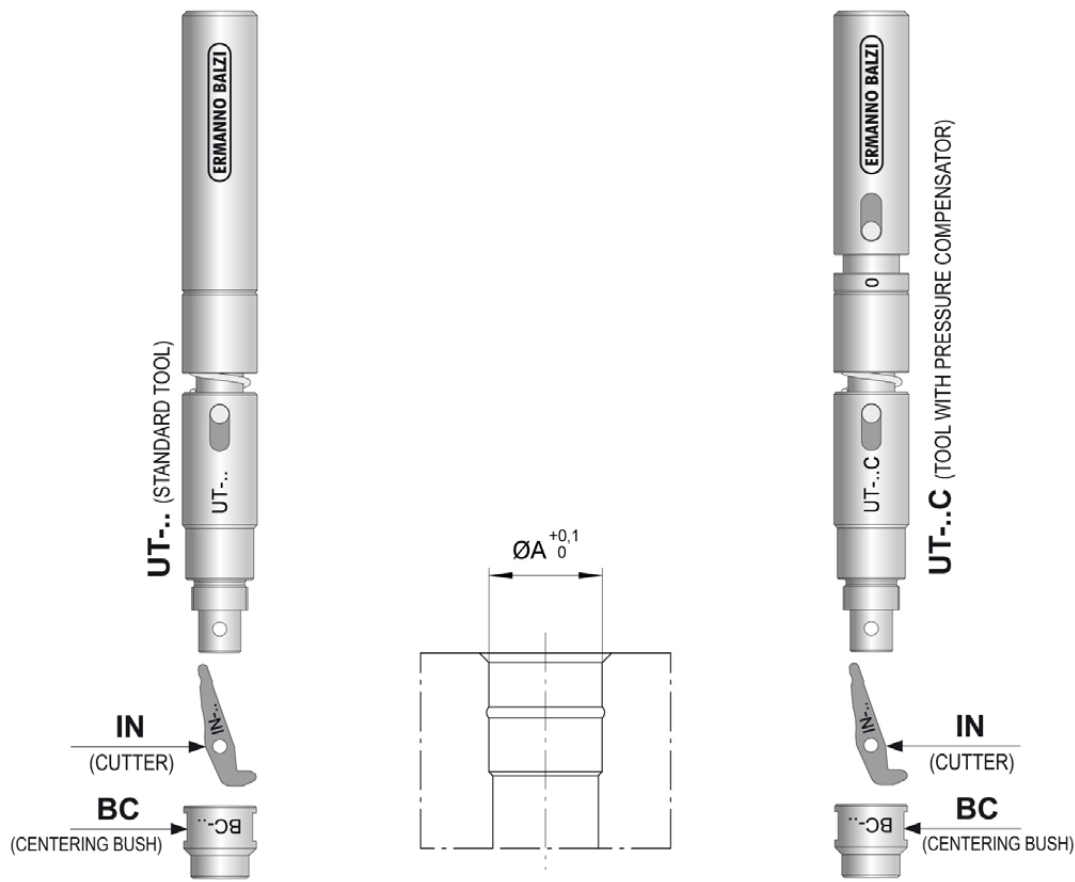


TOOLS FOR THE PERFORMING OF THE RETAINING GROOVE

STANDARD SET



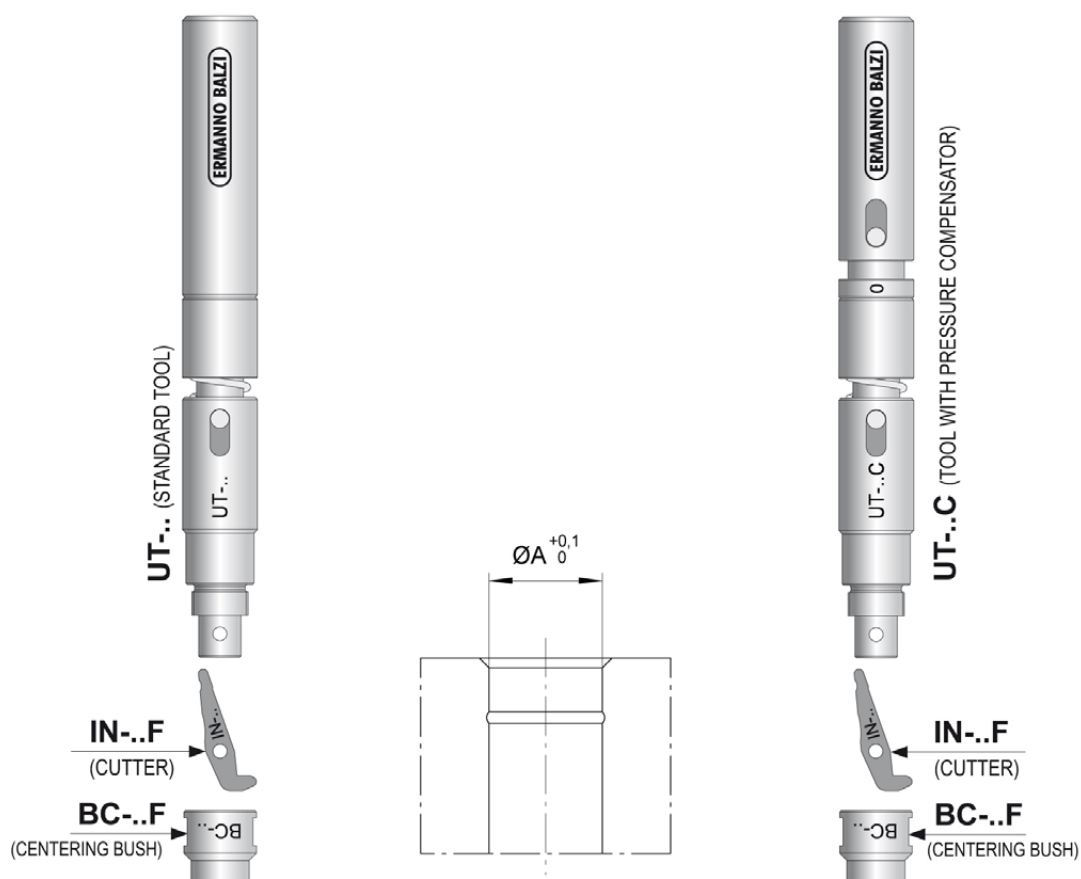
CODE	A	BC	IN
UT-1 / UT-1C	Ø6,5	BC-6	IN-6

CODE	A	BC	IN
UT-2 / UT-2C	Ø8,5	BC-8	IN-8

CODE	A	BC	IN
UT-3 / UT-3C	Ø10,5	BC-10	IN-10
	Ø12,5	BC-12	IN-12
	Ø14,5	BC-14	IN-14

TOOLS FOR THE PERFORMING OF THE RETAINING GROOVE

SET "F"



CODE	A	BC	IN
UT-0 / UT-0C	Ø5	BC-5F	IN-5F

CODE	A	BC	IN
UT-1 / UT-1C	Ø6	BC-6F	IN-6F

CODE	A	BC	IN
UT-2 / UT-2C	Ø8	BC-8F	IN-8F

CODE	A	BC	IN
UT-3 / UT-3C	Ø10	BC-10F	IN-10F
	Ø11	BC-11F	IN-11F
	Ø11,5	BC-11,5F	IN-11,5F
	Ø12	BC-12F	IN-12F
	Ø14	BC-14F	IN-14F
	Ø15	BC-15F	IN-15F

CODE	A	BC	IN
UT-4 / UT-4C	Ø16	BC-16F	IN-16F
	Ø18	BC-18F	IN-18F
	Ø19	BC-19F	IN-19F
	Ø20	BC-20F	IN-20F
	Ø25	BC-25F	IN-25F
	Ø30	BC-30F	IN-30F

ERMANN BALZI

STANDARD CUTTER

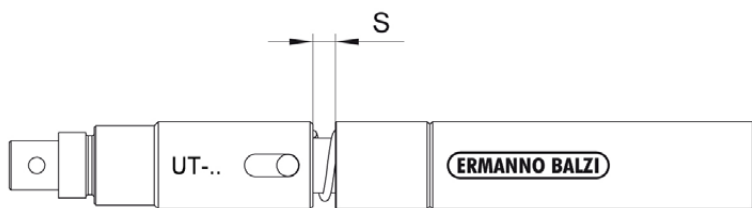
CODE	CUTTING SPEED m/min.	RPM
IN-5F	9,4÷11	600÷700
IN-6F	9,4÷11	500÷600
IN-6	9,4÷11	460÷550
IN-8F	9,4÷11	370÷450
IN-8	9,4÷11	350÷420
IN-10F	9,4÷11	300÷360
IN-10	9,4÷11	290÷340
IN-12F	9,4÷11	250÷300
IN-12	9,4÷11	240÷290
IN-14F	9,4÷11	215÷260
IN-14	9,4÷11	210÷250
IN-15F	9,4÷11	200÷240
IN-16F	9,4÷11	190÷225
IN-18F	9,4÷11	200÷170
IN-19F	9,4÷11	190÷160
IN-20F	9,4÷11	150÷180
IN-25F	9,4÷11	120÷140
IN-30F	9,4÷11	100÷120

CARBIDE CUTTER

CODE	CUTTING SPEED m/min.	RPM
IN-5FD	19÷23	1200÷1400
IN-6FD	19÷23	1000÷1200
IN-6D	19÷23	920÷1100
IN-8FD	19÷23	750÷900
IN-8D	19÷23	700÷850
IN-10FD	19÷23	600÷720
IN-10D	19÷23	570÷680
IN-12FD	19÷23	500÷600
IN-12D	19÷23	480÷580
IN-14FD	19÷23	430÷520
IN-14D	19÷23	420÷500
IN-16FD	19÷23	380÷450
IN-18FD	19÷23	340÷400
IN-20FD	19÷23	300÷360
IN-25FD	19÷23	240÷290

MATERIALS HARDNESS

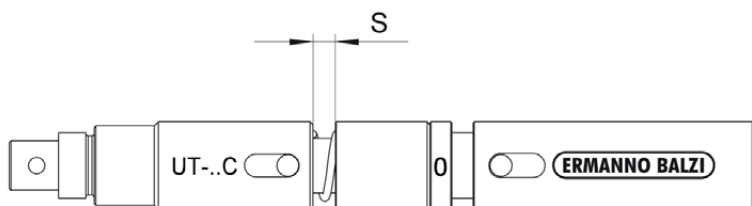
The standard cutters code IN-... are made in HSS and titanium carbonitride coated. Such cutters can machine steel with maximum hardness of 40÷42 HRC; it is necessary to consider that as the hardness of the steel increases the working life of the cutter becomes significantly shorter. In order to meet the growing need to assembly cooling components on pre hardened inserts, a new set of cutters made in carbide steel code IN-...D able to machine steel with hardness up to 50÷52 HRC, is now available.



TOOL	S
UT-0	4,3
UT-1	4,3
UT-2	4,3
UT-3	4,7
UT-4	5,1

ADVICES FOR THE CORRECT USE OF THE TOOL "UT"

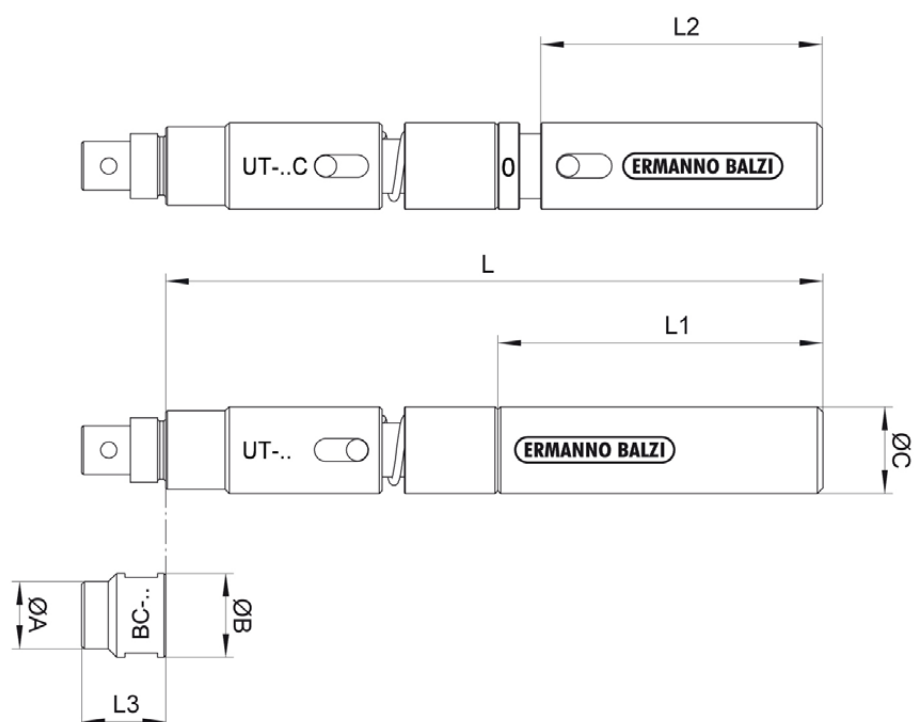
1. The tool "UT" is designed to be used on machines where the forward movement is manually controlled.
2. The cutter starts the machining of the groove a few millimeters after the centering bush "BC" get in contact with the chamfer on the hole. Starting from this point the forward movement has to be slow.
3. The machining of the groove is completed when the gap "S" is completely closed by the forward movement of the tool.
4. Once the forward movement is completed neither making further pressure on the tool, nor stopping in such a position more than a few seconds is advisable.



TOOL	S _{+2 / +3}
UT-0C	4,3
UT-1C	4,3
UT-2C	4,3
UT-3C	4,7
UT-4C	5,1

ADVICES FOR THE CORRECT USE OF THE TOOL "UT-C"

1. The tool "UT-C" is designed to be used on CNC machines where forward movement is electronically controlled.
2. It is possible to move in fast forward till 2 mm from the working position (contact point between centering bush "BC" and chamfer of the hole).
3. Starting from this point a feed rate of 0,05 mm/rotation is suggested.
4. The machining of the groove is completed when the gap "S" is completely closed by the forward movement of the tool. To guarantee the proper machining we suggest to set an extra stroke of 2÷3 mm, the extra stroke will be compensated by a spring inside the tool.
5. Once the forward movement is completed neither making further pressure on the tool, nor stopping in such a position more than a few seconds is advisable.



CODE	C	L	L1	L2
UT-0 / UT-0C	10	110	70	62
UT-1 / UT-1C	10	110	70	62
UT-2 / UT-2C	12	108	60	52
UT-3 / UT-3C	16	122	60	54

UT-0 / UT-0C

CENTERING BUSH	A	B	L3
BC-5F	5	10	12

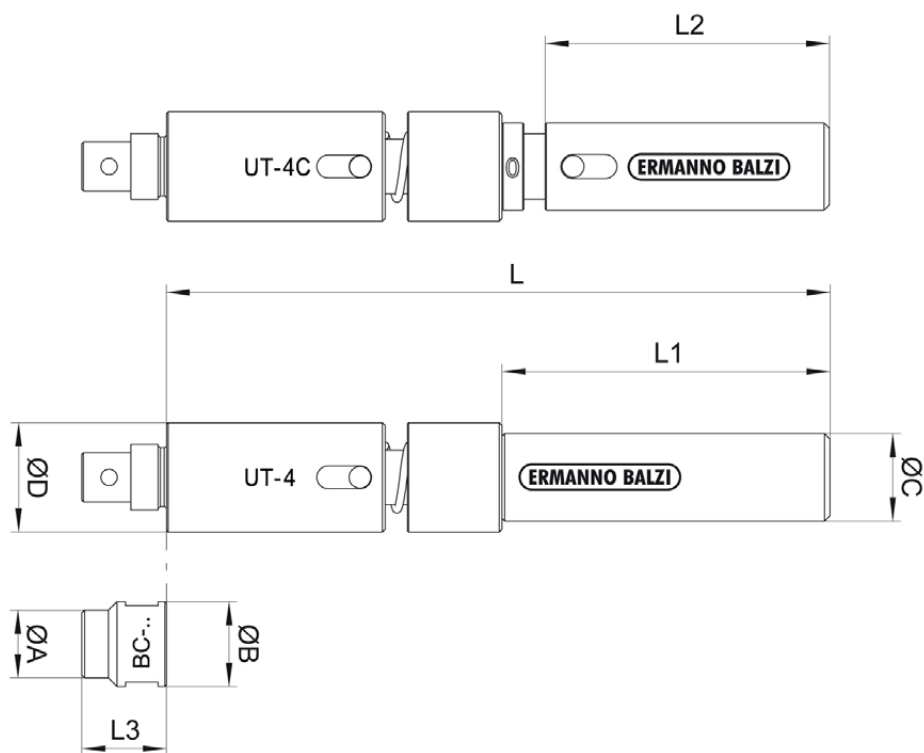
UT-1 / UT-1C

CENTERING BUSH	A	B	L3
BC-6F	6	10	12
BC-6	6,5	10	12

UT-2 / UT-2C

CENTERING BUSH	A	B	L3
BC-8F	8	12	14,5
BC-8	8,5	12	14,5

UT-3 / UT-3C			
CENTERING BUSH	A	B	L3
BC-10F	10	14,5	15,5
BC-10	10,5	14,5	15,5
BC-11F	11	15,5	15,5
BC-11,5F	11,5	15,5	15,5
BC-12F	12	15,5	15,5
BC-12	12,5	15,5	15,5
BC-14F	14	16,5	15,5
BC-14	14,5	16,5	15,5
BC-15F	15	17,5	15,5



CODE	C	D	L	L1	L2
UT-4 / UT-4C	16	20	122	60	54

UT-4 / UT-4C			
CENTERING BUSH	A	B	L3
BC-16F	16	19,5	15,5
BC-18F	18	21	15,5
BC-19F	19	22	15,5
BC-20F	20	23	15,5
BC-25F	25	28	15,5
BC-30F	30	34	15,5