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Fast, Effective Impact Cleaning

Alfa Laval TJ TZ-74 Brew Kettle Version Rotary Jet Head



Application
The Toftejorg TZ-74 Brew Kettle Version is a special version of the Toftejorg TZ-74 rotary jet head. It provides 3D indexed impact cleaning over a defined time period. It is automatic and represents a guaranteed means of achieving quality assurance in tank cleaning. The device is suitable for processing, storage and transportation tanks and vessels between 50 and 500 m^3. The Toftejorg TZ-74 Brew Kettle Version is equipped with special sealings, which makes it particularly well-suited to work under rough conditions e.g. in brew kettles, where fibres, particles etc. in the cleaning media may be re-circulated through the machine.

Working principle
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 coarse pattern on the tank surface. The subsequent cycles gradually make the pattern more dense, until a full pattern is reached after 8 cycles.

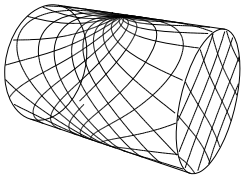
TECHNICAL DATA

Lubricant:	Self-lubricating with the cleaning fluid
Standard Surface finish:	Ra 0.5µm exterior
Max throw length:	8 - 17 m
Impact throw length:	4 - 10 m

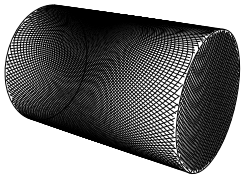
Pressure

Working pressure:	3 - 12 bar
Recommended pressure:	5 - 6.5 bar

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 and ATEX.

PHYSICAL DATA

Materials
316L (UNS S31603), PTFE, PEEK, ETFE, FPM, TFM

Temperature

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

Weight: 6.1 kg

Connections

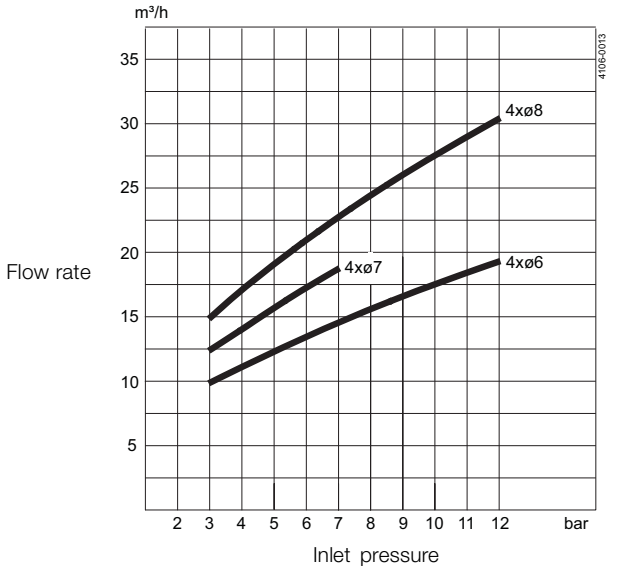
Standard female thread:	1 1/2” Rp (BSP) or NPT, 2" NPT

Options
Electronic rotation sensor to verify 3D coverage.

Caution
Do not use for gas evacuation or air dispersion.

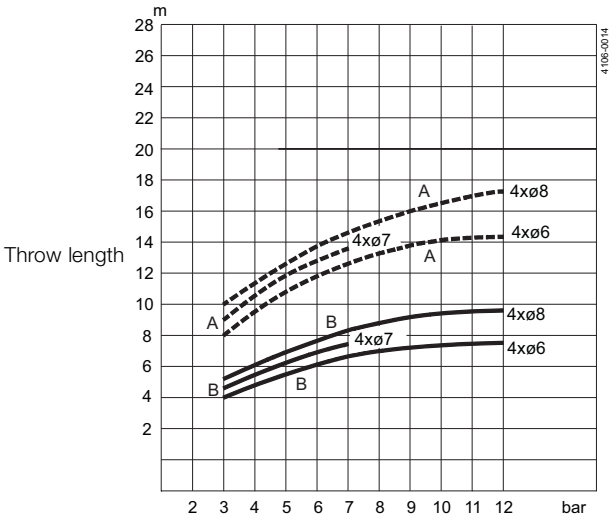
Flow Rate

Nozzles mm



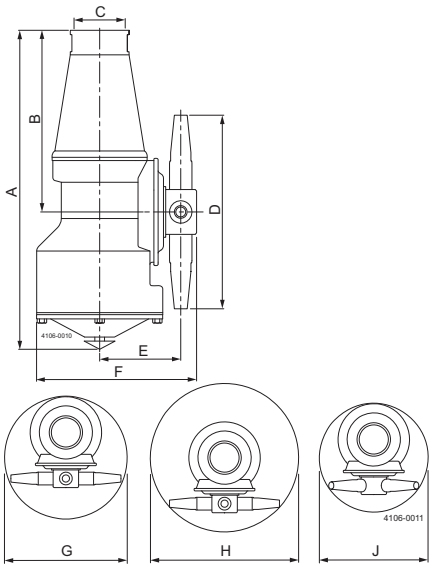
Impact Throw Length

Nozzles mm



A: Wetting - B: Impact cleaning

Dimensions (mm)

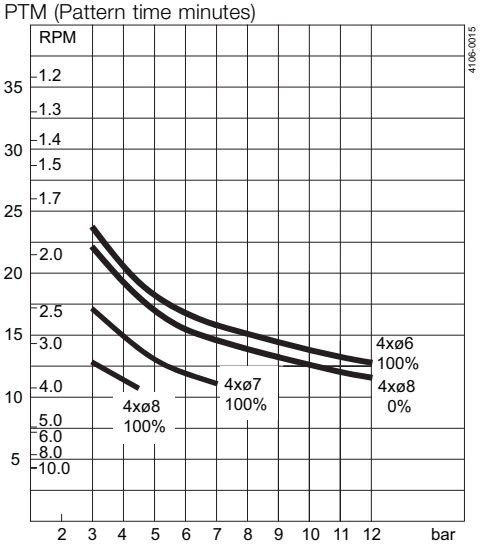


Cleaning Time, Complete Pattern

Min. RPM of machine body

Nozzles mm

PTM (Pattern time minutes)



A	B	C	D	E	F	G	H	J
297	170	1½" BSP, 1½" NPT or 2" NPT	204	78	152	ø216	ø264	ø180

Standard Design

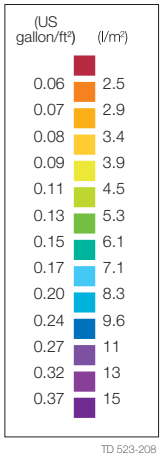
The choice of nozzle diameters can optimise jet impact length and flow rate at the desired pressure.

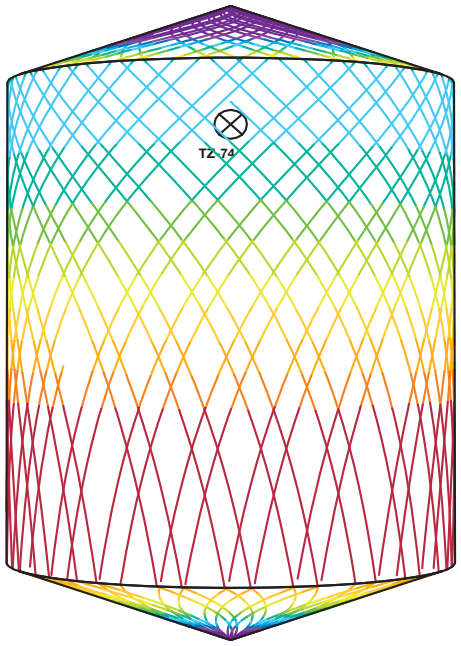
TRAX simulation tool

TRAX is a unique software that simulates how the Toftejorg TZ-74 Brew Kettle 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 machine and the correct combination of flow, time and pressure to implement.

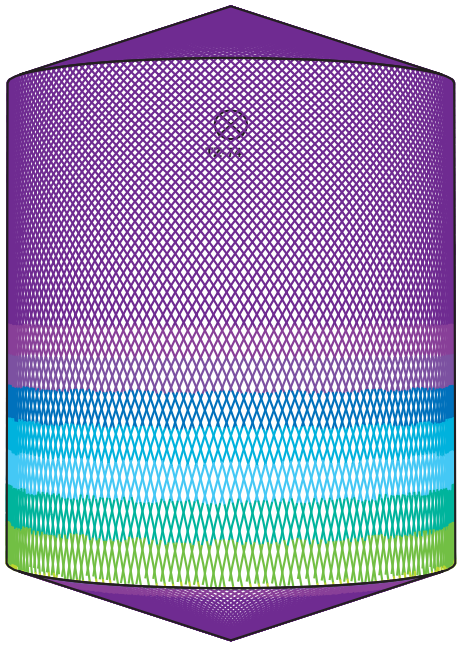
A TRAX demo containing different cleaning simulations covering a variety of applications can be used as reference and documentation for tank cleaning applications. A TRAX simulation is free and available upon request.

Wetting Intensity





D5m H6m, Toftejorg TZ-74 Brew Kettle Version, 4 x ø6 mm, 100% Time = 4.4 min., Water consumption = 907 l



D5m H6m, Toftejorg TZ-74 Brew Kettle Version, 4 x ø6 mm, 100% Time = 18.2 min., Water consumption = 3760 l