

Alfa Laval GJ PF FT

Rotary jet heads

Introduction

The Alfa Laval GJ PF FT is a rotary jet head tank cleaning machine for hygienic environments. Designed to clean tanks with capacities from 15-150 m³, it combines pressure and flow to create high-impact cleaning jets that rotate in a repeatable and reliable 360-degree cleaning pattern.

The GJ PF FT minimizes the consumption of water and cleaning media. Easy to customize to meet customer requirements, it allows companies to spend less time cleaning and more time producing.

Applications

The Alfa Laval GJ PF FT is designed for the removal of the toughest residues from hygienic tanks across a broad range of industries, such as the dairy, brewery, distillery, beverage, food, pharmaceutical, and personal care industries.

Due to its slim design, the GJ PF FT is ideal to retrofit spray balls, thereby reducing Cleaning-in-Place costs and cleaning time.

Benefits

- 60% faster cleaning = more time for production
- Saves up to 70% of your cleaning cost
- Eliminates the need for confined space entry for manual tank cleaning
- High-impact cleaning in a 360° repeatable cleaning pattern
- Cleaning process can be validated using Alfa Laval Rotacheck
- Slim design makes it possible to insert through small tank inlet openings

Standard design

The choice of nozzle diameters can optimize jet impact length and flow rate at the desired pressure.

Alfa Laval offers a wide range of tank cleaning machines suitable for different duties and industries. An alternative that offers performance similar to the Alfa Laval GJ PF FT is the Alfa Laval TJ20G, which offers a more hygienic design. The TJ20G is ideal for applications that require material traceability 3.1 material certification, ATEX certification, and smooth qualification and validation processes through the Alfa Laval Q-doc documentation package.

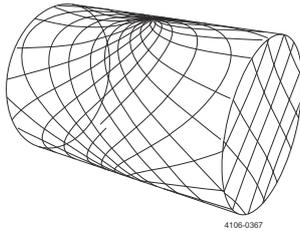


Working principle

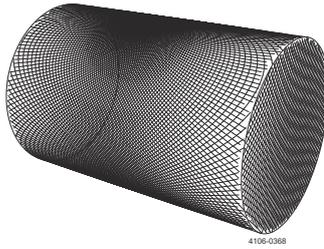
The high-impact jet stream from the Alfa Laval GJ PF FT rotary jet head is designed to cover the entire surface of the tank interior in a successively denser pattern. This achieves a powerful mechanical impact with a low volume of water and cleaning media.

The flow of the cleaning fluid makes the nozzles perform a geared rotation around the vertical and horizontal axes. In the first cycle, the nozzles lay out a course pattern on the tank surface. The subsequent cycles gradually make the pattern denser until at full cleaning pattern is reached. Once the full cleaning pattern is reached, the machine will start over again and continue to perform the next full cleaning pattern.

Cleaning Pattern



First Cycle



Full Pattern

The above drawings show the cleaning pattern achieved on a cylindrical horizontal vessel. The difference between the first cycle and the full pattern represents the number of additional cycles available to increase the density of the cleaning.

Certificate

2.1 material certificate

TECHNICAL DATA

Lubricant:	Self-lubricating with the cleaning fluid
Max. throw length:	14 - 20 m

Pressure

Working pressure:	3 - 28+ bar
Recommended pressure:	4 - 20 bar

PHYSICAL DATA

Materials

316L, PPS¹, PTFE¹ EPDM¹ (FKM¹ and FFKM¹ available)

¹ FDA compliance 21CFR§177

Temperature

Max. working temperature:	90 °C
Max. ambient temperature:	140 °C

Weight:	4.5 kg
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Finish

Surface finish:	0.8 µm
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Connections

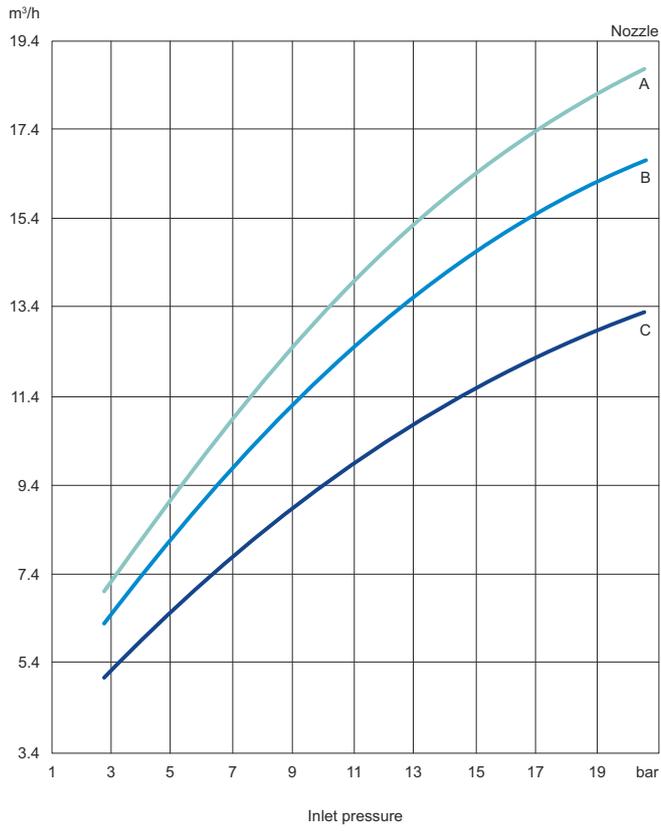
Standard thread:	1½" US/IDØ38,4 Clip-on
Available option:	1½" ISO 2852 Clamp
	1½" NPT female Thread
	DN40 Clip-on DIN 11850 range 1
	DN40 Clip-on DIN 11850 range 2
	ODØ38,1/1½" ISO 2037 Weld-on

Caution

Avoid hydraulic shock, hard and abrasive particles in the cleaning liquid, as this can cause increased wear and/or damage of internal mechanisms. In general, a filter in the supply line is recommended. Do not use for gas evacuation or air dispersion. For steaming we refer to the manual.

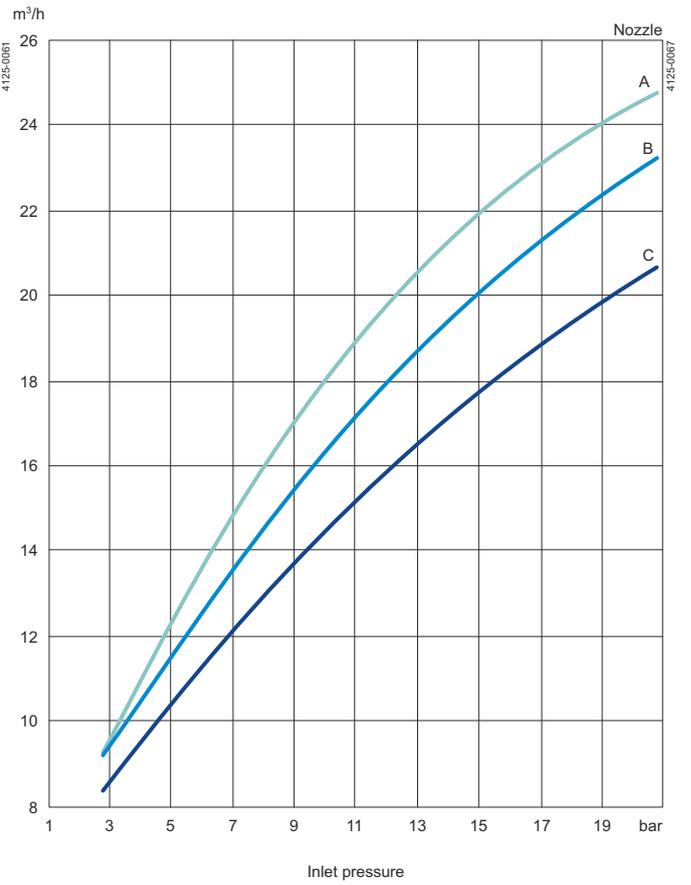
Flow Rate

2-nozzle



A = 9.5 mm
B = 7.9 mm
C = 6.4 mm

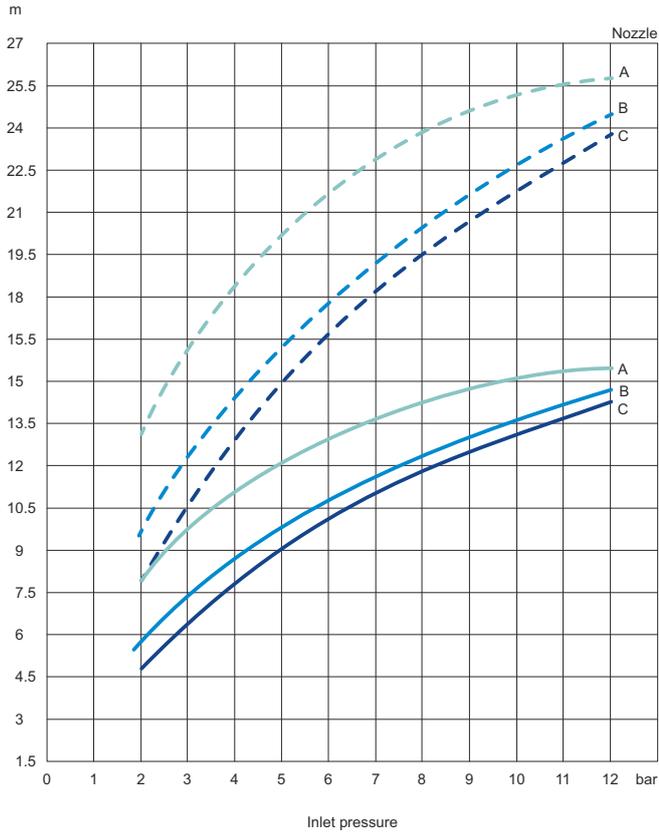
4-nozzle



A = 9.5 mm
B = 7.9 mm
C = 6.4 mm

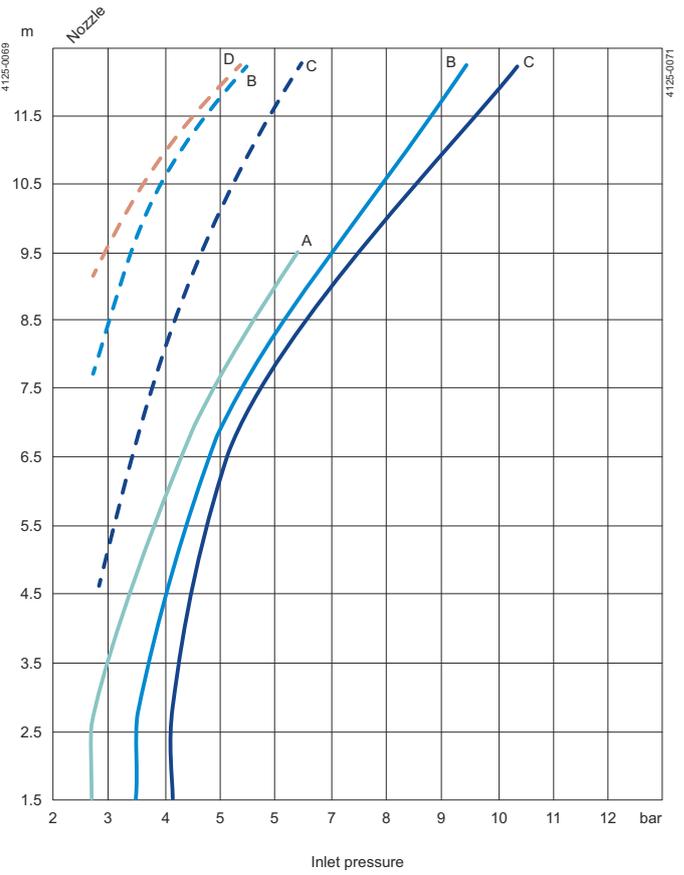
Impact

2-nozzle



A = 2 x Ø6.4 mm
 B = 2 x Ø7.9 mm
 C = 2 x Ø9.5 mm

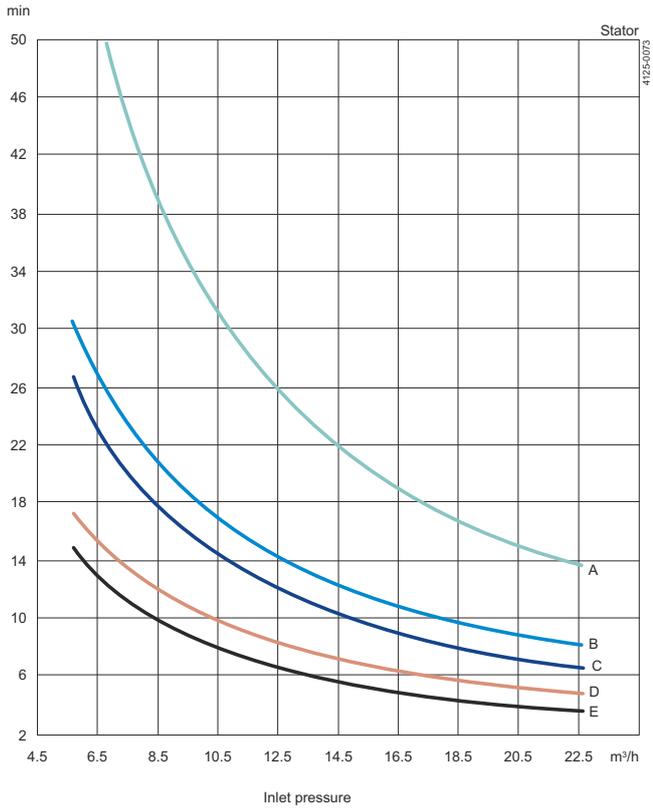
4-nozzle



A = 6.3 mm D = 6.4 mm
 B = 7.9 mm
 C = 9.5 mm

Custom inlets available. Contact your local Alfa Laval representative for details.

Cleaning Time



A = LM
B = MV
C = SML
D = STD
E = LP

Dimensions (mm)

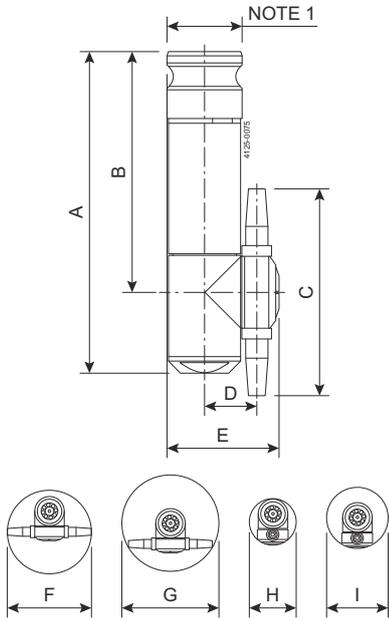


Figure 1. 2-nozzle

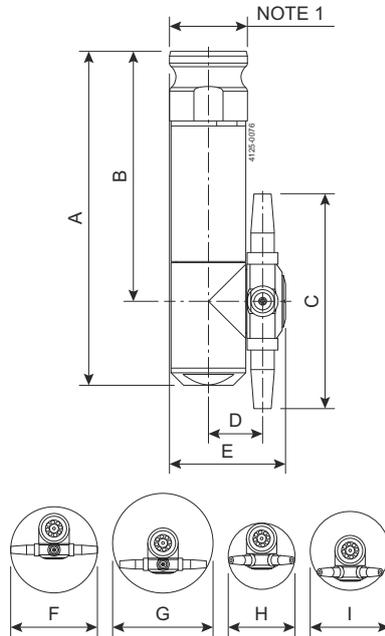


Figure 2. 4-nozzle

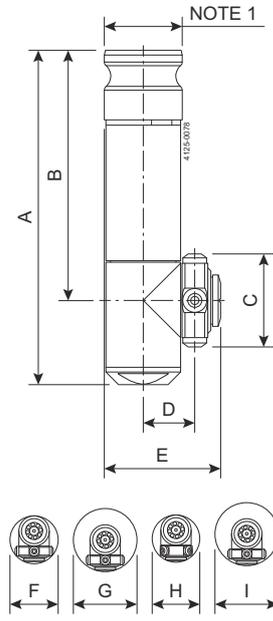


Figure 3. Low-profile

2-nozzle

A	B	C	D	E	F	G	H	I
272	204	175	44	94	176	202	98	129



NOTE 1: 1-1/2" FNPT/2" CAMLOCK OR 1-1/2" BSP/2" CAMLOCK

4-nozzle

A	B	C	D	E	F	G	H	I
272	204	175	44	94	176	202	134.47	160.35



NOTE 1: 1-1/2" FNPT/2" CAMLOCK OR 1-1/2" BSP/2" CAMLOCK

Low-profile version

A	B	C	D	E	F	G	H	I
272	204	76	42	94	97	129	97	129

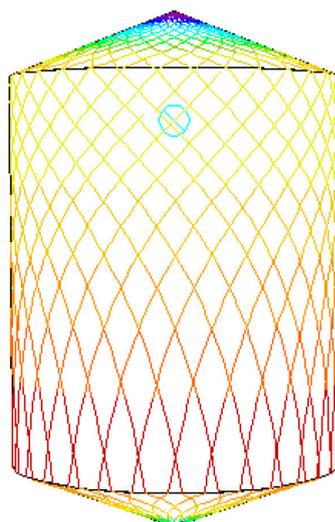
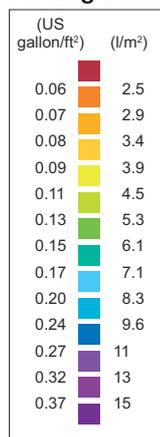


NOTE 1: 1-1/2" FNPT/2" CAMLOCK OR 1-1/2" BSP/2" CAMLOCK

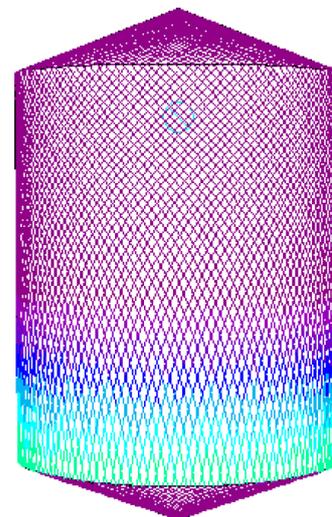
TRAX simulation tool

TRAX is a unique software that simulates how the Alfa Laval GJ PF FT version performs in a specific tank or vessel. The simulation gives information on wetting intensity, pattern mesh width and cleaning jet velocity. This information is used to determine the best location of the tank cleaning device and the correct combination of flow, time, and pressure to implement. A TRAX demo containing different cleaning simulations covering a variety of applications can be used as a reference and documentation for tank cleaning applications. The TRAX demo is free and available upon request.

Wetting Intensity



D9.1 m (360"), H14.7 m (580"), 2xØ7.94 mm (2xØ5/16") Time = 4.25 min



D9.1 m (360"), H14.7 m (580"), 2xØ7.94 mm (2xØ5/16") Time = 17 min

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