



**High
Luminosity
LHC**

Q5 for IR6

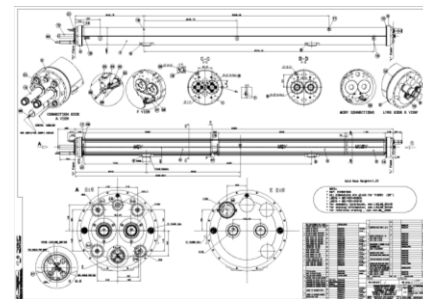
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With inputs from D. Ramos Duarte, M. Souchet, M. Bajko, H. Kos

Q5 cryomagnets for point 6

Cold Masses

- Feasibility study
 - Assembly procedures
 - Assembly drawings (LHCLMQ_A0022)
- Components availability
 - 4 MQY needed out of 7 existing spares (MQY20,21,27,28,29,30,31)
 - 1 MCBYA needed out of 3 existing spares (MCBYA39,40,41)
 - 1 MCBYB needed out of 3 existing spares (MCBYB42,43,44)
 - ↳ To be chosen according to the performance
 - ↳ **To be cold test before assembly**
 - Shells
 - End covers
 - Cold bore tubes
 - Connection kits
- Tooling availability
 - ↳ Recovered from the insertion cold masses production
 - ↳ Qualified in bldg. 180 during the spared Q5L8 prod. For LS1
 - ↳ **Welding press upgrade could be performed**



Cold mass assembly drawing



Stored MQY and MCBY magnets

- ✓
- ✓
- ✓
- ✓
- ✓
- ✓
- ✓
- ✓
- ✓
- ✓
- ✗
- ?
- ✓
- ✓
- ✓
- ✓
- ✓

Cryomagnet

- Feasibility study
 - Assembly procedures to be adapt from present Q5IR6 cryoassemblies
 - Assembly drawings
- Components availability
 - Vacuum vessel
 - Bottom tray
 - QQS service module
 - End covers
- Tooling availability
 - ↳ Recovered from the insertion cold masses production
 - ↳ Qualified in bldg. 180 during the spared Q5L8 prod. For LS1
 - ↳ Welding press upgrade to be performed

- ✓
- ✓
- ✗
- ✗
- ✗
- ✗
- ✗
- ✗
- ✓

On Going

About one year for procurement

Production schedule

About **6 months** to assemble the 2 cold masses.

The assembly can start once:

- The press is reconfigured
 - ↳ 5 consolidated dipole cold masses to be welded before
- Magnets are identified
- Magnets are cold tested if required

⇒ **Start during 2016?**

2 months for the cryostating per cold mass

The assembly can start once:

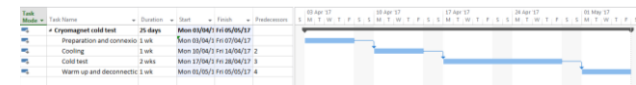
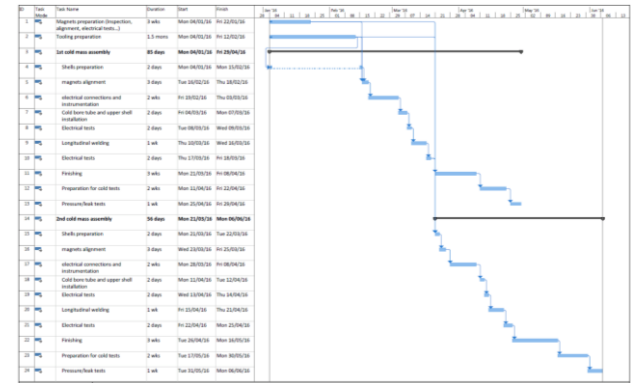
- The components are delivered (including the cold mass)

⇒ **Start in the beginning of 2017?**

About **5 weeks** for each cryoassembly

Less than **1 month** for each cryoassembly

⇒ **Should be ready by the beginning of LS2**



Cold Masses
TE-MSC-LMF

Cryostating
TE-MSC-CMI

Cold Tests
TE-MSC-TF

Stripping for
installation
TE-MSC-TF
TE-VSC-DLM