Alfa Laval GJ 10

Rotary jet heads

Introduction

The Alfa Laval GJ 10 is a fluid-driven rotary tank cleaning device for industrial environments that require underground fuel storage tanks. Capable of fitting through a 10 cm opening, the GJ 10 thoroughly cleans through a single insertion an underground fuel storage tank with a volume of 113,560 litres.

Lightweight, compact and efficient, it combines pressure and flow to create high-impact cleaning jets that are precision engineered to rotate in a precise, repeatable and reliable 360-degree pattern. Within minutes, this device blasts away contaminants and breaks up dirt and sludge, easily converts the contaminant-laden sludge into a liquid effluent for complete tank extraction and thorough tank cleaning.

The GJ 10 minimizes the consumption of water and cleaning media. The gear train, which uses food-grade lubricants, reduces the risk of particle damage to the machine during operation. Easy to customize to meet customer requirements, it allows companies to spend less time cleaning and more time producing.



Application

The Alfa Laval GJ 10 is the first and only automated tank cleaning machine capable of removing 100% of residual fuel, dirt and sludge from underground fuel storage tanks across the petroleum and contract cleaning industries.

Benefits

- Fast cleaning time = More production time
- Reduces water and resource usage, leading to reduced cost to clean
- Durable and reliable, rotary jet heads are proven to boost cleaning efficiency by providing reliable and repeatable cleaning performance

Standard design

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

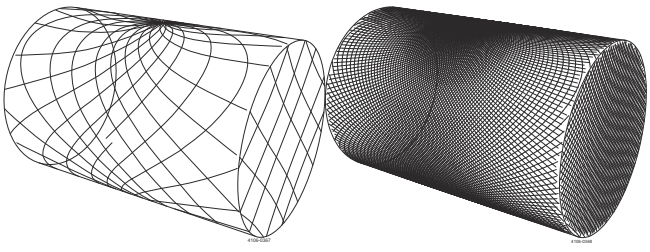
Working principle

The high-impact jet stream from the Alfa Laval GJ 10 rotary jet head covers 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.

TECHNICAL DATA

Lubricant:	Food grade
Max. throw length:	10.5 m

Pressure	
Working pressure:	2.75 - 20 bar
Recommended pressure:	3.5 - 18.5 bar

PHYSICAL DATA

Materials
1.4404 (316L), PPS, FKM (EPDM and FFKM available)

Temperature	
Max. working temperature:	95 °C
Max. ambient temperature:	140 °C

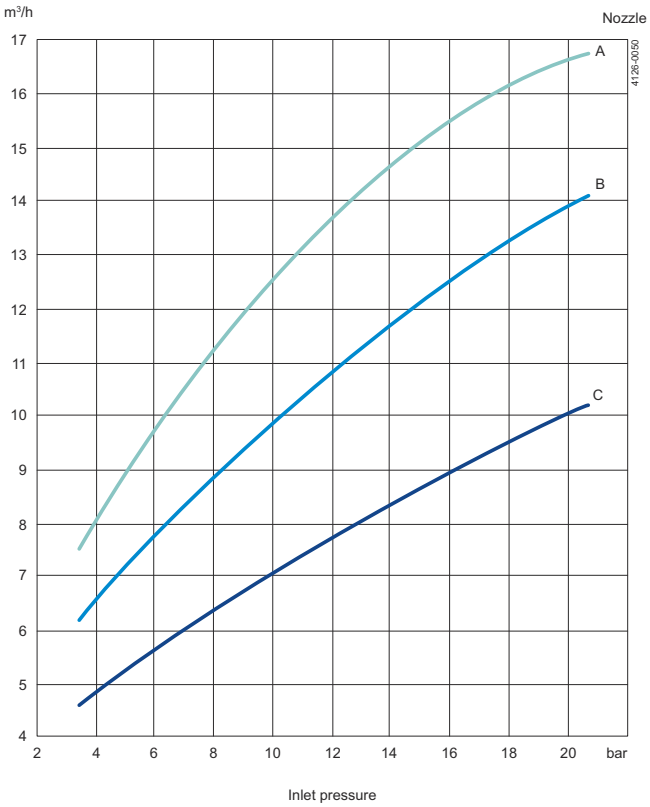
Weight	
Weight:	4.3 kg

Connections	
Standard thread	1½" NPT, 1½" BSP

Caution

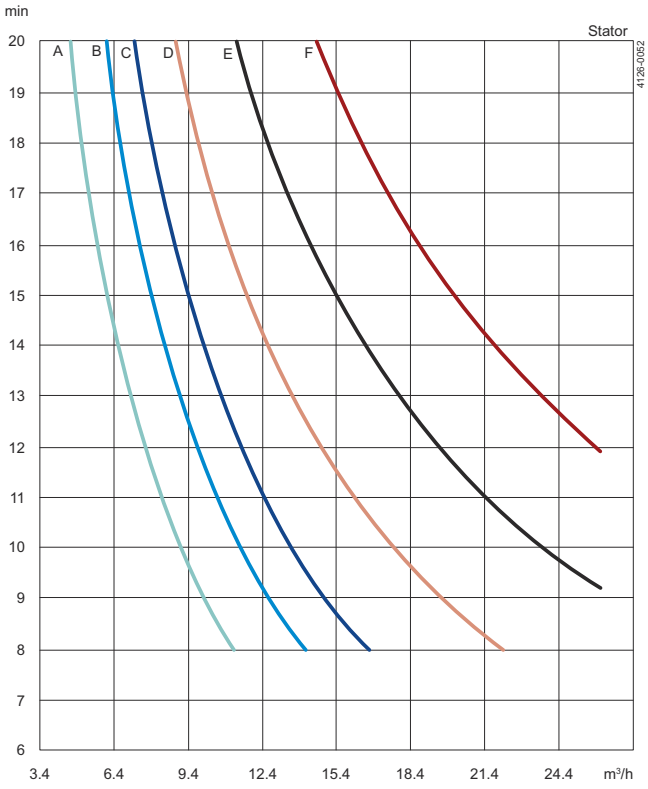
Avoid hydraulic shock, hard and abrasive particles in the cleaning liquid, as this can cause increased wear and/or damage of internal mechanisms. In general, a filter in the supply line is recommended. Do not use for gas evacuation or air dispersion. For steaming we refer to the manual.

Flow Rate



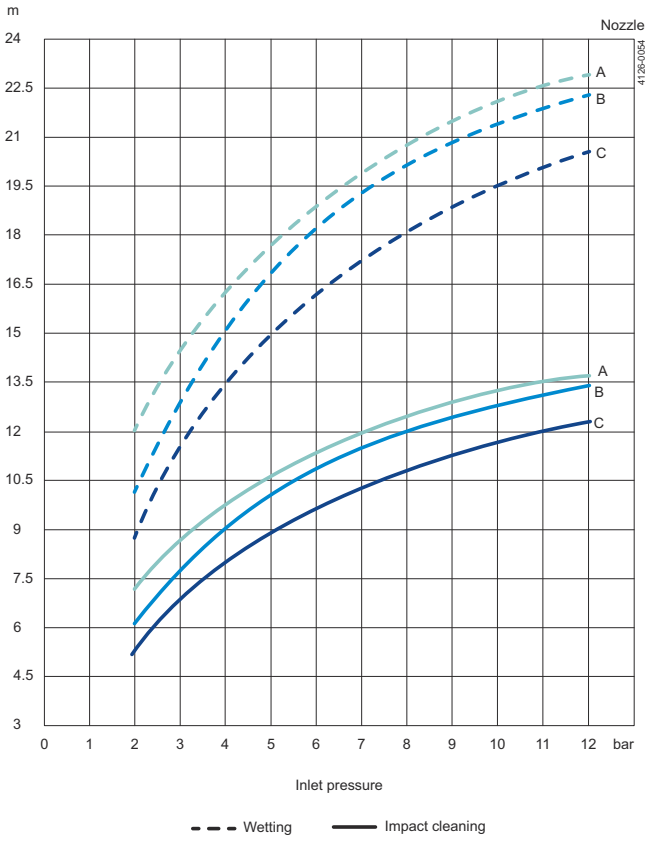
A = 9.5 mm
B = 7.9 mm
C = 6.4 mm

Cleaning Time



A = LP
B = STD
C = LV
D = MV
E = LM
F = HV

Impact Throw Length



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

Dimensions (mm)

A	B	C	D	E	F	G
272	204	93	42	98	100	138

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