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The Ultimate Cooling System

FRP Cooling Towers
Open Circuit, Bottle Type

Member

Super MB Series
2011 Catalogue
1st Edition

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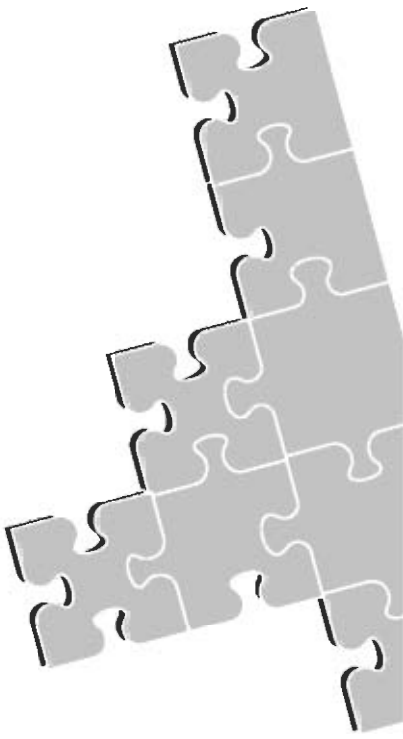

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INTRODUCTORY

For more than 15 years Parto ABGARDAN has served thousands of customers for their need of Air-conditioning, Industrial Cooling & FRP products.

Our well equipped facilities & resourceful network, aside our well trained personnel have enabled us to simply provide our customers, the best products & services in the market.

Parto ABGARDAN serves the most complicated and precise industrial heat transfer processes as well as comforting residential and commercial air-conditioning projects. Thousands of our cooling towers are working nonstop at the moment to provide cooling for a hospital O.R., a classroom, an airport terminal, a petrochemical process or a line of steel production.

Our prime goal and objective is to meet the highest standards to fulfill our customers' most special requests. Years of experience ,huge spending on quality assurance and customer service, has empowered us to enhance our products , improve our services to its best and continuously expand our network of satisfied customers.
We in Parto ABGARDAN are trying our hardest everyday to make sure you get the best you deserve.

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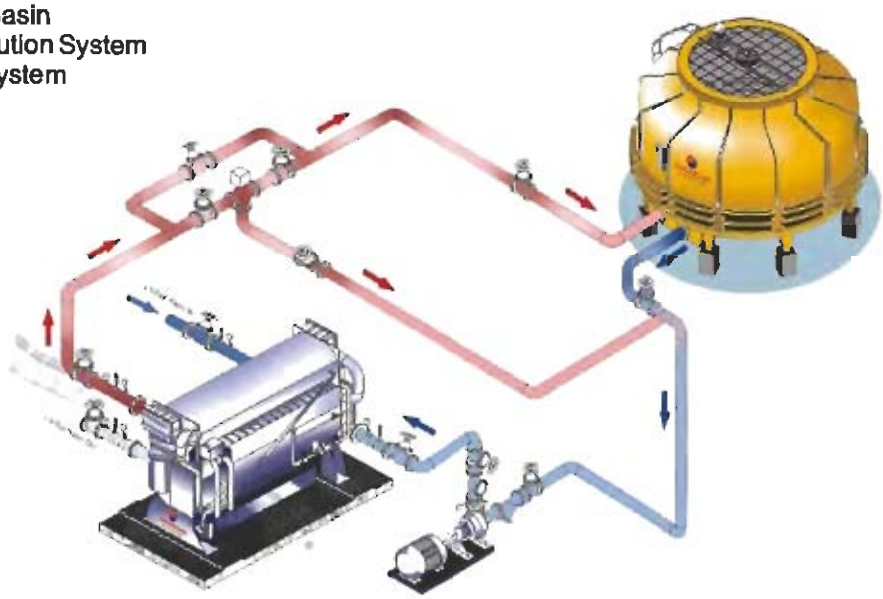
WHAT'S A COOLING TOWER?

A Cooling Tower is a machine designed to cool down the water. In open type Cooling Towers when air and hot water meet, a very small portion of water takes the heat from the rest of it and evaporates. Air also may exchange heat with water and contribute to the cooling process.

An open type Cooling Tower at least includes the following sections:

- Casing or Body
- Cold Water Basin
- Water distribution System
- Air moving System
- Fill Media



In air-conditioning projects, cooling towers cool down chiller units' condensers. In industries, cooling towers are employed to cool down hot water coming from a process, which may come from a chemical reactor or an air compressor's heat exchanger.

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APPLICATIONS

Parto ABGARDAN offers products & services for variety of cooling projects.
We mainly provide all kinds of Cooling Towers, Chiller Units, Fan Coil Units & FRP Parts.
Our specialized teams of servicemen install, Commission and maintain our products whenever is needed or requested.
A wide range of customers use our products in their projects.
Some of the applications and references are:

Residential:

- High Rises & Residential complexes
- Hospitals & Clinics
- Public & Government Buildings
- Shopping Centers
- Universities & Educational Facilities
- Religious Complexes & Holy Shrines
- Hotels & Recreational Facilities

Industrial:

- Steel Industries
- Agro Industries
- Chemical & Petrochemical Plants
- Pharmaceutical Companies
- Automakers
- Power Plants
- Glass & Crystal Industries

ADVANTAGES

You may buy a Parto ABGARDAN Cooling Tower to fulfill your heat transfer need, but it will provide you many advantages, way more than expected, and it will save you lots of money!

- Attractive Design & Color Choice
- Light Weight
- Energy Efficient
- Corrosion Free (Body, Structure & ...)
- No Heavy Lifting Equipment Needed for Installation
- Simplified Foundation, Piping & Wiring
- Quiet Operation
- Easy Access for Inspection & Service
- Long Lasting Quality & The Best Guarantees
- Permanent Technical Back up
- Professional Support & Services

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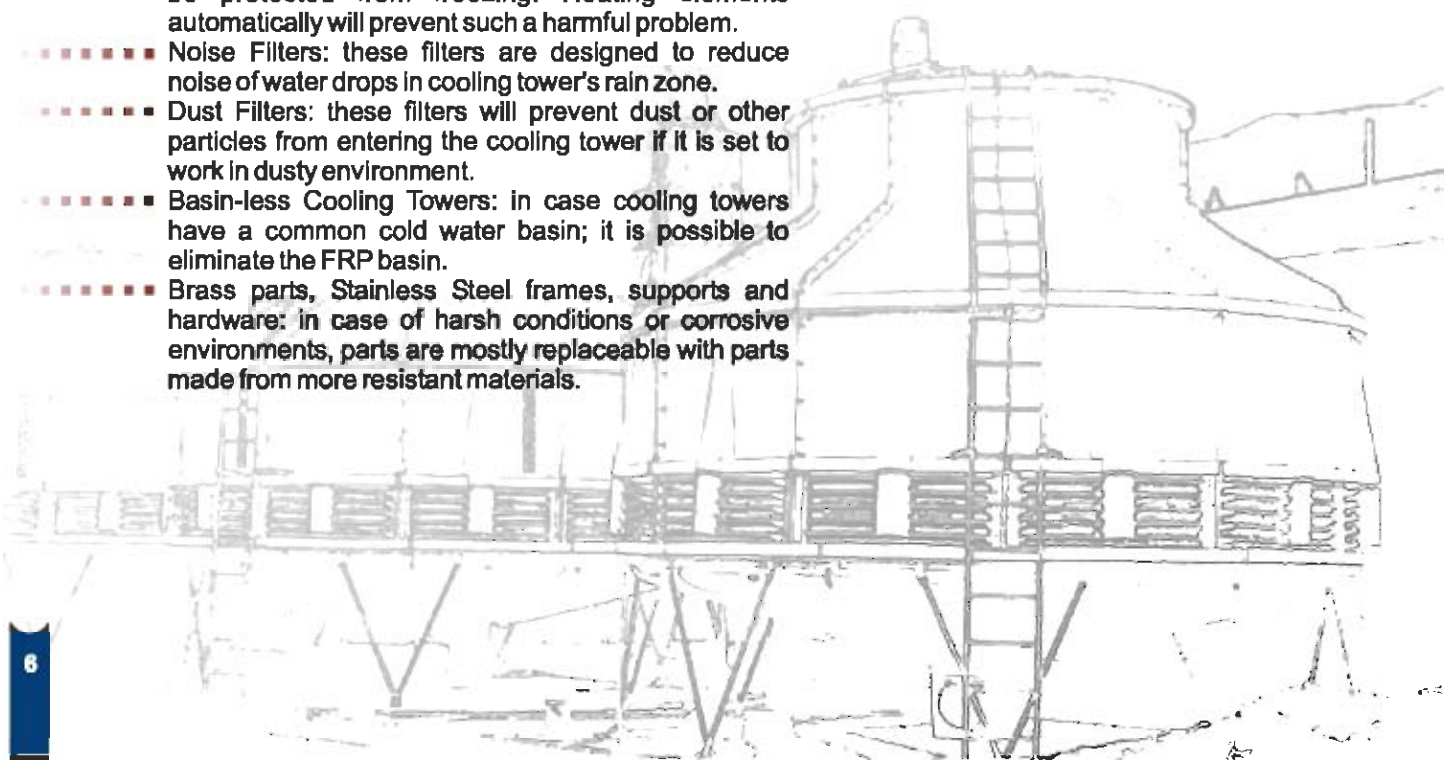
OPTIONS VS STANDARDS

Parto ABGARDAN's effort is always to design and manufacture a cooling tower to provide our customers "peace of mind". Many of equipments and services on our cooling towers are free, those you may have to pay for them, elsewhere. Some of standard equipments and routine services we offer for free and others may charge you, are:

- 5 years warranty
- 1 years electric motor warranty
- Air foil blade fans
- Hi-Pressure PVC internal piping
- Choice of color
- UV stabilized body
- Hi-Performance PVC packing
- Customer support & Technical consultation

In some of projects, engineers may push the limits a little bit farther to reach maximum energy saving, reduce noise further more, use the cooling tower in tougher climate, adapt the cooling tower to their design or implement more safety and control features. To provide projects and engineers such choices we offer the following "options" upon request:

- VFD (Variable Frequency Drive) or mostly known as inverters: VFDs maximize efficiency, automatic start up and turn off, smooth operation and longer life for electric motors.
- Heating elements: in case a cooling tower is set to work in winter and cold environment, its basin should be protected from freezing. Heating elements automatically will prevent such a harmful problem.
- Noise Filters: these filters are designed to reduce noise of water drops in cooling tower's rain zone.
- Dust Filters: these filters will prevent dust or other particles from entering the cooling tower if it is set to work in dusty environment.
- Basin-less Cooling Towers: in case cooling towers have a common cold water basin; it is possible to eliminate the FRP basin.
- Brass parts, Stainless Steel frames, supports and hardware: in case of harsh conditions or corrosive environments, parts are mostly replaceable with parts made from more resistant materials.



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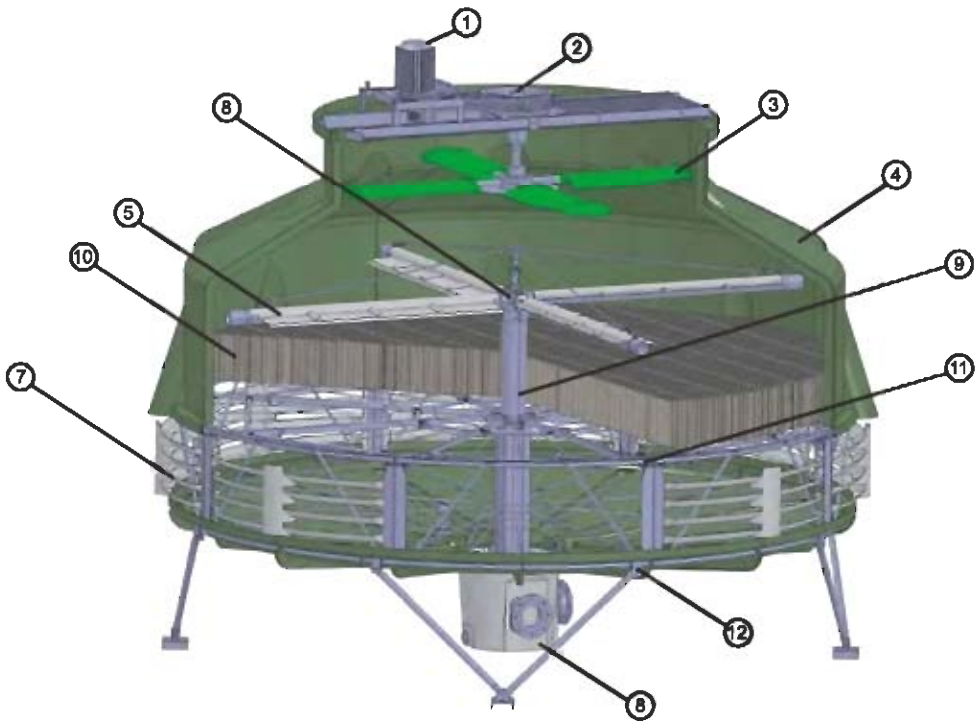
CONSTRUCTIONAL DETAIL

	SMB Model	50	60	90	200	1400
1	Motor	3ph / 50Hz / 380V / IP55				
2	Fan Drive	Direct	Belt Driven			
3	Fan Blade	FRP Sheet	Air Foil			
4	Casing	FRP				
5	Eliminator	N/A	FRP			
6	Sump	N/A	FRP			
7	Louver	FRP				
8	Sprinkler Head	ABS	Al Alloy			
9	Internal Piping	High Pressure PVC				
10	Fill Media	PVC				
11	Frame Assembly	H.D.G Steel				
12	Hardware	H.D.G Steel				



TOWERS' SPECIFICATIONS

MODEL	MOTOR POWER [KW]	FAN DIA. [M]	NOMINAL AIR FLOW [CFM]	DIMENSIONS [M]		WEIGHT [KG]	
				HEIGHT	DIA.	DRY	OPER.
SMB - 8	0.18	0.6	3000	1.4	0.93	52	120
SMB - 10	0.18	0.6	3180	1.63	0.93	56	138
SMB - 15	0.37	0.8	6360	1.68	1.17	83	218
SMB - 20	0.37	0.8	7000	1.78	1.38	110	264
SMB - 25	0.37	0.8	7770	2.02	1.38	115	329
SMB - 30	0.75	0.9	8480	1.89	1.63	160	363
SMB - 40	0.75	0.9	9410	2	1.78	171	410
SMB - 50	1.1	0.9	11300	2.34	1.87	215	515
SMB - 60	1.5	1.2	14500	2.37	1.99	399	708
SMB - 80	1.5	1.2	17100	2.48	2.1	431	792
SMB - 90	1.5	1.2	21800	2.35	2.59	459	854
SMB - 100	1.5	1.2	24100	2.57	2.59	519	943
SMB - 120	2.2	1.2	25500	2.87	2.59	576	985
SMB - 125	2.2	1.5	27500	2.38	2.95	629	1053
SMB - 150	4	1.5	29700	2.62	2.95	789	1468
SMB - 175	4	1.8	32900	2.62	3.33	874	1553
SMB - 200	4	1.8	47100	2.92	3.71	1342	3043
SMB - 225	5.5	1.8	57100	3.15	3.71	1462	3162
SMB - 250	5.5	2.4	66500	3.28	4.39	1657	3357
SMB - 300	5.5	2.4	76900	3.66	4.39	1766	3473
SMB - 350	7.5	2.4	83500	3.45	4.85	1861	3861
SMB - 400	11	2.4	90700	3.68	4.85	2305	4305
SMB - 450	11	3	106500	4.04	5.51	2535	5818
SMB - 500	11	3	119500	4.27	5.51	2590	7155
SMB - 600	11	3.3	139500	4.6	6.53	3493	10588
SMB - 700	15	3.3	171000	4.83	6.53	3652	10747
SMB - 800	18.5	3.6	197100	5	7.59	5229	12808
SMB - 1000	22	3.6	217700	5.23	7.59	5449	13247
SMB - 1250	22	4.2	270700	5.56	8.79	6476	15458
SMB - 1400	30	4.2	310500	5.86	8.79	6635	16236

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AIR & WATER SYSTEMS

Water Distribution system

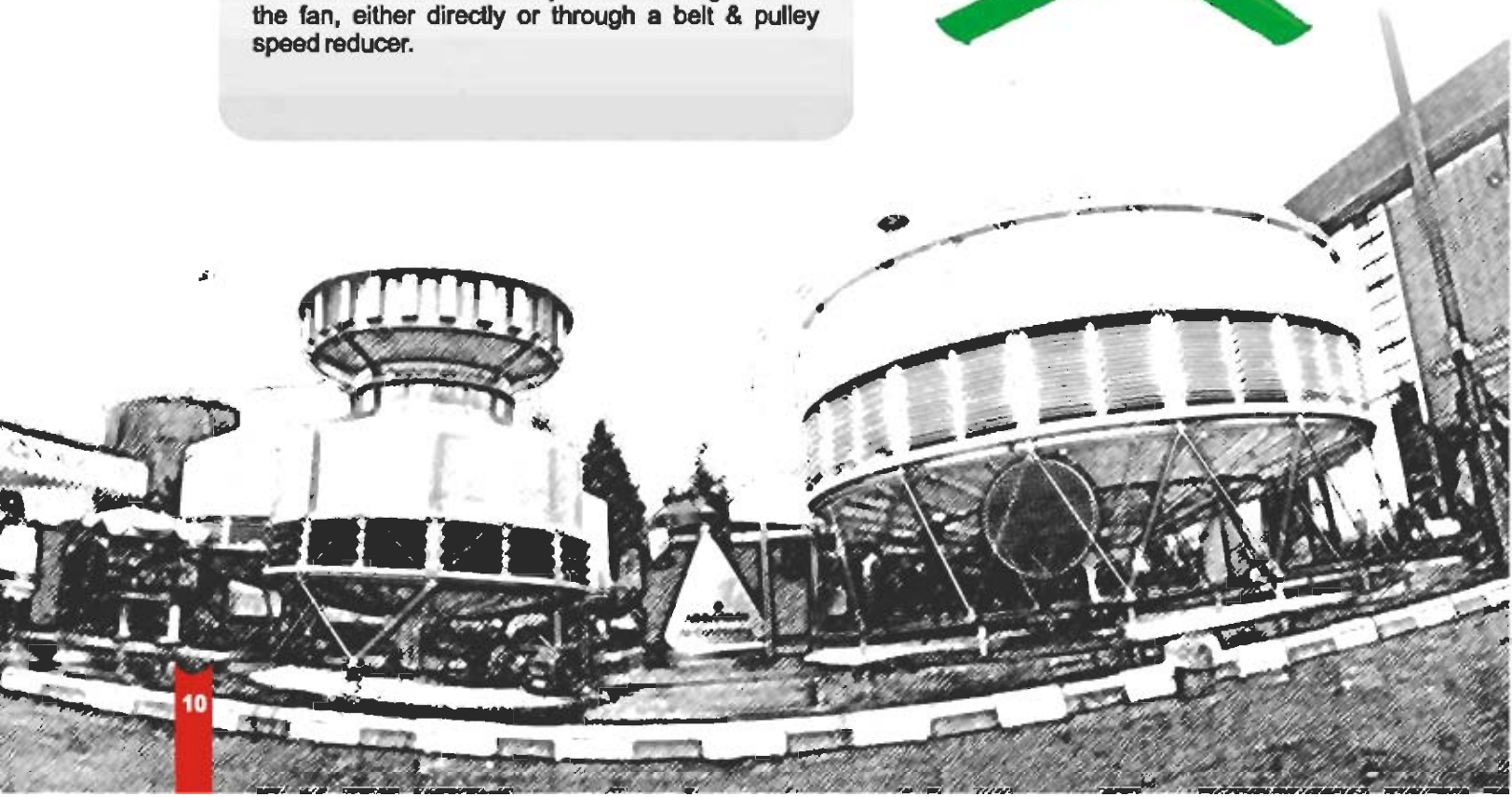
Parto ABGARDAN's Super MB Series employ a self rotating system to distribute the water flow over fill media. This system includes:

- A set of internal piping
- A Sprinkler head
- Sprinkler arms
- Drift eliminators

Internal piping brings circulating water to the center of cooling tower just above fill media. Sprinkler head divides the water flow evenly and forwards it to sprinkler arms. They have many orifices to pour out the water evenly over fill media.

Air moving system

All Super MB Series are induced draught type and utilized by an axial propeller fan at discharge. These fans are very light weight and designed to work quiet and efficient. Their "Air Foil" shapes allow them to produce more airflow in lower speed. Blade's adjustable pitch angle feature enables these fans to be adjusted for cooling towers best performance. In all models an electromotor provides driving force for the fan, either directly or through a belt & pulley speed reducer.



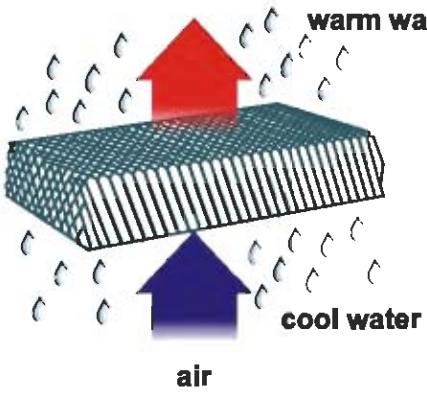
CASING & FILL MEDIA

Casing or Body

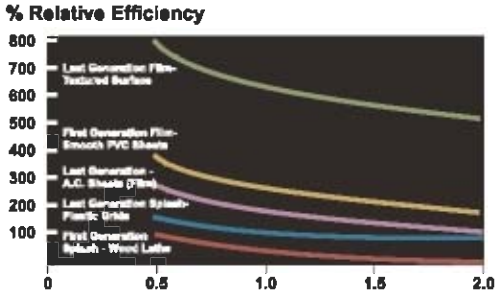
The body and cold water basin of Parto ABGARDAN's cooling towers are made of composite material called FRP (Fiberglass Reinforced Polyester). This composite has excellent chemical and mechanical properties. It is corrosion free and stabilized against sun lights ultra violet radiation.
FRP has no effect on circulating water's chemical balance. This material also is not an environment for algae to live or grow. Composites used in casing and cold water basin's production are self colored (not painted). Body parts are designed and manufactured from high quality materials so they will last for 30 years.

Packing or Fill Media

In all kind of wet cooling towers, performance mainly depends on evaporation. Fill media or so called "Packing", is where air and water mix and evaporation takes place. Maximizing evaporation means maximizing tower capability. Parto ABGARDAN cooling towers are utilized by the last generation of film type PVC honey comb fill media. This packing transforms the water flow to a very thin layer of water with maximum surface so air and water can exchange heat. Also the PVC films have wavy shape and textured surface to reduce speed of water flow and it allows more time for heat exchange.
This fills are easy to install, easy to clean and withstand descaler wash. If water flow is being treated properly, the packing will last for 10 to 15 years.



RELATIVE FILL EFFICIENCIES



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TOWER SELECTION

To select a Parto ABGARDAN cooling tower for your project you may go through the following steps or you can always contact our sales office asking for a professional selection.

Step 1) Collect the necessary data
a) quantity of circulating water flow (Q)
b) water temp. leaving your system (entering cooling tower) or "hot water temp." (Th)
c) water temp. your system needs to work properly or "cold water temp." (Tc)
d) ambient wet bulb temp. (Twb)

- If your cooling tower is serving a chiller unit, you may get necessary data from chiller's manufacturer
- If you have other machinery or devices to cool down ask manufacturer to provide the data
- If you need a cooling tower to supply cold water for a process, seek engineering consultation for data calculation
- If you have an existing system you may measure the above data yourself
- For design wet bulb temp. (Twb) which is a climate characteristic, you may find data in meteorological references or through experienced engineering consultants

Important notice: Always make sure Twb < Tc and Th < 55°C, otherwise contact Parto ABGARDAN sales office.
Step 2) Do the calculations
Determine Twb and T (= Th - Tc)
Step 3) Select your cooling tower:
e) use quick reference
If your data matches with quick reference table, use Twb and T to find the model that covers your circulating water flow (Q) in the quick reference table
f) send your data to our sales office and let them do it for you professionally

Since we preserve the right of modifications to improve our products without any prior notice and also the fact that selection of a proper model may involve other consideration such as piping, installation or any other engineering limitations and considerations, we strongly suggest you to confirm your selection result with our sales dept. otherwise it will produce no obligation for Parto ABGARDAN whatsoever.

QUICK REFERENCE

ΔT	~5.5 °C	~10 °F	~5.5 °C	~10 °F	~8 °C	~15 °F
Tc / Th	~29.5 /35	85 / 95	~32 /~37.5	90 / 100	~29.5 /37.5	85 / 100
W.B. Temp.	72 (~22)	75 (~24)	72 (~22)	75 (~24)	72 (~22)	75 (~24)
SMB - 8	30	25	40	35	25	20
SMB - 10	35	30	45	40	30	25
SMB - 15	70	60	90	80	55	45
SMB - 20	80	70	115	105	65	55
SMB - 25	90	80	120	110	70	60
SMB - 30	130	105	170	160	100	90
SMB - 40	150	125	200	180	115	100
SMB - 50	190	165	250	230	150	130
SMB - 60	245	205	320	280	190	165
SMB - 80	270	235	345	315	215	185
SMB - 90	320	280	430	380	255	225
SMB - 100	340	300	450	410	270	240
SMB - 120	395	350	520	470	320	285
SMB - 125	440	380	580	525	345	300
SMB - 150	540	480	720	650	435	385
SMB - 175	640	550	840	750	490	430
SMB - 200	700	615	940	850	560	490
SMB - 225	850	750	1130	1010	680	600
SMB - 250	1000	880	1450	1300	850	750
SMB - 300	1150	1010	1500	1370	920	820
SMB - 350	1300	1120	1700	1550	1000	880
SMB - 400	1550	1350	2000	1820	1220	1080
SMB - 450	1800	1560	2380	2150	1400	1220
SMB - 500	1940	1700	2550	2300	1550	1350
SMB - 600	2300	1980	3000	2720	1780	1580
SMB - 700	2650	2320	3500	3150	2100	1850
SMB - 800	2950	2550	3900	3550	2300	2000
SMB - 1000	3350	2920	4400	4000	2680	2360
SMB - 1250	4500	3920	5900	5300	3550	3150
SMB - 1400	5000	4400	6500	5920	4000	3600

Water flows in GPM

Example: Th=95 F
Tc= 85 F
Twb= 75 F
Q= 1000 GPM

→ (1010 GPM ≥ 1000 GPM)

Selected Model: SMB-300

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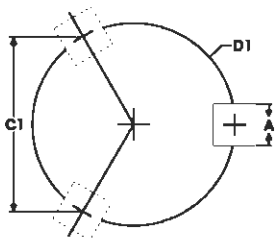
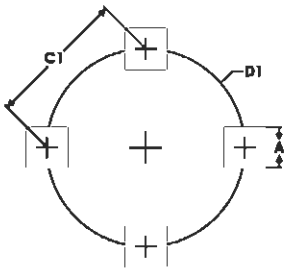
PREPARE YOUR FOUNDATION

To install your Parto ABGARDAN cooling tower you need to build a foundation. If you have selected a model, you can find foundation's dimensions here to make sure it will fit your location. To construct tower's foundation (by steel or concrete), you must contact Parto ABGARDAN to receive as built drawings. Parto ABGARDAN will provide you simple, light weight and inexpensive foundation drawings. Please take the followings in consideration:

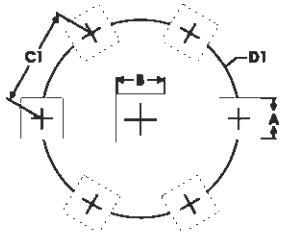
- The location itself should be free of any obstacle preventing thermal performance of cooling tower.
- The location should be safe, free of pipelines or other devices and have a proper drain.
- If two or more cooling tower(s) will be installed and work together they should be leveled.
- 1m, all around cooling tower(s) should be considered for services.
- All Collectors, Risers and Connecting pipes 12" and higher should not be supported by cooling tower's foundation.
- The foundation level should be minimum 500mm above floor level. If it will be above 1m, a 1m wide service deck with handrail should be considered all around the cooling tower(s).



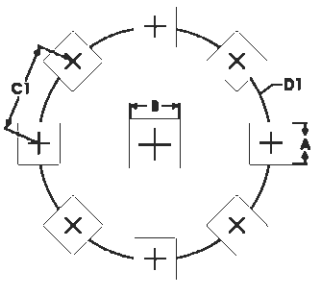
Type I



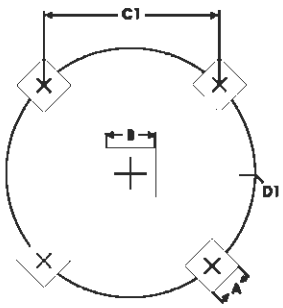
Type II



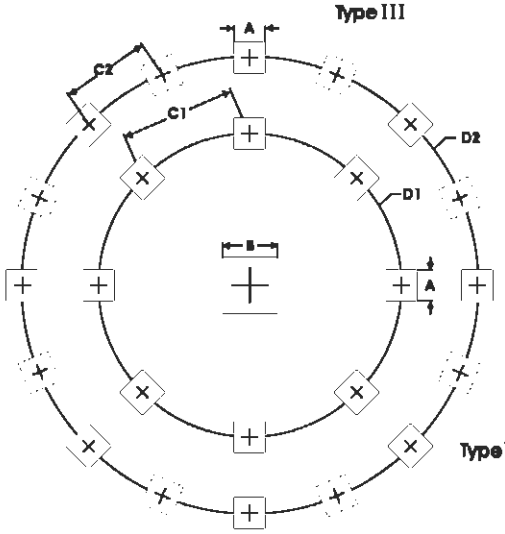
Type III



Type IV



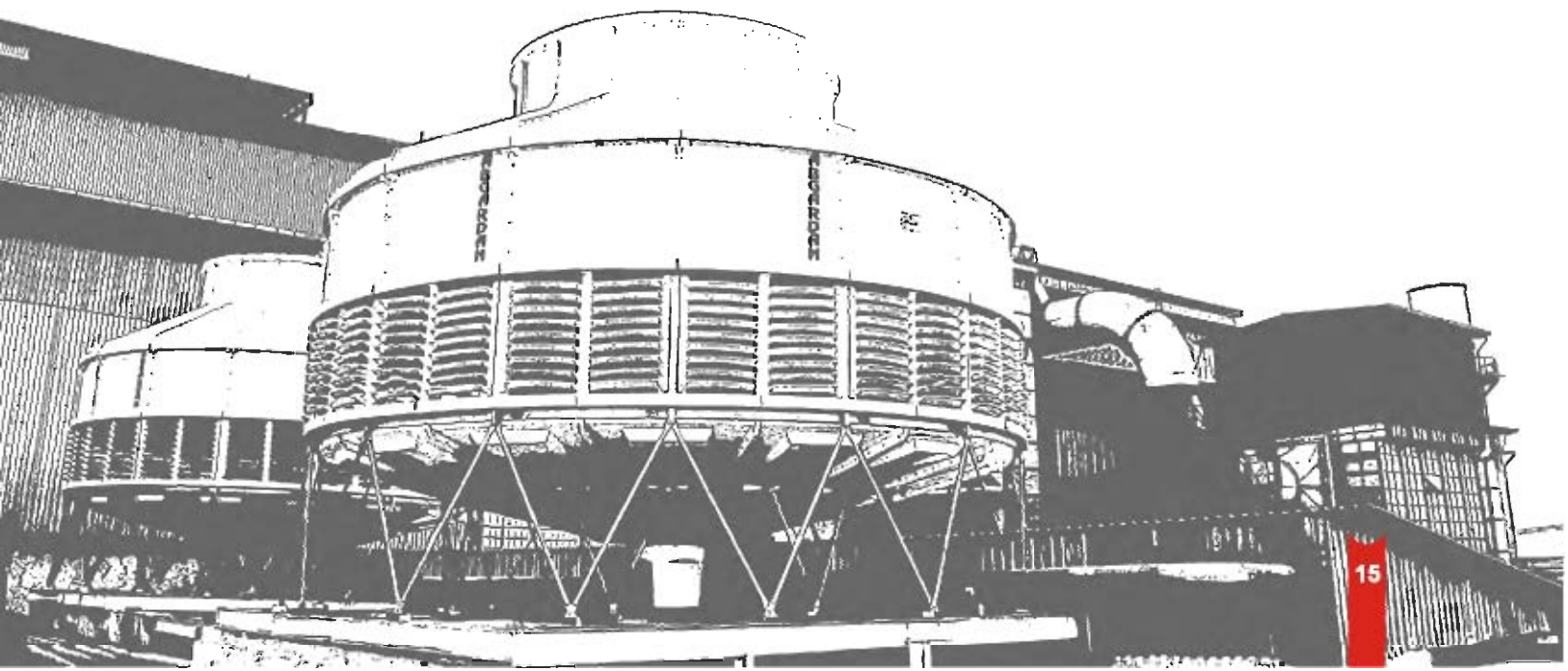
Type V



Type VI

Model	Type	A	B	C1	C2	D1	D2
SMB - 8	I	300	—	511	—	590	—
SMB - 10 , 15	I	300	—	747	—	862	—
SMB - 20 , 25	I	300	—	911	—	1052	—
SMB - 30	II	300	—	895	—	1265	—
SMB - 40	II	300	—	1010	—	1430	—
SMB - 50	II	300	—	1087	—	1505	—
SMB - 60 , 80	II	400	—	1225	—	1735	—
SMB - 90 , 100 , 120	II	400	—	1560	—	2210	—
SMB - 125 , 150	III	400	600	1200	—	2400	—
SMB - 175	IV	400	600	1048	—	2820	—
SMB - 200 , 225	V	400	600	2520	—	3563	—
SMB - 250 , 300	V	400	600	3040	—	4300	—
SMB - 350 , 400	V	400	600	3323	—	4700	—
SMB - 450 , 500	III	400	600	2600	—	5200	—
SMB - 600 , 700	IV	400	600	2487	—	6500	—
SMB - 800 , 1000	VI	400	600	1913	1445	5000	7400
SMB - 1250 , 1400	VI	400	600	2144	1755	5600	9000

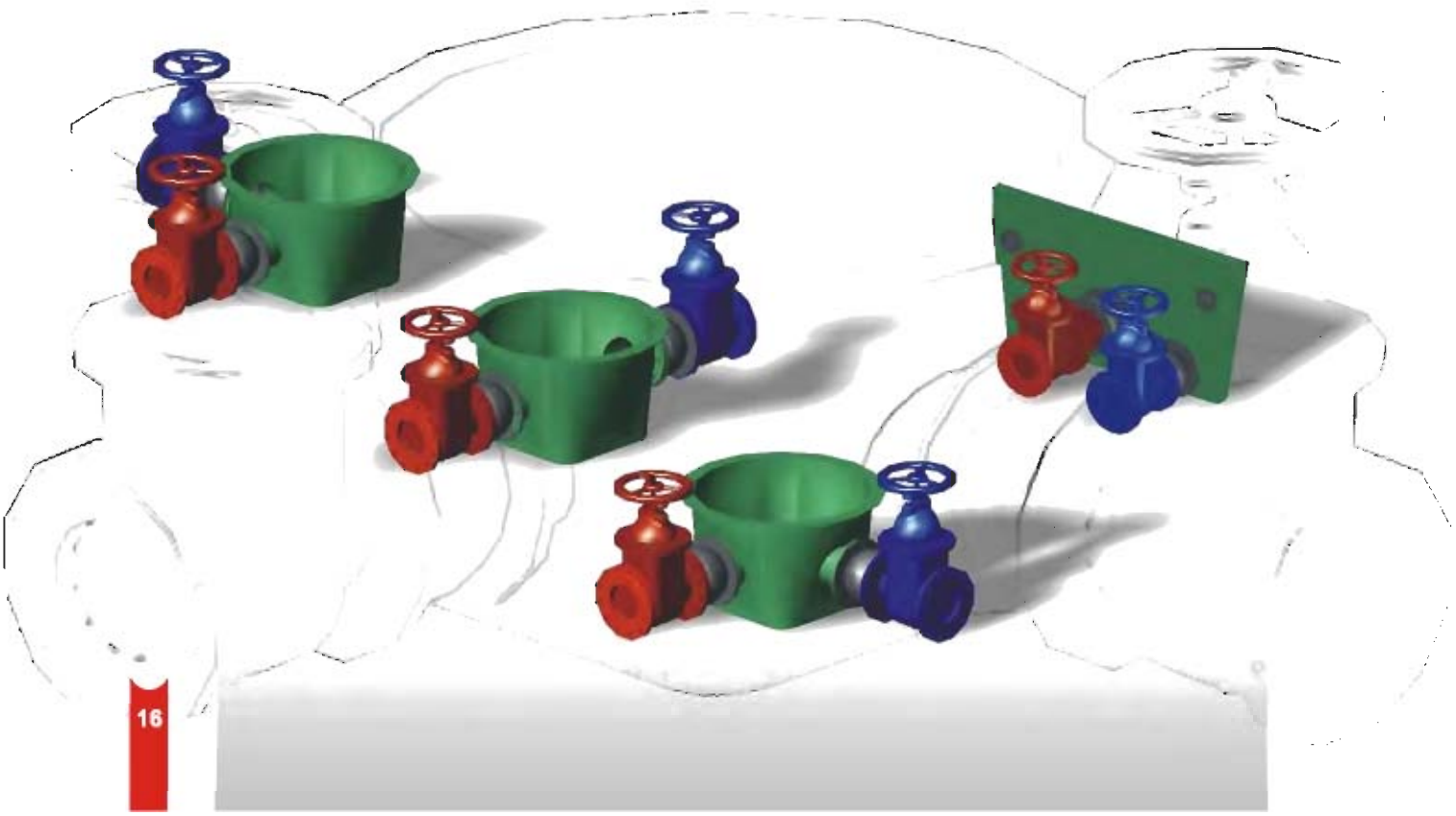
• Dimenssions in mm



CONNECT YOUR PIPING

Your cooling tower will serve your system via your piping. It is important to properly set up and connect your piping to your cooling tower(s). Parto ABGARDAN's cooling towers designed to provide easy and inexpensive pipe connections. They do not need collectors or risers and all flanges are close to floor level. It's easy to connect your cooling tower to the pipelines; here are some guidelines to do so:

- All connecting pipes should be supported separately. Non of pipes and valves should be supported by cooling tower's flanges
- Before connecting pipelines to cooling tower, you should make sure they are clean and there is no object to block the water flow
- If two or more similar cooling towers will be in service, make sure piping set up will supplies them with the same flow and head
- All connecting pipes to every single cooling tower have to have a proper On/Off valve close to cooling tower flanges (except over flow)
- Cooling tower's basin should be always designed above all connecting pipelines
- We strongly recommend use of expansion joints wherever a 4" or higher pipeline connects to cooling tower
- In case cooling tower's basin designed to be discharged only by gravity, it has to be noted in advanced (for outlet flange size change)
- From model SMB-200 and up Inlet/Outlet flanges can be installed in 90°/180°/270°. If no special request made by customer, 90° counterclockwise will be factory default
- Ask our sales engineers for detail drawings of pipe connections to your cooling tower(s)



MODEL	PIPE CONNECTIONS [IN]						PUMP HEAD [M - H_2O]
	INLET	OUTLET	OVER FLOW	DRAIN	FLOAT VALVE	QUICK FILL	
SMB - 8 , 10	1½	1½	1½	1	½	---	1.3
SMB - 15 , 20	2	2	1½	1	½	---	1.6
SMB - 25	2	2	1½	1	½	---	1.8
SMB - 30 , 40	3	3	1½	1	½	---	2
SMB - 50	3	3	1½	1	½	---	2.2
SMB - 60 , 80	4	4	1½	1½	¾	---	2.5
SMB - 90 , 100 , 120	4	4	1½	1½	¾	---	3.1
SMB - 125 , 150	5	5	1½	1½	¾	---	3.5
SMB - 175	6	6	1½	1½	¾	---	3.8
SMB - 200 , 225	6	6	1½	1½	1	1	4.4
SMB - 250	6	6	1½	1½	1	1	4.7
SMB - 300	8	8	1½	1½	1	1	4.7
SMB - 350 , 400	8	8	1½	1½	1¼	1	5
SMB - 450 , 500	10	10	1½	1½	1¼	1	5.3
SMB - 600 , 700	10	10	4	1½	1½	1	5.8
SMB - 800 , 1000	12	12	4	1½	2	1	6.2
SMB - 1250	12	12	4	1½	2	1	6.5
SMB - 1400	12	12	4	1½	2	1	6.8

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ELECTRICAL EQUIPMETS

Electromotor
All Parto ABGARDAN's Super MB Series cooling towers use one quality electromotor to induce necessary airflow through PVC heat transfer media. These electromotors are selected from a group of well known brands. They all have the following required specification:

- IP55 Protection Class
- Flanged Vertical Mount
- 3ph / 400V / 50 Hz
- Temp. Class F
- Single Speed
- Self Ventilated

Optional Equipments
In order to get the best out of your cooling towers and have it work safer and more energy efficient, you may order:

- Basic Control Box that protects cooling tower's electromotor from electrical surge, working 2 phase, overload, shortcuts or power line problems
- Full Control Box that covers whatever Basic version offers plus Variable Frequency Drive (inverter). VFD, intelligently senses the heat load and by changing speed of rotation accordingly saves energy. Also VFD starts and stops the electromotor smoothly so it will last longer
- Anti-Freezing Heating Elements that automatically protect cooling tower's basin from freezing wherever it is set to operate all 4 seasons.

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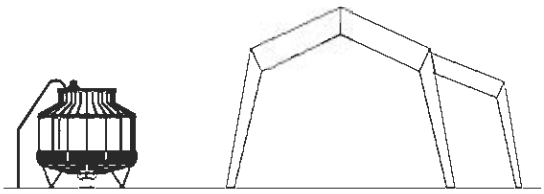
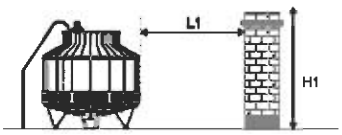
FOR YOUR CONSIDERATION

While you are in process of selecting and purchasing a cooling tower, you may ask for Parto ABGARDAN's technical consultation, however there are some general considerations you need to keep in mind in advance.

- Always consider a proper location for you cooling tower. Top of your cooling tower has to be always open to free air.

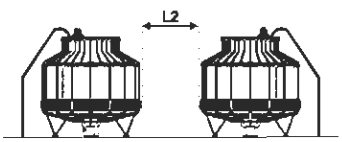


- Any restriction in flow of fresh air or discharge of moist air will reduce thermal performance. We recommend you to place your cooling towers as far as its diameter away from any surrounding wall.



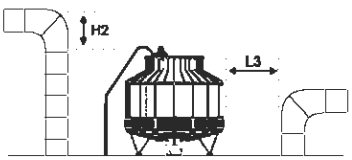
L1 > Tower Diameter
H1 ≤ Tower Height

- If you are using more than one unit, at least consider a half of cooling tower diameter between units to prevent air recirculation.



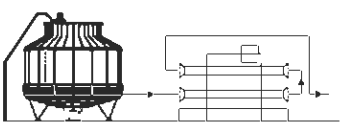
L2 ≥ (Tower Diameter)/2

- Make sure you have no low elevation exhaust located less than 5 meters around your cooling tower. If you can't move them, elevate your exhaust duct 1.5 m above cooling tower's discharge level.

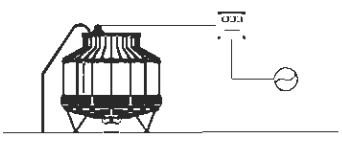


L3 ≥ 5m
H2 ≥ 1.5m

- To keep your cooling tower in its best thermal performance, you have to have a plan for water treatment. It's a Must to keep circulating water clean and free of sedimentation.


Water Treatment System

- Your cooling tower needs a 3 phase power line to operate. You have to supply a balanced and vibration free electrical source for it, and set up a protecting control box.


Control Box

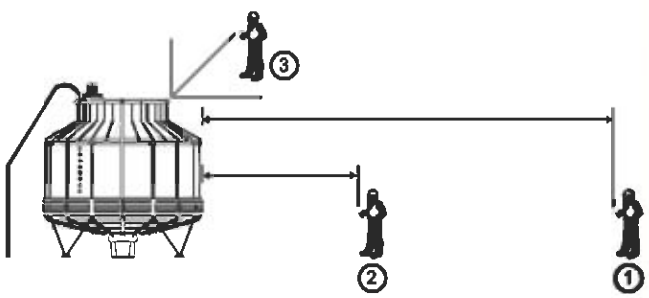
NOISE LEVEL

For a few projects, a set of reference data may be needed to determine level of noise pollution. Although Parto ABGARDAN cooling towers work as quiet as possible and you may never be bothered by their operational sound , for design considerations and extreme cases you can refer to our "Noise Level table".
Noise levels on this table are measured at:

1.16 m
2.Tower diameter
3.Fan diameter & 45° angle

The following examples give you an idea about what these noise levels feel like:

20 dBA Unoccupied recording studio
40 dBA Living room in quiet area
60 dBA Normal conversation at 1m
80 dBA Curbside of busy street
100 dBA Loud car hum at 3m
120 dBA Jet take-off at 100m



MODEL	NOISE LEVEL [dBA]		
	1	2	3
SMB - 8	45	55	58
SMB - 10	45	55	58
SMB - 15	46	58	62
SMB - 20	46	59	63
SMB - 25	46	59	63
SMB - 30	47	61	65
SMB - 40	48	61	66
SMB - 50	48	61	66
SMB - 60	50	62	68
SMB - 80	52	62	66
SMB - 90	53	63	70
SMB - 100	53	63	70
SMB - 120	56	66	73
SMB - 125	56	66	73
SMB - 150	56	66	74
SMB - 175	58	67	75
SMB - 200	59	67	76
SMB - 225	59	68	77
SMB - 250	60	69	77
SMB - 300	60	70	78
SMB - 350	62	71	60
SMB - 400	62	72	80
SMB - 450	63	73	61
SMB - 500	64	74	83
SMB - 600	65	75	63
SMB - 700	66	75	85
SMB - 800	70	77	85
SMB - 1000	70	78	86
SMB - 1250	72	78	87
SMB - 1400	73	79	87

TYPICAL SHAPES

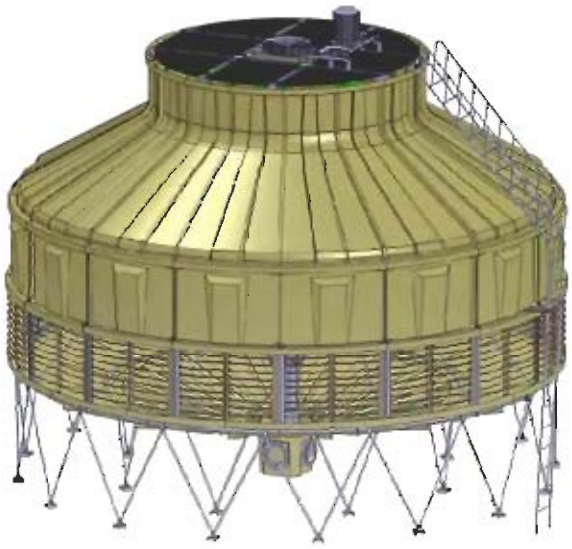
SMB-30

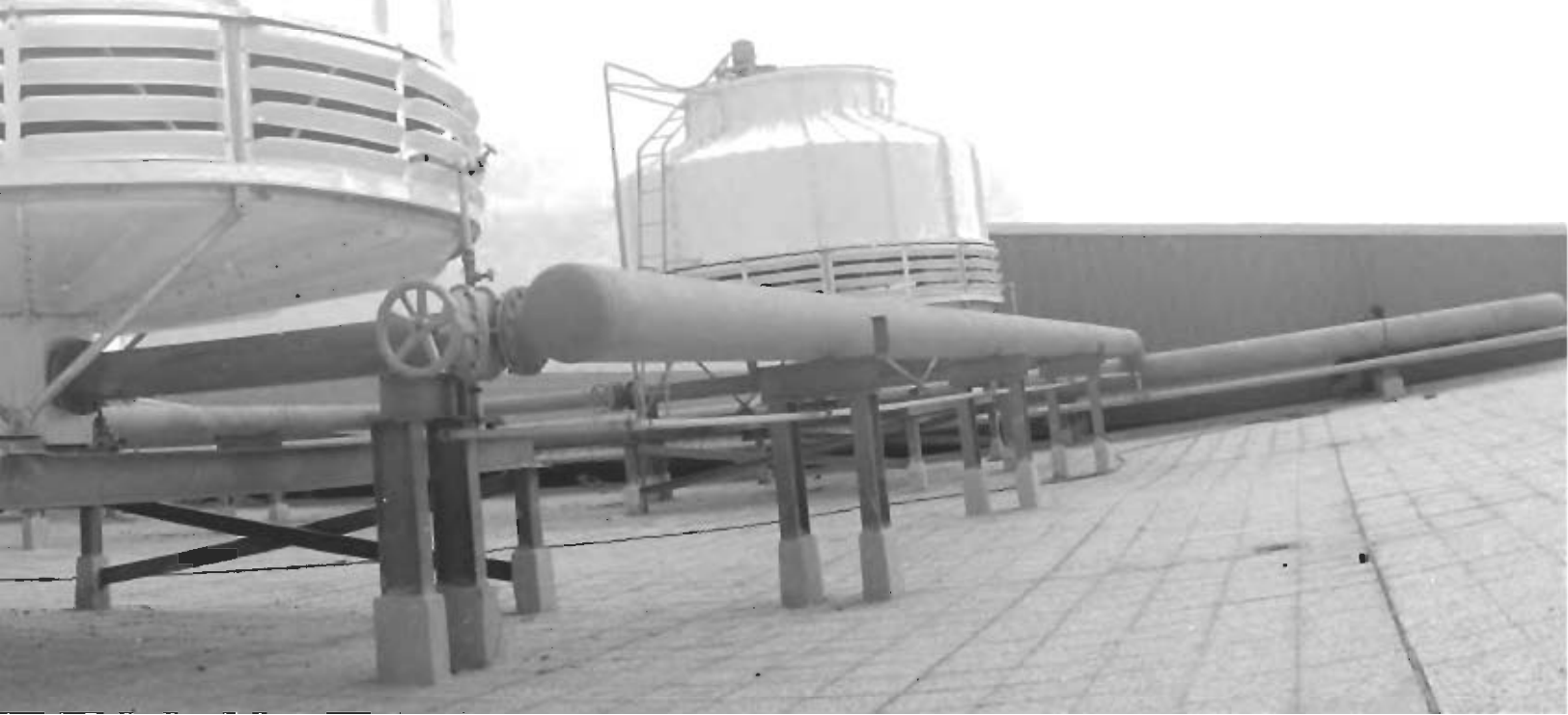
SMB-80

SMB-150

SMB-500

SMB-1250





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CALCULATION TOOLS

You may need some of the following engineering calculation formulas, units conversions or estimations to select your cooling tower properly.

Fahrenheit to Celsius & visversa:
°F = 1.8°C+32 °C = (°F-32)/1.8

Water Flow & Heat Rejection:
GPM = H / (500 x ΔT) M³/H = H / (4180 x ΔT)
H (BTU/H) , ΔT (°F) H (KW) , ΔT (°C)

Evaporation & Range:
E = (GPM x ΔT) / 1250 E = (M³/H x ΔT) / 600
ΔT (°F) ΔT (°C)

Conversions:
1 GPM = 0.2272 M³/H 1 M³/H = 0.2778 L/S
1 KW = 3412.14 BTU/H 1 BTU/H = 0.252 KCAL/H
1 M-H_2O = 1.422 PSI 1 M³/H = 0.5886 CFM
1 HP = 0.746 KW 1 M-H_2O = 0.1 BAR

°F	°C	°F	°C	°C	°F	°C	°F
66	18.9	86	30.0	11	51.8	31	87.8
67	19.4	87	30.6	12	53.6	32	89.6
68	20.0	88	31.1	13	55.4	33	91.4
69	20.6	89	31.7	14	57.2	34	93.2
70	21.1	90	32.2	15	59.0	35	95.0
71	21.7	91	32.8	16	60.8	36	96.8
72	22.2	92	33.3	17	62.6	37	98.6
73	22.8	93	33.9	18	64.4	38	100.4
74	23.3	94	34.4	19	66.2	39	102.2
75	23.9	95	35.0	20	68.0	40	104.0
76	24.4	96	35.6	21	69.8	41	105.8
77	25.0	97	36.1	22	71.6	42	107.6
78	25.6	98	36.7	23	73.4	43	109.4
79	26.1	99	37.2	24	75.2	44	111.2
80	26.7	100	37.8	25	77.0	45	113.0
81	27.2	101	38.3	26	78.8	46	114.8
82	27.8	102	38.9	27	80.6	47	116.6
83	28.3	103	39.4	28	82.4	48	118.4
84	28.9	104	40.0	29	84.2	49	120.2
85	29.4	105	40.6	30	86.0	50	122.0


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GET TECHNICAL ASSISTANCE

Before, while and after purchasing a cooling tower from Parto ABGARDAN you are entitled to seek technical assistance from our sales engineers. We will provide you data, solutions or consultations that may contribute to your cooling tower's selection, installation, performance or maintenance.
You can send us your design drawings, process diagrams, data logs or ask us to visit your site. We will offer you our experience and expert opinions for free.

You will be offered a cooling tower professionally. Your cooling tower will be selected with a computer program and our technical staff will check your data's coherency. Regarding your project we will give you special suggestions helping you to get the best out of your purchase. Also our engineers will provide you information that you may need, like foundation, piping and wiring drawings and diagrams.

When you bought your cooling tower from Parto ABGARDAN, we will come to cooling tower's location and check the cooling towers foundation. Our technicians will install and commission your cooling tower to make sure of its best performance. In case your cooling tower needs service, repair or any adjustment our servicemen will have you covered.

PACKAGE ADVANTAGES

Parto ABGARDAN offers a series of other products beside its cooling towers. These products are designed and selected to be compatible and complete each other.
For your air-conditioning or industrial cooling, you may ask us to provide you the followings:

- Cooling Towers
- Absorption Chillers
- Fan Coils
- Air Handling Units
- RO Systems
- FRP Tanks
- FRP Fan Stacks

Buying a package will bring you many advantages such as:

- Less Hassle, when you purchase
- Less Hassle, when you need services
- Maximum compatibility between components
- Will be Faster and more Economic

To receive more information, please contact our sales office.

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SPECIAL DESIGNS

If your cooling project has special requirement, unusual duty, harsh environment or extreme working condition; you may find your answers in Parto ABGARDAN.

Since Parto ABGARDAN has "The Know-How", it has been a part of solutions for many projects. Some of these special designs are:

- Projects with extreme PH
- Projects with contaminated circulating water
- Projects located in a very corrosive environment
- Projects requiring quiet environment
- Projects working in a very low approach
- Projects working in a very high range
- Projects with concrete or no cold water basin

Furthermore Parto ABGARDAN has technical resources and experienced staff to cover your cooling project completely. Design, engineering and manufacturing of any type of cooling tower in any capacity is Parto ABGARDAN's specialty.

Kerman Combined Cycle Power Plant (160 MW)

Ghadir Petrochemical Plant (36,000 USRT)

AFTER SALES SERVICES

Parto ABGARDAN offers a wide range of services for its customers. End users of cooling towers can enjoy our expertise in after sales program. This program includes:

- Guaranties and Warranties that come with contract
- Supply of high quality original parts
- Repairs and services by trained and experienced servicemen
- Technical support of our cooling tower experts
- Nationwide network of agents and service centers
- Services available every day, even holidays
- Annual commissioning and start up (upon request)
- Performance upgrade upon request (availability limited)
- Extended modification and improvement plan

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