

Endcap Signal Feedthrough Overview

Endcap Signal Feedthroughs are constructed and tested in Victoria by Victoria and TRIUMF staff.

Each feedthrough unit carries 1920 electrical channels.

50 feedthrough units in total (+5 spares) are required, 25 per endcap.

There are 4 different kinds of signal feedthroughs on each endcap cryostat, due to the varied detectors they are servicing. In particular, low voltage is supplied to the HEC preamplifiers, located in the LAr, via signal feedthroughs.

Close collaboration with colleagues from BNL (barrel signal feedthroughs)

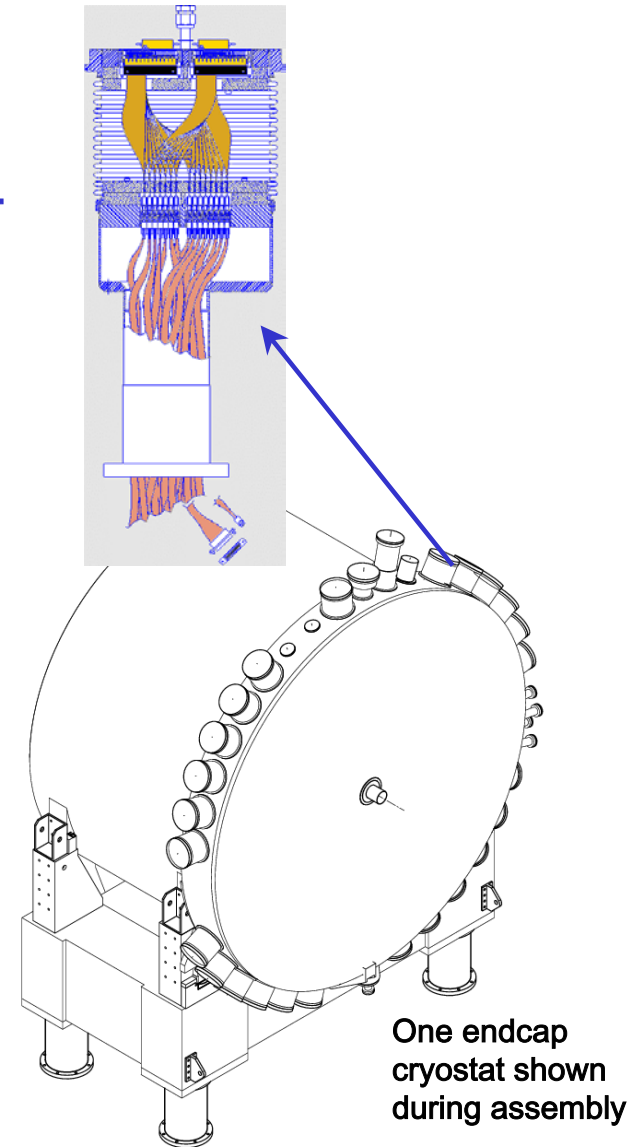
ATLAS reviews

Project Review, BNL, Jun 12-13 1997

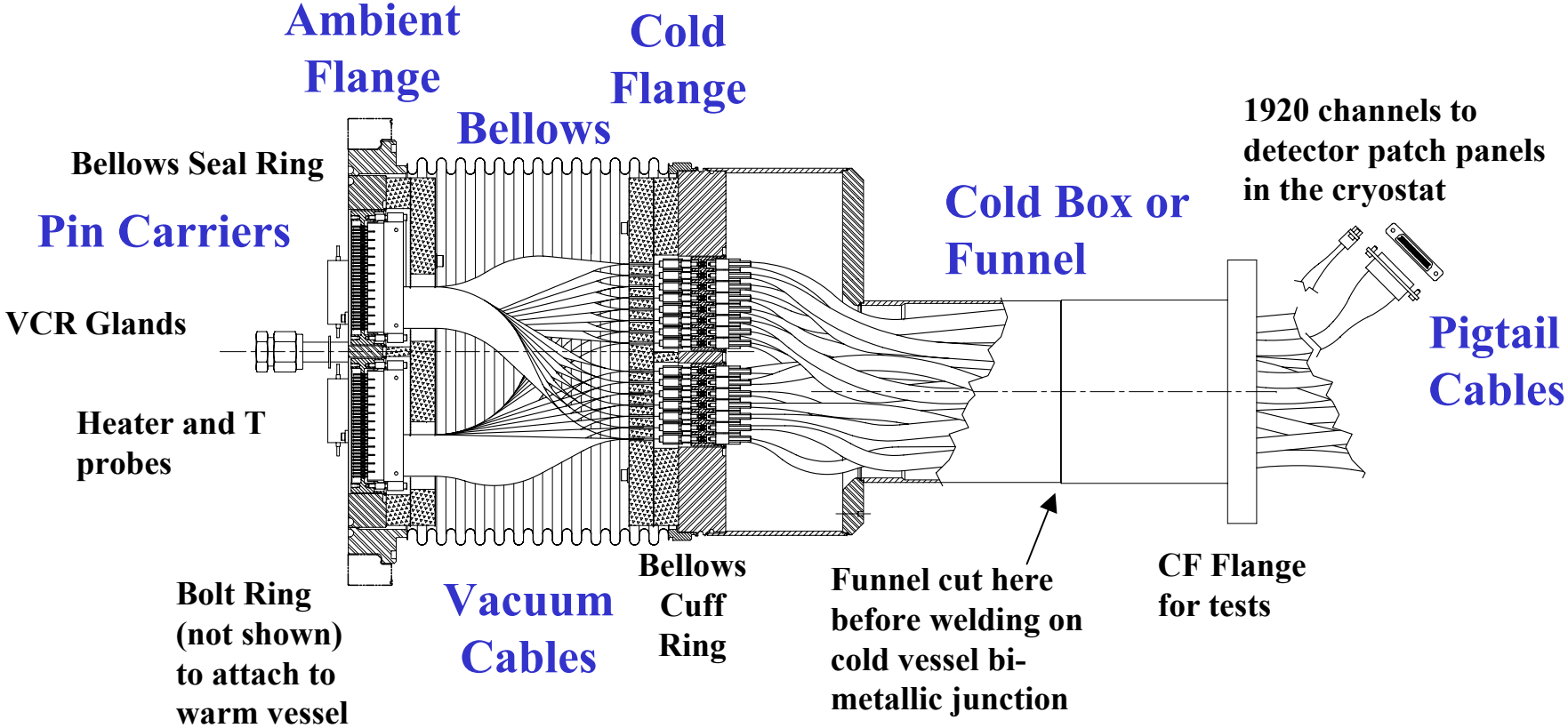
Baseline Design review CERN, Oct 13th 1997

Production Readiness Review, CERN, Jan 29th 1999

Activity/Systems Status Overview, CERN, Feb 11-12 2001



Endcap Signal Feedthrough Overview



Seal ring OD = 326.4 mm

Total height = 699.9 mm

Production Status (as of June 10, 2002)

44 feedthrough units produced of which 29 at CERN and officially received.

Production expected to end in August or September 2002

All units required for the endcap cryostat C are ready at CERN since March 2002



vacuum cable installation



final cold tests

Shipment to CERN



crated feedthroughs

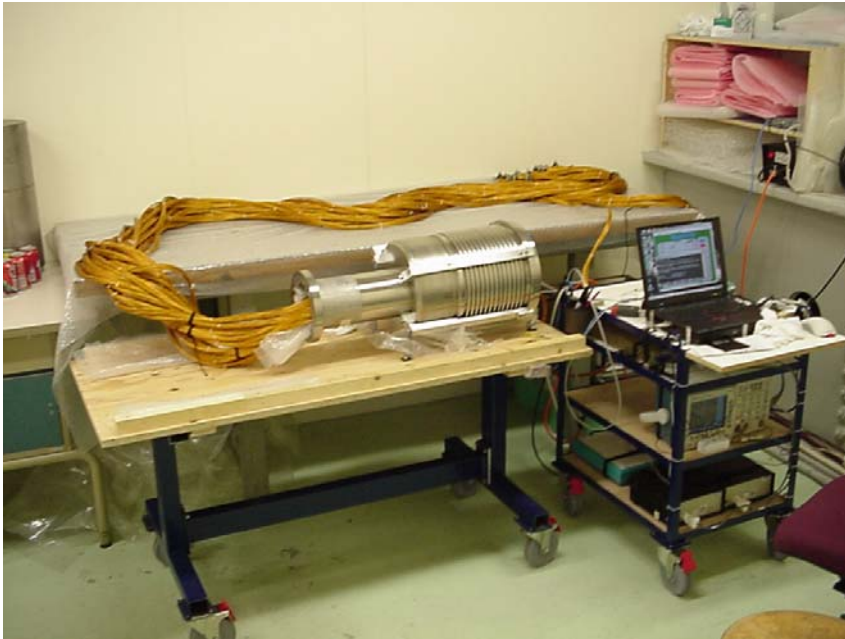


first 4 HEC feedthroughs in shipping container
at the University of Victoria (November 2, 2001)

Each feedthrough has its own crate (they come in two sizes)

4 feedthrough crates are then packed together in a large container for shipment

Reception Tests at CERN



electrical tests



leak tests



Feedthrough units are tested upon reception at CERN:

- visual inspection
- leak test (ambient temperature)
- electrical test (cross-talk)

The electrical testing equipment will also be used on the cryostat after feedthrough installation



Quality Assurance / Quality Control

QA/QC is critical to the success of the project

Very detailed document released (QA/QC version 5, March 28, 2002)

- procedures and documents have been updated after the experience gained from building the first feedthroughs

All TIS (CERN Safety) concerns have been addressed (Dec 00)

All information stored in a purpose-built database

- material traceability
- production and reception test results
- available on the web:

<http://particle.phys.uvic.ca/~web-atlas/atlas/feedthroughs/status/>