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Calibration Columns

CHEMLINE PLASTICS
SUPERIOR FLOW SOLUTIONS

Chemline **CC Series** Calibration Columns have been developed for the accurate calibration of metering pumps.

PVC Tube

PVC Ends

NSF Certified to NSF/ANSI 61

SERIES: CCA-X

CAPACITIES: Up to 20,000 ml[1]

CONNECTIONS: 1/2", 1" and 2"[2]

MATERIALS: Clear PVC tube, PVC ends[3]

[1] ml and GPH (water) scale is supplied as standard
[2] For other end connectors, consult Chemline
[3] Other clear tube materials and configurations are available upon request

features

Clear Visual Indication

Easy Installation and Maintenance

Ideal for All Types of Plastic Piping

- All types of end connections for rigid plastic pipe or PFA tubing
- **Maximum Temperature:** 60C (140°F)
- **Maximum Pressure:** 16 psig

X-Style:

- 1 = Bottom threaded connection only
- 2 = Top/Bottom threaded connections
- 3 = Bottom threaded connection complete with removeable vented dust cap
- 4 = Top/bottom threaded connection complete with removable o-ring seal top and float ring indicator

Optional Features

- End cap connections of BSP Thread, ASTM or DIN Socket and ANSI, DIN or JIS Flange
- Highly visible float for CC1 and CC3 products

Top Connection Styles

CCA1

CCA2

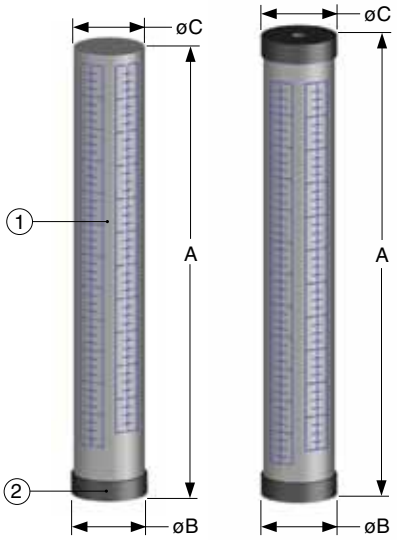
CCA3

CCA4

CC Series Calibration Columns

DIMENSIONS INCHES

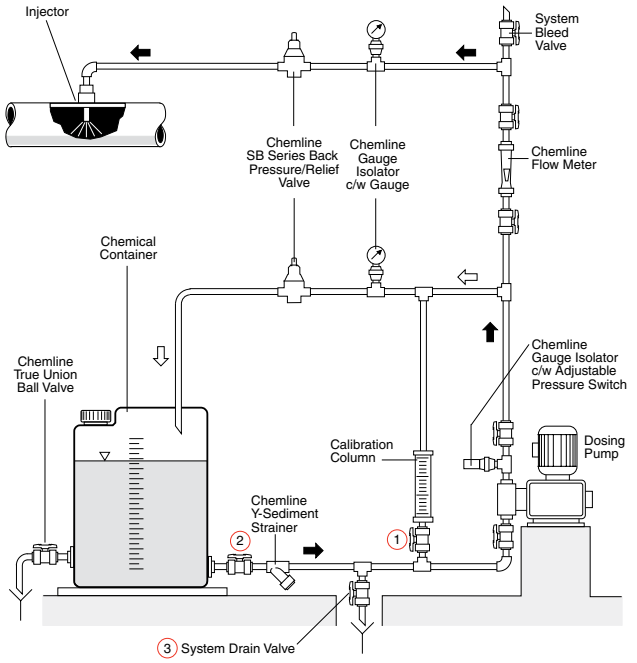
Size	Item No.	Capacity ml	Capacity USGPH	øB	A Style 1	A Style 2,4	A Style 3	øC Style 1	øC Style 2,3,4
1/2"	CCA2-100-005T	100	1.6	1.4	10.2	10.50	10.7	1.1	1.4
	CCA2-250-005T	250	4.0	1.9	11.0	11.25	11.5	1.6	1.9
	CCA2-500-005T	500	8.0	2.4	12.2	12.50	12.7	2.1	2.4
	CCA2-1000-005T	1,000	16.0	2.8	16.2	16.50	16.8	2.5	2.8
1"	CCA2-2000-010T	2,000	32.0	3.5	20.2	20.50	20.7	3.1	3.5
	CCA2-4000-010T	4,000	64.0	4.5	22.2	22.50	22.7	4.1	4.5
2"	CCA2-10000-020T	10,000	160.0	6.9	22.6	23.00	23.2	6.5	6.9
	CCA2-15000-020T	15,000	240.0	6.9	33.0	32.50	33.0	6.5	6.9
	CCA2-20000-020T	20,000	321.0	6.9	42.2	43.00	42.3	6.5	6.9



CCA1 **CCA2 CCA3 CCA4**

No.	Part	Pcs.	Materials
1	Tube	1	Clear PVC
2	Ends	2	PVC

Typical dosing system schematic



Calibration instructions

NOTE: Before starting either of the calibration procedures below, ensure that the pump is primed and void of any trapped air.

Using the USGPM scale: (scale based on **time**, in one (1) minute volume discharge)

1. Fill the calibration column to the top "0" mark on the USGPH scale.
2. Close isolation valve (#2) from the supply tank and drain valve (#3). Open isolation valve (#1) below column and start the pump.
3. Use a stopwatch to measure the time of one (1) minute (60) seconds and record the volumn dispensed by the metering pump using the draw down scale.
4. Adjust the pump volumn control higher or lower to meet with your desired output.
5. Repeat obove sets 1 through 4, until the desired output is met.
6. Divide the measured USGPH number by 60 to determine the **USGPM volume**, if required.

If you wish to shorten the time of dispensing for calibratrion by one half (1/2) or one quarter (1/4), you must multiply the measured volume by the same number used to divide the time by.

e.g. 10 USGPH in 1 minute equals
5 USGPH x 2 in 30 seconds or
2.5 USGPH x 4 in 15 seconds

Using the ml scale: (scale based on **volume** pumped, over any given time)

1. Fill the calibration column to the top "0" mark on the ml scale.
2. Close isolation valve (#2) from the supply tank and drain valve (#3). Open isolation valve (#1) below column and start the pump.
3. Use a stopwatch to measure the time it takes to pump down a given volumn (ml) in 60 seconds.
4. Multiply the volumn by 60 to determine the **ml per hour** volume, if required.
5. Adjust the pump volume control higher or lower to meet with your desired output.
6. Repeat obove sets 1 through 5, until the desired output is met.

If you wish to shorten the time of dispensing for calibratrion by one half (1/2) or one quarter (1/4), you must multiply the volume by the same number used to divide the time by to determine ml per minute or hour.

e.g. 100 ml in 60 seconds equals
50 ml x 2 in 30 seconds or
25 ml x 4 in 15 seconds

CC Series Calibration Columns

SAMPLE SPECIFICATION

1. The Calibration Columns shall be manufactured from highly-translucent polyvinyl chloride (PVC) material.
2. Graduations shall be easy-to-read imprinted white lettering with PP coating to ensure chemical resistance.
3. Graduations shall have dual-scale USGPH and mL, with ascending and desending increments.
4. The Calibration Columns shall be available with end cap connections of NPT (Female), but optional connection types are listed below.
5. All connections with be CNC machined or injection moulded from PVC material.
6. All bottom connections will come with NPT (Female) threading.
7. The top connection will be either open, NPT threaded end cap, removeable vented dust cap or removeable NPT threaded end cap that is CNC machined or injection moulded from PVC material.
8. Calibration Columns with the removeable top end cap (CC4) are convenient for cleaning the cyclinder and will include a highly -visible float to improve graduation measurement.

Styles

CCA1 **CCA2** **CCA3** **CCA4**

ORDERING EXAMPLE

Chemline Calibration Columns	**CC**	**A**	**2**	**-100**	**005**	**T**	**–**
Body Material	**A** – PVC **B** – PP						
Style	**1** – Bottom threaded connection only **2** – Top/Bottom threaded connections **3** – Bottom threaded connection complete with removeable vented dust cap **4** – Bottom threaded connection complete with removable o-ring seal top and float ring indicator						
Capacity	**100** **250** **500** **1,000** **2,000** **4,000** **10,000** **15,000** **20,000**						
Size	**005** – 1/2" **010** – 1" **020** – 2"						
Connections	**T** – FNPT Threaded **S** – Socket **F** – Flanged						
Seals[1]	**E** – EPDM **V** – FKM (Viton®)						

Example: Chemline CC Series Calibration Column, PVC, Style 2, 100 mL flow capacity, 1/2", FNPT threaded ends.

[1] For Style 4 only

NOTE: For other materials and configurations, please contact Chemline.

CHEMLINE PLASTICS
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