



KINETICS CD 100

Chemical Dispense System-Standard Configuration

- Efficient—economical price, small footprint
- Flexible—configurable, to meet process & factory requirements
- Reliable—proven components and accessible layout

SYSTEM OVERVIEW

The Kinetics CD 100 Chemical Dispense System is a simple, low-cost chemical transfer or dispense system. The unit pumps liquid chemical from drum or IBC source containers and distributes throughout the factory to various wet process tools. The system is very configurable, to provide the specific levels of flow and purity that meet your tool and process requirements.

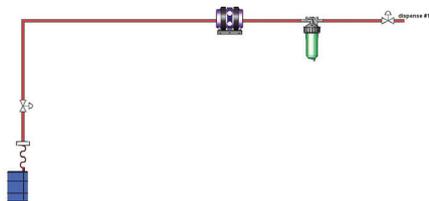
KEY FEATURES:

- Flow Rate configurations of 15, 30 and 50 liters per minute
- Use of integrated valve bodies for reduced footprint
- Polyethylene/polypropylene or fluoropolymer materials, depending on specific chemical and purity requirements
- Polypropylene cabinet for acids and caustics
- SS Cabinet for solvents
- DI/N₂ maintenance services for pumps and filters
- DIW spray gun

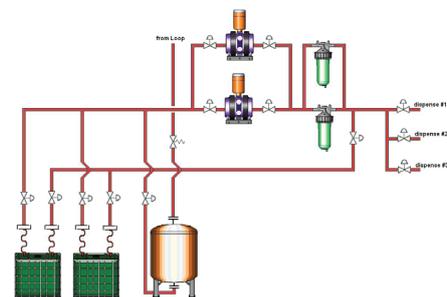
OPTIONS:

- Back-up pump for redundancy
- Pulsation dampeners, for improved filter performance
- Chemical filter housings (10" or 20"), with recirculation
- Day Tank, for buffer storage capacity
- Day tank recirculation, for low particle levels
- Fab-wide recirculation
- Cabinets for source drums and day tank (up to 500L)
- Up to 3 chemical outlet valves
- Additional day tank nozzle for bulk feed
- Pump stroke counter and leak detection
- Bar code reader

PROCESS FLOW DIAGRAMS



Configuration with source drum, single pump, single filter



Configuration with source IBC's, redundant pumps, day tank, parallel filters

RELIABILITY

- MTBF > 4500 Hours
- MTBA > 2500 Hours
- MTTR < 2 Hours
- Availability > 99.9%

TECHNICAL DATA

CONTROLS

- Allen-Bradley SLC 500 or Siemens series PLC
- Simple, push-button system controls
- Optional Allen-Bradley Panelview 550 or Siemens TP177B HMI, displaying:
 - System P&ID status
 - Alarm and warning screens
 - Distribution valve box status
 - Pump and filter runtime screens
 - Password-protected maintenance screens
 - Manual activation of valves and pumps
- Connectivity to factory control system

SAFETY FEATURES

- Segregated electrical and chemical compartments
- Local and remote EMO
- Cabinet leak detection
- Cabinet door interlocks
- Audible and visual warnings and alarms
- Transparent door panels for viewing
- Options for exhaust and high-flow sensors

SPECIFICATIONS

PARAMETER	CAPABILITY
Application	Acids, Bases, Solvents
Dispense Rate Configurations	15, 30 or 50 LPM, at 44 psi ¹ (3 barg)
Flow Path Configurations	¾", 1", or 1 ¼"
Cabinet Materials	Polypropylene for acids and bases, 304SS for solvents
Filter Housings	Optional 1 or 2, 10" or 20"
Day Tank Sizes	200L, 500L, 1000L
Source Containers	Single or Dual Drums (200L) or IBC's (1000L)
Footprint—Main Cabinet (WxDxH)	49" x 24" x 31" (1240mm x 600mm x 780mm)
Footprint—Control Box (WxDxH)	14" x 14" x 16" (350mm x 350mm x 400mm)
Footprint—Optional Filter Box (WxDxH)	21" x 24" x 31" (520mm x 600mm x 780mm)
Component Materials—Economy Set	<ul style="list-style-type: none"> • Polyethylene or PTFE valves • PE pumps and pulse dampeners (PTFE diaphragms) • PFA tubing and fittings • Polypropylene filter housings • HDPE or PE day tanks
Component Materials—Performance Set	<ul style="list-style-type: none"> • PFA or PTFE valves • PTFE pumps and pulse dampeners • PFA tubing and fittings • PFA filter housings • PFA or PTFE-lined day tanks

* Dispense Rate based on water; chemicals with higher viscosities will have lower flow performance.

FACILITY REQUIREMENTS

UTILITY	REQUIREMENT	CONNECTION TYPE
DI Water	Normal 2 GPM @ 55 psi, Peak 5 GPM @ 55 psi (Peak 20 LPM @ 4 barg)	½" PFA Flare
N ₂	2 SCFM @ 72 psi (5 barg) (3.5 Nm ³ /hr @ 6 barg)	½" SS Swagelok
CDA	15 SCFM @ 90 psi (26 Nm ³ /hr @ 6 barg)	¾" SS Swagelok
Exhaust	41 SCFM @ 2" H ₂ O (70 Nm ³ /hr @ 2" H ₂ O)	6" Pipe Flange
Cabinet Drain	Gravity	1" FNPT or DN15 butt weld, polypropylene
Power	100 to 240VAC, 50-60 Hertz, 15 amps	¾" Conduit