

Manufacturing of Hydraulic Cylinders



Skiving and roller burnishing tool

- Working range diameter: 38.0 – 305.9 mm
- Hole tolerance: IT8
- Surface finish: $R_a = 0.05 - 0.20 \mu\text{m}$
- Machines: Deep hole drilling, honing and converted lathes

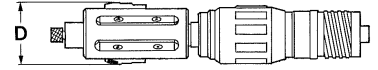
Benefits (compared to honing)

- 80-90% saving of machine time which reduces tool costs per meter of tube length
- Produces super finish surface, with a bore tolerance of IT8, thereby reduces the sealing wear making it ideal for pistons
- The tools can be optimized for both skiving and roller burnishing operations

Combined skiving and roller burnishing tools



Working range, diameter: 38.0-305.9 mm
 Working range, length: Depending on machine
 Tolerance: IT 8
 Surface finish: R_a 0.05-0.20 μ m
 Drilling system: STS or Ejector



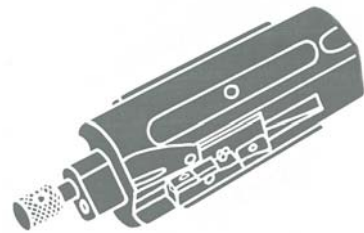
Combined skiving and roller burnishing tool



Skiving and roller burnishing
 double stroke

Diameter range, D mm	Ordering code	Drill tube diameter, mm	E-thread range
38.0-51.9	SRD-xxxx-01	36	08
52.0-67.9		47	11
68.0-90.9		62	15
91.0-110.9		82	18
111.0-148.9		94	19
149.0-185.9		142	23
186.0-221.9		178	26
222.0-257.9		214	29
258.0-305.9		250	32

Skiving part



Diameter range, D mm	Ordering code	Connection between skiving and roller burnishing parts
38.0-148.9	R420.37-xxxx-01	Whistle Notch
149.0-221.9		E-thread
222.0-305.9		E-thread

Roller burnishing part



Diameter range, D mm	Ordering code	Connection between roller burnishing part and drill tube	Drill tube diameter, mm	E-thread range
38.0-51.9	6853-111-xxxx0	E-thread	36	08
52.0-67.9			47	11
68.0-90.9			62	15
91.0-110.9			82	18
111.0-148.9			94	19
149.0-185.9	6833-111-xxxx0	E-thread	142	23
186.0-221.9			178	26
222.0-257.9	6836-111-xxxx0	Flange	214	29
258.0-305.9			250	32

To be ordered as replacement part for combined skiving and roller burnishing tool.

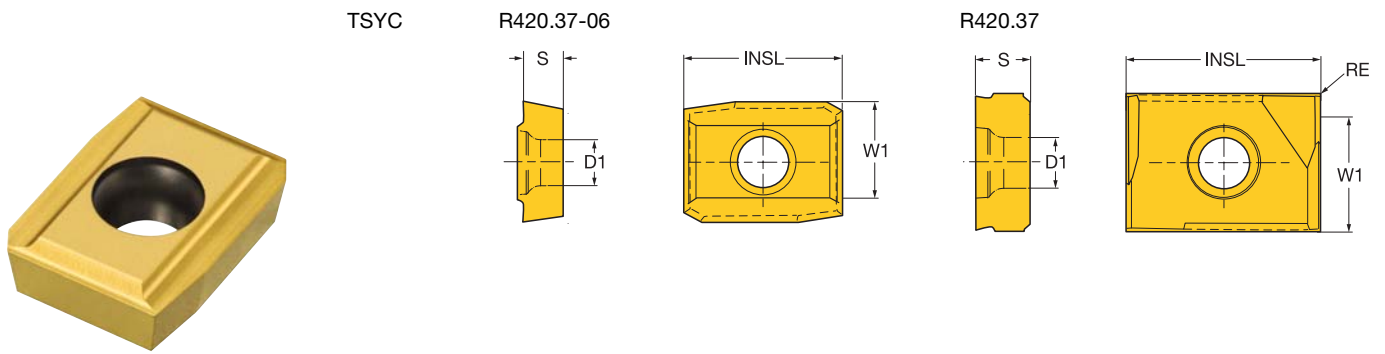
xxxx refers to the diameter of the tool, when ordering use the diameter size as in examples below:


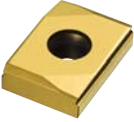
DC=39.4 mm SRD-0394-01

DC=224.5 mm SRD-2245-01

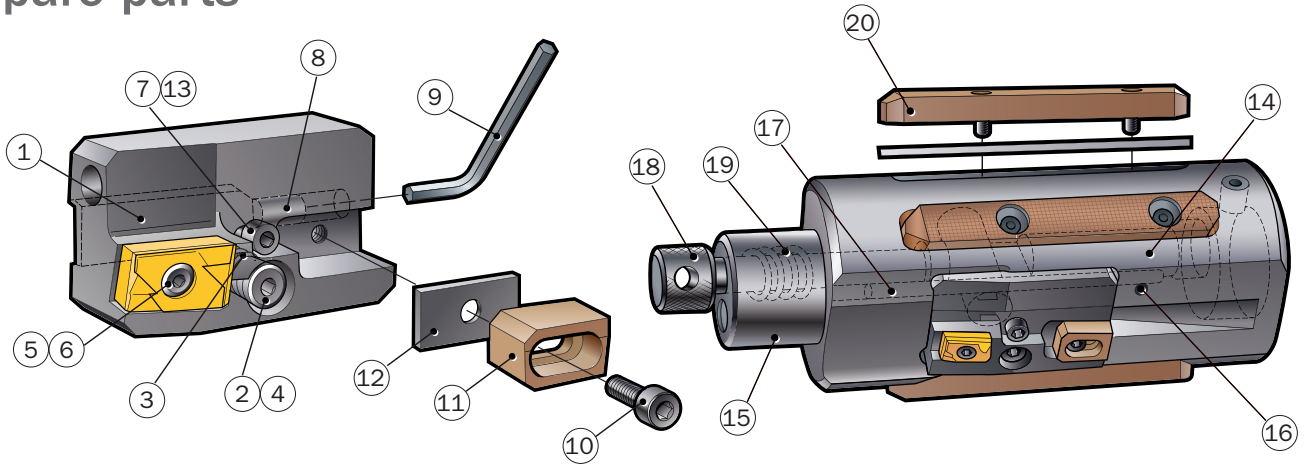
Convert to metric when using inch

Inserts



			P	M	K	S	Dimensions, mm, inch										
			1025	1525	1025	1525	1025	S	S"	RE	RE"	D1	D1"	W1	W1"	INSL	INSL"
Finishing		06	R420.37-06 02 00-01	☆	☆	☆	☆	2.38	.093			3.10	.122	7.50	.295	10.00	.393
				☆	☆	☆	☆										
				☆	☆	☆	☆										
					☆	☆	☆										
Finishing		07	R420.37-07 08 00-01	☆	☆	☆	☆	3.96	.156	0.30	.011	3.70	.145	8.00	.314	12.00	.472
		11	R420.37-11 12 00-01	☆	☆	☆	☆	4.76	.187	0.30	.011	4.30	.169	12.00	.472	17.00	.669
				☆	☆	☆	☆										
					☆	☆	☆										

Spare parts



Spare parts for cartridges for skiving part R420.37

No.	R420.37-300	R420.37-400	R420.37-500
1. Wedge	R420.37-300-10	R420.37-400-10	R420.37-500-10
2. Screw	5512 083-01	5512 081-02	5512 081-01
3. Spring	5561 003-02	5561 003-01	5561 001-19
4. Key	5680 046-01	174.1-863 (2.5)	174.1-863 (2.5)
5. Screw	416.1-831	416.1-833	416.1-834
6. Key	5680 046-01	5680 046-05	5680 046-02
7. Screw	3212 010-155	3212 010-207	3212 010-207
8. Screw	3214 010-257	3214 010-308	3214 010-308
9. Key	174.1-870	174.1-863	174.1-863
10. Screw	3212 010-155	3212 010-207	3212 010-207
11. Guide pad	420.37-305	420.37-405	420.37-505
12. Shim	420.37-305-0.40	420.37-405-0.40	420.37-505-0.40
13. Key	174.1-870 (2.0)	174.1-863 (2.5)	174.1-863 (2.5)

Spare parts for skiving head

No.	Ø 38 - 56.9 mm	Ø 57 - 90.9 mm	Ø 91 - 305.6 mm
14. Control gear	420.37-330	420.37-430	420.37-530
15. Cap	420.37-332	420.37-432	420.37-532
16. Screw	5561 003-2	5561 003-01	5561 001-19
17. Pin	3111 020-477	3111 020-526	3111 020-577
18. Push rod	420.37-331	420.37-531	420.37-531
19. Spring	5561 001-09	5561 001-02	5561 001-02
20. Support pads	3212 010-155	3212 010-207	3212 010-207

Spare parts for diameter range 38.0 – 305.9 mm

Diameter range (mm)	Cartridge		AP	Support pad	Insert	Shims
38.0 – 56.9	R420.37-300		0.6	R420.37-310-01	R420.37-06 02 00-01	R420.37-310-, 010, 020, 030
57.0 – 67.9	–	R420.37-400	1.0	R420.37-410-01	R420.37-07 08 00-01	R420.37-410-01
68.0 – 90.9	–	R420.37-400	1.0	R420.37-415-01	R420.37-07 08 00-01	R420.37-415-01
91.0 – 110.9	–	R420.37-500	1.6	R420.37-510-01	R420.37-11 12 00-01	R420.37-510-01
111.0 – 148.9	–	R420.37-500	1.6	R420.37-510-02	R420.37-11 12 00-01	R420.37-510-02
149.0 – 185.9	–	R420.37-500	1.6	R420.37-515-01	R420.37-11 12 00-01	R420.37-515-01
186.0 – 305.9	–	R420.37-500	1.6	R420.37-515-02	R420.37-11 12 00-01	R420.37-515-02

Spare parts for rolls and cones

Diameter range (mm)	Rolls	Cones
38 – 43.9	6100-701-00218	6701-218-XXXX0
44 – 46.9	6100-701-00265	6701-265-XXXX0
47 – 67.9	6100-701-00312	6701-312-XXXX0
68 – 90.9	6100-701-00531	6701-531-XXXX0
91 – 122.9	6100-701-00687	6701-687-XXXX0
123 – 305.9	6100-701-00812	6701-812-XXXX0

Spare parts for cages

Cage	Diameter range (mm)								
	38	47	52	57	68	75	91	99	111
	– 46.9	– 51.9	– 56.9	– 67.9	– 74.9	– 90.9	– 98.9	– 110.9	– 122.9
6702-112-XXXX0	X		X		X		X		X
6702-212-XXXX0		X		X		X		X	

Cage	Diameter range (mm)								
	123	149	162	186	198	222	234	258	270
	– 148.9	– 161.9	– 185.9	– 197.9	– 221.9	– 233.9	– 257.9	– 269.9	– 305.9
6702-112-XXXX0		X		X		X		X	
6702-212-XXXX0	X		X		X		X		X

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