

MILLING

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METRIC

NPA

New Product Announcement



Double-Sided
Round Insert



Extremely Rigid
Clamping



Coolant Directed to
the Cutting Edges



ROUNDMILL

A New Family of Milling Cutters with Double-Sided Round Inserts



Double-Sided Round Insert



Extremely Rigid Clamping



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Highlights

New ROUNDMILL Milling Cutters That Mount Double-Sided Round Inserts with 12 Cutting Edges for Profiling Applications

The new cutters have the following design configuration:

- Shell mills RDS FR D...-12 in diameters 40, 50, 63, and 80 mm.
- Exchangeable milling heads with a FLEXFIT threaded connection RDS ER D...-12 in a 32 mm diameter.

The new cutters mount double-sided round inserts and feature reliable insert clamping and fail-proof insert indexing due to an innovative pocket design and a special peripheral design of the insert. Depending on the depth of cut, the RDS FR/ER...-12 enables up to 6 insert indexes on each insert side (up to 12 insert indexes total).

Cutter features

- Positive rake angle for smooth and light cutting action, reduced cutting forces and power consumption.
- Extremely rigid insert clamping.
- Ramping down capabilities.
- Coolant holes directed to each individual cutting edge with coolant supply through the cutter body.
- Protective coating of the cutter body for better chip flow and protection from corrosion and wear.

Insert features

- A double-sided insert design with a durable structure that ensures reversibility.
- A special peripheral insert design facilitates up to 12 insert indexes and contributes to a secured clamping of the insert.
- When indexing, there is no need to remove the insert clamping screw.
- Produced with the latest coated carbide grades with a post-coating treatment for improved tool life and higher productivity.
- Available with two types of cutting geometries (T/HP) for optimal machining of different materials.

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RDS RNMU1255EN-HP - for austenitic stainless steel, titanium and high temperature alloys (ISO M and S application groups). Also intended, for milling soft steel (ISO P application group).

RDS RNMW1255EN-T - for steel, ferritic and martensitic stainless steel, cast iron and hardened steel (ISO P, K and H application groups).

Cutter advantages

- Versatile.
- Cost-effective.
- Fine tool pitch design for higher productivity.
- Lowers power consumption – good prospects for using the cutters on low-power machine tools and in cases where operational stability is low.

Main application sectors

Rough and semi-finish milling of 3D surfaces, mostly in the Die & Mold, Power Generation and Aerospace industries.

Availability

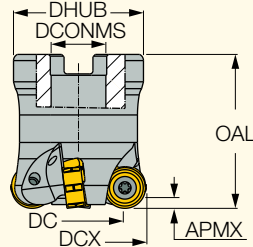
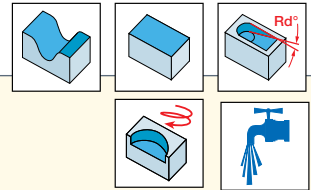
In stock.

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RDS FR-12

Face Mills Carrying Double-Sided Round Inserts with 12 Cutting Edges



Designation	DCX ⁽¹⁾	DC	CICT ⁽²⁾	APMX	OAL	DHUB	DCONMS	RMPX ⁽³⁾	Arbor	kg
RDS FR D040-04-16-12	40.00	27.96	4	2.50	45.00	38.00	16.00	0.9	A	0.49
RDS FR D050-05-22-12	50.00	37.94	5	2.50	40.00	48.00	22.00	0.8	A	0.31
RDS FR D050-06-22-12	50.00	37.94	6	2.50	40.00	48.00	22.00	0.8	A	0.31
RDS FR D063-07-22-12	63.00	50.93	7	2.50	40.00	48.00	22.00	0.5	A	0.43
RDS FR D080-08-27-12	80.00	67.93	8	2.50	50.00	60.00	27.00	0.4	A	2.10

- ⁽¹⁾ Cutting diameter maximum
- ⁽²⁾ Number of inserts
- ⁽³⁾ Maximum ramping angle

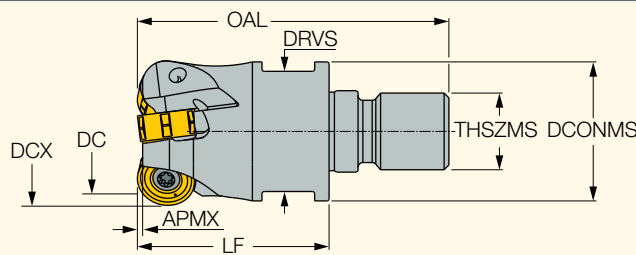
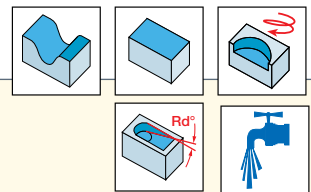
Spare Parts



Designation	T-Handle	Torx Blade	Screw
RDS FR D040-04-16-12	SW6-T	BLD IP15/S7	SR PS 118-0416
RDS FR D050-05-22-12	SW6-T	BLD IP15/S7	SR M10X25 DIN912
RDS FR D050-06-22-12	SW6-T	BLD IP15/S7	SR M10X25 DIN912
RDS FR D063-07-22-12	SW6-T	BLD IP15/S7	SR M10X25 DIN912
RDS FR D080-08-27-12	SW6-T	BLD IP15/S7	SR M12X35DIN912

RDS ER-M

Endmills with FLEXFIT Threaded Connection Carrying Double-Sided Round Inserts with 12 Cutting Edges



Designation	DCX ⁽¹⁾	DC	DCONMS	CICT ⁽²⁾	APMX	LF	OAL	DRVS ⁽³⁾	RMPX ⁽⁴⁾	THSZMS	TQ_3 ⁽⁵⁾	kg
RDS ER D32/1.26-3-M16-12	32.00	20.06	29.00	3	2.50	40.00	65.00	25.0	0.9	M16	40	0.03

- When mounting items with FLEXFIT threaded adaptation to their holders, the mating surfaces and threaded areas must be thoroughly cleaned. Apply appropriate tightening torque to eliminate a gap between the mating faces. Estimated torque values are specified in the TQ_3 parameter
- ⁽¹⁾ Cutting diameter maximum
- ⁽²⁾ Number of inserts
- ⁽³⁾ Torque key size
- ⁽⁴⁾ Maximum ramping angle
- ⁽⁵⁾ Tool tightening torque, Nxm

Spare Parts

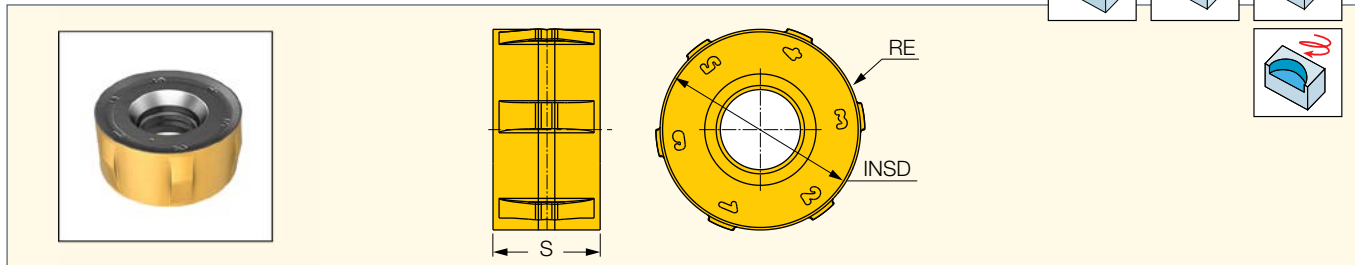
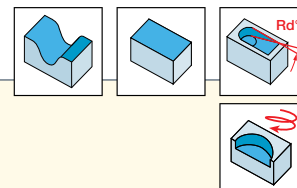


Designation	Screw	T-Handle	Torx Blade
RDS ER-M	SR M4X0.7-R-L9.5 IP15	SW6-T	BLD IP15/S7

ROUND MILL

RDS RNMU/RNMW

Double-Sided Round Inserts with 12 Cutting Edges for Profile Milling



Designation	Dimensions			Tough ↔ Hard				Recommended Machining Data	
	INSD ⁽¹⁾	RE	S	IC882	IC830	IC5500	IC808	a _p (mm)	f _z (mm/t)
RDS RNMU1255EN-HP	12.00	6.00	5.43	●	●	●		0.20-2.50	0.10-0.35
RDS RNMW1255EN-T	12.00	6.00	5.43				●	0.20-2.50	0.10-0.35

● HP- for austenitic stainless steel, titanium and high temperature alloys and soft steel • T- for steel, ferritic and martensitic stainless steel and hardened steel

⁽¹⁾ For round insert

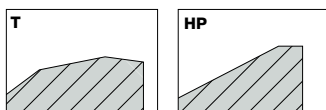


Table - Averaged cutting data for RDS cutters

ISO class DIN/ISO 513	Description	Workpiece material				Insert type	Carbide grade	D.O.C. A _p [mm]	Cutting speed v _c , [m/min]	Feed f _z [mm/teeth]	Coolant
		ISCAR mat. group*	Hardness, HB	Typical Representative							
				AISI/SAE/ ASTM	DIN W.-Nr.						
P	Non-alloy steel	1-5	130-180	1020	1.0402	T	IC808	0.20-2.50	150-220	0.10-0.35	Dry
	Low alloy steel	6-8	260-300	4340	1.6582	HP	IC5500		150-260		
		9	HRC 35-42**	3135	1.5710	T	IC808	140-180	130-170		
	High alloy steel	10-11	200-220	H13	1.2344			120-170			
	Ferritic/martensitic stainless steel	12-13	200	420	1.4021	HP	IC5500	0.20-2.50	150-280	0.10-0.30	Dry
							IC830		140-180		Dry/Wet
M	Austenitic steel	14	200	304L	1.4306	HP	IC882	0.20-2.50	70-140	0.10-0.30	Wet
							IC830		80-140		
S	Temperature alloys	33-35	340	Inconel 718	2.4668	HP	IC882	0.20-2.50	20-35	0.10-0.30	Wet
		36-37	HRC 32-30	AMS R56400	3.7165 (Ti6Al4V ELI)		IC830		20-40		
							IC882		30-55		
							IC830		30-50		
H	Hardened steel	38	HRC 45-49	HARDOX 450 plate		T	IC808	0.20-2.50	45-65	0.10-0.30	Dry
			HRC 58-62	D2	1.2379				45-65		

* ISCAR material group in accordance with VDI 3323 standard

** Quenched and tempered

For machining in unstable conditions, the recommended cutting data should be reduced by 20-30%