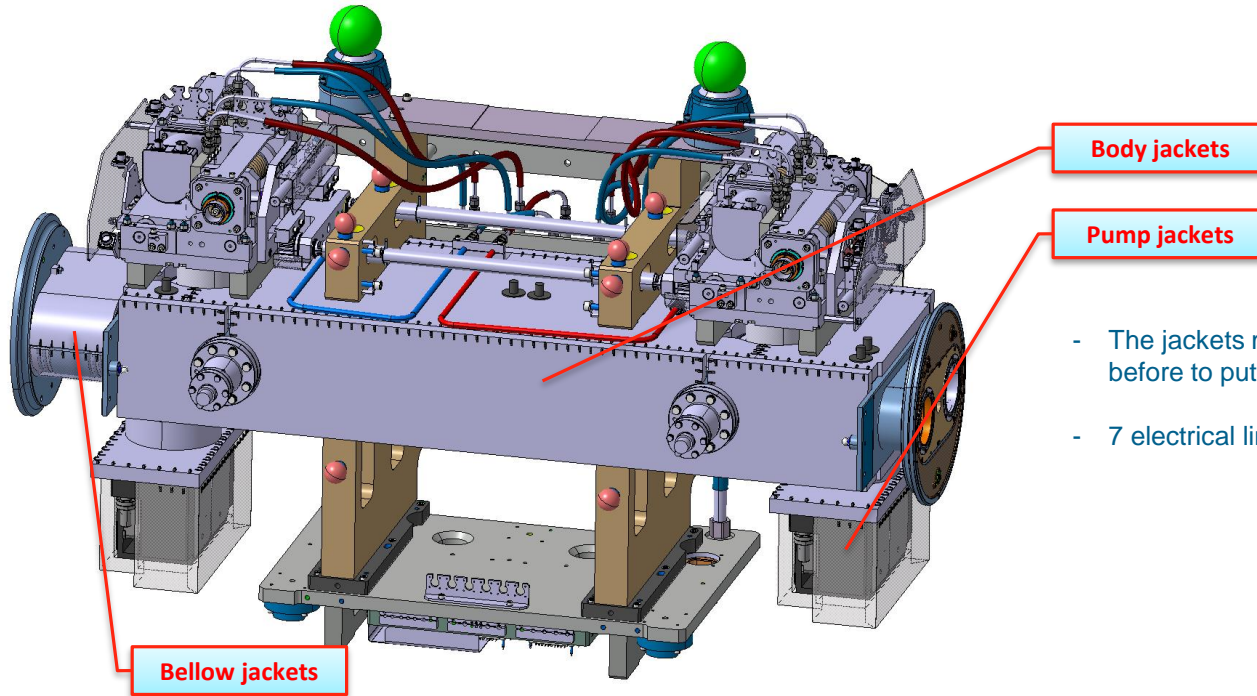# TCLPX – TCTPXH – TCSPM
Bake out systems

WP5.2 Technical meeting

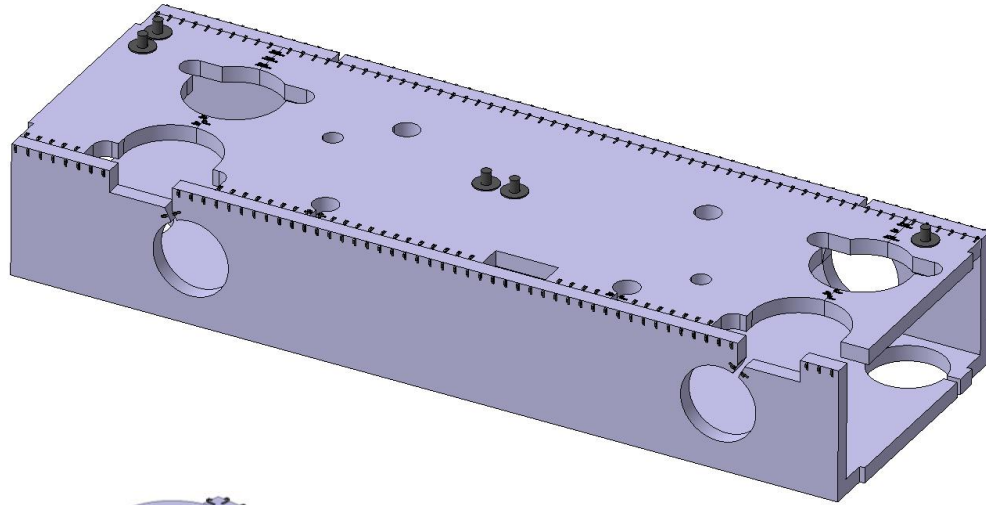**L. Gentini**

TCLPX HEATING JACKETS

Body jackets

Pump jackets

Bellow jackets

- The jackets must be installed on the collimator before to put the collimator on its support.

- 7 electrical lines are used on the hypertac.

TCLPX HEATING JACKETS
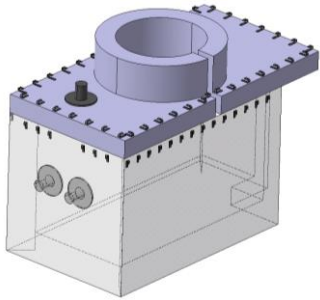

BODY JACKETS ASSEMBLY - LHCTCLPX_T0001
- 25 mm thickness.
- Just one single jacket for the bottom side and the two lateral sides.
- For space matters on jacket has just one electrical connector.
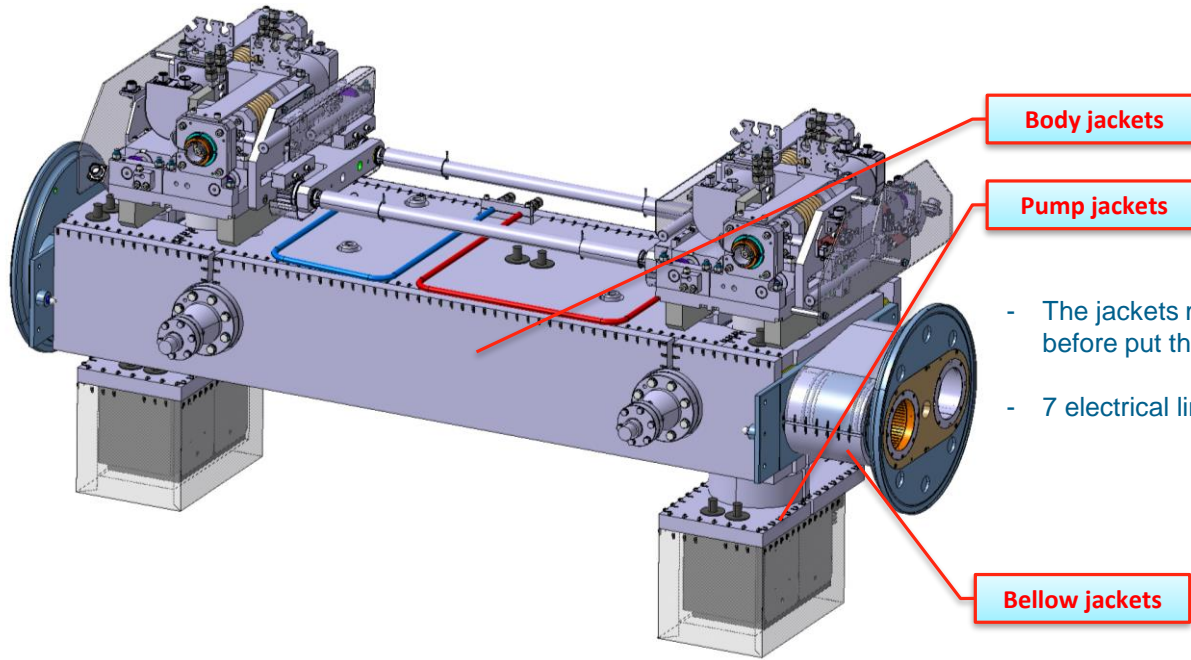
ION PUPM JACKETS - LHCVEJEC0006
- 25 mm thickness.
- The two jackets of the ion pumps are connected in series to reduce the number of electrical connections on the hypertac.

BELLOW JACKETS - LHCTCLPX_T0019
- 10 mm thickness.

Body jackets

Pump jackets

- The jackets must be installed on the collimator before put the collimator on its support.

- 7 electrical lines are used on the hypertac.

Bellow jackets

BODY JACKETS ASSEMBLY - LHCTCLPX_T0011
- 25 mm thickness.
- Just one single jacket for the bottom side and the two lateral sides.
- For space matters on jacket has just one electrical connector.

ION PUPM JACKETS - LHCVEJEC0006
- 25 mm thickness.
- The two jackets of the ion pumps are connected in series to reduce the number of electrical connections on the hypertac. (Same of TCLPX)

BELLOW JACKETS - LHCTCLPX_T0019
- 10 mm thickness.
- Same design of TCLPX

Body jackets

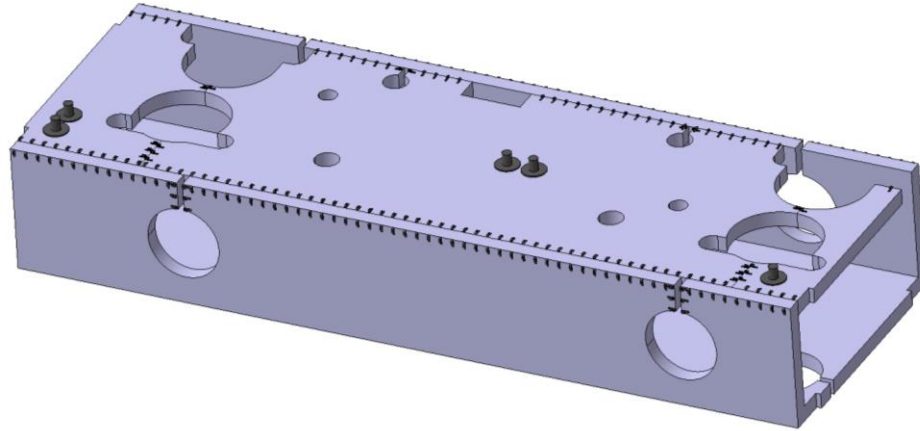**2nd beam jackets**
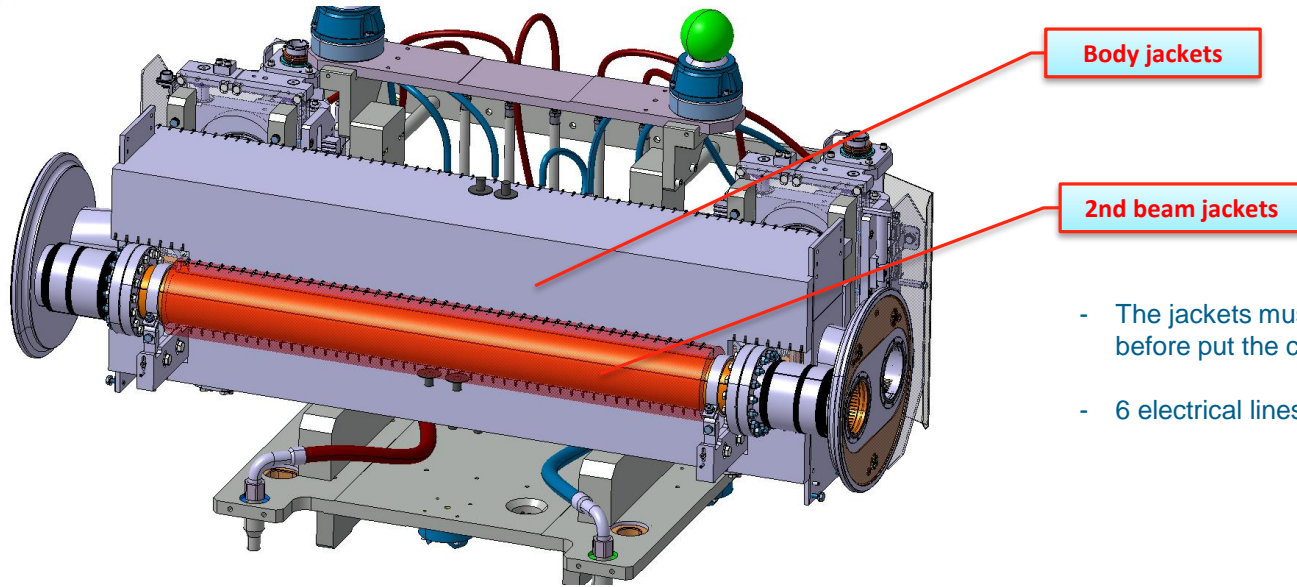
- The jackets must be installed on the collimator before put the collimator on its support.

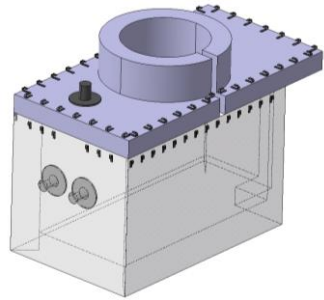- 6 electrical lines are used on the hypertac.

Luca GENTINI EN/MME   13-12-2021
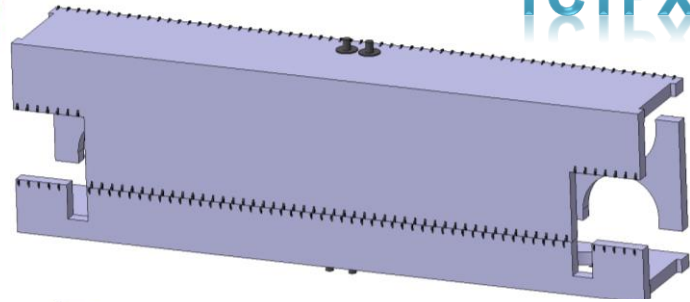
BODY JACKETS ASSEMBLY - LHCTCTPX_T0001
- 25 mm thickness.
- Two jackets for the bottom side and the two lateral sides.

2nd BEAM JACKETS – LHCTCTPXV_0104
- 20 mm thickness.

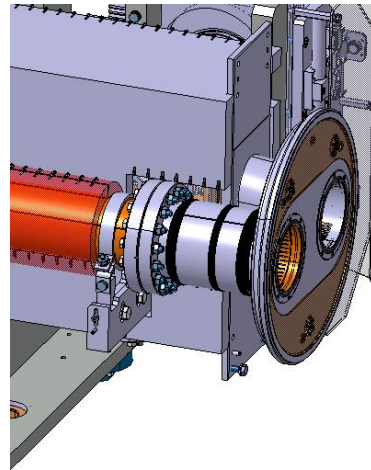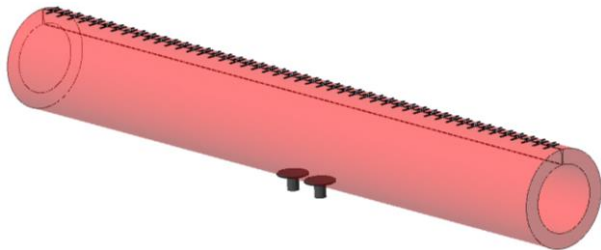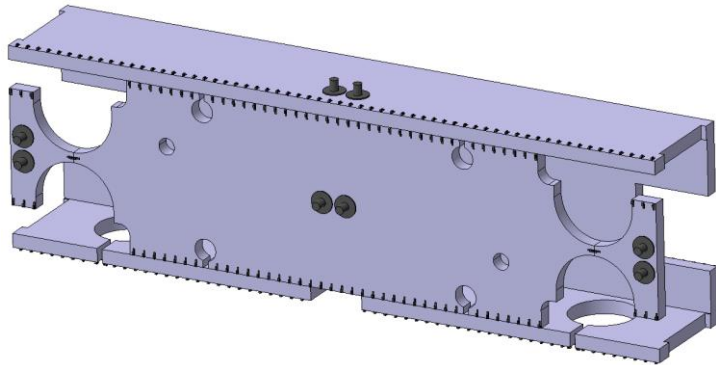**EXTREMITY JACKET NECESSARY ?**
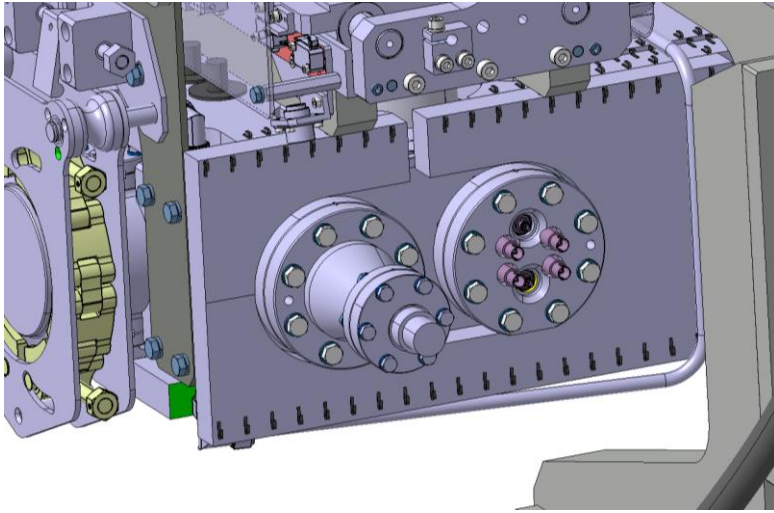
BODY JACKETS ASSEMBLY – LHCTCSPM0105
- 6 electrical lines are used on the hypertac.

DESIGN IMPROVEMENT
A lot of eating is lost in the pick-up area:
- There is not heating on the tank between the pick-up
- There is not heating on the pick-up flanges.

SOLUTION 1
- Remove the aperture between the pick-up.
- Close the gap between the pick-up (20 mm of jacket).
  This solution does not change the design
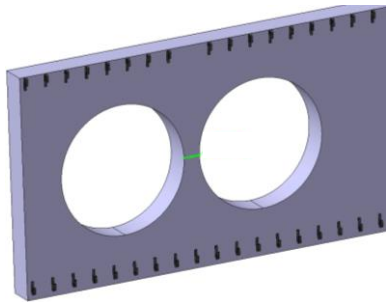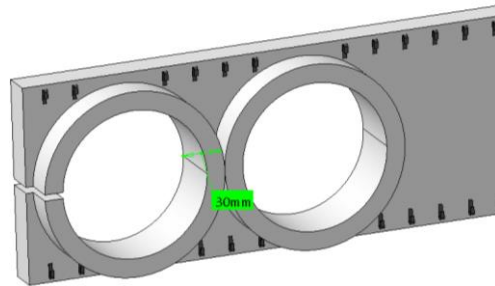
SOLUTION 2
- Remove the aperture between the pick-up.
- Put a collar on the lateral jacket to heat also the pick-up flanges.
  For this solution, the pick-up of the cartridge must be moved by 10 mm.

SOLUTION 1

SOLUTION 2

24.05mm

22.5mm
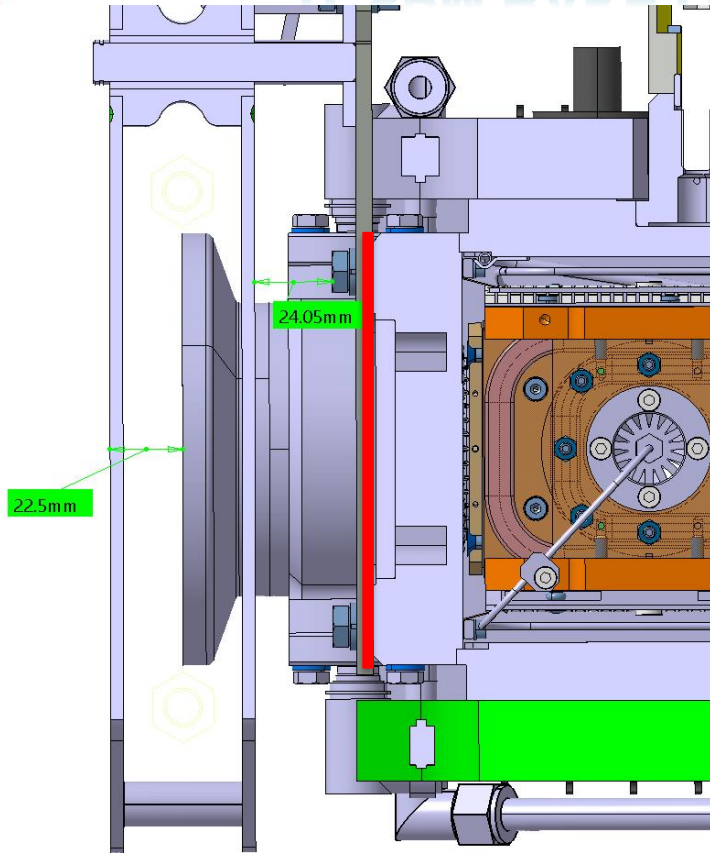
MKT CHAIN SYSTEM
By conduction, the extremities of the tanks are cooled down.

A solution could be to add tow thermal insulating plates between the MKT system and the tank (2 or 3 mm) as we have done on the IR collimators.

To do not decrease the stroke of the MKT, the space must be obtained on the thickness of the MKT plate.
The MKT system must be slightly modified.

Thank you for your attention

Cable Name	Cable number	Hypertac Connector number		TBSF connector number	Thermo-cable	Thermo connector number	Elements	Distribution name
Etuvage	1	A	1	1			Main Power Jacket 1	
	2	A	2	2				
	3	A	3	4			Aux Power Jacket 1	
	4	A	4	5				
	5	A	5	1			Main Power Jacket 2	
	6	B	1	2				
	7	B	2	4			Aux Power Jacket 2	
	8	B	3	5				
	9	B	4	1			Main Power Jacket 3	
	10	B	5	2				
	11	C	1	4			Aux Power Jacket 3	
	12	C	2	5				
	13	C	3	1			Main Power Jacket 4	
	14	C	4	2				
	15	C	5	4			Aux Power Jacket 4	
	16	D	1	5				
	17	D	2	1			Main Power Jacket 5	
	18	D	3	2				
	19	D	4	4			Aux Power Jacket 5	
	20	D	5	5				
	21	E	1	1			Main Power Jacket 6	
	22	E	2	2				
	23	E	3	4			Aux Power Jacket 6	
	24	E	4	5				
	25	E	5	1			Main Power Jacket 7	
	26	F	1	2				
	27	F	2	4			Aux Power Jacket 7	
	28	F	3	5				
	29	F	4	1			Main Power 8 (Spare)	
	30	F	5	2				
	31	H	1	4			Aux Power 8 (Spare)	
	32	H	2	5				
	33	H	3			1	1	Thermocouple Jacket1	+
	34	H	4			2	2		-
	35	H	5			1	1	Thermocouple Jacket2	+
	36	J	1			2	2		-
	37	J	2			1	1	Thermocouple Jacket3	+
	38	J	3			2	2		-
	39	J	4			1	1	Thermocouple Jacket4	+
	40	J	5			2	2		-
	41	K	1			1	1	Thermocouple Jacket5	+
	42	K	2			2	2		-
	43	K	3			1	1	Thermocouple Jacket6	+
	44	K	4			2	2		-
	45	K	5			1	1	Thermocouple Jacket7	+
	46	L	1			2	2		-
	47	L	2			1	1	Thermocouple 8 (Spare 1)	+
	48	L	3			2	2		-
	49	L	4			1	1	Thermocouple 9 (Spare 2)	+
	50	L	5			2	2		-

Patch Side | Collimator Side

Connector Hypertac
Pining Distribution