

CERN name (MTF) HCTCLP_001-CQ000408
 CERCA name TCLP_081
 MADX name TCL.4L1.B2

ID
 Angle 0.0
 Material CU
 Length 1.0
 Beam B2
 Family TCLP
 IP IP1

BLMI BLMEI.04L1.B2E10_TCL.4L1.B2
 BLMS BLMES.04L1.B2E10_TCL.4L1.B2

Jaw corner notation

| | |
|------------|---|
| LEFT UP | B |
| LEFT DOWN | D |
| RIGHT UP | A |
| RIGHT DOWN | C |

| | |
|--------|---|
| AXIS_A | 1 |
| AXIS_B | 1 |
| AXIS_C | 1 |
| AXIS_D | 1 |
| AXIS_E | 0 |

| | |
|-----------------|---|
| AXIS_LEFT_UP | 1 |
| AXIS_LEFT_DOWN | 1 |
| AXIS_RIGHT_UP | 1 |
| AXIS_RITGH_DOWN | 1 |
| AXIS_TANK | 0 |

Mechanical STOPS

| | OUT | IN |
|-------------|--------------|--------------|
| LEFT UP | 29.99899953 | -6.043351424 |
| LEFT DOWN | 30.00501381 | -6.034052971 |
| RIGHT UP | -29.98358117 | 6.052675996 |
| RIGHT DOWN | -29.99283847 | 6.057489768 |
| ANTI - UP | 0.36290848 | |
| ANTI - DOWN | 0.37201955 | |

Measurements in the metrology frame:

| | OUT | IN |
|---|--------------|--------------|
| A | -29.98358117 | 6.052675996 |
| B | 29.99899953 | -6.043351424 |
| C | -29.99283847 | 6.057489768 |
| D | 30.00501381 | -6.034052971 |

Mechanical stops

| | | |
|---------|----|-------------|
| Max gap | AB | 59.98258070 |
| | CD | 59.99785228 |
| Min gap | AB | 0.36290848 |
| | CD | 0.37201955 |

Switches

| | OUT | IN |
|-------------|--------------|--------------|
| LEFT UP | 29.63899953 | -5.693351424 |
| LEFT DOWN | 29.64501381 | -5.724052971 |
| RIGHT UP | -29.62358117 | 5.702675996 |
| RIGHT DOWN | -29.68283847 | 5.717489768 |
| ANTI - UP | 0.49690848 | |
| ANTI - DOWN | 0.49201955 | |

Switches

| | OUT | IN |
|---|--------------|--------------|
| A | -29.62358117 | 5.702675996 |
| B | 29.63899953 | -5.693351424 |
| C | -29.68283847 | 5.717489768 |
| D | 29.64501381 | -5.724052971 |

Switches

| | | |
|---------|----|------------|
| Max gap | AB | 59.2625807 |
| | CD | 59.3278523 |
| Min gap | AB | 0.49690848 |
| | CD | 0.49201955 |

Maximum flatness error

| | |
|-------|-------------|
| Left | -0.04485602 |
| Right | 0.04790284 |

Maximum flatness error (mm)

| | |
|----|-------------|
| AC | 0.04790284 |
| BD | -0.04485602 |

Mechanical plays

| | |
|------------|-------|
| Left UP | 0.010 |
| Left DOWN | 0.007 |
| Right UP | 0.023 |
| Right DOWN | 0.017 |

Mechanical plays

| | |
|---|-------|
| A | 0.023 |
| B | 0.010 |
| C | 0.017 |
| D | 0.007 |

Auto-retraction

| | |
|------------|--------|
| Left UP | 12.195 |
| Left DOWN | 14.429 |
| Right UP | 0.01 |
| Right DOWN | 4.77 |

Auto-retraction

| | |
|---|--------|
| A | 0.010 |
| B | 12.195 |
| C | 4.770 |
| D | 14.429 |

Maximum tilt angle

| | |
|-------------|------|
| Left Plus | 3.85 |
| Left Minus | 3.80 |
| Right Plus | 3.60 |
| Right Minus | 3.44 |

Maximum tilt angle

| | |
|----------|------|
| AC Plus | 3.60 |
| AC Minus | 3.44 |
| BD Plus | 3.85 |
| BD Minus | 3.80 |

Transverse tank position

| | |
|-------------|--|
| Stop UP | |
| Switch UP | |
| Set point | |
| Switch DOWN | |
| Stop DOWN | |

Detailed flatness data
Left jaw on mech. Stop IN

| Long. Pos. [cm] | z = -20mm | z = 0 mm | z = +20mm |
|-----------------|--------------|--------------|--------------|
| 270 | -6.026551426 | -6.043351424 | -6.052536984 |
| 425 | -6.047487575 | -6.041557144 | -6.063595953 |
| 580 | -6.02985049 | -6.031410242 | -6.040328621 |
| 735 | -5.995260676 | -5.998495405 | -6.007203994 |
| 890 | -5.999947 | -6.019281184 | -6.019071178 |
| 1045 | -6.032731481 | -6.039382791 | -6.049605675 |
| 1200 | -6.02719125 | -6.034052971 | -6.042981903 |

Detailed flatness - Jaw AC on mech. Stop IN

| Long. Pos. [mm] | z = -20mm | z = 0 mm | z = +20mm |
|-----------------|-------------|-------------|-------------|
| 270 | 6.060449269 | 6.052675996 | 6.049631692 |
| 425 | 6.070129847 | 6.071956488 | 6.063537944 |
| 580 | 6.088653594 | 6.085171840 | 6.073076416 |
| 735 | 6.090585731 | 6.100578836 | 6.099275880 |
| 890 | 6.081316119 | 6.083434163 | 6.076901654 |
| 1045 | 6.062669433 | 6.069196616 | 6.074195051 |
| 1200 | 6.053718352 | 6.057489768 | 6.054552291 |

Detailed flatness data
Right jaw on mech. Stop IN

| Long. Pos. [cm] | z = -20mm | z = 0 mm | z = +20mm |
|-----------------|-------------|-------------|-------------|
| 270 | 6.060449269 | 6.052675996 | 6.049631692 |
| 425 | 6.070129847 | 6.071956488 | 6.063537944 |
| 580 | 6.088653594 | 6.08517184 | 6.073076416 |
| 735 | 6.090585731 | 6.100578836 | 6.09927588 |
| 890 | 6.081316119 | 6.083434163 | 6.076901654 |
| 1045 | 6.062669433 | 6.069196616 | 6.074195051 |
| 1200 | 6.053718352 | 6.057489768 | 6.054552291 |

Detailed flatness - Jaw BD on mech. Stop IN

| Long. Pos. [cm] | z = -20mm | z = 0 mm | z = +20mm |
|-----------------|-------------|-------------|-------------|
| 270 | -6.02655143 | -6.04335142 | -6.05253698 |
| 425 | -6.04748757 | -6.04155714 | -6.06359595 |
| 580 | -6.02985049 | -6.03141024 | -6.04032862 |
| 735 | -5.99526068 | -5.99849540 | -6.00720399 |
| 890 | -5.99994700 | -6.01928118 | -6.01907118 |
| 1045 | -6.03273148 | -6.03938279 | -6.04960567 |
| 1200 | -6.02719125 | -6.03405297 | -6.04298190 |

Screw Serial Number

| | |
|------------|------------|
| LEFT UP | 8148403-43 |
| LEFT DOWN | 8148403-36 |
| RIGHT UP | 8148403-37 |
| RIGHT DOWN | 8148403-38 |

Screw S N

| | |
|---|------------|
| A | 8148403-37 |
| B | 8148403-43 |
| C | 8148403-38 |
| D | 8148403-36 |