

Flow Nozzle



Flow Nozzle for measuring High Velocity Flow
as a Differential Pressure Devices

Flow Nozzles

Series FN

✓ Principle

FN Flow nozzles are used as primary elements in flow measurement of steam, liquid, and gas according to the differential pressure principle.

✓ Construction

Design and calculation Standards

: ISO 5167-3, ISA, ASME,

Sizes : DN 50 – 500, 2 – 24 Inches.

Pressure rating : PN 10 - 400, 150 - 2500 lbs.

β (d/D) : $0.3 < \beta < 0.8$

Material : Stainless Steel (Especially AISI 316), Carbon Steel, Monel, Inconel, Super Duplex, 6Mo and others on request.

Mounting style : But Weld ends according to DIN 2559 or ANSI B16.25

Pressure taps : \varnothing 21.3 mm, 24 mm, 26.9mm, 3/8", 1/2" BSP, 1/2" NPT

Tap lengths : 150 mm, others on request.

Tap location : At least 45° apart. For steam flow in a horizontal pipe: 180°
To be stated with order.

Tappings : Single pressure tappings

Tap lengths : 150 mm, others on request

Tap location : At least 45 degrees apart, for sizes below DN 150. To be stated with order.

✓ Technical Data

Accuracy : 0.8 % for $\beta < 0.6$, $(2\beta - 0.4)$ % for $\beta > 0.6$
(According to ISO 5167-3)

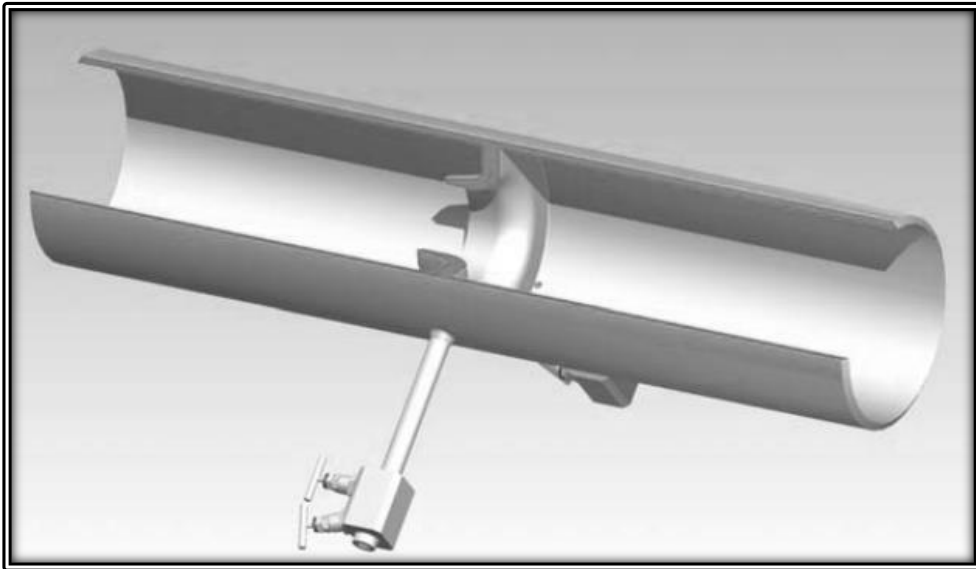
Pressure loss : Depending on β , for β equal to 0.6: ca. 60 % of the differential pressure measured

Limits for Re. No. : $2 \times 10^4 < Re < 1 \times 10^7$ according to ISO 5167-3

✓ Accessories

Shut-off valves and condensing chambers for steam flow measurement

Marking : Main tube marked with flow direction. Taps with "+" and "-".
Other data on attached nameplate.



*ISA 1932 nozzle with condensing chambers for steam flow measurement
in a horizontal or vertical pipe line*

Dimensions

The minimum Upstream Straight Length and minimum Downstream Straight Length for installation this device is given in following table according to two most usual standards, ISO 5167 and DIN 19125:

DN	Pipe Inner Dia.	Upstream length ISO 5167	Total length ISO 5167	Upstream length DIN 19125	Total length DIN 19125
50	45 - 57	115	230	150	250
65	58 - 72	145	290	180	300
80	73 - 90	180	360	230	350
100	91 - 112	225	450	280	400
125	113 - 137	275	550	350	500
150	138 - 162	325	650	400	600
(175)	163- 187	375	750	470	700
200	188 - 225	450	900	570	800
250	226 - 275	550	1100	690	1000
300	276 - 325	650	1300	820	1200
350	326 - 375	750	1500	950	1400
400	376 - 425	850	1700	1050	1500
450	426 - 475	950	1900	1200	1700
500	476 - 550	1100	2200	1370	2000
600	551 - 650	1300	2600	1500	2000
700	651 - 750	1500	3000	1500	2000
800	751 - 850	1700	3400	1500	2000
900	851 - 950	1900	3800	1500	2000
1000	951 - 1100	2200	4400	1500	2000

All dimensions are in mm

Some Samples of Flow Nozzle:

