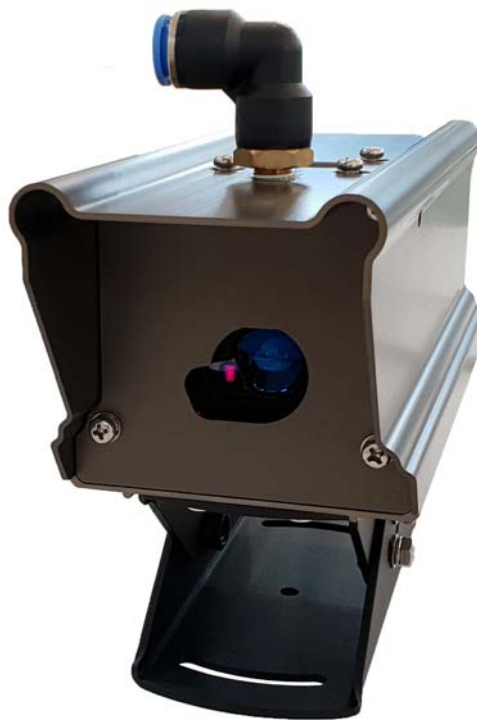


New Air Cooling Jacket For D-Series Laser Sensors Serial(Standard)/EtherNet Interface Manual



V2.4

2021.09.30

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1. General Information

This air cooling jacket can be used with all Dimetix D-Series Laser Sensors. This jacket prevents their lens containment in case the laser sensors are installed in a dust environment and protects against thermal damage of laser sensors through the cooling function at a high temperature environment.

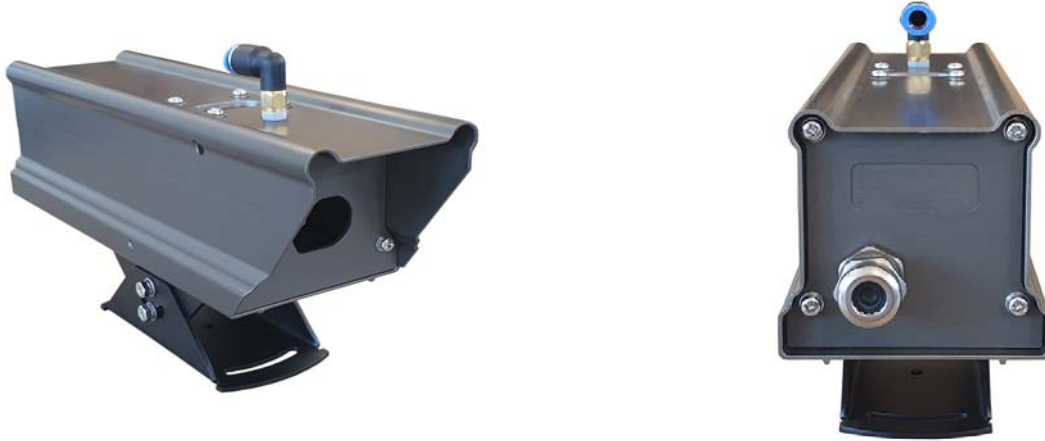
This manual is only applied for provision of jacket, not included in D-Series Laser Sensor.

2. Specifications

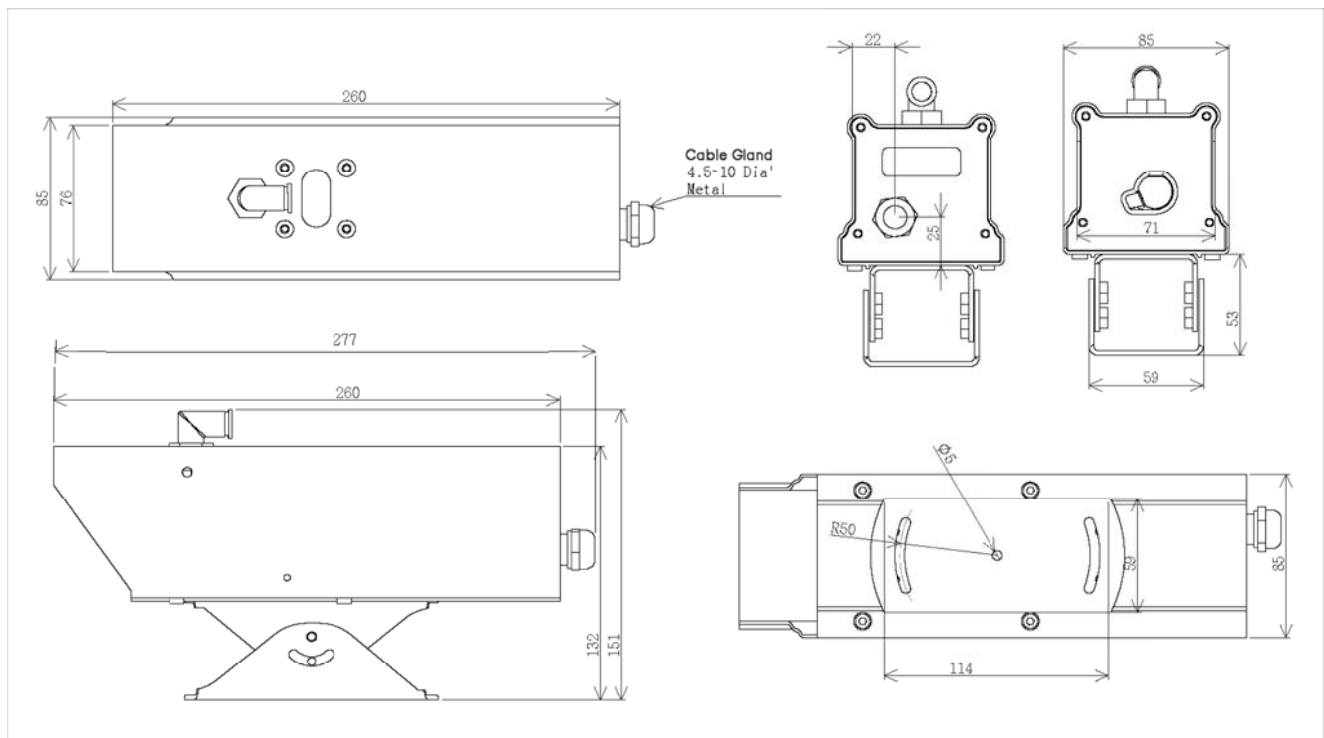
	Serial interface(Standard)	EtherNet interface
Air tube inner diameter	8mm	8mm
Air nipple size	PT 1/8" (model :GPL 0801 L)	PT 1/8" (model :GPL 0801 L)
Cable gland	Model:DAM-16ML(M16x1.5) M16 Mounting slots, M4 screws Brass/Nickel Plated IP68 Cable diameter : 4.5~10mm	Model: DAM-32(M32x1.5) M32 Mounting slots, M4 screws Nylon, Seal Insert : Neoprene Black, IP68 Temperature: -30~80 degrees C Cable diameter : 11~21mm
Material	Body - Hard Aluminum Anodizing Alignment Jig - SPHC 2.3t,Black powder coating	Body - Hard Aluminum Anodizing Alignment Jig - SPHC 2.3t,Black powder coating
Bolt slots	Front/rear/top/bottom part : M4 x 10L Side part: M4 x 6mm(set screw)	Front/rear/top/bottom part : M4 x 10L Side part: M4 x 6mm(set screw)
Size	85W mm x 277L mm x 151Hmm	85W mm x 292L mm x 151Hmm
Weight	1.42kg	1.40kg

3. Drawing

3.1 Drawing of Air Cooling Jacket for Serial Interface(standard)



<Fig. 1 >



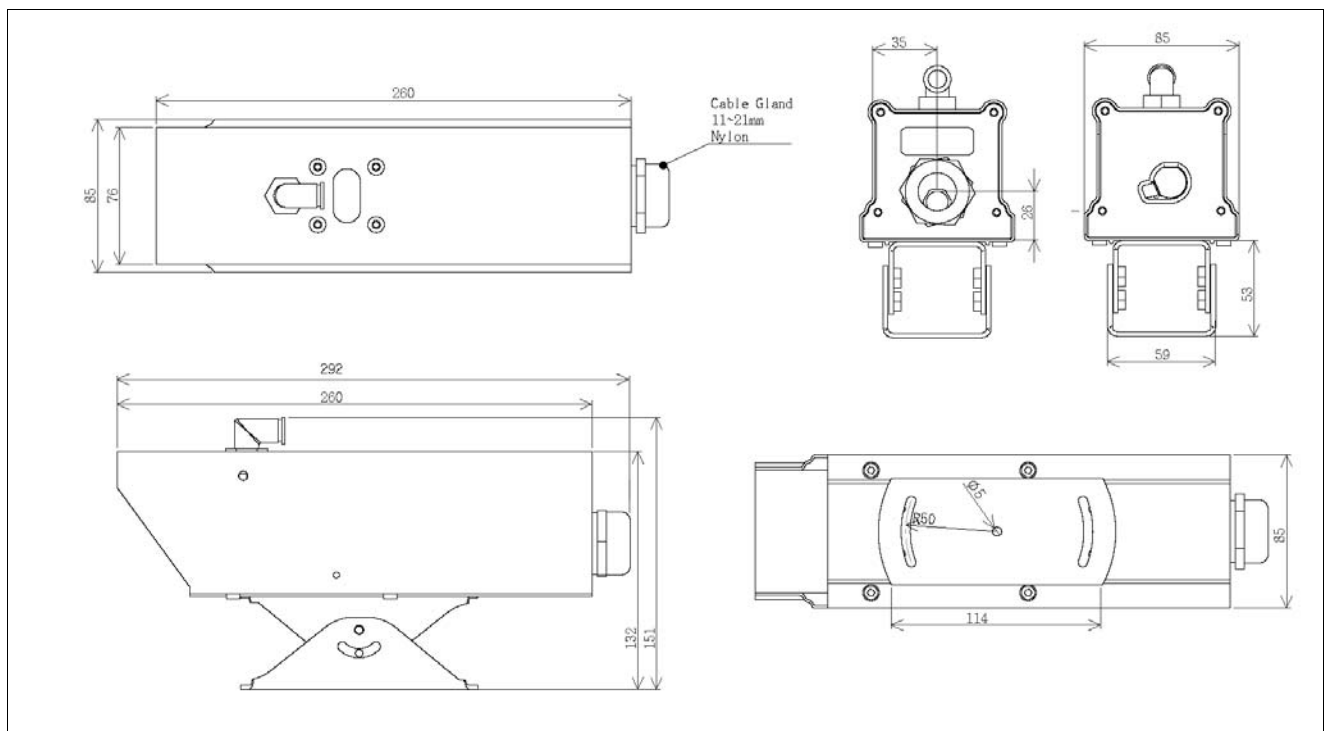
<Fig.2>

- Unit : mm
- Weight : 1.42kg(only jacket excluding laser)

3.2 Drawing of Air Cooling Jacket for EtherNet Interface



<Fig.3 >



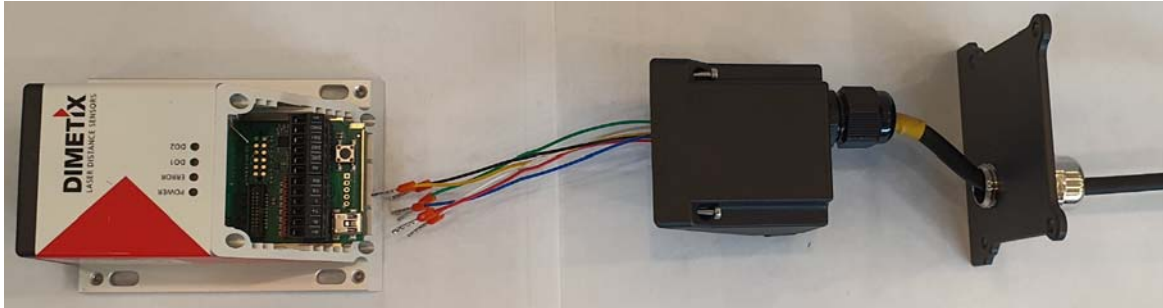
<Fig.4 >

- Unit : mm
- Weight : 1.40kg(Only jacket excluding laser)

4. Assembly

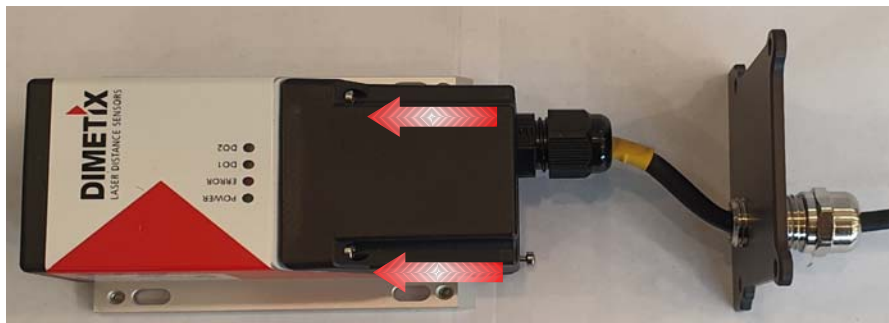
4.1 Assembly of air cooling jacket for serial interface(standard)

1) First insert the cables into the cable gland of the jacket before you assemble the laser sensor to the air cooling jacket (cable diameter : 5~10 mm). Then insert them into the cable gland of the laser sensor.



<Fig. 5 >

2) Close the sensor's rear cover after wiring to the laser sensor's terminal board. Tighten the black cable gland.

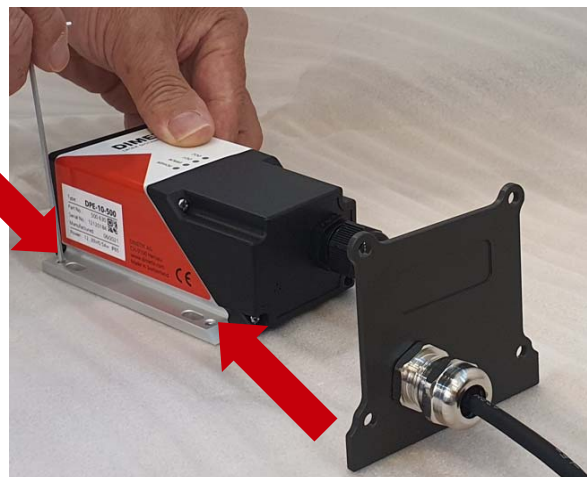


<Fig. 6 >

3) Remove the four hexagonal socket set screws. You need these tapped holes to mount the sensor into the jacket.

In case the installation sites have the heavy vibration or the lasers are installed in the environment where they need to be fastened firmly, don't forget to remove the 4 hexagonal socket set screws on the sensor to mount the sensor to the jacket before you insert the laser into the jacket.

If you close the rear cover without removing the 4 screws, you need to open it again to mount the laser to the jacket.



<Fig.7 >

4) Slide the sensor into the air jacket.



<Fig. 8 >

5) Fix the sensor after tightening the screws on the both sides of the jacket.



<Fig.9 >

6) Set the four screws(M4x10L) and attach the sensor to the housing(recommended in heavy vibration).



<Fig.10>

7)Set the four screws and attach the rear cover. Finally, tighten the metallic cable gland



<Fig.11 >

4.2 Assembly of Air Cooling Jacket for Ethernet Interface

1) Firstly cut the rubber seal nut with cutter to insert the cables. Then insert the cables into seal nut of M32 cable gland and insert them into rubber seal.

Insertion of seal nut



<Fig.12>

Insertion of rubber seal



<Fig.13>



It is frequently occurred that the cables are inserted into the rubber seal firstly before they insert into the seal nut when inserting them to cable gland. It causes inconvenient situation that all the cables inserted into the rubber seal should be removed and the cables are again inserted into the seal nut. Pay attention that the cable are inserted into the seal nut firstly !

Correct insertion direction



Look the jaw of rubber seal to the seal nut.

<Fig.14>

Incorrect insertion direction



Look the jaw of the rubber seal to the rear cover

<Fig.15>

Good example



<Fig.16>



<Fig.17>

Bad example

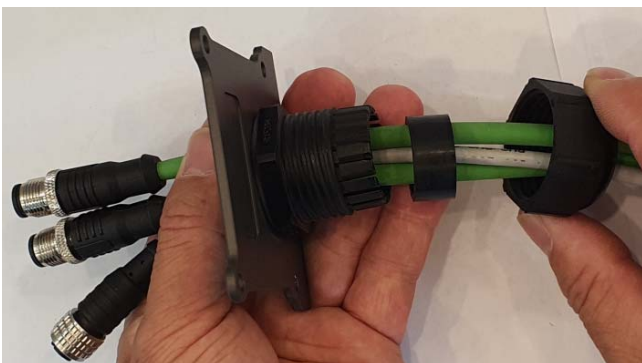


<Fig.18>

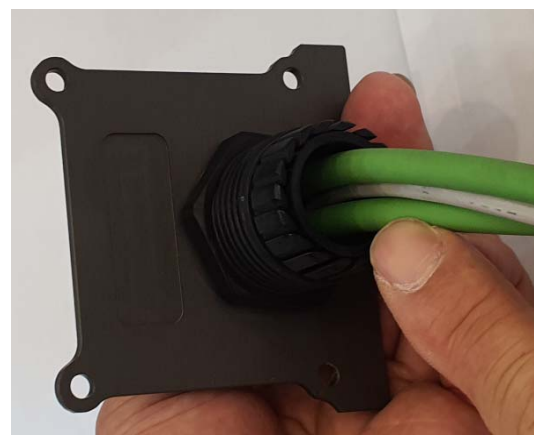


<Fig.19>

2) Insert the cables into the cable gland.



<Fig.20>



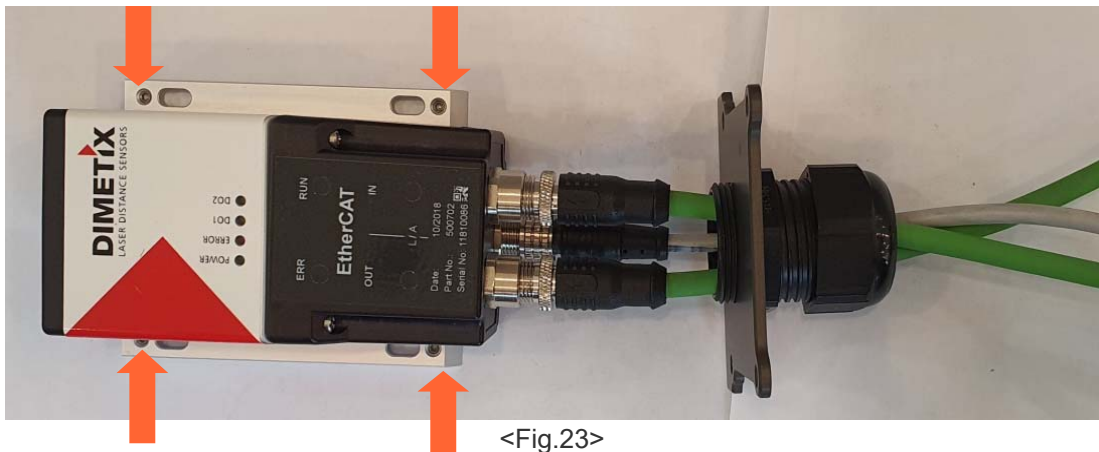
<Fig.21>

3) Connect the cables for power and Ethernet interface to exchangeable cover.



<Fig.22>

4) Remove the four hexagonal socket set screws. You need these tapped holes to mount the sensor into the jacket.



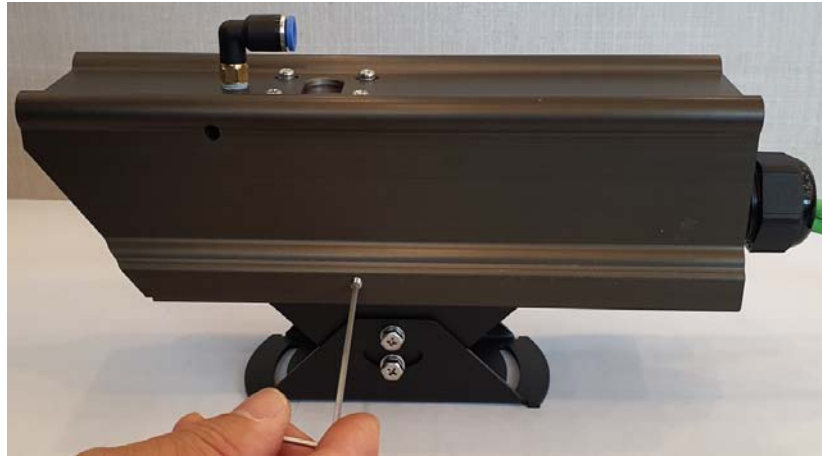
<Fig.23>

5) Slid the sensor into the cooling jacket.



<Fig.24>

6) Fix the sensor after tightening the screws on both sides of the jacket.



<Fig.25>

7) If needed, set the four screws(M4x10L) and attach the sensor to the housing(recommended in heavy vibration site). Refer to chapter <4.3 sensor fixing options> to fix the laser.

8) Fasten the cable gland as Fig.26 after adjusting an appropriate cable length to be inserted.

9) Close the rear cover of the jacket and fasten the four screws.



<Fig.26>

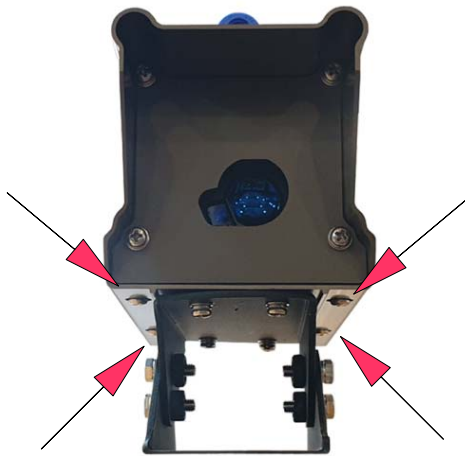


<Fig.27>

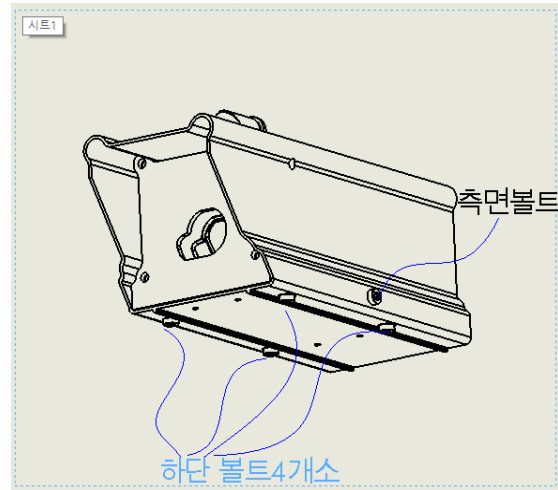
4.3 Sensor fixing options

This air cooling jacket has two options to fix the device.

One is to attach the sensor to 4 holes on the bottom housing as fig.28. This option is preferred when the device is needed to be fixed firmly and the installation site has the heavy vibration. Only it has inconvenience to unscrew the 4 screws on the bottom jacket when maintenance of the laser sensor.



<Fig.28>



<Fig.29 >

Second option is to attach the laser sensor to 4mm holes using set screws on both sides of the jacket as fig.29. This is a simple way to fix by sliding the laser only and is a recommended way thanks to the convenience to mount and to dismount the laser sensor from the jacket when connection and maintenance.

Use hex key L-wrench 2mm for fixing the set screws.

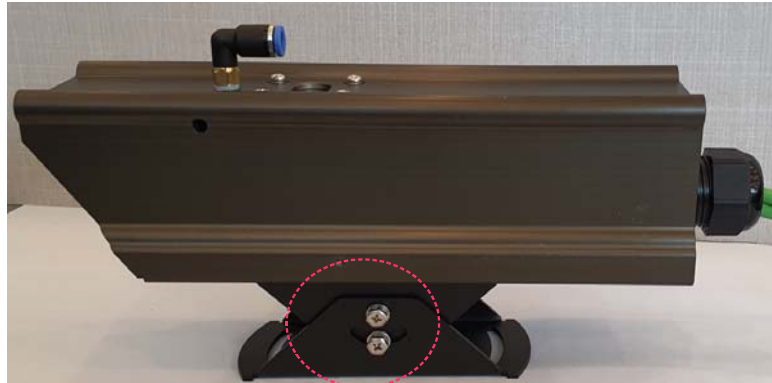
It no matter that the 4 screw holes on the bottom jacket remain open usually.



<Fig.30>

5.Base Alignment

The tilting can be adjusted with the four screws on the two sides of the air jacket.



<Fig.31>

We recommend manually supporting the housing for alignment to prevent damaging the product because the housing's center of gravity is lurches forward.

6. Mounting Air Line

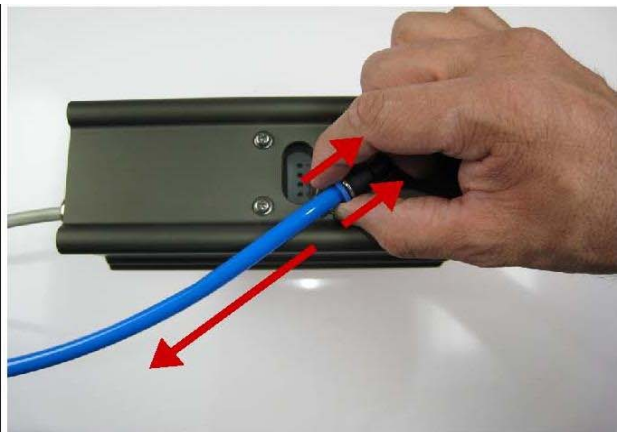
6.1 Mounting and remove the tubes

Connect the 8mm tube into the quick coupling(Air nipple size: PT 1/8).

Connect the 8mm tube into the quick coupling.



Remove the tube from quick coupling



<Fig.32>

Press the quick coupler when the tubes are inserted into the nipple . Also press the quick coupler and pull out the tubes when the tubes are removed from nipple.

7. LCD Status

The user can see the sensor's operating status through the clear glasses on the top housing without pulling the laser sensor out. This makes it convenient to do maintenance or monitoring device on site.

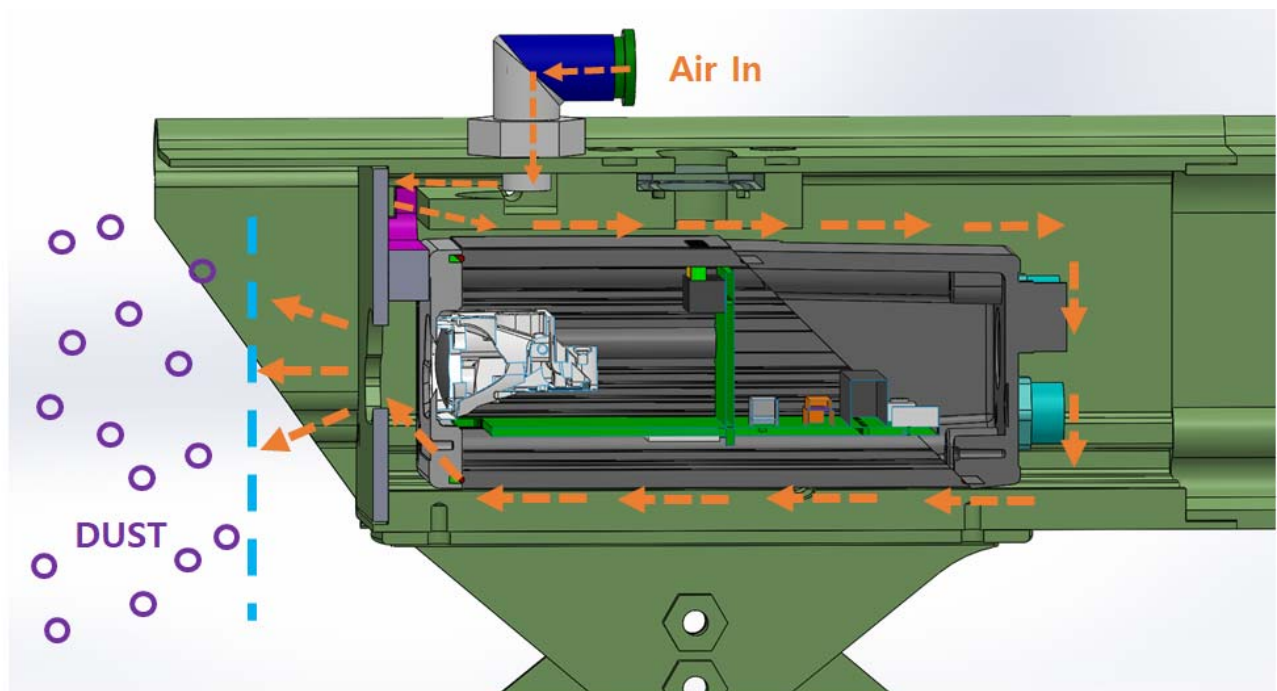


<Fig. 33>

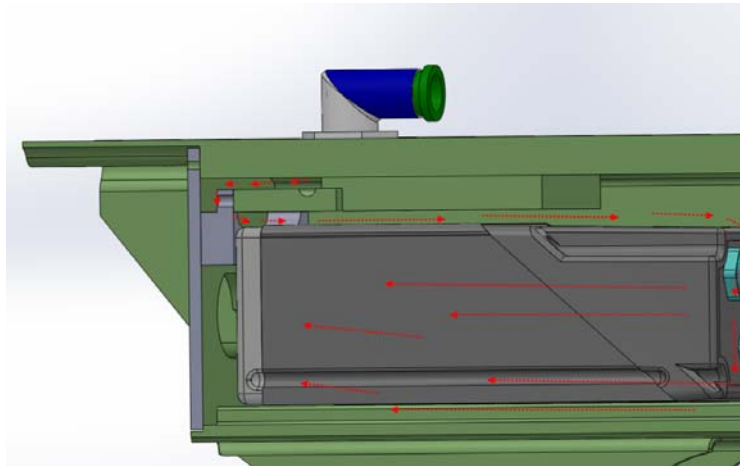
8. Air Cooling Jacket Structure

This air cooling jacket is designed to let the air out the front, thus the contaminated air cannot go through the chamber.

The air nipple uses a quick coupler, it doesn't matter to replace it with other nipples if it is inconvenient to use the quick coupler.



<Fig. 34>

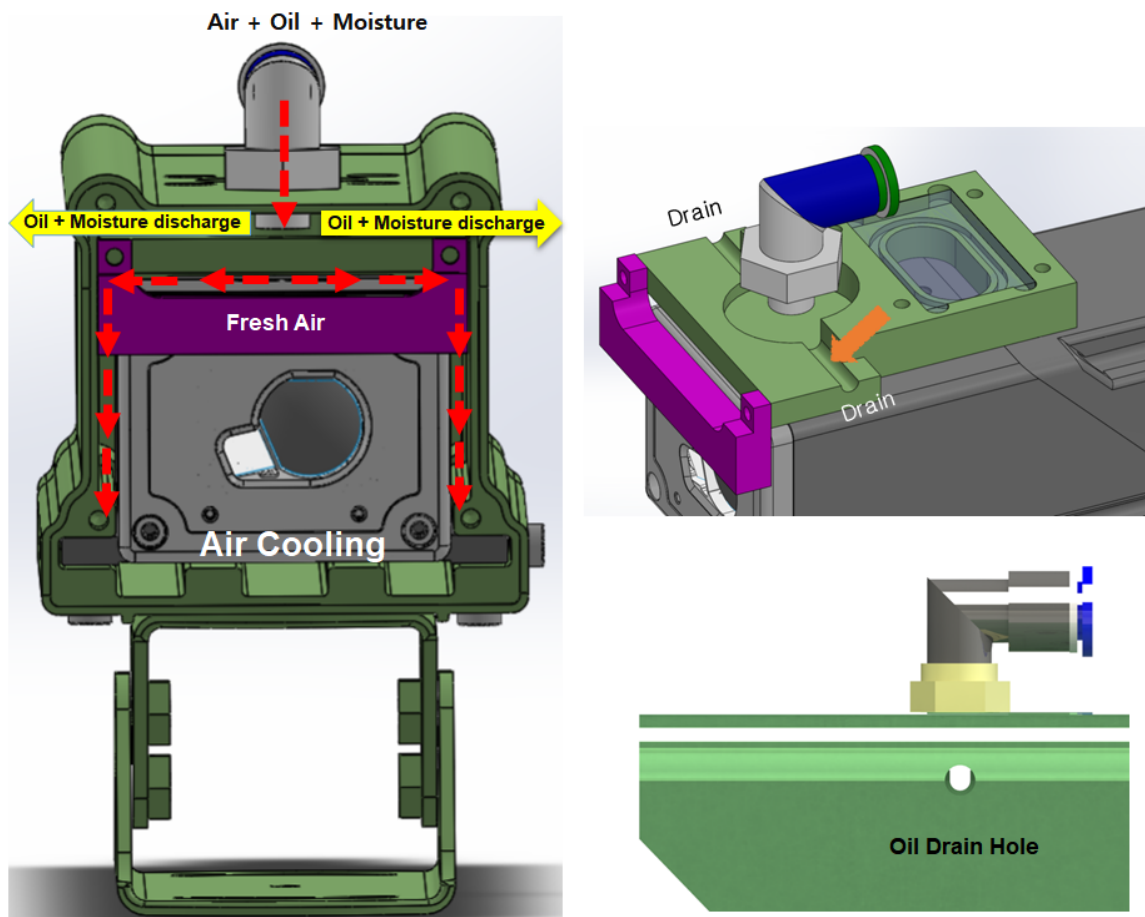


<Fig.35 >

Air Cooling

Generally, the provided air must be clean, oil- and moisture free. Please use all the necessary equipment.

The air guide block has a jaw which oil and moisture are discharged through drainage channels. Only fresh air is left inside the housing, thus it performs both cooling and air purging functions.



<Fig.36>

9. Revision History

Date	Version	Contents
2018/05./31	V2.0	First release the air cooling jacket(standard) manual
2019/04/05	V2.1	Added manual of the air cooling jacket for EtherNet interface Addition of options to fix the device on the both sides of the jackets Addition of air guide jaw in chapter 8<Air cooling Jacket Structure> Changed description of air nipple tube (diameter 10mm => 8mm)
2020/07/16	V2.2	Added descriptions in chapter 2 and improved drawing resolution in chapter 3.1&3.2
2020/08/17	V2.3	Change chapter 4.2 Sensor fixing option Change order in chapter 3
2021/8/13	V2.4	Added descriptions in chapter 2. Change of the image and drawings of standard and Ethernet housing in chapter 3. Some changes of assembly images of standard and Ethernet housing in chapter 4 assembly. Some change of assembly order in chapter 4.1& 4.2.

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