ORIFICE FLOW METERS

MODEL: **5720 - POP**

Revision: 1

BULLETIN 5720

DESCRIPTION

Model 5720 Calibrated Orifice Flow Meters are designed for measuring flows of air or gases at pressures up to 5 psig and temperatures to 500 °F. Orifice ports are accurately machined for precision measurements. Each orifice plate has model number and orifice diameter stamped on tab for easy identification and selection.

Flange tap pressure drop readings determine flow on chart on page 3. Thin, square edge, bored orifice plates are installed between Pyronics "ADAPTO" flanges. Gaskets are provided to seal both sides of the plate. Meters should have at least 10 pipe diameters of smooth, clean, straight pipe upstream and downstream for accurate readings.

Orifice flow meters are ideal for measuring air and gas flows in combustion systems. Air-fuel ratio adjustment of burners is simplified when true air and gas rates are known.

Available accessories to be used with the orifice flow meters are the Model 5721 – 12" W.C. Manometer or the Model 5714 – Low Pressure Gauges for measuring pressure differential at the orifice plate.

In applications where corrosive gases are used or high humidity conditions are common, it is suggested that stainless steel plates be used. Petcocks and hose barbs are sold separately.

FLOW FACTORS

Flow versus Pressure Drop Curves on page 3 are based on air flows (specific gravity = 1.0) at zero line pressure and 60 °F temperature. For accurate measurement of flows at higher pressures, temperatures or other specific gravities, use correction tables on page 3.

FEATURES

- Inexpensive flow metering device
- Simple four bolt construction
- Plates available in mild steel or stainless
- 5% maximum flow error
- Two bolt quick-change plate removal

CAUTION: Operation of combustion equipment can be hazardous resulting in bodily injury or equipment damage. Each burner should be supervised by a combustion safeguard and only qualified personnel should install, make system adjustments and perform any required service.

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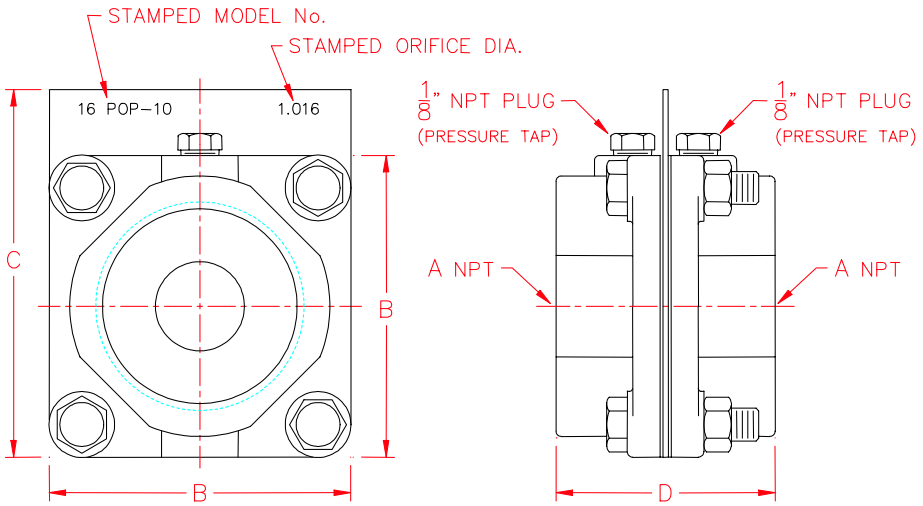
ORIFICE FLOW METERS

DIMENSIONS



MODEL NUMBER ORIFICE FLOW METER		MODEL NUMBER ORIFICE PLATE ONLY		A	B	C	D	WEIGHT	
STEEL	STAINLESS	STEEL	STAINLESS					LBS.	KGS.
6 POP-X X	6 POP-SS-X X	6 OP-X X	6 OP-SS-X X	3/4	2-5/16	3-1/16	1-5/8	1.4	0.6
8 POP-X X	8 POP-SS-X X	8 OP-X X	8 OP-SS-X X	1	2-5/16	3-1/16	1-5/8	1.2	0.5
10 POP-X X	10 POP-SS-X X	10 OP-X X	10 OP-SS-X X	1-1/4	3	3-3/4	2-1/2	2.7	1.2
12 POP-X X	12 POP-SS-X X	12 OP-X X	12 OP-SS-X X	1-1/2	3	3-3/4	2-1/2	2.5	1.1
16 POP-X X	16 POP-SS-X X	16 OP-X X	16 OP-SS-X X	2	3-7/16	4-3/16	2-1/2	3.2	1.4
20 POP-X X	20 POP-SS-X X	20 OP-X X	20 OP-SS-X X	2-1/2	4-3/8	5-1/8	3-1/8	7.6	3.5
24 POP-X X	24 POP-SS-X X	24 OP-X X	24 OP-SS-X X	3	4-3/8	5-1/8	3-1/8	5.4	2.4
32 POP-X X	32 POP-SS-X X	32 OP-X X	32 OP-SS-X X	4	6	6-3/4	3-3/8	11.6	5.3
48 POP-X X	48 POP-SS-X X	48 OP-X X	48 OP-SS-X X	6	8	8-3/4	3-3/4	22.3	10.1

NOTE: All dimensions are in inches.

ORIFICE PLATE TABLE

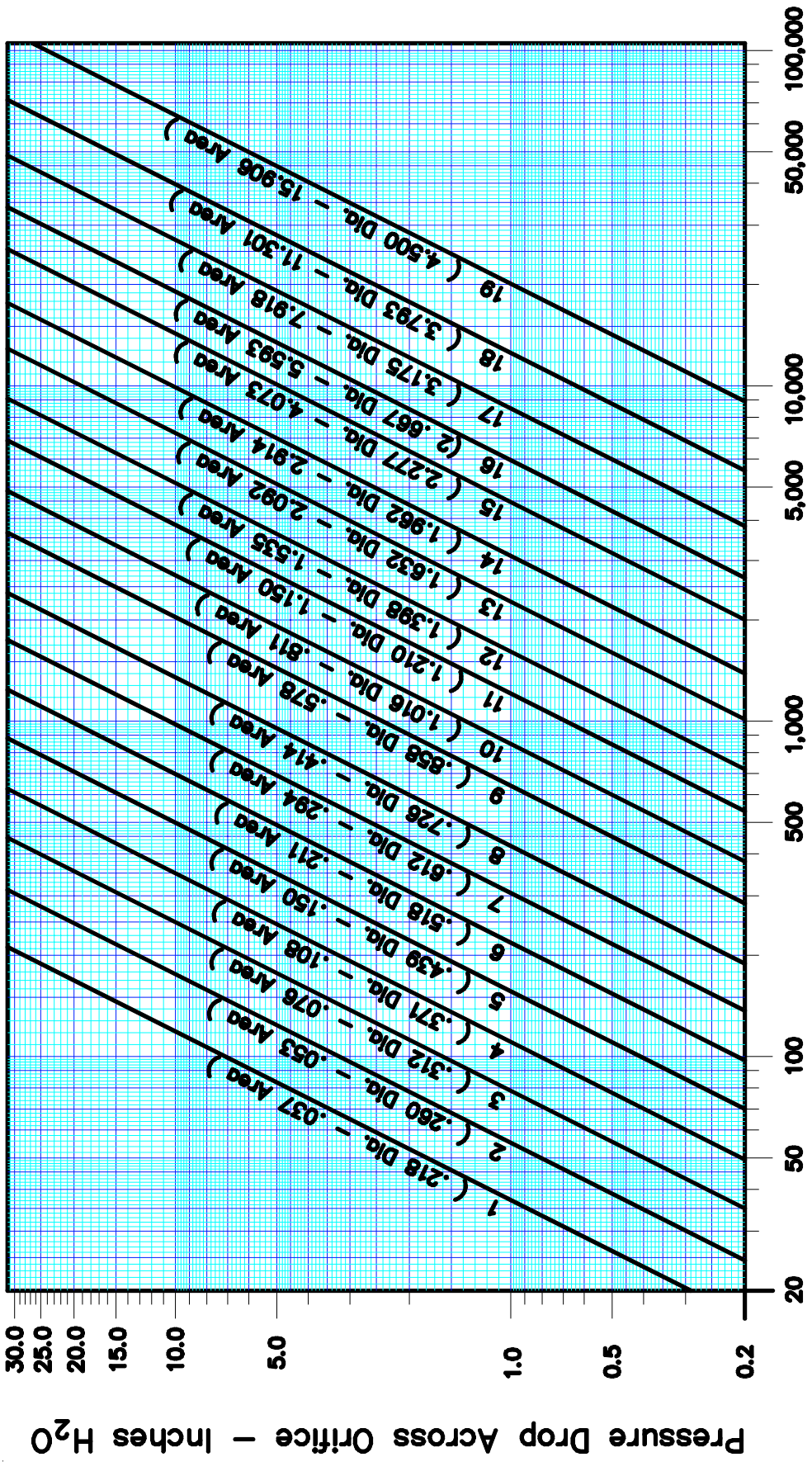
MODEL NUMBER		PIPE SIZE	Orifice Plates listed are the minimum to maximum diameters recommended per indicated pipe size.																	
STEEL	STAINLESS		- 01	- 02	- 03	- 04	- 05	- 06	- 07	- 08	- 09	- 10	- 11	- 12	- 13	- 14	- 15	- 16	- 17	- 18	- 19
6 OP-X X	6 OP-SS-X X	3/4																			
8 OP-X X	8 OP-SS-X X	1																			
10 OP-X X	10 OP-SS-X X	1-1/4																			
12 OP-X X	12 OP-SS-X X	1-1/2																			
16 OP-X X	16 OP-SS-X X	2																			
20 OP-X X	20 OP-SS-X X	2-1/2																			
24 OP-X X	24 OP-SS-X X	3																			
32 OP-X X	32 OP-SS-X X	4																			
48 OP-X X	48 OP-SS-X X	6																			

ORDERING INFORMATION

1. Select orifice plate number based on flow required and desired pressure drop.
2. Use specific gravity, pressure and temperature correction tables when required.
3. Specify complete model number and quantity.
4. Shipping instructions.

ORIFICE FLOW CURVE FOR AIR

(SPECIFIC GRAVITY 1.0)



SPECIFIC GRAVITY FACTORS					
Specific Gravity	0.07	0.2	0.4	0.5	0.6
Multiplying Factor	3.8	2.2	1.6	1.4	1.3
Specific Gravity	0.7	0.8	1.0	1.5	2.0
Multiplying Factor	1.2	1.1	1.0	0.82	0.71

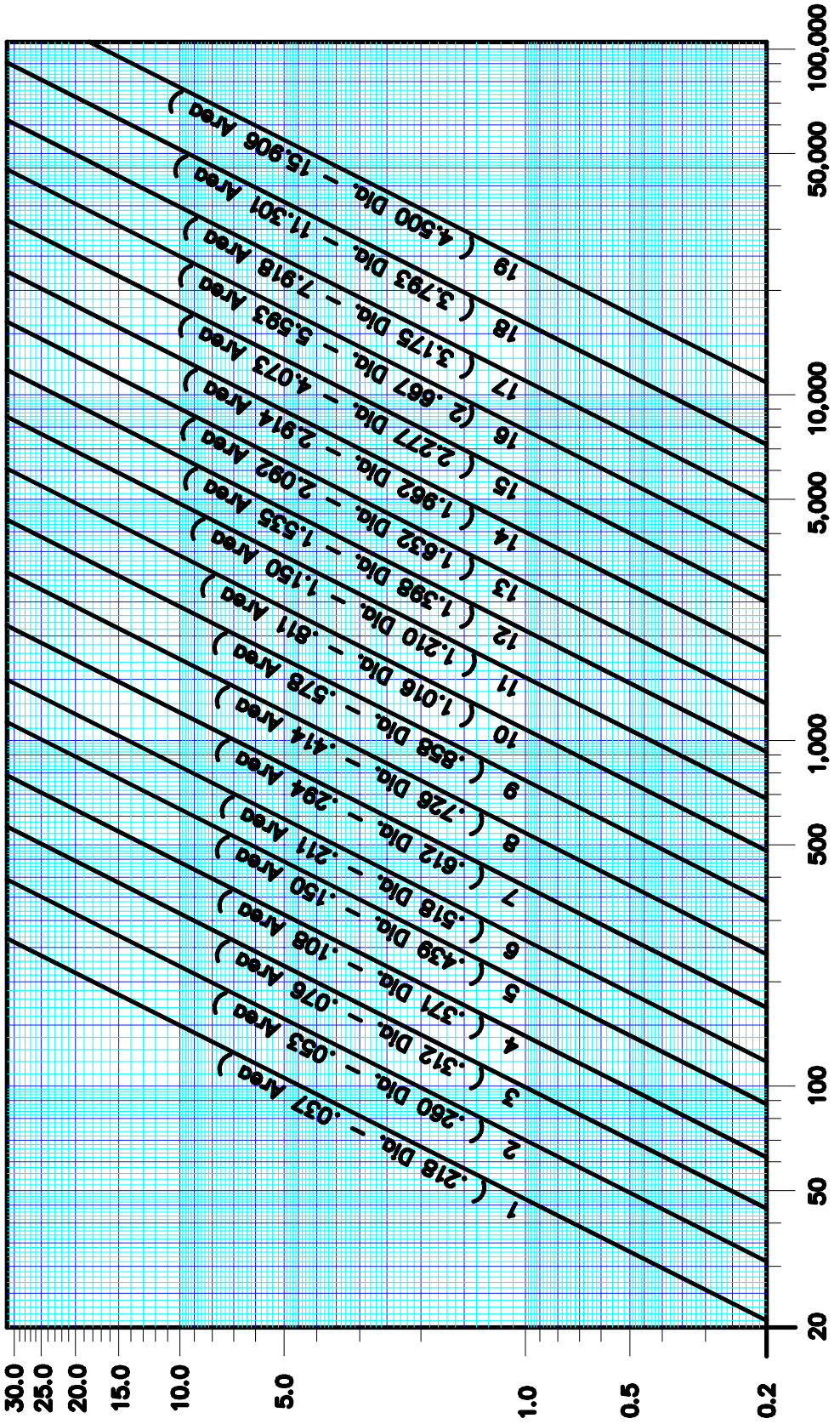
PRESSURE FACTORS					
Inlet Pressure - psig	1.0	2.0	3.0	4.0	
Multiplying Factor	1.03	1.07	1.10	1.13	
Inlet Pressure - psig	5.0	6.0	7.0	8.0	
Multiplying Factor	1.16	1.19	1.21	1.24	

TEMPERATURE FACTORS					
Inlet Gas Temperature - F.	60°	100°	150°	200°	
Multiplying Factor	1.0	0.963	0.924	0.887	
Inlet Gas Temperature - F.	250°	300°	400°	500°	
Multiplying Factor	0.856	0.826	0.778	0.736	

Note: Flow versus Pressure Drop Curves are based on air flows (sp. gr. = 1.0) at zero line pressure and 60° F temperature.

ORIFICE FLOW CURVE FOR GAS

(SPECIFIC GRAVITY 0.6)



PRESSURE FACTORS				
Inlet Pressure - psig	1.0	2.0	3.0	4.0
Multiplying Factor	1.03	1.07	1.10	1.13
Inlet Pressure - psig	5.0	6.0	7.0	8.0
Multiplying Factor	1.16	1.19	1.21	1.24

TEMPERATURE FACTORS				
Inlet Gas Temperature - F.	60°	100°	150°	200°
Multiplying Factor	1.0	0.963	0.924	0.887
Inlet Gas Temperature - F.	250°	300°	400°	500°
Multiplying Factor	0.856	0.826	0.778	0.736

Note: Flow versus Pressure Drop Curves are based on gas flows (sp. gr. = 0.6) at zero line pressure and 60° F temperature.