

Smartphone-Direct Pirani Gauge SWU10-U Specifications



Components Division,
ULVAC, Inc.

<http://www.ulvac.co.jp/en/>



1 Specifications

The SWU10-U is a vacuum gauge that connects to an Android/Windows devices and uses the Android/Windows application "UL-MOBI" for measurement.

1.1. Basic specifications

Name	Smartphone-Direct Pirani vacuum gauge						
Model	SWU10-U						
Measurement principle	Pirani vacuum gauge that uses thermal conduction by gas molecules.						
Sensor part	1pc						
Connecting flange	NW16, NW25, R1/8, ϕ 15tube, ϕ 18tube, CF16, sanitary						
Measurement range	5×10^{-2} Pa to $1 \times 10^{+5}$ Pa						
Accuracy (N ₂)	5.0×10^{-2} Pa to 1.0×10^{-1} Pa: $\pm 20\%$ 1.0×10^{-1} Pa to $1.0 \times 10^{+4}$ Pa: $\pm 10\%$ $1.0 \times 10^{+4}$ Pa to $1.0 \times 10^{+5}$ Pa: $\pm 20\%$						
Repeatability	1.0×10^{-1} Pa to $1.0 \times 10^{+4}$ Pa: $\pm 2\%$						
Sampling time	50ms, 5 times moving average						
Sensor part material	Filament: Pt Other: SUS304(sanitary:SUS316L), FeNiCo, Ni, Au, Glass, Ceramic						
Sensor part withstand pressure	$2 \times 10^{+5}$ Pa (abs) * Take the withstand pressure for flanges, clamps, and other components into account separately.						
Operating range							
Temperature	10°C to 40°C						
Humidity	15% to 85% RH (no condensation)						
Storage temperature	-20 to 65°C (no condensation)						
Mounting Direction	Free						
IP code	IP30						
Power supply voltage	DC5V \pm 5% 350mA _{MAX}						
Standard	CE standard, UKCA standard						
I/O connector	USB2.0 Micro-B						
Dimension etc.	NW16	NW25	R1/8	ϕ 15tube	ϕ 18tube	CF16	sanitary
Dimension	ϕ 46mm H81mm	ϕ 46mm H83mm	ϕ 46mm H101mm	ϕ 46mm H100mm	ϕ 46mm H118mm	ϕ 46mm H100mm	ϕ 50.4mm H86mm
Weight (approx.)	87g	90g	86g	72g	85g	102g	137g

1.2. Available device

OS: Android 6 or later, OTG compatible *Some models may not work properly. Windows 10 or later, 64bit compatible
Connector: USB Type-C
USB Cable length: 5m or less

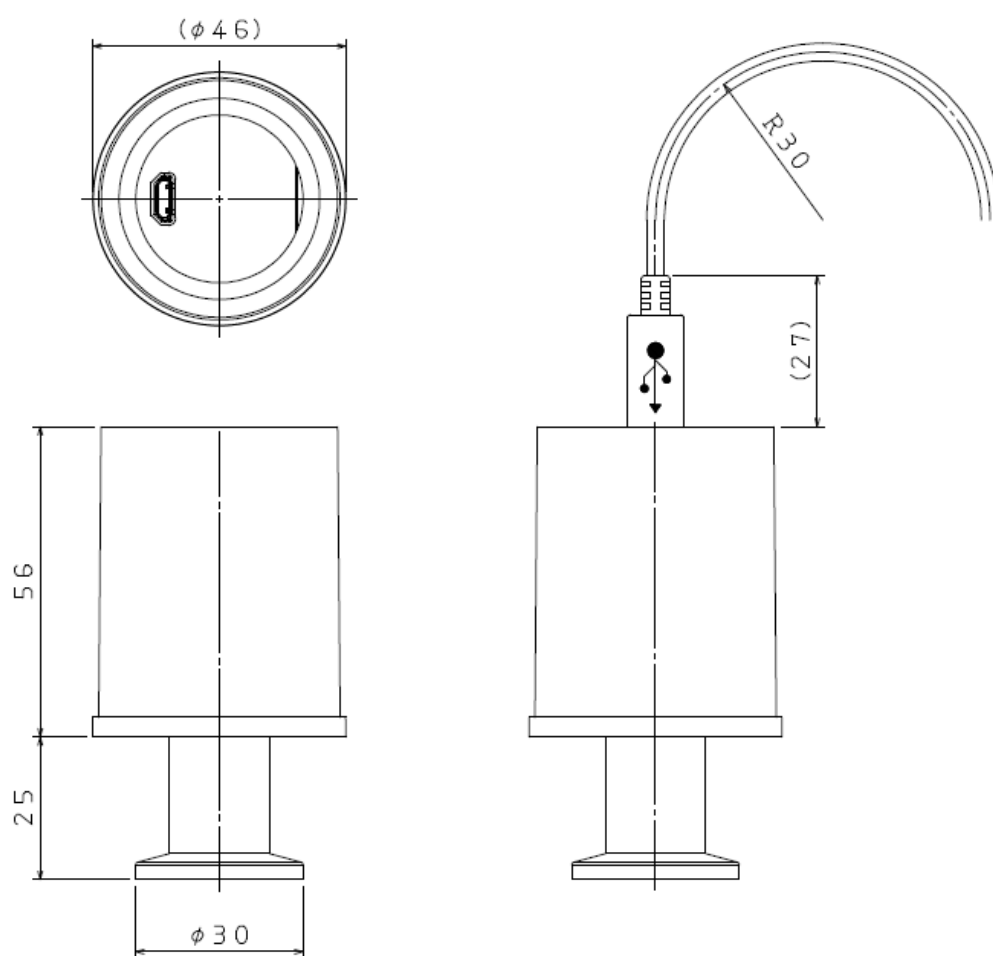
* Android/Windows devices and USB cable are not included.

1.3. Sold separately

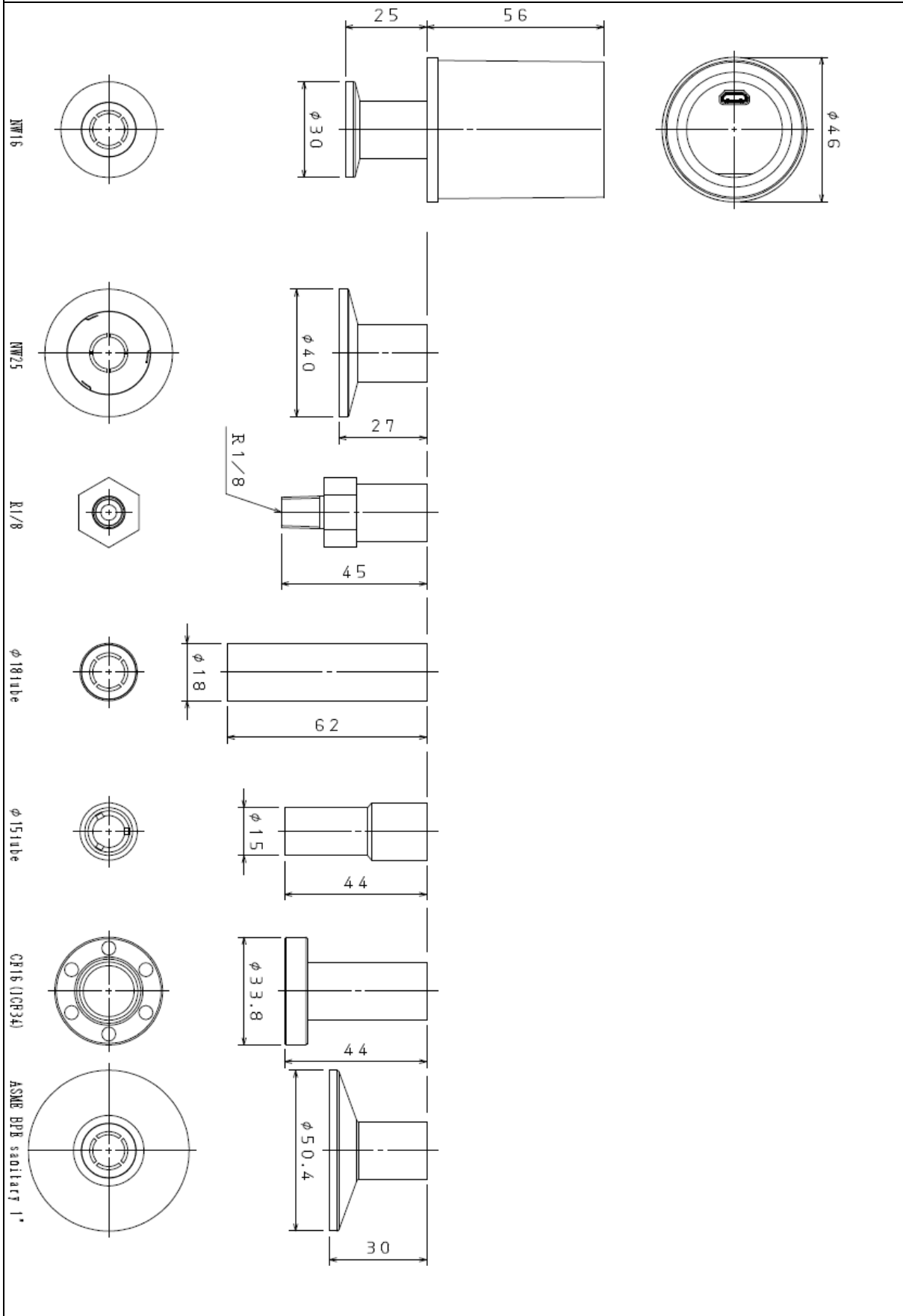
USB2.0 cable (certified product, Type C-Micro-B) 2.0m (model: MPA-CMB2ONBK)
JCSS Calibration certificate, Calibration certificate
Test results certificate
Traceability certificate

2. Dimensions

2.1 SWU10-U dimensions



2.2 SWU10-U dimensions



3. Warranty

This product was shipped after rigid company inspection. However, in case any failure occurs under ULVAC's responsibility, such as defect in manufacturing and damage during transportation, Buyer shall inform ULVAC, Inc. or the local ULVAC representatives. ULVAC will repair or exchange it at free of charge.

Warrantable Items: This unit SWU10-U

Duration of warranty: One (1) year after shipping date from ULVAC

Warranty scope

- 1) Domestic business in Japan
Product, which has damage, caused by a failure on delivery.
- 2) Direct export transaction
Product, which has damage, caused by a failure on delivery. The warrantee scope shall confirm to the new INCOTERMS.
- 3) Products not satisfying meet the standard specifications although the product is used under the normal service conditions such as temperature range and power etc.

Response procedure

- 1) Domestic business in Japan
ULVAC send a replacement or Buyer return the defective items to ULVAC, Inc. or to the local ULVAC representatives for repair. If field service is required, Buyer shall ask ULVAC, Inc. or the local ULVAC representatives.
- 2) Direct export transaction
ULVAC send a replacement or Buyer return the defective items to ULVAC, Inc. or to the local ULVAC representatives for repair. Return charge shall be paid by Buyer.

Disclaimer

- 1) Failure occurred after expiration of warranty period
- 2) Failure caused by force majeure, such as fire, storm and flood damage, earthquake, lightning strike, war etc.
- 3) Failure occurred due to carelessness handling or faulty usage
- 4) Products remodeled, disassembled or repaired without ULVAC's acceptance
(For the SWU10-U, detachment of the sensor is also modification/disassembly.)
- 5) Failure occurred under abnormal environment, such as intense electromagnetic field, radiation, high-temperature, high-humidity, flammable gases, corrosive gases, dust etc.
- 6) Failure occurred by noise
- 7) Product deficiency or secondary damnification occurred to Buyer, from law suit to ULVAC by third party for patent infringement.
- 8) Sensor head being used (expiration of life, measurement error, etc.)
- 9) USB cable in use (cable burnout due to improper installation, poor contact, etc.)

Others

- 1) In case, special agreement or memorandum for specifications is made individually, the descriptions are prior to this article "3 Warranty".
- 2) Buyer shall inform ULVAC when this product is exported out of Japan. In the meantime, Buyer shall take necessary procedures according to Foreign Exchange and Foreign Trade Law.
- 3) As for the question and consultation, Buyer shall check the model and serial number and ask the local representative or ULVAC, Inc.
- 4) The content of this document is subject to change without notice in future.