

XCET Vacuum Details

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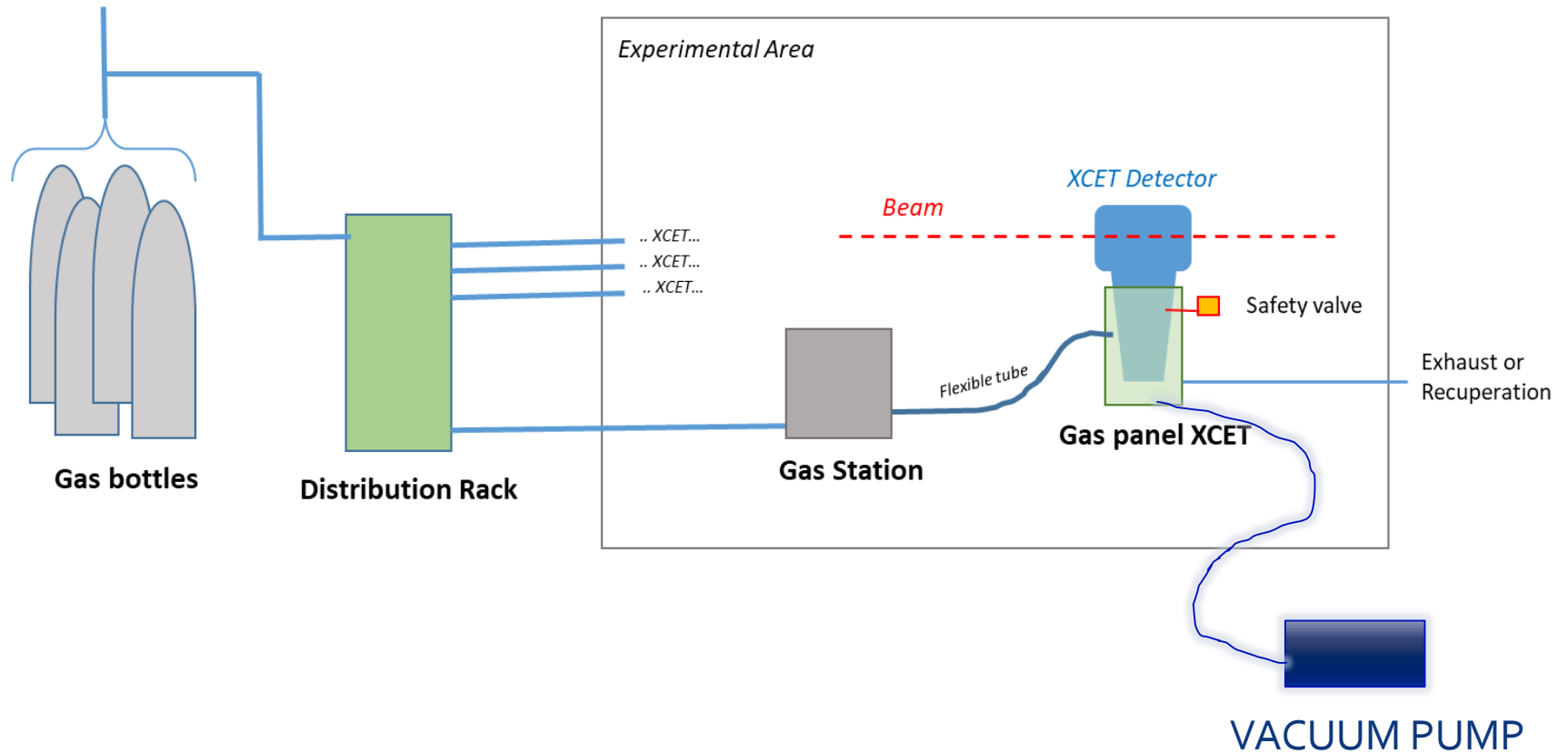


ENGINEERING
DEPARTMENT



Gas System

Gas network of building



4 vacuum pumps for the East Area

XCET Requirements EDMS 2114239 and EDMS 2192779

The technical requirements for the gas supply of the XCET are the following:

- Maximum gas pressures 3.5 bar(g) / 15 bar(g)
- Precision: ± 20 mbar
- Average leak rate: ≤ 0.034 mbar l/s
- Filling speed: ≤ 1 hour for 15 bar(g)
- **Vacuum level: $\leq 5 \cdot 10^{-2}$ bar**
- Gas quality/purity: Experimental quality or better

Vacuum in XCET

The vacuum inside the XCET will be used in 3 cases:

- During purging of the XCET to change between one gas and the other to have a better gas purity level
- Physics reasons: instead of gas having vacuum inside to work with less particle interaction
- To clean the first two detectors chambers that are later connected to the vacuum of the beamline in case of the low energy configuration (Pumping to 10^{-3} for $\frac{1}{2}$ day).

Since the refrigerants gases are involved, **special pumps and filters** need to be connected to the gas panels of the XCET.

PUMPS

Offer received for 4 pumps and filters

Proposition commerciale :

Code	Produits	Qté	Prix	Total
EV-A05-30	SVT_Dry Pump_EV-A05-30 30m3/h Vapour : 250g/h No maintenance. Pump with lob technologie.	4	CHF 8,250.00	CHF 33,000.00
SVT_FILT	SVT_Filter_Particle Filter	4	CHF 950.00	CHF 3,800.00
			Total	CHF 36,800.00

TOO expensive →

Selection of a standard dry ump (like the ones installed in TCC2 north area)

~ 4000 CHF per pump

Offer and order to be done!

Thank you!

