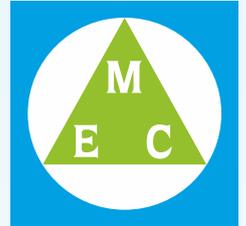
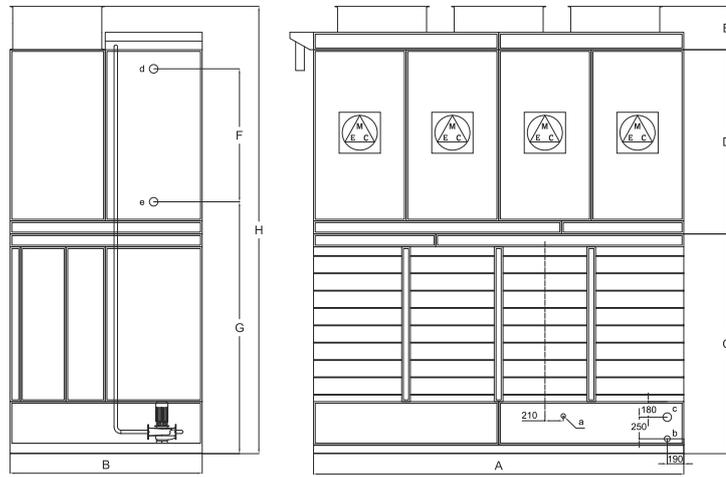


# MEC'S COIL EVAPORATIVE CONDENSER



-  **Consistent Quality**
-  **Reliable Performance**
-  **Timely Delivery**

## Schematic Diagram



## Model Selection Data

TYPE	HEAT REJECTION KW	WATER EVAPORATIVE LOSS TON/KW/H	AXIAL PROPELLER FAN				CIRCUIT PUMP			R22/R717 FILLING VOLUME KW	WEIGHT	
			QTY.	BLOWING RATE	POWER	PRESSURE	QTY.	DISCHARGE RATE	POWER		NET KG	OPERATING KG
				m3/h	KW	Pa		m3/h	KW			
MEC-150	150	0.135	1	1 x 20000	1 x 0.75	1 x 80	1	1 x 28	1 x 0.75	33 / 17	2030	3260
MEC-160	160	0.144	1	1 x 22000	1 x 1.1	1 x 90	1	1 x 28	1 x 0.75	33 / 17	2040	3270
MEC-180	180	0.162	1	1 x 28000	1 x 1.5	1 x 110	1	1 x 28	1 x 0.75	33 / 17	2050	3280
MEC-205	205	0.185	1	1 x 35000	1 x 2.2	1 x 140	1	1 x 28	1 x 0.75	33 / 17	2060	3290
MEC-255	255	0.203	1	1 x 28000	1 x 1.5	1 x 110	1	1 x 28	1 x 0.75	48 / 25	2170	3400
MEC-250	250	0.225	1	1 x 35000	1 x 2.2	1 x 140	1	1 x 28	1 x 0.75	48 / 25	2180	3410
MEC-265	265	0.239	1	1 x 40000	1 x 3.0	1 x 160	1	1 x 28	1 x 0.75	48 / 25	2190	3420
MEC-295	295	0.266	1	1 x 35000	1 x 2.2	1 x 140	1	1 x 28	1 x 0.75	66 / 34	2300	3530
MEC-320	320	0.288	1	1 x 40000	1 x 3.0	1 x 160	1	1 x 28	1 x 0.75	66 / 34	2310	3540
MEC-340	340	0.306	1	1 x 45000	1 x 4.0	1 x 180	1	1 x 28	1 x 0.75	66 / 34	2320	3550
MEC-370	370	0.333	1	1 x 40000	1 x 3.0	1 x 160	1	1 x 28	1 x 0.75	79 / 41	2460	3690
MEC-390	390	0.351	1	1 x 45000	1 x 4.0	1 x 180	1	1 x 28	1 x 0.75	79 / 41	2470	3700
MEC-420	420	0.333	1	1 x 40000	1 x 3.0	1 x 160	1	1 x 28	1 x 0.75	99 / 50	2610	3840
MEC-440	440	0.396	1	1 x 45000	1 x 4.0	1 x 180	1	1 x 28	1 x 0.75	99 / 50	2620	3850
MEC-475	475	0.428	1	1 x 40000	1 x 3.0	1 x 160	1	1 x 53	1 x 1.1	114 / 58	2780	3410
MEC-495	495	0.446	1	1 x 45000	1 x 4.0	1 x 180	1	1 x 53	1 x 1.1	114 / 58	2790	3420
MEC-525	525	0.473	2	2 x 22000	2 x 1.1	2 x 90	1	1 x 53	1 x 1.1	128 / 65	3380	5260
MEC-560	560	0.504	2	2 x 28000	2 x 1.5	2 x 110	1	1 x 53	1 x 1.1	128 / 65	3400	5280
MEC-590	590	0.531	2	2 x 35000	2 x 2.2	2 x 140	1	1 x 53	1 x 1.1	128 / 65	3420	5300
MEC-620	620	0.558	2	2 x 40000	2 x 3.0	2 x 160	1	1 x 53	1 x 1.1	128 / 65	3440	5320
MEC-645	645	0.581	2	2 x 28000	2 x 1.5	2 x 110	1	1 x 53	1 x 1.1	152 / 78	3590	5470
MEC-680	680	0.612	2	2 x 35000	2 x 2.2	2 x 140	1	1 x 53	1 x 1.1	152 / 78	3610	5490
MEC-705	705	0.635	2	2 x 40000	2 x 3.0	2 x 160	1	1 x 53	1 x 1.1	152 / 78	3630	5510
MEC-730	730	0.657	2	2 x 45000	2 x 4.0	2 x 180	1	1 x 53	1 x 1.1	152 / 78	3650	5530
MEC-765	765	0.689	2	2 x 35000	2 x 2.2	2 x 140	1	1 x 53	1 x 1.1	178 / 91	3800	5680
MEC-790	790	0.711	2	2 x 40000	2 x 3.0	2 x 160	1	1 x 53	1 x 1.1	178 / 91	3820	5700
MEC-815	815	0.734	2	2 x 45000	2 x 4.0	2 x 180	1	1 x 53	1 x 1.1	178 / 91	3840	5720
MEC-855	855	0.77	3	3 x 28000	3 x 1.5	3 x 110	1	1 x 70	1 x 1.5	195 / 99	4890	9030
MEC-905	905	0.815	3	3 x 35000	3 x 2.2	3 x 140	1	1 x 70	1 x 1.5	195 / 99	4920	9060
MEC-920	920	0.828	3	3 x 40000	3 x 3.0	3 x 160	1	1 x 70	1 x 1.5	195 / 99	4950	9090
MEC-980	980	0.882	3	3 x 45000	3 x 4.0	3 x 180	1	1 x 70	1 x 1.5	195 / 99	4980	9120
MEC-1060	1060	0.954	3	3 x 35000	3 x 2.2	3 x 140	1	1 x 84	1 x 2.2	230 / 119	8040	10180
MEC-1100	1100	0.99	3	3 x 40000	3 x 3.0	3 x 160	1	1 x 84	1 x 2.2	230 / 119	8070	10210
MEC-1160	1160	1.044	3	3 x 45000	3 x 4.0	3 x 180	1	1 x 84	1 x 2.2	230 / 119	8100	10240
MEC-1215	1215	1.094	3	3 x 40000	3 x 3.0	3 x 160	1	1 x 84	1 x 2.2	268 / 139	6380	10520
MEC-1265	1265	1.139	3	3 x 45000	3 x 4.0	3 x 180	1	1 x 84	1 x 2.2	268 / 139	8410	10550
MEC-1380	1380	1.24	4	4 x 35000	4 x 2.2	4 x 140	1	1 x 150	1 x 3.0	307 / 159	7050	11250
MEC-1450	1450	1.3	4	4 x 40000	4 x 3.0	4 x 160	1	1 x 150	1 x 3.0	307 / 159	7090	11290
MEC-1520	1520	1.37	4	4 x 45000	4 x 4.0	4 x 180	1	1 x 150	1 x 3.0	307 / 159	7130	11330
MEC-1680	1680	1.37	4	4 x 45000	4 x 4.0	4 x 180	1	1 x 150	1 x 3.0	359 / 186	7630	11930
MEC-1840	1840	1.66	4	4 x 40000	4 x 3.0	4 x 180	1	1 x 180	1 x 4.0	409 / 212	8830	14730
MEC-1935	1935	1.73	4	4 x 45000	4 x 4.0	4 x 180	1	1 x 180	1 x 4.0	409 / 212	8870	14770
MEC-2140	2140	1.93	4	4 x 45000	4 x 4.0	4 x 180	1	1 x 180	1 x 4.0	479 / 248	9470	15370
MEC-2300	2300	2.07	5	5 x 40000	5 x 3.0	5 x 160	1	1 x 233	1 x 5.5	516 / 266	11030	18430
MEC-2420	2420	2.18	5	5 x 40000	5 x 4.0	5 x 180	1	1 x 233	1 x 5.5	516 / 266	11080	18430
MEC-2680	2680	2.4	5	5 x 40000	5 x 3.0	5 x 160	1	1 x 233	1 x 5.5	598 / 310	11930	19330
MEC-2820	2820	2.6	5	5 x 45000	5 x 4.0	5 x 180	1	1 x 233	1 x 5.5	598 / 310	11980	19380

## Selection Criteria - Example

**Steps - 1, 2 & 3** - Determine the Refrigerants, Plant SCT & We  
 Refrigerants = R717  
 Saturated Condensing Temp. (SCT) = 32°C  
 Wet Bulb Temp. (We) = 23°C  
 Evaporator Load = 900kW  
 Compressor Absorbed Power = 223kW

**Steps - 4** - Determine the Total Heat of Rejection  
 Evaporator Load = 900kW  
 Compressor Absorbed Power = 223kW  
 Total Heat of Rejection (THR) = 1123kW

**Steps - 5** - Multiply by THR Correction Index  
 Refrigerants = R717  
 Saturated Condensing Temp. (SCT) = 32°C  
 Wet Bulb Temp. (We) = 23°C  
 Evaporator Load = 900kW  
 Compressor Absorbed Power = 223kW  
 THR index for 32°C SCT and 23°C  
 WB = 1.20  
 THR = 1123kW x 1.20 = 1347.6kW

**Steps - 6** - Use data tables to identify correct model  
 Evaporative Condenser Model MEC-1380WS has a  
 THR > 1347.6kW  
 Model selected MEC - 1380WS

## Model Selection Data

TYPE	DIMENSION									FILLING WATER PIPE	DE-WATERING PIPE	OVER FLOW PIPE	AIR INLET PIPE	LIQUID OUTLET PIPE
	A	B	C	D	E	F	G	H	J					
	mm	mm	mm	mm	mm	mm	mm	mm	mm					
MEC-150	1830	2200	1998	1280	460	376	2755	3738	280	DN25	DN50	DN50	DN65	DN65
MEC-160	1830	2200	1998	1280	480	376	2755	3758	280	DN25	DN50	DN50	DN65	DN65
MEC-180	1830	2200	1998	1280	500	376	2755	3778	280	DN25	DN50	DN50	DN65	DN65
MEC-205	1830	2200	1998	1280	500	376	2755	3778	280	DN25	DN50	DN50	DN65	DN65
MEC-255	1830	2200	1998	1280	500	614	2517	3778	280	DN25	DN50	DN50	DN65	DN65
MEC-250	1830	2200	1998	1280	500	614	2517	3778	280	DN25	DN50	DN50	DN65	DN65
MEC-265	1830	2200	1998	1280	500	614	2517	3778	280	DN25	DN50	DN50	DN65	DN65
MEC-295	1830	2200	1998	1280	500	852	2279	3778	280	DN25	DN50	DN50	DN65	DN65
MEC-320	1830	2200	1998	1280	500	852	2279	3778	280	DN25	DN50	DN50	DN65	DN65
MEC-340	1830	2200	1998	1280	530	852	2279	3808	280	DN25	DN50	DN50	DN65	DN65
MEC-370	1830	2200	1998	1520	500	1090	2279	4018	280	DN25	DN50	DN80	DN65	DN65
MEC-390	1830	2200	1998	1520	530	1090	2279	4048	280	DN25	DN50	DN80	DN65	DN65
MEC-420	1830	2200	1998	1755	500	1328	2279	4253	280	DN25	DN50	DN80	DN80	DN80
MEC-440	1830	2200	1998	1755	530	1328	2279	4283	280	DN25	DN50	DN80	DN80	DN80
MEC-475	1830	2200	1998	1995	500	1566	2279	4493	280	DN25	DN50	DN80	DN80	DN80
MEC-495	1830	2200	1998	1995	530	1566	2279	4523	280	DN25	DN50	DN80	DN80	DN80
MEC-525	2790	2200	1998	1520	480	1090	2279	3998	280	DN25	DN50	DN80	DN100	DN100
MEC-560	2790	2200	1998	1520	500	1090	2279	4018	280	DN25	DN50	DN80	DN100	DN100
MEC-590	2790	2200	1998	1520	500	1090	2279	4018	280	DN25	DN50	DN80	DN100	DN100
MEC-620	2790	2200	1998	1520	500	1090	2279	4018	280	DN25	DN50	DN80	DN100	DN100
MEC-645	2790	2200	1998	1755	500	1328	2279	4253	280	DN25	DN50	DN80	DN100	DN100
MEC-680	2790	2200	1998	1755	500	1328	2279	4253	280	DN25	DN50	DN80	DN100	DN100
MEC-705	2790	2200	1998	1755	500	1328	2279	4253	280	DN25	DN50	DN80	DN100	DN100
MEC-730	2790	2200	1998	1755	500	1328	2279	4283	280	DN25	DN50	DN80	DN100	DN100
MEC-765	2790	2200	1998	1998	500	1566	2279	4493	280	DN25	DN50	DN80	DN100	DN100
MEC-790	2790	2200	1998	1998	500	1566	2279	4493	280	DN25	DN50	DN80	DN100	DN100
MEC-815	2790	2200	1998	1998	500	1566	2279	4523	280	DN25	DN50	DN80	DN100	DN100
MEC-855	4240	2200	2035	1520	500	1090	2316	4055	280	DN25	DN50	DN80	DN100	DN100
MEC-905	4240	2200	2035	1520	500	1090	2316	4055	280	DN25	DN50	DN80	DN100	DN100
MEC-920	4240	2200	2035	1520	500	1090	2316	4055	280	DN25	DN50	DN80	DN100	DN100
MEC-980	4240	2200	2035	1520	500	1090	2316	4055	280	DN25	DN50	DN80	DN100	DN100
MEC-1060	4240	2200	2535	1755	500	1328	2816	4790	280	DN25	DN50	DN80	2XDN100	DN100
MEC-1100	4240	2200	2535	1755	500	1328	2816	4790	280	DN25	DN50	DN80	2XDN100	DN100
MEC-1160	4240	2200	2535	1755	500	1328	2816	4820	280	DN25	DN50	DN80	2XDN100	DN100
MEC-1215	4240	2200	2535	1995	500	1566	2816	5030	280	DN25	DN50	DN80	2XDN100	DN100
MEC-1265	4240	2200	2535	1995	500	1566	2816	5060	280	DN25	DN50	DN80	2XDN100	DN100
MEC-1380	5620	2200	2535	1755	440	1328	2796	4790	300	DN25	DN50	DN80	2XDN100	DN100
MEC-1450	5620	2200	2535	1755	440	1328	2796	4790	300	DN25	DN50	DN80	2XDN100	DN100
MEC-1520	5620	2200	2535	1755	440	1328	2796	4790	300	DN25	DN50	DN80	2XDN100	DN100
MEC-1680	5620	2200	2535	1995	440	1566	2796	5030	300	DN25	DN50	DN80	2XDN100	DN100
MEC-1840	7460	2200	2535	1755	440	1328	2796	4790	300	DN25	DN50	DN80	2XDN100	2XDN100
MEC-1935	7460	2200	2535	1755	440	1328	2796	4790	300	DN25	DN50	DN80	2XDN100	2XDN100
MEC-2140	7460	2200	2535	1995	440	1328	2796	4790	300	DN25	DN50	DN80	2XDN100	2XDN100
MEC-2300	9300	2200	2535	1755	440	1328	2796	4790	310	DN25	DN50	DN80	2XDN100	2XDN100
MEC-2420	9300	2200	2535	1755	440	1328	2796	4790	310	DN25	DN50	DN80	2XDN100	2XDN100
MEC-2680	9300	2200	2535	1995	440	1566	2796	5030	310	DN25	DN50	DN80	2XDN100	2XDN100
MEC-2820	9300	2200	2535	1995	440	1566	2796	5030	310	DN25	DN50	DN80	2XDN100	2XDN100

## Heat emission correction index for R717

CONDENSING TEMPERATURE (°C*)	AIR INLET WET BULB TEMPERATURE																
	10	12	14	16	17	18	19	20	21	22	23	24	25	26	27	28	29
29	0.72	0.78	0.86	0.96	1.01	1.09	1.18	1.3	1.43	1.6	1.84	2.16	2.66	-	-	-	-
30	0.68	0.73	0.81	0.88	0.94	1	1.07	1.15	1.27	1.4	1.59	1.79	2.13	-	-	-	-
31	0.64	0.68	0.74	0.82	0.86	0.91	0.97	1.04	1.12	1.22	1.36	1.52	1.74	2.06	-	-	-
32	0.61	0.65	0.69	0.74	0.8	0.84	0.89	0.95	1.02	1.1	1.2	1.34	1.49	1.7	2.02	-	-
33	0.57	0.61	0.65	0.7	0.73	0.78	0.82	0.87	0.92	0.99	1.07	1.16	1.29	1.45	1.66	1.97	-
34	0.55	0.58	0.62	0.66	0.69	0.72	0.76	0.8	0.86	0.9	0.96	1.04	1.14	1.27	1.42	1.63	-
35	0.52	0.54	0.58	0.62	0.64	0.67	0.7	0.73	0.78	0.83	0.88	0.94	1.02	1.11	1.23	1.37	1.59
36	0.5	0.52	0.55	0.59	0.61	0.63	0.66	0.69	0.72	0.75	0.81	0.86	0.92	1	1.09	1.22	1.35
37	0.47	0.49	0.52	0.55	0.57	0.59	0.61	0.64	0.67	0.7	0.73	0.79	0.84	0.9	0.97	1.06	1.21
38	0.45	0.47	0.49	0.53	0.55	0.56	0.58	0.6	0.62	0.65	0.68	0.72	0.76	0.82	0.88	0.96	1.04
39	0.43	0.45	0.47	0.5	0.52	0.53	0.54	0.56	0.58	0.61	0.63	0.67	0.7	0.74	0.8	0.86	0.95
40	0.42	0.43	0.45	0.48	0.49	0.5	0.52	0.53	0.55	0.58	0.6	0.62	0.66	0.69	0.73	0.78	0.85
41	0.4	0.41	0.43	0.45	0.46	0.47	0.49	0.5	0.52	0.54	0.56	0.58	0.61	0.64	0.67	0.71	0.76
42	0.39	0.4	0.41	0.43	0.44	0.45	0.47	0.48	0.49	0.51	0.53	0.55	0.57	0.6	0.62	0.66	0.7
43	0.37	0.38	0.39	0.41	0.42	0.43	0.44	0.45	0.46	0.48	0.5	0.51	0.53	0.55	0.58	0.61	0.65
44	0.36	0.37	0.38	0.39	0.4	0.41	0.42	0.43	0.44	0.46	0.47	0.49	0.5	0.52	0.54	0.57	0.6
45	0.34	0.35	0.36	0.37	0.38	0.39	0.4	0.41	0.42	0.43	0.44	0.46	0.47	0.49	0.51	0.53	0.56

## Heat emission correction index for R22 and R123a

CONDENSING TEMPERATURE (°C*)	AIR INLET WET BULB TEMPERATURE													
	10	12	14	16	18	19	20	21	22	23	24	25	26	28
29	0.86	0.94	1.03	1.15	1.37	1.43	1.55	1.68	1.92	2.1	2.25	3.1	-	-
31	0.77	0.83	0.9	0.99	1.1	1.17	1.24	1.34	1.47	1.62	1.62	2.1	2.48	-
33	0.69	0.73	0.79	0.86	0.94	1	1.02	1.1	1.2	1.28	1.28	1.56	1.75	2.38
35	0.62	0.66	0.7	0.76	0.83	0.86	0.9	0.93	1	1.07	1.07	1.25	1.38	1.68
37	0.57	0.6	0.63	0.67	0.72	0.76	0.78	0.82	0.85	0.9	0.9	1.02	1.1	1.3
39	0.55	0.57	0.59	0.62	0.65	0.68	0.7	0.72	0.75	0.79	0.79	0.88	0.95	1.1
41	0.48	0.49	0.52	0.54	0.57	0.59	0.61	0.63	0.66	0.68	0.68	0.75	0.78	0.9
43	0.44	0.46	0.48	0.5	0.52	0.54	0.55	0.57	0.59	0.61	0.61	0.66	0.68	0.75
45	0.41	0.42	0.44	0.46	0.48	0.49	0.5	0.52	0.53	0.55	0.55	0.58	0.61	0.66

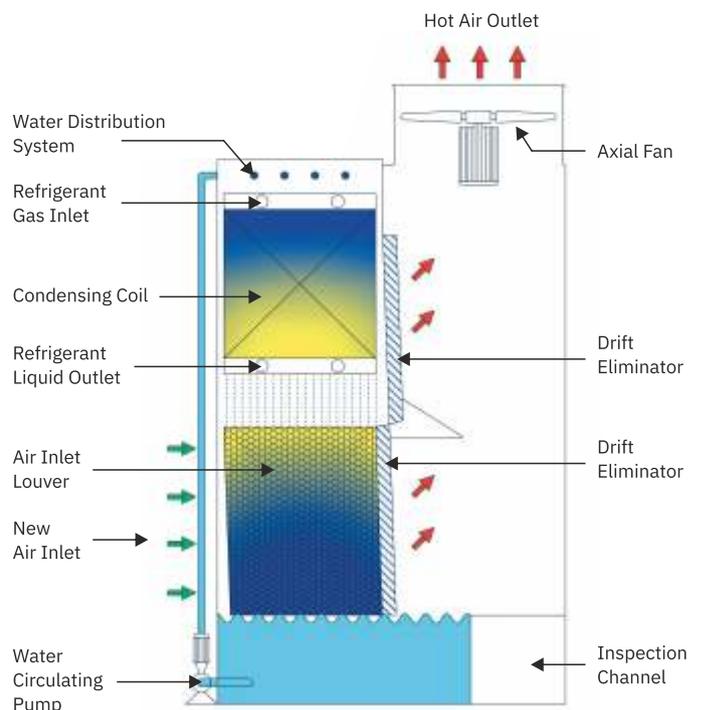
## Principle of Operation

Evaporative condensers use the cooling effect of evaporation to improve the heat rejection process. Water is sprayed over the condensing coil from above while air is simultaneously blown up through the coil from below to naturally lower the condensing temperature. The lower condensing temperature reduces the compressor workload.

As a result, your system operates more efficiently and uses far less energy than air cooled alternatives. In fact, the reduced compressor kW draw (25-30%) coupled with demand charge savings (up to 30% of a utility bill in some cases) can result in operating cost savings of more than 40% versus air cooled condensers.

### Benefits of Evaporative Condensing:

- Lower costs
- Energy efficiency
- Reliability





**Spray Nozzle**

Anti clogging, scale-free, unequalled coil coverage, non-corrosive, maintenance free



**Direct Drive Axial Flow Fan**

High strength PPG Blades, high air flow rate, low noise, efficiency



**Condensing Coils**

Unique design, high efficiency heat exchange process, single run coil reduces welds and leaks



**Water Circulating Pump**

High efficiency Siemens drive motor

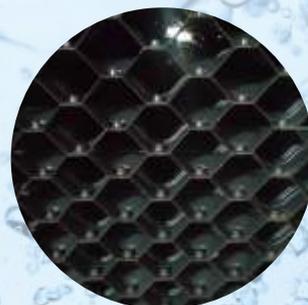


**Detachable Drift Eliminator**

Non corrosive PVC

**Air Inlet Louver**

Unique design, high efficiency heat exchange process, single run coil reduces welds and leaks



## About Us



MEC is a privately held manufacturing company that manufactures heat transfer applications established in 2016.

We are dedicated to designing and manufacturing the highest quality products for the evaporative condensers and industrial refrigeration markets around the globe. We have our office at Akurdi, Pune (India) and factory at Talawade, Pune.

### MEC's product offerings include:

- Cross Flow Evaporative Condenser
- Counter flow Evaporative Condensers

### Product Solution Offerings :

- Dairy Industry
- Food Processing Industry
- Beer & Beverage Industry
- Coal Industry
- Construction Industry
- Process Cooling
- Chemical Industry
- Industrial Ice Production
- Electric Power Industry
- Multipurpose Cold Storage
- Food Distribution
- Pharmaceutical Industry
- Fish Processing Industry

## Our Happy Customers



## MAULI ENGINEERS

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