



RIDDHI CONTROL SYSTEM

PHARMACEUTICAL MACHINERY CONTROL PANEL

*with Integrated Pneumatic
System Options*



Push Button
Panels



VFD
Panels



PLC & HMI
Panels



RELIABLE
ENGINEERING



INTEGRATED
SOLUTIONS



QUALITY
ASSURED



AFTER SALES
SUPPORT

GMP Compliant | cGMP / IP55 Enclosures | SS304 / SS316 Options

Edition 2026



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About Us

Riddhi Control System, designs and manufactures control panels exclusively for pharmaceutical processing and packaging machinery — tablet compression machines, coating pans, granulators, blenders, capsule filling lines, liquid/ointment manufacturing plants, and packaging equipment.

Every panel is built to suit cGMP manufacturing environments, with washable, corrosion-resistant enclosures and layouts that support validation (Test Certificates & Wiring diagram) documentation required by pharmaceutical quality systems.

Compliance & Standards

- Designed to support cGMP / Schedule requirements for pharmaceutical machinery
- Enclosures available in SS304 / SS316 for cleanroom and washdown areas
- Panel wiring and documentation structured for wiring diagram, test certificate validation
- Electrical design as per IS/IEC standards; CE marking available for export
- ISO 9001:2015 certified manufacturing

Panel Construction Types: Flameproof & non-flameproof

Push Button, VFD, and PLC & HMI control panels are each available in two construction types, selected based on the hazardous area classification of the installation zone (e.g., solvent recovery areas, granulation with flammable solvents, coating areas using organic solvents).

1. Flameproof (FLP) Control Panel

Designed for installation in hazardous areas where flammable gases, vapours, or solvent fumes may be present (e.g., near ANFD, solvent recovery, coating pans using organic solvents). The enclosure is constructed to contain any internal spark or explosion and prevent it from igniting the surrounding atmosphere.

Parameter	Specification
Applicable Standard	IS/IEC 60079-1, PESO / CCOE certified
Area Classification	Zone 1 / Zone 2 (Gas Group IIA / IIB)
Enclosure Material	Cast aluminum / cast SS, flameproof glands
Cable Entry	Double-compression flameproof cable glands
Certifying Body	CMRI / ERTL / PESO-approved test house
Typical Use	Solvent recovery, ANFD, coating areas, ATEX zones



2. Non-Flameproof (Weatherproof / General Purpose) Control Panel

Standard construction used for all non-hazardous, general pharmaceutical production areas — tablet compression, blending, granulation (aqueous), packaging, and utility areas — where no flammable atmosphere is present.

Parameter	Specification
Applicable Standard	IS/IEC 60947, general electrical safety standards
Area Classification	Non-hazardous / safe area
Enclosure Material	SS304 / SS304L / powder-coated CRCA
Cable Entry	Standard SS cable glands with gasket
Degree of Protection	IP55 / IP65, washdown-rated
Typical Use	Tablet presses, blenders, packaging lines, utility panels



Choosing Between the Two

- Flameproof panels are mandatory wherever the machine operates in a classified hazardous zone with flammable solvent vapours
- Non-flameproof panels are suitable for all standard, non-hazardous pharmaceutical production and packaging areas
- Push Button, VFD, and PLC & HMI panels are all available in either construction — specify the area classification at the time of order
- Area classification (zone, gas group) should be confirmed by the plant's safety officer before ordering an FLP panel

Control Panel Range

Our standard range of control panels for pharmaceutical machinery is described below. All three panel types can be supplied with an integrated pneumatic control system where the parent machine uses pneumatically operated stations, cylinders, or valves (e.g., punch/die lubrication, coating spray guns, tablet deduster ejection, capsule locking stations).

1. Push Button Control Panel

A local, machine-mounted control station used for manual start/stop, jog, and emergency operation of pharmaceutical machinery such as tablet presses, blenders, granulators, and coating pans. Designed for quick operator access on the shop floor with minimal footprint.

Parameter	Specification
Rated Voltage	415V AC / 230V AC / 24V DC (control circuit)
Rated Current	Up to 32A per station
Enclosure Material	SS304 / SS304L, mirror or matte finish
Degree of Protection	IP55 / IP65, washdown-rated
Standard Stations	Start-Stop, Jog, Forward-Reverse, Emergency Stop
Indication	LED pilot lamps (Run / Trip / Power ON)
Mounting	Machine-mounted, pedestal, or wall-mounted



Key Features

- Crevice-free, radiused SS enclosure suited for washdown and fumigation areas
- Engraved legend plates for each function (Start / Stop / Reset / Jog)
- Interlocked emergency stop with mushroom-head, twist-to-release button
- Cable entry via SS cable glands, gasketed door for dust and moisture protection

Pneumatic System Integration Available: This panel can be supplied with an integrated pneumatic control system (FRL unit, solenoid valves, cylinders, and pressure switches) for pneumatically actuated operations, fully interlocked with the electrical control logic.

2. VFD Control Panel

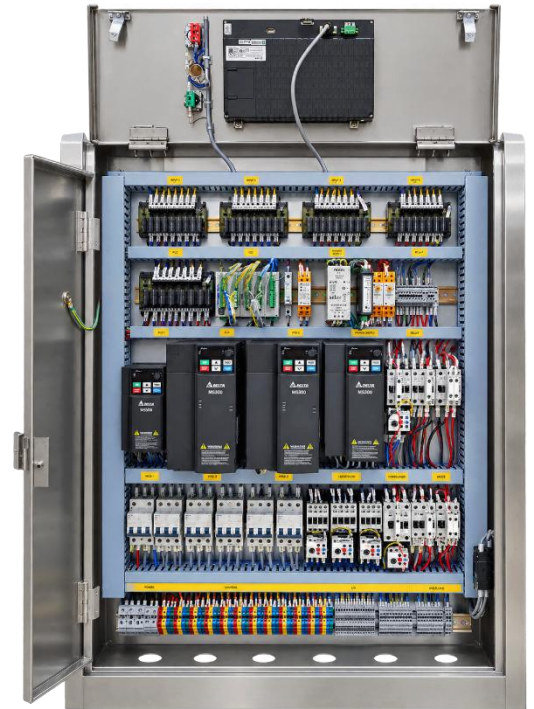
Houses a Variable Frequency Drive for stepless speed control of motors in pharmaceutical machinery — mixer/granulator agitators, tablet press turrets, coating pan drives, and conveyor/elevator systems — enabling precise, repeatable process speeds critical to batch consistency.

Parameter	Specification
Drive Rating	0.5 HP to 150 HP (higher on request)
Input Supply	415V AC, 3 Phase, 50 Hz
Output Frequency Range	0–400 Hz (application dependent)
Enclosure Material	SS304 / mild steel powder-coated (as specified)
Degree of Protection	IP54 / IP55
Control Modes	V/f, Sensor less Vector, Closed-Loop Vector
Communication	Modbus RTU, keypad/HMI local control

Key Features

- Precise speed control supports validated process parameters (RPM, torque)
- Isolated drive-cooling compartment to protect against heat and dust ingress
- Manual bypass (drive/bypass) contactor arrangement available
- Fault feedback and remote start/stop signals for batch record integration

Pneumatic System Integration Available: This panel can be supplied with an integrated pneumatic control system (FRL unit, solenoid valves, cylinders, and pressure switches) for pneumatically actuated operations, fully interlocked with the electrical control logic.



3. PLC & HMI Control Panel

An integrated automation panel combining a Programmable Logic Controller and Human Machine Interface for full process control, recipe management, and batch monitoring of pharmaceutical machinery, supporting 21 CFR Part 11-aligned data handling where required.

Parameter	Specification
Control Voltage	24V DC / 230V AC
PLC I/O Capacity	16 to 256 I/O points (scalable, modular racks)
HMI Display	7" to 15" colour touchscreen
Communication	Modbus RTU/TCP, Ethernet/IP, OPC-UA
Enclosure Material	SS304, IP55 / IP65 washdown-rated
Data Handling	Recipe storage, batch reports, audit trail (on request)
Power Backup	UPS-backed control supply, battery-backed PLC memory



Key Features

- Recipe-based operation for repeatable process parameters across batches
- Alarm annunciation, trend logging, and batch report export on HMI
- Password-protected access levels (Operator / Supervisor / Admin)
- SCADA / plant network integration and remote monitoring on request

Pneumatic System Integration Available: This panel can be supplied with an integrated pneumatic control system (FRL unit, solenoid valves, cylinders, and pressure switches) for pneumatically actuated operations, fully interlocked with the electrical control logic.

Pneumatic System Integration

All three control panel types above — Push Button, VFD, and PLC & HMI — can be supplied with an integrated pneumatic control system when the connected machinery uses pneumatically actuated parts. This is offered as an optional add-on module within the same panel or as a matched external pneumatic control station.

Component	Details
FRL Unit	Filter-Regulator-Lubricator for conditioned compressed air supply
Solenoid Valves	5/2 or 5/3 way, 24V DC / 230V AC coil, for cylinder actuation

Component	Details
Cylinders & Actuators	Pneumatic cylinders for punch lubrication, ejection, spray guns, locking stations
Pressure Switches	Low-pressure alarm interlock to the PLC/electrical control circuit
Piping & Fittings	SS/PU tubing with push-fit fittings, colour-coded for air lines
Interlocking	Pneumatic operations electrically interlocked with panel logic for safety

- Available on Push Button Panels for simple manual pneumatic actuation (single push-button-operated cylinder strokes)
- Available on VFD Panels where pneumatic stations run alongside variable-speed drives (e.g., coating pan spray-gun indexing)
- Available on PLC & HMI Panels for fully automated, recipe-driven pneumatic sequencing with HMI-based monitoring and fault diagnostics

How to Order

To request a quotation, please share the following details with our sales engineering team:

- Machine type and model the panel will control
- Panel type required: Push Button / VFD / PLC & HMI
- Construction required: Flameproof (specify zone & gas group) or non-flameproof
- Whether pneumatic system integration is required, and number of pneumatic stations
- Area classification (general area / cleanroom / washdown) and enclosure material preference
- Preferred make of components (PLC, HMI, VFD, drive, pneumatic valves)

Contact Us

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