Pitot tube
Model FLC-APT-E, extractable version
Model FLC-APT-F, fixed version

FloTec

Applications

- Oil production and refining
- Water treatment and distribution
- Gas processing and transmission
- Chemical and petrochemical industries

Special features

- Suitable for liquid, gas and steam flow measurement
- Accuracy ±2 % of actual flow rate
- Repeatability of measurement 0.1 %
- Lowest pressure loss in the family of primary flow elements (approx. 1 %)

Pitot tubes
Fig. left: Extractable, model FLC-APT-E
Fig. right: Fixed, model FLC-APT-F

Description

FloTec is a multiport self-averaging flow meter with a design based on the classical pitot tube concept. This pitot tube produces an averaged differential pressure proportional to the square of the flow rate.

The differential pressure output of the pitot tube is normally connected to a differential pressure measuring instrument in order to generate an electrical signal from the differential pressure. This electrical signal is proportional to the flow rate. A differential pressure measuring instrument or a differential pressure switch can be used to provide local indication of the flow rate or for switching tasks.

The pitot tube is suitable for the measurement of one-phase media which completely fill the cross-section of the pipe.

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Specifications

Nominal size and pipe schedule
Nominal sizes of 50 ... 1,800 mm (2" ... 72")
The pipe schedule must be specified by the customer.

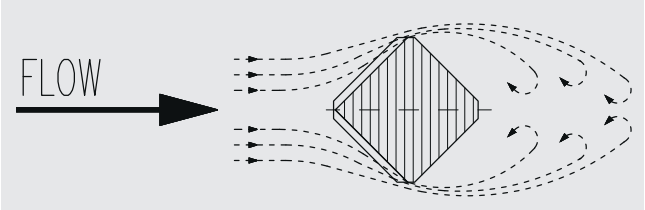
The overview on page 4 will help to select the best suitable version.

Nominal pressure rating
Depending on the selected mounting type, the flange will respect the nominal pressure rating of the pipeline (in accordance with the relevant standards).

For mounting types, see page 3

Materials
Completely made from stainless steel AISI 316.
Other materials are available on request

Profile shape
The upstream side is designed to generate a break point, due to which the medium passes around the pitot tube without causing any turbulence. This feature creates a stable pressure with a constant flow coefficient at the downstream measuring point, even at high flow rates. Thus a very wide range of applications in the field of flow measurement is enabled.

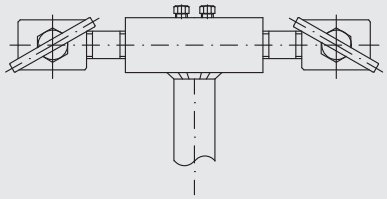


Vortex shedding frequency
Depending on the inner diameter, the medium characteristics and the Reynolds number, a vortex will be generated around the pitot tube. If the natural frequency of the pitot coincides with the vortex shedding frequency, an end support can be mounted on the opposite side of the pipe (see page 4). The necessity test is performed during the design phase.

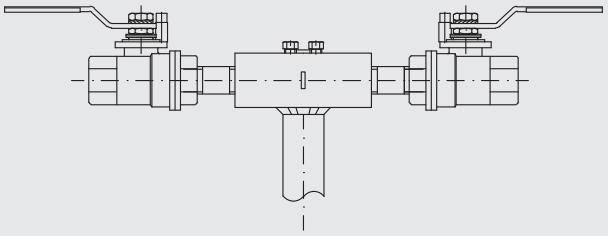
For further details and information, see Technical information IN 00.15 at www.wika.com

Pressure tap

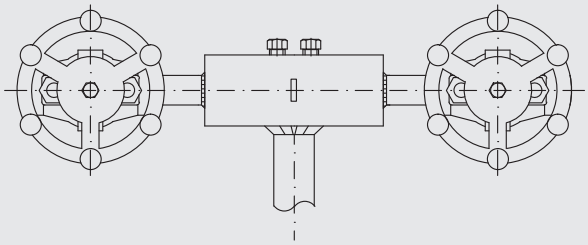
Needle valves (standard)



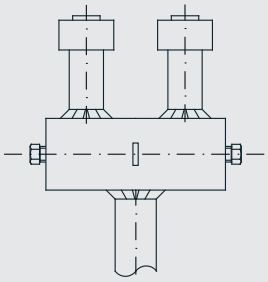
Ball valves



Gate valves

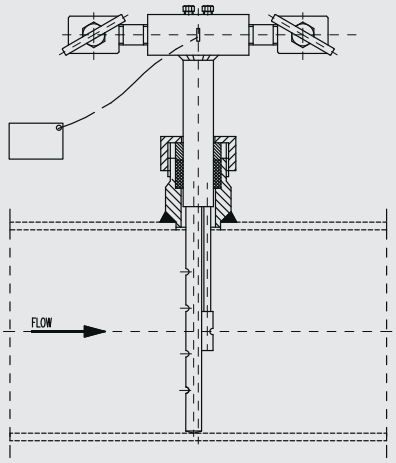


Flanged, for a direct connection of a differential pressure transmitter

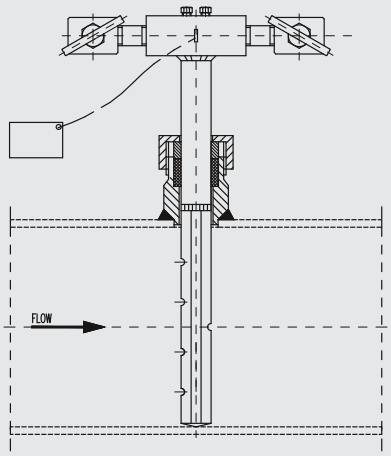


Available variants

Series 73
For small nominal sizes ≤ 5" and low-stress conditions

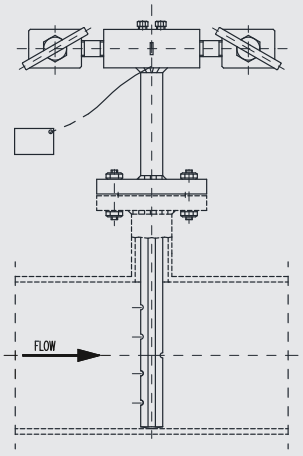


Series 75 [1)]
For medium nominal sizes ≤ 42" and medium-stress conditions (obtained from 20 mm square bar)



Series 78 [1)]
For large nominal sizes ≤ 42" and high-stress conditions (obtained from 40 mm square bar)

Not available with compression fitting



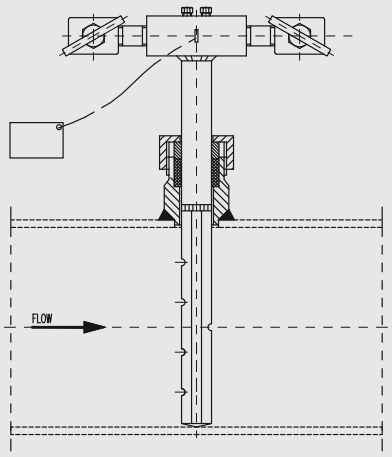
1) Bi-directional version on request

The overview on page 4 will help to select the best suitable version.

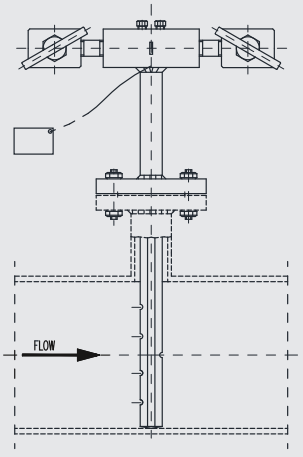
Mounting types

Model FLC-APT-F

Compression fitting
Mounting by means of a sealed gland with ferrule

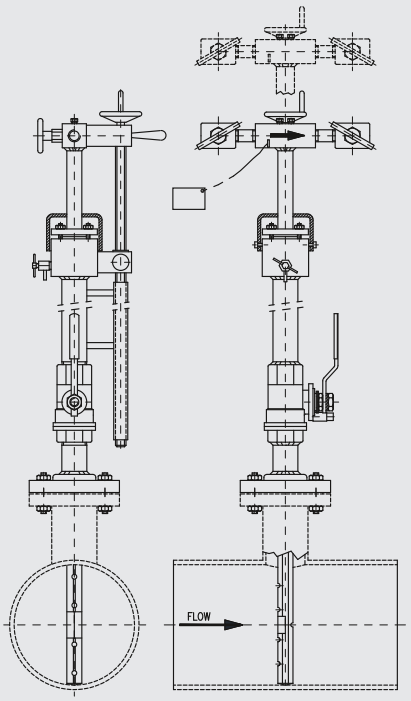


Flanged version
Mounting by means of a flange nozzle



Model FLC-APT-E

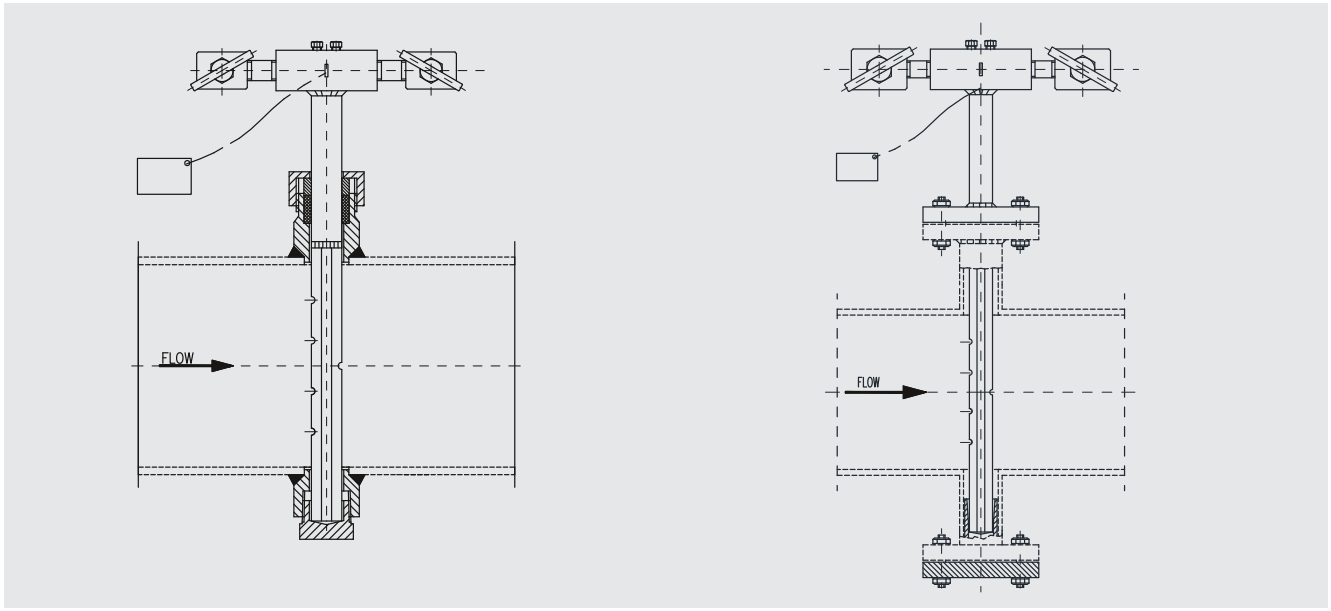
Extractable version
Mounting by means of a flange nozzle, extractable under process conditions



Sizes from 2 ... 3½" on request

End support (option)
The choice of the suitable version depends on the vibrations under process conditions.

The end support is not available for series 73.



The following overview will help to select the best suitable version.

Overview

Compression fitting

Series	73	75		78	
End support	without	without	with	without	with
2"	*				
2 ½"	*				
3"	*				
3 ½"	*				
4"	●	●	●		
5"	●	●	●		
6"		●	●		
8"		●	●		
10"		●	●		
12"		●	●		
14"		●	●		
16"		●	●		
18"		●	●		
20"		●	●		
24"		●	●		
30"		●	●		
36"		●	●		
42"		●	●		
48"			●		
60"			●		
72"			●		

Flanged version

Series	73	75		78	
End support	without	without	with	without	with
2"					
2 ½"					
3"					
3 ½"	*				
4"	●				
5"	●				
6"		●	●		
8"		●	●		
10"		●	●		
12"		●	●	●	●
14"		●	●	●	●
16"		●	●	●	●
18"		●	●	●	●
20"		●	●	●	●
24"		●	●	●	●
30"		●	●	●	●
36"		●	●	●	●
42"		●	●	●	●
48"		●	●	●	●
60"		●	●	●	●
72"		●	●	●	●

Extractable version

Series	73	75		78	
End support	without	without	with	without	with
2"					
2 ½"					
3"					
3 ½"					
4"		●	●		
5"		●	●		
6"		●	●		
8"		●	●		
10"		●	●		
12"		●	●	○	○
14"		●	●	○	○
16"		●	●	○	○
18"		●	●	○	○
20"		●	●	○	○
24"		●	●	○	○
30"		●	●	○	○
36"		●	●	○	○
42"		●	●	○	○
48"				○	○
60"				○	○
72"					

● possible without limitations
○ possible up to max. 200 °C
* on request

Ordering information

Model / Nominal size and pipe schedule / Nominal pressure rating / Material / Pressure tap / Mounting type / Available model / End support

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