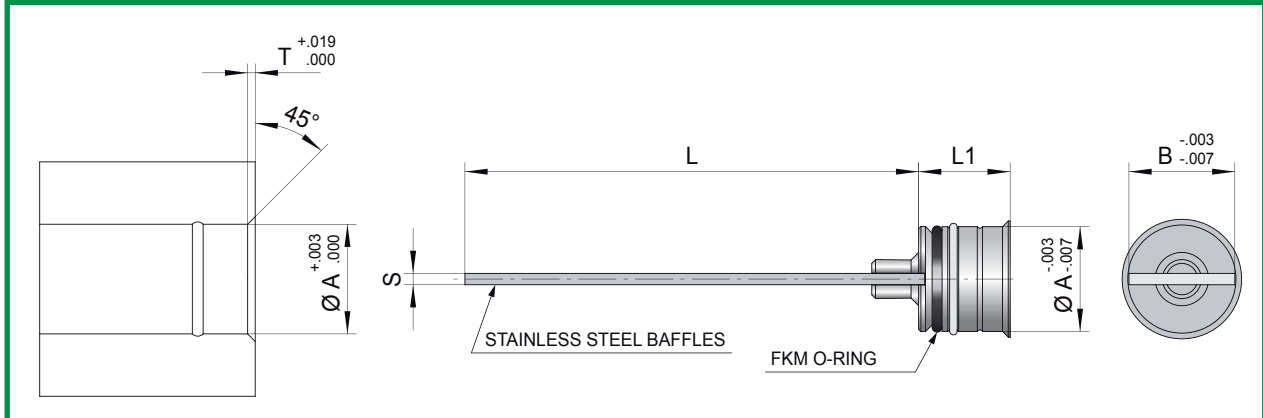# BAFFLES INCHES

*RAPID PLUG AND UNPLUG SYSTEM*
*(PATENTED SYSTEM)*





STAINLESS STEEL BAFFLES

FKM O-RING
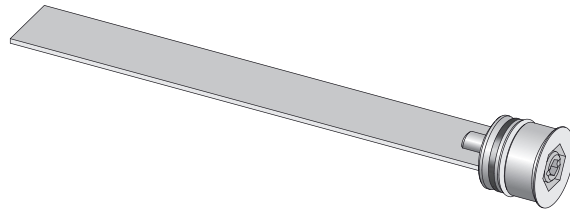
CODE: **RL-..**

| CODE | A | T | S | B | L1 | L | | | |
|------|-----|------|------|-------|------|---|----|----|----|
| RL-Q | .338 | .039 | .039 | .338 | .374 | 4 | 8 | 12 | |
| RL-7/16 | .437 | .039 | .039 | .437 | .492 | 4 | 8 | 12 | |
| RL-37/64 | .577 | .039 | .039 | .577 | .492 | 4 | 8 | 12 | |
| RL-23/32 | .718 | .047 | .039 | .718 | .551 | 6 | 12 | 18 | 24 |
| RL-59/64 | .921 | .047 | .039 | .921 | .551 | 6 | 12 | 18 | 24 |
| RL-1" 5/32 | 1.156 | .047 | .039 | 1.156 | .551 | 6 | 12 | 18 | 24 |

Order example: RL-7/16x12
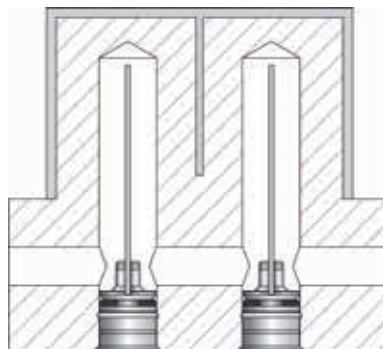


## CHARACTERISTICS

1) RAPID SLOTTIG;

2) RAPID FITTING AND REMOVING;

3) SUPPLIED WITH VITON OR WHICH MAY ALSO BE USED AT HIGH TEMPERATURES;

4) SECURE SEAL IS MAINTAINED EVEN UNDER HIGH PRESSURE CONDITIONS (~100 BAR).

**ERMANNO BALZI**

**CEB**

HEXAGONAL KEY "T"
(COD. 96T)

**CE**

SPECIAL HEXAGONAL
KEY

ERMANNO BALZI

CE

L

$ØA \, ^{+.003}_{.000}$
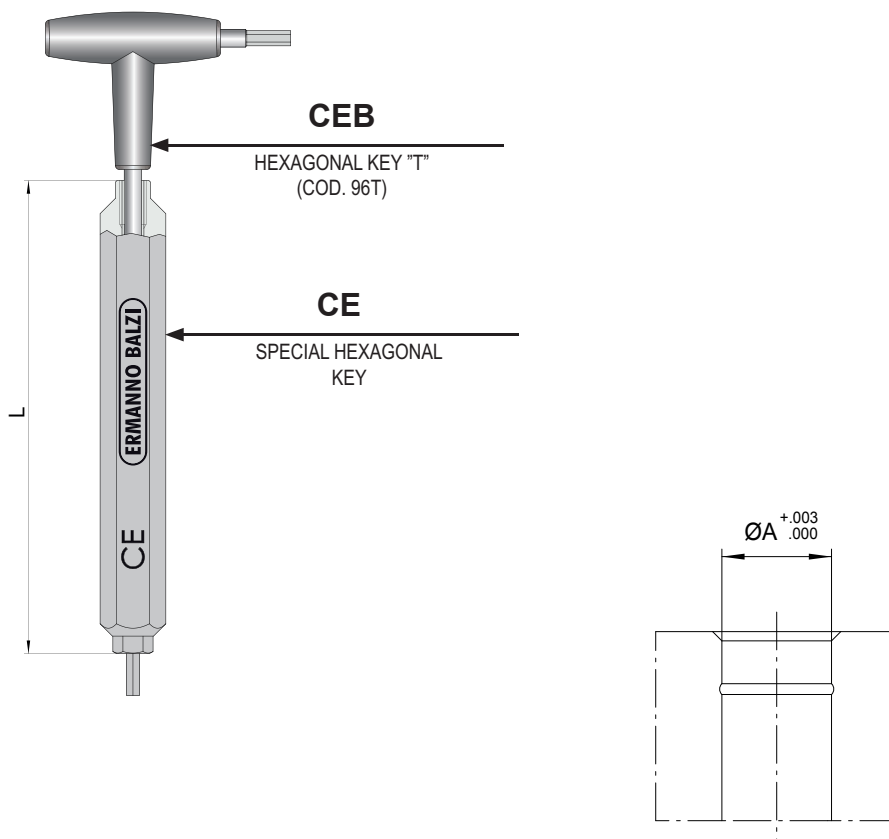
| CODE | ØA |
|------|-----|
| CE-5 | TR-1/4 |
| CEB-2 | |

| CODE | ØA |
|------|-----|
| CE-6,5 | TR-Q |
| CEB-2,5 | |

| CODE | ØA |
|------|-----|
| CE-8 | TR-7/16 |
| CEB-3 | |
| CE-8 | TR-37/64 |
| CEB-3 | |

| CODE | ØA |
|------|-----|
| CE-12 | TR-23/32 |
| | TR-59/64 |
| CEB-5 | TR-1"-5/32 |

**ERMANNO BALZI**

**UT-..** (STANDARD TOOL)

**UT-..C** (TOOL WITH PRESSURE COMPENSATOR)

$$\varnothing A \; {}^{+.003}_{.000}$$

**IN** (CUTTER)

**BC** (CENTERING BUSH)
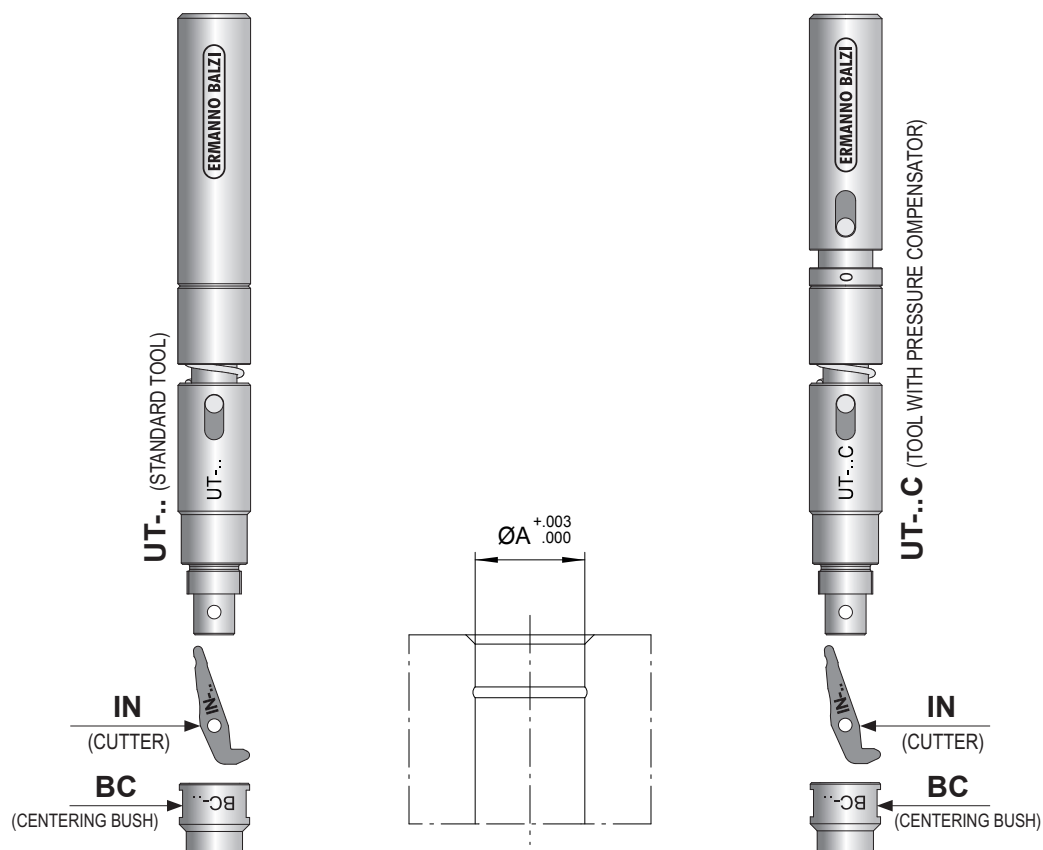
| CODE | ØA | BC | IN |
|------|-----|------|------|
| UT-1<br>UT-1C | TR-1/4 | BC-1/4 | IN-1/4 |

| CODE | ØA | BC | IN |
|------|-----|------|------|
| UT-2<br>UT-2C | TR-Q | BC-Q | IN-Q |

| CODE | ØA | BC | IN |
|------|-----|------|------|
| UT-3<br>UT-3C | TR-7/16 | BC-7/16 | IN-7/16 |
| | TR-37/64 | BC-37/64 | IN-37/64 |

| CODE | ØA | BC | IN |
|------|-----|------|------|
| UT-4<br>UT-4C | TR-23/32 | BC-23/32 | IN-23/32 |
| | TR-59/64 | BC-59/64 | IN-59/64 |
| | TR-1"-5/32 | BC-1"-5/32 | IN-1"-5/32 |

**ERMANNO BALZI**

| STANDARD CUTTER | | |
|---|---|---|
| **CODE** | **CUTTING SPEED in/min.** | **RPM** |
| IN-1/4 | .156÷.183 | 500÷600 |
| IN-Q | .156÷.183 | 460÷550 |
| IN-7/16 | .156÷.183 | 370÷450 |
| IN-37/64 | .156÷.183 | 350÷420 |
| IN-23/32 | .156÷.183 | 300÷360 |
| IN-59/64 | .156÷.183 | 290÷340 |
| IN-1 5/32 | .156÷.183 | 250÷300 |

| CARBIDE CUTTER | | |
|---|---|---|
| **CODE** | **CUTTING SPEED m/min.** | **RPM** |
| IN-1/4D | .316÷.383 | 950÷1100 |
| IN-QD | .316÷.383 | 680÷850 |
| IN-7/16D | .316÷.383 | 550÷650 |
| IN-37/64D | .316÷.383 | 410÷500 |
| IN-23/32D | .316÷.383 | 330÷400 |
| IN-59/64D | .316÷.383 | 260÷310 |
| IN-1 5/32D | .316÷.383 | 200÷250 |

*MATERIALS HARDNESS*

The standard cutters code IN-.. are made in rapid steel 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 and able to machine steel with hardness up to 50÷52 HRC is now available.

**ERMANNO BALZI**
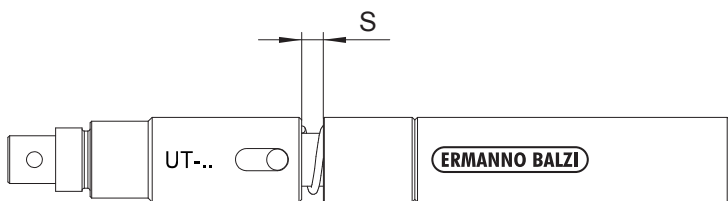
| TOOL | S |
|------|------|
| UT-0 | .169 |
| UT-1 | .169 |
| UT-2 | .169 |
| UT-3 | .185 |
| UT-4 | .200 |

### ADVICES FOR THE CORRECT USE OF THE TOOL "UT"

1. The tool "UT" is designed to be used on machienes where the forward movement is manually controlled.
2. The cutter starts the machining of the groove a few millimiters 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 maiking further pressure on the tool nor stopping in such a position more than a few seconds is advisable.
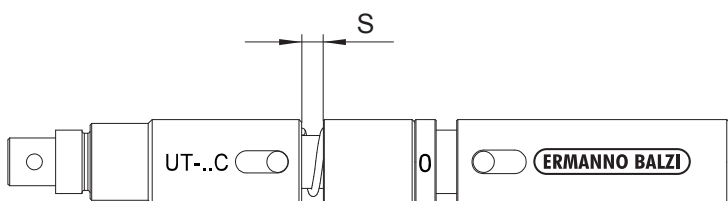


| TOOL | S<br>+.078 / +.118 |
|------|------|
| UT-0C | .169 |
| UT-1C | .169 |
| UT-2C | .169 |
| UT-3C | .185 |
| UT-4C | .200 |

### 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 automatically controlled.
2. It is possible to move in rapid traverse till .078 inc from the working position (contact point between centering bush "BC" and chamfer of the hole).
3. Starting from this point a cutting feed of 019 inc/turn 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 .078÷.118 inc, the extra stroke will be compensated by a spring inside the tool.
5. Once the forward movement is completed neither maiking further pressure on the tool nor stopping in such a position more than a few seconds is advisable.

**ERMANNO BALZI**
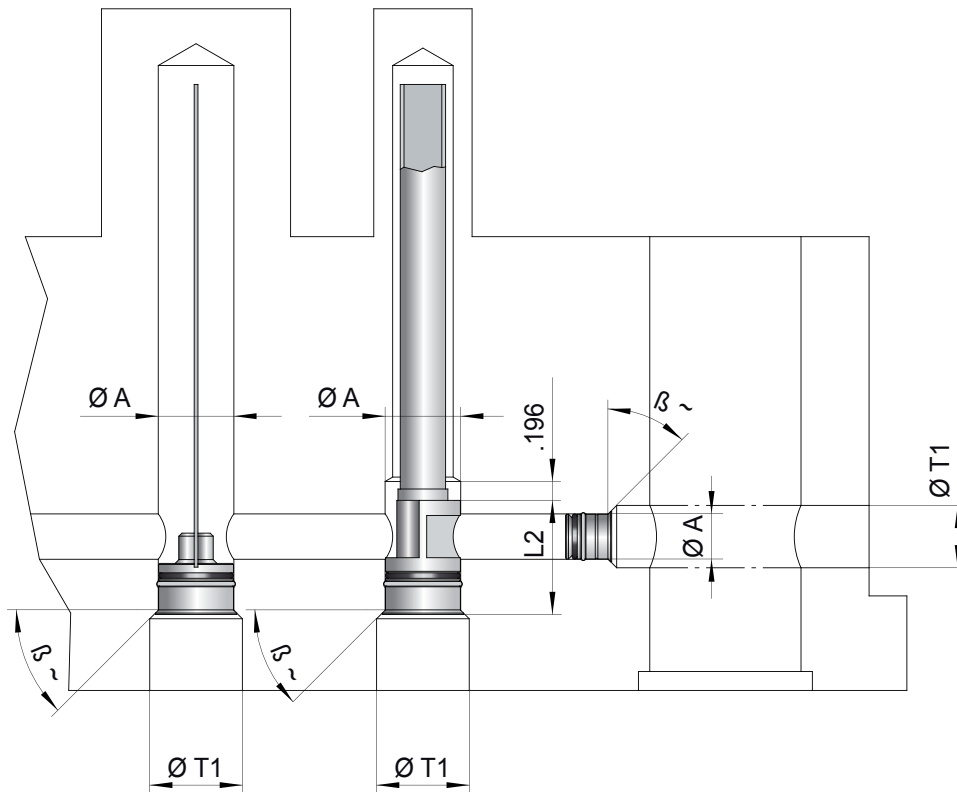
## NOTE

1. In case of necessity to apply some elements in depth (as in the diagram above) and it is desired to execute the check canal using the appropriate tool, carry out the undercut ØT1 with the measures indicated in table.

2. The angle ß (front inclination of the drill) should vary from a minimum of 0° to a maximum of 45°.

3. During the execution of a seat with double diameter (as in the diagram above), the depth of the Ø A must be minimum .196 inch longer than thedimension «L2» of the bubbles.

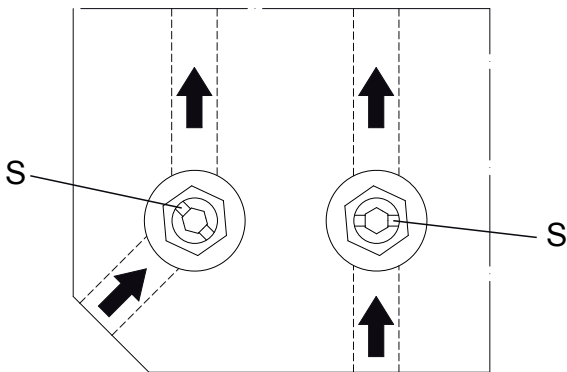| DIMENSION ØA OF THE ITEM TO APPLY | ØT1 | L2 |
|---|---|---|
| .338 | .511 | .708 |
| .437 | .649 | .866 |
| .577 | .688 | .944 |
| .718 | .885 | 1.082 |
| .921 | .964 | 1.161 |
| 1.156 | 1.141 | 1.318 |

ERMANNO BALZI

# POSITIONING OF THE BUBBLES
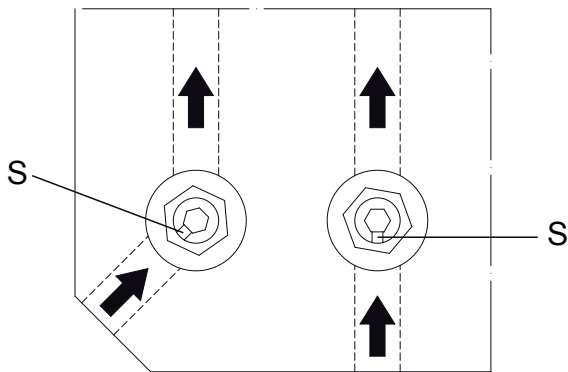


In order to obtain a correct circulation of the coolant, position the fiducial mark S that you can find on the bubble as indicated in the diagram.

# POSITIONING OF THE BAFFLES



In order to obtain a correct circulation of the coolant, position the fiducial marks S that you can find on the baffle as indicated in the diagram. The fiducial marks correspond to the position of the blade.

| CODE | INCHES SERIES SET COMPOSITION |
|------|-------------------------------|
| UT | N°1 SINGLE TOOL |
| CE | N°1 SPECIAL HEXAGONAL KEY |
| CEB | N°1 "T" BETA KEY |
| BC | N°1 CENTERING BUSH FOR EACH SIZE |
| IN | N°1 CUTTER FOR EACH SIZE |

Order example: CSI-7/16

| CODE | CSI-1/4 | CSI-Q | CSI-7/16 | CSI-37/64 | CSI-23/32 | CSI-59/64 | CSI-1"-5/32 |
|------|---------|-------|----------|-----------|-----------|-----------|-------------|
| UT-1 | ✓ | | | | | | |
| UT-2 | | ✓ | | | | | |
| UT-3 | | | ✓ | ✓ | | | |
| UT-4 | | | | | ✓ | ✓ | ✓ |
| BC-1/4 | ✓ | | | | | | |
| BC-Q | | ✓ | | | | | |
| BC-7/16 | | | ✓ | | | | |
| BC-37/64 | | | | ✓ | | | |
| BC-23/32 | | | | | ✓ | | |
| BC-59/64 | | | | | | ✓ | |
| BC-1"-5/32 | | | | | | | ✓ |
| IN-1/4 | ✓ | | | | | | |
| IN-Q | | ✓ | | | | | |
| IN-7/16 | | | ✓ | | | | |
| IN-37/64 | | | | ✓ | | | |
| IN-23/32 | | | | | ✓ | | |
| IN-59/64 | | | | | | ✓ | |
| IN-1"-5/32 | | | | | | | ✓ |
| CE-5 | ✓ | | | | | | |
| CE-6,5 | | ✓ | | | | | |
| CE-8 | | | ✓ | ✓ | | | |
| CE-12 | | | | | ✓ | ✓ | ✓ |
| CEB-2 | ✓ | | | | | | |
| CEB-2,5 | | ✓ | | | | | |
| CEB-3 | | | ✓ | ✓ | | | |
| CEB-5 | | | | | ✓ | ✓ | ✓ |

ERMANNO BALZI

| CODE | INCHES SERIES SET COMPOSITION |
|---|---|
| UTC | N°1 SINGLE TOOL |
| CE | N°1 SPECIAL HEXAGONAL KEY |
| CEB | N°1 "T" BETA KEY |
| BC | N°1 CENTERING BUSH FOR EACH SIZE |
| IN | N°1 CUTTER FOR EACH SIZE |

Order example: CSI-7/16C

| CODE | CSI-1/4C | CSI-QC | CSI-7/16C | CSI-37/64C | CSI-23/32C | CSI-59/64C | CSI-1"-5/32C |
|---|---|---|---|---|---|---|---|
| UT-1C | ✓ | | | | | | |
| UT-2C | | ✓ | | | | | |
| UT-3C | | | ✓ | ✓ | | | |
| UT-4C | | | | | ✓ | ✓ | ✓ |
| BC-1/4 | ✓ | | | | | | |
| BC-Q | | ✓ | | | | | |
| BC-7/16 | | | ✓ | | | | |
| BC-37/64 | | | | ✓ | | | |
| BC-23/32 | | | | | ✓ | | |
| BC-59/64 | | | | | | ✓ | |
| BC-1"-5/32 | | | | | | | ✓ |
| IN-1/4 | ✓ | | | | | | |
| IN-Q | | ✓ | | | | | |
| IN-7/16 | | | ✓ | | | | |
| IN-37/64 | | | | ✓ | | | |
| IN-23/32 | | | | | ✓ | | |
| IN-59/64 | | | | | | ✓ | |
| IN-1"-5/32 | | | | | | | ✓ |
| CE-5 | ✓ | | | | | | |
| CE-6,5 | | ✓ | | | | | |
| CE-8 | | | ✓ | ✓ | | | |
| CE-12 | | | | | ✓ | ✓ | ✓ |
| CEB-2 | ✓ | | | | | | |
| CEB-2,5 | | ✓ | | | | | |
| CEB-3 | | | ✓ | ✓ | | | |
| CEB-5 | | | | | ✓ | ✓ | ✓ |

ERMANNO BALZI