

# ***Instruction Manual***

*RA0113 1" 2cc Coupler IEC 60318-5*



## Revision History

Revision	Date	Description
1	28 September 2017	Extracted from Earbook as separate document

Any feedback or questions about this document are welcome at [gras@gras.dk](mailto:gras@gras.dk).

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## Introduction

The RA0113 is a 2cm<sup>3</sup> IEC 126 coupler which uses a 1" microphone, e.g. the G.R.A.S. 40EN. The microphone (with its protection grid removed<sup>1</sup>) screws into the base of the RA0113. In all other respects, this Coupler is equivalent to the RA0038.

The RA0113 complies with the following international and national requirements for acoustically testing insert type hearing aids:

- IEC 60318-5 reference coupler for the measurement of hearing aids using earphones coupled to the ear by means of ear inserts (formerly IEC 126 )
- ANSI/ASA S3.7-2016 Method for Measurement and Calibration of Earphones

## Components

The RA0113 comprises the following user-serviceable components:

- GR0722K Coupling Housing
- GR0723 Tube Adapter
- GR0316 Union nut

The RA0113 is delivered assembled as shown in Fig. 1.

## Available Accessories

In addition, the following accessories are available:

- RA0114 Adapter for ¼" button type hearing aids
- RA0115 Moulding adapter for ITE (In The Ear) hearing aids
- RA0116 Adapter for using a ½" microphone, e.g. G.R.A.S. 40AG.

Fig. 2. shows the various ways of assembling the coupler depending on what type of hearing aid is to be tested, using both included and available accessories.

Note the O-ring (OR5003) in the Coupler housing to ensure snap fitting for each of the hearing-aid Adapters. This will save time in situations where the Union nut GR0316 is unnecessary between numerous Adapter changes.



**Fig. 1.** 2cc Coupler RA0113 assembled as delivered

<sup>1</sup> A microphone without its protection grid should be handled with the utmost care!

## Additional Equipment

The following equipment is required for connection to external systems:

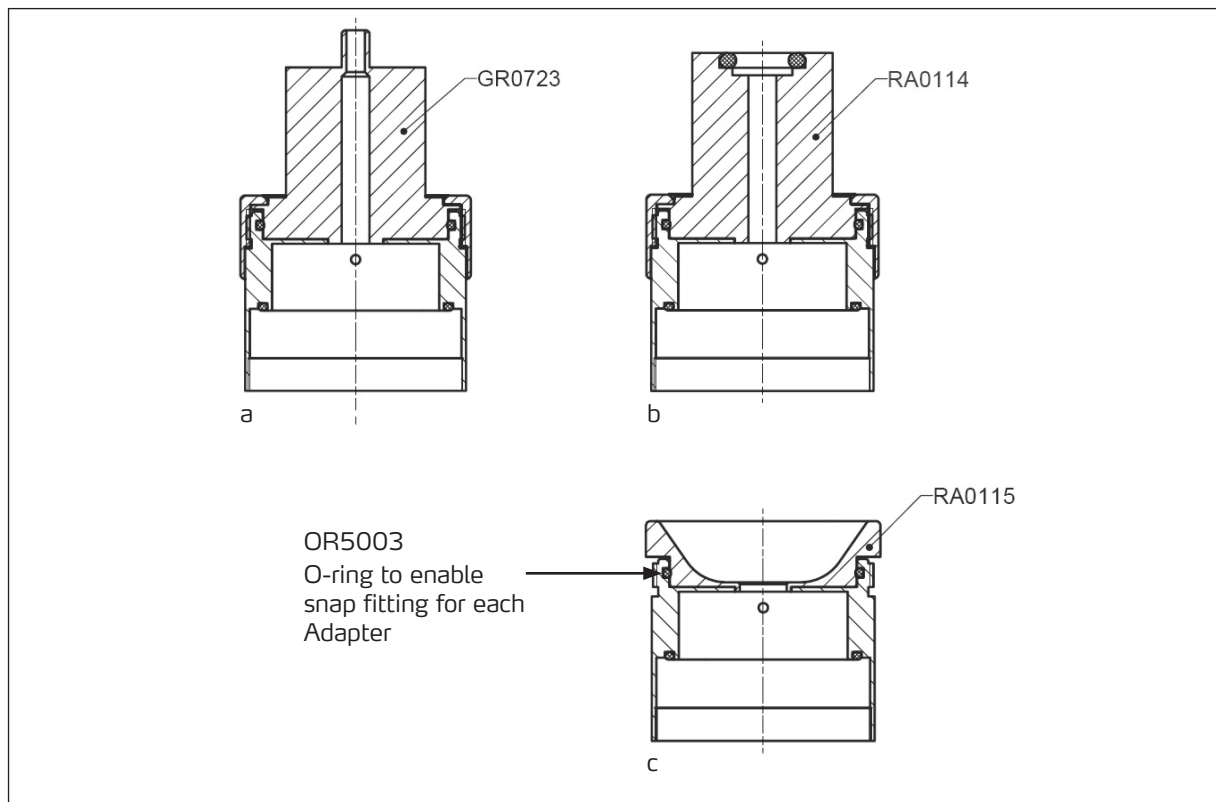
### When using a 1" Microphone

- 40EN 1" Pressure Microphone (protection grid removed<sup>2</sup>)
- RA0017 ½" to 1" Adapter (alternatively, the RA0073 Adapter can be used)
- 26AK ½" Preamplifier

### When using a ½" Microphone

- 40AG ½" Pressure Microphone (protection grid removed<sup>2</sup>)
- RA0116 1" to ½" Adapter
- 26AK ½" Preamplifier

Fig. 3 shows an exploded view of the user-serviceable components of the RA0113 as well as available accessories and additional equipment.

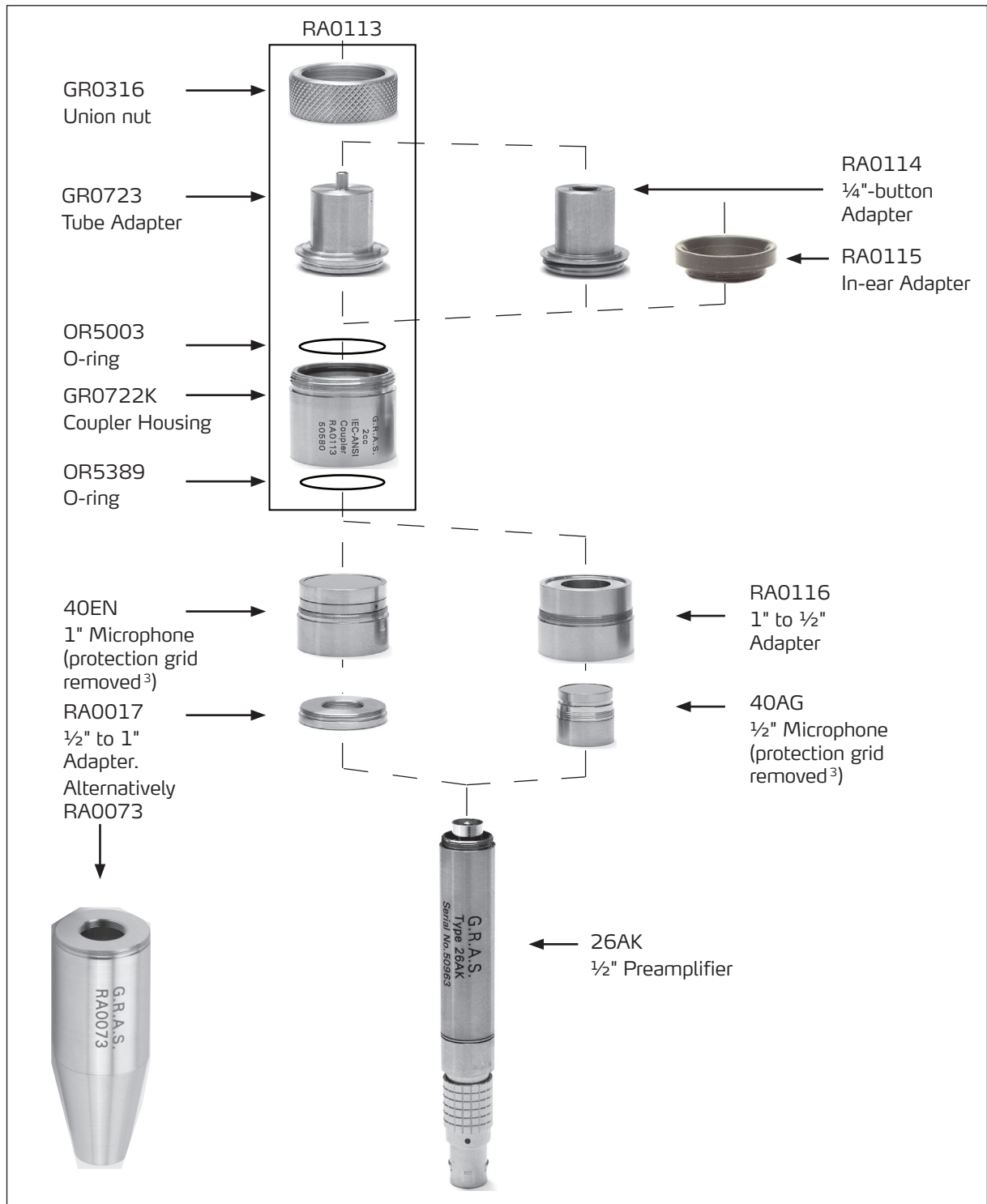


**Fig. 2.** Various ways of assembling the RA0113

- Coupler with Tube Adapter (GR0723, included)
- Coupler with ¼" Button Adapter (RA0114, available)
- Coupler with in-ear adapter (RA0115, available)

<sup>2</sup> A microphone without its protection grid should be handled with the utmost care!

### User Serviceable Components



**Fig. 3.** Exploded view of all the user-serviceable components (in the box above) of the RA0113 Coupler and accessories

<sup>3</sup>A microphone without its protection grid should be handled with the utmost care!

## Warranty, Service and Repair

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### Calibration

Before leaving the factory, all G.R.A.S. products are calibrated in a controlled laboratory environment using traceable calibration equipment.

We recommend a yearly recalibration at minimum, depending on the use, measurement environment, and internal quality control programs.

We recommend calibration prior to each use to ensure the accuracy of your measurements.

### Warranty

Damaged diaphragms in microphones can be replaced. The microphone diaphragm, body, and improved protection grid are made of high-grade stainless steel, which makes the microphone resistant to physical damage, as well as corrosion caused by aggressive air or gasses. This, combined with the reinforced gold-plated microphone terminal which guarantees a highly reliable connection, enables G.R.A.S. to offer 5 years warranty against defective materials and workmanship.

The warranty does not cover products that are damaged due to negligent use, an incorrect power supply, or an incorrect connection to the equipment.

### Service and Repairs

All repairs are made at G.R.A.S. International Support Center located in Denmark. Our Support Center is equipped with the newest test equipment and staffed with dedicated and highly skilled engineers. Upon request, we make cost estimates based on fixed repair categories. If a product covered by warranty is sent for service, it is repaired free of charge, unless the damage is the result of negligent use or other violations of the warranty. All repairs are delivered with a service report, as well as an updated calibration chart.

Manufactured to conform with:

CE marking directive:  
93/68/EEC



WEEE directive:  
2002/96/EC



RoHS directive:  
2002/95/EC



G.R.A.S. Sound & Vibration continually strives to improve the quality of our products for our customers; therefore, the specifications and accessories are subject to change.