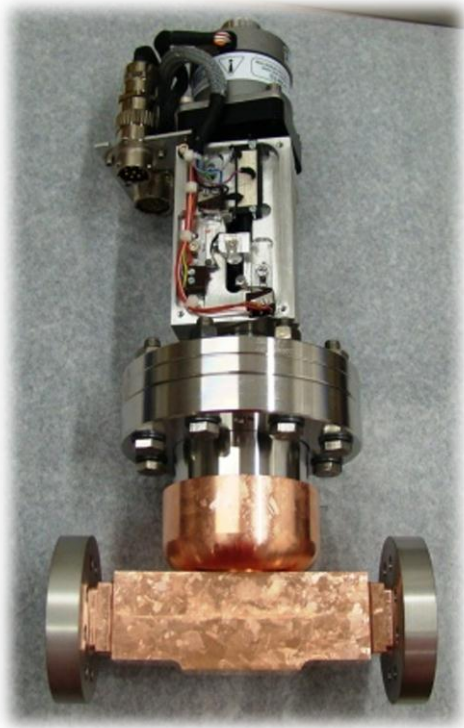
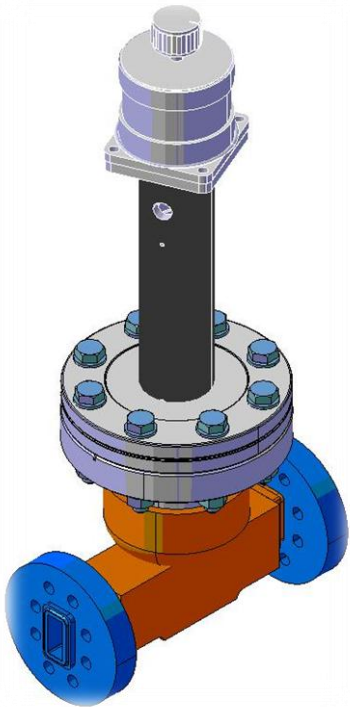


# **Fabrication and Installation of the prototype PETS On-Off for the TBTS**

RF development meeting

5/10/2011

VARIABLE REFLECTOR  
CLIAPON\_0028

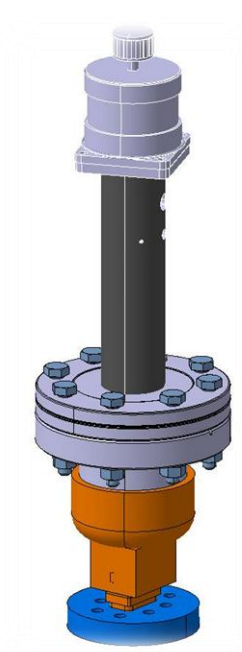


• **Machining at:**

- CERN main workshop
- Serge Berthet

Tolerances relaxed to 20-40µm

MOVABLE RF SHORT CIRCUIT  
CLIAPON\_0034



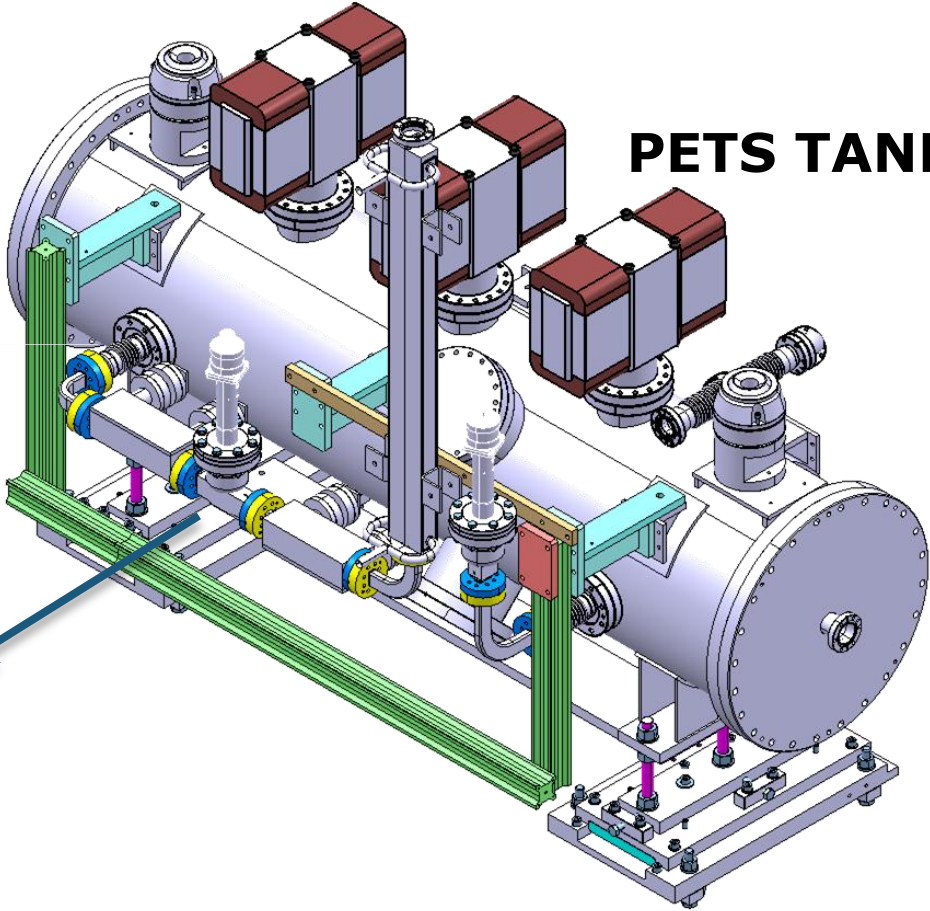
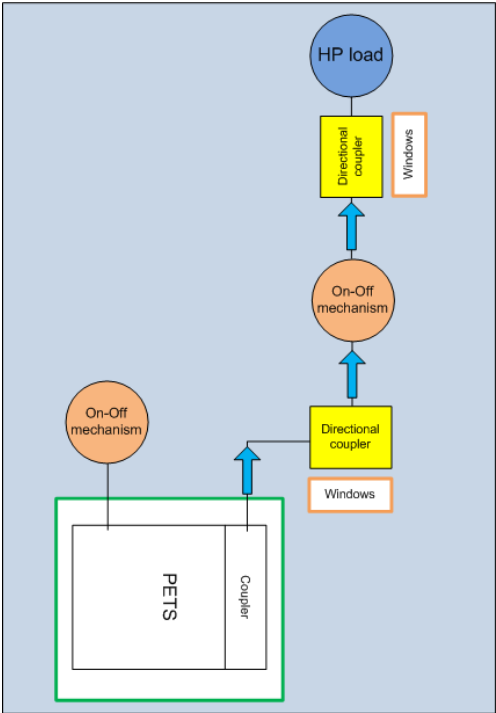
• **Brazing at Bodycote**

- Ag/Cu wire at  $\sim 1000\text{ }^{\circ}\text{C}$

• **Tests performed:**

- Leak tighten test  $2.0 \times 10^{-9}$  mbar $\times$ L/s
- RF test (EDMS document: [#1159632](#))

# PETS On-Off in TBTS (1)



**PETS TANK**

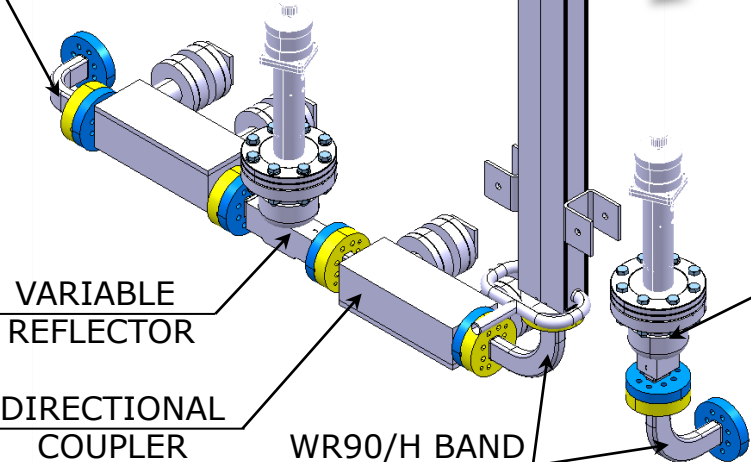
WR90/E BAND

VARIABLE REFLECTOR

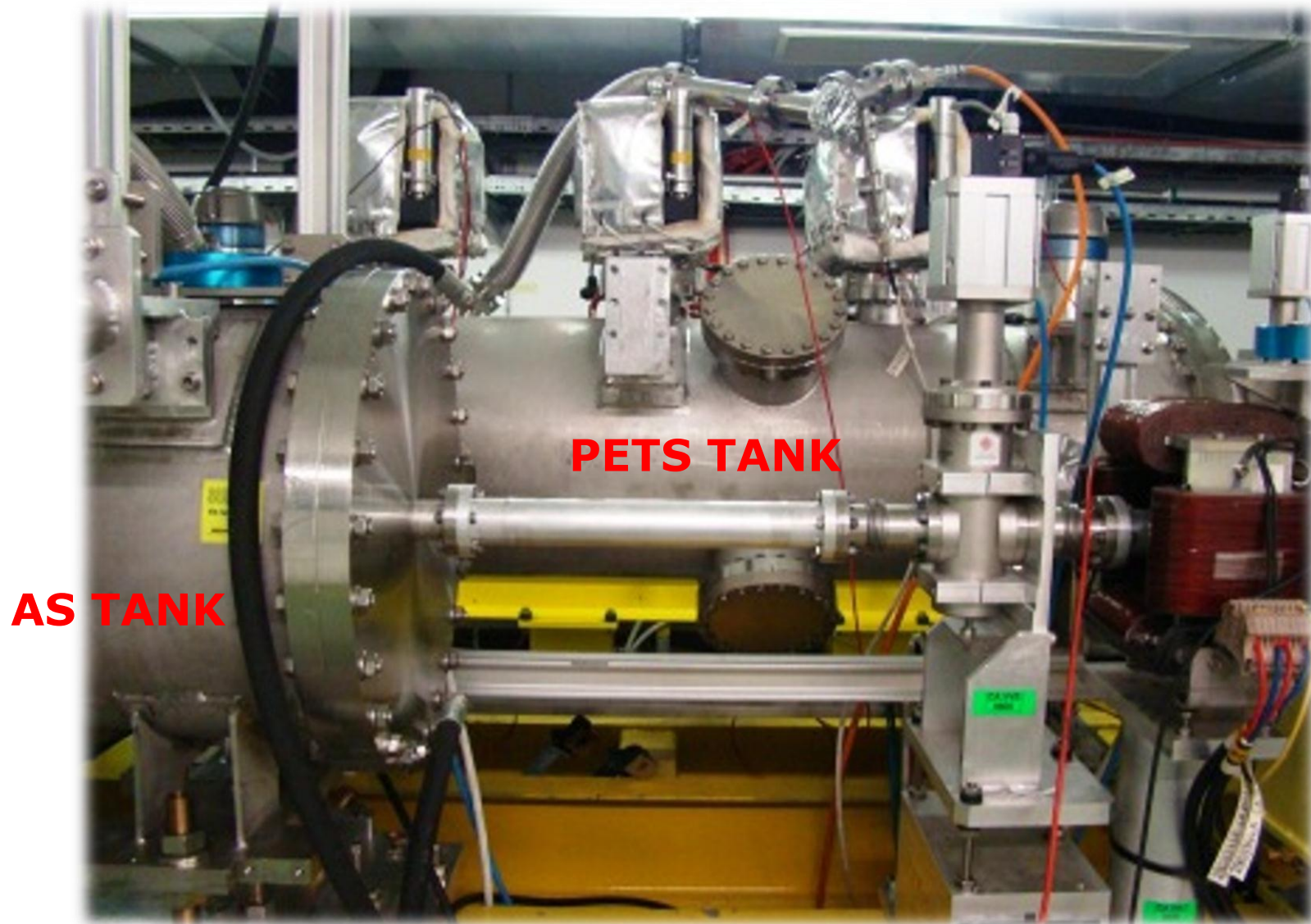
DIRECTIONAL COUPLER

WR90/H BAND

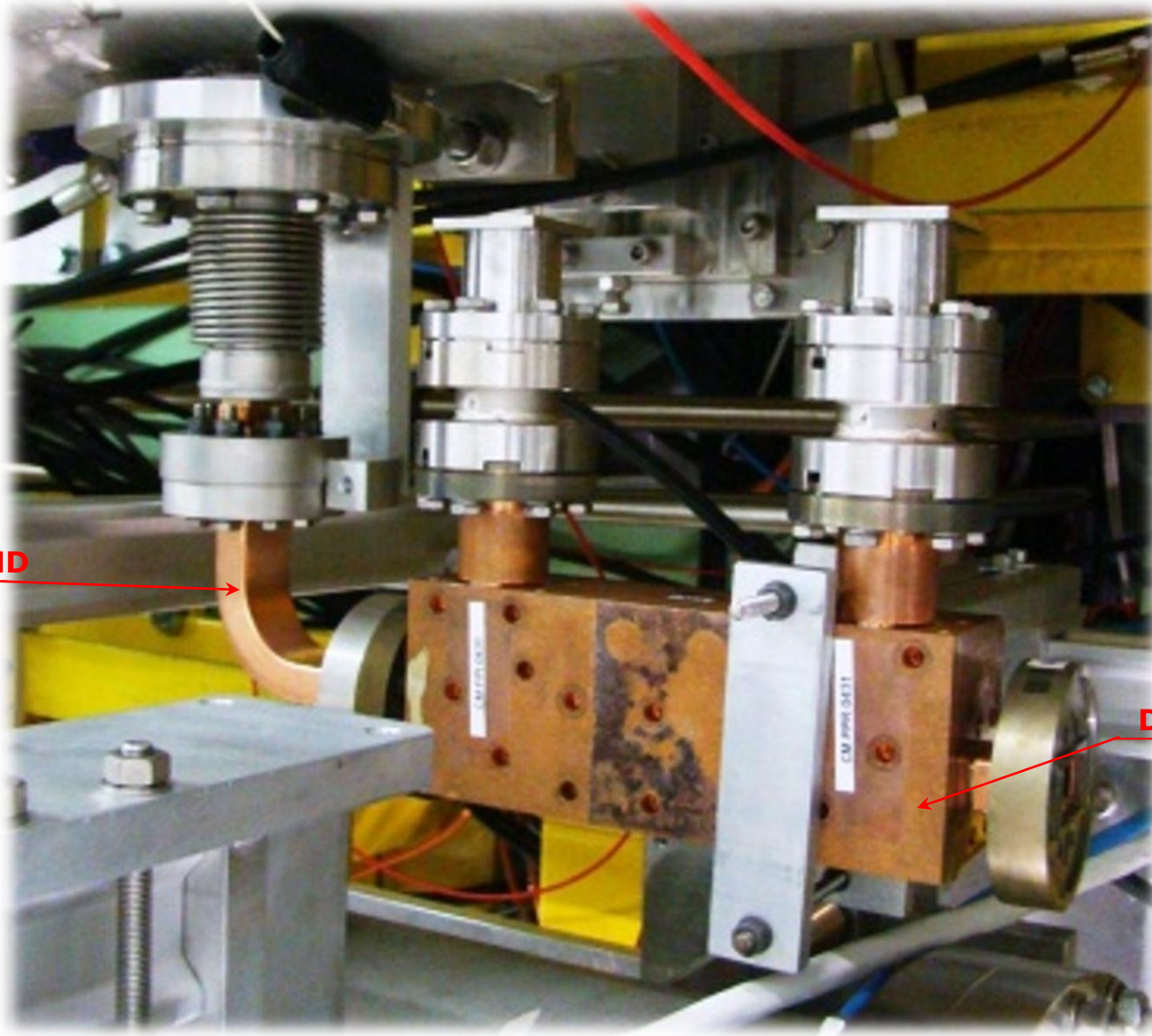
MOVABLE RF SHORT CIRCUIT



# Disassembly of the RF network



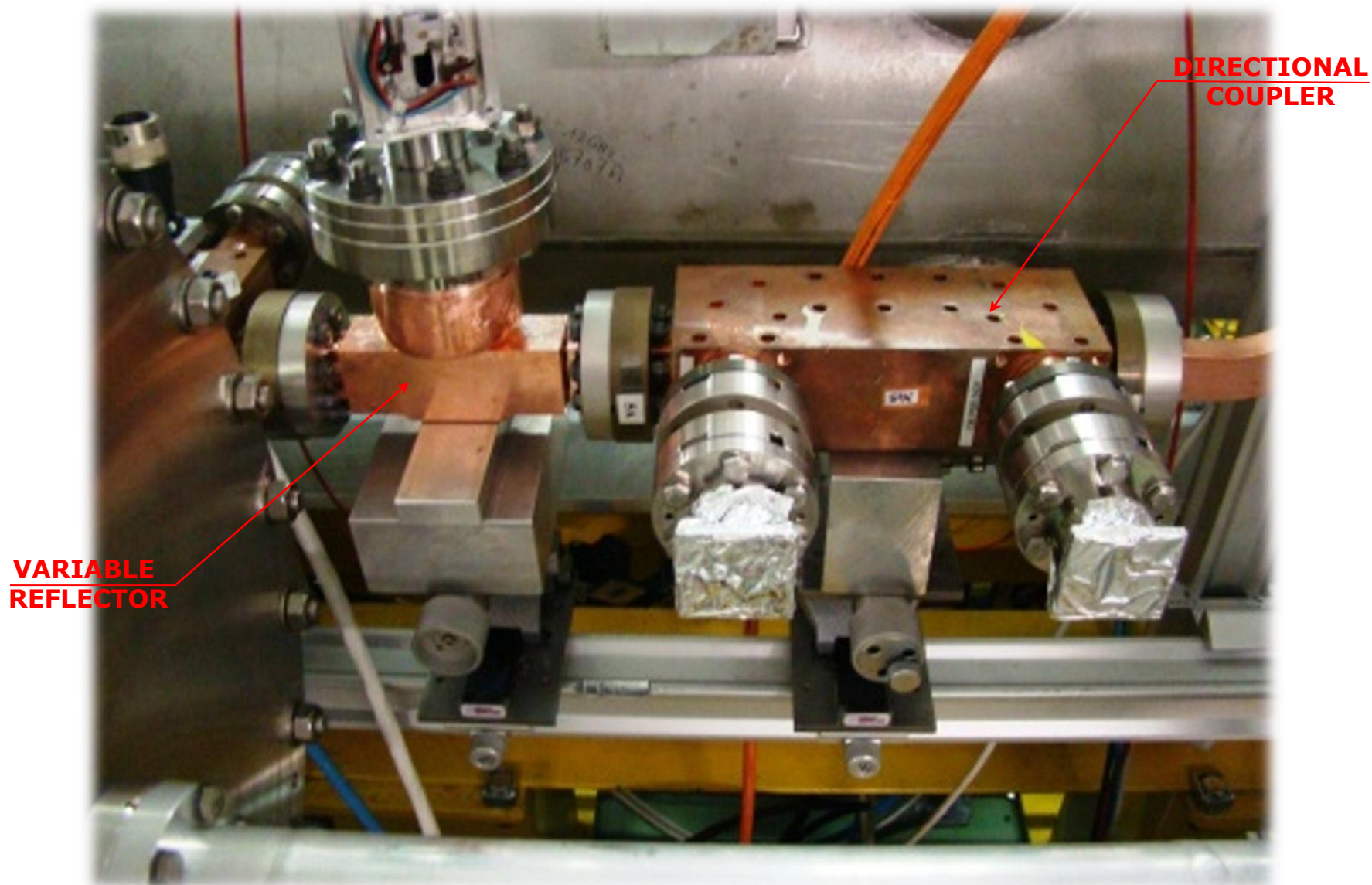
# Installation of the WR90 waveguide and the 1<sup>st</sup> Directional Coupler



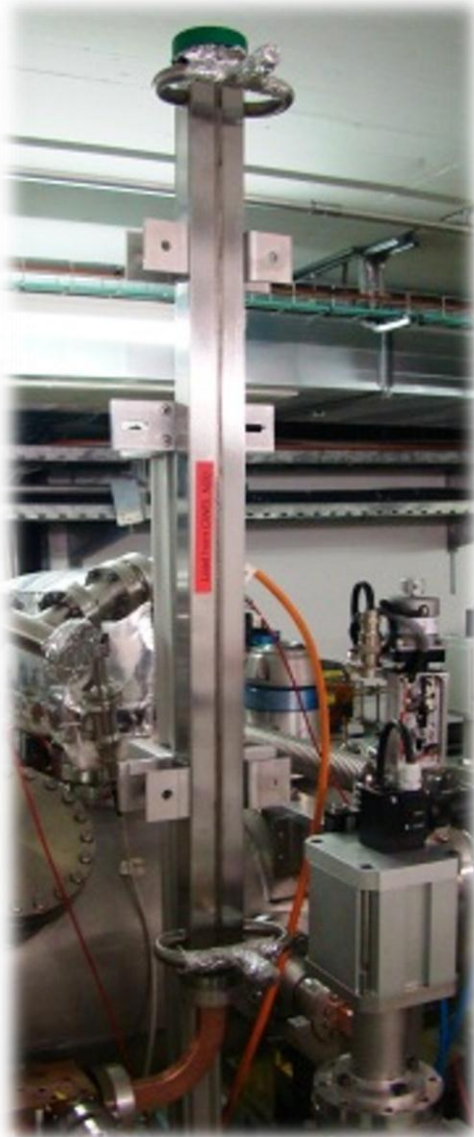
**WR90/E BAND**

**DIRECTIONAL  
COUPLER**

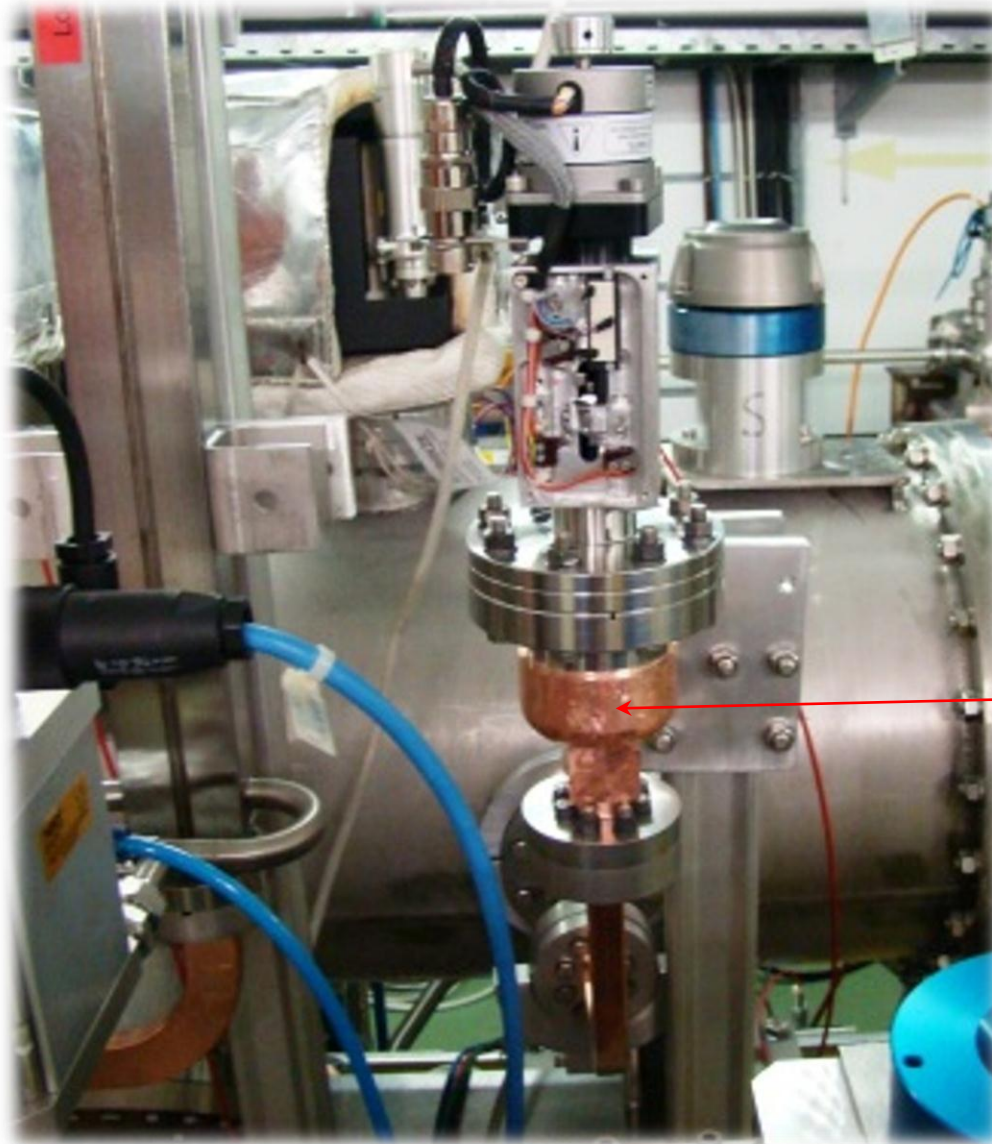
# Installation of the Variable Reflector and the 2<sup>nd</sup> Directional Coupler



# Installation and Fixation of the X-band Load



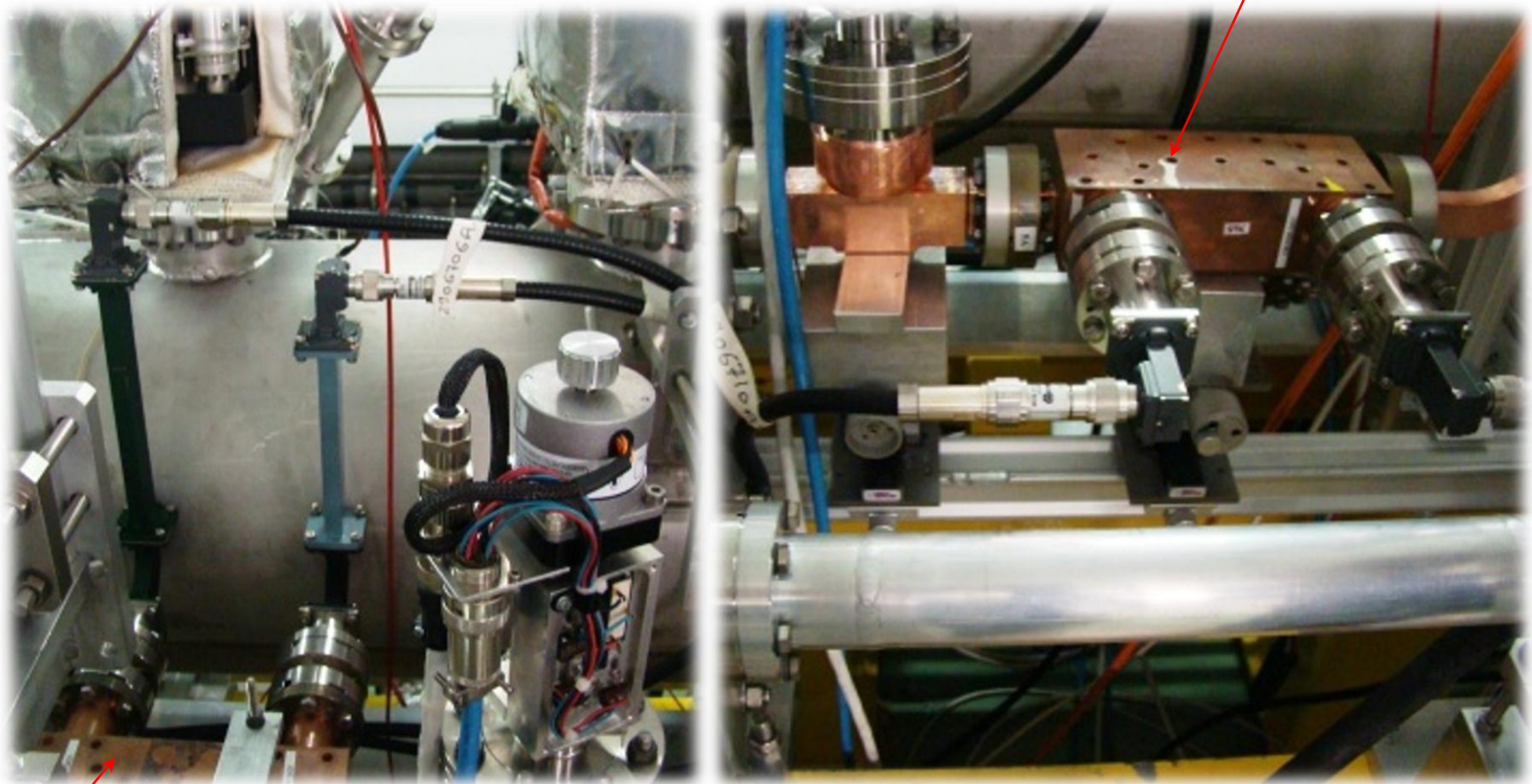
# Installation of the Movable RF Short Circuit



**MOVABLE RF SHORT  
CIRCUIT**



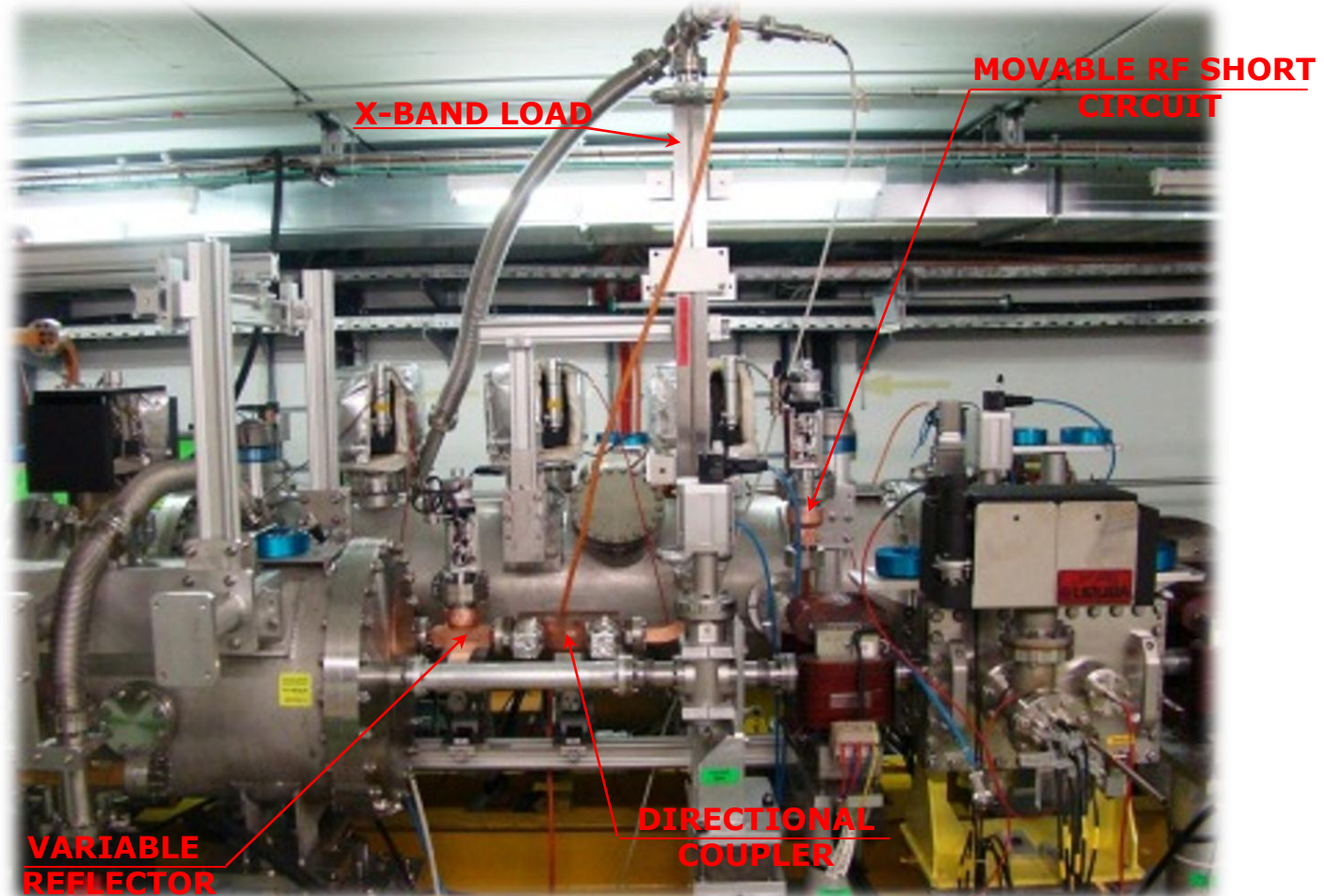
# Directional couplers' cable connection



**DIRECTIONAL  
COUPLER**

**DIRECTIONAL  
COUPLER**

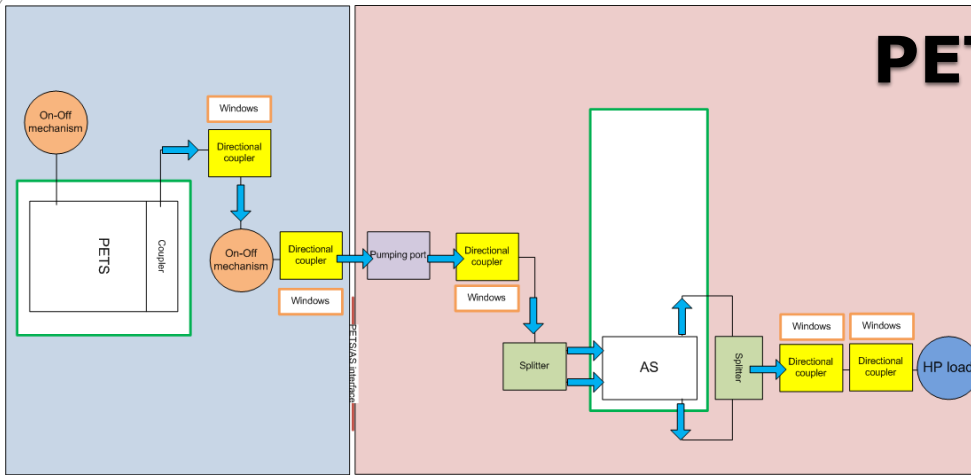
# Installation overview



The variable reflector and the movable RF short circuit have been installed and are ready for testing with beam.

# PETS On-Off in TBTS (2)

*Future option*



WR90/E BAND

VARIABLE REFLECTOR

DIRECTIONAL COUPLER

MOVABLE RF SHORT CIRCUIT

WR90/H BAND

**PETS TANK**

**AS TANK**

