

Use and Maintenance Instructions

Introduction

The Ranger mobile fiber dispenser efficiently and easily adds Surface-EXT™ fibers to a micro surfacing or slurry seal process.

The Ranger mobile fiber dispenser must be properly installed on a micro surfacing or slurry seal truck before it can be operated. If your Ranger is not already installed, refer to the separately supplied “[Installation Instructions](#)” for instructions on installing your Ranger.

These instructions outline the necessary steps to operate the Ranger mobile fiber dispenser. If technical assistance is necessary, some assistance is available by telephone consultation with FORTA Corporation Operations Department. For more in-depth assistance, on-site technical services are available through FORTA Corporation at a cost of the technician’s travel, lodging, and time on site. Contact FORTA Corporation for details.



Important

Failure to follow the within instructions, and any other supplied instructions, may void any applicable warranty.



CAUTION!

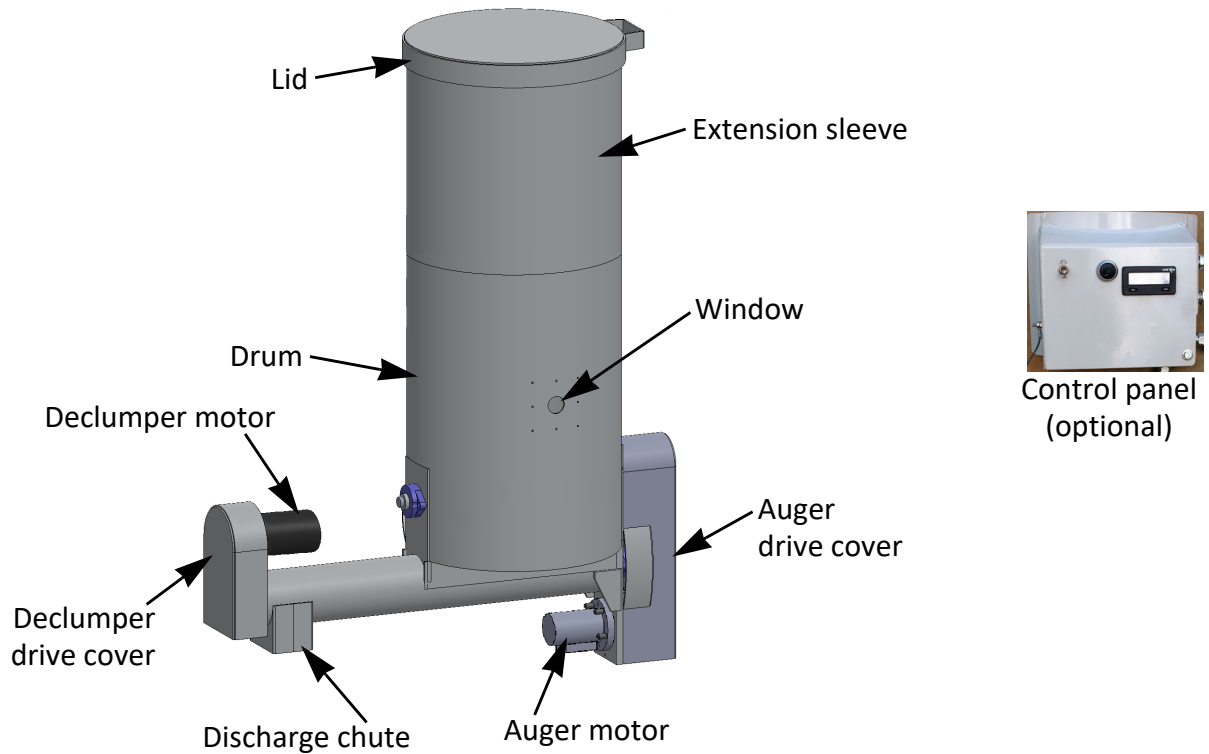
The Ranger mobile fiber dispenser is designed for use with Surface-EXT™ fibers only. The use of any other glass fiber, including E glass may harm or shorten the life of certain components. The use of any fiber other than Surface-EXT™ fiber will void any applicable warranty.

For Use With



FORTA[®]
Surface-EXT™

About the Ranger



Loading the Ranger

To load fiber into the Ranger, remove the lid from the drum and simply dump bags or boxes of Surface-EXT™ fiber into the drum. The drum (with one extension sleeve) can hold approximately 80 lb of Surface-EXT™ fiber.

As fiber is dispensed, periodically add more fiber into the drum - particularly when the level of the fiber in the drum reaches the window. Once the level of the fiber in the drum reaches the window, it is imperative to add fiber.

Optional extension sleeves can be purchased and installed to raise the top opening of the drum and increase the capacity of the drum. Each additional extension sleeve increases the drum's capacity by approximately 40 lb. Contact FORTA Corporation for details.

Ranger operation

1. Determine motor speed for desired feed rate

After calibrating the truck, determine the amount of dry aggregate that will be discharged in pounds per minute. In Table 1, find the feed rate of fiber needed based on your rate of aggregate discharge and the percentage of fiber specified in your mix design.



For example: If your rate of dry aggregate discharge is 3500 lb/min and the percentage of fiber specified for your mix is 0.20%, then the feed rate of fiber needed is 7.0 lb/min

In Table 2 determine the auger motor speed necessary to attain the required feed rate of fiber.



For example: For a feed rate of 7.0 lb/min, the motor speed should be set to 60 RPM.



The data in Table 2 and the chart at right are intended only as a guideline. We highly recommend that you run several calibration tests on your dispenser with your truck to confirm its actual yield; see "Calibration" on page 4.

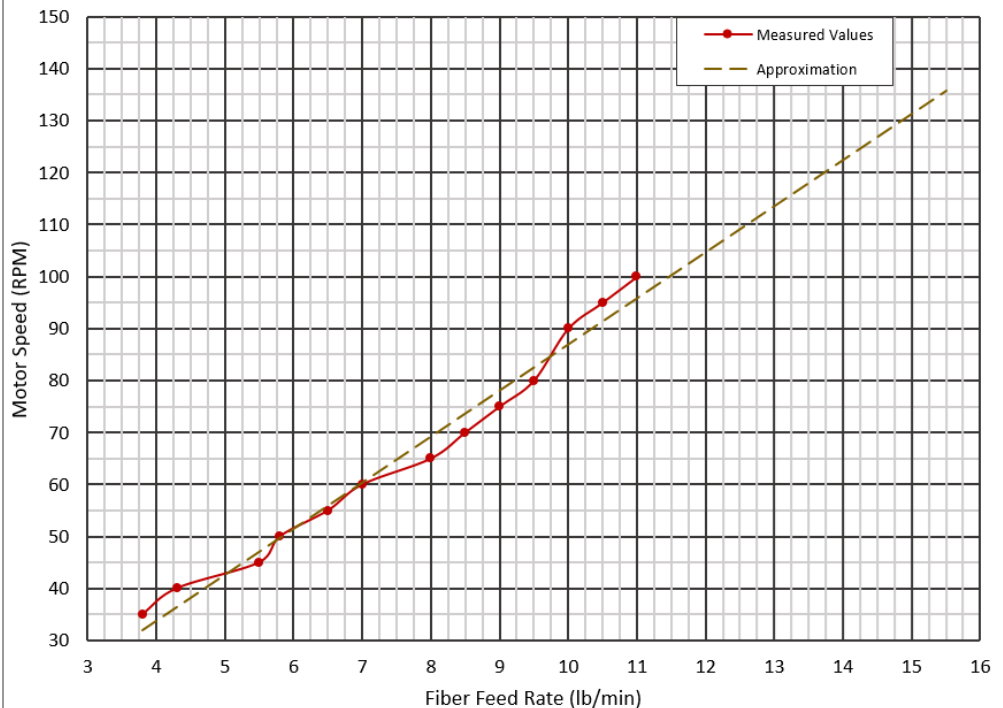
Table 1: Feed rate of fiber based on aggregate discharge and fiber dosing requirements.

Rate of dry aggregate discharge	Fiber as a percentage of dry aggregate			
	0.15%	0.20%	0.25%	0.30%
	Feed rate of fiber needed			
2000 lb/min	3.0 lb/min	4.0 lb/min	5.0 lb/min	6.0 lb/min
2500 lb/min	3.8 lb/min	5.0 lb/min	6.3 lb/min	7.5 lb/min
3000 lb/min	4.5 lb/min	6.0 lb/min	7.5 lb/min	9.0 lb/min
3500 lb/min	5.3 lb/min	7.0 lb/min	8.8 lb/min	10.5 lb/min
4000 lb/min	6.0 lb/min	8.0 lb/min	10.0 lb/min	12.0 lb/min
4500 lb/min	6.8 lb/min	9.0 lb/min	11.3 lb/min	13.5 lb/min
5000 lb/min	7.5 lb/min	10.0 lb/min	12.5 lb/min	15.0 lb/min

Table 2: Approximate motor speed for fiber feed rate.

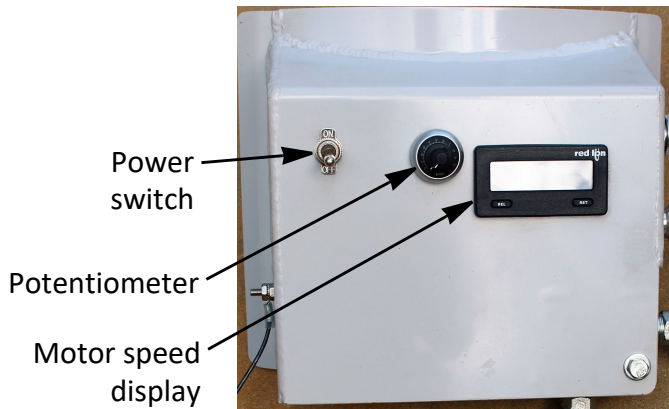
Fiber feed rate (lb/min)	3.8	4.3	5.5	5.8	6.5	7.0	8.0	8.5	9.0	9.5	10.0	10.5	11.0
Motor speed (RPM)	35	40	45	50	55	60	65	70	75	80	90	95	100

Fiber Feed Rate vs. Motor Speed



2. Turn on Ranger and set motor speed

As the truck begins to operate, simultaneously turn the Ranger’s power switch to ON and immediately adjust the potentiometer to set it at the motor speed determined in step 1.



Calibration

We highly recommend that you run several calibration tests on your dispenser with your truck to confirm its actual yield.

1. You will need:
 - A 5 gallon bucket (or similar) to collect fibers
 - A scale with capacity of 20 lb and accuracy of 0.1 lb (or similar) to weigh the collected fibers
 - A stopwatch or watch with a second hand
2. Fill the drum of the Ranger with fiber.
3. Weigh the empty bucket and record the weight, or if your scale has the ability to zero out the weight of the bucket, place the empty bucket on the scale and zero the scale.
4. Determine a specific length of time and motor speed/rate to run the dispenser for the calibration test (for example: run for 30 seconds at 60 RPM).
5. Turn on the Ranger and adjust the potentiometer to set it at the motor speed decided in step 4.
6. Simultaneously start the stop watch and put the bucket under the discharge chute to collect fibers as they are dispensed. Once the predetermined amount of time has passed, turn off the Ranger and remove the bucket from under the discharge chute.
7. Weigh the bucket with fibers, calculate the weight of the fibers and record the weight.
8. Repeat steps 2 through 7 several times to verify results. It is important to refill the drum each time. If the results are not the yield you were looking for, adjust the potentiometer and repeat steps 2 through 7. Adjust the potentiometer until you achieve your desired yield.

Troubleshooting

Indications	Possible Problem	Solution
Declumper motor leaking oil	Blown seals at port P2 due to over-pressurization of oil (back pressure)	Either continue to operate with the leak, or replace the motor. Contact FORTA Corporation. To monitor oil pressure at port P2 of the declumper motor, install a tee connection with a pressure gauge at the port.

Maintenance

1. Daily visual inspection

Before startup each operating day, perform a visual inspection of the Ranger:

- Ensure that the drum is full of fiber.
- Ensure that the inside and outside of the discharge chute is clean, in particular make sure that there is no emulsion on the end of the chute.
- Remove the auger and declumper drive covers and ensure that the chains and gears of each drive are clean. Replace the drive covers.

2. Daily maintenance

The following maintenance should be done on a daily basis, during cleanup at the end of each operating day:

- Clean the inside and outside of the discharge chute, in particular be sure to remove any build up of emulsion.
- Clean the area around the auger and declumper motors.
- Remove auger and declumper drive covers. Clean and lubricate the chains and gears. Use a standard chain lubricant. Replace the drive covers.

3. Annual maintenance

The following maintenance should be done on an annual basis, during the truck's annual servicing:

- Clean the inside and outside of the discharge chute, in particular be sure to remove any build up of emulsion.
- Clean the area around the auger and declumper motors.
- Clean and inspect all hoses for damage and leaks; replace hoses as necessary.
- Remove auger and declumper drive covers. Clean and inspect the chains and gears of both drives; replace as necessary. Apply standard chain lubricant to the chains and gears. Replace the drive covers.

Contact FORTA Corporation

If it is necessary to contact FORTA Corporation, you can do so by the following:

Mail: FORTA Corporation
100 Forta Drive
Grove City, PA 16127-5221

Phone: 1-800-245-0306 or 1-724-458-5221

Fax: 1-724-458-833

Web: www.fortacorp.com