

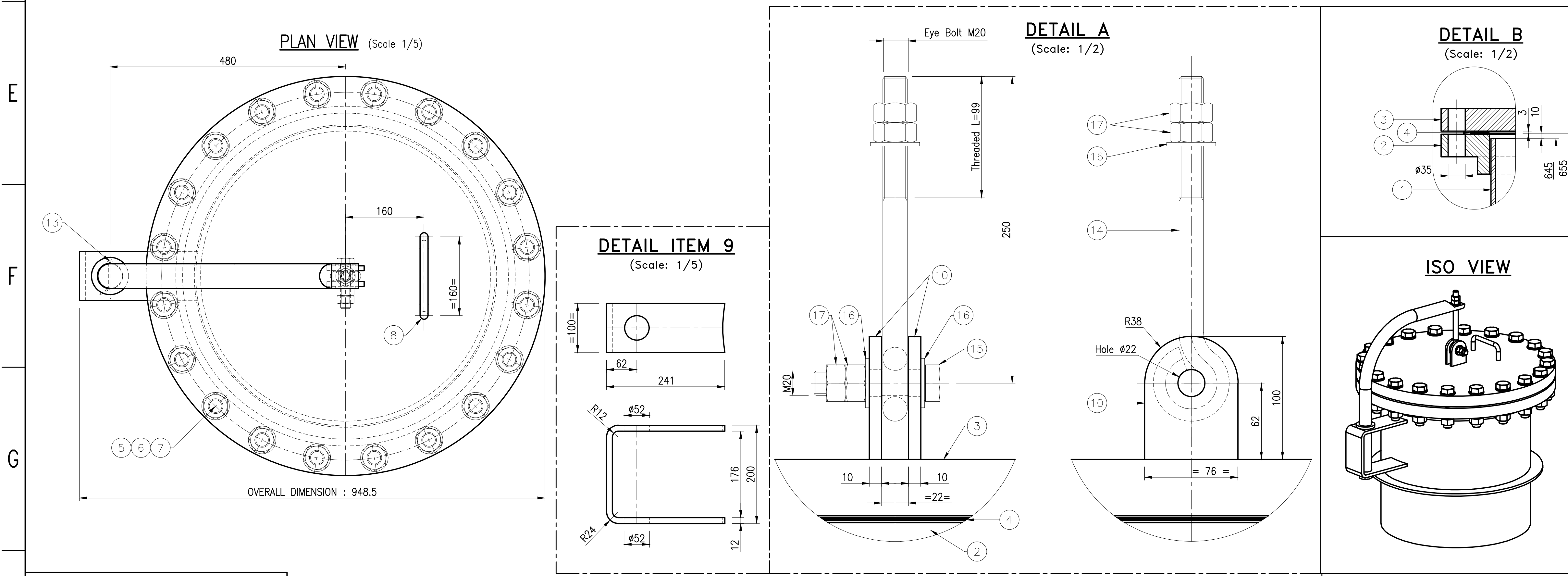
BILL OF MATERIAL FOR 1 VERTICAL MANHOLE 24", For The Order, 2x B.O.M. are required											
Item	Designation	Dimension (mm)				Material	Weight kg	Qty	Total Weight (kg)	Specification	
		Length	Width	Thk	O.D.						I.D.
1	Pipe 24" Sch STD	645		9.52	609.6	990.56	P 265 GH	90.9	1	90.9	
2	Flange 24" #150 SlipOn RF						P 265 GH	95.0	1	95.0	ASME B16.5
3	Flange 24" #150 Blind RF						P 265 GH	186.0	1	186.0	ASME B16.5
4	Gasket 24" #150		3	692	616	Klingsiers C4324		1			
5	Screw (DIN 933)		M30x150				Class 8.8	0.97	20	19.4	Galvanized
6	Nut (DIN 934)		M30				Class 8	0.22	20	4.5	Galvanized
7	Washer (DIN 125 A)		M30				Mild Steel	0.05	20	4.5	Galvanized
8	Handle Dia. 16	260			16		P 265 GH	0.4	1	0.4	
9	Bracket Plate on Pipe	643	100	12			P 265 GH	5.6	1	5.6	
10	Bracket Plate on Blind Flange	100	76	10			P 265 GH	0.5	2	1.0	
11	Support Bracket	1038			50		P 265 GH	15.4	1	15.4	
12	Washer for Support Bracket			10	76	52	P 265 GH	0.2	1	0.2	
13	Split Pin Ø4x71	71					P 265 GH	0.0	1	0.0	Galvanized
14	Eye Bolt (DIN 933)		M20x352				Class 8.8	0.9	1	0.9	Galvanized
15	Screw (DIN 933)		M20x90				Class 8.8	0.3	1	0.3	Galvanized
16	Washer (DIN 125 A)		M20				Mild Steel	0.0	3	0.1	Galvanized
17	Nut (DIN 934)		M20				Class 8	0.1	4	0.3	Galvanized
18	Support Ring for Grating		10	710	610		P 265 GH	8.1	4	8.1	
Total weight for 1 Set VERTICAL MANHOLE (kg)									430.2		net weight
Total weight for 2 Set VERTICAL MANHOLE (kg)									860.4		net weight

**NOTES :**

1. For weldings & chamfers typical details, refer to welding details standard drawing. Level of welding imperfections according to EN ISO 5817 Class B and ASME VIII-1.  
For site welds, chamfers shall also be done in workshop.
2. Tolerances on dimensions according to EN ISO 13920 Class AE and ASME VIII-1.
3. For detail drawing, total of partial dimensions may be different by 1mm to the overall length, due to rounded dimensioning by the computer.
4. Coating: Supplied with primer coat, final coating on site by others.  
See specification C1529257-206\_31000-REQ Last rev.
5. Transportation lugs and transport accessories shall be designed and foreseen by the duct manufacturer. Lifting lugs to be added by erection company.
6. To be supplied in parts suitable for Transportation. Splicing and Re-Assembly pads to be validated by Buyer before manufacturing.

**REFERENCE DRAWINGS LIST :**

- => C1529257-206\_00001-DWG - ACC GENERAL ARRANGEMENT Last rev.  
Client number : KAZ 30 HAMPD DGA 001 Last rev.
- => C1529257-206\_31000E-DWG-WELDING DETAILS STANDARD Last rev.  
Client number : KAZ 30 HAMPL DGE 178.
- => C1529257-206\_31100-DWG - Boiler work-Steam Duct General layout Last rev.  
Client number : KAZ 30 HAM DPA 041 Last rev.
- => C1529257-206\_33101-DWG - Condensate Tank Drawing Last rev.  
Client number : KAZ 30 HAM DPA 086 Last rev.



ALL PARTS HAVE TO BE WELDED,  
EXCEPT OTHERWISE NOTED.

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TYPICAL WELDING FOR PRESSURE PARTS  
WILL BE "TYP.0", TYPICAL WELDING FOR  
NON-PRESSURE PARTS WILL BE "TYP.21",  
EXCEPT OTHERWISE NOTED

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**DESIGN CONDITIONS :**

1. Code : BS EN 13445
2. Temperature : 110°C.
3. Pressure : 0.45barg / Full Vacuum.