

BEAM SPLITTER Tower: **location of electrically connected Devices**

CODING CONVENTION: The code is divided in 3 fields. The field separator is a dot. The 3th field is used only when more than one device of the same type is hosted on the same suspension stage.

DeviceType . SuspensionStage . DevicePosition (or Function)

M	Motor
MV	Vertical Motor
MH	Horizontal Motor
MA	Angular Motor
TM	TiltMeter
C	Coil
CV	Vertical Coil
CH	Horizontal Coil
T	Temperature probe
AV	Vert. Accelerometer
AH	Hor. Accelerometer
LV	Vertical LVDT
LH	Horizontal LVDT

F0	Filter #0 or top-stage
F1	Filter #1
F2	Filter #2
F3	Filter #3
F4	Filter #4
F7	Filter #7
MA	Marionette
MI	Mirror

1, 2, 3, ...	
L	Left
R	Right
U	Up
D	Down
F	Front
B	Back
UL	Up Left
UR	Up Right
DL	Down Left
DR	Down Right
FR	Front Back
BL	Bottom Left
LL	Lateral Left
LR	Lateral Right
TX	ϑ_x degree of freedom
TZ	ϑ_z degree of freedom
AH1	Hor. Accelerom. #1
AH2	Hor. Accelerom. #2
AH3	Hor. Accelerom. #3
AH4	Hor. Accelerom. #4

Change History

<i>Version</i>	<i>Date</i>	<i>Changes</i>	<i>Author</i>
v1	Nov-Dec 1999	initial suspension cabling	Dattilo, Ceccanti
v2,v3, v3r1	2003	added cabling of sensors and actuators on Filter #7	Dattilo, Nenci
v4	Aug 2014	Modified cabling for allow new separating roof and new payload (cables F,R,S,V). Suppression of cables U and X. No more tiltmeters on F#7, more devices on payload and new F#7 actuation/sensing system.	Berni, Dattilo, Gherardini

21 MOTORS

code	Location (see also drawings in the following)	vacuum cable ID	vacuum cable type	notes
MV.F0.U	top-screw on F#0	J1	STP, AWG24	MV.1 (old code)
MV.F0	fishing-rod on F#0	A1	STP, AWG24	MV.2
MV.F1	fishing-rod on F#1	B1	STP, AWG24	MV.3
MV.F2	fishing-rod on F#2	C1	STP, AWG24	MV.4
MV.F3	fishing-rod on F#3	D1	STP, AWG24	MV.5
MV.F4	fishing-rod on F#4	E1	STP, AWG24	MV.6
MV.F7	fishing-rod on F#7	F1	STP, AWG24	MV.7
MH.F0.1	trolley on inner structure	H3	STP, AWG24	MH.1
MH.F0.2	trolley on inner structure	H1	STP, AWG24	MH.2
MH.F0.3	trolley on inner structure	H2	STP, AWG24	MH.3
MH.F7.1	balancing mass on F#7	R3	STP, AWG24	MH.4
MH.F7.2	balancing mass on F#7	R2	STP, AWG24	MH.5
MH.MA.TZ	balanc. mass on marion. (for roll motion)	V2		
MH.MA.TX	balanc. mass on marion. (for pitch motion)	V3		
MA.F7.U	F#7 top (for rotation)	R1	STP, AWG24	MA.1
MA.F7.D	F#7 bottom (for rotation)	F4	STP, AWG24	MA.2
M.F0.AH1	Hor. Accelerometer on top-stage	O2	STP, AWG24	
M.F0.AH2	Hor. Accelerometer on top-stage	M2	STP, AWG24	
M.F0.AH3	Hor. Accelerometer on top-stage	N2	STP, AWG24	
M.F0.AV1	Vert. Accelerometer on F#0	K1	STP, AWG24	
M.F0.AV2	Vert. Accelerometer on F#0	L1	STP, AWG24	

n. 23 COILS

23 COILS

code	Location (see also drawings in the following)	vacuum cable ID	vacuum cable type	notes
CH.F0.1 CH.F0.2 CH.F0.3	Safety frame ring	G4 G6 G2	STP, AWG24 (double)	CH.1 CH.2 CH.3
CV.F0.1 CV.F0.2	crossbar on F#0 crossbar on F#0 (fish.rod side)	J3 J2	STP, AWG24	CV.1 CV.2
CH.F7.1	Coil on bottom ring, magnet on F#7	W1	TP, Ø0.6mm, enamel insulat.	coil shared with LH.F7.1 secondary
CH.F7.2	Coil on bottom ring, magnet on F#7	W2	TP, Ø0.6mm, enamel insulat	coil shared with LH.F7.2 secondary
CH.F7.3	Coil on bottom ring, magnet on F#7	W3	TP, Ø0.6mm, enamel insulat	coil shared with LH.F7.3 secondary
CV.F7.1	Coil on bottom ring, magnet on F#7	W4	TP, Ø0.6mm, enamel insulat	coil shared with LV.F7.1 secondary
CV.F7.2	Coil on bottom ring, magnet on F#7	W5	TP, Ø0.6mm, enamel insulat	coil shared with LV.F7.2 secondary
CV.F7.3	Coil on bottom ring, magnet on F#7	W6	TP, Ø0.6mm, enamel insulat	coil shared with LV.F7.3 secondary
CV.MA.B CV.MA.L CH.MA.BL CH.MA.FR CV.MA.F CV.MA.R CH.MA.BR CH.MA.FL	coils on F#7 lower frame (cage), magnets on Marionette	cable S (see details on NE_LastStageCabling file)		
CH.MI.UR CH.MI.DR CH.MI.UL CH.MI.DL	coils on F#7 lower frame (cage), magnets on Mirror	cable V (see details on NE_LastStageCabling file)		

6 (couples of) THERMAL PROBES

code	location	vacuum cable ID	vacuum cable type	notes
T.F0.1 T.F0.2	antispring back on F#0	A2	STP, AWG24	TP.1
T.F1.1 T.F1.2	antispring back on F#1	B2	STP, AWG24	TP.2
T.F2.1 T.F2.2	antispring back on F#2	C2	STP, AWG24	TP.3
T.F3.1 T.F3.2	antispring back on F#3	D2	STP, AWG24	TP.4
T.F4.1 T.F4.2	antispring back on F#4	E2	STP, AWG24	TP.5
T.F7.1 T.F7.2	antispring back on F#7	F2	STP, AWG24	TP.6

5 ACCELEROMETERS

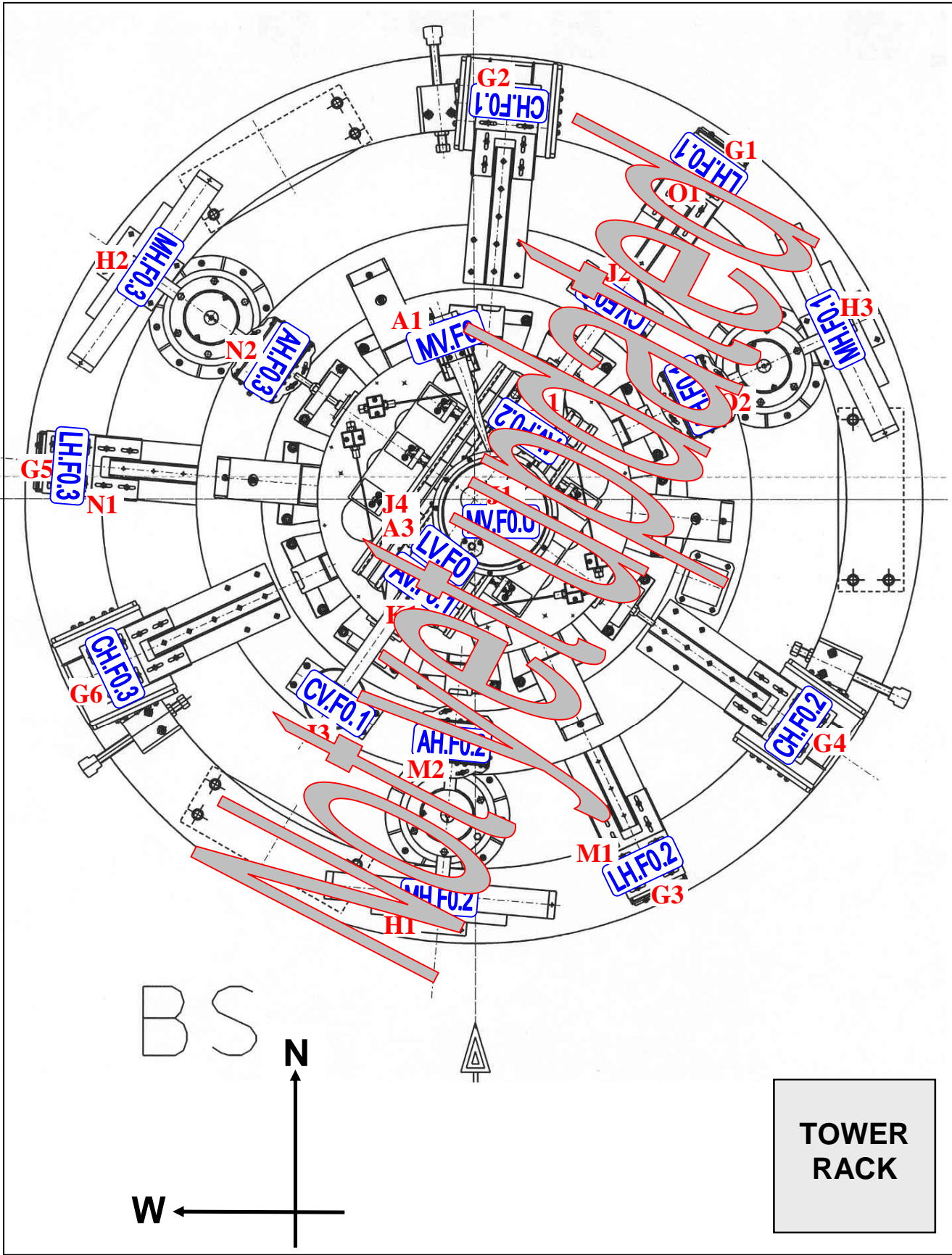
code	Location <i>(see also drawings in the following)</i>	vacuum cable ID	vacuum cable type	notes
AH.F0.1	top-ring	O2	STP, AWG24	AH.1
AH.F0.2	top-ring	M2	STP, AWG24	AH.2
AH.F0.3	top-ring	N2	STP, AWG24	AH.3
AV.F0.1	crossbar F#0	K1	STP, AWG24	AV.1
AV.F0.2	crossbar F#0 (fish.rod side)	L1	STP, AWG24	AV.2

15 LVDTs

code	Location (see also drawings in the following)	vacuum cable ID	vacuum cable type	notes
LH.F0.1	Primary on top-ring Secondary on inner structure	O1 G3	STP, AWG24 STP, AWG24	LH.1
LH.F0.2	Primary on top-ring Secondary on inner structure	M1 G5	STP, AWG24 STP, AWG24	LH.2
LH.F0.3	Primary on top-ring Secondary on inner structure	N1 G1	STP, AWG24 STP, AWG24	LH.3
LV.F0	primary on F#0 crossbar secondary on F#0 body	J4 A3	STP, AWG24 STP, AWG24	LV.1
LV.F1	F#1	B3	STP, AWG24	LV.2
LV.F2	F#2	C3	STP, AWG24	LV.3
LV.F3	F#3	D3	STP, AWG24	LV.4
LV.F4	F#4	E3	STP, AWG24	LV.5
LV.F7	F#7	F3	STP, AWG24	LV.6
LH.F7.1	Primary and Secondary on bottom ring, ferrites on F#7	T1 W1	TP, Ø0.6mm, enamel insulat.	coil shared with CH.F7.1
LH.F7.2	Primary and Secondary on bottom ring, ferrites on F#7	T2 W2	TP, Ø0.6mm, enamel insulat	coil shared with CH.F7.2
LH.F7.3	Primary and Secondary on bottom ring, ferrites on F#7	T3 W3	TP, Ø0.6mm, enamel insulat	coil shared with CH.F7.3
LV.F7.1	Primary and Secondary on bottom ring, ferrites on F#7	T4 W4	TP, Ø0.6mm, enamel insulat	coil shared with CV.F7.1
LV.F7.2	Primary and Secondary on bottom ring, ferrites on F#7	T5 W5	TP, Ø0.6mm, enamel insulat	coil shared with CV.F7.2
LV.F7.3	Primary and Secondary on bottom ring, ferrites on F#7	T6 W6	TP, Ø0.6mm, enamel insulat	coil shared with CV.F7.3

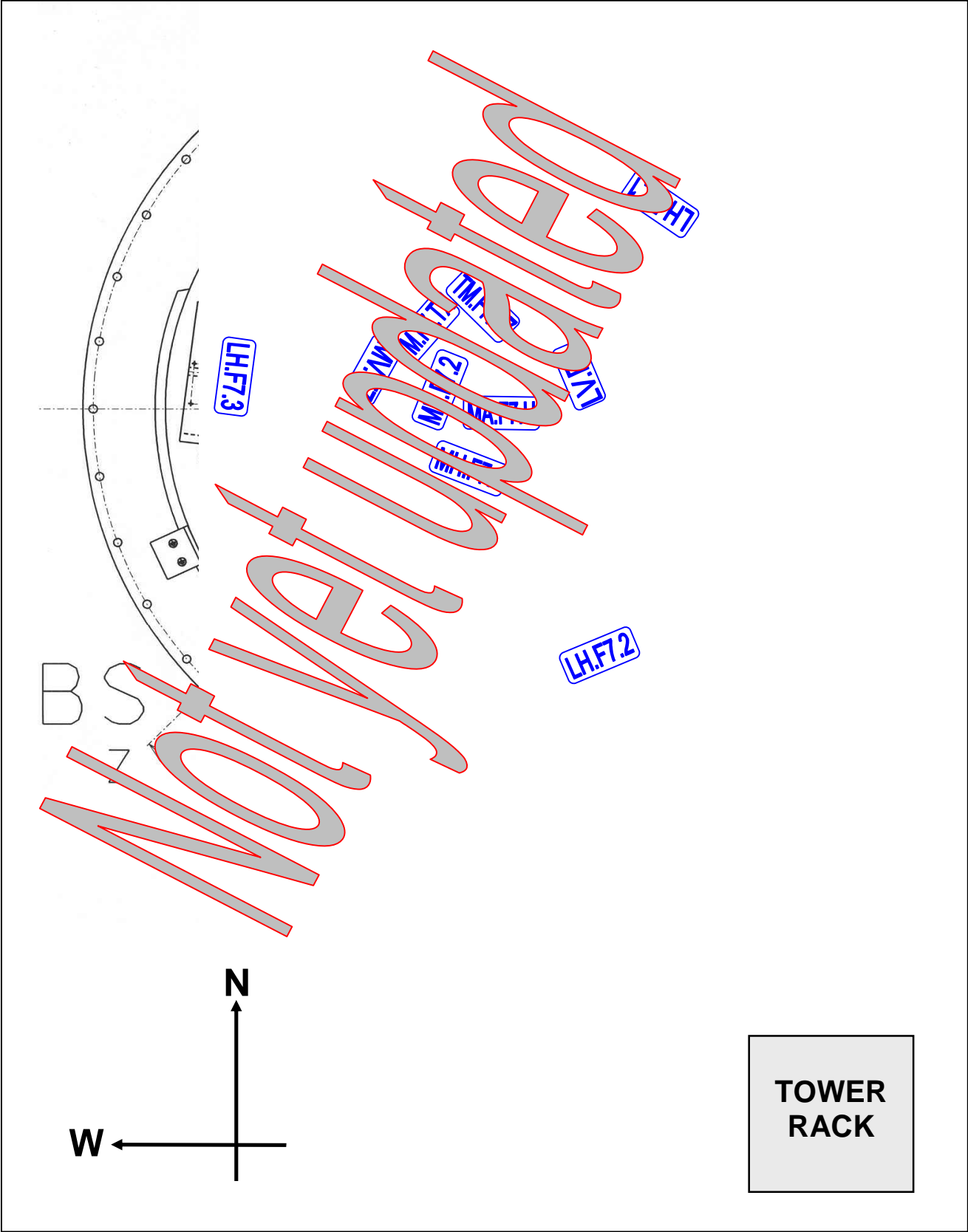
F#0 / TOP-STAGE devices

top view

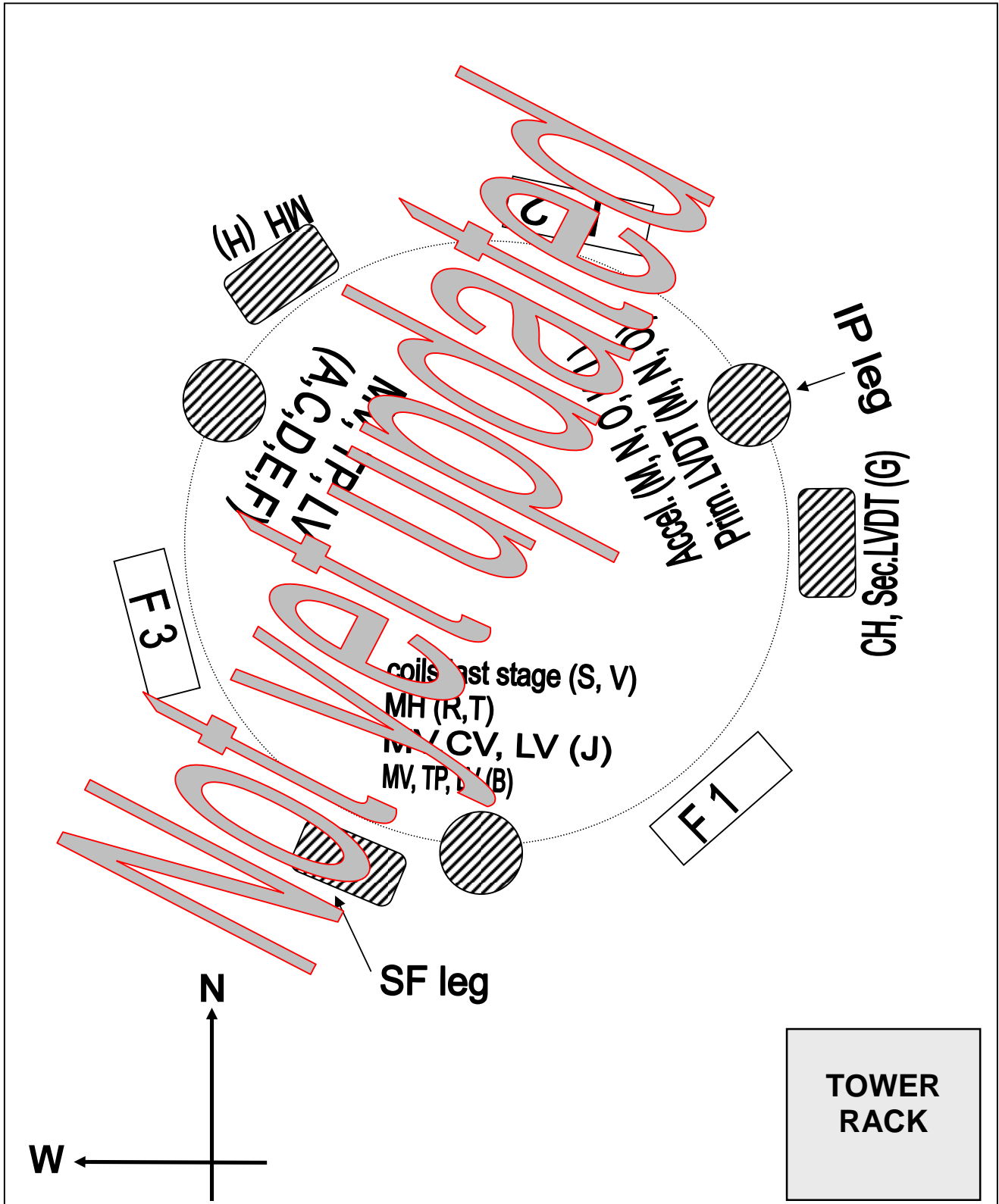


FILTER #7 (upper part) devices

top view

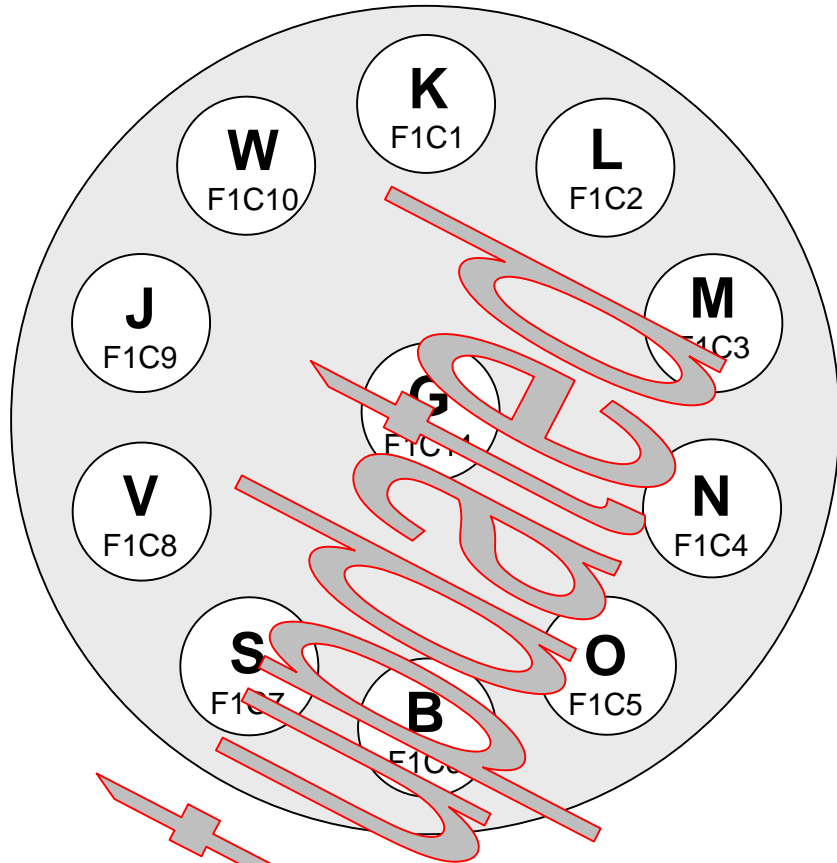


Cable arrangement along inverted pendulum (IP) legs and safety structure (SF) legs

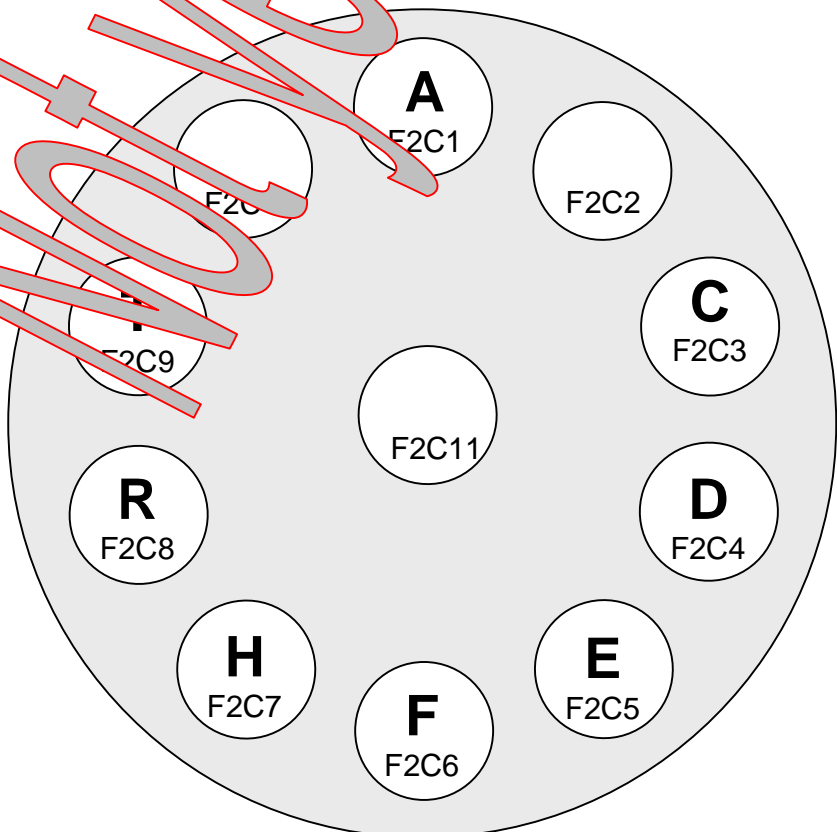


Connector location on flanges

Flange **F1**
(air side view)



Flange
(air side view)



Feed-through location on the flange of the tower base

Flange **F4**

(air side view)

It is located on the xx side, down-left

