

Title:

Treatment Description

Element No.:

WS-WT1

Wastewater Filtration System

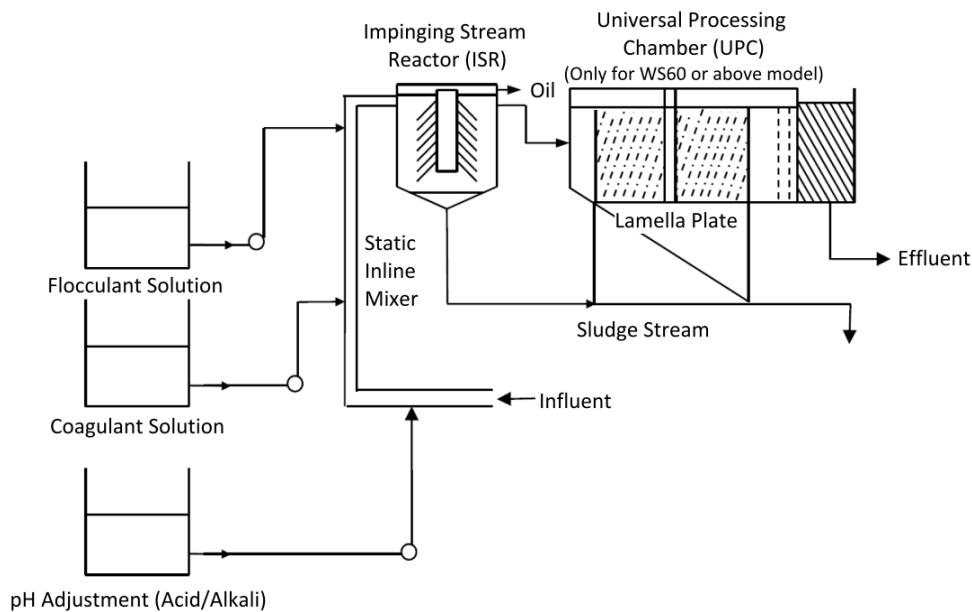
The WetSep system is an innovative and patented product and technology that offers a turn-key solution for wastewater control. Developed and manufactured in Hong Kong, the WetSep system is highly versatile and can be applied across various industries.

With a proven track record, the WetSep system has gained recognition for its maintenance-free operation and its ability to meet the requirements of international clients.

The WetSep system comprises two key components: the Impinging Stream Reactor (ISR) and the Universal Processing Chamber (UPC). The ISR serves as the primary treatment unit, initiating the first filtration process by separating the influent into its solid and liquid elements. Coagulants are introduced to facilitate the formation of settable particles by destabilizing the repulsive surface charge of suspended solids, thereby promoting their agglomeration. Subsequently, flocculants are added to further aggregate the larger particles formed during coagulation. These larger particles, being heavier, accelerate the sedimentation process.

The treated water from the ISR then flows into the secondary treatment unit, the UPC. Through this additional treatment, the effluent is thoroughly cleansed and can be reused for various purposes such as wheel washing and dust suppression. In general, the WetSep system achieves solid/liquid separation through a combination of gravity and surface filtration mechanisms, ensuring a maintenance-free operation.

For the removal of separated solids, i.e. the sludge, manual draining or continuous discharge can be facilitated using electric actuated valves and sludge pumps (optional).



Element Type:

WetSep

WET Waste & Environmental Technologies Ltd.

Ref.:

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Revision Date: 06/04/2024

Prepared by: Emily Yuen

Checked by:

Title:

Treatment Description

Element No.:

FP-WT1

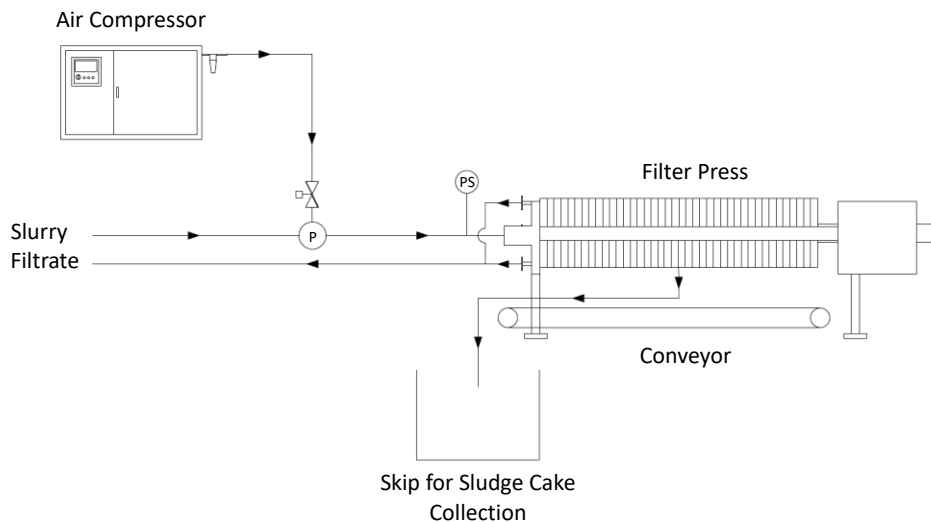
Sludge Dewatering System

Sludge accumulating in the WetSep Filtration System is periodically removed using electric actuated valves. The sludge is then transferred to the Filter Press for dewatering.

In the Filter Press, the sludge undergoes a comprehensive treatment process. Initially, the sludge is pumped into the press, where it is evenly distributed across a series of filter plates lined with filter cloths. As pressure is applied, water is expelled from the sludge, passing through the filter cloths and leaving behind a solid sludge cake. This dewatering process significantly reduces the sludge's volume, making it more manageable and cost-effective to handle and dispose of.

To minimize manual handling, the dewatered sludge cake is efficiently transported by a drag-link conveyor located beneath the Filter Press. This automated system reduces the need for manual intervention and ensures smoother handling of the dewatered sludge. Furthermore, the filtrate generated from the Filter Press is directed back to the beginning of the system for further treatment, completing the wastewater treatment cycle.

For enhanced mobility and security, the Filter Press will be containerized. By placing it in a self-contained unit, the Filter Press becomes easily transportable, allowing for flexible deployment in temporary or mobile wastewater treatment applications. Containerization also provides a protective enclosure that safeguards the equipment from external elements, including weather conditions, dust, and potential damage during transportation. Additionally, the containerization reduces the risk of accidental contact or exposure to moving parts, high-pressure systems, or other operational elements, ensuring the safety of personnel interacting with the Filter Press.



Element Type:

Filter Press

WET Waste & Environmental Technologies Ltd.

Ref.:

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Revision Date: 28/05/2024

Prepared by: Emily Yuen

Checked by:

Title:

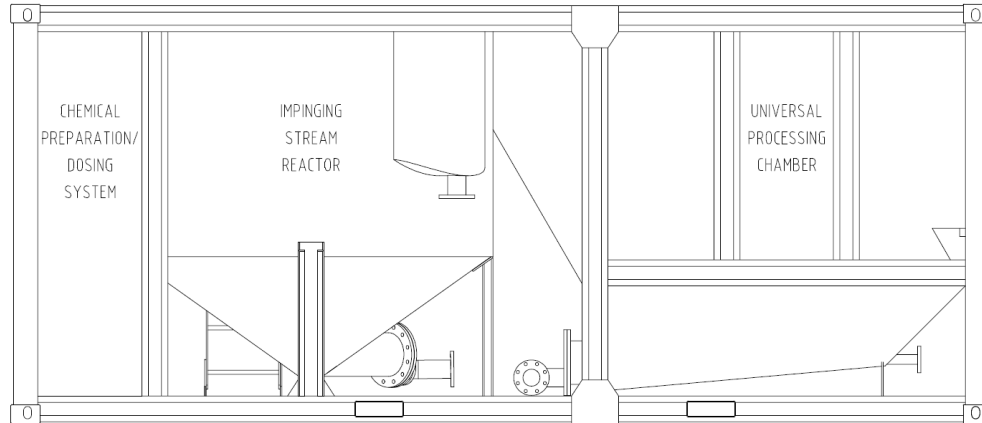
Specification

Element No.:

WS-060

Model No.:

WetSep 60



General	
Equipment	WetSep Filtration System
Treatment Capacity	40 – 60 m ³ /h
Dimension	6,058L x 2,438W x 2,591H mm
Weight	4,500 kg
Power	230 VAC / 2.2 kW
Treatment Process	
Treatment Method	Chemically Enhanced Primary Treatment
Treatment Chemical	Polyaluminium Chloride (Coagulant) Emulsified Polymer (Flocculant) Sodium Bisulphate (Acid Salt for pH Adjustment)
Primary Treatment	Impinging Stream Separation (by ISR)
Secondary Treatment	Sedimentation by Lamella Plate (by UPC)
Piping	
Influent	DN 100
Effluent	DN 150
Sludge Outlet	DN 100 (2 outlets)

Element Type:

WetSep

WET Waste & Environmental Technologies Ltd.

Ref.:

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Revision Date: 19/05/2023

Prepared by: Emily Yuen

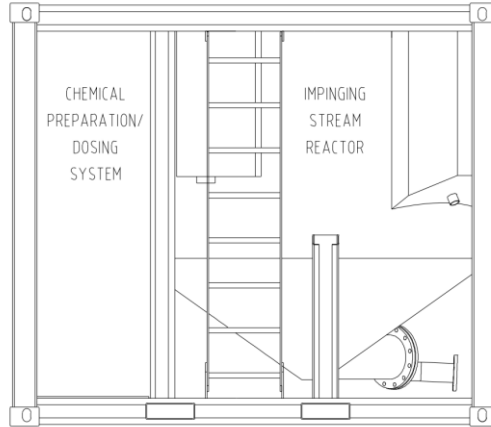
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Title: <h1 style="text-align: center;">Specification</h1>	Element No.: <h1 style="text-align: center;">WS-060</h1>
Model No.: <h2 style="text-align: center;">WetSep 60</h2>	

System Configuration	
Component	Impinging Stream Reactor with Conical Filter
	Universal Processing Chamber with Lamella Plate
	System Control Panel
	Inline Static Mixer
	Chemical Preparation and Dosing System
	pH Controlling System
	Auto Desludge System with Electric Actuators
	Chemical Safety Spill Compartment
Control Panel Specification	
Brand of HMI + PLC	Siemens
Brand of Electric Component	Schneider
Coagulant Dosing Pump Specification	
Brand	E MEC
Model	AMSCOPLUS 0260
Capacity	60 L/h against 2 bar
Flocculant Dosing Pump Specification	
Brand	E MEC
Model	AMSPCOPLUS 0140
Capacity	40 L/h against 1 bar
pH Adjustment Dosing Pump Specification	
Brand	E MEC
Model	AMSPH 0260
Capacity	60 L/h against 2 bar

Element Type: <h1 style="text-align: center;">WetSep</h1>	WET Waste & Environmental Technologies Ltd.	
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Revision Date: 19/05/2023	Prepared by: Emily Yuen	Checked by:

Title: <h1 style="text-align: center;">Specification</h1>	Element No.: <h1 style="text-align: center;">WS-020</h1>
Model No.: <h2 style="text-align: center;">WetSep 20</h2>	



General	
Equipment	WetSep Filtration System
Treatment Capacity	15 – 20 m ³ /h
Dimension	2,991L x 2,438W x 2,591H mm
Weight	2,500 kg
Power	230 VAC / 2.2 kW
Treatment Process	
Treatment Method	Chemically Enhanced Primary Treatment
Treatment Chemical	Polyaluminium Chloride (Coagulant) Emulsified Polymer (Flocculant) Sodium Bisulphate (Acid Salt for pH Adjustment)
Primary Treatment	Impinging Stream Separation (by ISR)
Piping	
Influent	DN 100
Effluent	DN 100
Sludge Outlet	DN 100

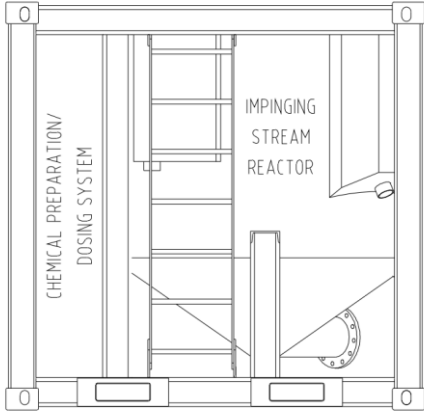
Element Type: <h1 style="text-align: center;">WetSep</h1>	WET Waste & Environmental Technologies Ltd.	
	Ref.:	Page: 1 of 2
Revision Date: 17/06/2023	Prepared by: Emily Yuen	Checked by:

Title: <h1 style="text-align: center;">Specification</h1>	Element No.: <h1 style="text-align: center;">WS-020</h1>
Model No.: <h2 style="text-align: center;">WetSep 20</h2>	

System Configuration	
Component	Impinging Stream Reactor with Conical Filter
	System Control Panel
	Inline Static Mixer
	Chemical Preparation and Dosing System
	pH Controlling System
	Auto Desludge System with Electric Actuator
	Chemical Safety Spill Compartment
Control Panel Specification	
Brand of HMI + PLC	Siemens
Brand of Electric Component	Schneider
Coagulant Dosing Pump Specification	
Brand	E MEC
Model	AMSCOPLUS 0260
Capacity	60 L/h against 2 bar
Flocculant Dosing Pump Specification	
Brand	E MEC
Model	AMSPCOPLUS 0140
Capacity	40 L/h against 1 bar
pH Adjustment Dosing Pump Specification	
Brand	E MEC
Model	AMSPH 0260
Capacity	60 L/h against 2 bar

Element Type: <h1 style="text-align: center;">WetSep</h1>	WET Waste & Environmental Technologies Ltd.	
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Revision Date: 17/06/2023	Prepared by: Emily Yuen	Checked by:

Title: <h1 style="text-align: center;">Specification</h1>	Element No.:
Model No.: <h2 style="text-align: center;">WetSep 10</h2>	<h1 style="font-size: 2em;">WS-010</h1>



General	
Equipment	WetSep Filtration System
Treatment Capacity	10 m ³ /h
Dimension	2,300L x 1,910W x 2,350H mm
Weight	2,000 kg
Power	230 VAC / 2.2 kW
Treatment Process	
Treatment Method	Chemically Enhanced Primary Treatment
Treatment Chemical	Polyaluminium Chloride (Coagulant) Emulsified Polymer (Flocculant) Sodium Bisulphate (Acid Salt for pH Adjustment)
Primary Treatment	Impinging Stream Separation (by ISR)
Piping	
Influent	DN 80
Effluent	DN 80
Sludge Outlet	DN 80

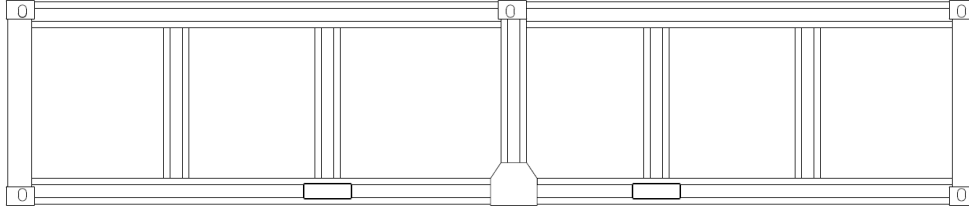
Element Type: <h1 style="text-align: center;">WetSep</h1>	WET Waste & Environmental Technologies Ltd.	
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Revision Date: 17/06/2023	Prepared by: Emily Yuen	Checked by:

Title: <h1 style="text-align: center;">Specification</h1>	Element No.: <h1 style="text-align: center;">WS-010</h1>
Model No.: <h2 style="text-align: center;">WetSep 10</h2>	

System Configuration	
Component	Impinging Stream Reactor with Conical Filter
	System Control Panel
	Inline Static Mixer
	Chemical Preparation and Dosing System
	pH Controlling System
	Auto Desludge System with Electric Actuator
	Chemical Safety Spill Compartment
Control Panel Specification	
Brand of HMI + PLC	Siemens
Brand of Electric Component	Schneider
Coagulant Dosing Pump Specification	
Brand	EMEC
Model	AMSCOPLUS 0260
Capacity	60 L/h against 2 bar
Flocculant Dosing Pump Specification	
Brand	EMEC
Model	AMSPCOPLUS 0140
Capacity	40 L/h against 1 bar
pH Adjustment Dosing Pump Specification	
Brand	EMEC
Model	AMSPH 0260
Capacity	60 L/h against 2 bar

Element Type: <h1 style="text-align: center;">WetSep</h1>	WET Waste & Environmental Technologies Ltd.	
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Revision Date: 17/06/2023	Prepared by: Emily Yuen	Checked by:

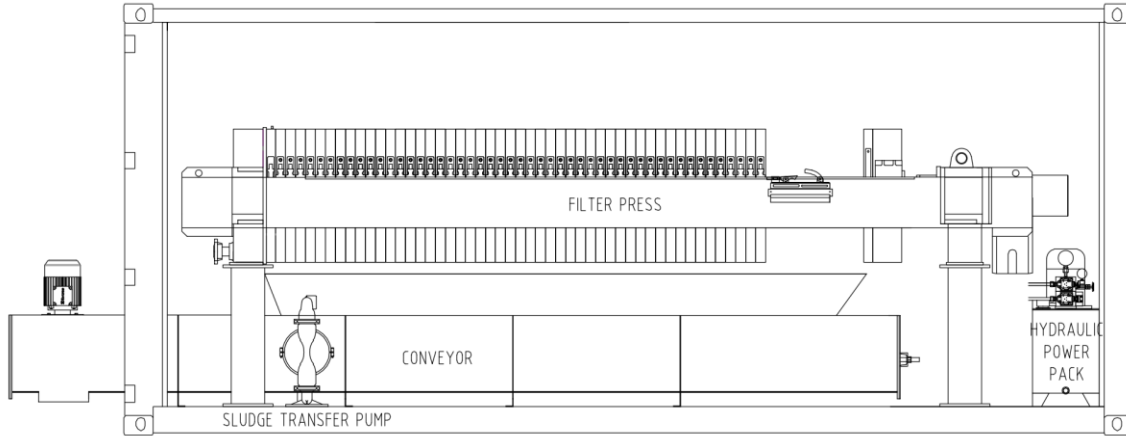
Title: <h1 style="text-align: center;">Specification</h1>	Element No.:
Model No.: <h2 style="text-align: center;">SED 60</h2>	<h1>SED-060</h1>



General	
Equipment	Sedimentation Tank
Capacity	12 m ³
Dimension	6,058L x 2,438W x 1,281H mm
Weight	2,000 kg
Piping	
Influent	DN 100
Effluent	DN 100
Sludge Outlet	DN 100
System Configuration	
Component	Weir

Element Type: <h2 style="text-align: center;">Sedimentation Tank</h2>	WET Waste & Environmental Technologies Ltd.	
Revision Date: 19/05/2023	Ref.:	Page: 1 of 1
	Prepared by: Emily Yuen	Checked by:

Title: <h1 style="text-align: center;">Specification</h1>	Element No.:
Model No.: <h2 style="text-align: center;">FP-800-49</h2>	<h1 style="font-size: 2em;">FP-800</h1>



General	
Equipment	Containerized Filter Press with Conveyor
Overall Dimension	6,058L x 2,438W x 2,591H mm
Weight	7,650 kg
Power	415 VAC / 6.2 kW
Treatment Process	
Treatment Method	Pressure Filtration
Piping	
Slurry Inlet	DN 80
Air Inlet	DN 19
Filtrate Outlet	DN 50
Filter Specification	
Chamber Plate	800L x 800W x 60T mm
Chamber Volume	0.728 m ³ /cycle
Filter Area	50 m ² /cycle
Quantity of Chamber	50 pcs
Frame Type	Side Bar
Closure System	Automatic Double-acting cylinder and auto pressure maintain device

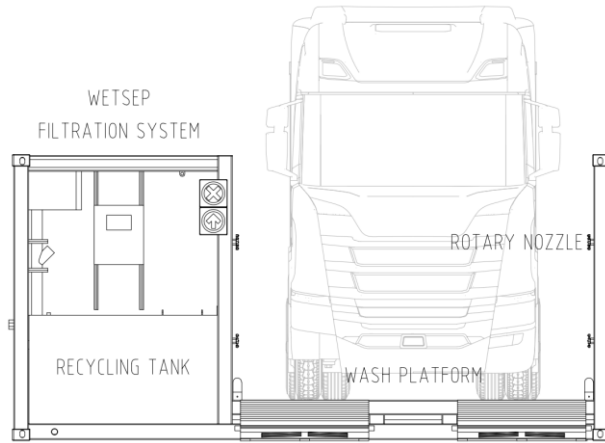
Element Type: <h2 style="text-align: center;">Filter Press</h2>	WET Waste & Environmental Technologies Ltd.	
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Revision Date: 17/06/2023	Prepared by: Emily Yuen	Checked by:

Title: <h1 style="text-align: center;">Specification</h1>	Element No.: <h1 style="text-align: center;">FP-800</h1>
Model No.: <h2 style="text-align: center;">FP-800-49</h2>	

Plate Shifting	Automatic
Filtrate Discharge	Close Discharge
Filter Cake Washing	No
Feeding Pressure	< 10 Bar
Conveyor Specification	
Type of Conveyor	Drag-link Conveyor
Capacity	3 m ³ /h
Sludge Transfer Pump Specification	
Type of Pump	Pneumatic Diaphragm Pump
Size	DN 80
Suction Lift	5.5 m Dry; 9.45 m Wet
Capacity	Max. 52.7 m ³ /h
Solids Size	Max. 10 mm

Element Type: <h1 style="text-align: center;">Filter Press</h1>	WET Waste & Environmental Technologies Ltd.	
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Revision Date: 17/06/2023	Prepared by: Emily Yuen	Checked by:

Title: <h1 style="text-align: center;">Specification</h1>	Element No.:
Model No.: <h2 style="text-align: center;">WWM 20</h2>	<h1 style="font-size: 2em;">WWM-20</h1>



General	
Equipment	Wheel Washing Machine
Dimension	6,058L x 2,438W x 2,891H mm
Weight	5,000 kg
Power Supply	415 VAC / 32 A
Treatment Process	
Operation Method	Fully Automatic Operation by Mechanical Sensor
Wheel Washing Method	High Pressure Jet
Water Treatment Method	Chemically Enhanced Primary Treatment
Water Treatment Chemical	Polyacrylamide (Flocculant)
Piping	
Fresh Water Inlet	DN 25

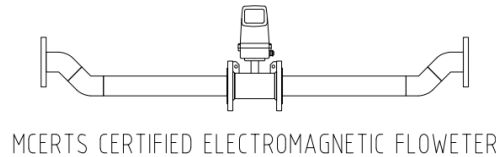
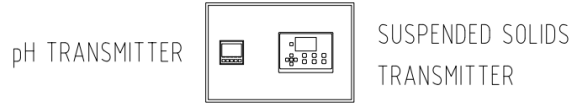
Element Type: <h2 style="text-align: center;">Wheel Wash</h2>	WET Waste & Environmental Technologies Ltd.	
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Revision Date: 05/09/2023	Prepared by: Emily Yuen	Checked by:

Title: <h1 style="text-align: center;">Specification</h1>	Element No.: <h1 style="text-align: center;">WWM-20</h1>
Model No.: <h2 style="text-align: center;">WWM 20</h2>	

System Configuration	
Component	Stainless Steel Construction
	Removable Washdown Grid
	Floor Flat Fan Nozzles
	Side Spray Bars with Rotary Nozzles
	Splash Protection Walls
	Entry and Exit Sensors
	System Control Panel
	WetSep Filtration System
	Recycling Tank
	Recycling Pump
	High Pressure Wash Pump
Control Panel Specification	
Brand of Electric Component	Schneider
Wash Platform Specification	
Wash Area	3,500L x 2,438W
Wash Pump Capacity	40 m ³ /h / 30 m Head / 7.5 kW
Allowable Axle Load	Max. 10 ton
Nozzle Specification	
Quantity	Approx. 80
Pressure at Nozzle	3 – 4 bar
Water Treatment System Specification	
Treatment Capacity	20 m ³ /h
Recycling Tank Volume	1.5 m ³
Optional	
Component	3 m Entry and Exit Ramps
	Overhead Arches with Nozzles

Element Type: <h2 style="text-align: center;">Wheel Wash</h2>	WET Waste & Environmental Technologies Ltd.	
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Revision Date: 05/09/2023	Prepared by: Emily Yuen	Checked by:

Title:	Specification	Element No.:
Model No.:	Real-time Monitoring	RTM-000



Flowmeter Specification	
Type of Flowmeter	Electromagnetic
Brand	Siemens
Model	MAG 5000 + MAG 5100 W
Output	Current Output, Digital Output, Relay Output
Enclosure	IP 67
Power Supply	110 – 230 VAC
Size	DN 100
Liner	Hard Rubber
Electrode	Hastelloy C
Certification	MCERTS
pH Transmitter and Probe Specification	
Brand	Seko + WET
Model	Kontrol 50 + WS-PPR-3000
Measurement Range	0 – 14 pH
Power Supply	100 – 240 VAC
Suspended Solids Transmitter and Checker Specification	
Brand	Optex
Model	SC-U1(E) + TS-1000-D
Measurement Range	0 – 1,000 mg/L
Power Supply	100 – 240 VAC

Element Type:	WET Waste & Environmental Technologies Ltd.	
Monitoring	Ref.:	Page: 1 of 1
Revision Date: 17/06/2023	Prepared by: Emily Yuen	Checked by: