CMS DT Position Naming

List of
DT Position Names
Shown
on a Drawing of the Wheel
(for Each Wheel)

and a Schematic Drawing
Showing an
Overview of Services
(Orientation, Location of Services, etc.)

H. Reithler
Status 060811

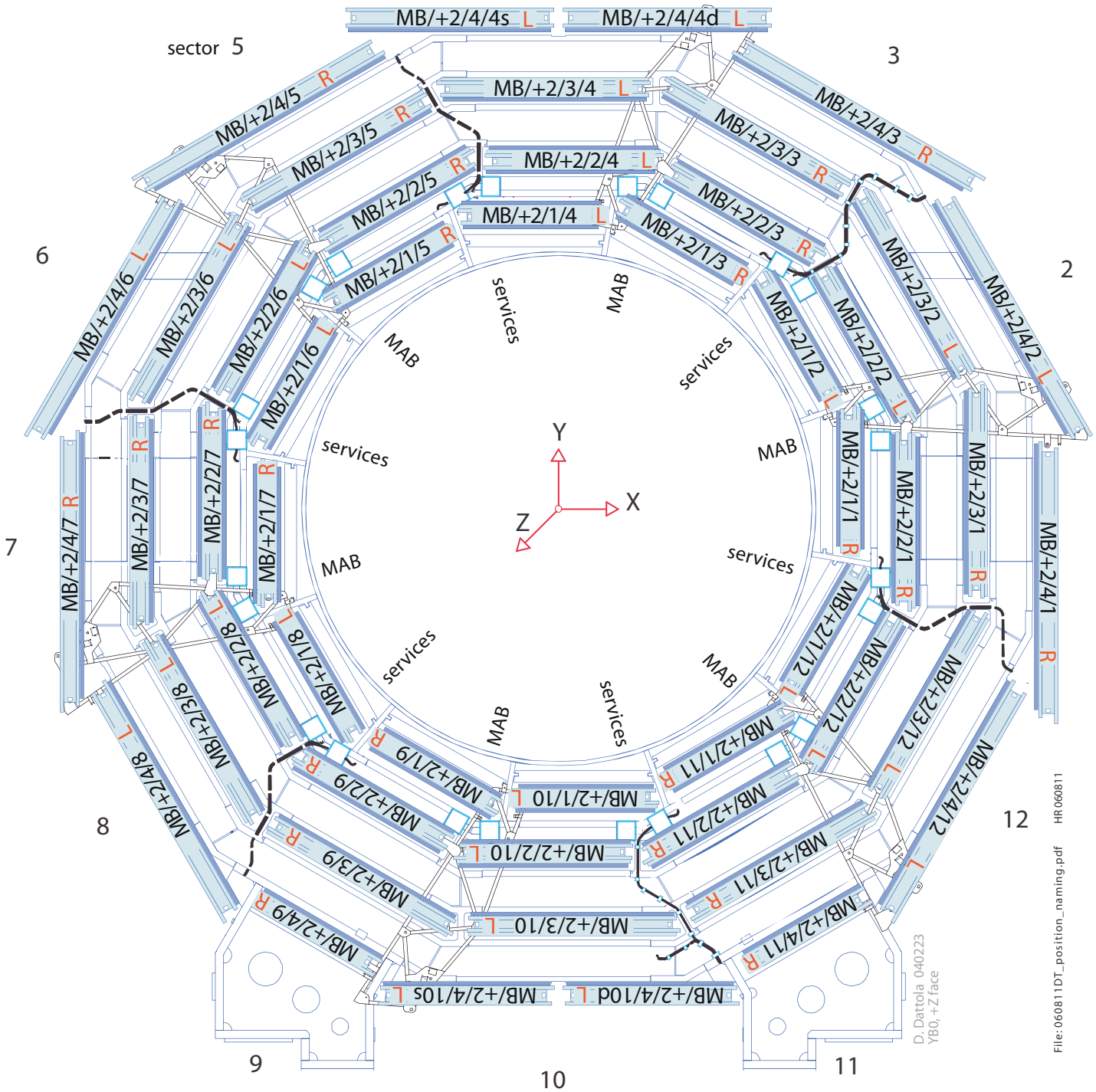
File: 060811DT_position_naming.pdf
Find under: http://www.physik.rwth-aachen.de/~reithler/060811DT_position_naming.pdf
Comment and/or corrections to: Hans.Reithler@physik.rwth-aachen.de
(For naming of DT chamber TYPE see: http://www.physik.rwth-aachen.de/~reithler/050912DT_type_naming.pdf)

CMS DT Position Naming for +Z View: YB+2

MB/w/r/s:
w = wheel barrel yoke YB (+2, +1, 0, -1, -2)
r = station (1, 2, 3, 4)
s = sector (1, 2, ..., 12)

= drift tube chamber, DT
= resistive plate chamber, RB

Add:
For twin chambers (MB/w/4/4,10)
s, d to indicate left (sinistra), right (destra) hemisphere (observer with feet on floor).
L R **L, R** to indicate *services* at Left, Right (observer with feet on beam line)



Naming of CMS DT chamber position: The convention is to look at the FrontEnd side of the chambers, having the feet on the beam axis and to name the chamber POSITION in the form MB/wheel/station/sector.
Services (HV, gas, cooling), which may be connected at the left or right side of the chamber, are indicated in red with the (reserved) letters L or R added to the name.
There are twin chambers at positions MB/w/4/4 and MB/w/4/10. To distinguish the twins, the position of the individual chamber should be given appending an s and d for the chamber at the lefft and at the right hemisphere, respectively.
(A given chamber type may fit at more than one position; for the naming of the DT chamber type, see another file.)

CMS DT Position Naming for +Z View: YB+1

MB/w/r/s:
w = wheel barrel yoke YB (+2, +1, 0, -1, -2)
r = station (1, 2, 3, 4)
s = sector (1, 2, ..., 12)

= drift tube chamber, DT
= resistive plate chamber, RB

Add:
For twin chambers (MB/w/4/4,10)
L R **s, d** to indicate left (sinistra), right (destra) hemisphere (observer with feet on floor).
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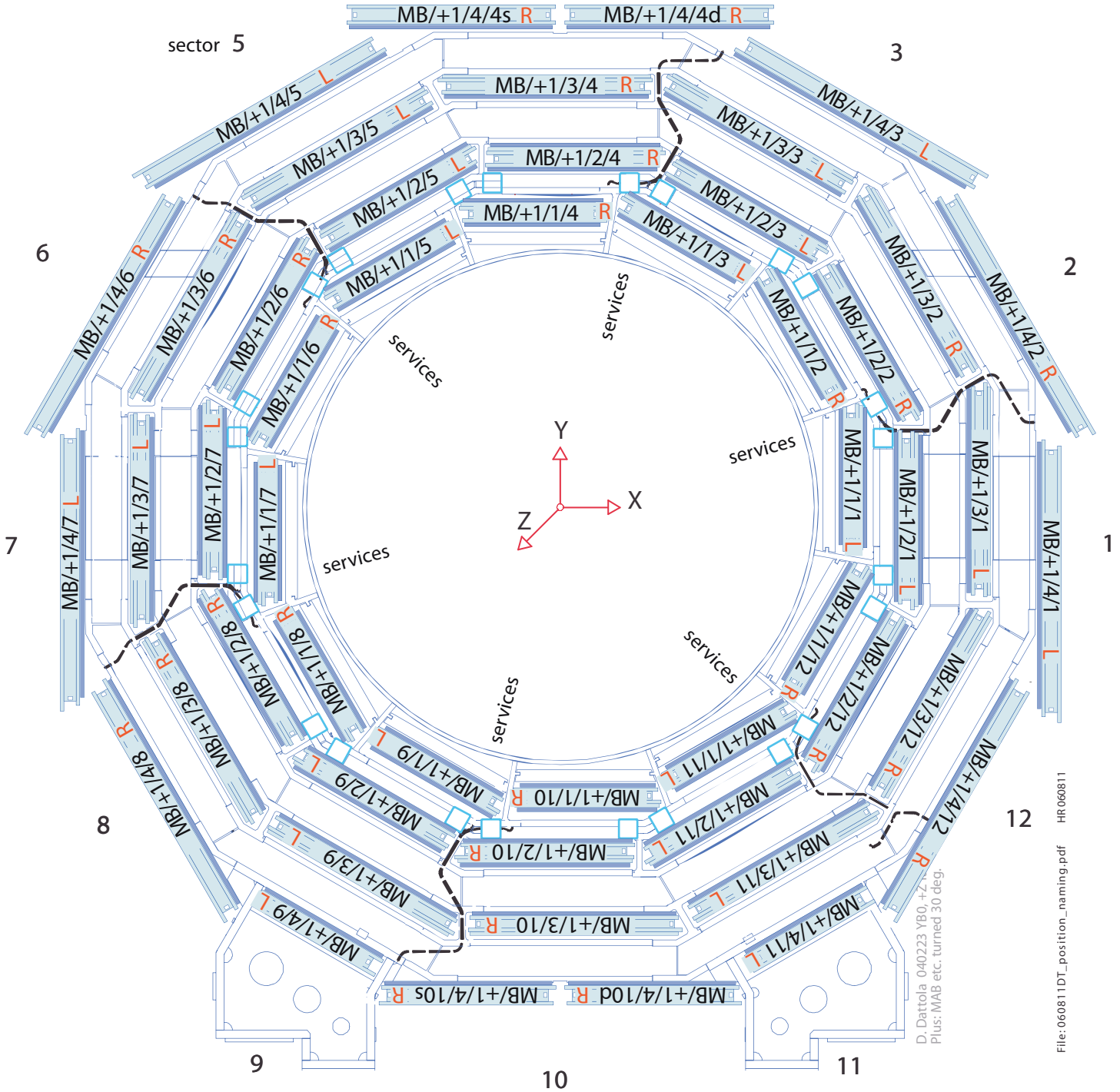

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CMS DT Position Naming for +Z View: YB+0

MB/w/r/s:
w = wheel barrel yoke YB (+2, +1, 0, -1, -2)
r = station (1, 2, 3, 4)
s = sector (1, 2, ..., 12)

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Add:
For twin chambers (MB/w/4/4,10)
s, d to indicate left (sinistra), right (destra) hemisphere (observer with feet on floor).
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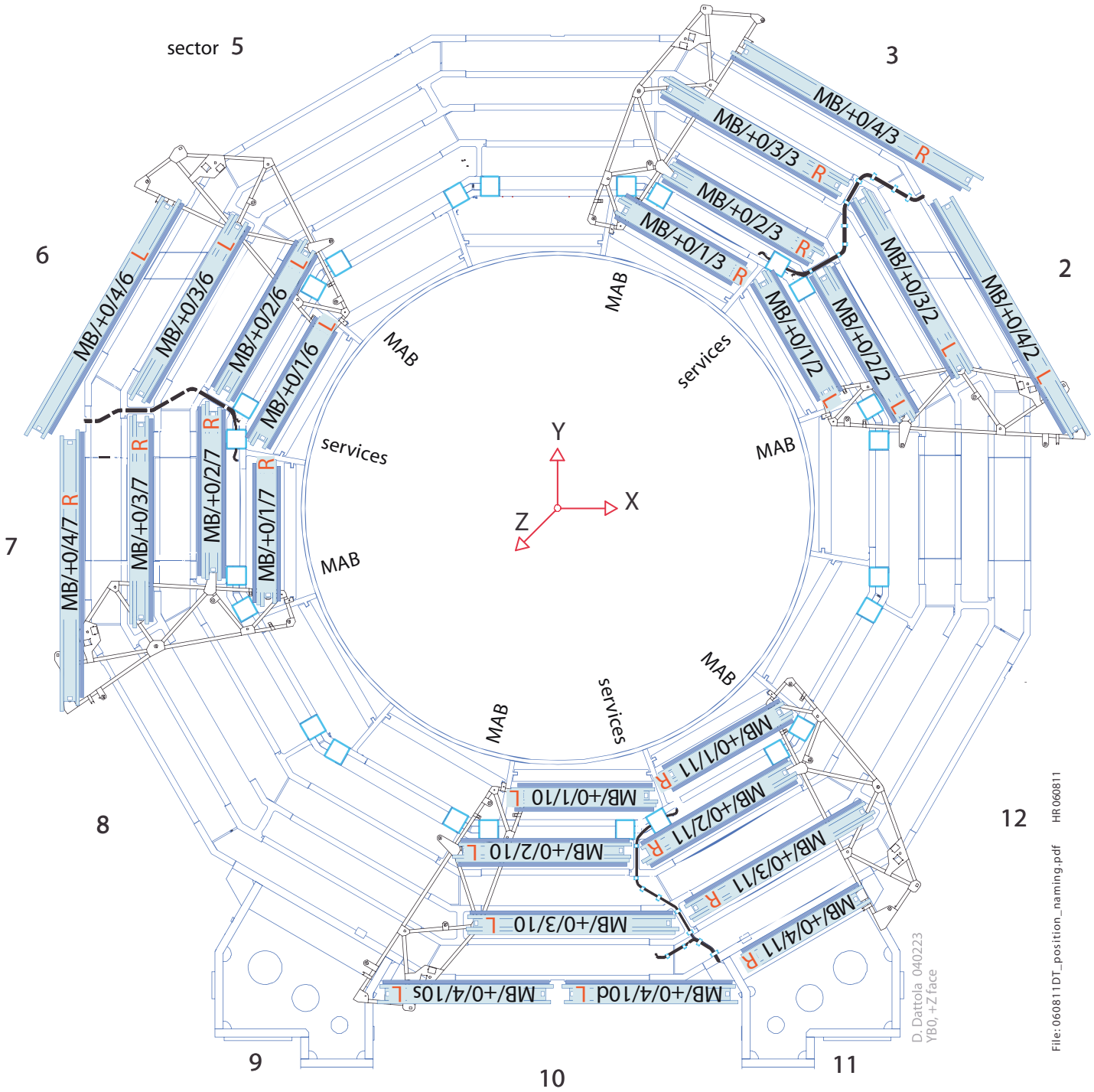

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CMS DT Position Naming for -Z View: YB-0

MB/w/r/s:
w = wheel barrel yoke YB (+2, +1, 0, -1, -2)
r = station (1, 2, 3, 4)
s = sector (1, 2, ..., 12)

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Add:
For twin chambers (MB/w/4/4,10)
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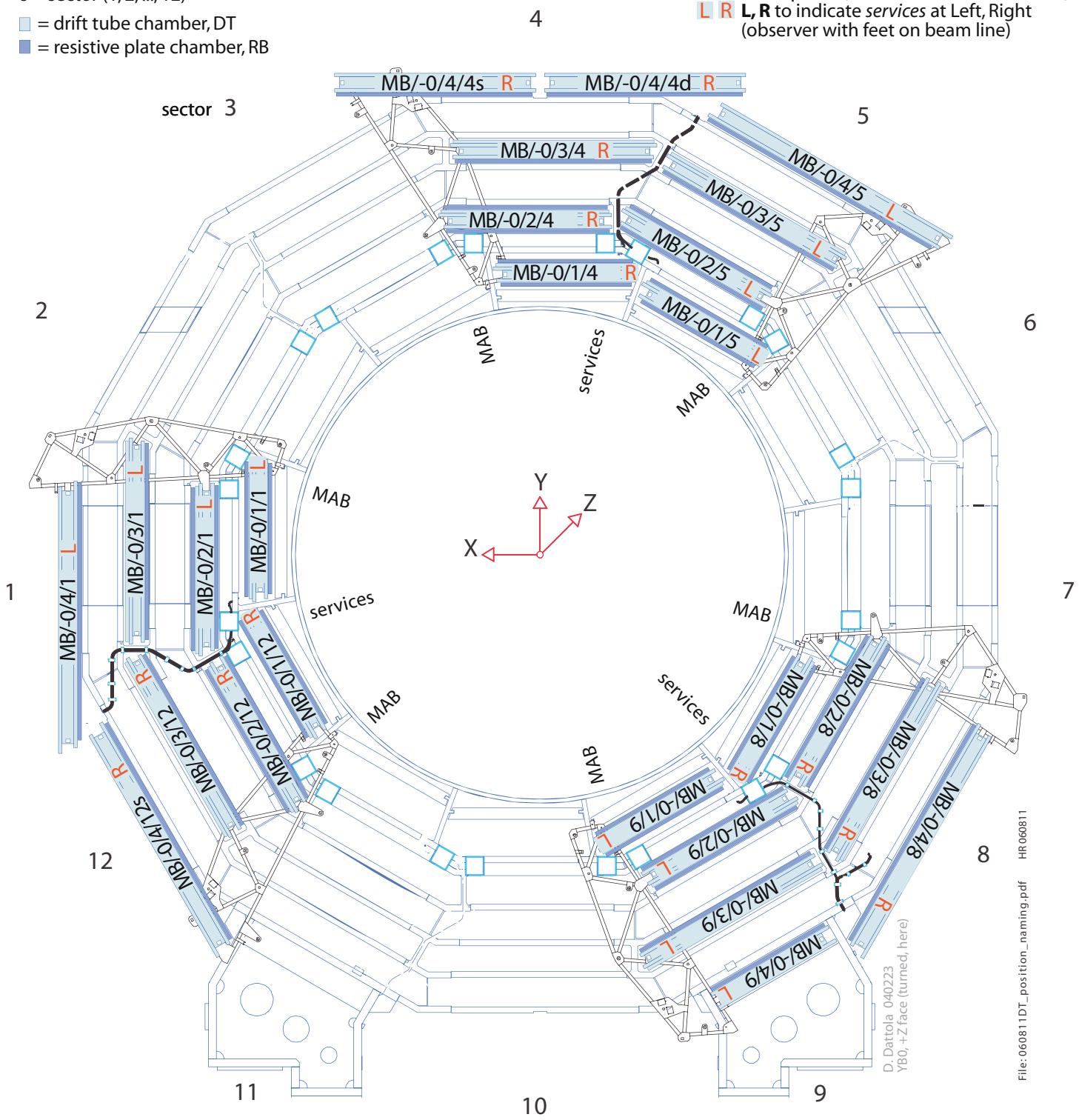

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CMS DT Position Naming for -Z View: YB-1

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w = wheel barrel yoke YB (+2, +1, 0, -1, -2)
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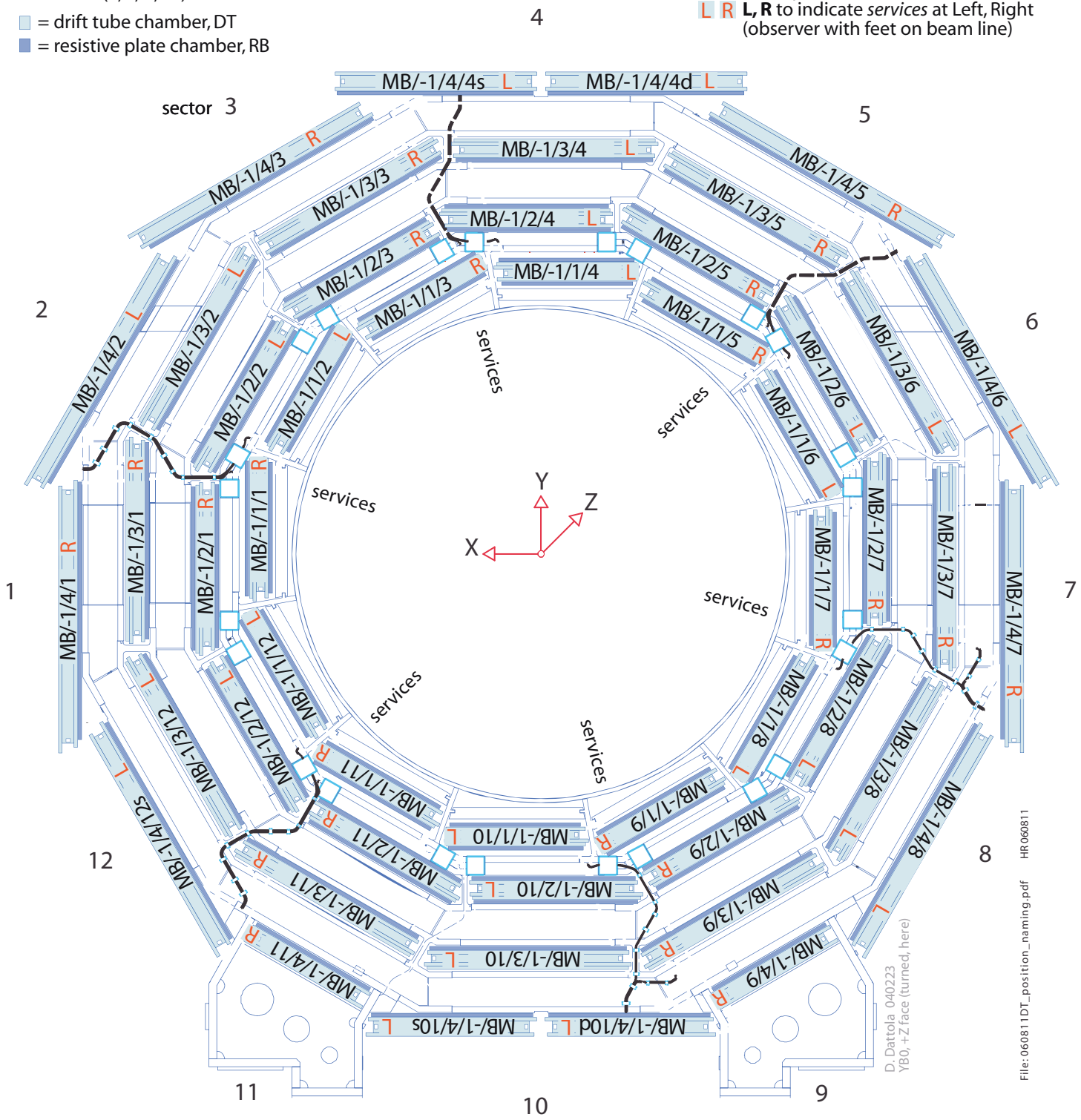

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CMS DT Position Naming for -Z View: YB-2

MB/w/r/s:
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= drift tube chamber, DT
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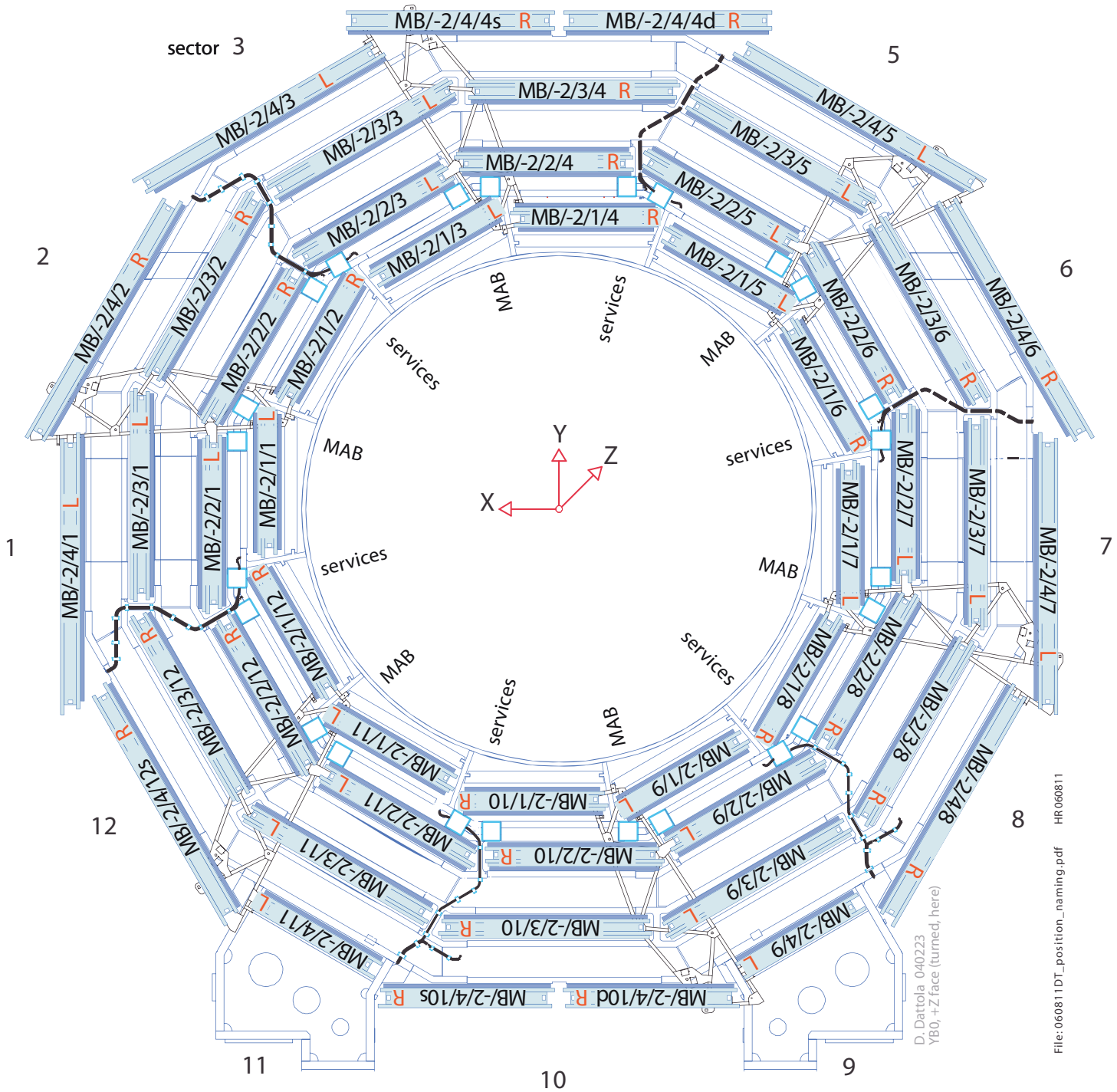

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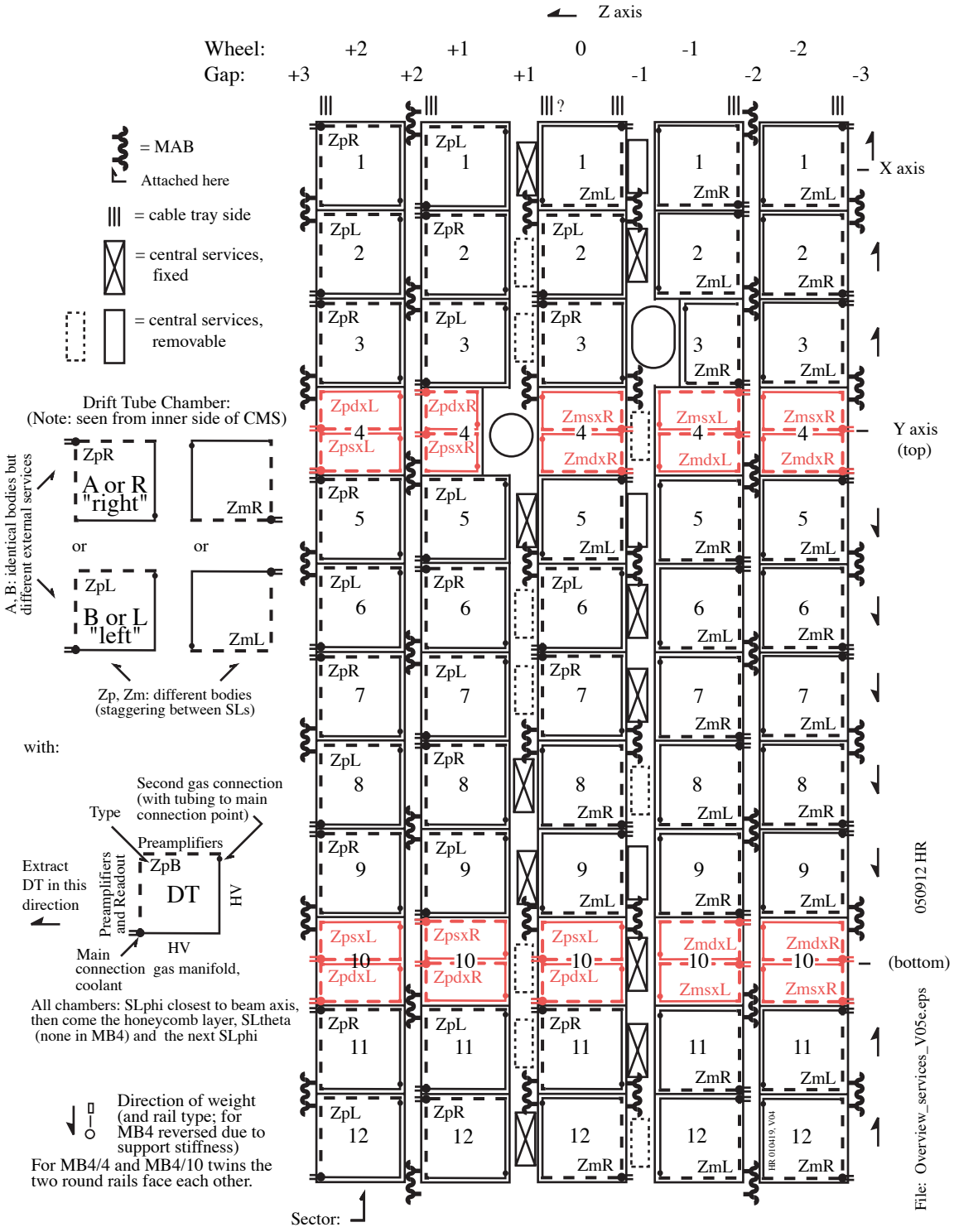

Installation of CMS Barrel Muon Chambers. Sectors as seen from inside. Sectors 4 and 10 have the chambers subdivided in two, as shown here in red, only at station MB4 . The difference between R (or A; right) and L (or B; left) types is the location of gas, coolant, HV and LV external connection; the bodies are identical. The staggering between the SuperLayers is, however, different between the Zp and Zm types for MB1, MB2 and MB3 chambers (have to extract the chambers in opposite directions in Z+ and Z- wheels, but the wheels have all the same orientation and are made left-right asymmetric to ensure an hermetic coverage in azimuth). For MB4 chambers the distinction of chambers types is related to the hemisphere (wrt a vertical line) and is indicated by d (destra=right) and s (sinistra=left). The cable and piping trays along the periphery of the wheel are close to the face with the main connections; on the central wheel the Barrel Muon gas and cooling piping is on the Zm side. The "bottom" side of a chamber has one, the "top" side has two SuperLayers (SL) attached to the honeycomb structure (not applicable to MB4 chambers, which have only two SLs).