



**DETAILED ENGINEERING OF PIGGING SET UP FOR
GORU AND TIPU WELLS**



DATASHEET FOR SPECIALITY ITEMS

DOCUMENT NO.: DHK-2052-PIP-DAS-0003

Rev.: A

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DISCIPLINE: PIP DOCUMENT TYPE: DAS

MARIENERGIES LIMITED

DATASHEET FOR SPECIALITY ITEMS

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TIPU WELLS**

A	Issued for Construction	08-Sep-25	MUK	MTA	AHD
0	Issued for Review	27-Jul-25	MUK	MTA	AHD
REV	DESCRIPTION	DATE	PREPARED	CHECKED	APPROVED

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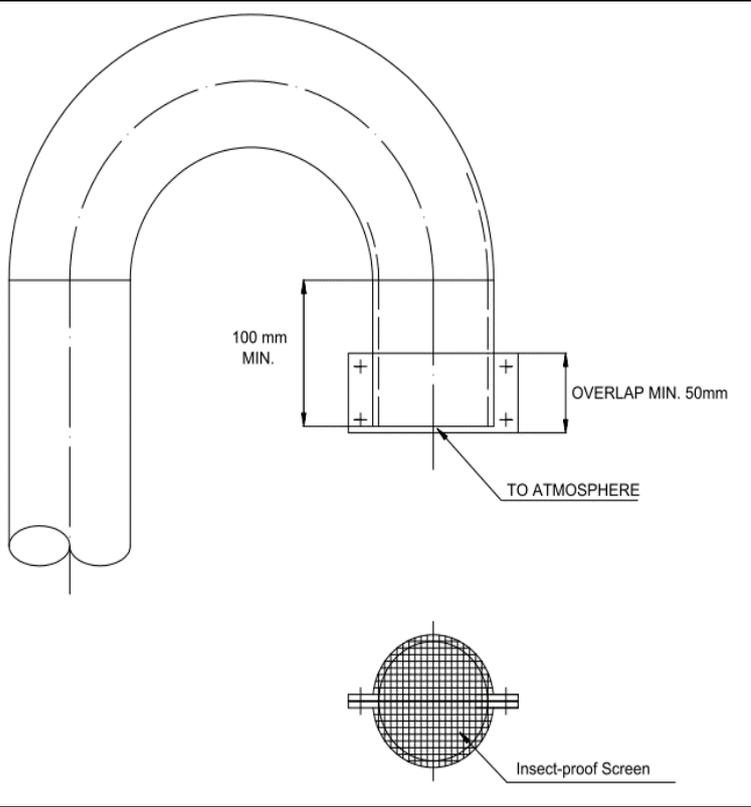
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Sr No.	Description	Size	SP Item Tag	Piping Class	QTY	P&ID No.	Location
1	Bird Screen	NPS 4	D12-M-105	A1	1	DHK-2052-PRO-PID-0032	MD-12
2	Bird Screen	NPS 4	D04-M-105	A1	1	DHK-2052-PRO-PID-0034	MD-04
3	Bird Screen	NPS 4	D13-M-106	A1	1	DHK-2052-PRO-PID-0035	Junction-2 (MD-13)
4	Bird Screen	NPS 4	D21-M-105	A1	1	0603284-D-21-PID-002	MD-21
5	Bird Screen	NPS 4	PD-M-105	A1	1	DHK-2052-PRO-PID-0008	Parwaz Deep-1
6	Bird Screen	NPS 4	D17-M-105	A1	1	DHK-2052-PRO-PID-0010	MD-17
7	Bird Screen	NPS 4	T1-M-105	A1	1	0903582-T1-PRO-PID-0002	Tipu-01
8	Bird Screen	NPS 4	D13-M-107	A1	1	2981-D13-PID-001 (Sht 2 of 2)	Junction-2 (MD-13)
9	Bird Screen	NPS 4	D13-M-108	A1	1	2981-D13-PID-001 (Sht 2 of 2)	Junction-2 (MD-13)
10	Bird Screen	NPS 4	SGPC-M-105	A1	1	DHK-2052-PRO-PID-0019	SGPC Plant
11	Bird Screen	NPS 4	SGPC-M-106	A1	1	DHK-2052-PRO-PID-0020	SGPC Plant
12	Bird Screen	NPS 4	CMFII-M-105	A1	1	DHK-2052-PRO-PID-0021	CMF-02
13	Bird Screen	NPS 6	SGPC-M-107	A1	1	DHK-2052-PRO-PID-0027	SGPC Plant
14	Bird Screen	NPS 4	D19-M-105	A1	1	0603284-D-19-PID-002	MD-19
15	Hose Coupling	NPS 2	D12-M-101	A1	1	DHK-2052-PRO-PID-0032	MD-12
16	Hose Coupling	NPS 2	D03-M-102	A1	1	DHK-2052-PRO-PID-0033	Junction-1 (MD-03)
17	Hose Coupling	NPS 2	D04-M-101	A1	1	DHK-2052-PRO-PID-0034	MD-04
18	Hose Coupling	NPS 2	D13-M-102	A1	1	DHK-2052-PRO-PID-0035	Junction-2 (MD-13)
19	Hose Coupling	NPS 2	A-M-101	A1	1	0603284-A-01-PID-002	Azadi-1
20	Hose Coupling	NPS 2	D03-M-103	A1	1	2981-D-03-PID-001	Junction-1 (MD-03)
21	Hose Coupling	NPS 2	D21-M-101	A1	1	0603284-D-21-PID-002	MD-21
22	Hose Coupling	NPS 2	D14-M-102	A1	1	2981-D-14-PID-001(Sht 2 of 2)	Junction-3 (MD-14)
23	Hose Coupling	NPS 2	PD-M-101	A1	1	DHK-2052-PRO-PID-0008	Parwaz Deep-1
24	Hose Coupling	NPS 2	D14-M-103	A1	1	2981-D-14-PID-001(Sht 2 of 2)	Junction-3 (MD-14)
25	Hose Coupling	NPS 2	D17-M-101	A1	1	DHK-2052-PRO-PID-0010	MD-17
26	Hose Coupling	NPS 2	D15-M-102	A1	1	2981-D-15-PID-001 (Sht 2 of 3)	Junction-5 (MD-15)
27	Hose Coupling	NPS 2	T1-M-101	A1	1	0903582-T1-PRO-PID-0002	Tipu-01
28	Hose Coupling	NPS 2	T2-M-102	A1	1	0903582-T2-PRO-PID-0002	Tipu-02
29	Hose Coupling	NPS 2	D03-M-101	A1	1	2981-D-03-PID-001 (Sht 2 of 2)	Junction-1 (MD-03)
30	Hose Coupling	NPS 2	D13-M-103	A1	1	2981-D13-PID-001 (Sht 2 of 2)	Junction-2 (MD-13)
31	Hose Coupling	NPS 2	D13-M-101	A1	1	2981-D13-PID-001 (Sht 2 of 2)	Junction-2 (MD-13)
32	Hose Coupling	NPS 2	D14-M-104	A1	1	DHK-2052-PRO-PID-0017	Junction-3 (MD-14)
33	Hose Coupling	NPS 2	T2-M-101	A1	1	0903582-T2-PRO-PID-0002	Tipu-02
34	Hose Coupling	NPS 2	SGPC-M-102	A1	1	DHK-2052-PRO-PID-0019	SGPC Plant
35	Hose Coupling	NPS 2	SGPC-M-101	A1	1	DHK-2052-PRO-PID-0020	SGPC Plant
36	Hose Coupling	NPS 2	CMFII-M-102	A1	1	DHK-2052-PRO-PID-0021	CMF-02
37	Hose Coupling	NPS 2	D14-M-101	A1	1	DHK-2052-PRO-PID-0022	Junction-3 (MD-14)
38	Hose Coupling	NPS 2	D02-M-102	A1	1	2981-D-02-PID-001(Sht 2 of 2)	Junction-4 (MD-02)
39	Hose Coupling	NPS 2	D02-M-101	A1	1	2981-D-02-PID-001(Sht 2 of 2)	Junction-4 (MD-02)
40	Hose Coupling	NPS 2	D15-M-103	A1	1	2981-D-15-PID-001 (Sht 2 of 3)	Junction-5 (MD-15)
41	Hose Coupling	NPS 2	D15-M-101	A1	1	2981-D-15-PID-001 (Sht 2 of 3)	Junction-5 (MD-15)
42	Hose Coupling	NPS 2	SGPC-M-103	A1	1	DHK-2052-PRO-PID-0027	SGPC Plant
43	Hose Coupling	NPS 2	D19-M-101	A1	1	0603284-D-19-PID-002	MD-19
44	Hose Coupling	NPS 2	D03-M-104	A1	1	DHK-2052-PRO-PID-0029	Junction-1 (MD-03)
45	Barred Tee	NPS 8	PD-M-109	CA1	1	DHK-2052-PRO-PID-0008	Parwaz Deep-1
46	Insulation Kit	NPS 2	A01-M-110	C1	1	0603284-A-01-PID-002	Azadi-1
47	Insulation Kit	NPS 14	SGPC-M-110	CA1	1	DHK-2052-PRO-PID-0020	SGPC Plant
48	Insulation Kit	NPS 8	SGPC-M-111	C1	1	DHK-2052-PRO-PID-0020	SGPC Plant
49	Insulation Kit	NPS 14	SGPC-M-112	CA1	1	DHK-2052-PRO-PID-0019	SGPC Plant
50	Insulation Kit	NPS 4	SGPC-M-113	C1	1	DHK-2052-PRO-PID-0019	SGPC Plant
51	Insulation Kit	NPS 20	SGPC-M-114	CA1	1	DHK-2052-PRO-PID-0027	SGPC Plant
52	Insulation Kit	NPS 8	SGPC-M-115	C1	1	DHK-2052-PRO-PID-0027	SGPC Plant
53	Insulation Kit	NPS 4	D17-M-110	C1	1	DHK-2052-PRO-PID-0010	MD-17
54	Insulation Kit	NPS 4	D19-M-110	C1	1	0603284-D-19-PID-002	MD-19
55	Insulation Kit	NPS 2	D21-M-110	C1	1	0603284-D-21-PID-002	MD-21
56	Insulation Kit	NPS 2	SGPC-M-116	A1	1	DHK-2052-PRO-PID-0020	SGPC Plant
57	Insulation Kit	NPS 2	SGPC-M-117	A1	1	DHK-2052-PRO-PID-0027	SGPC Plant
58	Insulation Kit	NPS 2	SGPC-M-118	A1	1	DHK-2052-PRO-PID-0019	SGPC Plant
59	Bird Screen	NPS 4	WH1-M-105	A1	1	DHK-2052-PRO-PID-0002	6"-NEW LOCATION
60	Bird Screen	NPS 4	WH1-M-106	A1	1	DHK-2052-PRO-PID-0003	6"-NEW LOCATION
61	Bird Screen	NPS 4	WH2-M-105	A1	1	DHK-2052-PRO-PID-0030	10"-NEW LOCATION
62	Bird Screen	NPS 4	WH2-M-106	A1	1	DHK-2052-PRO-PID-0031	10"-NEW LOCATION
63	Hose Coupling	NPS 2	WH1-M-101	A1	1	DHK-2052-PRO-PID-0002	6"-NEW LOCATION
64	Hose Coupling	NPS 2	WH1-M-102	A1	1	DHK-2052-PRO-PID-0003	6"-NEW LOCATION
65	Hose Coupling	NPS 2	WH2-M-101	A1	1	DHK-2052-PRO-PID-0030	10"-NEW LOCATION
66	Hose Coupling	NPS 2	WH2-M-102	A1	1	DHK-2052-PRO-PID-0031	10"-NEW LOCATION

Note:

1. Items in Sr. 59-66 are listed for information only.

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">General Requirement</p>	<p>Designation Bird Screen Quantity 18 (Refer Specialty Item Index) Piping Class A1 Fluid Service Process Gas Fluid Category Non-Sour Size Range NPS 4 - 6 Design Pressure (Psig) 256.7 Design Temperature (°F) -29 / 212 Pressure Rating Class 150 Wire Cloth Square Mesh: 60, Wire Dia.: 0.71mm, Open Area : 60% Mounting Clamping Pipe Material ASTM A106 GR.B / API 5L GR.B Dimensions Manufacturer Standard</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Material Requirement</p>	<p>Wire SS316 Clamping SS316 Additional Requirement -</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Sketch or Drawings</p>	
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Notes</p>	<ol style="list-style-type: none"> 1. The wire cloth (SS316) shall be clamped to the pipe with a neoprene band in between. 2. Required quantity of cloth to be advised by vendor. 3. Wire cloth to be clamped to fitting or pipe end, and minimum overlapping between clamp and wire cloth should be 50mm. 4. The drawing is for information only.

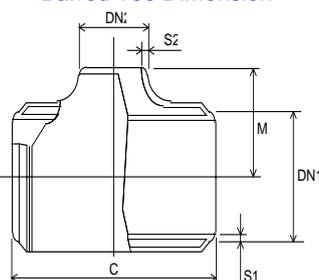
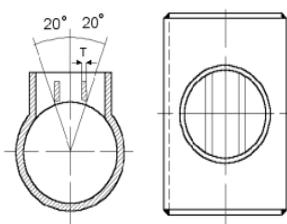
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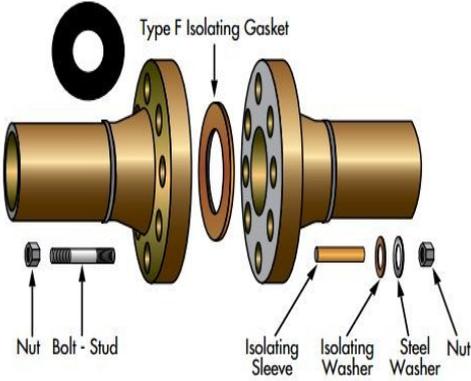
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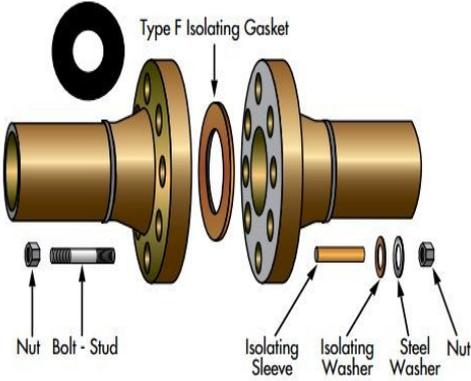
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General Requirement	Designation	Flanged Male Camlock Coupling
	Quantity	34 (Refer Specialty Item Index)
	Piping Class	A1
	Fluid Service	Process Gas
	Fluid Category	Non-Sour
	Size Range	NPS 2
	Design Pressure (Psig)	256.7
	Design Temperature (°F)	-29 / 212
	Pressure Rating	Class 150
	End Connection 1	2" Flanged RF to ASME B16.5
	End Connection 2	2" Male Coupling with Dust Cap & Chain
	Dust Cap & Chain	Required
	Dimensions	Manufacturer Standard
Material Requirement	Quick Coupling Material	SS316
	Seal	PTFE
	Dust Cap & Chain	ASTM A182 F316 & SS316
	Flange	ASTM A182 F316
Sketch or Drawings		
Inspection and Testing	Design Code	Manufacturer Standard
	Non-destructive Test	Manufacturer Standard
	Hydraulic Test Pressure	384 psig
	Material Certification	BS EN 10204 Type 3.1
	Marking	As per MSS SP-25 and SP Item Tag
Others	External Painting	/
	PMI	Manufacturer Standard
	Shipping and Packing	Manufacturer Standard
Notes	1. For piping class refer to Addendum to Piping Material Classes, Doc No. DHK-2052-PIP-SPC-0001.	
	2. A Stainless Steel tag showing SP Item No. shall be permanently attached to the specialty item body.	
	3. All stainless-steel items shall be supplied in solution annealed and quenched condition.	
	4. The drawing is for information only.	

<p>General Requirement</p>	<p>Designation Barred Tee Quantity 1 Piping Class CA1 Fluid Service Process Gas Fluid Category Non-Sour Size Range NPS 8 Design Pressure (Psig) 1350 Design Temperature (°F) -29 / 212 Pressure Rating Class 600</p>
<p>Pipeline Characteristics</p>	<p>External Diameter (mm) 219.1 Wall Thickness (mm) 12.7 Corrosion Allowance (mm) 3 Line Pipe Material API 5L Gr. X52 Design Code ASME B31.8 Piggable Yes</p>
<p>Tee Piece Characteristics</p>	<p>Installation Aboveground Corrosion Allowance (mm) 3 Nominal Diameter (DN1 x DN2 in mm) 219.1 x 219.1 Nominal Wall Thickness (S1 x S2 in mm) 12.7 x 12.7 Number of Bars 2 Bar Thickness (mm) 9 Bar Length (mm) 50 End Connection Bevel Ends, as per ASME B16.25 Manufacturing Forged with Extruded branch Dimensions (M and C) Manufacturer Standard Tolerances As per MSS SP-75 Ovalization As per MSS SP-75</p>
<p>Material Requirement</p>	<p>Tee Material ASTM A860 GR. WPHY-52 Guide Bar ASTM A516 Gr. 70 Connecting Plate ASTM A516 Gr. 70</p>
<p>Sketch or Drawings</p>	<p style="text-align: center;">Barred Tee Dimension</p>  <p style="text-align: center;">Bar Installation</p> 
<p>Inspection and Testing</p>	<p>Non-destructive Test Manufacturer Standard HIC Test N/A Hydraulic Test Pressure 2250 psig Material Certification BS EN 10204 Type 3.2 for Body and BS EN 10204 Type 3.1 for bars Marking As per MSS SP-25 and SP Item Tag</p>
<p>Others</p>	<p>External Painting As per MEC-GSP-0003</p>
<p>Notes</p>	<ol style="list-style-type: none"> For piping class refer to Addendum to Piping Material Classes, Doc No. DHK-2052-PIP-SPC-0001. A Stainless Steel tag showing SP Item No. shall be permanently attached to the specialty item body. Guide bars shall be welded with full penetration weld. Installation of bars shall be as per bar installation sketch shown above. Barred tee end connection and ID shall suit connected pipeline wall thickness. The barred tee dimensional drawing is for information only.

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">General Requirement</p>	<p>Designation Insulation Kit</p> <p>Quantity 10 (Refer Specialty Item Index)</p> <p>Piping Class C1 / CA1</p> <p>Fluid Service Process Gas</p> <p>Fluid Category Non-Sour</p> <p>Size Range NPS 2 - 20</p> <p>Design Pressure (Psig) 1350</p> <p>Design Temperature (°F) -29 / 212</p> <p>Pressure Rating Class 600</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Insulation Kit Characteristics</p>	<p>Type F-Type, Suitable for RF Flanges to ASME B16.5</p> <p>Gasket Thickness (mm) 4.5</p> <p>Insulating Washer Required, 2 per bolt with 3mm thickness</p> <p>Insulating Sleeve Required, 1 per bolt with full length</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Material Requirement</p>	<p>Gasket Material G10, SS316L METAL CORE WITH GRE LAMINATED WITH PTFE SEALS</p> <p>Insulating Washer G10</p> <p>Insulating Sleeve G10</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Sketch or Drawings</p>	 <p>The diagram illustrates the assembly of an isolating kit on a flange. It shows a cross-section of a flange with a central pipe. A 'Type F Isolating Gasket' is positioned between the flange and the pipe. An 'Isolating Sleeve' is shown around the pipe, secured by a 'Bolt-Stud' passing through the sleeve and the flange. A 'Nut' is used to tighten the bolt-stud. Two 'Isolating Washers' and one 'Steel Washer' are also shown, which are used to secure the sleeve to the flange.</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Notes</p>	<ol style="list-style-type: none"> 1. For piping class refer to Addendum to Piping Material Classes, Doc No. DHK-2052-PIP-SPC-0001. 2. The drawing is for information only. 3. Sleeve shall cover full length of studbolt with Zinc plated carbon steel washers.

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">General Requirement</p>	<p>Designation Insulation Kit Quantity 3 (Refer Specialty Item Index) Piping Class A1 Fluid Service Process Gas Fluid Category Non-Sour Size Range NPS 2 Design Pressure (Psig) 256.7 Design Temperature (°F) -29 / 212 Pressure Rating Class 150</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Insulation Kit Characteristics</p>	<p>Type F-Type, Suitable for RF Flanges to ASME B16.5 Gasket Thickness (mm) 4.5 Insulating Washer Required, 2 per bolt with 3mm thickness Insulating Sleeve Required, 1 per bolt with full length</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Material Requirement</p>	<p>Gasket Material G10, SS316L METAL CORE WITH GRE LAMINATED WITH PTFE SEALS Insulating Washer G10 Insulating Sleeve G10</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Sketch or Drawings</p>	
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Notes</p>	<ol style="list-style-type: none"> 1. For piping class refer to Addendum to Piping Material Classes, Doc No. DHK-2052-PIP-SPC-0001. 2. The drawing is for information only. 3. Sleeve shall cover full length of studbolt with Zinc plated carbon steel washers.