



Strobe version  
available

Very intense and uniform illuminated area

Full range of colors: from UV to IR, white, tricolor

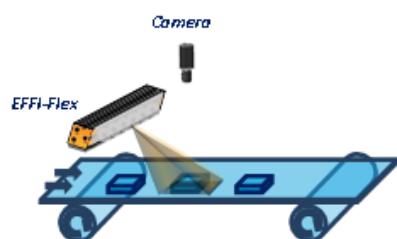
Long lifetime and minimal maintenance

Standard connections and fasteners

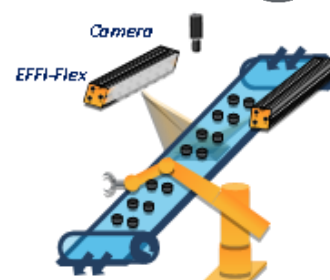
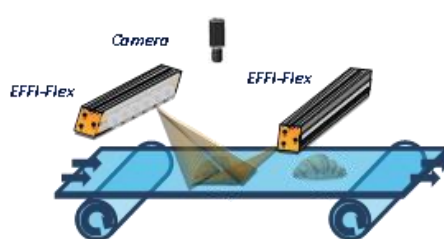
Flexible: Adjustable illumination angles (4 angles) & different projection windows

|                    |                         |                                                    |
|--------------------|-------------------------|----------------------------------------------------|
| <b>Electronics</b> | Connectors              | M12 – 4 Pins or M12 Power (T-coded) – 4 Pins       |
|                    | Power supply            | 24V DC                                             |
|                    | Illumination mode       | Continuous or strobe mode                          |
|                    | Power consumption       | Depending on the amount of LEDs                    |
|                    | Electronic mode         | Standard (Autostrobe) or ELS                       |
| <b>Optics</b>      | Wavelength              | Single (from UV to IR, white) wavelengths          |
| <b>Mechanics</b>   | Weight                  | Depends on the amount of LEDs                      |
|                    | Width x height x length | 50mm x 37mm x Length depends on the amount of LEDs |
|                    | Fastener                | 1 rails for M4 T-nut: one on the back              |
|                    | Material                | Device body: Aluminum alloy & ABS; Window: PMMA    |
| <b>Environment</b> | Working temperature     | 0°C to 50°C                                        |
|                    | IP code                 | IP67                                               |

## Applications



Quality control



Pick and place

### Part Number



#### Reference:

EFFI-FLEX-CPT-**VVV**-**XXX**-**YYY**-**WW**-**PP**

#### VVV: Cooling version

Ø: No water cooling

WTR: Water cooling

#### XXX: Number of LEDs

| XXX                                                              | 1    | 3    | 5     | 10    | 15    | in 5 LED increment                  |
|------------------------------------------------------------------|------|------|-------|-------|-------|-------------------------------------|
| <b>Optical Length</b><br>(See page for mechanical length)        | 20mm | 60mm | 100mm | 200mm | 300mm | Max 2900mm (145 LED) <sup>(2)</sup> |
| Standard version<br>(LED pitch = 20mm)                           |      |      |       |       |       |                                     |
| Version 1 LED / 2 positions <sup>(1)</sup><br>(LED pitch = 40mm) | -    | -    | 200mm | 400mm | 600mm | Max 2900mm (70 LED) <sup>(2)</sup>  |

(1) For the 1 LED / 2 positions type, add -L2 (Length x 2) before the number of LEDs [EFFI-FLEX-L2-XXX...]

(2) For standard lead time. Ask EFFILUX for longer sizes (up to 6m).

#### YYY: Color / Wavelength (nm)

|                         |                                     |          |            |             |           |          |                                    |
|-------------------------|-------------------------------------|----------|------------|-------------|-----------|----------|------------------------------------|
| ●●● RGB RGB<br>Optional | ● UV 365<br>Only available in TR-P0 | ● UV 405 | ● Blue 465 | ● Green 525 | ● Red 625 | ● IR 850 | ○ White 000<br>(T° = 5500K ± 500K) |
|-------------------------|-------------------------------------|----------|------------|-------------|-----------|----------|------------------------------------|

#### WW: Windows (if not specified, default semi-diffusive window)

TR: Transparent

SD: Semi-diffusive

OP: Opaline



+ Powerful

+ Homogeneous

#### PP: Position (if not specified, default position P2) / Emission angle according to the lens position

| P0 (Without lens) | P1 | P2 | P3 |
|-------------------|----|----|----|
|                   |    |    |    |

Option Polarizer (to eliminate glare caused by the lighting)

Option Pure UV (for fluorescence applications)



Without polarizer



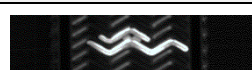
With polarizer

If polarizer, add **-POL** in the reference. Possibility to buy only the accessory.

Part number: EFFI-FLEX-CPT-**WW**-**XXX**-**YY**-**ZZ**-**POL**

The standard polarizer is not suitable for continuous mode use of blue or white light. For this kind of application, the high durability polarizer is necessary.

(Available up to 40 LEDs). Part number: EFFI-FLEX-CPT-**XXX**-**YYY**-**TR**-**PP**-**POL**-**HDY**



Without PureUV



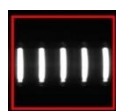
With Pure UV

The PureUV is an innovative EFFILUX technology which allows you to eliminate unwanted reflections. If PureUV, add **-PUV** in the reference.

Only for 365nm EFFI-Flex. Part number: EFFI-FLEX-CPT-**WW**-**365**-**TR**-**P0**-**PUV**

Option Linescan (linear lighting or a darkfield lighting)

Option Cylindrical lens (linear lighting)



Without Linescan



With Linescan

If linescan, add **-LS** in the reference. Possibility to buy only the accessory.

Part number: EFFI-FLEX-CPT-**WW**-**XXX**-**YY**-**ZZ**-**LS**



If EFFI-Flex-CPT with cylindrical lens, add **-CYL** in the reference.

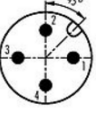
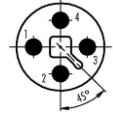
Part number: EFFI-FLEX-CPT-**XXX**-**YYY**-**TR**-**P1**-**LS**-**CYL**

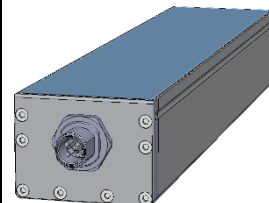
### Electronical considerations



#### Contact arrangement

The EFFI-Flex-CPT is supplied with a 24V constant voltage. The TRIG contact needs to be connected.

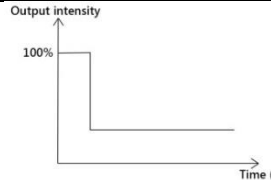
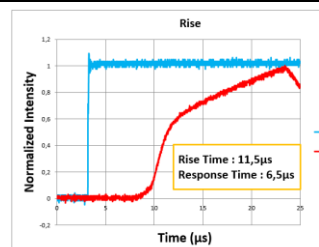
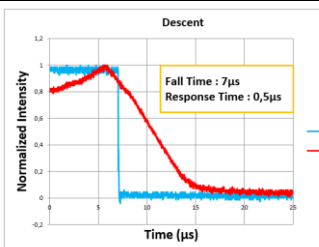
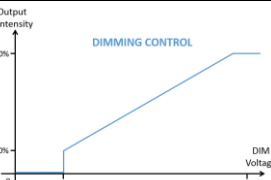
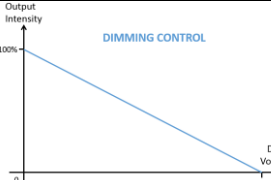
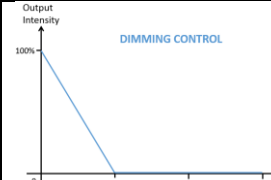
| Contact arrangement <sup>(1)</sup>                                                                                                                                                                                                                                      | Number | Color Contact | Designation                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|---------------|-------------------------------------------------|
|  <br>M12 Male connector      M12 Power connector<br>Connector depends on electrical power consumption | 1      | Brown         | +24V                                            |
|                                                                                                                                                                                                                                                                         | 2      | White         | n.a.                                            |
|                                                                                                                                                                                                                                                                         | 3      | Blue          | GND                                             |
|                                                                                                                                                                                                                                                                         | 4      | Black         | TRIG <sup>(2)</sup> - max 24V<br>Analog Voltage |



(1) Contact arrangement is different for RGB Option

(2) Or DIM if ELS version

#### Dimming control

| Auto-Strobe: Standard electronic                             |                                                                                                                                                                                             |                                                                                                                                   |                                                                                                                                  |
|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Part number                                                  | EFFI-FLEX-CPT-WW-XXX-YY-ZZ                                                                                                                                                                  |                                                                                                                                   |                                                                                                                                  |
| Signal                                                       | <br>After 2s at 1000mA, LEDs are supplied with 350mA. Respect a duty cycle lower than 30% in strobe mode. | <br>Rise Time : 11,5μs<br>Response Time : 6,5μs | <br>Fall Time : 7μs<br>Response Time : 0,5μs |
| OPTION : ELS version: EFFI-FLEX-CPT-WW-XXX-YY-ZZ-ELS-VVV-24V |                                                                                                                                                                                             |                                                                                                                                   |                                                                                                                                  |
| Part number                                                  | ELS-VVV-24V                                                                                                                                                                                 | ELS-IN-VVV-24V                                                                                                                    | ELS-IN-VVV-5V                                                                                                                    |
| Signal                                                       | <br>OFF : 0-5V & ON : 5V-24V                                                                             | <br>ON : 0-22V & OFF : 22V-24V                 | <br>ON : 0-4.5V & OFF : 4.5V-15V            |

#### Recommended Cooling system for ELS version (contact EFFILUX for more information)

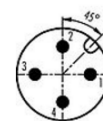
Part number: EFFI-FLEX-CPT-VVV-WW-XXX-YY-ZZ-ELS-UUU-24V

| UUU  | Output current (mA)[0-100%] | EFFI-Flex CPT                                                                                                                          | EFFI-Flex CPT 1 LED/2                                                                                           |
|------|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| 350  | 0-350 mA                    | <br><i>Passive cooling</i>                          | <br><i>Passive cooling</i> |
| 500  | 0-500 mA                    | <br>Passive cooling + fan*<br>(if duty cycle > 50%) |                                                                                                                 |
| 700  | 0-700 mA                    | <br>Passive cooling + fan*<br>(if duty cycle > 30%) |                                                                                                                 |
| 1000 | 0-1000 mA                   | From a duty cycle > 30%, contact us.                                                                                                   |                                                                                                                 |

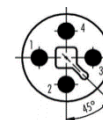
\*Fan is not included in the product / Duty Cycle :  $DC = T_{ON} / (T_{ON} + T_{OFF})$

### Power supply

| Amount of LED | Max Electrical power consumption (W) |                   |           |           |           |            |
|---------------|--------------------------------------|-------------------|-----------|-----------|-----------|------------|
|               | Standard version                     |                   | ELS 350mA | ELS 500mA | ELS 700mA | ELS 1000mA |
|               | P <sub>Peak</sub> 2s                 | P <sub>CW</sub> * |           |           |           |            |
| 1             | 5                                    | 2                 | 5         | 5         | 5         | 5          |
| 3             | 15                                   | 5                 | 5         | 10        | 10        | 15         |
| 5             | 20                                   | 8                 | 10        | 10        | 15        | 20         |
| 10            | 40                                   | 15                | 15        | 20        | 30        | 40         |
| 15            | 60                                   | 20                | 20        | 30        | 40        | 60         |
| 20            | 80                                   | 30                | 30        | 40        | 55        | 80         |
| 25            | 95                                   | 35                | 35        | 50        | 70        | 95         |
| 30            | 115                                  | 45                | 40        | 60        | 80        | 115        |
| 35            | 135                                  | 50                | 50        | 70        | 95        | 135        |
| 40            | 155                                  | 55                | 55        | 80        | 110       | 155        |
| 45            | 175                                  | 60                | 60        | 90        | 120       | 175        |
| 50            | 190                                  | 65                | 70        | 95        | 135       | 190        |
| 55            | 210                                  | 70                | 75        | 105       | 150       | 210        |
| 60            | 230                                  | 75                | 80        | 115       | 160       | 230        |
| 65            | 250                                  | 85                | 90        | 125       | 175       | 250        |
| 70            | 270                                  | 90                | 95        | 135       | 190       | 270        |



M12 Male connector



M12 Power Male connector

\*With standard version: M12 connector can accept more electrical power due to its strobe mode.

### Signal consumption

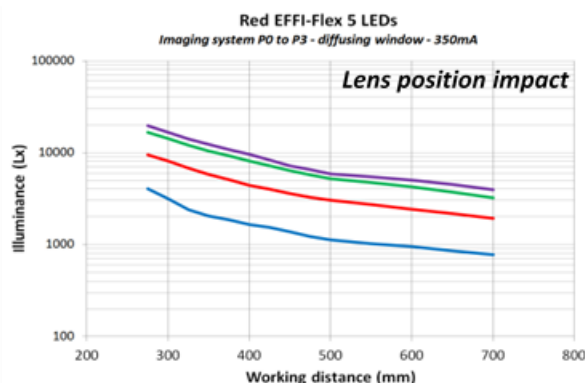
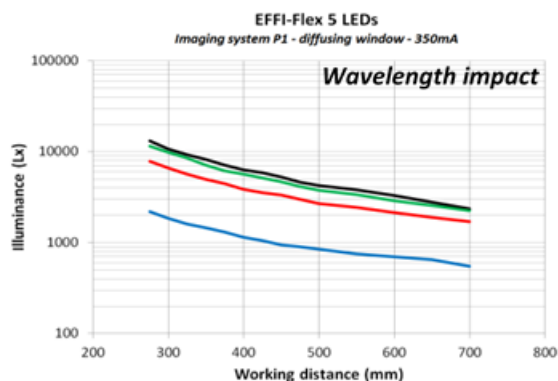
| DIM consumption      |                                                               |                                                              |                          |                                                       |
|----------------------|---------------------------------------------------------------|--------------------------------------------------------------|--------------------------|-------------------------------------------------------|
| ELS version (DIM)    | ELS-IN- <b>VVV</b> -24V<br><b>VVV</b> = 350, 500, 700 or 1000 | ELS-IN- <b>VVV</b> -5V<br><b>VVV</b> = 350, 500, 700 or 1000 | ELS- <b>350</b> -24V     | ELS- <b>VVV</b> -24V<br><b>VVV</b> = 500, 700 or 1000 |
| DIM consumption (mA) | 4.5mA @24V every 5 LEDs                                       | 3mA @24V every 5 LEDs                                        | 0.2mA @24V every 10 LEDs | 2mA @24V every 5 LEDs                                 |

| TRIG consumption |                      |                       |                       |
|------------------|----------------------|-----------------------|-----------------------|
| Amount of LED    | Consumption @5V (mA) | Consumption @10V (mA) | Consumption @24V (mA) |
| 1                | 0.05                 | 0.1                   | 1.5                   |
| 3                | 0.05                 | 0.1                   | 0.25                  |
| 5                | 0.05                 | 0.1                   | 0.25                  |
| 10               | 0.1                  | 0.2                   | 0.45                  |
| 15               | 0.05                 | 0.1                   | 0.25                  |
| 20               | 0.1                  | 0.2                   | 0.45                  |
| 30               | 0.1                  | 0.2                   | 0.45                  |
| 40               | 0.15                 | 0.3                   | 0.7                   |
| 50               | 0.2                  | 0.4                   | 0.9                   |
| 75               | 0.25                 | 0.45                  | 1.1                   |
| 100              | 0.35                 | 0.65                  | 1.55                  |
| 125              | 0.41                 | 0.82                  | 2                     |
| 150              | 0.45                 | 0.9                   | 2.2                   |

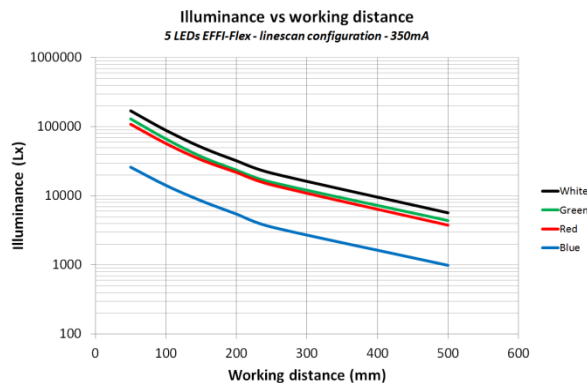
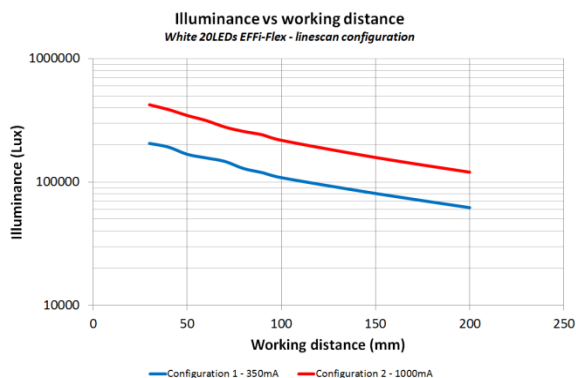
### Optical considerations



#### Illuminance vs the working distance

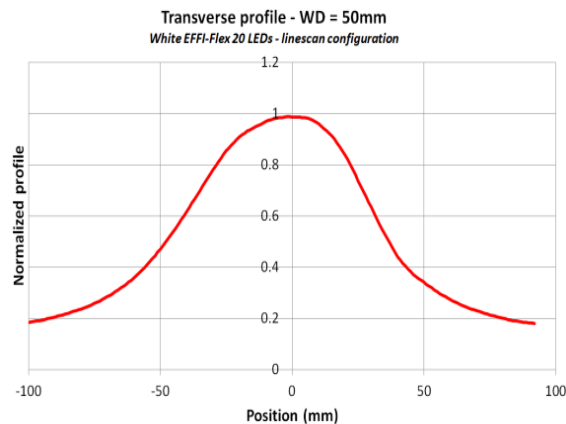
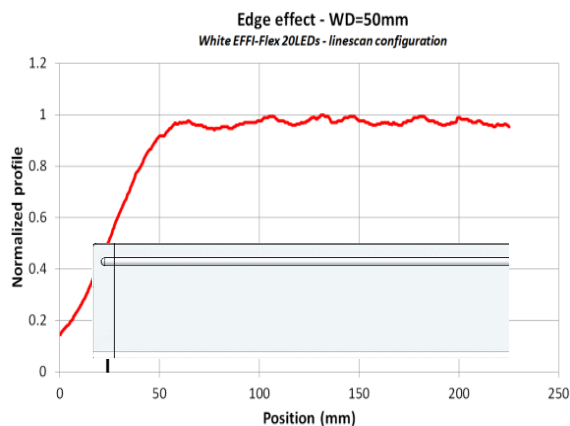
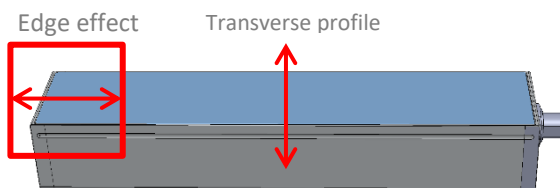


#### Linescan configuration



**NB: Configuration 2 requires an additional thermal management system**

#### Profile

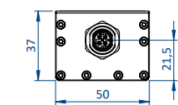


### Mechanical considerations

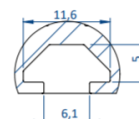
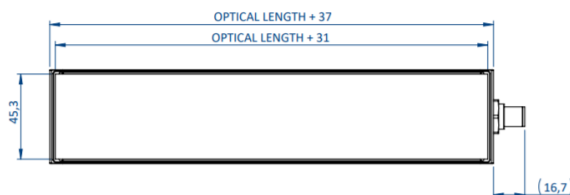
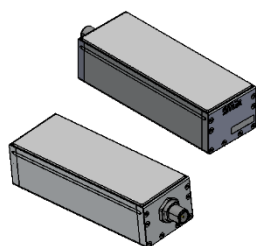
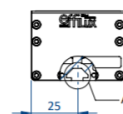


| Amount of LEDs | Designation                   | Optical Length Lop(mm)                                                                                   | Mechanical Length L(mm)                                                                                      |
|----------------|-------------------------------|----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
|                |                               | <b>Standard:</b> $L_{op}(mm) = 20 \times nb\_of\_LED$<br><b>L2:</b> $L_{op}(mm) = 40 \times nb\_of\_LED$ | <b>Standard:</b> $L(mm) = [20 \times nb\_of\_LED] + 37$<br><b>L2:</b> $L(mm) = [40 \times nb\_of\_LED] + 37$ |
| 1              | EFFI-FLEX-CPT-1-XXX-YY-ZZ     | 20                                                                                                       | 57                                                                                                           |
| 3              | EFFI-FLEX-CPT-3-XXX-YY-ZZ     | 60                                                                                                       | 97                                                                                                           |
| 5              | EFFI-FLEX-CPT-5-XXX-YY-ZZ     | 100                                                                                                      | 137                                                                                                          |
|                | EFFI-FLEX-CPT-5-L2-XXX-YY-ZZ  | 200                                                                                                      | 237                                                                                                          |
| 10             | EFFI-FLEX-CPT-10-XXX-YY-ZZ    | 200                                                                                                      | 237                                                                                                          |
|                | EFFI-FLEX-CPT-10-L2-XXX-YY-ZZ | 400                                                                                                      | 437                                                                                                          |
| 15             | EFFI-FLEX-CPT-15-XXX-YY-ZZ    | 300                                                                                                      | 337                                                                                                          |
|                | EFFI-FLEX-CPT-15-L2-XXX-YY-ZZ | 600                                                                                                      | 637                                                                                                          |
| 20             | EFFI-FLEX-CPT-20-XXX-YY-ZZ    | 400                                                                                                      | 437                                                                                                          |
|                | EFFI-FLEX-CPT-20-L2-XXX-YY-ZZ | 800                                                                                                      | 837                                                                                                          |
| 25             | EFFI-FLEX-CPT-25-XXX-YY-ZZ    | 500                                                                                                      | 537                                                                                                          |
|                | EFFI-FLEX-CPT-25-L2-XXX-YY-ZZ | 1000                                                                                                     | 1037                                                                                                         |
| 30             | EFFI-FLEX-CPT-30-XXX-YY-ZZ    | 600                                                                                                      | 637                                                                                                          |
|                | EFFI-FLEX-CPT-30-L2-XXX-YY-ZZ | 1200                                                                                                     | 1237                                                                                                         |
| 50             | EFFI-FLEX-CPT-50-XXX-YY-ZZ    | 1000                                                                                                     | 1037                                                                                                         |
|                | EFFI-FLEX-CPT-50-L2-XXX-YY-ZZ | 2000                                                                                                     | 2037                                                                                                         |
| 70             | EFFI-FLEX-CPT-70-XXX-YY-ZZ    | 1400                                                                                                     | 1437                                                                                                         |
|                | EFFI-FLEX-CPT-70-L2-XXX-YY-ZZ | 2800                                                                                                     | 2837                                                                                                         |

### EFFI-FLEX-CPT



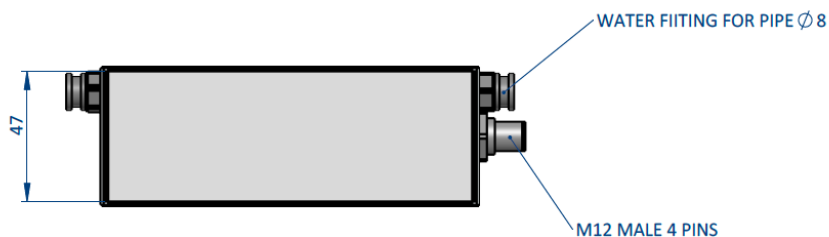
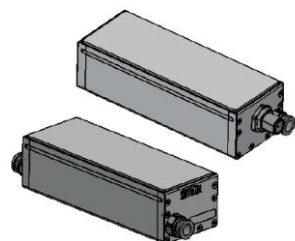
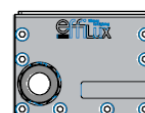
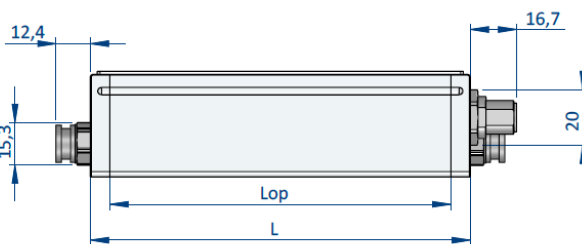
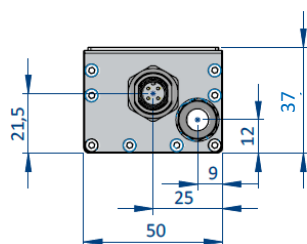
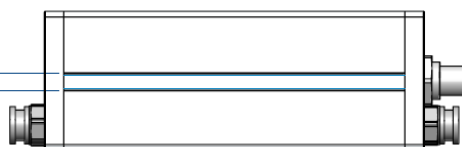
M12 OR M12P DEPENDING ON POWER CONSUMPTION.  
REFER TO THE DATASHEET



DETAIL A  
SCALE 2 : 1  
MOUNTING: T-NUT 6MM SLOT, M4

### EFFI-FLEX-CPT-WTR

6,1 FOR T-NUT BOLT M4



WATER FITTING FOR PIPE Ø 8

M12 MALE 4 PINS