

HOT MELT GLUE DISPENSER

By

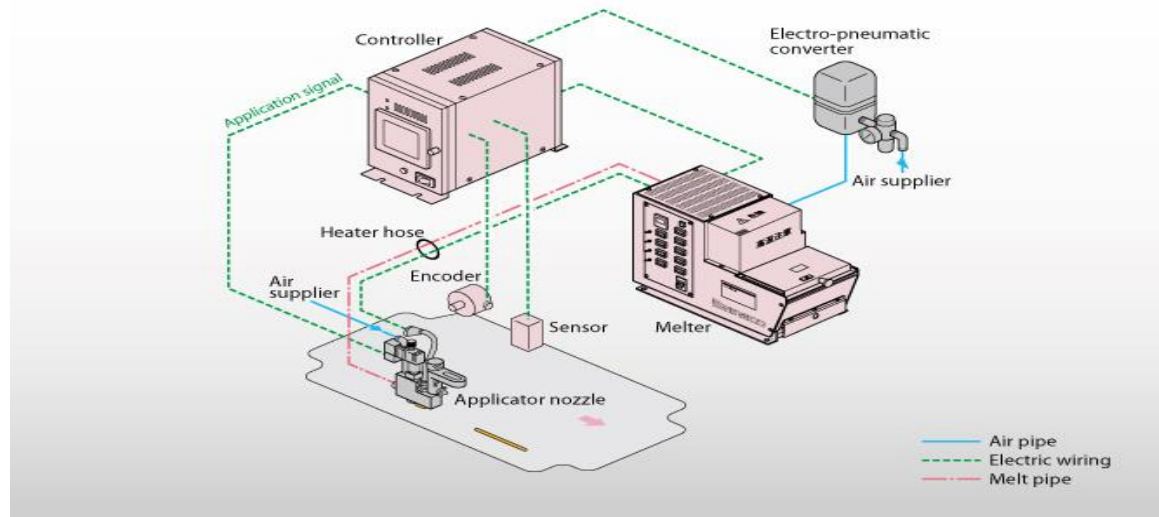
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Hot-melt systems

Objective -

To meet the needs of high-speed productivity and can automatically govern the amount, position and length of the application for speedy and consistent gluing to raise levels of productivity.

System Configuration



The hot-melt glue is melted in the tank shown in the system diagram and then passed under pressure through the heated hose to the nozzle where it is applied to the job. The encoder sends line speed signals to the controller, which also receives job position signals from the sensors. The controller in turn governs the operation of the nozzle.

System Components

1 - Controller

These easy-to-use controllers can regulate gluing length regardless of the line speed.



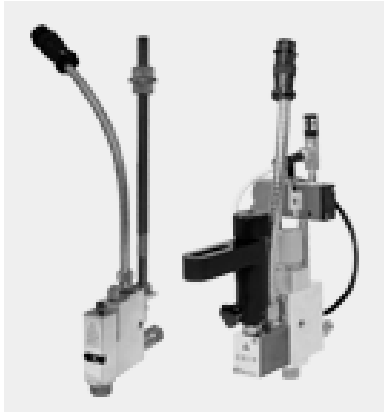
2 – Melter

Employs an internal heating method whereby the heater is in the middle of the hot-melt, which means that these melters convert Solid Adhesive to liquid form



3 - Applicator nozzles

Various kinds of nozzles are available for the gluing of different products. The nozzles are specially hardened to ensure a long life. Nozzle tip tubes of various shapes and diameters are available so allow hot-melt gluing to various specifications.



4 - Heated hose

This hose feeds the hot melted glue from the melter to the applicator nozzle. The hose contains heater wires and electronic signal wires.



5 - Encoder

The encoder measures the timing of the gluing and the speed of the conveyor line, and sends signals to the controller.



6 - Electro-pneumatic converter

It converts electrical input signals into air pressure signals. Regardless of the line speed, and makes adjustments to ensure a consistent glue application.



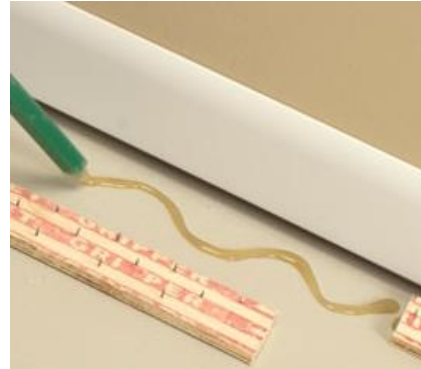
Materials used

- Hot melt glues usually consist of one base material with various additives.
- The composition is usually formulated to have a glass transition temperature below the lowest service temperature and a suitably high melt temperature

Gluing Method

- 1 – Injecting
- 2 – Strip Gluing
- 3 – Mist Spraying

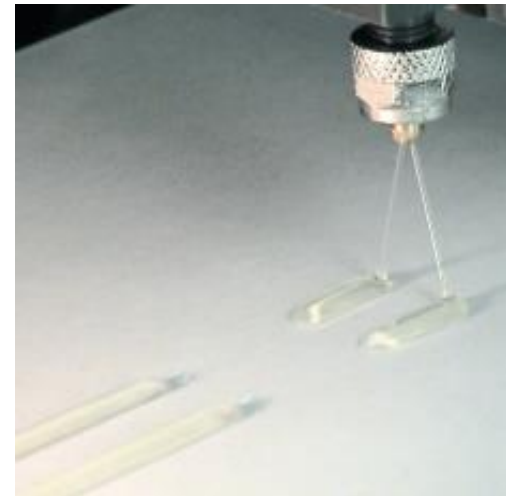
Injecting



Mist Spraying



Strip Gluing



System Specifications

- Melt Tank Capacity – 15 to 59 LBSS
- Temperature Control – 100 to 475 F
- Melt Rate – Up to 15 LBS/Hour
- Flow Rate – 85 LBS/ Hour to 1000 LBS/Hour
- Viscosity – up to 1,00,000 Cp
- No. of Hoses/Gun – 1Hose/1Gun or 2Hose/2Gun
- Hose Length – Up to 28 Feet
- Guns – Hand Gun/Auto Gun
- Electrical – 120V or 220V
- Drive Motor – Electric, Fractional HP
- Gear Pump Displacement – 12.7 CC Per Rev
- Max Pump Pressure – 1230 PSI (85 Bar)
- Dimensions – 11"W x 29"L x 22"H and 13"W x 29"L x 29"H

Standard System Control Features

- Digital Run Temp Display, F or C
- Digital Set Point Display
- Safety Set Lock
- Manual Standby Temp Set Back
- Auto Standby/Auto-Off Timer
- System Ready Output
- Full Feature OEM interface
- Integrated 24Hr/7day on-off timer
- Audible System Fault Alarm
- In-Service Hour Meter

Char in Hot-Melt Adhesives

What is Char?

Char is adhesive that has been blackened or burned. It is a particular challenge to hot-melt operations because of the heating and melting process required. Char can result from:

- Heating hot-melt adhesive at a too-high temperature
- Exposing hot-melt adhesive to heat for too long
- Exposing hot melt to heat and oxygen



What Are the Effects of Char?

Once formed, char bakes onto the heated grids. Once this happens, it breaks off in pieces and:

- Clogs filters
- Stops up spray nozzles
- Clogs bead nozzles
- Works its way onto the substrate, leaving marks, streaks and uneven surfaces
- Eventually works its way into pumps, breaking seals, and scoring and damaging the pump walls



Thank You