

Chamber shipping and Gas system for schools

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Chamber shipping: the past

The first chamber shipping has been done in July 2005 from CERN to LNF for the three detectors now installed at G.Sasso Building at LNF. For this shipping we used LNF van and LNF manpower/drivers. Chambers have been shipped with the fender-system.



The second chamber shipping has been performed by a specialized Company that take care also of the distribution of the chambers in the seven sites. The shipping has been made with the precious help of LNF technicians and the supervision of Despina at CERN (EDH !!!)



Chamber shipping: present and future (I)

Very recently three new chambers have been shipped from CERN to LNF with our van by our drivers.

For sure other three Chambers will be brought at LNF in the same way.

For the future we will have to distribute $42 - 6 \text{ (LNF)} = 36$ chambers to the other six Italian sites:

- proposal # 1: we use LNF van and Drivers (3 - 6 chambers/ trip)
- proposal # 2: we use a specialized Company



Chamber shipping: present and future (II)

	Method #1	Method #2
# of trips	6 - 12	1
# fender sys.	3 - 6	36
# custom oper.	6	1
# local resp. for custom	6	Not needed
# local resp.	6	6
# of EDH	6	1
Safety factor(0-1)	~ 1	?
Time needed	3-4 months	short
Costs	?	?

Gas system for schools (I)

We need to provide certified gas systems for each school of the project.

Each school, of course, has different logistic problems.

This means that:

- we can decide that each site take care to solve the problem of their own schools;
- we try to find a certified/standard solution that can be applied to each school independently from their own logistic problems.

Gas system for schools (II)



Tested for safety according to DIN 12025-2
For safe provision of compressed gas cylinders in
accordance with regulations.

Für den sicheren Gebrauch von Gasflaschen in Schulen



AIR LIQUIDE can provide a certified (standard UNI) cabinet for the lodgement of the two gas bottles (SF6, Freon R134A). The cabinet is equipped with all devices needed for gas pressure reduction and can be located directly inside the room/laboratory of the schools (not outside !!!).

This solution allows to avoid single and tedious investigations to all schools involved in the project, needed to solve their specific logistic problems.

The cost of the cabinet (with stainless steel piping/equipments) is 5.500 € + IVA (-20% if copper/brass).

Waiting for RIVOIRA offer !!!