

HOW YOU BENEFIT FROM DRYER FABRIC CLEANING

JIM MAGGARD

A LOOK AT FIVE DIFFERENT METHODS FOR CLEANING DRYER FABRICS.

WHAT ARE YOUR BENEFITS FROM DRYER FABRIC cleaning? First, your sheet quality improves, with fewer streaks, reduced sheet defects, and improved sheet profile.

Next is the dryer fabric itself. You'll have less wear for longer dryer fabric life and less filling so that you maintain dryer fabric design permeability.

Next is your dryer section as a whole. Here, you'll see more consistent dryer section performance, improved heat transfer, improved pocket ventilation, and reduced steam usage and energy cost. Overall, you can avoid unnecessary shutdowns. And best of all, an effective dryer fabric cleaning system will quickly pay for itself.

Figure 1 illustrates possible locations for dryer cleaning showers.

Now let's explore five recommended dryer cleaning methods, in detail.

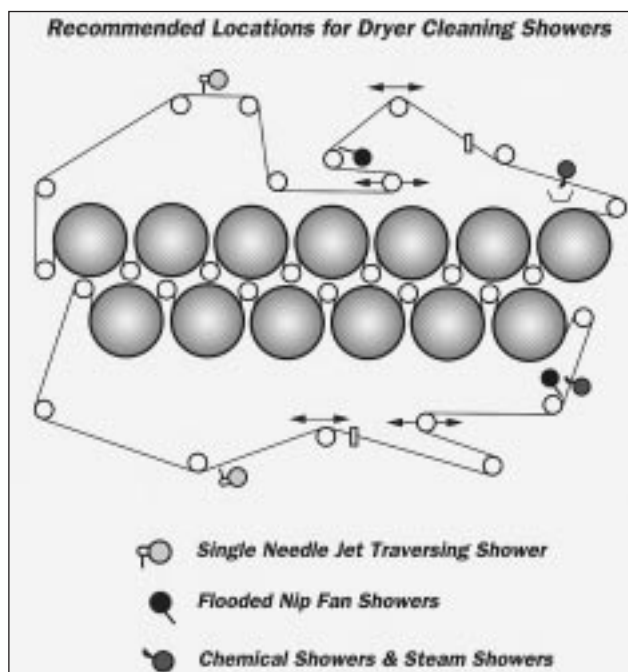
SINGLE-JET TRAVERSING SHOWER

Equipped with one or more air nozzles to dry the water and help prevent water streaks, this type shower (Fig. 2) cleans continuously while your machine is running. It is high-pressure (250–500 psi) and can be set for traversing, extra coverage, or spot cleaning. If used continuously, your single-jet traversing shower can be speed matched to your machine for total coverage.

This shower is used for spot cleaning on machines with stubborn stickies or where filler streaking is a problem.

CHEMICAL SHOWER

Chemical showering (Fig. 3), followed by rinsing, is a popular method for removing stubborn contaminants such as stickies (adhesives, waxes, resins, etc.), dryer cylinder deposits, and oil contamination. Using a drilled and tapped pipe fitted with fan nozzles, the dilute chemical spray is applied at 80–90 psi in an overlap pattern. To



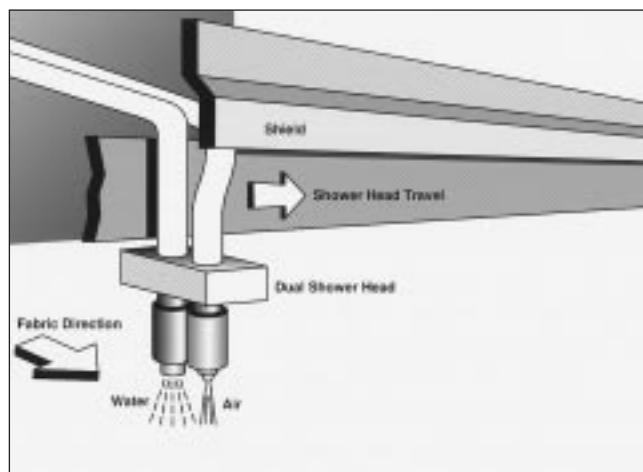
1. Recommended locations for dryer cleaning showers

avoid fabric degradation from the chemicals, thoroughly rinse your fabric after cleaning. You can rinse your fabric with the same showers by shutting off the chemical feed.

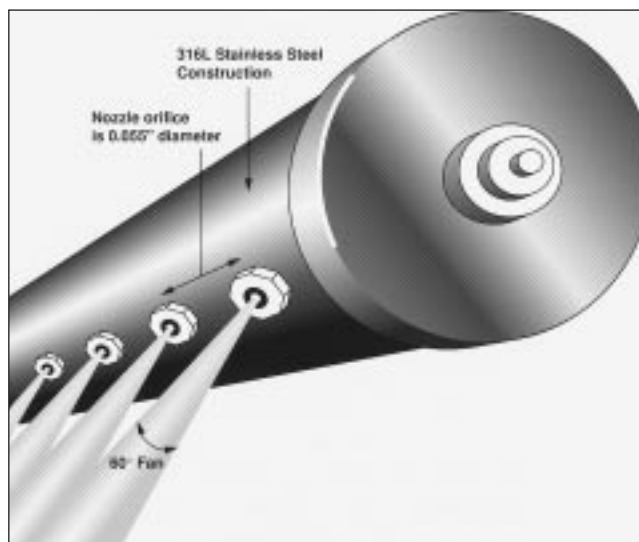
We recommend placing your showers inside your fabric in the return run just before an inside roll. In this way both the chemical solution and the rinse water penetrate the fabric and are stopped and spread by the roll.

FLOODED NIP SHOWER

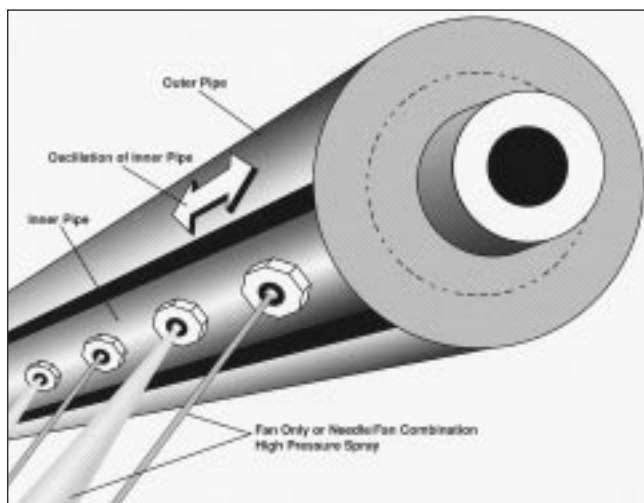
This general application shower uses fan nozzles at 80–90 psi, good for virgin pulp fine paper applications. The spray is directed into the nip formed by the fabric and the return roll. Hydraulic pressure in the nip forces



2. Single-jet traversing shower



3. Chemical shower



4. Oscillating high-pressure shower

the water through and the contaminants out, cleaning the fabric.

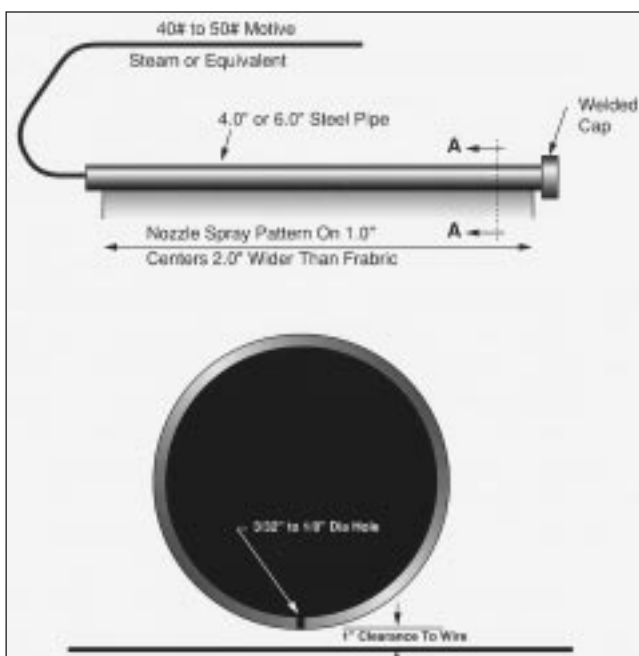
The flooded nip shower can be combined with the chemical shower, decreasing the time and materials needed for the chemical shower.

OSCILLATING HIGH-PRESSURE SHOWER

Typically mounted on the sheet side of the fabric, the oscillating high-pressure shower is angled slightly into the direction of the sheet run, as shown in Fig. 4. This shower operates at 250–500 psi, while the machine is shut down. Nozzles can be fan only or needle-fan combination for penetration cleaning and flooding cleaning.

STEAM SHOWER

This cleaning choice requires an abundance of steam—it's too expensive otherwise. The steam shower illustrated in Fig. 5 has a 6-in. diameter steel tube with one end capped (removable for cleaning). To install, drill 0.125-in. holes on 2-in. centers. Place the tube 1 in. off the



5. Steam shower

surface of your dryer fabric on an open run. This shower requires 40–90 lb motive steam.

Steam showers are prescribed primarily for 100% recycle news or kraft, or applications with stickies problems. Benefits of the steam shower include less expense than a chemical shower for stickies problems, no rust, no rinse required, and less shower time required (approximately 20 min). TJ

Maggard is technical service representative—air systems, steam and condensate studies with Scapa Dryer Fabrics, Waycross, GA.

Received for review Sept. 16, 1996.

Accepted Sept. 16, 1996.