

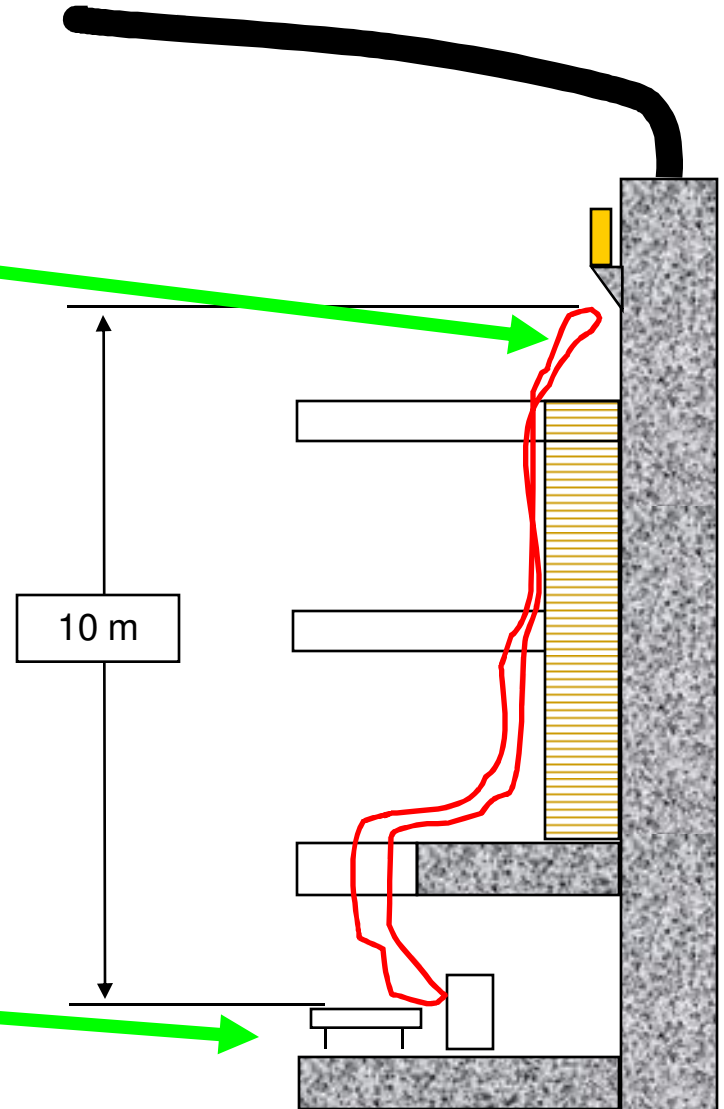
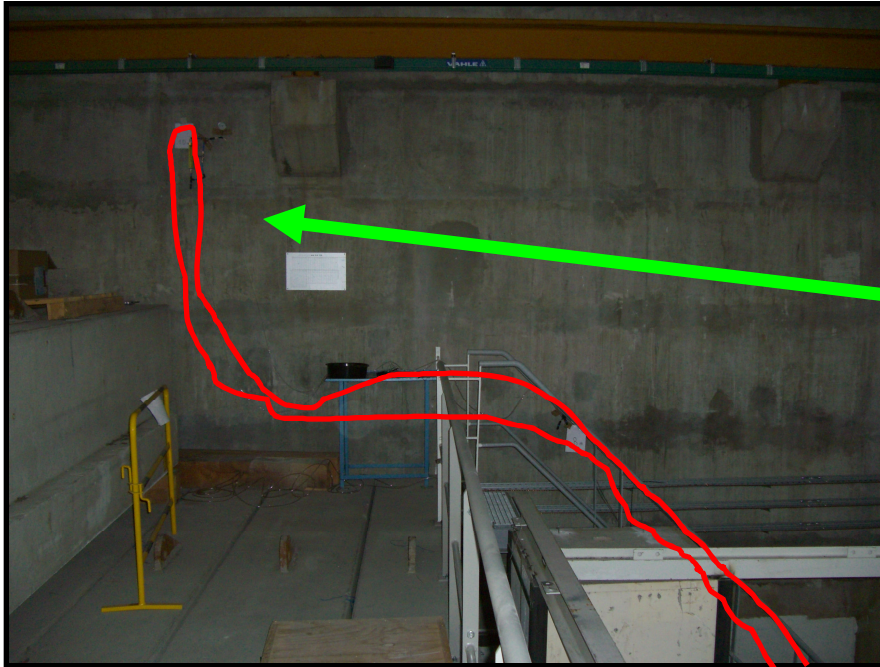
Nov / Dec 2009

LPSC leakless first test

Julien Giraud (giraud@lpsc.in2p3.fr)



LPSC Leakless test



LPSC Leakless test

Viscosité cinématique (m ² /s)	9.52E-07
Masse volumique (Kg/m ³)	1000

Diam int tuyaux aller (mm)	4
Diam int tuyaux retour (mm)	4
Perte charge échangeur (bar)	0
Débit (l/min)	0.211
P relative pompe (bar)	0.5168
P relative réservoir (bar)	0
Limite régime lam turb	2000

L1 (m)	26
H1 (m)	2
L2 (m)	12.5
H2 (m)	2
L3 (m)	2.5
H3 (m)	2
L4 (m)	2.5
H4 (m)	2
L5 (m)	5
H5 (m)	2
L6 (m)	5
H6 (m)	2
L7 (m)	2.5
H7 (m)	2
L8 (m)	2.5
H8 (m)	2
L9 (m)	12.5
H9 (m)	2
L10 (m)	26
H10 (m)	2

Aller	
Reynolds	1178
Vitesse (m/s)	0.28
Régime	Laminaire
Retour	
Reynolds	1178
Vitesse (m/s)	0.28
Régime	Laminaire
Général	
Pression au point haut (bar)	-0.72
Hauteur sur/sous atmo (m)	2.63
Hauteur zone leakless (m)	9.57
Hauteur max totale	12.20
ATTENTION DESAMORCAGE SI FUIITE	
OK	

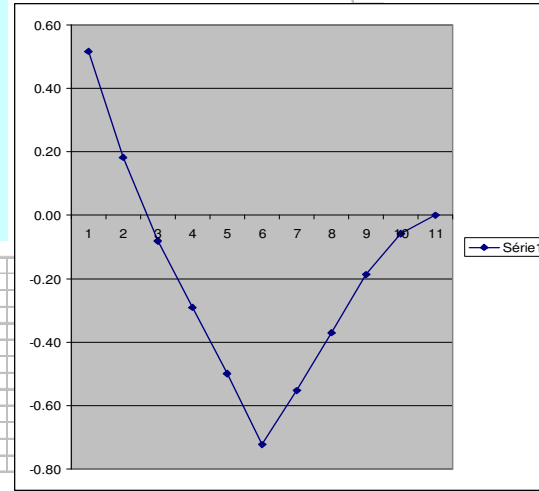
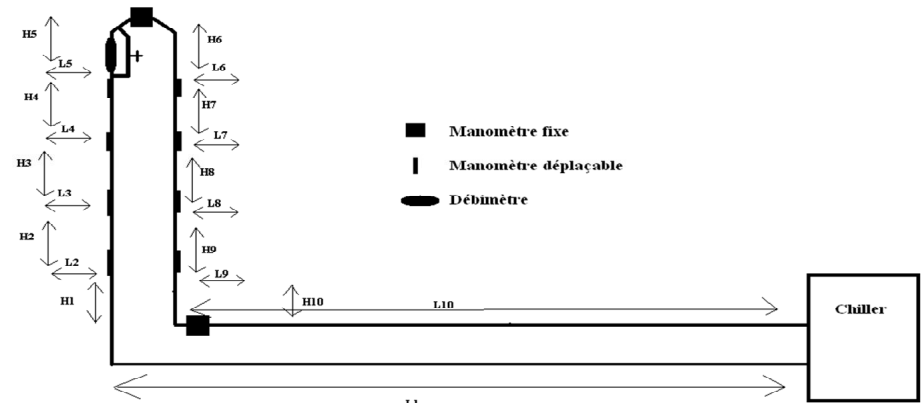
Répartition des pression (Bar)	P hauteur	P Régulière	Somme
Psortie pompe	0.52		
P1	0.18	0.20	0.139
P2	-0.08	0.20	0.067
P3	-0.29	0.20	0.013
P4	-0.50	0.20	0.013
Point haut (P5)	-0.72	0.20	0.027
P6	-0.55	0.20	0.027
P7	-0.37	0.20	0.013
P8	-0.19	0.20	0.013
P9	-0.06	0.20	0.067
P10	0.00	0.20	0.138
P Re	0.00		0.258
		0.517	

Hauteur Aller (m)	
H0 => H1	2
H0 => H2	4
H0 => H3	6
H0 => H4	8
H0 => H5	10

Hauteur Retour (m)	
H10 => H9	2
H10 => H8	4
H10 => H7	6
H10 => H6	8
H10 => H5	10

Longueur tuyau aller (m)	48.5
Longueur tuyau retour (m)	48.5

Perte de charge régulière aller (bar)	0.2584
Perte de charge régulière retour (bar)	0.2584
	0.5168



Working on formulation of leakless system:
=> Excel table

LPSC Leakless test

Some pictures:



Top of loop => -0.8 bar => cavitation start (extreme point) => LEAK LESS SYSTEM

