

# COFELY'S COOLING TOWERS LET OPERATING COSTS SIMPLY EVAPORATE.

Corrosion free, energy efficient and resource-friendly.



BUILDING SERVICES	ENERGY SERVICES	FACILITY SERVICES	REFRIGERATION
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**COFELY**  
GDF SUEZ

# ONE-STOP EXPERTISE.

COFELY Refrigeration is with you all the way: from engineering to installation.

Having over 100 years experience in refrigeration plant construction, COFELY Refrigeration is a reliable partner for industrial refrigeration and cooling technology. In 1957 COFELY built their first cooling tower. Our development engineers are continuously including the ever-changing market requirements into our models.

True to our slogan “Customised Refrigeration”, our customers consult and plan new units together with our sales engineers. Our product portfolio incorporates the entire range of cooling tower engineering: detailed design, 3D-CAD, simulation of the cooling tower plants and economic efficiency calculations. Your custom-made cooling tower unit is built according to the criteria: cooling capacity, power requirements and noise level. Our engineers design the details and monitor the installation through to the initial start-up. The amount of time needed for on-site assembly is reduced to a minimum due to the preliminary work done in our factory.

New series and special designs are developed by our engineers. The existing series is revised on a regular basis and optimised in regard to performance, energy needs and noise emissions. New expertise is scrutinized in our testing station because reliable perform-



**Figure 1:** Our cooling tower performance portfolio reflects the life cycle of your unit.

ance ratings are necessary for optimal planning and economical operation of recooling systems.

Our area-wide service network provides you with fast maintenance and spare parts at anytime. Following the initial start up, we provide our customers, if desired, with our comprehensive service and training offer throughout the entire life-cycle of their unit.

**SAVE UP TO 97% WATER**

Water, the foundation of our lives, is becoming ever scarcer. That is why responsible and resource-friendly handling is especially important.

The cooling-tower units from COFELY Refrigeration are an environment friendly and economically sensible method of recooling: The water to be cooled is sprayed through a mani-

fold system and trickled over packing beds. These packing beds ensure a long retention time of the water.

The ambient air is directed into a counter flow whereby a small amount of water evaporates. The necessary heat of evaporation is extracted from the cooling water and generates the largest part of the cooling capacity. The remaining cooling capacity results

from the heat transfer of the warm water to the colder air.

The cooled water is collected in the base tub and is fed back to the consumers. Based on the small amount of circulating water needed, the cooling water savings add up to 97% in comparison to once-through cooling systems.

**THE SERIES AT A GLANCE.****SERIES EWK**

EWK-cooling towers are our all-round talent with a wide range of applications. They are available in many sizes and performance levels.

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**SERIES MODUPOL®**

For applications with high recooling requirements of up to 3,600 m<sup>3</sup> water per hour.

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**SERIES EWB/EWB-E**

More modular design; suitable for export due to small packing dimensions.

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**SERIES EWK-D**

Especially for use in noise-sensitive locations.

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**SERIES EWZ**

For applications with high recooling requirements of up to 6,400 m<sup>3</sup> water per hour for each cell.

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**SERIES EWA**

The EWA-cooling towers are especially designed for waste water cooling.

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# EWK SERIES

Evaporation cooling tower in a compact, corrosion-free, all-plastic construction.

## COMPONENTS

**Casing.** The casing is available with or without a water collecting basin made of glass-fibre reinforced polyester (GRP). The screws are stainless steel. The standard colour is blue, RAL 5015. Other RAL-colours are available.

**Axial ventilator.** The glass-fibre reinforced polyester or aluminium blades are adjustable during standstill. The axial ventilator and electric motor are directly coupled for sizes up to and including EWK 450. Geared motors drive sizes larger than EWK 680.

**Mist eliminator.** Contoured, plastic elements prevent water drops from drifting into the air stream.

**Water distribution system.** Self-cleaning, plastic nozzles are attached to the water distribution pipes.

**Packing.** The packing is made of rot proof, heat resistant plastic packing.

**Jalousies.** The plastic air inlet jalousies keep the water from spraying out. They can be easily dismantled during inspection or for cleaning purposes.

**Basket strainers.** The basket strainer is to be mounted before the outlet to the lower basin and keeps impurities from getting into the water circulation.

**Float valve.** The float valve regulates the feeding in of make-up water.

## ACCESSORIES

- Inlet and outlet air noise reduction
- Sound-proofing mat used to reduce water impact
- Aluminium ladder with a safety cage and platform with railing
- Thermostat for regulating the ventilator speed depending on the cold water temperature
- Heating, which keeps the water circulation from freezing in the winter
- Thermostat for regulating the heating depending on the cold water temperature
- Repair switch
- External water distribution pipe
- Basket strainer
- Float valve

## Advantages.

- Wide range of performance, extensive selection of sizes, and different economical, performance levels
- Corrosion-free, long-lasting and lightweight due to the fully GRP polyester construction
- Minimal energy consumption and easy maintenance due to induced draught ventilators
- Long periods between maintenance intervals
- Simple, low-priced assembly due to preassembled, transportable components
- Well-proportioned, modern design available in various RAL colours that match existing building



## Technical Data for the EWK Series.

Type	Water flow capacity in m <sup>3</sup> /h		Rated cooling capacity in KW with T <sub>F</sub> = 20 °C		Motor capacity in KW	Measurements			Weight in kg	
	minimal	maximal	F 32/26 °C	F 40/25 °C		Length in mm	Width in mm	Height in mm	Net weight	Operating weight
036/03	2	11	35	50	0.33/0.1	615	615	1,827	40	100
036/06	2	11	45	65	0.33/0.1	615	615	1,827	50	120
064/03	3	20	65	85	0.55/0.1	817	817	2,270	100	220
064/06	3	20	80	110	0.55/0.1	817	817	2,270	110	230
064/09	3	20	90	135	0.55/0.1	817	817	2,270	115	250
144/03	7	45	140	190	1.5/0.35	1,226	1,226	3,020	260	570
144/06	7	45	175	250	1.5/0.35	1,226	1,226	3,020	275	610
144/09	7	45	200	295	2.2/0.55	1,226	1,226	3,020	290	660
230/06	11	70	275	390	2.2/0.55	1,620	1,620	2,965	380	1,200
230/09	11	70	320	465	2.2/0.55	1,620	1,620	3,265	400	1,300
324/03	16	100	320	435	3.0/0.5	1,825	1,825	3,470	575	1,330
324/06	16	100	400	555	3.0/0.5	1,825	1,825	3,470	610	1,420
324/09	16	100	440	665	3.0/0.5	1,825	1,825	3,470	645	1,520
450/06	20	135	555	800	4.0/0.8	2,220	2,220	3,480	850	2,800
450/09	20	135	630	935	5.5/1.2	2,220	2,220	3,780	900	3,000
680/06	35	200	800	1,140	5.5/1.4	3,110	2,360	4,200	1,350	4,400
680/09	35	200	920	1,350	7.5/1.9	3,110	2,360	4,500	1,450	4,700
900/06	45	270	1,100	1,555	9.5/2.4	4,345	2,152	4,666	1,500	5,500
900/09	45	270	1,250	1,840	11.0/3.0	4,345	2,152	4,666	1,600	5,800
1260/06	65	380	1,530	2,175	11.0/3.0	4,288	3,138	5,044	2,325	8,000
1260/09	65	380	1,740	2,590	14.0/3.5	4,288	3,138	5,044	2,450	8,400
1800/06	90	540	2,190	3,110	18.5/4.5	4,288	4,336	5,187	3,225	11,200
1800/09	90	540	2,490	3,710	22.0/5.5	4,288	4,336	5,187	3,400	11,800

**Table 1:** The given rated cooling capacities in the table are valid for the cooling down of water from 32 °C to 26 °C or from 40 °C to 25 °C at a wet-bulb temperature of 20 °C. The minimal and maximal flow rate does not apply to the rated cooling capacities. For other design data, please contact the responsible office or the firm in Lindau. The greatest possible units of measure form the basis within the product line.



**Figure 2:** Two intake, ventilated cooling towers Type EWK 1260 guarantee the process cooling for the automobile supplier.

# MODUPOL® SERIES

Open, corrosion-free, all-plastic, cooling tower with air drawing axial ventilator.

## COMPONENTS

**Casing.** The modular-built, plastic casing made from glass reinforced polyester (GRP) is available in three variations. The screws are stainless steel. RAL 5015 blue is the standard colour. On pages 16–17 you can find 3D-CAD drawings of various MODUPOL® models.

**Axial ventilator.** The glass-fibre reinforced polyester (GRP) or aluminium blades are adjustable during standstill. The drive is powered by a one or two-speed drive motor. Above the ventilator is protective grating.

**Mist eliminator.** Contoured, plastic elements prevent water drops from drifting into the air stream.

**Water distribution system.** Self-cleaning, plastic nozzles are attached to the water distribution pipes.

**Packing.** The packing is made of rot proof, heat resistant plastic packing.

**Jalousies.** The plastic air inlet jalousies keep the water from spraying. They can be easily dismantled during inspection or for cleaning purposes.

## Advantages.

- Corrosion-free, long service life and lightweight due to all-plastic GRP polyester construction
- Very high cooling capacity, recooling up to 3,600 m<sup>3</sup> water per hour, increased cooling capacity can be achieved by setting up multiple cooling towers
- Customised designs in modular constructions are available due to various options. Water collecting basin optional
- Forced draft ventilators provide for less energy consumption and easy maintenance
- Long periods between service intervals
- Easy and low cost assembly due to factory assembled



**Figure 3:** Two MODUPOL® cooling towers to cool processing water with a special ventilator, plus air supply and outlet noise-reduction.

## Technical Data for the MODUPOL® Series.

Type	Water flow capacity in m <sup>3</sup> /h		Rated cooling capacity in KW with T <sub>F</sub> = 20°C		Motor capacity in KW	Measurements*			Weight in kg*		
	minimal	maximal	F 32/26°C	F 40/25°C		Length in mm	Width in mm	Height in mm	Net weight	Operating weight	
Single celled	2100/06	105	630	2,700	3,860	14/3.5	4,610	4,740	5,675	3,500	5,200
	2100/09	105	630	3,090	4,560	18/4.5	4,610	4,740	5,675	3,500	5,200
	3100/06	155	930	3,980	5,700	22/5.5	4,610	7,040	6,105	4,600	7,100
	3100/09	155	930	4,560	6,740	30/7.5	4,610	7,040	6,105	4,600	7,100
	4500/06	225	1,350	5,780	8,280	36/9.0	6,920	7,040	6,565	6,900	10,700
	4500/09	225	1,350	6,620	9,780	36/9.0	6,920	7,040	6,565	6,900	10,700
	6100/06	310	1,860	7,840	11,250	50/10.0	9,230	7,040	7,460	10,300	15,400
	6100/09	310	1,860	9,020	13,160	58/12.6	9,230	7,040	7,460	10,300	15,400
Double celled	4200/06	210	1,260	5,400	7,720	2 × 14/3.5	9,260	4,740	5,675	6,900	10,300
	4200/09	210	1,260	6,180	9,120	2 × 18/4.5	9,260	4,740	5,675	6,900	10,300
	6200/06	310	1,860	7,960	11,400	2 × 22/5.5	9,260	7,040	6,405	9,200	14,200
	6200/09	310	1,860	9,120	13,480	2 × 30/7.5	9,260	7,040	6,405	9,200	14,200
	9000/06	450	2,700	11,560	16,560	2 × 36/9.0	13,900	7,040	6,565	13,600	21,100
	9000/09	450	2,700	13,240	19,560	2 × 36/9.0	13,900	7,040	6,565	13,600	21,100
	12200/06	610	3,660	15,610	22,340	2 × 50/10.0	18,520	7,040	7,460	20,400	30,700
	12200/09	610	3,660	18,030	25,810	2 × 58/12.6	18,520	7,040	7,460	20,400	30,700

**Table 2:** The given rated cooling capacities in the table are valid for the cooling down of water from 32°C to 26°C or from 40°C to 25°C at a wet-bulb temperature of 20°C. The minimal and maximal flow rate does not apply to the rated cooling capacities. For other design data, please contact the responsible office or the firm in Lindau. The greatest possible units of measure form the basis within the product line.

\* Measurements and weights for model 1. Specifications for models 2 and 3 are available upon request.

### ACCESSORIES

- Inlet and outlet air noise reduction
- Sound-proofing mat used to reduce water impact
- Aluminium ladder with a safety cage and platform with railing and direct access to the gear motor
- External water distribution pipe
- Thermostat for regulating the ventilator speed depending on the cold water temperature
- Heating, which keeps the water circulation from freezing in the winter
- Thermostat for regulating the heating depending on the cold water temperature
- Basket strainer for water drain off
- Oil stand check

# EWB/EWB-E SERIES

Expandable evaporation cooling towers in corrosion-free, plastic design.

## COMPONENTS

**Casing.** The casing is available with or without a collection basin. For the EWB model, it is made of a galvanized steel frame, brackets and supports for the installation. For the EWB-E model, the parts are made of stainless steel. The covering is made of moulded glass fibre reinforced polyester (GRP) panels. The standard colour is blue, RAL 5015.

**Cooling tower deck.** The accessible cooling tower deck is available with either plastic panels or non-slip, aluminium chequered plated panels.

**Axial ventilator.** The advantageously ribbed blades, made from either GRP or aluminium, are adjustable during standstill. Protective grating is mounted above the ventilators. They are driven by geared motors.

**Mist eliminator.** Contoured, plastic elements prevent water drops from drifting into the air stream.

**Water distribution system.** Self-cleaning, plastic nozzles are attached to the water distribution pipes.

**Packing.** The packing is made of rot proof, heat resistant plastic packing.

**Jalousies.** The plastic air inlet jalousies keep the water from spraying. They can be easily dismantled during inspection or for cleaning purposes.

**Water collection basin.** The water collecting basin is made of GRP but is not needed when a concrete basin already exists on site.

## Advantages.

- Flexible expansion and exact sizing due to modular design and a wide variety of models
- Large, corrosion-free structures made of plastic, steel or stainless steel in robust industrial design with a long service life
- Low energy consumption
- Easy maintenance and inspection access due to removable cover panels and accessible cooling tower deck
- Long intervals between service checks
- Available in a variety of RAL-colours to match building



**Figure 4:** Two cooling towers (each with four cells) Type EWB 7200 with inlet and outlet noise reduction for the cooling of turbine water.



## Technical Data for the EWB/EWB-E Series.

Type	Water flow capacity in m <sup>3</sup> /h		Rated cooling capacity in KW with T <sub>F</sub> = 20 °C		Motor capacity in KW	Measurements*			Weight in kg*			
	minimal	maximal	F 32/26 °C	F 40/25 °C		Length in mm	Width in mm	Height in mm	Net weight	Operating weight		
<b>EWB</b> Single celled	1300/06	65	390	1,700	2,400	11/3.0	3,700	3,700	4,900	2,900	3,900	
	1300/09	65	390	1,950	2,850	14/3.5	3,700	3,700	4,900	2,900	3,900	
	1790/06	85	520	2,250	3,200	22/5.5	4,900	3,700	4,900	3,500	4,900	
	1730/09	85	520	2,550	3,800	22/5.5	4,900	3,700	4,900	3,500	4,900	
	Double	3460/06	170	1040	4,100	5,850	2 × 22/5.5	7,350	4,900	4,900	6,800	9,500
		3460/09	170	1040	4,650	6,900	2 × 22/5.5	7,350	4,900	4,900	6,800	9,500
<b>EWB-E</b> Single celled	2300/09	115	690	3,400	5,000	22/5.5	5,040	5,040	6,130	4,800	6,800	
	2300/12	115	690	3,700	5,600	30/7.5	5,040	5,040	6,430	5,500	7,800	
	2875/09	140	865	4,250	6,250	30/7.5	5,040	6,240	6,130	5,800	6,600	
	2875/12	140	865	4,400	6,800	33/8.3	5,040	6,240	6,430	8,200	9,400	
	3600/09	180	1,080	5,300	7,900	30/7.5	6,240	6,240	6,630	6,900	7,700	
	3600/12	180	1,080	5,400	8,200	37/9.2	6,240	6,240	6,930	10,000	11,300	
	4600/09	230	1,380	4,650	6,900	2 × 22/5.5	9,905	5,040	6,430	9,400	13,440	
	Double celled	4600/12	230	1,380	7,300	11,100	2 × 30/7.5	9,905	5,040	6,730	10,300	14,900
		5750/09	285	1,730	8,450	12,500	2 × 30/7.5	9,905	6,240	6,730	11,300	16,200
		5750/12	285	1,730	8,900	13,700	2 × 33/8.5	9,905	6,240	7,030	12,300	18,000
		7200/09	360	2,160	10,600	15,650	2 × 30/7.5	12,305	6,240	6,930	13,200	19,400
		7200/12	360	2,160	11,100	16,400	2 × 37/9.2	12,305	6,240	7,230	14,400	21,700

**Table 3:** The given rated cooling capacities in the table are valid for the cooling down of water from 32 °C to 26 °C or from 40 °C to 25 °C at a wet-bulb temperature of 20 °C. The minimal and maximal flow rate does not apply to the rated cooling capacities. For other design data, please contact the responsible office or the firm in Lindau. Subject to technical changes.

\* These specifications are valid for the option "Installation by customer on cement basin".

## ACCESSORIES

- Basket strainer for drain off
- Outlet noise reduction
- Inlet noise reduction
- Sound-proofing mat used to reduce water impact
- Aluminium ladder with a safety cage and platform with railing connection
- Railing all the way around
- Return stop for ventilators
- Thermostat for regulating the ventilator speed depending on the cold water temperature
- Heating, which keeps the water circulation from freezing in the winter
- Thermostat for regulating the heating depending on the cold water temperature
- An accessible protective screen for service work on the ventilator

# EWK-D SERIES

Quiet, evaporation cooling tower in corrosion-free, plastic design.

## COMPONENTS

**Casing.** The casing and collecting basin are made of glass fibre reinforced polyester (GRP). The standard colour is blue, RAL 5015. Other colours are available. A stainless steel screen is fitted before each drain. An inspection opening allows for easy accessibility to adjust the float valve and to clean the screen and water collection basin.

**Radial ventilator.** Quiet, double-sided, induced draught, high performance radial ventilator made of galvanized steel plate. The ventilator is driven by a three-phase ac motor and v-belt. Protective grating covers all turning parts.

**Mist eliminator.** Contoured, plastic elements prevent water drops from drifting into the air stream.

**Water distribution system.** Self-cleaning, plastic nozzles are attached to the water distribution pipes.

**Packing.** The packing is made of rot proof, heat resistant plastic packing.

**Flexible connect piece.** The piece connects the ventilator to the cooling tower casing and prevents structure-borne sound transmission.

## Advantages.

- Quiet operation due to radial ventilators
- Increased noise reduction measures possible
- Easy, low-cost assembly due to pre-assembled parts or complete delivery on assembly frame
- Exact dimensions available due to a wide variety of models
- For every cooling demand, there is a solution
- Corrosion-free, long service-life and light-weight due to all-plastic GRP construction
- Water-tight casing due to final treatment with fibre-glass reinforced polyester
- Use in interior indoor spaces possible due to minimal noise levels, low construction height and air duct connection
- Long intervals between service checks
- Variety of RAL-colours available to match customer's building concept

**Figure 5:** Forced-draught cooling tower Type EWK-D cools a transmission test bench in the automobile industry.



## Technical Data for the EWK-D Series.

Type	Water flow capacity in m <sup>3</sup> /h		Rated cooling capacity in KW with T <sub>F</sub> = 20 °C		Motor capacity in KW	Measurements			Weight in kg		
	minimal	maximal	F 32/26 °C	F 40/25 °C		Length in mm	Width in mm	Height in mm	Net weight	Operating weight	
Single celled	144-06	7	45	175	250	1.0/3.8	2,440	1,310	2,100	450	1,100
	144-09	7	45	200	295	1.4/5.5	2,440	1,310	2,400	450	1,100
	225-06	11	70	275	390	1.4/5.5	2,900	1,620	2,100	620	1,610
	225-09	11	70	320	465	1.4/5.5	2,900	1,620	2,400	620	1,610
	324-06	16	100	400	555	2.2/9	3,450	1,900	2,100	880	2,380
	324-09	16	100	440	665	3.0/11	3,450	1,900	2,400	880	2,380
	450-2	20	135	525	760	2.2/9	3,960	2,125	2,450	770	2,870
	450-3	20	135	575	870	3.5/14	3,960	2,125	2,450	770	2,870
	680-2	35	200	820	1,170	3.0/11	5,096	2,280	2,490	1,500	4,300
	680-3	35	200	950	1,390	3.5/14	5,096	2,280	2,490	1,500	4,300
	930-2	45	280	1,130	1,600	3.5/14	6,330	2,280	2,490	2,100	5,500
	930-3	45	280	1,280	1,890	5.5/20	6,330	2,280	2,490	2,100	5,500
	1100-2	55	330	1,335	1,890	2 × 3.5/14	8,940	2,380	2,342	2,700	7,000
	1100-3	55	330	1,510	2,230	2 × 3.5/14	8,940	2,380	2,342	2,700	7,000
Double celled	144-06	7	45	175	250	1.4/5.5	3,705	1,310	3,030	800	1,510
	144-09	7	45	200	295	1.4/5.5	2,705	1,310	3,330	800	1,510
	225-06	11	70	275	390	1.7/7.0	4,110	1,620	3,030	1,230	2,290
	225-09	11	70	320	465	1.7/7.0	4,110	1,620	3,330	1,230	2,290
	324-06	16	100	400	555	3.0/11	4,590	1,885	3,030	1,530	3,130
	324-09	16	100	440	665	3.5/14	4,590	1,885	3,330	1,530	3,130
	450-2	20	135	525	760	3.5/14	5,114	2,125	3,500	1,500	3,700
	450-3	20	135	575	870	5.5/20	5,114	2,125	3,500	1,500	3,700
	680-2	35	200	820	1,170	3.5/14	6,266	2,280	3,830	2,450	5,410
	680-3	35	200	950	1,390	5.5/20	6,266	2,280	3,830	2,450	5,410
	930-2	45	280	1,130	1,600	6.0/24	7,540	2,280	3,830	3,250	6,850
	930-3	45	280	1,280	1,890	7.0/28	7,540	2,280	3,830	3,250	6,850
	1100-2	55	330	1,335	1,890	2 × 5.5/20	11,280	2,265	3,592	4,500	9,100
	1100-3	55	330	1,510	2,230	2 × 6.0/24	11,280	2,265	3,592	4,500	9,100

**Table 4:** The given rated cooling capacities in the table are valid for the cooling down of water from 32 °C to 26 °C or from 40 °C to 25 °C at a wet-bulb temperature of 20 °C. The minimal and maximal flow rate does not apply to the rated cooling capacities. For other design data, please contact the responsible office or the firm in Lindau.

## ACCESSORIES

- Soundproofing: Noise reduction for inlet and outlet air with a casing made of GRP. Protective grating available on request
- Flexible connecting piece to the air supply and exhaust ducts
- Sound-proofing mat used to reduce water impact
- Jalousie flap for air supply and exhaust side
- Installation framework made of hot-dipped galvanised steel beams for fast assembly of the complete cooling tower
- Float valve to add fresh water
- External water distribution pipe made of GRP
- Heating, which keeps the water around the drain from freezing in winter
- Thermostat for regulating the ventilator speed depending on the cold water outlet temperature
- Thermostat for regulating the heating depending on the cold water temperature



Figure 6: Cell cooling tower system Type EWZ 119.

## EWZ SERIES

Cell cooling tower for water quantities up to 6,400 m<sup>3</sup>/h per cell.

### COMPONENTS

The EWZ series is made of a self-supporting, lattice truss framework. This truss assembly is set up on the customer's concrete basin. The profile sections are made of pultruded GRP, as are the wall plates that are mounted around the upper edge of the air inlet to the ventilator deck.

**Ventilator deck.** The ventilator deck is made of GRP panels with an anti-slip coating. It can be reached by ladder and serves as access point to the interior of the cooling tower for inspection and maintenance work.

**Ventilator casing.** The optimised draught technology GRP construction is mounted to the ventilator deck. The oncoming flow duct is located in the lower part of the casing. The axial-flow propeller operates in the cylindrical part.

**Mechanical part.** The quiet, axial ventilator with completely ribbed blades

is mounted over the deck and is in an overhung position on the output shaft of a bevel helical gearbox.

**Water distribution.** The water distribution system is made up of main pipes, secondary pipes, formed pieces and

baffle nozzles that spray downward. Warm water is evenly sprayed over the entire interior of the cooling tower. Individual water feed lines allow for individual cells to operate independently of each other.

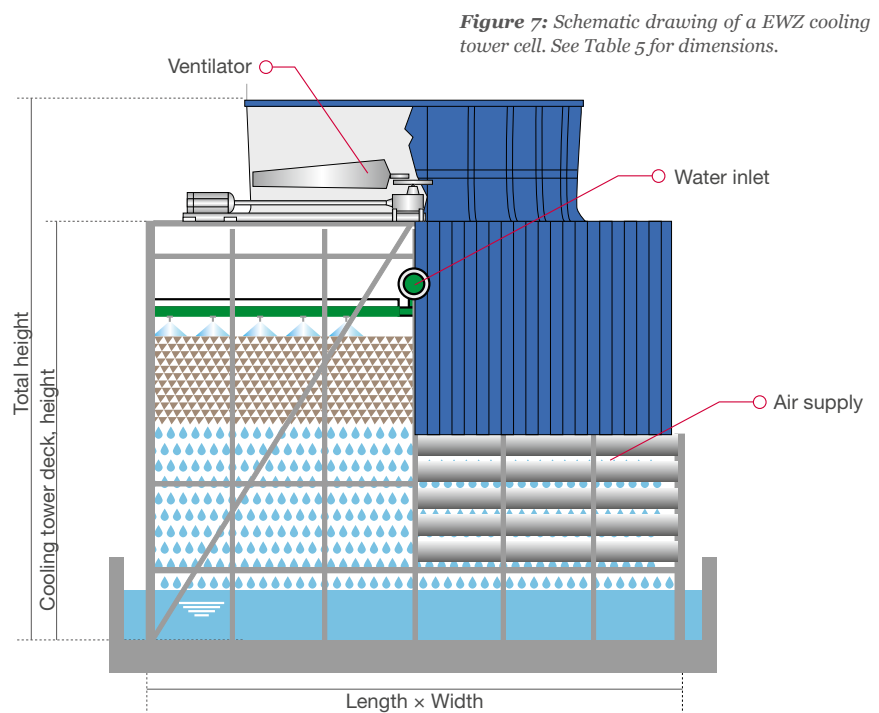


Figure 7: Schematic drawing of a EWZ cooling tower cell. See Table 5 for dimensions.

## Technical Data for the EWZ Series.

Type	Motor capacity in KW	Air intake, width in mm	Length in mm	Total height in mm	Ventilator, diameter in mm	Cooling tower deck, height in mm	Water inlet, height in mm	Air intake, height in mm	
Single celled	119/09	75-160	9,985	12,425	15,020	6,706	11,020	9,104	6,505
	119/12	75-160	9,985	12,425	15,020	6,706	11,020	9,104	6,205
	119/15	75-160	9,985	12,425	15,020	6,706	11,020	9,104	5,905
	119/18	75-160	9,985	12,425	15,020	6,706	11,020	9,104	5,605
	149/09	100-200	12,425	12,425	15,020	7,925	11,020	9,104	6,505
	149/12	100-200	12,425	12,425	15,020	7,925	11,020	9,104	6,205
	149/15	100-200	12,425	12,425	15,020	7,925	11,020	9,104	5,905
	149/18	100-200	12,425	12,425	15,020	7,925	11,020	9,104	5,605
	178/09	132-250	12,425	14,865	15,020	8,534	11,020	9,104	6,505
	178/12	132-250	12,425	14,865	15,020	8,534	11,020	9,104	6,205
	178/15	132-250	12,425	14,865	15,020	8,534	11,020	9,104	5,905
	178/18	132-250	12,425	14,865	15,020	8,534	11,020	9,104	5,605
	214/09	160-250	14,865	14,865	15,020	8,534	11,020	9,104	6,505
	214/12	160-250	14,865	14,865	15,020	8,534	11,020	9,104	6,205
	214/15	160-250	14,865	14,865	15,020	8,534	11,020	9,104	5,905
	214/18	160-250	14,865	14,865	15,020	8,534	11,020	9,104	5,605
Double celled	119L/09	75-160	12,425	9,985	15,020	6,706	11,020	9,104	6,505
	119L/12	75-160	12,425	9,985	15,020	6,706	11,020	9,104	6,205
	119L/15	75-160	12,425	9,985	15,020	6,706	11,020	9,104	5,905
	119L/18	75-160	12,425	9,985	15,020	6,706	11,020	9,104	5,605
	178L/09	132-250	14,865	12,425	15,020	8,534	11,020	9,104	6,505
	178L/12	132-250	14,865	12,425	15,020	8,534	11,020	9,104	6,205
	178L/15	132-250	14,865	12,425	15,020	8,534	11,020	9,104	5,905
	178L/18	132-250	14,865	12,425	15,020	8,534	11,020	9,104	5,605
	250/09	160-315	17,305	14,865	15,020	8,534	11,020	9,104	6,505
	250/12	160-315	17,305	14,865	15,020	8,534	11,020	9,104	6,205
	250/15	160-315	17,305	14,865	15,020	8,534	11,020	9,104	5,905
250/18	160-315	17,305	14,865	15,020	8,534	11,020	9,104	5,605	

**Table 5:** Measurements of a cell cooling tower Type EWZ. For more information see image 7.

**Packing.** The packing is made of rot proof, heat resistant plastic packing.

**Mist eliminator.** Contoured, plastic elements prevent water drops from drifting into the air stream.

**Vibration monitor.** A vibration monitor is used for early detection of an unbalanced ventilator. If inadmissibly high vibrations occur, the ventilator is automatically shut off.

#### OPTIONS

**External oil monitor.** Lines for checking the oil level as well as an external oil-level glass are run to the outside of the ventilator casing.

**Inlet air noise reduction.** Aluminium sound traps with perforated sheet covering located at the air inlet vent as well as absorption material made of mineral. The casing is made of pul-

truded GRP profiles as well as cladding sheets made of corrugated plastic. Maintenance access between the sound traps and basin edge. Entrance through a door in noise reduction casing.

# EWA SERIES

Especially for waste water cooling.

In the paper industry, cooling towers are used mainly for waste water. The necessity to adhere to certain cooling water temperatures results, for instance, from the “discharge regulation for receiving water” or from the firmly defined temperature levels for biological cleaning in sewage works.

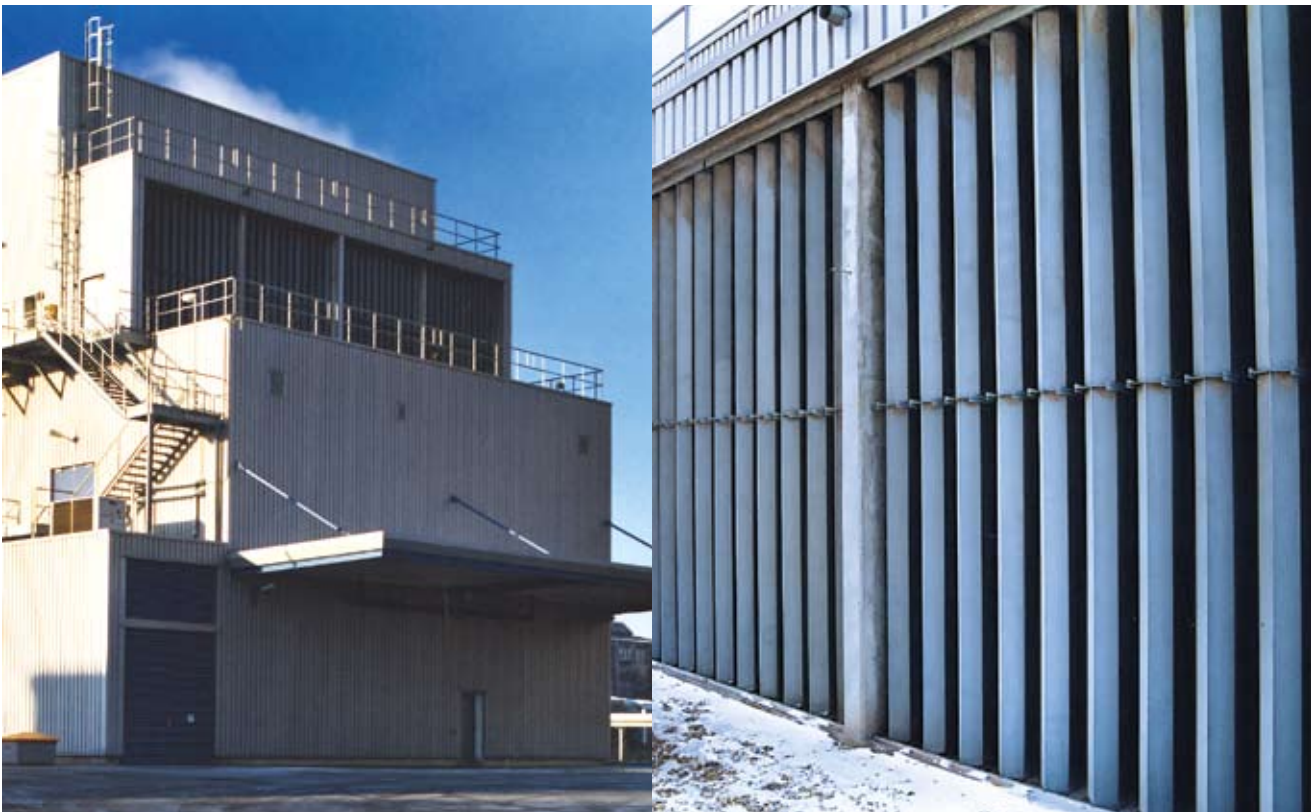
For this reason, COFELY Refrigeration has developed a new concept for concrete cooling towers without internal fittings. Waste water with a high amount of solid flux or fatty concentrations, as well as with acids, bases or other chemical residues can be processed.

In waste water cooling, the cooling water is sprayed upwards under high

## Advantages.

- Minimal algae growth and silt build-up
- No smell problems due to anaerobic containment
- Distinctly reduced maintenance and cleaning costs
- Maintenance opening for easy access to cooling tower interior
- Maintenance platform simplifies the work within the cooling tower
- Maintenance walk way between ventilators and the air inlet noise reduction
- The air outlet noise reduction can be installed above the mobile maintenance platform
- Increased cooling capacity due to an innovative cooling-water flow principle

pressure. The special stainless steel and not sensitive to contamination. nozzles are self-cleaning, adjustable



**Figure 8:** Two waste water cooling towers Type EWA 6400 (left) and the accessory air inlet noise reduction (right).

# RENTAL COOLING TOWERS

Fast and reliable during time of increased capacity or failure.

Rental cooling towers have many advantages. When the existing cooling capacity is not enough, due to seasonal or production peaks, fast help is necessary. It is often not worthwhile to expand your own system. The rental cooling tower is then the ideal solution. It is ready to operate within a few days.

The EWK-D 930 MC is a ready-to-be-connected cooling tower module built into a robust container frame. This construction makes it easy to transport and ensures flexible, dependable operation.

The cooling tower rental fulfils all common industrial demands. It is equipped with a conventional control that regulates the cold water temperature of the cooling tower basin. Furthermore, the control provides a signal to engage the protection against dry running for

an external pump module. Water inlet and outlet temperature is shown on a display. For operation during winter, the unit is equipped with heating and dry-run protection.

### PRODUCT FEATURES

- Corrosion-free all-plastic cooling tower
- Robust, industrial quality
- Easy maintenance and user-friendly

### OPTIONS

- Integrated blowdown
- Ladder
- Pump module
- Customised fitting

### DIMENSIONS

- L/W/H 6,058 × 2,438 × 2,896 mm
- Transportation weight 4,000 kg
- Operating weight 8,500 kg

### CONNECTIONS

Water hook-up:

- Cooling water supply line 2 × Storz A according to DIN Standard 14309, NW 100 mm
- Cooling tower return flow 4 × Storz A according to DIN Standard 14309, NW 100 mm
- Fresh water supply GEKA

Electric:

- 1 × GECON 400V/63A
- Starting current 80/380 A
- Current consumption during operation 13/49 A



Figure 9: Rental cooling tower EWK-D 930 MC.

Cooling capacity in kW	Water flow rating in m³/h	Water inlet temperature in °C	Water return flow temp. in °C	Cooling limit temperature in °C	Motor capacity in KW
1,260	120	32	23	19	24
1,400	150	32	24	19	24
1,510	200	32	25.5	19	24
1,190	120	32	23.5	20	24
1,310	150	32	24.5	20	24
1,400	200	32	26	20	24
1,120	120	32	24	21	24
1,220	150	32	25	21	24
1,280	200	32	26.5	21	24
1,330	120	33	23.5	19	24
1,480	150	33	24.5	19	24
1,630	200	33	26	19	24
1,260	120	33	24	20	24
1,400	150	33	25	20	24
1,510	200	33	26.5	20	24
1,190	120	33	24.5	21	24
1,310	150	33	25.5	21	24
1,400	200	33	27	21	24

Table 6: Technical data for the rental cooling towers available.

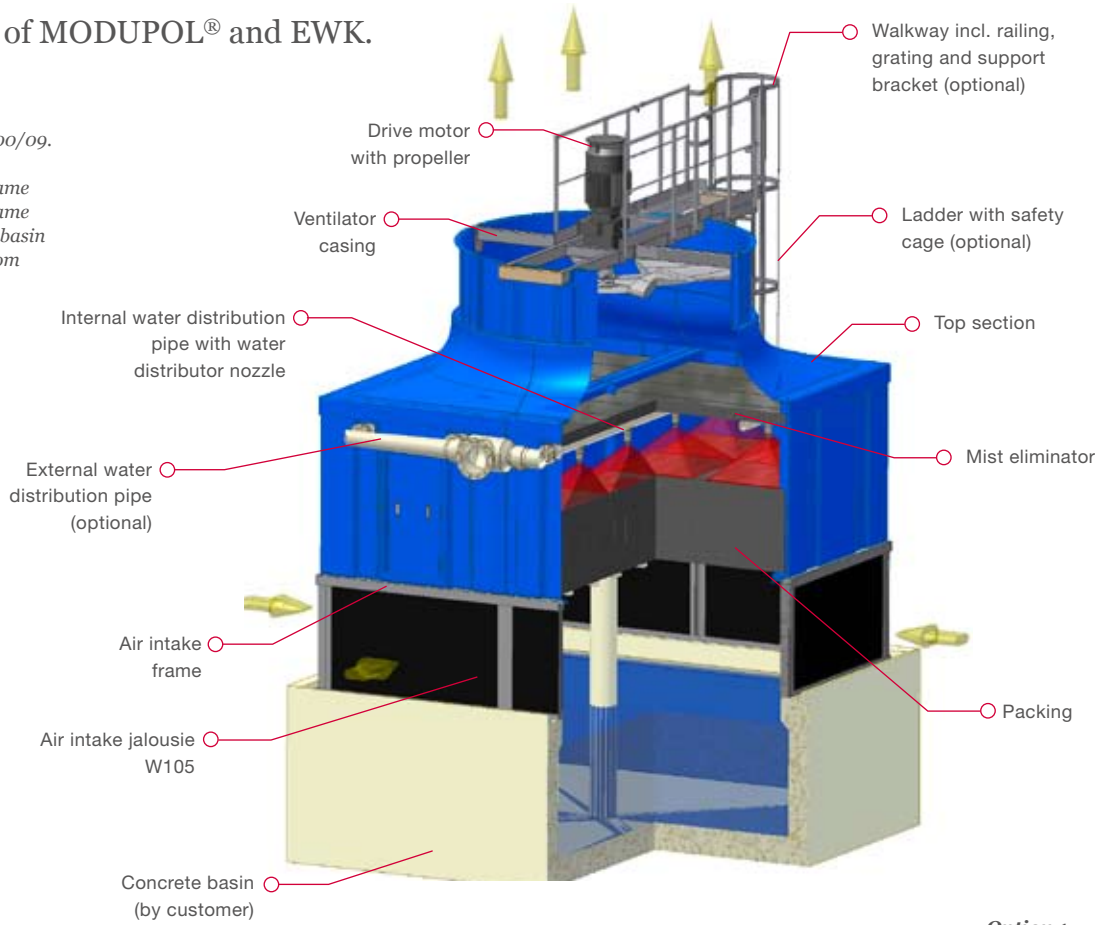
# 3D-CAD

## Sectional images of MODUPOL® and EWK.

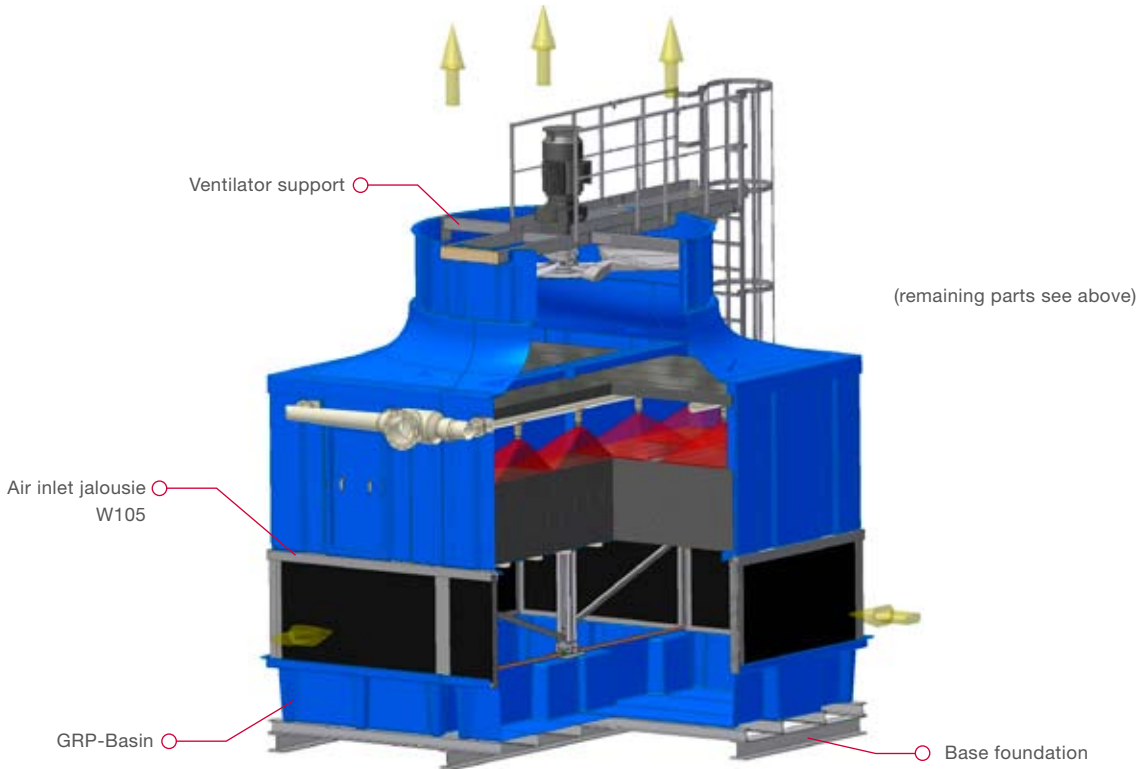
**Figure 10:** MODUPOL® 2100/09.

- Option 1: with air intake frame
- Option 2: with air intake frame and GRP-storage basin
- Option 3: with air intake from below

More info on pages 6 and 7.

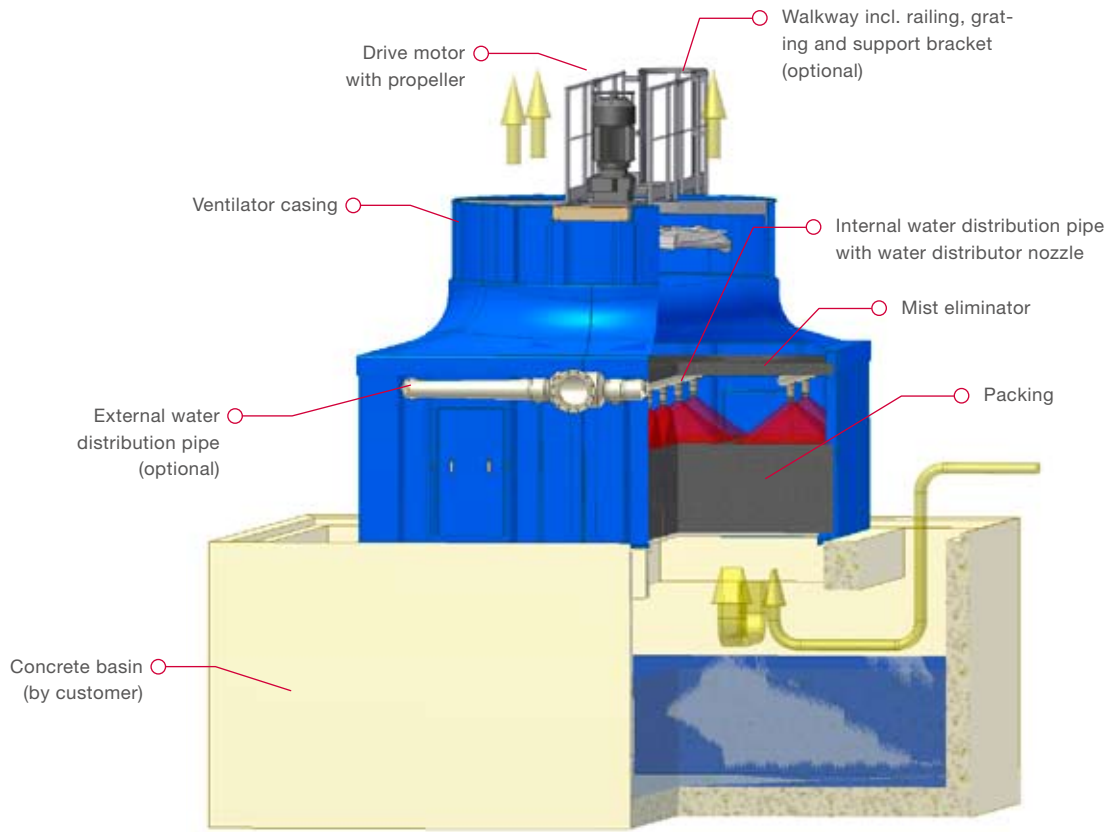


**Option 1**

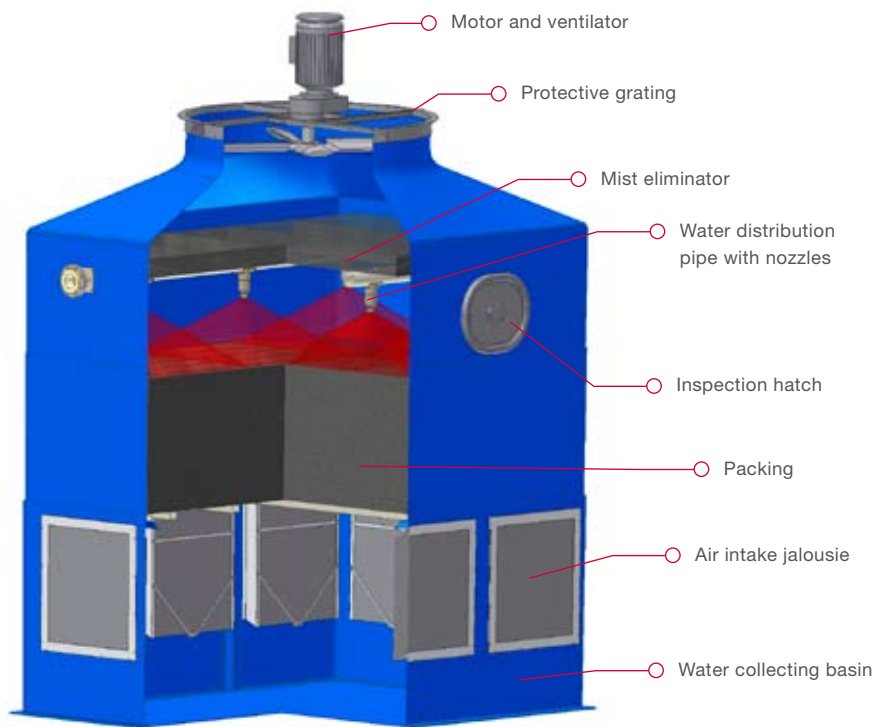


**Option 2**





**Option 3**



**Figure 11:** EWK 680/09. More info on pages 4 and 5.

COFELY is Europe's leading brand for the efficient use of energy. We design the technology as well as supply and manage facilities, systems and processes so that all energy is optimally used – including the people with whom we work. By using our well-developed technical know-how, close contact with customers, over one-hundred years of tradition and the strength of the global GDF SUEZ Group, out of all these factors emerge total solutions where efficiency is standard.

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