

HOLEMAKING

47-2024

JULY 2024

METRIC



No Setup Time



Cost Effective



High Productivity



MODUDRILL
MODULAR HEADS

MD-MNC Modular Heads with an IMH Connection





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New Product Announcement

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MODULAR HEADS

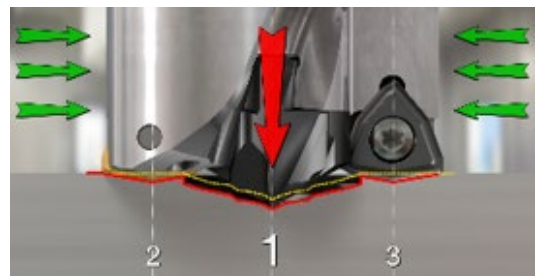
Highlights

A New Line of Interchangeable COMBI Drilling Heads Features Two Fully Effective Cutting Edges Achieved by a Central SUMO Drilling Insert and Peripheral WCGX Triangular Inserts Covering a 28 to 56 mm Drilling Range

A new **MD-MNC** head can be mounted on existing tools with an **IMH** compatible connection. The concept combines the advantages of a modular drill and indexable inserts, providing high speed and feed capability with a large length-to-diameter ratio at a low consumable cost. This modular system is a versatile solution that allows for quick tool set-up and helps to minimize tool inventory.

MD-MNC-IMH Modular Heads Feature

- Compatibility with tool bodies on the market.
- Mounts standard dedicated **ICP-MNC** pilot and two **WCGX** Trigon peripheral inserts.
- Fast and easy insert replacement – does not require head removal from the body.
- Easy penetration and smooth cutting processes with a dedicated geometry of the central insert in combination with peripheral insert support.
- Available in a 28-56mm diameter drilling range with 1mm increment in the standard range.



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ICP-MNC Inserts

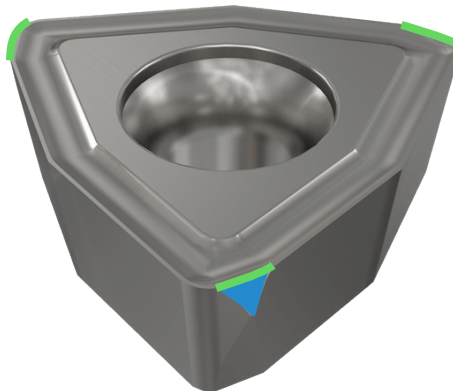
- High hole accuracy with excellent cylindricity, roundness and straightness.
- No need for pre-holes up to the 8XD drilling depth to diameter ratio.
- Precision ground self-centering geometry provides high penetration rates.
- Produced from **IC908** grade – A PVD coating applied on a fine submicron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

IC908



WCGX Ground Inserts

- Dedicated geometry allows stable machining with 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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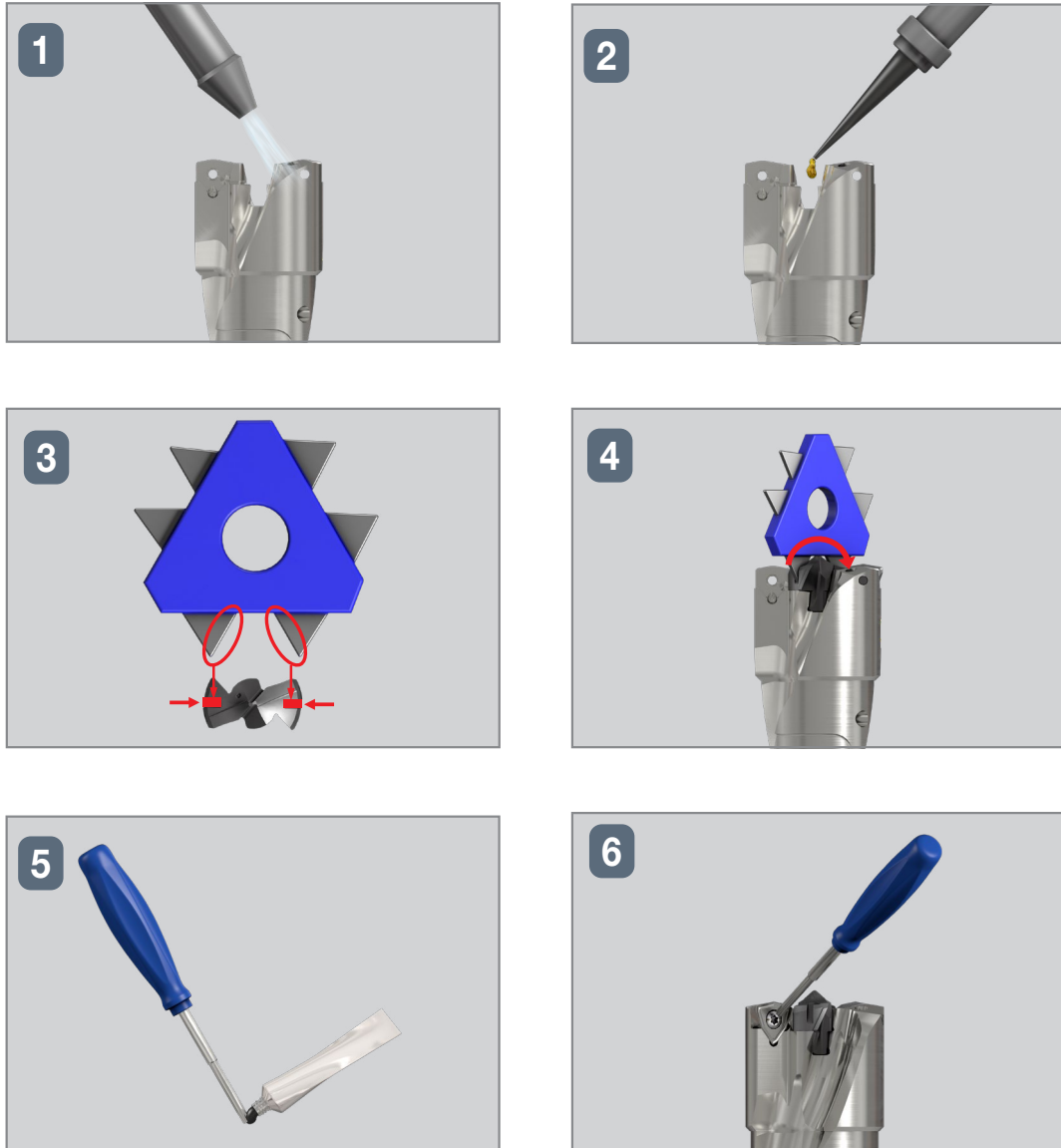
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Head and Body Assembly



Insert Mounting Instructions



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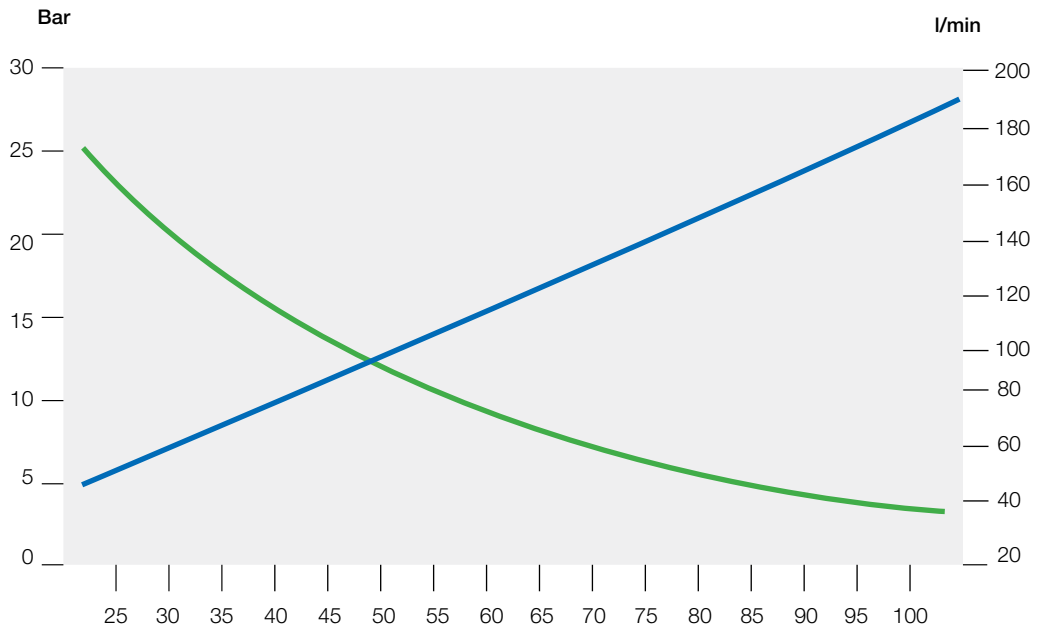
WCGX

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



ICP-MNC

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



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New Product Announcement

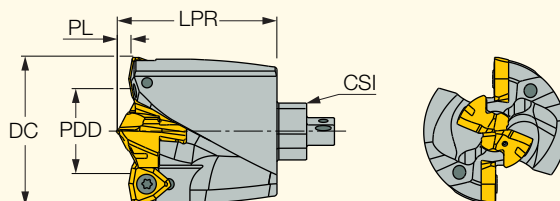
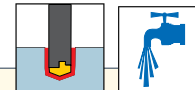
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MODULAR HEADS

MD-MNC-IMH

Exchangeable IMH Drilling Heads with a Pilot SUMOCHAM Head and Peripheral Trigon Inserts

<https://www.iscar.com/eCatalog/Family.aspx?fnum=5331&mapp=DR&GFSTYP=M&srch=1>



Designation	DC	PDD	LPR	CSI	PL	MIID ⁽¹⁾	MIID_2 ⁽²⁾
MD-MNC 280-IMH28-119-W5	28.00	11.90	30.00	IMH28	2.000	WCGX 05T308-W-DC	ICP 119-MNC
MD-MNC 290-IMH28-129-W5	29.00	12.90	30.30	IMH28	2.300	WCGX 05T308-W-DC	ICP 129-MNC
MD-MNC 300-IMH28-139-W5	30.00	13.90	30.60	IMH28	2.600	WCGX 05T308-W-DC	ICP 139-MNC
MD-MNC 310-IMH28-149-W5	31.00	14.90	30.70	IMH28	2.700	WCGX 05T308-W-DC	ICP 149-MNC
MD-MNC 320-IMH32-159-W5	32.00	15.90	34.80	IMH32	2.800	WCGX 05T308-W-DC	ICP 159-MNC
MD-MNC 330-IMH32-169-W5	33.00	16.90	35.00	IMH32	3.000	WCGX 05T308-W-DC	ICP 169-MNC
MD-MNC 340-IMH32-189-W5	34.00	18.90	35.30	IMH32	3.300	WCGX 05T308-W-DC	ICP 189-MNC
MD-MNC 350-IMH32-199-W5	35.00	19.90	35.30	IMH32	3.300	WCGX 05T308-W-DC	ICP 199-MNC
MD-MNC 360-IMH36-209-W5	36.00	20.90	38.30	IMH36	3.300	WCGX 05T308-W-DC	ICP 209-MNC
MD-MNC 370-IMH36-179-W6	37.00	17.90	38.00	IMH36	3.000	WCGX 06T308-W-DC	ICP 179-MNC
MD-MNC 380-IMH36-189-W6	38.00	18.90	38.00	IMH36	3.000	WCGX 06T308-W-DC	ICP 189-MNC
MD-MNC 390-IMH36-199-W6	39.00	19.90	38.00	IMH36	3.000	WCGX 06T308-W-DC	ICP 199-MNC
MD-MNC 400-IMH40-209-W6	40.00	20.90	43.30	IMH40	3.300	WCGX 06T308-W-DC	ICP 209-MNC
MD-MNC 410-IMH40-219-W6	41.00	21.90	43.80	IMH40	3.800	WCGX 06T308-W-DC	ICP 219-MNC
MD-MNC 420-IMH40-189-W7	42.00	18.90	43.30	IMH40	3.300	WCGX 070408-W-DC	ICP 189-MNC
MD-MNC 430-IMH40-199-W7	43.00	19.90	43.10	IMH40	3.100	WCGX 070408-W-DC	ICP 199-MNC
MD-MNC 440-IMH40-209-W7	44.00	20.90	43.30	IMH40	3.300	WCGX 070408-W-DC	ICP 209-MNC
MD-MNC 450-IMH45-219-W7	45.00	21.90	43.70	IMH45	3.700	WCGX 070408-W-DC	ICP 219-MNC
MD-MNC 460-IMH45-229-W7	46.00	22.90	43.80	IMH45	3.800	WCGX 070408-W-DC	ICP 229-MNC
MD-MNC 470-IMH45-239-W7	47.00	23.90	43.90	IMH45	3.900	WCGX 070408-W-DC	ICP 239-MNC
MD-MNC 480-IMH45-249-W7	48.00	24.90	44.10	IMH45	4.100	WCGX 070408-W-DC	ICP 249-MNC
MD-MNC 490-IMH45-259-W7	49.00	25.90	44.30	IMH45	4.200	WCGX 070408-W-DC	ICP 259-MNC
MD-MNC 500-IMH50-229-W8	50.00	22.90	53.80	IMH50	3.800	WCGX 080508-W-DC	ICP 229-MNC
MD-MNC 510-IMH50-239-W8	51.00	23.90	53.90	IMH50	3.900	WCGX 080508-W-DC	ICP 239-MNC
MD-MNC 520-IMH50-249-W8	52.00	24.90	54.10	IMH50	4.100	WCGX 080508-W-DC	ICP 249-MNC
MD-MNC 530-IMH50-259-W8	53.00	25.90	54.30	IMH50	4.300	WCGX 080508-W-DC	ICP 259-MNC
MD-MNC 540-IMH50-269-W8	54.00	26.90	54.40	IMH50	4.400	WCGX 080508-W-DC	ICP 269-MNC
MD-MNC 550-IMH56-279-W8	55.00	27.90	54.60	IMH50	4.600	WCGX 080508-W-DC	ICP 279-MNC
MD-MNC 560-IMH56-289-W8	56.00	28.90	54.90	IMH50	4.900	WCGX 080508-W-DC	ICP 289-MNC

⁽¹⁾ Master insert identification

⁽²⁾ Master insert identification 2

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Spare Parts



Designation	Clamping Key	Screw	Key	Torx Blade	Handle
MD-MNC 280-IMH28-119-W5	K MNC MULTI	SR 34-506 M3X0.5	T-9/5		
MD-MNC 290-IMH28-129-W5	K MNC MULTI	SR 34-506 M3X0.5	T-9/5		
MD-MNC 300-IMH28-139-W5	K MNC MULTI	SR 34-506 M3X0.5	T-9/5		
MD-MNC 310-IMH28-149-W5	K MNC MULTI	SR 34-506 M3X0.5	T-9/5		
MD-MNC 320-IMH32-159-W5	K MNC MULTI	SR 34-506 M3X0.5	T-9/5		
MD-MNC 330-IMH32-169-W5	K MNC MULTI	SR 34-506 M3X0.5	T-9/5		
MD-MNC 340-IMH32-189-W5	K MNC MULTI	SR 34-506 M3X0.5	T-9/5		
MD-MNC 350-IMH32-199-W5	K MNC MULTI	SR 34-506 M3X0.5	T-9/5		
MD-MNC 360-IMH36-209-W5	K MNC MULTI	SR 34-506 M3X0.5	T-9/5		
MD-MNC 370-IMH36-179-W6	K MNC MULTI	SR 34-550-M2	T-10/5		
MD-MNC 380-IMH36-189-W6	K MNC MULTI	SR 34-550-M2	T-10/5		
MD-MNC 390-IMH36-199-W6	K MNC MULTI	SR 34-550-M2	T-10/5		
MD-MNC 400-IMH40-209-W6	K MNC MULTI	SR 34-550-M2	T-10/5		
MD-MNC 410-IMH40-219-W6	K MNC MULTI	SR 34-550-M2	T-10/5		
MD-MNC 420-IMH40-189-W7	K MNC MULTI	SR 34-501..N		BLD T15/S7	SW6-SD
MD-MNC 430-IMH40-199-W7	K MNC MULTI	SR 34-501..N		BLD T15/S7	SW6-SD
MD-MNC 440-IMH40-209-W7	K MNC MULTI	SR 34-501..N		BLD T15/S7	SW6-SD
MD-MNC 450-IMH45-219-W7	K MNC MULTI	SR 34-501..N		BLD T15/S7	SW6-SD
MD-MNC 460-IMH45-229-W7	K MNC 22-33	SR 34-501..N		BLD T15/S7	SW6-SD
MD-MNC 470-IMH45-239-W7	K MNC 22-33	SR 34-501..N		BLD T15/S7	SW6-SD
MD-MNC 480-IMH45-249-W7	K MNC 22-33	SR 34-501..N		BLD T15/S7	SW6-SD
MD-MNC 490-IMH45-259-W7	K MNC 22-33	SR 34-501..N		BLD T15/S7	SW6-SD
MD-MNC 500-IMH50-229-W8	K MNC 22-33	SR 16-212		BLD T20/M7	SW6-T
MD-MNC 510-IMH50-239-W8	K MNC 22-33	SR 16-212		BLD T20/M7	SW6-T
MD-MNC 520-IMH50-249-W8	K MNC 22-33	SR 16-212		BLD T20/M7	SW6-T
MD-MNC 530-IMH50-259-W8	K MNC 22-33	SR 16-212		BLD T20/M7	SW6-T
MD-MNC 540-IMH50-269-W8	K MNC 22-33	SR 16-212		BLD T20/M7	SW6-T
MD-MNC 550-IMH56-279-W8	K MNC 22-33	SR 16-212		BLD T20/M7	SW6-T
MD-MNC 560-IMH56-289-W8	K MNC 22-33	SR 16-212		BLD T20/M7	SW6-T

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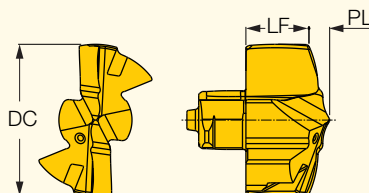
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MODULAR HEADS

ICP-MNC

Exchangeable SUMOCHAM Drilling Heads for Modular Combi Drills

<https://www.iscar.com/eCatalog/Family.aspx?fnum=5330&mapp=DR&GFSTYP=M&srch=1>



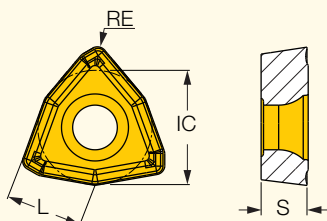
Dimensions						IC908
Designation	DC	PL	LF	SSC ⁽¹⁾		
ICP 119-MNC 4F	11.90	1.800	4.80	11	•	
ICP 129-MNC 4F	12.90	2.000	5.00	12	•	
ICP 139-MNC 4F	13.90	2.100	5.50	13	•	
ICP 149-MNC 4F	14.90	2.250	5.90	14	•	
ICP 159-MNC 4F	15.90	2.400	6.30	15	•	
ICP 169-MNC 4F	16.90	2.600	6.70	16	•	
ICP 179-MNC 4F	17.90	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	•	
ICP 219-MNC 4F	21.90	3.600	8.50	21	•	
ICP 229-MNC 4F	22.90	3.500	9.30	22	•	
ICP 239-MNC 4F	23.90	3.600	9.70	23	•	
ICP 249-MNC 4F	24.90	3.780	10.12	24	•	
ICP 259-MNC 4F	25.90	3.960	10.54	25	•	
ICP 269-MNC 4F	26.90	4.110	10.96	26	•	
ICP 279-MNC 4F	27.90	4.270	11.38	27	•	
ICP 289-MNC 4F	28.90	4.620	11.60	28	•	

⁽¹⁾ Seat size code

WCGX

Precision Ground Trigon Inserts for Modular MNC Drills

<https://www.iscar.com/eCatalog/Family.aspx?fnum=5332&mapp=DR&GFSTYP=M&srch=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	•	
WCGX 070408-W-DC	7.60	11.28	4.76	0.80	•	
WCGX 080508-W-DC	8.58	12.74	5.56	0.80	•	

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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	D=42.0-49.9 W 07	D=50.0-56.0 W 08	
							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 0.33 0.41	0.26 0.34 0.42
		≥0.25% C	annealed	650	190	2					
		<0.55% C	quenched and tempered	850	250	3					
		≥0.55% C	annealed	750	220	4					
	low alloy and cast steel (less than 5% of alloying elements)	quenched and tempered	annealed	600	200	6	100-130-160	0.20	0.22	0.23	0.24
			930	275	7	0.28		0.30	0.31	0.32	
			1000	300	8	0.36		0.38	0.39	0.40	
	1200	350	9								
	high alloyed steel, cast steel and tool steel	annealed	680	200	10	80-110-140	0.20	0.22	0.24	0.24	
		quenched and tempered	1100	325	11		0.26 0.32	0.28 0.34	0.30 0.36	0.31 0.38	
	stainless steel and cast steel	ferritic / martensitic	680	200	12	70-100-130	0.12	0.14	0.16	0.16	
		martensitic	820	240	13		0.18 0.24	0.20 0.26	0.23 0.30	0.26 0.34	
	K	gray cast iron (GG)	ferritic / pearlitic		180	15	120-170-220	0.22 0.32 0.42	0.24 0.34 0.44	0.26 0.36 0.46	0.28 0.38 0.48
pearlitic / martensitic				260	16						
nodular cast iron (GGG)		ferritic		160	17						
		pearlitic		250	18						
malleable cast iron		ferritic		130	19						
	pearlitic		230	20							

■ Recommended Cutting Data