CAUSTIC RECOVERY UNIT (CRU)

indenters Group

Where Innovation Meets Reliability

CAUSTIC RECOVERY PLANT CRU:

A cutting-edge method for recovering and reusing diluted caustic soda (lye) from textile industry mercerization processes is the CRU Caustic Recovery Plant. Effectively concentrating weak lye into strong lye through the use of a multi-effect evaporation system, the CRU reduces chemical loss, lowers operating expenses, and promotes eco-compliance by lessening the strain on the Effluent Treatment Plant (ETP).

KEY FEATURES:

Integrated Lye Purification with hy drogen peroxide treatment to ensure high-quality recovered lye.

Energy-Efficient Operation with heat recovery system generating reusable hot water.

Robust Construction with corrosion-resistant materials for durability and reliability.

5-Stage Evaporation System: Efficiently concentrates weak lye (4–5° Bé) into reusable strong lye (up to 30–32° Bé).

Stainless Steel Construction: Ensures durability, hygiene, and corrosion resistance.

PLC-Controlled Automation: Smart monitoring of lye levels, flow, and temperature.

SCOPE OF SUPPLY:

Evaporators (x5): *SS316L seamless tubes, fully argon welded*

Cyclonic Separators (x5): *For effective vapor-liquid separation*

Surface Condenser & Lye Preheaters: *Waste heat recovery for optimized energy use*

High-Quality Pumps: *LOWARA, SANWA, SIHI & SEKO for reliable fluid handling*

Control System: *Advanced flow meters, actuator valves & control panels from Applisens, Yokogawa, and SMC*

Support Structure: *MS frame with SS railings and safety walkways*

MS Storage Tanks: *Dedicated tanks for weak lye, strong lye, and condensate storage*

TECHNICAL HIGHLIGHTS:

Input Capacity: *10,000 kg/h of weak lye (5° Bé, 3.15% NaOH)*

Output: *1,603 kg/h of concentrated lye (26° Bé, 19.65% NaOH)*

Evaporation: *8,397 kg/h*

Steam Requirement: *1,700 kg/h at 6 bar*

Hot Water Output: *70°C water usable in boilers and process lines*

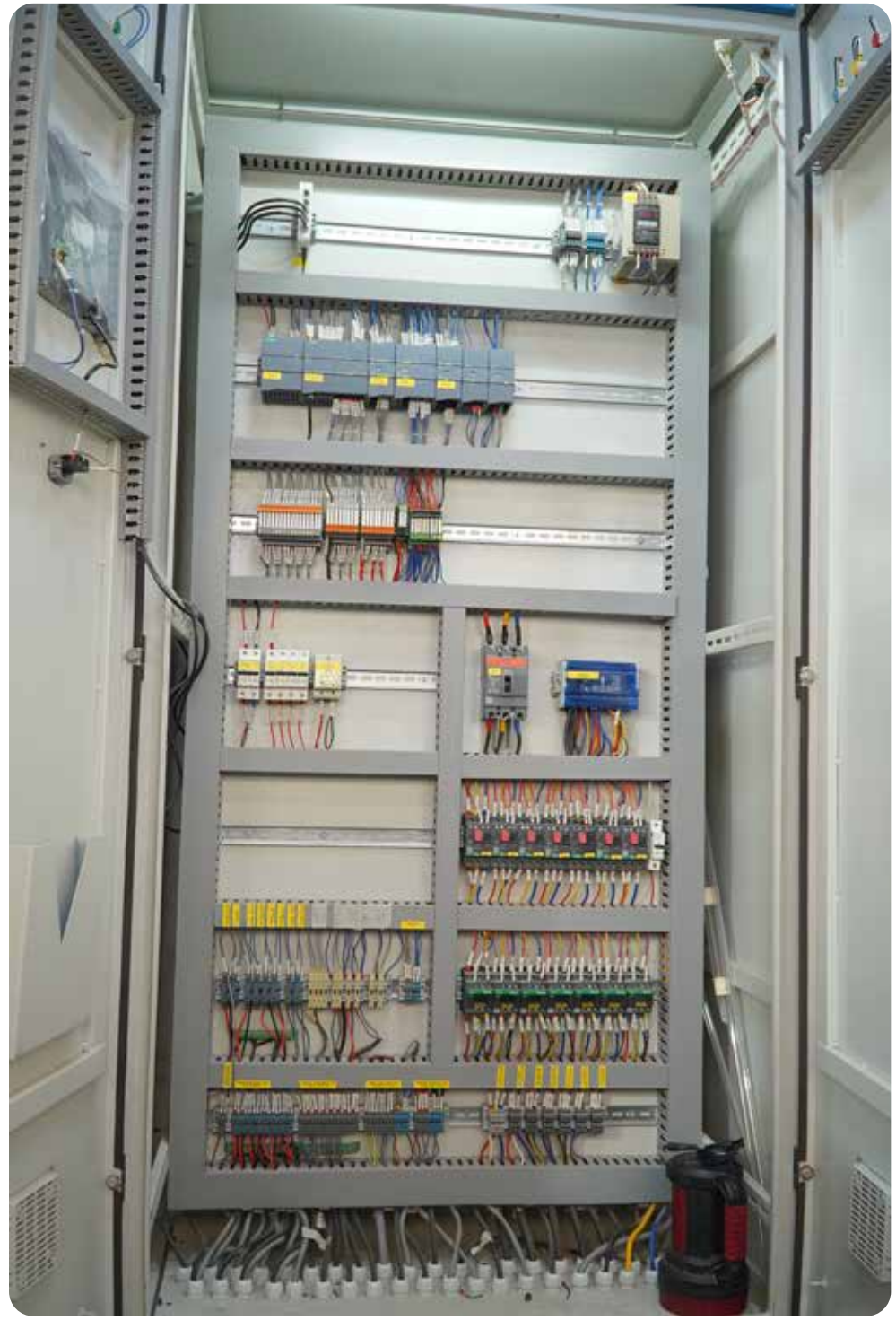
Power Usage: *20 kW, 3-phase supply*

BENEFITS:

Cost Reduction: *Minimizes fresh caustic soda purchases, lowering overall chemical expenses.*
Environmental Compliance: *Supports eco-friendly manufacturing by reducing alkaline waste discharge. Less sludge generation, improved ETP performance*
Rapid ROI: *Rapid ROI through cost savings and resource recover*
Enhanced Process Quality: *Contributes to sustainable and green textile production*

APPLICATIONS:

Textile mercerization units (woven fabrics, denim, and cotton) Recovery of caustic soda in the process and chemical industries Eco-friendly textile processing manufacturing systems



REFERENCES

ZAMAN TEXTILE	2025	10 TON
LUCKY TEXTILE MILL	2024	15 TON
SIDDIQUE SONS	2024	02 TON
NISHAT MILLS	2024	10 TON
MEKO DENIM	2023	05 TON
LUCKY TEX	2023	05 TON
UNION FABRIC	2022	10 TON
ZAMAN TEXTILE	2022	10 TON
UNI BRO	2022	03 TON
INDIGO TEXTILE	2021	12 TON
SHEKHANI INDUSTREIS	2020	05 TON
SOORTY NOORIABAD	2015	15 TON
RAJBY TEXTILE	2016	10 TON

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