

DRILLING

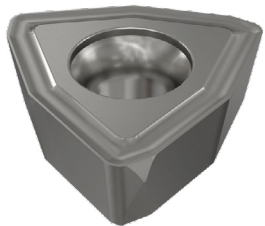
39-2024

JUNE 2024

METRIC

NPA

New Product Announcement



No Setup Time



Cost Effective
Insert



High Productivity



MODUDRILL

MODULAR HEADS

MD-MNC Modular System for Diverse Drilling Diameters and Depths



No Setup Time

Cost Effective
InsertHigh Productivity
Inserts

NPA

New Product Announcement

MODUDRILL
MODULAR HEADS

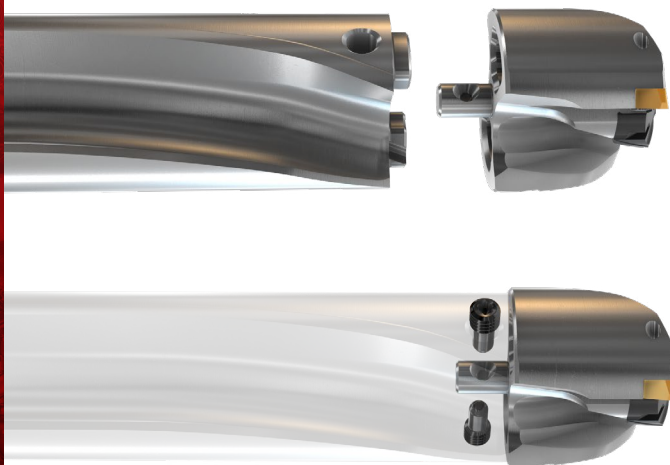
Highlights

ISCAR Expands the MODUDRILL Line with New MD-MNC Bodies in 3D, 5D and 8D Ratios that Feature Interchangeable COMBI Drill Heads with Innovative Capabilities, Covering a 33 to 40mm Drilling Range

These drill heads have two fully effective cutting edges enabled by the central SUMO drilling insert and peripheral WCGX triangular inserts.

The MD-BODY Features

- Two diameters ranges: one for 33-36 mm and the other for 37-40 mm.
- High L/D ratios to cover the full range 3-5-8xD as stocked standards.
- Produced from high strength steel for high durability.
- Small core with central coolant type and features two peripheral coolant nozzles for efficient chip evacuation, MQL compatible.
- Patented connection withstands high torque.



METRIC



No Setup Time



Cost Effective Insert



High Productivity Inserts

NPA

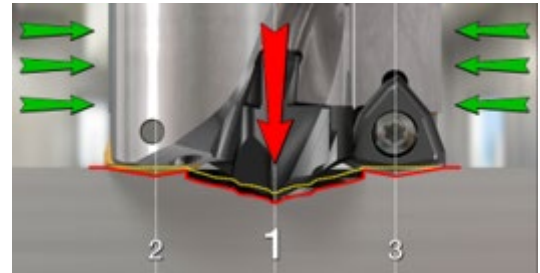
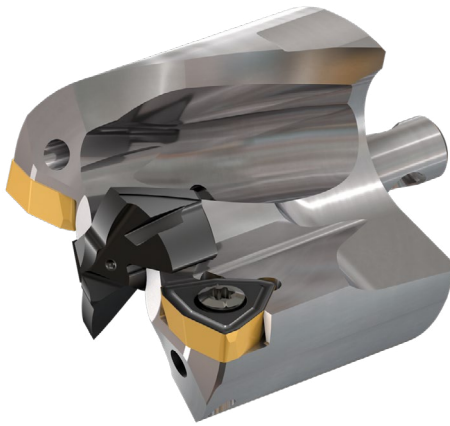
New Product Announcement

MODUDRILL

MODULAR HEADS

MD-MNC Modular Heads Features

- Standard dedicated ICP-MNC pilot and two WCGX trigon peripheral inserts.
- Fast and easy insert replacement – do not require head removal from the MD-BODY.
- Easy penetration and smooth cutting process due to a dedicated geometry of the central insert in combination with side insert shapes.
- Available in a 33-40 mm diameter drilling range with 1mm increment in the standard range.



ICP-MNC Inserts

- High hole accuracy, cylindricity, roundness and straightness.
- No need for pre-hole of up to 8XD drilling depth to diameter ratio.
- Precision ground self-centering geometry provides high penetration rates.
- Produced from **IC908** grade – a PVD coating made of a fine submicron grain substrate.

IC908



METRIC



No Setup Time



Cost Effective Insert



High Productivity Inserts

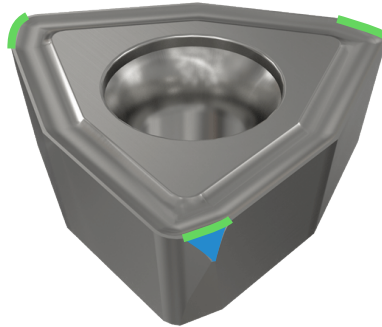
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MODUDRILL MODULAR HEADS

WCGX Ground Inserts

- Dedicated geometry allows stable machining for high feed rates.
- **IC918** PVD high performance grade for prolonged and predictable tool life.
- Wiper geometry provides smooth and excellent surface quality.



[Click for Short Video](#)

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No Setup Time



Cost Effective Insert



High Productivity Inserts

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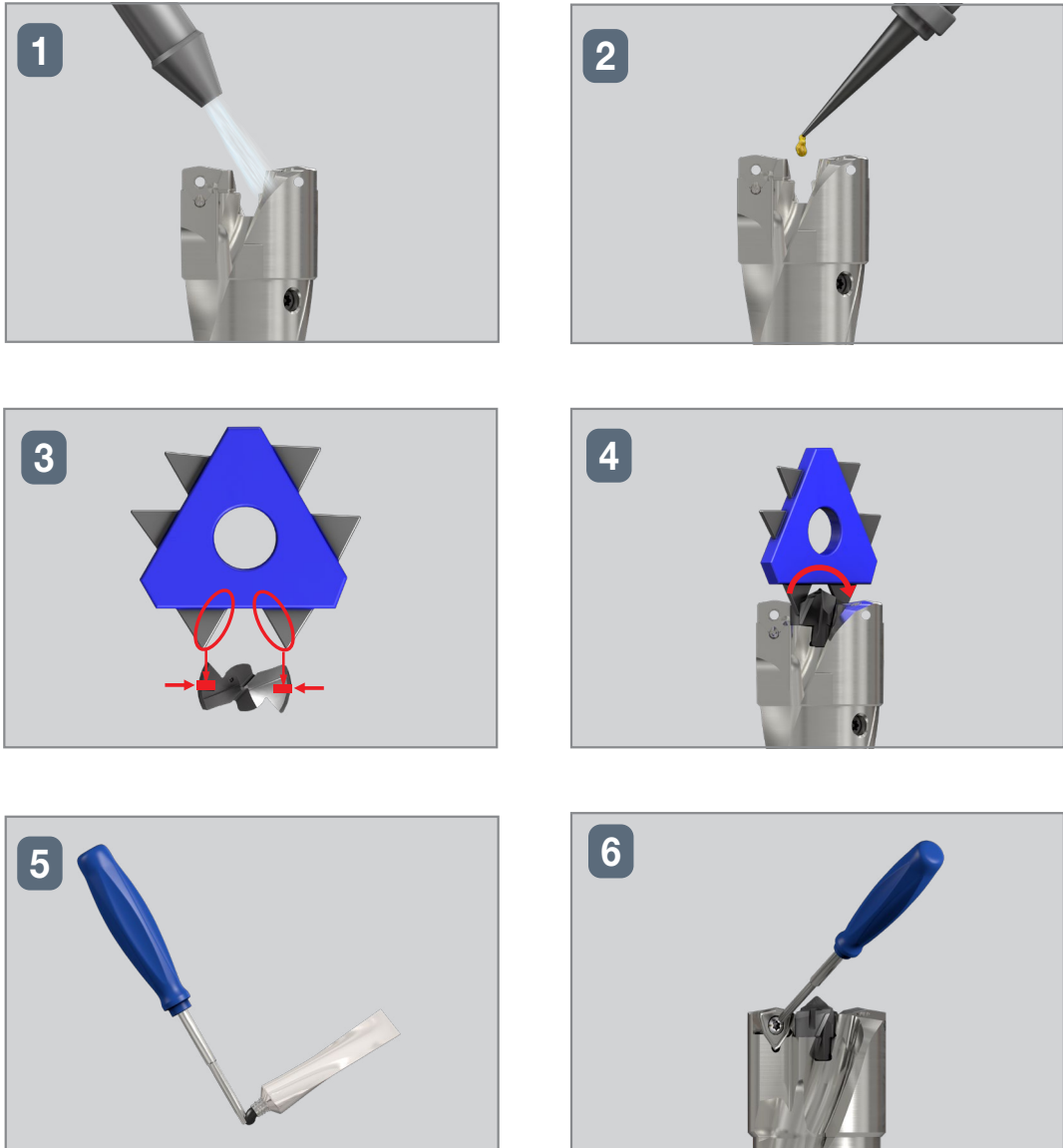
New Product Announcement

MODUDRILL MODULAR HEADS

Head and Body Assembly



Inserts Mounting Instruction



METRIC



No Setup Time



Cost Effective Insert



High Productivity Inserts

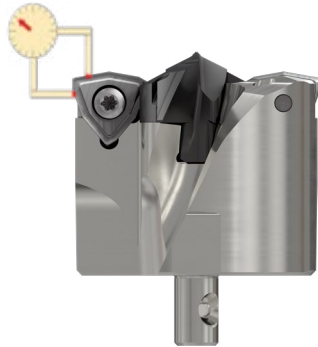
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New Product Announcement

MODUDRILL MODULAR HEADS

WCGX

Max Allowed $\Delta = 0.04\text{mm}$
Axial Runout & Radial Runout

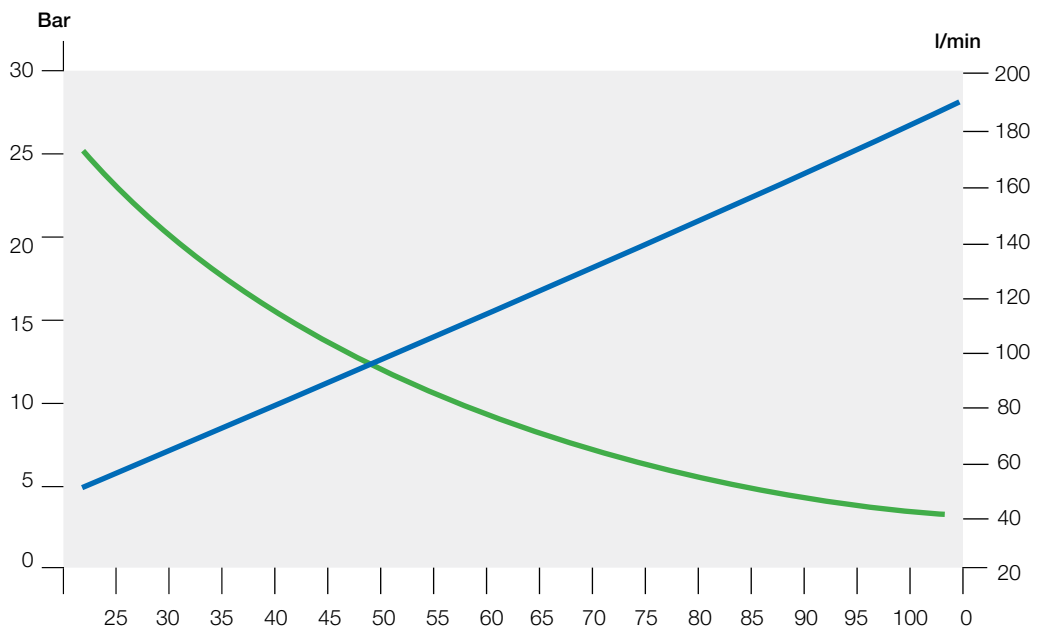


IPC-MNC

Max Allowed $\Delta = 0.04\text{mm}$
Axial Runout & Radial Runout



Flow Rate vs. Pressure & Drill Diameter

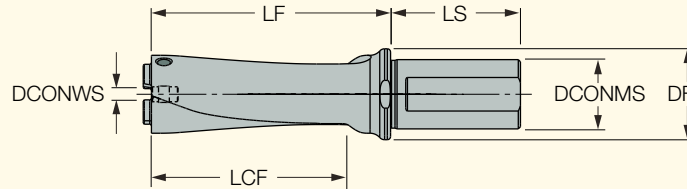


MODUDRILL MODULAR HEADS

MD-BODY-3D

Modular Drill Bodies, Each Can Carry a Variety of Exchangeable Drilling Heads with Different Diameters

<https://www.iscar.com/eCatalog/Family.aspx?fnum=5356&mapp=DR&GFSTYP=M&srch=1>

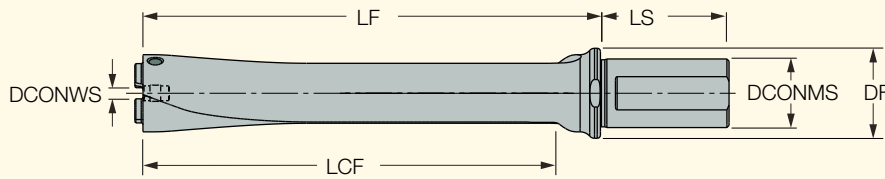


Designation	DCONMS	DF	LS	LF	LCF	DCN ⁽¹⁾	DCX ⁽²⁾	DCONWS			
MD-BODY-33-36-108-32A-3D	32.00	42.00	60.0	121.00	99.0	33.00	36.90	6.70	SET SCREW M6-MODUDRILL	BLD T15/S7	SW6-T-SH
MD-BODY-37-40-120-32A-3D	32.00	42.00	60.0	137.00	113.0	37.00	40.90	6.70	SET SCREW M6-MODUDRILL	BLD T15/S7	SW6-T-SH

MD-BODY-5D

Modular Drill Bodies, Each Can Carry a Variety of Exchangeable Drilling Heads with Different Diameters

<https://www.iscar.com/eCatalog/Family.aspx?fnum=5357&mapp=DR&GFSTYP=M&srch=1>



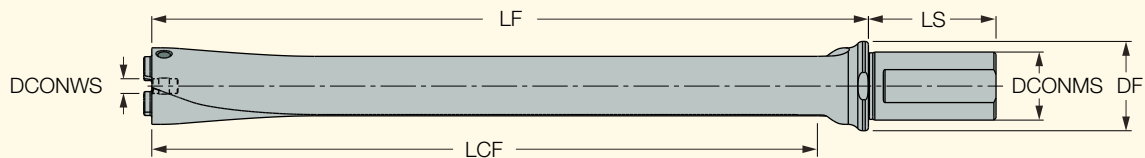
Designation	DCONMS	DF	LS	LF	LCF	DCN ⁽¹⁾	DCX ⁽²⁾	DCONWS			
MD-BODY-33-36-180-32A-5D	32.00	42.00	60.0	193.00	171.0	33.00	36.90	6.70	SET SCREW M6-MODUDRILL	BLD T15/S7	SW6-T-SH
MD-BODY-37-40-200-32A-5D	32.00	42.00	60.0	217.00	193.0	37.00	40.90	6.90	SET SCREW M6-MODUDRILL	BLD T15/S7	SW6-T-SH

⁽¹⁾ Cutting diameter minimum
⁽²⁾ Cutting diameter maximum

MD-BODY-8D

Modular Drill Bodies, Each Can Carry a Variety of Exchangeable Drilling Heads with Different Diameters

<https://www.iscar.com/eCatalog/Family.aspx?fnum=5358&mapp=DR&GFSTYP=M&srch=1>



Designation	DCONMS	DF	LS	LF	LCF	DCN ⁽¹⁾	DCX ⁽²⁾	DCONWS			
MD-BODY-33-36-288-32A-8D	32.00	42.00	60.0	301.00	279.0	33.00	36.90	6.70	SET SCREW M6-MODUDRILL	BLD T15/S7	SW6-T-SH
MD-BODY-37-40-320-32A-8D	32.00	42.00	60.0	337.00	313.0	37.00	40.90	6.90	SET SCREW M6-MODUDRILL	BLD T15/S7	SW6-T-SH

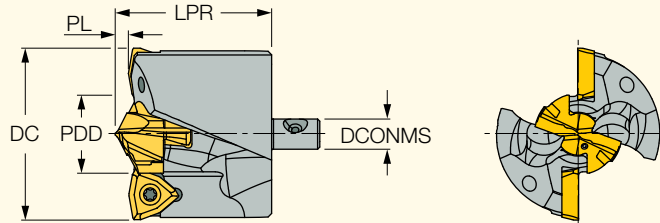
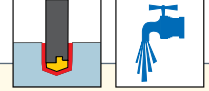
⁽¹⁾ Cutting diameter minimum
⁽²⁾ Cutting diameter maximum

MODUDRILL MODULAR HEADS

MD-MNC-HEAD

Exchangeable Modular Drilling Heads with a Pilot SUMOCHAM Head and Peripheral Triangular Inserts

<https://www.iscar.com/eCatalog/Family.aspx?num=4329&mapp=DR&app=0&GFSTYP=M&fr=>



Designation	DC	PDD	LPR	DCONMS	PL	MIID ⁽¹⁾	MIID_2 ⁽²⁾
MD-MNC 330-169-W5	33.00	16.90	35.00	6.70	3.000	ICP 169-MNC	WCGX 05T308-W-DC
MD-MNC 332-169-W5	33.20	16.90	35.00	6.70	3.000	ICP 169-MNC	WCGX 05T308-W-DC
MD-MNC 340-189-W5	34.00	18.90	35.00	6.70	3.000	ICP 189-MNC	WCGX 05T308-W-DC
MD-MNC 350-199-W5	35.00	19.90	35.00	6.70	3.000	ICP 199-MNC	WCGX 05T308-W-DC
MD-MNC 360-209-W5	36.00	20.90	35.30	6.70	3.300	ICP 209-MNC	WCGX 05T308-W-DC
MD-MNC 362-209-W5	36.20	20.90	35.30	6.70	3.300	ICP 209-MNC	WCGX 05T308-W-DC
MD-MNC 370-179-W6	37.00	17.90	35.00	6.90	3.000	ICP 179-MNC	WCGX 06T308-W-DC
MD-MNC 380-189-W6	38.00	18.90	35.00	6.90	3.000	ICP 189-MNC	WCGX 06T308-W-DC
MD-MNC 390-199-W6	39.00	19.90	35.00	6.90	3.000	ICP 199-MNC	WCGX 06T308-W-DC
MD-MNC 392-199-W6	39.20	19.90	35.60	6.90	3.000	ICP 199-MNC	WCGX 06T308-W-DC
MD-MNC 400-209-W6	40.00	20.90	35.30	6.90	3.300	ICP 209-MNC	WCGX 06T308-W-DC

⁽¹⁾ Master insert identification

⁽²⁾ Master insert identification 2

Spare Parts



Designation	Clamping Key	Screw	Key
MD-MNC 330-169-W5	K MNC MULTI	SR 34-506 M3X0.5	T-9/5
MD-MNC 332-169-W5	K MNC MULTI	SR 34-506 M3X0.5	T-9/5
MD-MNC 340-189-W5	K MNC MULTI	SR 34-506 M3X0.5	T-9/5
MD-MNC 350-199-W5	K MNC MULTI	SR 34-506 M3X0.5	T-9/5
MD-MNC 360-209-W5	K MNC MULTI	SR 34-506 M3X0.5	T-9/5
MD-MNC 362-209-W5	K MNC MULTI	SR 34-506 M3X0.5	T-9/5
MD-MNC 370-179-W6	K MNC MULTI	SR 34-550-M2	T-10/5
MD-MNC 380-189-W6	K MNC MULTI	SR 34-550-M2	T-10/5
MD-MNC 390-199-W6	K MNC MULTI	SR 34-550-M2	T-10/5
MD-MNC 392-199-W6	K MNC MULTI	SR 34-550-M2	T-10/5
MD-MNC 400-209-W6	K MNC MULTI	SR 34-550-M2	T-10/5

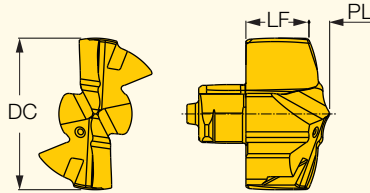
MODUDRILL

MODULAR HEADS

ICP-MNC

Exchangeable SUMOCHAM Drilling Heads for Modular Combi Drills

<https://www.iscar.com/eCatalog/Family.aspx?num=5330&mapp=DR&app=0&GFSTYP=M&fr=1>



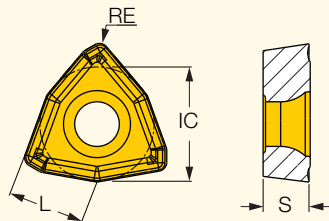
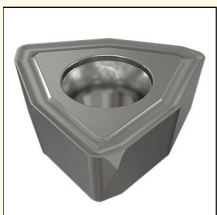
Dimensions						IC908
Designation	DC	PL	LF	SSC ⁽¹⁾		
ICP 119-MNC 4F	11.90	1.800	4.80	11	•	
ICP 129-MNC 4F	12.90	2.000	5.00	12	•	
ICP 139-MNC 4F	13.90	2.100	5.50	13	•	
ICP 149-MNC 4F	14.90	2.250	5.90	14	•	
ICP 159-MNC 4F	15.90	2.400	6.30	15	•	
ICP 169-MNC 4F	16.90	2.600	6.70	16	•	
ICP 179-MNC 4F	17.90	2.800	7.10	17	•	
ICP 189-MNC 4F	18.90	2.900	7.60	18	•	
ICP 199-MNC 4F	19.90	2.700	8.30	19	•	
ICP 209-MNC 4F	20.90	3.000	8.60	20	•	

(1) Seat size code

WCGX

Precision Ground Triangular Inserts for Modular MNC Drills

<https://www.iscar.com/eCatalog/Family.aspx?num=5332&mapp=DR&app=0&GFSTYP=M&fr=1>



Dimensions						IC918
Designation	L	IC	S	RE		
WCGX 05T308-W-DC	5.35	7.94	3.88	0.80	•	
WCGX 06T308-W-DC	6.38	9.47	3.80	0.80	•	

MODUDRILL

MODULAR HEADS

Material Groups						Cutting parameters			
ISO	Material	Condition	Tensile Strength [N/mm ²]	Hardness, HB	Group	Diameter range, mm	D=28.0-36.9 W 05	D=37.0-41.9 W 06	
						Cutting speed, Vc [m/min]	Cutting feed, f [mm/rev]		
P	non-alloy steel and cast steel, free cutting steel	<0.25% C	annealed	420	125	1	90-140-190	0.20 0.29 0.38	0.22 0.30 0.40
		≥0.25% C	annealed	650	190	2			
		<0.55% C	quenched and tempered	850	250	3	120-150-180		
		≥0.55% C	annealed	750	220	4			
		quenched and tempered	1000	300	5				
	low alloy and cast steel (less than 5% of alloying elements)	annealed	600	200	6	100-130-160			
		quenched and tempered	930	275	7				
			1000	300	8				
	high alloyed steel, cast steel and tool steel	annealed	680	200	10	80-110-140			
		quenched and tempered	1100	325	11				
stainless steel and cast steel	ferritic / martensitic	680	200	12	70-100-130				
	martensitic	820	240	13					
K	gray cast iron (GG)	ferritic / pearlitic		180	15	120-170-220	0.22 0.32 0.42	0.24 0.34 0.44	
		pearlitic / martensitic		260	16				
	nodular cast iron (GGG)	ferritic		160	17				
		pearlitic		250	18				
	malleable cast iron	ferritic		130	19				
	pearlitic		230	20					