

A Dutch Amateur Valve

THROUGH the kindness of Mr. G. Roes, of Dordrecht, Holland, QST obtained from Mr. C. W. Ridderhof, agent for the Philips Lamp Works, at IJsselstein, Holland, a specimen of the Philips Receiving Lamp, which is the first Dutch-made amateur tube.

As will be noted in the photograph, the Philips Lamp is a tubular valve, constructed internally in a fashion similar to the old round DeForest audion but having two candelabra base connections, one at either end, one for filament current and the other for plate and grid connections. The elements are smaller than in the ordinary tube, the plates being $\frac{3}{8}$ -inch square. Two plates and two grids are used, with a single V-shaped tungsten filament in the center.

QST is indebted to Mr. Mathews and Mr. Hassel for the characteristic curves secured in testing this tube at 9ZN. Altho rated by the maker at 0.25 ampere normal filament current, our specimen obtained normal brilliancy on 0.125 ampere, at a potential of 4 volts. This is interesting, as the tube would work quite satisfactorily on dry cells with this low current consumption. The characteristic curves are what might be expected. The normal plate voltage is 24, and the specimen tested ionized

at slightly under 30 volts, and was found to function best as a detector with 19 volts, at which value the plate current with free grid was approximately 400 microamperes.

The vacuum is quite low, and as was to be expected, the tube proved a very fair detector, tho unstable in its action and not as sensitive as our American tubes, particularly the AudioTron. No data on its average life is available, but it is believed this can not be very great because of the brilliancy of the filament and the low vacuum. The one tested could not be made to oscillate under any conditions, nor would it function as a radiofrequency amplifier.

Mr. Ridderhof reports that on his 150-foot aerial the daylight signals of NWW, NSS, and NFF can be read on one tube.

The use of the candelabra bases for the terminals is most convenient. Unfortunately both threads are right-hand. If one were right-hand and the other left-hand, a mounting consisting of the respective sockets attached to spring metal arms would make possible the insertion of a tube by simply rotating it, turn-buckle fashion. As it is, however, it offers a suggestion to our American manufacturers of tubular valves.

