TRUWATER®

ONE STOP COOLING SOLUTION PROVIDER

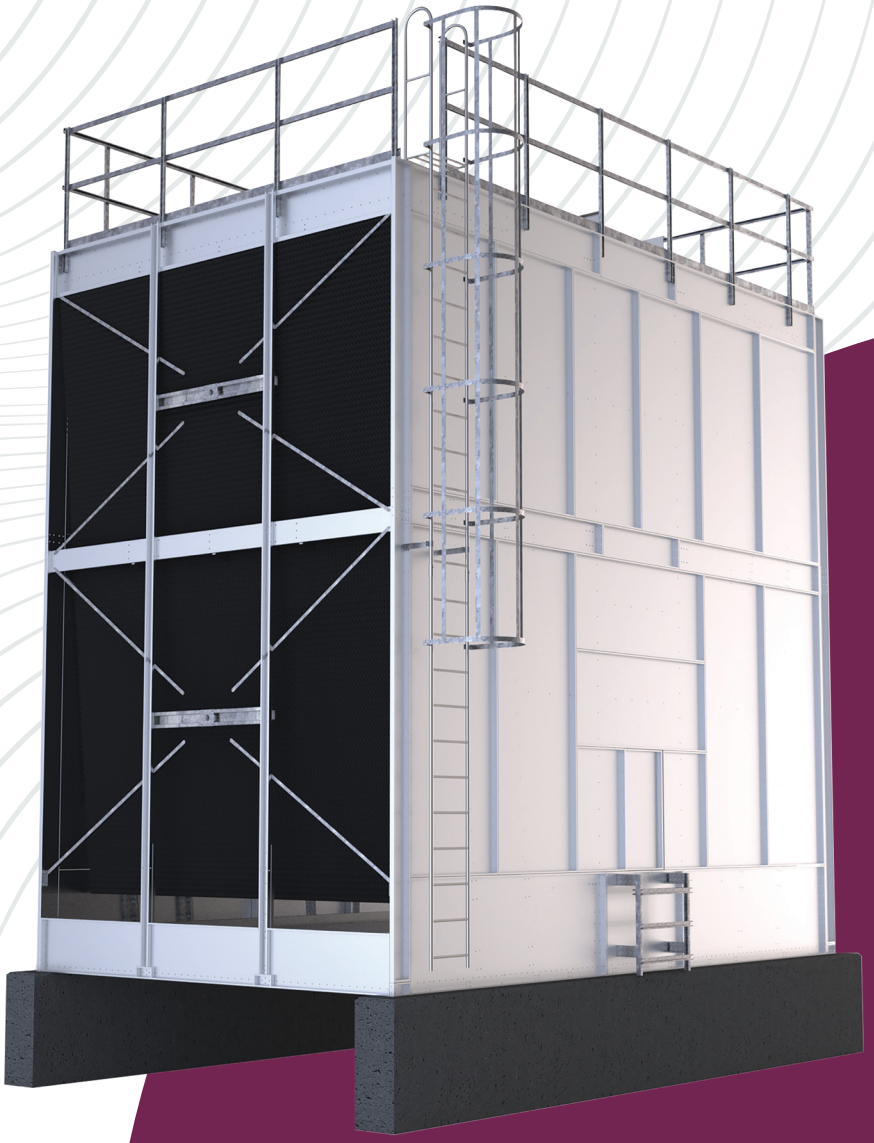
FX-S SERIES

Crossflow Type

Factory Mutual Approved Tower

Single-Cell Up to 1600 HRT Cooling Capacity

Proven Performance | Reliability | Heavy Duty



CTI CERTIFIED

FM APPROVED

Over

Years of Pioneering Cooling Solutions

This is the

Truwater Advantage

For more than a quarter-century, **Truwater Cooling Towers Sdn Bhd** has been at the forefront of cooling innovation. As an ISO 9001 and ISO 14001 certified manufacturer, Truwater specializes in advanced wet and hybrid cooling tower solutions that cater to a wide array of industries, including power generation, petrochemicals, biomass, co-generation, district cooling, data center, and oil and gas.

Truwater's cutting-edge cooling towers constructed from premium materials such as reinforced concrete, pultruded composite FRP, PVC, steel and timber are designed to excel in both cross-flow and counter-flow applications. These versatile systems are meticulously engineered to deliver reliable and high-performance cooling solutions tailored for diverse application.

At Truwater, our unwavering commitment to innovation, reliability and versatlity ensures that we remain the trusted choice for cooling excellence. Experience the Truwater difference - where over 25 years of experience converge to redefine the cooling landscape.

Truwater: The Cooling Tower Company with Experience You Can Trust

Our Environmental Commitment

At Truwater, we understand that the environment—Mother Nature's greatest gift—and water, mankind's most vital resource, are essential for life on Earth. Recognizing their importance, we are committed to protecting our fragile ecosystem.

Our efforts focus on three key pillars:

ENERGY EFFICIENCY

Our modern cooling towers are designed to optimize energy use, minimizing electricity consumption and reducing carbon footprints. By integrating energy-efficient motors, fans, and controls, we ensure our solutions are both powerful and sustainable.

EMISSION CONTROL

We take proactive measures to protect the atmosphere by implementing advanced drift eliminators and rigorous chemical treatment protocols. These efforts help minimize the release of harmful substances, keeping our air clean and safe.

MATERIAL SUSTAINABILITY

We prioritize the use of durable, corrosion-resistant, and sustainable materials in the construction of our cooling towers. This reduces the need for frequent replacements, minimizes waste, and lowers the environmental impact over the lifespan of our products.

Our long-term vision guides us as we continue to innovate and refine our cooling towers, ensuring we meet the highest environmental standards for a sustainable future.

Leading the Way in Cooling Solutions Worldwide

With a commitment to excellence, Truwater has become a leading provider of cooling tower solutions across Southeast Asia and beyond. Our innovative products serve diverse markets, including Malaysia, Thailand, Indonesia, Singapore, Taiwan, Indochina, South Korea, Australia, East Africa, and the Middle East.

Wherever cooling challenges arise, Truwater stands ready with cutting-edge technology and exceptional service, ensuring that every cooling demand is met with excellence.

FX-S SERIES

Factory Mutual Approved Tower

Single-Cell Up to 1600 HRT Cooling Capacity

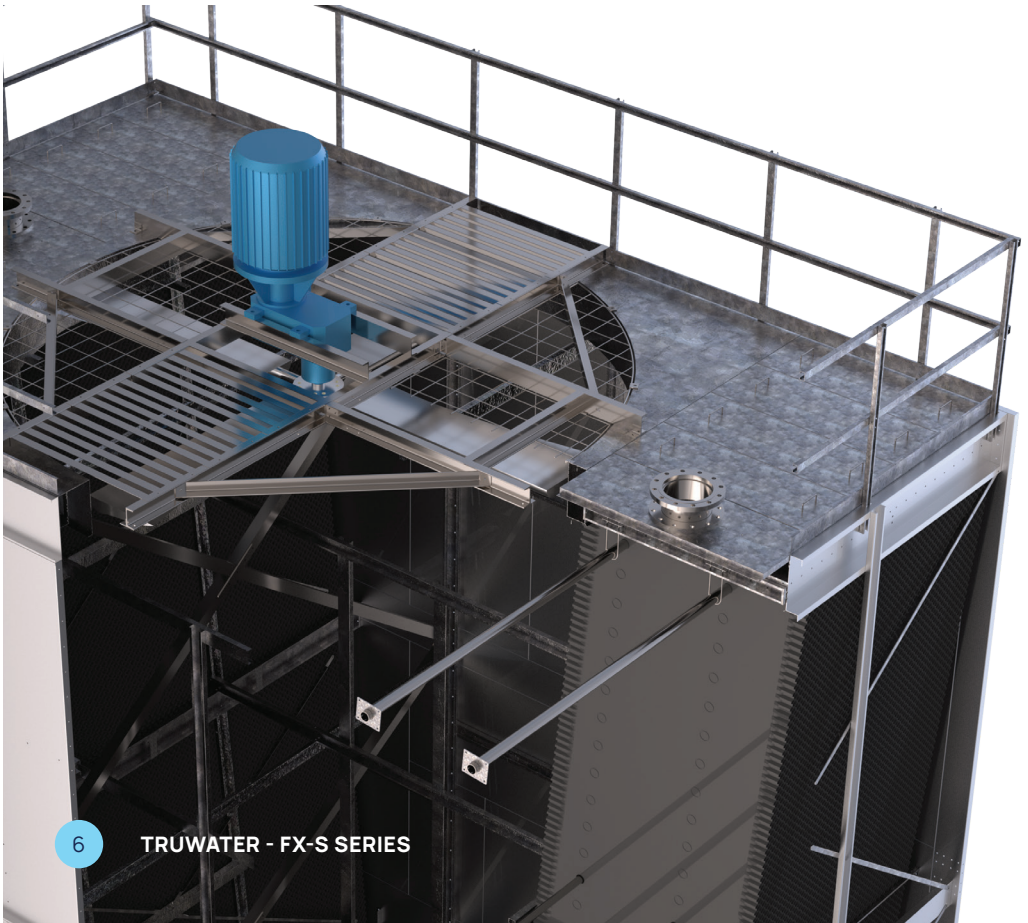
Overview

The FX-S Series by TRUWATER is Factory Mutual (FM) Approved, a globally recognised certification that underscores the tower's adherence to the highest standards of safety, performance, and reliability.

The FX-S Series Cooling Tower is engineered to exceed industry benchmarks and meets FM's stringent structural integrity requirement, ensuring robust performance even under extreme weather conditions or challenging operational environments.

The thermal performance of the FX-S Series has been certified by CTI in accordance with CTI Standard STD-201.

The FX-S Series Cooling Towers are equipped with OSHA Standard Handrail & Caged Ladder as default safety features, alongside non-slip surface Handrails to enhance user security. For ease of maintenance, an Internal Platform & Ladder allows for quick and safe access.



Advantages

Structure Reliability

FX-S Series Cooling Towers is engineered with G-235 (Z700 Metric) hot-dip galvanized steel frame, ensuring long-lasting structural integrity even in demanding environments.

Energy Saving

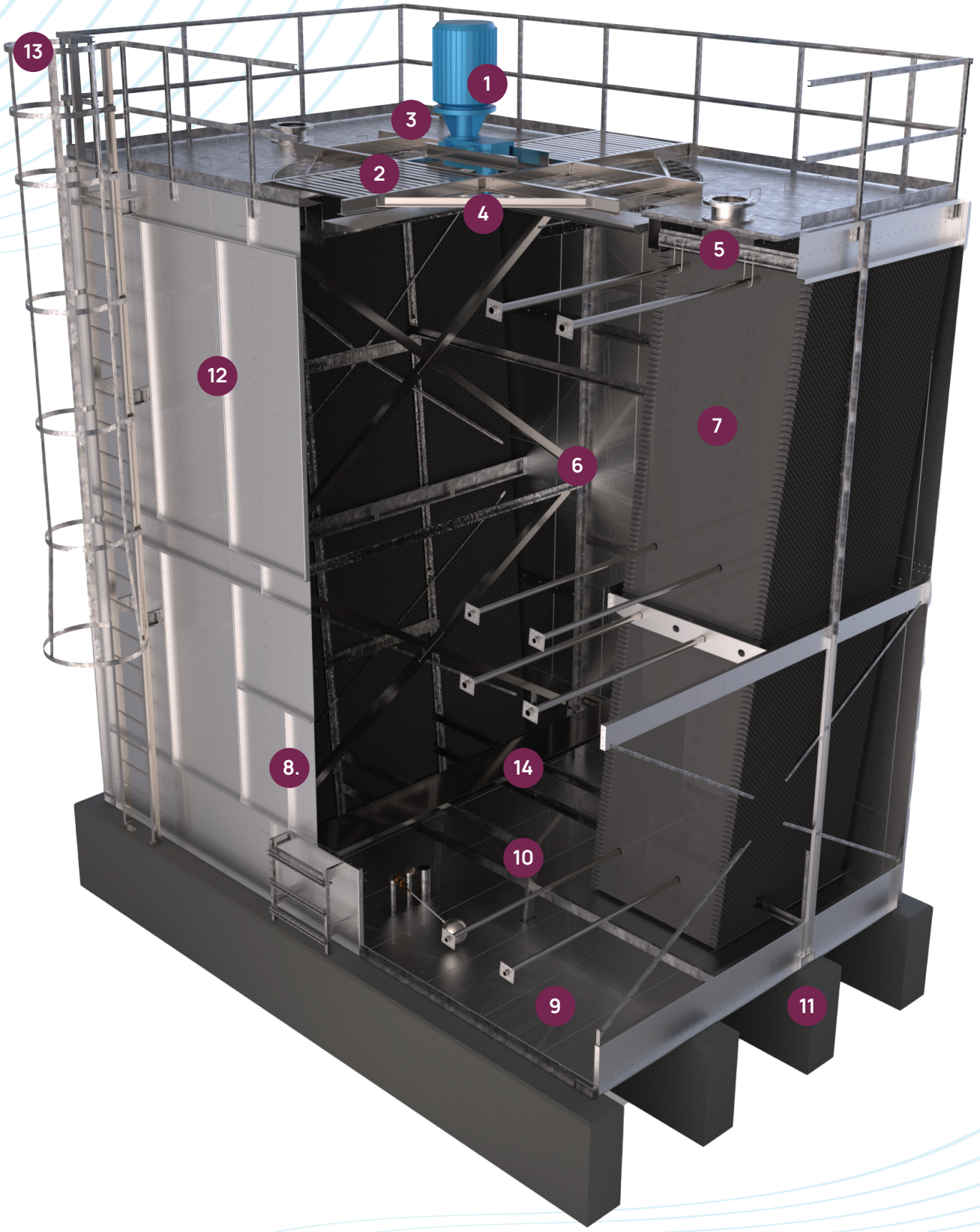
The low-speed, high-efficiency fan and low-pressure drop is designed to optimise the energy consumption.

High Efficiency Drift Eliminator

The efficient drift eliminators remove entrained water droplets from the air stream to less than 0.005%. With an optional upgrade available to achieve less than 0.001%.

Robust Safety Mechanisms

With built-in OSHA-Standard Handrails & Caged Ladder, Internal Platform & Ladder that facilitates secure access for routine maintenance.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Features

FXS Series Features

1. **Motor**
   - Default premium high efficiency IE3 Motor,
   - TEFC, IP55 weather proof and VSD compatible

2. **V-Belt & Pulley or Helical Gear System**
   - Multi-groove belt combined with durable Pulley Cover
   - Optional Helical Gear Drive System for capacity from 30kW to 55kW

3. **Fan Deck**
   - G-235 (Z700) HDG Steel
   - Excellent corrosion-resistance

4. **Axial Fan Assembly**
   - Default Aluminium Alloy

5. **Hot Water Basin**
   - G-235 (Z700) HDG Steel
   - Can be equipped with Hot Water Basin Cover to prevent debris accumulation and minimizes evaporation losses

6. **Main Frame Structure**
   - G-235 (Z700) HDG Steel
   - Ensures excellent structural integrity, reducing the risk of rust and material degradation over time

7. **High Performance Firm Fill**
   - Vacuum-formed, corrugated PVC sheets
   - Featuring a maximum flame spread rating of 25 per ASTM E84
   - Integral with Louver & Drift Eliminator
   - Efficient reduce drift loss up to 0.005%

8. **Inspection Door**
   - G-235 (Z700) HDG Steel
   - Designed for quick and convenient access to inspect and service internal components with ease.

9. **Cold Water Basin Floor**
   - G-235 (Z700) HDG Steel
   - Durable against chemicals and moisture

10. **Suction Sump**
    - HDG Steel construction
    - Corrosion-resistant
    - Incorporates screen to prevent large particles from entering the stream

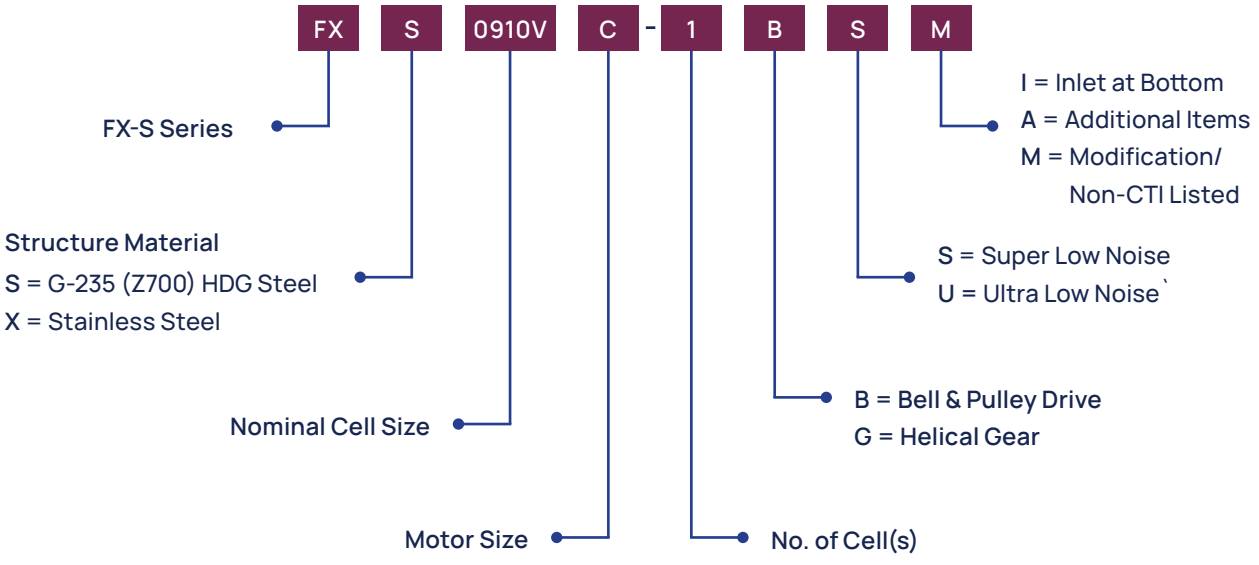
11. **Cold Water Basin Frame**
    - G-235 (Z700) HDG Steel
    - Extends the basin's lifespan by protecting against rust and degradation

12. **Casing**
    - G-235 (Z700) HDG Steel
    - Excellent corrosion-resistance

13. **OSHA Standard Handrail & Caged Ladder**
    - G-235 (Z700) Default OSHA Standard Handrail & Caged Ladder
    - Default HDG Steel Ladder, both enhanced corrosion-resistance and durability

14. **Safety Maintenance Platform**
    - G-235 (Z700) HDG Steel, ensuring high strength durability and corrosion resistance.

Model Definition Example



Engineering Highlights

1. Drive System Options

The FXS Series Cooling Tower offers tailored drive solutions to enhance efficiency across power ranges. For motor capacities from 1.5kW to 22kW, the tower uses a V-belt and pulley drive, providing reliable power transmission with low maintenance needs and smooth operation.

For capacities from 30kW to 55kW, it features a helical gear drive system, which ensures greater torque transfer, higher efficiency, and extended durability for heavy-duty applications.

2. Blended-in Fan Cylinder

The FXS Series Cooling Tower features a blended-in fan cylinder, designed to be subtly integrated within the fan stack, this seamless configuration optimises airflow by reducing turbulence around the fan edges, enhancing overall cooling efficiency. Additionally, the blended design reduces the cooling tower's profile, creating a more compact structure that can fit into tighter spaces with less visual impact. This streamlined approach also helps minimise noise by ensuring smoother airflow, making it an ideal solution for noise-sensitive environments.

3. Default OSHA Standard Handrail Caged Ladder

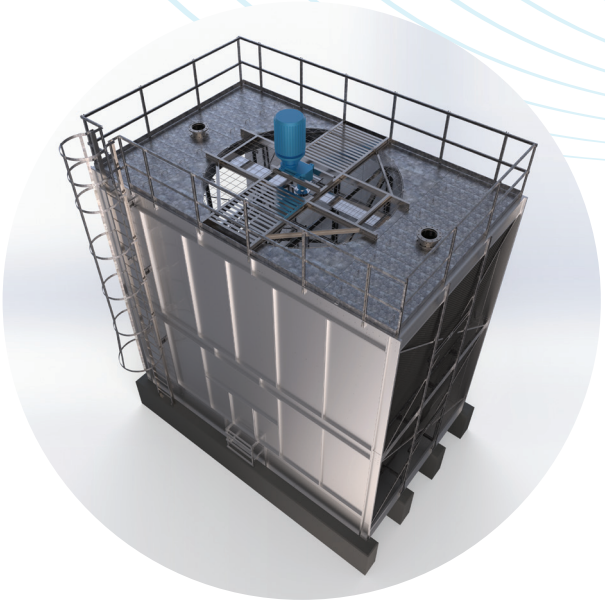
The FXS Series Cooling Tower incorporates a caged ladder with OSHA standards to ensure maximum protection during maintenance and inspection. This design provides a secure, enclosed climbing structure that minimises fall risks, offering peace of mind and compliance with OSHA safety standards.

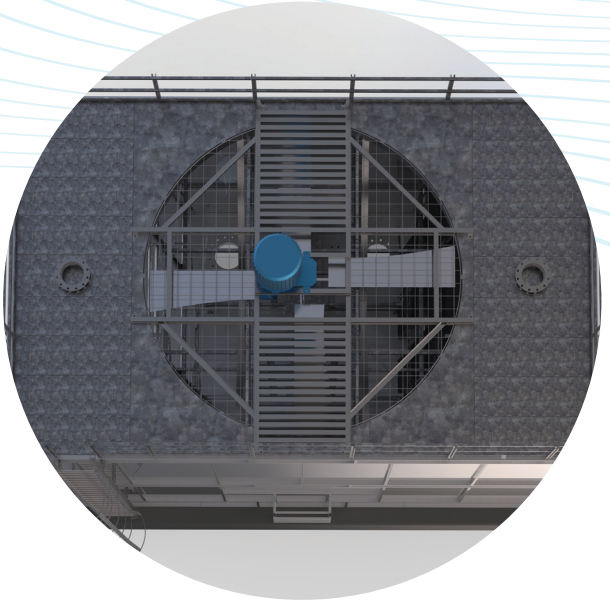
OSHA®
Occupational Safety and Health Administration

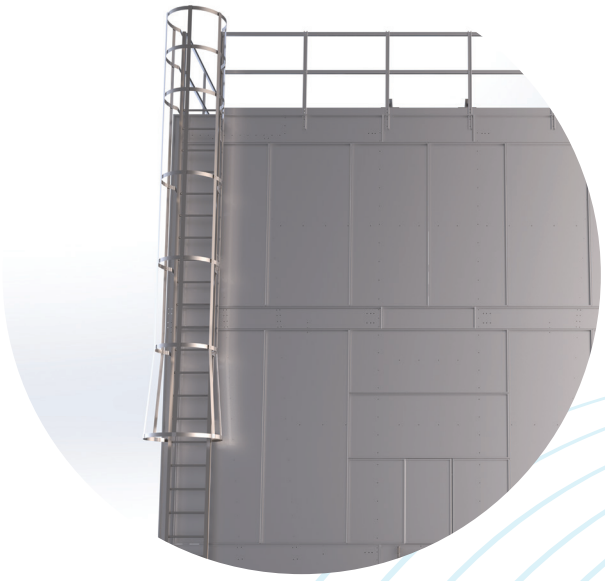
OSHA FIXED LADDER REQUIREMENTS

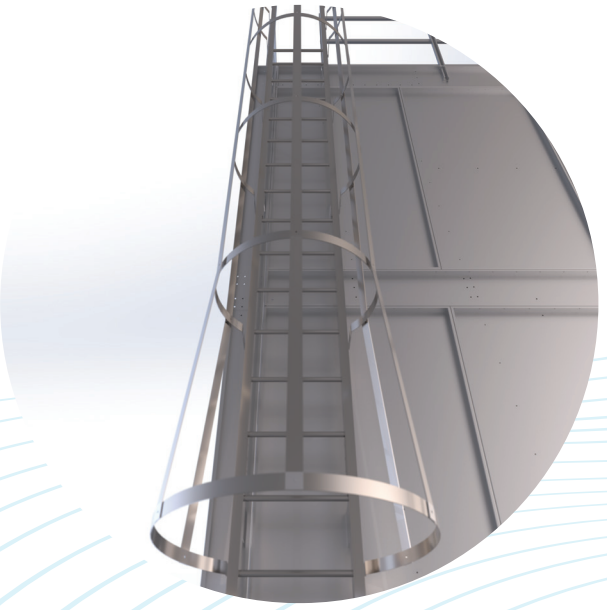
4. Internal Platform and Ladder

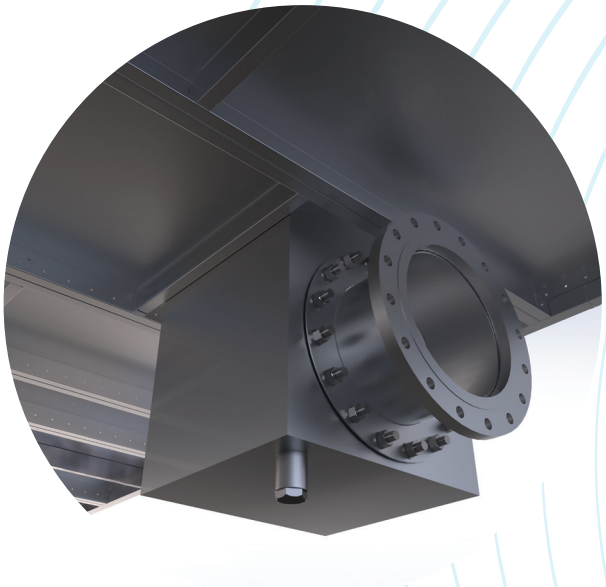
The FXS Series Cooling Tower is equipped with an internal platform and ladder system designed for safe and easy access to critical components, provide a stable, secure non slip surface for operators to move within the tower, facilitating routine inspections and maintenance.

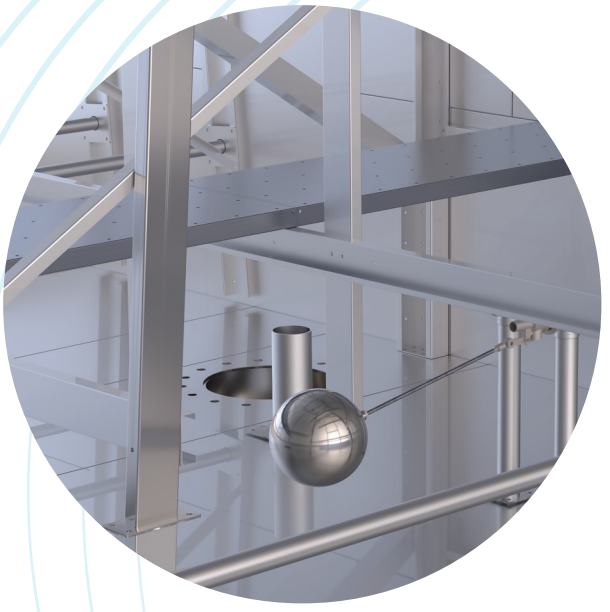






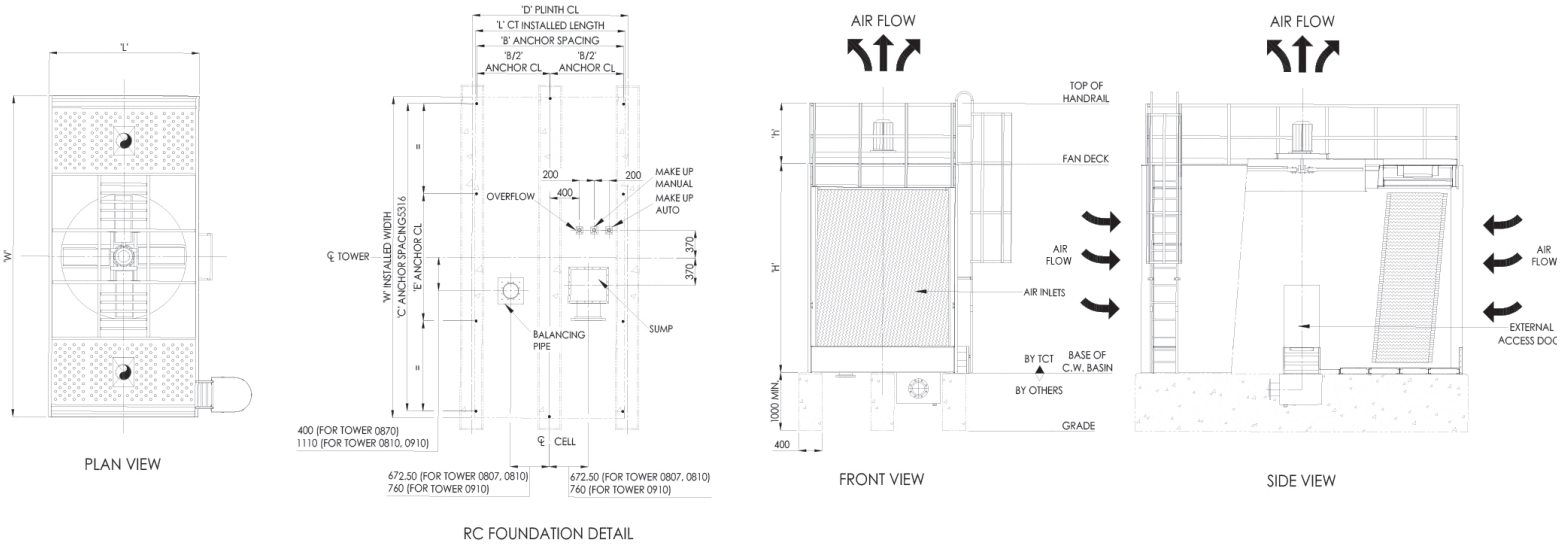






Product Specifications

Outline and Foundation Drawings (Single Cell)



*All dimensions in MM.

FX-S RANGE										
Tower Model FX-S	OVERALL DIMENSIONS				HIGH-PERFORMANCE EC MOTOR			AXIAL FLOW FAN		
	L	W	H	Height up to Handrail	Output (kW)	Type	Power Source	A (Fan Dia)	Fan Speed (RPM)	Drive System
0807UX	2590	4570	3040	1100	1.5	TEFC, Outdoor, 3 Phase, Induction Motor, 4 Pole	3 ph/ 380V/ 50hz or 3ph/ 415V/ 50hz	2135	410	Belt & Pulley
0807UY					2.2					
0807UZ					3					
0807UA					4				430	
0807UB					5.5					
0807UC					7.5					
0807UD					11					
0807UE					15					
0807UF					18.5					
0810VX	2590	5550	3610	1100	1.5			2135	410	Belt & Pulley
0810VY					2.2					
0810VZ					3					
0810VA					4				430	
0810VB					5.5					
0810VC					7.5					
0810VD					11					
0810VE					15					
0810VF					18.5					
0910VY	2940	5550	3610	1110	2.2			2440	370	Belt & Pulley
0910VZ					3					
0910VA					4				410	
0910VB					5.5					
0910VC					7.5					
0910VD					11					
0910VE					15					
0910VF					18.5					

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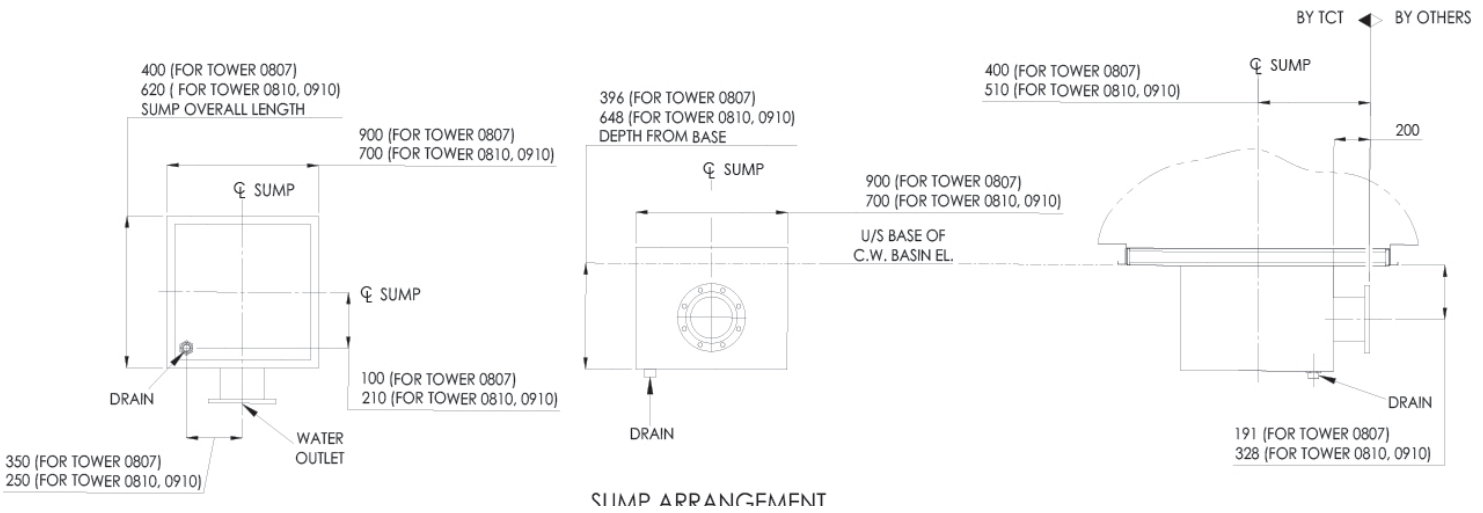


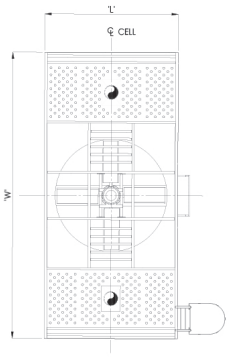
SUMP ARRANGEMENT

FX-S SERIES RANGE													
ANCHOR BOLTS DATA				PIPING		PIPING SIZE						WEIGHT (KG)	
B	C	D	E	F	G	Internal Piping	Water Inlet	Water Outlet	Overflow	Drain	Make up Auto & Manual	Dry Weight	Operating Weight
2540	4370	2590	1850	1787	1295	125	100 x 2	125 x 1	50 x 1	50 x 1	25 x 1	3360	7050
						125	100 x 2	125 x 1	50 x 1	50 x 1	25 x 1	3370	7060
						125	100 x 2	125 x 1	50 x 1	50 x 1	25 x 1	3370	7060
						125	100 x 2	125 x 1	50 x 1	50 x 1	25 x 1	3380	7070
						150	125 x 2	200 x 1	50 x 1	50 x 1	50 x 1	3400	7090
						150	125 x 2	200 x 1	50 x 1	50 x 1	50 x 1	3410	7100
						150	125 x 2	200 x 1	50 x 1	50 x 1	50 x 1	3450	7140
						150	125 x 2	200 x 1	50 x 1	50 x 1	50 x 1	3470	7160
						150	125 x 2	200 x 1	50 x 1	50 x 1	50 x 1	3510	7200
2540	5350	2690	1610	2121	1295	200	100 x 2	125 x 1	50 x 1	50 x 1	25 x 1	3770	9040
						200	100 x 2	125 x 1	50 x 1	50 x 1	25 x 1	3770	9040
						200	100 x 2	125 x 1	50 x 1	50 x 1	25 x 1	3780	9050
						200	125 x 2	200 x 1	50 x 1	50 x 1	50 x 1	3790	9060
						200	125 x 2	200 x 1	50 x 1	50 x 1	50 x 1	3800	9070
						200	125 x 2	200 x 1	50 x 1	50 x 1	50 x 1	3810	9080
						200	125 x 2	200 x 1	50 x 1	50 x 1	50 x 1	3860	9130
						200	125 x 2	200 x 1	50 x 1	50 x 1	50 x 1	3880	9150
						200	150 x 2	200 x 1	50 x 1	50 x 1	50 x 1	3920	9190
2890	5350	3040	1610	2121	1470	200	125 x 2	125 x 1	50 x 1	50 x 1	50 x 1	4040	9360
						200	125 x 2	200 x 1	50 x 1	50 x 1	50 x 1	4040	9360
						200	125 x 2	200 x 1	50 x 1	50 x 1	50 x 1	4050	9370
						200	125 x 2	200 x 1	50 x 1	50 x 1	50 x 1	4060	9380
						200	125 x 2	200 x 1	50 x 1	50 x 1	50 x 1	4080	9400
						200	125 x 2	200 x 1	50 x 1	50 x 1	50 x 1	4120	9440
						200	150 x 2	200 x 1	50 x 1	50 x 1	50 x 1	4140	9460
						200	150 x 2	250 x 1	50 x 1	50 x 1	50 x 1	4180	9500

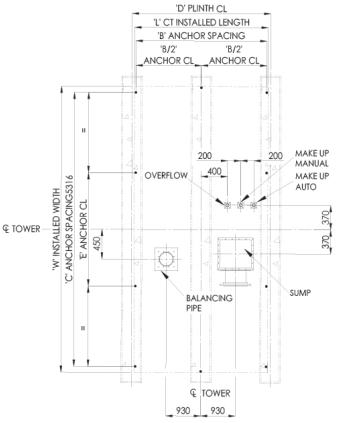
1. For Internal Piping Detail, Please Contact Truwater's Engineer.
2. Balancing Pipe Connection Is Available Upon Request.
3. External Piping to Open End. Internal Piping & Water Outlet to ANSI / ASME B16.5 Flange
4. Overflow, Drain, Make Up Auto & Manual to BSP Female Thread.

Product Specifications

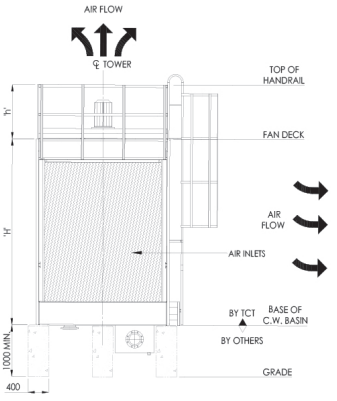
Outline and Foundation Drawings (Single Cell)



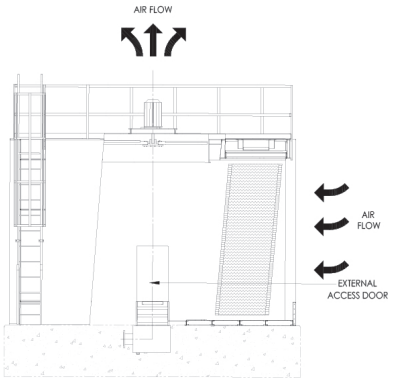
PLAN VIEW



RC FOUNDATION DETAIL



FRONT VIEW



SIDE VIEW

*All dimensions in MM.

FX-S RANGE										
Tower Model FX-S	OVERALL DIMENSIONS				MOTOR			AXIAL FLOW FAN		
	L	W	H	Height up to Handrail	Output (kW)	Type	Power Source	A (Fan Dia)	Fan Speed (RPM)	Drive System
1209WA	3620	6470	3230	1100	4	TEFC, Outdoor, 3 Phase, Induction Motor, 4 Pole	3 ph/ 380V/ 50hz or 3ph/ 415V/ 50hz	3050	290	Belt & Pulley
1209WB					5.5					
1209WC					7.5					
1209WD					11				370	
1209WE					15					
1209WF					18.5					
1209WG					22					
1209WH					30				350	
1209WI					37					
1209WJ					45					
1212WA	3620	6470	4220	1100	4			3050	290	Belt & Pulley
1212WB					5.5					
1212WC					7.5					
1212WD					11				370	
1212WE					15					
1212WF					18.5					
1212WG					22					
1212WH					30				350	
1212WI					37					
1212WJ					45					
1212WK					55					
1214WA	3620	6470	4830	1100	4			3050	290	Belt & Pulley
1214WB					5.5					
1214WC					7.5					
1214WD					11				370	
1214WE					15					
1214WF					18.5					
1214WG					22					
1214WH					30				350	
1214WI					37					
1214WJ					45					
1214WK					55					

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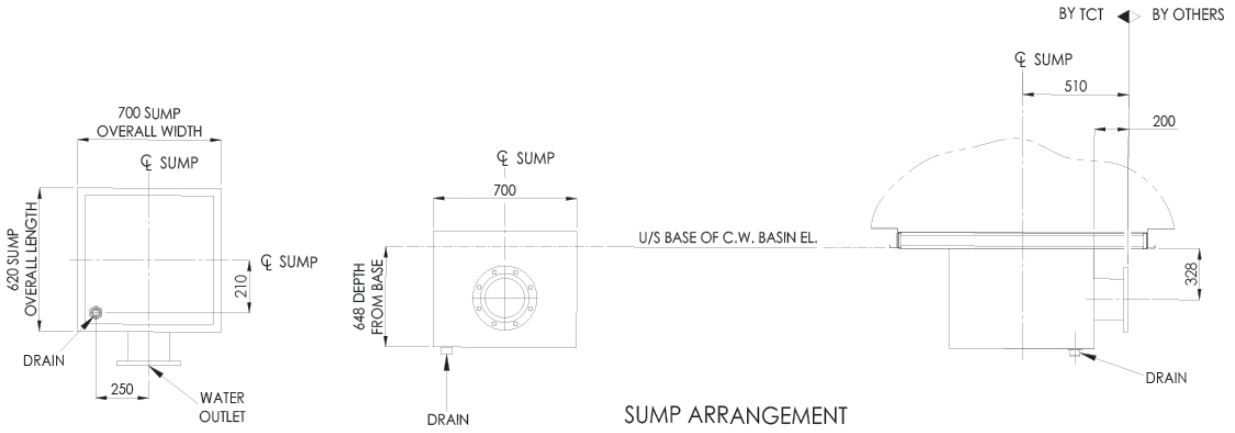

SUMP ARRANGEMENT

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B	C	D	E	F	G	Internal Piping	Water Inlet	Water Outlet	Overflow	Drain	Make up Auto & Manual	Dry Weight	Operating Weight
3570	6270	3720	2530	2430	1810	200	150 x 2	200 x 1	80 x 1	50 x 1	50 x 1	4560	12990
						200	150 x 2	200 x 1	80 x 1	50 x 1	50 x 1	4580	13010
						250	150 x 2	250 x 1	80 x 1	50 x 1	50 x 1	4590	13020
						250	150 x 2	250 x 1	80 x 1	50 x 1	50 x 1	4630	13060
						250	150 x 2	250 x 1	80 x 1	50 x 1	50 x 1	4650	13080
						250	150 x 2	250 x 1	80 x 1	50 x 1	50 x 1	4690	13120
						250	150 x 2	250 x 1	80 x 1	50 x 1	50 x 1	4720	13150
						250	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	4790	13220
						250	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	4830	13260
						250	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	4850	13280
3570	6270	3720	2530	2430	1810	250	150 x 2	250 x 1	80 x 1	50 x 1	50 x 1	5340	14120
						250	150 x 2	250 x 1	80 x 1	50 x 1	50 x 1	5360	14140
						250	150 x 2	250 x 1	80 x 1	50 x 1	50 x 1	5370	14150
						250	150 x 2	250 x 1	80 x 1	50 x 1	50 x 1	5410	14190
						250	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	5430	14210
						250	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	5470	14250
						250	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	5500	14280
						300	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	5570	14350
						300	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	5610	14390
						300	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	5630	14410
						300	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	5720	14500
3570	6270	3720	2530	2430	1810	250	150 x 2	250 x 1	80 x 1	50 x 1	50 x 1	5930	14770
						250	150 x 2	250 x 1	80 x 1	50 x 1	50 x 1	5950	14690
						250	150 x 2	250 x 1	80 x 1	50 x 1	50 x 1	5960	14700
						250	150 x 2	250 x 1	80 x 1	50 x 1	50 x 1	6000	14740
						250	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	6020	14760
						250	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	6060	14800
						250	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	6090	14830
						300	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	6160	14900
						300	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	6200	14940
						300	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	6220	14960
						300	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	6310	15050

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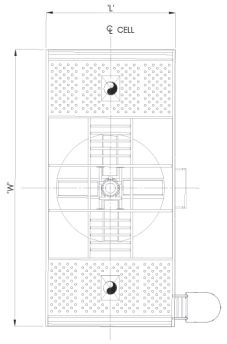
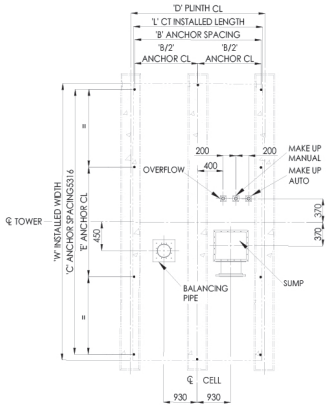
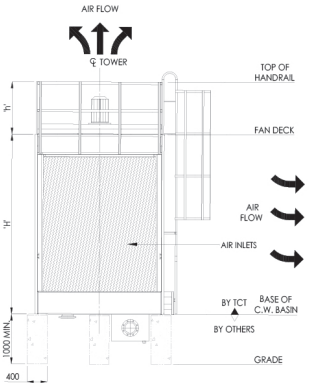


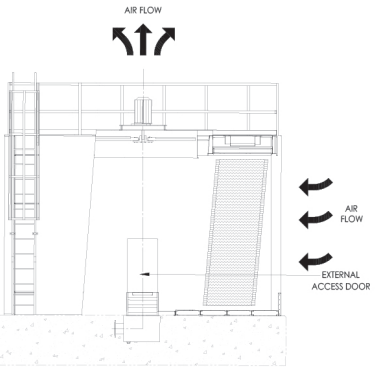
PLAN VIEW



RC FOUNDATION DETAIL



FRONT VIEW



SIDE VIEW

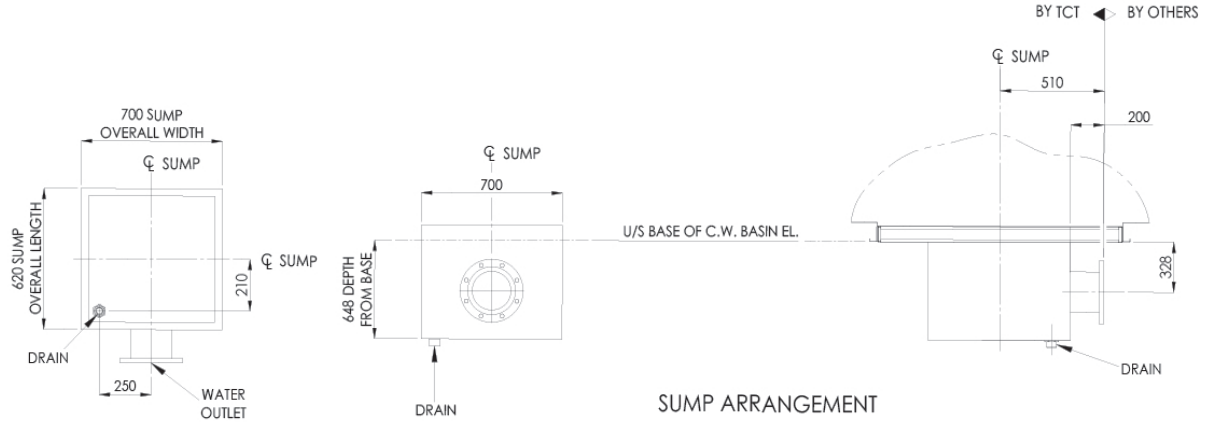
*All dimensions in MM.

FX-S RANGE										
Tower Model FX-S	OVERALL DIMENSIONS				MOTOR			AXIAL FLOW FAN		
	L	W	H	Height up to Handrail	Output (kW)	Type	Power Source	A (Fan Dia)	Fan Speed (RPM)	
1216WA	3620	6470	5440	1100	4	TEFC, Outdoor, 3 Phase, Induction Motor, 4 Pole	3 ph/ 380V/ 50hz or 3ph/ 415V/ 50hz	3050	290	Belt & Pulley
1216WB					5.5					
1216WC					7.5					
1216WD					11				370	
1216WE					15					
1216WF					18.5					
1216WG					22					
1216WH					30				350	
1216WI					37					
1216WJ					45					
1216WK					55					
1218WA	3620	6470	5870	1100	4			3050	290	Belt & Pulley
1218WB					5.5					
1218WC					7.5					
1218WD					11				370	
1218WE					15					
1218WF					18.5					
1218WG					22					
1218WH					30				350	
1218WI					37					
1218WJ					45					
1218WK					55					
1220WA	3620	6470	6660	1100	4			3050	290	Belt & Pulley
1220WB					5.5					
1220WC					7.5					
1220WD					11				370	
1220WE					15					
1220WF					18.5					
1220WG					22					
1220WH					30				350	
1220WI					37					
1220WJ					45					
1220WK					55					

Note that due to continuous product improvements by the manufacturer, these parameters may be subject to change without prior notice.

Product Specifications

Outline and Foundation Drawings (Single Cell)



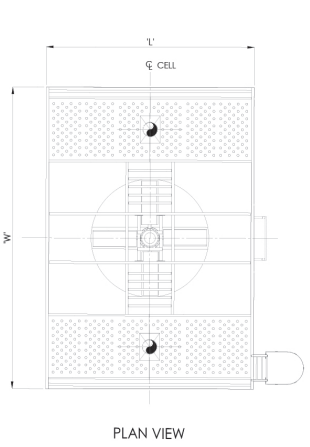
SUMP ARRANGEMENT

FX-S SERIES RANGE													
ANCHOR BOLTS DATA				PIPING		PIPING SIZE						WEIGHT (KG)	
B	C	D	E	F	G	Internal Piping	Water Inlet	Water Outlet	Overflow	Drain	Make up Auto & Manual	Dry Weight	Operating Weight
3570	6270	3720	2530	2430	1810	250	150 x 2	250 x 1	80 x 1	50 x 1	50 x 1	6470	15340
						250	150 x 2	250 x 1	80 x 1	50 x 1	50 x 1	6480	15350
						250	150 x 2	250 x 1	80 x 1	50 x 1	50 x 1	6490	15360
						250	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	6540	15410
						250	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	6560	15430
						250	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	6600	15470
						300	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	6620	15490
						300	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	6700	15570
						300	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	6730	15600
						300	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	6750	15620
						300	200 x 2	300 x 1	80 x 1	50 X 1	50 x 1	6840	15710
3570	6270	3720	2530	2430	1810	250	150 X 2	250 x 1	80 x 1	50 x 1	50 x 1	6900	15770
						250	150 x 2	250 x 1	80 x 1	50 x 1	50 x 1	6920	15760
						250	150 x 2	250 x 1	80 x 1	50 x 1	50 x 1	6930	15770
						250	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	6970	15810
						250	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	6990	15830
						250	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	7030	15870
						300	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	7060	15900
						300	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	7130	15970
						300	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	7170	16010
						300	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	7190	16030
						300	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	7280	16120
3570	6270	3720	2530	2430	1810	250	150 X 2	250 x 1	80 x 1	50 x 1	50 x 1	7460	16330
						250	150 x 2	250 x 1	80 x 1	50 x 1	50 x 1	7480	16320
						250	150 x 2	250 x 1	80 x 1	50 x 1	50 x 1	7490	16330
						250	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	7530	16370
						250	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	7550	16390
						250	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	7590	16430
						300	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	7620	16460
						300	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	7690	16530
						300	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	7730	16570
						300	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	7750	16590
						300	200 x 2	300 x 1	80 x 1	50 x 1	50 x 1	7840	16680

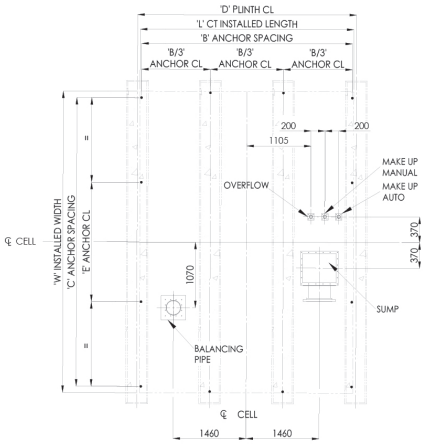
1. For Internal Piping Detail, Please Contact Truwater's Engineer.
2. Balancing Pipe Connection Is Available Upon Request.
3. External Piping to Open End. Internal Piping & Water Outlet to ANSI / ASME B16.5 Flange
4. Overflow, Drain, Make Up Auto & Manual to BSP Female Thread.

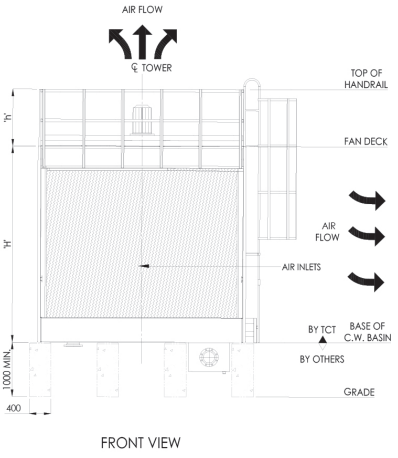
Product Specifications

Outline and Foundation Drawings (Single Cell)

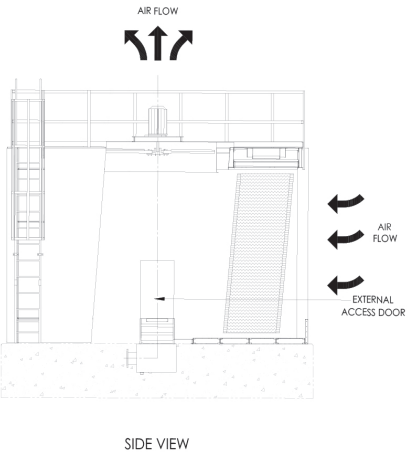


PLAN VIEW





FRONT VIEW



SIDE VIEW

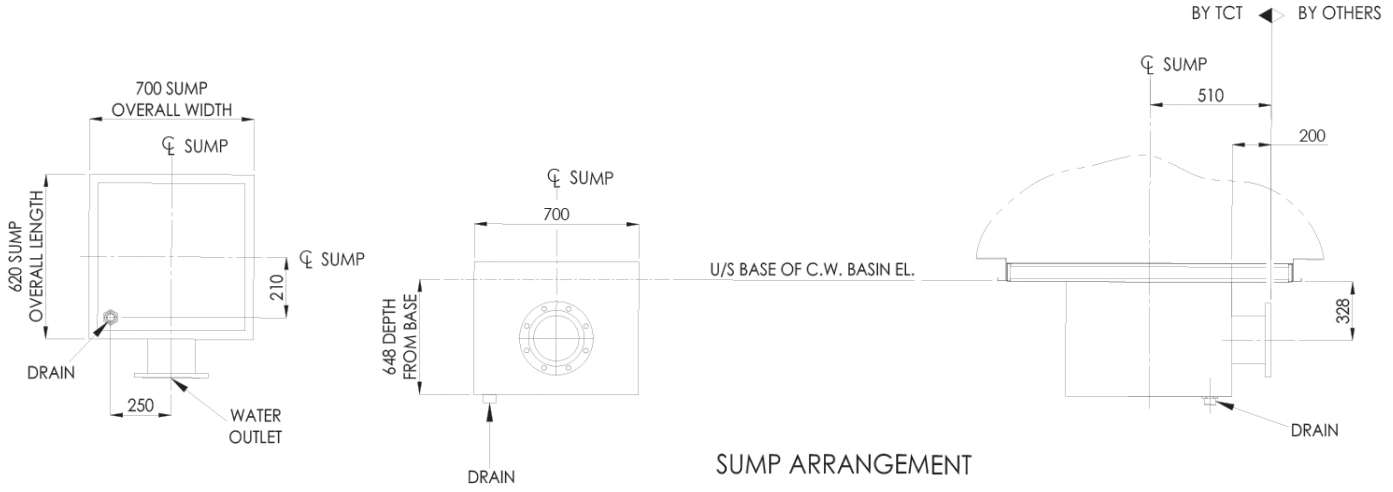
*All dimensions in MM.

FX-S RANGE										
Tower Model FX-S	OVERALL DIMENSIONS				HIGH-PERFORMANCE EC MOTOR			AXIAL FLOW FAN		
	L	W	H	Height up to Handrail	Output (kW)	Type	Power Source	A (Fan Dia)	Fan Speed (RPM)	Drive System
1409WB	4280	6930	3230	1100	5.5	2140	3 ph/ 380V/ 50hz or 3ph/ 415V/ 50hz	3660	260	Belt & Pulley
1409WC					7.5					
1409WD					11					
1409WE					15					
1409WF					18.5				310	Helical Gearbox
1409WG					22					
1409WH					30					
1409WI					37					
1409WJ					45					
1409WK					55					
1414WB	4280	6930	4830	1100	5.5			3660	260	Belt & Pulley
1414WC					7.5					
1414WD					11					
1414WE					15					
1414WF					18.5				310	Helical Gearbox
1414WG					22					
1414WH					30					
1414WI					37					
1414WJ					45					
1414WK					55					
1416WB	4280	6930	5440	1100	5.5			3660	260	Belt & Pulley
1416WC					7.5					
1416WD					11					
1416WE					15					
1416WF					18.5				310	Helical Gearbox
1416WG					22					
1416WH					30					
1416WI					37					
1416WJ					45					
1416WK					55					

Note that due to continuous product improvements by the manufacturer, these parameters may be subject to change without prior notice.

Product Specifications

Outline and Foundation Drawings (Single Cell)



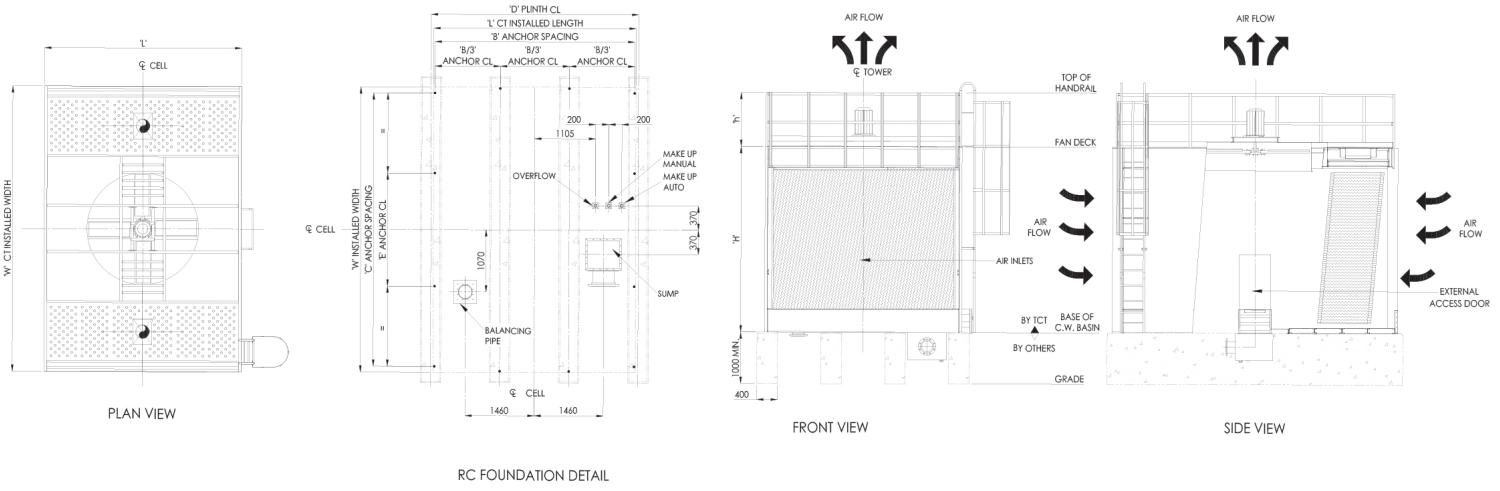
SUMP ARRANGEMENT

FX-S SERIES RANGE													
ANCHOR BOLTS DATA				PIPING		PIPING SIZE						WEIGHT (KG)	
B	C	D	E	F	G	Internal Piping	Water Inlet	Water Outlet	Overflow	Drain	Make up Auto & Manual	Dry Weight	Operating Weight
4230	6730	4380	2890	2661	2140	250	150 x 2	250 x 1	100 x 1	50 x 1	50 x 1	6250	15670
						250	150 x 2	250 x 1	100 x 1	50 x 1	50 x 1	6270	15690
						250	150 x 2	250 x 1	100 x 1	50 x 1	50 x 1	6310	15730
						250	150 x 2	250 x 1	100 x 1	50 x 1	50 x 1	6330	15750
						250	200 x 2	300 x 1	100 x 1	50 x 1	50 x 1	6370	15790
						250	200 x 2	300 x 1	100 x 1	50 x 1	50 x 1	6400	15820
						250	200 x 2	300 x 1	100 x 1	50 x 1	50 x 1	6470	15890
						300	200 x 2	300 x 1	100 x 1	50 x 1	50 x 1	6500	15920
						300	200 x 2	300 x 1	100 x 1	50 x 1	50 x 1	6520	15940
						300	200 x 2	300 x 1	100 x 1	50 x 1	50 x 1	6610	16030
4230	6730	4380	2890	2661	2140	250	150 X 2	250 x 1	100 x 1	50 x 1	50 x 1	7400	16820
						250	200 x 2	300 x 1	100 x 1	50 x 1	50 x 1	7410	17010
						250	200 x 2	300 x 1	100 x 1	50 x 1	50 x 1	7450	17050
						300	200 x 2	300 x 1	100 x 1	50 x 1	50 x 1	7470	17070
						300	200 x 2	300 x 1	100 x 1	50 x 1	50 x 1	7510	17110
						300	200 x 2	300 x 1	100 x 1	50 x 1	50 x 1	7540	17140
						300	200 x 2	300 x 1	100 x 1	50 x 1	50 x 1	7610	17210
						350	250 x 2	350 x 1	100 x 1	50 x 1	50 x 1	7650	17250
						350	250 x 2	350 x 1	100 x 1	50 x 1	50 x 1	7670	17270
						350	250 x 2	350 x 1	100 x 1	50 x 1	50 x 1	7760	17310
4230	6730	4380	2890	2661	2140	250	200 x 2	300 x 1	100 x 1	50 x 1	50 x 1	8020	17440
						250	200 x 2	300 x 1	100 x 1	50 x 1	50 x 1	8030	17610
						300	200 x 2	300 x 1	100 x 1	50 x 1	50 x 1	8070	17650
						300	200 x 2	300 x 1	100 x 1	50 x 1	50 x 1	8090	17670
						300	200 x 2	300 x 1	100 x 1	50 x 1	50 x 1	8130	17710
						300	200 x 2	300 x 1	100 x 1	50 x 1	50 x 1	8160	17740
						350	250 x 2	350 x 1	100 x 1	50 x 1	50 x 1	8230	17810
						350	250 x 2	350 x 1	100 x 1	50 x 1	50 x 1	8270	17850
						350	250 x 2	350 x 1	100 x 1	50 x 1	50 x 1	8290	17870
						350	250 x 2	350 x 1	100 x 1	50 x 1	50 x 1	8380	17960

1. For Internal Piping Detail, Please Contact Truwater's Engineer.
2. Balancing Pipe Connection Is Available Upon Request.
3. External Piping to Open End. Internal Piping & Water Outlet to ANSI / ASME B16.5 Flange
4. Overflow, Drain, Make Up Auto & Manual to BSP Female Thread.

Product Specifications

Outline and Foundation Drawings (Single Cell)



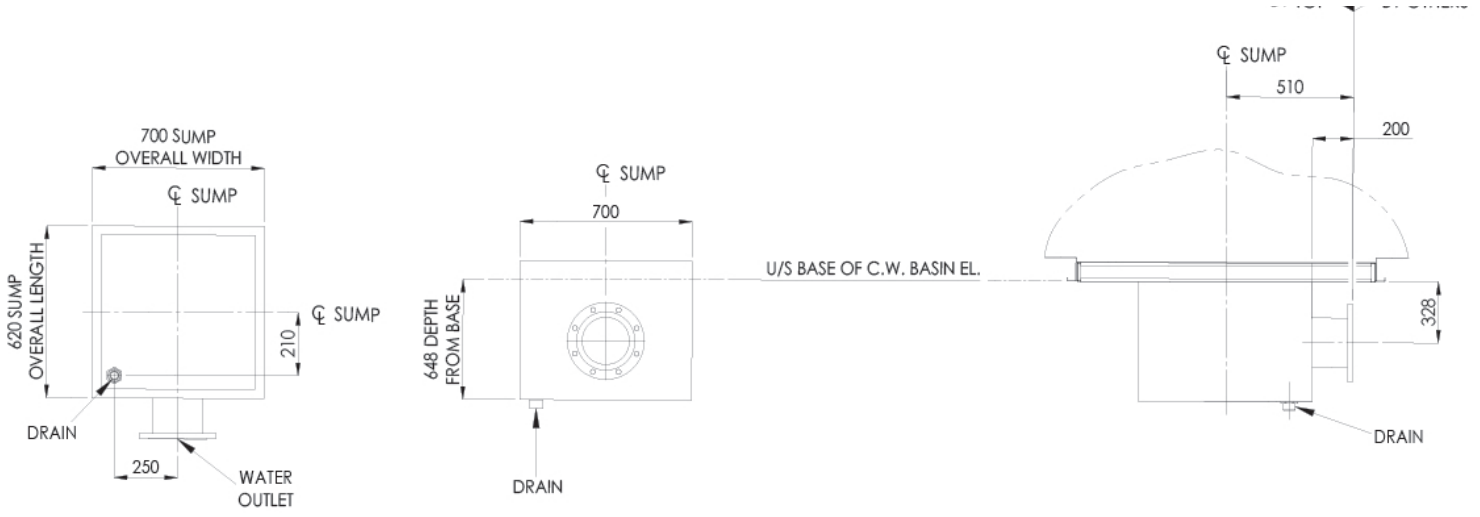
*All dimensions in MM.

FX-S RANGE										
Tower Model FX-S	OVERALL DIMENSIONS				HIGH-PERFORMANCE EC MOTOR			AXIAL FLOW FAN		
	L	W	H	Height up to Handrail	Output (kW)	Type	Power Source	A (Fan Dia)	Fan Speed (RPM)	Drive System
1418WB	4280	6930	5870	1100	5.5	TEFC, Outdoor, 3 Phase, Induction Motor, 4 Pole	3 ph/ 380V/ 50hz or 3ph/ 415V/ 50hz	3660	260	Belt & Pulley
1418WC					7.5					
1418WD					11					
1418WE					15					
1418WF					18.5				310	Helical Gearbox
1418WG					22					
1418WH					30					
1418WI					37					
1418WJ					45					
1418WK					55					
1420WB	4280	6930	6660	1100	5.5			3660	260	Belt & Pulley
1420WC					7.5					
1420WD					11					
1420WE					15					
1420WF					18.5				310	Helical Gearbox
1420WG					22					
1420WH					30					
1420WI					37					
1420WJ					45					
1420WK					55					

Note that due to continuous product improvements by the manufacturer, these parameters may be subject to change without prior notice.

Product Specifications

Outline and Foundation Drawings (Single Cell)



SUMP ARRANGEMENT

FX-S SERIES RANGE													
ANCHOR BOLTS DATA				PIPING		PIPING SIZE						WEIGHT (KG)	
B	C	D	E	F	G	Internal Piping	Water Inlet	Water Outlet	Overflow	Drain	Make up Auto & Manual	Dry Weight	Operating Weight
4230	6730	4380	2890	2661	2140	250	200 X 2	300 X 1	100 x 1	50 x 1	50 x 1	8510	17930
						250	200 X 2	300 X 1	100 x 1	50 x 1	50 x 1	8530	18290
						300	200 X 2	300 X 1	100 x 1	50 x 1	50 x 1	8570	18330
						300	200 X 2	300 X 1	100 x 1	50 x 1	50 x 1	8590	18350
						300	200 X 2	300 x 1	100 x 1	50 x 1	50 x 1	8630	18390
						300	200 x 2	300 x 1	100 x 1	50 x 1	50 x 1	8660	18420
						350	250 x 2	350 x 1	100 x 1	50 x 1	50 x 1	8730	18490
						350	250 x 2	350 x 1	100 x 1	50 x 1	50 x 1	8760	18520
						350	250 x 2	350 x 1	100 x 1	50 x 1	50 x 1	8780	18540
						350	250 x 2	350 x 1	100 x 1	50 x 1	50 x 1	8870	18630
4230	6730	4380	2890	2661	2140	250	200 x 2	300 x 1	100 x 1	50 x 1	50 x 1	8730	18150
						250	200 x 2	300 x 1	100 x 1	50 x 1	50 x 1	9240	19180
						300	200 x 2	300 x 1	100 x 1	50 x 1	50 x 1	9290	19230
						300	200 x 2	300 x 1	100 x 1	50 x 1	50 x 1	9310	19250
						300	200 x 2	300 x 1	100 x 1	50 x 1	50 x 1	9350	19290
						300	200 x 2	300 x 1	100 x 1	50 x 1	50 x 1	9370	19310
						350	250 x 2	350 x 1	100 x 1	50 x 1	50 x 1	9450	19390
						350	250 x 2	350 x 1	100 x 1	50 x 1	50 x 1	9480	19420
						350	250 x 2	350 x 1	100 x 1	50 x 1	50 x 1	9500	19440
						350	250 x 2	400 x 1	100 x 1	50 x 1	50 x 1	9590	19530

1. For Internal Piping Detail, Please Contact Truwater's Engineer.
2. Balancing Pipe Connection Is Available Upon Request.
3. External Piping to Open End. Internal Piping & Water Outlet to ANSI / ASME B16.5 Flange
4. Overflow, Drain, Make Up Auto & Manual to BSP Female Thread.

FX-S Series Crossflow Factory Mutual Approved Cooling Tower

1.0 GENERAL

The cooling tower shall be induced draft vertical discharge type, crossflow, rectangular, film filled steel cooling tower. It shall conform to the FM Approval Standard for Cooling Tower Class Number 4930, listed in the current FM Approval Guide and has successfully passed the full scale fire test, static and cyclic wind pressure test, and structural design evaluation as administered by FM Approval.

2.0 CAPACITY

The cooling tower shall be capable of delivering the scheduled thermal performance.

3.0 PERFORMANCE WARRANTY

The rated capacity shall be certified by the Cooling Tower Institute (CTI). The manufacturer shall guarantee that the tower supplied meets the specified performance conditions when installed according to the design plans.

4.0 CONSTRUCTION

The main frame structure & casing panels of the cooling tower shall be constructed of heavy-gauge G-235 (Z700 metric) hot dip galvanized steel with all edges given a protective coating of zinc-rich compound. Type 304 stainless steel shall be considered an acceptable alternative.

5.0 MECHANICAL EQUIPMENT

5.1 Fan(s) shall be of propeller type, incorporating heavy duty blades made of aluminium alloy. The blades shall be individually adjustable to optimize performance.

5.2 The Drive System shall be V-Belt & Pulley drive assembly for capacities ranging from 1.5kW to 22kW, the belt shall be made of rubber, reinforced with fabric to withstand adverse ambient conditions of 50°C and 100% relative humidity. The pulleys shall be constructed from cast iron with standard dimension grooves. The entire V-belt and pulley assembly shall be fully enclosed in a molded case to protect the V-belts from exposure to humid discharge air.

5.3 The Helical Gear Drive System for capacities ranging from 30kW to 55kW shall be constructed from high-strength, heat-treated steel to ensure exceptional durability and performance under demanding operating conditions air stream.

5.4 The motor(s) shall be IE3 premium efficient, TEFC, weatherproof, squirrel cage induction type, suitable for a 3-phase, 50Hz, 415V power supply, and shall operate at a speed of 1450 RPM.

6.0 FILLS, LOUVERS AND DRIFT ELIMINATORS

6.1 The fill shall consist of high-efficiency film type, rigid, corrugated PVC sheets, integrated with louver and drift eliminators,designed to be conductive cooling tower operation and UV protected.

6.2 The fills shall be resistant to rot, decay, and biological attack, achieving a maximum flame spread rating of 25 in accordance with ASTM E84. The Fill Sheet shall be hanging type with structure tubing supported from the upper tower structure.

6.3 Drift eliminators shall limit drift loss to 0.005% of the designed flow rate.

7.0 HOT WATER DISTRIBUTION SYSTEM

An open and gravity fed basin shall be constructed of G235(Z700) or 304 stainless steel, water shall enter the basin through a removable splash box. Removable and replaceable polypropylene nozzles installed on the floor of the basin shall provide full coverage of the fill by gravity flow.

8.0 COLD WATER BASIN

The cold water basin shall be constructed of heavy-gauge G-235 (Z700) or 304 stainless steel framework. The basin shall be designed to provide adequate water capacity to prevent air entrainment at the outlet during operation. It shall be equipped with a suction strainer, make-up ball valve, overflow, and drain. For multiple tower arrangements, equalizing pipes shall maintain consistent water levels in each basin.across basins.

9.0 ACCESS AND SAFETY

An internal platform & ladder shall be provided in the plenum section to provide inspection and maintenance purposes. A hot dipped galvanized steel fan guard shall be installed over each fan for safety.

FX-S/001/2025

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