North American Envirosystems

SALT SPRAY CORROSION TEST CHAMBERS

PRODUCT CATALOGUE

4634 Orkney Drive, Missouri City 77459, Texas

Good Engineering is a
Pre-Requisite for Reliability

North American Envirosystems

FEATURES & BENEFITS

Non-metallic tapered hood, that does not permit drops of solution to fall on the specimen

The air for atomization is passed through a filter regulator and to a saturator

Touch screen based control for easy programming and web based interface

Water seal ensures no fog escapes from the test space

Atomizer within a tower ensures uniform fog delivery across the test space

Robust nylon-based hinges

Electrical control panel, fully isolated , ensuring no fog or any moisture enters

Non-metallic external structure built using molded fiber reinforced plastic

Hanging rods to suspend the specimen

Pneumatic cylinder assisted door operation, for easy access to pest space

Levelling casters for easy mobility and levelling the chamber in your test lab

FRP slotted angle rack at 15 degrees inclination from the vertical

FEATURES & BENEFITS

Humidity & Conditioning Unit

Atomiser

Envicom Controller

CONSTRUCTION

Features	Specification	Benefits
Hood	Non-metallic tapered hood, that does not permit drops of solution to fall on the specimen	All the specimen in the test space will be subjected to uniform fog.
Chamber Structure	Non-metallic external structure built using molded fiber reinforced plastic, coated with PU based paints	Non Corrosive Long Life Better Aesthetics
Levelling Casters	Levelling casters for easy mobility and levelling the chamber in your test lab	Easily movable Anti-vibration

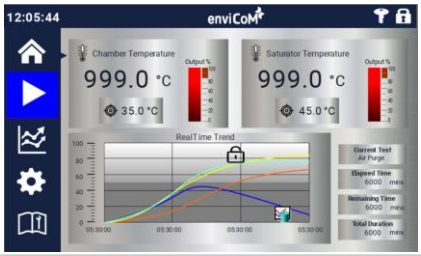
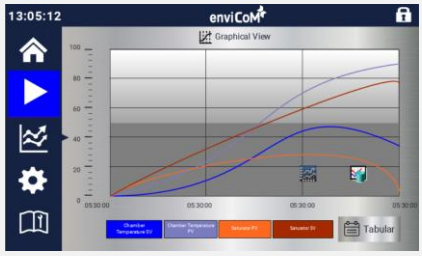
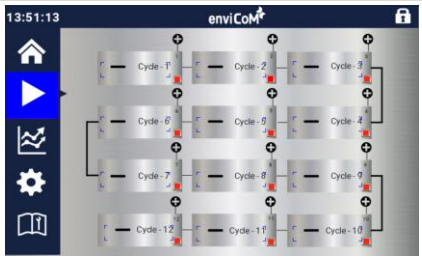
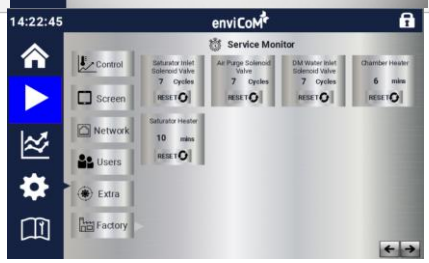
PERFORMANCE

Features	Specification	Benefits
Atomiser	Produces <500micron droplet size. Acrylic body . Easy to dis-assemble.	Uniform fog collection. Easy maintenance.
Solution Tank	50L external solution tank with lid and filter	Easy preparation / filling of solution. Easy maintenance.
Angle Rack & Hanging Rods	FRP slotted angle rack as per standard (15 degree inclination).	Easy mounting of test specimen. Maximum exposure while testing.

OPERATIONAL

Features	Specification	Benefits
Controller	5.7” TFT touch screen with PLC. Ethernet and USB interface.	High control accuracy. Pre-loaded major test standards. Easy to download test data.
Safety Alarm	Solution level. Saturator water level. Humidity tank water level. Wick water level. Air pressure. Chamber temperature. Saturator temperature. Humidity tank temperature. Conditioning unit temperature.	Protects the chamber from any deviation from the set value.

Controller Features

Monitor:	An intuitive touch screen controller designed to program and monitor the salt spray corrosion test chamber naturally and easy to understand. The Chamber Temperature, Saturator Temperature, Graph, Program Timing Information and User Level Controls can be accessed form this screen	
Reporting	Graphical and tabular view of test (target vs actual) downloadable onto a pen drive	
Program	Simple institutive program screen to start and stop your tests as per various standards. Continuous 12 steps of various different test cycles can be programmed.	
User Level Security	User, Admin, and Factory level security rights are provided to avoid any unwanted changes or disruption of tests.	
Service Monitor	All critical components are monitored for their usage and preventive maintenance popups are enabled.	

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CORROSION TEST CHAMBER

The SF series of corrosion test chambers are designed to meet the requirements of all major international test standards.

MODELS

Models	SF-450	SF-1000
Test Space Dimensionswith Hood (wxdxh) mm	800 x 730 x 1300 [868 Ltrs]	1680 x 800 x 1400 [1678 Ltrs]
TTest Space Dimensionswith Hood (wxdxh) Inch	31.5 x 29 x 51 [30.6 Cuft]	66 x 31.5 x 55 [59.2Cuft]
Test Space Dimensionswithout Hood (wxdxh) mm	850 x 730 x 820 [519 Ltrs]	1680 x 800 x 890 [951 Ltrs]
Test Space Dimensionswithout Hood (wxdxh) Inch	33.5 x 29 x 32 [18.3 Cuft]	66 x 31.5 x 35 [33.6 Cuft]
Temperature Range °C	5 above ambient to 55	5 above ambient to 55
Temperature Range °F	41 above ambient to 131	41 above ambient to 131

TECHNICAL SPECIFICATION

Models	SF-CCT-VL	SF-CCT-VM	SF-CCT-VH	SF-CCT-VL	SF-CCT-VM	SF-CCT-VH
	Salt Spray Chamber	Cyclic Corrosion Test Chamber	Salt Spray Cham- ber	Cyclic Corrosion Test Chamber	Salt Spray Chamber	Cyclic Corrosion Test Chamber
Test Space Dimensions with Hood WxDxH mm	785 x 525 x 1060 (508Ltrs)		840 x 720 x 1330 (868Ltrs)		1665 x 795 x 1400 (1678Ltrs)	
Test Space Dimensions without Hood WxDxH mm	785 x 525 x 620 (267Ltrs)		840 x 720 x 830 (519Ltrs)		1665 x 795 x 870 (951Ltrs)	
External Dimensions WxDxH mm	1595 x 820 x 1145	1595 x 1165 x 1145	1650 x 1025 x 1435	1650 x 1037 x 1435	2525 x 1100 x 1540	2525 x 1525 x 1540
Power Supply	Voltage and Frequency dependent on country of installation					
Electric Phase	1 or 3 dependent on country of installation					
Maximum Connected Load	3 KW, 12A	4KW, 16A	3 KW, 12A	5KW, 16A	4.5KW, 18A	6KW, 32A
Controller	PID Micro Controller	Envicom Touchscreen Controller	PID Micro Controller	Envicom Touchscreen Controller	PID Micro Controller	Envicom Touchscreen Controller
Test Space Load Bearing Capacity	200 Kg UDL		250 Kg UDL		250 Kg UDL	
Temperature Range	Ambient to 55˚C	Ambient to 70˚C	Ambient to 55˚C	Ambient to 70˚C	Ambient to 55˚C	Ambient to 70˚C
Temperature Fluctuation	± 1˚C					
Humidity Range	NA	25% to 98% RH	NA	25% to 98% RH	NA	25% to 98% RH
Humidity Fluctuation	NA	± 3% RH	NA	± 3% RH	NA	± 3% RH
Chamber Construction	Fibre Reinforced Plastic, Acrylic & Nylon					
Hood	Pneumatic operated					
Solution and air tubing	Poly-urethane tube					
Fog Fall Out Rate	0.5 to 2.5ml/80cmsq/h					
Spray Mechanism	Acrylic atomiser					
Sound Level	50dbA					
Removable Angle Racks	1 x 16 slots (15 Deg inclination)					
Specimen Hanging Rods	6 FRP Rods					
Water	DM Water, pH 5-8, 1-3Kg/cm2					
Water Connection	8x6mm PU quick connector					
Air	Clean, Dry and Oil free 4-6 Kg/cm2, 300LPM					
Air Connection	8x6mm PU quick connector					
Air Exhaust Connection	72mm, BSP Thread to be terminated outside building					
Drain Connection	25mm, BSP Thread, to be terminated at floor level drain					

OPTIONAL ACCESSORIES

AIR COMPRESSOR CODE SF-001

0.75HP Oil free reciprocating air cooled low noise air compressor
Air receiver capacity: 25 Liters
Max Pressure - 8 Kg/cm2 and fitted with auto cut-off and pressure gauge.
Air Outlet will be provided with a Ball Valve and 8x6mm PU Tube Connector.

WATER DE-IONIZER CODE SF-002

Provides Water of suitable purity to run the chamber with a continuous water supply.
Min operating pressure: 2Kg/cm2
Vessel Size: (155 Dia x 595 H)mm

SPRAY HEADER CYCLE CODE SF-004

A solution spray header consisting of multiple spray nozzles will be provided.
The nozzles are adjustable and can be directed towards the test specimen.
The salt solution from the tank is pumped through a high capacity centrifugal pump.
This test can be conducted for a maximum of 10 min with the in-built solution tank. Additional capacity tank can be opted for in optional (SF-005).
Max Connected Load: 0.5 KW.

ANGLE RACKS CODE SF-010

Slotted angle racks of 3mm will be provided at an angle of 15o from vertical

ACCESS PORT CODE SF-008

Standard silicone access port of 125 mm diameter with an insulated silicone plug

IMMERSION CYCLE CODE SF-003

Temperature Range: 50°C
A pre-heated reservoir tank where the inner and outer material will be FRP molded and coated with high resistance vapor based plastic coating.
The solution will be automatically pumped into the test space.
Water float switches will maintain the level in the test space.
Solution can be pumped back into the reservoir and also drained out.
Capacity: 600 Liters
Inner Dimension:(1000W x 800D x800H) mm
Exterior Dimension: (1100W x 900D x 1000H) mm
Power Supply: 230V AC, +10%, 1Phase, 50Hz + Earth.
Max Connected Load: 3 KW

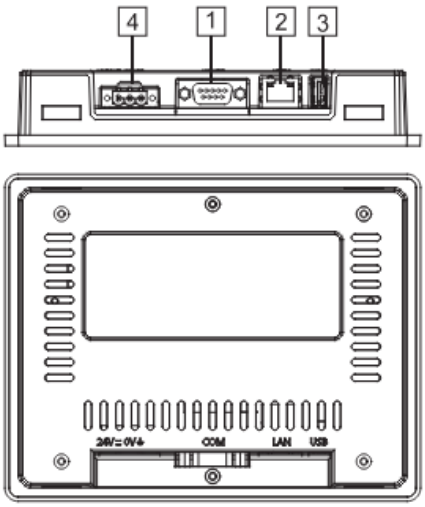
SO2 GAS DOSING CODE SF-011

SO2 kit capable of metering a precise dosing of 35cm3/minute/m3

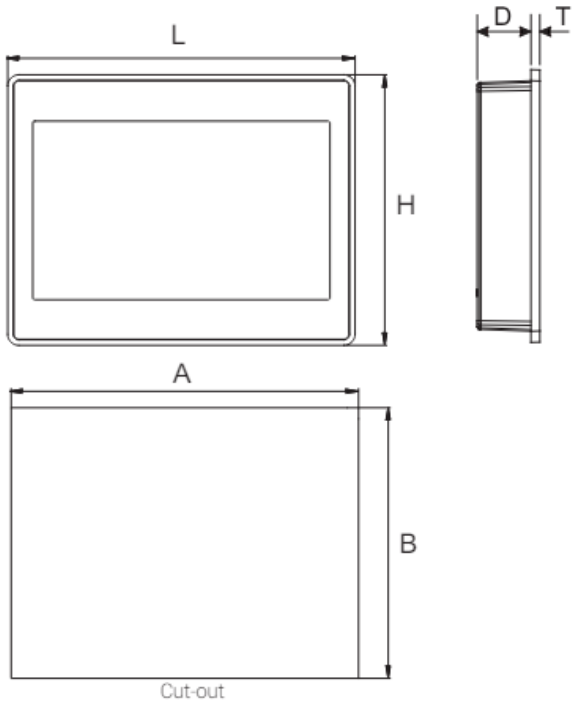
REMOTE CONDITIONING UNIT CODE SF-012

Remote conditioning unit (RCU) is an optional system that connects to the main chamber & allows to conduct test below ambient temperature of upto -20°C

Controller Specifications



1 Serial Port
2 Ethernet Port
3 USB port (vers. 2.0 - 1.1)
4 Power Supply



Cut-out

System Resource		
6.1	Display Colours	7” TFT 16:9 - 64K
6.2	Resolution	800x480, WVGA
6.3	Brightness	200 Cd/m2 typ.
6.4	Dimming	Yes
6.5	Touchscreen	Resistive
6.6	CPU	32-bit RISC single core - 1 GHz
6.7	Operating System	Linux 3.12
6.8	Flash	4 GB
6.9	RAM	512 MB
6.10	RTC, RTC Back-up, Buzzer	Yes

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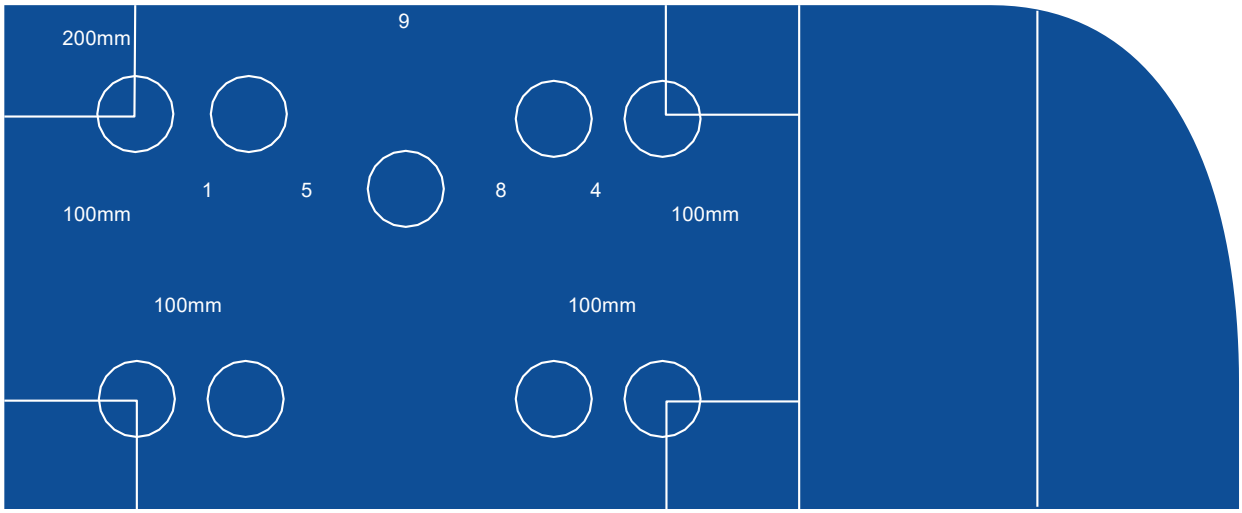
FOG COLLECTION

SF-CCT range of chambers are compatible to multiple test standards, including automotive standards and it can be alternated / cycled between varied humidity programs with traditional salt spray.

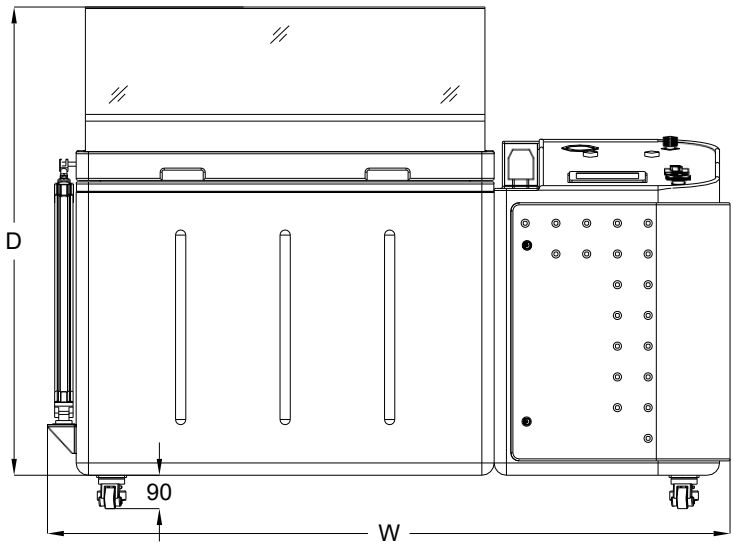


Bottom fog collectors
1, 2, 3 & 4

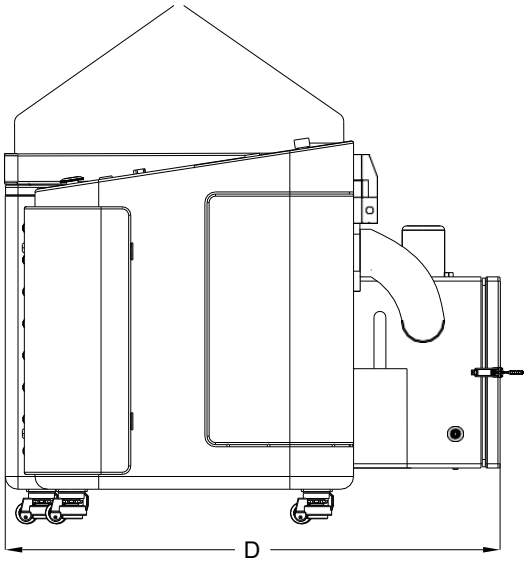
Top fog collectors
5, 6, 7 & 8

Remote fog collector
9

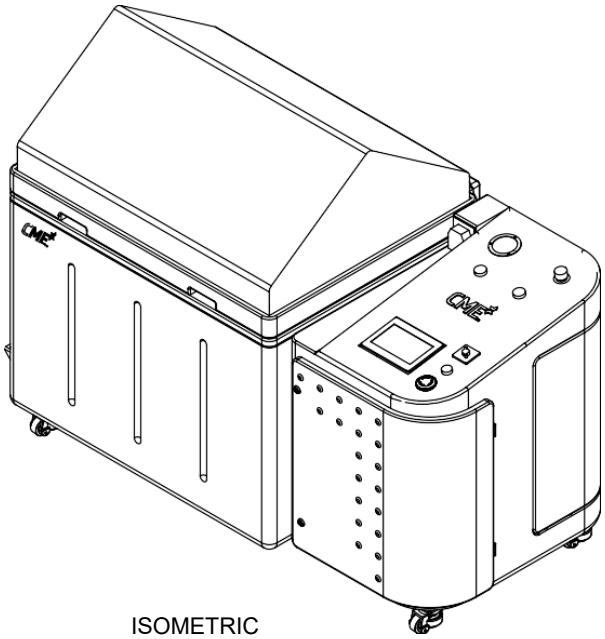
INSTALLATION DIAGRAM



FRONT VIEW



SIDE VIEW



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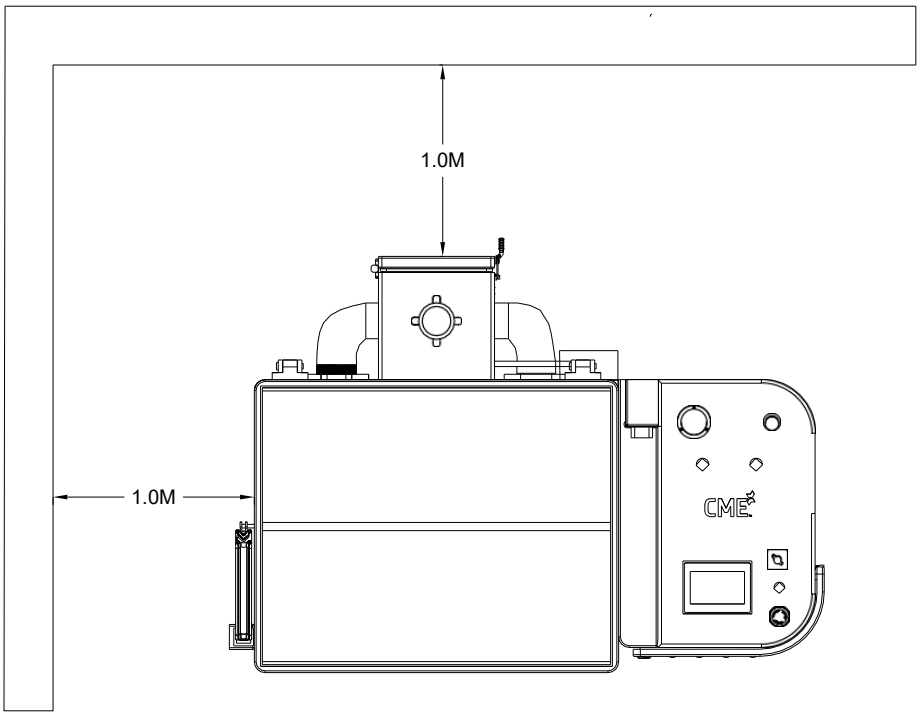

TOP VIEW

TEST STANDARDS

Test Standard	Standard origin industry/ country	Type of tests (Standard chamber)				Type of test (with/optional accessory)		
		Solution spray	Dry cycle	High Humidity	Water fog	Condensa-tion test	Spray header	Immersion
Prohesion	American	Y	Y					
ASTM B-117	American	Y						
ASTM D-1735	American	Y						
ASTM D-2247	American					Y		
ASTM G44	American		Y					Y
ASTM G85, Annex 1	American	Y						
ASTM G85, Annex 2	American	Y	Y	Y				
ASTM G85, Annex 4 part 1	American	Y						
ASTM G85, Annex 4 part 2	American	Y		Y				
MIL STD 202F	American Military	Y						
MIL STD 810E	American Military	Y	Y					
MIL STD 750	American Military	Y						
GM 4298P	American	Y						
GM 4465P	American		Y					
GM 9540P	American							
BS 2011 Part 2.1	British	Y						
BS 3900 F12	British	Y						
BS 5466 P1	British	Y						
BS 5466 P2	British	Y						
BS 5466 P3	British	Y						
BS 7479	British	Y						
BS-EN-ISO 7253	British	Y						
BS-EN-60068-2-11	British	Y						
BS-EN-6052-11-6	British	Y						
BS-EN-60512-11-6	British	Y						
NFX 41-002	French	Y						
DIN 50 017KK	German					Y		
DIN 50 021 SS	German	Y						
DIN 50 021 ESS	German	Y						
DIN 50 021 CASS	German	Y						
VG 95210	German	Y						
VDA 621-421	German					Y		
ISO 3768	Europe	Y						

TEST STANDARDS

Test Standard	Standard origin industry/ country	Type of tests (Standard chamber)				Type of test (with/optional accessory)		
		Solution spray	Dry cycle	High Humidity	Water fog	Condensa-tion test	Spray header	Immersion
ISO 3769	Europe	Y	Y					
ISO 3770	Europe	Y						
ISO 7253	Europe	Y						
ISO 9227	Europe	Y						
CCT IV (CCT D)	Europe	Y	Y	Y				
SAE J-2334	Europe		Y		Y		Y	Y
ISO 6270-2 (CH)	Europe					Y		
IEC 68-2-11-P2	Europe	Y						
ISO 16701	Europe	Y		Y				
AA0324 (AA-P 184)	BMW	Y						
AA0213 (AA-P 224)	BMW					Y		
AA0224 (AA-P 175)	BMW	Y				Y		
50180 A1	Fiat	Y						
AS 2331 Method 3.3	Australia	Y						
AS 2331 Method 3.3	Australia	Y	Y	Y				
D171058	Renault	Y						
JISH8502 M1	Japan	Y						
JISH8502 M2	Japan	Y						
JISH8502 M3	Japan	Y						
JISH8502 M4	Japan			Y				
JISH8502 M5	Japan			Y				
JISZ2371	Japan	Y						
JNS30.16.03	Jaguar	Y						
RTCA/DO-160	RTCA Inc	Y						
FLTMB1 103-01	Ford	Y						

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THEY TRUST US

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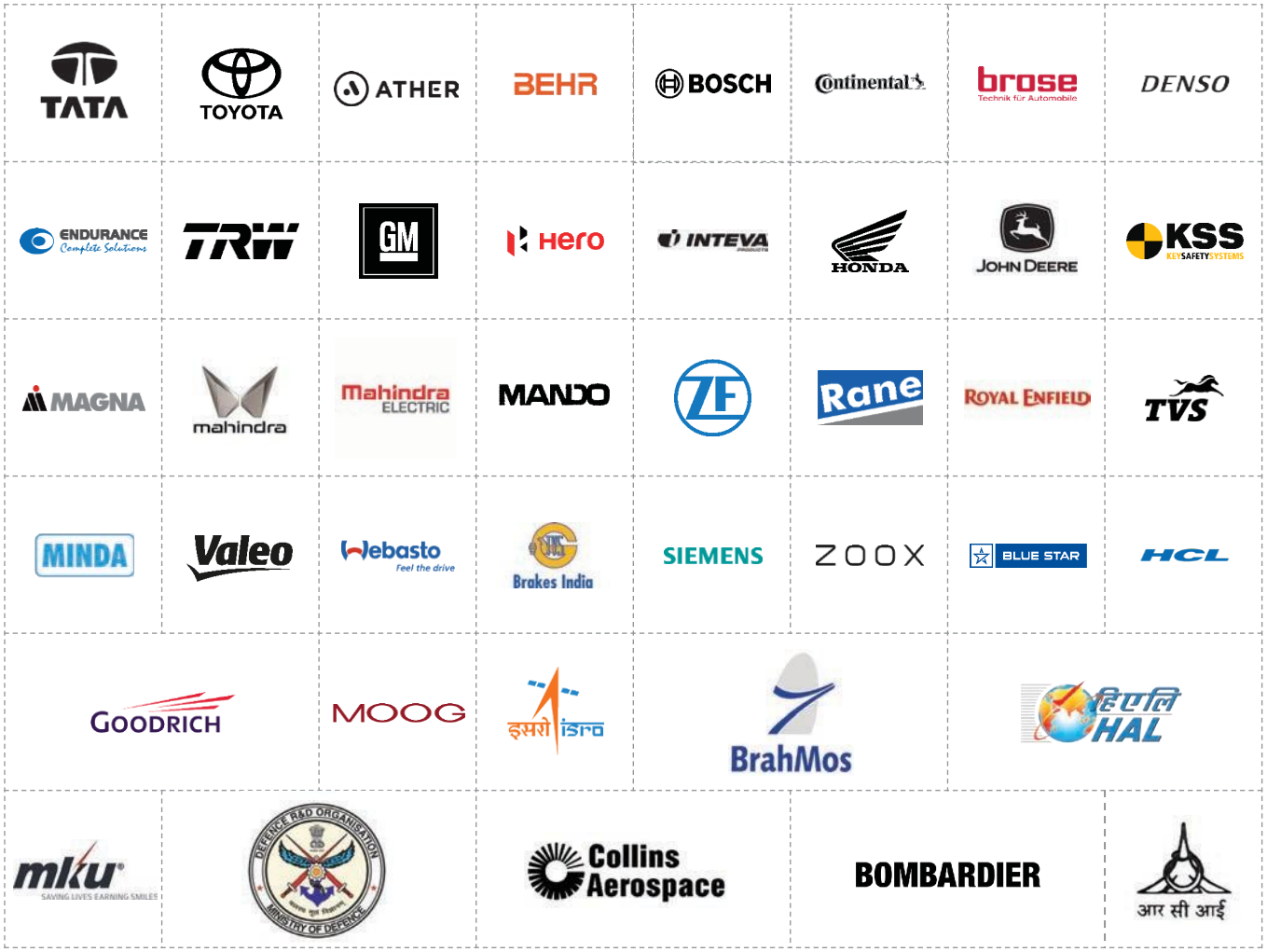

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PRESENCE

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USA
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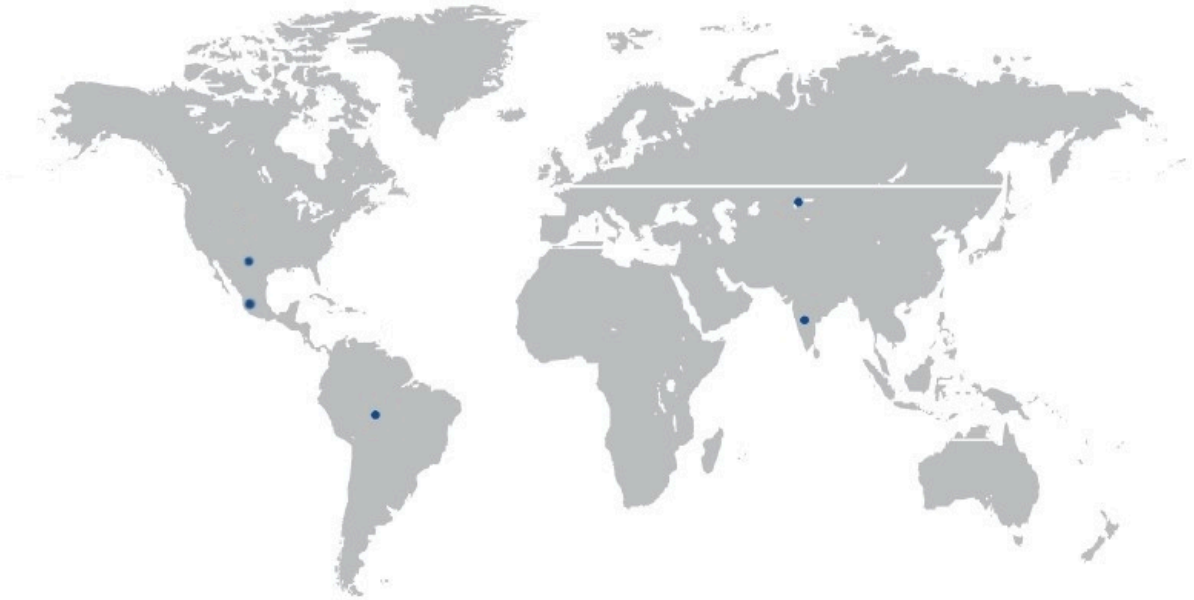

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