

General description

The CIP nozzle type 6B is specially developed to wash the bags of our sanitary filters while in place.

The nozzle is precision manufactured in stainless steel, and is 3A accepted.

The nozzle housing is welded on the hole plate and CIP piping, and the nozzle is mounted in it flush with the product side, see fig. 1. Above the nozzle, a plug is mounted in the pipe for easy access to inspect and clean the nozzle.

Typically 4 nozzles are required for each filter bag.

The nozzles wash each other, the hole plate, the bags, and the inside of the cylindrical housing with bottom cone. The filter inlet for construction form 01, 02, or 04 must be washed by another device, however.

The nozzle tolerates "ball-shaped" dirt particles up to 2 mm diameter. It is, however, likely to trap fibrous impurities and therefore a mesh filter must be installed inline, preferably as close to the filter top as possible.

Pressure controlled nozzle performance

In order to give excellent washing performance, especially in the joint between the hole plate and the filter bag, the nozzle is spraying in continuously varied angles, controlled by the water pressure.

All parts of the hole plate as well as the upper filter bag will be hit directly by the cleaning liquid for fast and efficient cleaning. Appropriate data for the continuously repeated pressure cycle are shown in fig. 3.

Air purge

When the CIP nozzle is not used for washing, it must be continuously purged with clean dry air to keep dust particles out.

The purge air temperature should be adapted to avoid local cold concentrations and consequential development of moisture.

See fig. 4 for purge air data.

Data

Closing force 23N (S=6 mm)

Liquid quantities See fig. 2

Purge air

Recommended air amount >60 dm³/min, see fig. 4

Materials

Nut Stainless steel AISI 304/316

Screw Stainless steel AISI 304/316

"O-ring" EPDM

Washer Stainless steel AISI 304/316

Plug EPDM

Spring Stainless steel AISI 316

Nozzle body Stainless steel AISI 304/316

Nozzle head Stainless steel AISI 304/316

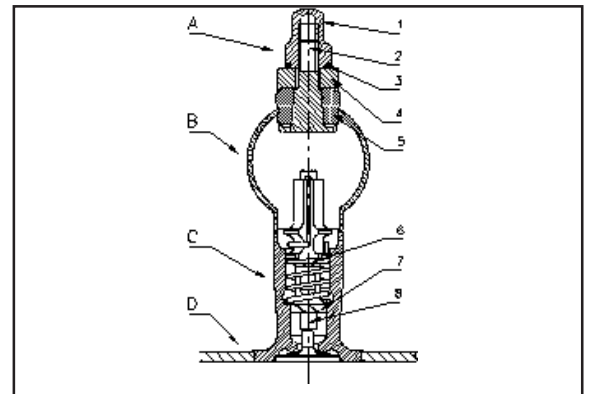


Fig. 1: The CIP nozzle type 6B.

A: Plug; B: CIP pipe; C: Nozzle; D: Hole plate

1: Nut; 2: Screw; 3: "O"-ring; 4: Washer; 5: Rubber plug; 6: Spring; 7: Nozzle body w. rotation disc; 8: Nozzle head

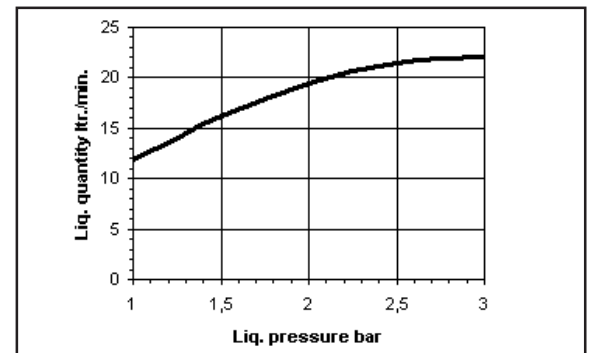


Fig. 2. Graphic illustration of water consumption for one nozzle.

t=20°C; S=6 mm; Rotation disc 2.5×2 mm

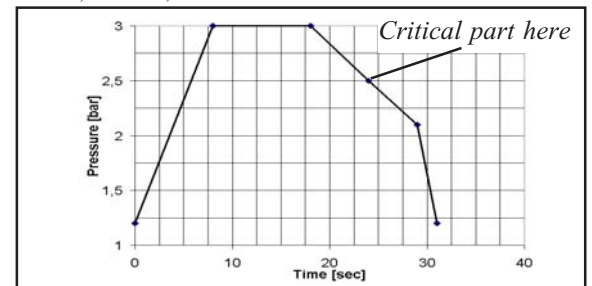


Fig. 3.: An example of a pressure cycle to be repeated continuously.

The shown data are used in Simatek pilot CIP system and have a cycle time of 31 sec. The pressure referred is in the filters tube sheet altitude. Fine-tuning especially in the part labelled "critical" may be required for optimal results.

t=20°C; S=6 mm; Rotation disc 2.5×2 mm

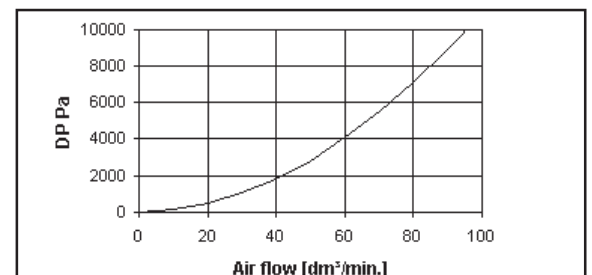


Fig. 4. Purge air consumption per CIP nozzle