

Cold Mass Nr. 2013

Step Nr. 1  
Volume / Volume to be tested  
CM -> Vacuum

Heat Exch -> Vacuum  
Heat Exch -> Vacuum

Fuga calibrata / Calibrated leak parameter

Calibrated leak N°

Data calibr. / calibration date

Temp. calibrazione fuga / Calibration Temp.

Valore nom. fuga calibrata / Calibrated leak nom. value

4011007195	4011007225	4011007195	4011007195
08/10/02	08/10/02	08/10/02	08/10/02
23,0 °C	23,0 °C	23,0 °C	23,0 °C
3,00E-08 mbar l s-1	3,30E-08 mbar l s-1	3,00E-08 mbar l s-1	3,00E-08 mbar l s-1

Calibrazione del sistema / System calibration

Conc. He nelle linee di test (100%) / Volumetric fraction of tracer gas in the injection envelope

T ambiente / Test temp.

Fuga calibrata con correz. T ed età / Size of calib. leak after corr. for ageing and T)

Segnale residuo prima delle misure di SFR / Residual signal prior SFR meas.

Segnale del LD / Signal given by the calibrated leak

Min. dev. segnale (=2x amp. segn. residuo) / Smallest, avd. signal dev. (= 2 x ampl. of RFR noise)

Tempo di attesa stabilizz. segnale / Time to achieve stabilised leak signal

$$= S \cdot \frac{q_{FR}}{S_{FR}} \cdot \frac{1}{R_{FR}} \cdot C$$

SENSIBILITA' DEL TEST / Sensitivity of the leak test

Condizioni del test / Leak test conditions

Pressione del sistema / System pressure

Segnale residuo del cercafughe ad inizio test / Residual signal prior to SF measurement

Segnale del LD a fine test / Signal given by the leak after 30 min. (>3)

CALCOLO DELLA FUGA / Leak evaluation

$$= \frac{q_{FR} (S_{FR} - R_{FR})}{S_{FR} - R_{FR}} \cdot \frac{1}{C}$$

VALORE DI RIFERIMENTO / REF. VALUE (MAX)

CONFORMANCE

Doc. di riferimento / Ref. documents

CERN contract number: F302/LHC/LHC

CERN technical spec.: LHC MMS-98-198 rev.2

Leak test procedure (Ref. N° / Revision): 780RM09442 ev.0

Strumentazione / Test equipment

Helium Mass Spectrometer type:

Pressure gauge type:

Pumping group:

Prepared by: Name / Date

Approved by: Name / Date

Checked by: Name / Date

Checked at CERN by / Signature / Date

on vessel

PFEIFFER HLT 260

full range compact PFEIFFER PKR 251

turbo pump LEYBOLD PT 360 lit/s

rotary vane pump PFEIFFER DUO 65 m3/h

Note / Remarks

Test performed after welding of flange (Ø100) about the capillary tube cold head, installed on the top of the cold mass

on c.b.t. lines

PFEIFFER HLT 260

rotary vane pump PFEIFFER DUO 20 m3/h

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rotary vane pump PFEIFFER DUO 20 m3/h

on heat exchanger line

PFEIFFER HLT 260

full range compact PFEIFFER PKR 251

turbo pump LEYBOLD PT 360 lit/s

rotary vane pump PFEIFFER DUO 65 m3/h

rotary vane pump PFEIFFER DUO 65 m3/h

on vessel

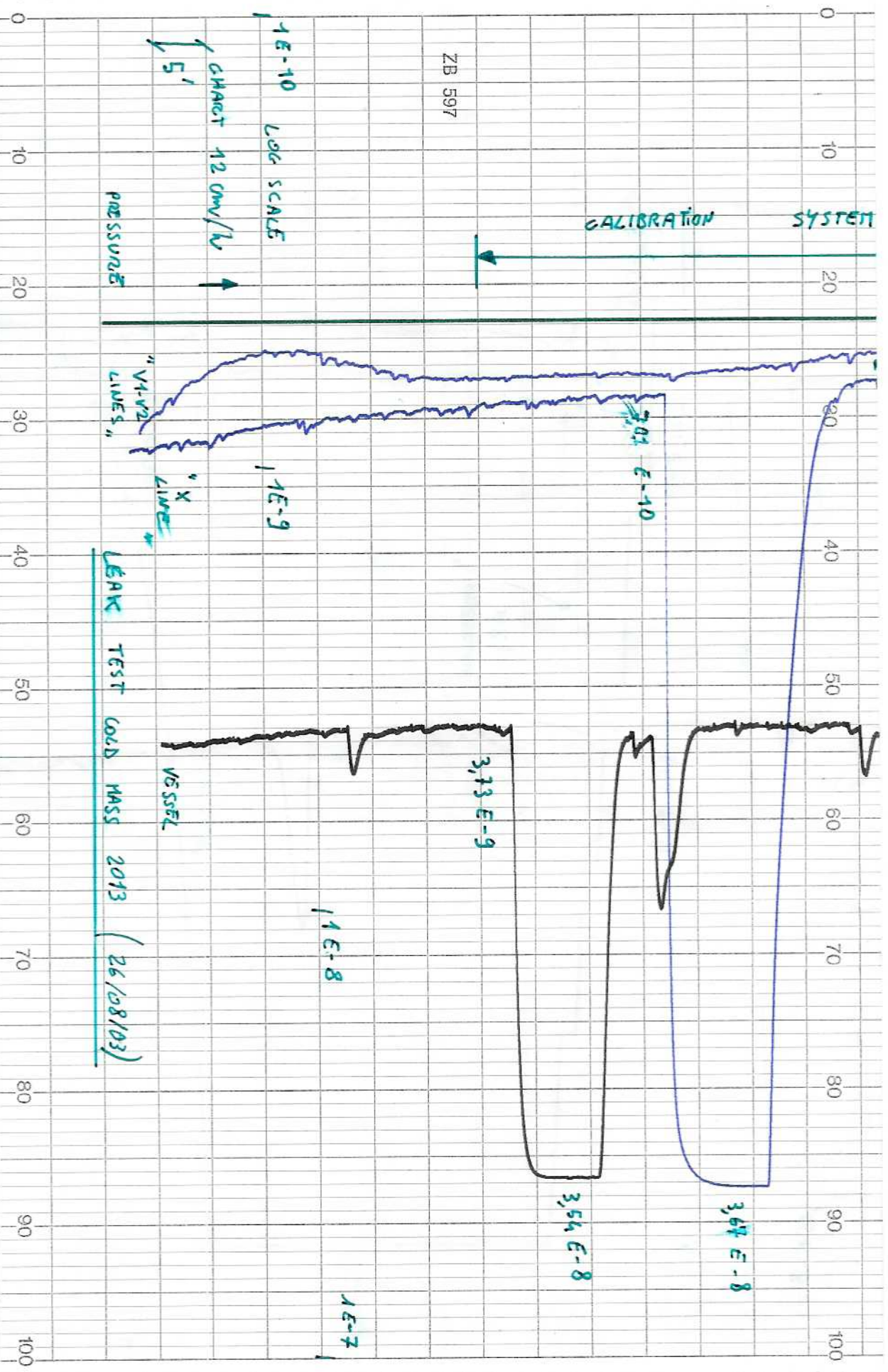
PFEIFFER HLT 260

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ZB 597

