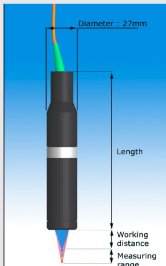
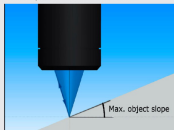


## ■ Modular optical pens (CL-MG Line)

|                                            |       | CL-MG Line*          |       |         |       |       |         |       |         |       |         |       |          |       |  |
|--------------------------------------------|-------|----------------------|-------|---------|-------|-------|---------|-------|---------|-------|---------|-------|----------|-------|--|
| Model                                      |       | CL1                  |       | CL2     |       |       | CL3     |       | CL4     |       | CL5     |       | CL6      |       |  |
| Measuring range <sup>(1)</sup>             | [μm]  | 130                  |       | 400     |       |       | 1400    |       | 4000    |       | 12000   |       | 24000    |       |  |
| Working distance <sup>(2)</sup>            | [mm]  | 3.3                  |       | 11      |       |       | 12.7    |       | 16.4    |       | 29      |       | 19.6     |       |  |
| Max. object slope <sup>(3)</sup>           | [deg] | +/- 42.5°            |       | +/- 28° |       |       | +/- 25° |       | +/- 21° |       | +/- 14° |       | +/- 8.5° |       |  |
| Reference plate <sup>(4)</sup>             | -     | No                   |       | Yes     |       |       | Yes     |       | Yes     |       | Yes     |       | No       |       |  |
| Axial model <sup>(5)</sup>                 | -     | Standard<br>Optional |       |         |       |       |         |       |         |       |         |       |          |       |  |
| Radial model <sup>(6)</sup>                | -     |                      |       |         |       |       |         |       |         |       |         |       |          |       |  |
| Magnifier model                            |       | MG210                | MG140 | MG210   | MG140 | MG70  | MG140   | MG70  | MG35    | MG20  | MG35    | MG20  | MG35     | MG20  |  |
| LATERAL (XY) PROPERTIES                    |       |                      |       |         |       |       |         |       |         |       |         |       |          |       |  |
| Spot size (diameter)                       | [μm]  | 1.9                  | 2.8   | 2.3     | 3.4   | 6.9   | 4       | 8     | 8       | 14    | 14      | 24.5  | 16       | 28    |  |
| Lateral resolution <sup>(8)</sup>          | [μm]  | 0.9                  | 1.4   | 1.2     | 1.7   | 3.5   | 2       | 4     | 4       | 7     | 7       | 12.3  | 8        | 14    |  |
| PHOTOMETRIC EFFICIENCY <sup>(7)</sup>      |       |                      |       |         |       |       |         |       |         |       |         |       |          |       |  |
| Collected energy (relative)                | [Hz]  | 5.8                  | 13    | 5.5     | 11.5  | 46    | 14      | 56    | 30      | 76    | 40      | 100   | 19.2     | 48    |  |
| MECHANICAL INTERFACE                       |       |                      |       |         |       |       |         |       |         |       |         |       |          |       |  |
| Length <sup>(9)</sup>                      | [mm]  | 253.1                | 217.1 | 243.3   | 208.9 | 176.1 | 205.9   | 176.1 | 145.5   | 131.7 | 145.5   | 131.7 | 167.6    | 151.8 |  |
| Diameter <sup>(10)</sup>                   | [mm]  | 27                   | 27    | 27      | 27    | 27    | 27      | 27    | 27      | 27    | 27      | 27    | 27       | 27    |  |
| Weight                                     | [g]   | 268                  | 195   | 248     | 190   | 189   | 215     | 214   | 155     | 140   | 175     | 160   | 195      | 180   |  |
| Performances <sup>(6)</sup>                |       |                      |       |         |       |       |         |       |         |       |         |       |          |       |  |
| DISTANCE MEASUREMENT                       |       |                      |       |         |       |       |         |       |         |       |         |       |          |       |  |
| Axial resolution <sup>(10)</sup>           |       |                      |       |         |       |       |         |       |         |       |         |       |          |       |  |
| With no averaging                          | [nm]  | 8                    |       |         |       | 22    |         |       |         | 130   |         |       |          | 780   |  |
| With averaging 10                          | [nm]  | 2.7                  |       |         |       | 8     |         |       |         | 50    |         |       |          | 300   |  |
| Accuracy <sup>(11)</sup>                   | [nm]  | 35                   |       |         |       | 80    |         |       |         | 300   |         |       |          | 1500  |  |
| Measuring on metal surface <sup>(12)</sup> | -     | R                    |       |         |       | R     |         |       |         | NR    |         |       |          | NR    |  |
| ROUGHNESS MEASUREMENT                      |       |                      |       |         |       |       |         |       |         |       |         |       |          |       |  |
| Min. measurable Ra <sup>(13)</sup>         | [nm]  | 12                   |       | 30      |       |       | 90      |       |         | 170   |         | 600   |          | 1100  |  |
| THICKNESS MEASUREMENT <sup>(14)</sup>      |       |                      |       |         |       |       |         |       |         |       |         |       |          |       |  |
| Min. measurable thickness <sup>(15)</sup>  | [μm]  | 7.5                  | 9     | 14      | 16    | 22    | 38      | 40    | 110     | 120   | 450     | 550   | 590      | 725   |  |
| Max. measurable thickness <sup>(16)</sup>  | [μm]  | 175                  | 175   | 510     | 510   | 510   | 2000    | 2000  | 5700    | 5700  | 16500   | 16500 | 34000    | 34000 |  |

(\*) NEW SPECIFICATIONS, effective in summer 2011.



N.B. : the values are subject to change without notice.