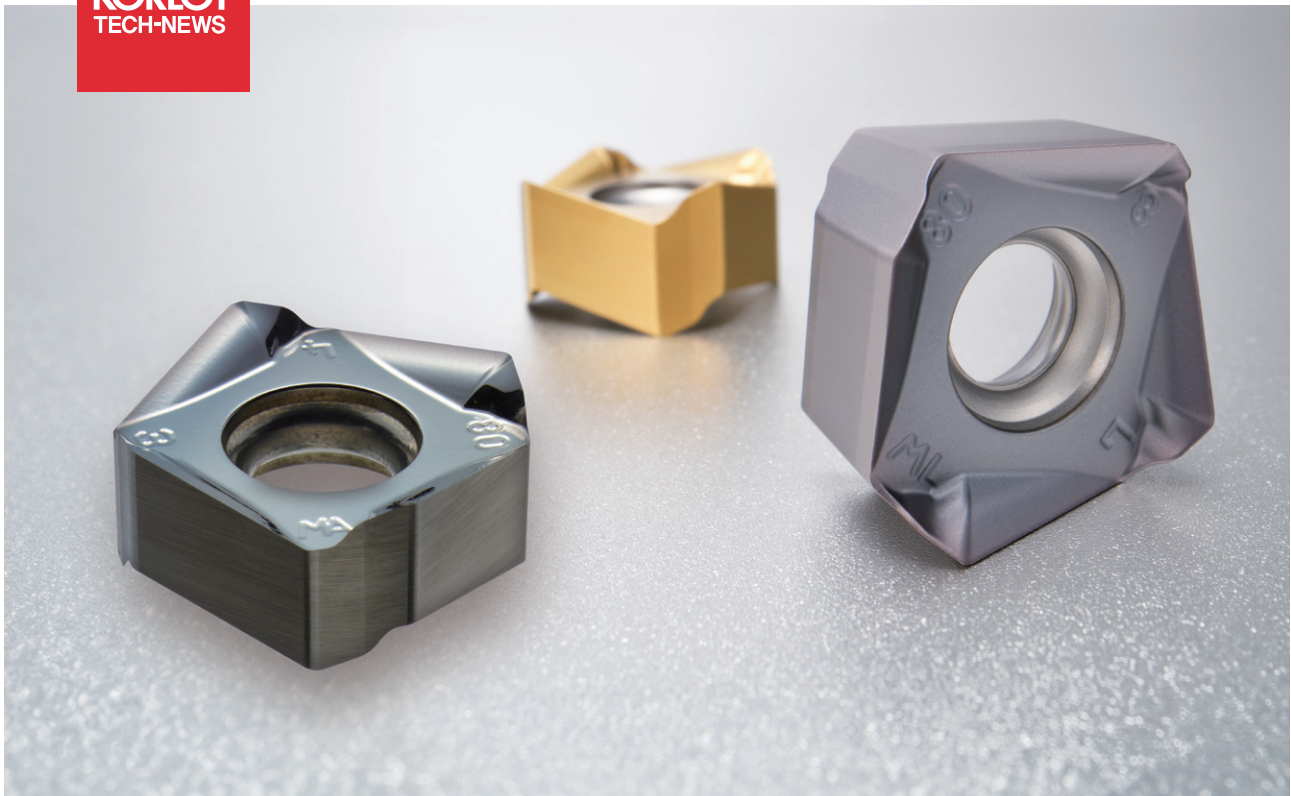


High helix face milling tool with 8-cornered double-side inserts

RM8-X

KORLOY
TECH-NEWS



- High performance in stainless steel and aluminum machining due to sharp cutting edge and double reverse positive relief surface structure.
- Economic tool by double-sided 8 corners and high helix right-handed shape realizing high depth of cut machining.

High helix face milling tool with 8-cornered double-side inserts

RM8-X

KORLOY launched face milling tool, **RM8-X** minimizing cutting load and enhancing stability in machining.

RM8-X with right-handed high helix cutting edge can cut smoothly in high depth of cut machining and its optimal minor cutting edge ensures good surface finish. Double reverse positive shaped relief surface prevents notch wear due to work hardening layer and the variable chip breaker is implemented for good surface finish and strong cutting edge.

To minimize welding with this strong cutting edge, high helix cutting edge and sharp chip breaker is adopted so it could realize high cutting performance and stable machining. In addition, **RM8-X** achieved the cost effectiveness with the insert's double side shape ensures maximum 8 corners.

RM8-X enhances longer tool life by preventing fracture of cutting edge and increasing wear resistance with those figural features above and customized grade selection per the workpiece material.



Good machinability

- High helix cutting edge and sharp chip breaker ensure excellent machinability and high speed and high feed machining.

Stable tool life

- Reverse positive shaped relief surface structure and the application of strengthened screws realize stable machining.

High surface finish

- Optimal-shaped minor cutting edge enhances high quality of machining.

Economical tool




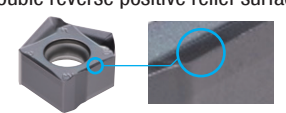
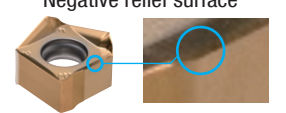
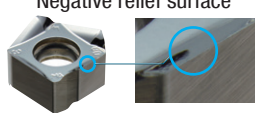
- Maximum 8 corners per the insert are available with its double sided shape.

Code system

Cutter type

RMX8	A	C	M	063	R	22	6	SA14
Rich Mill RM8-X	Approach angle A: 45°	Type C: Cutter	Arbor M: Metric A: Inch None: Asia	Machining dia. 063: Ø63 mm	Oil hole & Hand R: With oil hole, right-handed NR: Without oil hole, right-handed	Internal dia. 22: Ø22 mm	No. of tooth 6: 6 Teeth	Available insert SA14: SAGX14 (SNXM14 is available)

Recommended grade and cutting edge

Type	SAGX			SNMX		SNGX ^{new}
Features	Strong relief surface			Sharp relief surface		Sharp relief surface
Workpiece	M	S	H	P	K	N
Shape						
	Double reverse positive relief surface 			Negative relief surface 		Negative relief surface 

Type	Recommended insert and grade for different workpieces (●: 1 st recommendation)											
	P		M		K		S		H		N	
	C/B	Grade	C/B	Grade	C/B	Grade	C/B	Grade	C/B	Grade	C/B	Grade
SAGX140808ANER	○ML ○MM	○PC5300 ○PC3700	●ML ○MM	●PC9540 ○PC5300	○ML ○MM	○PC6510 ○PC5300	●ML ○MM	●PC5300	●MM	●PC2510 ○PC2505	●MM	●PC2510 ○PC2505
SNMX140808ANER	●MM	●PC3700	-	-	●MM	●PC6510	-	-	-	-	-	-
SNGX140808ANFR	-	-	-	-	-	-	-	-	-	-	●MA	●H05 ○H01

Recommended cutting conditions

ISO	Workpiece			Specific cutting force (N/mm ²)	Brinell hardness (HB)	Grade	C/B		Grade	C/B		ML, MM ap (mm)
	Workpiece materials	ISO	AISI			PC3700	MM	ML	PC5300	MM	ML	
						vc (m/min)	fz (mm/t)		vc (m/min)	fz (mm/t)		
P	Non-ferrous alloy steel Mn < 1.65	C25	1025	1500	125	160	0.30	0.25	150	0.30	0.25	1-3
						215	0.20	0.20	195	0.20	0.20	
						270	0.10	0.10	240	0.10	0.10	
		C45	1045	1700	190	160	0.30	0.25	150	0.30	0.25	
						215	0.20	0.20	195	0.20	0.20	
						270	0.10	0.10	240	0.10	0.10	
	Low alloy steel ≤ 5%	42CrMo4	4140	1700	175	160	0.30	0.25	150	0.30	0.25	
						215	0.20	0.20	195	0.20	0.20	
						270	0.10	0.10	240	0.10	0.10	
	High alloy steel > 5%	X40CrMoV5-1	D2 H13	1950	200	150	0.20	0.25	130	0.20	0.25	
						195	0.15	0.20	170	0.15	0.20	
						240	0.10	0.10	210	0.10	0.10	

Recommended cutting conditions

Workpiece				Specific cutting force (N/mm ²)	Brinell hardness (HB)	Grade	C/B		Grade	C/B		ML, MM
ISO	Workpiece materials	ISO	AISI			PC9540	ML	MM	PC5300	ML	MM	
						vc (m/min)	fz (mm/t)		vc (m/min)	fz (mm/t)		ap (mm)
M	Ferritic/ martensitic	X6CrAl13 X6Cr17	405 430	1800	200	120	0.20	0.25	120	0.20	0.25	1-3
						160	0.10	0.15	160	0.10	0.15	
						200	0.05	0.10	200	0.05	0.10	
		X12CrS13 X6CrMo17-1	416 434	2850	330	110	0.22	0.25	110	0.22	0.25	
						150	0.12	0.15	150	0.12	0.15	
						190	0.06	0.10	190	0.06	0.10	
	X12Cr13	403 410	2350	330	100	0.20	0.25	100	0.20	0.25		
					140	0.10	0.15	140	0.10	0.15		
					180	0.05	0.10	180	0.05	0.10		
	Austenitic	X5CrNi18-9 X2CrNi18-9 X5CrNiMo17-12-2 XCrNiMo17-12-3	304 316	2000	180	70	0.20	0.25	90	0.20	0.25	
						95	0.10	0.15	120	0.10	0.15	
						120	0.05	0.10	150	0.05	0.10	
Austenitic/ ferritic (Duplex)	X2CrNiMoN22-5-3	318LN	2450	260	60	0.20	0.25	70	0.20	0.25		
					80	0.10	0.15	95	0.10	0.15		
					100	0.05	0.10	120	0.05	0.10		

Workpiece				Specific cutting force (N/mm ²)	Brinell hardness (HB)	Grade	C/B		Grade	C/B		ML, MM
ISO	Workpiece materials	ISO	AISI			PC6510	ML	MM	PC5300	ML	MM	
						vc (m/min)	fz (mm/t)		vc (m/min)	fz (mm/t)		ap (mm)
K	Gray cast iron	GG25	No 30 B	900	180	140	0.25	0.3	120	0.25	0.3	1-3
						180	0.20	0.2	160	0.20	0.2	
						230	0.10	0.1	200	0.10	0.1	
	Nodular graphite cast iron	GGG40	80-55-06	870	155	120	0.25	0.3	110	0.25	0.3	
						160	0.20	0.2	145	0.20	0.2	
						200	0.10	0.1	180	0.10	0.1	

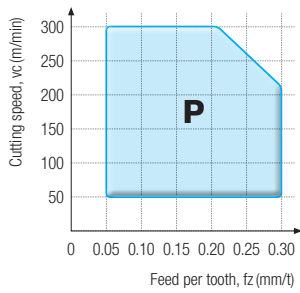
Workpiece				Specific cutting force (N/mm ²)	Brinell hardness (HB)	Grade	C/B		ML, MM
ISO	Workpiece materials	ISO	AISI			PC5300	ML	MM	
						vc (m/min)	fz (mm/t)		ap (mm)
S	Nickel based	Inconel 625	15156-3	2650	250	30	0.15		0.2
						45	0.10		0.1
						60	0.05		0.1
		Inconel 718	9723	3000	320	30	0.15		0.2
						40	0.10		0.1
						50	0.05		0.1
	Cobalt based alloy	Stellite	Stellite	3000-3100	300-320	25	0.15		0.2
						35	0.10		0.1
						45	0.05		0.1
	Titanium alloy steel	Ti-6Al-4V	5832-11	1400	320	30	0.20		0.2
						50	0.15		0.1
						70	0.05		0.1

Workpiece				Specific cutting force (N/mm ²)	Rockwell hardness (HRC)	Grade	C/B	Grade	C/B	MM
ISO	Workpiece materials	ISO	AISI			PC2510	MM	PC2505	MM	
						vc (m/min)	fz (mm/t)	vc (m/min)	fz (mm/t)	ap (mm)
H	High hardened steel (heat treatment)	X40CrMoV5-1	H13(HRC50)	2750	50	40	0.15	40	0.2	1-3
						55	0.10	60	0.1	
						70	0.10	80	0.1	

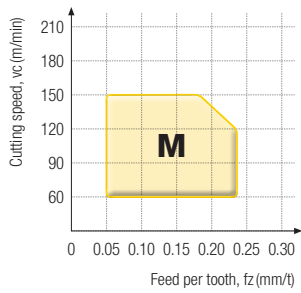
Workpiece				Specific cutting force (N/mm ²)	Brinell hardness (HB)	Grade	C/B		ML, MM
ISO	Workpiece material	ISO	AISI			H05	MA		
						vc (m/min)	fz (mm/t)	ap (mm)	
N	Aluminum	AlMg1SiCu	6061	125 - 310	30 - 65	500	0.15		- 5.5
						700	0.12		
						1000	0.08		
		AlZn5.5MgCu	7075	230 - 570	60 - 150	500	0.15		
						700	0.12		
						1000	0.08		

Recommended cutting conditions

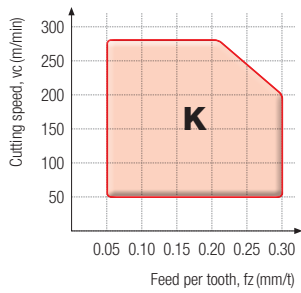
P Steel



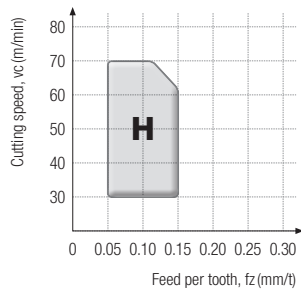
M Stainless steel



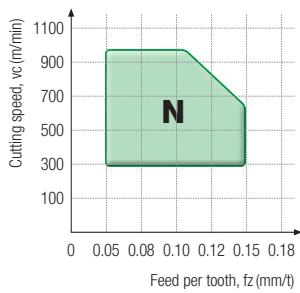
K Cast iron



H Hardened steel



N Aluminum



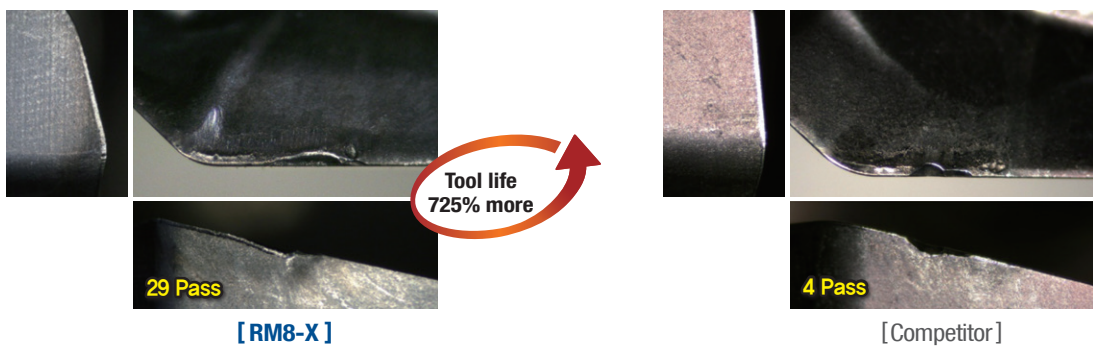
Performance evaluation

Wear resistance

Workpiece Stainless steel (X5CrNiMo17-12-2), 300(L) × 200(W) × 100(H), Steel rectangular tube

Cutting conditions $vc = 120$ (m/min), $fz = 0.15$ (mm/t), $ap = 2.0$ (mm), $ae = 50$ (mm), dry

Tools **Insert** SAGX140808ANER-ML(PC9540) **Holder** RMX8ACM63R-22-6-SA16

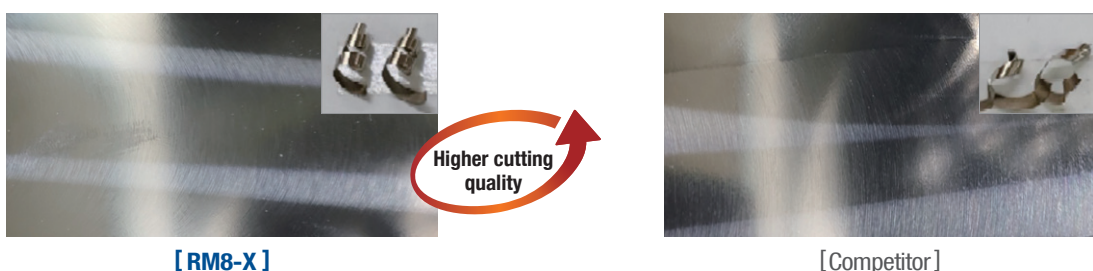


Surface finish

Workpiece Alloy steel (42CrMo4), 300(L) × 200(W) × 100(H), Steel rectangular tube

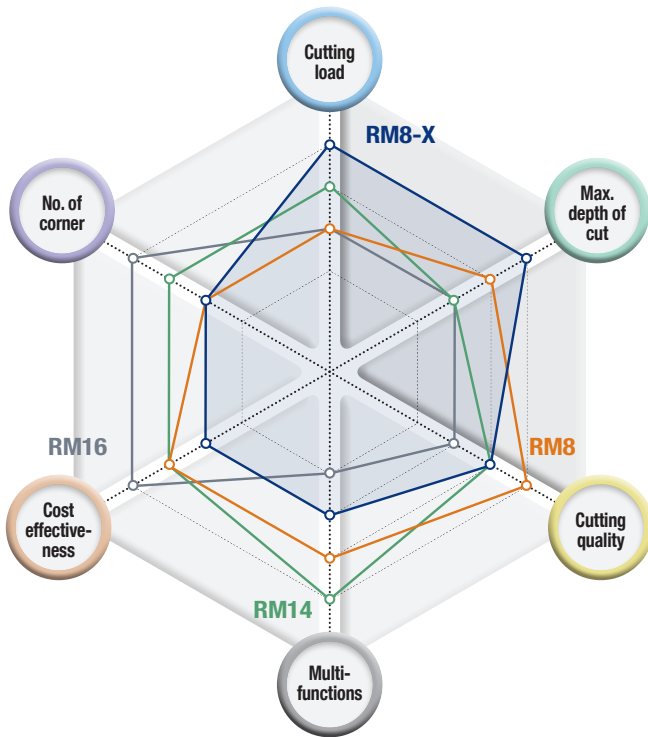
Cutting conditions $vc = 300$ (m/min), $fz = 0.25$ (mm/t), $ap = 2$ (mm), dry, $Ra = 0.5$

Tools **Insert** SNMX140808ANER-MM(PC3700) **Holder** RMX8ACM63R-22-6-SA16



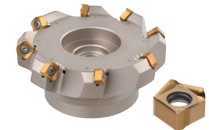
Tool selection guide

—○— RM8-X
 —○— RM8
 —○— RM14
 —○— RM16



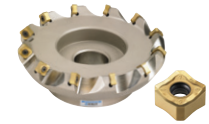
RM8-X ^{new}

- Lower cutting load
- Max. depth of cut



RM8

- Various line-up
- High cost competitiveness
- General use



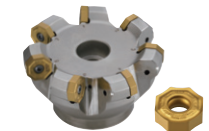
RM14

- Multi-functions
- More corners




RM16

- Maximum No. of cut
- High cost effectiveness



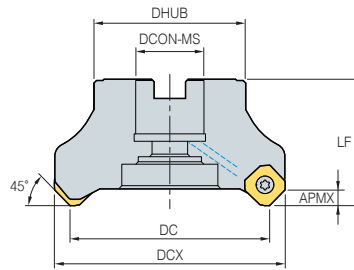
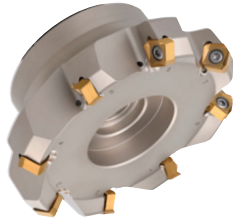
Tools	Cutting load	Max. depth of cut	Cutting quality	Multi-function	Cost effectiveness	No. of corner
RM8-X ^{new}	★★★★★	★★★★★	★★★	★★	★★	★★
RM8	★★	★★★	★★★★★	★★★	★★★	★★
RM14	★★★	★★	★★★	★★★★★	★★★	★★★
RM16	★★	★★	★★	★	★★★★★	★★★★★

Insert

Picture	Designation	Coated					Uncoated		Dimensions (mm)					Geometries
		PC2510	PC3700	PC6510	PC9540	PC5300	H01	H05	IC	BS	S	RE	APMX	
 ^{new}	SNGX 140808ANFR-MA	○	○	○	○	○	○	▲	14.0	1.21	6.58	0.8	5.5	
	SAGX 140808ANER-ML	○	○	○	▲	▲	○	○	14.0	1.21	6.58	0.8	5.5	
	SAGX 140808ANER-MM	○	○	○	○	▲	○	○	14.0	1.21	6.58	0.8	5.5	
	SNMX 140808ANER-MM	○	▲	▲	○	▲	○	○	14.0	1.21	6.58	0.8	5.5	

▲: Stock item Europe ●: Stock item Korea ○: Production on demand

RMX8ACM-SA14



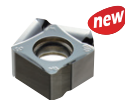
• AR: -8°
• RR: -11°--9°

(mm)

Designation	Stock		DCX	DC	DHUB	DCON-MS	LF	APMX	
RMX8ACM 050R-22-4-SA14	○	4	62.5	50	42	22	40	5.5	0.34
050R-22-5-SA14	▲	5	62.5	50	42	22	40	5.5	0.38
063R-22-5-SA14	○	5	75.5	63	42	22	40	5.5	0.56
063R-22-6-SA14	▲	6	75.5	63	42	22	40	5.5	0.54
080R-27-6-SA14	○	6	92.5	80	60	27	50	5.5	1.00
080R-27-8-SA14	▲	8	92.5	80	60	27	50	5.5	1.04
100R-32-8-SA14	○	8	112.5	100	70	32	50	5.5	2.05
100R-32-10-SA14	▲	10	112.5	100	70	32	50	5.5	2.06
125R-40-8-SA14	○	8	137.5	125	90	40	63	5.5	3.34
125R-40-12-SA14	▲	12	137.5	125	90	40	63	5.5	3.34
RMX8AC 080R-25.4-6-SA14	○	6	92.5	80	60	25.4	50	5.5	1.02
080R-25.4-8-SA14	●	8	92.5	80	60	25.4	50	5.5	1.06
100R-31.75-8-SA14	○	8	112.5	100	70	31.75	63	5.5	2.08
100R-31.75-10-SA14	●	10	112.5	100	70	31.75	63	5.5	2.09
125R-38.1-8-SA14	○	8	137.5	125	90	38.1	63	5.5	3.43
125R-38.1-12-SA14	●	12	137.5	125	90	38.1	63	5.5	3.35

▲ : Stock item Europe ● : Stock item Korea ○ : Production on demand

Available inserts



SNGX-MA



SAGX-ML



SAGX-MM



SNMX-MM

Designation	Coated					Uncoated	
	PC2510	PC3700	PC6510	PC9540	PC5300	H01	H05
SNGX 140808ANFR-MA	○	○	○	○	○	○	▲
SAGX 140808ANER-ML	○	○	○	▲	▲	○	○
140808ANER-MM	○	○	○	○	▲	○	○
SNMX 140808ANER-MM	○	▲	▲	○	▲	○	○

▲ : Stock item Europe ● : Stock item Korea ○ : Production on demand

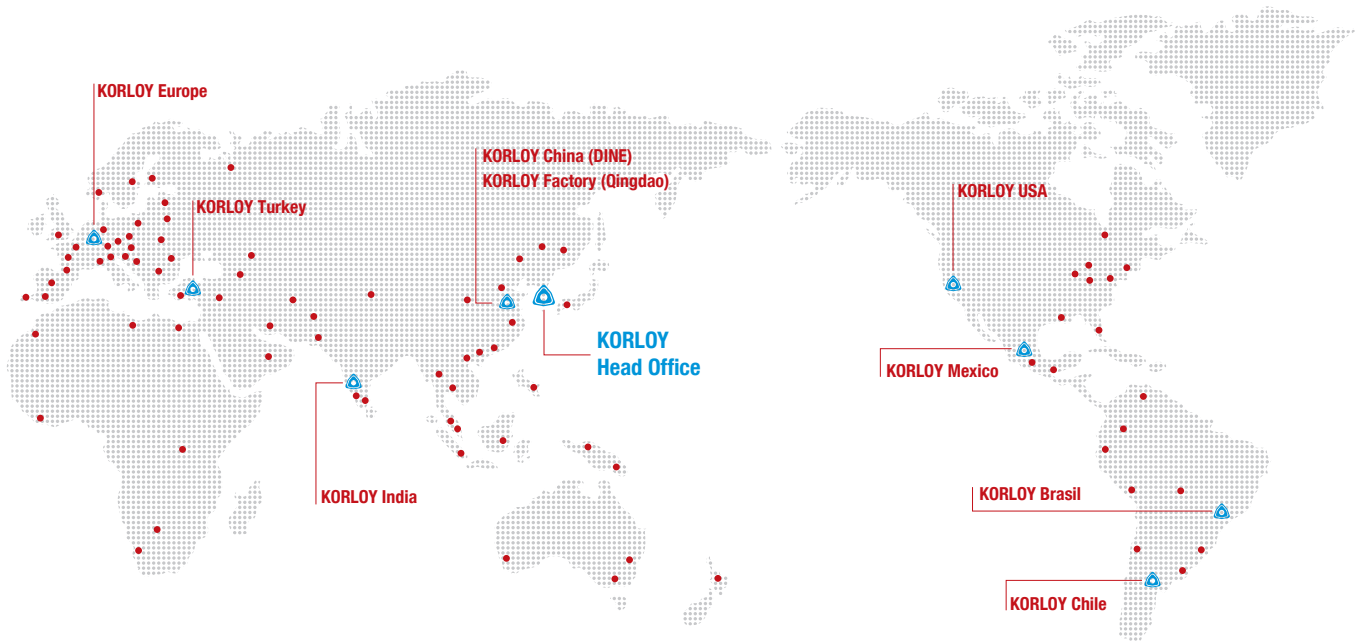
Available arbors

Designation	DCON	Available arbors
RMX8ACM 050R-22-□-SA14	22	BT□□-FMC22-□□
063R-22-□-SA14		
080R-27-□-SA14	27	BT□□-FMC27-□□
100R-32-□-SA14	32	BT□□-FMC32-□□
125R-40-□-SA14	40	BT□□-FMC40-□□

Designation	DCON	Available arbors
RMX8AC 080R-25.7-□-SA14	25.4	BT□□-FMC25.4-□□
100R-31.75-□-SA14	31.75	BT□□-FMC31.75-□□
125R-38.1-□-SA14	38.1	BT□□-FMC38.1-□□

Parts

Specification	Screw	Wrench
Ø50 - Ø125	FTNA0513	TW20-100



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