

RADIO AG. SLOEWE



**Multiple  
Valves**

**Lampes  
multiples**

**Lamparas  
multiples**

### Type 3 NFW

Directly heated triple low frequency metal coated valves for battery and direct current.

Lampe triple, à basse fréquence, à blindage métallique, à chauffage direct, pour batterie et courant continu.

Lampara blindada de tres pasos baja frecuencia para bateria y corriente continua.

### Type 3 NFB

Indirectly heated triple low frequency metal coated valves for alternating current.

Lampe triple, à basse fréquence, à blindage métallique, à chauffage indirect, pour courant alternatif.

Lampara triple para baja frecuencia con alimentación indirecta del catodo por corriente alterna.

### Type HF 30

Directly heated double high frequency metal coated valves for battery and direct current.

Lampe double, à haut fréquence, à blindage métallique, pour batterie et courant continu.

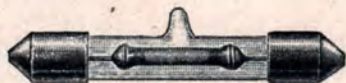
Lámpara doble para alta frecuencia calefacción directa por batería o corriente continua.

### Type NG



	Filament		Trans. Voltage	Max.
	volts	amps.	max. V.	mA
	Chauffage		Tension alternat.	Intensité maximé mA
	Tension V.	Intensité A.	maxima V.	
	Filamento		Transf. V	= max. mA
	tension consumo			
2 NG	2.7	1.5	2×300	50
4 NG	4.0	0.7	2×300	80
6 NG	7.5	1.2	700	70
8 NG	2.5	1.0	2×300	100
10 NG	4.0	0.26	300	30
12 NG	4.0	0.26	2×220	30

**Rectifying valves — Valves redresseuses  
Lamparas rectificadoras**



**FZ 128**



**FZ 64**



**FZ 130**

**Résistances à vide type FZ.**

Nos résistances sont placées sous un vide élevé, ce qui les met complètement à l'abri des influences chimiques et atmosphériques ; sont réalisées pour toutes valeurs comprises entre 10.000 ohms et 10 mégohms ; tolérance de  $\pm 20\%$ .

**Resistencias montadas en el vacío tipo FZ.**

Nuestras resistencias se montan en el vacío en tubo soldado a la lámpara por lo cual quedan aisladas de toda influencia atmosférica ; se construyen desde 10 000 ohm a 10 megohm con  $\pm 20\%$  de tolerancia.

**High vacuum resistances type FZ.**

Our resistances are enclosed in a high vacuum, which safeguards them against all chemical and atmospheric influences. They are manufactured in capacities from 10,000 ohms to 10 megohms, the tolerance being  $\pm 20\%$ .



**Type FG 132**

0,5 Watt

**Type FG 134**

1 Watt



**Résistances à grande capacité de surcharge à remplissage gazeux,**

de 1000 ohm à un megohm.

Toutes nos résistances peuvent être fournies avec capes fixes, capes à visser, capes à souder ou capes fixes et à souder.

**Resistencias para cargas elevadas en atmósfera gaseosa**

desde 1000 ohm a 1 megohm.

Las resistencias pueden suministrarse con contactos fijos, de rosca, para soldar o combinados.

**High current carrying gas filled resistances.**

All resistances are supplied with caps for clips, screw caps, soldering wires or caps and soldering wires combined.



**VC 100** con casquillo  
with caps  
à capes



**VC 50** con tornillos terminales  
with screw caps  
à vis



**VC 145**

con hilos para conexion  
with soldering wires  
à fils

**Condensadores en vacío tipo VC con dieléctrico especial de mica.**

Nuestros condensadores se montan en vacío en tubo solidado a lámpara con la cual se obtiene completa estabilidad gran resistencia a la perforacion y fuerte resistencia de aislamiento. Probados con corriente alterna de 400 V Tolerancia  $\pm 20\%$ .

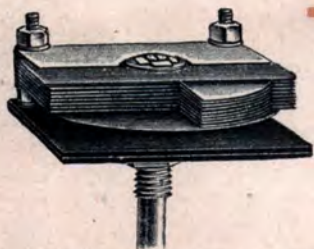
**High vacuum fixed condensers type VC.**

With special mica dielectric.

Our condensers are sealed in a high vacuum, which ensures complete stability, great dielectric strength and high insulation value. Test voltage approx. 400 volts A.C. Tolerance  $\pm 20\%$ .

**Condensateurs fixes à vide type VC, avec diélectrique spécial au mica.**

Nos condensateurs sont placés sous vide, ce qui en garantit la parfaite stabilité, une grande rigidité diélectrique et la résistance d'isolement la plus élevée. Tension d'essai alternative d'environ 400 volts ; tolérance  $\pm 20\%$ .



**Type CD 108**

**Condensadores variables con dieléctrico sólido tipo CD 108**  
(patente alemana 390 808).

Este condensador es de volumen reducido montaje con un solo tornillo y pérdidas muy reducidas.

**Variable condensers with fixed dielectric. Type CD. 108**

(German Patent 390,808).

The distinguishing characteristics of this condenser are that it occupies an extremely small space, has easy one-hole mounting and the losses are extremely low.

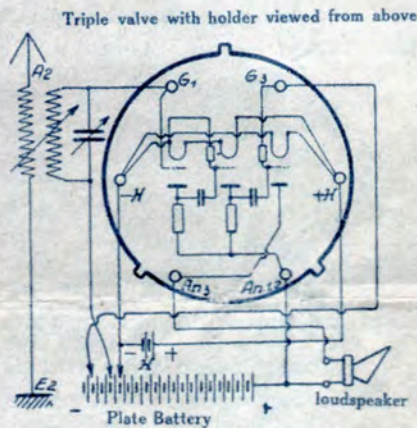
**Condensateurs variables à diélectrique solide type CD 108.**

(D.R.P. 390 808).

Ce condensateur est caractérisé par ses dimensions extrêmement restreintes, sa facilité de montage et sa haute qualité au point de vue de la nullité des pertes.

# Loewe = Multiple Valves.

## 1. Loewe triple valve for all wave lengths. Type 3 N. F.



Wiring diagram of Loewe triple valve  
Type 3 N. F.

The filament voltage is 4 volts and the total filament current approximately .3 amperes. The filaments are connected directly to a 4 volt accumulator without any filament resistance. 90 volts is a sufficient battery voltage for the anode circuit. The total anode current amounts to from 2 to 3 milliamperes. The triple valve consumes accordingly only the same anode current as a single loud speaker valve.

This valve will in nearly every case provide satisfactory loud speaker reception of the local station with a frame aerial or an inside aerial. If an outside aerial is used, reception of the local station on a loud speaker is guaranteed. On headphones with an outside aerial, satisfactory reception of numerous distant stations has been obtained almost everywhere.

The valve operates without re-action by the use of resistance voltage amplification according to v. Ardenne and Heinert.

To obtain greater volume of sound for large concert halls, the Loewe triple valve can be operated with 150 volts on the anode.

The Loewe triple valve is fitted with a low capacity cap with six contacts (S in Fig. 1). A suitable holder (F in Fig. 1) is supplied for this cap.

The construction is so simplified that the entire system has been brought within a single bulb which is only slightly larger than a standard loud speaker valve.

The Loewe triple valve is used especially in our local receiving set type O. E. 333.

This valve contains three complete valve systems together with the necessary coupling elements (two voltage coupled amplifier-stages and one loud speaker-stage as shown in the attached diagram of connections.)

The filament voltage is 4 volts and the total filament current approximately .3 amperes. The filaments are connected directly to a 4 volt accumulator without any filament resistance. 90 volts is a sufficient battery voltage for the anode circuit. The total anode

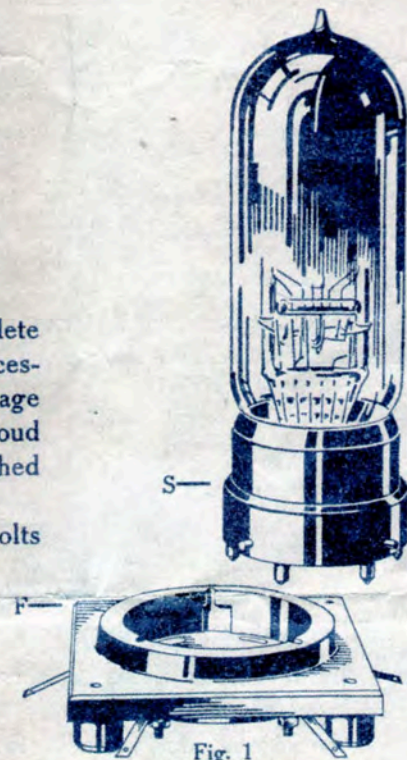
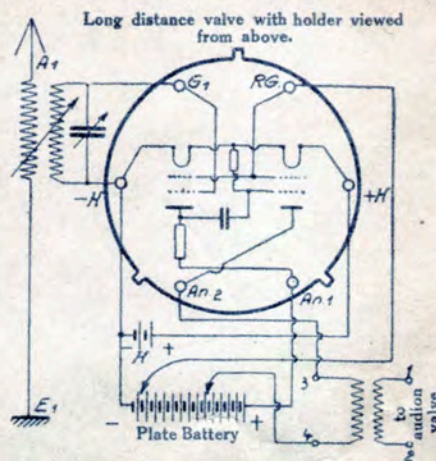


Fig. 1

**NOTE.** Numerous patents have been applied for Loewe Multiple valves and their wiring circuits in all countries.

## 2. Loewe long distance valves. Type 2 H. F.



Wiring diagram of Loewe long distance valve Type 2 H. F.

In external appearance the Loewe long distance valve is the same as the Loewe triple valves shown in Fig. 1. It contains, however, two double grid valves and the necessary coupling between the two valves as shown in the attached diagram of connections.

The filament voltage is 4 volts and the filament current approximately .17 amperes.

As in the case of the triple valve the long distance valve is also connected directly to a 4 volt accumulator without the use of a filament rheostat. 90 volts is sufficient for the anode voltage, and 10 to 20 volts for the space charge grid. Under these circumstances, the anode current amounts to approximately 2-3 milli-amperes and the space charge current amounts to about 3 milli-amperes.

The internal construction has been developed in collaboration with v. Ardenne.

With the Loewe long distance valve aperiodic high frequency amplification is obtained for wave length down to less than 200 metres, that is to say, covering the entire broadcasting wave band.

With the Loewe long distance valve direct reception of numerous stations will be obtained in headphones.

The Loewe long distance valve can be used as a first stage for all types of receiving apparatus. It is, however, particularly suited for operation in conjunction with the Loewe triple valve.

## SPECIAL NOTE.

The factory undertakes the repair of Multiple valves. If Multiple valves fail owing to faulty manufacture, we will replace them free during a period of twelve months if the valves are sent to us carriage paid.

If they break down on account of over-heating the filament, or through any other cause not involving breakage of the glass and its contents, we will repair the valves. We reserve the right in such cases to substitute a new valve of the same type for the valve which is to be repaired, and to refuse to undertake repairs in cases where the internal structure is destroyed mechanically.

We would like at the same time to draw your attention to the various receiving sets which we have placed on the market for use in conjunction with Loewe Multiple valves.

We are bringing out a special receiver for the local station Type O. E. 333 complete with a Loewe triple valve together with tuning condenser and base for any standard type of tuning coils (these are not furnished) and connecting leads and plugs. The efficiency of this set is marvelous. Please ask for special leaflet.

We are further producing a Multiple valve long distance receiving set Type 2 H. 3 N. fitted with one long distance and one triple valve. This set is of extraordinary efficiency both in long distance and local reception. Descriptive leaflet will be sent on request.

We are convinced that in the Multiple valves and Multiple valve apparatus we have produced exceptionally cheap and efficient apparatus which will suit the requirements of all.

**NOTE.** The wellknown Loewe vacuum resistances are incorporated in the Loewe Multiple valves.