100 - 150 | .004 - .008 | | 2 | 4 | 3 | 1 | | Yes |

Note: Feed and speed recommendations are starting operating parameters. They are only guidelines from which further optimization should take place. Operating parameters are influenced by many machining variables. These variables may cause for reductions in feeds and speed or dramatic increases. Additionally, DOC and WOC may need to be revised to optimize the tools performance.