



	<b>Gachsaran Polymer Industries Company</b> <b>HDPE Plant</b>		
	<b>Insulation MTO for Refrigerator</b> <b>Package</b>		 
PO No.: GPIC-PT-MA-PO-000-3029	Document Number: VD-GPIC-MA-3029-3029-0069		Rev. 00
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## Insulation MTO for Refrigerator Package

<b>Code1</b>	<input type="checkbox"/> <b>No Comment/ Approved</b> (Applicable Only for "FOR REVIEW" and "For Approval" Documents) No comment and the document are released for Manufacturing.
<b>Code2</b>	<input type="checkbox"/> <b>No Comment/ Approved with Note(s)</b> Vendor/Sub-Contractor shall correct, revise and resubmit the document. The document is released for Manufacturing if changes incorporated.
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Above checking results by EIED shall in no way relieve Vendor of any liability, obligation and responsibility out of the purchase order and the mutual agreement in writing.

 Energy Industries Engineering & Design co.	<b>Date:</b> <span style="color: red;">May. 13, 2026</span> <b>Dept.:</b> <span style="color: red;">MA</span> <b>Signature:</b> <span style="color: red;">F.Hamooni</span>
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00	3-May-26	IFR	N.B	F.T	A.M
<b>Rev.</b>	<b>DATE</b>	<b>PURPOSE OF ISSUE</b>	<b>PREPARED</b>	<b>CHECKED</b>	<b>APPROVED</b>



Piping													
Cold Insulation													
Personal Insulation: Polyurethane/ PIR													
Item No.	insul-thk	Size	Type	size , type ,rating , insul thick	Lenght(m) QTY (Piece)	insulation type	Remark						
1	50.00mm	3/4"	Ball Valve	3/4",Ball Valve,300#,Cold Insulation insulation thick =50.00mm	21	Cold							
2	50.00mm	3/4"	Blind Flange	3/4",Blind Flange,300#,Cold Insulation insulation thick =50.00mm	14	Cold							
3	50.00mm	3/4"	Flange	3/4",Flange,300#,Cold Insulation insulation thick =50.00mm	22	Cold							
4	50.00mm	3/4"	Pipe	3/4",Pipe,,Cold Insulation insulation thick =50.00mm	5.5	Cold							
5	50.00mm	3/4"	Elbow	3/4",Elbow,Cold Insulation insulation thick =50.00mm	6	Cold							
6	50.00mm	1"	Ball Valve	1",Ball Valve,300#,Cold Insulation insulation thick =50.00mm	2	Cold							
7	50.00mm	1"	Flange	1",Flange,300#,Cold Insulation insulation thick =50.00mm	3	Cold							
8	50.00mm	1 1/2"	Ball Valve	1 1/2",Ball Valve,300#,Cold Insulation insulation thick =50.00mm	1	Cold							
9	50.00mm	1 1/2"	Flange	1 1/2",Flange,300#,Cold Insulation insulation thick =50.00mm	4	Cold							
10	50.00mm	2" x 1"	Reducer	2" x 1",Reducer,,Cold Insulation insulation thick =50.00mm	1	Cold							
11	50.00mm	2"	Ball Valve	2",Ball Valve,300#,Cold Insulation insulation thick =50.00mm	8	Cold							
12	50.00mm	2"	Globe Valve	2",Ball Valve,300#,Cold Insulation insulation thick =50.00mm	1	Cold							
13	50.00mm	2"	Blind Flange	2",Blind Flange,300#,Cold Insulation insulation thick =50.00mm	2	Cold							
14	50.00mm	2"	Flange	2",Flange,300#,Cold Insulation insulation thick =50.00mm	16	Cold							
15	50.00mm	2"	Elbow	2",Elbow,,Cold Insulation insulation thick =50.00mm	2	Cold							
16	50.00mm	2"	Pipe	2",Pipe,Cold Insulation insulation thick =50.00mm	1	Cold							
17	50.00mm	3"	Ball Valve	3",Ball Valve,300#,Cold Insulation insulation thick =50.00mm	3	Cold							

Piping													
Cold Insulation													
Personal Insulation: Polyurethane/ PIR													
Item No.	insul-thk	Size	Type	size , type ,rating , insul thick	Lenght(m) QTY (Piece)	insulation type	Remark						
18	50.00mm	3"	Flange	3",Flange,300#,Cold Insulation insulation thick =50.00mm	9	Cold							
19	50.00mm	3"	Globe Valve	3",Globe Valve,300#,Cold Insulation insulation thick =50.00mm	1	Cold							
20	50.00mm	3"	Elbow	3",Elbow,,Cold Insulation insulation thick =50.00mm	5	Cold							
21	50.00mm	3"	Pipe	3",Pipe,,Cold Insulation insulation thick =50.00mm	4.6	Cold							
22	50.00mm	3" x 2"	Reducer	3" x 2",Reducer,,Cold Insulation insulation thick =50.00mm	3	Cold							
23	50.00mm	4"	Elbow	4",Elbow,,Cold Insulation insulation thick =50.00mm	8	Cold							
24	50.00mm	4"	Flange	4",Flange,300#,Cold Insulation insulation thick =50.00mm	10	Cold							
25	50.00mm	4"	Tee	4",Tee,Cold Insulation insulation thick =50.00mm	4	Cold							
26	50.00mm	4"	Pipe	4",Pipe,,Cold Insulation insulation thick =50.00mm	9.7	Cold							
27	50.00mm	4" x 3"	Reducer	4" x 3",Reducer,,Cold Insulation insulation thick =50.00mm	2	Cold							
28	50.00mm	6"	Ball Valve	6",Ball Valve,300#,Cold Insulation insulation thick =50.00mm	1	Cold							
29	50.00mm	6"	Check Valve	6",Check Valve,300#,Cold Insulation insulation thick =50.00mm	2	Cold							
30	50.00mm	6"	Strainer	6",Strainer,300#,Cold Insulation insulation thick =50.00mm	2	Cold							
31	50.00mm	6"	Elbow	6",Elbow,Cold Insulation insulation thick =50.00mm	7	Cold							
32	50.00mm	6"	Flange	6",Flange,300#,Cold Insulation insulation thick =50.00mm	16	Cold							
33	50.00mm	6"	Pipe	6",Pipe,,Cold Insulation insulation thick =50.00mm	14.95	Cold							
34	50.00mm	6" x 2"	Reducer	6" x 2",Reducer,,Cold Insulation insulation thick =50.00mm	2	Cold							

**Piping**

**Cold Insulation**

**Personal Insulation: Polyurethane/ PIR**

Item No.	insul-thk	Size	Type	size , type ,rating , insul thick	Lenght(m) QTY (Piece)	insulation type	Remark						
35	50.00mm	6" x 4"	Reducer	6" x 4",Reducer,,Cold Insulation insulation thick =50.00mm	4	Cold							
36	50.00mm	6"	Tee	6",Tee,,Cold Insulation insulation thick =50.00mm	1	Cold							
37	50.00mm	12"	Ball Valve	12",Ball Valve,300#,Cold Insulation insulation thick =50.00mm	2	Cold							
38	50.00mm	12"	Check Valve	12",Check Valve,300#,Cold Insulation insulation thick =500.00mm	2	Cold							
39	50.00mm	12"	Flange	12",Flange,300#,Cold Insulation insulation thick =50.00mm	8	Cold							
40	50.00mm	12"	Elbow	12",Elbow,Cold Insulation insulation thick =50.00mm	2	Cold							
41	50.00mm	12"	TEE	12",Tee,,Cold Insulation insulation thick =50.00mm	1	Cold							
42	50.00mm	12"	Pipe	12",Pipe,,Cold Insulation insulation thick =500.00mm	10.1	Cold							
43	50.00mm	14"	Flange	14",Flange,300#,Cold Insulation insulation thick =50.00mm	10	Cold							
44	50.00mm	14"	Blind Flange	14",Blind Flange,300#,Cold Insulation insulation thick =50.00mm	2	Cold							
45	50.00mm	14" x 12"	Reducer	14" x 12",Reducer,,Cold Insulation insulation thick =50.00mm	2	Cold							
46	50.00mm	14"	TEE	14",Tee,,Cold Insulation insulation thick =50.00mm	2	Cold							
47	50.00mm	14"	Pipe	14",Pipe,,Cold Insulation insulation thick =50.00mm	2.8	Cold							

Please recheck thickness

**Equipment**

Item	Tag No.	Description	Qty.	Est. Dimensions (mm)		Insulation		
				Dia.	TL-TL	Type	Thickness (mm)	Surface (m2)
1	E-6101	CHILLER	1	1146	7554	COLD	50.0	39.0
2	Pipe Header	CHILLER PIPE HEADER	1	939	5580	COLD	50.0	24.0
3	E-6105	ECONOMIZER	1	376	832	COLD	50.0	5.0

**Gachsaran Polymer Industries Company  
HDPE Plant**



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**Piping**

**Personnel Protection**

**Personnel Insulation: Mineral Wool**

Item No.	insul-thk	Size	Type	size , type ,rating , insul thick	Lenght(m) QTY (Piece)	insulation type	Remark						
1	30.00mm	3/4"	Ball Valve	3/4",Ball Valve,300#,Personnel Insulation insulation thick =30.00mm	7	Personnel Protection							
2	30.00mm	3/4"	Blind Flange	3/4",Blind Flange,300#,Personnel Insulation insulation thick =30.00mm	7	Personnel Protection							
3	30.00mm	3/4"	Flange	3/4",Flange,300#,Personnel Insulation insulation thick =30.00mm	8	Personnel Protection							
4	30.00mm	3/4"	Elbow	3/4",Elbow,,Personnel Insulation insulation thick =30.00mm	4	Personnel Protection							
5	30.00mm	3/4"	Pipe	3/4",Pipe,,Personnel Insulation insulation thick =30.00mm	1.2	Personnel Protection							
6	30.00mm	1 1/2"	Ball Valve	1 1/2",Ball Valve,300#,Personnel Insulation insulation thick =30.00mm	1	Personnel Protection							
7	30.00mm	1 1/2"	Blind Flange	1 1/2",Blind Flange,300#,Personnel Insulation insulation thick =30.00mm	1	Personnel Protection							
8	30.00mm	1 1/2"	Flange	1 1/2",Flange,300#,Personnel Insulation insulation thick =30.00mm	4	Personnel Protection							
9	30.00mm	1 1/2"	Elbow	1 1/2",Elbow,,Personnel Insulation insulation thick =30.00mm	1	Personnel Protection							
10	30.00mm	1 1/2"	Pipe	1 1/2",Pipe,,Personnel Insulation insulation thick =30.00mm	0.5	Personnel Protection							
11	30.00mm	2"	Ball Valve	2",Ball Valve,300#,Personnel Insulation insulation thick =30.00mm	5	Personnel Protection							
12	30.00mm	2"	Check Valve	2",Ball Valve,300#,Personnel Insulation insulation thick =30.00mm	2	Personnel Protection							
13	30.00mm	2"	Blind Flange	2",Blind Flange,300#,Personnel Insulation insulation thick =30.00mm	4	Personnel Protection							
14	30.00mm	2"	Flange	2",Flange,300#,Personnel Insulation insulation thick =30.00mm	14	Personnel Protection							
15	30.00mm	2"	Elbow	2",Elbow,,Personnel Insulation insulation thick =30.00mm	12	Personnel Protection							
16	30.00mm	2"	Pipe	2",Pipe,,Personnel Insulation insulation thick =30.00mm	5.2	Personnel Protection							

Piping												
Personnel Protection												
Personnel Insulation: Mineral Wool												
Item No.	insul-thk	Size	Type	size , type ,rating , insul thick	Lenght(m) QTY (Piece)	insulation type	Remark					
17	30.00mm	3"	Ball Valve	3",Ball Valve,300#,Personnel Insulation insulation thick =30.00mm	2	Personnel Protection						
18	30.00mm	3"	Strainer	3",Strainer,300#,Personnel Insulation insulation thick =30.00mm	2	Personnel Protection						
19	30.00mm	3"	Elbow	3",Elbow,,Personnel Insulation insulation thick =30.00mm	14	Personnel Protection						
20	30.00mm	3"	Flange	3",Flange,300#,Personnel Insulation insulation thick =30.00mm	20	Personnel Protection						
21	30.00mm	3"	Blind Flange	3",Blind Flange,300#,Personnel Insulation insulation thick =30.00mm	2	Personnel Protection						
22	30.00mm	3"	Pipe	3",Pipe,,Personnel Insulation insulation thick =30.00mm	9.9	Personnel Protection						
23	30.00mm	3"	Tee	3",Tee,,Personnel Insulation insulation thick =30.00mm	1	Personnel Protection						
24	30.00mm	3" x 2"	Tee	3" x 2",Tee,,Personnel Insulation insulation thick =30.00mm	2	Personnel Protection						
25	30.00mm	3" x 2"	Reducer	3" x 2",Reducer,Personnel Insulation insulation thick =30.00mm	3	Personnel Protection						
26	30.00mm	4"	Flange	4",Flange,300#,Personnel Insulation insulation thick =30.00mm	1	Personnel Protection						
27	30.00mm	4"	Pipe	4",Pipe,,Personnel Insulation insulation thick =30.00mm	0.2	Personnel Protection						
28	30.00mm	6"	Blind Flange	6",Blind Flange,300#,Personnel Insulation insulation thick =30.00mm	1	Personnel Protection						
29	30.00mm	6"	Flange	6",Flange,300#,Personnel Insulation insulation thick =30.00mm	2	Personnel Protection						
30	30.00mm	6"	Pipe	6",Pipe,,Personnel Insulation insulation thick =30.00mm	0.5	Personnel Protection						
31	30.00mm	8"	Elbow	8",Elbow,,Personnel Insulation insulation thick =30.00mm	2	Personnel Protection						
32	30.00mm	8"	Flange	8",Flange,300#,Personnel Insulation insulation thick =30.00mm	6	Personnel Protection						

 		<b>Gachsaran Polymer Industries Company</b> <b>HDPE Plant</b>								
<b>Document Title: Insulation MTO for Refrigerator Package</b>										
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<b>Piping</b>										
<b>Personnel Protection</b>										
<b>Personnel Insulation: Mineral Wool</b>										
Item No.	insul-thk	Size	Type	size , type ,rating , insul thick	Lenght(m) QTY (Piece)	insulation type	Remark			
33	30.00mm	8"	Pipe	8",Pipe,,Personnel Insulation insulation thick =30.00mm	0.6	Personnel Protection				
34	30.00mm	10"	Ball Valve	10",Ball Valve,300#,Personnel Insulation insulation thick =30.00mm	2	Personnel Protection				
35	30.00mm	10"	Flange	10",Flange,300#,Personnel Insulation insulation thick =30.00mm	8	Personnel Protection				
36	30.00mm	10"	Elbow	10",Elbow,,Personnel Insulation insulation thick =30.00mm	2	Personnel Protection				
37	30.00mm	10"	TEE	10",Tee,,Personnel Insulation insulation thick =30.00mm	1	Personnel Protection				
38	30.00mm	10" x 8"	Reducer	10" x 8",Reducer,Personnel Insulation insulation thick =30.00mm	2	Personnel Protection				
<b>Equipment</b>										
Item		Tag No.	Description	Qty.	Est. Dimensions (mm)		Insulation			
					Dia.	TL-TL	Type	Thickness(mm)	Surface(m2)	
1		D-6101	OIL SEPARATOR	1.0	1372.0	3556.0	P.P	30.0	26.0	
2		E-6102	OIL COOLER	1.0	401.0	5681.0	P.P	30.0	10.0	

**PLEASE ADD METAL JACKETING FOR INSULATION ACCORDING TO INSULATION SPECIFICATION WITH KIND OF MATERIAL, THICKNESS AND AREA**