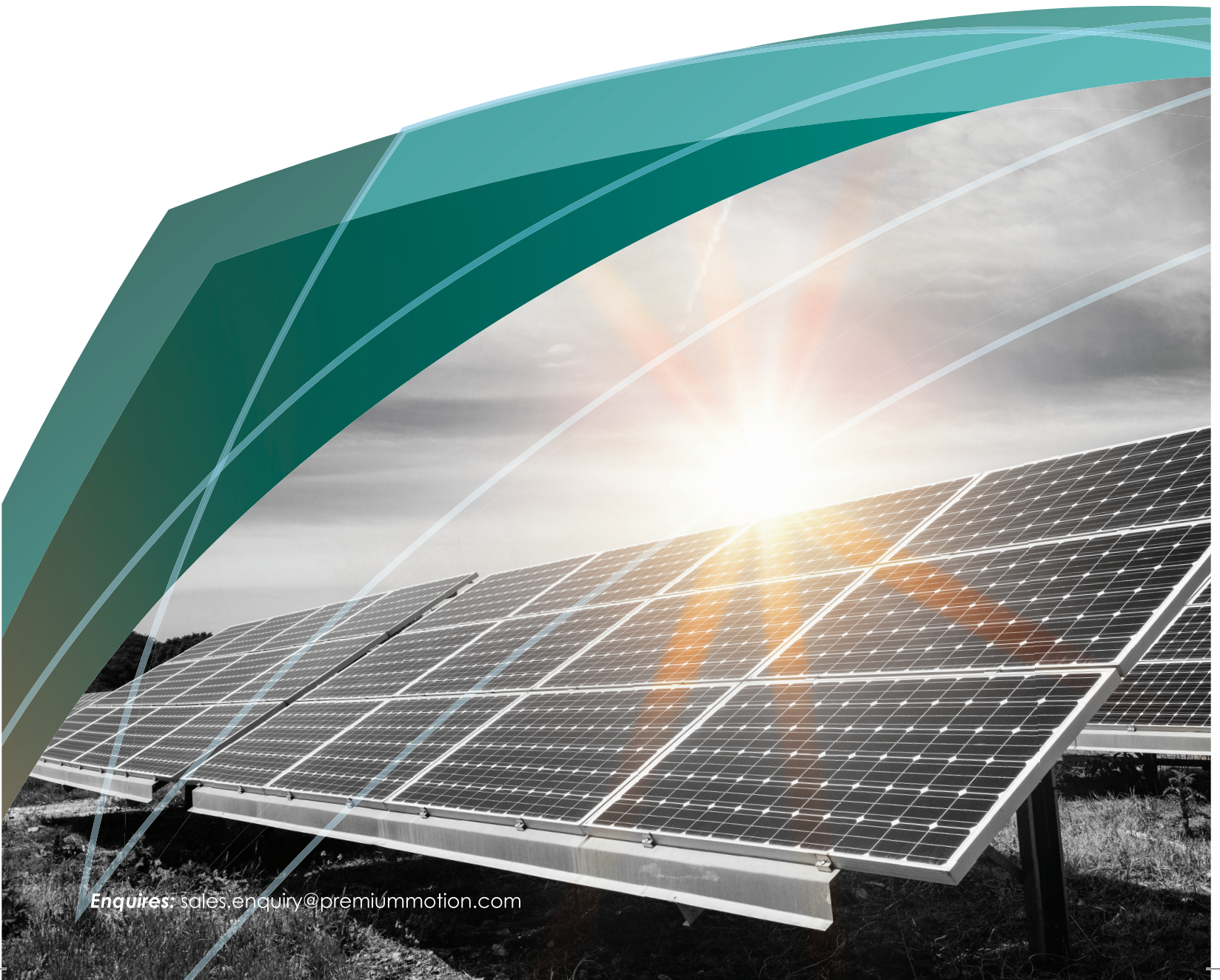


A Premium Group Company



PREMIUM

**Solutions that
Energise Energy for a
Better Tomorrow**



Enquires: sales.enquiry@premiummotion.com

WHO WE ARE

Established in 2021, Premium Motion Private Limited is a fully owned subsidiary of Premium Transmission Limited lead by an experienced Board of Directors and a competent and experienced management team. Premium Motion is a wholly-owned subsidiary of Premium Transmission which is a pioneer in the gearbox industry and has been in business for more than six decades now.

Following in the footsteps of its parent company Premium Transmission, Premium Motion is all set to revolutionize and recharge the renewable energy sector.

Premium Motion delivers customised value-added solutions for the Renewable Energy industry that integrate all the latest technologies for optimum results. Our engineers have experience in designing solutions that meet and exceed global standards.

With our best quality products, Premium Motion believes in delivering sustainable solutions. We strive to make the most of our resources to create a greener and sustainable future. We believe in adapting to the changing times and transforming for the better. Our aim is to deliver value for our global customer base with best-in-class solutions.

Our slew drive gearboxes and linear actuators are powering the solar energy sector effeciently. These products not only set the wheels in motion for the solar industry but also ensure that we are moving towards a more sustainable future. We have a state-of-the-art manufacturing facility at Pune equipped with the latest machines and technologies. Our team of competent engineers and technicians works tirelessly to ensure that all the products are precision-engineered. The team takes pride in manufacturing products that are contributing to move the renewable energy sector forward.

We are on a journey of delivering sustainable solutions and every step that we take is a small effort in making our world a better place.

We Innovate

We Dream

We Achieve

Join us in this mission of delivering sustainable solutions.

Premium Motion is delivering sustainable solutions and our engineering and manufacturing capabilities set up apart from the rest.

ENGINEERING AND MANUFACTURING CAPABILITIES

To keep up with the changing market trends we have a dedicated in-house Engineering and Development facility where we develop high-end products as required by the market and applications. The products are developed with a well-defined product development process starting from concept development to product validation testing including DFMEA, PFMEA, PPAP, Virtual simulation, etc. At our E&D center, we strive for continuous research, innovation, and implementation of the latest technologies.

Our manufacturing unit in Pune, India is equipped with the latest equipment and machines. We have a highly-skilled workforce to cater to the demands of the international market. With adherence to strict quality guidelines, we ensure that all our products are at par with global standards.

Our highly qualified and experienced engineers leverage an in-house 3D printing facility to develop rapid prototypes of the products to check the form and fit of the product. Our fully equipped full load testing facility supports the design validation and implementation of innovations. The test lab is equipped with high-end measuring equipment like VIB scanner, Spectrometer, Gear Tester, and many more. We also perform durability testing and product verification for simulation as per application requirements.

Our engineering set-up has high-end workstations with industrial leading CAD/CAE packages, including CREO, Autodesk Inventor, Kiss-soft, MSC Nastran, Pro-Mechanica, ANSYS, Fluent etc. This high-end software ensures smooth design and execution of all the projects.

Premium Motion is all about building a quality culture that fosters innovation and growth. All our products are certified with the ISO standards. We use various testing equipment to check the product quality at different stages of manufacturing. Delivering products that are superior in quality is a part of our DNA and we take pride in our culture.

We strive for greater heights with rigorous research and innovation. Our talented engineering team puts forward their best work to develop products to optimize working efficiency. They strongly believe in creating products for a sustainable future. The core ethos at Premium Motion is delivering sustainable solutions and our engineering and manufacturing capabilities set us apart from the rest.

LINEAR ACTUATOR

Premium Motion's linear actuator can be used for lifting, dropping, sliding, or tilting of machines or materials. They provide safe and clean motion control that is efficient and maintenance free. Actuators are used in solar tracking applications.

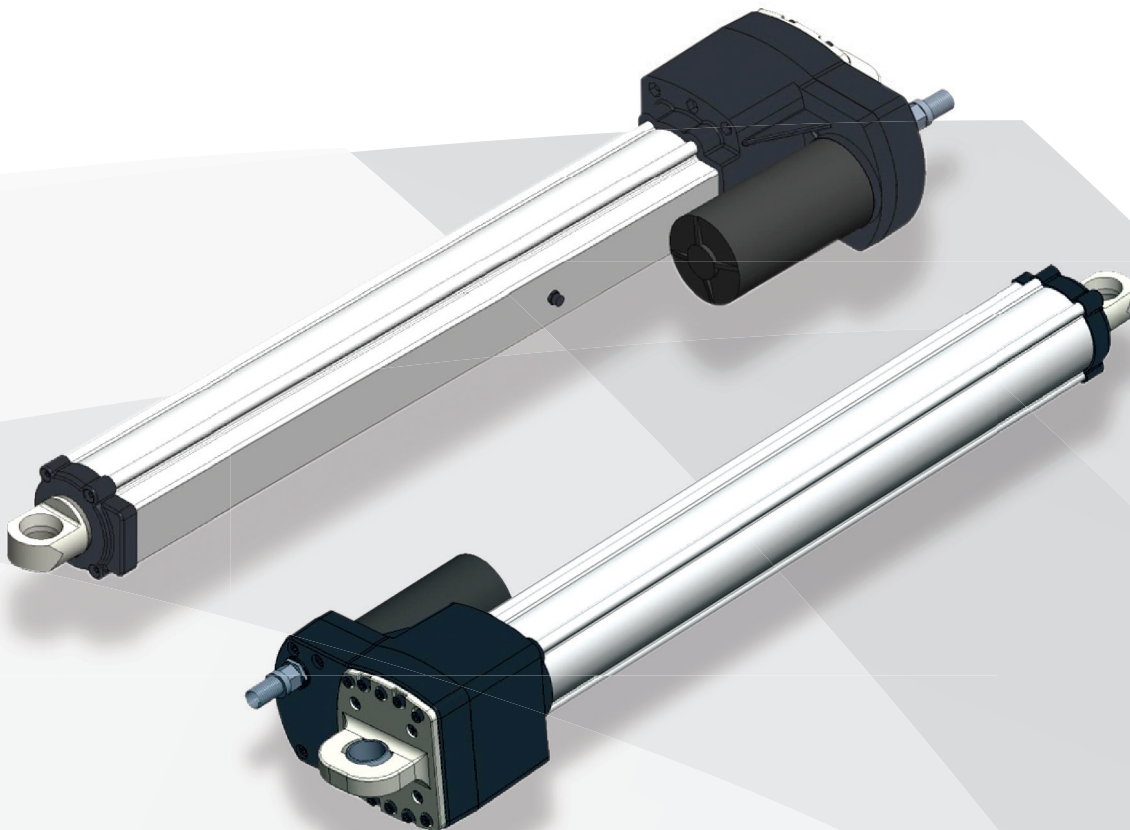
Electric linear actuators use a DC Motor with a series of gears and a lead screw that pushes the main rod shaft. The difference between actuators is determined by the size of the motor. Static and dynamic are the two load capacity variables of a linear actuator.

Dynamic load capacity is the amount of force being applied when the actuator is in motion.

Static load capacity is when the actuator is motionless and holding a load in place.

MECHANICAL RATING

1	Input power of gearbox	160-200 W @ 2800 rpm max
2	Actual gearbox ratio	110:1
3	Output speed	1.54 mm/s without load, 1.22 mm/s with load
4	Operating temperature range	-40°C to 65°C maximum
5	Lubrication used for gearbox	Synthetic Grease



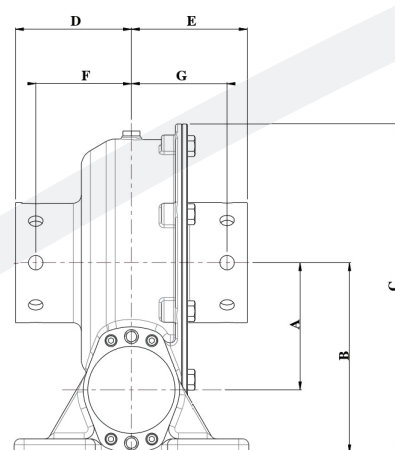
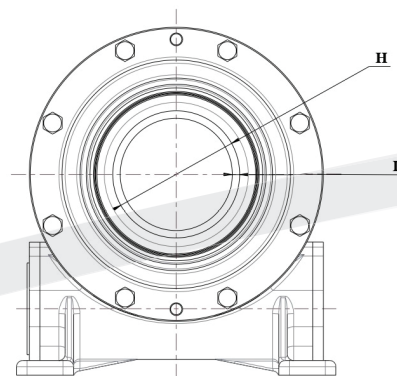
SLEW DRIVE

A Slew Drive is a type of gearbox that is specifically designed to handle high radial, axial, and moment loads. They are designed to withstand hold loads while also providing high rotational output torque. Slew drives consist of a worm gear mechanism, a metal bearing component, rubber seals, and sturdy housing to prevent environmental factors such as dirt, water, and dust from destroying the working components of the drive

Slew drives operate fundamentally identical to worm gears. As a worm gear rotates, it translates rotational motion along its axis to rotary motion of the axis it is perpendicular to. The driven member (the worm wheel) consequently exhibits a decrease in speed and a proportional increase in torque from the worm gear. The output speed of the worm wheel is dependent upon the ratio of the threads on the worm gear to the number of teeth on the worm wheel.

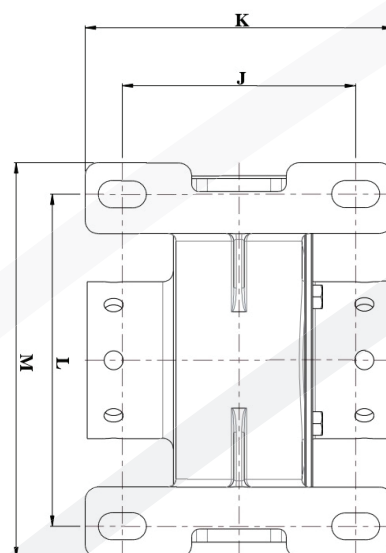
SPECIFICATIONS

1	Type	Single Stage Worm Gear Speed Reducer
2	Input Speed	4.7 rpm
3	Gear Ratio	51:1
4	Input Shaft Spline	14 Tooth X 1.25 Module, Flank Centered, Internal Spline Per Din 5480. Designation: Hub, Din 5480-n 19x1.25x14x9h.
5	Transmission Efficiency, Min	Above 40% Under All Load and Temperature Conditions
6	Torsional Stiffness, Min.	1.0 Kn-mrad
7	Internal Rotational Friction, Max.	Less than 5 N-m at Input
8	Rotation Range of Low Speed Shaft	±65° and ±55°, 0° to -3°, (The hard stops position can be customized as per requirements.)
9	Angle Indicator	Nominal Center of Range (Zero Position) and ±10° increments to ±60° on each side
10	Backlash, Max.	5 M Rad (0.28°)
11	Housing Material	Ductile (Nodular) Iron Casting
12	Seals	Resistant to UV and Environmental Degradation for Design Life
13	Lubrication	Synthetic Grease or Oil. Grease Fittings or Oil Service Ports Provided
14	Breather	Screw-in Type, PTFE Membrane Breather Vent
15	Design Life, Min.	Min. 30 years durability
16	Environmental	Outdoor Rated, All Regions
17	Ingress Protection Rating, Min	IP55, Per IEC_60529
18	Ambient Temperature Range	-40° C to 60° C
19	Maintenance	Maintenance Free, No Re-lubrication Required
20	Corrosion Protection, Housing	Rust Grade 5 or Higher Per ASTM D610m After 480 Hour Salt Spray Per ASTM
21	Corrosion Protection, Fasteners	Hot Dip Galvanized or Approved Alternative Finish



TECHNICAL SPECIFICATIONS (Applied load ratings)

Annual Torque Histogram (n -m)	Yearly Worm Shaft Rotation Cycles
1,000	6481
2,000	9094
3,000	1647
4,000	564
5,000	211
Tracker holding, non-backdriving	12000Nm
Dynamic radial rating, min.	15,000N
Dynamic radial rating, min.	20,000N
Dynamic axial rating, min.	9,000N
Static axial rating, min	50,000N
Mechanical hard stop loading-input shaft motor stall torque	±300Nm

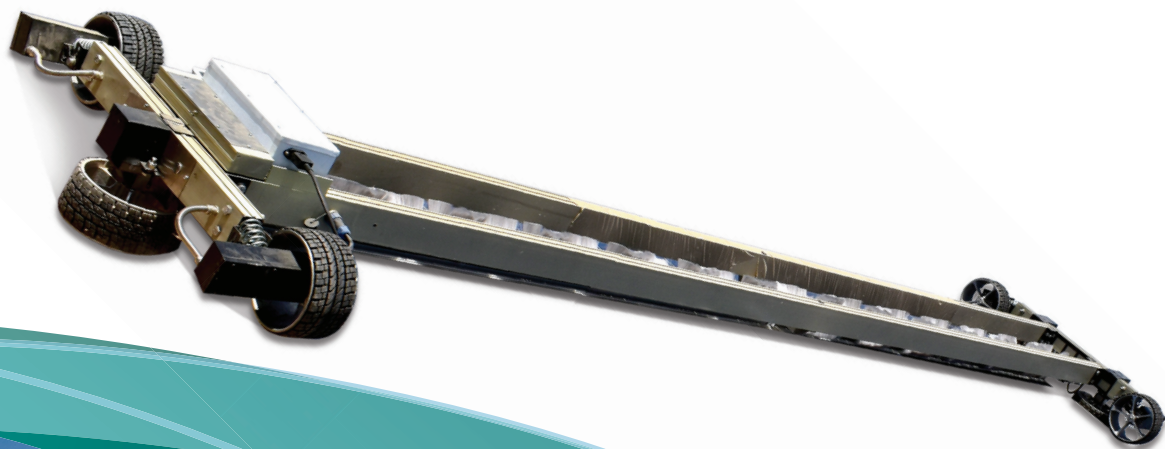


MODEL NO	A	B	C	D	E	F	G	H	I	J	K	L	M
PSD127STD0001	127	190	329	115.5	115.5	95.4	95.4	120	7	177.5	234	254	302
PSD127STD0002	127	190	329	115.5	115.5	95.4	95.4	145	7	177.5	234	254	302

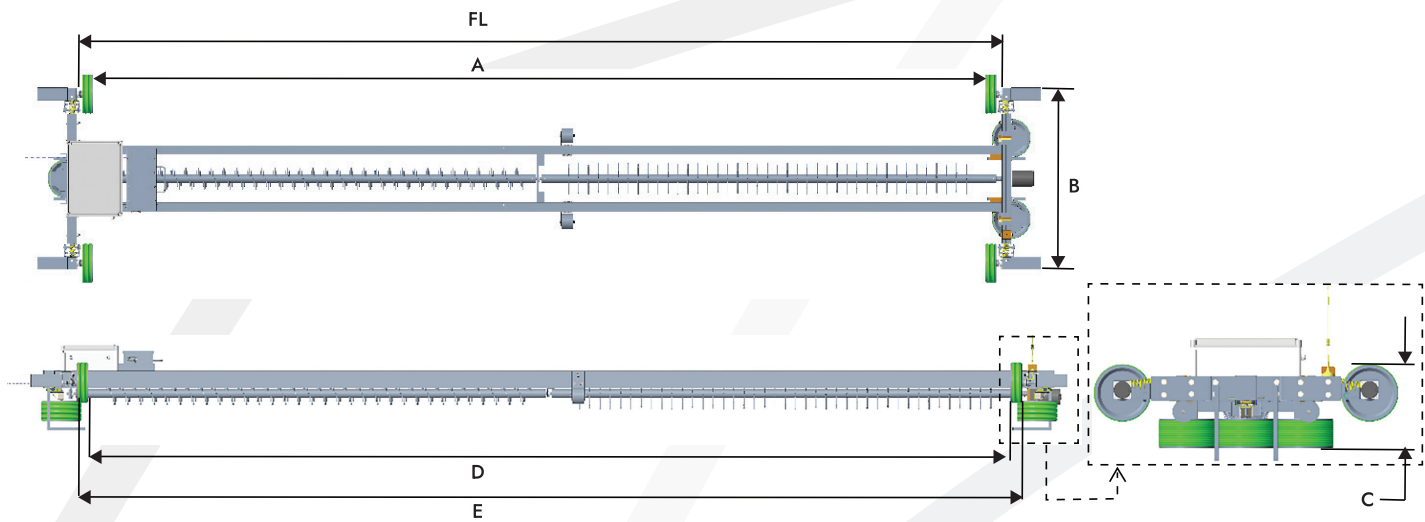
PREMIUM BOT - SOLAR PANEL CLEANING ROBOT

Premium BOT - Solar Panel Cleaning Robot is now firmly established as a core element of the Operations & Maintenance (O&M) of a solar power plant. All kinds of accumulates settle on solar panels from sand to traffic film, which reduces the output of the solar power plant and depending on soiling type, can create hotspots on the modules. Hotspots are to be avoided as they not only reduce output but can also cause permanent cell failure within modules.

The Premium BOT - Solar Panel Cleaning Robot consists of a Nylon based material brush which ensures no damage to the solar panel. The Aluminium Frame carrying the brush moves along the length of Solar Panel in the horizontal direction. The Cleaning robot consists of a DC Motor which rotates the wheels and moves the frame in a linear direction. Multiple robots can be installed in each row of the solar panel.



- 1. Designed for installation on customisable length in solar panels
- 2. The cleaning robot length is adjustable up to +/- 250mm
- 3. Lightweight and durable product
- 4. Operates at a speed of 1 Km/hr with two DC motors of 12V and 100 rpm with rated torque of 30 Kg-cm
- 5. Can continuously work up to 90 mins after a single charge
- 6. Nylon brush is used to clean the panel which works with a DC Motor of 12V and 300rpm with rated torque of 11 Kg-cm
- 7. A 12V power supply adapter is provided in the system for the power supply
- 8. Poly urethane wheels are used which are more durable and do not damage the solar panel
- 9. Side support wheels are provided to guide the frame and help to move along the solar panel in the linear direction



MODEL NO	A	FL	B	C
RB01PD050000000	2M1-54	2M1+112	911	270

PRODUCT FEATURES:

Zero Water

Complete Water Free Cleaning Solution
It eliminates water supply fittings and saves water up-to quarter million liters per megawatt annually

Robust

Built to Withstand Harsh Weather Conditions
Will work under all weather conditions including desert sand storms and heavy rainfall. All metal body makes and aluminium components makes it robust and lightweight at the same time

Self Powered

Solar Powered, No External Power Required
It has independent solar panels at the docking station which power the whole system

Smart Weather Sense and Centrally Controlled
Adjust According to Weather

Automation technology and cloud/ IoT connectivity allows Robot to sense weather and works accordingly and also allows the team to control robot from remote location

NOTES

NOTES

Handwriting practice lines consisting of horizontal lines and diagonal guides.

Passion to Propel



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PREMIUM
TRANSMISSION



PREMIUM
CARE