

ProMinent® Engineered Systems

ProMinent®

ProMinent offers a variety of pre-engineered, fabricated metering and control packages, as well as design and fabrication of custom systems.

Engineering services include process design, P&ID development, producing CAD drawings for layout, general arrangements, shop electrical drawings, as-builts, custom operation instructions and maintenance manuals.

Production capabilities include threaded, welded and thermal fusion joining systems for pipe; system assembly; wiring and equipment support and testing (with criteria for electrical, control, mechanical and aesthetic features).

Standard materials available for chemicals commonly used on wetted components are: 316 SS, Kynar (PVDF), Teflon (TFE), PVC, Polypropylene, and acrylic; common sealing materials are Teflon, Viton®, and EPDM. Materials such as Alloy 20, CPE, Hastelloy C-276 and virgin plastics are available upon request.

The system engineering services or applied products capabilities of ProMinent are offered in three areas:

- Custom Engineered Chemical Metering and Control Systems
- Standard Chemical Metering Packages
- Prototype Development

All system packages are fully assembled and tested prior to shipment. Each piece of equipment is checked for hydrostatic functionality and aesthetic qualities – guaranteed!

Custom Engineered Chemical Metering and Control System

Clients requiring adherence to plant specifications require a custom approach to meet standards while still providing an effective and economical chemical delivery system. ProMinent provides engineering services to customer specification and also offers commissioning and on-site operator training services.

Standard Chemical Metering Packages

ProMinent provides proprietary manufacturing and minimal stocking (subject to blanket orders) of customer specific chemical metering and control packages.

Standard packages include:

- Single and dual dosing units for capacities up to 20 gph (75 L/h) (S1, S2)
- Single and dual dosing units for capacities up to 208 gph (787 L/h) (M1, M2)
- Monitoring packages for either one or two controllers - including sample line sensor, analyzer, controller and customer interface block (PCM)



Standard single dosing unit (S-1) with a gamma/L metering pump mounted on a UV protected Polyethylene (PE) stand.

A 0-5 gpm liquid polymer makedown system (P Series) is also available.

Prototype Development

Specialized chemical feed and control prototype development services for commercialization are available and subject to a confidentiality agreement.



Custom engineered chemical metering and control systems ensure plant specifications and industry standards are met.

CUSTOM SYSTEM REQUIREMENTS

SECTION 1: General Quote Information

1.1	Sales Person	_____
1.2	Company / Contact Name	_____
1.3	Project Name	_____
1.4	Date Quote Required	_____
1.5	Drawing for Approval Required	<input type="checkbox"/> Yes <input type="checkbox"/> No

SECTION 2: Chemical

2.1	Process Fluid / Chemical	_____
2.2	Working Temperature (min./max.)	_____
2.3	Concentration (%)	_____
2.4	Solids Content (%)	_____
2.5	Viscosity (cP)	_____
2.6	Class Designation (Class, Division, Group)	_____

SECTION 3: Metering Pump

3.1	Desired Capacity (min./max.)	_____ gph	_____ l/h
3.2	Backpressure (min./max.)	_____ psig	_____ bar
3.3	Suction Lift	_____ ft.	_____ m
3.4	Length of Suction Line	_____ ft.	_____ m
3.5	Discharge Head	_____ ft.	_____ m
3.6	Length of Discharge Line	_____ ft.	_____ m
3.7	Suggested Liquid End Material	<input type="checkbox"/> PVC <input type="checkbox"/> PP <input type="checkbox"/> NP <input type="checkbox"/> PTFE <input type="checkbox"/> 316 SS <input type="checkbox"/> PVDF	
3.7.1	Suggested Liquid End Seal	<input type="checkbox"/> EPDM <input type="checkbox"/> VITON® <input type="checkbox"/> PTFE	
3.7.2	Auto-degassing Liquid End Required (Y/N)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3.8	Backup Pump Required (Y/N)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3.9	Pump Control	<input type="checkbox"/> Pulse <input type="checkbox"/> 4-20 mA <input type="checkbox"/> Manual	

SECTION 4: Skid / Chemical Tanks

4.1	Skid Material	<input type="checkbox"/> CS <input type="checkbox"/> FRP <input type="checkbox"/> 304 SS <input type="checkbox"/> PP <input type="checkbox"/> PE
4.2	Skid Size (max.)	Width: _____ Length: _____ Height: _____
4.3	Required Skid Inlet / Outlet Connection	<input type="checkbox"/> NPT <input type="checkbox"/> Hose Barb <input type="checkbox"/> Flange
4.4	Suggested Pipeline Material	<input type="checkbox"/> PVC <input type="checkbox"/> 316 SS <input type="checkbox"/> CS <input type="checkbox"/> PVDF <input type="checkbox"/> PP <input type="checkbox"/> CPVC <input type="checkbox"/> Other
4.5	Required Tank Capacity	_____
4.6	Tank Size (max. dia., max. height)	_____
4.7	Suggested Tank Material	<input type="checkbox"/> LDPE <input type="checkbox"/> HDPE <input type="checkbox"/> XPE <input type="checkbox"/> CS <input type="checkbox"/> 304 SS
4.8	Tank Mounted on Skid	<input type="checkbox"/> Yes <input type="checkbox"/> No

NOTE: 1. Please indicate required Tank Fittings on attached process sketch.
 2. Please provide simple sketch of process

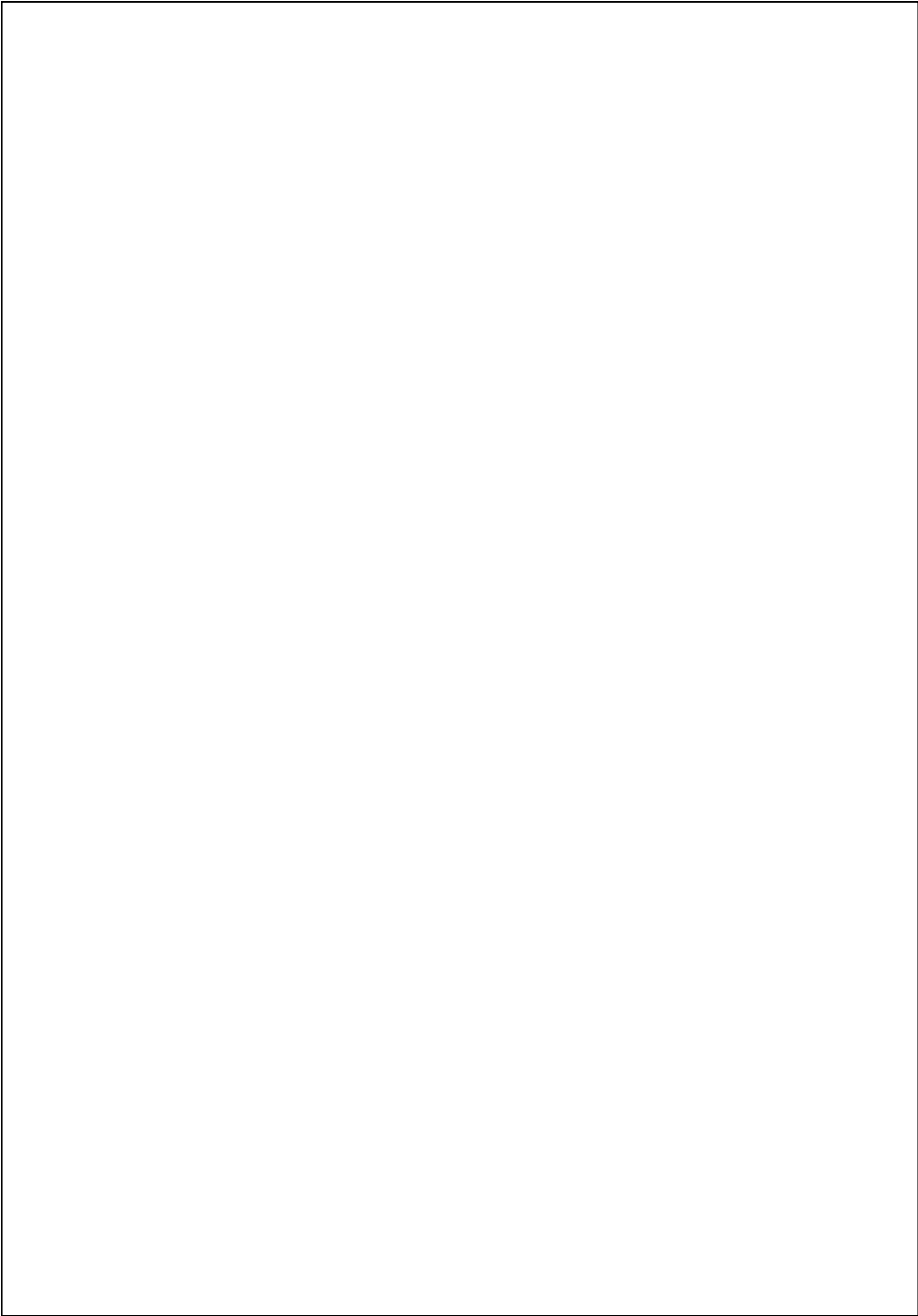
SECTION 5: Electrical

5.1	Available Power Supply	_____ VAC	_____ Hz	_____ Phase
5.2	<input type="checkbox"/> Duplex Receptacle <input type="checkbox"/> Interface Panel <input type="checkbox"/> Power Panel <input type="checkbox"/> Control Panel			
5.3	Junction Box / Control Panel Mounted on Skid	<input type="checkbox"/> Yes <input type="checkbox"/> No		

NOTE: Please attach detail description of Control Panel if required.

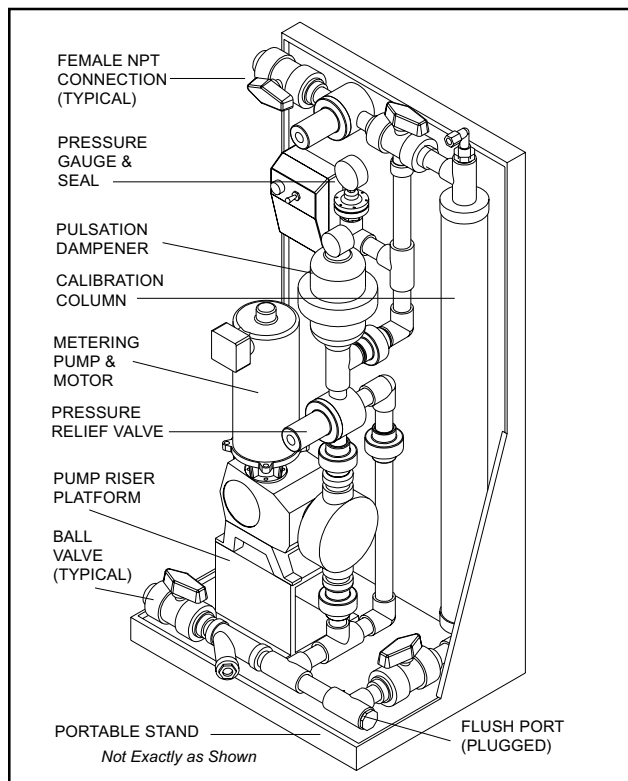
SECTION 6: Other comments: _____

SKETCH OF PROCESS



Single Metering Pump Dosing Package (to 208 gph, 787 L/h)

M1 Series



FEATURES

- This self-contained package with integrated calibration column is portable with easy pump hook-up. It is ideal for chemical trials and for permanent or emergency chemical injection.
- Suitable for ProMinent Vario, Sigma and Meta chemical metering pumps with capacities up to 208 gph (787 L/h).
- Polished Stainless Steel (SS), or UV protected Polypropylene (PP) and Polyethylene (PE) stand (as required), provides superior chemical resistance and durability. Stands are available in compact or full size.
- Available with Schedule 40, 316 SS or Schedule 80, PVC, PVDF, PP or CPVC piping materials.

DESIGN SPECIFICATIONS

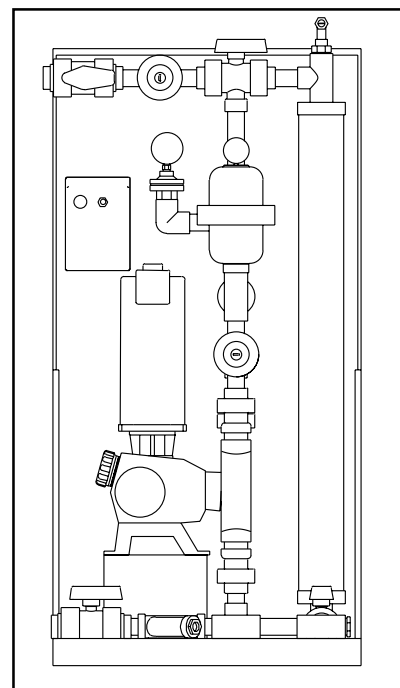
The system shall be a corrosion-resistant, completely self-contained package with chemical metering pump, and all necessary piping and fittings including pressure relief valve and diaphragm-isolated pressure gauge, assembled and tested by the chemical metering pump manufacturer. The chemical metering pump, all piping, fittings and accessories (as specified) shall be mounted on a stainless steel, PP or PE stand. The chemical metering pump shall be motor-driven, positive displacement. ProMinent Vario, Sigma or Meta metering pumps will be used as required.

Piping Materials: 316 SS, PVC, PVDF, PP, or CPVC

Inlet/Outlet/Flush Ports: 1/2", 3/4", or 1" FNPT

Dimensions:

SS Compact:	30" H x 24" W x 16.5" D
	(76 cm H x 61 cm W x 42 cm D)
SS Full size:	46.5" H x 24" W x 16.5" D
	(118 cm H x 61 cm W x 42 cm D)
PP Compact:	30" H x 24" W x 18" D
	(76 cm H x 61 cm W x 46 cm D)
PP Full size:	48" H x 24" W x 18" D
	(122 cm H x 61 cm W x 46 cm D)



Shown with self-filling calibration option, pulsation dampener, y-strainer and local motor controller

Technology that sets new standards... Worldwide!

M1 PACKAGE CONFIGURATIONS

M1	A	1	0	0	0	0	0	0	0	0
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Series: Motor-Driven Single Pump Package (for Vario, Sigma, and Meta Chemical Metering Pumps)

Pipeline Size	
A	1/2"
B	3/4"
C	1"

Stand Assembly Type	
1*	Compact SS (30"x24"x16.5)
2	Full size SS: (46.5"x24"x16.5")
3*	Compact PP or PE: (30"x24"x18") UV protected, black
4	Full size PP or PE: (48"x24"x18"), UV protected, black
S	Special Order

Ball Valve & Piping Assembly Type with PRV†				
	Valve	Seat/Seal	Piping	Connection
0	None	None	None	None
1	PVC	EPDM	PVC	Socket weld
2	PVC	EPDM	PVC	Threaded
3	PVC	Viton®	PVC	Socket weld
4	PVC	Viton®	PVC	Threaded
5	SS	PTFE	SS	Threaded
6	PVDF	Viton®	PVDF	Fusion weld
7	PP	EPDM	PP	Fusion weld
8	PP	Viton®	PP	Fusion weld
9	CPVC	Viton®	CPVC	Socket weld
S	Special Order			

* Consult factory before specifying a compact sized stand.
† PRV (pressure relief valve).
** Pressure gauge and isolator are recommended when specifying a pulsation dampener and/or backpressure valve.
*** Must order a full size stand when purchasing this option.
Viton® and HYPALON® are registered trademarks of Dupont Dow Elastomers.

Calibration Column			
0	None		
1	2000 mL PVC		
2	2000 mL PP		
3	2000 mL SS/glass		
4	2000 mL PVDF/glass		
5	4000 mL PVC		
6	4000 mL PP		
7	4000 mL SS/glass		
8	4000 mL PVDF/glass		
S	Special Order		

***Self Filling Calibration Option			
	Valve	Seat/Seal	Piping
0	None	None	None
1	PVC	EPDM	PVC
2	PVC	Viton®	PVC
3	SS	PTFE	SS
4	PVDF	Viton®	PVDF
5	PP	EPDM	PP
6	PP	Viton®	PP
7	CPVC	Viton®	CPVC
S	Special Order		

Backpressure Valve	
0	None
1	PVC
2	PP
3	PVDF
4	SS
5	CPVC
S	Special Order

***Y-Type Sediment Strainer	
0	None
1	PVC
2	SS
3	PP
4	CPVC
S	Special Order

***Pulsation Dampener			
		mL	cu. in.
0	None		
1	PVC/Viton®	1393	85
2	SS/PTFE	1150	70
3	PVDF/PTFE	1150	70
4	PP/EPDM	1393	85
5	PVC/Viton®	2868	175
6	SS/PTFE	2048	125
7	PVDF/PTFE	2048	125
8	PP/EPDM	2868	175
9	PVC/HYPALON®	1393	85
A	PVC/HYPALON®	2868	175
S	Special Order		

Pressure Gauge**	
0	None
1	2" SS w/ PVDF isolator
2	2" SS w/ PVC isolator
3	2" SS w/ SS isolator
4	2" SS w/ PP isolator
5	2" gauge only (w/o isolator)
6	2" SS w/CPVC isolator
S	Special Order

***Flow Monitor	
0	None
1	Type III, PVC, w/bypass Assy.
2	Type III, PP, w/bypass Assy.
3	SS flow sensor w/flow monitor
S	Special Order
Options 1 & 2 are for control version pumps only	

M	1										
PACKAGE		PUMP		TOTAL							
\$		+	\$		=		\$				

MATERIALS SPECIFICATION

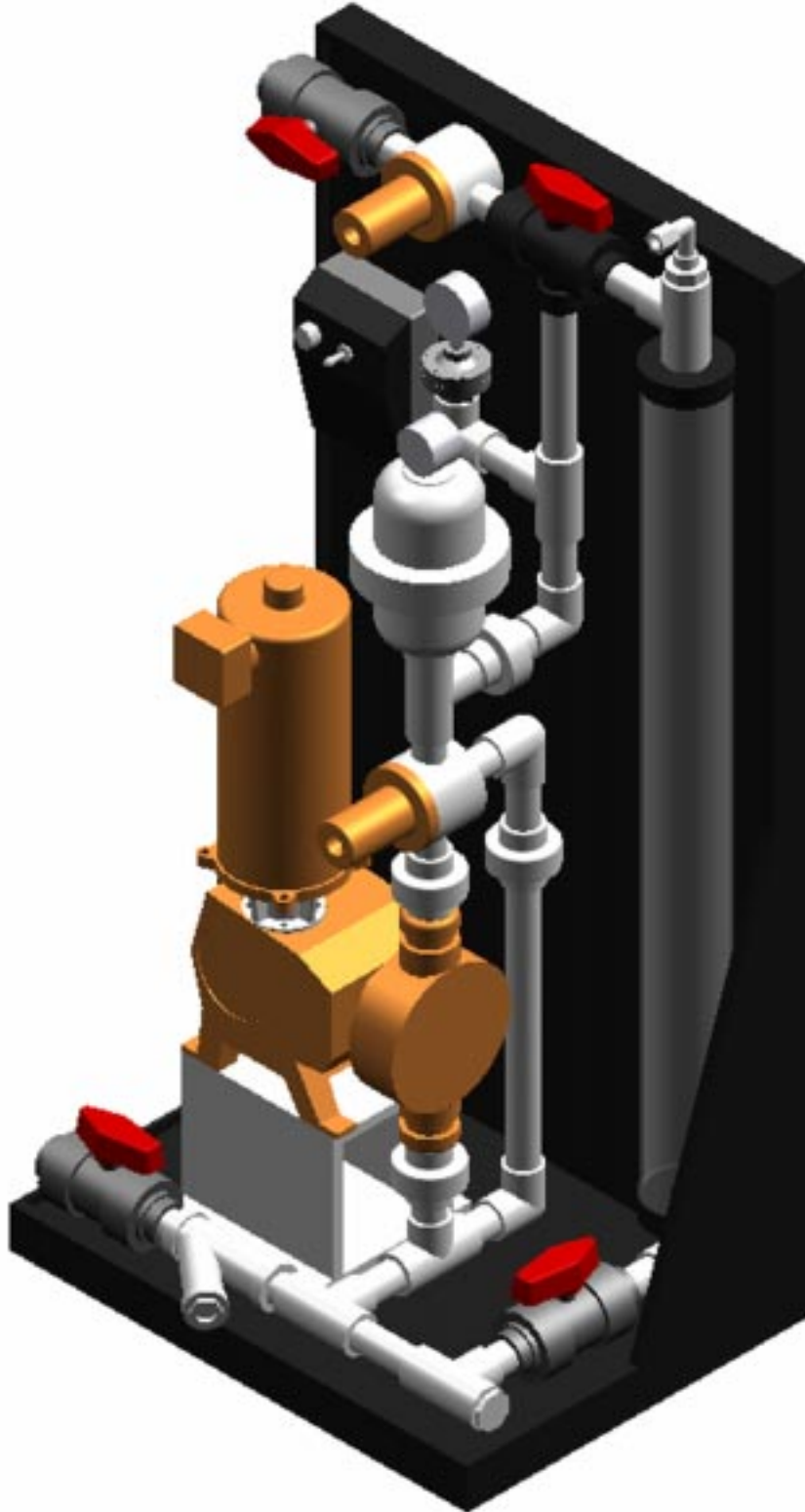
Ball Valves, PVC	True union design, threaded or socketweld PVC. EPDM or Viton® seals.
Ball Valves, SS	Threaded 316 SS. PTFE seals.
Ball Valves, PVDF	True union design, fusion weld PVDF, Viton® seals
Ball Valves, PP	True union design, fusion weld PP, EPDM or Viton® seals
Ball Valves, CPVC	True union design, socket weld CPVC, Viton® seals, vented balls††.
Calibration Columns, PVC	2000 mL, 10 mL grad., 1" FNPT 4000 mL, 10 mL grad., 1" FNPT
Calibration Columns, PP	2000 mL, 20 mL grad., 1" FNPT 4000 mL, 50 mL grad., 1" FNPT
Calibration Columns, PVDF/glass	2000 mL, 10 mL grad., 1" FNPT 4000 mL, 10 mL grad., 1" FNPT
Calibration Columns, SS/glass	2000 mL, 10 mL grad., 1" FNPT 4000 mL, 10 mL grad., 1" FNPT

L-shaped Stand, SS	304 SS, 12 gauge, #4 finish
L-shaped Stand, PP or PE	Polypropylene or Polyethylene UV protected, black.
Pipe & Fittings, PVC	Socketweld and/or threaded, Schedule 80
Pipe & Fittings, SS	Threaded. Schedule 40 316 SS Pipe; 150# 316 SS Fittings
Pipe & Fittings, PVDF	Fusion weld, Schedule 80
Pipe and Fittings, PP	Fusion weld, Schedule 80
Pipe and Fittings, CPVC	Socket weld, Schedule 80

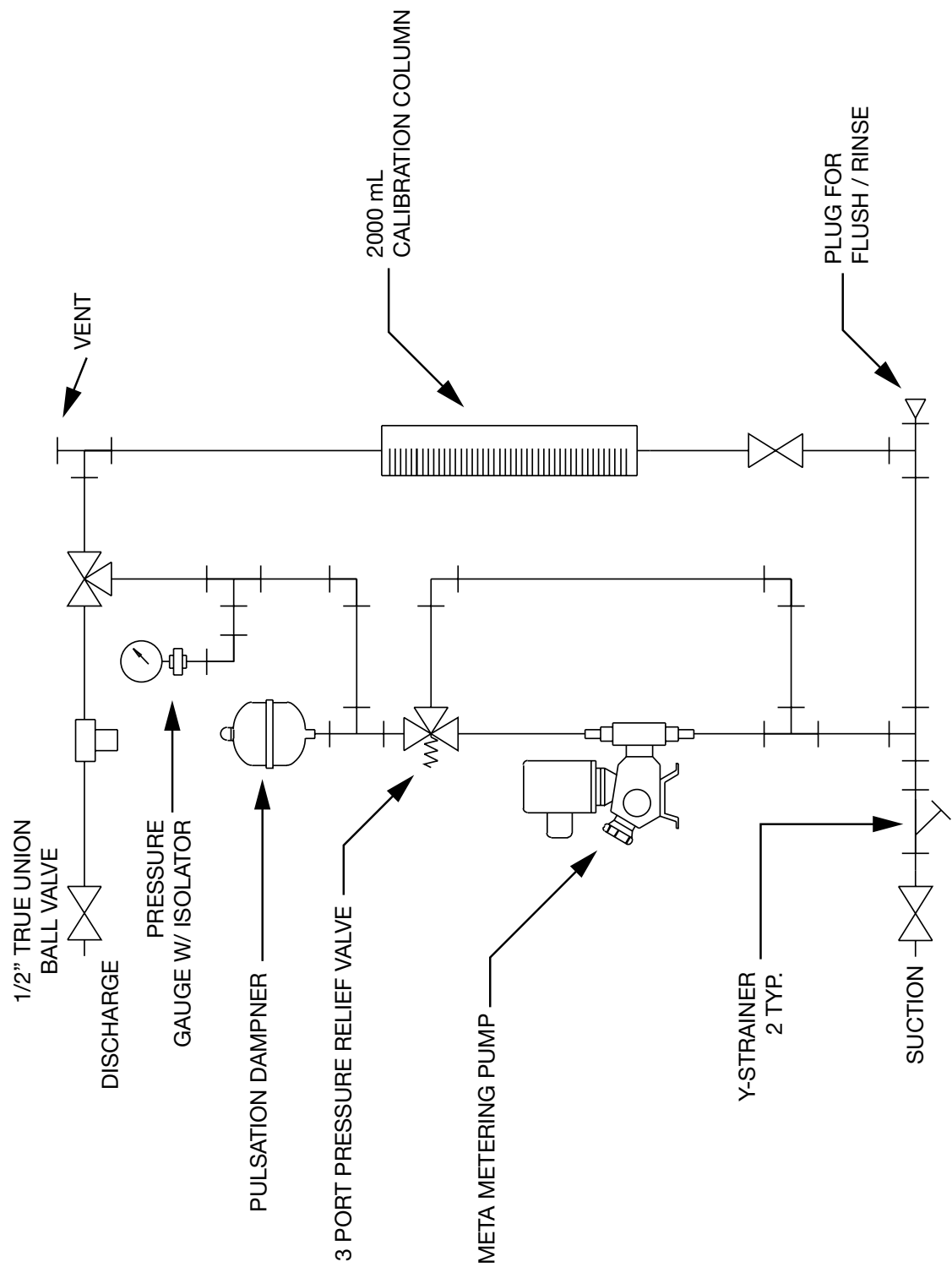
†† Vented Balls for Sodium Hypochlorite use.
Specifications and prices are subject to change without notice.
Contact your ProMinent representative for the latest information.

Single Metering Pump Dosing Package (to 208 gph, 787 L/h)

**M1
Series**



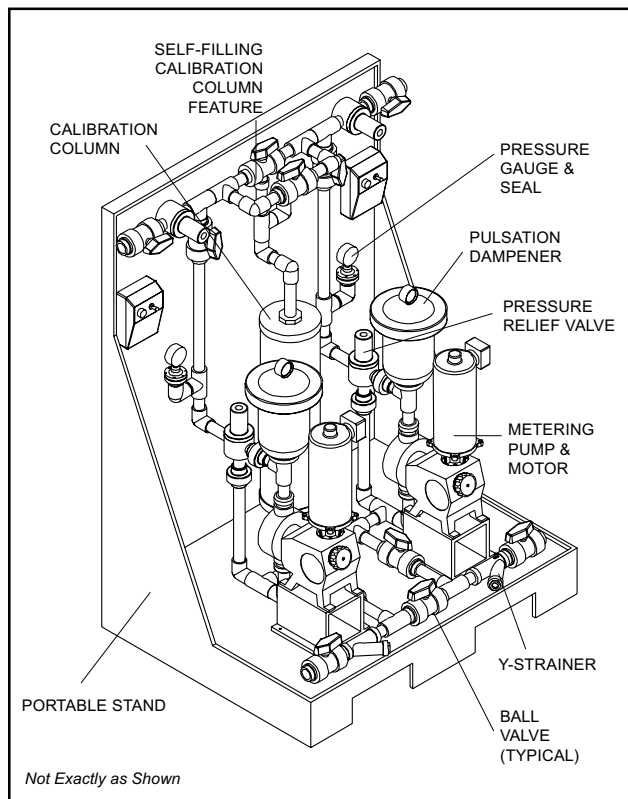
M1 TYPICAL PIPING SCHEMATIC



Dual Metering Pump Dosing Package (to 208 gph, 787 L/h)

M2 Series

FEATURES



- This self-contained package with integrated calibration column is portable with easy pump hook-up. It is ideal for chemical trials and for permanent or emergency chemical injection.
- Dual chemical metering pumps offer exceptional convenience --- reliable backup minimizes costly downtime, designed for easy maintenance.
- Provided with convenient dual isolated suction and discharge terminations.
- Suitable for ProMinent Vario, Sigma and Meta chemical metering pumps with capacities up to 208 gph (787 L/h) per pump.
- Polished Stainless Steel (SS), or UV protected Polypropylene (PP) and Polyethylene (PE) stand (as required), provides superior chemical resistance and durability.
- Available with Schedule 40, 316 SS or Schedule 80, PVC, PP, PVDF, or CPVC piping materials.

DESIGN SPECIFICATIONS

The system shall be a corrosion-resistant, completely self-contained package with dual chemical metering pumps, and all necessary piping and fittings including pressure relief valve and diaphragm-isolated pressure gauge, assembled and tested by the chemical metering pump manufacturer. The chemical metering pumps, all piping, fittings and accessories (as specified) shall be mounted on a stainless steel, PP or PE stand. The chemical metering pumps shall be motor-driven and positive displacement. ProMinent Vario, Sigma or Meta metering pumps will be used as required.

Piping Materials:	316 SS, PVC, PVDF, PP, or CPVC
Inlet/Outlet/Flush Ports:	1/2", 3/4", or 1" FNPT
Maximum Dimensions:	PP: 60" H x 44" W x 34 1/2" D 152 cm H x 112 cm W x 87.5 cm D
	SS: 58" H x 36" W x 27" D 149 cm H x 91 cm W x 69 cm D

M2 PACKAGE CONFIGURATIONS

M2	A	1	0	0	0	0	0	0	0	0
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Series: Motor-Driven Dual Pump Package (for Vario, Sigma, and Meta Chemical Metering Pumps)

Pipeline Size	
A	1/2"
B	3/4"
C	1"

Stand Assembly Type	
1	SS (58"x36"x27")
2	PP or PE (60"x44"x34.5"), UV protected, black
S	Special Order

Ball Valve & Piping Assembly Type with PRV*				
	Valve	Seat/Seal	Piping	Connection
0	None	None	None	None
1	PVC	EPDM	PVC	Socket weld
2	PVC	EPDM	PVC	Threaded
3	PVC	Viton®	PVC	Socket weld
4	PVC	Viton®	PVC	Threaded
5	SS	PTFE	SS	Threaded
6	PVDF	Viton®	PVDF	Fusion weld
7	PP	EPDM	PP	Fusion weld
8	PP	Viton®	PP	Fusion weld
9	CPVC	Viton®	CPVC	Socket weld
S	Special Order			

Calibration Column	
0	None
1	2000 mL PVC
2	2000 mL PP
3	2000 mL SS/glass
4	2000 mL PVDF/glass
5	4000 mL PVC
6	4000 mL PP
7	4000 mL SS/glass
8	4000 mL PVDF/glass
S	Special Order

Self Filling Calibration Option			
	Valve	Seat/Seal	Piping
0	None	None	None
1	PVC	EPDM	PVC
2	PVC	Viton®	PVC
3	SS	PTFE	SS
4	PVDF	Viton®	PVDF
5	PP	EPDM	PP
6	PP	Viton®	PP
7	CPVC	Viton®	CPVC
S	Special Order		

†† Backpressure Valve	
0	None
1	PVC
2	PP
3	PVDF
4	SS
5	CPVC
S	Special Order

Y-Type Sediment Strainer	
0	None
1	PVC
2	SS
3	PP
4	CPVC
S	Special Order

†† Pulsation Dampener		
	mL	cu. in.
0	None	
1	PVC/Viton®	1393 85
2	SS/PTFE	1150 70
3	PVDF/PTFE	1150 70
4	PP/EPDM	1393 85
5	PVC/Viton®	2868 175
6	SS/PTFE	2048 125
7	PVDF/PTFE	2048 125
8	PP/EPDM	2868 175
9	PVC/HYPALON®	1393 85
A	PVC/HYPALON®	2868 175
S	Special Order	

†† Pressure Gauge**	
0	None
1	2" SS w/ PVDF isolator
2	2" SS w/ PVC isolator
3	2" SS w/ SS isolator
4	2" SS w/ PP isolator
5	2" gauge only (w/o isolator)
6	2" SS w/CPVC isolator
S	Special Order

†† Flow Monitor	
0	None
1	Type III, PVC, w/bypass Assy.
2	Type III, PP, w/bypass Assy.
3	SS flow sensor w/flow monitor
S	Special Order
Options 1 & 2 are for control version pumps only	

* PRV (pressure relief valve).
 †† These options include two items per system.
 ** Pressure gauge and isolator are recommended when specifying a pulsation dampener and/or backpressure valve.
 Viton® and HYPALON® are registered trademarks of Dupont Dow Elastomers.

M	2									
PACKAGE		PUMP		TOTAL						
\$		+	\$		=		\$			

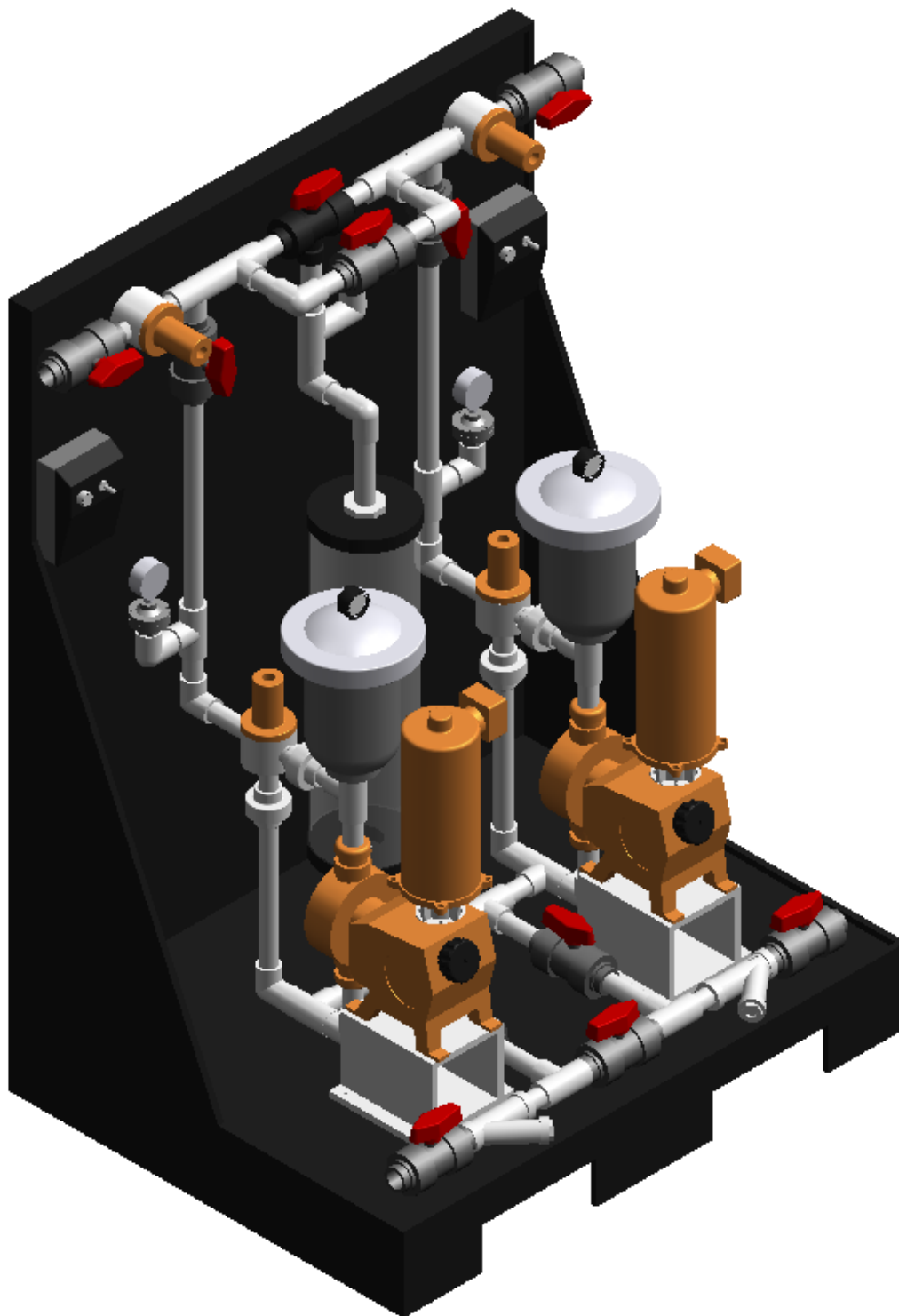
MATERIALS SPECIFICATION

Ball Valves, PVC	True union design, threaded or socketweld PVC. EPDM or Viton® seals.	L-shaped Stand, SS	304 SS, 12 gauge, #4 finish
Ball Valves, SS	Threaded 316 SS. PTFE seals.	L-shaped Stand, PP or PE	Polypropylene or Polyethylene, UV protected, black.
Ball Valves, PVDF	True union design, fusion weld PVDF, Viton® seals	Pipe & Fittings, PVC	Socketweld and/or threaded, Schedule 80
Ball Valves, PP	True union design, fusion weld PP, EPDM or Viton® seals	Pipe & Fittings, SS	Threaded. Schedule 40 316 SS Pipe; 150# 316 SS Fittings
Ball Valves, CPVC	True union design, socket weld CPVC, Viton® seals, vented balls†.	Pipe & Fittings, PVDF	Fusion weld, Schedule 80
Calibration Columns, PVC	2000 mL, 10 mL grad., 1" FNPT 4000 mL, 10 mL grad., 1" FNPT	Pipe and Fittings, PP	Fusion weld, Schedule 80
Calibration Columns, PP	2000 mL, 20 mL grad., 1" FNPT 4000 mL, 50 mL grad., 1" FNPT	Pipe and Fittings, CPVC	Socket weld, Schedule 80
Calibration Columns, PVDF/glass	2000 mL, 10 mL grad., 1" FNPT 4000 mL, 10 mL grad., 1" FNPT		
Calibration Columns, SS/glass	2000 mL, 10 mL grad., 1" FNPT 4000 mL, 10 mL grad., 1" FNPT		

† Vented Balls for Sodium Hypochlorite use.
 Specifications and prices are subject to change without notice.
 Contact your ProMinent representative for the latest information.

Dual Metering Pump Dosing Package (to 208 gph, 787 L/h)

**M2
Series**



M2 TYPICAL PIPING SCHEMATIC

