

# PHOTOCHEMISTRY STARTER SET



## Introduction

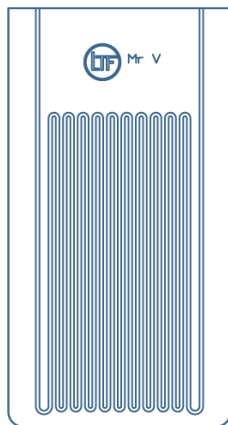
The Photochemistry Starter Set is intended to introduce trainees to photochemistry in flow and to provide further education for those who already work in the field. The Starter Set was developed for laboratory syntheses. It permits the simple translation from batch process into a continuous one by using standard laboratory equipment. Thanks to its wide range of combination possibilities, it is ideally suited for education purposes as well as in research and development of photocatalytic reactions.

## Content

1 x MR Lab reactor incl. connection bar	1 x single syringe pump
1 x UV Box	10 m PTFE tube 1/8"
10 x fittings 1/8"	10 x ferrules 1/8"
1 x 20 ml plastic syringe	1 x Manual for demo reaction



## MICROREACTOR



### LTF V

Residence time

Material: Borosil 33

Dimension: 115 x 60 x 6 ±0.5 mm

Volume 1.7 ml

Channel size: 1 mm

Inclusive connection bar 1/4" unf 28

Optional: LTF-MX, LTF-MS, LTF-VS, Mr-Lab-Kat

## UV Box

### Characteristics

Dimensions:	190 x 165 x 90 mm
Weight:	1.3 kg
Operating voltage:	100-240 VAC ~ 50-60 Hz
Total power consumption:	10W
Degree of protection: (according to DIN EN60529)	IP64
Lifetime UV LED:	> 10.000 H
Working temperature:	10-35°C
LED:	4x365 nm +/- 10 nm
Filter:	Special filter to suppress the white light component
UV performance	> 40W/m <sup>2</sup>
White light component:	< 5 lux
Risk class:	2 according to EM 6 and BGFE
Power supply:	plug-in power supply 24V (LED panel) plug-in power supply 5V (fans for exposures > 2 hours)



## SYRINGE PUMP

### Mechanical & Electrical

Syringe sizes:	Up to 60 cc
Number of syringes:	1
Motor type:	Step motor
Motor steps per revolution:	400
Microstepping:	1/8 to 1/2 depending on motor speed
Advance per step:	0.2126 $\mu$ M to 0.8504 $\mu$ M depending on motor speed
Motor to drive screw ratio:	18/28
Drive screw pitch:	20 revolutions/"
DC connector:	2.1 mm, center positive
Voltage at DC connector:	12V DC at full load
Amperage:	750 mA at full load
Power supply type:	Unregulated linear external wall adapter, country and power source specific
Power supply output rating:	12V DC @ 800 mA
Dimensions:	8 3/4" x 5 3/4" x 4 1/2" High (22.86 cm x 14.605 cm x 11.43 cm)
Weight:	3.6 lbs. (1.63 kg)
Allen Wrench	3/32 Hex

### Operational

Maximum speed:	3.7742 cm/min
Minimum speed:	0.004205 cm/hr
Maximum pumping rate:	1257 ml/hr with a B-D 60 cc syringe
Minimum pumping rate:	0.73 $\mu$ l/hr with a B-D 1 cc syringe
Maximum force:	35 lbs. at minimum speed, 18 lbs. at maximum speed
Syringe inside diameter range:	0.100 to 50.00 mm

## REACTION MANUAL

The Photochemistry Starter Set includes a manual for the demo reaction of "Photooxidation of p- methoxybenzyl alcohol to p-methoxybenzaldehyde in a microreactor with riboflavin tetraacetate as a catalyst".