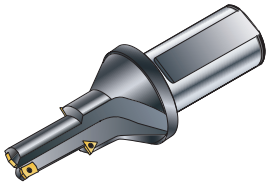
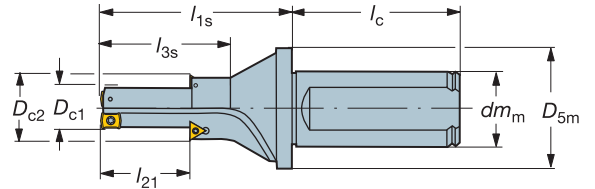


Socket head cap screw

Cylindrical shank



Drill diameter: 13-21 mm
 Hole depth: $1-3 \times D_c$
 Hole tolerance: $+0.30$ mm
 -0.10 mm
 Cutting fluid: Emulsion



l_{21} = Recommended max drilling depth

		Dimensions, mm ¹⁾								
D_{c2}	Screw size	Ordering code	dm_m	D_{5m}	l_{1s}	l_{21} min ²⁾	l_{3s} ³⁾	l_c	Drilling inserts ¹⁾	Chamfer/Step inserts ¹⁾
20	M12	R416.21-0130L25-21	25	40	61	26	40	56	LCMX 02	TCMT 06
24	M14	R416.21-0150L25-21	25	40	70	30	48	56	LCMX 02	TCMT 09
26	M16	R416.21-0170L25-21	25	40	77	34	52	56	LCMX 02	
33	M20	R416.21-0210L32-21	32	40	94	42	66	60	LCMX 04	

¹⁾ Inserts are ordered separately.

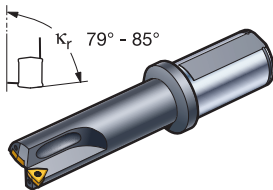
²⁾ l_{21} max drill depth D_{c1}

³⁾ l_{3s} max drill depth $D_{c1} + D_{c2}$

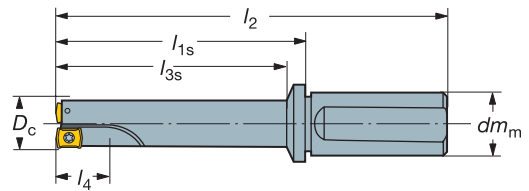
Ordering example: 2 pieces R416.21-0130L25-21

Plunge drills

$4 \times D_c$



Drill diameter, D_c 12.7-35 mm
 Tolerance, D_c ± 0.20 mm
 Max hole depth, l_4 $4 \times D_c$



l_{1s} = programming length

D_c mm	Ordering code	Dimensions, mm						$\sigma_{0.2}$	Inserts ¹⁾
		dm_m	l_{1s}	l_2	l_{3s}	l_4			
12.7	R416.22-0127L20-41	20	63	113	53	12.7	0.2	LCMX02	
16	R416.22-0160L20-41	20	77	127	67	16	0.2	LCMX02	
19	R416.22-0190L25-41	25	89	145	79	19	0.3	LCMX03	
25	R416.22-0250L25-41	25	114	170	104	25	0.4	LCMX04	
35	R416.22-0350L40-41	40	154	214	144	35	1.3	WCMX06	

¹⁾ Inserts are ordered separately.

Ordering example: 2 pieces R416.22-0160L20-51

Engineered special options diameter range 12.7-58 mm, $2-6 \times D_c$ to be quoted.



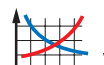
E68



E53



E66



E77

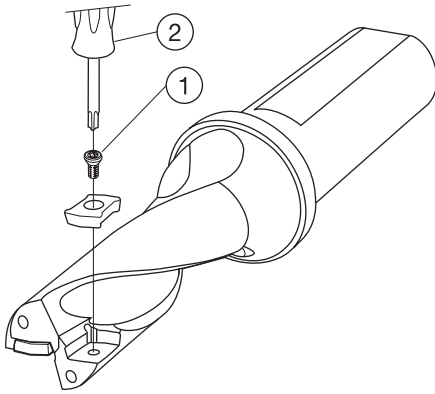


G22



E2

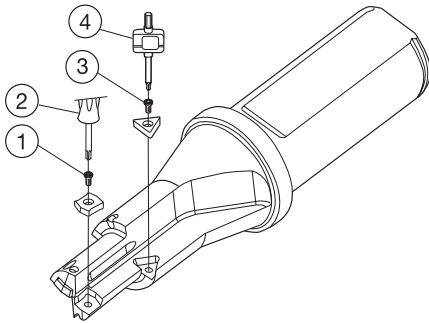
Spare parts for Coromant U drills R416.2, R416.21 and R416.22



	1	2
Insert size	Insert screw	Screwdriver (Torx Plus)
LCMX 02	5513 020-33	5680 046-03 (7IP)
LCMX 03	5513 020-19	5680 046-03 (7IP)
LCMX 04	5513 020-20	5680 046-03 (7IP)
TCMT 06	5513 020-28	5680 051-01 (6IP)
TCMT 09	5513 020-05	5680 051-02 (7IP)
WCMX 05	416.1-832	5680 046-04 (9IP)
WCMX 06	416.1-833	5680 046-05 (10IP)
WCMX 08	416.1-834	5680 046-02 (15IP)

Ordering example: 10 pieces 5513 020-33

Coromant U socket head cap screw drills



























Tool type	1	2	3	4
	Insert screw	Key (Torx Plus)	Insert screw for chamfer/step insert	Key (Torx Plus)
R416.21-0130L25-21	5513 020-33	5680 046-03 (7IP)	5513 020-28 (2x)	5680 051-01 (6IP)
R416.21-0150L25-21	5513 020-33	5680 046-03 (7IP)	5513 020-05 (2x)	5680 051-02 (7IP)
R416.21-0170L25-21	5513 020-33	5680 046-03 (7IP)	5513 020-05 (2x)	5680 051-02 (7IP)
R416.21-0210L32-21	5513 020-20	5680 046-03 (7IP)	5513 020-05 (2x)	5680 051-02 (7IP)

Ordering example: 10 pieces 5513 020-33

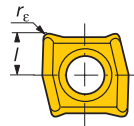
Geometry recommendations for Coromant U drills

Geometry recommendations for Coromant U and T-MAX U drills

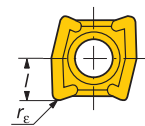
<p>D_c 12.7 –17 mm General choice</p>	<p>Central insert</p> <p>C-53</p> 	<p>Peripheral insert</p> <p>P-53</p> 	<p>P M K N S H</p> <ul style="list-style-type: none"> - Good chip control in most materials including: steel, stainless, cast iron, titanium, heat resistant alloys and aluminium - Low to high cutting speeds - Central and peripheral insert
	<p>Complementary choice</p> <p>TC-53</p> 		<p>P-53</p> 
<p>D_c 17.5 –41 mm Productivity choice</p>	<p>-WM</p> 	<p>Wiper TECHNOLOGY -WM</p> 	<p>P K M</p> <ul style="list-style-type: none"> - Wiper geometry for up to 50% higher feed - For steel and cast iron with hardness above 200HB and easy to machine stainless steels - For stable conditions and open tolerance holes - Central and peripheral insert
	<p>-WM</p> 	<p>-WM</p> 	
<p>D_c 17.5 –58 mm General choice</p>	<p>-53</p> 	<p>-53</p> 	<p>P M K N S H</p> <ul style="list-style-type: none"> - Good chip control in most materials including: steel, stainless, cast iron, titanium, heat resistant alloys and aluminium - Low to high cutting speeds - Central and peripheral insert
	<p>-53</p> 	<p>-53</p> 	
<p>Complementary choice</p>	<p>-53</p> 	<p>-58</p> 	<p>P M</p> <ul style="list-style-type: none"> - Geometry -58, optimized as peripheral insert for low carbon steel and stainless steel - High cutting speeds
	<p>-53</p> 	<p>-58</p> 	
<p>Complementary choice</p>	<p>T-53</p> 	<p>T-53</p> 	<p>P K H</p> <ul style="list-style-type: none"> - Optimized geometries with increased edge security
	<p>T-53</p> 	<p>T-53</p> 	
<p>D_c 26 –58 mm Complementary choice</p>	<p>-53</p> 	<p>-51</p> 	<p>P M K</p> <ul style="list-style-type: none"> - Geometry -51, optimized as peripheral for good chip control in steel, stainless, cast iron - High cutting speeds
	<p>-56</p> 	<p>-56</p> 	

Inserts for Coromant U drills R416.2, R416.21, R416.22

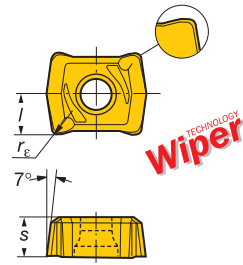
Central
LCMX 02
C-53
D_c 12.7-17.0



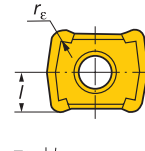
Peripheral
LCMX 02
P-53
D_c 12.7-17.0



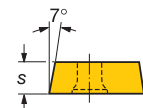
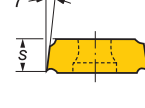
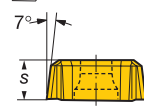
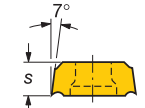
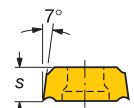
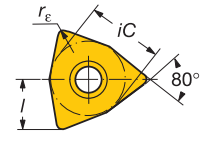
LCMX 03/04
R-WM
D_c 12.7-17.0



LCMX 03/04
D_c 17.5-25.0



WCMX 05/06/08
D_c 26.0-80.0



Ordering code	P			M				K			N			S			H			Dimensions, mm				
	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	l	iC	d ₁	s	r _e
02 LCMX 02 02 04 P-53																				2.68		2.5	2.38	0.4
LCMX 02 02 04 C-53	*																			2.68		2.5	2.38	0.4
LCMX 02 02 04 TC-53	*																			2.68		2.5	2.38	0.4
03 LCMX 03 03 08-53																				3.25		2.5	3.18	0.8
LCMX 03 03 08-53	*																			3.25		2.5	3.18	0.8
LCMX 03 03 04-58																				3.25		2.5	3.18	0.4
LCMX 03 03 08 T-53	*																			3.25		2.5	3.18	0.8
LCMX 03 03 04 R-WM																				3.25		2.5	3.18	0.4
LCMX 03 03 04 R-WM	*																			3.25		2.5	3.18	0.4
04 LCMX 04 03 08-53																				4.0		2.8	3.18	0.8
LCMX 04 03 08-53	*																			4.0		2.8	3.18	0.8
LCMX 04 03 04-58																				4.0		2.8	3.18	0.4
LCMX 04 03 08 T-53	*																			4.0		2.8	3.18	0.8
LCMX 04 03 04 R-WM																				4.0		2.8	3.18	0.4
LCMX 04 03 04 R-WM	*																			4.0		2.8	3.18	0.4
05 WCMX 05 03 04 R-WM																				5.07	7.94	3.2	3.18	0.4
WCMX 05 03 04 R-WM																				5.07	7.94	3.2	3.18	0.4
WCMX 05 03 08 R-51																				5.07	7.94	3.2	3.18	0.8
WCMX 05 03 08 R-53	*																			5.07	7.94	3.2	3.18	0.8
WCMX 05 03 08 R-53	*																			5.07	7.94	3.2	3.18	0.8
WCMX 05 03 08-58																				5.07	7.94	3.2	3.18	0.8
WCMX 05 03 08 T-53	*																			5.07	7.94	3.2	3.18	0.8
WCMX 05 03 08-56																				5.07	7.94	3.2	3.18	0.8
06 WCMX 06 T3 04 R-WM																				6.14	9.52	3.7	3.97	0.4
WCMX 06 T3 04 R-WM	*																			6.14	9.52	3.7	3.97	0.4
WCMX 06 T3 08 R-51																				6.14	9.52	3.7	3.97	0.8
WCMX 06 T3 08 R-53	*																			6.14	9.52	3.7	3.97	0.8
WCMX 06 T3 08 R-53	*																			6.14	9.52	3.7	3.97	0.8
WCMX 06 T3 08-58																				6.14	9.52	3.7	3.97	0.8
WCMX T3 08 T-53	*																			6.14	9.52	3.7	3.97	0.8
WCMX T3 08-56																				6.14	9.52	3.7	3.97	0.8
08 WCMX 08 04 12 R-51																				8.14	12.7	4.3	4.76	1.2
WCMX 08 04 12 R-53	*																			8.14	12.7	4.3	4.76	1.2
WCMX 08 04 12 R-53	*																			8.14	12.7	4.3	4.76	1.2
WCMX 08 04 12-58																				8.14	12.7	4.3	4.76	1.2
WCMX 08 04 12 T-53	*																			8.14	12.7	4.3	4.76	1.2
WCMX 08 04 12-56																				8.14	12.7	4.3	4.76	1.2

- = Peripheral insert
- ⊙ = Central insert
- ⊕ = Central and peripheral insert

Ordering example: 100 pieces LCMX 02 02 04 P-53

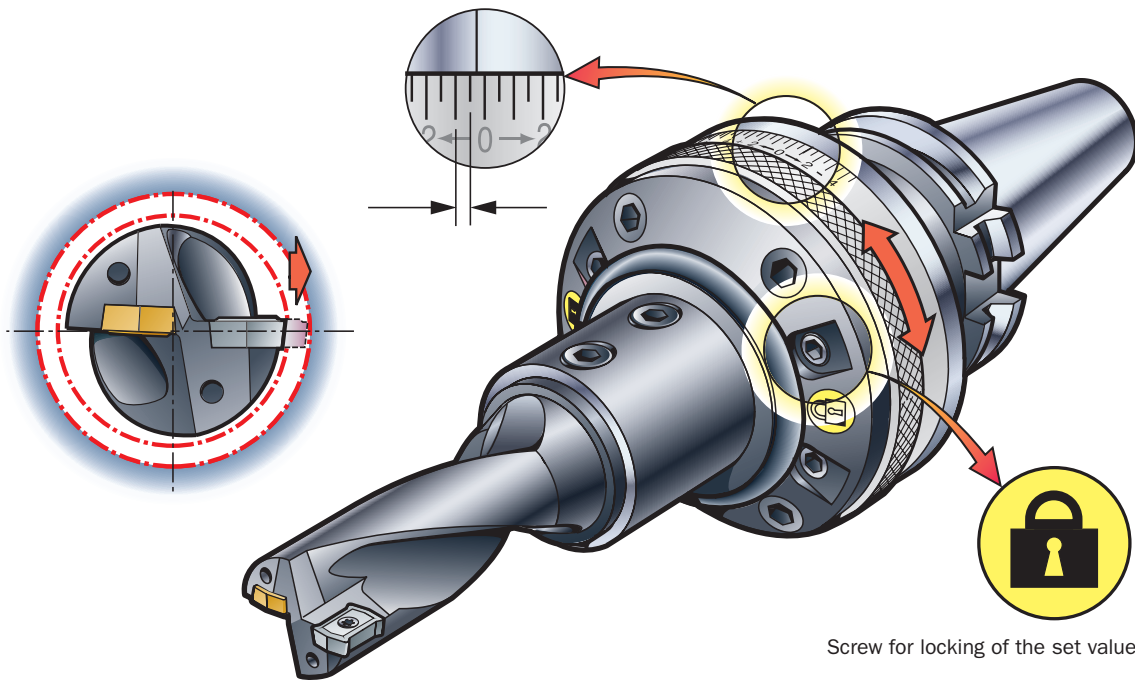
★ = First choice

Coromant® holder for drills with cylindrical shanks (ISO 9766) adjustable for flexible hole making.

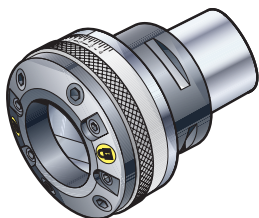
Will optimize rotating use of Coromant drills with
indexable inserts.

Allows manufacturing of larger holes than the nominal
hole diameter the drill is specified for.

Working range: Nominal diameter +1.5mm.
Adjustable in increments of 0.05mm. The
scale-zero denotes nominal diameter.

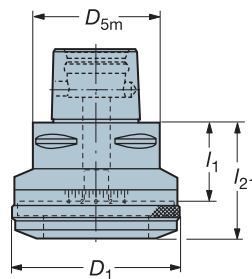


Adjustable drill holder

Coromant Capto®
391.277

Diametric adjustment in increments of 0.05 mm: -0.4
+1.4

Note: Drill should not be adjusted below nominal diameter.



l_1 = programming length

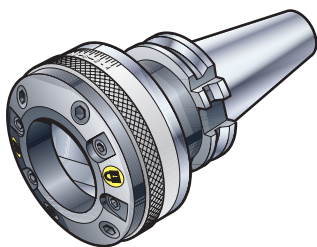
Coupling size	Ordering code	Dimensions, mm					$\frac{\Delta}{100}$	Slide size
		D_{5m}	D_1	l_1	l_{21}			
C5	C5-391.277-01 040A	50	86	40	64.6	1.7	01	
C6	C6-391.277-01 040B	63	86	40	64.6	1.9	01	
	C6-391.277-02 045A	63	106	45	69.6	2.9	02	
C8	C8-391.277-02050A	80	106	50	74.6	3.5	02	

Slides must be ordered separately, see page E72.

Ordering example: 2 pieces C5-391.277-01 040 A

Solid

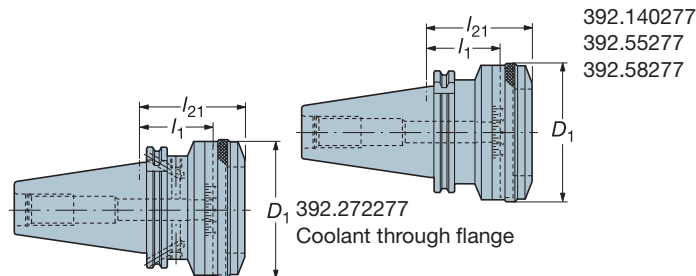
392.140277 / .410277 / .55277 / .58277



Diametric adjustment in increments of 0.05 mm: -0.4
+1.4

Note: Drill should not be adjusted below nominal diameter.

l_1 = programming length



Machine design	Taper	Ordering code	Dimensions, mm				$\frac{\Delta}{100}$	Slide size
			D_1	l_1	l_{21}			
ISO 7388/1	ISO40	392.272277-4001055A	86	55	79.6	2.2	01	
	ISO40	392.140277-4001055A	86	55	79.6	2.3	01	
	ISO50	392.140277-5002055A	106	55	79.6	4.7	02	
	ISO50	392.272277-5002055A	106	55	79.6	4.7	02	
	ISO50	392.140277-5003075A	140	75	85	6.5	03	
	ISO50	392.272277-5003075A	140	75	85	6.5	03	
MAS 403BT	ISO40	392.55277-40 01 055A	86	55	79.6	2.1	01	
	ISO50	392.58277-50 02 055A	106	55	79.6	4.4	02	
	ISO50	392.58277-50 03 080A	140	80	90	6.5	03	

Ordering example: 2 pieces 392.272277-4001055A

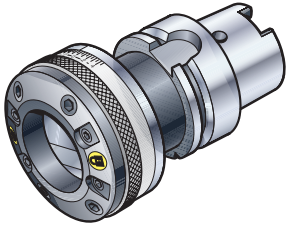
Slides must be ordered separately, see page E72.



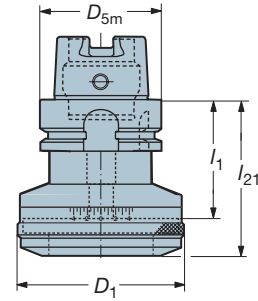
Adjustable drill holder

HSK

392.410 277



Diametric adjustment in increments of 0.05 mm: -0.4
+1.4



Note: Hole for data carrier is not standard. Drill should not be adjusted below nominal diameter.

l_1 = programming length

Machine design	Taper	Ordering code	Dimensions, mm					Slide size
			D_1	D_{5m}	l_1	l_{21}	$\frac{kg}{kg}$	
HSK coupling	63	392.410277-6301060B	86	63	60	84.6	1.8	01
	100	392.410277-10002065A	106	100	65	89.6	4.3	02
	100	392.410277-10003085A	140	100	85	95	6.3	03

Slides must be ordered separately, see page E72.

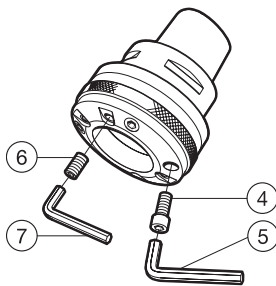
Coolant tube must be ordered separately, see page G130.

Ordering example: 2 pieces 392.410277-63 01 060 B

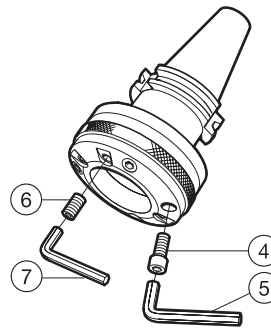
Spare parts for adjustable drill holders

01 - 02

Cx-391.277

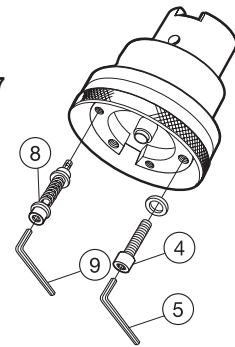


392.140277
392.272277
392.55277
392.58277
392.410 277



03

392.140277
392.272277
392.58277
392.410 277



Cx-391.277	4	5 ¹⁾	6	7	8 ¹⁾	9
392.140277						
392.272277						
392.55277						
392.58277						
392.410 277	Screw	Key (mm)	Screw	Key (mm)	Preclamp set	Key (mm)
-xx 01	3212 010-361	3021 010-050 (5.0)	5519 026-06	3021 010-040 (4.0)	-	-
-xx 02	3212 010-361	3021 010-050 (5.0)	5519 026-06	3021 010-040 (4.0)	-	-
-xx 03	3212 010-411	3021 010-060 (6.0)	-	-	5519 200-01	3021 010-050 (5.0)

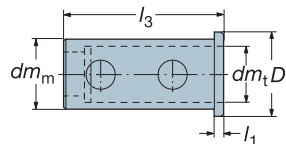
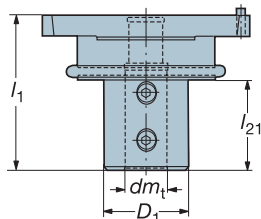
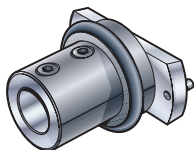
¹⁾ Accessories, must be ordered separately

Ordering example: 10 pieces 3212 010-361

Slide for adjustable drill holders

Shank according to ISO 9766

393.277

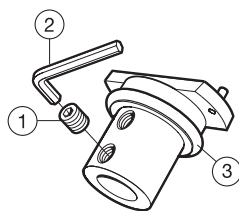
 l_1 = programming length

Slide size	Ordering code	Dimensions, mm					Sleeve	Dimensions, mm				
		dm_t	D_1	l_1	l_{21}	$\frac{kg}{kg}$		Ordering code	dm_m	dm_t	D_1	l_1
01	393.277-20 01 075 A	20	40	75	43	0.7	-					
	393.277-25 01 080 A	25	45	80	48	0.8	-					
02	393.277-20 02 075 A	20	40	75	43	1.0	-					
	393.277-25 02 085 A	25	45	85	54	1.2	-					
	393.277-32 02 085 A	32	52	85	54	1.3	-					
03	393.277-40 03 090 A	40	65	100	65	3.3	393.277-40 32 074 A	40	32	48	3	74
	393.277-50 02 100 A	50	75	110	75	3.7						

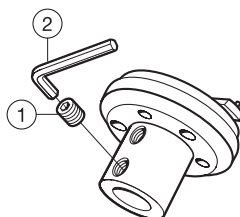
Ordering example: 2 pieces 393.277-20 01 075 A

Spare parts for slide for adjustable drill holders

01 - 02



03



393.277

Slide	1	2 ¹⁾	3
	Screw	Key (mm)	O-ring
393.277-20 01	5514 042-04	3021 010-040 (4.0)	5641 001-31
393.277-25 01	416.1-838	3021 010-060 (6.0)	5641 001-31
393.277-20 02	5514 042-04	3021 010-040 (4.0)	5641 001-32
393.277-25 02	416.1-838	3021 010-060 (6.0)	5641 001-32
393.277-32 02	416.1-838	3021 010-060 (6.0)	5641 001-32
393.277-40 03	5514 042-06	3021 010-100 (10.0)	-
393.277-50 03	5514 042-06	3021 010-100 (10.0)	-

¹⁾ Accessories, must be ordered separately

Ordering example: 10 pieces 5414 042-04

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