

Alfa Laval TJ20G

Rotary jet heads

Introduction

The Alfa Laval TJ20G is a rotary jet head tank cleaning machine for hygienic environments. Built to clean tanks with capacities from 15 and 150 m³ / 3963-39626 USG it combines pressure and flow to create high-impact cleaning jets that rotate in a repeatable and reliable 360-degree cleaning pattern.

The TJ20G 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.

Application

The Alfa Laval TJ20G is designed for the removal of the toughest residues from hygienic tanks across a broad range of industries, such as the dairy, food, brewery, beverage, distillery¹, pharmaceutical, and personal care industries.

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

Standard design

The choice of nozzle diameters can optimize jet impact length and flow rate at the desired pressure. A special version of the Alfa Laval TJ20G is available for distillery applications where larger particles in the cleaning fluid can pass through without damaging the machine.

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 TJ20G is the Alfa Laval GJ PF FT for hygienic applications that require a small tank inlet opening.

Certificates

2.2 material certificate, Q-doc, ATEX

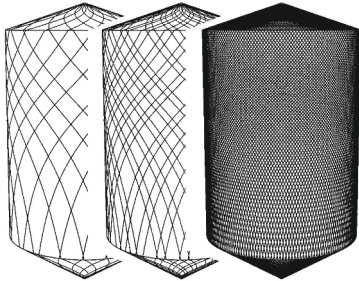


Working principle

The high-impact jet stream from the rotary jet head covers the entire surface 360° 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.



Technical data

Lubricant:	Self-lubricating with the cleaning fluid
Standard Surface finish:	Exterior surface finish Ra 0.5 µm / 32 µin Interior surface finish Casted and Machined
Max. throw length:	8.5 - 14 m / 28 - 46 ft
Impact throw length:	4 - 7.5 m / 13 - 25 ft
Standard thread:	1" Rp (BSP) or NPT, female Top cone. 1" Rp (BSP) with hygienic seal

Pressure

Working pressure:	3 - 8 bar / 45 - 115 PSI
Recommended pressure:	5 - 7 bar / 72 - 102 PSI

Physical data

Materials

316L (UNS S31603), Duplex steel (UNS N31803), EPDM¹, PEEK¹, PVDF¹, PFA¹

¹ FDA compliance 21CFR§177

Temperature

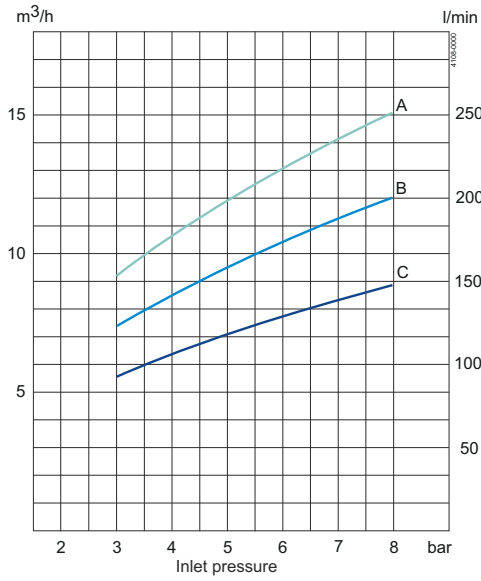
Max. working temperature:	95 °C / 203 °F
Max. ambient temperature:	140 °C / 284 °F
Special high temperature version available to handle Max 200 °C / 392 °F ambient temperature	

Weight:	5.1 kg / 11 lbs
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Caution

Avoid hydraulic shock, hard and abrasive particles in the cleaning liquid, as this can cause increased wear and/or damage internal mechanisms. For low amount of particles in the cleaning media a 0.12 inch strainer is recommend for both the TJ20G and TJ20G distillery. For high amount of particles in the cleaning media a 0.004 inch strainer (TJ20G) and 0.04 inch (TJ20G distillery) is recommended. Do not use for gas evacuation and air dispersion. For steaming we refer to the manual.

Flow Rate



Nozzles mm

A = 4 x Ø5.5

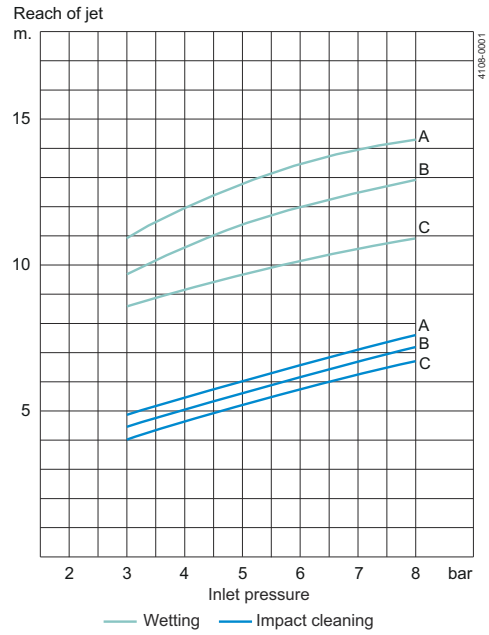
B = 4 x Ø4.6

C = 4 x Ø3.9

Distillery version - flow at 5 bar / 72.5 PSI

4 x Ø3.9 = 10 (m³/h), 4 x Ø4.6 = 12.4 (m³/h), 4 x Ø5.5 = 13.9 (m³/h)

Impact Throw Length



Nozzles mm

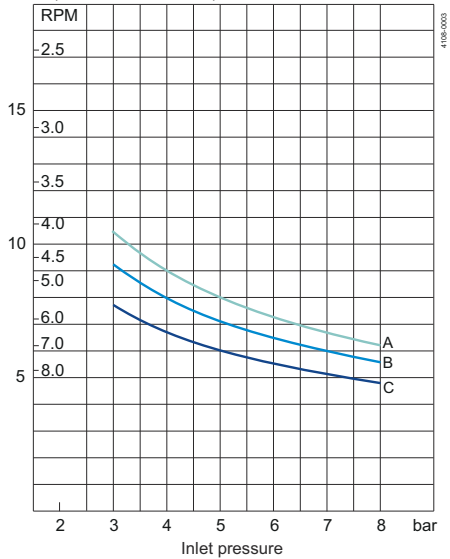
A = 4 x Ø5.5

B = 4 x Ø4.6

C = 4 x Ø3.9

Cleaning Time, Complete Pattern

Min. RPM of machine body
PTM (Pattern time minutes)



Inlet pressure

Nozzles mm

A = 4 x Ø5.5

B = 4 x Ø4.6

C = 4 x Ø3.9

Qualification Documentation

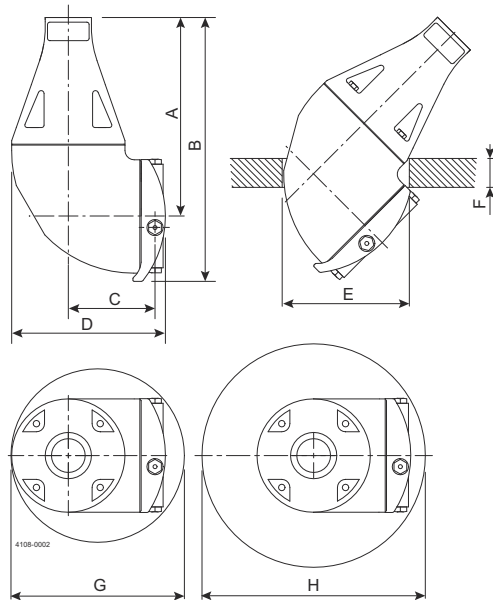
Documentation specification

	Equipment Documentation includes:
	<ul style="list-style-type: none"> • EN 1935/2004 DoC • EN 10204 type 3.1 inspection Certificate and DoC • FDA DoC
Q-doc	<ul style="list-style-type: none"> • GMP EC 2023/2006 DoC • EU 10/2011 DoC • ADI DoC • QC DoC

	ATEX approved machine for use in explosive atmospheres
	Category 1 for installation in zone 0/20 in accordance with Directive 2014/34/EU
	For TE20X000_054 except TE20G016_018:
	II 1G Ex h IIC 85 °C ...175 °C Ga
	II 1D Ex h IIIC T85 °C ...T140 °C Da
	For TE20G016_018:
	II 1G Ex h IIC 85 °C ...250 °C Ga
	II 1D Ex h IIIC T85 °C ...T200 °C Da

Dimensions

mm/inch



mm / inch

A	B	C	D	E	F	G	H
173 / 6.81	230 / 9.06	75 / 2.95	133 / 5.24	Ø110 / Ø4.33	max. 25 / max. 0.98	Ø150 / Ø5.91	Ø200 / Ø7.87

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