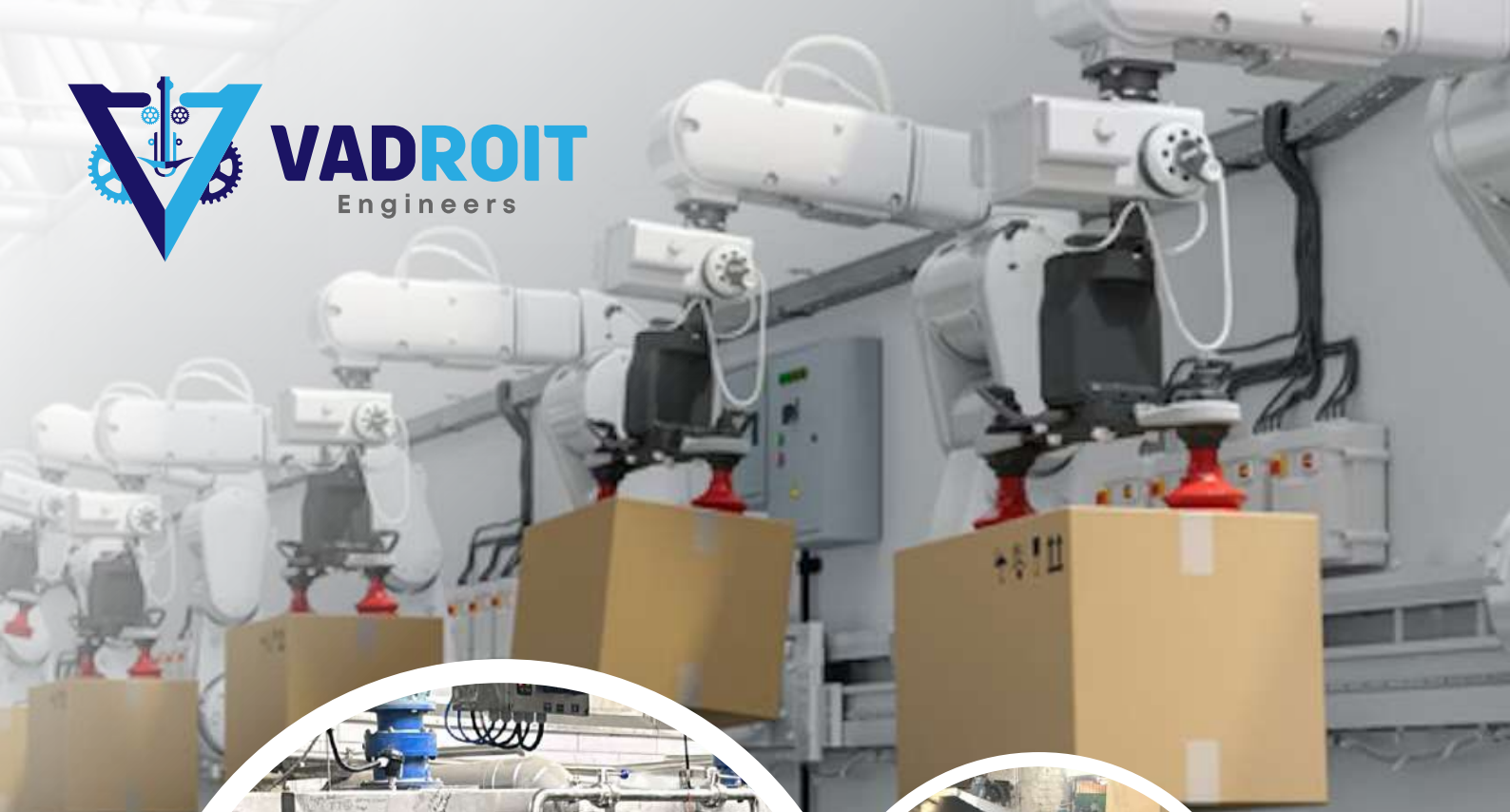




VADROIT
Engineers



ENGINEERING

Smart Solutions for
a Smarter Future

PLANT AUTOMATION | PROCESS AUTOMATION | ROBOTICS AUTOMATION

CRAFTING EXCELLENCE EVERY STEP OF THE WAY

Established in 2023 in Jaipur, Rajasthan, Vadroit Engineers Pvt. Ltd. is a leading Instrumentation and Control System Integrator delivering turnkey automation solutions. We specialize in PLC/SCADA, process automation, milk processing systems, process machinery and robotics for diverse industries. Our expertise includes designing and assembling customized SS/MS electrical panels, control panels, distribution boards, and low-voltage MCCs.

With strong commissioning management, we ensure accurate testing and smooth startups. Our in-house panel manufacturing ensures quality, flexibility, and better coordination. Focused on detailed engineering and customer satisfaction, we deliver efficient, advanced solutions. Backed by a skilled and dedicated team, we aim for long-term, innovation-driven leadership in industrial automation.

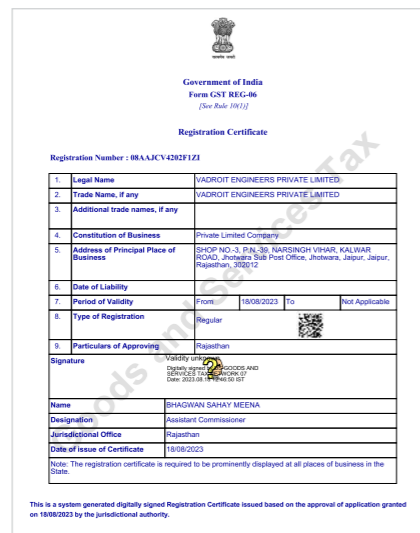


PRODUCT AND SERVICES

Vadroit Engineers Pvt. Ltd. delivers high-quality process equipment designed for precision, durability, and efficient industrial operations. Our custom-built panels, control systems, and automation assemblies are manufactured with strict quality standards to ensure reliable performance and reduced downtime. With advanced engineering and robust technology, we enable smooth, seamless, and productive plant operations.

- 1 Sweet & Namkeen Plant Design
- 2 Fully/Manual Rasgulla Plants & Process Equipment
- 3 Milk & Whey Handling Systems
- 4 Sugar Syrup Preparation Systems (55/65/75 Brix)
- 5 SS-304 Milk & Oil Storage Tanks, Eurobins
- 6 BMC (Bulk Milk Chillers)
- 7 Heating & Cooking Kettles (Milk, Rasgulla, Khoya, Namkeen, Dal)
- 8 Steam/Thermic-Based Kettles & Electrical Kettles
- 9 Paneer Plants, Press & Cutting Machines
- 10 Sweet Cutting Machine
- 11 Packaging Tables for Rasgulla/Gulab Jamun
- 12 Cooling Tunnel with Dryer
- 13 Fully Automatic & Single/Double Circuit CIP Systems

CERTIFICATE





ROBOTIC AUTOMATION FOR SECONDARY PACKAGING SOLUTION

Secondary packaging refers to the process of grouping primary packaged products into larger containers or packages for shipping, storage, or display. Examples include putting bottles into cartons, cartons into cases, or cases onto pallets.



PACKAGING TASKS

- Case packing
- Carton erecting
- Palletizing
- Labelling & coding
- Wrapping

BENEFITS OF ROBOTICS

- Higher speed & efficiency
- Consistent quality
- Lower labour cost
- Better safety
- Flexible & reprogrammable
- Space-saving setups

ROBOT TYPES

- Articulated
- Delta
- SCARA
- Cobots





SWEET CUTTING MACHINE

A **Sweet Cutting Machine** is used in the food industry to cut sweets like barfi, soan papdi, kaju katli, mysore pak, chocolate slabs, cakes, brownies, etc. into uniform shapes and sizes. It helps maintain consistency, saves labor, and increases production speed.

SWEET CUTTING MACHINE

Capacity:- 1 Tray/min .

Application:- Any Type of Sweet Cutting and Kaju Katli

Power Consumption:- 2.2kw.

Size Of Cutting Is Customize through PLC



- **Automatic / Semi-automatic operation** – depending on plant size
- **Adjustable cutting size** – square, rectangle, diamond, or customized shapes
- **Stainless Steel (SS 304/316)** construction – hygienic and food-grade
- **PLC or Manual Control** – for automation and accuracy
- **High Speed Cutting** – multiple cuts per minute
- **Easy Cleaning & Maintenance** – modular blade setup

AUTOMATION FOR MILK HANDLING INDUSTRIES

Smooth, contamination-free unloading and automatic filling for higher productivity.



Supply of Milk Tanks

- Insulated design to maintain milk freshness
- Durable stainless-steel construction
- Ensures consistent temperature control
- Hygienic, easy-to-clean inner surface
- Ideal for bulk milk storage in dairy plants

Bulk Milk Coolers (BMC)

- Maintains milk at low, safe temperatures
- Prevents bacterial growth and spoilage
- Built with hygienic, food-grade stainless steel
- Ideal for dairy farms and milk collection centers



Milk Posterization Machine

- Heats milk to remove harmful bacteria
- Ensures safe and hygienic milk processing
- Maintains natural taste and nutrients
- Energy-efficient and easy to operate
- Ideal for dairy plants and milk processing units



Milk Distribution and Transferring System.



- Smooth and leak-proof milk transfer
- Food-grade pipelines for hygienic flow
- Efficient distribution across all processing stages
- Reduces manual handling and contamination risks
- Ensures consistent and controlled milk movement

Double Circuit/Single/ Triple Circuit CIP System

Single Circuit CIP System

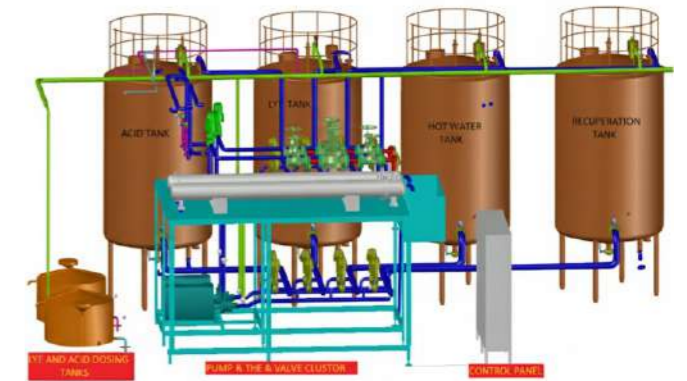
- Ideal for small setups
- Cleans one line/equipment at a time
- Simple, cost-effective, and easy to operate

Double Circuit CIP System

- Two cleaning circuits run simultaneously
- Saves time & increases plant productivity
- Perfect for medium to large processing units

Triple Circuit CIP System

- Three parallel lines for maximum efficiency
- Fast cleaning for large automated plants
- Minimal downtime, uninterrupted production



RASGULLA PROCESS AUTOMATION

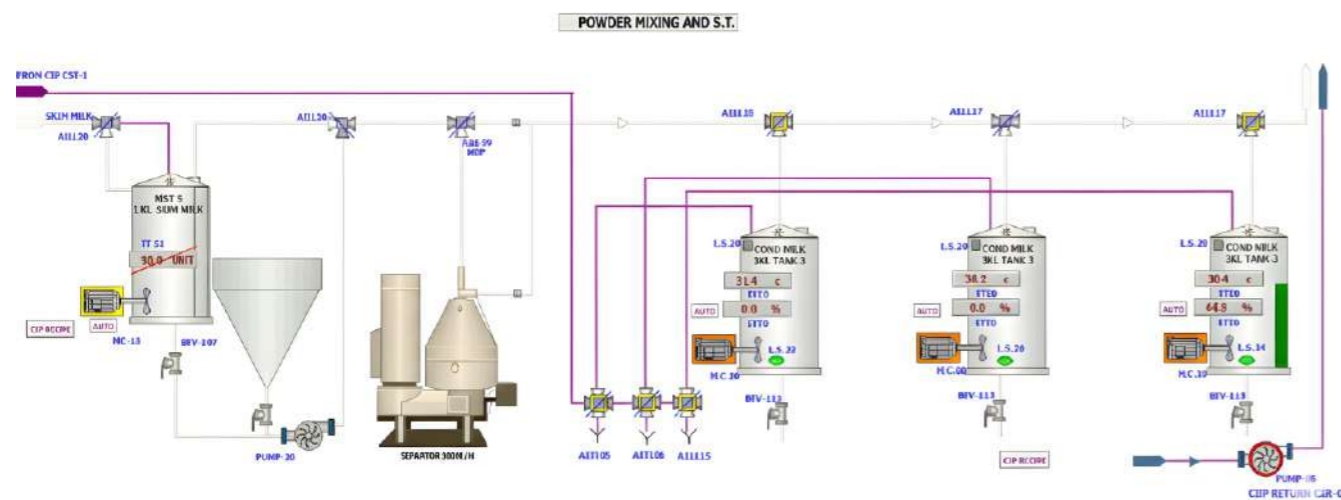
Milk Storage & Chilling Process

- Milk receiving and filtration
- Rapid cooling using plate heat exchangers
- Hygienic storage in insulated tanks
- Temperature control to maintain freshness
- Prevents bacterial growth and quality loss



Milk Standardization

Standardization ensures consistent milk quality by adjusting fat and SNF levels. Automated separators and mixers create low-fat, high-fat, and uniform milk variants while maintaining taste, nutrition, and regulatory standards.



Whey Handling System

- Collection of whey from paneer/cheese production
- Clarification and separation of solids
- Transfer through hygienic pipelines
- Storage in dedicated whey tanks
- Automation for old whey and Fresh Whey with Required Acidity
- Automation for cream separator
- Ready for further processing or disposal



Sugar Syrup Handling System

An Automatic Sugar Syrup Brix Handling Plant is an integrated system used in food and sweet industries to prepare and control sugar syrup at a required Brix (°Bx) level.

- Sugar Handling System
- Mixing & Dissolving Tank
- Brix Monitoring & Control
- Filtration & Storage
- Automation & Controls



Process of Chhena Handling

- Controlled milk coagulation
- Draining and separation of whey
- Gentle pressing for desired texture
- Cooling and hygienic handling
- Ideal for sweets and dairy products



AUTOMATION OF SOAN PAPDI

Automation of Soan Papdi ensures a streamlined production process, delivering consistent quality with minimal manual intervention. It increases efficiency, maintains uniform texture and taste in every batch, and is ideal for large-scale sweet manufacturing. This modern solution helps sweet makers meet high demand while reducing labor and production time.



Besan Cooking Kettle

- Capacity :- 300 Ltr.
- Working :- Roasting Of Besan For Soan Papdi
- Heating Media :- Steam @ 6 Bar
- Agitaor Scaper Type.
- Bottom Dischage .



Besan Cooling Tank

- Capacity :- 300 Ltr.
- Working :- Cooling Of Besan For Soan Papdi
- Cooling Media :- Cold Water
- Agitaor Scaper Type.
- Bottom Dischage .



Sugar Syrup Making Tanks

- Capacity :- 300 Ltr. / 500 Ltr.
- Working :- Preparation of Sugar Syrup
- Heating Media :- Steam/Thermic Fluid
- Agitator Scaper Type
- Bottom Discharge

Chasni Cooker

- Capacity :- 300 Ltr. / 500 Ltr.
- Working :- Preparation of Sugar Syrup
- Heating Media :- Steam/Thermic Fluid
- Agitator Scaper Type
- Bottom Discharge

Oil/Ghee Dispensing System

- Dispensing Capacity :- 40 Ltr. / 150 Ltr.
- Working :- Oil Measure on loadcell
- Heating Media :- Steam
-



Cooling Table

- Working :- Cooling of Chasni at 99 Brix for soan Papdi
- Cooling Media :- Water@7Degree

Soan Papdi Pata

- Working :- Pulling of Raw Soan Papdi Material
- Size :- Dia 1200mm



PROCESS EQUIPMENT'S

A - Kettle Steam or Thermic Fluid Based.

Storage tanks are vital for hygienic and safe liquid handling in dairy and edible oil industries, ensuring preservation, temperature control, contamination prevention, and reliable production performance.



Water Heating Pan

Rasgulla Cooking Kettle



Rasgulla/Gulab Jamun Packaging Kettle



Sugar Preparation Kettle



Mawa Making Kettle



Milk Boiling Kettle



Saon Papdi Roasting Kettle



Ladu Chasni Kettle



Kaju/Khoya Sweet Kettle



Doda Kettle



Tawa Kettle



Gulab Jamun Kettle Gas Kettle



Padal Mixture

RASGULLA /GULAB JAMUN COOLING TUNNEL

The Rasgulla/Gulab Jamun Cooling Tunnel is specially engineered to provide rapid and uniform cooling for sweets right after cooking. It maintains the ideal temperature, ensuring that each piece retains its perfect texture, shape, and quality. Built with hygienic, stainless-steel construction, this tunnel enhances production efficiency by offering continuous, consistent cooling—ideal for high-capacity sweet manufacturing units.



S. No.	Details of Product	Size of Tunnel	Product	Capacity
1	Tin Cooling Dia :- 120mm	Width :- 800mm Length :- 6mtr	Gulab Jamun/ Rasgulla	1000 tin/hr
2	Tin Cooling Dia :- 120mm	Width :- 100mm Length :- 8mtr	Gulab Jamun/ Rasgulla	1500 tin/hr
3	Tin Cooling Dia :- 120mm	Width :- 1800mm Length :- 10mtr	Gulab Jamun/ Rasgulla	3000 tin/hr

Product Strengths

Full Stainless Steel Construction

High-Efficiency Insulation

Uniform Air Circulation System

Food-Grade Conveyor Belt

Adjustable Product Loading Table

Heavy-Duty Roller System

Precision Temperature Control

Strong Structural Frame

Why Choose This Cooling Tunnel?

- **Perfect Texture:** Prevents breakage, tearing & over-softening of Rasgulla/Gulab Jamun.
- **Continuous Production:** Boosts output with automated cooling.
- **Hygienic & Safe:** 100% compliant with food industry standards.
- **Energy Efficient:** Insulated system designed for cost-effective cooling.
- **Customizable Length & Capacity:** Tailored to meet your production needs.

SUGAR HANDLING SYSTEM

A fully automated solution designed to handle sugar efficiently, safely, and hygienically across food and confectionery production lines. This system ensures smooth transfer, precise weighing, and dust-free operation to optimize production flow.

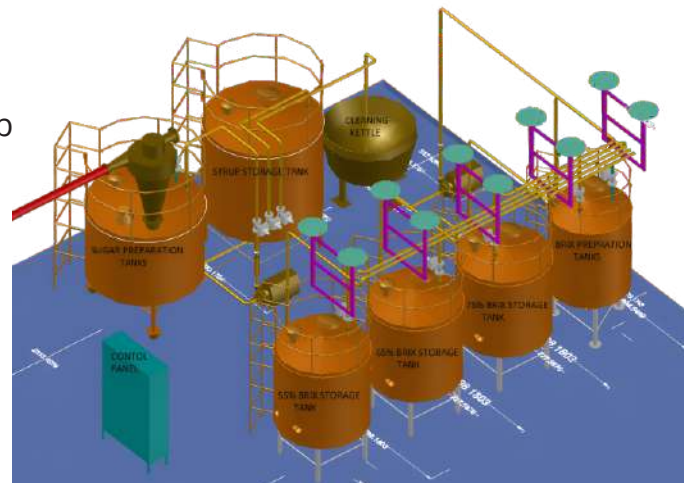


Process Flow

- **Sugar Feeding** - from silo/bag dump into dissolving tank.
- **Water Dosing** - controlled by flowmeter based on recipe.
- **Heating & Mixing** - sugar dissolves into syrup.
- **Brix Measurement** - inline refractometer checks concentration.
- **Automatic Correction** - system adds sugar or water if Brix deviates
- **Filtration** - to remove impurities.
- **Storage/Transfer** - to downstream process (candy, beverage, bakery, Soan Pardi plant, etc.)

Highlights / Key Advantages

- **Perfect Texture:** Prevents breakage, tearing & over-softening of Rasgulla/Gulab Jamun.
- **Continuous Production:** Boosts output with automated cooling.
- **Hygienic & Safe:** 100% compliant with food industry standards.
- **Energy Efficient:** Insulated system designed for cost-effective cooling.
- **Customizable Length & Capacity:** Tailored to meet your production needs.



Applications

- Indian sweets manufacturing
- Bakery industry
- Beverage & syrup processing
- Candy & confectionery plants

HYDROPNEUMATICS SYSTEM (OIL & WATER APPLICATION)

A hydropneumatics system is a pressure-boosting and fluid-handling system that uses compressed air and hydraulic pressure to store, regulate, and supply oil or water efficiently. It combines hydraulic (liquid-based) and pneumatic (air-based) principles to maintain a constant pressure in pipelines and ensure smooth, uninterrupted flow.



COMPONENTS

Pumps (Centrifugal or Positive Displacement): For transferring water or oil.

Hydropneumatic Tank (Pressure Vessel): Stores fluid under pressure with compressed air cushion.

Compressors / Air Charging Unit: Maintains required air pressure in the tank.

Pressure Switches & Transmitters: Monitor and regulate system pressure.

Valves (NRV, Safety, Control): For safety and flow control.

Level Sensors & Controllers: Prevent dry running and overfilling.

Pipeline Network: Distribution of oil and water.

FABRICATION OF MILK AND OIL STORAGE TANKS

Storage tanks are essential in the dairy and edible oil industries for hygienic, safe, and efficient handling of liquids, ensuring proper preservation, temperature control, contamination prevention, and long-term product quality through precision engineering and food-grade fabrication for consistent and reliable production performance.

MATERIALS USED

Milk Storage Tanks: SS 304/316 (food-grade, corrosion-resistant), double-walled with PUF/mineral wool insulation.

Oil Storage Tanks: MS with food-grade epoxy coating, SS for premium use, carbon steel for large-capacity storage.



TYPES OF TANKS

Milk Storage Tanks: Vertical silos, horizontal tanks, and insulated/chilling tanks.

Oil Storage Tanks: Vertical cylindrical, horizontal, and underground tanks.

AUTOMATION OF PLANT AND PROCESS



VOLUMETRIC WEIGHING SYSTEM

A Volumetric Weighing System for Dal & Namkeen is a mechanical or semi-automatic measuring system that dispenses a fixed volume of product instead of exact weight, commonly used in food processing units for speed and efficiency.

Application

1. Measurement of Dal Mixing System
2. Measurement of Namkeen Flow rate as per Bulk Density
3. Measurement Crystal Sugar



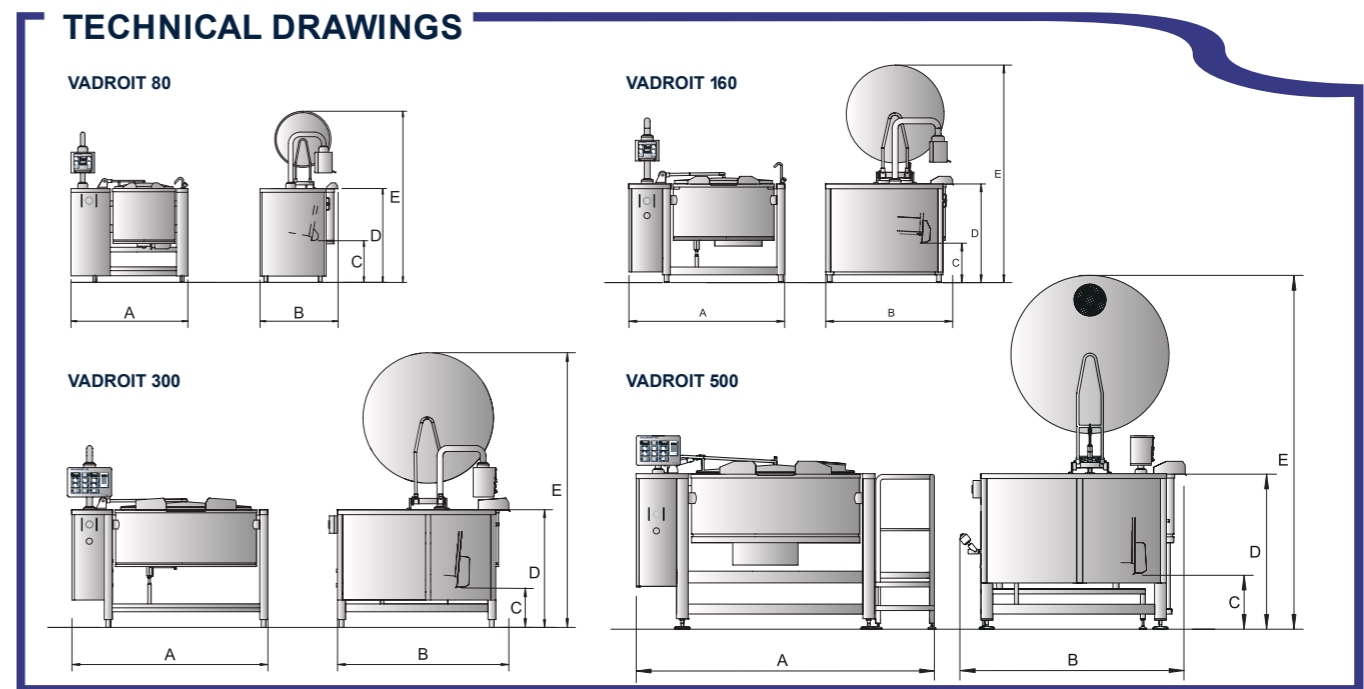
Automation of WTP (Water Treatment Plant) :

Delivering precise water quality management, real-time data tracking, and fully optimized treatment cycles to maintain operational continuity.

Automation of Oil Handling Plant : Improving flow control, storage safety, energy efficiency, and product accuracy using smart automated systems tailored for edible oil and industrial applications.



Automation of Report Generation of Energy on IOT Platform : Enabling centralized monitoring, energy analytics, automated reporting, and informed decision-making through IoT-based digital dashboards.



ELECTRICAL/STEAM/ GAS BASED CURRY MAKING KETTLE

Made entirely of AISI 304 stainless steel, the unit features a sturdy adjustable frame, high-thickness heating surface, and a self-balanced hinged lid. Electric and gas models use AISI 304 heating surfaces, while steam versions use AISI 316. It includes a rotating stainless steel control arm, automatic pan tilting, full insulation, warm and cold water taps, and an automatic stirring system with base scrapers and adjustable/removable paddles.

WORKING FEATURE

- Analogic control panel with digital displays.
- Programmable stirring device: continuous/pulsed/reversed.
- Safety devices on lid and tilting



VERSIONS

Electric : Heating is via Incoloy stainless steel elements placed under the pan base.

Gas Heated : Heat-treated steel combustion chamber with an atmospheric burner featuring electronic ignition, ignition electrode, and ionization flame detection.

Steam Heated : Equipped with a safety valve and a steam trap. Needed steam pressure: 6 bar. Maximum cooking temperature: 165 °C.



VADROIT 80



VADROIT 160



VADROIT 300



VADROIT 500

VEGETABLE WASHER

A vegetable washer in the FMCG (Fast-Moving Consumer Goods) sector refers to a machine or automated system used for cleaning vegetables before they are processed, packed, or used in further food manufacturing.



Purpose of a Vegetable Washer

It ensures:

- Removal of dirt, mud, pesticides, and impurities
- Hygienic cleaning of raw vegetables
- Compliance with food safety standards
- Improved shelf life and quality

Where It Is Used in FMCG

- Vegetable washers are commonly used in:
 - Ready-to-eat salad manufacturing units
 - Frozen vegetable processing plants
 - Canteens, cloud kitchens & bulk food production units
 - Packaged vegetable and fruit companies

How It Works

- A vegetable washer may include:
 - Water spray systems
 - Air bubble washing tanks
 - Vibratory or rotary cleaning drums
 - UV / ozone sanitization (in some advanced machines)

Why It Is Important

In the FMCG sector, hygiene and quality control are crucial. Washing ensures:

- Safe consumption
- Reduced contamination
- Compliance with FSSAI and food industry norms.
- Company logo details



OUR CLIENTS





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