I - DOSE - CL

Smart digital chlorine dosing

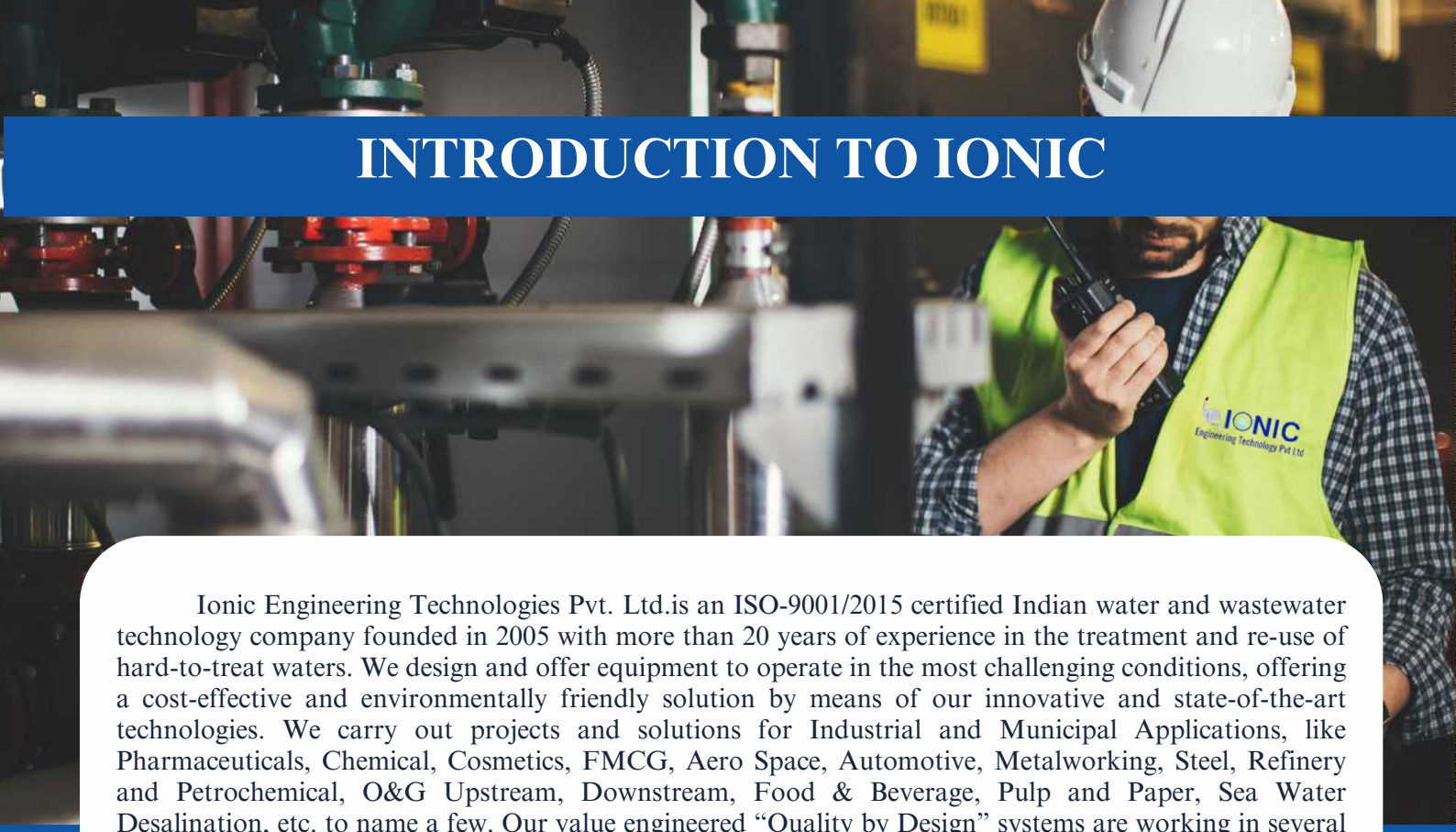
Small in Size- Smart in Performance

Efficient I Reliable I Compact

"Smart Dosing, Absolute Control"

S. No. 1,5,12, "B" Wing, Ground Floor,
Mahalaxmi Height, Mumbai-Pune Road, Pimpri,
Pune – 411018, Maharashtra State, India
Phone – (+91) 020-27475272/274725273/827548623
Email: contact@ionic.co.in
Web: www.ionic.co.in

IONIC
Engineering Technology Pvt Ltd



INTRODUCTION TO IONIC

Ionic Engineering Technologies Pvt. Ltd.is an ISO-9001/2015 certified Indian water and wastewater technology company founded in 2005 with more than 20 years of experience in the treatment and re-use of hard-to-treat waters. We design and offer equipment to operate in the most challenging conditions, offering a cost-effective and environmentally friendly solution by means of our innovative and state-of-the-art technologies. We carry out projects and solutions for Industrial and Municipal Applications, like Pharmaceuticals, Chemical, Cosmetics, FMCG, Aero Space, Automotive, Metalworking, Steel, Refinery and Petrochemical, O&G Upstream, Downstream, Food & Beverage, Pulp and Paper, Sea Water Desalination, etc. to name a few. Our value engineered "Quality by Design" systems are working in several diverse industries for many years and is helping our customers move towards "Cleaner Production"

Motivation & Vision: Our main goal is to create value and make a difference for our clients and partners as well as deliver tailored-made solutions to satisfy the requirements of our clients, respecting the environment. At Ionic Engineering Technologies we believe that making water and wastewater reuse an affordable and sustainable water source is essential to the future development of mankind in terms of economy, environment, and society. All our systems are designed and engineered based on sound engineering practice and offer value for money and bring "Peace of Mind" to our customers.

Why Ionic? Good advice is half the battle won. Ionic Engineering is a technology neutral company and focused on providing "Quality by Design" engineered systems. We have technology associates based in Europe and USA for some of the cutting-edge disruptive technologies.The first step to the perfect water treatment solution: Understanding your wastewater analysis. We design the plant based on the water analysis sent by our customer.

We are dedicated to using our professional expertise accumulated over many years, to providing the solution you want, when you want it. We also take great pride in ensuring that every client is satisfied with the operating efficiency of the systems we design and the overall level of service that we provide, whether during the initial contract phase or later, throughout the life of the plant.

- Providing expert advice, tailored to meet your requirements.
- Supplying high quality, good value-for-money systems, and equipment.
- Supporting all our clients for the lifetime of their water & wastewater treatment systems.
- Developing and deploying the best, most economic solutions for your needs
- Listen to our customers as well as our suppliers on products and technologies feedback and updates.
- Continuous improvement in all that we do!

Find the best solution for your processes: Let our competent team from the application technology team advise you now! We look forward to hearing from you.

Customers: We have many reputed Multinational companies such as Unilever, Coca-Cola, Loreal, John Deere, Tata Hitachi, Bajaj, Tata Motors, Century rayon, GACL to name a few as our customers

I - DOSE - CL

Small in Size- Smart in Performance

Take control of your Cooling Tower Water Chemistry in your hand with IoT enabled I-Dose

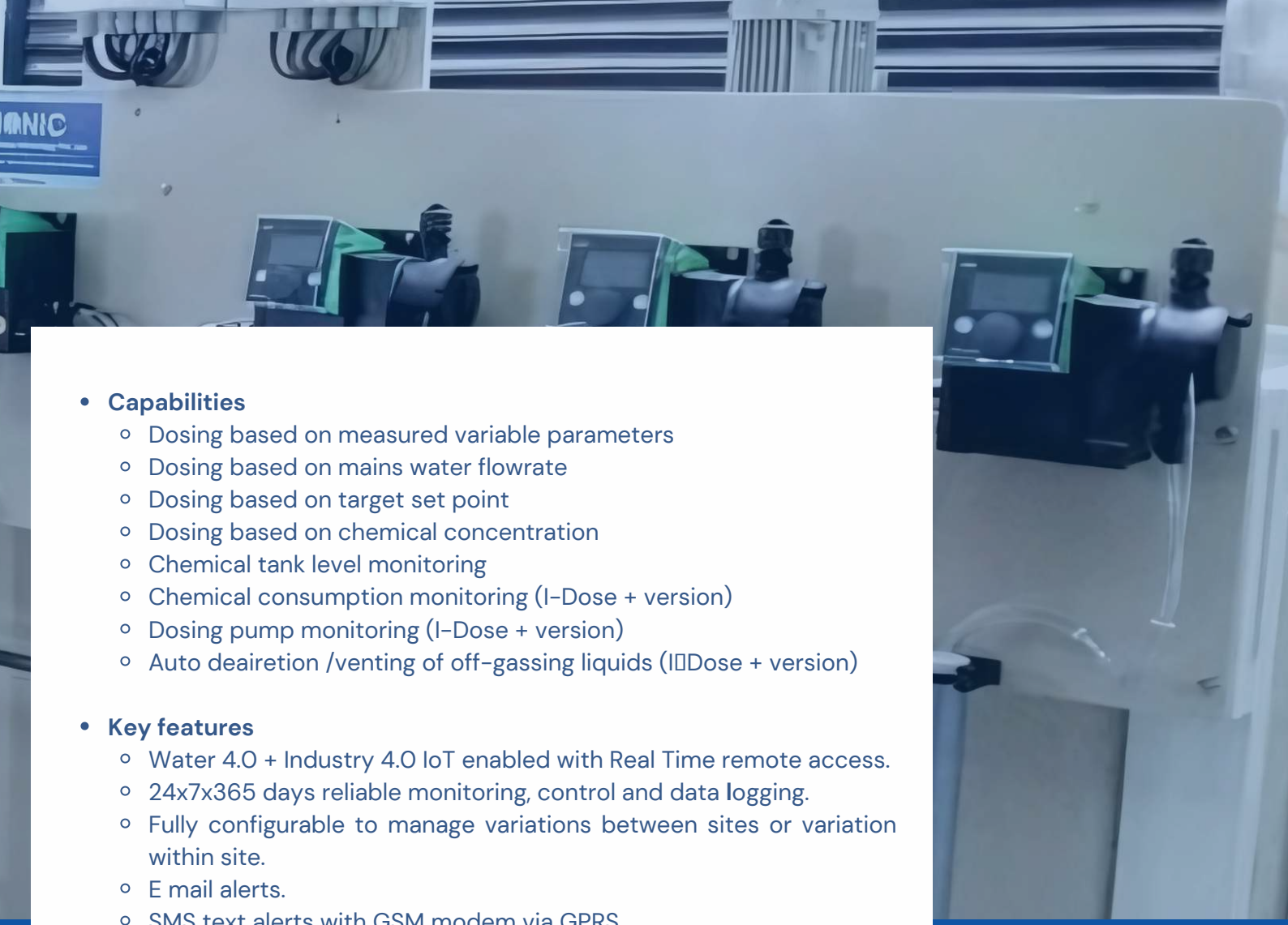
Scaling, Corrosion, Fouling are common problems in cooling towers affecting the cooling system performance. Various dissolved and undissolved water impurities present in water interferes with heat transfer.

Small in Size – Smart in Performance

Ionic is pleased to introduce I-Dose-CL-IoT enabled Smart Digital Chemical Dosing system to control water chemistry in your cooling water! Various specialty chemicals like scale, corrosion inhibitors, anti foulant , biocides are dosed in cooling water based on measured values like pH, Flow, ORP, Free Chlorine, TDS, Chlorine Dioxide , Turbidity etc. to prevent scaling , corrosion, fouling, Biofilm growth etc.

Success or failure of the treatment programmed to a great extent depends on proper chemical treatment implementation! Failure to control chemical addition accurately leads to under or over dosing which actually is counterproductive thus defeating the very purpose of chemical treatment programmed.

Universally LSI (Lange liar Saturation Index), RSI (Reynar Saturation Index), Corrosion and Biofilm rates are the indirect Key performance Indicators of a cooling system and direct performance indicators like differential pressure across the heat exchangers, differential temperature across the tower are monitored continuously and data logged.



- **Capabilities**
  - Dosing based on measured variable parameters
  - Dosing based on mains water flowrate
  - Dosing based on target set point
  - Dosing based on chemical concentration
  - Chemical tank level monitoring
  - Chemical consumption monitoring (I-Dose + version)
  - Dosing pump monitoring (I-Dose + version)
  - Auto deairetion /venting of off-gassing liquids (I□Dose + version)

- **Key features**
  - Water 4.0 + Industry 4.0 IoT enabled with Real Time remote access.
  - 24x7x365 days reliable monitoring, control and data logging.
  - Fully configurable to manage variations between sites or variation within site.
  - E mail alerts.
  - SMS text alerts with GSM modem via GPRS
  - Automatic report generation
  - Trending
  - Digital communication through Profibus/Modbus/TCP-IP.
  - Connectivity to Scada/DCS.
  - Integrated dosing pump control
  - Flow proportional PID control
  - Provides two-way communications allowing not just the downloading of data but the uploading of new settings, setpoints, PID controls, etc.
  - Internal storage of data
  - PP-H long life corrosion resistant skid for protection of pumps and sensors from external elements and damage.
  - Smart Digital Sodium Hypochlorite dosing pumps

- **Key Benefits**
  - Ensure process safety.
  - Meet audit trail.
  - No under dosing of chemicals.
  - No over dosing of chemicals.
  - Easy to use Dash board.
  - Capability to monitor chemical use.
  - Plan procurement of chemicals.
  - Evaluate performance.

Digital Water Quality Sensors

State-of-the-art digital sensors are available to measure critical water quality parameters, tailored to site-specific and customer-specific requirements. These include:

- Corrosion rates
- Biofilm monitoring
- Organics
- TSS (Total Suspended Solids)
- Turbidity
- pH and ORP
- Free Chlorine, Chlorine Dioxide, and Ozone
- Photometer-based measurements

Digital Flow and Volume Sensors

A wide range of digital flow and volume sensors is available for accurate measurement of makeup and bleed-off flow and volume. Options include:

- Turbine
- Paddle wheel
- Electromagnetic
- Magnetic
- Vortex
- Ultrasonic sensors

These are available in various sizes and configurations to suit diverse applications.

Smart Dosing Control

Accurate chemical dosing is critical across industries such as drinking water treatment, wastewater management, and industrial processes in pharmaceuticals, chemicals, and food & beverage. Ensuring precise dosing helps achieve process targets, enhance safety, lower operational costs, and maintain reliability.

The SMART Digital Diaphragm Dosing Pump offers advanced features to simplify chemical dosing:

- Automatic Degassing: Eliminates the need for third-party bleed valves or manual venting when dosing chemicals like sodium hypochlorite.
- Integrated Flow Measurement: Removes the need for external flow meters by measuring dosing flow internally.
- Clog Detection: Alerts users if valves are clogged or if the flow rate is too high.

With flow rates up to 200 L/h and pressure ratings up to 16 bar, this range is designed to tackle common dosing challenges while ensuring performance targets are met.

Intelligent Dosing Pumps: Features and Benefits

Simplicity

- User-Friendly Interface: Intuitive navigation with a click wheel and graphic LC display in over 28 languages.
- Flow Adjustment: Set flow rates directly in ml/h, L/h, or gph.
- Quick Status Indicators: Large display with color-changing backlight for pump status at a glance.

Modularity

- Flexible Design: Universal mounting plate compatible with various methods, allowing quick removal or reorientation of the pump.
- Wide Range of Compatibility: Supports multiple supply voltages (100-240 V, 50/60 Hz) and features a hydraulic connection kit.
- Advanced Integration: Optional E-box and CIU boxes enable seamless integration with standard fieldbus networks, allowing retrofitting and enhanced connectivity.

Flow Intelligence: Maximum Process Reliability

The advanced Flow Control system in the pump ensures uninterrupted operation even when process parameters, such as system pressure, fluctuate. Key features include:

- Accurate Diagnostics: The pump identifies and diagnoses common dosing faults and displays them as plain text in the alarm menu for quick resolution.
- Auto Flow Adapt: Automatically maintains the required flow rate, even under external influences like degassing media or fluctuating system back-pressure. For example:
  - Degassing Media Handling: Motor control adjusts to release air bubbles from the dosing head.
  - Pressure Fluctuations: The stepper motor's speed regulation compensates for deviations to ensure consistent dosing.

The integrated flow measurement eliminates the need for additional measuring equipment. The real-time flow is displayed directly on the pump and can be integrated into the control system via analog output or bus protocol if needed.

Advantages

- **Accuracy:** Industry-leading dosing accuracy, validated by independent studies.
- **Durability**: Chemically resistant diaphragm and IP65/NEMA4X-certified housing.
- **Reliability:** Extended service intervals and no risk of vapor lock, thanks to built-in deaeration features.
- **Maintenance-Free:** No periodic pump calibration required.
- **System Monitoring:** Advanced control, self-diagnosis, and monitoring features keep your system running smoothly.
- **Versatility:** Suitable for any application, with flexible mounting options, multi-voltage support, and a wide range of accessories.
- **Ease of Use:** Intuitive interface with straightforward setup and operation.

Standard Scope of Supply

1. **PP-H Dosing Skid**
2. **60 L Vapor-Tight Dosing Tank**
3. **Smart Online Chlorine Analyzer:** IoT-enabled for advanced monitoring.
4. **Free/Total Chlorine Aerometric Sensor:** Includes cable and sample cell with sample flow monitoring sensor.
5. **Smart Digital Dosing Pump:** Equipped with UPVC liquid end and control cables.
6. **Tank Low-Level Switch:** Integrated with UPVC foot valve and strainer.
7. **UPVC Injection Valve**
8. **Mains Flow Measurement Sensor and Transmitter:** Size customized to site requirements.
9. **Chlorine Test Kit:** For sensor and instrument calibration, as well as process monitoring.

Options for I-Dose+ Versions

1. **Chemical Consumption Monitoring:** Real-time tracking of chemical usage for process optimization.
2. **Back-Pressure Monitoring:** Ensures stable operation by monitoring system back-pressure.
3. **Dosing Pump Flow Rate Monitoring:** Tracks the precise flow rate of the dosing pump to maintain accuracy.
4. **Digital Communication:** Two-way communication with the control system for seamless monitoring and control.
5. **Spare Dosing Pump:** Additional pump for redundancy and uninterrupted operation.
6. **pH Sensor with Sample Flow Cell:** For accurate pH measurement and monitoring.

Customization

Each system is highly customizable to minimize CAPEX while maintaining full functionality. Share your specific requirements, and we will design a system tailored to meet your needs.

Information Required for Proposal Preparation

To create a proposal, please provide the following details:

- Flow Rate of Water: Specify the minimum, normal, and maximum flow rates to be disinfected.
- Chlorine Concentration: Desired chlorine concentration in the tank.
- Number of Dosing Pumps: Indicate if a spare pump is required.
- Dosing Pump Capacity: Specify flow rate requirements or chlorine demand with residual values to be maintained.
- Remote Monitoring Communication: Preferred mode of communication (Internet LAN/GPRS).
- Alerts: Required alert mechanisms (e.g., email or text notifications).
- Chemical Consumption Monitoring: Is this feature required?
- Dosing Tank Level Monitoring: Specify if this functionality is needed.
- Other Parameters: Any additional monitoring needs or specific values.

We are eager to collaborate and provide a solution tailored to your exact needs!

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Engineering Technology Pvt Ltd

GET
IN TOUCH

WITH
IONIC ENGINEERING TECHNOLOGY PVT. LTD.

We're here to help you with all your water and wastewater treatment needs. Whether you're looking for customized solutions, technical support, or just want to explore how our services can benefit your business, feel free to reach out to us.

Our team of experts is ready to provide personalized assistance and ensure that you get the most effective and innovative solutions tailored to your requirements. You can contact us via phone, email, or through our website. We value every opportunity to collaborate and are committed to delivering excellence in every interaction.

CONTACT US :

020-27475272 / 8275486263

WWW.IONIC.CO.IN

CONTACT@IONIC.CO.IN / SUPPORT@IONIC.CO.IN

IONIC ENGINEERING TECHNOLOGY PVT. LTD., No 1, 5 & 12, Ground Floor, B Wing, Mahalaxmi Heights, Old Mumbai - Pune Hwy, next to Keys Hotel, Pimpri Colony, Pimpri-Chinchwad, Maharashtra, India.