FALLING FILM PHOTOREACTOR
WITH FORCED LIQUID CIRCULATION

GENERAL

The synthesis via the photo chemistry is a commonly applied method. Organic syntheses often succeed only due to the radiation with UV-light or will be speeded up. Photochemical reactions are often run at room temperature and so they are gentler than other thermal processes. Photoreactors have a wide range of application, e.g. in synthesis, analysis and waste water treatment.

Construction of the Falling Film Photoreactor

The radiation vessel is the main component of the reactor. It has a capacity of approx. 200 ml and distinguish by the silver coated high vacuum jacket with side strips and tempering jacket. Cooling tube and immersion tube, both made of quartz glass, are located in the radiation vessel. The circulation is effected by the forced circulation pump "System Normag", which is controlled by a control unit. Delivery consists of four supply vessels with volumes of 100, 250, 500 and 1000 ml, as well as a low temperature thermometer for low temperature ranges between -30 °C and + 100 °C and small pieces.

Catalogue No. SAA 09356

The Normag Falling Film Photoreactor offers the following advantages:

- An effective circulation of the liquid to be radiated inside the reactor.
- Due to the falling film principle, an intensive radiation is reached.
- Only a small liquid volume is necessary.
- Operations in low temperature range ensure more application facilities.
- Used materials Borosilicate glass 3.3, quartz glass and plastic parts of PTFE.
- This photoreactor is suitable for mercury medium pressure lamps TQ 718 and TQ 150 and the mercury low pressure lamp TNN 15/32.
Accessory for the Falling Film Photoreactor

- Mercury medium pressure lamp TQ 718
  Capacity 700 W
  Lamp voltage 220 V
  
  **Catalogue No.** SAA 09380
  - Mercury medium pressure lamp TQ 718 Z1
    With additional radiation intensity 400 - 450 nm
    
    **Catalogue No.** SAA 09381
  - Mercury medium pressure lamp TQ 718 Z2
    With additional radiation intensity 500 - 550 nm
    
    **Catalogue No.** SAA 09382
  - Mercury medium pressure lamp TQ 718 Z3
    With additional radiation intensity 280 - 360 nm and 460 - 510 nm
    
    **Catalogue No.** SAA 09383

- Power unit fitting for TQ 718 lamps
  Connecting voltage 220 V, 50 Hz
  
  **Catalogue No.** SAA 09384

- Table tripod frame
  for the mounting of the photoreactor,
  made of V4A tube, outer diameter 26.9 mm
  with powder-coated tube connectors,
  Dimensions: W 800 x D 550 x H 1080 mm
  
  **Catalogue No.** SAA 09385

Legend:

1. Radiation vessel
2. Cooling tube, Quartz glass
3. UV-lamp TQ 718
4. UV-lamp TNN 15/32
5. Power unit for UV-lamp TQ 718
6. Power unit for UV-lamp TNN 15/32
7. Gassing frit
8. Thermometer
9. Cooling water connections GL 14
10. Forced circulation pump
11. Pump impeller
12. Glass stopcock for sampling
13. Spindle valve for drain off
14. Motor
15. Speed controller
16. Ventilating and feeding connection
17. Throttle valve
18. Supply vessel for reaction solution
19. Equalising line for small volumes

We will be pleased to submit you our detailed offer.