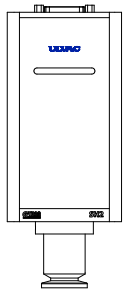
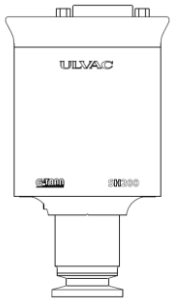
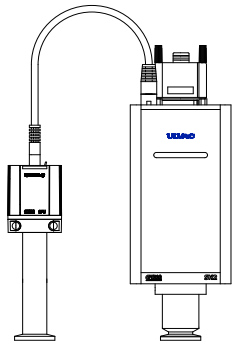
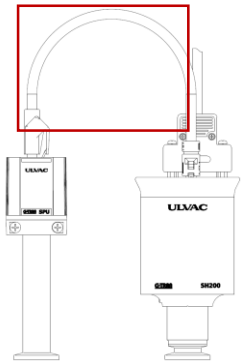
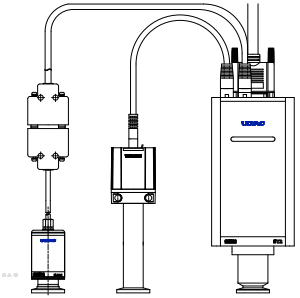
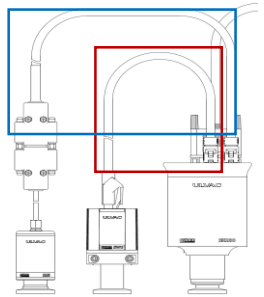
Replacement of Multi Ionization Gauge
SH2 to SH200
ST2 to ST200

Components Division
ULVAC, Inc.

Compatibility

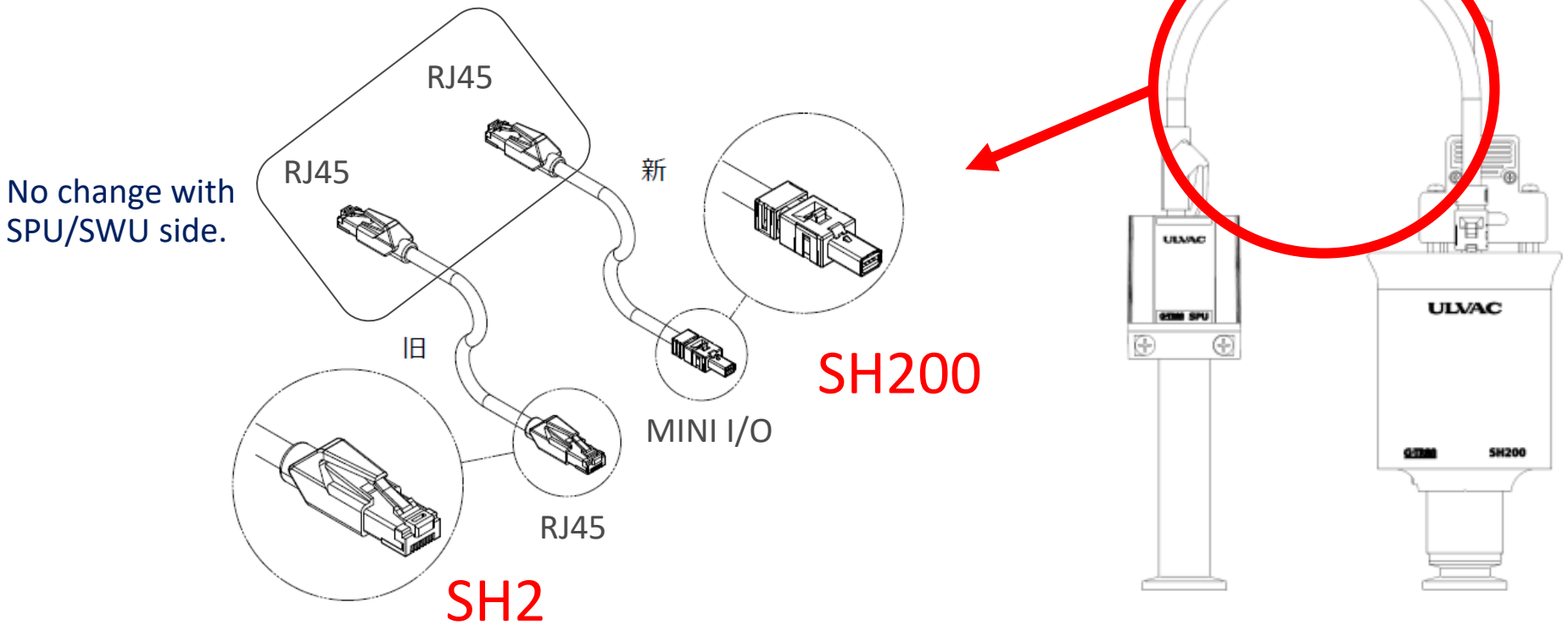
MODE	SH2	SH200
SH2 (single unit)		Compatible. SH200 can be used as a replacement. *Setting method of each item has been changed. 
SPU MODE		SH200 can be used as a replacement by changing the unit cable for SH2 - SPU to that of SH200 - SPU. *Setting method of each item has been changed. 
SAU MODE		SH200 can be used as a replacement by changing the unit cable for SH2 - SPU to that of SH200 - SPU, the unit cable for SH2 - SAU to that of SH200 - SAU. *Setting method of each item has been changed. 

*The same applies to replacement of ST2 with ST200.

Unit Cable

Connector type of the unit cable for SH200⇔SPU and unit cable for SH200⇔SAU has been changed. No change with SPU/SAU side.

- SH2: RJ-45 (SPU/SAU) ⇔ RJ-45 (SH2)
- SH200: RJ-45 (SPU/SWU) ⇔ MINI I/O (SH200)

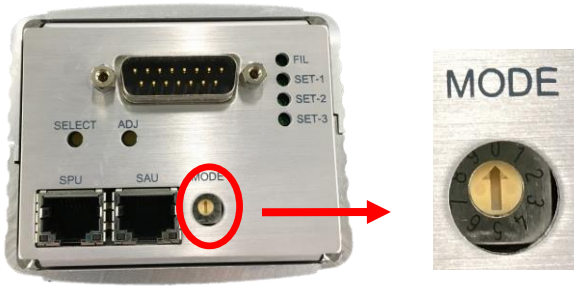


*The same applies to replacement of ST2 with ST200.

Mode Setting

Combination mode is automatically recognized in SH200/ST200.

SH2/ST2



Need manual setting by rotary switch.

No.	Mode
0	SH2 only
1	SH2／ST2 + SPU
2	SH2／ST2 + SPU + SAU
3	SH2／ST2 + SPU (ISG1 S/N: 00000 to 04049 compatible)
4	SH2／ST2 + SPU + SAU (ISG1 S/N: 00000 to 04049 compatible)
9	BMR2 compatible

For old / early models

SH200/ST200

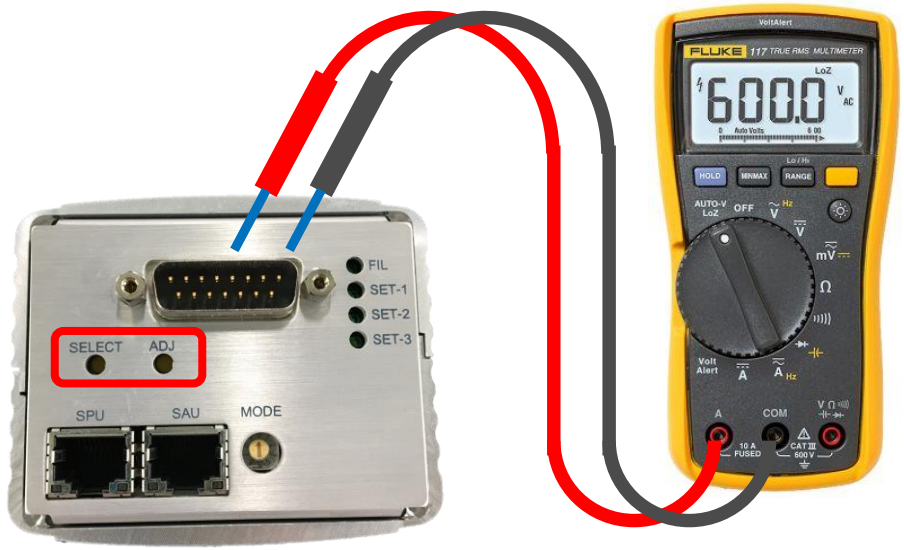
Automatic recognition when connecting optional units.
No need manual setting.

*3, 9 is set by UL-MOBI (dedicated application software)

No.	Mode
2	Automatic recognition (factory setting)
3	Automatic recognition (old model output mode) (ISG1 S/N: 00000 to 04049 compatible)
9	BMR2 compatible

Set Point Setting

SH2/ST2	SH200/ST200
Set by pushing the button with monitoring the output voltage by a voltage meter.	Set by input the set point value in the application software of PC/Android.



Dedicated Application Software

In SH200/ST200, mode setting and various status check are available in the dedicated application software.

- UL-MOBI_Windows (corresponding OS: Windows 10 64bit or later)
- UL-MOBI_Android (corresponding OS: Android 6.0 or later)

UL-MOBI_Android Google Play

UL-MOBI_Windows https://www.ulvac.co.jp/download/application/

UL-MOBI_Windows instruction manual https://www.ulvac.co.jp/download/application/

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SH2-1 to SH200-A (analog output spec)

	SH2-1	SH200-A
Power supply voltage	DC20-28V　D-sub15pin　same pin assign	
Measurable pressure range	SH2 (single unit): 5 x 10^{-8}Pa to 1 x 10^{+1}Pa SH2 + SPU: 5 x 10^{-8}Pa to 1 x 10^{+4}Pa SH2 + SPU + SAU: 5 x 10^{-8}Pa to 1 x 10^{+5}Pa	SH200 (single unit): 5 x 10^{-8}Pa to 1 x 10^{+1}Pa SH200 + SPU: 5 x 10^{-8}Pa to 1 x 10^{+4}Pa SH200 + SWU10-R: 5 x 10^{-8}Pa to 1 x 10^{+5}Pa SH200 + SWU10-R + SAU: 5 x 10^{-8}Pa to 1 x 10^{+5}Pa
Mode setting	Rotary switch	Automatic recognition when connecting optional units * Manual set by PC/smartphone in case of old model output mode
Set point setting	Push button with monitoring output voltage	Easy setting by PC/smartphone
Atmospheric pressure adjust	Push button	Easy setting by PC/smartphone
Indicator LED	①POWER/ERROR　②FIL ③SPU/SAU　④Set point 1/2/3	①POWER/ERROR/FIL ②SPU・SWU/SAU
Input/output signal	Pin assign/function both compatible	
Pressure value signal	DC0-10V　P=$10^{\wedge}$｛（V-7.25/0.75+2）｝	
Sensor head (for ionization gauge)	M-34, M-35, M-36（F1: Ir/Y_2O_3, F2: W）	M-44, M-45, M-46（F1: Ir/Y_2O_3, F2: Ir/Y_2O_3） (M-34, M-35, M-36 are also available)
Sensor head (for option pirani gauge)	①For SPU: WP-01(Φ18), WP-02(Φ15), WP-03(R/3/8), WP-16(NW16)	①For SPU: WP-01(Φ18), WP-02(Φ15), WP-03(R/3/8), WP-16(NW16) ②For SWU10-R: SWP-16(NW16), SWP-25(NW25), SWP-R1/8(R1/8), SWP-P18(Φ18), SWP-P15/SWP-CF16
Dimension W x D x H ㎜	178×75×62	120×69×63
Unit cable	RJ45/RJ45	RJ45/MINI IO

SH2-2 to SH200-R (serial communication spec)

	SH2-2	SH200-R
Power supply voltage	DC20-28V　D-sub15pin　same pin assign	
Measurable pressure range	SH2 (single unit): 5 x 10^{-8}Pa to 1 x 10^{+1}Pa SH2 + SPU: 5 x 10^{-8}Pa to 1 x 10^{+4}Pa SH2 + SPU + SAU: 5 x 10^{-8}Pa to 1 x 10^{+5}Pa	SH200 (single unit): 5 x 10^{-8}Pa to 1 x 10^{+1}Pa SH200 + SPU: 5 x 10^{-8}Pa to 1 x 10^{+4}Pa SH200 + SWU10-R: 5 x 10^{-8}Pa to 1 x 10^{+5}Pa SH200 + SWU10-R + SAU: 5 x 10^{-8}Pa to 1 x 10^{+5}Pa
Mode setting	Rotary switch	Automatic recognition when connecting optional units * Manual set by PC/smartphone in case of old model output mode
Address , baud rate	Rotary switch	Easy setting by PC/smartphone
Indicator LED	①POWER/ERROR ②SPU/SAU	①POWER/ERROR/FIL ②SPU・SWU/SAU
Input/output signal	Pin assign/function both compatible	
Pressure value signal	DC0-10V　P=10^{（V-7.25/0.75+2）}	
Sensor head (for ionization gauge)	M-34, M-35, M-36（F1: Ir/Y_2O_3, F2: W）	M-44, M-45, M-46（F1: Ir/Y_2O_3, F2: Ir/Y_2O_3） (M-34, M-35, M-36 are also available)
Sensor head (for option pirani gauge)	①For SPU: WP-01(Φ18), WP-02(Φ15), WP-03(R/3/8), WP-16(NW16)	①For SPU: WP-01(Φ18), WP-02(Φ15), WP-03(R/3/8), WP-16(NW16) ②For SWU10-R: SWP-16(NW16), SWP-25(NW25), SWP-R1/8(R1/8), SWP-P18(Φ18), SWP-P15/SWP-CF16
Dimension W x D x H ㎜	178×75×62	120×69×63
Unit cable	RJ45/RJ45	RJ45/MINI IO

ST2-1 to ST200-A (analog output spec)

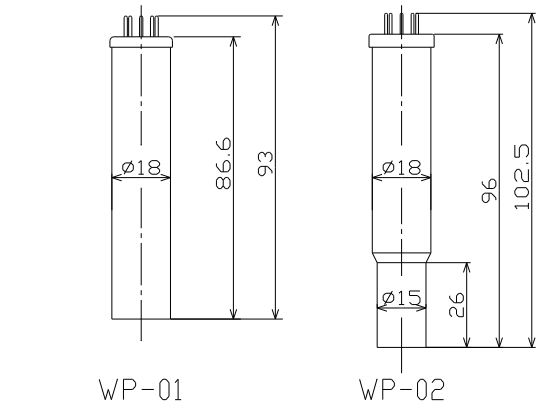
	ST2-1	ST200-A
Power supply voltage	DC20-28V　D-sub15pin　same pin assign	
Measurable pressure range	ST2 (single unit): 1 x 10^{-5}Pa to 1 x 10^{+1}Pa ST2 + SPU: 1 x 10^{-5}Pa to 1 x 10^{+4}Pa ST2 + SPU + SAU: 1 x 10^{-5}Pa to 1 x 10^{+5}Pa	ST200 (single unit): 1 x 10^{-5}Pa to 1 x 10^{+1}Pa ST200 + SPU: 1 x 10^{-5}Pa to 1 x 10^{+4}Pa ST200 + SWU10-R: 1 x 10^{-5}Pa to 1 x 10^{+5}Pa ST200 + SWU10-R + SAU: 1 x 10^{-5}Pa to 1 x 10^{+5}Pa
Mode setting	Rotary switch	Automatic recognition when connecting optional units * Manual set by PC/smartphone in case of old model output mode
Set point setting	Push button with monitoring output voltage	Easy setting by PC/smartphone
Atmospheric pressure adjust	Push button	Easy setting by PC/smartphone
Indicator LED	①POWER/ERROR　②FIL ③SPU/SAU　④Set point 1/2/3	①POWER/ERROR/FIL ②SPU・SWU/SAU
Input/output signal	Pin assign/function both compatible	
Pressure value signal	DC0-10V　P=$10^{\wedge}$｛（V-7.25/0.75+2）｝	
Sensor head (for ionization gauge)		SWT-16, SWT-25
Sensor head (for option pirani gauge)	①For SPU: WP-01(Φ18), WP-02(Φ15), WP-03(R/3/8), WP-16(NW16)	①For SPU: WP-01(Φ18), WP-02(Φ15), WP-03(R/3/8), WP-16(NW16) ②For SWU10-R: SWP-16(NW16), SWP-25(NW25), SWP-R1/8(R1/8), SWP-P18(Φ18), SWP-P15/SWP-CF16
Dimension W x D x H ㎜	178×75×62	120×69×63
Unit cable	RJ45/RJ45	RJ45/MINI IO

ST2-2 to ST200-R (serial communication spec)

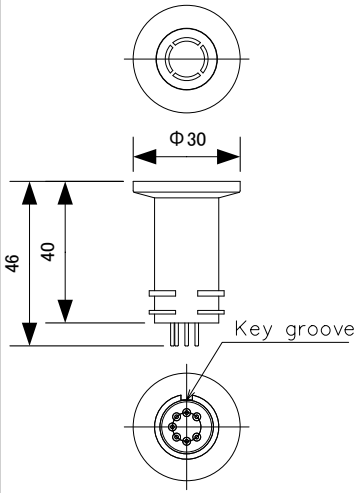
	ST2-2	ST200-R
Power supply voltage	DC20-28V　D-sub15pin　same pin assign	
Measurable pressure range	ST2 (single unit): 1 x 10^{-5}Pa to 1 x 10^{+1}Pa ST2 + SPU: 1 x 10^{-5}Pa to 1 x 10^{+4}Pa ST2 + SPU + SAU: 1 x 10^{-5}Pa to 1 x 10^{+5}Pa	ST200 (single unit): 1 x 10^{-5}Pa to 1 x 10^{+1}Pa ST200 + SPU: 1 x 10^{-5}Pa to 1 x 10^{+4}Pa ST200 + SWU10-R: 1 x 10^{-5}Pa to 1 x 10^{+5}Pa ST200 + SWU10-R + SAU: 1 x 10^{-5}Pa to 1 x 10^{+5}Pa
Mode setting	Rotary switch	Automatic recognition when connecting optional units * Manual set by PC/smartphone in case of old model output mode
Address , baud rate	Rotary switch	Easy setting by PC/smartphone
Indicator LED	①POWER/ERROR ②SPU/SAU	①POWER/ERROR/FIL ②SPU・SWU/SAU
Input/output signal	Pin assign/function both compatible	
Pressure value signal	DC0-10V　P=10^{（V-7.25/0.75+2）}	
Sensor head (for ionization gauge)	SWT-16, SWT-25	
Sensor head (for option pirani gauge)	①For SPU: WP-01(Φ18), WP-02(Φ15), WP-03(R/3/8), WP-16(NW16)	①For SPU: WP-01(Φ18), WP-02(Φ15), WP-03(R/3/8), WP-16(NW16) ②For SWU10-R: SWP-16(NW16), SWP-25(NW25), SWP-R1/8(R1/8), SWP-P18(Φ18), SWP-P15/SWP-CF16
Dimension W x D x H ㎜	178×75×62	120×69×63
Unit cable	RJ45/RJ45	RJ45/MINI IO

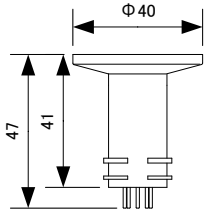
Pirani Gauge Sensor Head Fitting

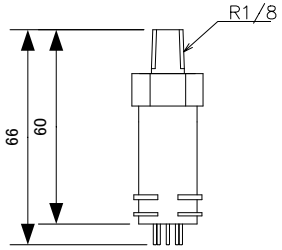
Sensor head for SPU

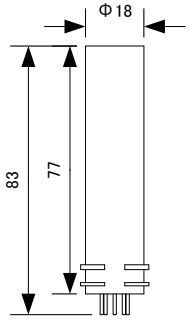


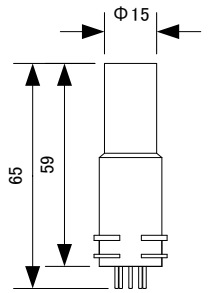
Sensor head for SWU10-R

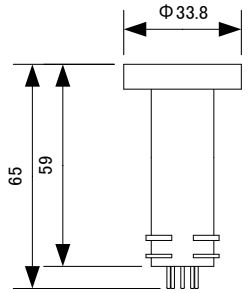


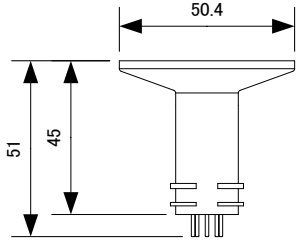




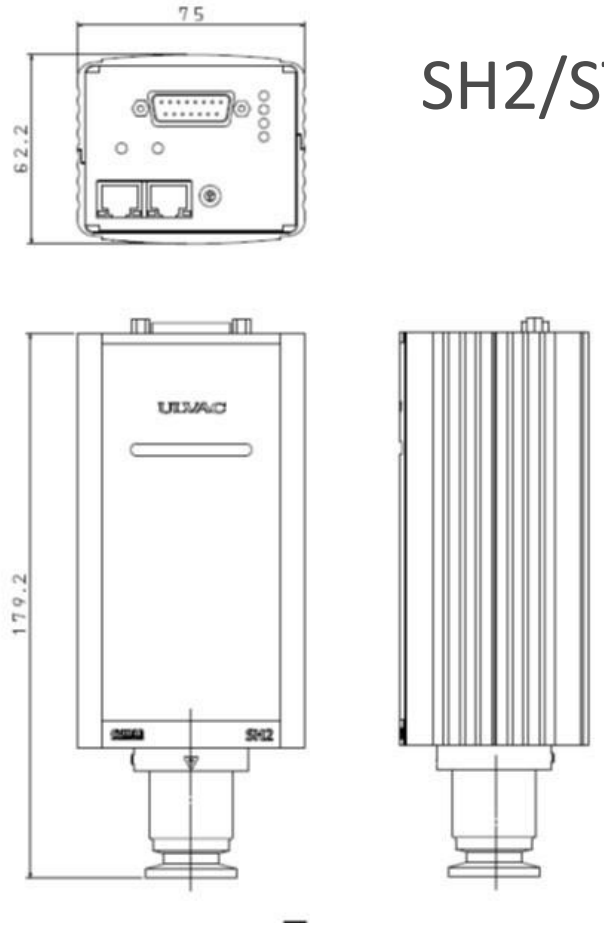






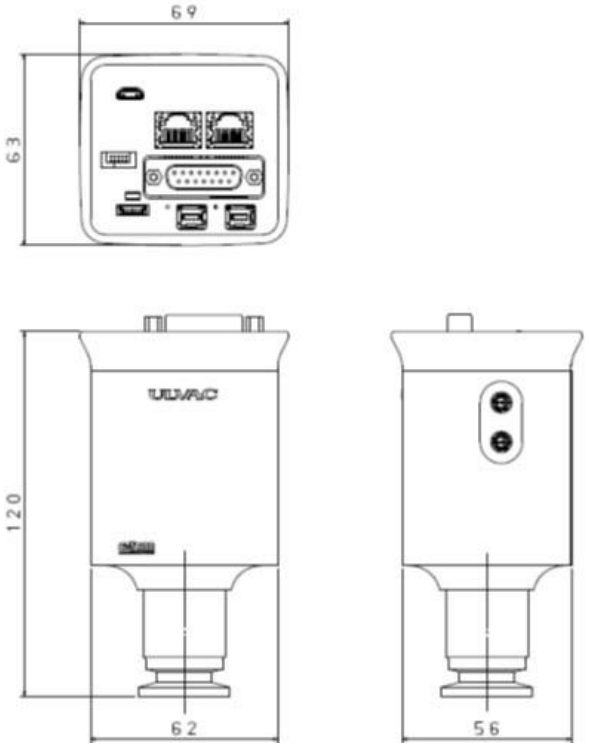


Dimension



SH2/ST2

SH200/ST200



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