DRILLING

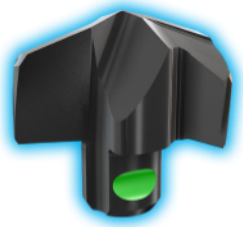
44-2024

JULY 2024

METRIC

NPA

New Product Announcement



Interrupted Drilling

Rigid Clamping

High Productivity

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ISCAR

QUICKDRILL

New Drilling Line with Screw Locking Mechanism

NPA New Product Announcement

Interrupted Drilling

Rigid Clamping

High Productivity Inserts

Highlights

New Line Drills with Side Lock Screw Mechanism to Significantly Improve Drilling Capabilities

- ISCAR introduces the new QUICKDRILL line with a combination of a unique clamping mechanism and robust tool structure that allows to drill under unfavorable conditions (cross holes, slanted entry/exit, chambers, etc.) without damaging the pocket.
- This line was designed by utilizing highly advanced technologies, based on ISCAR's successful SUMOCHAM drill families.
- The starting diameter range is 12 to 19.5mm diameters, with drilling depth to diameter ratios of 3xD and 5xD.
- A new drilling head with optimized geometry specially designed to withstand unfavorable conditions.

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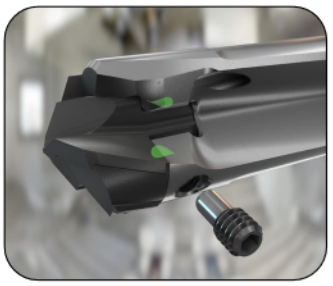
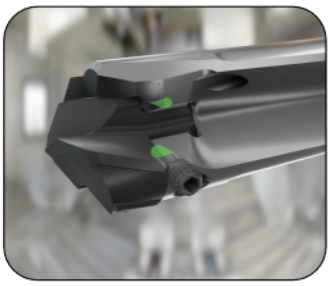
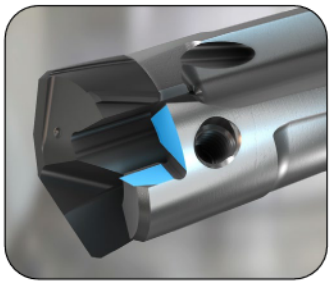
Tool Features

- The new clamping mechanism enables convenient and fast head replacement without the need to remove the drill from the machine.

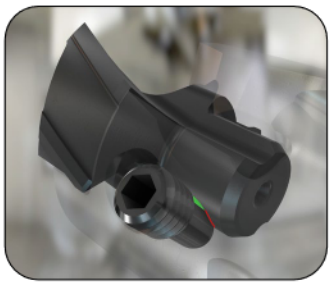




- The pocket has been designed with an extremely robust structure. The cutting forces are distributed from the insert to the tool through the axial and radial surfaces (marked in blue), ensuring that the screw itself is not affected.



Axial/Radial Stoppers

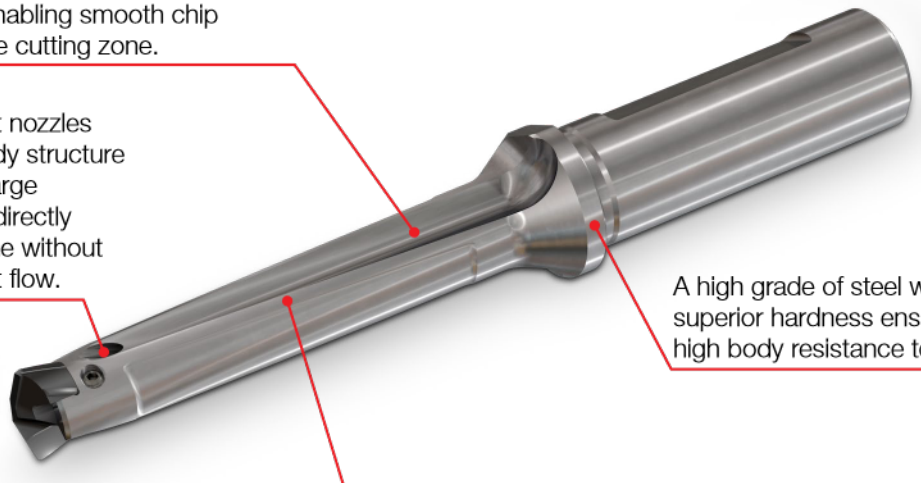
- This design allows for an exceptionally high number of head replacements on a single body, even when drilling under unfavorable conditions and maintains high performance and repeatability results



Additional Screw Support Avoids Retraction

The almost straight and polished flute simplifies the use of this tool on lathes as a stationary tool, enabling smooth chip evacuation from the cutting zone.

The double coolant nozzles allow for a rigid body structure while delivering a large volume of coolant directly into the cutting zone without interrupting coolant flow.



A high grade of steel with superior hardness ensures high body resistance to wear.

The margin prevents chip adhesion between the body and the hole during the machining process.

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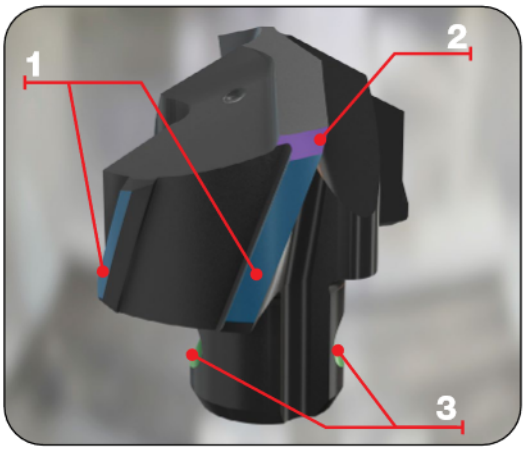
Interrupted Drilling

Rigid Clamping

High Productivity Inserts

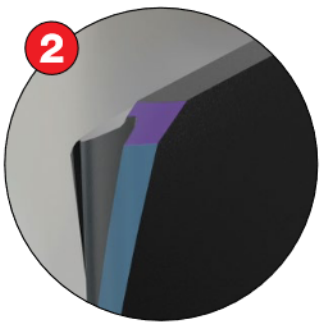
Head Features

- Extremely accurate position repeatability after each head change avoids the need for offset adjustment.
- A special groove on the shank of the head for fixing the screw provides particularly tight contact, minimizing the head chattering in the pocket under unfavorable drilling conditions, increasing the number of head replacements on a single tool body.
- The diameter range is from 12 to 19.5mm in 0.5mm increments



Double Margin

1. Double margin system provides an additional support, which ensures high-quality holes with diameter accuracy of IT8-IT9 even in the unfavorable conditions.



Chamfer

2. Chamfered cutting corners guarantee reliable and prolonged tool life even in difficult machining applications.

Double Sided Groove for Screw Lock

3. The double-sided groove allows easy head insertion into the pocket.

Click for Short Video

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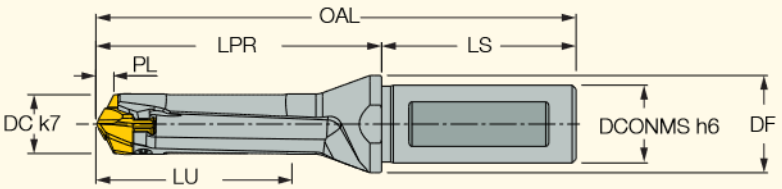
QUICKDRILL

DLN A-3D

Exchangeable Head Drills with Screw Lock System for Interrupted Drilling Applications
https://www.iscar.com/eCatalog/Family.aspx?fnum=5282&mapp=DR&GFSTYP=M&srch=1



Designation	DCN(1)	DCX(2)	DCONMS	DF	LU	LPR	PL	LS	OAL	SSC(3)	MIID(4)
DLN 120-036-16A-3D	12.00	12.49	16.00	20.00	38.26	53.0	2.280	48.0	101.00	12.0	ILP 120-2M
DLN 125-037-16A-3D	12.50	12.99	16.00	20.00	39.76	54.5	2.380	48.0	102.50	12.0	ILP 125-2M
DLN 130-039-16A-3D	13.00	13.49	16.00	20.00	41.45	56.6	2.450	48.0	104.60	13.0	ILP 130-2M
DLN 135-041-16A-3D	13.50	13.99	16.00	20.00	42.95	58.1	2.540	48.0	106.10	13.0	ILP 135-2M
DLN 140-042-16A-3D	14.00	14.49	16.00	20.00	44.55	62.2	2.550	48.0	110.15	14.0	ILP 140-2M
DLN 145-044-16A-3D	14.50	14.99	16.00	20.00	46.05	63.7	2.640	48.0	111.65	14.0	ILP 145-2M
DLN 150-045-20A-3D	15.00	15.99	20.00	25.00	47.69	68.7	2.690	50.0	118.73	15.0	ILP 150-2M
DLN 160-048-20A-3D	16.00	16.99	20.00	25.00	50.91	73.3	2.860	50.0	123.25	16.0	ILP 160-2M
DLN 170-051-20A-3D	17.00	17.99	20.00	25.00	54.01	77.9	3.010	50.0	127.90	17.0	ILP 170-2M
DLN 180-054-25A-3D	18.00	18.99	25.00	32.00	57.16	82.5	3.160	56.0	138.50	18.0	ILP 180-2M
DLN 190-057-25A-3D	19.00	19.99	25.00	32.00	60.35	87.0	3.350	56.0	143.00	19.0	ILP 190-2M

- 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

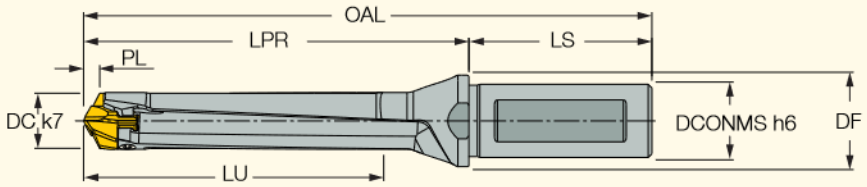
Spare Parts

Designation	Screw	Key	Key 1
DLN 120-036-16A-3D	SR M2.5-L4.5-SL	HW 1.3	
DLN 125-037-16A-3D	SR M2.5-L4.5-SL	HW 1.3	
DLN 130-039-16A-3D	SR M2.5-L5.0-SL	HW 1.3	
DLN 135-041-16A-3D	SR M2.5-L5.0-SL	HW 1.3	
DLN 140-042-16A-3D	SR M3.0-L5.4-SL		L-KEY HEX SL 331 1.5X40MM
DLN 145-044-16A-3D	SR M3.0-L5.4-SL		L-KEY HEX SL 331 1.5X40MM
DLN 150-045-20A-3D	SR M3.0-L5.4-SL		L-KEY HEX SL 331 1.5X40MM
DLN 160-048-20A-3D	SR M3.0-L5.8-SL		L-KEY HEX SL 331 1.5X40MM
DLN 170-051-20A-3D	SR M3.0-L5.8-SL		L-KEY HEX SL 331 1.5X40MM
DLN 180-054-25A-3D	SR M3.0-L6.6-SL		L-KEY HEX SL 331 1.5X40MM
DLN 190-057-25A-3D	SR M3.0-L6.6-SL		L-KEY HEX SL 331 1.5X40MM

QUICKDRILL

DLN A-5D

Exchangeable Head Drills with Screw Lock System for Interrupted Drilling Applications
https://www.iscar.com/eCatalog/Family.aspx?fnum=5283&mapp=DR&GFSTYP=M&srch=1



Designation	DCN(1)	DCX(2)	DCONMS	DF	LU	LPR	PL	LS	OAL	SSC(3)	MIID(4)
DLN 120-060-16A-5D	12.00	12.49	16.00	20.00	62.26	77.0	2.280	48.0	125.00	12.0	ILP 120-2M
DLN 125-062-16A-5D	12.50	12.99	16.00	20.00	64.76	79.5	2.380	48.0	127.50	12.0	ILP 125-2M
DLN 130-065-16A-5D	13.00	13.49	16.00	20.00	67.45	82.6	2.450	48.0	130.60	13.0	ILP 130-2M
DLN 135-068-16A-5D	13.50	13.99	16.00	20.00	69.95	85.1	2.540	48.0	133.10	13.0	ILP 135-2M
DLN 140-070-16A-5D	14.00	14.49	16.00	20.00	72.55	90.2	2.550	48.0	138.15	14.0	ILP 140-2M
DLN 145-073-16A-5D	14.50	14.99	16.00	20.00	75.05	92.7	2.640	48.0	140.65	14.0	ILP 145-2M
DLN 150-075-20A-5D	15.00	15.99	20.00	25.00	77.69	98.7	2.690	50.0	148.73	15.0	ILP 150-2M
DLN 160-080-20A-5D	16.00	16.99	20.00	25.00	82.91	105.3	2.860	50.0	155.25	16.0	ILP 160-2M
DLN 170-085-20A-5D	17.00	17.99	20.00	25.00	88.01	111.9	3.010	50.0	161.90	17.0	ILP 170-2M
DLN 180-090-25A-5D	18.00	18.99	25.00	32.00	93.16	118.5	3.160	56.0	174.50	18.0	ILP 180-2M
DLN 190-095-25A-5D	19.00	19.99	25.00	32.00	98.35	125.0	3.350	56.0	181.00	19.0	ILP 190-2M

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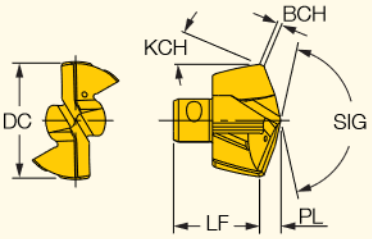
DLN 120-060-16A-5D	SR M2.5-L4.5-SL	HW 1.3	
DLN 125-062-16A-5D	SR M2.5-L4.5-SL	HW 1.3	
DLN 130-065-16A-5D	SR M2.5-L5.0-SL	HW 1.3	
DLN 135-068-16A-5D	SR M2.5-L5.0-SL	HW 1.3	
DLN 140-070-16A-5D	SR M3.0-L5.4-SL		L-KEY HEX SL 331 1.5X40MM
DLN 145-073-16A-5D	SR M3.0-L5.4-SL		L-KEY HEX SL 331 1.5X40MM
DLN 150-075-20A-5D	SR M3.0-L5.4-SL		L-KEY HEX SL 331 1.5X40MM
DLN 160-080-20A-5D	SR M3.0-L5.8-SL		L-KEY HEX SL 331 1.5X40MM
DLN 170-085-20A-5D	SR M3.0-L5.8-SL		L-KEY HEX SL 331 1.5X40MM
DLN 180-090-25A-5D	SR M3.0-L6.6-SL		L-KEY HEX SL 331 1.5X40MM
DLN 190-095-25A-5D	SR M3.0-L6.6-SL		L-KEY HEX SL 331 1.5X40MM

QUICKDRILL

ILP

Exchangeable Drilling Heads for DLN Drills, for Machining ISO P and ISO K Materials

https://www.iscar.com/eCatalog/Family.aspx?fnum=5286&mapp=DR&app=0&GFSTYP=M&fr=1



Designation	Dimensions							IC908
	DC	PL	LF	SIG	KCH	BCH	SSC(1)	
ILP 120-2M	12.00	2.280	4.72	140	30.0	0.70	12.0	•
ILP 125-2M	12.50	2.380	4.63	140	30.0	0.70	12.0	•
ILP 130-2M	13.00	2.450	5.15	140	30.0	0.70	13.0	•
ILP 135-2M	13.50	2.540	5.06	140	30.0	0.70	13.0	•
ILP 140-2M	14.00	2.550	5.60	140	30.0	0.70	14.0	•
ILP 145-2M	14.50	2.640	5.51	140	30.0	0.70	14.0	•
ILP 150-2M	15.00	2.690	6.04	140	30.0	0.70	15.0	•
ILP 155-2M	15.50	2.780	5.95	140	30.0	0.70	15.0	•
ILP 160-2M	16.00	2.860	6.39	140	30.0	0.70	16.0	•
ILP 165-2M	16.50	2.950	6.30	140	30.0	0.70	16.0	•
ILP 169-2M	16.90	3.200	6.14	140	30.0	0.70	16.0	•
ILP 170-2M	17.00	3.010	6.89	140	30.0	0.70	17.0	•
ILP 175-2M	17.50	3.100	6.80	140	30.0	0.70	17.0	•
ILP 180-2M	18.00	3.160	7.34	140	30.0	0.70	18.0	•
ILP 185-2M	18.50	3.250	7.25	140	30.0	0.70	18.0	•
ILP 190-2M	19.00	3.350	7.65	140	30.0	0.70	19.0	•
ILP 195-2M	19.50	3.440	7.56	140	30.0	0.70	19.0	•

(1) Seat size code

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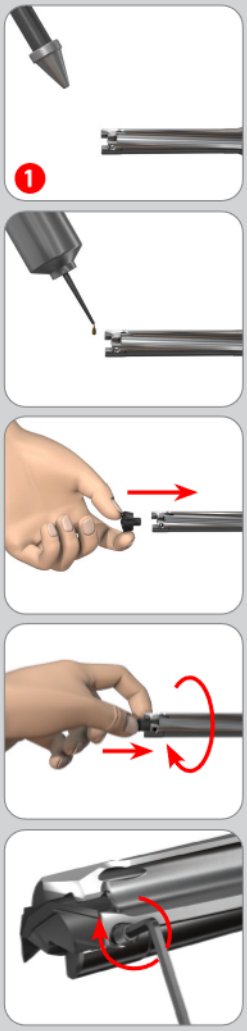
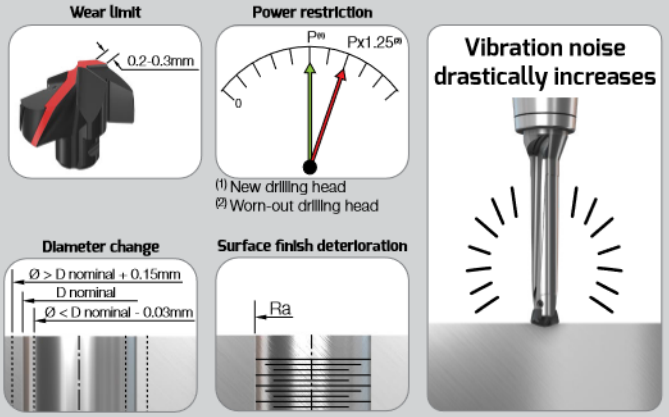
Drilling head mounting procedure

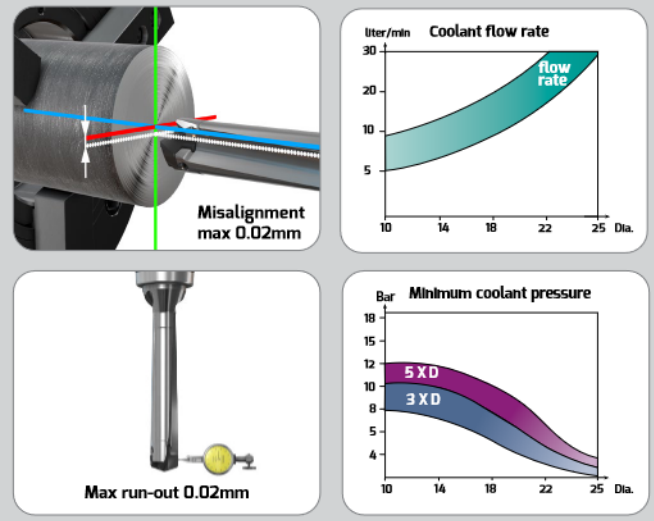


Drilling limitations

Indication of drill head wear



Basic requirements



Coolant recommendations

Screw torque

øD Range (mm)	Screw	Torque (N·m)
12-13.5	M2.5	0.4
14-19	M3.0	0.8
20-25	M4.0	1.9

* Up to 6° reduce feed by 20%
* 6°-12° reduce feed by 50%
** Reduce feed by 50 to 70% respectively

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Material groups							Recommended machining conditions				
								Diameter range			
ISO	Material		Condition	Tensile Strength [N/mm²]	Hardness HB	Material No.	V m/min	D=12-13.9	D=14-15.9	D=16-19.9	D=20-25.9
P	non-alloy steel and cast steel, free cutting steel	<0.25% C	annealed	420	125	1	80-**110**-140	0.18 **0.24** 0.30	0.20 **0.27** 0.35	0.25 **0.35** 0.45	0.25 **0.35** 0.45
		≥0.25% C	annealed	650	190	2	80-**105**-130				
		<0.55% C	quenched and tempered	850	250	3	80-**100**-120				
		≥0.55% C	annealed	750	220	4	70-**90**-110				
			quenched and tempered	1000	300	5	50-**70**-90				
	low alloy and cast steel (less than 5% of alloying elements)		annealed	600	200	6	80-**100**-120	0.16 **0.24** 0.32	0.18 **0.26** 0.35	0.23 **0.31** 0.40	0.25 **0.35** 0.45
			quenched and tempered	930	275	7	70-**90**-110				
				1000	300	8	50-**70**-90				
				1200	350	9	40-**55**-70				
	high alloyed steel, cast steel and tool steel		annealed	680	200	10	50-**70**-90	0.15 **0.20** 0.25	0.18 **0.23** 0.28	0.20 **0.25** 0.30	0.22 **0.27** 0.33
			quenched and tempered	1100	325	11	40-**60**-80				
	stainless steel and cast steel		ferritic / martensitic	680	200	12	40-**55**-70	0.14 **0.17** 0.20	0.16 **0.20** 0.24	0.16 **0.21** 0.26	0.18 **0.24** 0.30
			martensitic	820	240	13	40-**55**-70				
K	gray cast iron (GG)		ferritic / pearlitic		180	15	90-**125**-160	0.25 **0.32** 0.40	0.30 **0.37** 0.45	0.35 **0.45** 0.55	0.35 **0.47** 0.60
			pearlitic / martensitic		260	16	80-**110**-140				
	nodular cast iron (GGG)		ferritic		160	17	90-**135**-180				
			pearlitic		250	18	80-**110**-140				
	malleable cast iron		ferritic		130	19	90-**125**-160				
			pearlitic		230	20	80-**110**-140				

■ Recommended cutting data