

TOTAL SOLUTIONS IN SUGAR MILL



EVER WONDERED WHO IMPROVES THE PRODUCTIVITY
OF THE TOP SUGAR COMPANIES?

INNOVATION AND AMTECH

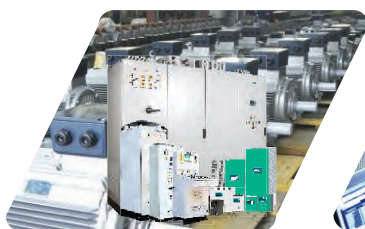
Amtech, for over 35 years, providing Total Solutions in motor control, automation, power quality & energy conservation and industrial electronics to its most discerning clients in the Sugar Industry. It sweetens their bottom line by improving production efficiency, downtime, operation costs and saving energy.



Applications

Sugar Centrifugal, Mill Drive, Cane Unloader, Feeder Table, Cane Carrier, Shredder, Rack Elevator, Bagasse Carrier, Raw Juice Pump, PAN Circulator, ID/FD Fan, Feed Pump, Central Monitoring/Controlling (SCADA/DCS)

Motor Control



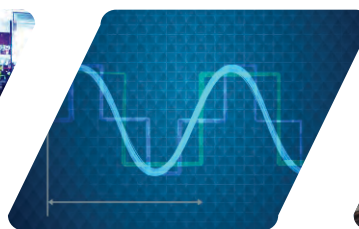
VFD, Soft Starter, MVD,
PCC, MCC, Engineered System

Automation



PLC, SCADA, HMI,
Control Desk

Power Quality & Energy Conservation



AHF, AFC, STATCON, APFC,
Harmonic & Energy Audit

Industrial Electronics



Wind & Traction Converters,
Power Electronics Products

Sugar Mill Automation Solution



Expert Automation system for Sugar mill's various applications uses VFD, PLC, SCADA and Touch screen HMI. Modular design of Automation system provides ease of operations, improvement in quality and production.

Mill Automation

- Auto Cane feed control system
- Cane Unloader
- Cane Feeder Table
- Cane Carrier, Rotating Knives, Fibrizers/Shredder
- Rake Carrier (Conveyor)
- Mill Drive control system
- Mill Chute level control system
- Mill Imbibition water flow control system
- Juice Flow stabilization control system

Boiling House Automation

- Juice heater temperature control system
- Juice & syrup sulphiter pH control System
- Evaporator level & brix control system
- Batch pan Automation control system
- Continuous pan automation system
- Brix & temp. control system for molasses conditioner & melter
- Continuous centrifugal machine-feed control system
- Batch type centrifugal machine

Power House Automation

- 3 Element Drum Level control system.
- Furnace Draft control system.
- Boiler Combustion & bagasse feeder control system.
- Boiler Deaerator Pressure and Level control system
- Boiler PRDS control system
- ID / FD / BFP

Why Amtech?

- Domain knowledge and experienced professionals help you from concept to realization
- Highly reliable components and design, increased availability
- Amtech's solution together with our technical expertise, improve your process in terms of Runnabiity, Efficiency & Quality
- Flexible solution gives easy up-gradation & expansion
- Open architecture design allows your drive systems to blend into your existing control strategy
- Reduces troubleshooting time
- Minimizes required system spares
- Cost effective 24x7 after sales and service support

Our Innovative Solutions

- Turnkey Sugar Plant Automation
- Cane Unloader - Hoist, Long Travel and Cross Travel
- Feeder Table Automation
- Cane Preparation Process Control
- Mill Drive Automation System
- Boiling House Automation
- Sugar Centrifuge Automation Technology (SCAT) for Batch Sugar Centrifuge Machine
- Retrofitting of DC Motor and Drive System to AC Motor and Drive System in Centrifuge Machine
- Boiler House Automation
- Sugar Automation
- Distillery Automation

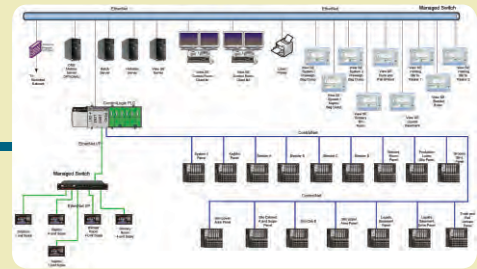
One Stop Solution for Sugar Plant Turnkey Projects



Motor Control Center (MCC) Panel

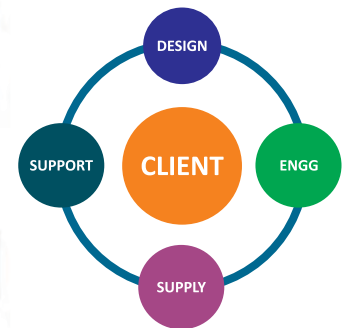
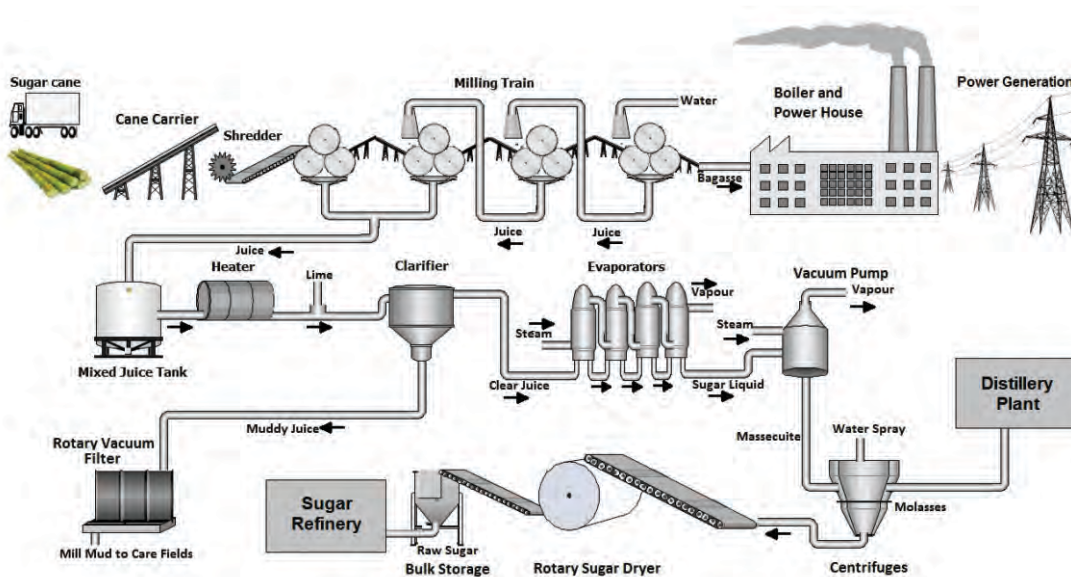


VFD Panels for Individual applications



Central Monitoring/Controlling

Amtech has leading edge with Efficient Products, Experience and Expertise for Sugar industries.



Our Services For Turnkey Solution

- Planning & Conceptual Design
- Design & Detailed Engineering Services
- Procurement Assistance
- Manufacturing
 - PLC based Panels
 - VFD Panels
 - Electrical & Control Panels
 - Power Control Centers(PCC)
 - Motor Control Centers(MCC)
 - Automatic Power Factor Control Systems
 - Relay & Metering Panels
 - Control desks & remote stations
- Automation system with VFD
- PLC, SCADA, HMI, Control desk & Remote desk
- VFD for standalone applications
- Services like, Panel Room Design, Cable schedule, Cabling, Earthing, Lighting
- PC based Data Acquisition System
- Installation & Commissioning
- System Service & Spare Support
- Annual Maintenance Contracts
- Training
- As-built project drawings / documentation
- System Integration Services
- Retrofitting, Up-gradation & Modernization of Control Systems for existing / Old Machinery & Plants



No matter green field or brown field, large or small, Amtech has the perfect solution for your mill drives. Starting from New Mill Drive, replacing steam turbines, Hydraulic system or DC motors, with AC motor & drive system, we provide the complete solution.

Features:

- Complete Automation system with ACFC (Auto Cane Feeding Control)
- High torque VFD which delivers more starting torque in constant control mode
- Smooth start/stop operation without any jerks
- Very low speed operation is possible
- Energy saving as the VFD consumes power based on the requirement and the steam saved can be utilize to generate the power
- Infra Red type donnelly chute level sensors & Hall's effect type cane blanket level and top roller lift sensors
- Precision motor load / pressure sensors
- Customized software is user friendly and the field and data inputs ensure constant loads on the mills at all times

Benefits:

- Assistance from concept to commissioning
- Increased Milling with the same equipment & Constant load on all mills
- Better extraction in mills increased the bagasse poll
- Constant steam / power consumption
- Continuous and Un-interrupted feeding reduces downtime
- Elimination of choking at preparatory devices, mills, chutes or carriers
- Maintained juice to imbibition water ratio increases evaporation efficiency
- Optimum mill speed with respect to load and level ensure good milling results at all times
- Effective water saving and cutting off water flow when crushing is stopped
- Constant juice flow for process ensures even loading in the boiling house and stabilizes and reduces the steam consumption which means higher boiling house efficiency and bagasse saving
- Minimized maintenance reduces the cost and provides more up time
- Quick and safe commissioning & Qualified after-sales service



Sugar Centrifuge Automated Technology



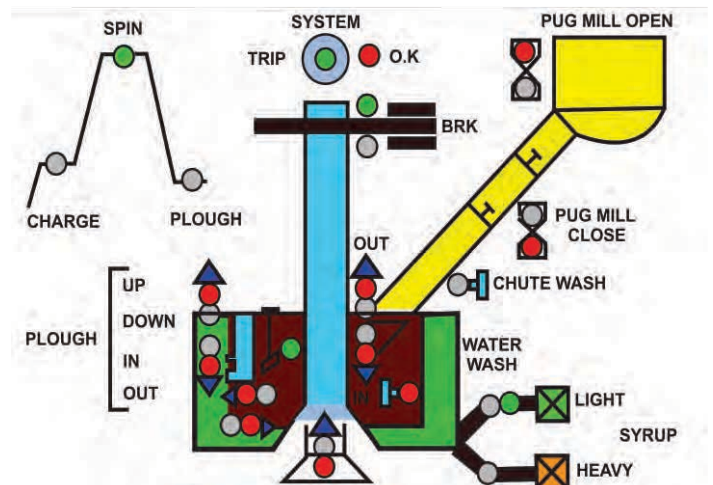
Amtech offers proven, smart solution of Sugar Centrifugal Regenerative Drive, having innovated Automation Package; consisting of regenerative variable frequency drive and intelligent process controller. This solution is ranging from 750 Kg to 2250 Kg, replacing of 2, 3 & 4 speed motor control, DC Motor & Drive system and synchronization of Multi Centrifugal.

Features:

- Factory-tested integration
- State-of-the-art engineered panel
- User-friendly touch screen HMI display
- Regenerative AC Drive
- Intelligent Process Controller
- Full motor protection
- Optimized production
- Synchronization with other centrifugal machines

Benefits:

- Higher throughput and cost savings
- Consistent batch cycle time provides increased productivity and consistent quality
- Eliminates inrush currents
- With its energy management system, recycles energy and reduces operating cost
- Smooth acceleration and deceleration reduces mechanical stress on machine, which increases life of mechanical parts
- Robust and long-lasting design requires little maintenance, can operate continuously throughout a campaign
- Efficient harmonic reduction technology gives minimum mains pollution on the line side. Thus, compensation and filter circuits are no longer needed.
- Improved power factor
- Compact footprint results in space savings
- Displays are provided on the HMI unit to assist with pinpointing any faults
- Short Payback Period with better productivity, reduced energy consumption and more uptime.
- Improved process flow and excellent value for money
- Qualified after-sales service by Amtech assistance



Feeder Table & ACFC (Cane Carrier / Rack Carrier) Automation



The new generation of control and monitoring system, developed by Amtech, integrates the operation of Feeder table & ACFC (Auto Cane Feeding Control) Automation using Variable Frequency Drive and Automation system with instrumentation for controlling and monitoring.

Features:

- Complete Automation system with ACFC
- Infrared type Donnelly Chute level sensors
- Hall's Effect type Cane blanket level and Top roller lift sensors
- Smooth start/stop operation without any jerks
- Very low speed operation is possible
- Possible motor reverse operation in critical situation
- Alarms for any electrical signals
- User friendly HMI with Mimic
- Upgradable solution to SCADA level
- Precision motor load / pressure sensors
- Customized software is user friendly and the field and data inputs ensure constant loads on the Mills at all times

Benefits:

- Assistance from concept to commissioning
- Substantial improvement in crush rate
- Damage due to choking/jamming at can preparatory device & 1st mill is totally eliminated
- 1st mill extraction is higher with maintained Constant levels in Donially chutes
- Fluctuating demand of steam pressure due to irregular feed to the uniform cane feed predetermined rate result in optimum primary extraction
- By substantial reduction of wear & tear, the down time reduces automatically and thus productivity improves
- Minimized maintenance reduces the cost and provides more up time
- Easy troubleshooting
- Quick and safe commissioning & Qualified after-sales service





Automation system, designed to improve throughput, gain in performance and efficiency of co-gen power plant in sugar mill. Load balancing algorithm facilitates continuously maintained steam generation and uniform steam flow. Draft fan speed algorithm facilitates excellent combustion conditions hence increased efficiency thus optimum boiler capacity utilization and reduced carbon footprint. Increased steam to fuel ratio hence fuel saving. Reduced thermal shocks hence longer life expectancy.

Features:

- De-aerator level and pressure control
- Three element control with drum pressure compensation
- Combustion control & Soot blower controls
- Load balancing of two or more boilers
- Fuel and ash handling control & Cooling tower control
- DM plant control & Hotwell control
- Steam and water analytical system
- Continuous blowdown level control
- Intermediate blowdown level control

Benefits:

- Assistance from concept to commissioning
- Improved Efficiency
- Improved steam to fuel ratio due to increase in FW (Feed Water) temperature and increase in boiler efficiency
- Optimum combustion reduces un-burnt fuel losses This is evident from: Decrease in oxygen and increase in carbon dioxide percentage in flue gas and at the same time reduction in excess air percentage, reduction in flue gas carbon monoxide percentage
- Reduction in excess air means optimum usage of fan drives and thus power saving
- Maintained steam drum level with pressure compensation ensures optimum steam generation while compensating for shrink and swell in the drum level
- Reduces thermal shocks and Improves life expectancy
- Improved Power Generation Efficiency

Our Other Offerings:

- Complete Digital Excitation Control & Protection Solutions for synchronous generators and motors
- Relay Solutions for Power System protection
- Digital and Analog Automatic Voltage Regulator



Partial Client List of Sugar Mills

Anamika Sugar	Atharv Sugar	Bajaj Hindusthan Sugar
Balrampur Chini	Bannari Amman	Baramati Agro
Bardoli Sugar	Birla Sugar	Chadha Sugar
Chhatrapati Sambhaji Raje Sakhar	Coromandel Sugar	Dalmia Bharat Sugar
Davangere Sugar	DCM Shriram	Dhampur Sugar
Dharani Sugar	Dollex Agrotech	Duarala Sugar
E.I.D. Parry	Eastern Sugar	Gangamai Industries
Gayatri Sugars	GM Sugar	Godavari Sugar
Haryana Co-Op Sugar	HPCL Biofuels	Jayshree Sugar
K C P Sugar	KM Sugar	Kothari Sugars
L. H. Sugar	Lakshmiji Sugar Mills	Madhucon Sugar
Mahakaushal Sugar	Maroli Sugar	Mekalsuta Sugar
Modi Sugar	Mylar Sugar	New Swadeshi Sugar
Nirani Sugar	Padmashree Dr. D. Y. Patil SSK	Parry Sugars Refinery
Piccadily Agro	Ponni Sugar	Punjab State Co-Op Sugar
Purna SSK	Rajshree Sugar	Riga Sugar
S.V. Sugar	Sakhti Sugar	Samrudhi Sugars
Saraswati Sugar	Satish Sugar	Shiraguppi Sugar
Shivshakti Sugar	Shree Chalthan V.K.U.S.M.	Shree Doodhaganga Krishna SSK
Shree Madhi Vibhag K.U.S.M.	Shree Mahuwa Pradesh S.K.U.M.	Shree Narmada K.U.S.M.
Shree Sai Baba Sugar	Shree Satpuda Tapi Parisar SSK	Shree Sayan Vibhag K.U.S.M.
Shreenath Mhskoba SSK	Shri Balaji Sugars	Simbhaoli Sugar
Sudalagunta Sugar	The Oudh Sugar	The Ugar Sugar
Tikaula Sugar	Trident Sugar	Triveni
United Provinces Sugar	UP Co-Operative Sugar	Vanshika Sugar
Vijayanagar Sugar	WAVE Industries	Yashwantrao Mohite Krishna SSK

Aryan Boiler	Avant GARDE	Bajaj Power
Creative Engineering	Envision Engineering	ISGEC
Kaybouvent	Meru Industries	Modern Engineering
Saisidha	Shraddha Energy	Shreeji Agro
Spray Engineers	SS Engineers	Thermax
Three Star Engineering	Thyssenkrupp	Ugar
Ulka	Uttam	VSI

Our Global Sugar customers are located in USA, South America, Belize, Puerto Rico, Kenya, Sudan, Uganda, Venezuela, Nepal etc...



AMTECH ELECTRONICS (INDIA) LTD.

DRIVE FOR SUCCESS

E-6, GIDC Electronics Zone, Gandhinagar - 382028, Gujarat, India.

Phone: +91-79-23289101, 23289102, 23289103 | Fax: +91-79-23289111

Email: info@amtechelectronics.com | Website: www.amtechelectronics.com

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