

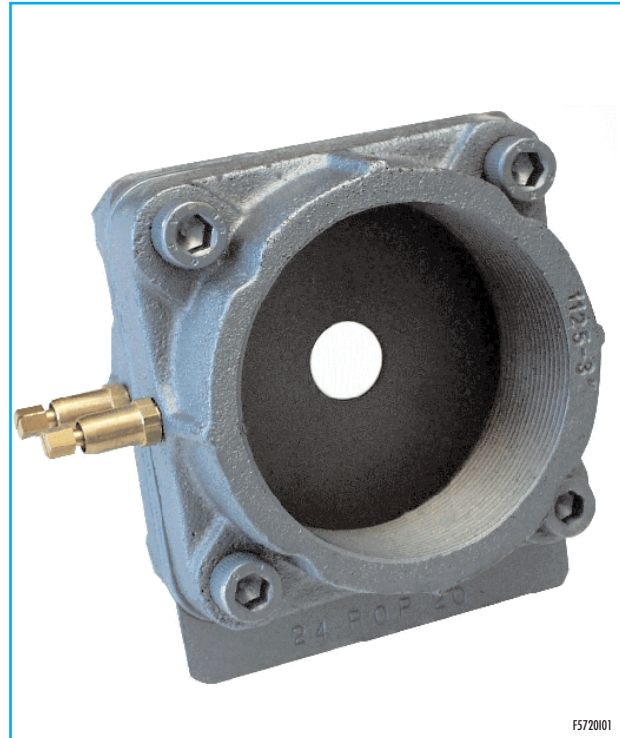
ORIFICE FLOW METERS POP-S SERIES

FEATURES

- | | |
|-------------------------------|-----------|
| • Threaded flanges: | cast iron |
| • Welding flanges: | iron |
| • Orifice port: | iron |
| • Max. operating temperature: | 400°C |
| • Max. operating pressure: | 350 mbar |
| • Gasket | AFM 20 |

APPLICATIONS

- To measuring the flow of a fluid.
- To measuring the pressure drop for the calibration of burners.



DESCRIPTION

Model 5720 calibrated orifice flow meters are designed for measuring flows of air or gases. 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. Gaskets are provided to seal both sides of the plate. Threaded or welding connection flanges are available. Orifice flow meters are ideal for measuring air and gas flows in combustion systems. Air/gas 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 manometers differential, model MAG, and ESA PT-1 transmitters.

INSTALLATION

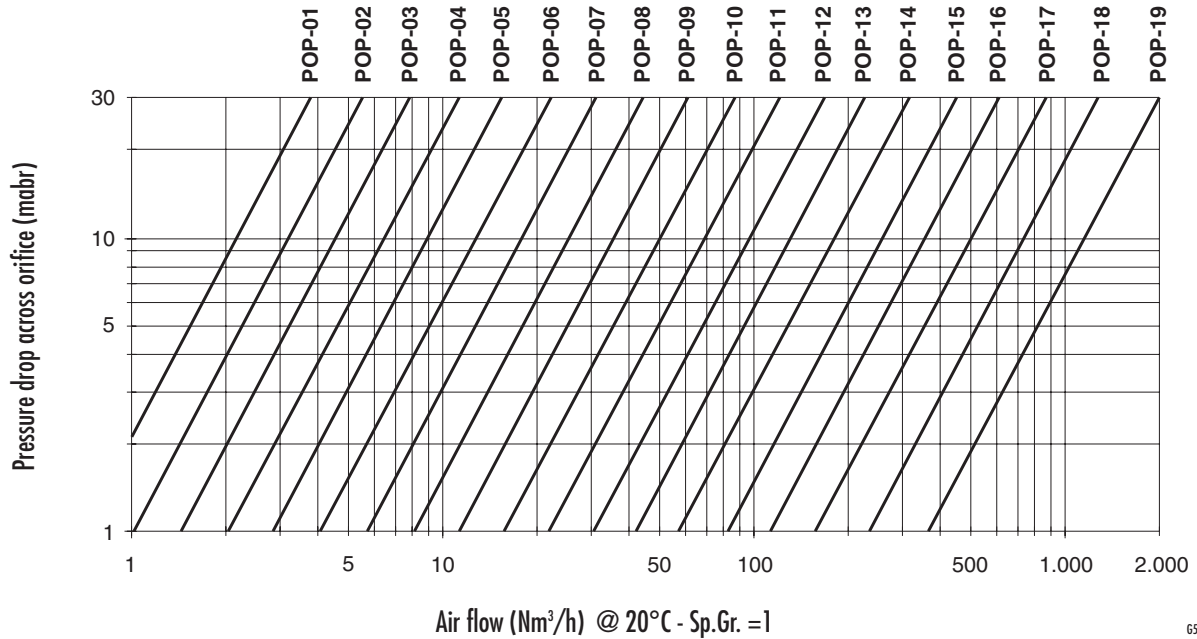
- Calibrated orifice flow meters should have, at least, 10 pipe diameters upstream and 5 pipe diameters downstream of smooth, clean, straight pipe for accurate readings.
- It is recommended to mount POP-S before any regulation valve.



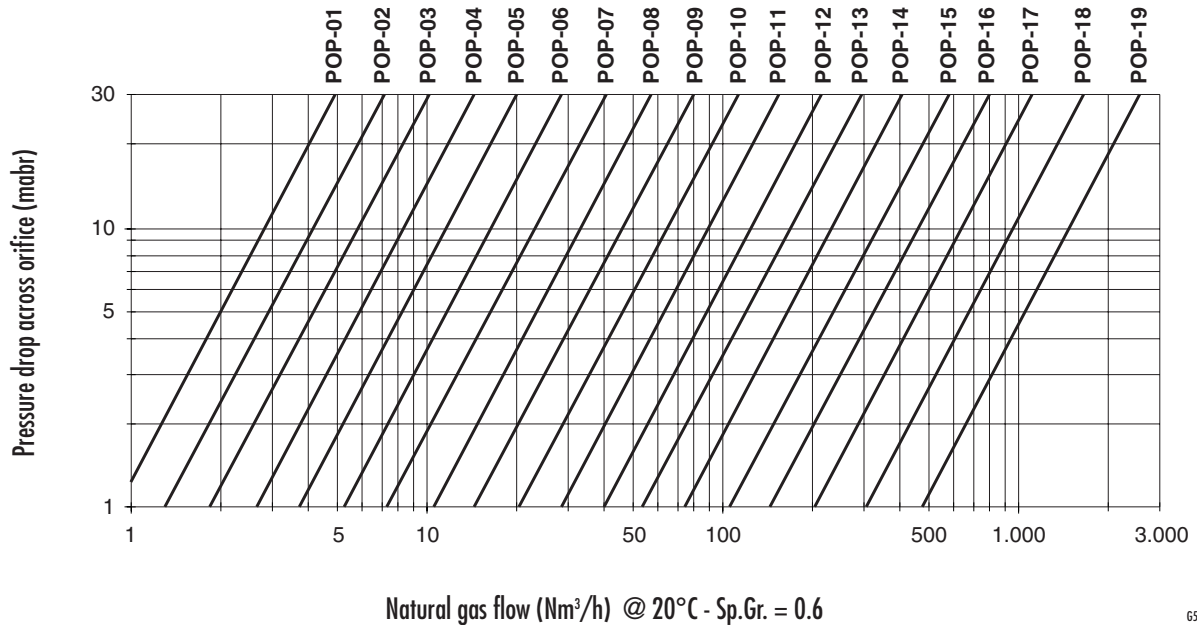
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AIR ORIFICE TABLE



NATURAL GAS ORIFICE TABLE



Characteristic curves on these tables show flow rate values (Nm³/h) relative to pressure loss (mbar) for standard orifices; curves are good for atmospheric pressure (1.013 bar) and flow temperature 20°C.

For flow rate values relative to different parameter, please refer to correcting tables for specific gravity, temperature and pressure. These tables show characteristics of standard orifices useful for an early choice of orifice flow meter.

CORRECTING TABLES

SPECIFIC GRAVITY FACTORS										
Specific gravity (air=1)	0.07	0.2	0.4	0.5	0.6	0.7	0.8	1.0	1.5	2.0
Multiplying factor *	3.8	2.2	1.6	1.4	1.3	1.2	1.1	1.0	0.82	0.71

TEMPERATURE FACTORS										
Temperature (°C)	20	50	100	150	200	250	300	350	400	450
Multiplying factor *	1	0.95	0.89	0.84	0.79	0.75	0.72	0.69	0.66	0.64

RELATIVE PRESSURE FACTORS											
Pressure (mbar)	0	50	100	150	200	250	300	400	500	700	1000
Multiplying factor *	1	1.05	1.1	1.15	1.20	1.25	1.30	1.39	1.49	1.69	1.99

* Values to be multiplied to flow rate value before looking at orifice tables.

STANDARD ORIFICE PLATE TABLE

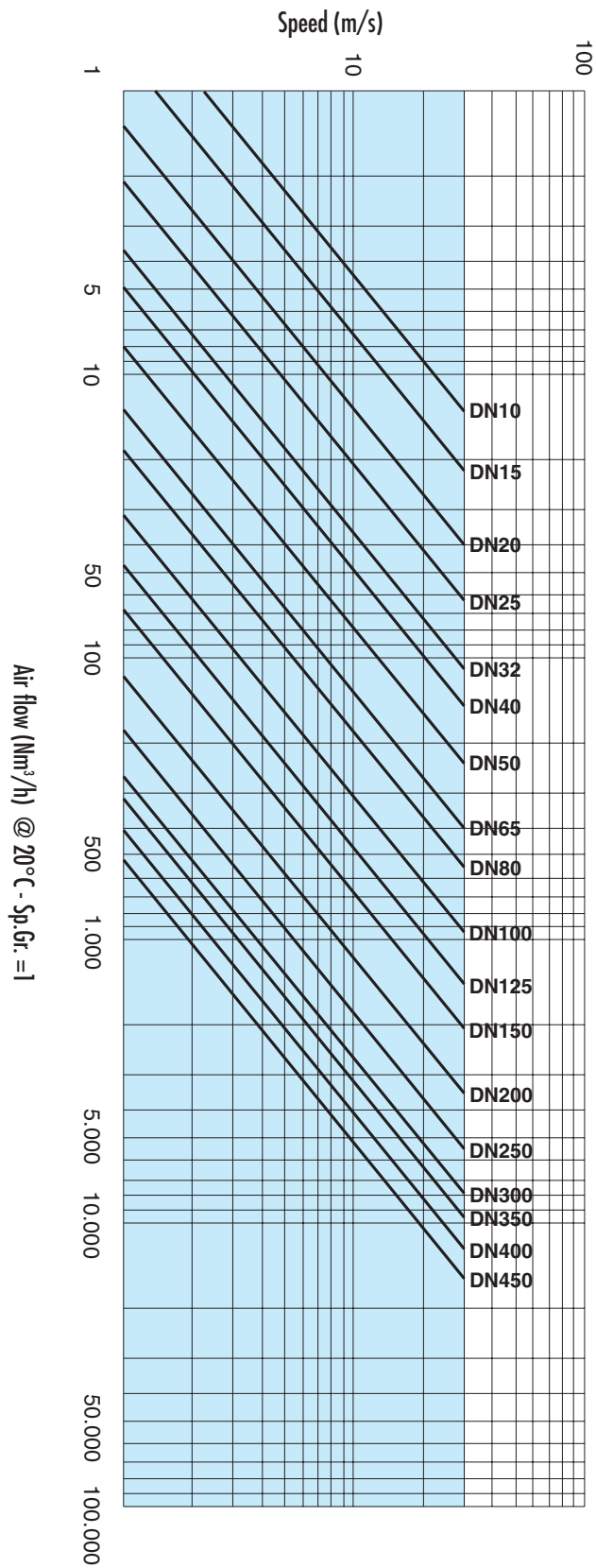
Catalog no.		Orifice plates listed are the minimum and the maximum diameters recommended per indicated pipe size																		
		-01	-02	-03	-04	-05	-06	-07	-08	-09	-10	-11	-12	-13	-14	-15	-16	-17	-18	-19
4 POP-S	1/2"	██████████																		
6 POP-S	3/4"	██████████																		
8 POP-S	1"	██████████																		
10 POP-S	1.1/4"		██████████																	
12 POP-S	1.1/2"			██████████																
16 POP-S	2"				██████████															
20 POP-S	2.1/2"					██████████														
24 POP-S	3"						██████████													
32 POP-S	4"							██████████												
48 POP-S	6"									██████████										

NOTE:

This table shows orifice flow meters suitable for orifice plate selected on previous tables. Orifice must be selected also according to flow speed in pipes, that should be lower than 20 m/s (see piping flow speed table).

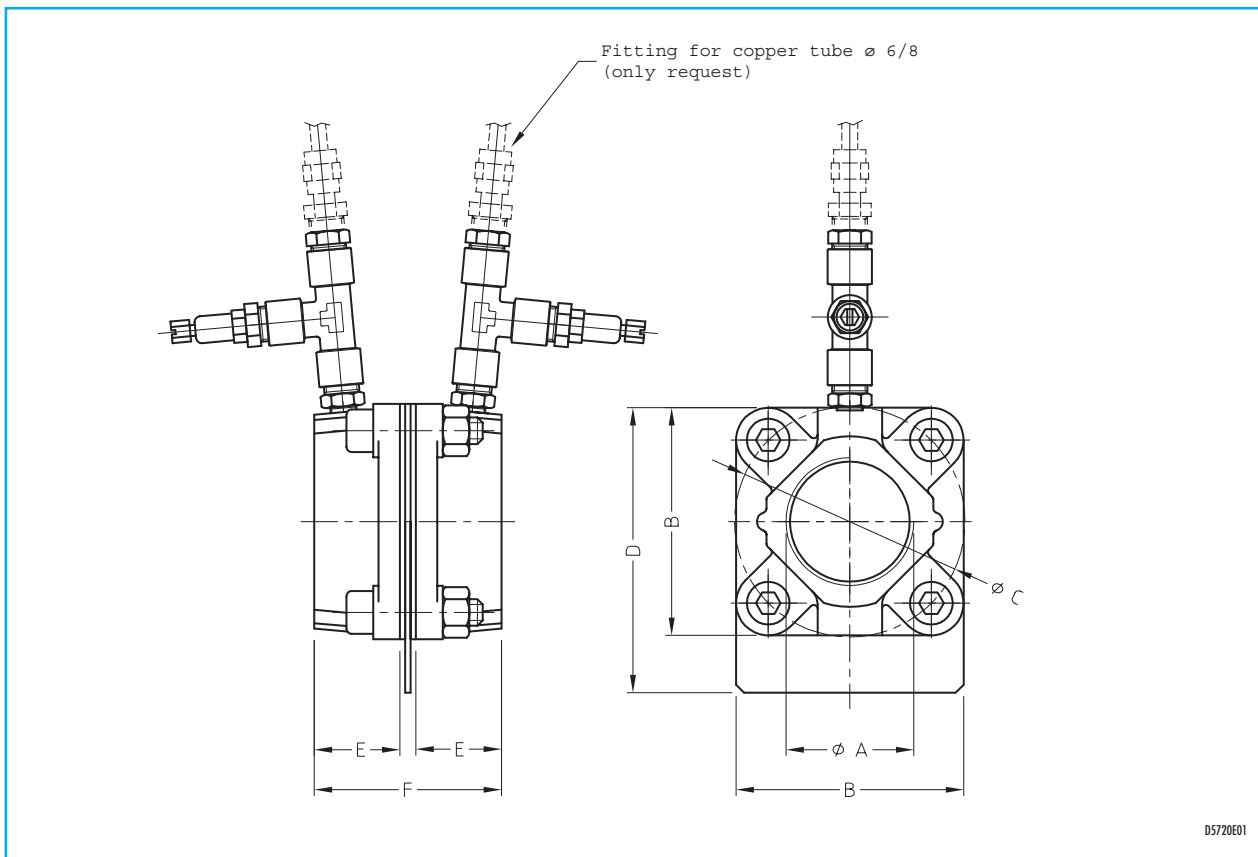
After having received customer's order and all useful informations (see "Ordering information"), ESA-PYRONICS calculates orifice dimension and verifies its applicability. With each flow meter, ESA-PYRONICS supply its orifice calculus and ΔP-capacity tables.

PIPING FLOW SPEED TABLE (UNI 8863)



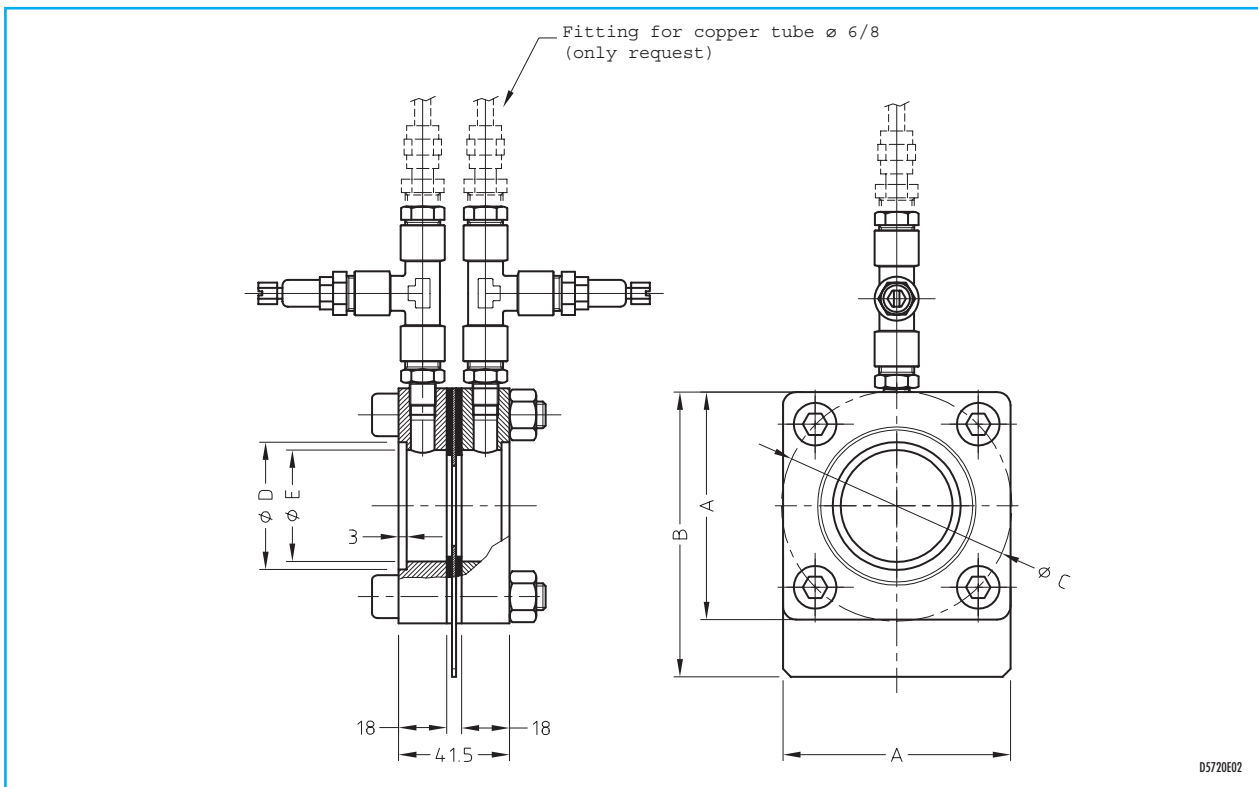
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DIMENSIONS



Catalog no.	Threaded connections \varnothing A	B mm	\varnothing C mm	D mm	E mm	\varnothing F mm	Mass kg
4 POP-S	G - 1/2"	58.7	60.3	79	20	46	0.7
6 POP-S	G - 3/4"	58.7	60.3	79	20	46	0.6
8 POP-S	G - 1"	58.7	60.3	79	20	46	0.5
10 POP-S	G - 1.1/4"	76.2	81	95	30.5	67	1.2
12 POP-S	G - 1.1/2"	76.2	81	95	30.5	67	1.1
16 POP-S	G - 2"	87.3	96.8	107	30.5	67	1.4
20 POP-S	G - 2.1/2"	101.6	111.1	122	32	70	2
24 POP-S	G - 3"	111.1	123.8	130	38	82	2.4

DIMENSIONS



Catalog no.	Pipe connections ø	ø A mm	B mm	ø C mm	ø D mm	ø E mm	Mass kg
4 POP-S	1/2"	60	79	60.3	22	17	0.9
6 POP-S	3/4"	60	79	60.3	28	22	0.8
8 POP-S	1"	60	79	60.3	34	28	0.7
10 POP-S	1.1/4"	80	96	81	43	37	1.2
12 POP-S	1.1/2"	80	96	81	49	42	1
16 POP-S	2"	90	107	96.8	61	53	1.3
20 POP-S	2.1/2"	100	122	111.1	77	68	1.8
24 POP-S	3"	110	130	123.8	90	80	2
32 POP-S	4"	150	172	168.1	115	106	4
48 POP-S	6"	200	222	235	170	157	7

ORDERING INFORMATION

- Specify the type of fluid
- Specify the nominal capacity
- Specify the nominal pressure drop
- Specify the operating temperature
- Specify the operating pressure
- Specify the diameter of the pipe (DN)