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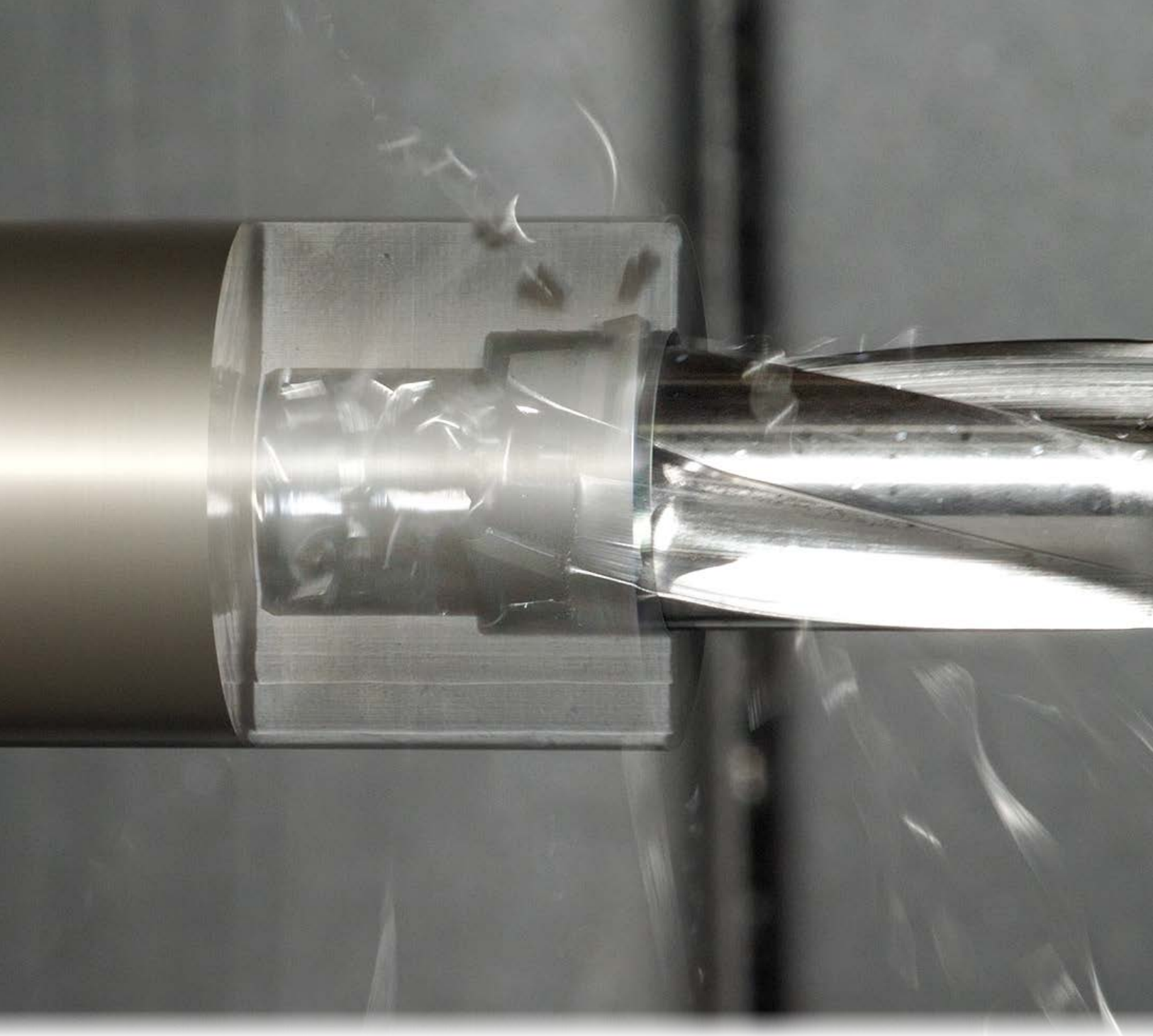
INTELLIGENTLY?

MACHINING

ISCAR **QUICK-3-CHAM** (D3N)

Reference Guide





THE STANDARDS INSTITUTION OF ISRAEL



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Quality Standard

ISCAR has been certified by the prestigious Standards Institution, as being in full compliance to ensure delivery of the finest quality goods. Quality control facilities include the metallurgical laboratory, raw metal testing, an online testing procedure and a machining center for tool performance testing and final product inspection. Only the finest products are packaged for entry into ISCAR's inventory.

Contents

Introduction	4
Value Proposition	4
System Overview – D3N Drilling Holder	6
H3P Self-Centering Drilling Heads	7
F3P Flat-Bottom Drilling Heads	15
F3B - Flat Bottom Boring Heads	19
Technical Data	24
1.5xD	26
3xD	28
5xD	30
8xD	32
10xD	34
Inserts	35

Value Proposition

Three Flutes – A New Level of Drilling Performance

ISCAR's QUICK-3-CHAM (D3N)

Three-flute drilling system **ISCAR's QUICK-3-CHAM (D3N)** three-flute drilling system is designed to significantly increase productivity while delivering excellent hole quality and process stability. Built on **ISCAR's** proven **SUMO-CHAM** platform, **QUICK-3-CHAM** combines advanced geometry, a robust body design, and user-friendly indexing to reduce machining time and cost per hole.

Key Customer benefits

- Up to 50% shorter cycle time compared to conventional two-flute drills.
- Higher feed rates with excellent stability.
- Predictable tool life and consistent hole quality.
- Easy handling with the “No Setup Time” concept.



Where QUICK-3-CHAM Excels (Applications)

Ideal Applications

QUICK-3-CHAM drills are optimized for:

- Tube sheets and baffles
- Heat exchanger components
- Automotive components

General drilling in:

- o Carbon steel
- o Alloy steel
- o Cast iron (ISO P and ISO K)

Typical Operations Include

- Through and blind holes
- Deep drilling up to 10×D
- High productivity drilling and boring applications



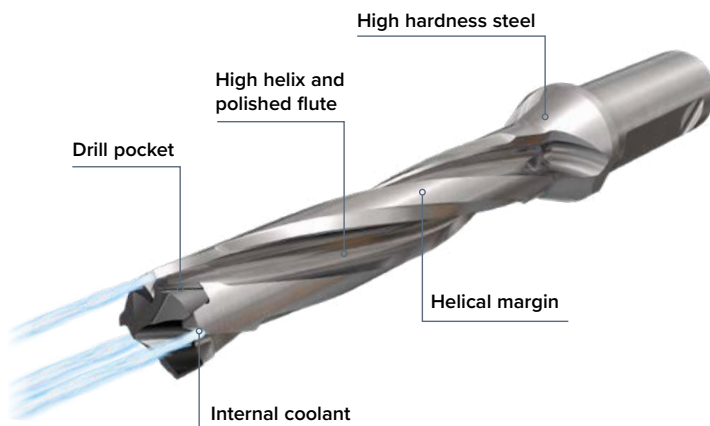
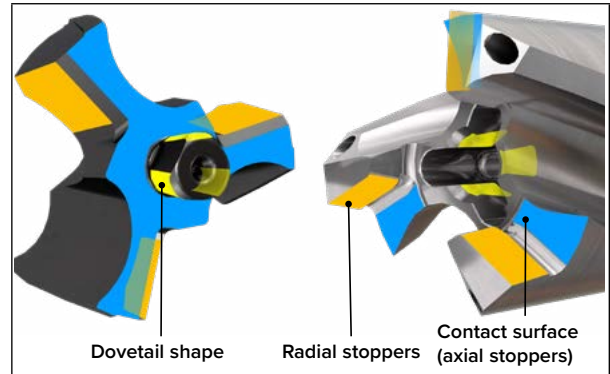
System Overview

D3N Drilling Holder

D3N Drilling Holder Available in Drilling Length-to-Diameter Ratios of 1.5×D, 3×D, 5×D, 8×D, and 10×D.

- Three high-helix flutes and polished flute surfaces provide smooth and easy chip evacuation.
- A helical margin helps prevent chip adhesion between the body and the hole during machining.
- Internal coolant channels provide efficient cooling and lubrication during the drilling process.
- The tool body is made from the highest-grade steel, with superior hardness for high wear resistance.
- The drilling head pocket is designed to withstand demanding machining conditions while allowing easy and fast head indexing.
- The variable flute-angle design provides a durable tool structure capable of withstanding high axial forces.

Patented Pocket Design



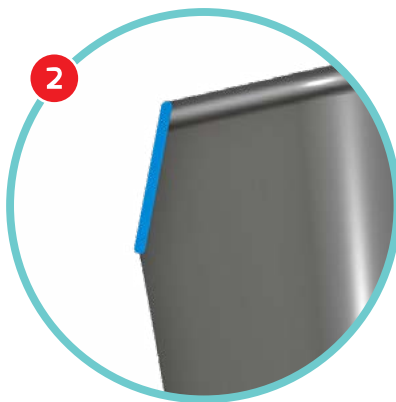
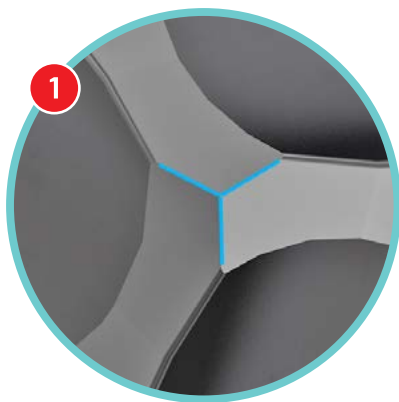
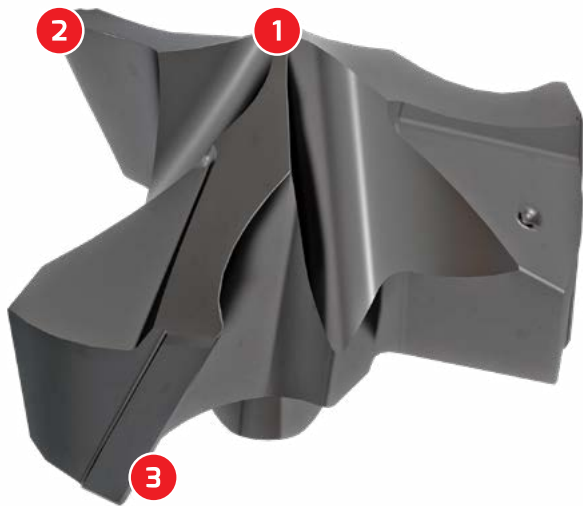
H3P Exchangeable Drilling Heads

H3P – Self-Centering Drilling Heads

Three-flute drilling heads for high-productivity drilling with excellent centering and stability. H3P geometry is designed for general drilling applications where high feed rates, predictable tool life, and consistent hole quality are required.

Key Features

- Available in a drilling range of 12–26.5mm (0.472–1.043") in 0.1mm (0.004") increments.
- Single geometry suitable for ISO P (steel) and ISO K (cast iron).
- Manufactured from IC908 submicron carbide with a TiAlN PVD nano-layer coating for prolonged tool life.
- Concave cutting edges provide smooth penetration into the material and enable drilling with up to 10×D overhang without a pre-hole.
- Wavy, honed cutting edges ensure efficient chip formation and evacuation.
- Robust chisel-point and gash design withstand high cutting forces (Fig. 1).
- A 15° corner chamfer and wiper land strengthen the cutting edge and improve hole quality (Fig. 2).
- Wiper land strengthens the cutting corner (Fig. 3).



Test Report 1

Application

Drilling a Blind Hole

Material

GGG-40

Industry

Wind Power

Part

Hub

Machine

Horizontal Milling

Machine 50 KW

Coolant

Emulsion / Internal 40 BAR

The Target

to Increase Productivity and Tool Life



Test Results

- The customer had problems with the existing solid carbide drill.
- The tool could only be used as a new drill in the component, since reground tools produced poorer results, such as drift and poor surface quality.
- We tested the **QUICK-3-CHAM**, and the drill worked very well from the start.
- The customer started with a feed of 0.40mm and increased it up to 0.80mm.
- With these values, everything ran reliably, and the customer was very satisfied and switched to **ISCAR**.



	Competitor	ISCAR
Drill	Solid Carbide	D3N 180-144-25A-8D
Insert		H3P 180-IQ IC908
Insert Grade	TIALN	IC908
Tool/Insert Material	Carbide Coated	Carbide Coated
Hole Diameter (mm)	18	18
Hole Depth (mm)	139.28	139.28
Cutting Speed (m/min)	80	100
Spindle Speed (rpm)	1,415	1,768
Feed (mm/rev)	0.35	0.8
Table Feed (mm/min)	495	1,415
Pre-Hole	Yes	No
Holes Per Cutting Edge for a New Corner	630	810
Primary Wear	Flank Wear	Flank Wear
Surface Quality	Fair	Good
Chip Type	Comma/Helical	Comma/Helical
Metal Removal Rate (cm³/min)	126	360

Test Report 2

Application

Drilling Through Hole

Material

2 - Non-Alloy Steel and Cast Steel,
Free Cutting Steel

Industry

Automotive

Machine

Vertical Milling
Machine – Doosan

Part Name

Axis Hub

Coolant

Internal + External

Test Reason

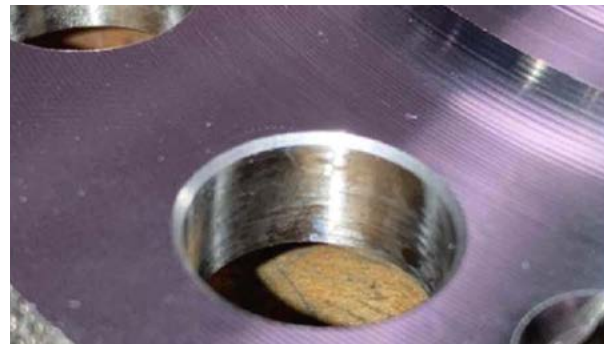
Productivity



Test Results

Cycle time reduction and productivity improvement were achieved through:

- Higher feed and table feed rates.
- Removal of the deburring operation using a special tool M3N154-030RR-N7AM114869*.



	Competitor	ISCAR
Drill	2-Flute Drill	M3N154 030RR-N7AM114869*
Insert	Drill Head	H3P 154-IQ IC908
Insert Grade		IC908
Tool/Insert Material	Carbide Coated	Carbide Coated
Hole Diameter (mm)	15.4	15.4
Hole Depth (mm)	9	9
Cutting Speed (m/min)	118	90
Spindle Speed (rpm)	2,377	1,860
Feed (mm/rev)	0.3	0.45
Table Feed (mm/min)	713	837
Holes Per Cutting Edge for a New Corner	4,500	4,500
Primary Wear	Flank Wear	Other
Surface Quality	Good	Good
Chip Type	Comma/Helical	Comma/Helical
Metal Removal Rate (cm³/min)	132.83	155.93

Test Report 3

Application

Drilling Through Hole

Material

Group 2 – Non-Alloy Steel

Industry

Heat Exchangers

Machine

Milling-Center 37 KW

Part Name

Tube Sheet

Coolant

Internal, 35 BAR

The Target

To Increase Productivity



Test Results

- Very good hole surface.
- Very easy evacuation of the chips.



	Competitor	ISCAR	ISCAR
Drill	2-Flute Drill	H3P 197-IQ IC908	H3P 197-IQ IC908
Insert	Drill Head	D3N 190-152- 25A-8D	D3N 190-152- 25A-8D
Insert Grade		IC908	IC908
Tool/Insert Material	Carbide Coated	Carbide Coated	Carbide Coated
Hole Diameter (mm)	19.5	19.7	19.7
Required Hole Tolerance (mm)	0,4	0,4	0,4
Hole Depth (mm)	110	110	110
Cutting Speed (m/min)	55	68	93
Spindle Speed (rpm)	898	1,099	1,503
Feed (mm/rev)	0.2	0.4551	0.3993
Table Feed (mm/min)	180	500	600
Holes Per Cutting Edge for a New Corner	180	380	430
Primary Wear	Plastic Defomation	Flank Wear	Flank Wear
Surface Quality	Good	Fair	Fair
Chip Type	Tangled	Tangled	Tangled
Reason for Stopping the Test	Insert Breakage	Bad Chip Formation	Bad Chip Formation
Metal Removal Rate (cm³/min)	53.63	152.41	182.89

Test Report 4

Application

Drilling Blind Hole

Material

1 - Non-Alloy Steel and Cast Steel, Free Cutting Steel

Machine

Multi Tasking Turn / Mill
Doosan MX2100ST

Coolant

Internal

Industry

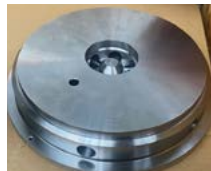
Job Shops / Mechanical

Part Name

External Base Section

Target

Increase Productivity



Test Results

- The machining time per hole was reduced from 11.8 seconds to 5.4 seconds.
- Tool life was more than tripled, increasing from 90 holes to 300 holes.
- The customer was able to achieve their goal of increasing productivity.



	Competitor	ISCAR
Drill	2-Flute Drill	D3N 150-120-20A-8D
Insert	Drill Head	H3P 150-IQ
Insert Grade		IC908
Tool/Insert Material	Carbide Coated	Carbide Coated
Hole Diameter (mm)	15	15
Hole Depth (mm)	80	80
Cutting Speed (m/min)	80	100
Spindle Speed (rpm)	1,698	2,122
Feed (mm/rev)	0.24	0.42
Table Feed (mm/min)	407	891
Holes Per Cutting Edge for a New Corner	90	300
Primary Wear	Flank Wear	Flank Wear
Surface Quality	Good	Good
Chip Type	Comma/Helical	Comma/Helical
Metal Removal Rate (cm³/min)	72	157.5

Test Report 5

Application

Drilling Through Hole

Material

3 - Non-alloy Steel and Cast Steel, Free Cutting Steel

Machine

Horizontal Machine Center

Coolant

Internal - 50 BAR

Industry

Die and Mold

Part Name

Machine Base

Target

Increase Productivity

Test Results

- The customer used an indexable drill and was experiencing low feed rates.
- The tool was taking too much time to complete the workpiece.
- The workpiece had 1,980 holes.
- We suggested the **ISCAR QUICK-3-CHAM** to increase productivity.
- We achieved excellent results: the feed rate was increased by 454%.
- Tool life was significantly improved.
- We achieved 3,960 holes per cutting edge, compared to 396 holes with the competitor's tool.



	Competitor	ISCAR
Drill	Indexable Drill	D3N 140-070-16R-5D
Insert		H3P 140-IQ
Insert Grade		IC908
Tool/Insert Material	Carbide Coated	Carbide Coated
Hole Diameter (mm)	14	14
Hole Depth (mm)	40	40
Cutting Speed (m/min)	90	100
Spindle Speed (rpm)	2,047	2,274
Feed (mm/rev)	0.11	0.45
Table Feed (mm/min)	225	1,023
Holes Per Cutting Edge for a New Corner	396	3,960
Primary Wear	Flank Wear	Flank Wear
Surface Quality	Good	Good
Chip Type	Comma/Helical	Comma/Helical
Metal Removal Rate (cm³/min)	34.65	157.5

Test Report 6

Application

Drilling Through Hole

Material

Group 7 - Low Alloy Steel

Industry

Automotive

Machine

Vertical Milling Machine - 9 KW

Part Name

Gear Wheel

Coolant

Internal

The Target

To Increase Productivity.

Test Results

- The customer was very satisfied with the results because the cycle time was significantly reduced.
- With the competitor's concept, this operation was the bottleneck.
- The cycle time with the competitor's drill was 210 seconds.
- The cycle time with the **QUICK-3-CHAM** drill was 170 seconds.



	Competitor	ISCAR
Drill	Solid Carbide Drill	D3N 170-085-20R-5D
Insert		H3P 172-IQ IC908
Insert Grade		IC908
Tool/Insert Material	Carbide Coated	Carbide Coated
Hole Diameter (mm)	17.2	17.2
Hole Depth (mm)	65	65
Cutting Speed (m/min)	100	90
Spindle Speed (rpm)	1,851	1,666
Feed (mm/rev)	0.16	0.5
Table Feed (mm/min)	296	833
Holes Per Cutting Edge for a New Corner	960	1120
Primary Wear	Flank Wear	Flank Wear
Surface Quality	Good	Excellent
Chip Type	Comma/Helical	Comma/Helical
Reason for Stopping the Test	Wear	End of Lot / Series
Metal Removal Rate (cm³/min)	68.8	193.5

Test Report 7

Application

Drilling Blind Hole

Material

GGG 70

Machine

DMU - Multi Tasking Mill /
Vertical Turn - 35 KW

Coolant

Internal / 40 BAR

The Target

To Increase Productivity

Part Name

Idler Gear Carrier

Test Results

- The customer was very satisfied with the results, as the cycle time was significantly reduced.
- With the competitor's concept, this operation had been the bottleneck.
- The cycle time with the competitor's drill was 210 seconds.
- The cycle time with the **QUICK-3-CHAM** drill was 170 seconds.



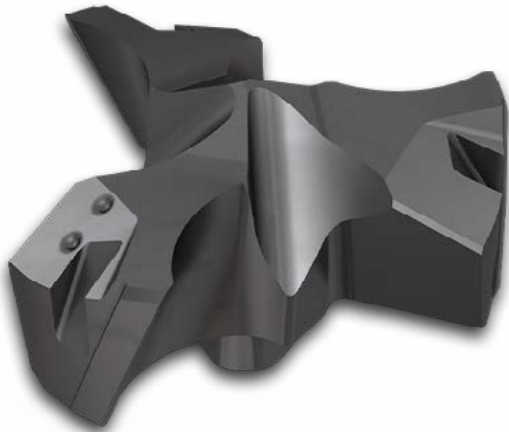
	Competitor	ISCAR	ISCAR
Drill	2-Flute Drill	D3N 170-051-20A-3D	D3N 170-051-20A-3D
Insert	Drill Head	H3P 175-IQ	H3P 175-IQ
Insert Grade		IC908	IC908
Hole Diameter (mm)	17.5	17.5	17.5
Hole Depth (mm)	39	39	39
Cutting Speed (m/min)	120	110	90
Spindle Speed (rpm)	2,183	2,001	1,637
Feed (mm/rev)	0.32	0.87	0.75
Table Feed (mm/min)	698	1,741	1,228
Holes Per Cutting Edge for a New Corner	540	540	540
Primary Wear	Notch Wear	Notch Wear	Notch Wear
Surface Quality	Fair	Fair	Fair
Chip Type	Fragments	Fragments	Fragments
Reason for Stopping the Test	Dimensional Stability	Good Results	Good Results
No. of Corners Tested	1	1	1
Needed Surface Quality (Ra/Rz)	80	80	80
Metal Removal Rate (cm³/min)	168	418.69	295.31

F3P Drilling Heads

Flat-Bottom Drilling Heads

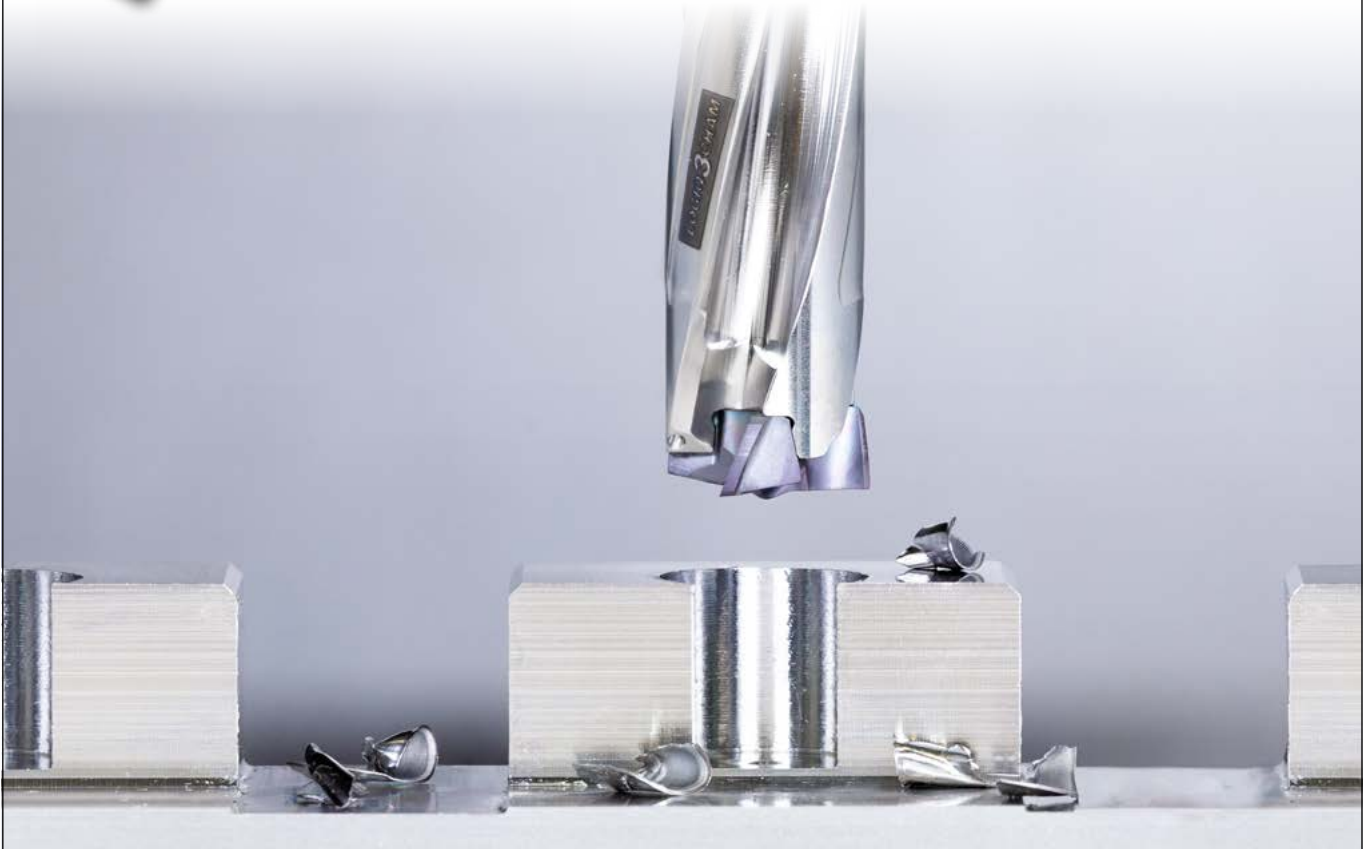
Three-flute, flat drilling heads for producing nearly flat-bottom holes without secondary operations.

F3P geometry combines the productivity of the **QUICK-3-CHAM** system with the flat-bottom hole shape required for functional features.



Key features

- Available in the drilling range of 12–26.5mm (0.472–1.043") in 0.1mm (0.004") increments.
- Single geometry suitable for ISO P steel and ISO K cast iron.
- Nearly flat-bottom surface, ideal for cavities, counterbores, screw heads, and spring-seat applications.
- No pre-hole required, even in applications up to 8×D, based on the centering insert geometry.
- Designed for direct drilling with stable centering and controlled cutting action.
- Combines flat-bottom capability with the high-feed productivity of the three-flute **QUICK-3-CHAM** platform.



Test Report 8

Application

Drilling Through Hole

Industry

Automotive

Part

Valve

Material

18 - Cast Iron Nodular (GGG)

Horizontal Machine Center

Coolant

Internal / 25 BAR

The Target

Process Reliability

Test Results

There was significant interference from the entrance surface to the machined hole, which required a long tool overhang. The current tool was an indexable drill with no centering capability, making it prone to breakage. In addition, the drilling direction was horizontal.

Given these conditions, we used an 8×D tool with reduced cutting parameters, while still maintaining parameters much higher than the competitor's.



	Competitor	ISCAR
Drill	Indexable Insert Drill	D3N 150-120-20A-8D
Insert		F3P 150-IQ IC908
Insert Grade		IC908
Hole Diameter (mm)	15.00	15.00
Hole Depth (mm)	40	40
Cutting Speed (m/min)	94	99
Spindle Speed (rpm)	1995	2101
Feed (mm/rev)	0.1	0.3
Table Feed (mm/min)	199	630
Surface Quality	Fair	Good
Chip Type	Fragments	Fragments
Reason for Stopping the Test	-	Good Results
Metal Removal Rate (cm³/min)	35.25	111.38

Test Report 9

Application

Drilling Blind Hole

Industry

Automotive

Part

Shaft Bracket Holder

Material

1 - Non-Alloy Steel and
Cast Steel, Free Cutting Steel

Machine

Vertical Machine Center

Coolant

Internal / 30 BAR

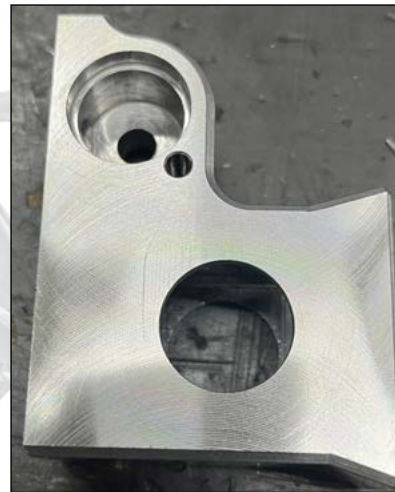
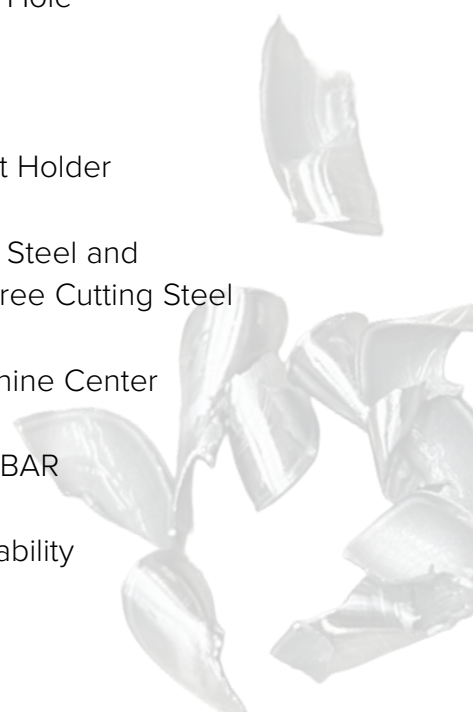
The Target

Process Reliability

Test Results

The customer had problems with the indexable insert drill because the inserts kept breaking.

The **QUICK-3-CHAM** worked without any problems.



	Competitor	ISCAR
Drill		D3N 160-080-20A-5D
Insert	Indexable Insert Drill	F3P 160-IQ
Insert Grade		IC908
Tool/Insert Material	Carbide Coated	Carbide Coated
Hole Diameter (mm)	16	16
Hole Depth (mm)	54	54
Cutting Speed (m/min)	126	80
Spindle Speed (rpm)	2,507	1,592
Feed (mm/rev)	0.14	0.3142
Table Feed (mm/min)	351	500
Holes Per Cutting Edge for a New Corner	5	200
Primary Wear	Chipping	Flank Wear
Surface Quality	Fair	Good
Chip Type	Comma / Helical	Comma / Helical
Reason for Stopping the Test	Insert Breakage	Wear
Metal Removal Rate (cm³/min)	70.56	100.54

Test Report 10

Application

Drilling Through Hole – Overlapping Holes

Material

31CrMoV9 – Group 7

Machine

Horizontal Machining-Center – 30 KW

Coolant

Internal + External

Industry

Job Shops

Part Name

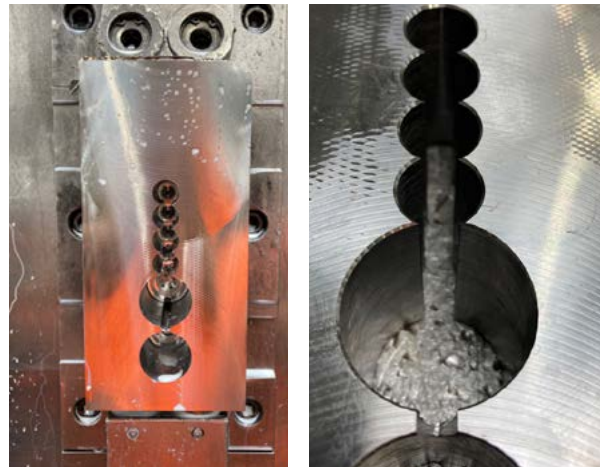
Brake Safety Gear

Target

Increase Productivity

Test Results

- 3 times higher productivity.
- 60% higher tool life.
- 54% total cost reduction.
- The customer was able to achieve the goal of increasing productivity.

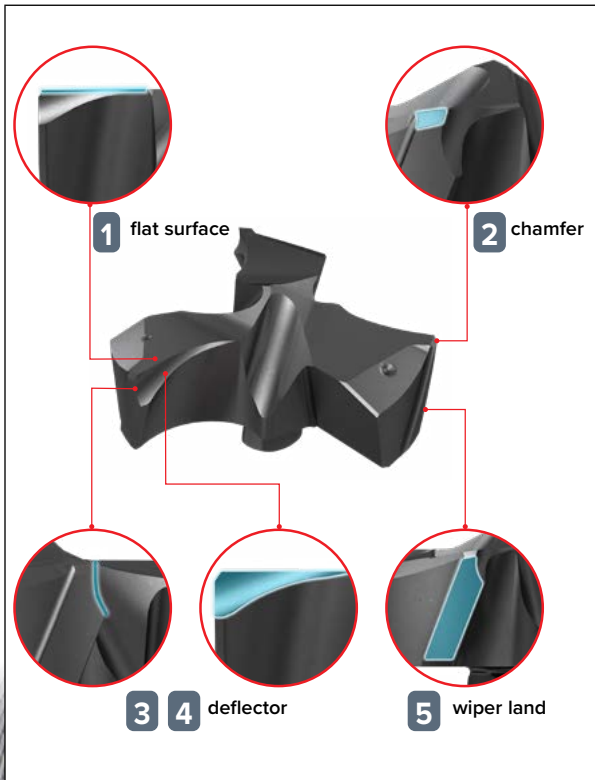


	Competitor	ISCAR
Drill	2-Flute Drill	D3N 150-075-20A-5D
Insert	Drill Head	F3P 150-IQ
Insert Grade	-	IC908
Tool/Insert Material	Carbide Coated	Carbide Coated
Hole Diameter (mm)	15	15
Hole Depth (mm)	51	51
Cutting Speed (m/min)	70	80
Spindle Speed (rpm)	1,485	1,698
Feed (mm/rev)	0.15	0.42
Table Feed (mm/min)	223	713
Holes Per Cutting Edge for a New Corner	200	1100
Primary Wear	Flank Wear	Flank Wear
Surface Quality	Good	Good
Chip Type	Spiral	Spiral
Metal Removal Rate (cm³/min)	39.38	126

F3B Boring Heads

Flat Bottom Boring Heads

Three-flute boring heads for flat-bottom finishing and countersinking applications. F3B geometry is optimized for finishing operations where surface quality, hole guidance, and chip control are critical.



Key Features

- Available in the diameter range of 12–25.9mm (0.472–1.02") in 0.1mm (0.004") increments.
- Nearly flat bottom surface, perfectly suited for countersinking and flat bottom finishing.
- Corner chamfer reduces edge chipping and slows wear progression.
- Special geometry with an integrated chip deflector breaks chips into small segments.
- Highly effective in sticky steels, stainless steels, and exotic materials (ISO M, N, S).
- Unique margin design improves guidance, enhancing hole straightness, concentricity, and surface finish.



Test Report 11

Application

Countersinking

Material

Hexagonal Bar, 1.4305

Machine

Multi Spindle – Schuette AF32

Coolant

Oil / 20 BAR

Industry

Cars

Target

Improvement of Chip Formation

Part Name

Threaded Chase Nipple

Test Results

- The customer complained about long chips produced by the competitor’s tool. Because of the chips, the machine had to be stopped every 300 parts using a piece counter so the chips could be removed from the machine area.
- The three-flute cutter from **ISCAR** produces excellent chip curls that do not block the working area. As a result, there is no longer any need to stop the machine with a piece counter to remove chips from the machining area.



	Competitor	ISCAR
Drill	Multifunction Tool	D3N-170-051-20R-3D
Insert		F3B 170-IQ
Insert Grade		IC908
Hole Diameter, (mm)	14 (.551")	17 (.669")
Hole Depth, (mm)	9 (.354")	9 (.354")
Pre-Hole, (mm)	15 (0.590")	15 (0.590")
Cutting Speed, (m/min)	60 (197sfm)	60 (197sfm)
Spindle Speed, (rpm)	1364	1124
Feed (mm/min)	0.05 (.002")	0.15 (.006")
Table Feed, (mm/min)	68 (2.7")	168 (6.6")
Tool Life for Cutting Edge, Holes	30000	60000
Primary Wear	Flank Wear	Flank Wear
Surface Quality	Good	Good
Chip Type	Tangled	Spiral

Test Report 12

Application

Counter Boring

Material

27 - Copper Alloys-SAE 430A

Machine

Horizontal Machining-Center – 25HP

Coolant

Internal + External 200PSI

Industry

Job Shops

Part Name

Brass Nozzle

Target

Increase Productivity

Test Results

- The existing cast diameter was 9mm, the drill was 12mm. It opened it up making very little noise.
- They will continue to run with extended testing.
- We also eliminated another tool that opened the hole first, which was an endmill.
- This saved time.



	Competitor	ISCAR
Drill	A set of Solid Carbide Tools	D3N 120-060-15.87A-5D
Insert	-	F3B 120-IQ
Insert Grade	Coated	IC908
Tool/Insert Material	Carbide Coated	Carbide Coated
Hole Diameter (mm)	12	12
Hole Depth (mm)	46	46
Cutting Speed (m/min)	151	151
Spindle Speed (rpm)	4,003	4,003
Feed (mm/rev)	0.25	0.32
Table Feed (mm/min)	1,017	1,271
Holes Per Cutting Edge for a New Corner	20,000	20,000
Primary Wear	Flank Wear	Flank Wear
Surface Quality	Good	Good
Chip Type	Fragments	Fragments
Metal Removal Rate (cm³/min)	114.78	143.45

Test Report 13

Application

Counter Boring

Material

1 - Non-Alloy Steel and
Cast Steel, Free Cutting Steel

Machine

Special Machine - 11 KW

Coolant

External 2 BAR

Industry

Distributors

Part Name

Headrest Rod

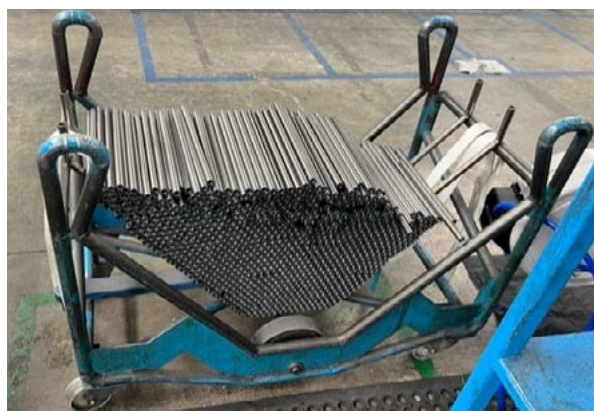
Target

Increase Productivity



Test Results

The F3B head resolved the chip-related issues, delivering extended tool life, improved performance parameters, and high customer satisfaction.



	Competitor	ISCAR
Drill	2-Flute Drill	D3N 120-018-16A-1.5D
Insert	Drill Head	F3B 120-IQ
Insert Grade		IC908
Tool/Insert Material	Carbide Coated	Carbide Coated
Hole Diameter (mm)	12	12
Hole Depth (mm)	5	5
Cutting Speed (m/min)	25	40
Spindle Speed (rpm)	663	1,061
Feed (mm/rev)	0.1	0.2
Table Feed (mm/min)	66	212
Holes Per Cutting Edge for a New Corner	7,000	23,000
Primary Wear	Flank Wear	Notch Wear
Surface Quality	Fair	Excellent
Chip Type	Long Chips	Good Results
Metal Removal Rate (cm³/min)	7.5	24

Test Report 14

Application

Trepanning and Counter Boring

Material

14 - Stainless Steel and Cast Steel -1.4404

Machine

Vertical Machine Center - 20 KW

Coolant

Internal + External 20 BAR

Industry

Job Shops / Mechanical

Part Name

Barrel

Target

Increase Productivity

Test Results

The customer asked us to help with a workpiece that had a cycle time of 42 minutes. His customer was putting pressure on him for better pricing and faster delivery.

His process involved drilling with three drills per hole diameter, followed by two 1ZEF boring heads for final machining. The surface finish produced by the boring heads was acceptable, but the process was too slow.

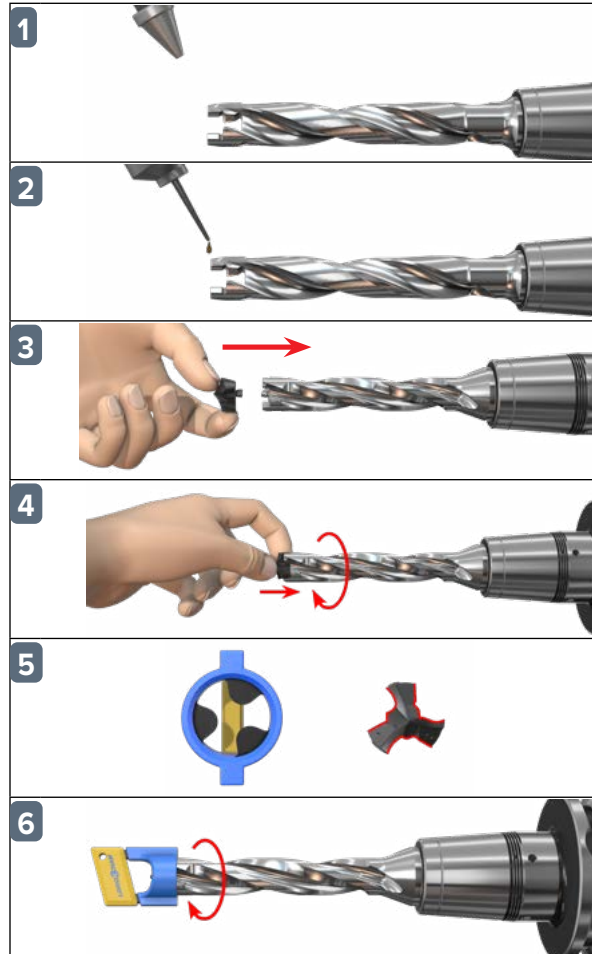
We used F3B-type heads in 22.5mm and 24.5mm diameters. The customer is very happy with the results and would like to review other applications for this type of process.



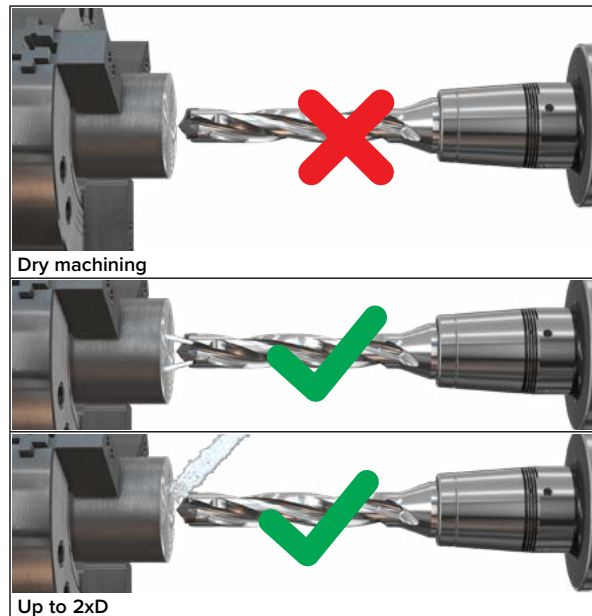
	ISCAR	ISCAR
Drill	D3N 220-176-25A-8D	D3N 240-192-32A-8D
Insert	F3B 225-IQ	F3B 245-IQ
Insert Grade	IC908	IC908
Tool/Insert Material	Carbide Coated	Carbide Coated
Hole Diameter (mm)	22.5	24.5
Hole Depth (mm)	125	125
Cutting Speed (m/min)	50	50
Spindle Speed (rpm)	707	650
Feed (mm/rev)	0.15	0.15
Table Feed (mm/min)	106	97
Holes Per Cutting Edge for a New Corner	14	14
Primary Wear	Other	Other
Surface Quality	Excellent	Excellent
Chip Type	Tangled	Tangled
Metal Removal Rate (cm³/min)	42.19	45.94

Drilling Head

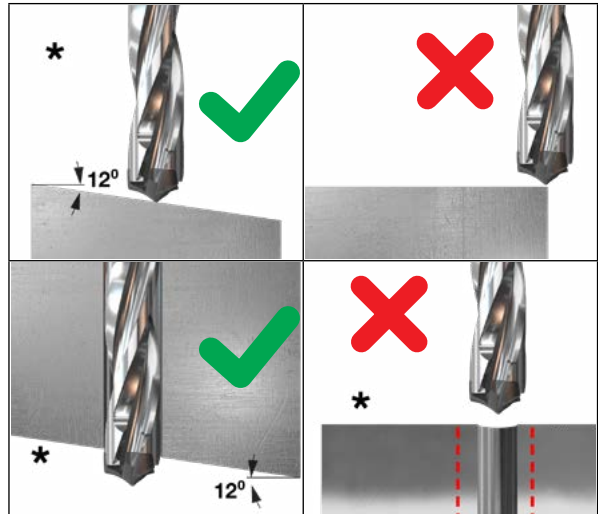
Mounting Procedure



Coolant Recommendations

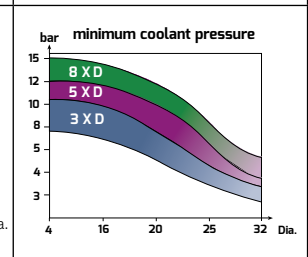
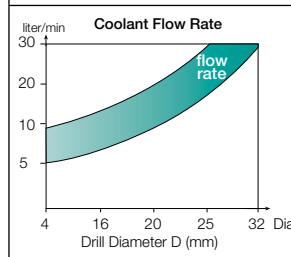
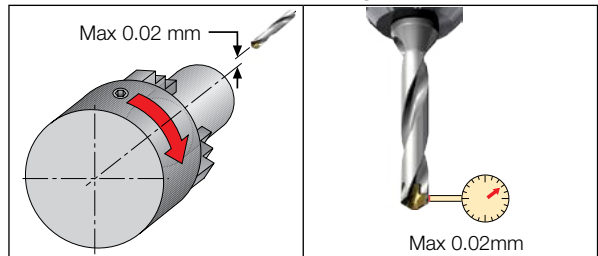


Drilling Limitations






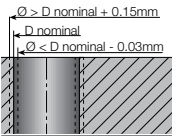
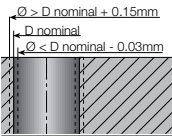
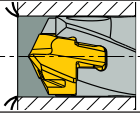
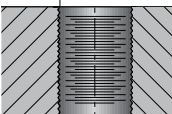


* Up to 6° reduce feed by 20%
 * 6°-12° reduce feed by 50%

Maximum Runout, Misalignment



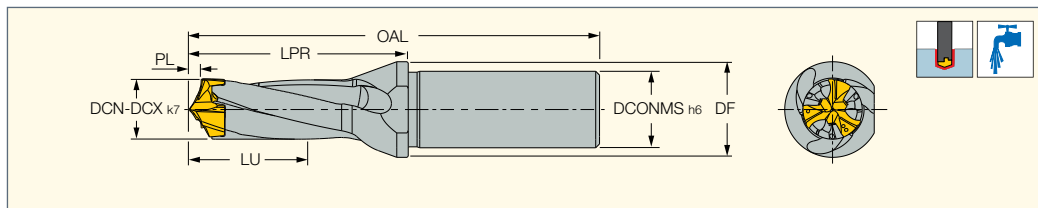
Troubleshooting

	<p>Cutting Edge Chipping</p> <ol style="list-style-type: none"> 1 Check the stability of the machine spindle, tool and workpiece clamping rigidity. 2 Reduce feed rate, increase speed. 3 If the drill vibrates, reduce cutting speed and increase feed rate. 4 When drilling rough, hard or angled (up to 12° angular surface), reduce the feed rate by 30-50%. 5 Check cooling lubricant. Increase coolant pressure. In case of external coolant supply, improve jet direction and add cooling jets.
	<p>Chisel Area Chipping</p> <ol style="list-style-type: none"> 1 Reduce feed rate. 2 Increase coolant pressure. 3 Increase workpiece chucking force.
	<p>Excessive Flank Wear</p> <ol style="list-style-type: none"> 4 Reduce cutting speed. 5 Increase internal coolant pressure.
	<p>Excessive Land Wear</p> <ol style="list-style-type: none"> 1 Check the runout and make sure it is within 0.02mm T. I. R. (radial and axial). 2 Reduce cutting speed. 3 When drilling rough, hard or angled (up to 12° angular surface), reduce the feed rate by 30-50%. 4 Increase coolant pressure. 5 Check the chisel point runout and make sure it is within 0.02mm T. I. R. 6 Increase workpiece chucking force stability and rigidity.
	<p>Built-Up Edge</p> <ol style="list-style-type: none"> 1 Increase cutting speed/feed. 2 Increase
	<p>Inaccurate Hole Position</p> <ol style="list-style-type: none"> 1 Check the runout and make sure it is within 0.02mm T. I. R. (radial and axial). 2 Check the stability of the machine spindle, tool and workpiece clamping rigidity. 3 When drilling rough, hard or sloped surfaces (up to 7°), reduce the feed rate by 30% -50% when entering. 4 Drill a pre-hole with a 140° point angle for centering. 5 Check the chisel point runout and make sure it is within 0.02mm T. I. R.
	<p>Deviation of Hole Tolerance</p> <ol style="list-style-type: none"> 1 Check the runout and make sure it is within 0.02mm T. I. R. (radial and axial cutting points). 2 Reduce feed rate. 3 Check the chisel point runout and make sure that it is within 0.02mm T. I. R. 4 Wrong cutting edge. Replace head. 5 Increase workpiece chucking force. 6 Increase internal coolant pressure.
	<p>Burrs on Exit</p> <ol style="list-style-type: none"> 1 Reduce the feed rate by 50% -70% during exit. 2 Replace the worn head.
	<p>Surface Finish Too Rough</p> <ol style="list-style-type: none"> 1 Check the runout and make sure it is within 0.02mm T. I. R. (radial and axial). 2 Adjust the feed for improved chip formation. 3 In case of chip jamming - increase the coolant flow and/or reduce the cutting speed. 4 Increase the coolant pressure. 5 Check the chisel point runout and make sure it is within 0.02mm T. I. R. 6 Use pecking cycle. 7 Replace the drilling head.



D3N R-1.5D

Exchangeable Head 3 Flute Drills with Coolant Holes and Round Shank, Drilling Depth 1.5xD



M E T R I C

Designation	DCN ⁽¹⁾	DCX ⁽²⁾	DCONMS	DF	LU	LPR	OAL	PL	SSC ⁽³⁾	MIID ⁽⁴⁾	
D3N 120-018-16R-1.5D	12.00	12.40	16.00	20.00	20.71	42.90	90.92	2.710	12	H3P 120	K D3N 12-13.99
D3N 125-019-16R-1.5D	12.50	12.90	16.00	20.00	21.46	44.40	92.42	2.710	12	H3P 125	K D3N 12-13.99
D3N 130-020-16R-1.5D	13.00	13.40	16.00	20.00	22.41	46.60	94.58	2.910	13	H3P 130	K D3N 12-13.99
D3N 135-020-16R-1.5D	13.50	13.90	16.00	20.00	23.16	48.10	96.08	2.910	13	H3P 135	K D3N 12-13.99
D3N 140-021-16R-1.5D	14.00	14.40	16.00	20.00	24.10	50.10	98.08	3.100	14	H3P 140	K D3N 14-15.99
D3N 145-022-16R-1.5D	14.50	14.90	16.00	20.00	24.85	51.60	99.58	3.100	14	H3P 145	K D3N 14-15.99
D3N 150-023-20R-1.5D	15.00	15.90	20.00	25.00	25.97	53.70	103.66	3.470	15	H3P 150	K D3N 14-15.99
D3N 160-024-20R-1.5D	16.00	16.90	20.00	25.00	27.44	57.20	107.25	3.440	16	H3P 160	K D3N 16-17.99
D3N 170-026-20R-1.5D	17.00	17.90	20.00	25.00	29.02	60.70	110.72	3.520	17	H3P 170	K D3N 16-17.99
D3N 180-027-25R-1.5D	18.00	18.90	25.00	32.00	30.90	64.40	120.36	3.900	18	H3P 180	K D3N 18-19.99
D3N 190-029-25R-1.5D	19.00	19.90	25.00	32.00	32.60	67.90	123.92	4.100	19	H3P 190	K D3N 18-19.99
D3N 200-030-25R-1.5D	20.00	20.90	25.00	32.00	34.32	71.20	127.24	4.320	20	H3P 200	K D3N 20-21.99
D3N 210-032-25R-1.5D	21.00	21.90	25.00	32.00	36.05	74.80	130.80	4.550	21	H3P 210	K D3N 20-21.99
D3N 220-033-25R-1.5D	22.00	22.90	25.00	32.00	37.69	78.60	134.62	4.690	22	H3P 220	K D3N 22-23.99
D3N 230-035-32R-1.5D	23.00	23.90	32.00	42.00	39.41	82.00	142.00	4.910	23	H3P 230	K D3N 22-23.99
D3N 240-036-32R-1.5D	24.00	24.90	32.00	42.00	41.21	85.50	145.54	5.210	24	H3P 240	K D3N 24-25.99
D3N 250-038-32R-1.5D	25.00	25.90	32.00	42.00	42.70	89.60	149.60	5.200	25	H3P 250	K D3N 24-25.99
D3N 260-039-32R-1.5D	26.00	26.90	32.00	40.00	44.18	92.40	153.30	5.200	26	H3P 260	K D3N 24-25.99

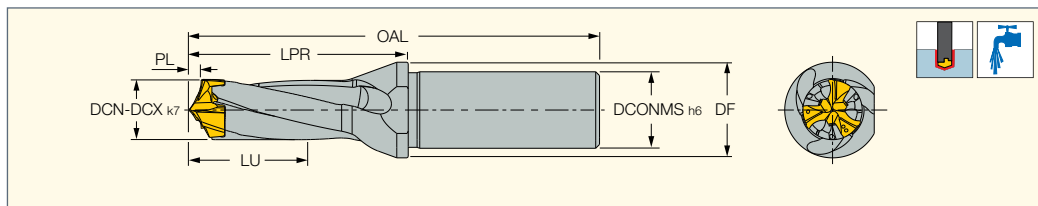
• Do not mount smaller drilling heads other than the specified range of the drill body

- ⁽¹⁾ Cutting diameter minimum
- ⁽²⁾ Cutting diameter maximum
- ⁽³⁾ Seat size code
- ⁽⁴⁾ Master insert identification



D3N R-1.5D

Exchangeable Head 3 Flute Drills with Coolant Holes and Round Shank, Drilling Depth: 1.5xD



I N C H

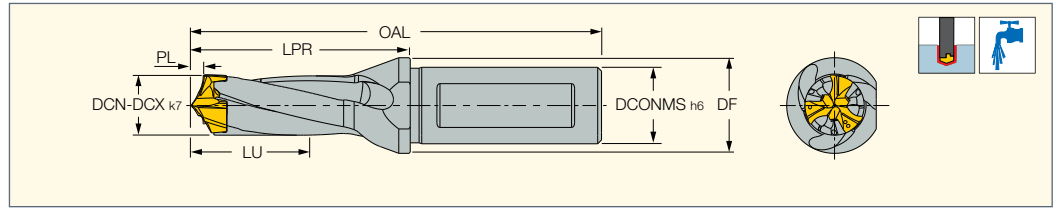
Designation	DCN ⁽¹⁾	DCX ⁽²⁾	DCONMS	DF	LU	LPR	PL	OAL	SSC ⁽³⁾	MIID ⁽⁴⁾	
D3N 0472-071-063R-1.5D	.472	.488	.625	.787	.8150	1.690	.10670	3.580	12	H3P 0472	K D3N 12-13.99
D3N 0492-074-063R-1.5D	.492	.508	.625	.787	.8450	1.750	.10670	3.639	12	H3P 0492	K D3N 12-13.99
D3N 0512-077-063R-1.5D	.512	.528	.625	.787	.8820	1.830	.11460	3.724	13	H3P 0512	K D3N 12-13.99
D3N 0531-080-063R-1.5D	.531	.547	.625	.787	.9120	1.890	.11460	3.783	13	H3P 0531	K D3N 12-13.99
D3N 0551-083-063R-1.5D	.551	.567	.625	.787	.9490	1.970	.12210	3.862	14	H3P 0551	K D3N 14-15.99
D3N 0571-085-063R-1.5D	.571	.587	.625	.787	.9780	2.030	.12210	3.921	14	H3P 0571	K D3N 14-15.99
D3N 0591-089-075R-1.5D	.591	.626	.750	.984	1.0220	2.110	.13660	4.081	15	H3P 0591	K D3N 14-15.99
D3N 0630-095-075R-1.5D	.630	.665	.750	.984	1.0800	2.250	.13540	4.223	16	H3P 0630	K D3N 16-17.99
D3N 0669-100-075R-1.5D	.669	.705	.750	.984	1.1430	2.390	.13860	4.359	17	H3P 0669	K D3N 16-17.99
D3N 0709-106-100R-1.5D	.709	.744	1.000	1.260	1.2170	2.530	.15360	4.739	18	H3P 0709	K D3N 18-19.99
D3N 0748-112-100R-1.5D	.748	.783	1.000	1.260	1.2830	2.670	.16140	4.879	19	H3P 0748	K D3N 18-19.99
D3N 0787-118-100R-1.5D	.787	.823	1.000	1.260	1.3510	2.800	.17010	5.010	20	H3P 0787	K D3N 20-21.99
D3N 0827-126-100R-1.5D	.827	.862	1.000	1.260	1.4190	2.940	.17910	5.150	21	H3P 0827	K D3N 20-21.99
D3N 0866-130-100R-1.5D	.866	.902	1.000	1.260	1.4840	3.100	.18470	5.300	22	H3P 0866	K D3N 22-23.99
D3N 0906-138-125R-1.5D	.906	.941	1.250	1.654	1.5520	3.230	.19330	5.591	23	H3P 0906	K D3N 22-23.99
D3N 0945-142-125R-1.5D	.945	.980	1.250	1.654	1.6220	3.370	.20510	5.730	24	H3P 0945	K D3N 24-25.99
D3N 0984-150-125R-1.5D	.984	1.020	1.250	1.654	1.6810	3.530	.20470	5.890	25	H3P 0984	K D3N 24-25.99
D3N 1024-154-125R-1.5D	1.024	1.059	1.250	1.654	1.7399	3.640	.20390	6.000	26	H3P 1024	K D3N 24-25.99

• Do not mount smaller drilling heads other than the specified range of the drill body

- ⁽¹⁾ Cutting diameter minimum
- ⁽²⁾ Cutting diameter maximum
- ⁽³⁾ Seat size code
- ⁽⁴⁾ Master insert identification

D3N A-1.5D

Exchangeable Head 3 Flute Drills with Coolant Holes and One Flat Shank, Drilling Depth 1.5xD



M E T R I C

Designation	DCN ⁽¹⁾	DCX ⁽²⁾	DCONMS	DF	LU	LPR	OAL	PL	SSC ⁽³⁾	MIID ⁽⁴⁾	
D3N 120-018-16A-1.5D	12.00	12.40	16.00	20.00	20.71	42.90	90.92	2.710	12	H3P 120	K D3N 12-13.99
D3N 125-019-16A-1.5D	12.50	12.90	16.00	20.00	21.46	44.40	92.42	2.710	12	H3P 125	K D3N 12-13.99
D3N 130-020-16A-1.5D	13.00	13.40	16.00	20.00	22.41	46.60	94.58	2.910	13	H3P 130	K D3N 12-13.99
D3N 135-020-16A-1.5D	13.50	13.90	16.00	20.00	23.16	48.10	96.08	2.910	13	H3P 135	K D3N 12-13.99
D3N 140-021-16A-1.5D	14.00	14.40	16.00	20.00	24.10	50.10	98.08	3.100	14	H3P 140	K D3N 14-15.99
D3N 145-022-16A-1.5D	14.50	14.90	16.00	20.00	24.85	51.60	99.58	3.100	14	H3P 145	K D3N 14-15.99
D3N 150-023-20A-1.5D	15.00	15.90	20.00	25.00	25.97	53.70	103.66	3.470	15	H3P 150	K D3N 14-15.99
D3N 160-024-20A-1.5D	16.00	16.90	20.00	25.00	27.44	57.20	107.25	3.440	16	H3P 160	K D3N 16-17.99
D3N 170-026-20A-1.5D	17.00	17.90	20.00	25.00	29.02	60.70	110.72	3.520	17	H3P 170	K D3N 16-17.99
D3N 180-027-25A-1.5D	18.00	18.90	25.00	32.00	30.90	64.40	120.36	3.900	18	H3P 180	K D3N 18-19.99
D3N 190-029-25A-1.5D	19.00	19.90	25.00	32.00	32.60	67.90	123.92	4.100	19	H3P 190	K D3N 18-19.99
D3N 200-030-25A-1.5D	20.00	20.90	25.00	32.00	34.32	71.20	127.24	4.320	20	H3P 200	K D3N 20-21.99
D3N 210-032-25A-1.5D	21.00	21.90	25.00	32.00	36.05	74.80	130.80	4.550	21	H3P 210	K D3N 20-21.99
D3N 220-033-25A-1.5D	22.00	22.90	25.00	32.00	37.69	78.60	134.62	4.690	22	H3P 220	K D3N 22-23.99
D3N 230-035-32A-1.5D	23.00	23.90	32.00	42.00	39.41	82.00	142.00	4.910	23	H3P 230	K D3N 22-23.99
D3N 240-036-32A-1.5D	24.00	24.90	32.00	42.00	41.21	85.50	145.54	5.210	24	H3P 240	K D3N 24-25.99
D3N 250-038-32A-1.5D	25.00	25.90	32.00	42.00	42.70	89.60	149.60	5.200	25	H3P 250	K D3N 24-25.99
D3N 260-039-32A-1.5D	26.00	26.90	32.00	40.00	44.18	92.40	153.30	5.200	26	H3P 260	K D3N 24-25.99

• Do not mount smaller drilling heads other than the specified range of the drill body

⁽¹⁾ Cutting diameter minimum

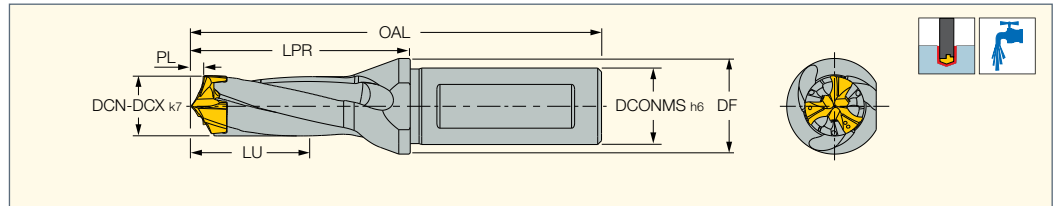
⁽²⁾ Cutting diameter maximum

⁽³⁾ Seat size code


⁽⁴⁾ Master insert identification

D3N A-1.5D

Exchangeable Head 3 Flute Drills with Coolant Holes and One Flat Shank, Drilling Depth: 1.5xD



I N C H

Designation	DCN ⁽¹⁾	DCX ⁽²⁾	DCONMS	DF	LU	LPR	PL	OAL	SSC ⁽³⁾	MIID ⁽⁴⁾	
D3N 0472-071-063A-1.5D	.472	.488	.625	.787	.8150	1.690	.10670	3.580	12	H3P 0472	K D3N 12-13.99
D3N 0492-074-063A-1.5D	.492	.508	.625	.787	.8450	1.750	.10670	3.639	12	H3P 0492	K D3N 12-13.99
D3N 0512-077-063A-1.5D	.512	.528	.625	.787	.8820	1.830	.11460	3.724	13	H3P 0512	K D3N 12-13.99
D3N 0531-080-063A-1.5D	.532	.547	.625	.787	.9120	1.890	.11460	3.783	13	H3P 0531	K D3N 12-13.99
D3N 0551-083-063A-1.5D	.551	.567	.625	.787	.9490	1.970	.12210	3.862	14	H3P 0551	K D3N 14-15.99
D3N 0571-085-063A-1.5D	.571	.587	.625	.787	.9780	2.030	.12210	3.921	14	H3P 0571	K D3N 14-15.99
D3N 0591-089-075A-1.5D	.591	.626	.750	.984	1.0220	2.110	.13660	4.081	15	H3P 0591	K D3N 14-15.99
D3N 0630-095-075A-1.5D	.630	.665	.750	.984	1.0800	2.250	.13540	4.223	16	H3P 0630	K D3N 16-17.99
D3N 0669-100-075A-1.5D	.669	.705	.750	.984	1.1430	2.390	.13860	4.359	17	H3P 0669	K D3N 16-17.99
D3N 0709-106-100A-1.5D	.709	.744	1.000	1.260	1.2170	2.530	.15360	4.739	18	H3P 0709	K D3N 18-19.99
D3N 0748-112-100A-1.5D	.748	.784	1.000	1.260	1.2830	2.670	.16140	4.879	19	H3P 0748	K D3N 18-19.99
D3N 0787-118-100A-1.5D	.787	.823	1.000	1.260	1.3510	2.800	.17010	5.010	20	H3P 0787	K D3N 20-21.99
D3N 0827-126-100A-1.5D	.827	.862	1.000	1.260	1.4190	2.940	.17910	5.150	21	H3P 0827	K D3N 20-21.99
D3N 0866-130-100A-1.5D	.866	.902	1.000	1.260	1.4840	3.100	.18470	5.300	22	H3P 0866	K D3N 22-23.99
D3N 0906-138-125A-1.5D	.906	.941	1.250	1.654	1.5520	3.230	.19330	5.591	23	H3P 0906	K D3N 22-23.99
D3N 0945-142-125A-1.5D	.945	.980	1.250	1.654	1.6220	3.370	.20510	5.730	24	H3P 0945	K D3N 24-25.99
D3N 0984-150-125A-1.5D	.984	1.020	1.250	1.654	1.6810	3.530	.20470	5.890	25	H3P 0984	K D3N 24-25.99
D3N 1024-154-125A-1.5D	1.024	1.059	1.250	1.654	1.7399	3.640	.20390	6.000	26	H3P 1024	K D3N 24-25.99

• Do not mount smaller drilling heads other than the specified range of the drill body

⁽¹⁾ Cutting diameter minimum

⁽²⁾ Cutting diameter maximum

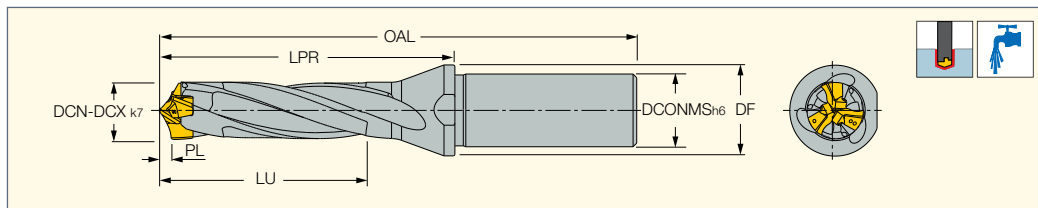
⁽³⁾ Seat size code

⁽⁴⁾ Master insert identification

QUICK3CHAM

D3N R-3D

Exchangeable Head 3 Flute Drills with Coolant Holes and Round Shank, Drilling Depth 3xD



M E T R I C

Designation	DCN ⁽¹⁾	DCX ⁽²⁾	DCONMS	DF	LU	LPR	OAL	PL	SSC ⁽³⁾	MIID ⁽⁴⁾	
D3N 120-036-16R-3D	12.00	12.40	16.00	20.00	38.71	60.90	108.92	2.710	12	H3P 120	K D3N 12-13.99
D3N 125-037-16R-3D	12.50	12.90	16.00	20.00	40.21	63.20	111.17	2.710	12	H3P 125	K D3N 12-13.99
D3N 130-039-16R-3D	13.00	13.40	16.00	20.00	41.91	66.10	114.08	2.910	13	H3P 130	K D3N 12-13.99
D3N 135-041-16R-3D	13.50	13.90	16.00	20.00	43.41	68.30	116.33	2.910	13	H3P 135	K D3N 12-13.99
D3N 140-042-16R-3D	14.00	14.40	16.00	20.00	45.10	71.10	119.08	3.100	14	H3P 140	K D3N 14-15.99
D3N 145-044-16R-3D	14.50	14.90	16.00	20.00	46.60	73.30	121.33	3.100	14	H3P 145	K D3N 14-15.99
D3N 150-045-20R-3D	15.00	15.90	20.00	25.00	48.47	76.20	126.16	3.470	15	H3P 150	K D3N 14-15.99
D3N 160-048-20R-3D	16.00	16.90	20.00	25.00	51.44	81.20	131.25	3.440	16	H3P 160	K D3N 16-17.99
D3N 170-051-20R-3D	17.00	17.90	20.00	25.00	54.52	86.20	136.22	3.520	17	H3P 170	K D3N 16-17.99
D3N 180-054-25R-3D	18.00	18.90	25.00	32.00	57.90	91.40	147.36	3.900	18	H3P 180	K D3N 18-19.99
D3N 190-057-25R-3D	19.00	19.90	25.00	32.00	61.10	96.40	152.42	4.100	19	H3P 190	K D3N 18-19.99
D3N 200-060-25R-3D	20.00	20.90	25.00	32.00	64.32	101.20	157.24	4.320	20	H3P 200	K D3N 20-21.99
D3N 210-063-25R-3D	21.00	21.90	25.00	32.00	67.55	106.30	162.30	4.550	21	H3P 210	K D3N 20-21.99
D3N 220-066-25R-3D	22.00	22.90	25.00	32.00	70.69	111.60	167.82	4.690	22	H3P 220	K D3N 22-23.99
D3N 230-069-32R-3D	23.00	23.90	32.00	42.00	73.91	116.50	176.50	4.910	23	H3P 230	K D3N 22-23.99
D3N 240-072-32R-3D	24.00	24.90	32.00	42.00	77.21	121.50	181.54	5.210	24	H3P 240	K D3N 24-25.99
D3N 250-075-32R-3D	25.00	25.90	32.00	42.00	80.20	127.10	187.10	5.200	25	H3P 250	K D3N 24-25.99
D3N 260-078-32R-3D	26.00	26.90	32.00	42.00	83.18	131.40	191.41	5.180	26	H3P 260	K D3N 24-25.99

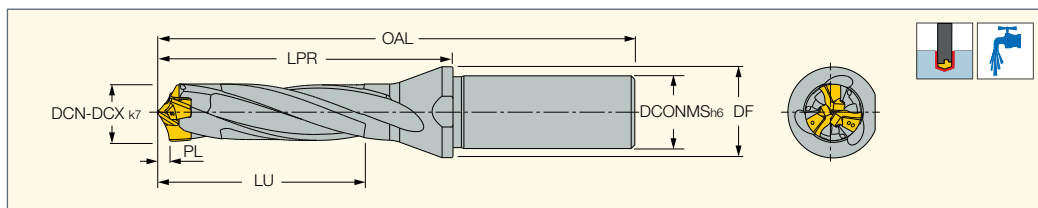
• Do not mount smaller drilling heads other than the specified range of the drill body

- (1) Cutting diameter minimum
- (2) Cutting diameter maximum
- (3) Seat size code
- (4) Master insert identification

QUICK3CHAM

D3N R-3D

Exchangeable Head 3 Flute Drills with Coolant Holes and Round Shank, Drilling Depth: 3xD



I N C H

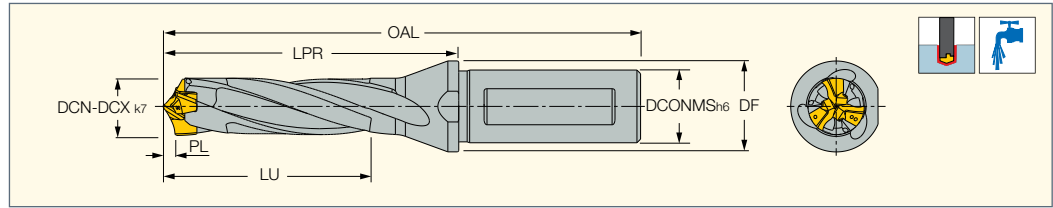
Designation	DCN ⁽¹⁾	DCX ⁽²⁾	DCONMS	DF	LU	LPR	PL	OAL	SSC ⁽³⁾	MIID ⁽⁴⁾	
D3N 0472-141-063R-3D	.472	.488	.625	.790	1.5240	2.398	.10670	4.288	12	H3P 120-IQ	K D3N 12-13.99
D3N 0492-147-063R-3D	.492	.508	.625	.790	1.5830	2.487	.10670	4.377	12	H3P 125-IQ	K D3N 12-13.99
D3N 0512-153-063R-3D	.512	.528	.625	.790	1.6500	2.602	.11460	4.492	13	H3P 130-IQ	K D3N 12-13.99
D3N 0531-159-063R-3D	.531	.547	.625	.790	1.7090	2.690	.11460	2.690	13	H3P 135-IQ	K D3N 12-13.99
D3N 0551-165-063R-3D	.551	.567	.625	.790	1.7760	2.798	.12210	4.689	14	H3P 140-IQ	K D3N 14-15.99
D3N 0571-171-063R-3D	.571	.587	.625	.790	1.8350	2.887	.12210	4.777	14	H3P 145-IQ	K D3N 14-15.99
D3N 0591-177-075R-3D	.591	.626	.750	.980	1.9080	2.998	.13660	4.967	15	H3P 150-IQ	K D3N 14-15.99
D3N 0630-189-075R-3D	.630	.665	.750	.980	2.0250	3.199	.13540	5.168	16	H3P 160-IQ	K D3N 16-17.99
D3N 0669-201-075R-3D	.669	.705	.750	.980	2.1460	3.394	.13860	5.363	17	H3P 170-IQ	K D3N 16-17.99
D3N 0709-213-100R-3D	.709	.744	1.000	1.260	2.2800	3.597	.15360	5.802	18	H3P 180-IQ	K D3N 18-19.99
D3N 0748-224-100R-3D	.748	.783	1.000	1.260	2.4060	3.796	.16140	6.001	19	H3P 190-IQ	K D3N 18-19.99
D3N 0787-236-100R-3D	.787	.823	1.000	1.260	2.5320	3.986	.17010	6.191	20	H3P 200-IQ	K D3N 20-21.99
D3N 0827-248-100R-3D	.827	.862	1.000	1.260	2.6590	4.185	.17910	4.185	21	H3P 210-IQ	K D3N 20-21.99
D3N 0866-260-100R-3D	.866	.902	1.000	1.260	2.7830	4.394	.18470	6.600	22	H3P 220-IQ	K D3N 22-23.99
D3N 0906-272-125R-3D	.906	.941	1.250	1.650	2.9100	4.587	.19330	6.949	23	H3P 230-IQ	K D3N 22-23.99
D3N 0945-283-125R-3D	.945	.980	1.250	1.650	3.0400	4.785	.20510	7.148	24	H3P 240-IQ	K D3N 24-25.99
D3N 0984-295-125R-3D	.984	1.020	1.250	1.650	3.1570	5.004	.20470	7.347	25	H3P 250-IQ	K D3N 24-25.99
D3N 1024-307-125R-3D	1.024	1.069	1.250	1.654	3.2759	5.174	.20390	7.536	26	H3P 260	K D3N 24-25.99

• Do not mount smaller drilling heads other than the specified range of the drill body

- (1) Cutting diameter minimum
- (2) Cutting diameter maximum
- (3) Seat size code
- (4) Master insert identification

D3N A-3D

Exchangeable Head 3 Flute Drills with Coolant Holes and One Flat Shank, Drilling Depth 3xD



M E T R I C

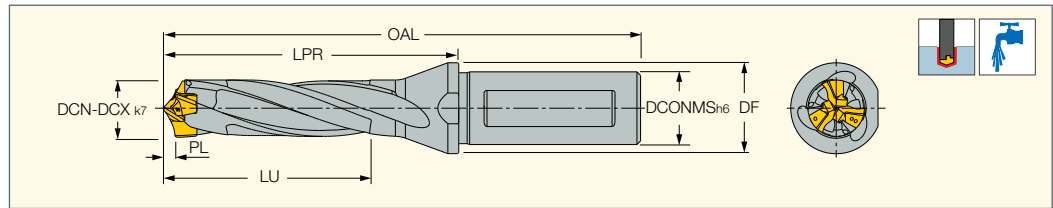
Designation	DCN ⁽¹⁾	DCX ⁽²⁾	DCONMS	DF	LU	LPR	OAL	PL	SSC ⁽³⁾	MIID ⁽⁴⁾	
D3N 120-036-16A-3D	12.00	12.40	16.00	20.00	38.71	60.90	108.92	2.710	12	H3P 120	K D3N 12-13.99
D3N 125-037-16A-3D	12.50	12.90	16.00	20.00	40.21	63.20	111.17	2.710	12	H3P 125	K D3N 12-13.99
D3N 130-039-16A-3D	13.00	13.40	16.00	20.00	41.91	66.10	114.08	2.910	13	H3P 130	K D3N 12-13.99
D3N 135-041-16A-3D	13.50	13.90	16.00	20.00	43.41	68.30	116.33	2.910	13	H3P 135	K D3N 12-13.99
D3N 140-042-16A-3D	14.00	14.40	16.00	20.00	45.10	71.10	119.08	3.100	14	H3P 140	K D3N 14-15.99
D3N 145-044-16A-3D	14.50	14.90	16.00	20.00	46.60	73.30	121.33	3.100	14	H3P 145	K D3N 14-15.99
D3N 150-045-20A-3D	15.00	15.90	20.00	25.00	48.47	76.20	126.16	3.470	15	H3P 150	K D3N 14-15.99
D3N 160-048-20A-3D	16.00	16.90	20.00	25.00	51.44	81.20	131.25	3.440	16	H3P 160	K D3N 16-17.99
D3N 170-051-20A-3D	17.00	17.90	20.00	25.00	54.52	86.20	136.22	3.520	17	H3P 170	K D3N 16-17.99
D3N 180-054-25A-3D	18.00	18.90	25.00	32.00	57.90	91.40	147.36	3.900	18	H3P 180	K D3N 18-19.99
D3N 190-057-25A-3D	19.00	19.90	25.00	32.00	61.10	96.40	152.42	4.100	19	H3P 190	K D3N 18-19.99
D3N 200-060-25A-3D	20.00	20.90	25.00	32.00	64.32	101.20	157.24	4.320	20	H3P 200	K D3N 20-21.99
D3N 210-063-25A-3D	21.00	21.90	25.00	32.00	67.55	106.30	162.30	4.550	21	H3P 210	K D3N 20-21.99
D3N 220-066-25A-3D	22.00	22.90	25.00	32.00	70.69	111.60	167.62	4.690	22	H3P 220	K D3N 22-23.99
D3N 230-069-32A-3D	23.00	23.90	32.00	42.00	73.91	116.50	176.50	4.910	23	H3P 230	K D3N 22-23.99
D3N 240-072-32A-3D	24.00	24.90	32.00	42.00	77.21	121.50	181.54	5.210	24	H3P 240	K D3N 24-25.99
D3N 250-075-32A-3D	25.00	25.90	32.00	42.00	80.20	127.10	187.10	5.200	25	H3P 250	K D3N 24-25.99
D3N 260-078-32A-3D	26.00	26.90	32.00	42.00	83.18	131.40	191.41	5.180	26	H3P 260	K D3N 24-25.99

• Do not mount smaller drilling heads other than the specified range of the drill body

- ⁽¹⁾ Cutting diameter minimum
- ⁽²⁾ Cutting diameter maximum
- ⁽³⁾ Seat size code
- ⁽⁴⁾ Master insert identification

D3N A-3D

Exchangeable Head 3 Flute Drills with Coolant Holes and One Flat Shank, Drilling Depth 3xD



I N C H

Designation	DCN ⁽¹⁾	DCX ⁽²⁾	DCONMS	DF	LU	LPR	PL	OAL	SSC ⁽³⁾	MIID ⁽⁴⁾	
D3N 0472-141-063A-3D	.472	.488	.625	.790	1.5240	2.400	.10670	4.288	12	H3P 120-IQ	K D3N 12-13.99
D3N 0492-147-063A-3D	.492	.508	.625	.790	1.5830	2.490	.10670	4.377	12	H3P 125-IQ	K D3N 12-13.99
D3N 0512-153-063A-3D	.512	.528	.625	.790	1.6500	2.600	.11460	4.492	13	H3P 130-IQ	K D3N 12-13.99
D3N 0531-159-063A-3D	.531	.547	.625	.790	1.7090	2.690	.11460	2.690	13	H3P 135-IQ	K D3N 12-13.99
D3N 0551-165-063A-3D	.551	.567	.625	.790	1.7760	2.800	.12210	4.689	14	H3P 140-IQ	K D3N 14-15.99
D3N 0571-171-063A-3D	.571	.587	.625	.790	1.8350	2.890	.12210	4.777	14	H3P 145-IQ	K D3N 14-15.99
D3N 0591-177-075A-3D	.591	.626	.750	.980	1.9080	3.000	.13660	4.967	15	H3P 150-IQ	K D3N 14-15.99
D3N 0630-189-075A-3D	.630	.665	.750	.980	2.0250	3.200	.13540	5.168	16	H3P 160-IQ	K D3N 16-17.99
D3N 0669-201-075A-3D	.669	.705	.750	.980	2.1460	3.390	.13860	5.363	17	H3P 170-IQ	K D3N 16-17.99
D3N 0709-213-100A-3D	.709	.744	1.000	1.260	2.2800	3.600	.15360	5.802	18	H3P 180-IQ	K D3N 18-19.99
D3N 0748-224-100A-3D	.748	.783	1.000	1.260	2.4060	3.800	.16140	6.001	19	H3P 190-IQ	K D3N 18-19.99
D3N 0787-236-100A-3D	.787	.823	1.000	1.260	2.5320	3.990	.17010	6.191	20	H3P 200-IQ	K D3N 20-21.99
D3N 0827-248-100A-3D	.827	.862	1.000	1.260	2.6590	4.180	.17910	4.185	21	H3P 210-IQ	K D3N 20-21.99
D3N 0866-260-100A-3D	.866	.902	1.000	1.260	2.7830	4.390	.18470	6.600	22	H3P 220-IQ	K D3N 22-23.99
D3N 0906-272-125A-3D	.906	.941	1.250	1.650	2.9100	4.590	.19330	6.949	23	H3P 230-IQ	K D3N 22-23.99
D3N 0945-283-125A-3D	.945	.980	1.250	1.650	3.0400	4.780	.20510	7.148	24	H3P 240-IQ	K D3N 24-25.99
D3N 0984-295-125A-3D	.984	1.020	1.250	1.650	3.1570	5.000	.20470	7.347	25	H3P 250-IQ	K D3N 24-25.99
D3N 1024-307-125A-3D	1.024	1.059	1.250	1.654	3.2760	5.174	.20390	7.536	26	H3P 260-IQ	K D3N 24-25.99

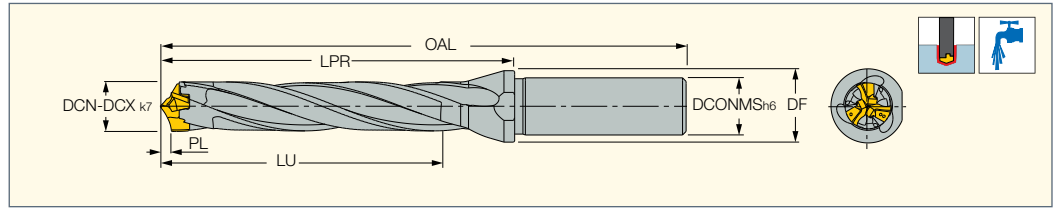
• Do not mount smaller drilling heads other than the specified range of the drill body

- ⁽¹⁾ Cutting diameter minimum
- ⁽²⁾ Cutting diameter maximum
- ⁽³⁾ Seat size code
- ⁽⁴⁾ Master insert identification



D3N R-5D

Exchangeable Head 3 Flute Drills with Coolant Holes and Round Shank, Drilling Depth 5xD



M E T R I C

Designation	DCN ⁽¹⁾	DCX ⁽²⁾	DCONMS	DF	LU	LPR	OAL	PL	SSC ⁽³⁾	MIID ⁽⁴⁾	
D3N 120-060-16R-5D	12.00	12.40	16.00	20.00	62.71	84.90	132.92	2.710	12	H3P 120	K D3N 12-13.99
D3N 125-062-16R-5D	12.50	12.90	16.00	20.00	65.21	88.20	136.17	2.710	12	H3P 125	K D3N 12-13.99
D3N 130-065-16R-5D	13.00	13.40	16.00	20.00	67.91	92.10	140.08	2.910	13	H3P 130	K D3N 12-13.99
D3N 135-068-16R-5D	13.50	13.90	16.00	20.00	70.41	95.30	143.33	2.910	13	H3P 135	K D3N 12-13.99
D3N 140-070-16R-5D	14.00	14.40	16.00	20.00	73.10	99.10	147.08	3.100	14	H3P 140	K D3N 14-15.99
D3N 145-073-16R-5D	14.50	14.90	16.00	20.00	75.60	102.30	150.33	3.100	14	H3P 145	K D3N 14-15.99
D3N 150-075-20R-5D	15.00	15.90	20.00	25.00	78.47	106.20	156.16	3.470	15	H3P 150	K D3N 14-15.99
D3N 160-080-20R-5D	16.00	16.90	20.00	25.00	83.44	113.20	163.25	3.440	16	H3P 160	K D3N 16-17.99
D3N 170-085-20R-5D	17.00	17.90	20.00	25.00	88.52	120.20	170.22	3.520	17	H3P 170	K D3N 16-17.99
D3N 180-090-25R-5D	18.00	18.90	25.00	32.00	93.90	127.40	183.36	3.900	18	H3P 180	K D3N 18-19.99
D3N 190-095-25R-5D	19.00	19.90	25.00	32.00	99.10	134.40	190.42	4.100	19	H3P 190	K D3N 18-19.99
D3N 200-100-25R-5D	20.00	20.90	25.00	32.00	104.32	141.20	197.24	4.320	20	H3P 200	K D3N 20-21.99
D3N 210-105-25R-5D	21.00	21.90	25.00	32.00	109.55	148.30	204.30	4.550	21	H3P 210	K D3N 20-21.99
D3N 220-110-25R-5D	22.00	22.90	25.00	32.00	114.69	155.60	211.62	4.690	22	H3P 220	K D3N 22-23.99
D3N 230-115-32R-5D	23.00	23.90	32.00	42.00	119.91	162.50	222.50	4.910	23	H3P 230	K D3N 22-23.99
D3N 240-120-32R-5D	24.00	24.90	32.00	42.00	125.21	169.50	229.54	5.210	24	H3P 240	K D3N 24-25.99
D3N 250-125-32R-5D	25.00	25.90	32.00	42.00	130.20	177.10	237.10	5.200	25	H3P 250	K D3N 24-25.99
D3N 260-130-32R-5D	26.00	26.90	32.00	42.00	135.18	183.41	243.41	5.180	26	H3P 260	K D3N 24-25.99

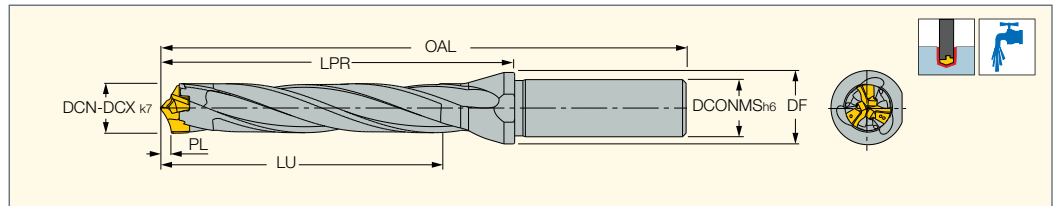
• Do not mount smaller drilling heads other than the specified range of the drill body

- (1) Cutting diameter minimum
- (2) Cutting diameter maximum
- (3) Seat size code
- (4) Master insert identification



D3N R-5D

Exchangeable Head 3 Flute Drills with Coolant Holes and Round Shank, Drilling Depth: 5xD



I N C H

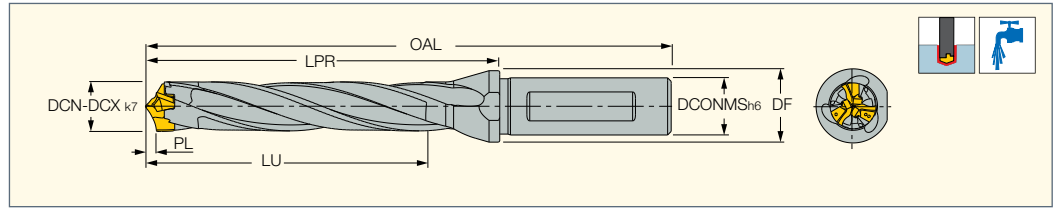
Designation	DCN ⁽¹⁾	DCX ⁽²⁾	DCONMS	DF	LU	LPR	PL	OAL	SSC ⁽³⁾	MIID ⁽⁴⁾	
D3N 0472-236-063R-5D	.472	.488	.625	.790	2.4690	3.343	.10670	5.233	12	H3P 120	K D3N 12-13.99
D3N 0492-246-063R-5D	.492	.508	.625	.790	2.5670	3.471	.10670	5.361	12	H3P 125	K D3N 12-13.99
D3N 0512-256-063R-5D	.512	.528	.625	.790	2.6740	3.625	.11460	5.515	13	H3P 130	K D3N 12-13.99
D3N 0531-266-063R-5D	.531	.547	.625	.790	2.7720	3.753	.11460	5.643	13	H3P 135	K D3N 12-13.99
D3N 0551-275-063R-5D	.551	.567	.625	.790	2.8780	3.901	.12210	5.791	14	H3P 140	K D3N 14-15.99
D3N 0571-285-063R-5D	.571	.587	.625	.790	2.9760	4.029	.12210	5.919	14	H3P 145	K D3N 14-15.99
D3N 0591-295-075R-5D	.591	.626	.750	.980	3.0890	4.180	.13660	6.148	15	H3P 150	K D3N 14-15.99
D3N 0630-315-075R-5D	.630	.665	.750	.980	3.2850	4.459	.13540	6.428	16	H3P 160	K D3N 16-17.99
D3N 0669-335-075R-5D	.669	.705	.750	.980	3.4850	4.733	.13860	6.702	17	H3P 170	K D3N 16-17.99
D3N 0709-354-100R-5D	.709	.744	1.000	1.260	3.6970	5.014	.15360	7.219	18	H3P 180	K D3N 18-19.99
D3N 0748-374-100R-5D	.748	.783	1.000	1.260	3.9020	5.292	.16140	7.497	19	H3P 190	K D3N 18-19.99
D3N 0787-394-100R-5D	.787	.823	1.000	1.260	4.1070	5.561	.17010	7.766	20	H3P 200	K D3N 20-21.99
D3N 0827-413-100R-5D	.827	.862	1.000	1.260	4.3130	5.839	.17910	8.044	21	H3P 210	K D3N 20-21.99
D3N 0866-433-100R-5D	.866	.902	1.000	1.260	4.5150	6.127	.18470	8.332	22	H3P 220	K D3N 22-23.99
D3N 0906-453-125R-5D	.906	.941	1.250	1.650	4.7210	6.398	.19330	8.760	23	H3P 230	K D3N 22-23.99
D3N 0945-472-125R-5D	.945	.980	1.250	1.650	4.9300	6.675	.20510	9.038	24	H3P 240	K D3N 24-25.99
D3N 0984-492-125R-5D	.984	1.020	1.250	1.650	5.1260	6.972	.20470	9.316	25	H3P 250	K D3N 24-25.99
D3N 1024-512-125R-5D	1.024	1.059	1.250	1.654	5.3240	7.221	.20390	9.583	26	H3P 260	K D3N 24-25.99

• Do not mount smaller drilling heads other than the specified range of the drill body

- (1) Cutting diameter minimum
- (2) Cutting diameter maximum
- (3) Seat size code
- (4) Master insert identification

D3N A-5D

Exchangeable Head 3 Flute Drills with Coolant Holes and One Flat Shank, Drilling Depth 5xD

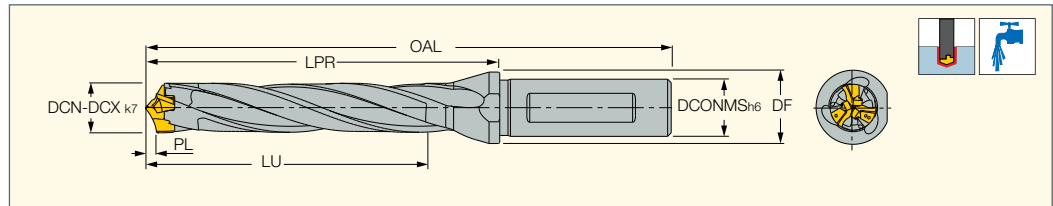


M E T R I C											
Designation	DCN ⁽¹⁾	DCX ⁽²⁾	DCONMS	DF	LU	LPR	OAL	PL	SSC ⁽³⁾	MIID ⁽⁴⁾	
D3N 120-060-16A-5D	12.00	12.40	16.00	20.00	62.71	84.90	132.92	2.710	12	H3P 120	K D3N 12-13.99
D3N 125-062-16A-5D	12.50	12.90	16.00	20.00	65.21	88.20	136.17	2.710	12	H3P 125	K D3N 12-13.99
D3N 130-065-16A-5D	13.00	13.40	16.00	20.00	67.91	92.10	140.08	2.910	13	H3P 130	K D3N 12-13.99
D3N 135-068-16A-5D	13.50	13.90	16.00	20.00	70.41	95.30	143.33	2.910	13	H3P 135	K D3N 12-13.99
D3N 140-070-16A-5D	14.00	14.40	16.00	20.00	73.10	99.10	147.08	3.100	14	H3P 140	K D3N 14-15.99
D3N 145-073-16A-5D	14.50	14.90	16.00	20.00	75.60	102.30	150.33	3.100	14	H3P 145	K D3N 14-15.99
D3N 150-075-20A-5D	15.00	15.90	20.00	25.00	78.47	106.20	156.16	3.470	15	H3P 150	K D3N 14-15.99
D3N 160-080-20A-5D	16.00	16.90	20.00	25.00	83.44	113.20	163.25	3.440	16	H3P 160	K D3N 16-17.99
D3N 170-085-20A-5D	17.00	17.90	20.00	25.00	88.52	120.20	170.22	3.520	17	H3P 170	K D3N 16-17.99
D3N 180-090-25A-5D	18.00	18.90	25.00	32.00	93.90	127.40	183.36	3.900	18	H3P 180	K D3N 18-19.99
D3N 190-095-25A-5D	19.00	19.90	25.00	32.00	99.10	134.40	190.42	4.100	19	H3P 190	K D3N 18-19.99
D3N 200-100-25A-5D	20.00	20.90	25.00	32.00	104.32	141.20	197.24	4.320	20	H3P 200	K D3N 20-21.99
D3N 210-105-25A-5D	21.00	21.90	25.00	32.00	109.55	148.30	204.30	4.550	21	H3P 210	K D3N 20-21.99
D3N 220-110-25A-5D	22.00	22.90	25.00	32.00	114.69	155.60	211.62	4.690	22	H3P 220	K D3N 22-23.99
D3N 230-115-32A-5D	23.00	23.90	32.00	42.00	119.91	162.50	222.50	4.910	23	H3P 230	K D3N 22-23.99
D3N 240-120-32A-5D	24.00	24.90	32.00	42.00	125.21	169.50	229.54	5.210	24	H3P 240	K D3N 24-25.99
D3N 250-125-32A-5D	25.00	25.90	32.00	42.00	130.20	177.10	237.10	5.200	25	H3P 250	K D3N 24-25.99
D3N 260-130-32A-5D	26.00	26.90	32.00	42.00	135.18	183.41	243.41	5.180	26	H3P 260	K D3N 24-25.99

- Do not mount smaller drilling heads other than the specified range of the drill body
- ⁽¹⁾ Cutting diameter minimum
- ⁽²⁾ Cutting diameter maximum
- ⁽³⁾ Seat size code
- ⁽⁴⁾ Master insert identification

D3N A-5D

Exchangeable Head 3 Flute Drills with Coolant Holes and One Flat Shank, Drilling Depth 5xD



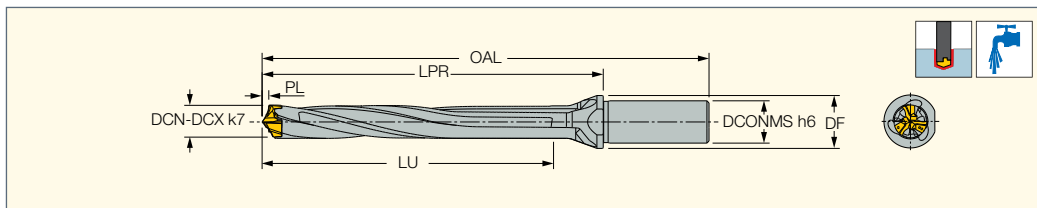
I N C H											
Designation	DCN ⁽¹⁾	DCX ⁽²⁾	DCONMS	DF	LU	LPR	PL	OAL	SSC ⁽³⁾	MIID ⁽⁴⁾	
D3N 0472-236-063A-5D	.472	.488	.625	.790	2.4690	3.340	.10670	5.233	12	H3P 120-IQ	K D3N 12-13.99
D3N 0492-246-063A-5D	.492	.508	.625	.790	2.5670	3.470	.10670	5.361	12	H3P 125-IQ	K D3N 12-13.99
D3N 0512-256-063A-5D	.512	.528	.625	.790	2.6740	3.620	.11460	5.515	13	H3P 130-IQ	K D3N 12-13.99
D3N 0531-266-063A-5D	.531	.547	.625	.790	2.7720	3.750	.11460	5.643	13	H3P 135-IQ	K D3N 12-13.99
D3N 0551-275-063A-5D	.551	.567	.625	.790	2.8780	3.900	.12210	5.791	14	H3P 140-IQ	K D3N 14-15.99
D3N 0571-285-063A-5D	.571	.587	.625	.790	2.9760	4.030	.12210	5.919	14	H3P 145-IQ	K D3N 14-15.99
D3N 0591-295-075A-5D	.591	.626	.750	.980	3.0890	4.180	.13660	6.148	15	H3P 150-IQ	K D3N 14-15.99
D3N 0630-315-075A-5D	.630	.665	.750	.980	3.2850	4.460	.13540	6.428	16	H3P 160-IQ	K D3N 16-17.99
D3N 0669-335-075A-5D	.669	.705	.750	.980	3.4850	4.730	.13860	6.702	17	H3P 170-IQ	K D3N 16-17.99
D3N 0709-354-100A-5D	.709	.744	1.000	1.260	3.6970	5.010	.15360	7.219	18	H3P 180-IQ	K D3N 18-19.99
D3N 0748-374-100A-5D	.748	.783	1.000	1.260	3.9020	5.290	.16140	7.497	19	H3P 190-IQ	K D3N 18-19.99
D3N 0787-394-100A-5D	.787	.823	1.000	1.260	4.1070	5.560	.17010	7.766	20	H3P 200-IQ	K D3N 20-21.99
D3N 0827-413-100A-5D	.827	.862	1.000	1.260	4.3130	5.840	.17910	8.044	21	H3P 210-IQ	K D3N 20-21.99
D3N 0866-433-100A-5D	.866	.902	1.000	1.260	4.5150	6.130	.18470	8.332	22	H3P 220-IQ	K D3N 22-23.99
D3N 0906-453-125A-5D	.906	.941	1.250	1.650	4.7210	6.400	.19330	8.760	23	H3P 230-IQ	K D3N 22-23.99
D3N 0945-472-125A-5D	.945	.980	1.250	1.650	4.9300	6.680	.20510	9.038	24	H3P 240-IQ	K D3N 24-25.99
D3N 0984-492-125A-5D	.984	1.020	1.250	1.650	5.1260	6.970	.20470	9.316	25	H3P 250-IQ	K D3N 24-25.99
D3N 1024-512-125A-5D	1.024	1.059	1.250	1.654	5.3240	7.221	.20390	9.583	26	H3P 260IQ	K D3N 24-25.99

- Do not mount smaller drilling heads other than the specified range of the drill body
- ⁽¹⁾ Cutting diameter minimum
- ⁽²⁾ Cutting diameter maximum
- ⁽³⁾ Seat size code
- ⁽⁴⁾ Master insert identification



D3N R-8D

Exchangeable Head 3 Flute Drills with Coolant Holes and a Round Shank, Drilling Depth 8xD



M E T R I C

Designation	DCN ⁽¹⁾	DCX ⁽²⁾	DCONMS	DF	LU	LPR	OAL	PL	SSC ⁽³⁾	MID ⁽⁴⁾	
D3N 120-096-16R-8D	12.00	12.40	16.00	20.00	98.71	120.90	168.90	2.710	12	H3P 120-IQ	K D3N 12-13.99
D3N 125-100-16R-8D	12.50	12.90	16.00	20.00	102.71	125.70	173.70	2.710	12	H3P 125-IQ	K D3N 12-13.99
D3N 130-104-16R-8D	13.00	13.40	16.00	20.00	106.91	131.10	179.10	2.910	13	H3P 130-IQ	K D3N 12-13.99
D3N 135-108-16R-8D	13.50	13.90	16.00	20.00	110.91	135.80	183.80	2.910	13	H3P 135-IQ	K D3N 12-13.99
D3N 140-112-16R-8D	14.00	14.40	16.00	20.00	115.10	141.10	189.10	3.100	14	H3P 140-IQ	K D3N 14-15.99
D3N 145-116-16R-8D	14.50	14.90	16.00	20.00	119.10	145.80	193.80	3.100	14	H3P 145-IQ	K D3N 14-15.99
D3N 150-120-20R-8D	15.00	15.90	20.00	25.00	123.47	151.20	201.20	3.470	15	H3P 150-IQ	K D3N 14-15.99
D3N 160-128-20R-8D	16.00	16.90	20.00	25.00	131.44	161.20	211.30	3.440	16	H3P 160-IQ	K D3N 16-17.99
D3N 170-136-20R-8D	17.00	17.90	20.00	25.00	139.52	171.20	221.20	3.520	17	H3P 170-IQ	K D3N 16-17.99
D3N 180-144-25R-8D	18.00	18.90	25.00	32.00	147.90	181.40	237.40	3.900	18	H3P 180-IQ	K D3N 18-19.99
D3N 190-152-25R-8D	19.00	19.90	25.00	32.00	156.10	191.40	247.40	4.100	19	H3P 190-IQ	K D3N 18-19.99
D3N 200-160-25R-8D	20.00	20.90	25.00	32.00	164.32	201.20	257.20	4.320	20	H3P 200-IQ	K D3N 20-21.99
D3N 210-168-25R-8D	21.00	21.90	25.00	32.00	172.55	211.30	267.30	4.550	21	H3P 210-IQ	K D3N 20-21.99
D3N 220-176-25R-8D	22.00	22.90	25.00	32.00	180.69	221.60	277.60	4.690	22	H3P 220-IQ	K D3N 22-23.99
D3N 230-184-32R-8D	23.00	23.90	32.00	42.00	188.91	231.50	291.50	4.910	23	H3P 230-IQ	K D3N 22-23.99
D3N 240-192-32R-8D	24.00	24.90	32.00	42.00	197.21	241.50	301.50	5.210	24	H3P 240-IQ	K D3N 24-25.99
D3N 250-200-32R-8D	25.00	25.90	32.00	42.00	205.20	252.10	312.10	5.200	25	H3P 250-IQ	K D3N 24-25.99
D3N 260-208-32R-8D	26.00	26.90	32.00	42.00	213.18	261.41	321.41	5.180	26	H3P 260-IQ	K D3N 24-25.99

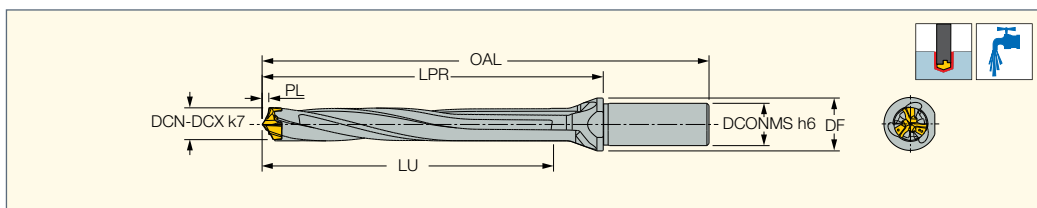
• Do not mount smaller drilling heads other than the specified range of the drill body

- ⁽¹⁾ Cutting diameter minimum
- ⁽²⁾ Cutting diameter maximum
- ⁽³⁾ Seat size code
- ⁽⁴⁾ Master insert identification



D3N R-8D

Exchangeable Head 3 Flute Drills with Coolant Holes and Round Shank, Drilling Depth 8xD



I N C H

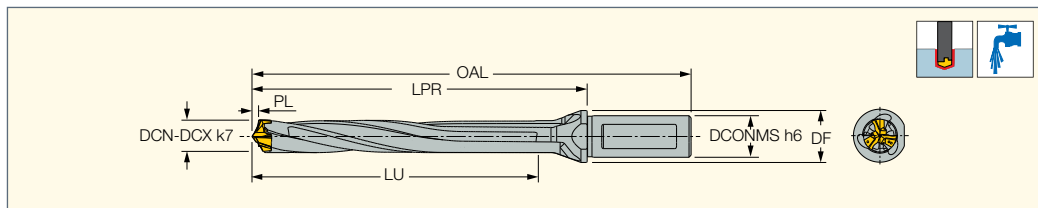
Designation	DCN ⁽¹⁾	DCX ⁽²⁾	DCONMS	DF	LU	LPR	PL	OAL	SSC ⁽³⁾	MID ⁽⁴⁾	
D3N 0472-378-063R-8D	.472	.488	.625	.787	3.8860	4.760	.10700	6.650	12	H3P 120-IQ	K D3N 12-13.99
D3N 0492-394-063R-8D	.492	.508	.625	.787	4.0440	4.950	.10700	6.837	12	H3P 125-IQ	K D3N 12-13.99
D3N 0512-409-063R-8D	.512	.528	.625	.787	4.2090	5.160	.11500	7.050	13	H3P 130-IQ	K D3N 12-13.99
D3N 0531-425-063R-8D	.531	.547	.625	.787	4.3670	5.350	.11500	7.237	13	H3P 135-IQ	K D3N 12-13.99
D3N 0551-441-063R-8D	.551	.567	.625	.787	4.5310	5.550	.12200	7.444	14	H3P 140-IQ	K D3N 14-15.99
D3N 0571-457-063R-8D	.571	.587	.625	.787	4.6890	5.740	.12200	7.631	14	H3P 145-IQ	K D3N 14-15.99
D3N 0591-472-075R-8D	.591	.626	.750	.984	4.8610	5.950	.13700	7.920	15	H3P 150-IQ	K D3N 14-15.99
D3N 0630-504-075R-8D	.630	.665	.750	.984	5.1750	6.350	.13500	8.317	16	H3P 160-IQ	K D3N 16-17.99
D3N 0669-535-075R-8D	.669	.705	.750	.984	5.4930	6.740	.13900	8.709	17	H3P 170-IQ	K D3N 16-17.99
D3N 0709-567-100R-8D	.709	.744	1.000	1.260	5.8230	7.140	.15400	9.345	18	H3P 180-IQ	K D3N 18-19.99
D3N 0748-598-100R-8D	.748	.784	1.000	1.260	6.1460	7.540	.16100	9.741	19	H3P 190-IQ	K D3N 18-19.99
D3N 0787-630-100R-8D	.787	.823	1.000	1.260	6.4690	7.920	.17000	10.128	20	H3P 200-IQ	K D3N 20-21.99
D3N 0827-661-100R-8D	.827	.862	1.000	1.260	6.7930	8.320	.17900	10.524	21	H3P 210-IQ	K D3N 20-21.99
D3N 0866-693-100R-8D	.866	.902	1.000	1.260	7.1140	8.720	.18500	10.930	22	H3P 220-IQ	K D3N 22-23.99
D3N 0906-724-125R-8D	.906	.941	1.250	1.654	7.4370	9.110	.19300	11.476	23	H3P 230-IQ	K D3N 22-23.99
D3N 0945-756-125R-8D	.945	.980	1.250	1.654	7.7640	9.510	.20500	11.872	24	H3P 240-IQ	K D3N 24-25.99
D3N 0984-787-125R-8D	.984	1.020	1.250	1.654	8.0790	9.920	.20470	12.272	25	H3P 250-IQ	K D3N 24-25.99
D3N 1024-820-125R-8D	1.024	1.059	1.250	1.654	8.3960	10.290	.20390	12.654	26	H3P 260-IQ	K D3N 24-25.99

• Do not mount smaller drilling heads other than the specified range of the drill body ⁽¹⁾ Cutting diameter minimum

- ⁽²⁾ Cutting diameter maximum
- ⁽³⁾ Seat size code
- ⁽⁴⁾ Master insert identification

D3N A-8D

Exchangeable Head 3 Flute Drills with Coolant Holes and One Flat Shank, Drilling Depth 8xD



M E T R I C

Designation	DCN ⁽¹⁾	DCX ⁽²⁾	DCONMS	DF	LU	LPR	OAL	PL	SSC ⁽³⁾	MID ⁽⁴⁾	
D3N 120-096-16A-8D	12.00	12.40	16.00	20.00	98.71	120.90	168.90	2.710	12	H3P 120-IQ	K D3N 12-13.99
D3N 125-100-16A-8D	12.50	12.90	16.00	20.00	102.71	125.70	173.70	2.710	12	H3P 125-IQ	K D3N 12-13.99
D3N 130-104-16A-8D	13.00	13.40	16.00	20.00	106.91	131.10	179.10	2.910	13	H3P 130-IQ	K D3N 12-13.99
D3N 135-108-16A-8D	13.50	13.90	16.00	20.00	110.91	135.80	183.80	2.910	13	H3P 135IQ	K D3N 12-13.99
D3N 140-112-16A-8D	14.00	14.40	16.00	20.00	115.10	141.10	189.10	3.100	14	H3P 140IQ	K D3N 14-15.99
D3N 145-116-16A-8D	14.50	14.90	16.00	20.00	119.10	145.80	193.80	3.100	14	H3P 145IQ	K D3N 14-15.99
D3N 150-120-20A-8D	15.00	15.90	20.00	25.00	123.47	151.20	201.20	3.470	15	H3P 150IQ	K D3N 14-15.99
D3N 160-128-20A-8D	16.00	16.90	20.00	25.00	131.44	161.20	211.30	3.440	16	H3P 160IQ	K D3N 16-17.99
D3N 170-136-20A-8D	17.00	17.90	20.00	25.00	139.52	171.20	221.30	3.520	17	H3P 170IQ	K D3N 16-17.99
D3N 180-144-25A-8D	18.00	18.90	25.00	32.00	147.90	181.40	237.40	3.900	18	H3P 180IQ	K D3N 18-19.99
D3N 190-152-25A-8D	19.00	19.90	25.00	32.00	156.10	191.40	247.40	4.100	19	H3P 190IQ	K D3N 18-19.99
D3N 200-160-25A-8D	20.00	20.90	25.00	32.00	164.32	201.20	257.20	4.320	20	H3P 200-IQ	K D3N 20-21.99
D3N 210-168-25A-8D	21.00	21.90	25.00	32.00	172.55	211.30	267.30	4.550	21	H3P 210IQ	K D3N 20-21.99
D3N 220-176-25A-8D	22.00	22.90	25.00	32.00	180.69	221.60	277.60	4.690	22	H3P 220IQ	K D3N 22-23.99
D3N 230-184-32A-8D	23.00	23.90	32.00	42.00	188.91	231.50	291.50	4.910	23	H3P 230IQ	K D3N 22-23.99
D3N 240-192-32A-8D	24.00	24.90	32.00	42.00	197.21	241.50	301.50	5.210	24	H3P 240IQ	K D3N 24-25.99
D3N 250-200-32A-8D	25.00	25.90	32.00	42.00	205.20	252.10	312.10	5.200	25	H3P 250-IQ	K D3N 24-25.99
D3N 260-208-32A-8D	26.00	26.90	32.00	42.00	213.18	261.41	321.41	5.180	26	H3P 260-IQ	K D3N 24-25.99

• Do not mount smaller drilling heads other than the specified range of the drill body

⁽¹⁾ Cutting diameter minimum

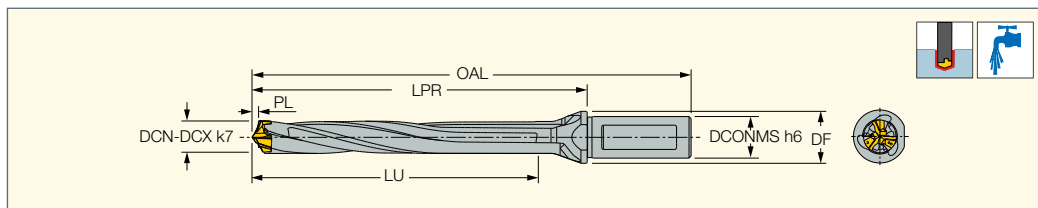
⁽²⁾ Cutting diameter maximum

⁽³⁾ Seat size code

⁽⁴⁾ Master insert identification

D3N A-8D

Exchangeable Head 3 Flute Drills with Coolant Holes and One Flat Shank, Drilling Depth 8xD



I N C H

Designation	DCN ⁽¹⁾	DCX ⁽²⁾	DCONMS	DF	LU	LPR	PL	OAL	SSC ⁽³⁾	MID ⁽⁴⁾	
D3N 0472-378-063A-8D	.472	.488	.625	.787	3.8860	4.760	.10700	6.650	12	H3P 120IQ	K D3N 12-13.99
D3N 0492-394-063A-8D	.492	.508	.625	.787	4.0440	4.950	.10700	6.837	12	H3P 125IQ	K D3N 12-13.99
D3N 0512-409-063A-8D	.512	.528	.625	.787	4.2090	5.160	.11500	7.050	13	H3P 130IQ	K D3N 12-13.99
D3N 0531-425-063A-8D	.531	.547	.625	.787	4.3670	5.350	.11500	7.237	13	H3P 135IQ	K D3N 12-13.99
D3N 0551-441-063A-8D	.551	.567	.625	.787	4.5310	5.550	.12200	7.444	14	H3P 140IQ	K D3N 14-15.99
D3N 0571-457-063A-8D	.571	.587	.625	.787	4.6890	5.740	.12200	7.631	14	H3P 145IQ	K D3N 14-15.99
D3N 0591-472-075A-8D	.591	.626	.750	.984	4.8610	5.950	.13700	7.920	15	H3P 150IQ	K D3N 14-15.99
D3N 0630-504-075A-8D	.630	.665	.750	.984	5.1750	6.350	.13500	8.317	16	H3P 160IQ	K D3N 16-17.99
D3N 0669-535-075A-8D	.669	.705	.750	.984	5.4930	6.740	.13900	8.709	17	H3P 170IQ	K D3N 16-17.99
D3N 0709-567-100A-8D	.709	.744	1.000	1.260	5.8230	7.140	.15400	9.345	18	H3P 180IQ	K D3N 18-19.99
D3N 0748-598-100A-8D	.748	.784	1.000	1.260	6.1460	7.540	.16100	9.741	19	H3P 190IQ	K D3N 18-19.99
D3N 0787-630-100A-8D	.787	.823	1.000	1.260	6.4690	7.920	.17000	10.128	20	H3P 200IQ	K D3N 20-21.99
D3N 0827-661-100A-8D	.827	.862	1.000	1.260	6.7930	8.320	.17900	10.524	21	H3P 210IQ	K D3N 20-21.99
D3N 0866-693-100A-8D	.866	.902	1.000	1.260	7.1140	8.720	.18500	10.930	22	H3P 220IQ	K D3N 22-23.99
D3N 0906-724-125A-8D	.906	.941	1.250	1.654	7.4370	9.110	.19300	11.476	23	H3P 230IQ	K D3N 22-23.99
D3N 0945-756-125A-8D	.945	.980	1.250	1.654	7.7640	9.510	.20500	11.872	24	H3P 240IQ	K D3N 24-25.99
D3N 0984-787-125A-8D	.984	1.020	1.250	1.654	8.0790	9.920	.20470	12.272	25	H3P 250-IQ	K D3N 24-25.99
D3N 1024-820-125A-8D	1.024	1.059	1.250	1.654	8.3960	10.290	.20390	12.654	26	H3P 260-IQ	K D3N 24-25.99

• Do not mount smaller drilling heads other than the specified range of the drill body ⁽¹⁾ Cutting diameter minimum

⁽²⁾ Cutting diameter maximum

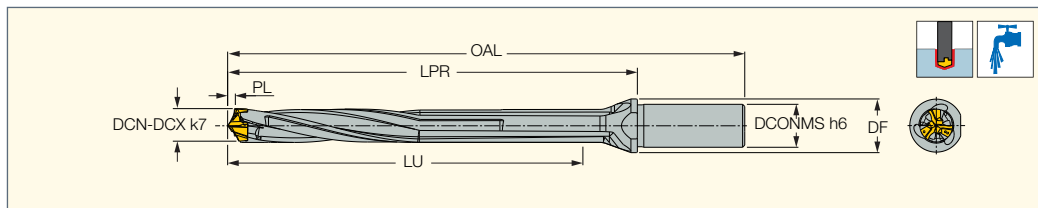
⁽³⁾ Seat size code

⁽⁴⁾ Master insert identification



D3N R-10D

Exchangeable Head 3 Flute Drills with Coolant Holes and a Round Shank, Drilling Depth 10xD



M E T R I C

Designation	DCN ⁽¹⁾	DCX ⁽²⁾	DCONMS	DF	LU	LPR	PL	OAL	SSC ⁽³⁾	MIID ⁽⁴⁾	
D3N 120-120-16R-10D	12.00	12.49	16.00	20.00	122.71	144.90	2.710	192.90	12	H3P 120-IQ	K D3N 12-13.99
D3N 125-125-16R-10D	12.50	12.99	16.00	20.00	127.71	148.70	2.710	196.70	12	H3P 125-IQ	K D3N 12-13.99
D3N 130-130-16R-10D	13.00	13.49	16.00	20.00	132.91	155.00	2.910	203.00	13	H3P 130-IQ	K D3N 12-13.99
D3N 135-135-16R-10D	13.50	13.99	16.00	20.00	137.91	160.70	2.910	208.70	13	H3P 135-IQ	K D3N 12-13.99
D3N 140-140-16R-10D	14.00	14.49	16.00	20.00	143.10	166.60	3.100	214.60	14	H3P 140-IQ	K D3N 14-15.99
D3N 145-145-16R-10D	14.50	14.99	16.00	20.00	148.10	174.10	3.100	222.10	14	H3P 145-IQ	K D3N 14-15.99
D3N 150-150-20R-10D	15.00	15.99	20.00	25.00	153.47	181.20	3.470	231.20	15	H3P 150-IQ	K D3N 14-15.99
D3N 160-160-20R-10D	16.00	16.99	20.00	25.00	163.44	190.80	3.440	240.80	16	H3P 160-IQ	K D3N 16-17.99
D3N 170-170-20R-10D	17.00	17.99	20.00	25.00	173.52	202.40	3.520	252.40	17	H3P 170-IQ	K D3N 16-17.99
D3N 180-180-25R-10D	18.00	18.99	25.00	32.00	183.90	214.50	3.900	270.50	18	H3P 180-IQ	K D3N 18-19.99
D3N 190-190-25R-10D	19.00	19.99	25.00	32.00	194.10	226.40	4.100	282.40	19	H3P 190-IQ	K D3N 18-19.99
D3N 200-200-25R-10D	20.00	20.99	25.00	32.00	204.32	238.00	4.320	294.00	20	H3P 200-IQ	K D3N 20-21.99
D3N 210-210-25R-10D	21.00	21.99	25.00	32.00	214.55	249.90	4.550	305.90	21	H3P 210-IQ	K D3N 20-21.99
D3N 220-220-25R-10D	22.00	22.99	25.00	32.00	224.69	262.10	4.690	318.10	22	H3P 220-IQ	K D3N 22-23.99
D3N 230-230-32R-10D	23.00	23.99	32.00	42.00	234.91	271.20	4.910	331.20	23	H3P 230-IQ	K D3N 22-23.99
D3N 240-240-32R-10D	24.00	24.99	32.00	42.00	245.21	271.50	5.210	331.50	24	H3P 240-IQ	K D3N 24-25.99
D3N 250-250-32R-10D	25.00	25.99	32.00	42.00	255.20	277.40	5.200	337.40	25	H3P 250-IQ	K D3N 24-25.99

• Do not mount smaller drilling heads other than the specified range of the drill body

⁽¹⁾ Cutting diameter minimum

⁽²⁾ Cutting diameter maximum

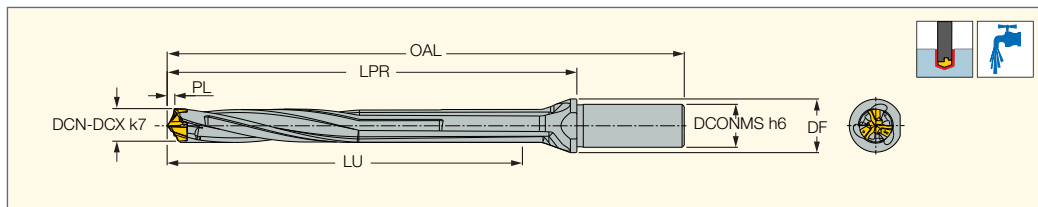
⁽³⁾ Seat size code

⁽⁴⁾ Master insert identification



D3N R-10D

Exchangeable Head 3 Flute Drills with Coolant Holes and a Round Shank, Drilling Depth 10xD



I N C H

Designation	DCN ⁽¹⁾	DCX ⁽²⁾	DCONMS	DF	LU	LPR	PL	OAL	SSC ⁽³⁾	MIID ⁽⁴⁾	
D3N 0472-472-063R-10D	.472	.491	.630	.790	4.8310	5.710	.10700	7.600	12	H3P 120-IQ	K D3N 12-13.99
D3N 0492-492-063R-10D	.492	.512	.630	.790	5.0280	5.860	.10700	7.740	12	H3P 125-IQ	K D3N 12-13.99
D3N 0512-512-063R-10D	.512	.531	.630	.790	5.2330	6.100	.11500	7.990	13	H3P 130-IQ	K D3N 12-13.99
D3N 0531-531-063R-10D	.531	.551	.630	.790	5.4300	6.330	.11500	8.220	13	H3P 135-IQ	K D3N 12-13.99
D3N 0551-551-063R-10D	.551	.570	.630	.790	5.6340	6.560	.12200	8.450	14	H3P 140-IQ	K D3N 14-15.99
D3N 0571-571-063R-10D	.571	.590	.630	.790	5.8310	6.850	.12200	8.740	14	H3P 145-IQ	K D3N 14-15.99
D3N 0591-591-075R-10D	.591	.629	.750	.980	6.0420	7.130	.13700	9.100	15	H3P 150-IQ	K D3N 14-15.99
D3N 0630-630-075R-10D	.630	.669	.750	.980	6.4350	7.510	.13700	9.480	16	H3P 160-IQ	K D3N 16-17.99
D3N 0669-669-075R-10D	.669	.708	.750	.980	6.8310	7.970	.13900	9.940	17	H3P 170-IQ	K D3N 16-17.99
D3N 0709-709-100R-10D	.709	.748	1.000	1.250	7.2400	8.440	.15400	10.650	18	H3P 180-IQ	K D3N 18-19.99
D3N 0748-748-100R-10D	.748	.787	1.000	1.250	7.6420	8.910	.16100	11.120	19	H3P 190-IQ	K D3N 18-19.99
D3N 0787-787-100R-10D	.787	.826	1.000	1.250	8.0440	9.370	.17000	11.580	20	H3P 200-IQ	K D3N 20-21.99
D3N 0827-827-100R-10D	.827	.866	1.000	1.250	8.4470	9.840	.17900	12.040	21	H3P 210-IQ	K D3N 20-21.99
D3N 0866-866-100R-10D	.866	.905	1.000	1.250	8.8460	10.320	.18500	12.520	22	H3P 220-IQ	K D3N 22-23.99
D3N 0906-906-125R-10D	.906	.944	1.250	1.650	9.2480	10.680	.19300	13.040	23	H3P 230-IQ	K D3N 22-23.99
D3N 0945-945-125R-10D	.945	.984	1.250	1.650	9.6540	10.690	.20500	13.050	24	H3P 240-IQ	K D3N 24-25.99
D3N 0984-984-125R-10D	.984	1.023	1.250	1.650	10.0470	10.920	.20500	13.280	25	H3P 250-IQ	K D3N 24-25.99

• Do not mount smaller drilling heads other than the specified range of the drill body

⁽¹⁾ Cutting diameter minimum

⁽²⁾ Cutting diameter maximum

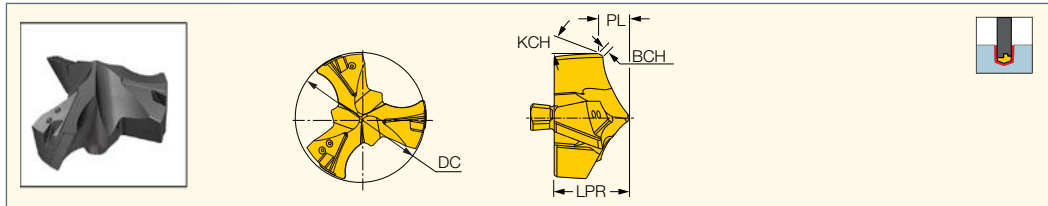
⁽³⁾ Seat size code

⁽⁴⁾ Master insert identification



H3P

Exchangeable 3 Flute Drilling Heads for Machining Carbon and Alloy Steel (ISO P) and Cast Iron (ISO K)



M E T R I C

Designation	Dimensions						IC908
	DC	LPR ⁽¹⁾	PL ⁽²⁾	KCH	BCH	SSC ⁽³⁾	
H3P 120-IQ	12.00	6.92	2.710	15.0	0.40	12	●
H3P 121-IQ	12.10	6.92	2.710	15.0	0.40	12	●
H3P 122-IQ	12.20	6.92	2.710	15.0	0.40	12	●
H3P 123-IQ	12.30	6.92	2.710	15.0	0.40	12	●
H3P 124-IQ	12.40	6.92	2.710	15.0	0.40	12	●
H3P 125-IQ	12.50	6.92	2.710	15.0	0.40	12	●
H3P 126-IQ	12.60	6.92	2.710	15.0	0.40	12	●
H3P 127-IQ	12.70	6.92	2.710	15.0	0.40	12	●
H3P 128-IQ	12.80	6.92	2.710	15.0	0.40	12	●
H3P 129-IQ	12.90	6.92	2.710	15.0	0.40	12	●
H3P 130-IQ	13.00	7.58	2.910	15.0	0.40	13	●
H3P 131-IQ	13.10	7.58	2.910	15.0	0.40	13	●
H3P 132-IQ	13.20	7.58	2.910	15.0	0.40	13	●
H3P 133-IQ	13.30	7.58	2.910	15.0	0.40	13	●
H3P 134-IQ	13.40	7.58	2.910	15.0	0.40	13	●
H3P 135-IQ	13.50	7.58	2.910	15.0	0.40	13	●
H3P 136-IQ	13.60	7.58	2.910	15.0	0.40	13	●
H3P 137-IQ	13.70	7.58	2.910	15.0	0.40	13	●
H3P 138-IQ	13.80	7.58	2.910	15.0	0.40	13	●
H3P 139-IQ	13.90	7.58	2.910	15.0	0.40	13	●
H3P 140-IQ	14.00	8.08	3.100	15.0	0.40	14	●
H3P 141-IQ	14.10	8.08	3.100	15.0	0.40	14	●
H3P 142-IQ	14.20	8.08	3.100	15.0	0.40	14	●
H3P 143-IQ	14.30	8.08	3.100	15.0	0.40	14	●
H3P 144-IQ	14.40	8.08	3.100	15.0	0.40	14	●
H3P 145-IQ	14.50	8.08	3.100	15.0	0.40	14	●
H3P 146-IQ	14.60	8.08	3.100	15.0	0.40	14	●
H3P 147-IQ	14.70	8.08	3.100	15.0	0.40	14	●
H3P 148-IQ	14.80	8.08	3.100	15.0	0.40	14	●
H3P 149-IQ	14.90	8.08	3.100	15.0	0.40	14	●
H3P 150-IQ	15.00	8.66	3.470	15.0	0.40	15	●
H3P 151-IQ	15.10	8.66	3.470	15.0	0.40	15	●
H3P 152-IQ	15.20	8.66	3.470	15.0	0.40	15	●
H3P 153-IQ	15.30	8.66	3.470	15.0	0.40	15	●
H3P 154-IQ	15.40	8.66	3.470	15.0	0.40	15	●
H3P 155-IQ	15.50	8.66	3.470	15.0	0.40	15	●
H3P 156-IQ	15.60	8.66	3.470	15.0	0.40	15	●
H3P 157-IQ	15.70	8.66	3.470	15.0	0.40	15	●
H3P 158-IQ	15.80	8.66	3.470	15.0	0.40	15	●
H3P 159-IQ	15.90	8.66	3.470	15.0	0.40	15	●
H3P 160-IQ	16.00	9.25	3.440	15.0	0.40	16	●
H3P 161-IQ	16.10	9.25	3.440	15.0	0.40	16	●
H3P 162-IQ	16.20	9.25	3.440	15.0	0.40	16	●
H3P 163-IQ	16.30	9.25	3.440	15.0	0.40	16	●
H3P 164-IQ	16.40	9.25	3.440	15.0	0.40	16	●
H3P 165-IQ	16.50	9.25	3.440	15.0	0.40	16	●
H3P 166-IQ	16.60	9.25	3.440	15.0	0.40	16	●
H3P 167-IQ	16.70	9.25	3.440	15.0	0.40	16	●
H3P 168-IQ	16.80	9.25	3.440	15.0	0.40	16	●
H3P 169-IQ	16.90	9.25	3.440	15.0	0.40	16	●
H3P 170-IQ	17.00	9.72	3.520	15.0	0.40	17	●
H3P 171-IQ	17.10	9.72	3.520	15.0	0.40	17	●
H3P 172-IQ	17.20	9.72	3.520	15.0	0.40	17	●
H3P 173-IQ	17.30	9.72	3.520	15.0	0.40	17	●

⁽¹⁾ LPR tolerance ±0.05 mm

⁽²⁾ PL tolerance ±0.1 mm

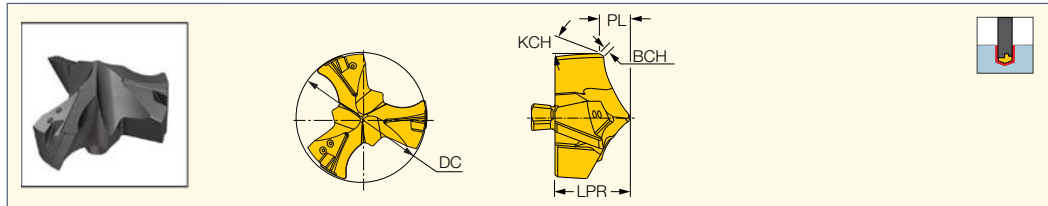
⁽³⁾ Seat size code

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H3P

Exchangeable 3 Flute Drilling Heads for Machining Carbon and Alloy Steel (ISO P) and Cast Iron (ISO K)



M E T R I C							
Designation	Dimensions						IC908
	DC	LPR ⁽¹⁾	PL ⁽²⁾	KCH	BCH	SSC ⁽³⁾	
H3P 174-IQ	17.40	9.72	3.520	15.0	0.40	17	●
H3P 175-IQ	17.50	9.72	3.520	15.0	0.40	17	●
H3P 176-IQ	17.60	9.72	3.520	15.0	0.40	17	●
H3P 177-IQ	17.70	9.72	3.520	15.0	0.40	17	●
H3P 178-IQ	17.80	9.72	3.520	15.0	0.40	17	●
H3P 179-IQ	17.90	9.72	3.520	15.0	0.40	17	●
H3P 180-IQ	18.00	10.36	3.900	15.0	0.40	18	●
H3P 181-IQ	18.10	10.36	3.900	15.0	0.40	18	●
H3P 182-IQ	18.20	10.36	3.900	15.0	0.40	18	●
H3P 183-IQ	18.30	10.36	3.900	15.0	0.40	18	●
H3P 184-IQ	18.40	10.36	3.900	15.0	0.40	18	●
H3P 185-IQ	18.50	10.36	3.900	15.0	0.40	18	●
H3P 186-IQ	18.60	10.36	3.900	15.0	0.40	18	●
H3P 187-IQ	18.70	10.36	3.900	15.0	0.40	18	●
H3P 188-IQ	18.80	10.36	3.900	15.0	0.40	18	●
H3P 189-IQ	18.90	10.36	3.900	15.0	0.40	18	●
H3P 190-IQ	19.00	10.92	4.100	15.0	0.40	19	●
H3P 1905-IQ	19.05	10.92	4.100	15.0	0.40	19	●
H3P 191-IQ	19.10	10.92	4.100	15.0	0.40	19	●
H3P 192-IQ	19.20	10.92	4.100	15.0	0.40	19	●
H3P 1927-IQ	19.27	10.92	4.100	15.0	0.40	19	●
H3P 193-IQ	19.30	10.92	4.100	15.0	0.40	19	●
H3P 194-IQ	19.40	10.92	4.100	15.0	0.40	19	●
H3P 195-IQ	19.50	10.92	4.100	15.0	0.40	19	●
H3P 196-IQ	19.60	10.92	4.100	15.0	0.40	19	●
H3P 197-IQ	19.70	10.92	4.100	15.0	0.40	19	●
H3P 198-IQ	19.80	10.92	4.100	15.0	0.40	19	●
H3P 199-IQ	19.90	10.92	4.100	15.0	0.40	19	●
H3P 200-IQ	20.00	11.24	4.320	15.0	0.40	20	●
H3P 201-IQ	20.10	11.24	4.320	15.0	0.40	20	●
H3P 202-IQ	20.20	11.24	4.320	15.0	0.40	20	●
H3P 203-IQ	20.30	11.24	4.320	15.0	0.40	20	●
H3P 204-IQ	20.40	11.24	4.320	15.0	0.40	20	●
H3P 205-IQ	20.50	11.24	4.320	15.0	0.40	20	●
H3P 206-IQ	20.60	11.24	4.320	15.0	0.40	20	●
H3P 207-IQ	20.70	11.24	4.320	15.0	0.40	20	●
H3P 208-IQ	20.80	11.24	4.320	15.0	0.40	20	●
H3P 209-IQ	20.90	11.24	4.320	15.0	0.40	20	●
H3P 210-IQ	21.00	11.80	4.550	15.0	0.40	21	●
H3P 211-IQ	21.10	11.80	4.550	15.0	0.40	21	●
H3P 212-IQ	21.20	11.80	4.550	15.0	0.40	21	●
H3P 213-IQ	21.30	11.80	4.550	15.0	0.40	21	●
H3P 214-IQ	21.40	11.80	4.550	15.0	0.40	21	●
H3P 215-IQ	21.50	11.80	4.550	15.0	0.40	21	●
H3P 216-IQ	21.60	11.80	4.550	15.0	0.40	21	●
H3P 217-IQ	21.70	11.80	4.550	15.0	0.40	21	●
H3P 218-IQ	21.80	11.80	4.550	15.0	0.40	21	●
H3P 219-IQ	21.90	11.80	4.550	15.0	0.40	21	●
H3P 220-IQ	22.00	12.62	4.690	15.0	0.40	22	●
H3P 221-IQ	22.10	12.62	4.690	15.0	0.40	22	●
H3P 222-IQ	22.20	12.62	4.690	15.0	0.40	22	●
H3P 223-IQ	22.30	12.62	4.690	15.0	0.40	22	●

⁽¹⁾ LPR tolerance ±0.05 mm

⁽²⁾ PL tolerance ±0.1 mm

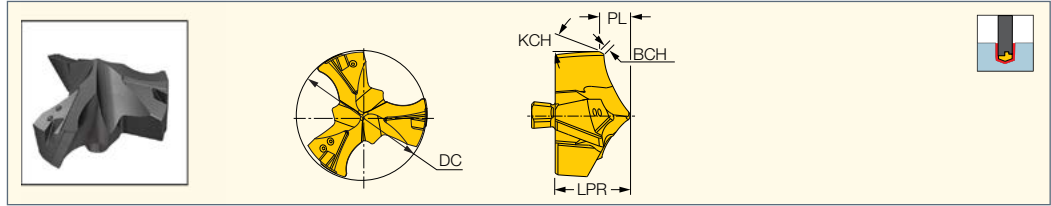
⁽³⁾ Seat size code

Continued



H3P

Exchangeable 3 Flute Drilling Heads for Machining Carbon and Alloy Steel (ISO P) and Cast Iron (ISO K)



M E T R I C							
Designation	Dimensions						IC908
	DC	LPR ⁽¹⁾	PL ⁽²⁾	KCH	BCH	SSC ⁽³⁾	
H3P 224-IQ	22.40	12.62	4.690	15.0	0.40	22	●
H3P 225-IQ	22.50	12.62	4.690	15.0	0.40	22	●
H3P 226-IQ	22.60	12.62	4.690	15.0	0.40	22	●
H3P 227-IQ	22.70	12.62	4.690	15.0	0.40	22	●
H3P 228-IQ	22.80	12.62	4.690	15.0	0.40	22	●
H3P 229-IQ	22.90	12.62	4.690	15.0	0.40	22	●
H3P 230-IQ	23.00	13.00	4.910	15.0	0.40	23	●
H3P 231-IQ	23.10	13.00	4.910	15.0	0.40	23	●
H3P 232-IQ	23.20	13.00	4.910	15.0	0.40	23	●
H3P 233-IQ	23.30	13.00	4.910	15.0	0.40	23	●
H3P 234-IQ	23.40	13.00	4.910	15.0	0.40	23	●
H3P 235-IQ	23.50	13.00	4.910	15.0	0.40	23	●
H3P 236-IQ	23.60	13.00	4.910	15.0	0.40	23	●
H3P 237-IQ	23.70	13.00	4.910	15.0	0.40	23	●
H3P 238-IQ	23.80	13.00	4.910	15.0	0.40	23	●
H3P 239-IQ	23.90	13.00	4.910	15.0	0.40	23	●
H3P 240-IQ	24.00	13.54	5.210	15.0	0.40	24	●
H3P 241-IQ	24.10	13.54	5.210	15.0	0.40	24	●
H3P 242-IQ	24.20	13.54	5.210	15.0	0.40	24	●
H3P 243-IQ	24.30	13.54	5.210	15.0	0.40	24	●
H3P 244-IQ	24.40	13.54	5.210	15.0	0.40	24	●
H3P 245-IQ	24.50	13.54	5.210	15.0	0.40	24	●
H3P 246-IQ	24.60	13.54	5.210	15.0	0.40	24	●
H3P 247-IQ	24.70	13.54	5.210	15.0	0.40	24	●
H3P 248-IQ	24.80	13.54	5.210	15.0	0.40	24	●
H3P 249-IQ	24.90	13.54	5.210	15.0	0.40	24	●
H3P 250-IQ	25.00	14.60	5.200	15.0	0.40	25	●
H3P 251-IQ	25.10	14.60	5.200	15.0	0.40	25	●
H3P 252-IQ	25.20	14.60	5.200	15.0	0.40	25	●
H3P 253-IQ	25.30	14.60	5.200	15.0	0.40	25	●
H3P 254-IQ	25.40	14.60	5.200	15.0	0.40	25	●
H3P 255-IQ	25.50	14.60	5.200	15.0	0.40	25	●
H3P 256-IQ	25.60	14.60	5.200	15.0	0.40	25	●
H3P 2565-IQ	25.65	14.60	5.200	15.0	0.40	25	●
H3P 257-IQ	25.70	14.60	5.200	15.0	0.40	25	●
H3P 258-IQ	25.80	14.60	5.200	15.0	0.40	25	●
H3P 259-IQ	25.90	14.60	5.200	15.0	0.40	25	●
H3P 260-IQ	26.00	14.41	5.180	15.0	0.40	26	●
H3P 261-IQ	26.10	14.41	5.180	15.0	0.40	26	●
H3P 262-IQ	26.20	14.41	5.180	15.0	0.40	26	●
H3P 265-IQ	26.50	14.41	5.180	15.0	0.40	26	●

⁽¹⁾ LPR tolerance ±0.05 mm

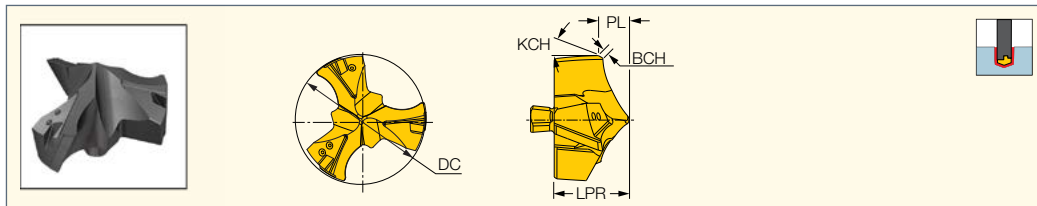
⁽²⁾ PL tolerance ±0.1 mm

⁽³⁾ Seat size code



H3P

Exchangeable 3 Flute Drilling Heads for Machining Carbon and Alloy Steel (ISO P) and Cast Iron (ISO K)



I N C H							
Designation	Dimensions						IC908
	DC	LPR ⁽¹⁾	PL ⁽²⁾	KCH	BCH	SSC ⁽³⁾	
H3P 0472-IQ	.472	.272	.10669	15.00	.016	12	●
H3P 0476-IQ	.476	.272	.10669	15.00	.016	12	●
H3P 0480-IQ	.480	.272	.10669	15.00	.016	12	●
H3P 0484-IQ	.484	.272	.10669	15.00	.016	12	●
H3P 0488-IQ	.488	.272	.10669	15.00	.016	12	●
H3P 0492-IQ	.492	.272	.10669	15.00	.016	12	●
H3P 0496-IQ	.496	.272	.10669	15.00	.016	12	●
H3P 0500-IQ	.500	.272	.10669	15.00	.016	12	●
H3P 0504-IQ	.504	.272	.10669	15.00	.016	12	●
H3P 0508-IQ	.508	.272	.10669	15.00	.016	12	●
H3P 0512-IQ	.512	.298	.11456	15.00	.016	13	●
H3P 0516-IQ	.516	.298	.11456	15.00	.016	13	●
H3P 0520-IQ	.520	.298	.11456	15.00	.016	13	●
H3P 0524-IQ	.524	.298	.11456	15.00	.016	13	●
H3P 0528-IQ	.528	.298	.11456	15.00	.016	13	●
H3P 0531-IQ	.531	.298	.11456	15.00	.016	13	●
H3P 0535-IQ	.535	.298	.11456	15.00	.016	13	●
H3P 0539-IQ	.539	.298	.11456	15.00	.016	13	●
H3P 0543-IQ	.543	.298	.11456	15.00	.016	13	●
H3P 0547-IQ	.547	.298	.11456	15.00	.016	13	●
H3P 0551-IQ	.551	.318	.12204	15.00	.016	14	●
H3P 0555-IQ	.555	.318	.12204	15.00	.016	14	●
H3P 0559-IQ	.559	.318	.12204	15.00	.016	14	●
H3P 0563-IQ	.563	.318	.12204	15.00	.016	14	●
H3P 0567-IQ	.567	.318	.12204	15.00	.016	14	●
H3P 0571-IQ	.571	.318	.12204	15.00	.016	14	●
H3P 0575-IQ	.575	.318	.12204	15.00	.016	14	●
H3P 0579-IQ	.579	.318	.12204	15.00	.016	14	●
H3P 0583-IQ	.583	.318	.12204	15.00	.016	14	●
H3P 0587-IQ	.587	.318	.12204	15.00	.016	14	●
H3P 0591-IQ	.591	.341	.13661	15.00	.016	15	●
H3P 0594-IQ	.594	.341	.13661	15.00	.016	15	●
H3P 0598-IQ	.598	.341	.13661	15.00	.016	15	●
H3P 0602-IQ	.602	.341	.13661	15.00	.016	15	●
H3P 0606-IQ	.606	.341	.13661	15.00	.016	15	●
H3P 0610-IQ	.610	.341	.13661	15.00	.016	15	●
H3P 0614-IQ	.614	.341	.13661	15.00	.016	15	●
H3P 0618-IQ	.618	.341	.13661	15.00	.016	15	●
H3P 0622-IQ	.622	.341	.13661	15.00	.016	15	●
H3P 0626-IQ	.626	.341	.13661	15.00	.016	15	●
H3P 0630-IQ	.630	.364	.13543	15.00	.016	16	●
H3P 0634-IQ	.634	.364	.13543	15.00	.016	16	●
H3P 0638-IQ	.638	.364	.13543	15.00	.016	16	●
H3P 0642-IQ	.642	.364	.13543	15.00	.016	16	●
H3P 0646-IQ	.646	.364	.13543	15.00	.016	16	●
H3P 0650-IQ	.650	.364	.13543	15.00	.016	16	●
H3P 0654-IQ	.654	.364	.13543	15.00	.016	16	●
H3P 0657-IQ	.657	.364	.13543	15.00	.016	16	●
H3P 0661-IQ	.661	.364	.13543	15.00	.016	16	●
H3P 0665-IQ	.665	.364	.13543	15.00	.016	16	●
H3P 0669-IQ	.669	.383	.13858	15.00	.016	17	●
H3P 0673-IQ	.673	.383	.13858	15.00	.016	17	●
H3P 0677-IQ	.677	.383	.13858	15.00	.016	17	●
H3P 0681-IQ	.681	.383	.13858	15.00	.016	17	●

⁽¹⁾ LPR tolerance ±.002"

⁽²⁾ PL tolerance ±.0039"

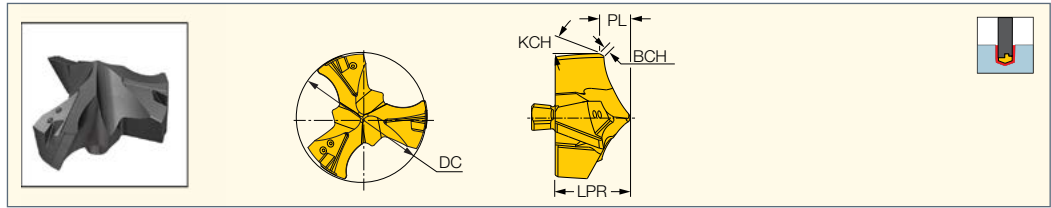
⁽³⁾ Seat size code

Continued



H3P

Exchangeable 3 Flute Drilling Heads for Machining Carbon and Alloy Steel (ISO P) and Cast Iron (ISO K)



I N C H							
Designation	Dimensions						IC908
	DC	LPR ⁽¹⁾	PL ⁽²⁾	KCH	BCH	SSC ⁽³⁾	
H3P 0685-IQ	.685	.383	.13858	15.00	.016	17	●
H3P 0689-IQ	.689	.383	.13858	15.00	.016	17	●
H3P 0693-IQ	.693	.383	.13858	15.00	.016	17	●
H3P 0697-IQ	.697	.383	.13858	15.00	.016	17	●
H3P 0701-IQ	.701	.383	.13858	15.00	.016	17	●
H3P 0705-IQ	.705	.383	.13858	15.00	.016	17	●
H3P 0709-IQ	.709	.408	.15354	15.00	.016	18	●
H3P 0713-IQ	.713	.408	.15354	15.00	.016	18	●
H3P 0717-IQ	.717	.408	.15354	15.00	.016	18	●
H3P 0720-IQ	.720	.408	.15354	15.00	.016	18	●
H3P 0724-IQ	.724	.408	.15354	15.00	.016	18	●
H3P 0728-IQ	.728	.408	.15354	15.00	.016	18	●
H3P 0732-IQ	.732	.408	.15354	15.00	.016	18	●
H3P 0736-IQ	.736	.408	.15354	15.00	.016	18	●
H3P 0740-IQ	.740	.408	.15354	15.00	.016	18	●
H3P 0744-IQ	.744	.408	.15354	15.00	.016	18	●
H3P 0748-IQ	.748	.430	.16141	15.00	.016	19	●
H3P 0750-IQ	.750	.430	.16141	15.00	.016	19	●
H3P 0752-IQ	.752	.430	.16141	15.00	.016	19	●
H3P 0756-IQ	.756	.430	.16141	15.00	.016	19	●
H3P 0759-IQ	.759	.430	.16141	15.00	.016	19	●
H3P 0760-IQ	.760	.430	.16141	15.00	.016	19	●
H3P 0764-IQ	.764	.430	.16141	15.00	.016	19	●
H3P 0768-IQ	.768	.430	.16141	15.00	.016	19	●
H3P 0772-IQ	.772	.430	.16141	15.00	.016	19	●
H3P 0776-IQ	.776	.430	.16141	15.00	.016	19	●
H3P 0780-IQ	.780	.430	.16141	15.00	.016	19	●
H3P 0783-IQ	.783	.430	.16141	15.00	.016	19	●
H3P 0787-IQ	.787	.443	.17007	15.00	.016	20	●
H3P 0791-IQ	.791	.443	.17007	15.00	.016	20	●
H3P 0795-IQ	.795	.443	.17007	15.00	.016	20	●
H3P 0799-IQ	.799	.443	.17007	15.00	.016	20	●
H3P 0803-IQ	.803	.443	.17007	15.00	.016	20	●
H3P 0807-IQ	.807	.443	.17007	15.00	.016	20	●
H3P 0811-IQ	.811	.443	.17007	15.00	.016	20	●
H3P 0815-IQ	.815	.443	.17007	15.00	.016	20	●
H3P 0819-IQ	.819	.443	.17007	15.00	.016	20	●
H3P 0823-IQ	.823	.443	.17007	15.00	.016	20	●
H3P 0827-IQ	.827	.465	.17913	15.00	.016	21	●
H3P 0831-IQ	.831	.465	.17913	15.00	.016	21	●
H3P 0835-IQ	.835	.465	.17913	15.00	.016	21	●
H3P 0839-IQ	.839	.465	.17913	15.00	.016	21	●
H3P 0843-IQ	.843	.465	.17913	15.00	.016	21	●
H3P 0846-IQ	.846	.465	.17913	15.00	.016	21	●
H3P 0850-IQ	.850	.465	.17913	15.00	.016	21	●
H3P 0854-IQ	.854	.465	.17913	15.00	.016	21	●
H3P 0858-IQ	.858	.465	.17913	15.00	.016	21	●
H3P 0862-IQ	.862	.465	.17913	15.00	.016	21	●
H3P 0866-IQ	.866	.497	.18464	15.00	.016	22	●
H3P 0870-IQ	.870	.497	.18464	15.00	.016	22	●
H3P 0874-IQ	.874	.497	.18464	15.00	.016	22	●
H3P 0878-IQ	.878	.497	.18464	15.00	.016	22	●
H3P 0882-IQ	.882	.497	.18464	15.00	.016	22	●
H3P 0886-IQ	.886	.497	.18464	15.00	.016	22	●

⁽¹⁾ LPR tolerance ±.002"

⁽²⁾ PL tolerance ±.0039"

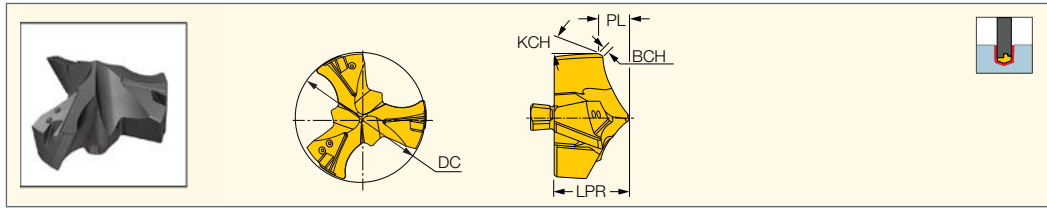
⁽³⁾ Seat size code

Continued



H3P

Exchangeable 3 Flute Drilling Heads for Machining Carbon and Alloy Steel (ISO P) and Cast Iron (ISO K)



I N C H							
Designation	Dimensions						IC908
	DC	LPR ⁽¹⁾	PL ⁽²⁾	KCH	BCH	SSC ⁽³⁾	
H3P 0890-IQ	.890	.497	.18464	15.00	.016	22	●
H3P 0894-IQ	.894	.497	.18464	15.00	.016	22	●
H3P 0898-IQ	.898	.497	.18464	15.00	.016	22	●
H3P 0902-IQ	.902	.497	.18464	15.00	.016	22	●
H3P 0906-IQ	.906	.512	.19330	15.00	.016	23	●
H3P 0909-IQ	.909	.512	.19330	15.00	.016	23	●
H3P 0913-IQ	.913	.512	.19330	15.00	.016	23	●
H3P 0917-IQ	.917	.512	.19330	15.00	.016	23	●
H3P 0921-IQ	.921	.512	.19330	15.00	.016	23	●
H3P 0925-IQ	.925	.512	.19330	15.00	.016	23	●
H3P 0929-IQ	.929	.512	.19330	15.00	.016	23	●
H3P 0933-IQ	.933	.512	.19330	15.00	.016	23	●
H3P 0937-IQ	.937	.512	.19330	15.00	.016	23	●
H3P 0941-IQ	.941	.512	.19330	15.00	.016	23	●
H3P 0945-IQ	.945	.533	.20511	15.00	.016	24	●
H3P 0949-IQ	.949	.533	.20511	15.00	.016	24	●
H3P 0953-IQ	.953	.533	.20511	15.00	.016	24	●
H3P 0957-IQ	.957	.533	.20511	15.00	.016	24	●
H3P 0961-IQ	.961	.533	.20511	15.00	.016	24	●
H3P 0965-IQ	.965	.533	.20511	15.00	.016	24	●
H3P 0969-IQ	.969	.533	.20511	15.00	.016	24	●
H3P 0972-IQ	.972	.533	.20511	15.00	.016	24	●
H3P 0976-IQ	.976	.533	.20511	15.00	.016	24	●
H3P 0980-IQ	.980	.533	.20511	15.00	.016	24	●
H3P 0984-IQ	.984	.575	.20472	15.00	.016	25	●
H3P 0988-IQ	.988	.575	.20472	15.00	.016	25	●
H3P 0992-IQ	.992	.575	.20472	15.00	.016	25	●
H3P 0996-IQ	.996	.575	.20472	15.00	.016	25	●
H3P 1000-IQ	1.000	.575	.20472	15.00	.016	25	●
H3P 1004-IQ	1.004	.575	.20472	15.00	.016	25	●
H3P 1008-IQ	1.008	.575	.20472	15.00	.016	25	●
H3P 1010-IQ	1.010	.575	.20472	15.00	.016	25	●
H3P 1012-IQ	1.012	.575	.20472	15.00	.016	25	●
H3P 1016-IQ	1.016	.575	.20472	15.00	.016	25	●
H3P 1020-IQ	1.020	.575	.20472	15.00	.016	25	●
H3P 1024-IQ	1.024	.567	.20393	15.00	.016	26	●
H3P 1028-IQ	1.028	.567	.20393	15.00	.016	26	●
H3P 1031-IQ	1.031	.567	.20393	15.00	.016	26	●
H3P 1043-IQ	1.043	.567	.20393	15.00	.016	26	●

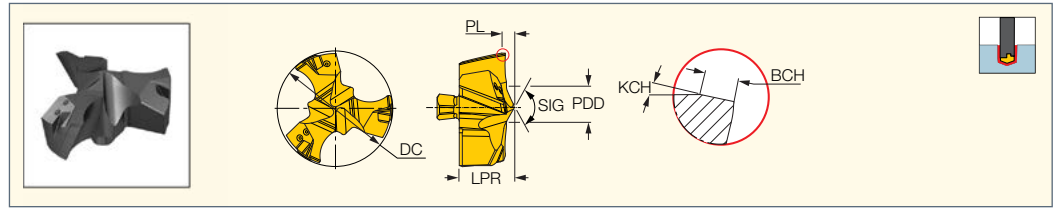
⁽¹⁾ LPR tolerance ±.002"

⁽²⁾ PL tolerance ±.0039"

⁽³⁾ Seat size code

F3P

Exchangeable 3 Flute Flat Drilling Heads for Machining Carbon and Alloy Steel (ISO P) and Cast Iron (ISO K)



M E T R I C									
Designation	Dimensions								IC908
	DC	LPR ⁽¹⁾	PL	PDD	SIG ⁽²⁾	BCH	KCH	SSC ⁽³⁾	
F3P 120-IQ	12.00	4.90	0.790	2.96	133	0.40	15.0	12	●
F3P 121-IQ	12.10	4.90	0.790	2.96	133	0.40	15.0	12	●
F3P 122-IQ	12.20	4.90	0.790	2.96	133	0.40	15.0	12	●
F3P 123-IQ	12.30	4.90	0.790	2.96	133	0.40	15.0	12	●
F3P 124-IQ	12.40	4.90	0.790	2.96	133	0.40	15.0	12	●
F3P 125-IQ	12.50	4.90	0.790	2.96	133	0.40	15.0	12	●
F3P 126-IQ	12.60	4.90	0.790	2.96	133	0.40	15.0	12	●
F3P 127-IQ	12.70	4.90	0.790	2.96	133	0.40	15.0	12	●
F3P 128-IQ	12.80	4.90	0.790	2.96	133	0.40	15.0	12	●
F3P 129-IQ	12.90	4.90	0.790	2.96	133	0.40	15.0	12	●
F3P 130-IQ	13.00	5.39	0.990	3.52	130	0.40	15.0	13	●
F3P 131-IQ	13.10	5.39	0.990	3.52	130	0.40	15.0	13	●
F3P 132-IQ	13.20	5.39	0.990	3.52	130	0.40	15.0	13	●
F3P 133-IQ	13.30	5.39	0.990	3.52	130	0.40	15.0	13	●
F3P 134-IQ	13.40	5.39	0.990	3.52	130	0.40	15.0	13	●
F3P 135-IQ	13.50	5.39	0.990	3.52	130	0.40	15.0	13	●
F3P 136-IQ	13.60	5.39	0.990	3.52	130	0.40	15.0	13	●
F3P 137-IQ	13.70	5.39	0.990	3.52	130	0.40	15.0	13	●
F3P 138-IQ	13.80	5.39	0.990	3.52	130	0.40	15.0	13	●
F3P 139-IQ	13.90	5.39	0.990	3.52	130	0.40	15.0	13	●
F3P 140-IQ	14.00	6.14	1.440	4.90	125	0.40	15.0	14	●
F3P 141-IQ	14.10	6.14	1.440	4.90	125	0.40	15.0	14	●
F3P 142-IQ	14.20	6.14	1.440	4.90	125	0.40	15.0	14	●
F3P 143-IQ	14.30	6.14	1.440	4.90	125	0.40	15.0	14	●
F3P 144-IQ	14.40	6.14	1.440	4.90	125	0.40	15.0	14	●
F3P 145-IQ	14.50	6.14	1.440	4.90	125	0.40	15.0	14	●
F3P 146-IQ	14.60	6.14	1.440	4.90	125	0.40	15.0	14	●
F3P 147-IQ	14.70	6.14	1.440	4.90	125	0.40	15.0	14	●
F3P 148-IQ	14.80	6.14	1.440	4.90	125	0.40	15.0	14	●
F3P 149-IQ	14.90	6.14	1.440	4.90	125	0.40	15.0	14	●
F3P 150-IQ	15.00	6.51	1.450	4.91	125	0.40	15.0	15	●
F3P 151-IQ	15.10	6.51	1.450	4.91	125	0.40	15.0	15	●
F3P 152-IQ	15.20	6.51	1.450	4.91	125	0.40	15.0	15	●
F3P 153-IQ	15.30	6.51	1.450	4.91	125	0.40	15.0	15	●
F3P 154-IQ	15.40	6.51	1.450	4.91	125	0.40	15.0	15	●
F3P 155-IQ	15.50	6.51	1.450	4.91	125	0.40	15.0	15	●
F3P 156-IQ	15.60	6.51	1.450	4.91	125	0.40	15.0	15	●
F3P 157-IQ	15.70	6.51	1.450	4.91	125	0.40	15.0	15	●
F3P 158-IQ	15.80	6.51	1.450	4.91	125	0.40	15.0	15	●
F3P 159-IQ	15.90	6.51	1.450	4.91	125	0.40	15.0	15	●
F3P 160-IQ	16.00	7.23	1.590	5.36	127	0.40	15.0	16	●
F3P 161-IQ	16.10	7.23	1.590	5.36	127	0.40	15.0	16	●
F3P 162-IQ	16.20	7.23	1.590	5.36	127	0.40	15.0	16	●
F3P 163-IQ	16.30	7.23	1.590	5.36	127	0.40	15.0	16	●
F3P 164-IQ	16.40	7.23	1.590	5.36	127	0.40	15.0	16	●
F3P 165-IQ	16.50	7.23	1.590	5.36	127	0.40	15.0	16	●
F3P 166-IQ	16.60	7.23	1.590	5.36	127	0.40	15.0	16	●
F3P 167-IQ	16.70	7.23	1.590	5.36	127	0.40	15.0	16	●
F3P 168-IQ	16.80	7.23	1.590	5.36	127	0.40	15.0	16	●
F3P 169-IQ	16.90	7.23	1.590	5.36	127	0.40	15.0	16	●
F3P 170-IQ	17.00	7.35	1.650	5.72	122	0.40	15.0	17	●
F3P 171-IQ	17.10	7.35	1.650	5.72	122	0.40	15.0	17	●
F3P 172-IQ	17.20	7.35	1.650	5.72	122	0.40	15.0	17	●

• For nearly flat bottom hole applications

⁽¹⁾ LPR tolerance $\pm 0.05\text{mm}$

⁽²⁾ SIG angle varies $\pm 5^\circ$; depends on insert design optimization

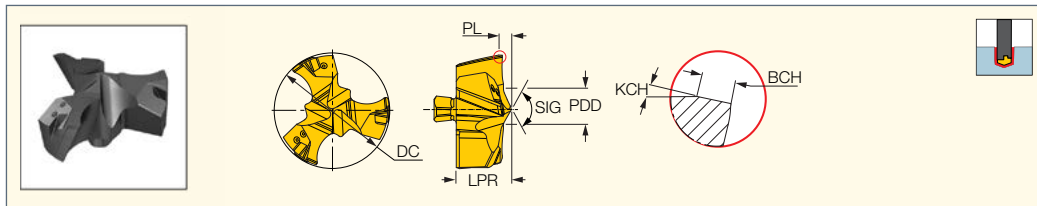
⁽³⁾ Seat size code

Continued



F3P

Exchangeable 3 Flute Flat Drilling Heads for Machining Carbon and Alloy Steel (ISO P) and Cast Iron (ISO K)



M E T R I C

Designation	Dimensions								IC908
	DC	LPR ⁽¹⁾	PL	PDD	SIG ⁽²⁾	BCH	KCH	SSC ⁽³⁾	
F3P 173-IQ	17.30	7.35	1.650	5.72	122	0.40	15.0	17	●
F3P 174-IQ	17.40	7.35	1.650	5.72	122	0.40	15.0	17	●
F3P 175-IQ	17.50	7.35	1.650	5.72	122	0.40	15.0	17	●
F3P 176-IQ	17.60	7.35	1.650	5.72	122	0.40	15.0	17	●
F3P 177-IQ	17.70	7.35	1.650	5.72	122	0.40	15.0	17	●
F3P 178-IQ	17.80	7.35	1.650	5.72	122	0.40	15.0	17	●
F3P 179-IQ	17.90	7.35	1.650	5.72	122	0.40	15.0	17	●
F3P 180-IQ	18.00	7.65	1.660	5.75	125	0.40	15.0	18	●
F3P 181-IQ	18.10	7.65	1.660	5.75	125	0.40	15.0	18	●
F3P 182-IQ	18.20	7.65	1.660	5.75	125	0.40	15.0	18	●
F3P 183-IQ	18.30	7.65	1.660	5.75	125	0.40	15.0	18	●
F3P 184-IQ	18.40	7.65	1.660	5.75	125	0.40	15.0	18	●
F3P 185-IQ	18.50	7.65	1.660	5.75	125	0.40	15.0	18	●
F3P 186-IQ	18.60	7.65	1.660	5.75	125	0.40	15.0	18	●
F3P 187-IQ	18.70	7.65	1.660	5.75	125	0.40	15.0	18	●
F3P 188-IQ	18.80	7.65	1.660	5.75	125	0.40	15.0	18	●
F3P 189-IQ	18.90	7.65	1.660	5.75	125	0.40	15.0	18	●
F3P 190-IQ	19.00	8.07	1.590	6.35	133	0.40	15.0	19	●
F3P 191-IQ	19.10	8.07	1.590	6.35	133	0.40	15.0	19	●
F3P 192-IQ	19.20	8.07	1.590	6.35	133	0.40	15.0	19	●
F3P 193-IQ	19.30	8.07	1.590	6.35	133	0.40	15.0	19	●
F3P 194-IQ	19.40	8.07	1.590	6.35	133	0.40	15.0	19	●
F3P 195-IQ	19.50	8.07	1.590	5.35	133	0.40	15.0	19	●
F3P 196-IQ	19.60	8.07	1.590	6.35	133	0.40	15.0	19	●
F3P 197-IQ	19.70	8.07	1.590	6.35	133	0.40	15.0	19	●
F3P 198-IQ	19.80	8.07	1.590	6.35	133	0.40	15.0	19	●
F3P 199-IQ	19.90	8.07	1.590	6.35	133	0.40	15.0	19	●
F3P 200-IQ	20.00	8.82	1.800	6.54	132	0.40	15.0	20	●
F3P 201-IQ	20.10	8.82	1.800	6.54	132	0.40	15.0	20	●
F3P 202-IQ	20.20	8.82	1.800	6.54	132	0.40	15.0	20	●
F3P 203-IQ	20.30	8.82	1.800	6.54	132	0.40	15.0	20	●
F3P 204-IQ	20.40	8.82	1.800	6.54	132	0.40	15.0	20	●
F3P 205-IQ	20.50	8.82	1.800	6.54	132	0.40	15.0	20	●
F3P 206-IQ	20.60	8.82	1.800	6.54	132	0.40	15.0	20	●
F3P 207-IQ	20.70	8.82	1.800	6.54	132	0.40	15.0	20	●
F3P 208-IQ	20.80	8.82	1.800	6.54	132	0.40	15.0	20	●
F3P 209-IQ	20.90	8.82	1.800	6.54	132	0.40	15.0	20	●
F3P 210-IQ	21.00	9.23	1.740	6.94	132	0.40	15.0	21	●
F3P 211-IQ	21.10	9.23	1.740	6.94	132	0.40	15.0	21	●
F3P 212-IQ	21.20	9.23	1.740	6.94	132	0.40	15.0	21	●
F3P 213-IQ	21.30	9.23	1.740	6.94	132	0.40	15.0	21	●
F3P 214-IQ	21.40	9.23	1.740	6.94	132	0.40	15.0	21	●
F3P 215-IQ	21.50	9.23	1.740	6.94	132	0.40	15.0	21	●
F3P 216-IQ	21.60	9.23	1.740	6.94	132	0.40	15.0	21	●
F3P 217-IQ	21.70	9.23	1.740	6.94	132	0.40	15.0	21	●
F3P 218-IQ	21.80	9.23	1.740	6.94	132	0.40	15.0	21	●
F3P 219-IQ	21.90	9.23	1.740	6.94	132	0.40	15.0	21	●
F3P 220-IQ	22.00	9.67	1.810	7.19	132	0.40	15.0	22	●
F3P 221-IQ	22.10	9.67	1.810	7.19	132	0.40	15.0	22	●
F3P 222-IQ	22.20	9.67	1.810	7.19	132	0.40	15.0	22	●
F3P 223-IQ	22.30	9.67	1.810	7.19	132	0.40	15.0	22	●
F3P 224-IQ	22.40	9.67	1.810	7.19	132	0.40	15.0	22	●
F3P 225-IQ	22.50	9.67	1.810	7.19	132	0.40	15.0	22	●

• For nearly flat bottom hole applications

⁽¹⁾ LPR tolerance ±0.05mm

⁽²⁾ SIG angle varies ±5°; depends on insert design optimization

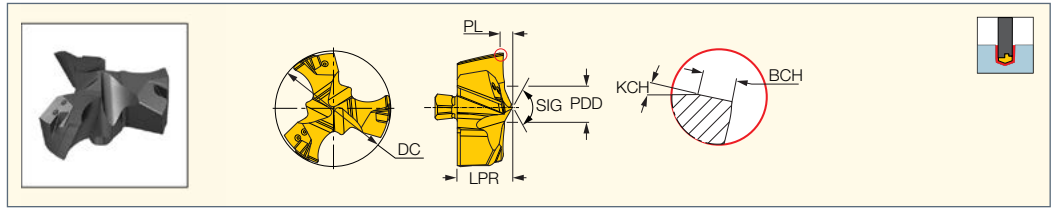
⁽³⁾ Seat size code

Continued



F3P

Exchangeable 3 Flute Flat Drilling Heads for Machining Carbon and Alloy Steel (ISO P) and Cast Iron (ISO K)



M E T R I C									
Designation	Dimensions								IC908
	DC	LPR ⁽¹⁾	PL	PDD	SIG ⁽²⁾	BCH	KCH	SSC ⁽³⁾	
F3P 226-IQ	22.60	9.67	1.810	7.19	132	0.40	15.0	22	●
F3P 227-IQ	22.70	9.67	1.810	7.19	132	0.40	15.0	22	●
F3P 228-IQ	22.80	9.67	1.810	7.19	132	0.40	15.0	22	●
F3P 229-IQ	22.90	9.67	1.810	7.19	132	0.40	15.0	22	●
F3P 230-IQ	23.00	9.78	1.830	7.84	134	0.40	15.0	23	●
F3P 231-IQ	23.10	9.78	1.830	7.84	134	0.40	15.0	23	●
F3P 232-IQ	23.20	9.78	1.830	7.84	134	0.40	15.0	23	●
F3P 233-IQ	23.30	9.78	1.830	7.84	134	0.40	15.0	23	●
F3P 234-IQ	23.40	9.78	1.830	7.84	134	0.40	15.0	23	●
F3P 235-IQ	23.50	9.78	1.830	7.84	134	0.40	15.0	23	●
F3P 236-IQ	23.60	9.78	1.830	7.84	134	0.40	15.0	23	●
F3P 237-IQ	23.70	9.78	1.830	7.84	134	0.40	15.0	23	●
F3P 238-IQ	23.80	9.78	1.830	7.84	134	0.40	15.0	23	●
F3P 239-IQ	23.90	9.78	1.830	7.84	134	0.40	15.0	23	●
F3P 240-IQ	24.00	9.91	1.830	7.42	132	0.40	15.0	24	●
F3P 241-IQ	24.10	9.91	1.830	7.42	132	0.40	15.0	24	●
F3P 242-IQ	24.20	9.91	1.830	7.42	132	0.40	15.0	24	●
F3P 243-IQ	24.30	9.91	1.830	7.42	132	0.40	15.0	24	●
F3P 244-IQ	24.40	9.91	1.830	7.42	132	0.40	15.0	24	●
F3P 245-IQ	24.50	9.91	1.830	7.42	132	0.40	15.0	24	●
F3P 246-IQ	24.60	9.91	1.830	7.42	132	0.40	15.0	24	●
F3P 247-IQ	24.70	9.91	1.830	7.42	132	0.40	15.0	24	●
F3P 248-IQ	24.80	9.91	1.830	7.42	132	0.40	15.0	24	●
F3P 249-IQ	24.90	9.91	1.830	7.42	132	0.40	15.0	24	●
F3P 250-IQ	25.00	10.27	1.960	7.98	132	0.40	15.0	25	●
F3P 251-IQ	25.10	10.27	1.960	7.98	132	0.40	15.0	25	●
F3P 252-IQ	25.20	10.27	1.960	7.98	132	0.40	15.0	25	●
F3P 253-IQ	25.30	10.27	1.960	7.98	132	0.40	15.0	25	●
F3P 254-IQ	25.40	10.27	1.960	7.98	132	0.40	15.0	25	●
F3P 255-IQ	25.50	10.27	1.960	7.98	132	0.40	15.0	25	●
F3P 256-IQ	25.60	10.27	1.960	7.98	132	0.40	15.0	25	●
F3P 257-IQ	25.70	10.27	1.960	7.98	132	0.40	15.0	25	●
F3P 258-IQ	25.80	10.27	1.960	7.98	132	0.40	15.0	25	●
F3P 259-IQ	25.90	10.27	1.960	7.98	132	0.40	15.0	25	●
F3P 260-IQ	26.00	10.50	1.970	8.32	132	0.40	15.0	26	●
F3P 262-IQ	26.20	10.50	1.970	8.32	132	0.40	15.0	26	●
F3P 265-IQ	26.50	10.50	1.970	8.32	132	0.40	15.0	26	●

• For nearly flat bottom hole applications

⁽¹⁾ LPR tolerance $\pm 0.05\text{mm}$

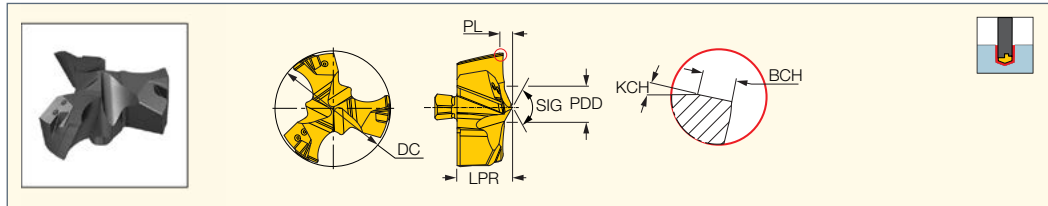
⁽²⁾ SIG angle varies $\pm 5^\circ$; depends on insert design optimization

⁽³⁾ Seat size code



F3P

Exchangeable 3 Flute Flat Drilling Heads for Machining Carbon and Alloy Steel (ISO P) and Cast Iron (ISO K)



I N C H									
Dimensions									IC908
Designation	DC	LPR ⁽¹⁾	PL	PDD	SIG ⁽²⁾	BCH	KCH	SSC ⁽³⁾	
F3P 0472-IQ	.472	.193	.03110	.117	133	.016	15.00	12	●
F3P 0476-IQ	.476	.193	.03110	.117	133	.016	15.00	12	●
F3P 0480-IQ	.480	.193	.03110	.117	133	.016	15.00	12	●
F3P 0484-IQ	.484	.193	.03110	.117	133	.016	15.00	12	●
F3P 0488-IQ	.488	.193	.03110	.117	133	.016	15.00	12	●
F3P 0492-IQ	.492	.193	.03110	.117	133	.016	15.00	12	●
F3P 0496-IQ	.496	.193	.03110	.117	133	.016	15.00	12	●
F3P 0500-IQ	.500	.193	.03110	.117	133	.016	15.00	12	●
F3P 0504-IQ	.504	.193	.03110	.117	133	.016	15.00	12	●
F3P 0508-IQ	.508	.193	.03110	.117	133	.016	15.00	12	●
F3P 0512-IQ	.512	.212	.03897	.139	130	.016	15.00	13	●
F3P 0516-IQ	.516	.212	.03897	.139	130	.016	15.00	13	●
F3P 0520-IQ	.520	.212	.03897	.139	130	.016	15.00	13	●
F3P 0524-IQ	.524	.212	.03897	.139	130	.016	15.00	13	●
F3P 0528-IQ	.528	.212	.03897	.139	130	.016	15.00	13	●
F3P 0531-IQ	.531	.212	.03897	.139	130	.016	15.00	13	●
F3P 0535-IQ	.535	.212	.03897	.139	130	.016	15.00	13	●
F3P 0539-IQ	.539	.212	.03897	.139	130	.016	15.00	13	●
F3P 0543-IQ	.543	.212	.03897	.139	130	.016	15.00	13	●
F3P 0547-IQ	.547	.212	.03897	.139	130	.016	15.00	13	●
F3P 0551-IQ	.551	.242	.05669	.193	125	.016	15.00	14	●
F3P 0555-IQ	.555	.242	.05669	.193	125	.016	15.00	14	●
F3P 0559-IQ	.559	.242	.05669	.193	125	.016	15.00	14	●
F3P 0563-IQ	.563	.242	.05669	.193	125	.016	15.00	14	●
F3P 0567-IQ	.567	.242	.05669	.193	125	.016	15.00	14	●
F3P 0571-IQ	.571	.242	.05669	.193	125	.016	15.00	14	●
F3P 0575-IQ	.575	.242	.05669	.193	125	.016	15.00	14	●
F3P 0579-IQ	.579	.242	.05669	.193	125	.016	15.00	14	●
F3P 0583-IQ	.583	.242	.05669	.193	125	.016	15.00	14	●
F3P 0587-IQ	.587	.242	.05669	.193	125	.016	15.00	14	●
F3P 0591-IQ	.591	.256	.05708	.193	125	.016	15.00	15	●
F3P 0594-IQ	.594	.256	.05708	.193	125	.016	15.00	15	●
F3P 0598-IQ	.598	.256	.05708	.193	125	.016	15.00	15	●
F3P 0602-IQ	.602	.256	.05708	.193	125	.016	15.00	15	●
F3P 0606-IQ	.606	.256	.05708	.193	125	.016	15.00	15	●
F3P 0610-IQ	.610	.256	.05708	.193	125	.016	15.00	15	●
F3P 0614-IQ	.614	.256	.05708	.193	125	.016	15.00	15	●
F3P 0618-IQ	.618	.256	.05708	.193	125	.016	15.00	15	●
F3P 0622-IQ	.622	.256	.05708	.193	125	.016	15.00	15	●
F3P 0626-IQ	.626	.256	.05708	.193	125	.016	15.00	15	●
F3P 0630-IQ	.630	.285	.06259	.211	127	.016	15.00	16	●
F3P 0634-IQ	.634	.285	.06259	.211	127	.016	15.00	16	●
F3P 0638-IQ	.638	.285	.06259	.211	127	.016	15.00	16	●
F3P 0642-IQ	.642	.285	.06259	.211	127	.016	15.00	16	●
F3P 0646-IQ	.646	.285	.06259	.211	127	.016	15.00	16	●
F3P 0650-IQ	.650	.285	.06259	.211	127	.016	15.00	16	●
F3P 0654-IQ	.654	.285	.06259	.211	127	.016	15.00	16	●
F3P 0657-IQ	.657	.285	.06259	.211	127	.016	15.00	16	●
F3P 0661-IQ	.661	.285	.06259	.211	127	.016	15.00	16	●
F3P 0665-IQ	.665	.285	.06259	.211	127	.016	15.00	16	●
F3P 0669-IQ	.669	.289	.06496	.225	122	.016	15.00	17	●
F3P 0673-IQ	.673	.289	.06496	.225	122	.016	15.00	17	●
F3P 0677-IQ	.677	.289	.06496	.225	122	.016	15.00	17	●

• For nearly flat bottom hole applications

⁽¹⁾ LPR tolerance ±.002"

⁽²⁾ SIG angle varies ±5°; depends on insert design optimization

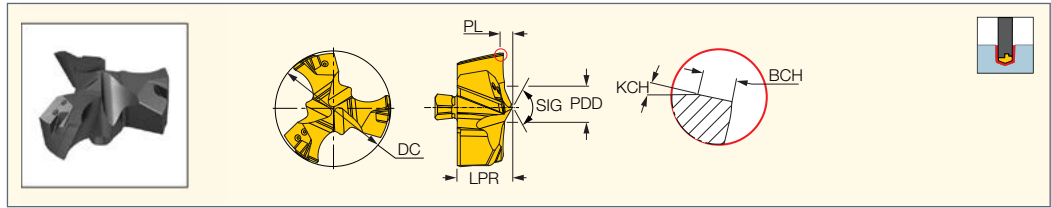
⁽³⁾ Seat size code

Continued



F3P

Exchangeable 3 Flute Flat Drilling Heads for Machining Carbon and Alloy Steel (ISO P) and Cast Iron (ISO K)



I N C H									
Designation	Dimensions								IC908
	DC	LPR ⁽¹⁾	PL	PDD	SIG ⁽²⁾	BCH	KCH	SSC ⁽³⁾	
F3P 0681-IQ	.681	.289	.06496	.225	122	.016	15.00	17	●
F3P 0685-IQ	.685	.289	.06496	.225	122	.016	15.00	17	●
F3P 0689-IQ	.689	.289	.06496	.225	122	.016	15.00	17	●
F3P 0693-IQ	.693	.289	.06496	.225	122	.016	15.00	17	●
F3P 0697-IQ	.697	.289	.06496	.225	122	.016	15.00	17	●
F3P 0701-IQ	.701	.289	.06496	.225	122	.016	15.00	17	●
F3P 0705-IQ	.705	.289	.06496	.225	122	.016	15.00	17	●
F3P 0709-IQ	.709	.301	.06535	.226	125	.016	15.00	18	●
F3P 0713-IQ	.713	.301	.06535	.226	125	.016	15.00	18	●
F3P 0717-IQ	.717	.301	.06535	.226	125	.016	15.00	18	●
F3P 0720-IQ	.720	.301	.06535	.226	125	.016	15.00	18	●
F3P 0724-IQ	.724	.301	.06535	.226	125	.016	15.00	18	●
F3P 0728-IQ	.728	.301	.06535	.226	125	.016	15.00	18	●
F3P 0732-IQ	.732	.301	.06535	.226	125	.016	15.00	18	●
F3P 0736-IQ	.736	.301	.06535	.226	125	.016	15.00	18	●
F3P 0740-IQ	.740	.301	.06535	.226	125	.016	15.00	18	●
F3P 0744-IQ	.744	.301	.06535	.226	125	.016	15.00	18	●
F3P 0748-IQ	.748	.318	.06259	.250	133	.016	15.00	19	●
F3P 0752-IQ	.752	.318	.06259	.250	133	.016	15.00	19	●
F3P 0756-IQ	.756	.318	.06259	.250	133	.016	15.00	19	●
F3P 0760-IQ	.760	.318	.06259	.250	133	.016	15.00	19	●
F3P 0764-IQ	.764	.318	.06259	.250	133	.016	15.00	19	●
F3P 0768-IQ	.768	.318	.06259	.211	133	.016	15.00	19	●
F3P 0772-IQ	.772	.318	.06259	.250	133	.016	15.00	19	●
F3P 0776-IQ	.776	.318	.06259	.250	133	.016	15.00	19	●
F3P 0780-IQ	.780	.318	.06259	.250	133	.016	15.00	19	●
F3P 0783-IQ	.783	.318	.06259	.250	133	.016	15.00	19	●
F3P 0787-IQ	.787	.347	.07086	.257	132	.016	15.00	20	●
F3P 0791-IQ	.791	.347	.07086	.257	132	.016	15.00	20	●
F3P 0795-IQ	.795	.347	.07086	.257	132	.016	15.00	20	●
F3P 0799-IQ	.799	.347	.07086	.257	132	.016	15.00	20	●
F3P 0803-IQ	.803	.347	.07086	.257	132	.016	15.00	20	●
F3P 0807-IQ	.807	.347	.07086	.257	132	.016	15.00	20	●
F3P 0811-IQ	.811	.347	.07086	.257	132	.016	15.00	20	●
F3P 0815-IQ	.815	.347	.07086	.257	132	.016	15.00	20	●
F3P 0819-IQ	.819	.347	.07086	.257	132	.016	15.00	20	●
F3P 0823-IQ	.823	.347	.07086	.257	132	.016	15.00	20	●
F3P 0827-IQ	.827	.363	.06850	.273	132	.016	15.00	21	●
F3P 0831-IQ	.831	.363	.06850	.273	132	.016	15.00	21	●
F3P 0835-IQ	.835	.363	.06850	.273	132	.016	15.00	21	●
F3P 0839-IQ	.839	.363	.06850	.273	132	.016	15.00	21	●
F3P 0843-IQ	.843	.363	.06850	.273	132	.016	15.00	21	●
F3P 0846-IQ	.846	.363	.06850	.273	132	.016	15.00	21	●
F3P 0850-IQ	.850	.363	.06850	.273	132	.016	15.00	21	●
F3P 0854-IQ	.854	.363	.06850	.273	132	.016	15.00	21	●
F3P 0858-IQ	.858	.363	.06850	.273	132	.016	15.00	21	●
F3P 0862-IQ	.862	.363	.06850	.273	132	.016	15.00	21	●
F3P 0866-IQ	.866	.381	.07125	.283	132	.016	15.00	22	●
F3P 0870-IQ	.870	.381	.07125	.283	132	.016	15.00	22	●
F3P 0874-IQ	.874	.381	.07125	.283	132	.016	15.00	22	●
F3P 0878-IQ	.878	.381	.07125	.283	132	.016	15.00	22	●
F3P 0882-IQ	.882	.381	.07125	.283	132	.016	15.00	22	●
F3P 0886-IQ	.886	.381	.07125	.283	132	.016	15.00	22	●
F3P 0890-IQ	.890	.381	.07125	.283	132	.016	15.00	22	●

• For nearly flat bottom hole applications

⁽¹⁾ LPR tolerance ±.002"

⁽²⁾ SIG angle varies ±5°; depends on insert design optimization

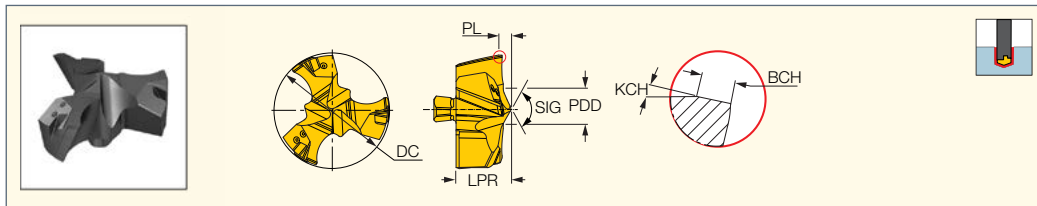
⁽³⁾ Seat size code

Continued



F3P

Exchangeable 3 Flute Flat Drilling Heads for Machining Carbon and Alloy Steel (ISO P) and Cast Iron (ISO K)



I N C H									
Dimensions									IC908
Designation	DC	LPR ⁽¹⁾	PL	PDD	SIG ⁽²⁾	BCH	KCH	SSC ⁽³⁾	
F3P 0894-IQ	.894	.381	.07125	.283	132	.016	15.00	22	●
F3P 0898-IQ	.898	.381	.07125	.283	132	.016	15.00	22	●
F3P 0902-IQ	.902	.381	.07125	.283	132	.016	15.00	22	●
F3P 0906-IQ	.906	.385	.07204	.309	134	.016	15.00	23	●
F3P 0909-IQ	.909	.385	.07204	.309	134	.016	15.00	23	●
F3P 0913-IQ	.913	.385	.07204	.309	134	.016	15.00	23	●
F3P 0917-IQ	.917	.385	.07204	.309	134	.016	15.00	23	●
F3P 0921-IQ	.921	.385	.07204	.309	134	.016	15.00	23	●
F3P 0925-IQ	.925	.385	.07204	.309	134	.016	15.00	23	●
F3P 0929-IQ	.929	.385	.07204	.309	134	.016	15.00	23	●
F3P 0933-IQ	.933	.385	.07204	.309	134	.016	15.00	23	●
F3P 0937-IQ	.937	.385	.07204	.309	134	.016	15.00	23	●
F3P 0941-IQ	.941	.385	.07204	.309	134	.016	15.00	23	●
F3P 0945-IQ	.945	.390	.07204	.292	132	.016	15.00	24	●
F3P 0949-IQ	.949	.390	.07204	.292	132	.016	15.00	24	●
F3P 0953-IQ	.953	.390	.07204	.292	132	.016	15.00	24	●
F3P 0957-IQ	.957	.390	.07204	.292	132	.016	15.00	24	●
F3P 0961-IQ	.961	.390	.07204	.292	132	.016	15.00	24	●
F3P 0965-IQ	.965	.390	.07204	.292	132	.016	15.00	24	●
F3P 0969-IQ	.969	.390	.07204	.292	132	.016	15.00	24	●
F3P 0972-IQ	.972	.390	.07204	.292	132	.016	15.00	24	●
F3P 0976-IQ	.976	.390	.07204	.292	132	.016	15.00	24	●
F3P 0980-IQ	.980	.390	.07204	.292	132	.016	15.00	24	●
F3P 0984-IQ	.984	.404	.07716	.314	132	.016	15.00	25	●
F3P 0988-IQ	.988	.404	.07716	.314	132	.016	15.00	25	●
F3P 0992-IQ	.992	.404	.07716	.314	132	.016	15.00	25	●
F3P 0996-IQ	.996	.404	.07716	.314	132	.016	15.00	25	●
F3P 1000-IQ	1.000	.404	.07716	.314	132	.016	15.00	25	●
F3P 1004-IQ	1.004	.404	.07716	.314	132	.016	15.00	25	●
F3P 1008-IQ	1.008	.404	.07716	.314	132	.016	15.00	25	●
F3P 1012-IQ	1.012	.404	.07716	.314	132	.016	15.00	25	●
F3P 1016-IQ	1.016	.404	.07716	.314	132	.016	15.00	25	●
F3P 1020-IQ	1.020	.404	.07716	.314	132	.016	15.00	25	●
F3P 1024-IQ	1.024	.413	.07756	.328	132	.016	15.00	26	●
F3P 1031-IQ	1.032	.413	.07756	.328	132	.016	15.00	26	●
F3P 1043-IQ	1.043	.413	.07756	.328	132	.016	15.00	26	●

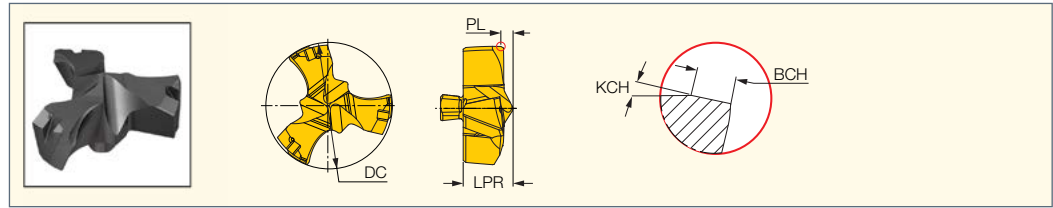
• For nearly flat bottom hole applications

⁽¹⁾ LPR tolerance ±.002"

⁽²⁾ SIG angle varies ±5°; depends on insert design optimization

⁽³⁾ Seat size code

F3B
Exchangeable 3 Flute
Counterboring Heads



M E T R I C							
Designation	Dimensions						IC908
	DC	LPR	PL	BCH	KCH	SSC ⁽¹⁾	
F3B 120-IQ	12.00	4.90	0.850	0.40	30.0	12	•
F3B 121-IQ	12.10	4.90	0.850	0.40	30.0	12	•
F3B 122-IQ	12.20	4.90	0.850	0.40	30.0	12	•
F3B 123-IQ	12.30	4.90	0.850	0.40	30.0	12	•
F3B 124-IQ	12.40	4.90	0.850	0.40	30.0	12	•
F3B 125-IQ	12.50	4.90	0.850	0.40	30.0	12	•
F3B 126-IQ	12.60	4.90	0.850	0.40	30.0	12	•
F3B 127-IQ	12.70	4.90	0.850	0.40	30.0	12	•
F3B 128-IQ	12.80	4.90	0.850	0.40	30.0	12	•
F3B 129-IQ	12.90	4.90	0.850	0.40	30.0	12	•
F3B 130-IQ	13.00	5.00	1.000	0.40	30.0	13	•
F3B 131-IQ	13.10	5.00	1.000	0.40	30.0	13	•
F3B 132-IQ	13.20	5.00	1.000	0.40	30.0	13	•
F3B 133-IQ	13.30	5.00	1.000	0.40	30.0	13	•
F3B 134-IQ	13.40	5.00	1.000	0.40	30.0	13	•
F3B 135-IQ	13.50	5.00	1.000	0.40	30.0	13	•
F3B 136-IQ	13.60	5.00	1.000	0.40	30.0	13	•
F3B 137-IQ	13.70	5.00	1.000	0.40	30.0	13	•
F3B 138-IQ	13.80	5.00	1.000	0.40	30.0	13	•
F3B 139-IQ	13.90	5.00	1.000	0.40	30.0	13	•
F3B 140-IQ	14.00	5.74	1.440	0.40	30.0	14	•
F3B 141-IQ	14.10	5.74	1.440	0.40	30.0	14	•
F3B 142-IQ	14.20	5.74	1.440	0.40	30.0	14	•
F3B 143-IQ	14.30	5.74	1.440	0.40	30.0	14	•
F3B 144-IQ	14.40	5.74	1.440	0.40	30.0	14	•
F3B 145-IQ	14.50	5.74	1.440	0.40	30.0	14	•
F3B 146-IQ	14.60	5.74	1.440	0.40	30.0	14	•
F3B 147-IQ	14.70	5.74	1.440	0.40	30.0	14	•
F3B 148-IQ	14.80	5.74	1.440	0.40	30.0	14	•
F3B 149-IQ	14.90	5.74	1.440	0.40	30.0	14	•
F3B 150-IQ	15.00	6.01	1.440	0.40	30.0	15	•
F3B 151-IQ	15.10	6.01	1.440	0.40	30.0	15	•
F3B 152-IQ	15.20	6.01	1.440	0.40	30.0	15	•
F3B 153-IQ	15.30	6.01	1.440	0.40	30.0	15	•
F3B 154-IQ	15.40	6.01	1.440	0.40	30.0	15	•
F3B 155-IQ	15.50	6.01	1.440	0.40	30.0	15	•
F3B 156-IQ	15.60	6.01	1.440	0.40	30.0	15	•
F3B 157-IQ	15.70	6.01	1.440	0.40	30.0	15	•
F3B 158-IQ	15.80	6.01	1.440	0.40	30.0	15	•
F3B 1588-IQ	15.88	6.01	1.440	0.40	30.0	15	•
F3B 159-IQ	15.90	6.01	1.440	0.40	30.0	15	•
F3B 160-IQ	16.00	6.43	1.580	0.40	30.0	16	•
F3B 1605-IQ	16.05	6.43	1.580	0.40	30.0	16	•
F3B 161-IQ	16.10	6.43	1.580	0.40	30.0	16	•
F3B 162-IQ	16.20	6.43	1.580	0.40	30.0	16	•
F3B 163-IQ	16.30	6.43	1.580	0.40	30.0	16	•
F3B 164-IQ	16.40	6.43	1.580	0.40	30.0	16	•
F3B 165-IQ	16.50	6.43	1.580	0.40	30.0	16	•
F3B 166-IQ	16.60	6.43	1.580	0.40	30.0	16	•
F3B 167-IQ	16.70	6.43	1.580	0.40	30.0	16	•
F3B 168-IQ	16.80	6.43	1.580	0.40	30.0	16	•
F3B 169-IQ	16.90	6.43	1.580	0.40	30.0	16	•
F3B 170-IQ	17.00	6.95	1.630	0.40	30.0	17	•
F3B 171-IQ	17.10	6.95	1.630	0.40	30.0	17	•
F3B 172-IQ	17.20	6.95	1.630	0.40	30.0	17	•
F3B 173-IQ	17.30	6.95	1.630	0.40	30.0	17	•
F3B 174-IQ	17.40	6.95	1.630	0.40	30.0	17	•

• For counterboring operations ONLY

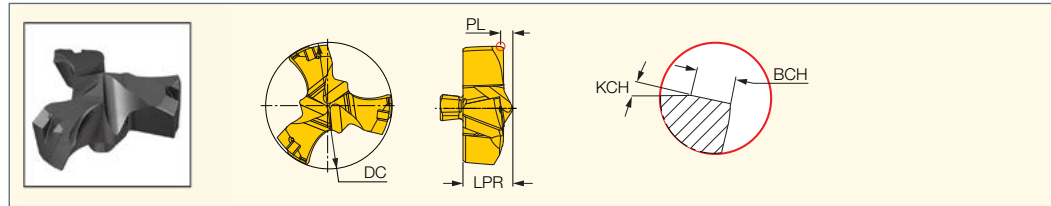
⁽¹⁾ Seat size code

Continued



F3B

Exchangeable 3 Flute Counterboring Heads



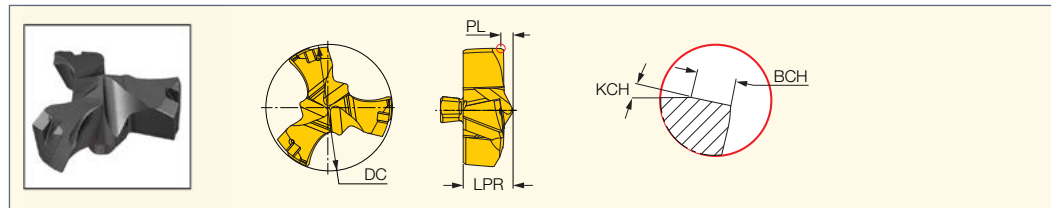
M E T R I C							
Designation	Dimensions						IC908
	DC	LPR	PL	BCH	KCH	SSC ⁽¹⁾	
F3B 1747-IQ	17.47	6.95	1.630	0.40	30.0	17	●
F3B 175-IQ	17.50	6.95	1.630	0.40	30.0	17	●
F3B 176-IQ	17.60	6.95	1.630	0.40	30.0	17	●
F3B 177-IQ	17.70	6.95	1.630	0.40	30.0	17	●
F3B 178-IQ	17.80	6.95	1.630	0.40	30.0	17	●
F3B 179-IQ	17.90	6.95	1.630	0.40	30.0	17	●
F3B 180-IQ	18.00	7.30	1.610	0.40	30.0	18	●
F3B 181-IQ	18.10	7.30	1.610	0.40	30.0	18	●
F3B 182-IQ	18.20	7.30	1.610	0.40	30.0	18	●
F3B 183-IQ	18.30	7.30	1.610	0.40	30.0	18	●
F3B 184-IQ	18.40	7.30	1.610	0.40	30.0	18	●
F3B 185-IQ	18.50	7.30	1.610	0.40	30.0	18	●
F3B 186-IQ	18.60	7.30	1.610	0.40	30.0	18	●
F3B 187-IQ	18.70	7.30	1.610	0.40	30.0	18	●
F3B 188-IQ	18.80	7.30	1.610	0.40	30.0	18	●
F3B 189-IQ	18.90	7.30	1.610	0.40	30.0	18	●
F3B 190-IQ	19.00	7.58	1.600	0.40	30.0	19	●
F3B 1905-IQ	19.05	7.58	1.600	0.40	30.0	19	●
F3B 191-IQ	19.10	7.58	1.600	0.40	30.0	19	●
F3B 192-IQ	19.20	7.58	1.600	0.40	30.0	19	●
F3B 1927-IQ	19.27	7.58	1.600	0.40	30.0	19	●
F3B 193-IQ	19.30	7.58	1.600	0.40	30.0	19	●
F3B 194-IQ	19.40	7.58	1.600	0.40	30.0	19	●
F3B 195-IQ	19.50	7.58	1.600	0.40	30.0	19	●
F3B 196-IQ	19.60	7.58	1.600	0.40	30.0	19	●
F3B 197-IQ	19.70	7.58	1.600	0.40	30.0	19	●
F3B 198-IQ	19.80	7.58	1.600	0.40	30.0	19	●
F3B 199-IQ	19.90	7.58	1.600	0.40	30.0	19	●
F3B 200-IQ	20.00	7.52	1.760	0.40	30.0	20	●
F3B 201-IQ	20.10	7.52	1.760	0.40	30.0	20	●
F3B 202-IQ	20.20	7.52	1.760	0.40	30.0	20	●
F3B 203-IQ	20.30	7.52	1.760	0.40	30.0	20	●
F3B 204-IQ	20.40	7.52	1.760	0.40	30.0	20	●
F3B 205-IQ	20.50	7.52	1.760	0.40	30.0	20	●
F3B 206-IQ	20.60	7.52	1.760	0.40	30.0	20	●
F3B 2064-IQ	20.64	7.52	1.760	0.40	30.0	20	●
F3B 207-IQ	20.70	7.52	1.760	0.40	30.0	20	●
F3B 208-IQ	20.80	7.52	1.760	0.40	30.0	20	●
F3B 209-IQ	20.90	7.52	1.760	0.40	30.0	20	●
F3B 210-IQ	21.00	7.98	1.740	0.40	30.0	21	●
F3B 211-IQ	21.10	7.98	1.740	0.40	30.0	21	●
F3B 212-IQ	21.20	7.98	1.740	0.40	30.0	21	●
F3B 213-IQ	21.30	7.98	1.740	0.40	30.0	21	●
F3B 214-IQ	21.40	7.98	1.740	0.40	30.0	21	●
F3B 215-IQ	21.50	7.98	1.740	0.40	30.0	21	●
F3B 216-IQ	21.60	7.98	1.740	0.40	30.0	21	●
F3B 217-IQ	21.70	7.98	1.740	0.40	30.0	21	●
F3B 218-IQ	21.80	7.98	1.740	0.40	30.0	21	●
F3B 219-IQ	21.90	7.98	1.740	0.40	30.0	21	●
F3B 220-IQ	22.00	8.67	1.830	0.40	30.0	22	●
F3B 221-IQ	22.10	8.67	1.830	0.40	30.0	22	●
F3B 222-IQ	22.20	8.67	1.830	0.40	30.0	22	●
F3B 2223-IQ	22.23	8.67	1.830	0.40	30.0	22	●
F3B 223-IQ	22.30	8.67	1.830	0.40	30.0	22	●
F3B 224-IQ	22.40	8.67	1.830	0.40	30.0	22	●
F3B 225-IQ	22.50	8.67	1.830	0.40	30.0	22	●

• For counterboring operations ONLY

⁽¹⁾ Seat size code

F3B

Exchangeable 3 Flute Counterboring Heads



M E T R I C							
Designation	Dimensions						IC908
	DC	LPR	PL	BCH	KCH	SSC ⁽¹⁾	
F3B 226-IQ	22.60	8.67	1.830	0.40	30.0	22	●
F3B 227-IQ	22.70	8.67	1.830	0.40	30.0	22	●
F3B 228-IQ	22.80	8.67	1.830	0.40	30.0	22	●
F3B 229-IQ	22.90	8.67	1.830	0.40	30.0	22	●
F3B 230-IQ	23.00	8.78	1.960	0.40	30.0	23	●
F3B 231-IQ	23.10	8.78	1.960	0.40	30.0	23	●
F3B 232-IQ	23.20	8.78	1.960	0.40	30.0	23	●
F3B 233-IQ	23.30	8.78	1.960	0.40	30.0	23	●
F3B 234-IQ	23.40	8.78	1.960	0.40	30.0	23	●
F3B 235-IQ	23.50	8.78	1.960	0.40	30.0	23	●
F3B 236-IQ	23.60	8.78	1.960	0.40	30.0	23	●
F3B 237-IQ	23.70	8.78	1.960	0.40	30.0	23	●
F3B 238-IQ	23.80	8.78	1.960	0.40	30.0	23	●
F3B 2381-IQ	23.81	8.78	1.960	0.40	30.0	23	●
F3B 239-IQ	23.90	8.78	1.960	0.40	30.0	23	●
F3B 240-IQ	24.00	8.91	1.800	0.40	30.0	24	●
F3B 241-IQ	24.10	8.91	1.800	0.40	30.0	24	●
F3B 242-IQ	24.20	8.91	1.800	0.40	30.0	24	●
F3B 243-IQ	24.30	8.91	1.800	0.40	30.0	24	●
F3B 244-IQ	24.40	8.91	1.800	0.40	30.0	24	●
F3B 245-IQ	24.50	8.91	1.800	0.40	30.0	24	●
F3B 246-IQ	24.60	8.91	1.800	0.40	30.0	24	●
F3B 247-IQ	24.70	8.91	1.800	0.40	30.0	24	●
F3B 248-IQ	24.80	8.91	1.800	0.40	30.0	24	●
F3B 249-IQ	24.90	8.91	1.800	0.40	30.0	24	●
F3B 250-IQ	25.00	9.87	1.970	0.40	30.0	25	●
F3B 251-IQ	25.10	9.87	1.970	0.40	30.0	25	●
F3B 252-IQ	25.20	9.87	1.970	0.40	30.0	25	●
F3B 253-IQ	25.30	9.87	1.970	0.40	30.0	25	●
F3B 254-IQ	25.40	9.87	1.970	0.40	30.0	25	●
F3B 255-IQ	25.50	9.87	1.970	0.40	30.0	25	●
F3B 256-IQ	25.60	9.87	1.970	0.40	30.0	25	●
F3B 2565-IQ	25.65	9.87	1.970	0.40	30.0	25	●
F3B 257-IQ	25.70	9.87	1.970	0.40	30.0	25	●
F3B 258-IQ	25.80	9.87	1.970	0.40	30.0	25	●
F3B 259-IQ	25.90	9.87	1.970	0.40	30.0	25	●

• For counterboring operations ONLY

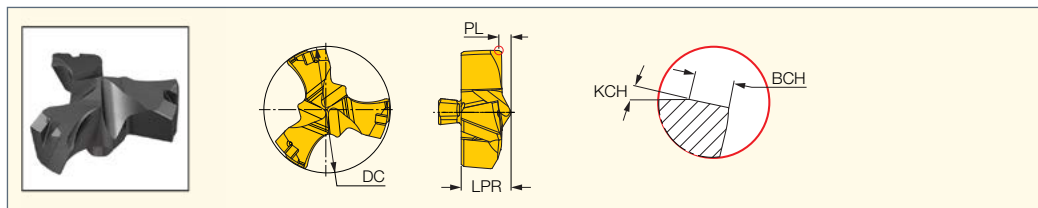
⁽¹⁾ Seat size code**User Guide Lines and Recommendations**

- When counterboring with F3B heads, the diameter of the hole being counterbored shall meet the following requirements:
 - The MINIMUM hole diameter must not be less than 70% of the selected F3B head diameter. An example: Final hole - 16mm
Calculation: $16 * 0.7 = 11.2$. As a result, for required counterboring diameter 16mm the smallest possible pre-hole diameter is - 11.2mm.
 - The MAXIMUM hole diameter should be smaller by 2mm than the F3B head diameter (1mm on each side).
An example: Final hole - 16mm Calculation: $16 - 2 = 14$
As a result, for required counterboring diameter 16mm the biggest possible pre-hole diameter is - 14mm.
- Therefore, the pre-hole diameter range for further counterboring operations with a diameter of 16mm can vary from 11.2mm to 14mm.
- For long-reach operations that require applying tools with a cutting depth exceeding $5 \times D$, it is recommended to machine the hole using the same F3B head mounted on a tool with a shorter cutting depth (up to $3 \times D$) to create a pilot hole with a depth of at least $1 \times D$.
Next, the machining can be continued using the long-reach tool.



F3B

Exchangeable 3 Flute Counterboring Heads



I N C H							
Designation	Dimensions						IC908
	DC	LPR	PL	BCH	KCH	SSC ⁽¹⁾	
F3B 0472-IQ	.472	.193	.03346	.016	30.00	12	●
F3B 0476-IQ	.476	.193	.03346	.016	30.00	12	●
F3B 0480-IQ	.480	.193	.03346	.016	30.00	12	●
F3B 0484-IQ	.484	.193	.03346	.016	30.00	12	●
F3B 0488-IQ	.488	.193	.03346	.016	30.00	12	●
F3B 0492-IQ	.492	.193	.03346	.016	30.00	12	●
F3B 0496-IQ	.496	.193	.03346	.016	30.00	12	●
F3B 0500-IQ	.500	.193	.03346	.016	30.00	12	●
F3B 0504-IQ	.504	.193	.03346	.016	30.00	12	●
F3B 0508-IQ	.508	.193	.03346	.016	30.00	12	●
F3B 0512-IQ	.512	.197	.03937	.016	30.00	13	●
F3B 0516-IQ	.516	.197	.03937	.016	30.00	13	●
F3B 0520-IQ	.520	.197	.03937	.016	30.00	13	●
F3B 0524-IQ	.524	.197	.03937	.016	30.00	13	●
F3B 0528-IQ	.528	.197	.03937	.016	30.00	13	●
F3B 0531-IQ	.531	.197	.03937	.016	30.00	13	●
F3B 0535-IQ	.535	.197	.03937	.016	30.00	13	●
F3B 0539-IQ	.539	.197	.03937	.016	30.00	13	●
F3B 0543-IQ	.543	.197	.03937	.016	30.00	13	●
F3B 0547-IQ	.547	.197	.03937	.016	30.00	13	●
F3B 0551-IQ	.551	.226	.05669	.016	30.00	14	●
F3B 0555-IQ	.555	.226	.05669	.016	30.00	14	●
F3B 0559-IQ	.559	.226	.05669	.016	30.00	14	●
F3B 0563-IQ	.563	.226	.05669	.016	30.00	14	●
F3B 0567-IQ	.567	.226	.05669	.016	30.00	14	●
F3B 0571-IQ	.571	.226	.05669	.016	30.00	14	●
F3B 0575-IQ	.575	.226	.05669	.016	30.00	14	●
F3B 0579-IQ	.579	.226	.05669	.016	30.00	14	●
F3B 0583-IQ	.583	.226	.05669	.016	30.00	14	●
F3B 0587-IQ	.587	.226	.05669	.016	30.00	14	●
F3B 0591-IQ	.591	.237	.05669	.016	30.00	15	●
F3B 0594-IQ	.594	.237	.05669	.016	30.00	15	●
F3B 0598-IQ	.598	.237	.05669	.016	30.00	15	●
F3B 0602-IQ	.602	.237	.05669	.016	30.00	15	●
F3B 0606-IQ	.606	.237	.05669	.016	30.00	15	●
F3B 0610-IQ	.610	.237	.05669	.016	30.00	15	●
F3B 0614-IQ	.614	.237	.05669	.016	30.00	15	●
F3B 0618-IQ	.618	.237	.05669	.016	30.00	15	●
F3B 0622-IQ	.622	.237	.05669	.016	30.00	15	●
F3B 0625-IQ	.625	.237	.05669	.016	30.00	15	●
F3B 0626-IQ	.626	.237	.05669	.016	30.00	15	●
F3B 0630-IQ	.630	.253	.06220	.016	30.00	16	●
F3B 0632-IQ	.632	.253	.06220	.016	30.00	16	●
F3B 0634-IQ	.634	.253	.06220	.016	30.00	16	●
F3B 0638-IQ	.638	.253	.06220	.016	30.00	16	●
F3B 0642-IQ	.642	.253	.06220	.016	30.00	16	●
F3B 0646-IQ	.646	.253	.06220	.016	30.00	16	●
F3B 0650-IQ	.650	.253	.06220	.016	30.00	16	●
F3B 0654-IQ	.654	.253	.06220	.016	30.00	16	●
F3B 0657-IQ	.657	.253	.06220	.016	30.00	16	●
F3B 0661-IQ	.661	.253	.06220	.016	30.00	16	●
F3B 0665-IQ	.665	.253	.06220	.016	30.00	16	●
F3B 0669-IQ	.669	.274	.06417	.016	30.00	17	●
F3B 0673-IQ	.673	.274	.06417	.016	30.00	17	●
F3B 0677-IQ	.677	.274	.06417	.016	30.00	17	●
F3B 0681-IQ	.681	.274	.06417	.016	30.00	17	●
F3B 0685-IQ	.685	.274	.06417	.016	30.00	17	●

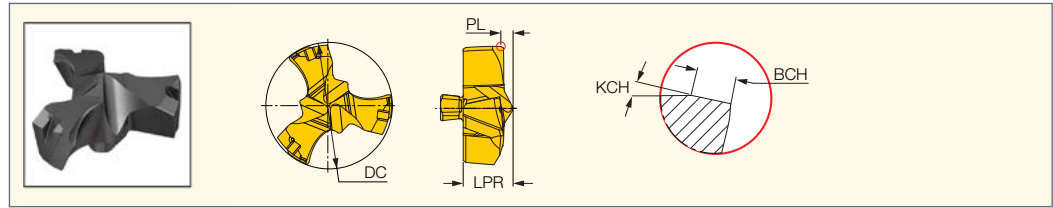
• For counterboring operations ONLY

⁽¹⁾ Seat size code

Continued



F3B
Exchangeable 3 Flute
Counterboring Heads



I N C H							
Designation	Dimensions						IC908
	DC	LPR	PL	BCH	KCH	SSC ⁽¹⁾	
F3B 0688-IQ	.688	.274	.06417	.016	30.00	17	●
F3B 0689-IQ	.689	.274	.06417	.016	30.00	17	●
F3B 0693-IQ	.693	.274	.06417	.016	30.00	17	●
F3B 0697-IQ	.697	.274	.06417	.016	30.00	17	●
F3B 0701-IQ	.701	.274	.06417	.016	30.00	17	●
F3B 0705-IQ	.705	.274	.06417	.016	30.00	17	●
F3B 0709-IQ	.709	.287	.06338	.016	30.00	18	●
F3B 0713-IQ	.713	.287	.06338	.016	30.00	18	●
F3B 0717-IQ	.717	.287	.06338	.016	30.00	18	●
F3B 0720-IQ	.720	.287	.06338	.016	30.00	18	●
F3B 0724-IQ	.724	.287	.06338	.016	30.00	18	●
F3B 0728-IQ	.728	.287	.06338	.016	30.00	18	●
F3B 0732-IQ	.732	.287	.06338	.016	30.00	18	●
F3B 0736-IQ	.736	.287	.06338	.016	30.00	18	●
F3B 0740-IQ	.740	.287	.06338	.016	30.00	18	●
F3B 0744-IQ	.744	.287	.06338	.016	30.00	18	●
F3B 0748-IQ	.748	.298	.06299	.016	30.00	19	●
F3B 0750-IQ	.750	.298	.06299	.016	30.00	19	●
F3B 0752-IQ	.752	.298	.06299	.016	30.00	19	●
F3B 0756-IQ	.756	.298	.06299	.016	30.00	19	●
F3B 0759-IQ	.759	.298	.06299	.016	30.00	19	●
F3B 0760-IQ	.760	.298	.06299	.016	30.00	19	●
F3B 0764-IQ	.764	.298	.06299	.016	30.00	19	●
F3B 0768-IQ	.768	.298	.06299	.016	30.00	19	●
F3B 0772-IQ	.772	.298	.06299	.016	30.00	19	●
F3B 0776-IQ	.776	.298	.06299	.016	30.00	19	●
F3B 0780-IQ	.780	.298	.06299	.016	30.00	19	●
F3B 0783-IQ	.783	.298	.06299	.016	30.00	19	●
F3B 0787-IQ	.787	.296	.06929	.016	30.00	20	●
F3B 0791-IQ	.791	.296	.06929	.016	30.00	20	●
F3B 0795-IQ	.795	.296	.06929	.016	30.00	20	●
F3B 0799-IQ	.799	.296	.06929	.016	30.00	20	●
F3B 0803-IQ	.803	.296	.06929	.016	30.00	20	●
F3B 0807-IQ	.807	.296	.06929	.016	30.00	20	●
F3B 0811-IQ	.811	.296	.06929	.016	30.00	20	●
F3B 0813-IQ	.813	.296	.06929	.016	30.00	20	●
F3B 0815-IQ	.815	.296	.06929	.016	30.00	20	●
F3B 0819-IQ	.819	.296	.06929	.016	30.00	20	●
F3B 0823-IQ	.823	.296	.06929	.016	30.00	20	●
F3B 0827-IQ	.827	.314	.06850	.016	30.00	21	●
F3B 0831-IQ	.831	.314	.06850	.016	30.00	21	●
F3B 0835-IQ	.835	.314	.06850	.016	30.00	21	●
F3B 0839-IQ	.839	.314	.06850	.016	30.00	21	●
F3B 0843-IQ	.843	.314	.06850	.016	30.00	21	●
F3B 0846-IQ	.846	.314	.06850	.016	30.00	21	●
F3B 0850-IQ	.850	.314	.06850	.016	30.00	21	●
F3B 0854-IQ	.854	.314	.06850	.016	30.00	21	●
F3B 0858-IQ	.858	.314	.06850	.016	30.00	21	●
F3B 0862-IQ	.862	.314	.06850	.016	30.00	21	●
F3B 0866-IQ	.866	.341	.07204	.016	30.00	22	●
F3B 0870-IQ	.870	.341	.07204	.016	30.00	22	●
F3B 0874-IQ	.874	.341	.07204	.016	30.00	22	●
F3B 0875-IQ	.875	.341	.07204	.016	30.00	22	●
F3B 0878-IQ	.878	.341	.07204	.016	30.00	22	●
F3B 0882-IQ	.882	.341	.07204	.016	30.00	22	●
F3B 0886-IQ	.886	.341	.07204	.016	30.00	22	●
F3B 0890-IQ	.890	.341	.07204	.016	30.00	22	●

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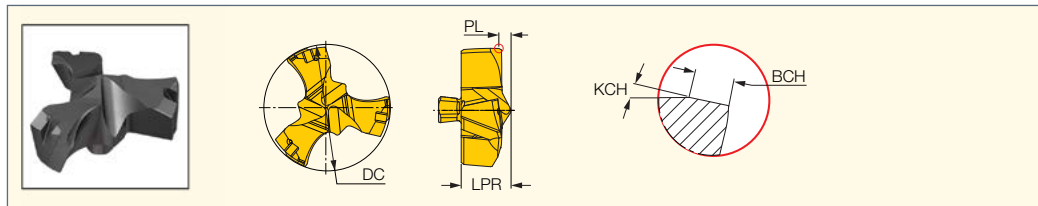
⁽¹⁾ Seat size code

Continued



F3B

Exchangeable 3 Flute Counterboring Heads



I N C H							
Designation	Dimensions						IC908
	DC	LPR	PL	BCH	KCH	SSC ⁽¹⁾	
F3B 0894-IQ	.894	.341	.07204	.016	30.00	22	●
F3B 0898-IQ	.898	.341	.07204	.016	30.00	22	●
F3B 0902-IQ	.902	.341	.07204	.016	30.00	22	●
F3B 0906-IQ	.906	.346	.07716	.016	30.00	23	●
F3B 0909-IQ	.909	.346	.07716	.016	30.00	23	●
F3B 0913-IQ	.913	.346	.07716	.016	30.00	23	●
F3B 0917-IQ	.917	.346	.07716	.016	30.00	23	●
F3B 0921-IQ	.921	.346	.07716	.016	30.00	23	●
F3B 0925-IQ	.925	.346	.07716	.016	30.00	23	●
F3B 0929-IQ	.929	.346	.07716	.016	30.00	23	●
F3B 0933-IQ	.933	.346	.07716	.016	30.00	23	●
F3B 0937-IQ	.937	.346	.07716	.016	30.00	23	●
F3B 0938-IQ	.937	.346	.07716	.016	30.00	23	●
F3B 0941-IQ	.941	.346	.07716	.016	30.00	23	●
F3B 0945-IQ	.945	.351	.07086	.016	30.00	24	●
F3B 0949-IQ	.949	.351	.07086	.016	30.00	24	●
F3B 0953-IQ	.953	.351	.07086	.016	30.00	24	●
F3B 0957-IQ	.957	.351	.07086	.016	30.00	24	●
F3B 0961-IQ	.961	.351	.07086	.016	30.00	24	●
F3B 0965-IQ	.965	.351	.07086	.016	30.00	24	●
F3B 0969-IQ	.969	.351	.07086	.016	30.00	24	●
F3B 0972-IQ	.972	.351	.07086	.016	30.00	24	●
F3B 0976-IQ	.976	.351	.07086	.016	30.00	24	●
F3B 0980-IQ	.980	.351	.07086	.016	30.00	24	●
F3B 0984-IQ	.984	.389	.07755	.016	30.00	25	●
F3B 0988-IQ	.988	.389	.07755	.016	30.00	25	●
F3B 0992-IQ	.992	.389	.07755	.016	30.00	25	●
F3B 0996-IQ	.996	.389	.07755	.016	30.00	25	●
F3B 1000-IQ	1.000	.389	.07755	.016	30.00	25	●
F3B 1004-IQ	1.004	.389	.07755	.016	30.00	25	●
F3B 1008-IQ	1.008	.389	.07755	.016	30.00	25	●
F3B 1010-IQ	1.010	.389	.07755	.016	30.00	25	●
F3B 1012-IQ	1.012	.389	.07755	.016	30.00	25	●
F3B 1016-IQ	1.016	.389	.07755	.016	30.00	25	●
F3B 1020-IQ	1.020	.389	.07755	.016	30.00	25	●

• For counterboring operations ONLY

⁽¹⁾ Seat size code

User Guidelines and Recommendations

- When counterboring with F3B heads, the diameter of the hole being counterbored shall meet the following requirements:
 - 1 The MINIMUM hole diameter must not be less than 70% of the selected F3B head diameter. An example:
Final hole - .630" Calculation: $.630" \times 0.7 = .441"$
As result, for required counterboring diameter .630" the smallest possible pre-hole diameter is - .441"
 - 2 The MAXIMUM hole diameter should be smaller by .079" than the F3B head diameter (1 mm on each side).
An example: Final hole - .630" Calculation: $.630" - .079 = .551"$
As a result, for required counterboring diameter .630" the biggest possible pre-hole diameter is - .551"
- Therefore, the pre-hole diameter range for further counterboring operations with a diameter of .630" can vary from .441" to .551"
- For long-reach operations that require applying tools with a cutting depth exceeding 5xD, it is recommended to machine the hole using the same F3B head mounted on a tool with a shorter cutting depth (up to 3xD) to create a pilot hole with a depth of at least 1XD. Next, the machining can be continued using the long-reach tool.

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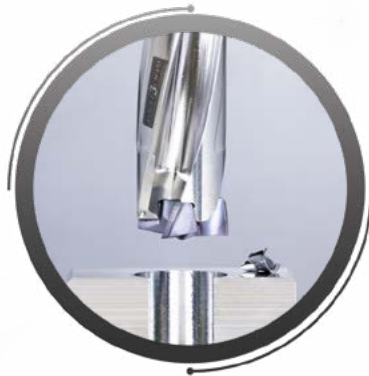
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