Update on Junction Box Design

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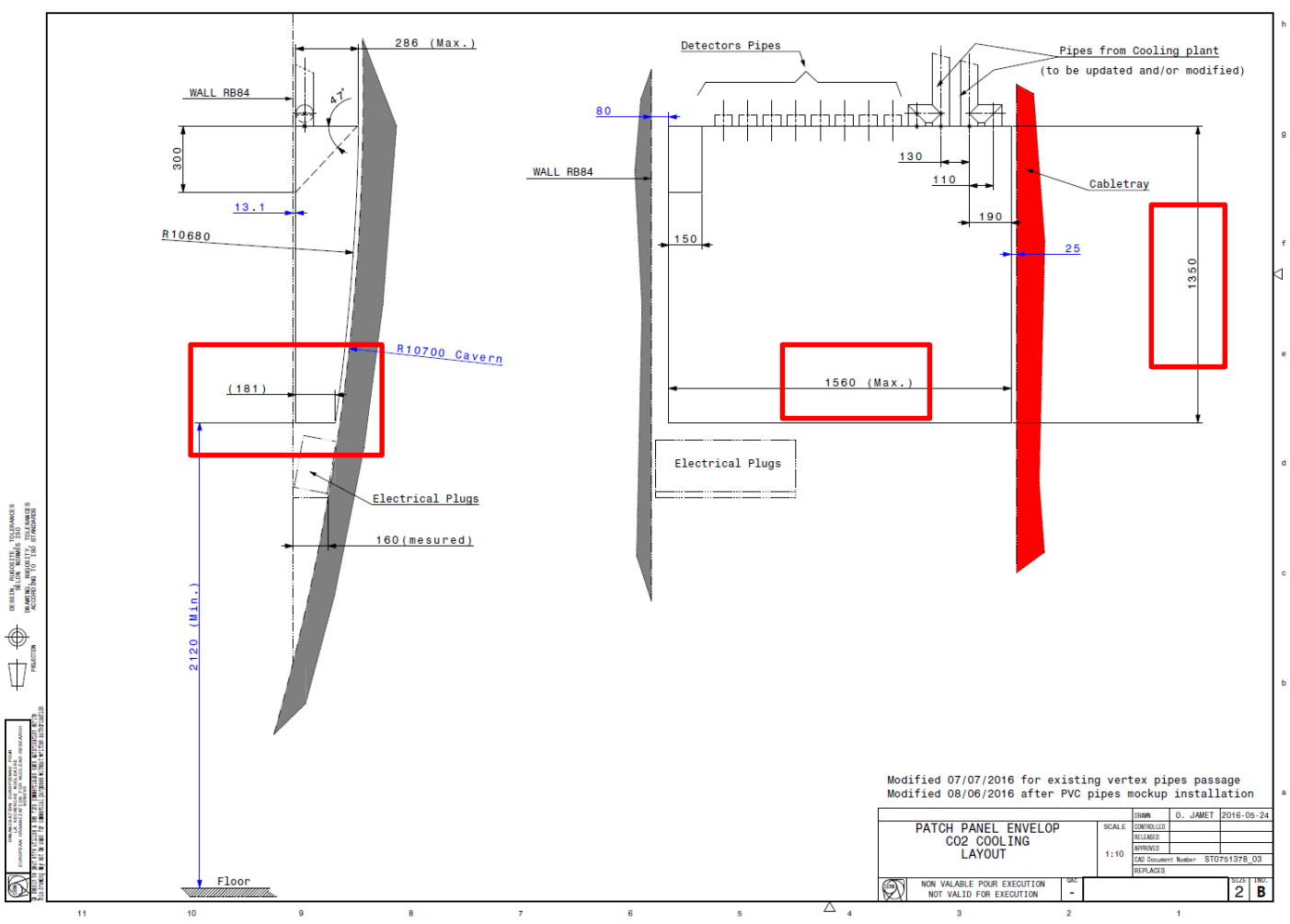
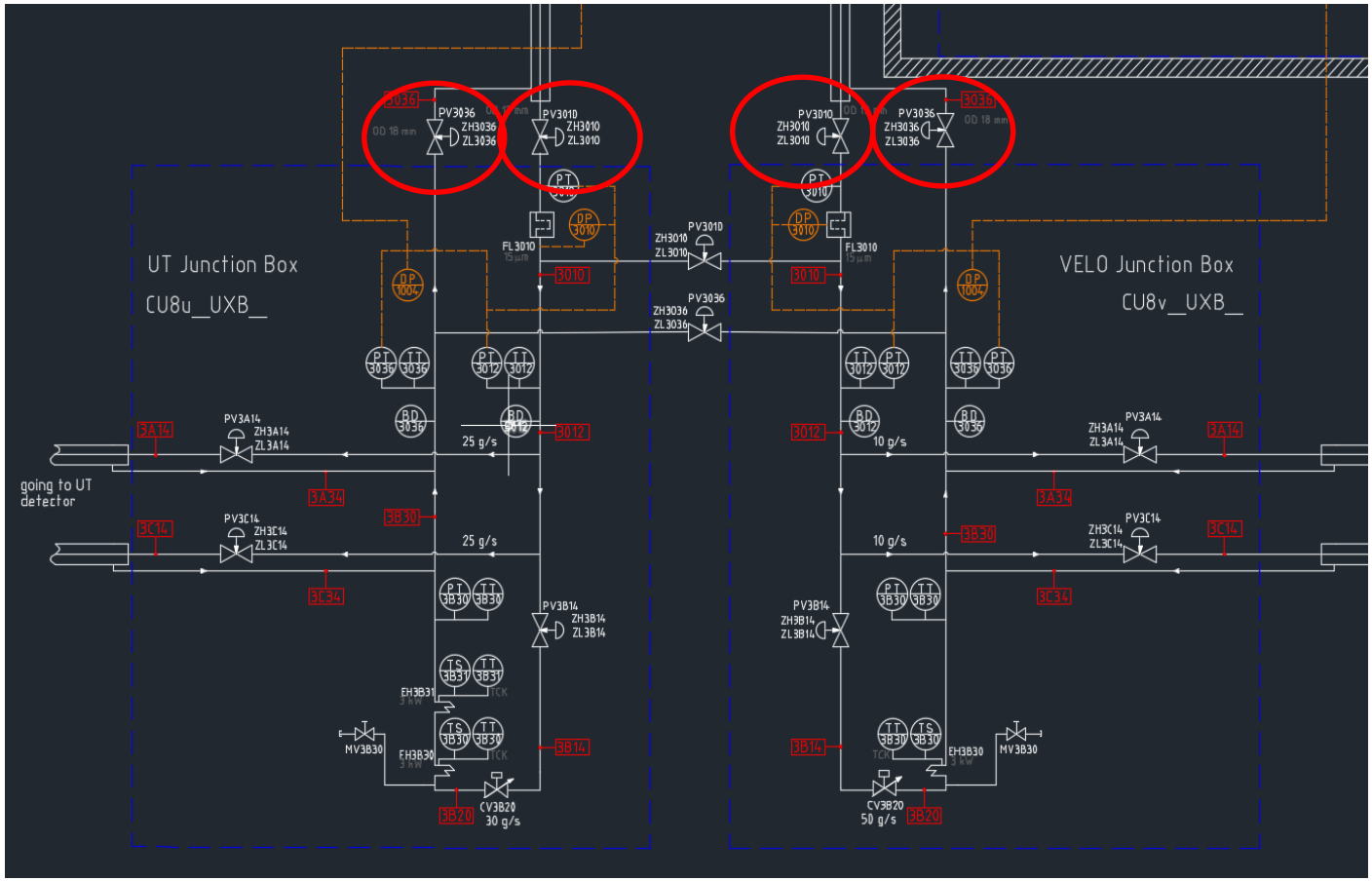
Available space in the alcove - reminder



- width: 1560 mm
- height: 1350 mm
- depth bottom: 181 mm
- depth top: 286 mm

4 valves removed from the Junction Box

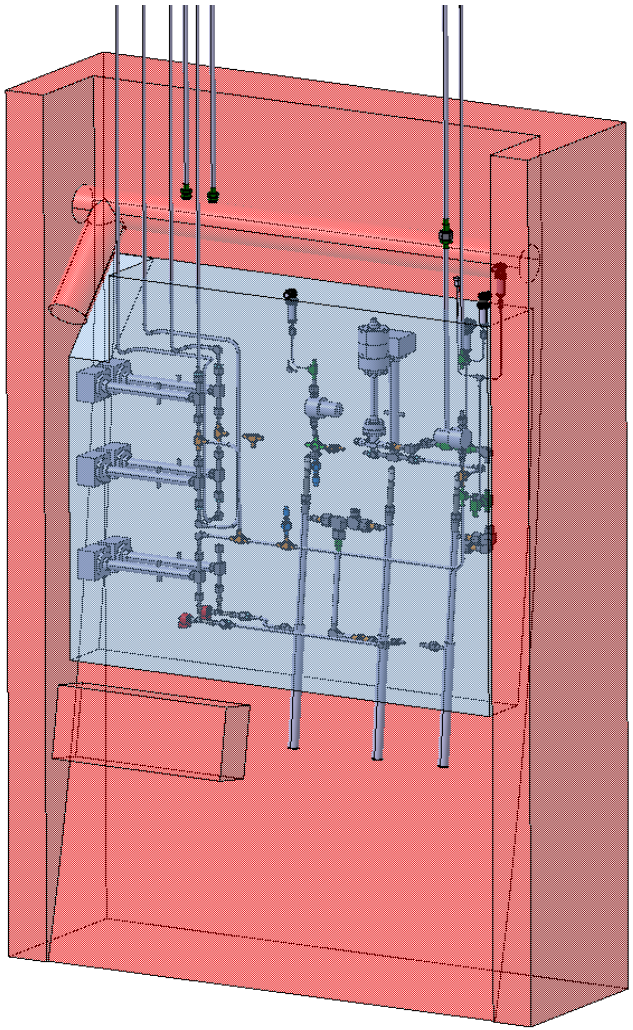


Valves removed:

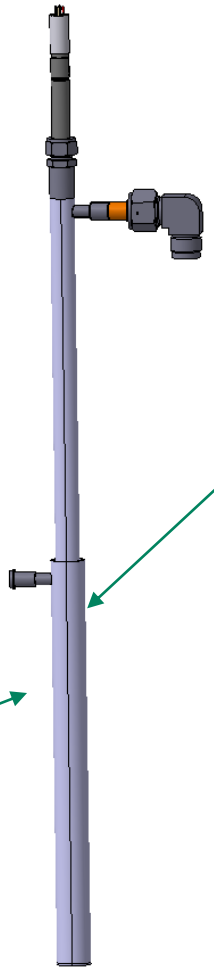
- 2 valves at the entrance of the Junction Box (Swagelok)
- 2 valves at the outlet of the Junction Box (Rotarex)

They are all moved at the end of the transfer lines above the Junction Box – Olivier is taking care of the design.

The view of the model with the envelope of available space in the alcove



New idea of the heater design



The design allows to have only cylindrical part sticking out of the box which facilitate applying the insulation

The diameter of the outer pipe was calculated based on the CO2 volume in the internal pipe

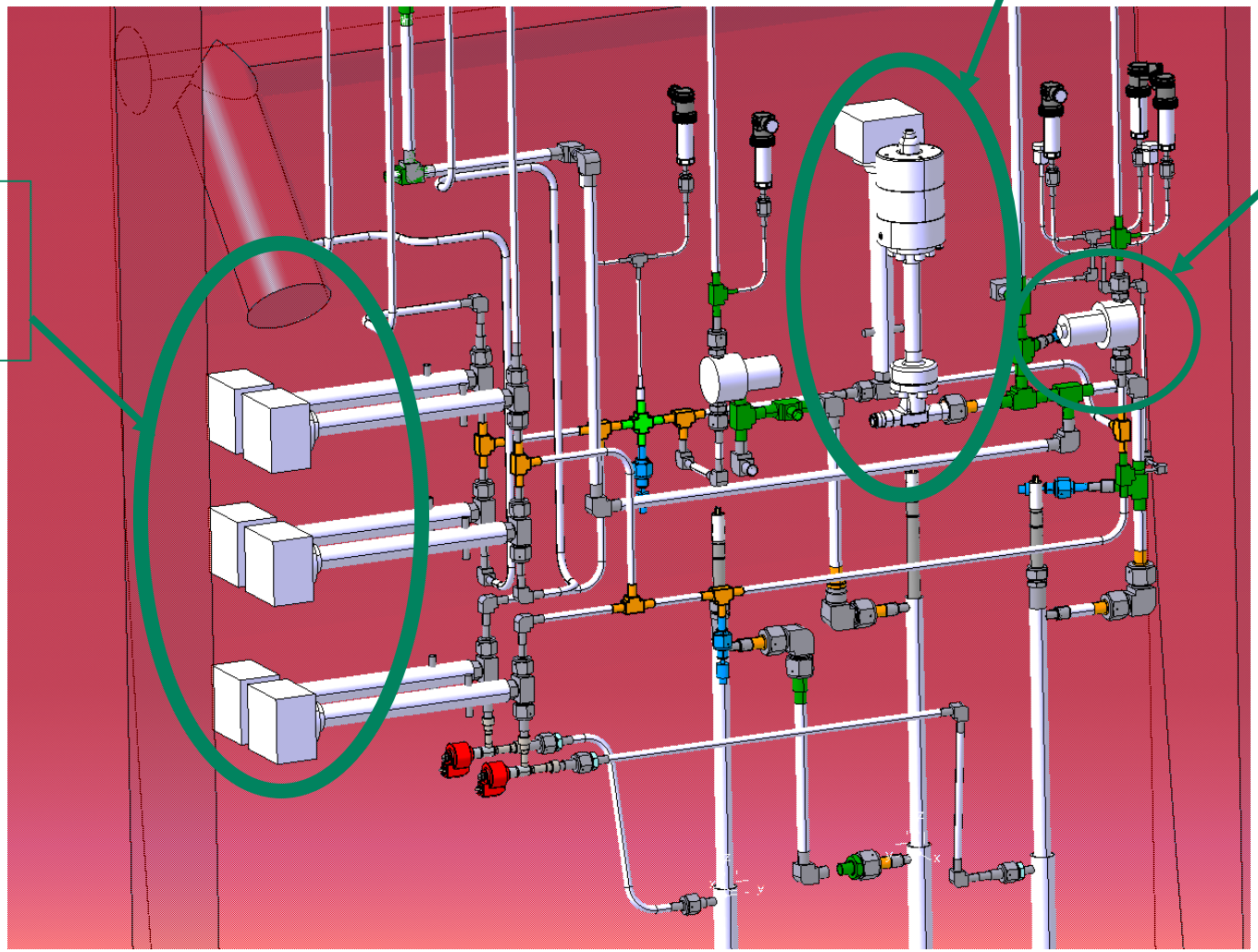
Additional outer tube through which the flow will be delivered

2 layers concept

Valves behind each other

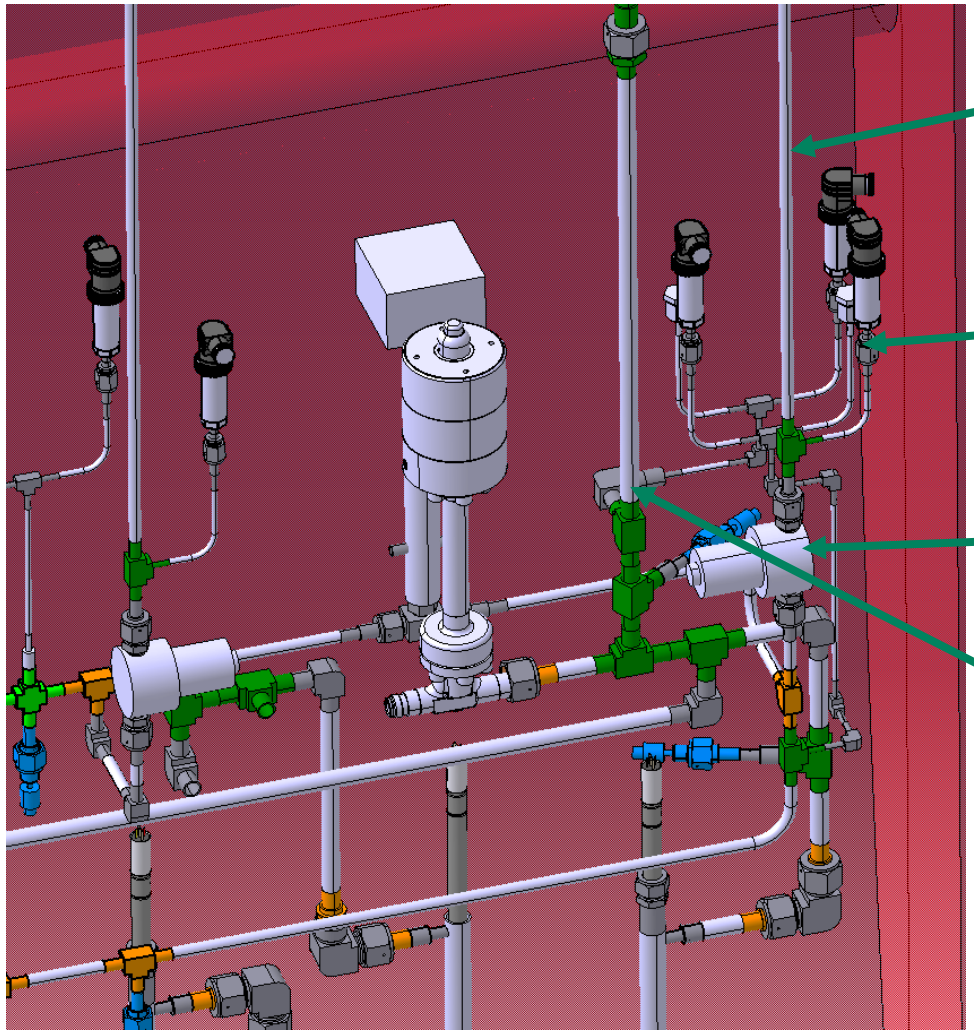
Filters in the front to facilitate access

Valves behind each other



Optimizing the construction - ongoing

1. Making the piping circuits as simple as possible and arranging the sensors nicely in one place



Inlet pipe from the 1st transfer line

Sensors nicely aligned in one place behind each other

Filters with NPT-VCR connectors – enables taking them out

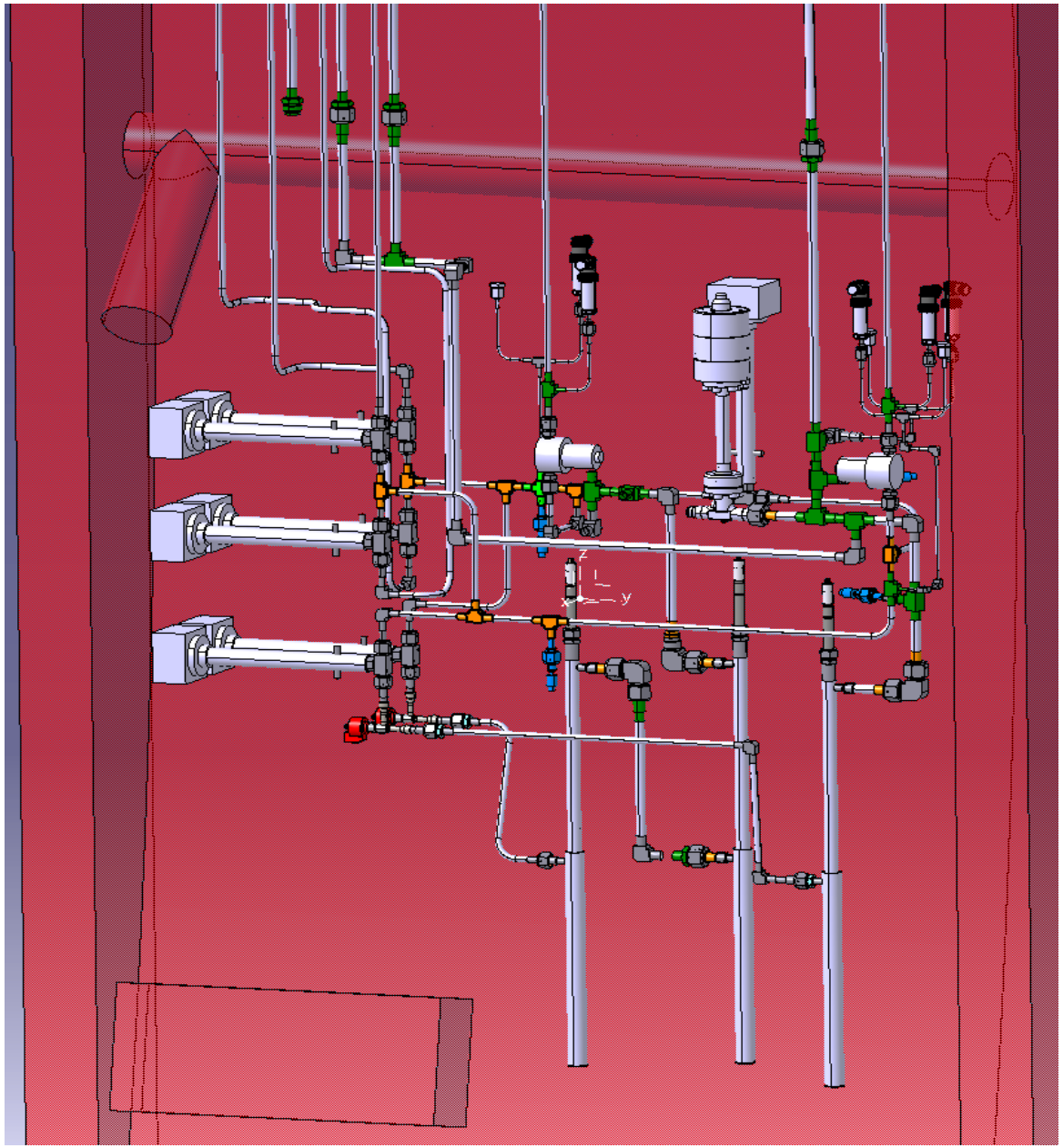
Return pipe going to 1st transfer line

Still to be done: “opposite side” in the same way

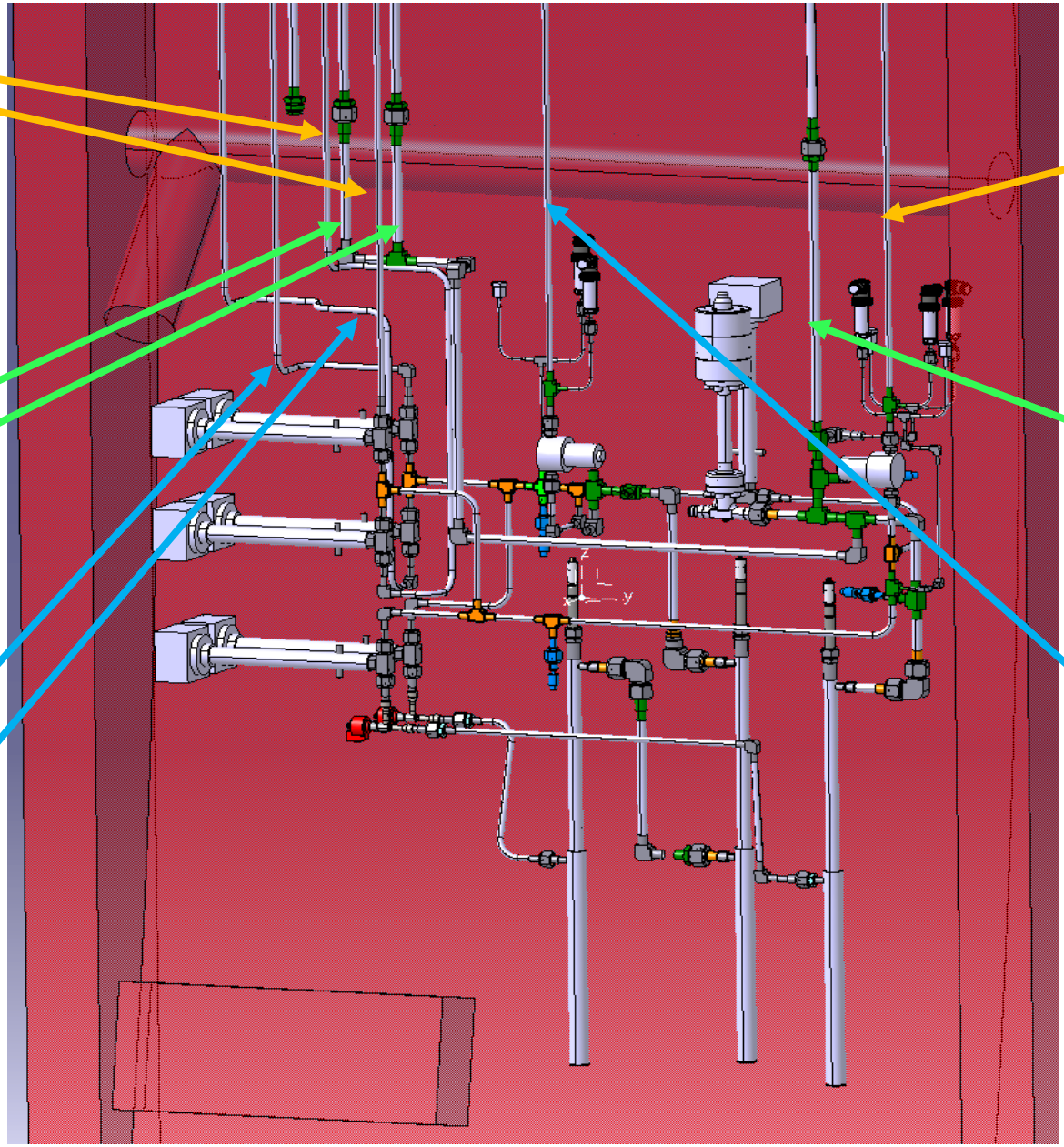
Optimizing the construction - ongoing

2. Trying to have the same design for all the heaters to facilitate production
3. Finishing simple routing of the pipes

To be done next – designing outer shape of the box



Inlet and return pipes - labelling



Inlet pipes to Velo transfer lines

Return pipes from Velo transfer lines

Inlet pipes to UT transfer lines (return pipes to be added)

Inlet pipes from 1st enetring transfer lines

Return pipe to 1st entering transfer line

Inlet pipe from 2nd entering transfer line (return pipe to be added)

Status of the pre-construction Special element from part list

Request for other material for the seat

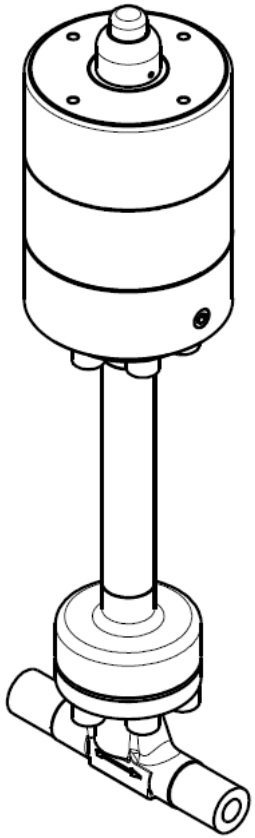
Voici la reponse de l usine :

Pour le clapet, nous pourrions envisager (dans la mesure où cela est compatible) un clapet en Vespel SP1 (polyimide) ou en Nickel 201

- Plus-value pour le clapet en Vespel® par rapport au prix indiqué sur notre offre SE16.224 => 62.40 € HT/vanne
- Plus-value pour le clapet en Nickel 201 par rapport au prix indiqué sur notre offre SE16.224 => 122.40 € HT/vanne – Attention : Taux de fuite 10^{-5} mbar.l.s^{-1} à 200 bars

Pour les joints O-Rings de l'actionneur, ils sont en FPM (Viton®). Nous ne connaissons pas la ten ue de ce matériau aux radiations.
Nous sommes preneurs de cette information avec d'ailleurs le type de radiations (α, β, γ, autres) .

Cordialement.



Status of the pre-construction Special element from part list

filters from HNP

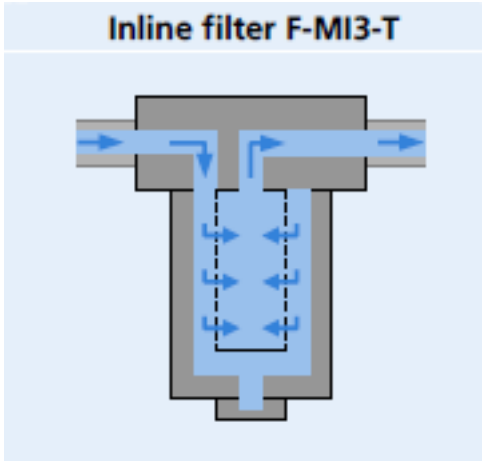
Details:

Join used in the filters: Kalrez /graphite

Delta P with mesh 10 micron and 4 l/min is 0.8 mbar.

Possibility to have other Mesh,

Possible connections with Weld-on threaded connection DN 3/8



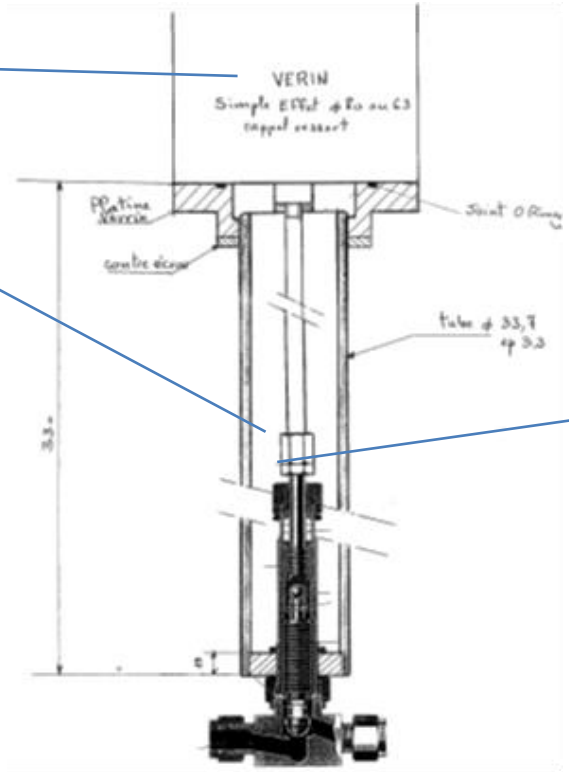
Status of the pre-construction Special element from part list

Prototype valve from DMD with Swagelok valve will be ready the 13 of October due to problems with the actuator (spring)

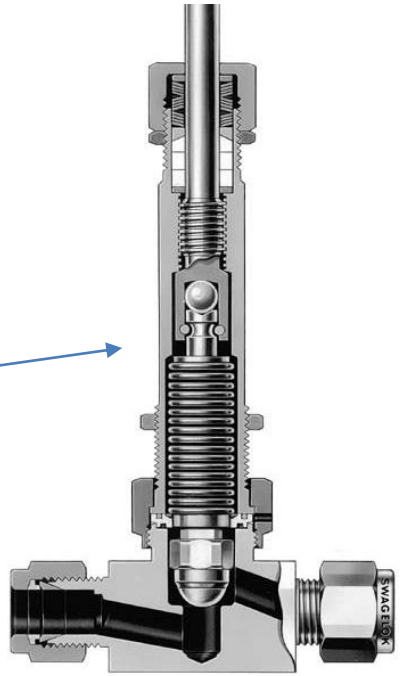
New machining needed

Details:

DMD part:
Actuator
and long extension:
820 CHF/PC



SWAGELOK part:
SS-8UW-VCR-37308:
915 chf/pc delivery 10/12 weeks



Components' quotation update status from Andrea

CATEGORY	TYPE	QTY	BRAND	COMMERCIAL REFERENCE	TESTED	ORDERED	RECEIVED	CHECKED	PRICE/PCS	TOT PRICE	For x/pcs
		Full									
JONCTION BOX											
Vannes pneumatique	supply 1/2"	8	SWAGELOK DMD	SS-8UW-VCR-LA-37308			NO		1735	13880	?
Pressure sensor	pressure sensor SUPPLY jonction box 1/4"	2	GE	Capteur de pression X5072-TC-A2-CA-HO-RF	YES	NO	NO	NO	288	576	10
Filter body	FILTER 10um DN 3/8 WELD (BBS-03-B3.K03.K00.35.0)	2	HNP or PARKER	F-MI3-T (HNP) Art Nr 54 02 04 67 or 95S6 (PARKER)	NO	NO	NO	NO	2108	4216	1
Pneumatic valves	connection between jonction box supply 1/2"	1	SWAGELOK	SS-8UW-VCR-LA-37308		NO			1735	1735	1
Pneumatic valves	connection between jonction box return 1" and return line 1"	4	ROTAREX (SELFA)	HP9012 Nickel 201	YES	NO			2250	9000	4
Pressure sensor	pressure sensor SUPPLY jonction box 1/4"	4	GE	Capteur de pression X5072-TC-A2-CA-HO-RF	YES	NO			288	1152	10
Temperature sensor	Temperature sensors T100 P/N: 00571524	2	JUMO	Dtrans T100 screw-in RTD jumo T100 3/8" FEMELLE		NO			106	212	10
Adaptor jumo sleeve	Doigt de gant inox 316L selon plan fourni	2	Instruvide	selon dessin	YES	NO			159	318	10
Rupture disc	131 bar rupture disc 1/2" vcr	2	SWAGELOK	SS-RDK-16-1900	NO	NO			80	160	20
Adaptor disc		2	instruvide	selon dessin	YES	NO			59	118	10
Control valve	Electronique expension valve	2	CAREL	E2V**CS10*		NO			655	1310	1
control valve	cable, display, regulator	2	CAREL	EVD0000T50, EVDIS00FR0, EVD0000UC0, E2VCABS300	YES	NO			550	1100	1
Manual valve	2 way valve 1/4"	1	SWAGELOK	SS-43GEHLVCR4-PT	YES	NO			185	185	1
Electrical heater	3 kW,	2	WATLOW	FIREROD 1306 SN37H-4450		NO			666.3	1332.6	1
Pressure sensor	pressure sensor electrical heater 1/4"	2	GE	Capteur de pression X5072-TC-A2-CA-HO-RF	YES	NO			288	576	10
Temperature sensor	Temperature sensors T100 P/N: 00571524	1	JUMO	Dtrans T100 screw-in RTD jumo T100 3/8" FEMELLE	YES	NO			106	106	10
Adaptor jumo sleeve	Doigt de gant inox 316L selon plan fourni	1	Instruvide	selon dessin	YES	NO			160	160	10
										36136.6	

ORDERS TO BE MADE NEXT WEEK: WHICH BUDGET CODE TO USE?

Thank you for your attention!