

# Flow Measurement Equipment

## Glass Tube Purge Meters

### Stainless Steel Frame

Purge Meters are low-capacity variable area meters that incorporate several improvements in basic design. They feature an unusually rigid, corrosion resistant stainless steel frame and a positive, easily controlled tube lock.

Purge Meters are specifically designed for such service as the purging of instrument cases and control lines. They are readily adapted to liquid-level indication, sampling, liquid-specific gravity determination, and similar applications.

#### Features

##### Structurally Strong Frame

The side frames are heavy, channel-form stainless steel sections welded to stainless end fittings turned from bar stock. This produces a rigid unit that resists pipe strains and protects tube alignment.

##### Choice of Corrosion Resistant Materials

The frame is made of 304 stainless steel and the end fittings are made of 316 stainless steel. The metering tube retainer is Kynar® vinylidene fluoride resin. O-rings come in a choice of Buna N or Viton® with Kalrez® and EPR (ethylene propylene rubber) optional. Valve trim (seat and stem) is 316 stainless.

##### Positive Tube Lock and a Tube Shield

A knurled tube-locking nut, external to the flow, positions the tube retainer and locks the tube firmly in place. Tube removal is quick and easy. O-rings seal the tube at both ends. A clear plastic shield covers the tube.

##### Integral Backcheck

An anti-backflow device is built into the discharge. It consists of a 316 stainless steel poppet with the selected O-ring seal.

##### High Interchangeability

All parts, except tubes, frames, and plastic shields, are interchangeable regardless of scale length. Tubes have same size O-rings at each end. The tubes for all capacities fit one frame size. This and the one-piece frame make for design simplicity with simplified maintenance and spare parts stocking.

#### Key Benefits:

- All meters feature rigid, corrosion resistant Stainless Steel Frames.
- External threaded tube locking nut for easy tube removal.
- Optional built-in flow-control valve, horizontal inlet and outlet connections.
- An optional purge type flow controller is also available for inlet or outlet mounting.



*Glass Tube Purge Meters with Stainless Steel Frame*

##### Versatile Flow Controller

An optional Flow Controller keeps flow constant regardless of pressure variations. It comes in 316 stainless steel, in inlet or outlet configurations and high or low capacities. Replaceable seat adapters make for easy capacity changes. Straight-through design means the controller can be threaded directly into the meter body, eliminating pipe nipples and static piping.

## Technical Data

### Accuracy

10% of full scale

### Operating Range

10 to 1

### Pipe Connections

1/4-inch female NPT at meter inlet and outlet, at control valve inlet, and at flow controller inlet and outlet; horizontal in and horizontal out.

### Mounting

In-line; wall through mounting holes in the back of the frame; flush panel with optional bezel. Bezel available with the 3" meter only.

### Scales

As indicated in Selection 2 of selection sheet

### Pressure and Temperature Limits

Temperature and pressure are interdependent but these limits must not be exceeded

Tube Retainer	O Rings	Pressure	Temperature
		(PSIG)	(°F)
Kynar®	All	200	200
316 SS	Buna- N	250	200
316 SS	Viton®	250	200
316 SS	EPR	250	250
316 SS	Kalrez®	250	250

### Versatile Control Valve

The optional control valve has a common stem with high or low capacity seats; all are 316 stainless. An O-ring in the seat makes it easy to change. The valve gives smooth adjustment and a fine degree of control.

### Choice of Arrangements and Operating Positions

Purge Meters are available in 1-1/2 and 3-inch scale lengths. They can be supplied with an integral flow control valve with a screwdriver-slot stem or a knob for adjustment. Available options are a factory connected flow controller to maintain constant flows and a plastic bezel for flush panel mounting (on the 3-inch size). The meter can be inverted and its tube reversed to change the control valve from the inlet to the outlet connection and removal of integral back-checks.

## Ordering Procedure

To order a low capacity purge meter and control valve with knob and 316 stainless trim, specify 22.

To order a tube with 3-inch scale, capacity of 30 ccm water, and scale units in ccm add B083.

Add S for standard O-ring material.

Add S for standard Kynar® tube retainer.

Add X for no flow controller.

Add 2 for bezel to accommodate meter with control valve.

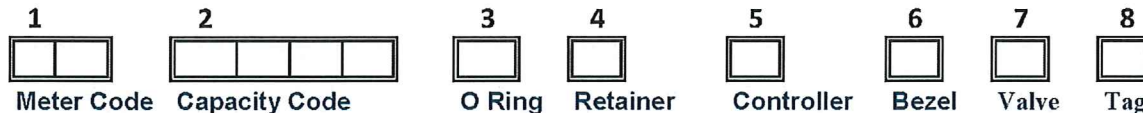
Add 2 for control valve at inlet, add X for no tag.

Thus the complete ordering number is: **22 B083 S S X 2 2 X**.

## Product Sheet CF.510.100.100.CN.0714

### Stainless Steel Frame Purge Meters

#### Selections



#### Selection 1 - METER CODE

Code	O-Ring Material	Meter Style
20		Meter Only
22	Buna-N	Low Capacity Meter with knob on control valve
26	Kalrez®	Low Capacity Meter with slotted control valve
24	EPR	High Capacity Meter with knob on control valve
28		High Capacity Meter with slotted control valve
30		Meter Only
32		Low Capacity Meter with knob on control valve
36	Viton®	Low Capacity Meter with slotted control valve
34		High Capacity Meter with knob on control valve
38		High Capacity Meter with slotted control valve

#### Selection 2 CAPACITY CODE - AIR

1-1/2" Meter			3" Meter		
Code	Capacity	Scale	Code	Capacity	Scale
D021	50 SCCM	%	D013	30 SCCM	%
D041	105 SCCM	%	D033	46 SCCM	%
D061	145 SCCM	%	D053	87 SCCM	%
E071	1.0 SCFH	SCFH	E073	1.0 SCFH	SCFH
D071	1.0 SCFH	%	D073	1.0 SCFH	%
E081	2.5 SCFH	SCFH	E083	2.5 SCFH	SCFH
D081	2.5 SCFH	%	D083	2.5 SCFH	%
E091	6.0 SCFH	SCFH	E093	6.0 SCFH	SCFH
D091	6.0 SCFH	%	D093	6.0 SCFH	%
E101	12 SCFH	SCFH	E103	12 SCFH	SCFH
D101	12 SCFH	%	D103	12 SCFH	%
E121	20 SCFH	SCFH	E123	20 SCFH	SCFH
D121	20 SCFH	%	D123	20 SCFH	%
E111	30 SCFH	SCFH	E113	30 SCFH	SCFH
D131	36 SCFH	%	E133	36 SCFH	SCFH
E141	60 SCFH	SCFH	D133	36 SCFH	%
D141	60 SCFH	%	E143	60 SCFH	SCFH
E151	110 SCFH	SCFH	D143	60 SCFH	%
D151	110 SCFH	%	E153	110 SCFH	SCFH
			D153	110 SCFH	%

#### Selection 2 - CAPACITY CODE - WATER

1-1/2" Meter			3" Meter		
Code	Capacity	Scale	Code	Capacity	Scale
C041	0.95 CCM	%	C033	0.65 CCM	%
C061	1.75 CCM	%	C053	1.10 CCM	%
C071	0.1 GPH	%	A073	0.1 GPH	GPH
A081	0.5 GPH	GPH	C073	0.1 GPH	%
C081	0.5 GPH	%	A083	0.5 GPH	GPH
A091	1.0 GPH	GPH	B083	30 CCM	CCM
B091	60 CCM	CCM	C083	0.5 GPH	%
C091	1.0 GPH	%	A093	1.0 GPH	GPH
A101	3.0 GPH	GPH	B093	60 CCM	CCM
B101	180 CCM	CCM	C093	1.0 GPH	%
C101	3.0 GPH	%	A103	3.0 GPH	GPH
A111	5.0 GPH	GPH	B103	180 CCM	CCM
A121	8.0 GPH	GPH	C103	3.0 GPH	%
B121	500 CCM	CCM	A113	5.0 GPH	GPH
C121	8.0 GPH	%	A123	8.0 GPH	GPH
A131	15 GPH	GPH	B123	500 CCM	CCM
B131	900 CCM	CCM	C123	8.0 GPH	%
C131	15 GPH	%	A133	15 GPH	GPH
A141	25 GPH	GPH	B133	900 CCM	CCM
B141	1500 CCM	CCM	C133	15 GPH	%
C141	25 GPH	%	A143	25 GPH	GPH
A151	40 GPH	GPH	B143	1500 CCM	CCM
C151	40 GPH	%	C143	25 GPH	%
			A153	40 GPH	GPH
			B153	2500 CCM	CCM
			C153	40 GPH	%

## Selection Procedure Continued

### Selection 3 - O-RING MATERIAL

Code	Material*
S	Buna-N or Viton
1	EPR
K	Kalrez 4079

\*For 1 & K, Use 20 Series codes in Selection

\* Kalrez not available for meters with flow controllers

### Selection 4 - RETAINER MATERIAL

Code	Material
S	Kynar (standard)
1	316 Stainless Steel

### Selection 5 - FLOW CONTROLLER

Code	Model No.	Material of Construction	Capacity	Connection
S	5810	316 Stainless Steel	30 SCFH / 5 GPH	1/4"NPT Inlet
T	5820		30 SCFH / 5 GPH	1/4"NPT Outlet
U	5850		193 SCFH /40 GPH	1/4"NPT Inlet
Y	5860		193 SCFH /40 GPH	1/4"NPT Outlet
X	None			

### Selection 6 - PANEL MOUNTING BEZEL

Code	Configuration
X	None
1	Without Control Valve
2	With Control Valve

### Selection 7 - CONTROL VALVE LOCATION

Code	Valve Location
X	No valve
2	Inlet Valve
3	Outlet Valve

### Selection 8 - TAG

Code	Material
X	No Tag
1	Stainless Steel(wired) on)

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