

# NPA

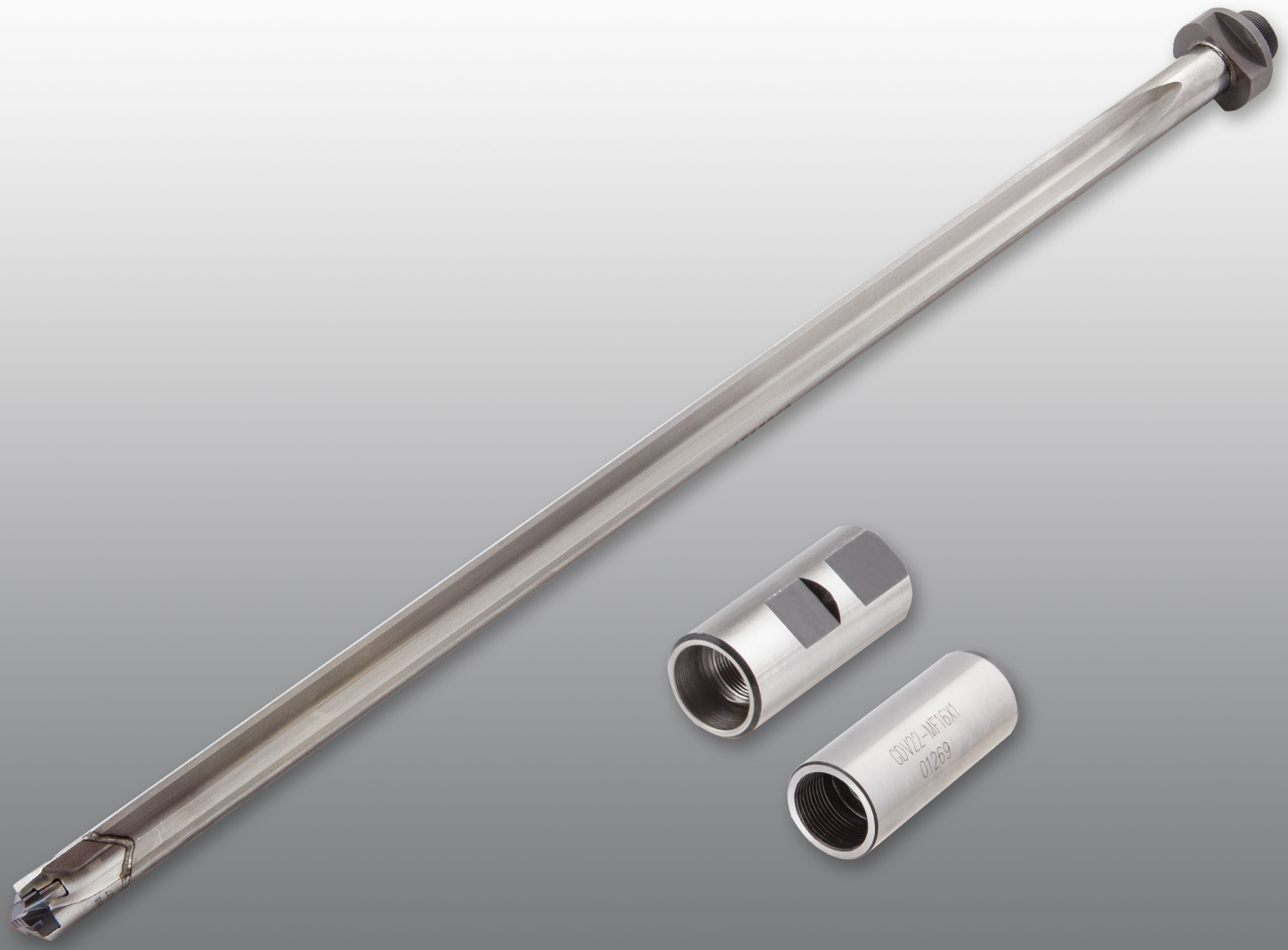
New Product Announcement

HOLE MAKING

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## **SUMOGUN**

**New Reinforced SUMOGUN Drill Bodies  
for Better Torsion Force Resistance and  
Increased Machining Parameters**

# SUMOGUN

## Highlights

**The only gundrill in the market with exchangeable drilling heads, as well as exchangeable shank drivers, has been modified with a new reinforced steel body with better resistance to torsional forces, which allows increased table feed**

In August 2013, ISCAR introduced the SUMOGUN MNCNT family, which is produced from tubes (NPA 31-2013).

Following many changes, ISCAR is now introducing the SUMOGUN MNSNT family of gundrills made with **reinforced steel bodies**, which feature much better resistance to torsion forces and allow higher table feeds, thus better productivity. The new MNSNT will cover the range up to 400 mm length. The MNCNT will continue to be available for longer tools.

ISCAR continues to expand the drill length options above 12xD depth to diameter ratio, in a diameter range of 10 to 25.9 mm and to maximum total length of 400 mm, as well as for Ø10 mm-Ø14.5 mm diameters with flute length of 200 mm and Ø13 mm-Ø14.5 mm diameters with flute length of 250 mm.

### Features

- The SUMOGUN features two straight flutes carrying the standard SUMOCHAM drilling heads
- All drill bodies feature straight coolant holes
- Exchangeable shank drivers – more economical and versatile system (the rear threaded connection enables attaching different standard shank types)
- May be used on standard horizontal milling centers, lathes, and multi-task machines
- Shank face contact and fine pitch thread connection provide very small runout

### Advantages

The SUMOCHAM drilling heads are fully effective, which enables drilling at much higher table feed rates (2 to 5 times more than standard brazed gundrills) when compared to most other gundrills available in the market.

SUMOGUN MNSNT enables replacement of the drilling head inside the machine – there is no need to remove the drill for head indexing. A polyamide plastic key is available for clamping and removing the SUMOGUN head.

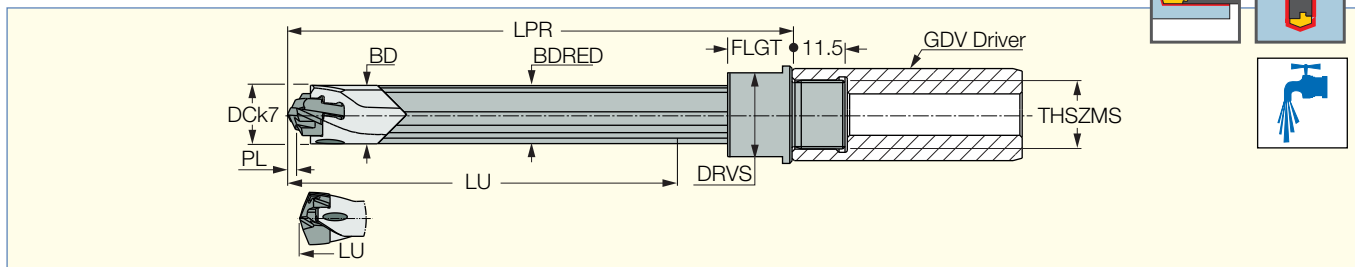
The SUMOGUN provides end users with the ability to clamp different head geometries and grades, according to the material and application.

Specially tailored SUMOGUN drills will be supplied on request.

# SUMOGUN

## MNSNT

Indexable SUMOCHAM Inserts and Modular Shank Gundrills



Designation	DCN <sup>(1)</sup>	DCX <sup>(2)</sup>	LU	PL	THSZMS	BD	BDRED	LPR	FLGT	DRVS <sup>(3)</sup>	SSC <sup>(4)</sup>	MIID <sup>(5)</sup>	
MNSNT 100-200-MF16X1	10.00	10.49	200.00	2.72	MF16X1	9.70	9.60	274.00	10.00	16.0	10.0	HCP 100	K DCN 10-13.99
MNSNT 105-200-MF16X1	10.50	10.99	200.00	2.72	MF16X1	10.20	10.10	274.00	10.00	16.0	10.0	HCP 105	K DCN 10-13.99
MNSNT 110-200-MF16X1	11.00	11.49	200.00	2.75	MF16X1	10.70	10.60	275.00	10.00	16.0	11.0	HCP 110	K DCN 10-13.99
MNSNT 115-200-MF16X1	11.50	11.99	200.00	2.75	MF16X1	11.20	11.10	275.00	10.00	16.0	11.0	HCP 115	K DCN 10-13.99
MNSNT 120-200-MF16X1	12.00	12.49	200.00	3.16	MF16X1	11.70	11.60	275.00	10.00	16.0	12.0	HCP 120	K DCN 10-13.99
MNSNT 125-200-MF16X1	12.50	12.99	200.00	3.16	MF16X1	12.20	12.10	275.00	12.00	16.0	12.0	HCP 125	K DCN 10-13.99
MNSNT 130-200-MF16X1	13.00	13.49	200.00	3.51	MF16X1	12.70	12.60	276.00	12.00	16.0	13.0	HCP 130	K DCN 10-13.99
MNSNT 135-200-MF16X1	13.50	13.99	200.00	3.51	MF16X1	13.20	13.10	276.00	12.00	16.0	13.0	HCP 135	K DCN 10-13.99
MNSNT 140-200-MF16X1	14.00	14.49	200.00	3.63	MF16X1	13.70	13.60	276.00	12.00	16.0	14.0	HCP 140	K DCN 14-17.99
MNSNT 145-200-MF16X1	14.50	14.99	200.00	3.63	MF16X1	14.20	14.10	276.00	12.00	16.0	14.0	HCP 145	K DCN 14-17.99
MNSNT 130-250-MF16X1	13.00	13.49	250.00	3.51	MF16X1	12.70	12.60	326.00	12.00	16.0	13.0	HCP 130	K DCN 10-13.99
MNSNT 135-250-MF16X1	13.50	13.99	250.00	3.51	MF16X1	13.20	13.10	326.00	12.00	16.0	13.0	HCP 135	K DCN 10-13.99
MNSNT 140-250-MF16X1	14.00	14.49	250.00	3.63	MF16X1	13.70	13.60	326.00	12.00	16.0	14.0	HCP 140	K DCN 10-13.99
MNSNT 145-250-MF16X1	14.50	14.99	250.00	3.63	MF16X1	14.20	14.10	326.00	12.00	18.0	14.0	HCP 145	K DCN 14-17.99
MNSNT 100-400-MF16X1	10.00	10.49	400.00	2.72	MF16X1	9.70	9.60	474.00	10.00	16.0	10	HCP 100	K DCN 10-13.99
MNSNT 105-400-MF16X1	10.50	10.99	400.00	2.72	MF16X1	10.20	10.10	474.00	10.00	16.0	10	HCP 105	K DCN 10-13.99
MNSNT 110-400-MF16X1	11.00	11.49	400.00	2.75	MF16X1	10.70	10.60	474.00	10.00	16.0	11	HCP 110	K DCN 10-13.99
MNSNT 115-400-MF16X1	11.50	11.99	400.00	2.75	MF16X1	11.20	11.10	474.00	10.00	16.0	11	HCP 115	K DCN 10-13.99
MNSNT 120-400-MF16X1	12.00	12.49	400.00	3.16	MF16X1	11.70	11.60	475.00	10.00	16.0	12.0	HCP 120	K DCN 10-13.99
MNSNT 125-400-MF16X1	12.50	12.99	400.00	3.16	MF16X1	12.20	12.10	475.00	12.00	16.0	12.0	HCP 125	K DCN 10-13.99
MNSNT 130-400-MF16X1	13.00	13.49	400.00	3.51	MF16X1	12.70	12.60	476.00	12.00	16.0	13.0	HCP 130	K DCN 10-13.99
MNSNT 135-400-MF16X1	13.50	13.99	400.00	3.51	MF16X1	13.20	13.10	476.00	12.00	16.0	13.0	HCP 135	K DCN 10-13.99
MNSNT 140-400-MF16X1	14.00	14.49	400.00	3.63	MF16X1	13.70	13.60	476.00	12.00	16.0	14.0	HCP 140	K DCN 10-13.99
MNSNT 145-400-MF16X1	14.50	14.99	400.00	3.63	MF16X1	14.20	14.10	476.00	12.00	18.0	14.0	HCP 145	K DCN 14-17.99
MNSNT 150-400-MF16X1	15.00	15.99	400.00	3.88	MF16X1	14.70	14.60	484.00	12.00	18.0	15.0	HCP 150	K DCN 14-17.99
MNSNT 160-400-MF20X1	16.00	16.99	400.00	3.91	MF20X1	15.50	15.40	484.00	12.00	18.0	16.0	HCP 160	K DCN 14-17.99
MNSNT 170-400-MF20X1	17.00	17.99	400.00	4.57	MF20X1	16.50	16.40	485.00	12.00	22.0	17.0	HCP 170	K DCN 14-17.99
MNSNT 180-400-MF20X1	18.00	18.99	400.00	4.66	MF20X1	17.50	17.40	486.00	12.00	22.0	18.0	HCP 180	K DCN 14-17.99
MNSNT 190-400-MF20X1	19.00	19.99	400.00	4.66	MF20X1	18.50	18.40	486.00	12.00	22.0	19.0	HCP 190	K DCN 18-21.99
MNSNT 200-400-MF20X1	20.00	20.99	400.00	4.81	MF20X1	19.50	19.40	487.00	12.00	22.0	20.0	HCP 200	K DCN 18-21.99
MNSNT 210-400-MF20X1	21.00	21.99	400.00	4.94	MF20X1	20.50	20.40	503.00	21.00	28.0	21.0	HCP 210	K DCN 18-21.99
MNSNT 220-400-MF20X1	22.00	22.99	400.00	5.20	MF20X1	21.50	21.40	504.00	21.00	28.0	22.0	HCP 220	K DCN 18-21.99
MNSNT 230-400-MF20X1	23.00	23.99	400.00	5.28	MF20X1	22.50	22.40	504.00	21.00	28.0	23.0	HCP 230	K DCN 22-26.99
MNSNT 240-400-MF20X1	24.00	24.99	400.00	5.63	MF20X1	23.50	23.40	505.00	21.00	28.0	24.0	HCP 240	K DCN 22-26.99
MNSNT 250-400-MF20X1	25.00	25.99	400.00	5.70	MF20X1	24.50	24.40	506.00	21.00	28.0	25.0	HCP 250	K DCN 22-26.99

(1) Do not mount smaller drilling heads than the specified range of the drill body (2) Cutting diameter maximum (3) Torque key size (4) Seat size code (5) Master insert identification

## SUMOGUN User Guide

### Drill Penetration Instructions on Horizontal Milling and Lathe machines

1. Drill a pilot hole 0.5xD deep with a short drill in the same diameter as for the **SUMOGUN** drill
2. Enter the pre-hole at slow speed, feed, and 50 RPM until 1-2 mm before reaching the bottom.
3. Activate the cooling system and increase rotation speed to recommended drilling speed, maintain for 2-3 seconds, then continue at recommended drilling feed.

**No pecking is required.**

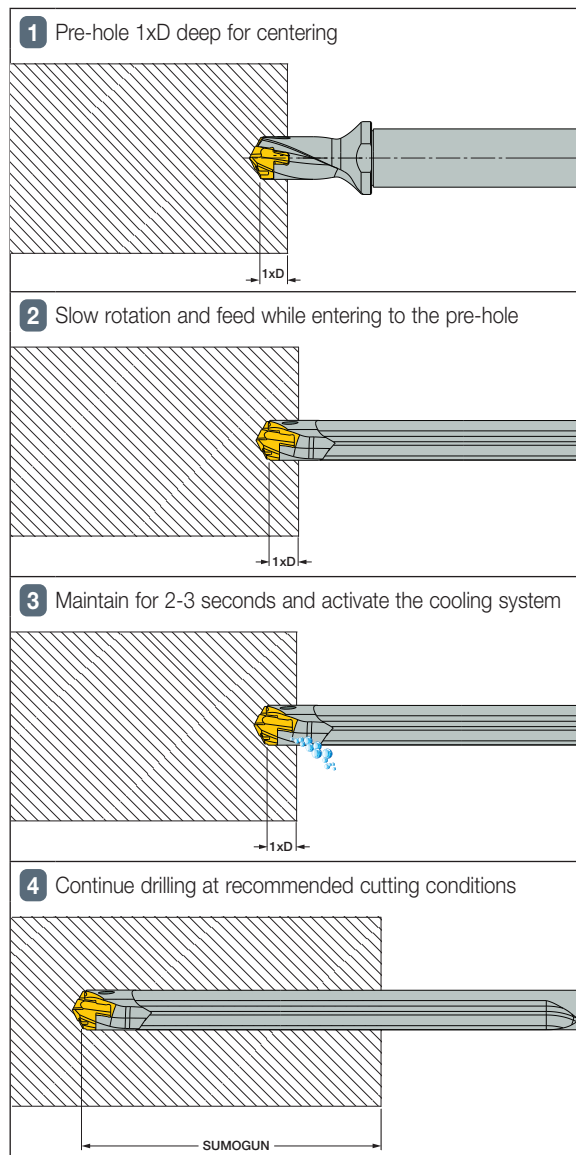
Apply maximum possible coolant flow rate.

4. After having reached the required depth, reduce speed to 50-100 RPM while exiting from the hole.

**Note:** The following procedure (1-4) is recommended for up to 400 mm hole depths using MNSNT ...-400... drills.

For hole depths between 400 up to 800 mm, use MNCNT ...-800... drill only after reaching 400 mm depth with an MNSNT ...-400... drill.

**When drilling with ICP/K insert, it is most recommended to use double margin inserts (ICP/K – 2M) both for main hole and pre-hole drilling.**



# SUMOGUN User Guide

## Machining Conditions for MNSNT

ISO	Material	Condition	Tensile Strength [N/mm <sup>2</sup> ]	Hardness HB	Material No.	V (m/min)	SUMOGUN					
							Feed vs. Drill Diameter					
							D=10-11.9	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					
		>= 0.25 %C	Annealed	650	190	2	80-105-130					
		< 0.55 %C	Quenched and tempered	850	250	3	80-100-120	0.15 0.18	0.18 0.21	0.20 0.23	0.25 0.30	0.25 0.30
		>= 0.55 %C	Annealed	750	220	4	70-90-110	0.21	0.24	0.27	0.35	0.35
	Low alloy steel and cast steel (less than 5% of alloying elements)	Quenched and tempered	1000	300	5	50-70-90						
		Annealed	600	200	6	80-100-120						
		Quenched and tempered	930	275	7	70-90-110	0.14 0.17	0.16 0.20	0.18 0.22	0.23 0.27	0.25 0.30	
			1000	300	8	50-70-90	0.21	0.24	0.26	0.31	0.35	
		1200	350	9	40-55-70							
		Annealed	680	200	10	50-70-90	0.12 0.14	0.15 0.17	0.18 0.20	0.20 0.22	0.22 0.24	

Mandatory use of coolant on steel when drilling and tool steel

## Pressure and Coolant Flow Rate for SUMOGUN

