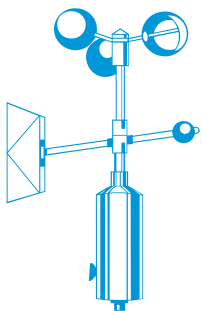


METEOROLOGICAL INSTRUMENTS

conventional weather equipment



ingenieursbureau **wittich & visser**

scientific and meteorological instruments

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Wittich & Visser Company profile

Ingenieursbureau Wittich & Visser, founded in 1924, produces, assembles and installs meteorological sensors and systems. We have our own programme of high quality and affordable meteorological sensors: Meteo M&R. Wittich & Visser is also distributor in the Benelux for quality brands like Gill Instruments, Scintec and Radiometrics.

Wittich & Visser can provide complete systems for any application where meteorological measurements are required. For example meteorological research from surface layer to upper air or routine weather observations.

Wittich & Visser is an excellent partner for (inter)national tenders, also when conventional meteorological equipment is requested (thermometers, barographs etc.).

Wittich & Visser delivers weather sensors and complete measuring systems for:

- physical meteorology
- conventional weather equipment
- building automation
- industry
- laboratories
- scientific research
- army, airforce and navy
- wind- and solar energy



Projects & references

wind farm evaluation

Wittich & Visser has realized complete installations (sensors, masts, booms, dataloggers, etc.) for wind farm evaluation in Armenia, Libia, the Netherlands and Aruba. The systems are designed taking in consideration the IEC-61400 standard for wind measurement.

storm detection & protection

Nowadays storms protection becomes more important. The Previstorm is ideal for these purposes. Wittich & Visser delivers complete systems based on the Previstorm. These systems can be used for control purposes. Vestas has two of these systems in use in the Netherlands, integrated in their wind parks and connected to their Vestas Prof networks.

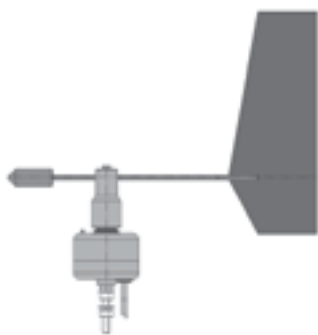
conventional weather instruments

For the UN development project HAMSET Wittich & Visser delivered thermometers, rain gauges, barometers, baro-, thermo- and hygrographs tot the Ministry of Health of Eritrea. For this project we cooperated closely with a local agent. Wittich & Visser can arrange all export formalities and practicalities for such projects. We have completed similar projects with partners in Bangla Desh, Ethiopia, India and Jordan.

Wind direction

PRV(-C)

Light weight, long life potentiometer vane. Mechanical angle 360° without stop. Electrical angle 350°±3°, threshold is between 1.2 and 1.5 m/s. An affordable high quality wind vane with oil bronze bearings and stainless steel mounting hardware. This wind vane is also available with 2-wire 4..20 mA output (PRV-C).



Wind speed

PAH(-C)

Light weight anemometer based on Hall effect principle. Measuring range 0..60 m/s with a threshold of 0.75 m/s. Two pulses per rotation and 107 pulses at 30 m/s. An affordable high quality cup anemometer with ceramic magnets and stainless steel bearings and mounting hardware. This cup anemometer is also available with 2-wire 4..20 mA output (PAH-C).



TECHNICAL SPECIFICATIONS

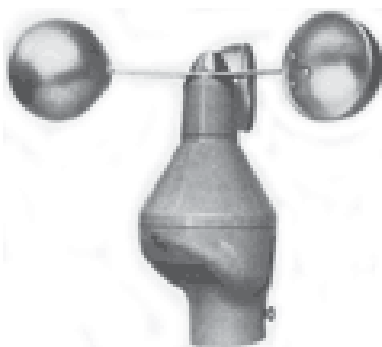
potentiometer	
life expectation	> 20 x 106 rotations
electrical angle	350 ± 3°
mechanical angle	360° without stop
damping ratio	0,35
treshold	1,2..1,5 m/s
linearity	1 %
resistance value	5 kOhm +/-10 %
output PRV-C	4..20 mA
power supply PRV-C	10..30 Volt
bearings	oil bronze
operating temperature	-30..+80°C
temperature coefficient	± 200 ppm/°C
material	
housing	POM, black
vane blade	glass fibre epoxy
vane stem and	
balance weight	painted brass
bearings	oil bronze
mounting hardware	stainless steel

TECHNICAL SPECIFICATIONS

measuring principle	Hall effect with magnets
air velocity range	0..60 m/s
treshold	0,75 m/s
distance constant	2,1 m
operating temperature	-30..+70°C
pulses	2 per rotation
frequency	107 Hz at 30 m/s
output PAH-C	4..20 mA
power supply	4,5..30 VDC
power supply PAH-C	10..30 Volt
material	
housing	POM, black
ball bearings	stainless steel
mounting hardware	stainless steel
magnets	ceramic

Wind run indicator 4.005

For continuous measurement of wind run, with 45° inclined counter. In beige-finished aluminum case, cup made of naval aluminum, anodized.



Wind display 805

This fully electronic device can be easily built into instrument panels. Wind speed is displayed by 3 large LED's as a number. Wind direction is indicated using 36 LED's around a windrose. Through two adjustable analogue outputs the wind display 805 can be connected to any device accepting analogue signals (computer, recorders, dataloggers).



Typical applications for the measurement of wind speed and wind direction are found in meteorology for airports, industry, offshore, building automation and environmental studies.

TECHNICAL SPECIFICATIONS	
Range	0.5 to 35 m/s
Resolution	100 m
Counting range	up to 999,999.9 km
Height of digits	7 mm
Max. load	60 m/s
Operational temperature range	-35 to +80°C
Location hole for mast	50 mm diameter
Measures	Cup diameter 315 mm
	260 mm high
Weight	approx. 1.35 kg

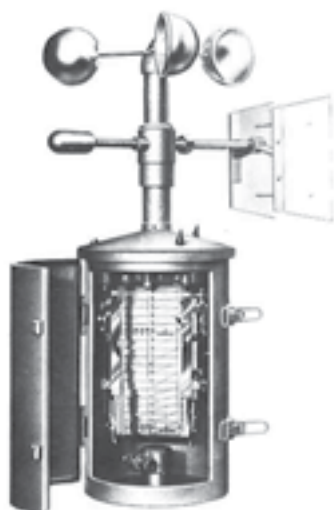
TECHNICAL SPECIFICATIONS	
power supply	230 VAC (24 VAC of 12 VDC option)
measuring range	0..30 m/s, other range possible
display wind speed	LED display with 3 digits in 0.1 m/s
display wind direction	wind rose, 36 LED's
analogue output	2 voltage outputs 0.. 10 V (adjustable).
dimensions housing	96x96x124 mm
sensors	PAH, PAH-LT, PAH-RU of PAH-GL, WindSonic/WindObserver II
accessories	bracket PB for sensor mounting

Mechanical wind recorder 4.008

Mechanical wind recorder according to Woelfle for recording wind direction and wind path, axed-paper recording.

Accessories:

- 3 recording rolls
- 3 keys
- 2 evaluating rulers
- 1 test certificate



Handheld anemometer 508.10 WP4

With this handheld windmeter you can measure wind speed independent from the wind direction. The reading of wind speed and wind power is from 0..35 m/s, 0..120 km/hr, 0..66 knots and 0..12 Beaufort. The windmill is made from high quality thermoplastic and is easy to replace. With the standard model you have to read the wind speed directly during measuring. To measure first and then read, there's a model with hold button. There is also a robust, marine model.



The WP-4 is provided with a protective cover with bayonet catch. Optional the WP4 is being delivered with a robust suit case.

TECHNICAL SPECIFICATIONS

recording width	32 mm
division	0..360° in 30/1° or 0..10 km in 1/1 km
length recording roll	approx. 8 m
nom. recording time	4 weeks
paper speed	10 mm/h
measuring range	0.5..60 m/s
operating temperature	-35..+60°C
material cup & vane	anodised light metal
housing	steel plate housing with hammer enamel finish
diameter	30.5 mm
diameter cup	315 mm
diameter housing	± 180 mm
height	600 mm
weight	± 10 kg

Hygrometer wet and dry bulb thermometer 1031/1035



TECHNICAL SPECIFICATIONS

Measuring range	1031: -20..+60 °C: 0,2 1035: -35..+45 °C: 0,2 DIN 58660 (other ranges on request)
Total length	1031: 370 x 15 mm 1035: 370 x 15 mm

Maximum thermometer 1003



TECHNICAL SPECIFICATIONS

Measuring range	-30..+50 °C: 0,2 (other ranges on request)
Total length	360 x 17 mm

Minimum thermometer 1015



TECHNICAL SPECIFICATIONS

Measuring range	-30..+50 °C: 0,2 (other ranges on request)
Total length	360 x 17 mm

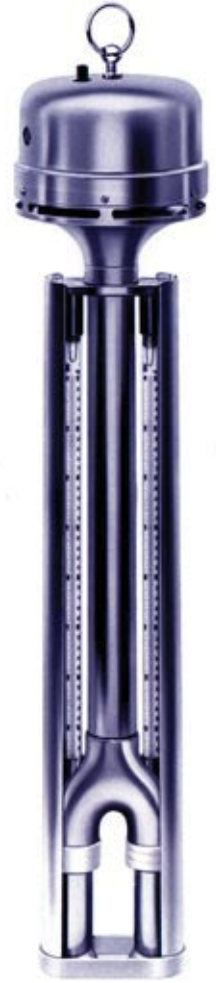
Assmann aspirated psychrometer

3.011

For psychrometric measurement of humidity, large model, in robust version with chromium mirror finish and with handle. The instrument is supplied with two thermometers appropriate for verification according to DIN 58661.

TECHNICAL SPECIFICATIONS

Measuring range	-30 to +45 °C (further measuring ranges available to option)
Graduation	1/5 °C
Accessories	Wetting device, psychrometer table, tree screw
Accuracy	+/-0.2 °C
Measuring time	approx. 8 min., air flow > 2 m/s
Dimensions	H 410 x W 68 x T 30
aspirator diameter	90 mm
Weight	3.6 kg incl. wooden box



Assmann psychrometer thermometer

1.051



suitable for aspiration hygrometer according to Assmann 3.011

Wet and dry bulb thermometer according to August

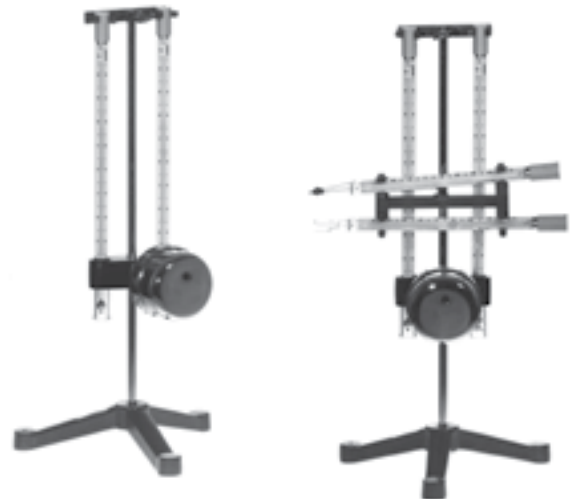
2041: ventilated, 2042: not-ventilated

2041 consists of the following parts:

- 1 tripod with rod
- 1 upper holder
- 1 holder with double ventilation tubes
- 1 clockwork ventilator spring driven
- 1 moistening device
- 1 psychrometer-table

2042 consists of the following parts:

- 1 tripod with rod
- 1 upper holder
- 1 lower holder
- 1 water reservoir
- 1 psychrometer-table



Holder for 1 maximum and 1 minimum thermometer

2041/2

2042/2

temperature & humidity

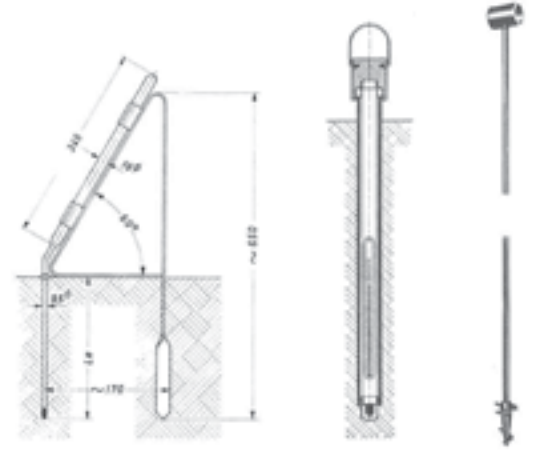
Soil thermometer

2.003

Soil thermometer according to DIN 58655, may be calibrated, division 1/5 °C, limit of error approx. 0,5 °C, weight approx. 0.12 kg.

SPECIFICATIONS

Order no	Penetration depth in mm	Measuring range in °C
2.003/1	20	-25..+60
2.003/2	30	-25..+60
2.003/3	60	-25..+45
2.003/4	110	-20..+40
2.003/5	160	-15..+40
2.003/6	210	-15..+35
2.003/7	310	-15..+35



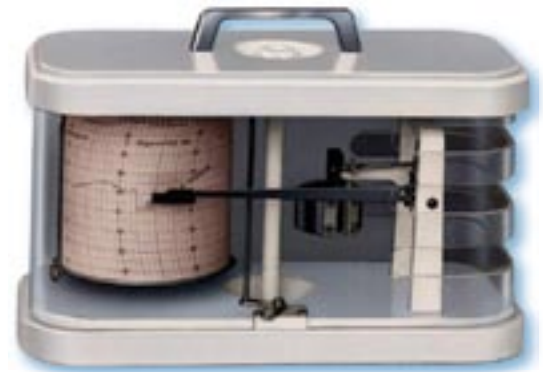
Thermograph

2.013

for recording ambient temperature. Temperature sensor is a high-grade bimetal that is recording temperatures on the drum through a pointer mechanism. The case is made of white coated aluminum die casting and removable upper part with crystal-clear Macrolon panoramic hood. All parts have been manufactured from corrosion-resistant materials.

TECHNICAL SPECIFICATIONS

Measuring range	see below
Accuracy limit	+/- 1,5% from measurement span
Rotation of drum (on model with mechanical clockwork):	1 x in 1 day 1 x in 7 days (selectively adjustable)
Rotation of drum (on model with electronic clockwork):	1 x in 1 day 1 x in 7 days 1 x in 31 days (selectively adjustable)
Drum measurements	diameter 93.3 mm, height 93 mm
Recording with fiber pen, Writing height	82 mm
Feed	1.67 mm, at 24 hours rotation 11.5 mm/h
Accessories	1 set recording strips (100 sheets) 1 spare fiber pen
Equipment dimensions	280 x 138 x 180 mm
Weight	approx. 2.5 kg



ORDER

Order no	Measuring range in °C
2.013/1	-35 to +45
2.013/2	-20 to +60
2.013/3	0 to +80
2.013/4	0 to +40
2.013/5	-10 to +50
When ordering electronic clockwork, use order addition "E"	
2.013/ST	Spare recording strips (state order no.)

temperature & humidity

Thermohygrograph

3.015

De thermohygrograph 3.015 for recording ambient temperature and humidity is designed for scientific, teaching and industrial applications. The instrument is also popular with weather watchers for its reliability and accuracy. When placing the instrument outdoors, the thermohygrograph has to be placed in a radiation screen. For measuring indoor conditions the instrument must be placed on a undisturbed place, not in solar radiation or nearby a heating system.

Ambient temperature and humidity will be recorded at the same time on the same registration paper. Temperature will appear on de upper part and humidity on the lower part of the paper. Temperature sensor is a high-grade bimetal that is recording temperatures on the drum through a pointer mechanism. The humidity sensor is a harp of six hair bundles stretching or shrinking during the changes in humidity. The openings in the casing of the instrument provide free airmovement around the sensors and a quick response.

De drum is driven by a quartz clock. By moving the gears in the drum the speed can be changed in day, week and month rotation. The case is made of white coated aluminium die casting and removable upper part with crystal-clear Macrolon panoramic hood. All parts have been manufactures from corrosion-resistant materials.

standard accessories

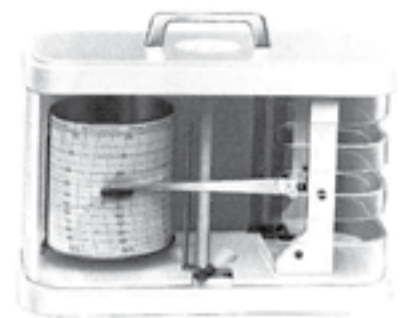
- 1 pack registration paper week rotation (100 vel)
- 2 spare fiber pens



Hygrograph

3.014

Hygrograph in white varnished die cast metal housing with a highly transparant, panoramic hood of macrolon, hair harp as humidity measuring element.



TECHNICAL SPECIFICATIONS

temperature	3.015/2	3.015/3
range	-20..+60 °C	0 .. +40 °C
shale	1 ° per scale mark	0,5 ° per scale mark
specifications for both types:		
temperature	sensor	bimetal strip
	accuracy	1,5%
% humidity	range	0...100 %RH
	sensor	hair bundle
	accuracy	2,5%
	scale	1% per scale mark
drum rotation time	(switchable), day, week & month rotation	
dimensions	280 x 260 x 140 mm-	
weight	2,5 kg	

TECHNICAL SPECIFICATIONS

Measuring range	0..100% RH
Limit of error	approx. 2.5 % of the measuring range
Rotation of drum	1x in 7 days
Diameter	93.3 x 93 mm
Recording	with fibre pen
Recording height	82 mm
Paper speed	1.67 mm, 1 rotation every 24 hours: 11.5 mm/h
Accessories	1 set of recording sheets (100 sheets), 1 spare fibre pen
Dimensions	280 x 138 x 190 mm
Weight	approx. 2.5 kg

Weather screens

METSPEC

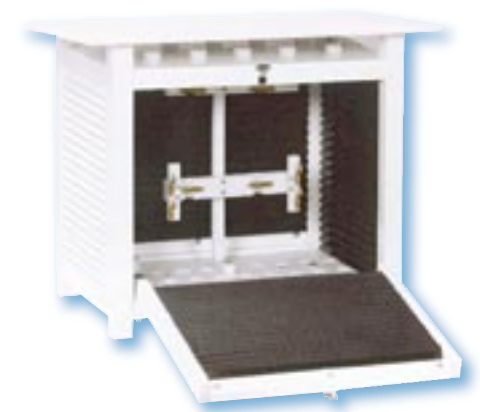
Standard screen of the British Met Office in the UK Synoptic Station Network

A weather screen is essential for a good measurement with thermometers, thermohygrographs and other instruments. METSPEC weather screens are high quality products in a modern and weather resistant, designed in close collaboration with the UK Meteorological Office.

The characteristics of the screen provide a perfect balance between good ventilation and radiation protection which translate into better time response and more accurate measurements of temperature and humidity.

METSPEC weather screens with double louvers are made of durable plastic (UPVC) and aluminium. METSPEC weather screens need little maintenance and have a larger life expectancy than wooden screens. The final design is based on research results of the UK Met Office.

The screens feature a lightweight powder coated aluminium frame with a high chrome content for UV, salt and chemical resistance. The weather screens have double louvers, white on the inside and black on the outside for the best protection from radiation. The louvers are made from high quality acrylic with extra UV stabilisers for improved resistance to UV radiation and acidity in rain fall to give an extremely low yellowing index. The screen has improved ventilation compared to wooden screens and is easy to clean.



TECHNICAL SPECIFICATIONS

operating temperature range	-50..80°C
applied materials	
frame	powdercoated aluminium with high chrome content
upper/lower deck	UPVC
louvers	acrylic with UV stabilisers
door	polyamide with RVS screws
large model MET 01	
internal dimensions	HxBxD 406x492x313 mm
weight	21 kg
standard model MET 02	
internal dimensions	HxBxD 406x354x216 mm
weight	14 kg

Hellmann rain gauge DIN 58666c 5001/1

Rain gauge with 200 cm² circular collecting area (WMO standard), made of stainless steel

Accessory:

- deposit collector,
- container,
- collection container made of plastic volume approx. 1.2 l, holder made of galvanized steel,
- graduated cylinder made of polystyrene clear as glass in accordance to DIN 58667B for 0 to 10 mm of precipitation, graduation 0.1 mm
- dimensions: height 453 mm, diameter 190 mm,
- weight 3.1 kg
- optional: snow crosses



Hellmann precipitation recorder 5.002/1

for continuous recording of precipitation, consisting of: stainless steel collecting funnel with limiter ring, hot galvanized sheet metal case, finished in light grey. The floating measurement system would drain independently after every 10 mm of precipitation height. Recording is made on a clockwork drum with fiber pen. In this case, 10 mm precipitation would correspond with 80 mm writing height on the drum. Graduation of paper is 1/10 mm, drum feed 2.29 mm/h at 7 days revolution, 16 mm/h at 24 hours revolution.



TECHNICAL SPECIFICATIONS

Drum rotation	see below
Diameter	133 x 93 mm
Collecting area	200 square centimeters
Accessories	1 collecting can (5 l content)
	1 lid
	1 measuring vessel DIN 58667B
	1 spare siphon pipe
	1 set recording strips (100 sheets)
	1 spare fiber pen
Roof diameter	375 mm
Case diameter	240 mm
Case height	approx. 1,000 mm
Weight	approx. 14 kg

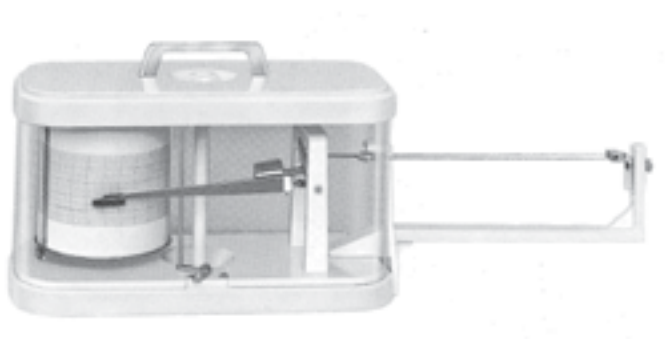
ORDER

5.002/1	Precipitation recorder 24 hour recording
5.002/TRS1	Spare recording strips for 24 hours (100 sheets)
5.002/2	Precipitation recorder 7 days recording
5.002/TRS2	Spare recording strips for 7 days (100 sheets)

Wetting recorder

5.007

Wetting recorder in white varnished, die cast aluminium housing, with highly transparent panoramic hood of macro-lon. For recording the chronological course of the wetting of vegetation cultures by rain, dew or wet fog, absorbing measuring element hemp rope, outdoor installation.



Rain gauge measuring jug

RGMJ

A measuring jug for 5" rain gauges marked in inches & mm.

Material: polyethylene

Full scale: 0.2.. 30 mm or 0.05" ..1.2" of rain



TECHNICAL SPECIFICATIONS

Drum rotation	1x in 7 days
Diameter	93.3 x 93 mm
Recording	by fibre pen
Recording height	0..50 relative
Paper speed	1.67 mm 1 rotation every 24 hours: 11.5 mm/h
Accessories	1 set of recording sheets (100 sheets) 1 spare hemp rope
Dimensions	440 x 138 x 180 mm
Weight	approx. 2.8 kg

Open pan evaporimeter 6.005

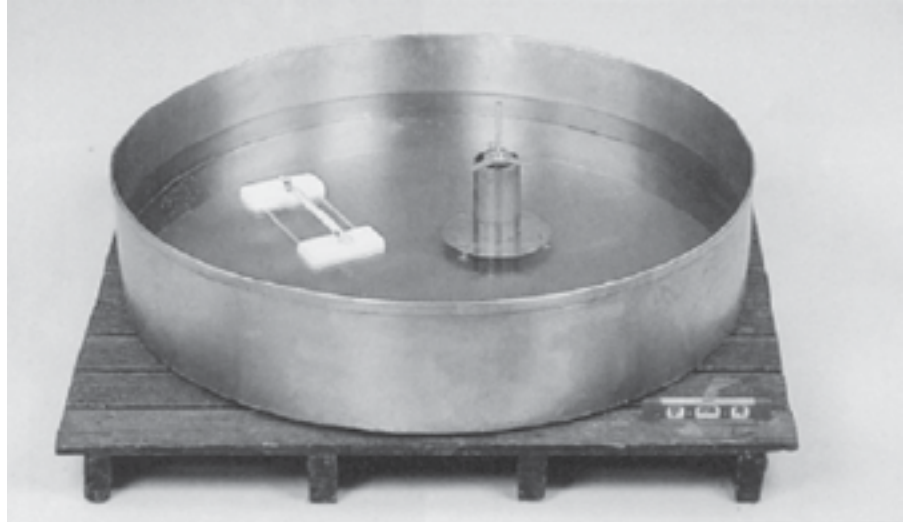
The class-A evaporation pan is used to determine the evaporation rate of open water.

- stainless steel
- inner diameter: 120.7 cm
- height: 25.4 cm
- thickness material: 1.5 mm

Stilling well 6.005/1

For smoothing water surface with height-adjustable, adjustable tripod.

- Height: 25.4 cm .
- Thickness: 0.8 mm
- Diameter: 7.5 cm – 10 cm



open pan & stilling well
wooden pallet not included

Hook gauge 6.005/2

For exact determination of water or evaporation height in combination with the water gauge.

Floating thermometer 6.005/3

for measuring water temperature with max.min. values. Complete with float and anchor.

- Measuring range: 0 up to +80°C
- Graduation: 1/2°C
- Weight: 0.5 kg
- Dimensions: 140 x 340 x 40 mm



floating thermometer



hook gauge & stilling well

For a complete evaporation system the cup anemometer 4.005 (page 5) en rain gauge 5.001/1 (page 11) are needed.

Sunshine recorder

7.004

The 96d Campbell-Stokes Pattern Sunshine Recorder employs a glass sphere to focus the sun's rays to an intense spot, which will char a mark on a curved card mounted concentrically with the sphere. As the earth rotates, the position of the spot moves across the card. When the sun is obscured, the trace is interrupted. At the end of the day the total length of the trace, less gaps, is proportional to the duration of sunshine.

The record cards are made from a special board which produces a clearly visible trace even in weak sunlight. The cards are treated to char rather than burn to ensure clarity of the trace. Different cards are used for different seasons. Each card is marked with hourly intervals. An optional transparent plastic template marked with scales enables the length of the curved trace to be accurately measured.



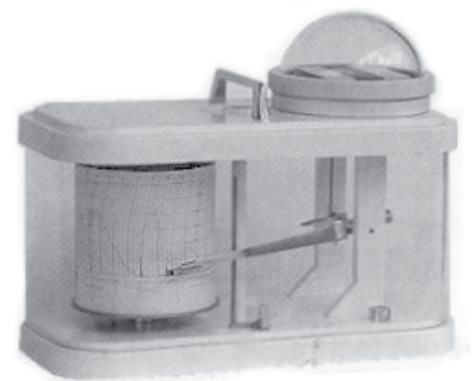
TECHNICAL SPECIFICATIONS

Latitude adjustments	0-65° N or S
Sphere	102 mm ± 1.3 mm
Focal length-sodium	D light: 74.9 mm ± 0.25 mm
Dimensions	240 mm x 187 mm x 165 mm
Weight	5 kg

Actinograph

7.007

for recording radiation intensity and sunshine duration. Black/white enameled bimetals serve as temperature-compensated measuring elements. Deflections of these bimetals are recorded on the drum through the pointer mechanism. The case is made of weather-resistant, white coated aluminum die casting and removable upper part with Macrolon panoramic hood. A glass dome is built into the upper part covering the measuring elements below.



TECHNICAL SPECIFICATIONS

Measuring range	0-1300 W/square meter
Spectral range	0.3 to 3 μm
Writing width	50 mm
Drum revolution	7 days
Dimensions	280 x 138 x 240 mm
Weight	2.8 kg
Accessories	1 set of spare recording strips (100 sheets), 1 Spare fiber pen

Barograph 1.008

Barograph for recording atmospheric pressure. Pressure deviations are sensed by an eight-pieces temperature-compensated aneroid box and recorded on the drum through a pointer mechanism. The case is made of white coated aluminium die casting and removable upper part with crystalclear Macrolon panoramic hood. All parts have been manufactured from corrosion-resistant materials.

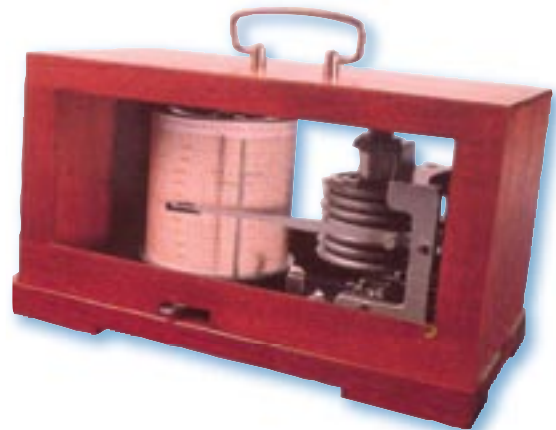
The barograph is available in 2 models:

- with mechanical clockwork
- with electronical clockwork



Marine barograph 217

Marine barographs with vibration-damped measuring system. Model 217M has a mechanical winding up clockwork. Model 217MQ has a quartz clockwork. Measuring range 955 – 1055 hPa (used for altitudes 0 to 150 m above sea level).



TECHNICAL SPECIFICATIONS

measuring range	106,7 Pa
accuracy limit	±1,5% from measurement span
rotation of drum (model with mech.clock)	1x in 1 day, 1x in 7 days, selectively adjustable
rotation of drum (model with electr.clock)	1x in 1 day, 1x in 7 days, 1x in 31 days, selectively adjustable
dimensions drum	diameter 93,3 mm, height 93 mm
writing height	82 mm
feed	1,67 mm, at 24 hrs rotation 11,5 mm/h
accessories	1 set recording strips (100 sheets), 1 spare fibre pen
dimensions	280 x 138 x 180 mm
weight	2,5 kg

Precision barometer 103

Precision aneroid barometers are used for measuring the absolute atmospheric pressure. The self-stable set of five aneroid capsules, used in our precision aneroid barometers, is made of a corrosion proof copper-beryllium-alloy. This alloy has been well established for measuring the atmospheric pressure since many years because of its remarkable elastic properties. The aneroid capsules are nearly free of age-hardening, hysteresis and elastic after-effects.



The influence of temperature on the set of aneroid capsules and the transmission system is compensated by a bimetal over the whole measuring range and for temperatures between -30 to +40 °C. The motion of the aneroid capsule is transmitted to the axle of the pointer by driving a segment and wheel with an excellent fine finish of the gearing. All bearings have an excellent fine finish. The instrument has a minimum of idle friction because of the optimal shape of the levers and bearings.

TECHNICAL SPECIFICATIONS

measuring range	680..800 mmHg	900..1060 hPa
precision	+/- 0,5 mmHg	+/-0,7 hPa

model 103 with screw on flange

diameter	135 mm
height	90 mm
weight	540 gram
diameter flange	165 mm

Station barometer 1.006

For the exact measurement of the atmospheric pressure, with reduced scale, taking into consideration the zero-level variations in the mercury tube caused by changing atmospheric pressure. The instrument may be used up to station heights of 1500 m. Reading scale on white base, with plummet for the vertical adjustment, scale support silver coated with engraved figures, vernier scale adjustable by means of pinion head ant toothed rack.

TECHNICAL SPECIFICATIONS

Reading precision	0.1 mbar
Interior diameter of tube	8 mm
Measuring range	-15 .. +55°C
Scale	1/10
Accessories	hanger, reading magnifier, carrying box, correction table
Size	±950 mm high. max. Ø ±65 mm
Weight	5,5 kg

Digital barometer 1.007

for measuring atmospheric pressure. The measuring element is represented by a temperature-compensated aneroid box. Its pressure-dependent axial movement is sensed by means of an inductive displacement pick up and a high-grade, temperature-compensated electronic unit. Display is a 4-digit, red LED display with hPa reading. In addition to the display an analog output available.



TECHNICAL SPECIFICATIONS

Measuring range	840 up to 1100 hP
Supply voltage	230 V 50 Hz; 4 VA (internal 5 V and 24 V stabilized)
Ambient temperature	-10 up to +60°C
Control panel bay, dimensions	98 x 98 x 110 mm deep
Accessories	stabilized plug-in power supply
Output	±5V corresp.to ±50 hPa

Standard barometer 2k

Two-limbed cistern barometer with variable cistern volume for elimination of the zero level variations, the degree of the vacuum can be checked by the barometer itself. For this reason it is qualified for testing other barometers. When measuring, the lower mercury column has to be raised to the lower sight adjusted to scale zero, then the rough atmospheric pressure can be read at the upper sight at the graduation by means of the eccentric fine adjustment and vernier. After suitable corrections the true atmospheric pressure is obtained. Each sight is provided with a device to measure the height of the meniscus. Graduation of scale in mmHg, mb or in.Hg.



No. 2k

Control barometer 20k

Design similar to No. 2K, but according to its application as calibration instrument with extended measuring range. Lower and upper sight are equally equipped: with eccentric fine adjustment, vernier and device for measuring of the meniscus height. By subtraction of both readings the rough atmospheric pressure is obtained and after suitable corrections the true atmospheric pressure is received.



No. 20k

TECHNICAL SPECIFICATIONS

Measuring range	650..280 mmHg 865..1090 mb
Accuracy of reading	±0.05 mmHg / mb
Inner diameter of tube	14 mm
Additional thermometer	-10..+50°C
Accessories	support transport case correction tables
Weight	±9.7 kg

TECHNICAL SPECIFICATIONS

Measuring range	40..820 mmHg 55..1090 mb
Accuracy of reading	±0.05 mmHg
Inner diameter of tube	11 mm
Additional thermometer	-10..+50°C
Accessories	support transport case correction tables
Weight	±13 kg

Mercury test barometer 11i0

With extended measuring range downward to scale zero, based on the principal of a two limbed U-manometer with enlarged vessel. The zero level variations in the vessel are taken into consideration (reduced graduation). The vernier of the adjusting sight can be adjusted by a worm thread. For frequent calibrations at certain pressure stages short vernier slides can be delivered. Scale graduation in mmHg, mb or in.Hg resp. with two graduations.



No. 11i0

TECHNICAL SPECIFICATIONS

Measuring range	0..820 mmHg 0..1090 mb 0..32.3 in.Hg
Accuracy of reading	±0.1 mmHg / mb 0.005 in.Hg
Inner diameter of tube	8 mm
Additional thermometer	-20..+50°C
Accessories	correction tables
Weight	±14.9 kg

Station barometer 11a9 / 11b9

Single-limb cistern barometer, with reduced scale, for local heights up to 1500 m above sea level. The zero level variations in the vessel are taken into consideration in case of changing atmospheric pressure (reduced graduation). Simple handling, for reading only one sight has to be observed. The vernier is adjusted by rack. Scale graduation in mmHg or mb, also with tow graduations.

11b9 is similar to 11a9 but for local heights up to 4000 m. Measuring range: 430..770 mmHg/ 580 .. 1025mb.

TECHNICAL SPECIFICATIONS

Measuring range	600..805 mmHg 800..1070 mb
Accuracy of reading	±0.1 mmHg
Inner diameter of tube	9 mm
Additional thermometer	-15..+50°C
Accessories	hanger transport case correction tables
Weight	±5.9 kg



Test barometer 11i

Design similar to 11a9 but according to its application as calibration instrument with extended measuring range. The vernier of the adjusting sight can be adjusted with a worm thread. For frequent calibrations at certain pressure stages short vernier slides can be delivered. Scale graduation in mmHg, mb or in.Hg resp. with two graduations.

TECHNICAL SPECIFICATIONS

Measuring range	40..820 mmHg 55..1090 mb 1.5..32.3 in.Hg
Accuracy of reading	±0.1 mmHg / mb 0.005 in.Hg
Inner diameter of tube	8 mm
Additional thermometer	-10..+50°C
Accessories	support transport case correction tables
Weight	±6.4 kg



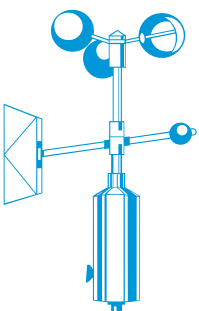
Ship's barometer 12/9

Design similar to 11a9 but with cardan suspension and damping capillary tube.

TECHNICAL SPECIFICATIONS

Measuring range	800..1070 mb
Accuracy of reading	±0.1 mb
Inner diameter of tube	9 mm
Additional thermometer	-15..+50°C
Accessories	angle with cardan joint transport case correction tables
Weight	±6.7 kg





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