

NPP Pneumatically actuated flush-fit cleaning system

for radially directed and effective performance



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NPP, Pneumatically actuated flush-fit cleaning system for radially directed and effective performance



Pneumatically actuated systems type **NPP** with flush assembly are especially effective on surfaces inaccessible by standard cleaning devices located in the top of tanks. They are utilised for CIP cleaning without the need for having pipes (more to clean) inside the tank.

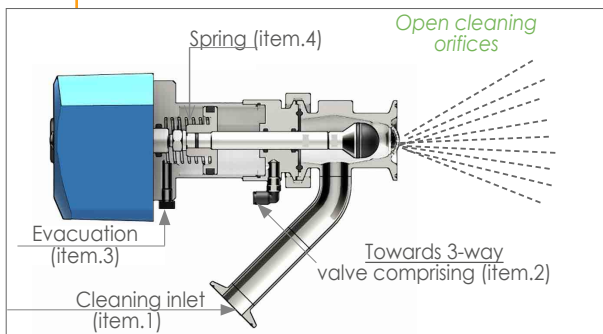
According to the difficulties of clean surfaces, different designs are available to optimize the area and impact of the spray burst.

NPP could be used as steam injector (please consult us for this application).

Applications

- efficient and accurate cleaning of agitator impellers or counter-blades inside tanks (food, cosmetic and pharmaceutical), without the need for internal piping.

Running principle



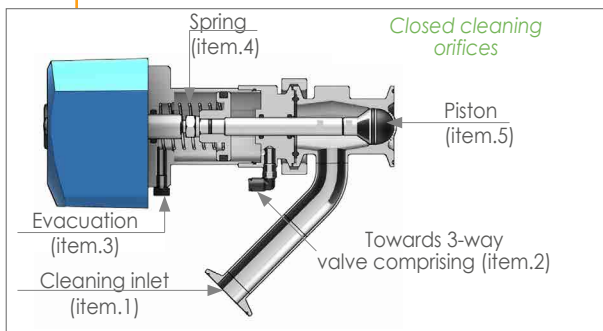
- Cleaning stage -

Cleaning solutions come through inlet Item 1.

Pressurised air comes from inlet item 2.

Compression of spring item 4 opens cleaning orifices.

At the same time, evacuation occurs by outlet item 3.



- Non-running stage -

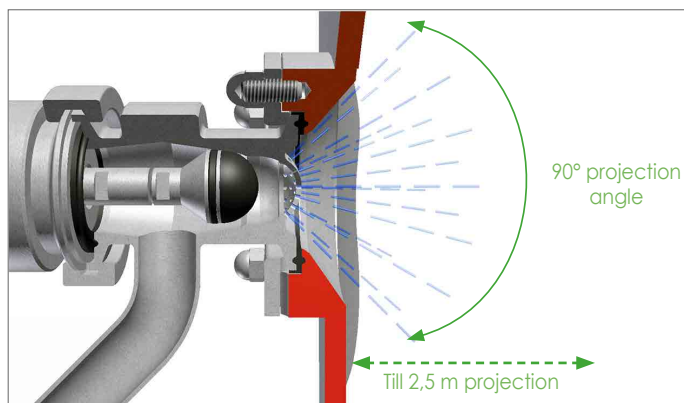
Air inlet item 2. is off.

Spring Item. 4 cleaning plug is put in its original position and close the cleaning orifices.

Performance : Area and cleaning spray burst



Diffuser with holes



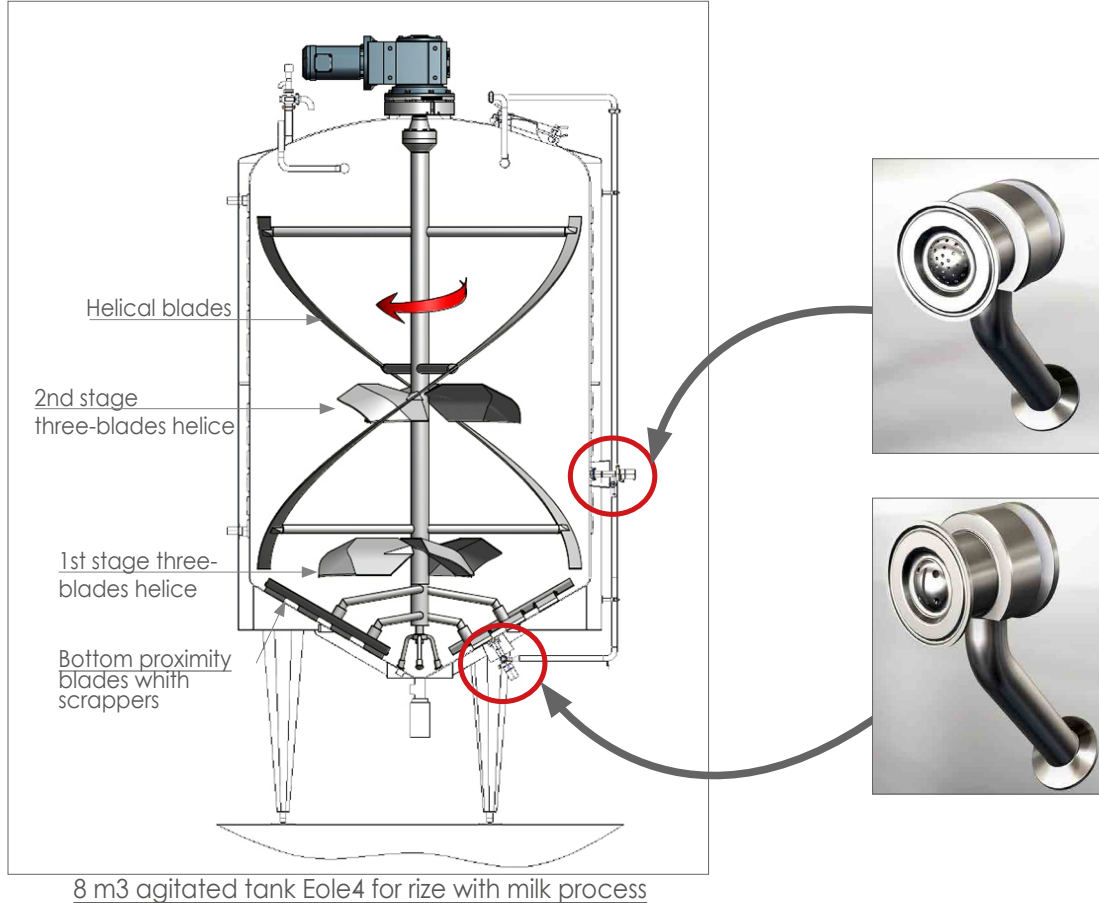
Diffuser with slot

Example installation

The sketch below shows the use of two flushing cleaning systems, one located on a tank-bottom, the second one on the side wall.

Due to 90° angle projection, cleaning is made on several impellers at the same time:

- the one located at the tank-bottom cleans the bottom scraper and lower surfaces of three-bladed helical mixer (1st stage)
- the one located on the wall-side cleans the upper side surfaces of three-bladed helical mixer (2nd stage).



User benefits

- simplification of cleaning conditions:

- eliminates the need for internal cleaning piping

- multi-using possibilities:

- the flushing connection allows cleaning of all types of agitators including anchors with scappers
- cleaning device can be assembled in all positions
- it can be used as an air or steam injector port

- fully secure running:

- pneumatic actuation control avoids all risks of contamination by the cleaning solutions in case of control problem (in case of non air actuation, cleaning device is 'normally closed' - NC -)
- zero risk of external parts falling into the tank

- economic:

- in order to reduce the total flow dedicated for the cleaning, our flushing cleaning system can be installed alternately with other cleaning devices

- steam in place version for aseptic tanks.



Technical specifications

- 1.4404 stainless steel (316L)
- inside finish : food grade ($Ra \leq 0.8$) or pharmaceutical ($Ra \leq 0.4$ and electropolish)
- EPDM plug gasket – maximum temperature : 143°C with FDA certificate or other
- SMS male part or Clamp connection
- mounting standard on flange.



Options

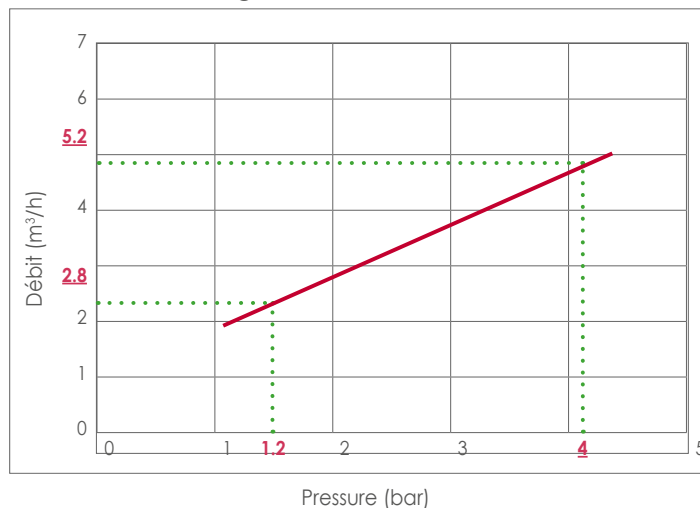
- control housing:
 - with pilot valve and proximity detector - **Pierre Guérin** -
 - THINKTOP - **Alfa Laval** -
 - CU4 - **SPX** -
 - INTELLITOP - **Sudmo**
 - ICS - **Definox**
 - **Burkert**
- aseptic version for steam sterilization (SIP)
- PTFE plug gasket, maximum temperature: 200°C
- mounting flange Na-Connect flange mounting or PG-Connect (flush fit).



Operating conditions

Pneumatically actuated systems could be used only with liquids group 2 (according article 9, 97/23/EC).

- actuator fed by oil-free, dry filtered pressurized air : 4 to 6 bar (maxi 8 bar)
- working temperature: +4°C / +143°C
- running pressure : 1.2 to 4 bar / 2.8 to 5.2 m³/h (recommended pressure 1.2 to 1.5 bar)
- maximum pressure in to the tank : -1 ; +5 barg.

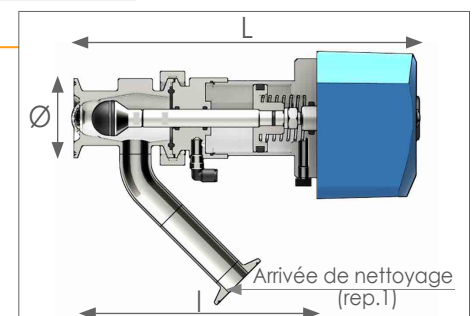


Flow rate / pressure characteristics of pneumatic actuated flush-fit cleaning

Dimensions

(with flange mounting Na-Connect or PG-Connect and control housing Pierre Guérin)

- total length of control housing: L = 405 mm
- length without control housing: l = 295 mm
- fixing flange diameter: Ø 79 mmG
- diameter of cleaning inlet DN 25 (SMS ou DIN).



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