

Date	Prepared by	Approved by	Document nos	Revision
28 Feb 2019	Ray Ling	Patrick Yeo	MS-48H180-IM-001	0

INSTRUCTION MANUAL MS-48H180

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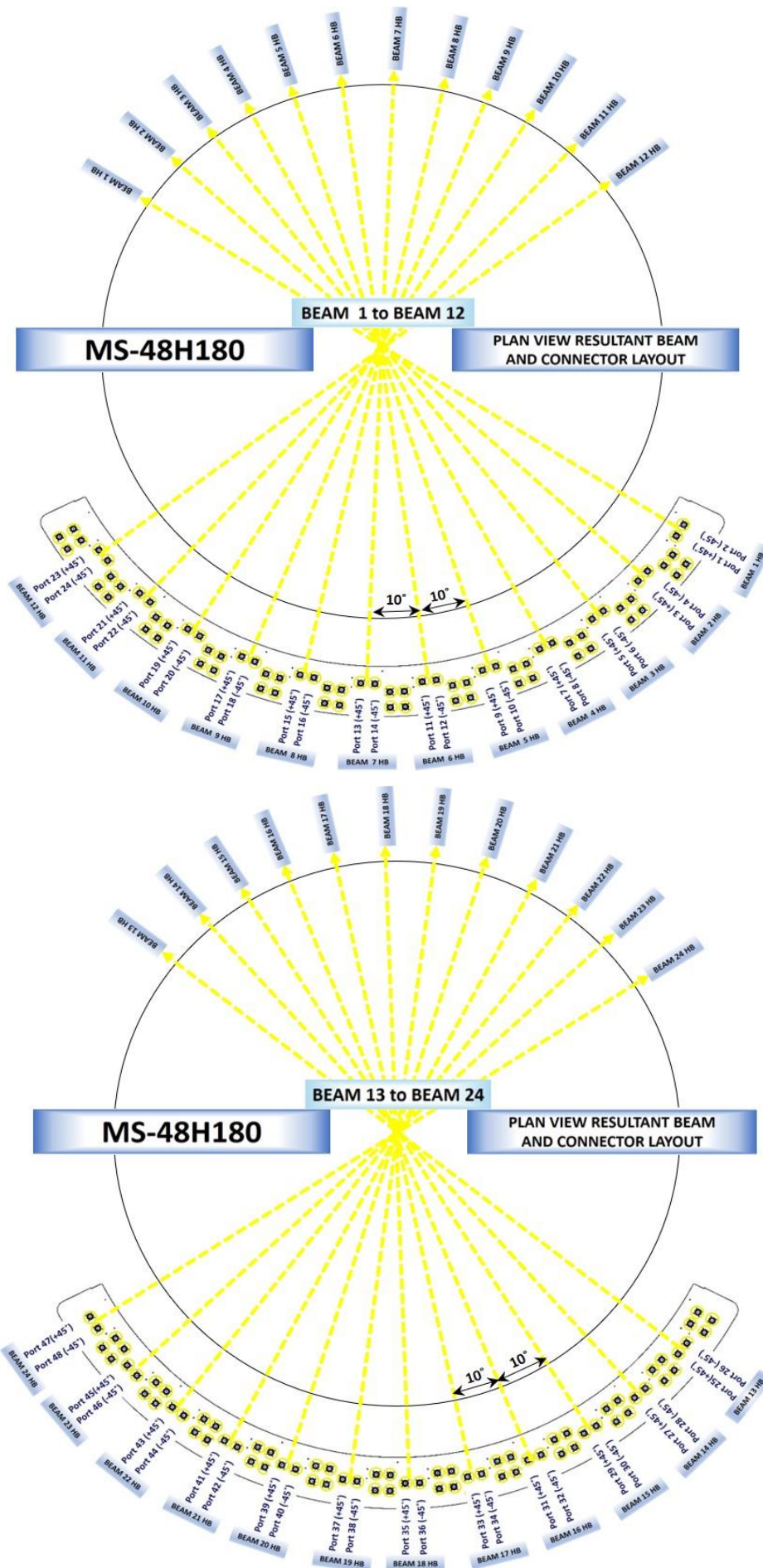
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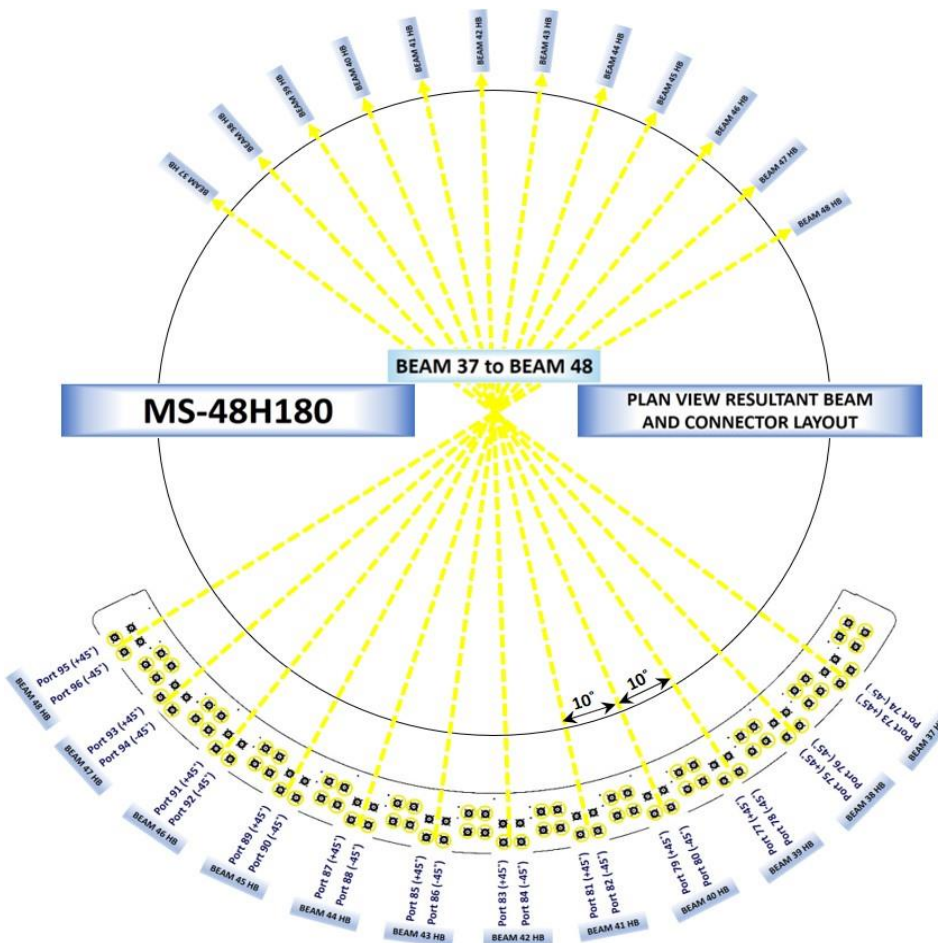
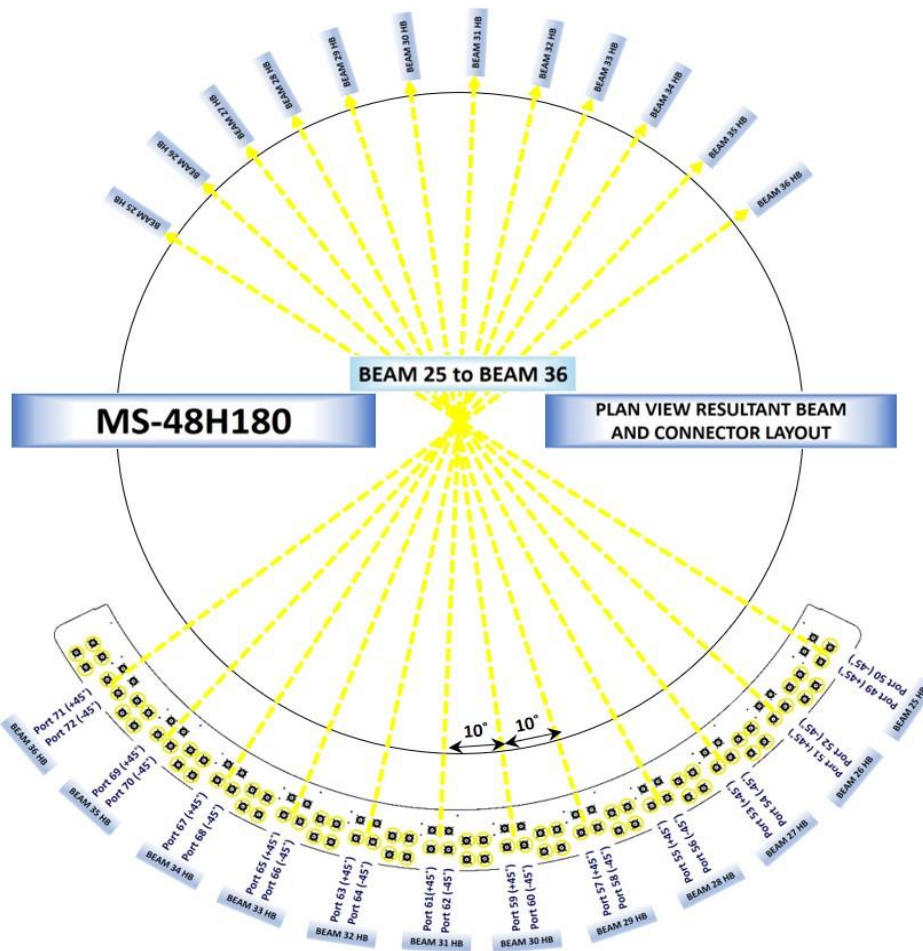
Revision History:

Date	Description	Revised by	Revision nos.

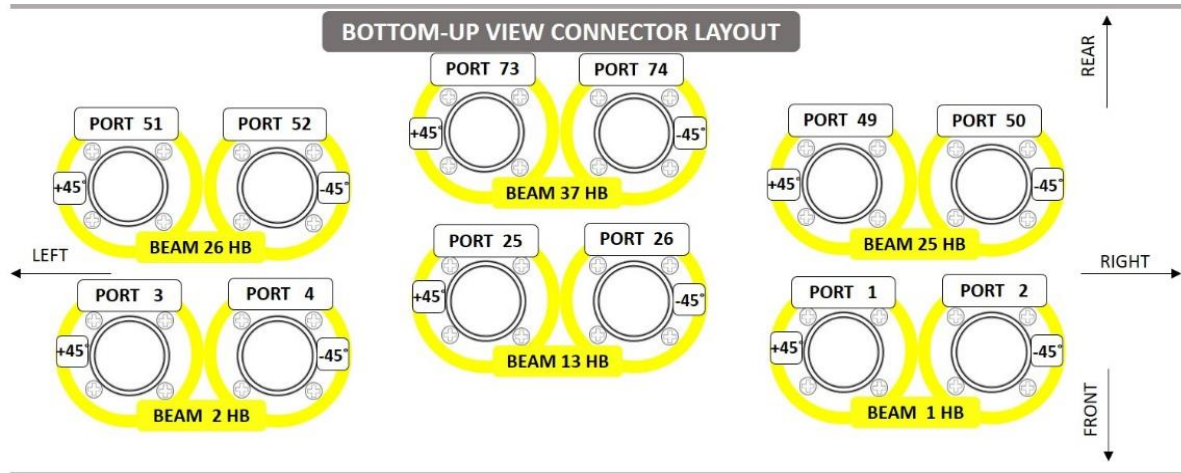
1.00 BEAMS & CONNECTORS:

1.10 Plan View Resultant Beam And Connector Layout





1.20 HB Connector



1.30 Connector Port Table

BEAM 12 HB	Port 23 (+45°)	Port 24 (-45°)
BEAM 11 HB	Port 21 (+45°)	Port 22 (-45°)
BEAM 10 HB	Port 19 (+45°)	Port 20 (-45°)
BEAM 9 HB	Port 17 (+45°)	Port 18 (-45°)
BEAM 8 HB	Port 15 (+45°)	Port 16 (-45°)
BEAM 7 HB	Port 13 (+45°)	Port 14 (-45°)
BEAM 6 HB	Port 11 (+45°)	Port 12 (-45°)
BEAM 5 HB	Port 9 (+45°)	Port 10 (-45°)
BEAM 4 HB	Port 7 (+45°)	Port 8 (-45°)
BEAM 3 HB	Port 5 (+45°)	Port 6 (-45°)
BEAM 2 HB	Port 3 (+45°)	Port 4 (-45°)
BEAM 1 HB	Port 1 (+45°)	Port 2 (-45°)

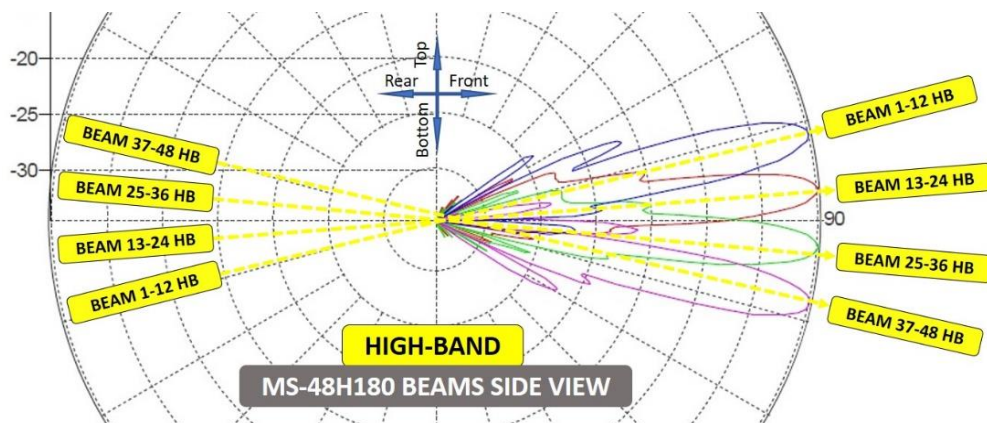
BEAM 24 HB	Port 47 (+45°)	Port 48 (-45°)
BEAM 23 HB	Port 45 (+45°)	Port 46 (-45°)
BEAM 22 HB	Port 43 (+45°)	Port 44 (-45°)
BEAM 21 HB	Port 41 (+45°)	Port 42 (-45°)
BEAM 20 HB	Port 39 (+45°)	Port 40 (-45°)
BEAM 19 HB	Port 37 (+45°)	Port 38 (-45°)
BEAM 18 HB	Port 35 (+45°)	Port 36 (-45°)
BEAM 17 HB	Port 33 (+45°)	Port 34 (-45°)
BEAM 16 HB	Port 31 (+45°)	Port 32 (-45°)
BEAM 15 HB	Port 29 (+45°)	Port 30 (-45°)
BEAM 14 HB	Port 27 (+45°)	Port 28 (-45°)
BEAM 13 HB	Port 25 (+45°)	Port 26 (-45°)

BEAM 36 HB	Port 71 (+45°)	Port 72 (-45°)
BEAM 35 HB	Port 69 (+45°)	Port 70 (-45°)
BEAM 34 HB	Port 67 (+45°)	Port 68 (-45°)
BEAM 33 HB	Port 65 (+45°)	Port 66 (-45°)
BEAM 32 HB	Port 63 (+45°)	Port 64 (-45°)
BEAM 31 HB	Port 61 (+45°)	Port 62 (-45°)
BEAM 30 HB	Port 59 (+45°)	Port 60 (-45°)
BEAM 29 HB	Port 57 (+45°)	Port 58 (-45°)
BEAM 28 HB	Port 55 (+45°)	Port 56 (-45°)
BEAM 27 HB	Port 53 (+45°)	Port 54 (-45°)
BEAM 26 HB	Port 51 (+45°)	Port 52 (-45°)
BEAM 25 HB	Port 49 (+45°)	Port 50 (-45°)

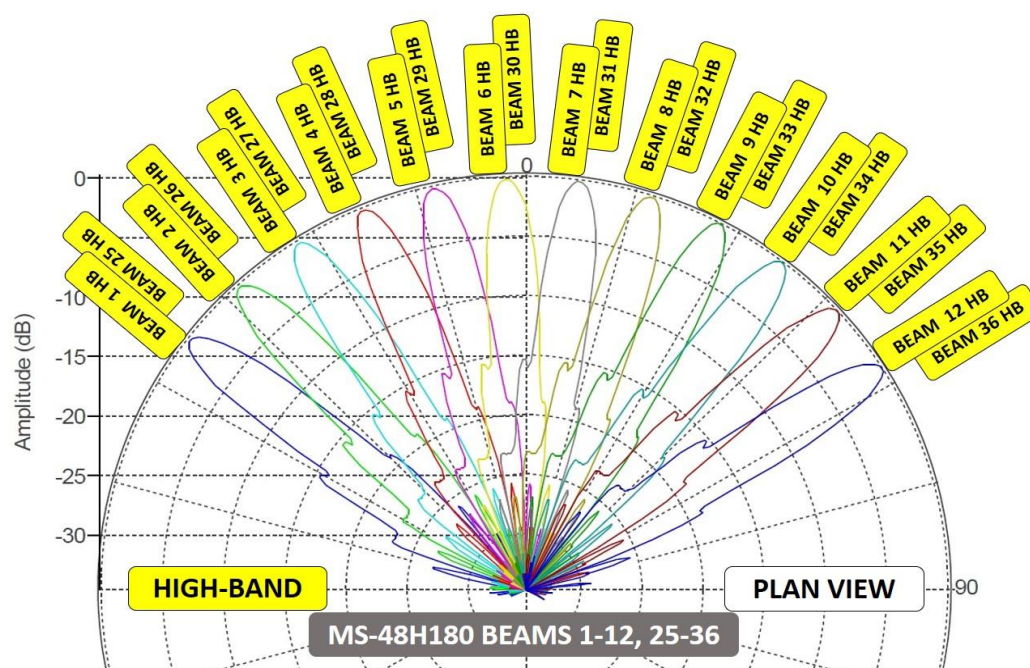
BEAM 48 HB	Port 95 (+45°)	Port 96 (-45°)
BEAM 47 HB	Port 93 (+45°)	Port 94 (-45°)
BEAM 46 HB	Port 91 (+45°)	Port 92 (-45°)
BEAM 45 HB	Port 89 (+45°)	Port 90 (-45°)
BEAM 44 HB	Port 87 (+45°)	Port 88 (-45°)
BEAM 43 HB	Port 85 (+45°)	Port 86 (-45°)
BEAM 42 HB	Port 83 (+45°)	Port 84 (-45°)
BEAM 41 HB	Port 81 (+45°)	Port 82 (-45°)
BEAM 40 HB	Port 79 (+45°)	Port 80 (-45°)
BEAM 39 HB	Port 77 (+45°)	Port 78 (-45°)
BEAM 38 HB	Port 75 (+45°)	Port 76 (-45°)
BEAM 37 HB	Port 73 (+45°)	Port 74 (-45°)

2.00 PATTERN DIAGRAM

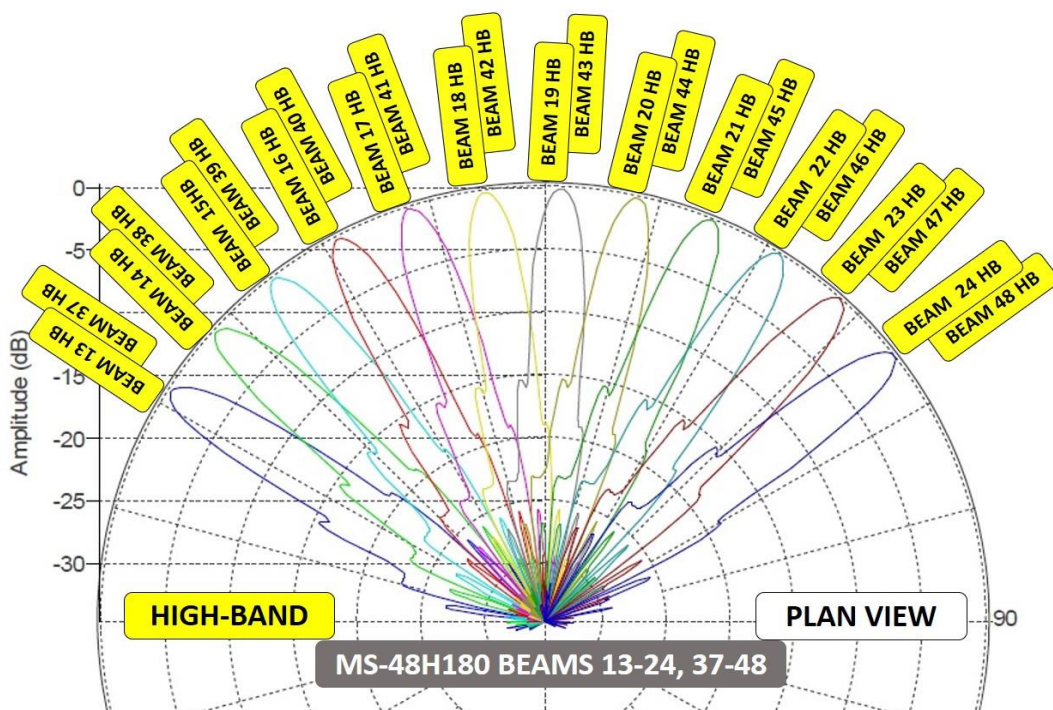
2.10 Side View HB Beam 1-12, 13-24, 25-36, 37-48.



2.20 Plan View HB Beam 1-12, 25-36.



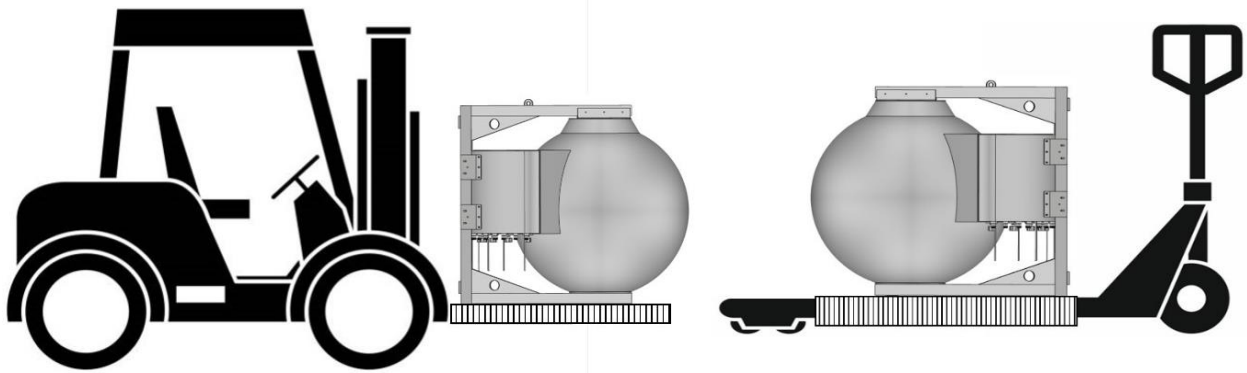
2.30 Plan View HB Beam 13-24, 37-48.



3.00 TRANSPORTATION / INSTALLATION

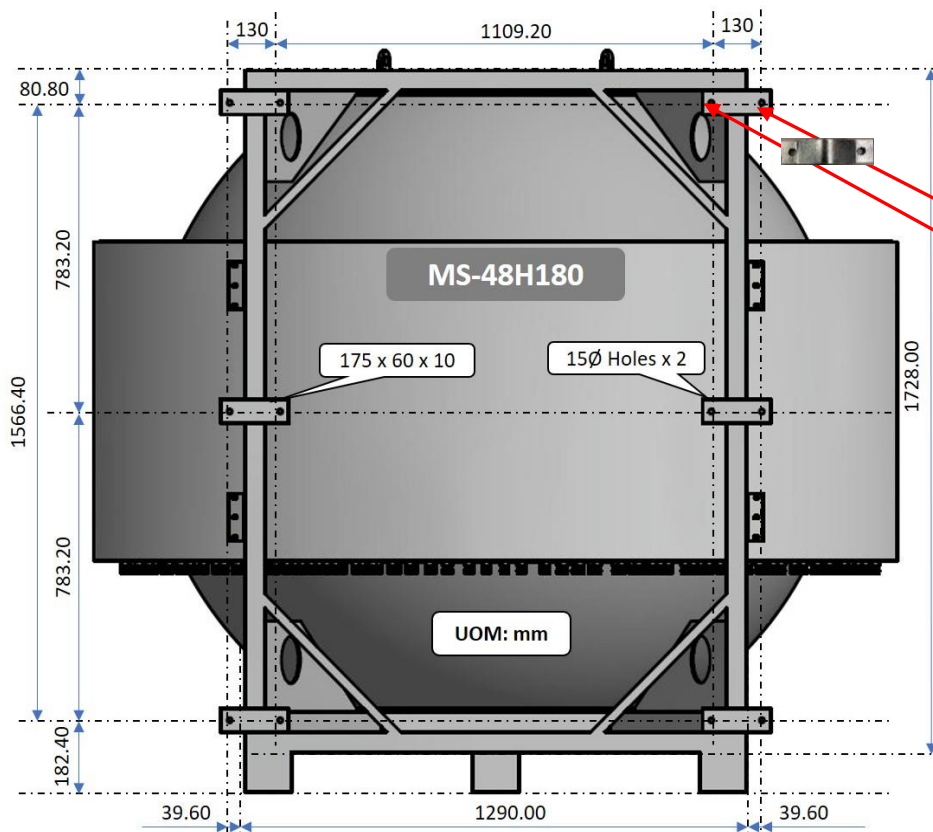
3.10 Transportation (From Point to Point)

Strictly comply to the Local authority and regulatory on Workplace Safety and Health Control and Measure when moving and transportation of large or heavy equipment, appropriate material handling machine should be use. **(Risk Assessment apply for Forklift or Pallet Truck Lifting)**



3.20 Bracket Mounting

Lens Size (Model)	Bracket Qty (pc)	Bolt & Nuts Size	Bolts Set (pc)
MS-XXX180 Lens	6	M14 x 15cm	12
MS-XXXX 60,90,120 Lens	4	M12 x 15cm	8



Tighten to the pole with Bolt & Nuts Sets

Important Notes:
End User is require to Custom-Make the additional supporting bracket and tighten to the existing Antenna bracket to meet the deployment needs.

3.30 Installation using a crane

Strictly comply to the Local authority and regulatory on Workplace Safety and Health Control and Measure when performing lifting of large or heavy equipment, appropriate material handling machine should be use and only certified personal should perform the task. **(Risk Assessment require to apply for both Up-Lifting and Down-Lifting.)**

3.31 Lifting the Antenna

The antenna has 2 hook points installed on the top frame (located slightly behind the center of the sphere). These hooks are designed at the center of gravity point of the antenna. A cable, rope can be securely fastened to the hooks and the antenna can be lifted using a crane or forklift as pictured below.

