PROPORTIONER – PISTON PUMP	PROPORTIONER – AKURATE
Pump Type – Piston pumps mechanically connected for even strokes Measurement of chemical flow – Stroke counters give the number of strokes which is multiplied by the displacement of chemical per stroke –No indication of actual even chemical displacement has occurred.	Gear Pumps – Separately driven by variable speed motors Measurement of chemical flow – Flow meters accurately measure the amount of chemical being pumped through the flow meter assuring even chemical displacement has occurred.
BENEFITS AND ISSUES	**BENEFITS AND ISSUES**
Piston Pumps have sealing components which are subject to wear – this causes leakage in the pumps and result in off ratio and pressure imbalances. Positive Displacement – are the most simple displacement systems available. Little documentation as to tolerances. Unable to calibrate – must rebuild if leakage is an issue.	Gear Pumps – very reliable pumps with very few pressure sealing contact points. Positive Displacement – have more leakage paths by design than piston pumps and require some form of compensation such as flow meters and computer controlled variable speed motors for ratio matching.
HEATED HOSES – CURRENT TECHNOLOGY	**HEATED HOSES – AKURATE**
Most current systems are externally heated hoses utilizing series heating. Power is generated from a transformer which heats the entire hose assembly.	Akurate Hoses are internally heated with the heating element in direct contact with the chemical. Each section of hose is independently heated and monitored.
BENEFITS AND ISSUES	**BENEFITS AND ISSUES**
Weight-The copper on the outside of the hose adds significant weight to the hose assembly. Series Heating – Does not adjust for environmental conditions while the hose assembly is in different environments – parts in the rig, laying in snow and spraying inside of a house. Series Heating – if you lose one connection the entire hose no longer works. Delta T - Ability to keep temperatures supplied to hoses during normal running conditions, high flow rates can lead to temperature drops in the hose.	Weight – 25% overall weight reduction with a 65% weight reduction on the heated whip. Individual Section Heating – Typically every 75 feet of each 150 foot section. Chemical temperatures are measured and adjusted continuously. The hose jacketing acts as an insulator since heat is not being driven thru the outer hose material. Individual Heating – If loss of connection occurs the other sections are not affected. Combined with rapid heaters in proportioners – temperature compensating hoses ensure precise and controlled spray temperatures. Recirculation for heating purposes is unnecessary.

Patent No: US 9,895,708 B2

7618 Bluff Point Drive | Houston | Texas 77086
832.672.5665 Phone | info@akuratedynamics.com
www.akuratedynamics.com

AKURATE DYNAMICS
The Science In Spray Foam

DELTA CPS^{HV}
HIGH VOLUME PROPORTIONER

Features

System design is similar to in-plant processing systems. In-Plant systems utilize Gear Pumps, Motors, PLC (Programmable Logic Controllers and Flow Meters for ratio controls.) The Delta CPS offers proven technology now in mobile applications.

Proven Reliability of Gear Pumps – Fewer seals and improved operational longevity.

Ease of serviceability and maintenance of the ISO plasticizer.

On-board touch screen allows for simple chemical data input.

Printable Certificate of Conformance tracks all system activity and reports ratio results.

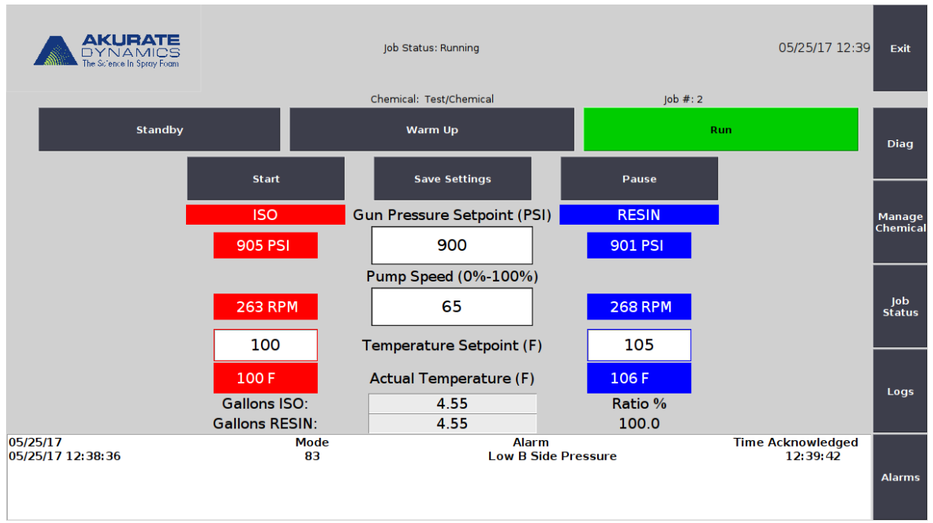
The Delta CPS assures you and your customer that each job meets the chemical manufacturer's specifications.

Akurate dynamics internally heated hoses are designed to maximize energy efficiencies – The Delta CPS is not compatible with other hoses.

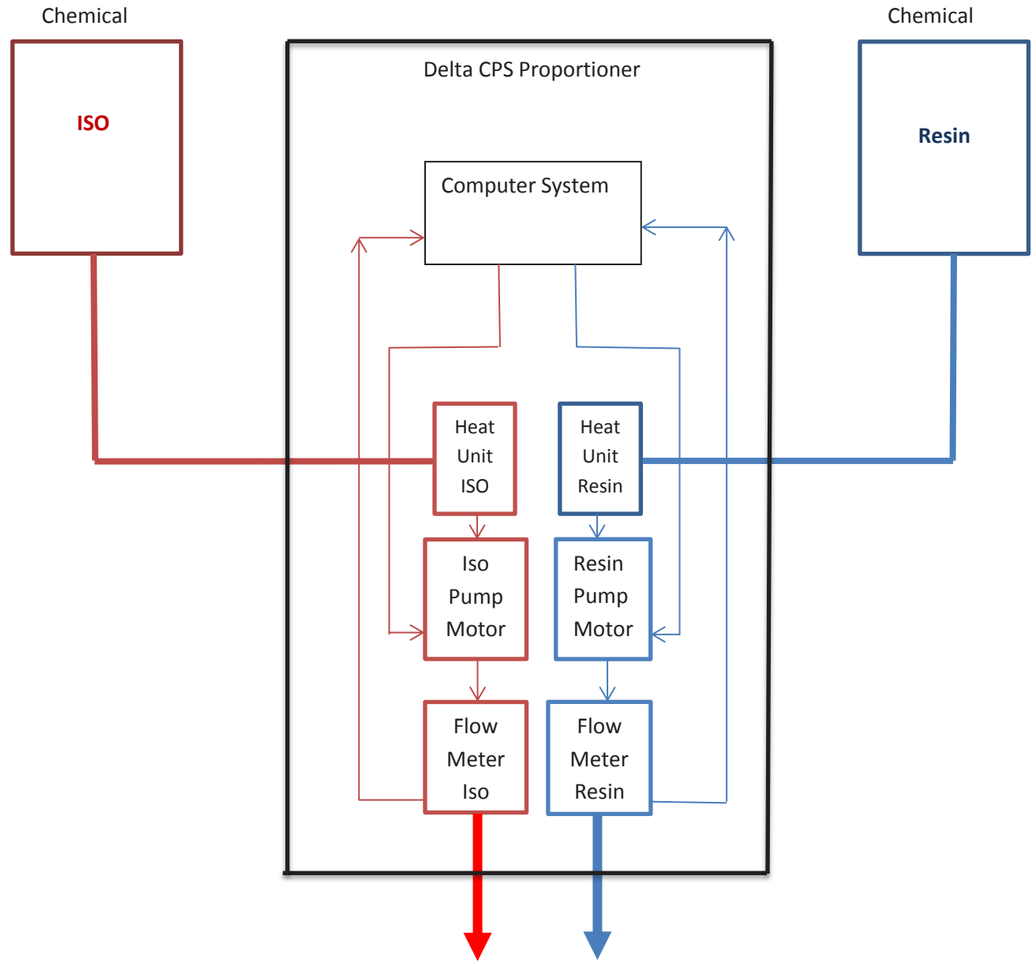
DELTA CPS - HV PROPORTIONER SPECIFICATIONS

Machine Application	Medium to high volume (wall foam to roofing)
Power Input	Nominal 200-240 VAC, 1 Phase, 50/60 HZ Nominal 200-240 VAC,3 phase, 50/60 HZ
Weight	500 LBS.
Dimensions Width Height Depth	 36 in. 52 in. 28 in.
Operating Temperature	50 – 130F
Maximum Fluid Working Pressure	2200 PSI
Maximum Fluid Temperature	150F
Proportioner Power Budget Electric Heating	9.5 KW
HMI (Human-Machine Interface)	TFT-LCD with touchscreen
Hose Electrical Code Compliance	GFI Protected Hoses
Hose Length	450 Feet
Alarms	Descriptive alarms with time stamp of occurrence

IMAGE OF MAIN OPERATORS SCREEN



AKURATE DYNAMICS
The Science In Spray Foam



Process of Ratio Control

Iso Motor is set to a fixed Speed.

Flow is detected by the computer on both Iso and Resin Flow Meter. If Ratio is off, then the computer adjusts the speed of the Resin Pump to make the flow meters match. Thus ratio is set by computer and requires no interaction with operator.