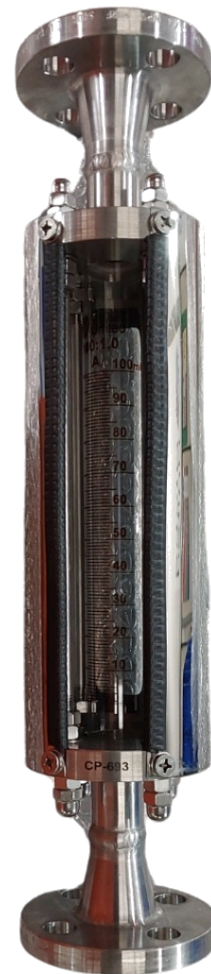
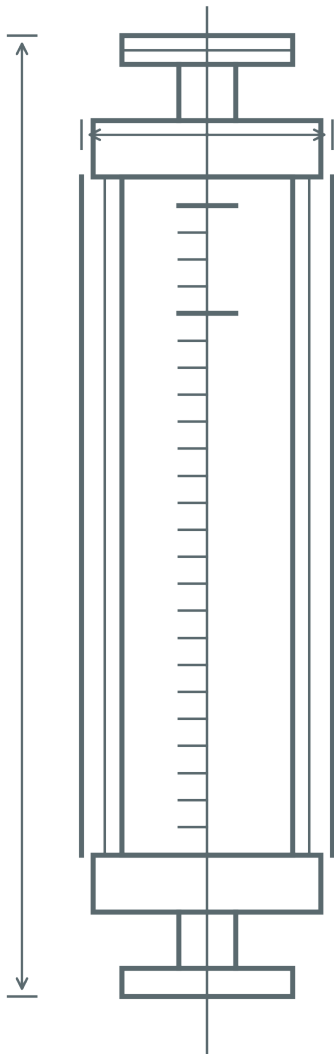


PRODUCT CATALOG

Calibration Column

MODEL ICP



01 / Product Overview

Overview & Working Principle

Overview

Calibration Column is a cylindrical shaped glass tube having marked volume scale mainly used to determine the flowrate of a chemical metering pump. It provides a simple and accurate method to calibrate pump flowrate in chemical dosing applications and is typically installed on the suction line of the metering pump.

Working Principle & Sizing

Calibration Columns are generally installed on the suction side of dosing pumps, aiming to calibrate dosing rates over time. Mostly, calibration pots are sized on the basis of dosing volumes over 30 or 60 seconds.

While in operation, the pots are filled with the dosing fluid. The pump is then switched on and fed only from the calibration column. The consumed volume from the column is then compared to the dosing rate of the pump.

Sizing Formula:

$$\text{Required Volume (ml)} = \text{Pump Flow Rate (L/hr)} \times \text{Test Duration (sec)} / 3.6$$

Installation & Dimensional Data

Detailed installation arrangements, mounting orientations, and dimensional data (OD, overall height, face-to-face) are highly dependent on the selected configuration. Please refer to the approved project General Arrangement (GA) drawing for final construction details.

Salient Features

- Easy to Clean
- Rugged construction available in PVC, PVDF, SS316, and exotic alloys
- Protected Calibration Scale available
- Available volumes range from 25 ml to 50,000 ml
- Traceability and 3.1 Material Test Certificates available for metallic wetted parts
- Metallic units are hydrotested at 1.5× design pressure for 10 minutes. Standard PVC units are hydrotested at 1.5× rated operating pressure (minimum 1 bar).

Specifications

Parameter	Specification
Mounting	Vertical
Top Side Vent	Flanged or Threaded (150# per ASME B16.5)
Bottom Side Drain	Flanged or Threaded (150# per ASME B16.5)
O Ring	PTFE, EPDM
Volume	25 ml to 50,000 ml
End Plates	SS316L, Hastelloy C, PTFE, PVC, PVDF, Titanium, Duplex Stainless Steel, Monel
Tube	Borosilicate Glass, Clear PVC
Scale	Directly Engraved on the Tube, Traffolyte / SS Scales available on request
Scale Resolution	Dependent on volume (typically 1-2% of full scale)
Max. Operating Pressure	Up to 8 bar at ambient temperature. Higher pressures up to 100 bar are also available with special metallic or armored designs. Pressure ratings for plastic materials (PVC, CPVC, PP, PVDF) must be derated at elevated temperatures.

02 / Standard Connections

Standard Connections & Sizes

The table below details the standard vent and drain connection sizes for the full range of calibration column volumes. Other combinations and connection types can be selected using the model code.

Volume (ml)	25	50	100	250	500	1000	2000	3000	4000	5000	7500	10000	15000
Vent Size	1/4"	1/4"	1/4"	1/2"	1/2"	1/2"	1/2"	1/2"	1"	1"	1"	1"	1"
Drain Size	1/4"	1/4"	1/4"	1/2"	1/2"	1/2"	1/2"	1/2"	1"	1"	1"	1"	1"

Volume (ml)	20000	25000	30000	40000	50000	
Vent Size	1"	1"	1"	1"	1"	
Drain Size	1"	1"	1"	1"	1"	

03 / Configuration & Sizing

Ordering Information

Model Code : ICP - X1 X2 X3 X4 X5 X6 X7 X8 X9 X10

CC Line	X1
Specify CC line in ml	XXXX

Body / Shield Material	X2
PVC	PV
CPVC	CPV
PP	PP
PVDF	PVD
SS	SS

Drain Connection Type	X3
NPT thread	N
BSP Thread	M
150# RF Flange	A
150# FF Flange	B
Special (Specify)	X

Drain Connection Size	X4
1/4"	01
1/2"	02
3/4"	03
1"	04
1 1/2"	05
2"	06
Special (Specify)	X

Vent Connection Type	X5
NPT thread	N
BSP Thread	M
150# RF Flange	A
150# FF Flange	B
Special (Specify)	X

Vent Connection Size	X6
1/4"	01
1/2"	02
3/4"	03
1"	04
1 1/2"	05
2"	06
Special (Specify)	X

End Cap Options	X7
Flanged	F
Valve	V

End Cap Material	X8
SS 316	SS
PTFE	PTF
PVDF	PVD
Hastelloy	HS
Monel	MN
Special (Specify)	X

End Plate Material	X9
SS316L	A
PTFE	B
PVDF	C
Hastelloy C276	D
Monel	E
Titanium	F
Duplex Stainless Steel	G
Special (Specify)	X

Tube Material	X10
Borosilicate Glass	BG
Clear PVC	CP

04 / Ordering Example

Ordering Example & Notes

*Note: End Plates seal the tube ends; End Caps provide the external process connections. O-ring material, scale type, and protective shields must be specified at the time of enquiry.

How To Order Example

ICP - 1000 - PV - N - 01 - N - 01 - F - SS - A - BG

1000: CC Line = 1000 ml

PV: Body / Shield Material = PVC

N: Drain Connection Type = NPT thread

01: Drain Connection Size = 1/4"

N: Vent Connection Type = NPT thread

01: Vent Connection Size = 1/4"

F: End Cap = Flanged

SS: End Cap Material = SS 316

A: End Plate = SS316L

BG: Tube = Borosilicate Glass

Quality Assurance & Certification

Standard for every unit:

- 100% hydrostatic pressure testing
- 100% visual and dimensional inspection
- EN 10204 3.1 Material Test Certificates for metallic wetted parts
- Full material traceability

Available on request / per project ITP:

- Radiographic Testing (RT) of welds
- Positive Material Identification — PMI by OES or XRF
- Hardness testing on welds (per NACE MR0175 / ISO 15156 where applicable)
- Ferrite content measurement on welds (relevant for duplex and austenitic SS)
- EN 10204 3.2 certification with third-party inspection witness
- NACE MR0175 / ISO 15156 compliance



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GLOBE UNITED FZE

T5-41, Sharjah Airport International Free Zone
Sharjah, United Arab Emirates

CONTACT

W: www.globeunitedae.com
E: info@globeunitedae.com
T: +971 50 330 1384