

POFi

ENGINEERING



Expert in Mixing and dosing efficiency

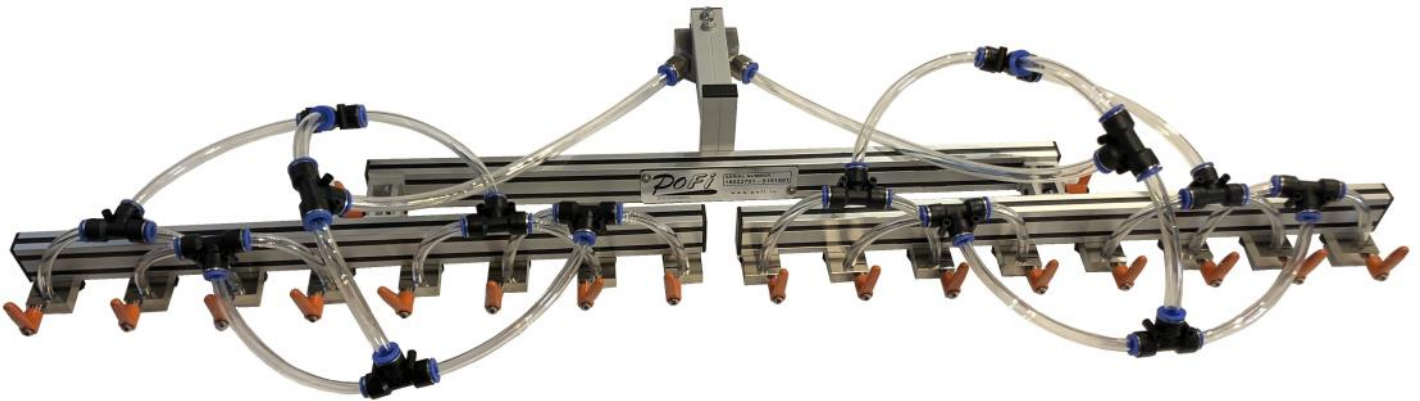


FIXED FOAM DISPENSER

FOR CONTINUOUS SANDWICH PANELS LINES

Designed with the latest software for flow calculation, our fixed foam dispenser is certainly the best low cost system to improve your production line.

This fixed foam dispenser has the advantage that it is possible to assembly it with 4, 8 and 16 outputs on the same system and it works for any thickness (for 40mm thickness it depends on the viscosity, speed line and reactivity of the foam).



In normal work, it will increase your panel quality around 10 to 30%.

There are no parts to be cleaned manually after one production shift, just use your normal cleaning system of your line.

There is only one part (2 minutes) to be cleaned every 8 hours (depending on the reactivity of your foam).

There are parts to be changed normally it is every 24h. For a change it takes 10 minutes.

Parts are available from all the suppliers of pneumatic connectors with low price.



USEFUL INFORMATION

Our offices are open Monday to Friday from 8am to 18pm. Outside these hours thank you for contacting us by e-mail, we will respond quickly.

POFI-ENGINEERING SA

Société anonyme au capital de 111 300 €

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FIXED FOAM DISPENSER FOR SANDWICH PANELS LINES

Importance of polyurethane foam deposit for continuous production

Since the changes of blowing agents due to the new regulations, polyurethane foam become more and more sensitive and complex to produce. The control of its production process becomes a major asset to produce good panels. Among all the production parameters to manage, I'd like to talk about deposit for which there are two parameters to be well mastered, the polyurethane foam output speed of the dispenser and the method of removal.

Output speed:

Theory would want that we put down the mixture Polyol and Isocyanate on the lower facing in order not to disturb the chemical reaction in progress. In practice this is not possible, there is a flow from the mixing head outlet and therefore a fluid velocity. The more the speed is high, the less the foam has time to react and therefore clog the dispenser. To increase this speed it is necessary to decrease the size of the outlet ports.

Having a too high fluid exit velocity will generate two problems, the impact velocity on the lower facing will generate air bubbles and the pressure in the mixing head will increase and interfere with the chemical reaction (mixture). It is not a viable solution.

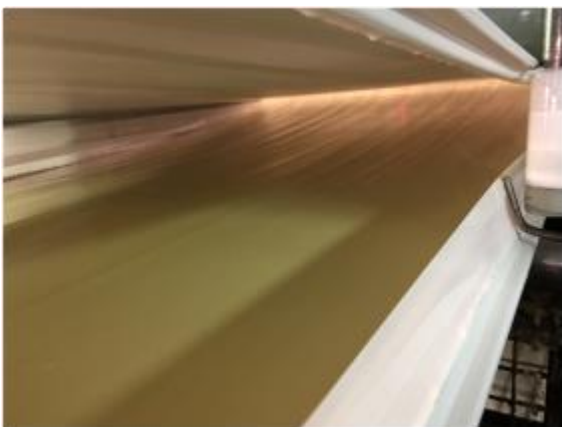
A theory is that the fluid velocity at the moment of impact must be equivalent to the feed speed of the lower facing. Calculations and tests have demonstrated that this speed is too low to produce, the resident time in the distribution system is too long and the foam has already reacted before touching the lower facing.

A rake (poker) application system generates a speed between 200 and 400 m / min. With other systems the tests have shown that a speed located below 100 m / min provides excellent results but is not achievable with a rake (poker).

The deposit procedure:

Deposit is usually done with a distribution rake (poker) on a swing arm. This method generates many problems, the filling is not uniform and the fluid velocity must be high. The orientation of the cells is not uniform and reduce the mechanical characteristics of the panel.

The fixed deposit is currently the best orientation. The impact velocity is lower and the given angle to the distribution system allows for reduced bubble formation. The uniform arrangement of dispensing dots enables an optimal orientation of cells and thereby to obtain better mechanical characteristics of the panel.



- **Parts are available from all the suppliers of pneumatic connectors.**
- **Easy to install.**
- **Low cost production.**
- **Better control of the wave**



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