



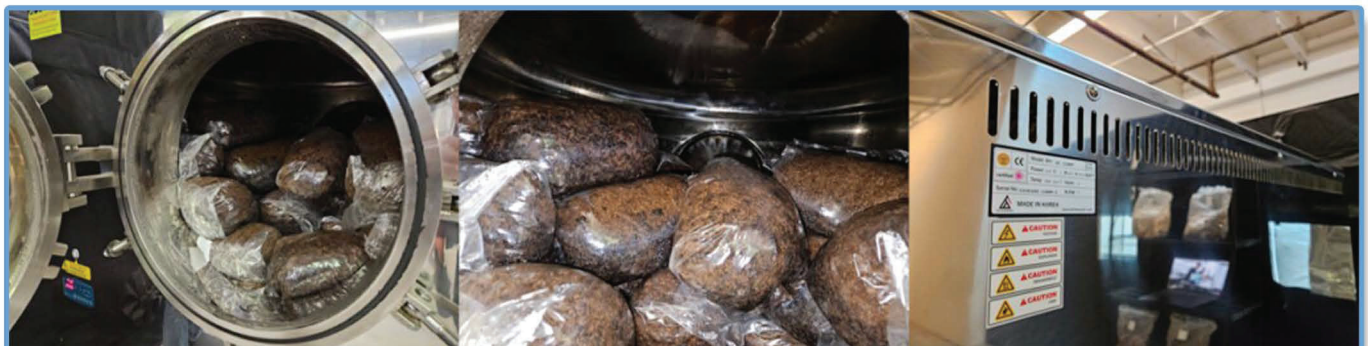
Since 1982, we've provided laboratory and production equipment to organizations spanning material science and engineering, mechanical and chemical engineering, extraction and processing, biotechnology, heavy industry, education, government, and healthcare.

# ONE AUTOCLAVE, BIG IMPACT

## BLACK FOREST'S 1200LB PER CYCLE AUTOCLAVE SUCCESS

We could talk all day about “making a difference.” For us, it means enabling researchers to learn something novel, R&D teams to advance materials science, small businesses to expand, and so forth.

But better than platitudes is a real-world story. And today, courtesy of our friends at Black Forest Mushrooms, we have one.



# GEARING UP FOR GROWTH

Based in Everett, WA, Black Forest is a “fungi-to-fork” cultivator of novel, healthful, and supremely flavorful mushrooms.

To call their growth rapid would be an understatement. From its bootstrapped roots, the company now finds itself sterilizing upwards of 1,000 lbs of grain bags in one day to keep pace with demand.



As an early SH Scientific customer, their trusty 150-liter autoclave (model 150M) sufficed for years and left a favorable impression on the owners.

As sterilization demands became overwhelming, it was time to invest in a major workflow upgrade.

The answer was our newest and largest autoclave, the SH Scientific 1200M.



Its 1200-liter capacity was a leap of faith, both in Black Forest’s growth trajectory and in our long-run quality and support.

The 1200M brought an eightfold increase in capacity over the 150M. In practice, that meant 200 five-pound bags per load, plus space for 40 more. And the 1200M’s unique double door makes it easy to tag-team handling all that poundage.

## EFFICIENCY & SAFETY AT SCALE

Capacity isn’t the whole story. Other major factors are how quickly an autoclave can sterilize a full load, and how safely it can operate without continuous, hawk-eyed monitoring.

The 1200M completes a heating + sterilization cycle in about 3.5 hours, after which the cooling fan is activated.

Cooling time is a bit hard to predict, since it depends on the thermal mass of the load as well as how it’s arranged. In our internal lab testing, the cooling fan reduced temperatures from 250° to 176°F in 110 minutes, versus 12+ hours for competitors of similar size with strictly ambient cooling.

Based on a loading time of 30–45 minutes for 1,000 lbs of grain bags, Black Forest comfortably fits two cycles into a single working day.

Safety-wise, the 1200M bears the same features as its siblings: over-pressure protection, double housing, auto door lock, and so forth.

Less dangerous but extremely frustrating is the tendency for stacked grain bags to explode under their own weight on a grill-type rack. We ditched the grill in favor of an innovative punched-type bottom cover that distributes the load and minimizes mishaps.

## YOUR LONG-TERM PARTNER

When Black Forest Mushrooms needed to scale up, they were free to choose from a plethora of large autoclaves, including all of the industry's big names.

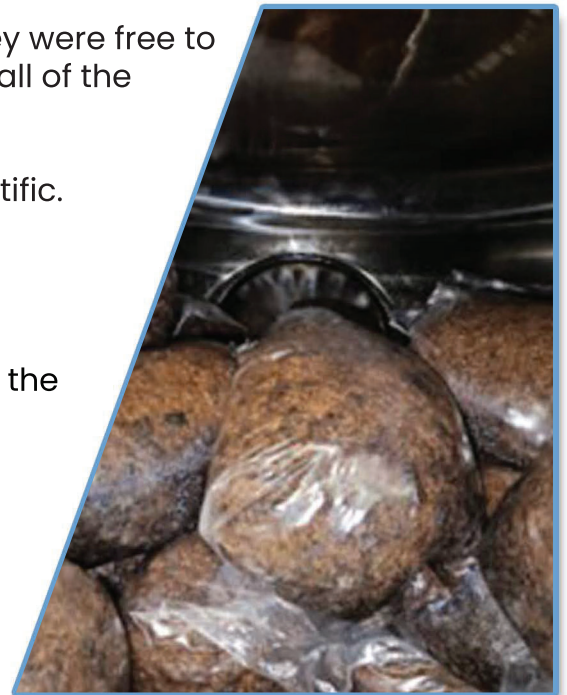
Yet they entrusted their growth once again to SH Scientific.

It's a testament to the performance and support they experienced with the 150M.

It's a vote of confidence in our ability to deliver at least the same high standard for years to come.

And it's an illustration of the long-term relationships we build with every sale and every support call.

Whether you're considering your first autoclave or a massive upgrade like Black Forest, reach out today to see if our line fits.



Let's grow together.



## A BRIEF HISTORY OF SH SCIENTIFIC



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## Serving North America Since 2013

In 2018, after particularly rapid growth in the American education and public sectors, we founded a US head office in Portland, Oregon. Whether you're visiting us on behalf of a major institution, a small lab, or anything in between, we're honored that you're considering SH Scientific as a potential partner. We look forward to a lasting relationship in support of your innovation and discovery.

