

# SAS-400 SULFURIC ACID STRIPPER

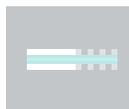


## Coating Removal for Acrylate and Polyimide Fibers

Strip



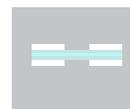
Clean



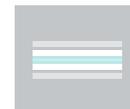
Cleave



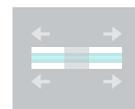
Splice



Recoat



Test



The use of hot sulfuric acid has long been regarded as the ultimate stripping method for completely removing an optical fiber's coating while preserving the fiber's intrinsic strength. The method works on a wide variety of coating types, including acrylate and polyimide, and can be used to center strip a fiber—a common application in fiber Bragg grating manufacture and for metalizing fiber sections.

While hot acid stripping may preserve fiber strength, it has always been difficult and potentially dangerous to implement. Vytran has addressed these issues with the introduction of its Model SAS-400 Sulfuric Acid Stripper.

With the SAS-400, a mini robotic stripping head located above the fiber automatically performs all steps required to strip the fiber. The stripping head consists of three

rectangular glass “capillary” dispensers, which are used for the hot acid strip, water rinse and final solvent clean. The acid is heated directly within the acid dispenser, right at the point-of-use, and only on-demand. Only a very small amount of acid is required to complete a strip.

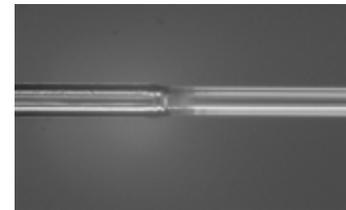
The acid dispenser surrounds a 12-mm section of fiber in hot acid and slowly dispenses fresh acid past the fiber during the strip. This flushes away any contaminated acid and ensures that clean acid is always used to strip the fiber. The “waste” acid is immediately diluted in water and stored in a closed container for eventual disposal. By translating the stripping head along the length of the fiber, the SAS-400 can strip fiber sections up to 40 mm long. The end result is a very efficient and consistent process that fully removes all coating while maintaining the intrinsic strength of the fiber.



## Key Markets and Applications

- 1 Sensing
- 2 High-strength splices
- 3 Medical
- 4 Telecommunications
- 5 Aerospace
- 6 Research

Benefits	
<b>No fiber damage</b>	Since there is no mechanical contact with the glass, SAS-400 preserves high fiber strength.
<b>Clean fiber sections</b>	The system pumps fresh acid continuously past the fiber, so all residue is dissolved and washed away.
<b>Controlled heat</b>	Precise temperature control ensures that most coatings can be removed entirely, leaving smooth interfaces at the ends of the windows.
<b>Safer than other method</b>	Benefits of SAS-400 compared with using a beaker on a hot plate: 1. The acid is heated right where it is needed (behind guarding) and then cooled down, diluted and stored immediately. 2. There is never a need to pour concentrated acid anywhere. 3. Fumes are extracted to a scrubber so the user is protected even without a fume hood.
<b>Economical</b>	The SAS-400 requires just 1-2 ml of acid per strip, keeping usage cost down.



**Polyimide coating**

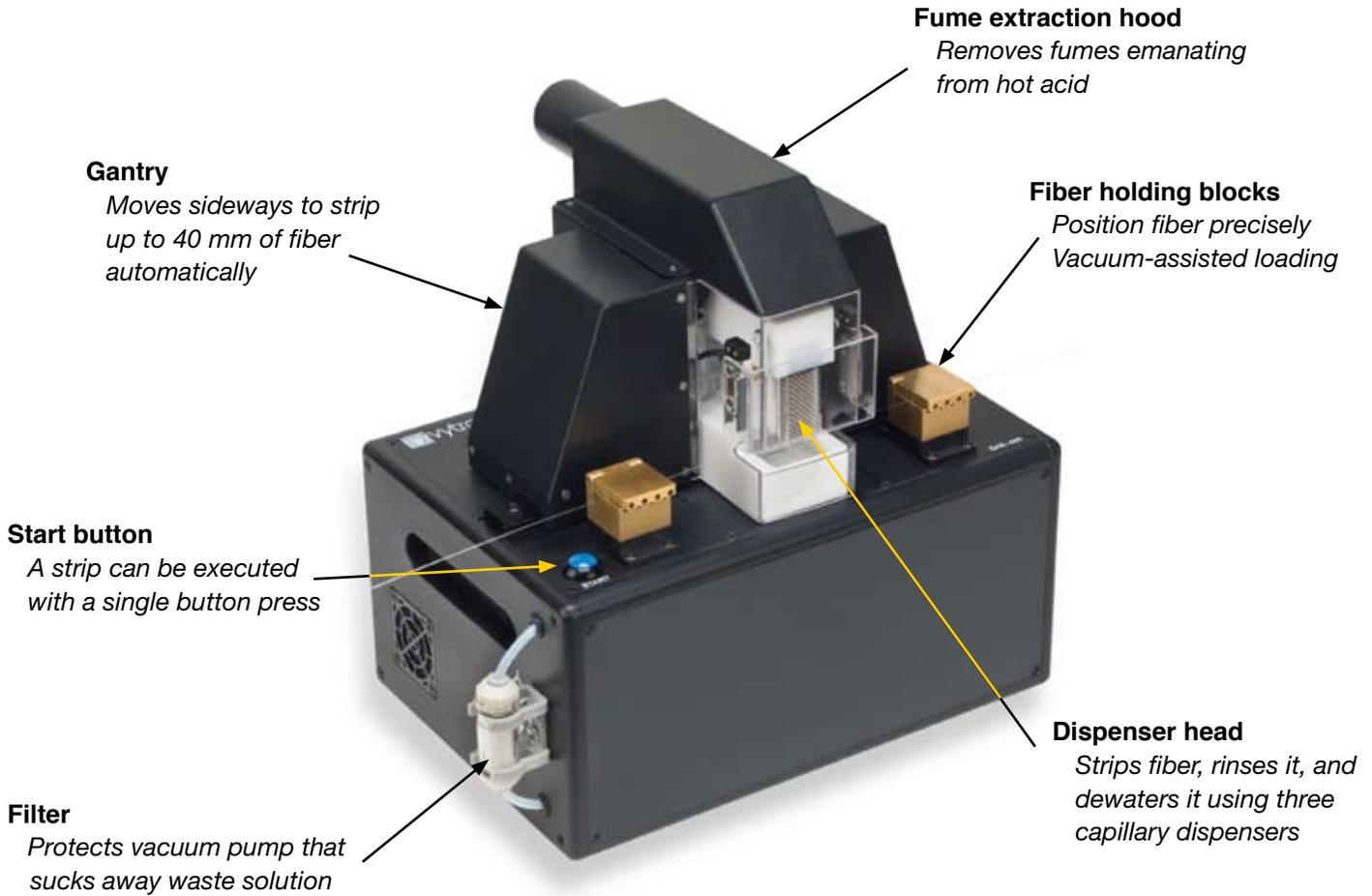


**Acrylate coating**



# SAS-400

## Key Features / Benefits



## Graphical User Interface

### Operator's Interface



### Engineering Interface



The operator can use the full mode of operation (engineering interface) or the simple interface for manufacturing (operator's interface).





# SAS-400 Specifications

**Overall Size** H: 10.5" (267 mm), W: 11.25" (286 mm), D: 7.0" (178 mm)

**Weight** 12 lbs. (5.4 kg)

## Services

**Power** 100-120/200-240 VAC, 4.5/2.2A, 47-63 Hz

**Air** 80-120 psi, dry compressed air or gas supply

**Vacuum** External pump provided

**Acid Supply** Direct feed from sulfuric acid bottle via external peristaltic pump

**Water Supply** External supply bottle provided

**IPA Supply** External supply bottle provided

**Waste Disposal** Automatically sucked to external holding bottle

## Process

**Coating Types** Most "organic" materials, such as acrylate, polyimide, etc.

**Max. Coating Size** 900 microns

**Acid Temp** 105 to 200C typical (coating dependent)

**Strip Time** 20 to 60 seconds typical (coating dependent)

**Max. Strip Length** 40 mm

**Total Cycle Time** 1 to 2 minutes typical

**Fiber Strength** Intrinsic typical (800 kpsi for silica fibers)

## Related Products:

### PTR-200-PRL

A fully automated recoater that restores polyimide coating to a stripped fiber.

### PTR-200 Series

Manual and automated fiber recoaters that restore acrylate coating to stripped fiber.

