



# PURGE ROTAMETERS

FOR ACCURATE  
INDICATION AND CONTROL  
OF GAS AND LIQUID FLOW  
IN LOW RANGES.



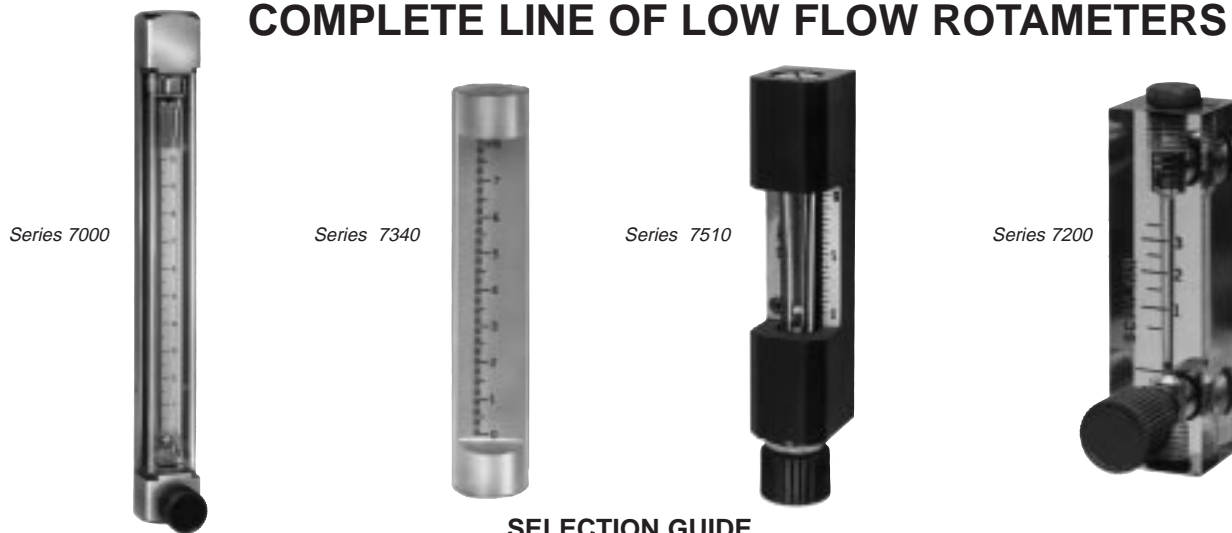
# INTRODUCTION

McCrometer purge rotameters are precision-made instruments designed to accurately measure the flow of fluids and gases in small quantities. These rotameters are particularly well-suited for purging applications such as: purging orifice legs, instrument cases, pump seals and other components to prevent corrosion or slurry sedimentation. Other specialized applications include liquid level and specific gravity indication, fluid sampling and gas chromatography.

These rotameters can also be used for the measurement and control of low flows of a variety of liquids and gases. Flow capacities range from .0048 to 28.7 gph for water, and .058 to 120 scfh for air. McCrometer purge rotameters are available with flow and pressure control devices and in various designs and materials to meet specific service requirements. The Type 7340, for instance, is constructed of unplasticized KEL-F\* for use with such liquids as hydrochloric acid and sodium hydroxide.

\*T.M. Pennwalt Corp.

## COMPLETE LINE OF LOW FLOW ROTAMETERS



### SELECTION GUIDE

ROTAMETER TYPE	ACCURACY	CAPACITY RANGE		SCALES VALVE	CONSTRUCTION TEMP.	NEEDLE PRES.	MAX.	MAX.
		WATER (gph)	AIR (scfh)					
TYPE 7050 see page 4	±4% Standard ±2% with optional calibration	.0048 to 28.0	.058 to 120.00	5" Long Decal 0-10 or optional etched, direct reading	Stainless Steel Body  Interchangeable Glass Metering Tube	Optional	200°F	300psi
TYPE 7030 see page 4	±6% Standard ±3% with optional calibration	.06 to 28.7	.67 to 119.0	3" Long Decal 0-10 or optional etched, direct reading	Clear Polycarbonate Tube			
TYPE 7010 see page 4	±10%	.2 to 12.0	.37 to 50.0	1 1/2" Long Decal 0-10 ref. or direct reading in gph/scfh	Internal Check Valve (except 7050)			
TYPE 7510 see page 3	±10%	.20 to 12.0	.37 to 50.0	1 1/2" Long Decal 0-10 ref. or direct reading in gph/scfh	Anodized Aluminum Body Glass Metering Tube	Integral	200°F	200 psi
TYPE 7200 see page 6	±10%	.025 to 12.0	.23 to 110.0	1 1/2" Long Decal 0-10 ref. or direct reading in gph/scfh	Clear Acrylic Body Integral Metering Tube	Optional	160°F	100 psi
TYPE 7340 contact factory	±10%	1.8 to 130.0	9.6 to 300.0	4" inked in any desired units of flow	Kel-F Body Integral Metering Tube	Not Available	200°F	100 psi

**SERIES 3200 Differential Pressure Controllers** available on Purge rotameters (except Type 7340) for use where pipeline pressures fluctuate (See page7).

# TYPE 7510 ROTAMETER

## FEATURES

- Integral needle valve for flow control.
- Sensitive check valve protects against back flow.
- All wetted parts are stainless steel.
- Can be equipped with differential pressure controller.

## APPLICATIONS

Type 7510 rotameters are used in purge applications, such as those described on page 2, where moderate accuracy is required. This rotameter can handle pressures of up to 200 psig and temperatures to 200°F.

## DESCRIPTION

The Type 7510 is a compact, low cost purge rotameter with a 1 1/2" scale cemented directly on the meter body. The body is made of anodized aluminum and all wetted parts are made of corrosion resistant materials. The Type 7510 features an integral flow control needle valve at the inlet, and a check valve to protect against backflow.

Flow capacities range from .2 to 12 gph for water and from .37 to 50 scfh for air. Metering tubes and floats can be changed to obtain different flow capacities within this range. The Type 7510 rotameter can also be equipped with a differential pressure controller.

## SPECIFICATIONS

**CONNECTIONS:** 1/8", horizontal threaded

**RANGE:** 10 to 1, or greater

**ACCURACY:** ±10% F.S.

**MAXIMUM OPERATING TEMPERATURE AND PRESSURE:**  
200 psig at 200°F.

**SCALES:** Cemented directly on body in % of flow and direct reading (see "Capacities") in units of flow.

**FLOAT:** Ball type

**APPROXIMATE WEIGHT:** .5 lbs.

**MOUNTING:** Vertically, in pipeline or front panel mounted.  
Mounting holes on back of meter.

## MATERIALS

**BODY:** Anodized aluminum

**METER TUBE:** Borosilicate glass

**FLOAT:** Stainless steel or black glass

**NEEDLE VALVE:** 303 stainless steel spindle and seat

**O-RINGS:** Buna N (standard) or other materials

**OUTLET PLUG:** 303 stainless steel

**CHECK VALVE:** Spring loaded, 303 stainless steel seat and disc, "O"-ring seal



**TABLE 1 CAPACITIES—TYPE 7510 ROTAMETERS**

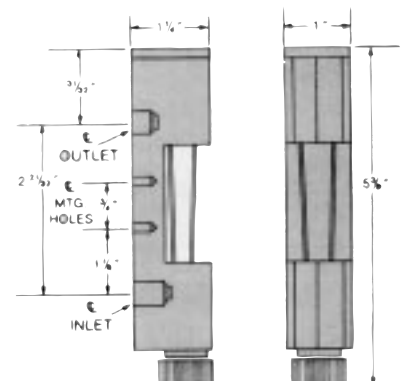
TUBE NO.	TUBE SIZE	FLOAT *	SCALE	FLOW RANGE†		
				WATER AT 70°F (gph)	AIR AT 10 psig and 70°F(scfh)	AIR AT 14.7 psia and 70°F (scfh)
1	1/16-10-P-1 1/2	BJ-2	0-10	N/A	.5	.37
2	5/32-08-P-1 1/2	BP-5	scfh	.2‡	2.4	1.8‡
		BJ-5	0-10	.6	4.5	3.4
3	1/4-1--P-1 1/2	BP-8	0-10	1.4	11	8.5
		BJ-8	gph	4.0	21‡	16‡
4	5/32-43-P-1 1/2 (Dual Taper)	BP-5	0-10	0.1-0.8 0.8-2.6	.1-1 1-22	.1-9 .9-17
		BJ-5	0-10	.1-1 1-8	.2-3 3-30	.1-2.5 .25-23
5	1/4-25-P-1 1/2	BP-8	0-10	4.5	35	27
		BJ-8	0-10	12	65	50

\*BP = Black Glass; BJ = Stainless Steel

†Maximum flow range; range is 10:1.

‡Furnished with 0-10 scale.

## DIMENSIONS



# SERIES 7000 ROTAMETER

## FEATURES

- Interchangeable metering tubes and floats provide several capacity ranges for each body size
- Rugged one-piece construction and clear polycarbonate tube shield
- Integral check valve to protect against backflow (all models except 7050)
- Flute-guided tube in 3" and 5" scale sizes
- Precise flow control possible with needle valve model

## APPLICATIONS

Both the Types 7010 and 7030 rotameters are primarily used in purge applications such as those described on page 2. The Type 7050 rotameter is often used for low flow applications where water, air and other fluids and gases need to be accurately measured.

## DESCRIPTION

The 7000 Series consists of three models: the Type 7010 (1 1/2" scale), the 7030 (3" scale) and Type 7050 (5" scale). All Series 7000 rotameters are constructed with a one-piece stainless steel body and stainless steel internal components. Type 7030 and 7050 have flute-guided tubes for improved float stability and accuracy.

Capacities for Series 7000 rotameters range from .0048 to 28 gph for water and .058 to 120 scfh for air. For greater capacities, see Bulletin 20-7055. Variable capacities are possible using one rotameter body through an interchangeable system of metering tubes and floats. A lock clip keeps the metering tube securely in place during use, yet permits easy removal for service. A clear polycarbonate tube shield protects the metering tubes. Decal reference or etched, direct reading scales are available for all models.

Series 7000 meters can be installed directly in pipelines or can be panel-mounted. Mounting holes are provided on the rotameter body. These units are very versatile and can be modified for a variety of applications.

## SPECIFICATIONS

**CONNECTIONS:** 1/4", horizontal threaded

**ACCURACY:** Type 7050: ±4% F.S., ±2% F.S. with optional calibration

Type 7030: ±6% F.S., ±3% F.S. with optional calibration

Type 7010: ±10% F.S.

**RANGE:** 10 to 1

**MAXIMUM OPERATING TEMPERATURE AND PRESSURE:** 300 PSIG at 200°F

**SCALES:** Type - decal reference or etched, direct reading in units of flow

Length - Type 7010 (1 1/2"), Type 7030 (3"), Type 7050 (5")

**FLOATS:** Ball type

**MOUNTING:** Vertically, in pipelines, or on front or back of panel. Mounting holes provided on back of body.



## MATERIALS

**BODY:** One-piece, welded 316 stainless steel

**TUBE SHIELD:** Clear, polycarbonate plastic

**METER TUBE:** Borosilicate glass

**FLOATS:** Stainless steel, black glass, red sapphire, tantalum or tungsten carbide

**NEEDLE VALVE:** 316 stainless steel spindle and seat

**O-RINGS:** Buna N (standard), Viton A<sup>†</sup>

or other materials

**CHECK VALVE\*:** 316 stainless steel seat and disc, O-ring seal

**LOCK CLIP:** Stainless steel

\*Not available on Type 7050

†T.M., E.I. DuPont de Nemours

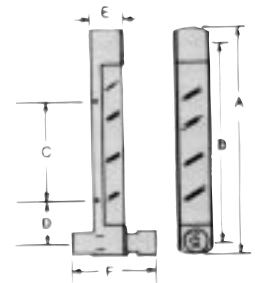


TABLE 2 DIMENSIONS—SERIES 7000 SERIES

TYPE **	METER SCALE (INCHES)	DIMENSIONS (INCHES)						APPROX. WT. (LBS.)
		A	B C CONNECTIONS	C C MTG HOLES	D C MTG. HOLE TO C INLET	E	F	
20-7050V	5	9 1/8	8 3/8	5 1/4	1 9/32	1 sq.	25/8	1
20-7030V	3	6 7/8	6 1/8	3	1 9/32	1 sq.	25/8	1
20-7010V	1 1/2	4 1/4	4	1 1/4	1 9/32	1 sq.	25/8	3/4

\* Mounting holes are 7/32 inch in diameter.

\*\*"V" designates needle valve model.



### NEEDLE VALVE FOR FLOW CONTROL

An integral needle valve is available with all Series 7000 models to control flow. The valve can be used at the outlet as well as the inlet by reversing the metering tube and inverting the rotameter (when this is done, the check valve is omitted).

### ALARM ROTAMETERS

Series 7000 rotameters can be equipped with a high/low limit switch for alarm applications. This device will warn of abnormally high or low flows by activating a signal device or start-stop switch. For capacities and specifications, refer to Bulletin 18A-1 on alarm rotameters (do not use table 3 below).

TABLE 5 CAPACITIES—TYPE 7050 ROTAMETERS

TUBE NO.	FLOAT *	FLOW RANGE†						MAX. PRESS. DROP (INCHES W.C.)	
		AIR AT 14.7 psia + 70°F			WATER AT 70°F			NO VALVE	VALVE
		ccpm	cfm	cfh	ccpm	gpm	gph		
3/32-06-P-5 **	BP-3	27		.058	.30		.0048	.2	.2
	BA-3	42		.092	.58		.0092	.3	.3
	BJ-3	86		.18	1.35		.021	.5	.5
	BT-3	160		.34	2.70		.042	1.0	1.1
	BD-3	180		.38	3.00		.048	1.1	1.2
3/32-07-P-5 **	BP-3	54		.11	.58		.009	.2	.2
	BA-3	84		.18	1.1		.018	.3	.4
	BJ-3	170		.36	2.6		.042	.5	.7
	BT-3	300		.64	5.4		.084	1.0	1.3
	BD-3	330		.70	6.0		.095	1.1	1.4
3/32-08-P-5 **	BP-3	100		.22	1.1		.018	.2	.3
	BA-3	160		.34	2.2		.035	.3	.4
	BJ-3	300		.64	5.0		.080	.5	.9
	BT-3	500		1.05	10.0		.165	1.0	1.6
	BD-3	540		1.10	11.5		.18	1.1	1.8
1/8-10-G-5	BP-4	360	.012	.72	3.8	.001	.06	.2	1.0
	BA-4	460	.016	.96	7	.0018	.11	.3	1.5
	BJ-4	750	.026	1.56	16	.004	.25	.7	3.0
	BT-4	1080	.037	2.2	29	.0076	.46	1.2	5.5
	BD-4	1130	.039	2.3	31	.0082	.5	1.3	6.0
1/8-15-G-5	BP-4	700	.024	1.45	11	.003	.17	.2	2.0
	BA-4	900	.033	2.0	20	.005	.31	.3	3.1
	BJ-4	1450	.050	3.1	38	.010	.60	.7	6.2
	BT-4	2100	.074	4.4	60	.016	.95	1.3	11.7
	BD-4	2200	.078	4.6	64	.017	1.0	1.5	13
1/8-20-G-5	BP-4	1430	.049	2.9	30	.008	.48	.3	3.0
	BA-4	1840	.063	3.8	46	.0125	.74	.5	4.8
	BJ-4	2980	.10	6.0	80	.022	1.25	1.1	9.7
	BT-4	4300	.15	9.0	125	.033	2.0	2.1	20
	BD-4	4500	.16	9.6	135	.04	2.15	2.4	22
1/8-25-G-5	BP-4	1930	.067	4.0	40	.015	.64	.5	4.9
	BA-4	2480	.086	5.2	64	.017	1.0	.7	6.3
	BJ-4	4000	.14	8.4	105	.028	1.7	1.5	13
	BT-4	5800	.20	12	165	.044	2.6	3.1	30
	BD-4	6000	.21	13	180	.046	2.8	3.4	35
1/4-15-G-5	BP-8	4600	.16	9.5	95	.025	1.5	0.7	1.1
	BA-8	6000	.21	12.5	145	.039	2.3	1.1	2.0
	BJ-8	8800	.31	19	250	.066	4.0	2.3	3.1
	BT-8	12500	.45	27	390	.100	6.2	4.3	7.5
	BD-8	13000	.47	28	410	.110	6.6	4.7	8.3
1/4-20-G-5	BP-8	8000	.28	17	180	.048	2.8	1.2	2.8
	BA-8	10000	.37	22	270	.072	4.2	2.0	4.7
	BJ-8	15000	.54	32	440	.120	7.2	4.1	9.6
	BT-8	21500	.76	46	660	.175	10.5	7.9	18
	BD-8	23000	.80	48	720	.190	11.0	8.7	20
1/4-27-G-5	BP-8	15500	.54	33	370	.095	5.8	3.4	10.7
	BA-8	20000	.70	42	540	.14	8.6	5.7	15
	BJ-8	29000	1.00	62	880	.23	13.5	12	32
	BT-8	41000	1.45	88	1250	.34	20.5	23	59
	BD-8	43000	1.55	92	1350	.36	21.5	25	64
1/4-33-G-5	BP-8	20500	.72	44	480	.13	7.8	6.1	19
	BA-8	26000	.92	56	720	.19	11.5	10	27
	BJ-8	38000	1.35	80	1150	.31	18.5	21	56
	BT-8	54000	1.90	110	1700	.45	27.0	39	102
	BD-8	56000	2.00	120	1800	.48	28.0	43	113

†Maximum flow rate; range is 10:1. \*\*Not available with flute-guided tubes.

TABLE 3 CAPACITIES—TYPE 7030 ROTAMETERS

TUBE NO.	FLOAT *	FLOW RANGE†	
		WATER AT 70°F (gph)	AIR AT 14.7psia and 70°F (scfh)
1/8-10-G-3	BP-4	.06	.67
	BA-4	.11	.97
	BJ-4	.25	1.6
	BD-4	.50	2.6
1/8-20-G-3	BP-4	.51	3.4
	BA-4	.80	4.5
	BJ-4	1.4	6.9
	BD-4	2.3	10.5
5/32-42-G-3 (Dual Taper)	BP-5	.016-.63	.11-4.2
	BJ-5**	.63-5.0	4.2-27
1/4-15-G-3	BP-8	1.4	9.4
	BA-8	2.2	12.4
	BJ-8	3.9	18.5
	BD-8	6.4	27.8
1/4-33-G-3	BP-8	7.7	43
	BA-8	11.4	55
	BJ-8	18.5	80
	BD-8	28.7	119

†Maximum Flow Rate; Range is 10:1.  
\*\*Available with direct reading scale in gph or scfh.

TABLE 4 CAPACITIES—TYPE 7010 ROTAMETERS

TUBE NO.	TUBE SIZE	FLOAT *	SCALE	FLOW RANGE†		
				WATER AT 70°F (gph)	AIR AT 10 psig and 70°F (scfh)	AIR AT 14.7 psia and 70°F (scfh)
2	5/32-08-P-1 1/2	BP-5	scfh	.2‡	2.4	1.8‡
		BJ-5	0-10	.6	4.5	3.4
3	1/4-10-P-1 1/2	BP-8	0-10	1.4	11	8.5
		BJ-8	gph	4.0	21‡	16‡
4	5/32-43-P-1 1/2 (Dual Taper)	BP-5	1-10	0.1-0.8	.1-1	.1-9
				0.8-2.6	1-22	.9-17
		BJ-5	0-10**	.1-1	.2-3	.1-2.5
				1-8	3-30	.25-23
5	1/4-25-P-1 1/2	BP-8	0-10	4.5	35	27
		BJ-8	0-10***	12	65	50

†Maximum Flow Rate; Range is 10:1.  
‡Furnished with 0-10 scale.  
\*Available with direct reading scales in gph and scfh.  
\*\*\*Available with direct reading scale in gph.

\*FLOAT SYMBOLS — BP = Black Glass BA = Red Sapphire  
BJ = Stainless Steel BT = Tungsten Carbide BD = Tantalum

# TYPE 7200 "KLEER-VUE" ROTAMETER

## FEATURES

- Simple, low cost construction
- Needle valve available for flow control at inlet or outlet
- Clean out plugs for easy access
- Stainless steel wetted parts
- Can be equipped with differential pressure controller

## DESCRIPTION

The Model 20-7210 is a simple, low cost purge rotameter with a clear acrylic body and an integral, precision-machined metering tube. The 1 1/2" scale is hot stamped directly on the face of the meter body in scfh or gph. All internal components are made of corrosion-resistant materials.

"Kleer-Vue" rotameters also can be supplied with a needle valve for flow control or with a differential pressure controller.

Flow capacities range from .09 to 24 gph for water, and 1.0 and 110 scfh for air. These instruments can be mounted vertically in pipelines, or in front or back of a panel. An optional aluminum bezel can be supplied for flush panel mounting.

## APPLICATIONS

"Kleer-Vue" rotameters are most often used for purging applications where low flows of air or water are to be measured. The flow range of each tube can be changed by changing the float material. These rotameters can operate at a maximum temperature and pressure of 160°F at 100 psig.

## SPECIFICATIONS

**CONNECTIONS:** 1/8", NPT female

**RANGE:** 10 to 1

**ACCURACY:** ±10% F.S. with standard calibration, ±5% F.S. with optional calibration

**SCALES:** 1 1/2", hot-stamped on meter body in scfh or gph

**MAXIMUM OPERATING TEMPERATURE AND PRESSURE:** 160°F at 100 psig

**FLOATS:** Ball type

**APPROXIMATE WEIGHT:** .75 lbs.

**MOUNTING:** Vertically, directly in pipeline, or in front or back of panel with special attachments. Optional mounting accessories: Aluminum bezel for flush panel mounting; locknuts and threaded adapters for front panel mounting.



## MATERIALS

**BODY:** Clear, acrylic plastic

**METER TUBE:** Precision machined directly in body

**FLOATS:** Black glass and 316 stainless steel

**NEEDLE VALVE:** 316 stainless steel spindle and seat

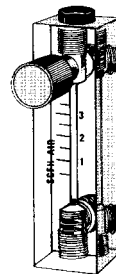
**O-RINGS:** Buna N

**CLEAN-OUT PLUGS:** Nylon

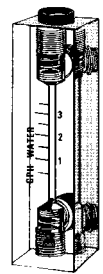
**PIPE CONNECTIONS:** 316 stainless steel or brass, nickel plated

**FLOAT STOPS:** 302 stainless steel

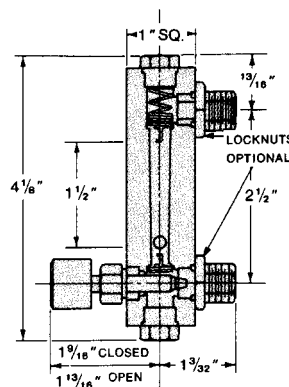
## NEEDLE VALVE FOR FLOW CONTROL



"Kleer-Vue rotameters can be equipped with a needle valve placed at the inlet (photo above) or the outlet (left). They are also available without a needle valve (right).



## DIMENSIONS



**TABLE 6 CAPACITIES—MODEL 20-7210**

SIZE NO.	FLOAT		FLOW RANGE*	
	TYPE	MATERIAL	AIR @ STP (scfh)	WATER (gph)
0	BP-4	Glass	1.0	.09
	BJ-4	Stl. St.	2.4	.40
1	BP-4	Glass	3.5	.50
	BJ-4	Stl. St.	7.0	1.4
2	BP-8	Glass	12	2.0
	BJ-8	Stl. St.	24	5.5
3	BP-8	Glass	36	7.0
	BJ-8	Stl. St.	65	16
4	BP-8	Glass	55	11
	BJ-8	Stl. St.	110	24

\*Maximum Flow Rate; Range is 10:1.

# SERIES 3200 ROTAMETER/DIFFERENTIAL REGULATOR



## FEATURES

- Precise automatic operation
- Wide flow range provided by one size differential regulator
- All wetted parts are made of corrosion-resistant materials

## DESCRIPTION

The Series 20-3200 Purge Rotameter/Differential Regulator is used in all types of normal purging applications where simplified automatic control of purge rate of flow is required. It is well suited for cases where main line or supply pressures vary over short periods of time. The unit eliminates the need for manual adjustment of purge flow. The Model 3200 Conoflow differential regulator can be supplied with Type 7510 Rotameter (see page 3) or Series 20-7000 Rotameters (see page 4 & 5).

The differential regulator is piped upstream of the Rotameter, with a static pressure connection from the top of the regulator to the downstream side of the Rotameter, with the underside of the regulator diaphragm in direct connection with the upstream side of the Rotameter. By using a spring to impose a fixed load equal to 3 psi static pressure, the pressure under the diaphragm (upstream) is always 3 psi greater than the outlet pressure (downstream) regardless of the actual value of these pressures. Therefore, the flow will remain constant for any given setting of the Rotameter needle valve.

## APPLICATIONS

Series 20-3400 Purge Rotameter/Differential Regulators can be used for air, water or gas purging systems, either for panel or off-panel mounting using the integral bracket. They are ideal for furnaces and liquid level "bubbler" applications where varying pressures are encountered in the flow line.

## SPECIFICATIONS

**CONNECTIONS:** 1/4" NPT inlet and outlet feedback connection in 1/8" NPT

**APPROXIMATE WEIGHT:** 4 lbs.

**PRESSURE DROP:** 3 PSI static pressure

**PRESSURE RATING:** 150 PSI

**UPSTREAM PRESSURE RATING (MAX):** 150 PSI

**TEMPERATURE RATING:** 200°F

## MATERIALS

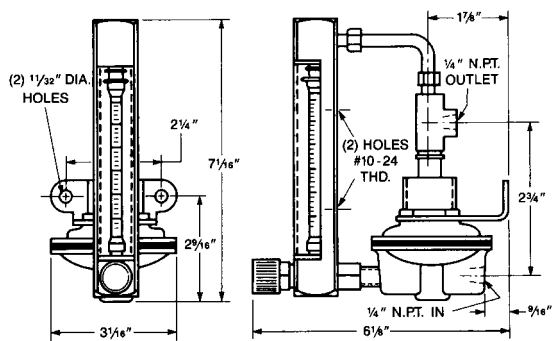
**BODY:** Brass or 316 stainless steel

**BONNET:** Die cast aluminum

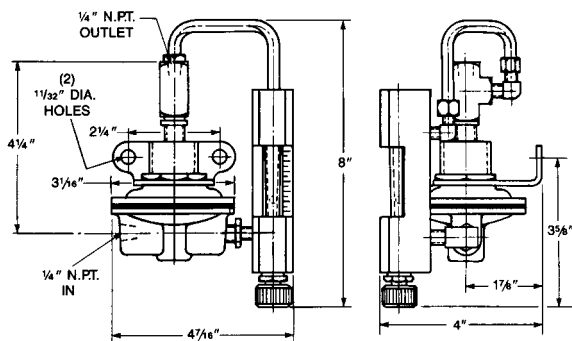
**VALVE STEM SEAT & SPRING:** Stainless steel

**DIAPHRAGM:** Nylon inserted neoprene

## DIMENSIONS



**DIFFERENTIAL PRESSURE REGULATOR  
MODEL 20-7030V-3200**



**DIFFERENTIAL REGULATOR COMBINATION UNITS  
MODEL 20-7510-3200**

# SIZING PURGE ROTAMETERS

## FOR WATER OR AIR SERVICE

When sizing an SK purge rotameter for water or air service, simply refer to the capacity charts in this brochure corresponding to the model you have selected. Choose tube size and float according to flow range.

## FOR LIQUIDS AND GASES OTHER THAN WATER AND AIR

If the liquid to be measured has a specific gravity other than 1.0 and/or a viscosity other than 1.0 cs at operating temperature and pressure; or if the gas is not air at standard temperature and pressure (70°F and 14.7 psia)...

TYPE 7050 ROTAMETER - Consult Technical Supplement 18.2 to size the rotameter, or contact McCrometer for computerized sizing and calibration.

TYPE 7030, 7010 AND 7510 ROTAMETERS - Contact McCrometer for sizing and calibration data.

TYPE 7200 ROTAMETERS - Generally not used for liquid or gases other than water and air.

## INFORMATION REQUIRED FOR SIZING

For Liquids:

1. Viscosity in centistokes
2. Specific gravity
3. Desired flow range

*Note: Above values must be given at operating temperature and pressure.*

For Gases:

1. Operating temperature
2. Operating pressure
3. Specific gravity
4. Desired flow range

## ADDITIONAL ROTAMETERS



### METAL TUBE ROTAMETERS

These rotameters are used for high-pressure or hazardous liquid and gas flows where glass tubes are not desirable. Capacities range from .64 to 371 gpm and standard accuracy is  $\pm 2\%$  F.S. ( $\pm 1\%$  optional). These rotameters can handle pressures up to 2500 psig at 400°F. (Request Bulletin 19.)



### SERIES 20-9300

### INDICATING ALARM OR TRANSMITTING ROTAMETERS

Series 20-9300 meters are all-metal designs with straight "flow-thru" pattern. No angles or pockets to stagnate fluid flow. Standard construction is stainless steel with threaded or flanged connections. Transmitter provides 4 - 20 mA output signal. (Request Bulletin 20-9300-ET.)



### SAFEGUARD ROTAMETERS

These general purpose glass tube rotameters are used for medium to high flows of gases and liquids. Standard accuracy is  $\pm 2\%$  F.S. ( $\pm 1\%$  optional) and capacities range from .031 to 179 gpm. Safeguard rotameters are available in a variety of constructions to meet service requirements. (Request Bulletin 20-5000.)



### BALL FLOW INDICATORS

For simple, inexpensive indication of flow, McCrometer offers a complete line of sight flow indicators including ball, rotary and flapper types. Ball flow indicators are available in capacity ranges from 0.5 to 190 gpm. (Request Bulletin 20-6100.)

*Specifications contained herein are subject to change without notice. Since it is impossible to anticipate or control the many different conditions under which this information and our products may be used, McCrometer cannot guarantee the applicability and accuracy of the information, or the suitability of our products in any given situation.*

**WARNING** - Glass metering tubes have been designed to operate up to the stated maximum design working pressure and temperature. However, glass is breakable and wear, mishandling or method of use beyond our control can weaken the tube resulting in breakage. Such breakage can be of an explosive nature and can result in serious personal injury. Be sure the manufacturer's instructions are understood and eye protection is used before installing or using glass tube meters.



3255 West Stetson Avenue, Hemet, CA 92545-7799 USA

Phone: 909 652-6811 Fax: 909 652-3078 e-mail: info@mccrometer.com

Web Site: <http://www.mccrometer.com>