RPM

SHOWER SYSTEMS

SHOWERING SYSTEMS ENGINEERED TO
OPTIMISE MACHINE PERFORMANCE

A comprehensive range of showers for all applications on a paper machine.
In addition to the basic shower designs, there are numerous optional fittings and features that can be incorporated to optimise performance for specific applications. This approach ensures a high level of interchangeability of components across the entire range enabling mills to achieve cost savings and reduce significantly the number of spares held in stock.

Selecting the correct shower will depend on where it is being used on the machine. The width and speed of the machine, the type of product being run and the quality of the water supply will also influence the choice of shower and jet nozzle.

STATIONARY SHOWERS

These are fixed position showers available in standard sizes from 2" to 6" diameter with others available on request.

The spray angle is easily adjusted in the machine direction to suit changes of fabric run, fabric type or other machine conditions. A wide range of nozzle types, diameters and angles are available to suit any application.

The shower internals are smooth and fitted with designed spray discs. Consequently, this type of shower is ideal for use with an internal brush system, such as when using clarified backwater.

Continuous discharge nozzles are available to prevent accumulations of fibre, which, in turn, reduces blockages in the nozzles.

Options

- Manual brush cleaning
- Automatic brush cleaning
- Stiffening and/or pre-bowing on wide machine installations
- Support brackets
- Clean out valve
- Hexagonal spray disc holder
- Sequence timer panel for motorised brush system

MONOTUBE OSCILLATING SHOWER

These showers offer complete coverage of the wire or felt and their movement can be linked to the machine speed to reduce uneven cleaning and eliminate striping for longer fabric life. They are purpose built to suit the type of fabric and production conditions with standard sizes from 2" to 6" diameter and others available on request.

The spray angle is easily adjusted in the machine direction to suit changes in the fabric run, fabric type or other machine conditions. A choice of needle jets or fan jets can be supplied with the shower to suit the application.

A wide range of options are available including:

- Stiffening and/or pre-bowing on wide machine installations
- Built-in brush
- Drive side inlet branch
- Self-purge nozzles
- Manual or motorised brush-cleaning with purge valve
- Can be used with various oscillator designs

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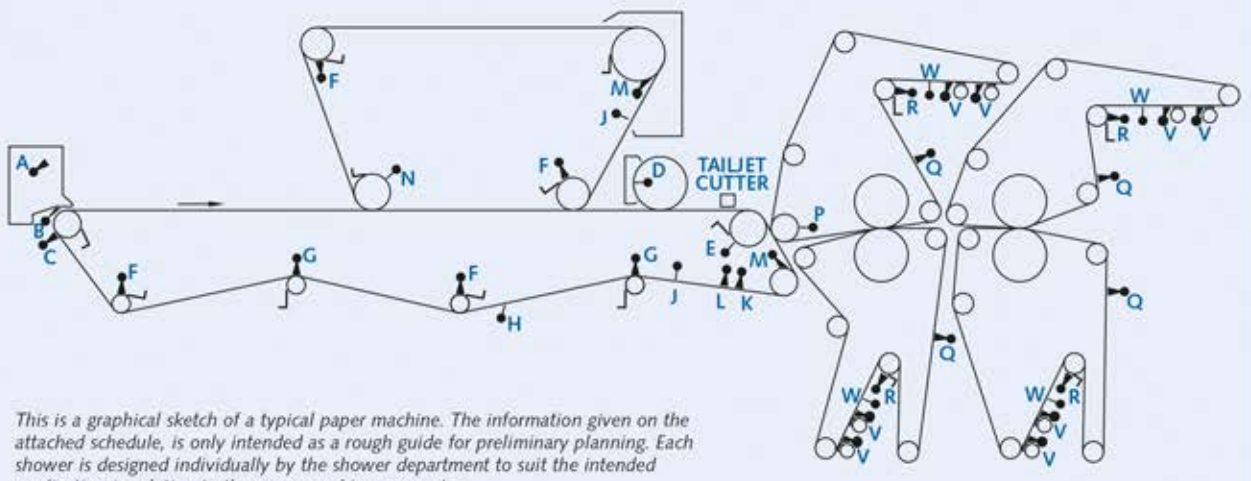
APPLICATION CHART *(See illustration below for shower location references)*

	SHOWER LOCATION	APPLICATION	FUNCTION	SHOWER TYPE
FORMING SECTION	A	Headbox	Foam killing. Prevention of stock build-up	Rotating
	B	Headbox-slice	Cleaning - to prevent stock build up & subsequent possible drop-off onto the wire.	Stationary
	C	Breast Roll	Fill void volume of forming fabric	Stationary
	D	Dandy roll	Cleaning - To keep the wire clean/fibre free.	Oscillating stroke = 2 x nozzle pitch
	E	Couch roll	Cleaning - to keep the roll functioning & at premium efficiency.	Oscillating stroke = 2 x nozzle pitch
	F	Inside wire return roll	Lubrication - assisting the removal, via doctor blades, of contaminants transferred from the fabric to the roll. The water film also acts as a lubricant between the roll & doctor.	Stationary
	G	Inside wire return roll	Cleaning & lubrication - assisting the removal, via doctor blades, of contaminants transferred from the fabric to the roll. The water film also acts as a lubricant between the roll & doctor.	Stationary
	H	Sheet side high pressure shower	Cleaning - removes fibres, fines & stickies from the sheet side fabric surface	Oscillating stroke = 2 x nozzle pitch
	J	Inside high pressure shower	Cleaning - for difficult applications where contamination is high (especially top wires).	Oscillating stroke = 2 x nozzle pitch speed to suit m/c
	K	Trim knock-off	Trim knock-off. 3 nozzles each side	Stationary
	L	Sheet knock-off	Sheet knock-off for single layer fabrics	Stationary
	M	Flooded nip	Sheet knock-off & cleaning multi-layer fabrics.	Stationary
	N	Grooved roll	Cleaning - to keep this special roll cover clean.	Oscillating Stroke = 2 x nozzle pitch
PRESS SECTION	P	Pick-up roll	Cleaning	Oscillating Stroke = 2 x nozzle pitch
	Q	Flooding shower	Felt wetting - chemical application	Stationary
	R	Doctor lubrication shower	Doctor lubrication	Stationary
	V	Vacuum box shower	Lubrication - provides water lubrication between the press fabric & the vacuum box foils.	Stationary
	W	Sheet side high pressure shower	Cleaning & conditioning	Oscillating Stroke = 2 x nozzle pitch speed to suit m/c



This is a graphical sketch of a typical paper machine. The information given on the attached schedule, is only intended as a rough guide for preliminary planning. Each shower is designed individually by the shower department to suit the intended application in relation to the paper machine parameters.

NOZZLE TYPE	APPROX NOZZLE APPLICATION	DISTANCE FROM APPLICATION	APPROX OPERATING PRESSURE	TYPICAL FLOW PER M (WIRE/FABRIC WIDTH.) Actual flow rates must be calculated to suit each application.
Fan	150 – 300 mm spiral pattern	Check with design dept.	5 Barg	3 – 4 lpm
Fan	150 - 200 mm	Check with design dept.	3 Barg	8 – 10 lpm
Fan	100 - 150 mm	150 – 250 mm	3 Barg	15 - 20 lpm
Needle jet	30 - 75 mm	50 – 100 mm	10 Barg max.	15 - 35 lpm
Needle jet	75 - 100 mm	75 - 150 mm	20 Barg	16 - 22 lpm
Fan	150 – 200 mm	150 – 250 mm	3 Barg	20 - 30 lpm
Fan	150 – 200 mm	150 – 350 mm	4 Barg	30 - 40 lpm
Needle jet	75 - 100 mm	150 - 250 mm	15 - 20 Barg	16 - 22 lpm
Needle jet	75 mm	75 - 150 mm	20 Barg	16 - 22 lpm
Fan	50 - 75 mm	150 – 300 mm	5 - 10 Barg	30 - 60 lpm
Fan	60 - 85 mm	150 – 300 mm	10 -12 Barg	up to 300 lpm
Fan	75 - 100 mm	To suit	5 – 10 Barg	To suit m/c conditions
Needle jet	75 mm	75 – 150 mm	20 Barg	29 lpm
Needle jet	75 mm	75 – 150 mm	20 Barg	22 lpm
Fan	75 - 100 mm	100 – 250 mm	3 – 5 Barg	To suit application
Fan	150 - 250 mm	100 – 250 mm	3 Barg	7 lpm
Fan	100 - 200 mm	To suit	3 Barg	10 - 12 lpm
Needle jet	125 - 150 mm	150 - 250 mm	10 - 15 Barg	10 - 20 lpm

DOUBLE TUBE OSCILLATING SHOWER - RETRACTA

The advantage of this design is that the shower can be removed for nozzle cleaning and maintenance without stopping the machine. After the water hose is disconnected and the oscillator detached from its flange, the shower is simply drawn from the carrier which remains bolted to the machine. A guide slot in the carrier ensure positive location of the nozzles.

There are two standard sizes - 2"and 4" diameter showers which are supplied with 4" and 6" diameter carriers respectively. Other sizes can be specially made. Showers can be supplied with needle jets or fan-jets according to the application.

As with all RPM showers, the spray angle is easily adjusted in the machine direction to suit changes of fabric run, fabric type or other machine conditions.

Options

- Stiffening and/or pre-bowing on wide machine installations
- Drive side inlet branch
- Manual or automatic brush cleaning with purge valve
- Quick release drive pin connections
- Can be used with various oscillator designs

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ANCILLARIES

DECKLE CUTTING

The self-contained stainless steel deckle cutting spray has its own integral 150µ filter element that can be easily replaced. The whole unit is designed for simplicity of installation and maintenance and is supplied with either a stainless steel or ceramic tipped nozzle.

NOZZLES

Spray nozzle designs vary according to the intended application. The RPM range covers all types of showers and includes needle jet and fan disc nozzles as well as several specialised units.

IN-LINE BRUSH FILTERS

Every shower should have a safety filter in the supply line. This will significantly reduce the chance of shower nozzle blockage.

The RPM In-line Brush Filter has an integral brush which is simple to operate and maintain. It is operated by opening a flush-through valve and rotating the internal brush which removes clinging debris on the filter wall. Debris is flushed using the water supply feed.

Unlike most filters which rely on back flushing to clear the filter media, the RPM filter has two cleaning mechanisms - the direct flush-through and the internal brush.

FLEXIBLE HP HOSE

RPM supply a comprehensive range of hoses to suit different shower diameters. They are 1.5 metres long and include a 90° swept end.

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