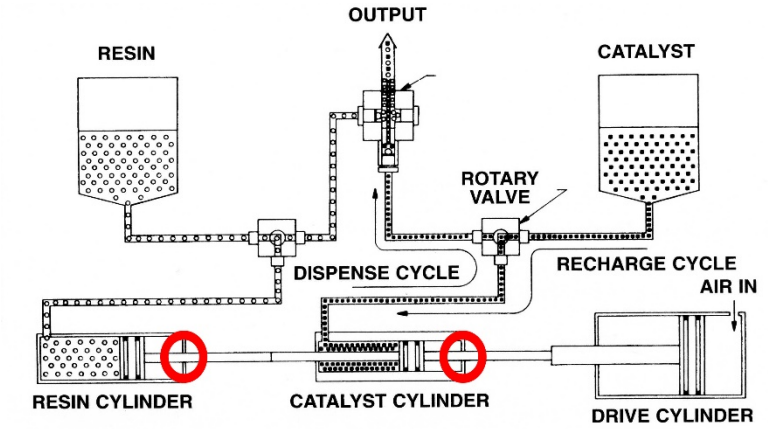
ASHBY CROSS COMPANY, INC.
28 Parker Street
Newburyport, Massachusetts 01950
(978) 463-0202 FAX (978) 463-0505
www.ashbycross.com

3800 Series Single-Acting Meter, Mix Comparison

The 3800 Series Meter, Mix and Dispense system was developed for high flow applications using filled adhesives.

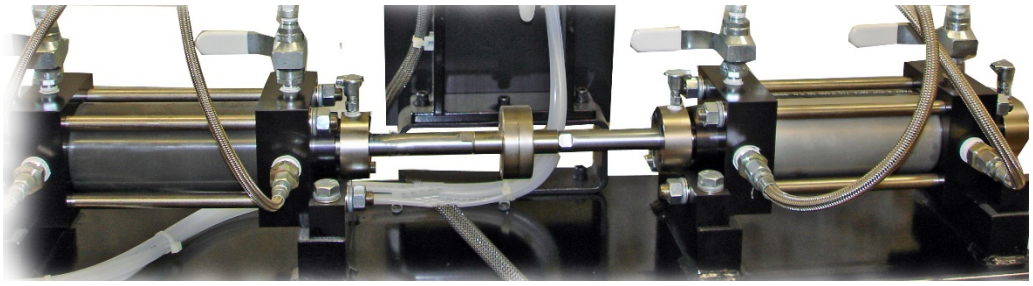
A major advantage over double-acting systems is the piston rod and associated seals are not subjected to wear from the fillers in the material. Seals and piston rods are on the “dry side” of the process.



Seals and piston shafts are dry – longer life, reduced maintenance

The metering cylinders have very large capacity yielding roughly 2 liters per stroke at 1:1 ratio. This is approximately 2 ½ times the capacity per stroke of many other systems. The large volume capacity reduces the number of strokes needed to process a specific volume of material. In turn, this reduces wear and maintenance significantly.

In-line metering has advantages over parallel cylinder design



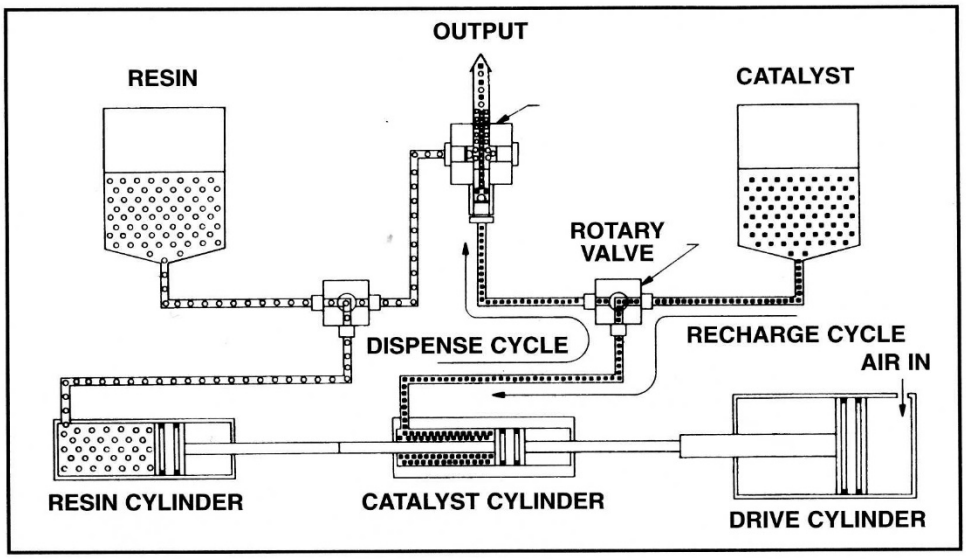
In-line metering assures accurate ratio, eliminates phasing and provides repeatable performance

With the resin piston and the catalyst piston connected to the same piston rod, independent motion is eliminated. Each piston starts and stops simultaneously. This prevents off ratio and phasing which can be a common problem with parallel configured metering.

Components that see the adhesive are hard coated to increase life and reduce maintenance and downtime.

Proprietary rotary valves are used for flow control rather than ball check valves which can fail due to wear and seat contamination. The Ashby Cross 3-way and 4-way valves are also hard coated and make use of Rulon inserts for superior wear resistance.

How it works



The Resin and Catalyst cylinders have a respective volume matching the volume mix ratio of the material to be processed. For instance, if the material has a 2:1 mix ratio (Resin:Catalyst) then the catalyst cylinder will have a volume equal to ½ the volume of the resin cylinder.

In the fill operation, air pressure in the drive cylinder is removed. Each 3-way rotary valve (driven by a common actuator) rotates to the recharge (fill) cycle. Tank pressure or transfer pumps drive the material into the metering cylinders where the specific volume ratio is determined.

Once the cylinders are full the 3-way rotary valves rotate 90 degrees isolating the feed supply and connecting the metering cylinders to the mix/dispense valve. The Drive Cylinder is actuated and drives proportioned material to the dispense point.

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Cylinder/piston metering is the most reliable, effective method of proportioning filled and abrasive adhesives and sealants. In the 3800 series the pistons share the same shaft, are collinear and cannot move independently. This design eliminates phasing and ensures highly repeatable ratio accuracy.

There are many features that can be added to the system. To reduce viscosity systems are often heated. Tanks, lines and mix/dispense valve can all be heated on independent loops.

Agitation in tanks for filler suspension, shot volume control, PLC's, X-Y integration, and portable carts are all available

The Ashby Cross Intelligent Dispense System is a PLC based controller that will manage all of the above features as well as maintain operational data such as number of metering cycles and number of mix valve cycles.