

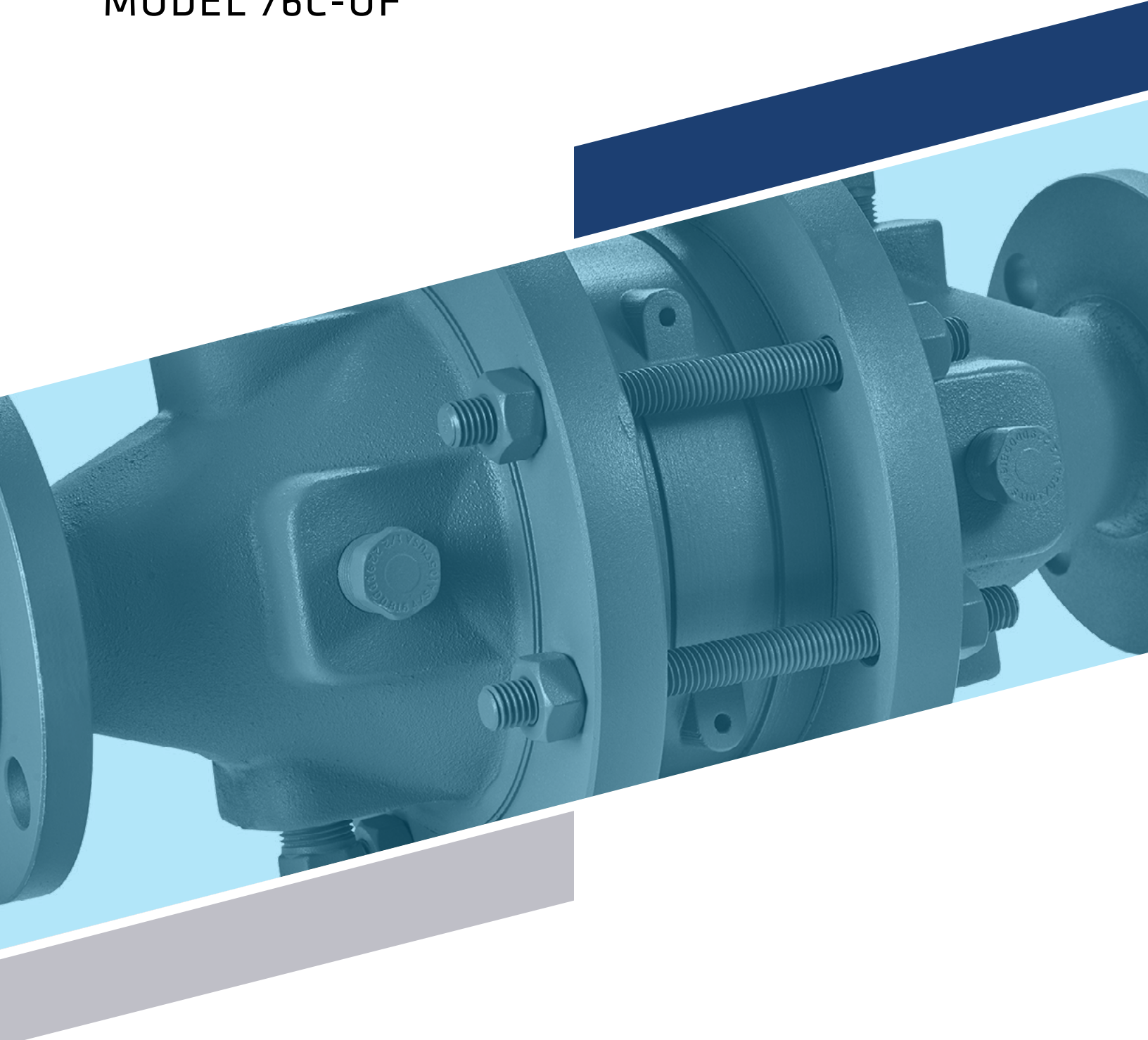


®

**CORPORATION**

# **FLAME ARRESTER**

MODEL 76C-UF



# MODEL 76C-UF

The Groth Model 76C-UF is designed to inhibit flame propagation in gas piping systems and to protect low pressure tanks containing flammable liquids. Arresters protect low flash point liquids from external sources of ignition providing increased fire protection and safety.

## Technical Details

- Connection Sizes: 2" through 12" 150# ASME Flanged Connection, DIN bolting available
- Housing standard material: Carbon Steel, Stainless Steel
- Bases standard material: Aluminum (2"-6" only), Carbon Steel, Stainless Steel
- Flame element standard material: 316 Stainless Steel
- Operational Temperature Range: -4 to 140 °F (-20 to 60 °C)
- Gas Group: IEC IIA, NEC D
- Maximum Operational Pressure: see charts and IOM
- Burn Time:  $t_{BT}$  2.5 minutes or better at Atmospheric Pressure (see charts and IOM)

## Features

- Flame arrester element geometry maximizes flame quenching capability while minimizing pressure drop
- Removable element housing for ease of maintenance
- Spiral-wound, crimped ribbon flame element
- Flame elements made standard with premium 316SS material, reducing corrosion
- Bi-directional with respect to flow and ignition source

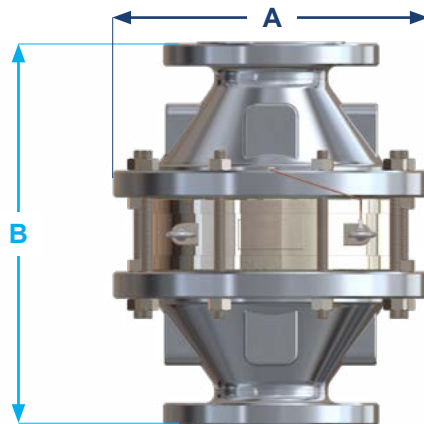
## Options

- Exterior painting or coating available
- Drains and instrumentation ports available
- Available factory installed thermocouples for flame sensing



# SPECIFICATIONS

Connection Size 150# ASME	Housing Nominal Size	A Width	B Height ± 1.0"		Approx Ship. Wt. Lbs. (kg) Carbon Steel Bases	Approx Ship. Wt. Lbs. (kg) Aluminum Bases
Inches (Nominal mm)	Inches (Nominal mm)	Inches (mm)	CS/SS Base Material inches (mm)	AL Base Material inches (mm)		
2 (50.8)	6 (152.4)	9.2 (233.68)	16 (406.4)	16.5 (419.1)	63 (29)	32 (15)
3 (76.2)	8 (203.2)	11.2 (284.48)	16 (406.4)	16.5 (419.1)	111 (50)	64 (29)
4 (101.6)	10 (254)	13.2 (335.28)	16 (406.4)	16.5 (419.1)	132 (60)	68 (31)
6 (152.4)	16 (406.4)	20 (508)	21 (533.4)	21.5 (546.1)	298 (135)	181 (82)
8 (200)	20 (500)	23.5 (597)	33 (838)	n/a	538 (244)	n/a
10 (250)	24 (600)	27.1 (688)	38.0 (965)	n/a	772 (350)	n/a
12 (300)	28 (700)	32.3 (820)	41.0 (1041)	n/a	1120 (508)	n/a



Specifications subject to change without notice. Certified dimensions available upon request.

# SPECIFICATIONS

For an arrester to be properly applied, all the requirements for one of the two following configuration scenarios must be met:

## 1) Straight Pipe, Closed End Configuration:

Connection Size x Housing Size	Gas Group	End Condition	Maximum Pipe Length from Ignition Source to Flame Arrestor	Maximum Operational Pressure	Allowable Bend(s)*	Maximum Burn Time at Atmospheric Pressure	Operational Temperature Range °F (°C)
2" x 6" thru 12" x 28"	D (IIA)	Closed or Open End	50 pipe diameters	17.4 psia (1.2 bara) or better, see IOM	None	2.5 minutes or better, see IOM	-4 to 140 (-20 to 60)

Model 76C-UF, Straight Pipe, Closed End Configuration, is designed and tested according to EN ISO 16852:2016, except for:  
1. The short time burn test was conducted at atmospheric pressure, for a time period extending past 1 minute.

\*No additional bends or restrictions are allowed.

## 2) Configuration with Bend, Open End Configuration:

Connection Size x Housing Size	Gas Group	End Condition	Maximum Pipe Length from Ignition Source to Flame Arrestor	Maximum Operational Pressure	Allowable Bend(s)*	Maximum Burn Time at Atmospheric Pressure	Operational Temperature Range °F (°C)
2" x 6" thru 4" x 10"	IIA (D)	Open End	20 ft total length: A = max of 15 ft B = max of 5 ft	15.5 psia (1.07 bara) or better, see IOM	One 90 Degree	2.5 minutes or better, see IOM	-4 to 140 (-20 to 60)
6" x 16"	IIA (D)	Open End	25 ft total length: A = max of 20 ft B = max of 5 ft	17.4 psia (1.2 bara) or better, see IOM	One 90 Degree	3 minutes	-4 to 140 (-20 to 60)
8" x 20"	IIA (D)	Open End	26 ft total length: A = max of 20 ft B = max of 6 ft	17.4 psia (1.2 bara), see IOM	One 90 Degree	3 minutes	-4 to 140 (-20 to 60)
10" x 24"	IIA (D)	Open End	33 ft total length: A = max of 25 ft B = max of 8 ft	17.4 psia (1.2 bara), see IOM	One 90 Degree	3 minutes	-4 to 140 (-20 to 60)
12" x 28"	IIA (D)	Open End	40 ft total length: A = max of 30 ft B = max of 10 ft	17.4 psia (1.2 bara), see IOM	One 90 Degree	3 minutes	-4 to 140 (-20 to 60)

Model 76C-UF, Configuration with Bend, Open End Configuration, is designed and tested according to EN ISO 16852:2016, except for:

- The piping on the unprotected side, consisted of ignition source, "A" ft of straight pipe, one 90 degree bend, "B" ft of straight pipe, then the arrester.
- The short time burn test was conducted at atmospheric pressure, for a time period extending past 1 minute.

**\*No additional bends or restrictions are allowed. Bends and flow restrictions can cause additional turbulence, which can increase the intensity of the flame propagation; potentially compromising the performance of the flame arrester.**

\*\*See configuration with bend diagram

# SPECIFICATIONS

Figure 1: Straight Pipe, Allowable Installation Configuration

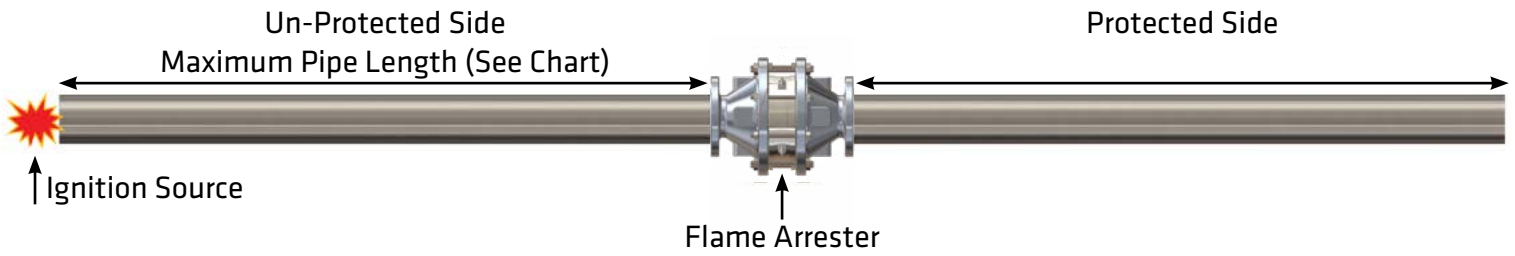
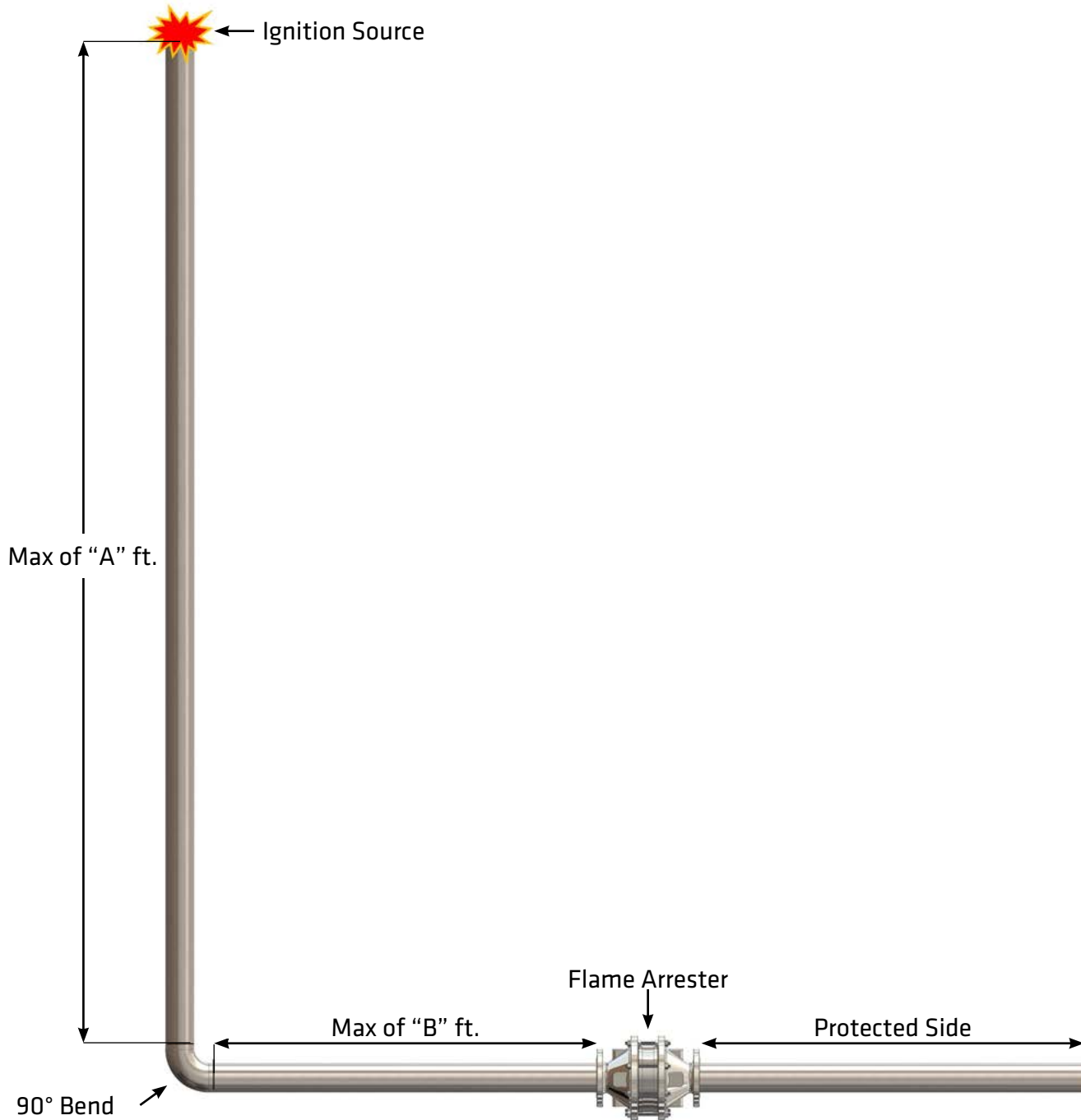
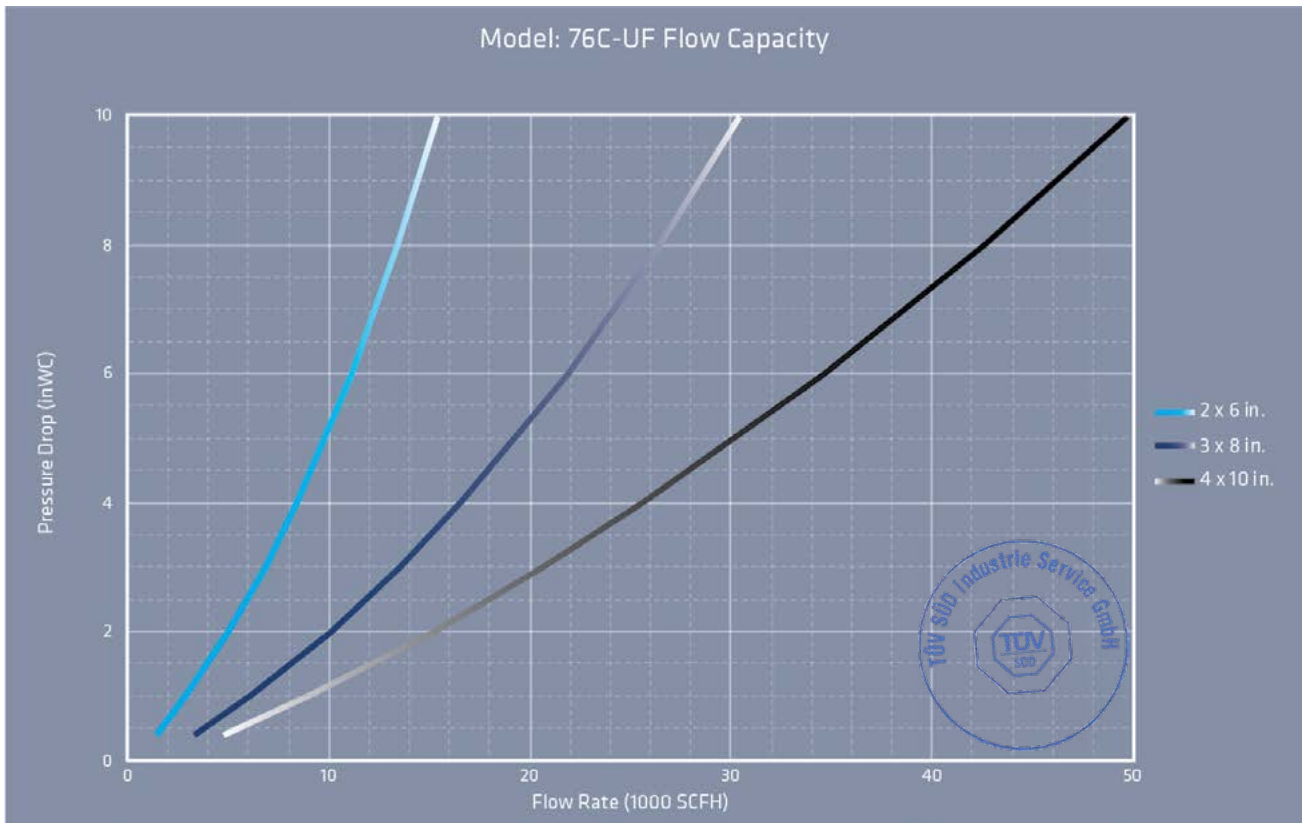
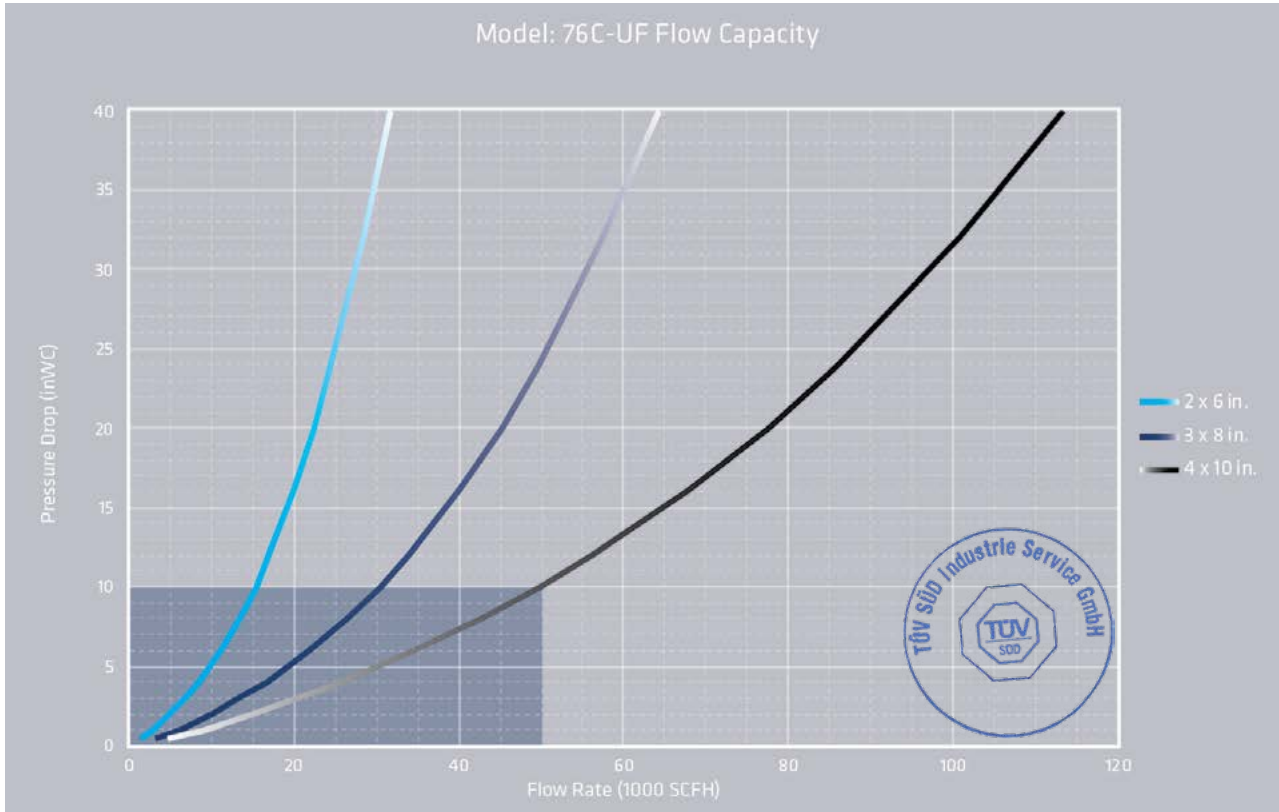


Figure 2: Configuration with Bend, Allowable Installation Configuration



# FLOW CAPACITY

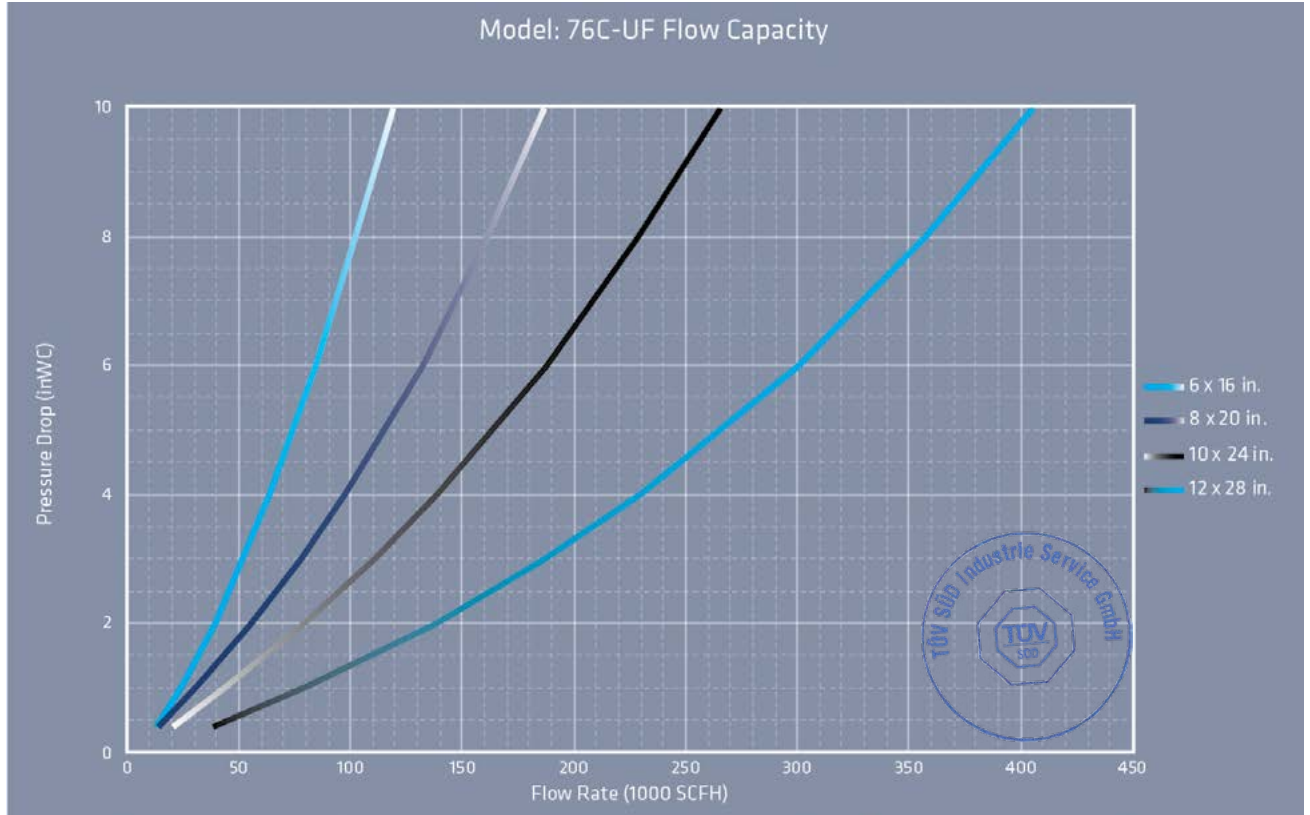
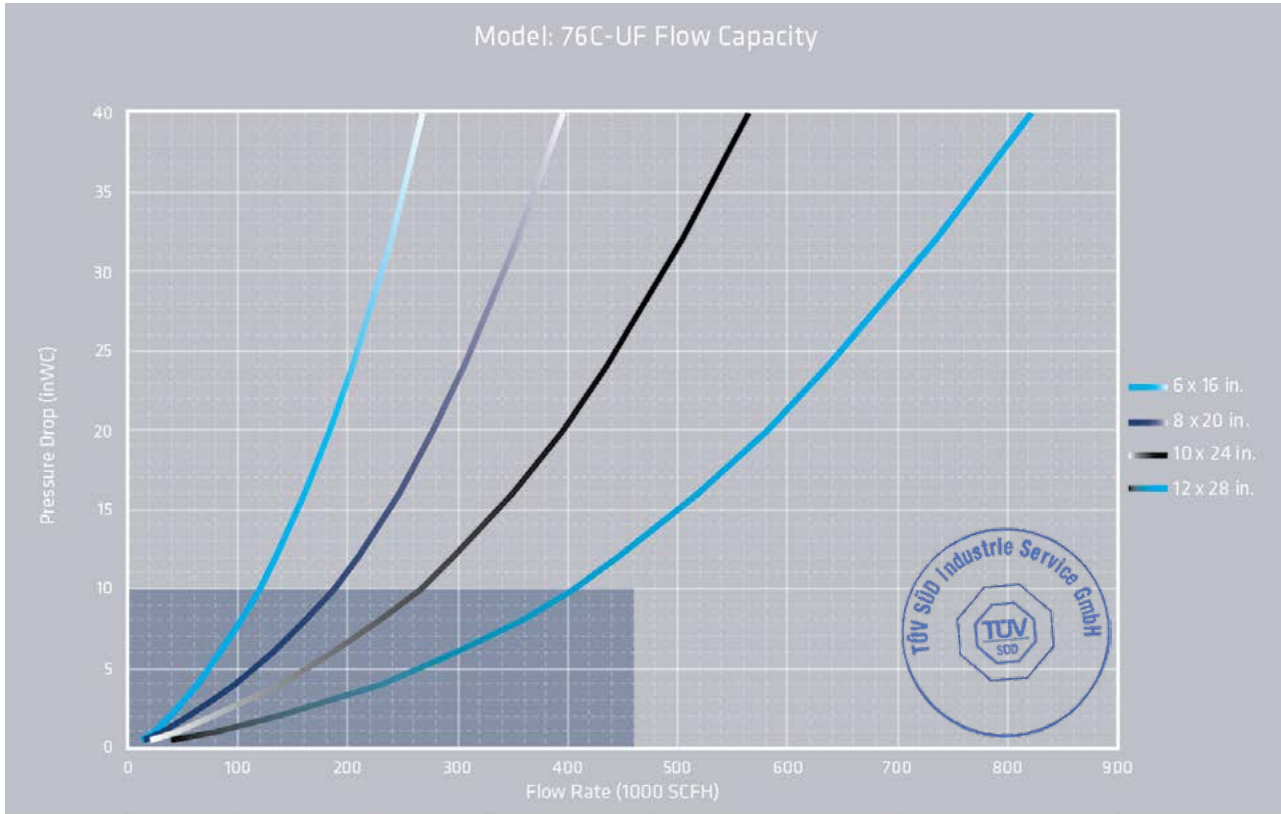


The test equipment, procedures, and reporting methods utilized by Groth Corporation meet the requirements of standards API 2000/ISO 28300 and ISO 16852. The equipment, methods, and results have been reviewed and certified by TÜV SÜD.

Flow data are for in-line mounting and does not include entrance losses or exit losses.

Flow values based on air at 60°F venting to atmospheric pressure of 14.6959 psia.

# FLOW CAPACITY

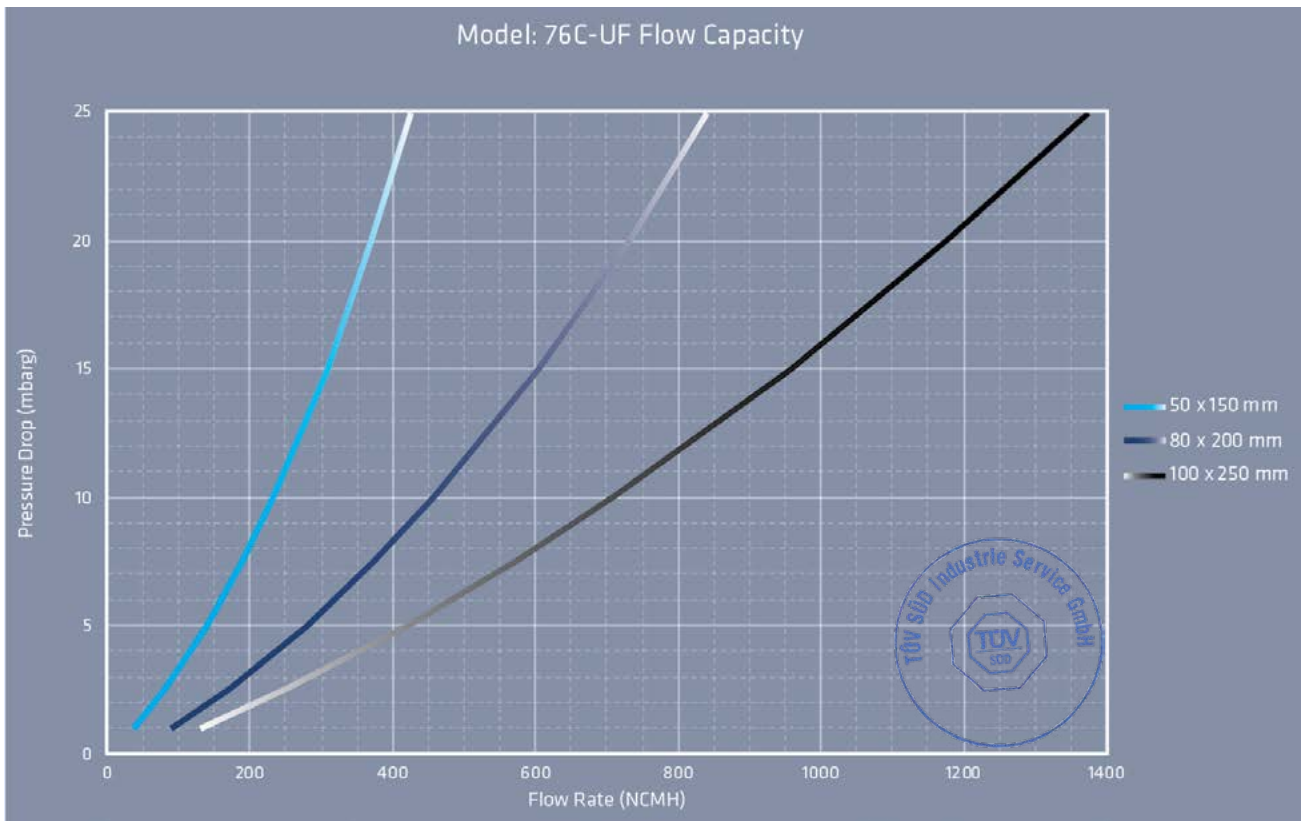
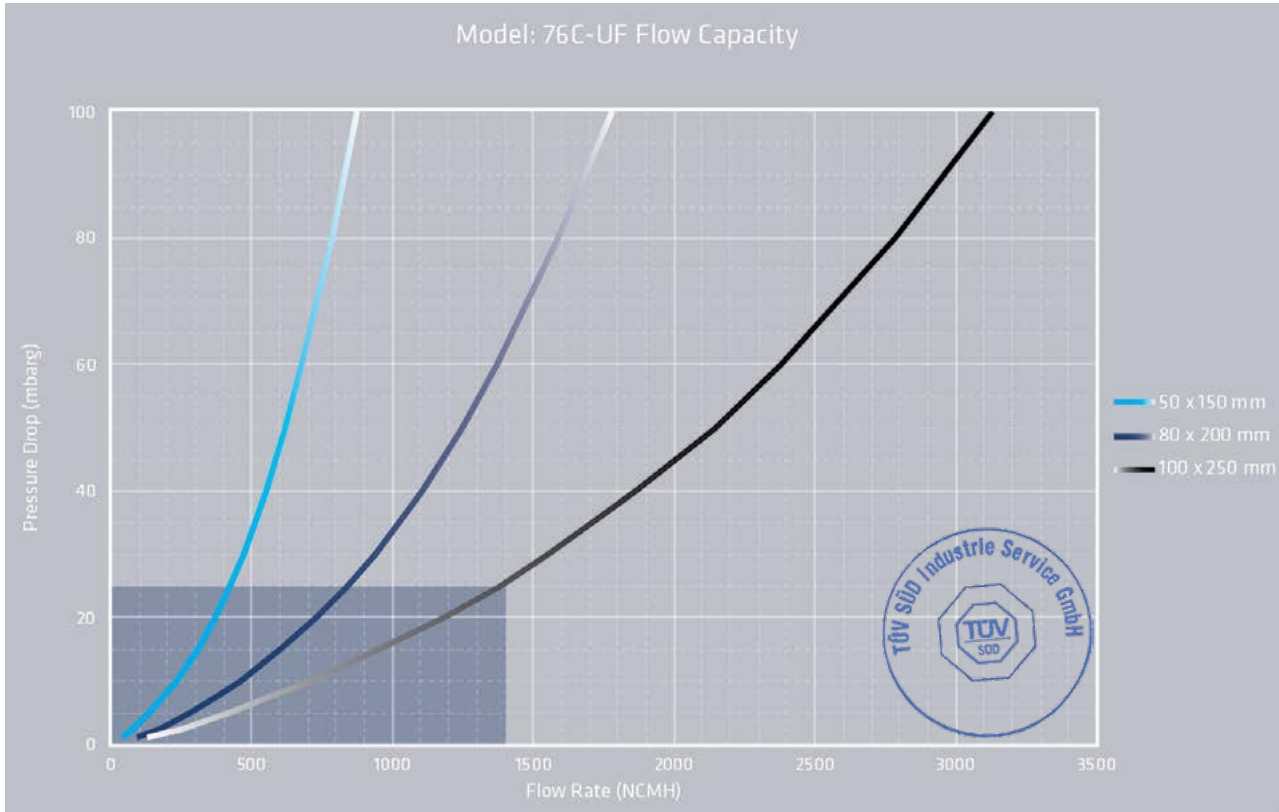


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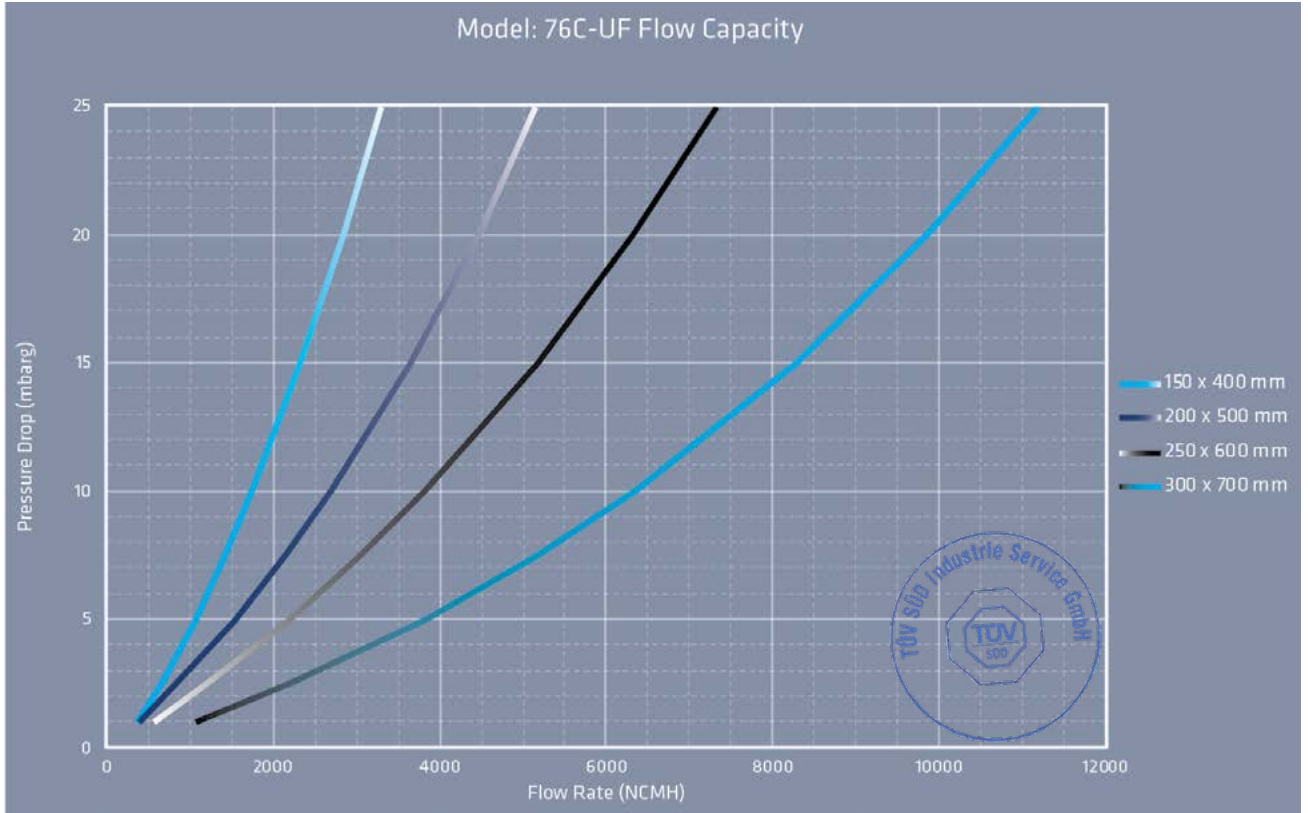
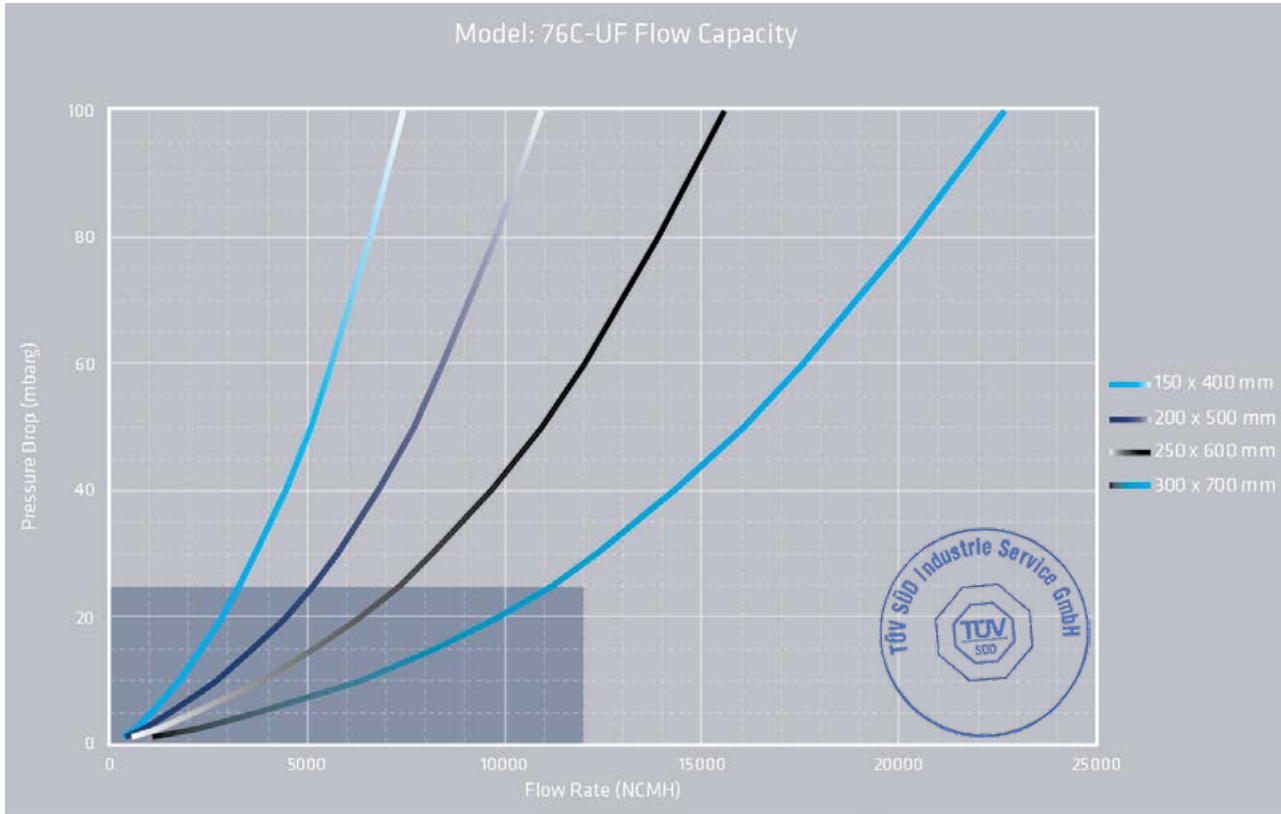
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Flow data are for in-line mounting and does not include entrance losses or exit losses.

Flow values based on air at 0°C venting to atmospheric pressure of 1.01325 bara.



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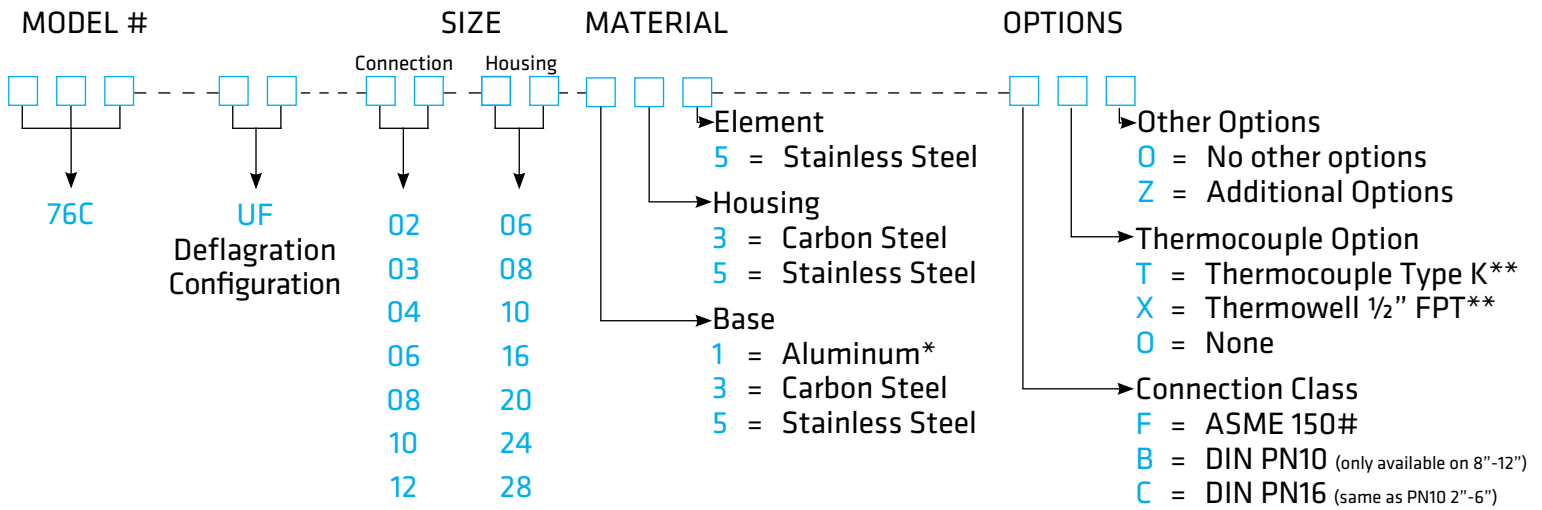
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Flow data are for in-line mounting and does not include entrance losses or exit losses.

Flow values based on air at 0°C venting to atmospheric pressure of 1.01325 bara.

# HOW TO ORDER

For easy ordering, select proper model numbers



## Notes

- Include model number and setting when ordering
- For special options, consult factory
- \*Aluminum base material is only available in connection sizes 2" through 6"
- \*\* Outlet Only

## Example

7 6 C - U F - 0 2 0 6 - 3 3 5 - F T 0

Indicates a 2" x 6" Model 76C-UF, with carbon steel bases, carbon steel housing, 316 SS element, 150# ASME bolting, a thermocouple Type K and no other options.



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