



Member IMC Group

Ingersoll
Cutting Tools

**PLUNGING
CUTTERS**



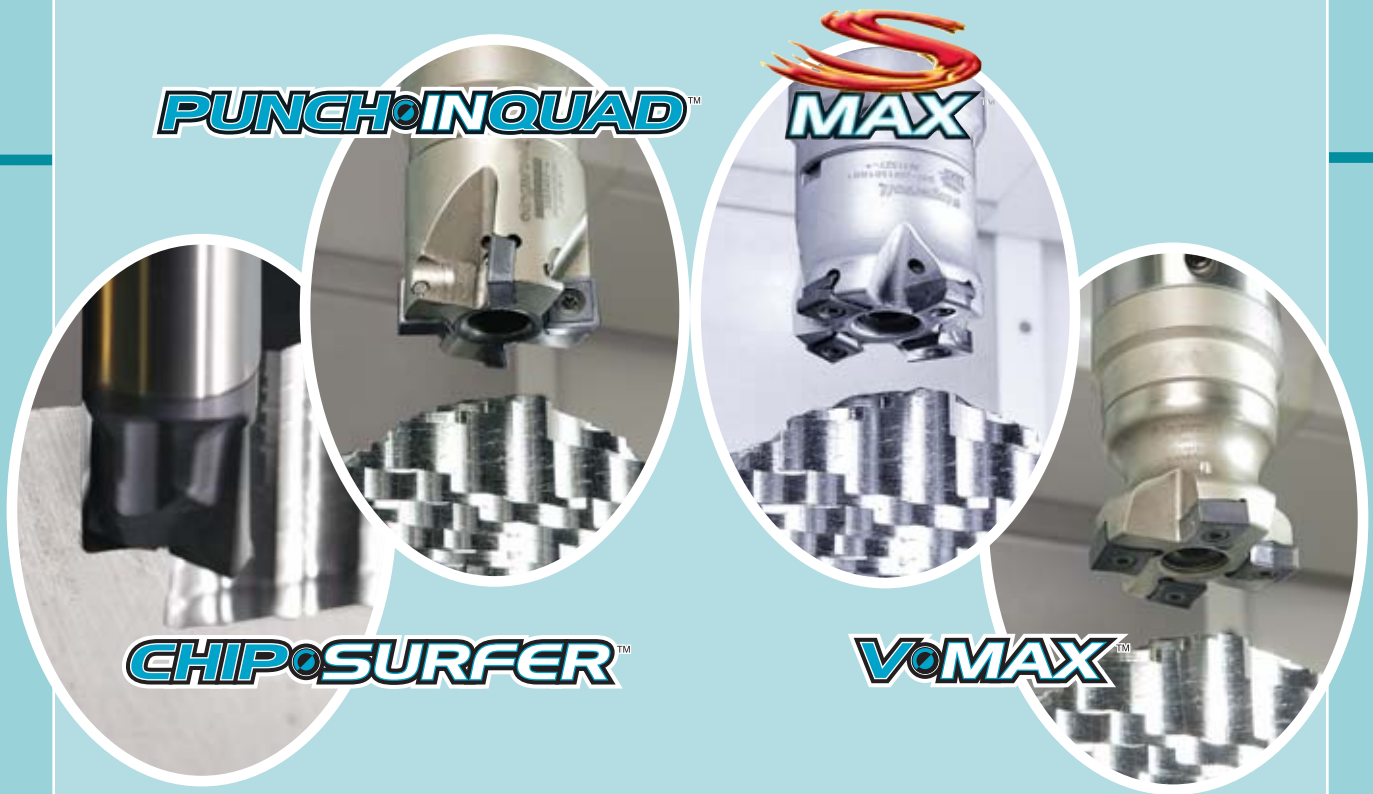


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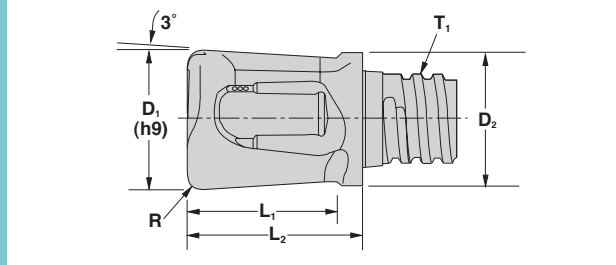


| | CHIP•SURFER™ | PUNCH•INQUAD™ | VO•MAX™ | MAX™ |
|-----------------------------|---------------------|----------------------|----------------|-------------|
| Diameter Range | .375-.625 | .750-4.00 | 2.00-6.00 | 2.00-4.00 |
| Step Over Capability | 1/2 Diameter | 0.51 | 0.46 | .375-.590 |
| Available Corner Radii | 0.03 | .03, .06, .12 | .03, .06, .12 | 0.06 |
| Available Insert Geometries | Positive | Positive & Neutral | Positive | Positive |
| Cutting Edges Per Insert | 1 | 4 | 4 RH / 4 LH | 4 |
| Coolant Through | Yes | Yes | No | Yes |
| RH /LH | RH | RH /LH | RH /LH | RH |



CHIP SURFER™ SOLID CARBIDE FLAT BOTTOM PLUNGING TIP SERIES 45V

Diameters .375" to .625"
Cutting Edge Length .38" to .60"
Cutting Edge Radius .031"R



| D ₁ Nominal Diameter | Cutter Number | Effective | D ₂ Neck Diameter | L ₁ Cutting Edge Length | T ₁ Thread Size | L ₂ Extension Length | R Corner Radius |
|---------------------------------------|------------------|-----------|------------------------------------|--|----------------------------------|---------------------------------------|-----------------------|
|---------------------------------------|------------------|-----------|------------------------------------|--|----------------------------------|---------------------------------------|-----------------------|

| | | | | | | | |
|------|-----------------------|---|------|-----|-----|-----|------|
| .375 | 45V-3738T6RA03 | 2 | .364 | .38 | T06 | .48 | .031 |
| .500 | 45V-5045T8RA03 | 2 | .480 | .45 | T08 | .60 | .031 |
| .625 | 45V-6260TRRA03 | 2 | .600 | .60 | T10 | .75 | .031 |

WRENCHES (ORDER SEPARATELY)

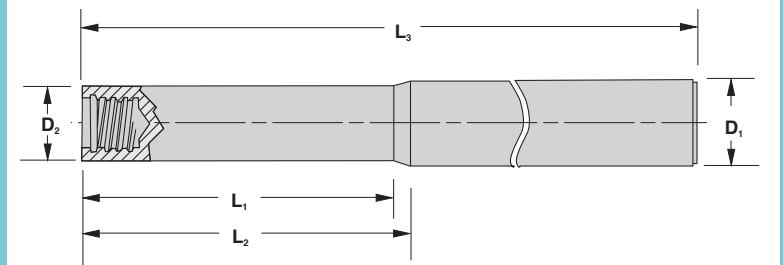
| Thread Size | Wrench Part No. | Optional Torque Wrench | Torque (in lbs) |
|----------------|--------------------|------------------------------|--------------------|
|----------------|--------------------|------------------------------|--------------------|

| | | | |
|-----|---------|-----------|-----|
| T06 | WS-0029 | DT-90-05 | 90 |
| T08 | WS-0030 | DT-130-07 | 130 |
| T10 | WS-0044 | DT-250-08 | 250 |

CHIP SURFER™ NECKED DOWN STRAIGHT SHANKS SERIES S0

Thread Connections
T06, T08, T10

Shank Materials
Steel or Carbide



| T_1 Thread Size | Part Number | L_1 | L_2 | L_3 | D_1 | D_2 |
|-------------------------|----------------|-------|-------|-------|-------|-------|
| STEEL SHANKS | | | | | | |
| T06 | S037T06SA-06 | .50 | .60 | 3.00 | .375 | .364 |
| T08 | S050T08SA-06 | .53 | .63 | 3.50 | .500 | .480 |
| T10 | S062T10SA-06 | .68 | .78 | 4.00 | .625 | .600 |
| CARBIDE SHANKS | | | | | | |
| T06 | S037T06CA-12 | 1.20 | 1.25 | 4.00 | .375 | .364 |
| T06 | S037T06CA-20 | 1.95 | 2.00 | 4.75 | .375 | .364 |
| T08 | S050T08CA-15 | 1.45 | 1.50 | 4.00 | .500 | .480 |
| T08 | S050T08CA-25 | 2.45 | 2.50 | 5.50 | .500 | .480 |
| T10 | S062T10CA-34 | 3.43 | 3.50 | 5.50 | .625 | .600 |
| T10 | S062T10CA-49 | 4.93 | 5.00 | 7.00 | .625 | .600 |

OPERATING GUIDELINES

| Material | Specifications | Hardness Brinell | Coolant? | SFM | Feed Per Insert |
|-----------------|-------------------------------|------------------|----------|-----------|-----------------|
| Aluminum | 7075 - T6, 6061 - T6, 2024 | - | Yes | 1300-6000 | .0025-.0035 |
| Cast Iron | Gray | 150-250 | No | 300-800 | .002-.004 |
| | Nodular | 150-250 | No | 300-600 | .002-.0035 |
| Steel | Low Carbon 1018, 8620 | 150-250 | No | 500-800 | .002-.004 |
| | High Carbon F-6180 | 250-400 | No | 400-700 | .0015-.004 |
| | Alloyed Steel 4140, 4340 | 150-300 | No | 500-800 | .0015-.004 |
| | Tool Steel A-6, D-1, D-2 | Up to 300 | No | 500-800 | .0015-.004 |
| Stainless Steel | 300 Series, 304, 316 | - | Yes | 300-700 | .0015-.004 |
| | 400 Series 15-5 PH | Up to 300 | No | 400-600 | |
| | 13-8 PH | - | Yes | 200-400 | |
| Nickel Alloys | Inconel, Hastelloy, Waspalloy | - | Yes | 75-120 | .002-.004 |
| Titanium | 6AL-4V | - | Yes | 100-150 | .002-.004 |

INDEXING TIP GUIDELINES

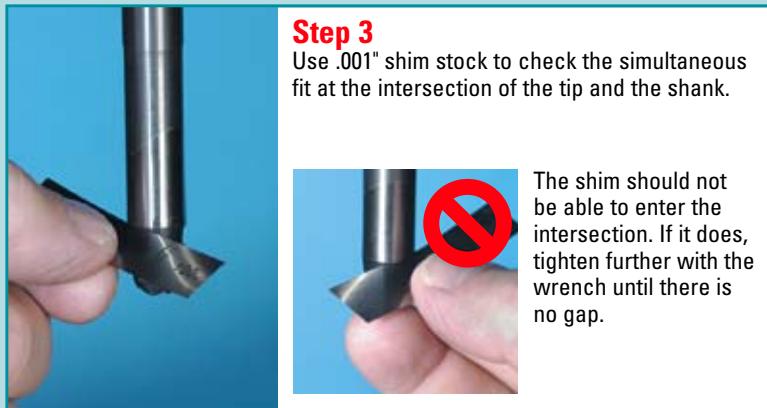
Step 1
Screw tip into shank until finger tight
Note a .010" gap



Step 2
Use wrench to torque approximately 1/4 turn, creating a simultaneous fit.



Step 3
Use .001" shim stock to check the simultaneous fit at the intersection of the tip and the shank.



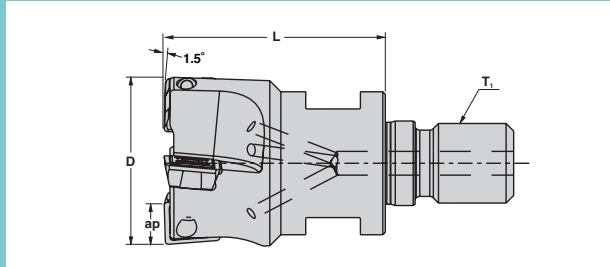
The shim should not be able to enter the intersection. If it does, tighten further with the wrench until there is no gap.



Pre-set torque wrenches (Series DT-...) can be purchased.

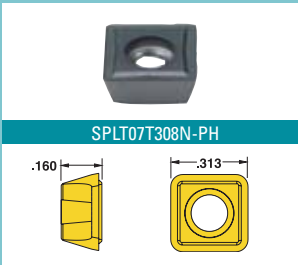
PUNCH•INQUAD™ MODULAR PLUNGING CUTTER SERIES DHU (TOP•ON STYLE)

Diameters
.750" to 1.00"
Cutting Edge Length
.28
Insert Corner
.031"R



| D Effective Diameter | Cutter Number | Number of Inserts | T ₁ Adaption | L Overall Length | AP | Wrench Size |
|----------------------------|-----------------------|----------------------|----------------------------|------------------------|------|----------------|
| .750 | DHU-07512X6R10 | 2 | M10 | 1.250 | 0.28 | 15mm |
| 1.000 | DHU-10012X7R10 | 3 | M12 | 1.250 | 0.28 | 17mm |

INSERTS



| Insert Number | Application | Corner | Grades | |
|-----------------------|--------------------------|--------|--------|-----------|
| | | | IN | 1030 2005 |
| SPLT07T308N-PH | Double Positive Geometry | .031R | ■ | ■ |

HARDWARE

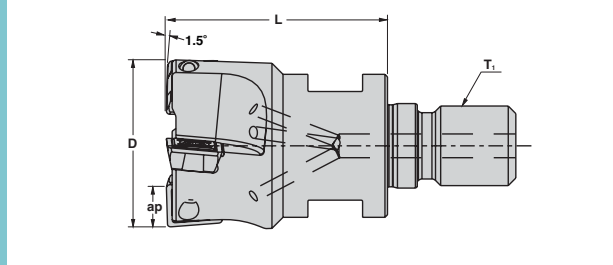
| Insert Screw | | Driver |
|--------------|----------------|--------------------|
| Part No. | Torque | Part No. |
| SM25-064-00 | 10-15 in. lbs. | DS-T08W (Tx-08) |

PUNCH^oINQUAD™ MODULAR PLUNGING CUTTER SERIES DHU (TOP-ON STYLE)

Diameters
1.00" to 1.25"

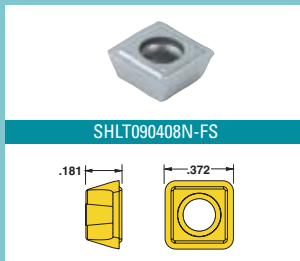
Cutting Edge Length
.34

Insert Corner
.031"R



| D Effective Diameter | Cutter Number | Number of Inserts | T ₁ Adaption | L Overall Length | AP | Wrench Size |
|----------------------------|-----------------------|----------------------|----------------------------|------------------------|------|----------------|
| 1.000 | DHU-10012X7R01 | 2 | M12 | 1.250 | 0.34 | 18mm |
| 1.250 | DHU-12015X8R01 | 3 | M16 | 1.500 | 0.34 | 25mm |

INSERTS



| Insert Number | Application | Corner | Grades | | | |
|-----------------------|-------------------------|--------|--------|------|------|------|
| | | | IN | 1030 | 2005 | 6515 |
| SHLT090408N-FS | Strong Neutral Geometry | .031R | ■ | ■ | ■ | |
| SHLT090416N-FS | Strong Neutral Geometry | .062R | ■ | | | |

HARDWARE

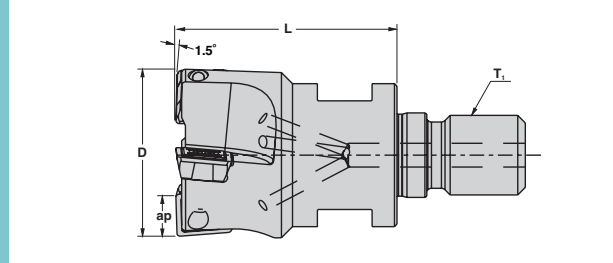
| Insert Screw | | Driver |
|--------------|----------------|--------------------|
| Part No. | Torque | Part No. |
| SM40-080-30 | 30-35 in. lbs. | Tx-T15T (Tx-15) |

PUNCH^oINQUAD™ MODULAR PLUNGING CUTTER SERIES DHU (TOP-ON STYLE)

Diameters
1.25" to 1.50"

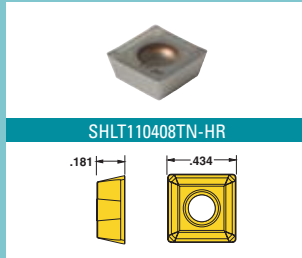
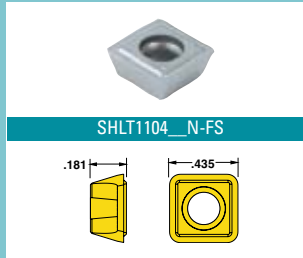
Cutting Edge Length
.40"

Insert Corner
.031"R, .062"R



| D Effective Diameter | Cutter Number | Number of Inserts | T ₁ Adaption | L Overall Length | AP | Wrench Size |
|----------------------------|-----------------------|----------------------|----------------------------|------------------------|------|----------------|
| 1.250 | DHU-12015X8R02 | 2 | M16 | 1.500 | 0.40 | 22mm |
| 1.500 | DHU-15017X8R02 | 3 | M16 | 1.750 | 0.40 | 22mm |

INSERTS



| Insert Number | Application | Corner | Grades | | | | |
|------------------------|--------------------------|--------|--------|------|------|------|------|
| | | | IN | 1030 | 2005 | 6530 | 6515 |
| SHLT110408N-FS | Strong Neutral Geometry | .031R | ■ | ■ | | ■ | |
| SHLT110416N-FS | Strong Neutral Geometry | .062R | ■ | | | | |
| SHLT110408TN-HR | Double Positive Geometry | .031R | ■ | ■ | ■ | | |

HARDWARE

| Insert Screw | | Driver |
|--------------|----------------|--------------------|
| Part No. | Torque | Part No. |
| SM40-093-20 | 30-35 in. lbs. | DS-T15T (Tx-15) |

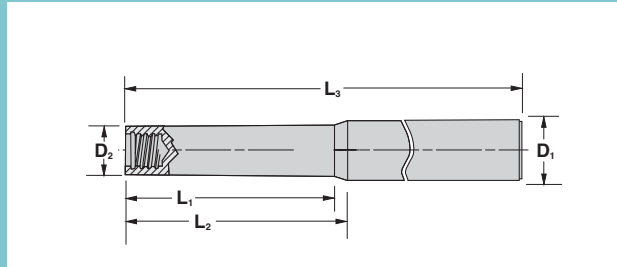
TOPCON™ MODULAR STRAIGHT SHANKS STEEL AND CARBIDE

Thread Connections
M10, M12, and M16

Shank Diameters
.75" to 1.25"



Coolant Thru



STEEL

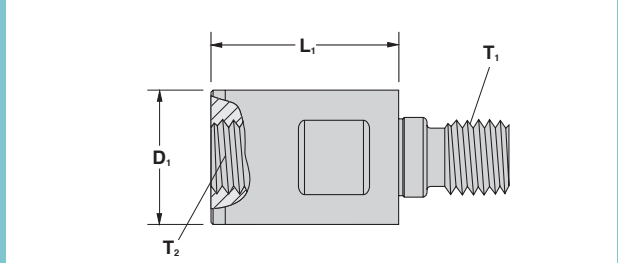
| T ₁ Internal Thread | Part Number | D ₁ Shank Diameter | D ₂ Mating Diameter | L ₁ Projection Length | L ₂ Extension Length | L ₃ Overall Length |
|--------------------------------------|------------------------|-------------------------------------|--------------------------------------|--|---------------------------------------|-------------------------------------|
| M10 | S075MOD10SK-30 | .750 Cylindrical | 0.71 | 1.00 | 1.09 | 3.000 |
| M10 | WB075MOD10SK-50 | .750 Weldon | 0.71 | 3.00 | 3.09 | 5.000 |
| M12 | S100MOD12SK-80 | 1.000 Cylindrical | 0.82 | 2.80 | 5.75 | 8.000 |
| M16 | WB125MOD16SK-40 | 1.250 Weldon | 1.14 | 1.37 | 1.75 | 4.000 |
| M16 | S125MOD16SK-90 | 1.250 Cylindrical | 1.14 | 2.00 | 6.75 | 9.000 |

CARBIDE

| T ₁ Internal Thread | Part Number | D ₁ Shank Diameter | D ₂ Mating Diameter | L ₁ Projection Length | L ₂ Extension Length | L ₃ Overall Length |
|--------------------------------------|-----------------------|-------------------------------------|--------------------------------------|--|---------------------------------------|-------------------------------------|
| M10 | S075MOD10CA-40 | .750 Cylindrical | 0.71 | 1.97 | 2.00 | 4.000 |
| M10 | S075MOD10CA-60 | .750 Cylindrical | 0.71 | 3.90 | 4.00 | 6.000 |
| M10 | S075MOD10CA-80 | .750 Cylindrical | 0.71 | 5.90 | 6.00 | 8.000 |
| M12 | S100MOD12CK-45 | 1.000 Cylindrical | 0.82 | 2.22 | 2.25 | 4.500 |
| M12 | S100MOD12CK-65 | 1.000 Cylindrical | 0.82 | 4.22 | 4.25 | 6.500 |
| M12 | S100MOD12CK-85 | 1.000 Cylindrical | 0.82 | 6.20 | 6.25 | 8.500 |
| M16 | S125MOD16CK-90 | 1.250 Cylindrical | 1.14 | 6.70 | 6.75 | 9.000 |

TOP•ON™ MODULAR EXTENSIONS

Extension Lengths: 30mm (1.181"), 35mm (1.378"), 40mm (1.575")



| T ₁ External Thread | T ₂ Internal Thread | Part Number | L ₁ Extension Length | D ₁ Connection Diameter | Wrench Size |
|--------------------------------------|--------------------------------------|------------------------|---------------------------------------|--|----------------|
| M10 | M10 | MOD10MOD10SA035 | 35mm (1.378") | 18mm (0.71") | 15mm |
| M12 | M12 | MOD12MOD12SA040 | 40mm (1.575") | 21mm (0.82") | 18mm |
| M16 | M16 | MOD16MOD16SA040 | 40mm (1.575") | 29mm (1.14") | 25mm |

PUNCH INQUAD™ PLUNGING CUTTER* SERIES DHU

Diameters
2.00" to 4.00"

Cutting Edge Length
.53"

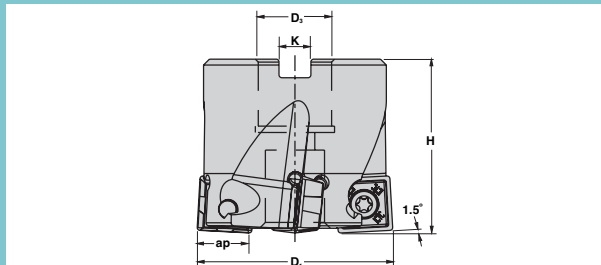
Insert Corner
.031"R, .062"R, .125"R



Plunging



Coolant Thru

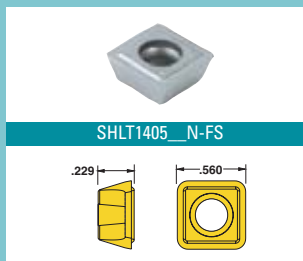


| D ₁ Effective Diameter | Cutter Number | Number of Inserts | D ₃ Bore Diameter | Keyway Dimension | H Height | Standard Retention Bolt | Coolant-Thru** Retention Bolt | AP |
|---|------------------|----------------------|------------------------------------|---------------------|-------------|-------------------------------|-------------------------------------|-----|
| 2.000 | DHU-20017D1R01 | 4 | 0.75 | 0.31 | 1.750 | SD06-46 | SD06-89 | .53 |
| 2.500 | DHU-25017D1R01 | 5 | 0.75 | 0.31 | 1.750 | SD06-46 | SD06-89 | .53 |
| 3.000 | DHU-30017D3R01 | 6 | 1.00 | 0.38 | 1.750 | SD08-46 | SD08-92 | .53 |
| 4.000 | DHU-40020D4R01 | 8 | 1.25 | 0.50 | 2.000 | SD10-47 | SD10-99 | .53 |

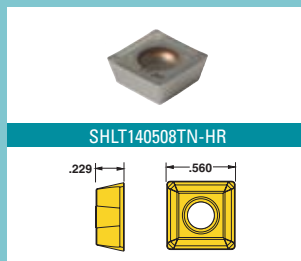
*Can be used with **INNOFIT** system.

**Order SEPARATELY

INSERTS



SHLT1405_N-FS



SHLT140508TN-HR

| Insert Number | Application | Corner | Grades | | | | |
|------------------|--------------------------|--------|--------|------|------|------|------|
| | | | IN | 1030 | 2005 | 6515 | 6530 |
| SHLT140508N-FS | Strong Neutral Geometry | 0.031R | ■ | ■ | ■ | | |
| SHLT140516N-FS | Strong Neutral Geometry | 0.062R | ■ | ■ | | | |
| SHLT140532N-FS | Strong Neutral Geometry | 0.125R | | | ■ | | |
| SHLT140508TN-HR | Double Positive Geometry | 0.031R | ■ | ■ | | | ■ |
| SHLT140516TN-HR | Double Positive Geometry | 0.062R | ■ | ■ | | | |

HARDWARE

| Insert Screw | | Driver |
|--------------|----------------|--------------------|
| Part No. | Torque | Part No. |
| SM50-127-10 | 40-45 in. lbs. | DS-T20T (Tx-20) |

SERIES DHU

| Material | | Brinell Hardness | SFM | Feed per Insert | Grades* | | | | Coolant | |
|-----------------|--|------------------|-------------|-----------------|---------|--------|--------|--------|---------|-----------|
| | | | | | IN1030 | IN2005 | IN6315 | IN6330 | | |
| Aluminum | 6061 T-6, 7075 T-6 | - | 1500-10,000 | .004-.010 | | | 1 | | No | |
| Cast Iron | Gray | 150-250 | 250-800 | .005-.012 | | | 1 | 2 | No | |
| | Nodular | | 200-800 | | | | | | | |
| Steel | Low Carbon 1018-8620 | 100-250 | 250-800 | .004-.012 | 1 | 2 | | | No | |
| | High Carbon F-6180, Nitralloy 52100 | 250-400 | 200-700 | | | | | | | |
| | Alloyed Steel 4140, 4340, 6150 | 150-300 | 250-700 | | 1 | 2 | | 3 | | |
| | Tool Steel A-6, D-1, D-2, P-20 | Up to 300 | | | | | | | | |
| Stainless Steel | 300 Series, 304, 316 | - | 250-600 | .004-.008 | 2 | 1 | | 3 | Yes | |
| | 400 Series 15-5 PH, 17-4 PH | Up to 320 | 300-700 | | | | | | | .005-.010 |
| | 13-8 PH | Up to 320 | 200-250 | | | | | | | |
| Nickel Alloys | Inconel 600, 706, 718, 903, Hastelloy, Waspalloy | - | 75-120 | .004-.008 | 2 | 1 | | | Yes | |
| Titanium | 6AL-4V | - | 100-150 | .004-.008 | 2 | 1 | | | Yes | |

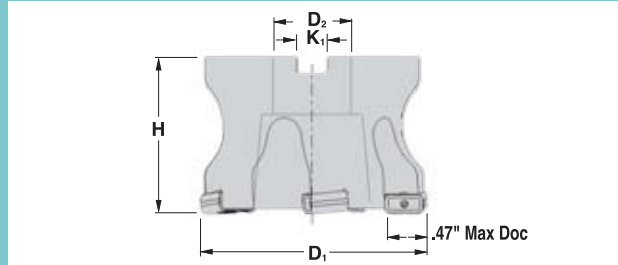
*In order of preference.

VOMAX™ PLUNGING CUTTER* SERIES VHU

Diameters
2.00" to 6.00"

Cutting Edge Length
.47"

Insert Corner
.031", .063", .125"R



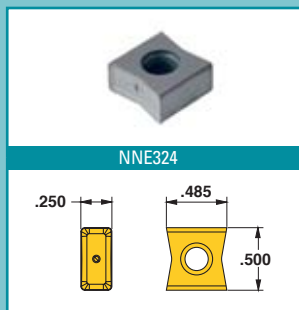
| D ₁ Nominal Diameter | Cutter Number | K ₁ Keyway | Number of Inserts | H Height | D ₂ Bore Diameter | Retention Bolt |
|---------------------------------------|------------------|--------------------------|-------------------------|-------------|------------------------------------|-------------------|
| Right-Hand Rotation | | | | | | |
| 2.00 | VHU-20015D1R01 | .32 | 4 | 1.570 | .750 | SD06-46 |
| 2.50 | VHU-25015D1R01 | .32 | 5 | 1.570 | .750 | SD06-46 |
| 3.00 | VHU-30020D3R01 | .38 | 5 | 2.000 | 1.000 | SD08-47 |
| 4.00 | VHU-4001958R01 | .63 | 7 | 1.970 | 1.500 | - |
| 5.00 | VHU-5001958R01 | .63 | 9 | 1.970 | 1.500 | - |
| 6.00 | VHU-6001958R01 | .63 | 11 | 1.970 | 1.500 | - |
| Left-Hand Rotation | | | | | | |
| 2.00 | VHU-20015D1L01 | .32 | 4 | 1.570 | .750 | SD06-46 |
| 2.50 | VHU-25015D1L01 | .32 | 5 | 1.570 | .750 | SD06-46 |
| 3.00 | VHU-30020D3L01 | .38 | 5 | 2.000 | 1.000 | SD08-47 |
| 4.00 | VHU-4001958L01 | .63 | 7 | 1.970 | 1.500 | - |
| 5.00 | VHU-5001958L01 | .63 | 9 | 1.970 | 1.500 | - |
| 6.00 | VHU-6001958L01 | .63 | 11 | 1.970 | 1.500 | - |

Note: RH plungers can use remaining insert edges from a RH 0° lead 6K6V, 6K5V or 4W2A cutter

*Can be used with **INNOFIT** system.

If using long edge V-Max use a RH insert in a LH tool and a LH insert in a RH tool.

INSERTS (Plunge)



| Insert Number | Corner | Grades | | | | |
|------------------|--------|--------|------|------|------|------|
| | | IN | 1530 | 2015 | 2030 | 2040 |
| NNE324-100 | .031R | ■ | ■ | ■ | ■ | ■ |
| NNE324-102 | .063R | ■ | ■ | ■ | ■ | ■ |
| NNE324-125 | .125R | | | ■ | | |

HARDWARE

| Insert Screw | | Driver |
|-----------------------|----------------|--------------------|
| Part No. | Torque | Part No. |
| SM40-120-20 (SE02-81) | 25-30 in. lbs. | DS-T15T (Tx-15) |

VOMAX™ OPERATING PARAMETERS

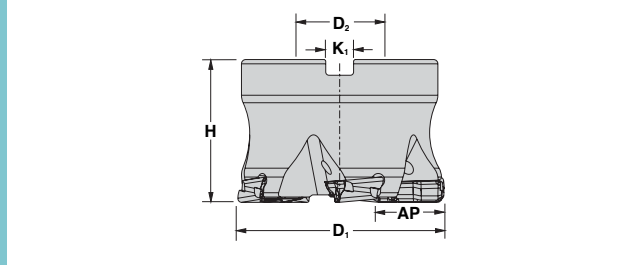
| Material | | Brinell Hardness | SFM | Feed per Insert | Grades* | | | | | Coolant |
|-----------------|--|------------------|---------|-----------------|---------|--------|---------------|--------|--------|------------------------------------|
| | | | | | IN1530 | IN6515 | IN2015/IN2010 | IN2030 | IN2040 | |
| Cast Iron | Gray | 150-280 | 400-750 | .005-.012 | 2 | 1 | | | | No |
| | Nodular | | 300-650 | | | | | | | |
| | | | 1500+ | | | | | | | |
| Steel | Low Carbon 1018, 8620 | 150-250 | 250-500 | .005-.010 | | | | 2 | 1 | No |
| | High Carbon F-6180, Nitralloy 52100 | 250-400 | 200-350 | .005-.008 | | | | | | |
| | Alloyed Steel 4140, 4340, 6150 | 150-300 | 250-400 | .005-.010 | | | | | | |
| | Tool Steel A-6, D-1, D-2, P-20 | Up to 300 | | | | | | | | |
| Stainless Steel | 300 Series, 304, 316 | - | 250-400 | .003-.006 | 1 | | | 2 | | May not be required at high speeds |
| | 400 Series, 15-5 PH, 17-4 PH | Up to 320 | 300-600 | | | | | | | Yes |
| | 13-8 PH | - | 200-250 | | | | | | | |
| Nickel Alloys | Inconel 600, 706, 718, 903, Hastelloy, Waspalloy | - | 75-120 | .003-.006 | 1 | | | 3 | | Yes |
| Titanium | 6AL-4V | - | 100-150 | .003-.006 | 2 | | | 3 | | Yes |

*In order of preference.



PLUNGING CUTTER* SERIES SHU

| | | |
|------------------------------------|--|--------------------------------|
| Diameters 2.00" to 4.00" | Cutting Edge Length .400" (2.00"-2.50") .600" (3.00"-4.00") | Insert Corner .063"R |
|------------------------------------|--|--------------------------------|

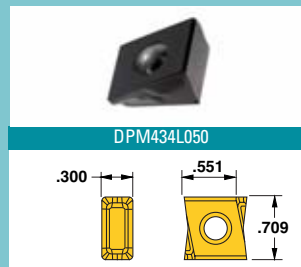
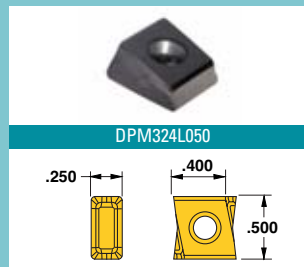


| D ₁ Nominal Diameter | Cutter Number | K ₁ Keyway | Number of Inserts | H Height | D ₂ Bore Diameter | Retention Bolt | Coolant-Thru** Retention Bolt | Insert Size | AP |
|---------------------------------------|-----------------------|--------------------------|-------------------------|-------------|------------------------------------|-------------------|-------------------------------------|----------------|------|
| Right-Hand Rotation | | | | | | | | | |
| 2.00 | SHU-20015D1R01 | .32 | 4 | 1.570 | .750 | SD06-46 | SD06-89 | DPM324 | .375 |
| 2.50 | SHU-25015D1R01 | .32 | 5 | 1.570 | .750 | SD06-46 | SD06-89 | DPM324 | .375 |
| 3.00 | SHU-30020D3R01 | .38 | 5 | 2.000 | 1.000 | SD08-47 | SD08-92 | DPM434 | .590 |
| 4.00 | SHU-4001958R01 | .63 | 7 | 2.250 | 1.500 | SD12-82 | SD10-99 | DPM434 | .590 |

*Can be used with **INNOFIT** system.

**Order SEPARATELY

INSERTS



| Insert Number | Corner | Grades | | |
|-------------------|--------|--------|------|------|
| | | IN | 1530 | 2005 |
| DPM324L050 | .063R | ■ | ■ | ■ |
| DPM434L050 | .063R | ■ | ■ | ■ |

HARDWARE

| Insert Number | Insert Screw | | Driver |
|------------------|--------------------------------|-------------------------|-----------------------------|
| | Part No. | Torque | Part No. |
| DPM324L050 | SM40-120-20 (SE02-81) (DPM324) | 25-30 in. lbs. (DPM324) | DS-T15T (Tx-15) (DPM324) |
| DPM434L050 | SM50-160-10 (SE03-70) (DPM434) | 35-40 in. lbs. (DPM434) | DS-0034 (Tx-20) (DPM434) |

S-MAX INSERT SERIES: DPM324

| Material | Brinell Hardness | SFM | Feed per Insert | Grades* | | | Coolant |
|-----------------|--|-----------|-----------------|-----------|---------|---------|------------------------------------|
| | | | | INV2015 | INV2040 | INV2005 | |
| Cast Iron | Gray | 150-280 | 400-750 | .005-.012 | 1 | 2 | No |
| | Nodular | | 300-650 | | | | |
| Steel | Low Carbon 1018, 8620 | 150-250 | 250-500 | .005-.010 | 1 | 2 | No |
| | High Carbon F-6180 Nitralloy 52100 | 250-400 | 200-350 | | | | |
| | Alloyed Steel 4140, 4340, 6150 | 150-300 | 250-400 | | | | |
| | Tool Steel A-6, D-1, D-2, P-20 | Up to 300 | | | | | |
| Stainless Steel | 300 Series 304, 316 | - | 250-400 | .003-.006 | 2 | 1 | May not be required at high speeds |
| | 400 series, 15-5 PH, 17-4 PH | Up to 300 | 300-600 | | | | |
| | 13-8 PH | - | 200-250 | | | | Yes |
| Nickel Alloys | Inconel 600, 706, 718 903, Hastelloy, Waspalloy | - | 75-120 | .003-.006 | 2 | 1 | Yes |
| Titanium | 6AL-4V | - | 100-150 | .003-.006 | 2 | 1 | Yes |

*In order of preference.

S-MAX INSERT SERIES: DPM434

| Material | Brinell Hardness | SFM | Feed per Insert | Grades* | | | Coolant |
|-----------------|--|-----------|-----------------|-----------|---------|---------|------------------------------------|
| | | | | INV2015 | INV2005 | INV1530 | |
| Cast Iron | Gray | 150-280 | 400-750 | .007-.018 | 1 | 2 | No |
| | Nodular | | 300-650 | | | | |
| Steel | Low Carbon 1018, 8620 | 150-250 | 250-500 | .005-.015 | 1 | 2 | No |
| | High Carbon F-6180 Nitralloy 52100 | 250-400 | 200-350 | | | | |
| | Alloyed Steel 4140, 4340, 6150 | 150-300 | 250-400 | | | | |
| | Tool Steel A-6, D-1, D-2, P-20 | Up to 300 | | | | | |
| Stainless Steel | 300 Series 304, 316 | - | 250-400 | .005-.010 | 2 | 1 | May not be required at high speeds |
| | 400 series, 15-5 PH, 17-4 PH | Up to 300 | 300-600 | | | | |
| | 13-8 PH | - | 200-250 | | | | Yes |
| Nickel Alloys | Inconel 600, 706, 718 903, Hastelloy, Waspalloy | - | 75-120 | .004-.007 | 2 | 1 | Yes |
| Titanium | 6AL-4V | - | 100-150 | .004-.007 | 1 | 2 | Yes |

*In order of preference.

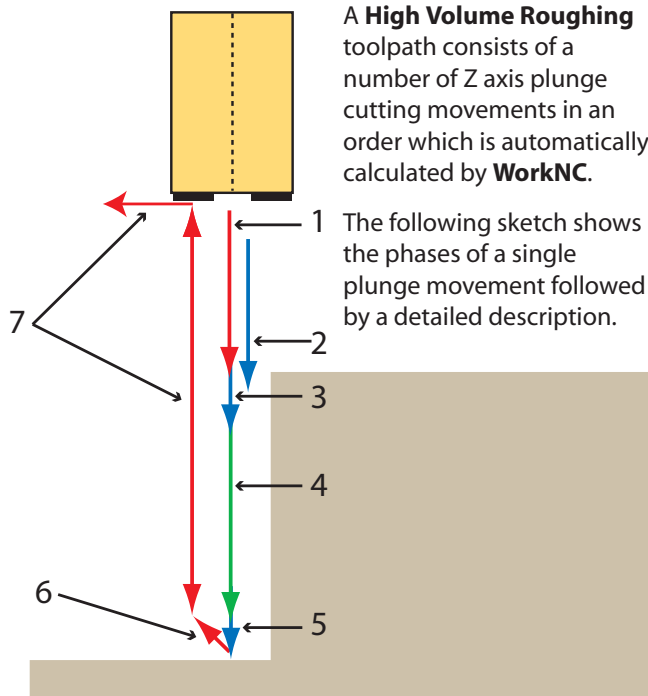
WorkNC[®]



Manufacturing Software Solutions

Sescoi

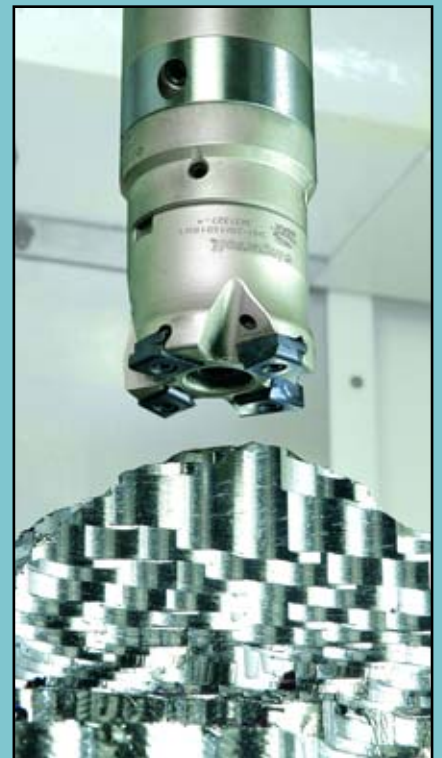
Ingersoll and WorkNC have joined forces to develop an effective plunging routine that boosts productivity and extends tool life. This routine, called High Volume Roughing, is a standard feature in WorkNC software.



A **High Volume Roughing** toolpath consists of a number of Z axis plunge cutting movements in an order which is automatically calculated by **WorkNC**.

The following sketch shows the phases of a single plunge movement followed by a detailed description.

- 1 Retract distance
- 2 Approach distance
- 3 Slow-down distance (approach feedrate)
- 4 Cutting feedrate
- 5 Slow-down distance (approach feedrate)
- 6 Retract side-step in XY and 1mm in Z
- 7 Retract





INNOFIT™

**Heavy-Duty
Modular Tooling System**

- Strong drive pin design with 3-point clamping and self centering connections
- Change cutter heads right on the spindle
- Resists bending forces uniformly
- Transmits axial forces from cut-to- spindle
- Equipped with coolant-through



Refer to www.ingersoll-imc.com, BR0-025 or main catalog for information about

INNOFIT™



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