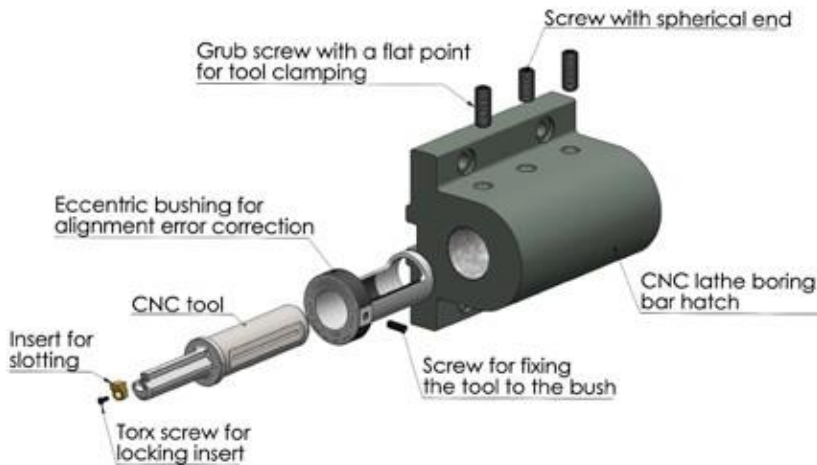


MEGACUT

CATALOGO



THE REV SYSTEM FOR CNC LATHES



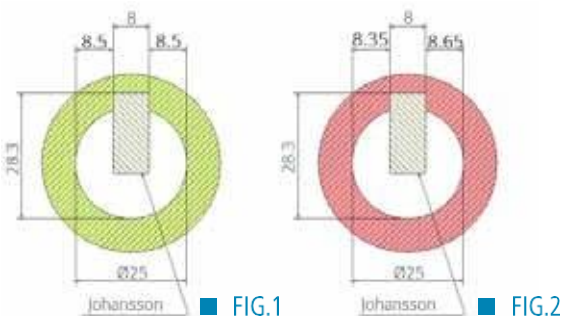
the bushing will be adjusted in one direction or the other, to eliminate it. The eccentric bushing is only required if the CNC lathe does not have a Y axis. If, on the other hand, the lathe is equipped with said axis, the eccentric bushing must not be installed and the CNC functions are used to set up the exact position.

ASSEMBLY ON CNC LATHES

- Place the insert in the tool housing and clamp in on by tightening the Torx screw with the screwdriver;
- Place the tool inside the eccentric bushing and align the white notch engraved on the tool collar with 0 on the front of the bushing; then, tighten the clamping screw positioned radially on the bushing collar, to lock the tool to the bushing;
- Insert the unit composed of bushing and tool inside the lathe's boring bar hatch, tighten the screw with the spherical end inside the centering groove on the tool's socket rod, being careful not to completely block the tool, and finally tighten the two flat point grub screws.

CHECKS AND ADJUSTMENTS

- **W**hen the first key has been processed, one of the ways to check the alignment is to fit a Johansson block, without any room for movement, in the processed housing and, use a gauge to take the measurement between the end of the diameter and the wall of the Johansson block.



In the example provided in Fig. 1 the measured value 8.50 mm is correct, while in Fig.2 the measured value is 8.35 mm on one side and 8.65 on the other, resulting in an alignment error of 0.15 mm that needs to be corrected.

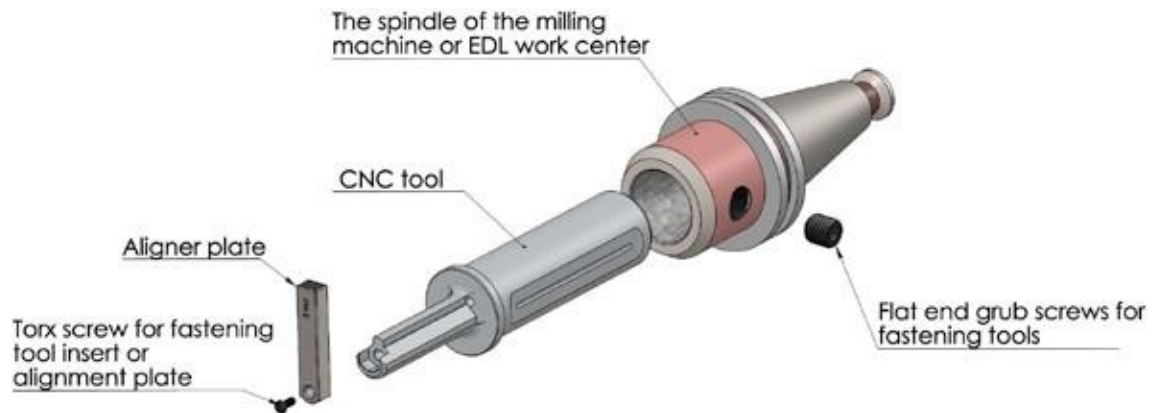
If there is an alignment error that needs to be corrected, perform the following operations:

- Start by loosening the flat point grub screws that hold the tool in the boring bar hatch and the grub screw positioned radially in the collar of the eccentric bushing, turn the eccentric bushing in the opposite direction of the error; it basically acts as a y axis, moving the tool in Y+ and Y-. Each notch engraved on the bushing is equal to 0.03 mm;
- Tighten the clamping grub screw positioned radially on the bushing collar back up, followed by all of the other screws on the boring bar hatch.

We advise you to always observe the recommended parameters and suggestions. In the example provided above it would have been necessary to rotate the eccentric bushing by five notches to correct the alignment.



THE REV SYSTEM FOR CNC MILLING MACHINES

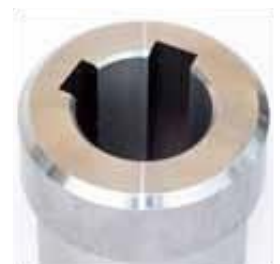


ASSEMBLY ON CNC MILLING MACHINES

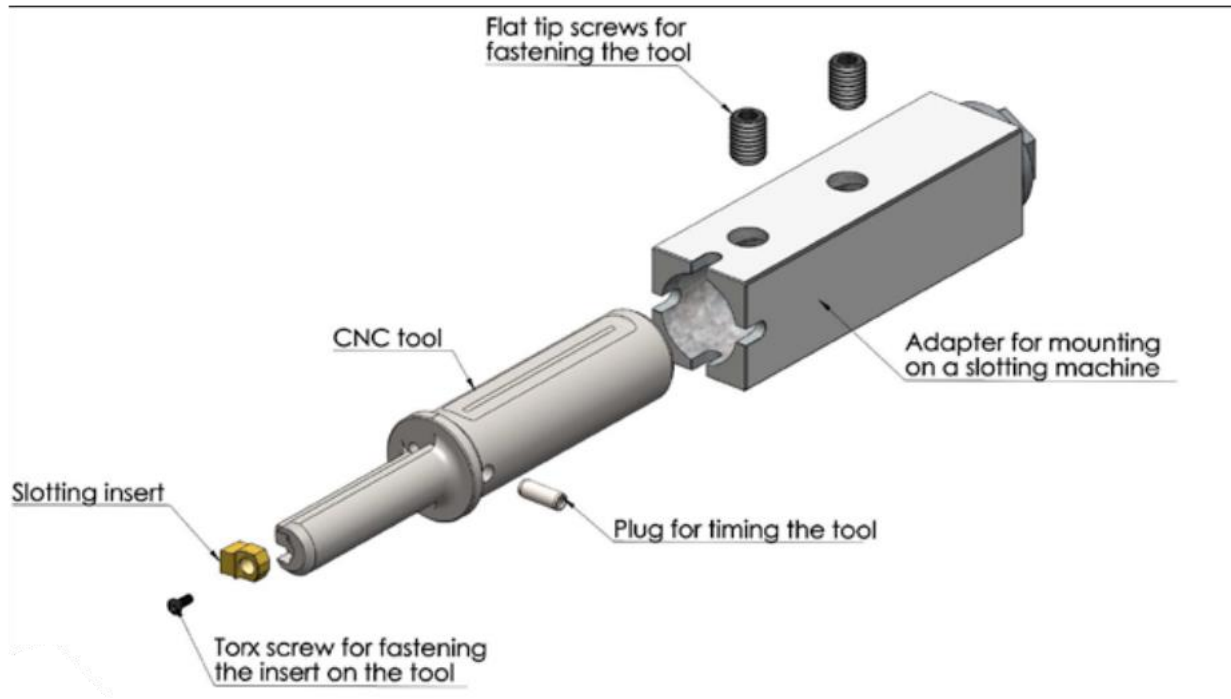
- Assemble the tool directly on a Weldon fitting (we recommend one with an internal supply);
- Position the selector on MDI and place the machine in spindle configuration (for example Fanuc M19);
- Place the aligner plate in the insert housing and, using a gauge or comparator, slide the axis along the flat surface of the plate until you achieve perfect alignment, parallel to the direction of operation;
- Tighten the bolts on the Weldon fitting so as to clamp the tool on, then remove the aligner plate and put the insert in place.

CNC PROGRAMMINGS

- for tool operation. These are provided free of charge on customer demand through access to the reserved area of our website. They are developed for the most common types of CNC control currently available on the market.
- Using these programmes it is very easy for the operator to process simple key housings and conical internal gears, quickly and efficiently.



THE REV SYSTEM FOR SLOTTERS



ASSEMBLY ON SLOTTERS

- Place the insert in the tool housing and clamp in on by tightening the Torx screw with the screwdriver;
- Insert the tool inside the square or prismatic adapter and lock it in place using the flat point grub screws;
- Attach the square or prismatic adapter to the slotting or shaping machine.



PROCESSINGS



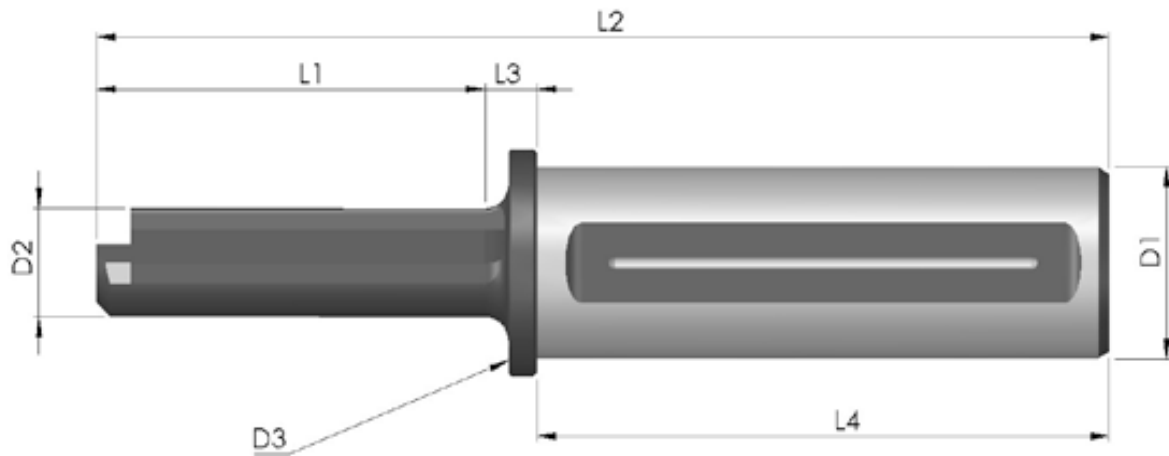
SPECIAL TOOLS AND INSERTS



WORKING PARAMETERS AND PERFORMANCES

■ The cutting speed, the increase for each stroke and the service life of the cutting tool essentially depend on the material being processed.

TOOLS FOR INTERNAL



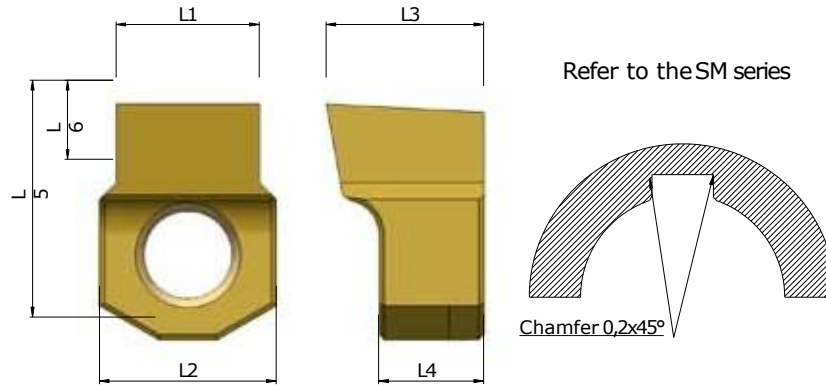
CODE	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	D1 (mm)	D2 (mm)	D3 (mm)	Aligner	Screwdriver	Clamping screw	Minimum hole (mm)	Weight (g)
UT-02-25*	25	124	9	90	25	6	30	PN-0	T08	VN-1	7	382
UT-02-25-L*	34,5	133,5	9	90	25	6	30	PN-0	T08	VN-1	7	354
UT-02-32*	25	134	9	100	32	6	37	PN-0	T08	VN-1	7	600
UT-02-32-L*	34,5	143,5	9	100	32	6	37	PN-0	T08	VN-1	7	654
UT-03-25*	30	129	9	90	25	8	30	PN-1	T08	VN-1	8,7	368
UT-03-25-L*	40	139	9	90	25	8	30	PN-1	T08	VN-1	8,7	362
UT-03-32*	30	139	9	100	32	8	37	PN-1	T08	VN-1	8,7	673
UT-03-32-L*	40	149	9	100	32	8	37	PN-1	T08	VN-1	8,7	678
UT-04-25*	40	139	9	90	25	10	30	PN-1	T08	VN-1	11	368
UT-04-25-L*	56	155	9	90	25	10	30	PN-1	T08	VN-1	11	377
UT-04-32*	40	149	9	100	32	10	37	PN-1	T08	VN-1	11	672
UT-04-32-L*	56	165	9	100	32	10	37	PN-1	T08	VN-1	11	684
UT-05-25*	46	145	9	90	25	12	30	PN-1	T08	VN-1	13	382
UT-05-25-L*	66	165	9	90	25	12	30	PN-1	T08	VN-1	13	408
UT-05-32*	46	155	9	100	32	12	37	PN-1	T08	VN-1	13	698
UT-05-32-L*	66	175	9	100	32	12	37	PN-1	T08	VN-1	13	711
UT-06-25*	56	155	9	90	25	16	30	PN-2	T15	VN-2	17	428
UT-06-25-L*	81	180	9	90	25	16	30	PN-2	T15	VN-2	17	453
UT-06-32*	56	165	9	100	32	16	37	PN-2	T15	VN-2	17	725
UT-06-32-L*	81	190	9	100	32	16	37	PN-2	T15	VN-2	17	765
UT-08-25*	68	167	9	90	25	20	30	PN-2	T15	VN-2	21,5	488
UT-08-25-L*	100	199	9	90	25	20	30	PN-2	T15	VN-2	21,5	574

UT-08-32*	68	177	9	100	32	20	37	PN-2	T15	VN-2	21,5	820
UT-08-32-L*	100	209	9	100	32	20	37	PN-2	T15	VN-2	21,5	868
UT-10-25	86	185	9	90	25	25	32	PN-3	T20	VN-3	28	647
UT-10-25-L	126	225	9	90	25	25	32	PN-3	T20	VN-3	28	797
UT-10-32*	86	195	9	100	32	25	37	PN-3	T20	VN-3	28	935
UT-10-32-L*	126	235	9	100	32	25	37	PN-3	T20	VN-3	28	1097
UT-12-25	104	203	9	90	25	30	35	PN-3	T20	VN-3	32	824
UT-12-25-L	161	260	9	90	25	30	35	PN-3	T20	VN-3	32	1131
UT-12-32*	104	213	9	100	32	30	37	PN-3	T20	VN-3	32	1157
UT-12-32-L*	161	270	9	100	32	30	37	PN-3	T20	VN-3	32	1407
UT-14/16-25	126	225	9	90	25	35	37	PN-4	T20	VN-3	37	1211
UT-14/16-25-L	180	279	9	90	25	35	37	PN-4	T20	VN-3	37	1548
UT-14/16-32	126	235	9	100	32	35	37	PN-4	T20	VN-3	37	1490
UT-14/16-32-L	180	289	9	100	32	35	37	PN-4	T20	VN-3	37	1748
UT-18/25-32	140	249	9	100	32	40	45	PN-5	BRUG.5	VN-4	45	1903
UT-18/25-32-L	200	309	9	100	32	40	45	PN-5	BRUG.5	VN-4	45	2189

*On these tools there is a 4mm hole for forced coolant adduction.

INSERTS (MM)

slot, leaving the hole burr-free. This type of chamfering can only be carried out on UNI keys. We also manufacture special inserts on customer demand.



CODE	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	L5 (mm)	L6 (mm)	Tool	Resharpen er
IN-02 P9	1,994	5	6,5	5	6	1,3	UT-02	RF-0
IN-02 P9-SM	1,994	5	6,5	5	6	1,09	UT-02	RF-0
IN-02 H7	2,010	5	6,5	5	6	1,3	UT-02	RF-0
IN-02 H7-SM	2,010	5	6,5	5	6	1,09	UT-02	RF-0
IN-02 D10	2,060	5	6,5	5	6	1,3	UT-02	RF-0
IN-02 C11	2,120	5	6,5	5	6	1,3	UT-02	RF-0
IN-03 P9	2,994	6,08	6,5	5	7,5	2	UT-03	RF-1
IN-03 P9-SM	2,994	6,08	6,5	5	7,5	1,42	UT-03	RF-1
IN-03 H7	3,010	6,08	6,5	5	7,5	2	UT-03	RF-1
IN-03 H7-SM	3,010	6,08	6,5	5	7,5	1,42	UT-03	RF-1
IN-03 D10	3,06	6,08	6,5	5	7,5	2	UT-03	RF-1
IN-03 C11	3,120	6,08	6,5	5	7,5	2	UT-03	RF-1
IN-04 P9	3,988	6,08	7	5	8	2,6	UT-04	RF-1
IN-04 P9-SM	3,988	6,08	7	5	8	2,07	UT-04	RF-1
IN-04 H7	4,012	6,08	7	5	8	2,6	UT-04	RF-1
IN-04 H7-SM	4,012	6,08	7	5	8	2,07	UT-04	RF-1
IN-04 D10	4,078	6,08	7	5	8	2,6	UT-04	RF-1
IN-04 C11	4,145	6,08	7	5	8	2,6	UT-04	RF-1
IN-05 P9	4,988	6,08	7	5	8	3	UT-05	RF-1
IN-05 P9-SM	4,988	6,08	7	5	8	2,74	UT-05	RF-1
IN-05 H7	5,012	6,08	7	5	8	3	UT-05	RF-1
IN-05 H7-SM	5,012	6,08	7	5	8	2,74	UT-05	RF-1
IN-05 D10	5,078	6,08	7	5	8	3	UT-05	RF-1
IN-05 C11	5,145	6,08	7	5	8	3	UT-05	RF-1
IN-06 P9	5,988	10,08	9	6	13,5	4	UT-06	RF-2
IN-06 P9-SM	5,988	10,08	9	6	13,5	3	UT-06	RF-2
IN-06 H7	6,012	10,08	9	6	13,5	4	UT-06	RF-2
IN-06 H7-SM	6,012	10,08	9	6	13,5	3	UT-06	RF-2
IN-06 D10	6,078	10,08	9	6	13,5	4	UT-06	RF-2
IN-06 C11	6,145	10,08	9	6	13,5	4	UT-06	RF-2

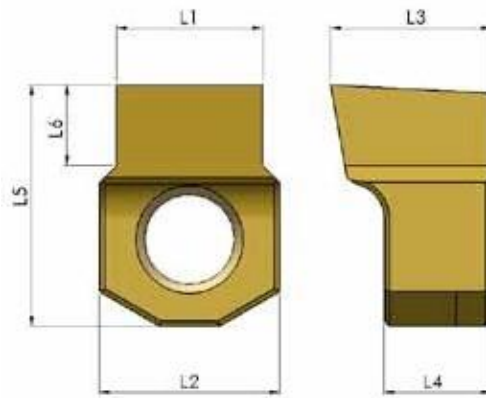
TOOLS AND INSERTS



IN-08 P9	7,985	10,08	9	6	13,5	4,5	UT-08	RF-2
IN-08 P9-SM	7,985	10,08	9	6	13,5	3,78	UT-08	RF-2
IN-08 H7	8,015	10,08	9	6	13,5	4,5	UT-08	RF-2
IN-08 H7-SM	8,015	10,08	9	6	13,5	3,78	UT-08	RF-2
IN-08 D10	8,098	10,08	9	6	13,5	4,5	UT-08	RF-2
IN-08 C11	8,170	10,08	9	6	13,5	4,5	UT-08	RF-2
IN-10 P9	9,985	13,1	14	10	18,5	6	UT-10	RF-3
IN-10 P9-SM	9,985	13,1	14	10	18,5	3,88	UT-10	RF-3
IN-10 H7	10,015	13,1	14	10	18,5	6	UT-10	RF-3
IN-10 H7-SM	10,015	13,1	14	10	18,5	3,88	UT-10	RF-3
IN-10 D10	10,098	13,1	14	10	18,5	6	UT-10	RF-3
IN-10 C11	10,170	13,1	14	10	18,5	6	UT-10	RF-3
IN-12 P9	11,982	13,1	14	10	18,5	6,5	UT-12	RF-3
IN-12 P9-SM	11,982	13,1	14	10	18,5	3,89	UT-12	RF-3
IN-12 H7	12,018	13,1	14	10	18,5	6,5	UT-12	RF-3
IN-12 H7-SM	12,018	13,1	14	10	18,5	3,89	UT-12	RF-3
IN-12 D10	12,12	13,1	14	10	18,5	6,5	UT-12	RF-3
IN-12 C11	12,205	13,1	14	10	18,5	6,5	UT-12	RF-3
IN-14 P9	13,982	18	14	10	22	7	UT-14/16	RF-4
IN-14 P9-SM	13,982	18	14	10	22	4,71	UT-14/16	RF-4
IN-14 H7	14,018	18	14	10	22	7	UT-14/16	RF-4
IN-14 H7-SM	14,018	18	14	10	22	4,71	UT-14/16	RF-4
IN-14 D10	14,120	18	14	10	22	7	UT-14/16	RF-4
IN-14 C11	14,205	18	14	10	22	7	UT-14/16	RF-4
IN-16 P9	15,982	18	14	10	22	8	UT-14/16	RF-4
IN-16 P9-SM	15,982	18	14	10	22	5,53	UT-14/16	RF-4
IN-16 H7	16,018	18	14	10	22	8	UT-14/16	RF-4
IN-16 H7-SM	16,018	18	14	10	22	5,53	UT-14/16	RF-4
IN-16 D10	16,120	18	14	10	22	8	UT-14/16	RF-4
IN-16 C11	16,205	18	14	10	22	8	UT-14/16	RF-4
IN-18 P9**	17,982	26	18	10	30	9	UT-18/25	RF-5
IN-18 P9-SM**	17,982	26	18	10	30	5,67	UT-18/25	RF-5
IN-18 H7**	18,018	26	18	10	30	9	UT-18/25	RF-5
IN-18 H7-SM**	18,018	26	18	10	30	5,67	UT-18/25	RF-5
IN-18 D10**	18,120	26	18	10	30	9	UT-18/25	RF-5
IN-18 C11**	18,205	26	18	10	30	9	UT-18/25	RF-5
IN-20 P9**	19,978	26	18	10	30	10	UT-18/25	RF-5
IN-20 P9-SM**	19,978	26	18	10	30	6,29	UT-18/25	RF-5
IN-20 H7**	20,021	26	18	10	30	10	UT-18/25	RF-5
IN-20 H7-SM**	20,021	26	18	10	30	6,29	UT-18/25	RF-5
IN-20 D10**	20,149	26	18	10	30	10	UT-18/25	RF-5
IN-20 C11**	20,240	26	18	10	30	10	UT-18/25	RF-5
IN-22 P9**	21,978	26	18	10	30	11	UT-18/25	RF-5
IN-22 P9-SM**	21,978	26	18	10	30	6,79	UT-18/25	RF-5
IN-22 H7**	22,021	26	18	10	30	11	UT-18/25	RF-5
IN-22 H7-SM**	22,021	26	18	10	30	6,79	UT-18/25	RF-5
IN-22 D10**	22,149	26	18	10	30	11	UT-18/25	RF-5
IN-22 C11**	22,240	26	18	10	30	11	UT-18/25	RF-5
IN-25 P9**	24,978	26	18	10	30	12	UT-18/25	RF-5
IN-25 P9-SM**	24,978	26	18	10	30	7,02	UT-18/25	RF-5
IN-25 H7**	25,021	26	18	10	30	12	UT-18/25	RF-5
IN-25 H7-SM**	25,021	26	18	10	30	7,02	UT-18/25	RF-5
IN-25 D10**	25,149	26	18	10	30	12	UT-18/25	RF-5
IN-25 C11**	25,240	26	18	10	30	12	UT-18/25	RF-5

**For these insert sizes we recommend machining in two steps: roughing and finishing.

INSERTS (INCHES)



CODE	L1 (mm)	L1 (inches)	L2 (inches)	L3 (inches)	L4 (inches)	L5 (inches)	L6 (inches)	Tool	Resharpen er
IN-3/32"-P9	2,375	0,0932	0,1968	0,2362	0,1968	0,2559	0,0551	UT-02	RF-0
IN-3/32"-H7	2,391	0,0941	0,1968	0,2362	0,1968	0,2559	0,0551	UT-02	RF-0
IN-3/32"-D10	2,441	0,0961	0,1968	0,2362	0,1968	0,2559	0,0551	UT-02	RF-0
IN-3/32"-C11	2,501	0,0984	0,1968	0,2362	0,1968	0,2559	0,0551	UT-02	RF-0
IN-1/8"-P9	3,1630	0,1243	0,2393	0,2559	0,1968	0,2952	0,0905	UT-03	RF-1
IN-1/8"-H7	3,1870	0,1254	0,2393	0,2559	0,1968	0,2952	0,0905	UT-03	RF-1
IN-1/8"-D10	3,2530	0,128	0,2393	0,2559	0,1968	0,2952	0,0905	UT-03	RF-1
IN-1/8"-C11	3,3200	0,1307	0,2393	0,2559	0,1968	0,2952	0,0905	UT-03	RF-1
IN-5/32"-P9	3,969	0,1555	0,2393	0,2755	0,1968	0,3149	0,1141	UT-04	RF-1
IN-5/32"-H7	3,981	0,1567	0,2393	0,2755	0,1968	0,3149	0,1141	UT-04	RF-1
IN-5/32"-D10	4,047	0,1593	0,2393	0,2755	0,1968	0,3149	0,1141	UT-04	RF-1
IN-5/32"-C11	4,114	0,1619	0,2393	0,2755	0,1968	0,3149	0,1141	UT-04	RF-1
IN-3/16"-P9	4,7510	0,1868	0,2393	0,2755	0,1968	0,3149	0,1299	UT-05	RF-1
IN-3/16"-H7	4,774	0,1879	0,2393	0,2755	0,1968	0,3149	0,1299	UT-05	RF-1
IN-3/16"-D10	4,84	0,1905	0,2393	0,2755	0,1968	0,3149	0,1299	UT-05	RF-1
IN-3/16"-C11	4,908	0,1932	0,2393	0,2755	0,1968	0,3149	0,1299	UT-05	RF-1
IN-1/4"-P9	6,335	0,2491	0,3968	0,3543	0,2362	0,5314	0,1587	UT-06	RF-2
IN-1/4"-H7	6,365	0,2505	0,3968	0,3543	0,2362	0,5314	0,1587	UT-06	RF-2
IN-1/4"-D10	6,448	0,2538	0,3968	0,3543	0,2362	0,5314	0,1587	UT-06	RF-2
IN-1/4"-C11	6,520	0,2566	0,3968	0,3543	0,2362	0,5314	0,1587	UT-06	RF-2
IN-9/32"-P9	7,129	0,2804	0,3968	0,3543	0,2362	0,5314	0,1692	UT-08	RF-2
IN-9/32"-H7	7,159	0,2818	0,3968	0,3543	0,2362	0,5314	0,1692	UT-08	RF-2
IN-9/32"-D10	7,242	0,2851	0,3968	0,3543	0,2362	0,5314	0,1692	UT-08	RF-2
IN-9/32"-C11	7,314	0,2879	0,3968	0,3543	0,2362	0,5314	0,1692	UT-08	RF-2
IN-5/16"-P9	7,922	0,3116	0,3968	0,3543	0,2362	0,5314	0,1875	UT-08	RF-2
IN-5/16"-H7	7,952	0,313	0,3968	0,3543	0,2362	0,5314	0,1875	UT-08	RF-2
IN-5/16"-D10	8,036	0,3163	0,3968	0,3543	0,2362	0,5314	0,1875	UT-08	RF-2
IN-5/16"-C11	8,108	0,3191	0,3968	0,3543	0,2362	0,5314	0,1875	UT-08	RF-2
IN-3/8"-P9	9,511	0,3741	0,5157	0,5511	0,3937	0,7283	0,2500	UT-10	RF-3
IN-3/8"-H7	9,540	0,3755	0,5157	0,5511	0,3937	0,7283	0,250	UT-10	RF-3

TOOLS AND INSERTS



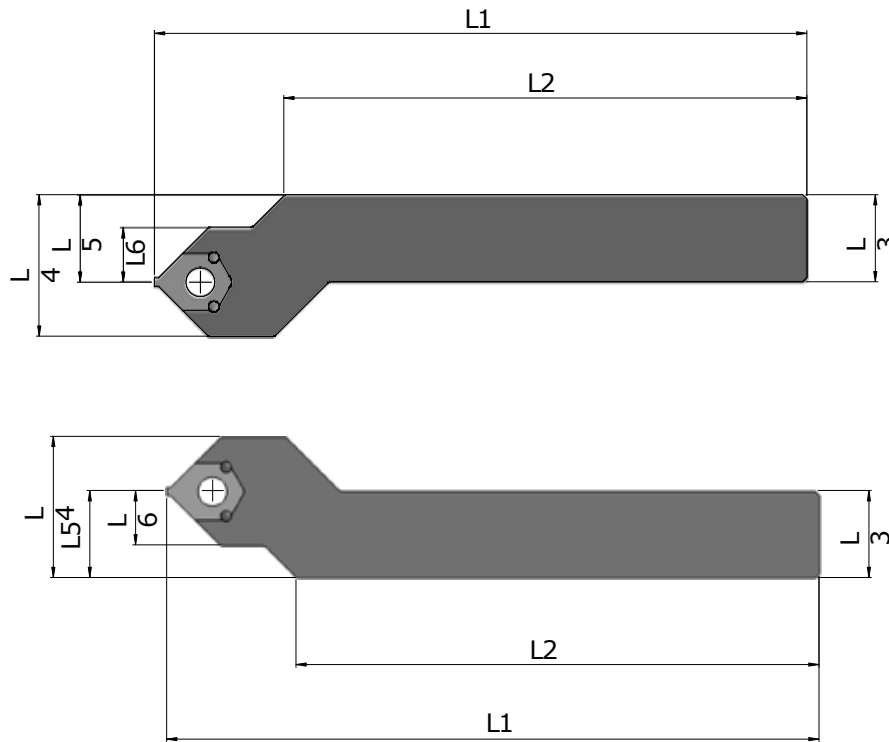
IN-3/8"-D10	9,623	0,3788	0,5157	0,5511	0,3937	0,7283	0,250	UT-10	RF-3
IN-3/8"-C11	9,695	0,3816	0,5157	0,5511	0,3937	0,7283	0,250	UT-10	RF-3
IN-7/16"-P9	11,094	0,4364	0,5157	0,5511	0,3937	0,7283	0,250	UT-12	RF-3
IN-7/16"-H7	11,13	0,4382	0,5157	0,5511	0,3937	0,7283	0,250	UT-12	RF-3
IN-7/16"-D10	11,232	0,4422	0,5157	0,5511	0,3937	0,7283	0,250	UT-12	RF-3
IN-7/16"-C11	11,318	0,4455	0,5157	0,5511	0,3937	0,7283	0,250	UT-12	RF-3
IN-1/2"-P9	12,682	0,4989	0,5157	0,5511	0,3937	0,7283	0,300	UT-12	RF-3
IN-1/2"-H7	12,718	0,5007	0,5157	0,5511	0,3937	0,7283	0,300	UT-12	RF-3
IN-1/2"-D10	12,8200	0,5047	0,5157	0,5511	0,3937	0,7283	0,300	UT-12	RF-3
IN-1/2"-C11	12,9050	0,508	0,5157	0,5511	0,3937	0,7283	0,300	UT-12	RF-3
IN-9/16"-P9	14,27	0,5614	0,7086	0,5511	0,3937	0,8661	0,275	UT-14/16	RF-4
IN-9/16"-H7	14,306	0,5632	0,7086	0,5511	0,3937	0,8661	0,275	UT-14/16	RF-4
IN-9/16"-D10	14,408	0,5672	0,7086	0,5511	0,3937	0,8661	0,275	UT-14/16	RF-4
IN-9/16"-C11	14,492	0,5705	0,7086	0,5511	0,3937	0,8661	0,275	UT-14/16	RF-4
IN-5/8"-P9	15,8570	0,6239	0,7086	0,5511	0,3937	0,8661	0,312	UT-14/16	RF-4
IN-5/8"-H7	15,8930	0,6257	0,7086	0,5511	0,3937	0,8661	0,312	UT-14/16	RF-4
IN-5/8"-D10	15,9950	0,6297	0,7086	0,5511	0,3937	0,8661	0,312	UT-14/16	RF-4
IN-5/8"-C11	16,080	0,633	0,7086	0,5511	0,3937	0,8661	0,312	UT-14/16	RF-4
IN-3/4"-P9**	19,028	0,7487	1,024	0,7086	0,3937	1,181	0,393	UT-18/25	RF-5
IN-3/4"-H7**	19,071	0,7508	1,024	0,7086	0,3937	1,181	0,393	UT-18/25	RF-5
IN-3/4"-D10**	19,199	0,7558	1,024	0,7086	0,3937	1,181	0,393	UT-18/25	RF-5
IN-3/4"-C11**	19,290	0,7594	1,024	0,7086	0,3937	1,181	0,393	UT-18/25	RF-5

**For these insert sizes we recommend machining in two steps: roughing and finishing.

TOOLS FOR EXTERNAL

■ The series of tools for external machining was developed to machine external surfaces (to execute tothing, keyway seatings or other). These tools are made with tool steel.

In addition to the two types of tools for external machining available in the catalogue, the REV production facility is able to build special tools for external machining based on specific customer demands.



CODE	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	L5 (mm)	L6 (mm)
UTE-20-DX	150	110	20x20	32,5	20	12,5
UTE-20-SX	150	110	20x20	32,5	20	12,5
UTE-25-DX	150	110	25x25	37,5	25	12,5
UTE-25-SX	150	110	25x25	37,5	25	12,5

MINITOOL

■ The MINITOOL series was developed based on the need to satisfy demands linked to machining small workpieces.

Integral inserts were used to satisfy these demands, as these types of inserts make it possible to achieve extremely small cutting profiles, with very diverse geometries. In order to ensure high tool rigidity and achieve tools that are absolutely perfect for the operation that needs to be performed, the integral inserts are always designed ad hoc based on specific customer demands.

stock of semi-finished MINITOOL inserts and has developed specific programmes for its CNC sharpening machines, aimed at profiling inserts based on customer demands, in extremely short amounts of time.

MINITOOL series inserts can fit UT-1/8 insert-carrier (available in different socket diameters). The aforementioned insert-carrier can, in turn, be internally fitted with eccentric bushing, the same way as classic line REV tool and, therefore, can correct any alignment errors on CNC lathes that are not equipped with a Y axis.

Alternatively, MINITOOL inserts can be locked into the machine tool-carrier with a simple clamping gripper (for ex. an ER gripper). In this case it is preferable for the machine tool to be equipped with a Y axis.



Keyway



Square profile



Hexagonal profile



Double square profile

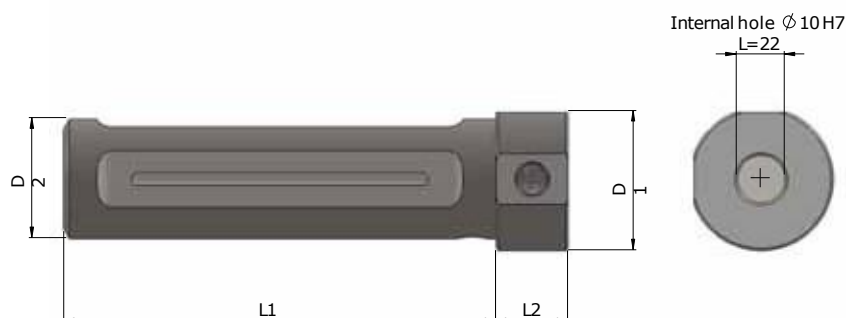


Circle profile



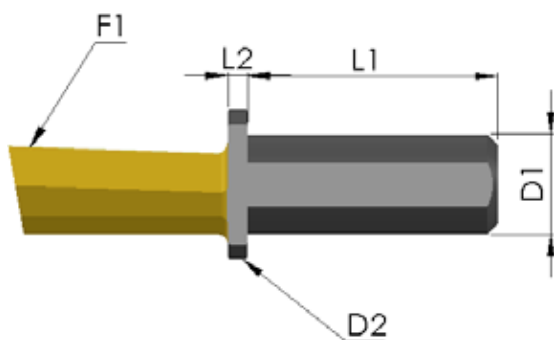
Circle evolvent profile

TOOL UT-1/8



CODE	L1 (mm)	L2 (mm)	D1 (mm)	D2 (mm)
UT-1/8-19,05	90	15	30	19,05
UT-1/8-20	90	15	30	20
UT-1/8-25	90	15	30	25
UT-1/8-32	100	15	38	32

INTEGRAL INSERT



■ Integral inserts in the MINITOOL line feature a flat side on the collar, with a diameter of 15 mm, allowing the operator to check the correct position of the insert in very restricted amounts of time, through the use of common comparators or gauges. They can be manufactured in two possible alloys: sintered steel or, alternatively, high toughness widia.

The service life of the inserts is very long and they can be re-sharpened many times before having to replace them.

The type of sharpening and coating are assessed based on the material that needs to be machined.

CODE	L1 (mm)	L2 (mm)	F1 (mm)	D1 (mm)	D2 (mm)
IN-1/8	18	2	upon request	10 H7	15

TOOLS AND INSERTS FOR SQUARE

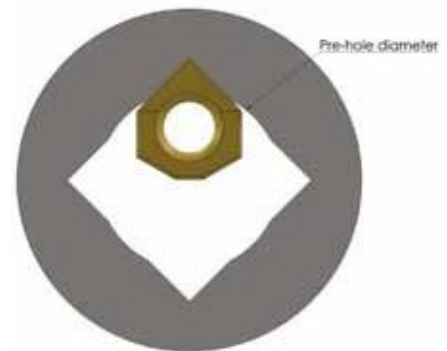
PRE-HOLE DIAMETER = SQUARE THICKNESS X 1,050

For example, for a square with a thickness of 10 mm the diameter of the pre-hole will be:

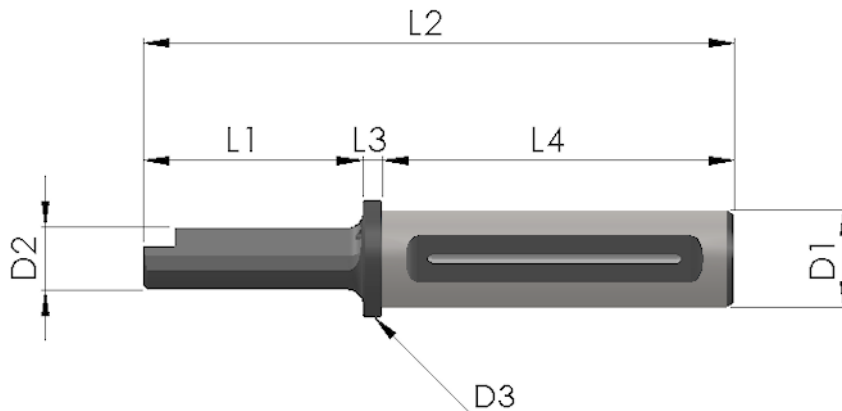
10 mm x 1,050 = 10,50 mm

To execute completely square holes the customer will need to make a specific request and will be supplied with an ad hoc tool.

In addition to this, in many other cases, in order to obtain a perfectly appropriate tool for the type of square hole that needs to be executed, it will be possible to produce a special tool that meets the customer's specifications.

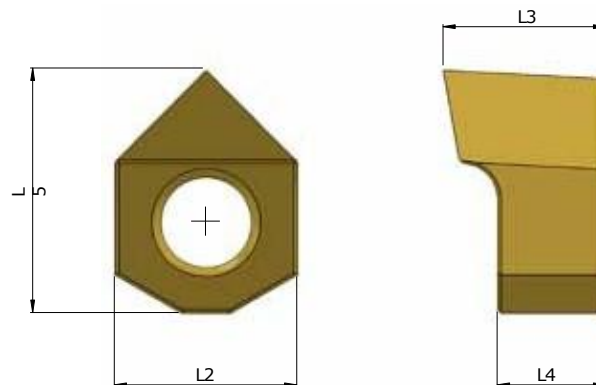


TOOLS FOR SQUARE



CODE	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	D1 (mm)	D2 (mm)	D3 (mm)	Aligner	Screwdriver	Clamping screw	Minimum hole (mm)	Weight (g)
UT-SQ-8/10-25	30	129	9	90	25	7,25	30	PN-1	T08	VN-1	8	368
UT-SQ-8/10-32	30	139	9	100	32	7,25	38	PN-1	T08	VN-1	8	673
UT-SQ-10/13-25	40	139	9	90	25	8,6	30	PN-1	T08	VN-1	10	368
UT-SQ-10/13-32	40	149	9	100	32	8,6	38	PN-1	T08	VN-1	10	672
UT-SQ-13/16-25	50	149	9	90	25	12	30	PN-2	T15	VN-2	13	428
UT-SQ-13/16-32	50	159	9	100	32	12	38	PN-2	T15	VN-2	13	725
UT-SQ-16/19-25	52	151	9	90	25	15	30	PN-3	T20	VN-3	16	647
UT-SQ-16/19-32	52	161	9	100	32	15	38	PN-3	T20	VN-3	16	935
UT-SQ-19/27-25	86	185	9	90	25	18,50	30	PN-3	T20	VN-3	19	824
UT-SQ-19/27-32	86	195	9	100	32	18,50	38	PN-3	T20	VN-3	19	1,157
UT-SQ-27/37-25	100	199	9	90	25	25	30	PN-4	T20	VN-3	27	1,39
UT-SQ-27/37-32	100	209	9	100	32	25	38	PN-4	T20	VN-3	27	1,49
UT-SQ-37/50-32	140	249	9	100	32	35	45	PN-5	BRUG5	VN-4	37	1,903

INSERTS FOR SQUARE



CODE	Working range (mm)	Working range (inches)	L2 (mm)	L3 (mm)	L4 (mm)	L5 (mm)	Tool	Resharpener
IN-SQ-8/10	8mm/10mm	0,314/0,393	6	7	5	7	UT-SQ-8/10	RF-1
IN-SQ-10/13	10mm/13mm	0,393/0,511	6	7	5	7,5	UT-SQ-10/13	RF-1
IN-SQ-13/16	13mm/16mm	0,511/0,629	10	8	6	12	UT-SQ-13/16	RF-2
IN-SQ-16/19	16mm/19mm	0,629/0,748	10	8	6	12,5	UT-SQ-16/19	RF-2
IN-SQ-19/27	19mm/27mm	0,748/1,062	13	13	10	17	UT-SQ-19/27	RF-3
IN-SQ-27/37	27mm/37mm	1,062/1,456	18	14	10	22	UT-SQ-27/37	RF-4
IN-SQ-37/50	37mm/50mm	1,456/1,968	26	18	10	30	UT-SQ-37/50	RF-5

TOOLS AND INSERTS FOR HEXAGON

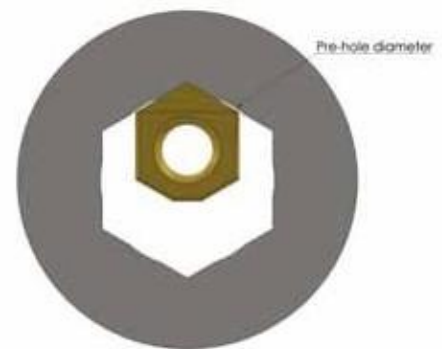
PRE-HOLE DIAMETER = HEXAGON THICKNESS X 1,020

For example, for a hexagon with a thickness of 10 mm the diameter of the pre-hole will be:

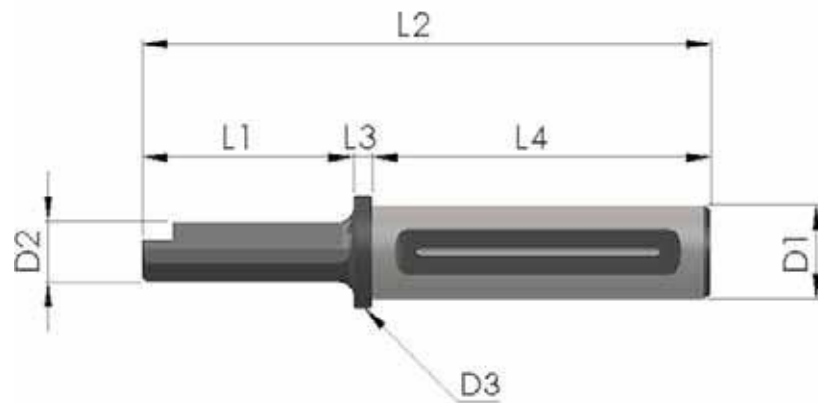
10 mm x 1,020 = 10,20 mm

To execute completely hexagonal holes, the customer will need to make a specific request and will be supplied with an ad hoc tool.

In addition to this, in many other cases, in order to obtain a perfectly appropriate tool for the type of hexagonal hole that needs to be executed, it will be possible to produce a special tool that meets the customer's specifications.

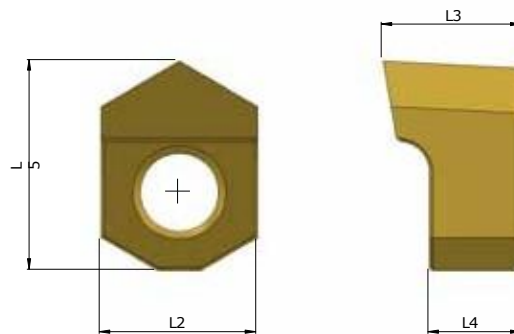


TOOLS FOR HEXAGON



CODE	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	D1 (mm)	D2 (mm)	D3 (mm)	Aligner	Screwdriver	Clamping screw	Minimum hole (mm)	Weight (g)
UT-HEX-9/11-25	30	129	9	90	25	8	30	PN-1	T08	VN-1	9	388
UT-HEX-9/11-32	30	139	9	100	32	8	38	PN-1	T08	VN-1	9	673
UT-HEX-11/17-25	40	139	9	90	25	10	30	PN-1	T08	VN-1	11	368
UT-HEX-11/17-32	40	149	9	100	32	10	38	PN-1	T08	VN-1	11	672
UT-HEX-17/28-25	56	155	9	90	25	15	30	PN-2	T15	VN-2	17	647
UT-HEX-17/28-32	56	165	9	100	32	15	38	PN-2	T15	VN-2	17	935
UT-HEX-28/37-25	86	185	9	90	25	25	30	PN-3	T20	VN-3	28	1,39
UT-HEX-28/37-32	86	195	9	100	32	25	38	PN-3	T20	VN-3	28	1,157
UT-HEX-37/45-25	126	225	9	90	25	35	45	PN-4	T20	VN-3	37	1,49
UT-HEX-37/45-32	126	235	9	100	32	35	45	PN-4	T20	VN-3	37	1,85
UT-HEX-45/70-32	140	249	9	100	32	40	45	PN-5	BRUG 5	VN-4	45	1,95

INSERTS FOR HEXAGON



CODE	Working range (mm)	Working range (inches)	L2 (mm)	L3 (mm)	L4 (mm)	L5 (mm)	Tool	Resharpen er
IN-HEX-9/11	9mm/11mm	0,354/0,433	6	7	5	7,5	UT-HEX-9/11	RF-1
IN-HEX-11/17	11mm/17mm	0,433/0,669	6	7	5	8	UT-HEX-11/17	RF-1
IN-HEX-17/28	17mm/28mm	0,669/1,102	10	9	6	13,5	UT-HEX-17/28	RF-2
IN-HEX-28/37	28mm/37mm	1,102/1,456	13	14	10	18,5	UT-HEX-28/37	RF-3
IN-HEX-37/45	37mm/45mm	1,456/1,771	18	14	10	22	UT-HEX-37/45	RF-4
IN-HEX-45/70	45mm/70mm	1,771/2,755	26	16	10	30	UT-HEX-45/70	RF-5

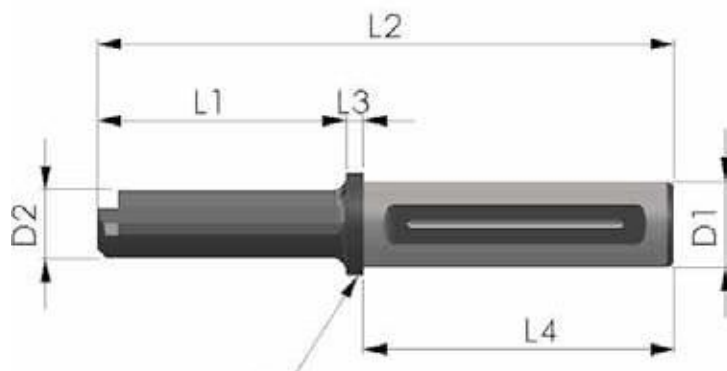
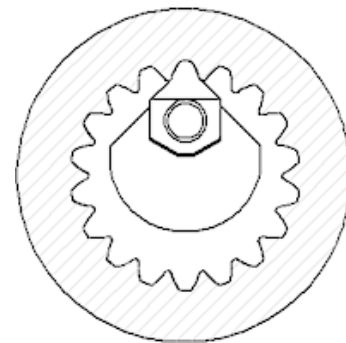
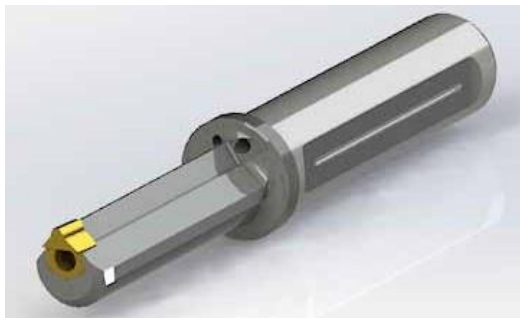
TOOLS FOR SPLINED PROFILES

■ The new UTS tool line was designed to make splined internal profiles.

The choice of tool is determined by the minimum entry hole of the workpiece to be machined. In fact, we recommend purchasing a tool with a diameter (D2) as close to the value of said hole as possible, as shown in the table.

It is also possible to make special tools in various diameters and sizes based on specific customer needs.

Inserts used on the UTS tool line for splined profiles are all considered special: they are not in stock; rather they are manufactured specifically for the customer based on the type of machining required.



CODE	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	D1 (mm)	D2 (mm)	D3 (mm)	Aligner	Screwdriver	Clamping screw	Minimum hole (mm)	Weight (g)
UTS-02-25	25	124	9	90	25	6,5	30	PN-0	T08	VN-1	7	382
UTS-02-32	25	134	9	100	32	6,5	37	PN-0	T08	VN-1	7	600
UTS-03-25	30	129	9	90	25	8	30	PN-1	T08	VN-1	8,5	368
UTS-03-32	30	139	9	100	32	8	37	PN-1	T08	VN-1	8,5	673
UTS-04-25	40	139	9	90	25	10	30	PN-1	T08	VN-1	10,5	368
UTS-04-32	40	149	9	100	32	10	37	PN-1	T08	VN-1	10,5	672
UTS-05-25	46	145	9	90	25	12	30	PN-1	T08	VN-1	12,5	382
UTS-05-32	46	155	9	100	32	12	37	PN-1	T08	VN-1	12,5	698
UTS-06-25	56	155	9	90	25	16	30	PN-2	T15	VN-2	16,5	428
UTS-06-32	56	165	9	100	32	16	37	PN-2	T15	VN-2	16,5	725
UTS-08-25	68	162	9	90	25	20	30	PN-2	T15	VN-2	21	488
UTS-08-32	68	172	9	100	32	20	37	PN-2	T15	VN-2	21	820
UTS-10-25	86	185	9	90	25	25	30	PN-3	T20	VN-3	28	647
UTS-10-32	86	195	9	100	32	25	37	PN-3	T20	VN-3	28	935
UTS-12-25	102	203	9	90	25	30	30	PN-3	T20	VN-3	33	824
UTS-12-32	102	213	9	100	32	30	37	PN-3	T20	VN-3	33	1157
UTS-14/16-25	126	221	9	90	25	35	37	PN-4	T20	VN-3	38	1211
UTS-14/16-32	126	231	9	100	32	35	37	PN-4	T20	VN-3	38	1490
UTS-18/25-32	140	249	9	100	32	40	45	PN-5	BRUG.5	VN-4	42	1903

TOOLS FOR MOTORISED SLOTTERS

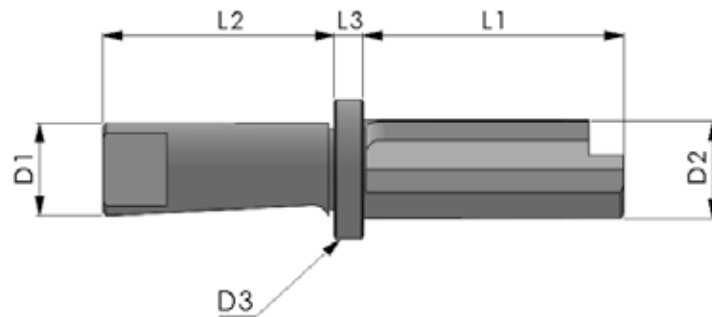
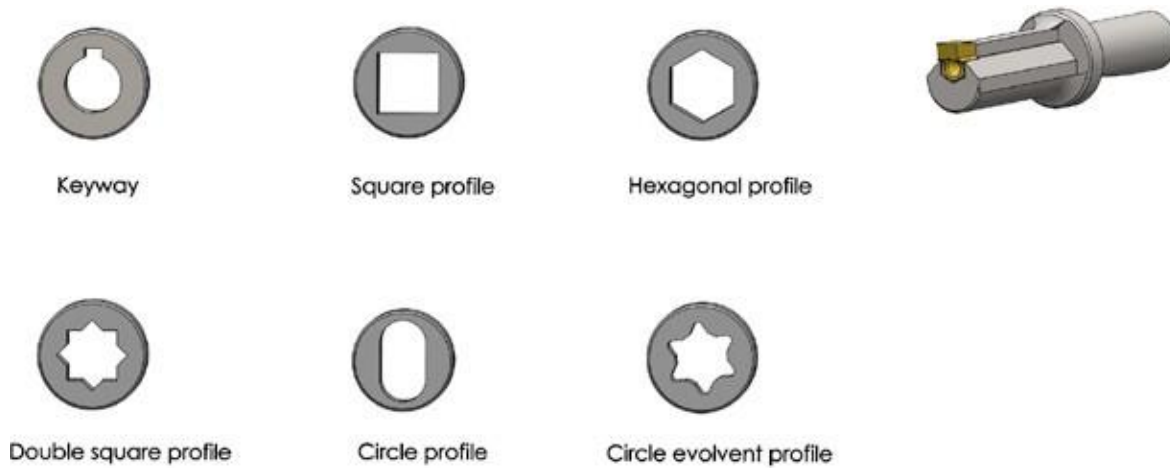
■ The line of tools illustrated here was developed for use on motorised slotting machine for CNC lathes.

With the line of tools for motorised slotting machines, it is possible to use the inserts of standard lines for keyway seatings, for hexagonal profiles and for square profiles.

It is also possible to manufacture tools and inserts for special profiles.

The technical data table does not include the measurements for the diameter and length of the side designed for clamping inside the motorised slotting machine, as these measurements are defined case by case based on customer demands.

The picture below is provided by way of example and illustrates one of the many possible shapes that the tool legs can have.

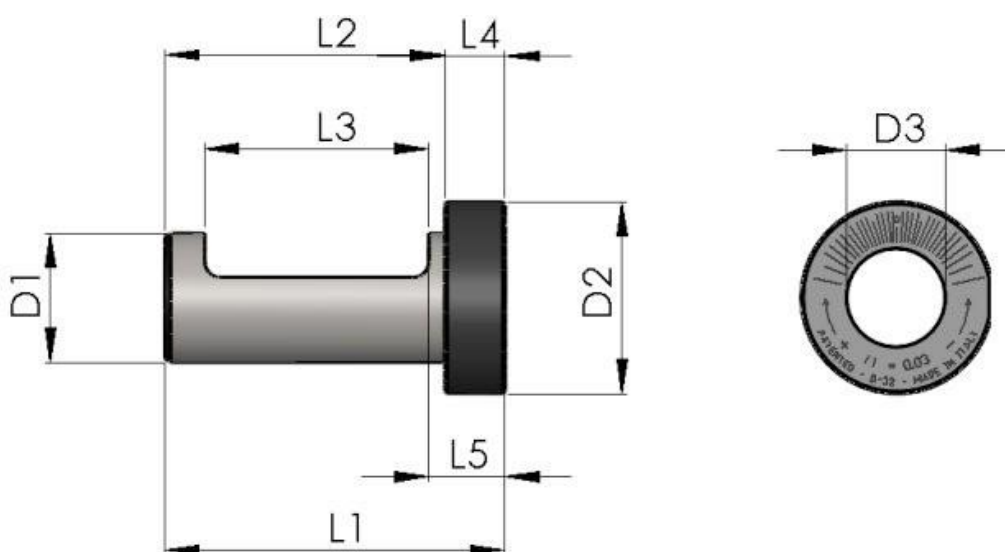


CODE	L1 (mm)	L2 (mm)	L3 (mm)	D1 (mm)	D2 (mm)	D3 (mm)	Minimum entry hole (mm)	Resharper	Screwdriver	Clamping screw
UTM-2	25	Upon request	5	Upon request	7	20	7	RF-1	T08	VN-1
UTM-3	30	Upon request	5	Upon request	8	20	8,5	RF-1	T08	VN-1
UTM-4	40	Upon request	5	Upon request	10	20	10	RF-1	T08	VN-1
UTM-5	46	Upon request	5	Upon request	12	20	13	RF-1	T08	VN-1
UTM-6	56	Upon request	5	Upon request	16	20	17	RF-2	T15	VN-2
UTM-8	64	Upon request	5	Upon request	20	20	21	RF-2	T15	VN-2
UTM-10/12	70	Upon request	5	Upon request	22	20	24	RF-3	T20	VN-3

BUSHINGS FOR LATHES



any lathe that is not equipped with a Y axis. In fact, this bushing can be used to correct any alignment error that may occur during broaching and slotting. It is made with tool steel which is hardened and ground. Its range of operation is between 0,5 mm Y+ and 0,5 mm Y-. The eccentric bushing is manufactured in various sizes for use on all types of machines available on the market.



BUSHINGS FOR LATHES (mm)

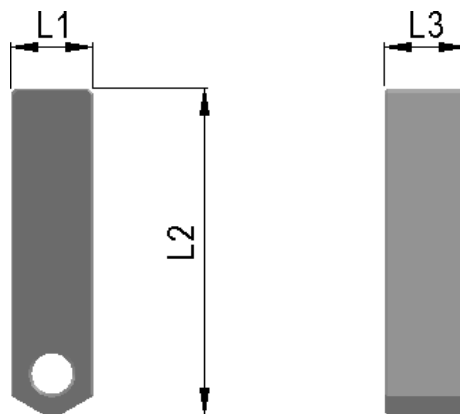
CODE	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	L5 (mm)	D1 (mm)	D2 (mm)	D3 (mm)	Weight (g)
B-32	85	70	58	15	20	32 H7	48	25	300
B-40	95	80	66	15	20	40 H7	55	32	400
B-50	115	100	75	15	20	50 H7	65	32	1000
B-60	115	100	75	15	20	60 H7	80	32	1600
B-32 VDI	65	50	38	15	20	32 H7	48	25	280
B-40 VDI	80	65	51	15	20	40 H7	55	32	360
B-50 VDI	95	80	55	15	20	50 H7	65	32	850
B-60 VDI	105	80	65	15	20	60 H7	80	32	1500

BUSHINGS FOR LATHES (inches)

CODE	L1 (inches)	L2 (inches)	L3 (inches)	L4 (inches)	L5 (inches)	D1 (inches)	D2 (inches)	D3 (inches)	Weight (g)
B-1-1/4"	3,346	2,756	2,283	0,591	0,787	1,250	2,165	0,984	300
B-1-1/2"	3,740	3,150	2,598	0,591	0,787	1,500	2,165	1,260	329
B-2"	4,528	3,937	2,953	0,591	0,787	2,000	2,559	1,260	978
B-1-1/4"-VDI	2,559	1,969	1,496	0,591	0,787	1,250	2,165	0,984	267
B-1-1/2"-VDI	3,150	2,559	2,008	0,591	0,787	1,500	2,165	1,260	329
B-2"-VDI	3,740	3,150	2,165	0,591	0,787	2,000	2,559	1,260	871

ALIGNERS FOR MILLING MACHINES

■ **A**ligners for broaching or slotting are used on machining centres or milling machines to achieve correct tool assembly. They screw on in place of the insert and, thanks to their shape featuring a straight surface, using a simple gauge or comparator, they make it possible to attach the broaching tool correctly with respect to the reference axes of the workpiece.



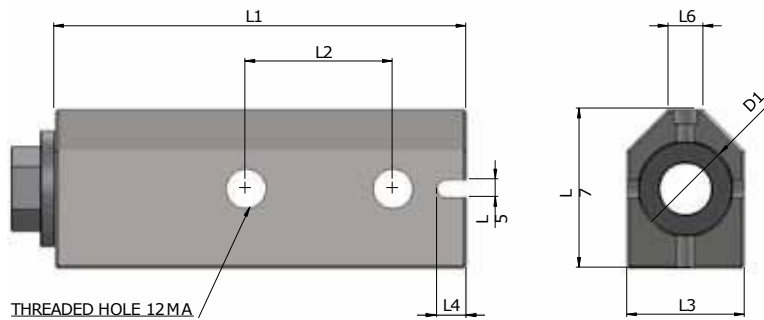
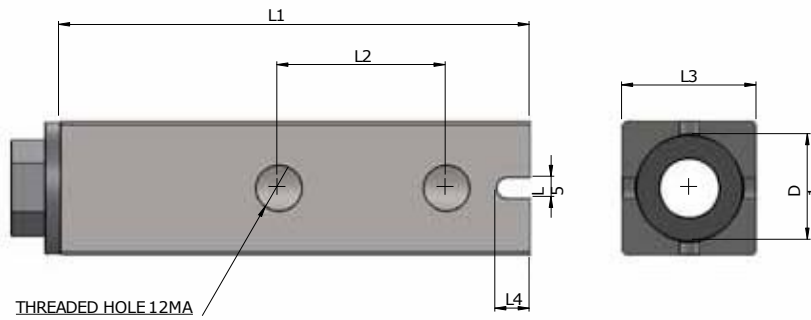
CODE	L1 (mm)	L2 (mm)	L3 (mm)	Tools
PN-0	5	50	6	UT-02
PN-1	6,08	50	8	UT-03/UT-04/UT-05
PN-2	10,08	50	8	UT-06/UT-08
PN-3	13,1	60	10	UT-10/UT-12
PN-4	18	70	10	UT-14/16
PN-5	26	70	10	UT-18/25

ADAPTERS FOR SLOTTERS

■ The square and prismatic adapters are equipped with two threaded holes where the two M12x8 flat point grub screws are inserted and used to clamp the tool to the inside of the said adapters. The timing pin guarantees a perfect position of the tool in relation to the work axis.

Both the square and prismatic adapters are available in two measurements: with a hole diameter of 25 mm and another measuring 32 mm.

REV offers the solution of clamping the tool on with an adapter; however, this is only one of the many ways it is possible to set up the REV Broaching Tool on slotting and shaping machines.



CODE	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	L5 (mm)	L6 (mm)	L7 (mm)	D1 (mm)	Weight (g)
AD-35	140	40	35	10	6	/	/	25	500
AD-40	140	50	40	10	6	/	/	32	600
AD-50	170	50	50	10	6	/	/	32	2200
ADP-35	140	40	35	10	6	10	41,5	25	600
ADP-40	140	50	40	10	6	10	50	32	700

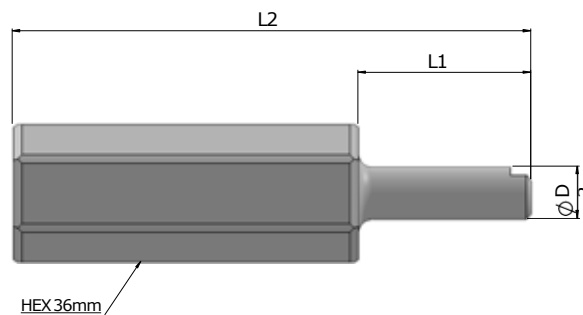
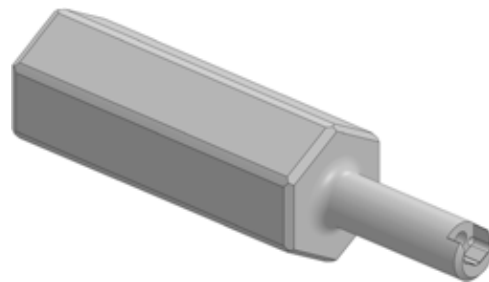
RESHARPENERS

■ Using re-sharpening rods the inserts can be re-sharpened using a standard grinding wheel. When the broached or slotted surface starts getting rough due to prolonged insert use, it will require re-sharpening.

In order to do so, unscrew the insert from the broaching machine and screw it onto the re-sharpening rod. Next, place the insert near the grinding wheel, maintaining the original inclination and, then, remove the worn material. It is important to remember that only the cutting surface must be screwed on.

The re-sharpening rod has a comfortable grip and ensures that the insert protrudes from the rod making sharpening easier to perform.

This accessory is available in 6 types: RF-0 to resharpen the 2mm inserts, RF-1 to resharpen the inserts 3-4-5 mm, RF-2 to resharpen the 6-8 mm inserts, RF-3 to resharpen the 10-12 mm inserts, RF-4 to resharpen the 14-16 mm inserts, RF-5 to resharpen the 18-25 mm inserts.



CODE	L1 (mm)	L2 (mm)	D2 (mm)
RF-0	150	50	10
RF-1	150	50	12
RF-2	150	50	15
RF-3	150	50	20
RF-4	150	50	25
RF-5	150	50	32

SCREWS WITH SPHERICAL ENDS

■ The boring bar hatch clamping screws with spherical ends are required to attach the unit comprised of REV BROACHING TOOL and eccentric bushing perfectly to the CNC lathe. Also, whenever it is necessary to correct any keyway alignment error, these screws hold the tool in the work position, making it much easier to adjust the eccentric bushing.

Six categories of them are kept in stock, from the smallest size called BU-1, which is equivalent to M6x15, to the largest one called BU-6, equivalent to M16x30. The hardness of the spring varies in relation to screw size.

Before making a purchase it is necessary to check exactly which type of screw is suitable for the boring bar hatch provided with the machine tool.

SCREWS WITH SPHERICAL ENDS (mm)



CODE	Type	Length (mm)
BU-1	6MA	15
BU-2	8MA	20
BU-3	10MA	20
BU-4	12MA	25
BU-5	14MA	25
BU-6	16MA	30

SCREWS WITH SPHERICAL ENDS (inches)

CODE	Type	Length (inches)
BU-7	UNC 5/16"-18	37/64"
BU-8	UNC 3/8"-16	5/8"
BU-9	UNC 1/2"-13	3/4"
BU-10	UNC 5/8"-11	36/64"

SCREWS FOR FIXING INSERTS

■ The clamping screws are required to clamp the inserts onto the REV BROACHING TOOL head and are all made with quenched and tempered steel, which is then tempered and burnished.

They are available in three torx sizes and one Allen size (VN-4) M8x16.



CODE	Type	Sizes
VN-1	TORX	M2,5 X 8
VN-2	TORX	M4 X 10
VN-3	TORX	M6 X 15
VN-4	TOEI	M8 X 16

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SCREWDRIVERS



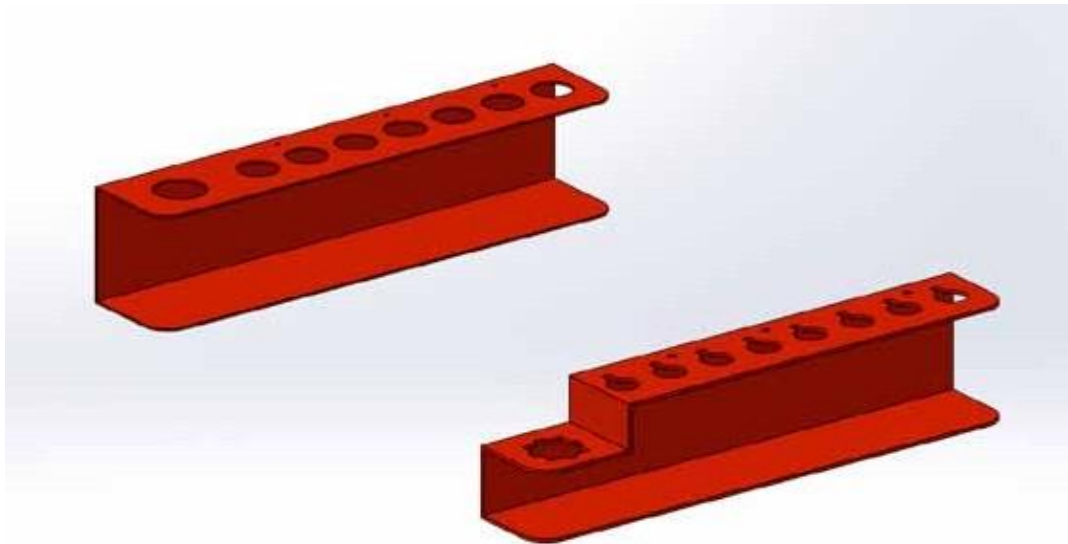
They are available in three torx sizes and one Allen size 5 mm.



CODE	Type	Hex
T08	TORX	8
T15	TORX	15
T20	TORX	20
HEXAGONAL WRENCH 5	HEX WRENCH FOR TORX SCREW	5

TOOL CARRIER BASES

■ The tool-carrier bases are metal structures with a 3 mm thickness, which represent an excellent solution for keeping REV tools in order on the machine. The tool-carrier bases come in two sub-categories: there are bases identified by the prefix ST-CNC which are used to organise tools for CNC lathes or CNC machining centres and also have a hole to fit the eccentric bushing (see image on left hand side), and other bases identified by prefix ST-SLO which are used for slotting machines tools and also have a hole to house the square or prismatic adapter (see image on right hand side).



CODE	Number of housed rods	Tools housing hole diameter (mm)	Tool carrier housing hole shape
ST-CNC-1	7	25	B-32
ST-CNC-2	7	32	B-40
ST-CNC-3	7	32	B-50
ST-CNC-4	7	32	B-60
ST-CNC-5	7	25	B-1"1/4
ST-CNC-6	7	32	B-1"1/2
ST-CNC-7	7	32	B-2"
ST-SLO-1	6	25	AD-35 O ADP-35
ST-SLO-2	8	25	AD-35 O ADP-35
ST-SLO-3	6	32	AD-40 O ADP-40
ST-SLO-4	8	32	AD-40 O ADP-40
ST-SLO-5	8	32	AD-50

