

Rain and Snow Gauges

The **Rain-Gauge 69d** (fig.1) consists of a double layer cylindrical upper part, serving as receiver, whose aperture forms the receiving area as well as a lower part with the collecting can. The rain which falls through the aperture is led into the inner collecting can via a funnel.

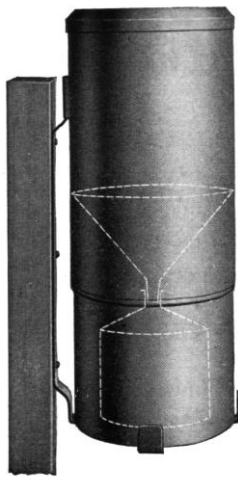


Fig. 1 Rain Gauge 69d
with holder on a bar



A special construction of the funnel mounting optimised by the company Dr. Müller Meteorologische Instrumente KG avoid the stop of waterdrops on the inner sides of the upper part. To avoid an extreme evaporation of the collected rain water in the collecting can, the latter is set up free all round, so that a direct heat conduction from the radiated casing to the collecting can is prevented by the surrounding air.



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The Rain- and Snow Gauge 69 differs from the prescribed type only in that way, that all parts as upper part, lower part, collecting can and snow cross, necessary for transformation of snow in the form of liquid water, are presented twice. The time required for the melting process is not lost therefore for continuous receiving of precipitation. In the case of snowfall the snow cross has to be put into the upper part to prevent whirling out of the snow by influence of the wind.

In order to measure the height of rainfall, one takes the upper part from the hook, removes the collecting can from the lower part and empties the same into the measuring cylinder. The height of precipitation in mm rainfall is read off directly on the scale of the measuring cylinder; the scale is graduated from 0 to 10 mm of rainfall in intervals of 0.1 mm.

In the case of type 69 the observer exchanges the whole instrument after snowfall against an empty one. Then the snow filled rain gauge is closed by the cover and taken into a warmer room. After melting the snow, the height of the melted snow may be determined by means of the measuring cylinder.

Both types of instruments should expediently be mounted on plane terrain in such a way that the distance away from every surrounding object should be not less than twice the height of the object. This applies especially to the weather side. The Rain Gauge is screwed by means of pertaining holder to a post in such a way that the receiving area lies horizontally and 1 m above the ground.

In the case of unstable weather, there exists the possibility that a drift of atmospheric precipitation, as it may present itself at the casing's jacket by formation of a whirl, may lead to a deficit of the collected quantity of precipitation, as compared to the actually fallen quantity. Such errors in measurement can be avoided with the aid of wind shield 69w according to Woelfle, which consists of a shield of 840 mm diameter with 16 elastic blades. A joint support carries instrument and wind shield, with four stays orientating the latter towards the receiving area. The whole equipment is fastened to a tubic support of approximately 75 mm diameter which, itself, however, is not part of the delivery, in general.

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Specifications

69d Rain Gauge, Hellmann type
with receiving area of 200 cm²,
according to the requirements
of the German meteorological service
and WMO standard
consisting of:
1 upper part with receiving ring
1 lower part
1 collecting can (= No. 69t)
1 support (= No. 69v)
1 measuring cylinder (= No. RM25 T171)
Dimensions: 190 mm diameter x 440 mm height.

69 Rain and Snow Gauge, Hellmann type
with receiving area of 200 cm²
consisting of:
2 upper parts with receiving ring
2 lower parts
2 collecting cans (= No. 69t)
1 support (= No. 69v)
1 measuring cylinder (= No. RM25 T171)
2 snow crosses (= No. 69u)
1 protective cover.
Dimensions: 190 mm diameter x 440 mm height, each.

Supplementary and Spare Parts

RM25 T171 Measuring cylinder, for raingage
with 200 cm² receiving area,
for 10 mm rainfall, divisioned in 0.1 mm of rainfall.
According DIN 58667B, made from Polystyrol



69t Collecting can, capacity 1.4 litres corresponding to 70 mm of rainfall.

69u Snow cross.

69v Holder for suspension of rain gauge.

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