Alfa Laval PlusClean® UltraPure

Wall mounted cleaning nozzles

Introduction
Alfa Laval PlusClean® UltraPure is a wall mounted cleaning nozzle designed for cleaning of shadow areas in tanks; e.g. below agitator blades and other tank internals. PlusClean UltraPure cleaning nozzle is smoothly integrated into the tank wall. When activated during Cleaning-in-Place (CIP), PlusClean UltraPure cover cleaning shadow areas with a high impact fan of cleaning media, giving the market's first guarantee of 100% impact cleaning coverage.

Application
Alfa Laval PlusClean UltraPure is engineered to meet sterile and aseptic process requirements in the biotechnology and pharmaceutical industries and is thus supplied with the comprehensive Alfa Laval Q-doc documentation package. PlusClean UltraPure cleaning nozzle is the key to ensure high product yield by eliminating any risk of contamination. This is done by targeting cleaning media to the shadow zones for reinforced hygienic tank cleaning. PlusClean UltraPure is optimal for installation in all tank types and tank sizes with highest hygienic tank cleaning requirements to ensure high product quality.

Benefits
- High product yield with 100% cleaning coverage guarantee
- Low cleaning media consumption
- Installed flush with the tank wall, allowing the unit to be used in tanks with frame type agitators
- Easy to install using the patented adjustable flange connection
- Hygienic design
- Option for actuator & ThinkTop
- Full traceability with Q-doc package

Working Principle
PlusClean UltraPure operates based on a spring activated piston and is available in media or pneumatic driven versions and can thus be activated from either the cleaning media or controlled air pressure. When activated, PlusClean UltraPure sprays a high impact fan of cleaning media directly to the soiled area. Cleaning coverage is ensured through controlled and repeated rotation of the device, e.g. agitator blades, through the spray fan. When cleaning is completed the piston position is restored by the integrated spring mechanism and the cleaning device is securely closed and sealed off. If purging is needed, always operate with actuator. PlusClean UltraPure operates perfectly together with the primary top mounted cleaning device, whether it is a static spray ball, rotary spray head or a rotary jet head type cleaning device.

Available versions:
PlusClean UltraPure media driven
PlusClean UltraPure air driven by a pneumatic actuator

Standard design
The PlusClean UltraPure is available as standard with all wetted stainless-steel components manufactured from AISI 316L. O-rings are made from FEP/SIL and EPDM; both in compliance with FDA regulation and USP Class VI. The choice of slot (spray pattern) can optimize spray impact length and flow rate at the desired pressure.

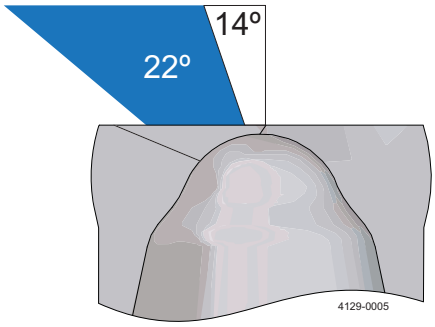
Certificates
2.2 material certificate, Q-doc applicable to product contact parts only.

TECHNICAL DATA

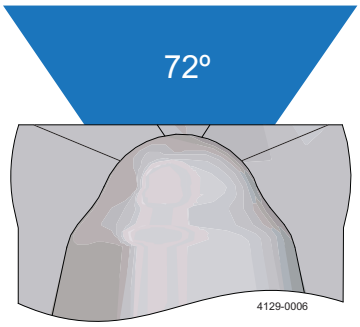
Product wetted surface finish:	Ra 0.38 µm Electropolished (ASME BPE SF4)
Wetting distance:	Maximum 7.4 m
Impact cleaning distance:	Maximum effective 5.4 m

Pressure	
Working pressure:	1.8 - 7 bar
Recommended pressure:	2 - 5 bar
Maximum tank pressure:	Media driven: 4 bar Air driven: 6 bar

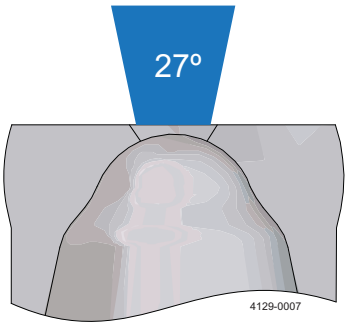
Spray Pattern



Offset Slot



Wide Center Slot



Narrow Center Slot

PHYSICAL DATA

Materials (media contact parts)	
Components:	AISI 316L
O-rings:	FEP/VMQ, EPDM
Guide ring:	PTFE

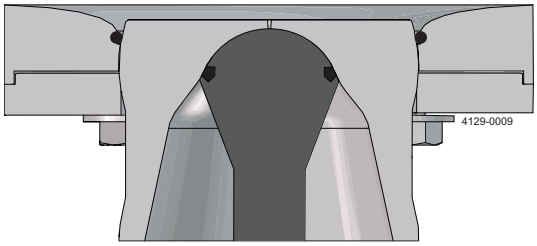
Temperature	
Maximum cleaning fluid temperature:	95°C
Maximum tank temperature:	150°C

Weight	
Weight:	Media driven: 2.1 kg Pneumatic driven: 2.7 kg

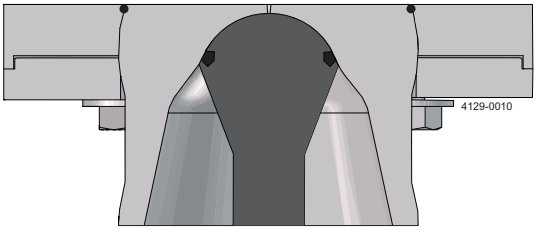
Connections	
Cleaning media connection:	Clamp connection: L14AM ¾"PL Type A/ DIN 32676 DN 15
Air connections for actuator:	ISO 288/ G ⅛" internal thread fitted as standard

Mounting options

PlusClean UltraPure has 2 types of weld plates: Adjustable weld plate and fixed weld plate.



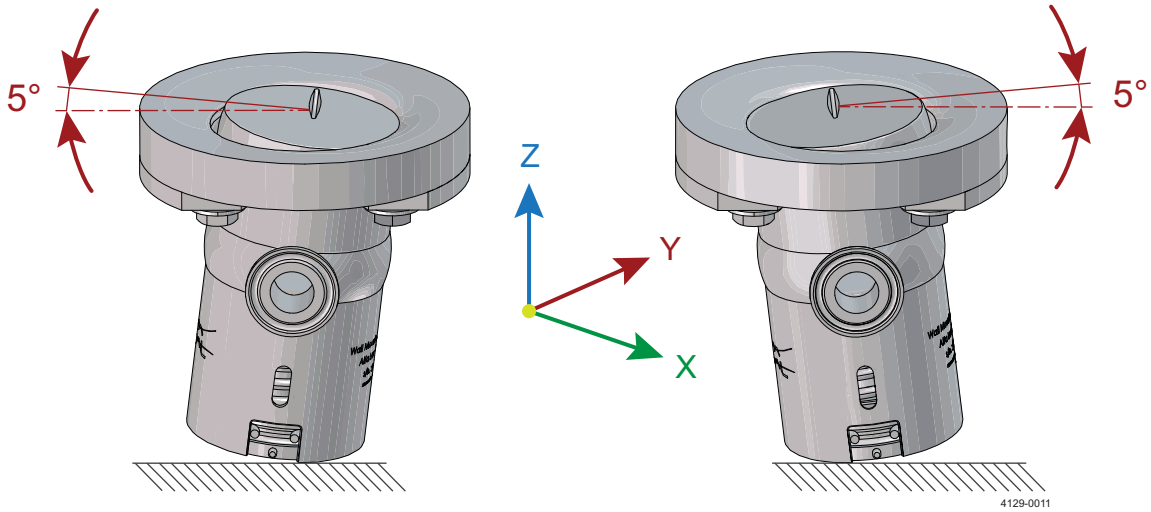
adjustable weld plate



Fixed weld plate

The adjustable weld plate has a curved surface on the tank side of the weld plate and allows adjusting the angle of the cleaning nozzle ±5° from the center along all 3 axes. It is drainable only when installed at an angle more than 30°. The adjustable weld plate should be used in applications where the PlusClean UltraPure is installed on tank walls and tank bottoms with more than 30° inclination to horizontal.

The fixed weld plate only allows the device to rotate around Z-axis. It is drainable at all angles due to the flat top surface.



Qualification Documentation

Documentation specification

Equipment Documentation includes:

- EN 10204 type 3.1 Material Inspection Certificate

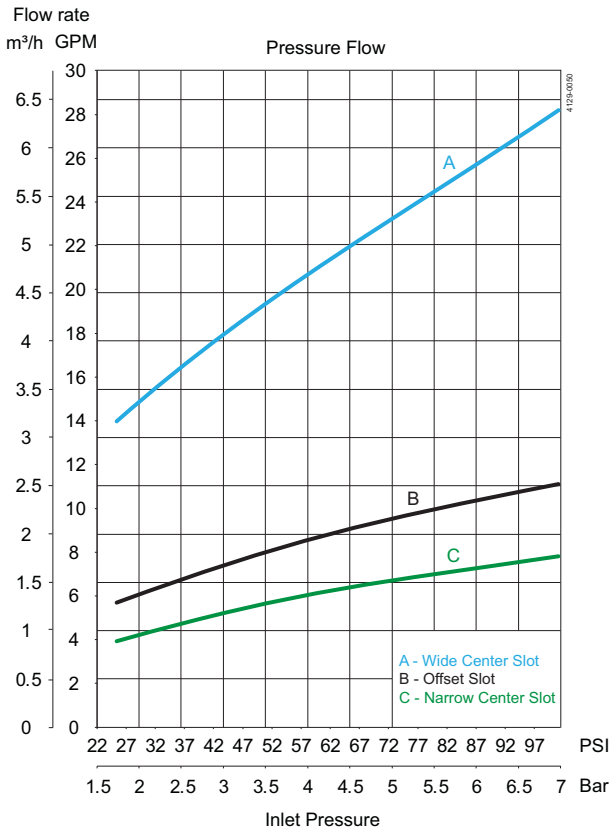
Note! Product contacted parts only!

Q-doc

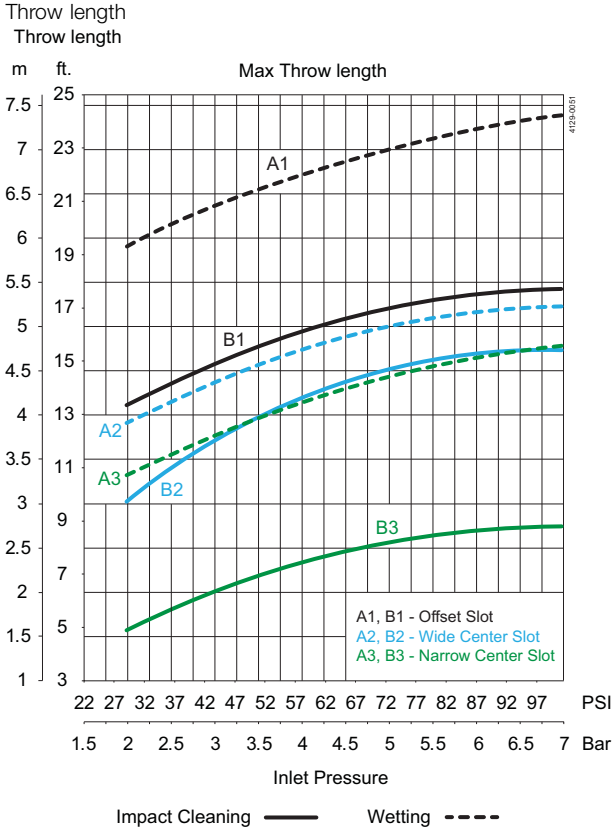
- FDA Declaration of Conformity
- ADI Declaration (TSE)
- QC Declaration of Conformity
- USP Class VI certificate

Performance data

Flow rate

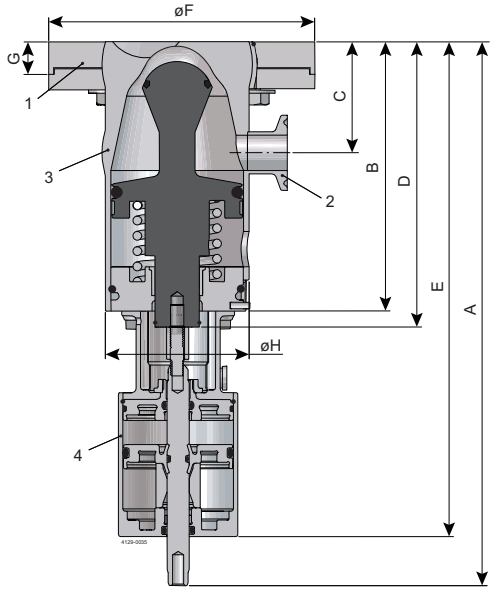


Throw length



A. Wide center slot
B. Offset slot
C. Narrow center slot

Dimensions



1. Tank connection
2. Inlet connection for cleaning media: 3/4" Clamp
3. Alfa Laval PlusClean
4. Pneumatic Actuator

A-H see tables below

Media driven (mm)

Stroke	A	B	C	D	E	F	G		H	Weight
							Adjustable weld plate	Fixed weld plate		
10.9	NA	122	50.5	132	NA	120	18	15	65	2.1 kg

Pneumatic driven (mm)

Stroke	A	B	C	D	E	F	G		H	Weight
							Adjustable weld plate	Fixed weld plate		
10.9	246.5	122	50.5	132	224	120	18	15	65	2.7 kg

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