



Make Your Research More Accurate And Efficient.



XI'AN TOPTION INSTRUMENT CO.,LTD

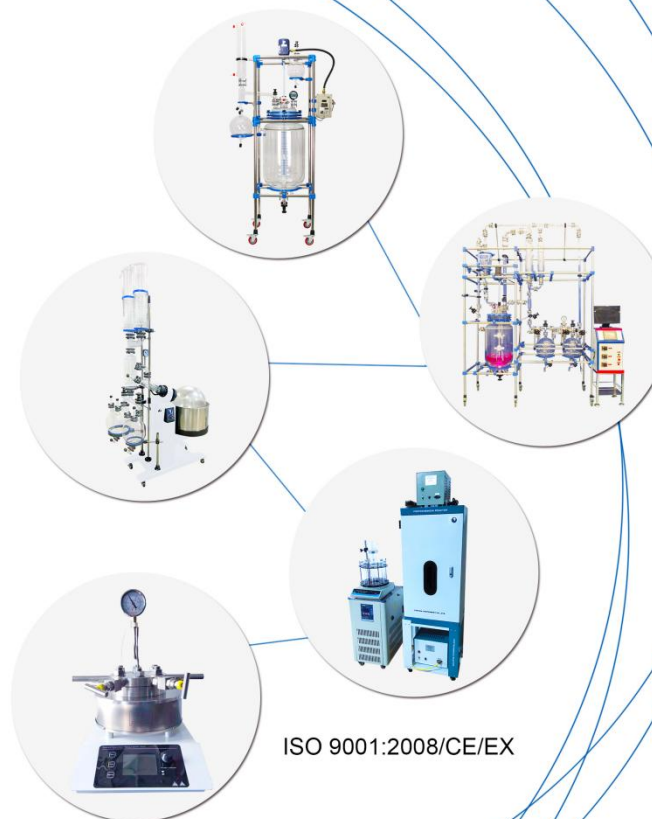
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ISO 9001:2008/CE/EX

LAB SOLUTION PROVIDER



XI'AN TOPTION INSTRUMENT CO.,LTD

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TOPTION INSTRUMENT has spent 18+ years becoming a world leading manufacturer engaged in the research, development, production, sale and service of Extraction, distillation, filtration, drying & Pretreatment series equipment.

The headquarter is in Xi'an City, the ancient capital with 5000+ history; includes several production bases, own professional research and development team 25+ persons; the distillation production base is located in Xi'an, covering an area of 4040 m²; the drying and other production bases are located in southern China cities.

Since 2004 TOPTION'S equipment has been used and praised in many countries including United States, Canada, Poland, Spain, Italy, Sweden,

Switzerland, Germany, France & Colombia. We are your dependable partner in distillation and drying industry, we are flexible, intelligent, and truly care about your benefits potential. We want your business to be remembered and welcomed by your customers.

TOPTION has passed ISO9001 & CE certification. We work closely with our clients to deliver a successful and extraordinary equipment, choose TOPTION to maximize your benefits.

TOPTION will be your TOP OPTION.



Handmade process



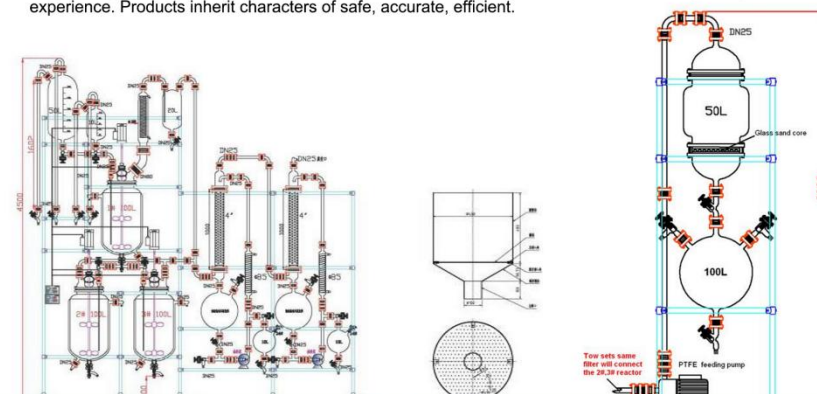
TOPTION brand advantages



1. TOPTION is a registered brand, which is well known in global lab instruments trade, ISO9001: 2008 and CE certificated lab solution provider.
2. Commits to become the world's most competitive lab solution provider.
3. Has been widely recognized and won reputation for excellent quality and professional customization among customers in 70 more countries.
4. Brand interpretation: SAFE - ACCURATE - EFFICIENT. Choose TOPTION, choose guarantee and relief.

Professional customization

Engineering team presided over by professors level chief engineer who has more than 20 years practical working experience. Products inherit characters of safe, accurate, efficient.



Design sketch



Glass reactor test



Rotary evaporator test



Mechanical sealing



Hand-made fire glass



Ex control box

PRDT. INDEX

P₅

Rotary Evaporator



- ◆ 1L 2L 3L 5L Lab Rotary Evaporator
- ◆ 10L 20L 50L 100L 200L Rotary Evaporator
 - ◆ Vacuum pump
 - ◆ Chiller
 - ◆ Accessories

P₁₉

Chemical Glass Reactor



- ◆ Single layer glass reactor
- ◆ Double layer glass reactor / Three layer customize
 - ◆ Downward open jacketed reactor
- ◆ Glass reactor with lifting & rotating function
 - ◆ Customization glass reactor

P₂₆

High Shear homogeneous emulsification reactor



P₂₈

Ultrasonic Homogeneous Reactor System

P₃₀

Vacuum Filter / Glass Liquid Separator



- ◆ Pour type vacuum filter
- ◆ Suck type vacuum filter
- ◆ SS304 type vacuum filter
- ◆ Ceramic type vacuum filter

P₃₁

Photochemical Glass Reactor



- ◆ Liquid phase photochemical reactor
- ◆ TOPT-MINI photochemical reactor
 - ◆ Pilot photochemical reactor
- ◆ Long arc xenon lamp Source
 - ◆ Long Arc UV lamp source
- ◆ Short Arc Xenon Light Source
 - ◆ Short Arc UV Lamp Supply

P₄₁

Hydrothermal Synthesis Reactor



- ◆ PTFE lined 170°C
- ◆ PPL lined 220°C
- ◆ 10ml - 2000ml customization

P₄₃

High Pressure Reactor



- ◆ THR type with magnetic stirrer
- ◆ MHR type with magnetic coupling mechanical agitation
 - ◆ KCFD type mini high pressure reactor
- ◆ TFCF type hand-lifted high pressure reactor
 - ◆ Large high pressure reactor customization

1L 2L 3L 5L Lab rotary evaporator - Customer Case



Complete set: Rotary evaporator + Chiller + Diaphragm pump



Complete set: Rotary evaporator + Chiller + Vacuum controller



Complete set: Rotary evaporator + Chiller + Circulating water vacuum pump



Complete set: Rotary evaporator + Chiller + Vacuum controller + Diaphragm pump



Complete set: Rotary evaporator + Chiller + Circulating water vacuum pump



Complete set: Rotary evaporator + Chiller + Vacuum controller + Diaphragm pump

Product Analysis

RE-2000A/3000A/5000A

Unique drip point & anti-backflow structure design + large-area condensation effect greatly improves the evaporation recovery capacity

Large-screen LCD color screen, real-time display of temperature, speed, working time, vacuum degree, etc., convenient for setting and working condition monitoring

Unmanned mode safety operation function, in the case of unmanned monitoring, the evaporator will automatically rise after the test, stop heating, and standby early warning protection

New corrosion-resistant & high-temp. sealing components are more suitable for long-term continuous distillation experiments

Vacuum system can effectively monitor the vacuum degree during the operation of the evaporator in real time. The required vacuum degree can be set according to the different reagents, which greatly improves the stability of the experiment. The matching vacuum system makes your experiment more perfect and smooth.

Buffer device: humanized configuration, effectively isolates the damage of corrosive liquid/gas to vacuum pump, minimizes the damage and prolongs the service life of vacuum pump.

Heating bath, with safety handle, easy to move, prevent burns, one-time forming Teflon coated pot, fully enclosed heater, RT -210 °C, temp. protection monitoring function, when the temp. exceeds the set temp.5 °C, the sensor fails Or in the case of dry burning, the host will automatically lift up, stop working, and the heating will automatically power off/early warn to avoid equipment and reagents from being damaged by heat.

RE-2000A | 3000A | 5000A



Features

- LCD color screen display, menu interface, rotary switch operation
- Heating bath, Teflon coating, easy to clean, corrosion resistance, high temperature resistance
- Safe operation function in unmanned mode, automatic standby after the experiment is over
- Dedicated bottle withdrawal knob design, simple and convenient bottle withdrawal
- Built-in vacuum control system, easy to set up
- Sealing parts: imported PTFE + special process mold synthesis
- Touch type + handle type double automatic lifting, lifting is safer
- Rotating DC motor power: 70W, smooth start
- The condensation pipe is designed with drip point and anti-backflow device
- Intermittent timing forward and reverse rotation can be set, suitable for drying process
- Bath pot: with safety handle, oil/water dual use, RT -210°C
- Drain & burn protection, over-temp. power failure warning, automatic standby protection

Technical Parameter

| Model | RE-2000A | RE-3000A | RE-5000A |
|--------------------------------|--|---|---|
| Rotational speed | LCD color display 0 ~310rpm/min | | LCD color display 0~ 200~310rpm/min |
| Evaporation capacity | Max.25ml /min(H ₂ O) | Max.27ml /min(H ₂ O) | Max.43ml /min(H ₂ O) |
| Temperature adjustment range | Oil & water dual use bath water bath: RT -99°C±0.5°C Oil bath: RT -210°C +2°C | | |
| Heating bath material | Disposable Teflon composite pot with safety handle, heat insulation shell to prevent scalding, moderate volume, and rapid heating. | | |
| Heating bath size | Φ23X13cm | Φ26X15cm | Φ29X17cm |
| Sample bottle | Intermittent left & right rotation, the intermittent time can be adjusted from 0 to 60s, which can be used for drying powder samples. | | |
| Lifting stroke | Touch type + handle type double automatic balance lifting(lifting stroke 150mm), there is a fixed 60mm safety distance at the end of the drop to prevent collision | | |
| Temperature control | Microcomputer PID control, digital display | | |
| Temperature setting | Knob encoder, rotary input setting, large LCD display, convenient and quick | | |
| Safety performance | Fuse, heat-sensitive dry-burning preventer, automatic lifting of dry-burning sample bottle to the highest, timing function (0-999min), after reaching the predetermined time, the evaporator will automatically stop working. When evaporator is abnormal, the main engine that automatically lifts over temperature, the instrument automatically lifts the evaporating bottle, and the standby warning protection. | | |
| Heater | Totally enclosed heater power 1.5KW | Totally enclosed heater power 1.5KW | Totally enclosed heater power 1.8KW |
| Sample bottle useable capacity | 0. 25-2L | 0. 25-3L | 0. 25-5L |
| Sealing parts | Imported PTFE and special synthetic materials are selected, and the mold is synthesized by special process technology to enhance sealing, anti-corrosion and wear resistance. | | |
| Condenser tube | Vertical, three-layer ball-milled serpentine condenser tube with large condensation area, dripping point and anti-backflow design. (effectively improve work efficiency) | | |
| Condensing area | 0.18 m ² | 0.21 m ² | 0.31 m ² |
| Use ambient temperature | 5°C~ 40°C | | |
| Factory configuration | Sample bottle: 29#Sample bottle 1L*1 29#turn29#opening Splash ball 1 Recycling bottle: S35Ball mill mouth collection bottle 1L*1 | Sample bottle: 29#Eggplant bottle 1L*1 F50 Flanged round bottom bottle 3L*1 Recycling bottle: S35Ball mill mouth collection bottle 2L*1 | Sample bottle: 29#Eggplant bottle 1L*1 F50 Flanged round bottom bottle 3L*1 Recycling bottle: S35Ball mill mouth collection bottle 3L*1 |
| Input power | AC220V/50HZ | | |
| Size & weight | Package dimensions: 71 X64.5X51cm Instrument size: 66X42X 83cm Gross weight:30KG | Package dimensions: 71 X64.5X79cm Instrument size: 70X43X 86cm Gross weight:35KG | Package dimensions: 78 X69X85cm Instrument size: 74X44X 96cm Gross weight:42KG |

Optional: built-in vacuum controller (optionally control the vacuum degree required by the experiment), the equipped protective cover should be used in the water bath test, and the high temperature oil bath should not be used!

Laboratory model



Economical type



Industrial model - 10L 20L 50L 100L 200L rotary evaporator



Rotary evaporator is mainly used in pharmaceutical, chemistry and bio-pharmaceuticals industries, for concentration, crystallization, drying, separation and solvent recovery.

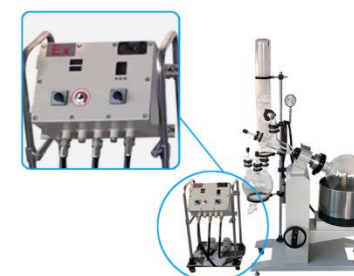
Technical parameter

| Model | Rotating bottle capacity(L) | Collecting bottle capacity (L) | Temperange (°C) | Lifting method | Heating power |
|-----------|-----------------------------|--------------------------------|-----------------|----------------|---------------|
| RE-5210A | 10L | 5L | RT-99 (170)±0.2 | Electric lift | 3KW |
| RE-5220A | 20L | 10L+3L | RT-99 (170)±0.2 | Electric lift | 5KW |
| RE-5230A | 30L | 10L+10L | RT-99 (170)±0.2 | Electric lift | 5KW |
| RE-5250A | 50L | 20L+10L | RT-99 (170)±0.2 | Electric lift | 7KW |
| RE-52100A | 100L | 50L+10L | RT-99 (170)±0.2 | Electric lift | 16KW |

Ex-plosion proof function customize



★ 1.Expllosion-proof & rotovapor integrated type



★ 2.External explosion-proof box

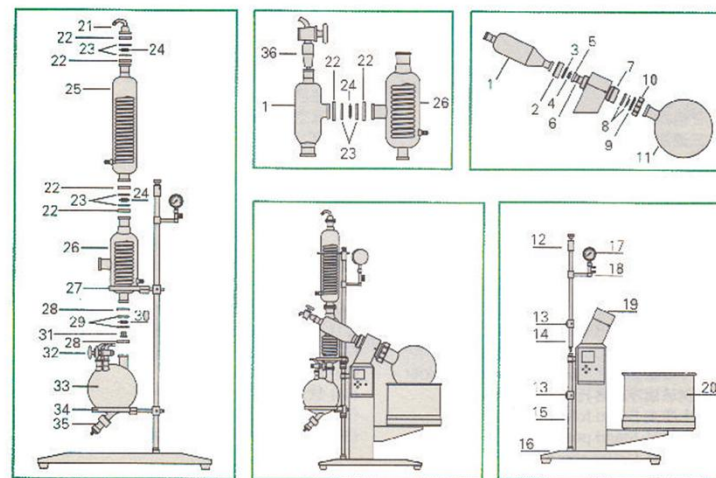
Technical support & flexible design



Optional accessories



Two types condenser support customization, please refer to the following:



| | | | |
|---|---------------------------------------|--|----------------------------------|
| 1. Three-channel Bottle | 2. Three-channel Bottle Hold-down Nut | 3. Three-channel Bottle Hold-down Nut Retaining Ring | 4. Flange Sealing Retaining Ring |
| 5. Glass Rotation Axis | 6. O-ring | 7. Coupler | 8. Teflon Sealing Ring |
| 9. Rotating Bottle Hold-down Nut Retaining Ring | 10. Rotating Bottle Clamp Nut | 11. Glass Rotating Bottle | 12. Condenser Pipe Clamp |
| 13. Cross Clamp | 14. Top Upright Tube | 15. Down Upright Tube | 16. Pedestal |
| 17. Vacuum Meter | 18. Vacuum Meter Stand | 19. Motor Box | 20. Water Bath |
| 21. Air Exhaust Bend | 22. 60# Connecting Flange | 23. 60# Flange Retaining Ring | 24. 60# Flange Seal Washer |
| 25. Main Glass Condenser Pipe | 26. Assistant Glass Condenser Pipe | 27. Assistant Glass Condenser Pipe Bracket | 28. 50# Connecting Flange |
| 29. 50# Flange Retaining Ring | 30. 50# Flange Seal Washer | 31. Automatic Switch Valve | 32. Air Outlet Valve |
| 33. Recovery Bottle | 34. Recovery Bottle Tray | 35. Discharging Valve | 36. Charging Valve |

Other models



- **High evaporation and high recovery**
Electric lifting of bath pan, easy to operate, low boiling point evaporation. The collection bottle can be immersed in ice bath to reduce secondary evaporation. The collection bottle can be immersed in ice bath to reduce secondary evaporation.

- **Variable frequency AC induction motor**
Stepless speed regulation / electronic speed regulation / brushless, constant speed operation

- **High quality stainless steel**
- **Electrical appliances can be equipped with explosion-proof type**
- **Intelligent temperature control/ water oil dual purpose**

- **High temperature long-term seal**
Corrosion resistance and durability of sealing system at high temperature, Excellent air tightness.
- **Temperature fluctuation of ± 0.2 degrees**

- **Modular design of the whole machine**
Strong expansibility / easy assembly / maintenance

Technical parameter

| Evaporator model | Standard rotary evaporator | | | Explosion proof rotary evaporator | | |
|--|----------------------------|------------|------------|-----------------------------------|------------|------------|
| Product Model | RE-10 | RE-20 | RE-50 | RE-10Ex | RE-20Ex | RE-50Ex |
| Evaporation Flask(L) | 10L/95# | 20L/95# | 50L/125# | 10L/95# | 20L/95# | 50L/125# |
| Receiving Flask(L) | 5L | 10L+5L | 10L+10L | 5L | 10L+5L | 10L+10L |
| Evaporation Speed (H ₂ O) (L) | 265 | 265 | 265 | 265 | 265 | 265 |
| Receiving Flask(KW) | 3 | 5 | 5 | 3 | 5 | 5 |
| Motor Power(W) | 120 | 180 | 180 | 120 | 180 | 180 |
| Vacuum Degree(Mpa) | 0.096 | | | 0.098 | | |
| Rotation Speed(rpm) | 5-110 | 5-110 | 5-110 | 5-110 | 5-110 | 5-110 |
| Power(V) | 220 | | | 220 | | |
| Dimension(mm) | 110×50×180 | 110×70×200 | 120×80×220 | 110×50×180 | 110×70×200 | 120×80×220 |

Economy model



◀ 10L/20L



◀ 50L

Match supporting equipment

SHB-III Technical parameters

| Model SHB-III | Performance | | | | |
|------------------|---------------------------|-----------------------------|-------------------------------|-------------------------|------------------------------------|
| | Power (w) | Working power (V/Hz) | Flow (L/min) | Head (M) | Body material |
| | 180 | 200/50 | 60 | 8 | Anti-corrosion engineering plastic |
| | Native Features | | | | |
| SHB-III | Max vacuum (Mpa) | Air volume per head (L/min) | Number of pumping heads (pcs) | Storage tank volume (L) | |
| | 0.098 | 10 | 2 | 15 | |
| | Appearance size L*W*H(mm) | | | Overall weight (kg) | |
| | 400×280×420 | | | 10.5 | |



SHB-95 Technical parameters

| Model | SHZ-95B |
|------------------------------|--------------------------------|
| Power (W) | 370 |
| Power supply(V/Hz) | 220/50 |
| Flow(L/min) | ≥80 |
| Head(m) | ≥12 |
| Safety function | Backflow prevention valve |
| Chassis material | Cold plate electrostatic spray |
| Max vacuum(Mpa) | 0.098 |
| Air volume per head(L/min) | 10 |
| Number of suction heads(pcs) | 5 |
| Tank volume(L) | ≥50 |
| Water tank material | PVC |
| Dimensions | 450L×350W×820H |



Chiller technical parameters



| Model | | LX-0400 | LX-0700 | LX-1000 | LX-1450 |
|----------------------------|-------|---|-------------------------|-------------------------|-----------------------|
| Medium Temperature Range | | -25°C~30°C | | | |
| Temp. control and display | | ASET multifunctional controller 7-inch touch screen display | | | |
| Temp. control optional | | Heat-conducting medium outlet temp. control | | | |
| Communication protocol | | MODBUS RTU Protocol, RS 485 Interface | | | |
| Temp. feedback | | Heat-conducting medium temperature feedback PT100 | | | |
| Cooling capacity | 0°C | 2.4KW | 4KW | 7.5KW | 10KW |
| | -10°C | 1.5KW | 2.7KW | 6.3KW | 8KW |
| | -20°C | 0.8KW | 1.5KW | 3.5KW | 5KW |
| Circulation pump | | Max 20L/min 1.5 bar | Max 35L/min 2.5 bar | Max 35L/min 2.5 bar | Max 75L/min 2.5 bar |
| Capacity of liquid storage | | 17L | 25L | 25L | 40L |
| Compressor | | Tecumseh | Copeland | Copeland | Copeland |
| Evaporator | | Copper tube | | | |
| Operation panel | | 7-inch color touch screen, temperature curve record, excel-format export | | | |
| Security protection | | Self-diagnosis function, freezer overload protection, high pressure switch, overload relay, thermal | | | |
| Refrigerants | | R-404A | | | |
| Connection size | | DN20 | | | |
| Power | | AC 220V 50HZ 1.8KW(max) | AC 220V 50HZ 2.5KW(max) | AC 220V 50HZ 3.5KW(max) | AC 220V 50HZ 5KW(max) |
| Material | | Cold rolled steel | | | |
| Optional | | SUS304 material | | | |
| Optional | | Pressure <= 10 bar circulating pump | | | |
| Optional Power | | 220V 60HZ three-phase, 440V-480V60HZ three-phase | | | |
| Remark | | Can make the bigger capacity of water storage as required | | | |

Rotary Evaporator

Glass Reactor

High Shear Homogeneous Reactor

Ultrasonic Reactor

Filter

Photochemical Reactor

Hydrothermal Synthesis Reactor

High Pressure Reactor

Expo & Customer Case



DL-2005

DL-2100

| Model | Temperature range (°C) | Digital resolution (°C) | Accuracy (°C) | Working tank volume (L) | Cooling capacity (W) | Max column height (m) | Circular flow (L/min) |
|---------|------------------------|-------------------------|---------------|-------------------------|----------------------|-----------------------|-----------------------|
| DL-2005 | -20-RT | 0.1 | ±0.5 | 5 | 180 | 4 | 15 |
| DL-2100 | -20-RT | 0.1 | ±0.5 | 10 | 1150 | 4 | 15 |

Accessories series

Eggplant-shaped evaporating flask



| Grinding model | Capacity range | | | | | | |
|----------------|----------------|--------|--------|--------|--------|---------|---------|
| 24# (24/29) | 50m l | 100m l | 150m l | 250m l | 500m l | 1000m l | 2000m l |
| 29# (29/32) | 50m l | 100m l | 150m l | 250m l | 500m l | 1000m l | 2000m l |
| 29# (29/40) | | | | | | 1000m l | 2000m l |

Ball mill mouth collection bottle



| Grinding model | Capacity range | | | | | | |
|----------------|----------------|--------|--------|---------|---------|---------|--|
| S35/20 | 100m l | 250m l | 500m l | 1000m l | 2000m l | 3000m l | |

Round bottomed flask



| Grinding model | Capacity range | | | | | | |
|----------------|----------------|--------|--------|---------|---------|---------|--|
| 24# (24/29) | 100m l | 250m l | 500m l | 1000m l | 2000m l | 3000m l | |
| 29# (29/32) | 100m l | 250m l | 500m l | 1000m l | 2000m l | 3000m l | |

(Flange mouth) Evaporating flask



| Grinding model | Capacity range | | | | | | |
|----------------|----------------|----|-----|--|----|-----|-----|
| F50 (Φ50mm) | | 3L | | | 5L | | |
| F95 (Φ95mm) | | | 5L | | | 10L | |
| F125 (Φ125mm) | 10L | | 20L | | | | 50L |

Flange thread adapter



| Grinding model | Capacity range | | |
|----------------|----------------|--|-------------|
| F50 (Φ50mm) | 24# (24/29) | | 29# (29/32) |

Explosion-proof ball



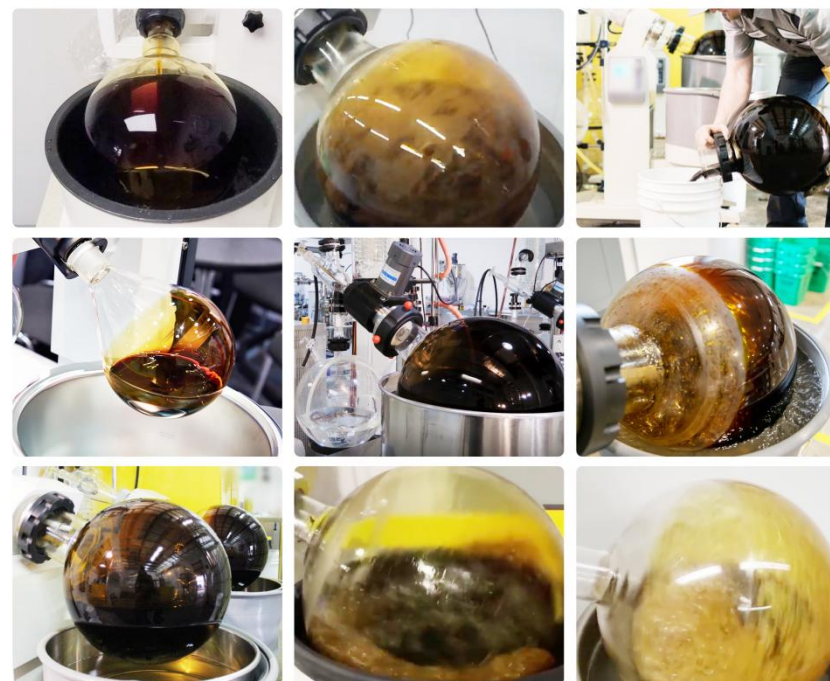
| Grinding model | Capacity range | | | | | | |
|----------------|----------------|----------|----------|----------|----------|----------|----------|
| 100m l | 上24#下14# | 上24#下19# | 上24#下24# | 上29#下14# | 上29#下19# | 上29#下24# | 上29#下29# |
| 250m l | | 上24#下19# | 上24#下24# | | 上29#下19# | 上29#下24# | 上29#下29# |

Multi-manifold



| Grinding model | Capacity range | | |
|----------------|----------------|--------|--------|
| 上29#下24# (×5口) | 50m l | 100m l | 150m l |

Customer feedback



Rotary Evaporator

Glass Reactor

High Shear Homogeneous Reactor

Ultrasonic Reactor

Filter

Photochemical Reactor

Hydrothermal Synthesis Reactor

High Pressure Reactor

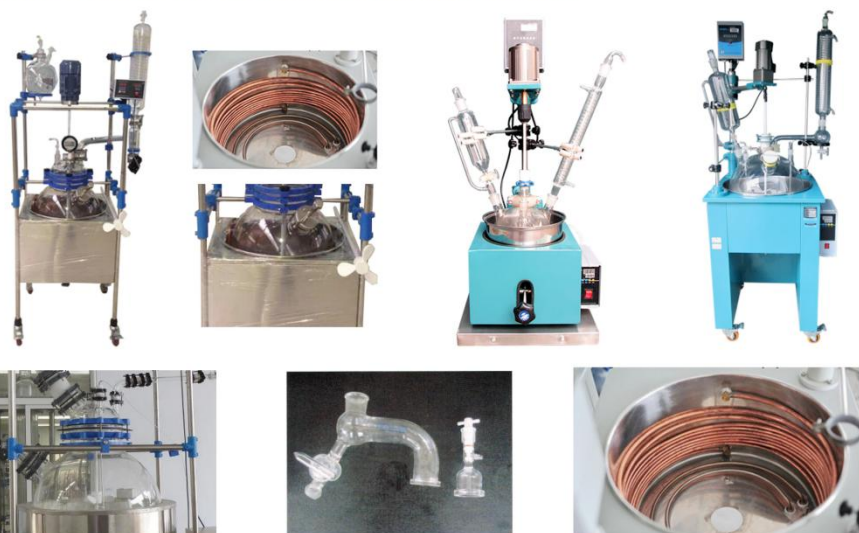
Expo & Customer Case

Single layer glass reactor

Reactor with heating mantle - stainless steel material & spray plastics material:



Reactor with oil bath - stainless steel material & spray plastics material:



Heating mantle

Max heating temperature up to 300°C, heating quickly. 180-300°, can be customized

3-port liquid separator facility (optional)

Is able to separate liquid received of different weight. Advanced 3-port liquid separator system also available.

Cooling coil (optional)

Can be installed in heating bath and perform chilling function by getting through cooling liquid.

0.5L ~ 200L Single layer glass reactor

S: SS304L; P: spray plastics; B: oil bath; M: Heating Mantle; EX: Ex-proof

| Model | TST-2MS | TST-5MS | TST-10MS | TST-20MS | TST-30MS | TST-50MS | TST-80MS | TST-100MS | TST-150MS | TST-200MS | TST-250MS |
|--------------------------------|-------------------------------------|-------------|---------------|----------|---------------|-----------|-----------|-----------|-----------|-----------|-----------|
| | TST-2MP | TST-5MP | TST-10MP | TST-20MP | TST-30MP | TST-50MP | TST-80MP | TST-100MP | TST-150MP | TST-200MP | TST-250MP |
| | TST-2BS | TST-5BS | TST-10BS | TST-20BS | TST-30BS | TST-50BS | TST-80BS | TST-100BS | TST-150BS | TST-200BS | TST-250BS |
| | TST-2BP | TST-5BP | TST-10BP | TST-20BP | TST-30BP | TST-50BP | TST-80BP | TST-100BP | TST-150BP | TST-200BP | TST-250BP |
| Reaction flask(L) | 2 | 5 | 10 | 20 | 30 | 50 | 80 | 100 | 150 | 200 | 250 |
| The mouth number of the bottle | 4 | 4 | 5 | 5 | 5 | 6 | 6 | 6 | 7 | 7 | 7 |
| Stirring power(W) | 90 | 120 | 180 | 180 | 250 | 250 | 250 | 250 | 370 | 450 | 550 |
| Speed(rpm) | 0-600 | 0-600 | 0-600 | 0-600 | 0-600 | 0-600 | 0-600 | 0-600 | 0-600 | 0-600 | 0-600 |
| OD of Stirring bar(mm) | φ6 | φ10 | φ10 | φ10 | φ12 | φ12 | φ16 | φ16 | φ18 | φ18 | φ18 |
| Heater | 1.5kw 180℃ | 2kw 180℃ | 2.5kw 180℃ | 3kw 180℃ | 4.5kw 180℃ | 6kw 180℃ | 7kw 180℃ | 9kw 180℃ | 10kw 180℃ | 11kw 180℃ | 15kw 180℃ |
| Power(V) | 220 | 220 | 220 | 220 | 220 | 220 / 380 | 220 / 380 | 220 / 380 | 220 / 380 | 220 / 380 | 220 / 380 |
| Material of heater | Stainless Steel / Spraying Plastics | | | | | | | | | | |
| Heating Method | Oil Bath / Heating Mantle | | | | | | | | | | |
| Frequency-converting | no | have | have | have | have | have | have | have | have | have | have |
| Vacuum sealing | have | | | | | | | | | | |
| Discharge valve | optional | | have | | | | | | | | |
| PTEE stirring bar | have | | | | | | | | | | |
| Charging cork | have | | | | | | | | | | |
| Temperature display | Glass tube | | PT100 sensor | | | | | | | | |
| Reflux and distillation system | optional | optional | have | | | | | | | | |
| Vacuum meter | optional | | have | | | | | | | | |
| Overhead stirring | have | | | | | | | | | | |
| Mouth for multi-functions | no | no | no | have | | | | | | | |
| Cooling coils | optional | | | | | | | | | | |

- Capacity: 0.5L, 1L, 2L, 3L, 5L, 10L, 20L, 30L, 50L, 100L, 150L, 200L, 250L.
- Oil bath type & electric heating mantle type, stainless steel & spray plastics are optional.
- High temperature: RT-180°C(oil bath), RT-180°C(heating mantle). RT-300°C(heating mantle) can be customized.
- Vacuum pump & vacuum controller are available, you can control the vacuum degree accurately.

Double layer glass reactor 1L~200L



1.PTFE flush discharge valve

No-sample accumulation in valve during operation and discharge. Max drift diameters is 20~32mm.

2.Side discharge valve (standard or preload)

No dead angle, air isolated discharge. Max drift diameter 20~32mm. Preload discharge valve is able to decrease flask crack risk due to improper over-screw of discharge valve. Customization of TOPTION big capacity glass reactors.

3.Flask cap (≥10L)

- 1) Charging valve - pure charge process without gel pollution.
- 2)Thermometer-direct measurement.
- 3) Condenser - Ball joint connection, easy to assemble, with less vibration.
- 4) All taper joints upgrade to flanges, no seizure, no damage to glass necks.

4.Flange quick press ring

One-piece quick clip design. Offer new experience on easy, reliable, and high sealing connection for flanges.



1. Glass reactor lid.

2. PTFE Reactor stirring paddle.



Double layer glass reactor 1L~200L



Double layer glass reactor

Three layer glass reactor

Three layer glass reactor customization

1. Compared with jacketed glass reactor, it has outermost layer to keep vacuum airtight state.

2. More effective to protect temperature,so as to save reaction time and finally make your research more effective.

| Type | Stir medium flange | Liquid material inflow | Condenser | Temp. measure | Multi function valve | Solid charging port | Stirring paddle | Reactor lid flange(mm) | Inner diameter of reactor body(mm) | External diameter (mm) | Reactor body height(mm) | Power (w) | Rotate speed (rpm) |
|-----------|--------------------|------------------------|-----------------|---------------|----------------------|---------------------|--|------------------------|------------------------------------|------------------------|-------------------------|-----------|--------------------|
| TOPT-1L | 35 | 24# 0.25L | 24# | 14# | ----- | ----- | ¢7mm Anchor type | 150 | 113 | 150 | 250 | 40 | 50-800 |
| TOPT-2L | 35 | 24# 0.25L | 24# | 14# | ----- | ----- | ¢7mm Anchor type | 150 | 135 | 180 | 280 | 40 | 50-800 |
| TOPT-3L | 35 | 24# 0.25L | 24# | 14# | ----- | ----- | ¢7mm Anchor type | 150 | 150 | 200 | 300 | 40 | 50-800 |
| TOPT-5L | 40 | 24# 1L | 24# | 19# | 24# | ----- | ¢10mm single layer two blade paddle type | 180 | 180 | 230 | 400 | 60 | 50-600 |
| TOPT-10L | 50 | 34# 1L | 34# | DN15 | DN25 | DN80 | ¢16mm single layer three blade paddle type | 265 | 230 | 290 | 450 | 120 | 50-600 |
| TOPT-20L | 50 | 34# 1L | 34# | DN15 | DN25 | DN80 | ¢16mm single layer three blade paddle type | 265 | 290 | 330 | 550 | 120 | 50-600 |
| TOPT-30L | 50 | 34# 1L | 34# | DN15 | DN25 | DN80 | ¢16mm single layer three blade paddle type | 265 | 330 | 365 | 730 | 120 | 50-600 |
| TOPT-50L | 50 | 34# 1L | 34# | DN15 | DN25 | DN80 | ¢16mm double layer three blade paddle type | 265 | 365 | 410 | 850 | 140 | 50-600 |
| TOPT-80L | 50 | 5L 24# | DN40 ball mouth | DN15 | DN25 | DN80 | ¢16mm three layer three blade paddle type | 340 | 410 | 460 | 950 | 250 | 50-600 |
| TOPT-100L | 60 | 5L 24# | DN40 ball mouth | DN15 | DN25 | DN80 | ¢16mm three layer three blade paddle type | 340 | 460 | 500 | 950 | 250 | 50-600 |
| TOPT-150L | 60 | 5L 24# | DN40 ball mouth | DN15 | DN25 | DN80 | ¢16mm three layer three blade paddle type | 340 | 550 | 600 | 980 | 400 | 50-600 |
| TOPT-200L | 60 | 10L DN25 | DN50 ball mouth | DN25 | DN25 | DN100 | ¢16mm three layer three blade paddle type | 340/ 440PP flange | 550 | 650 | 1100 | 400 | 50-600 |

Glass reactor with lifting & rotating function

1. Kettle body lift, rotate also 120 °C, easy to use and clean.
2. Glass interface flange seal avoids the use of vacuum grease seal appears the phenomenon is difficult to open;
3. 360° rotating function could customize.



| Type | Stir medium flange | Liquid material inflow | Condense r | Temp measure | Multi function valve | Solid charging port | Stirring paddle | Reactor lid flange (mm) | Inner diameter of reactor body (mm) | External diameter (mm) | Reactor body height (mm) | Power | Rotate speed (mm) |
|----------|--------------------|------------------------|------------|--------------|----------------------|---------------------|---|-------------------------|-------------------------------------|------------------------|--------------------------|-------|-------------------|
| TOPR-1L | 35 | 24# 0.25L | 24# | 14# | ----- | ----- | ∅ 7mm Anchor type | 150 | 113 | 150 | 250 | 40 | 50-800 |
| TOPR-2L | 35 | 24# 0.25L | 24# | 14# | ----- | ----- | ∅ 7mm Anchor type | 150 | 135 | 180 | 280 | 40 | 50-800 |
| TOPR-3L | 35 | 24# 0.25L | 24# | 14# | ----- | ----- | ∅ 7mm Anchor type | 150 | 150 | 200 | 300 | 40 | 50-800 |
| TOPR-5L | 40 | 24# 1L | 24# | 19# | 24# | ----- | ∅ 10mm single layer two blade paddle type | 180 | 180 | 230 | 400 | 60 | 50-600 |
| TOPR-10L | 50 | 34# 1L | 34# | DN15 | DN25 | ----- | ∅ 16mm single layer three blade paddle type | 265 | 230 | 290 | 450 | 120 | 50-600 |
| TOPR-20L | 50 | 34# 1L | 34# | DN15 | DN25 | ----- | ∅ 16mm single layer three blade paddle type | 265 | 290 | 330 | 550 | 120 | 50-600 |
| TOPR-30L | 50 | 34# 1L | 34# | DN15 | DN25 | ----- | ∅ 16mm single layer three blade paddle type | 265 | 330 | 365 | 730 | 120 | 50-600 |
| TOPR-50L | 50 | 34# 1L | 34# | DN15 | DN25 | DN80 | ∅ 16mm double layer three blade paddle type | 265 | 365 | 410 | 850 | 140 | 50-600 |

Professional customization of glass reactor



Reactor with pipe bundle condenser



Reactor with horizontal condenser



Reactor with sample condenser



Reactor with filtration



Reactor with tail gas treatment system



Reactor with rectification column system



Reactor with IR heater(400°C)



Reactor with PLC automatic system

Professional customization of glass reactor



Ultrasonic continuous reactor

Ultrasonic reactor



Multi-function reactor with filter system

High shear Homogeneous Reactor system



Automatic lifting type



Manual lifting type

Laboratory Homogeneous Emulsification System Reactor is an instrument developed by our engineers with latest German technologies, designed in modular structure, applies to blending, mixing, emulsifying, dispersing and homogenizing mobile liquids. This homogenizer can be widely applied in cosmetic cream, oil-water emulsion, polyreaction and nanophase material dispersion as well as special occasions requiring vacuum or pressure test.

TOPTION homogenizer has simple structure, small bulk, low noise, stable operation and long service life, and it's easy to operate, clean, dismantle and maintain.

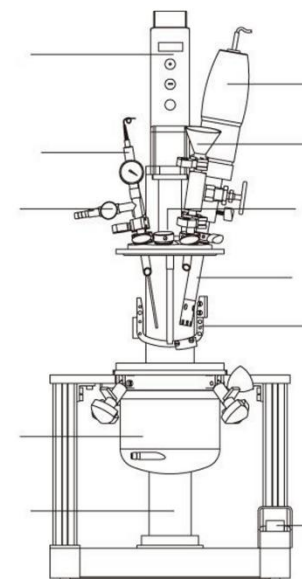
Stirring motor

Temperature sensor

Vacuum port/ gas inlet port

Reactor

Lifting pillar



Homogeneous motor

Charging port

Reserved openings (1pcs)

High shear dispersing tool

Stirring paddle

Lifting button

Technical specification:

A: Automatic lifting type M: Manual lifting type

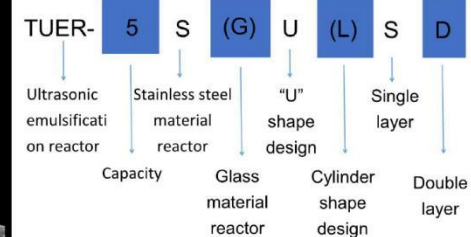
| Model | THER-1A THER-1M | THER-2A THER-2M | THER-3A THER-3M | THER-5A THER-5M |
|-------------------------------|--|----------------------------|----------------------------|----------------------------|
| Emulsifying capacity | 1L | 2L | 3L | 5L |
| Glass structure | Double-layer | Double-layer | Double-layer | Double-layer |
| Glass material | G3.3 | G3.3 | G3.3 | G3.3 |
| Homogenizer rotation speed | 6 Grade adjustable, adjusting range: 10000-25000rpm. | | | |
| Lifting height | 170 mm | 190 mm | 190 mm | 225 mm |
| Max.working temperature | Standard 120℃, support 180℃ customization. | | | |
| Max.handling viscosity | 100,000CP | 100,000CP | 100,000CP | 100,000CP |
| Homogenizer motor power | 500W | 500W | 500W | 500W |
| Main medium-contact materials | SS316L, borosilicate glass | SS316L, borosilicate glass | SS316L, borosilicate glass | SS316L, borosilicate glass |
| Agitator motor power | 40W | 90W | 90W | 90W |
| Agitator rotation speed(rpm) | 0-1300rpm | 0-1300rpm | 0-1300rpm | 0-1300rpm |
| Overall dimension (mm) | 400*300*850 | 450*350*950 | 450*350*950 | 450*350*950 |



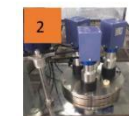
Ultrasonic Homogeneous Reactor System



Glass material ultrasonic reactor



1. Mechanical drive stirring motor, makes material mixing more uniform.



2. Multi ultrasonic working head combined together, large power, much better emulsification result.



Pilot ultrasonic emulsification reactor technical specification:

| Model | TUER-5SUS / TUER-5SUD TUER-5SLS / TUER-5SLD TUER-5GLS / TUER-5GLD | TUER-10SUS / TUER-10SUD TUER-10SLS / TUER-10SLD TUER-10GLS / TUER-10GLD | TUER-20SUS / TUER-20SUD TUER-20SLS / TUER-20SLD TUER-20GLS / TUER-20GLD |
|-------------------------------------|---|---|---|
| Ultrasound Method | Energy-gathered circulation multiple-step type | | |
| Capacity (L) | 5 | 10 | 20 |
| Stir Motor Power (W) | 100 | 150 | 200 |
| Ultrasonic Frequency | 20KHz | 20KHz | 20KHz |
| Standard Ultrasonic Probe | Φ 20*1 | Φ 35*1 | Φ 35*1 |
| Ultrasonic Power(w) | 50~1200 Adjustable | 100~2500 Adjustable | 100~2500 Adjustable |
| Circulation Stirring Rate (rpm) | 0~1000 Integrated Digital Display | 0~1000 Integrated Digital Display | 0~1000 Integrated Digital Display |
| Controlled Temperature ℃ (Optional) | -40~80 | -40~80 | -40~80 |
| Reactor Material | SS304/Glass | SS304/Glass | SS304/Glass |
| Application | Laboratory & Pilot | Laboratory & Pilot | Pilot |

Note: 1. Professional Customization is provided, high temp. device, low temp. device, constant temp. device are available (-40℃ ~ 80℃).
2. The max volume can be 500L.

An important characteristics of ultrasonic emulsification is that, there's no need or less need emulsifier to get very stable emulsion. The obvious advantages of ultrasonic emulsification has prompted it in food, chemical, pharmaceutical, textile, paper making, paint, fuel thermal power, fuel central air conditioning, petroleum, metallurgy and many other industrial process has been applied more and more, including down fuel combustion is an important project to rise.

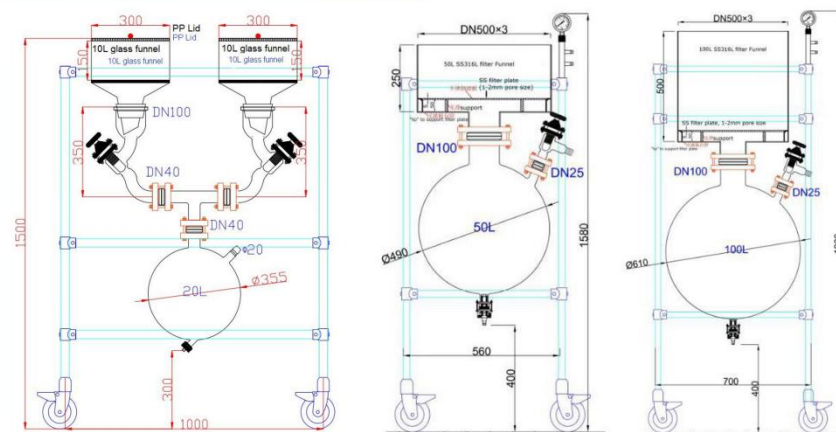
Vacuum filter



| List name/ Model | TP-CL10L(G) TP-CL10L(S) TP-CL10L(C) | TP-CL20L(G) TP-CL20L(S) TP-CL20L(C) | TP-CL30L(G) TP-CL30L(S) | TP-CL50L(G) TP-CL50L(S) |
|------------------|---|---|----------------------------|----------------------------|
| Funnel volume | 10L | 20L | 30L | 50L |
| Funnel material | G: Glass ; S: SS304L C: Ceramic | | G: Glass ; S: SS304L | |
| Collecting flask | 10L | 20L | 30L | 50L |

Other models can be customized.

Vacuum filter design:



Photochemical reactor

TOPTION factory have got technical supports from many professors of SJTU and NTU in developing period. TOPT series is mainly applied to research gas / liquid phases, fixed / simulated visible light, could reaction vessel load TiO_2 . Photochemical reaction under conditions of photocatalyst and so on. This series can provides samples of analytical reacting product and free radical, and to measure reacting kinetic constant, quantum yield; it is widely used in fields of Chemosynthesis, environment protection, and life science, etc.



Liquid phase photochemical reactor

1. TOPT-II used as liquid photochemical reactor, have several volume to choose: 250ml, 500ml, 1000ml, 2000ml, 3000ml, 5000ml. there are three opening port: gas inlet, temperature measure, sample inlet. Any other specifications can be customized.
2. TOPT-V are most suitable for university teaching and academic research, with small capacity: 30ml, 50ml, 100ml, 150ml, equip with silicone stopper. Temperature measure & control, gas inlet, gas outlet, sampling valve customization are available.



TOPT-II

TOPT-V

Liquid phase photochemical reactor configuration



32 quartz test reactors



Chiller



UV (cut off) filter

| No. | Equipment list | TOPT-II | TOPT-V |
|----------|--|---------|--------|
| 1 | Protecting box(which can prevent ultraviolet ray, but have observation window) | 1 | 1 |
| 2 | UV Lamp control system (Xenon lamp, Metal halide lamp control system are optional) | 1 | 1 |
| 3 | UV Lamp (xenon lamp, Metal halide lamp are optional) | 1 | 1 |
| 4 | Cold pit of quartz(which is used to reduce the heating of lamp) | 1 | 1 |
| 5 | Water shortage alarm(it will alarm when the water stop flowing, then you can shutoff the power) | 1 | 1 |
| 6 | Stainless steel working platform, bottom with wheels. | 1 | 1 |
| 7 | 250ml glass reactor(there are 500ml, 1000ml, 2000ml, 3000ml, 5000ml are optional.) | 1 | 0 |
| 8 | 30ml quartz test reactor(there are 10ml, 50ml, 100ml, 150ml are optional) | 0 | 8 |
| 9 | Magnetic stirrer with one field | 1 | 0 |
| 10 | Magnetic stirrer with eight magnetic fields (which can do eight samples experiment at the same time) | 0 | 1 |
| Optional | | | |
| A | Chiller for cooling | Yes | yes |
| B | Filter(there are UV cut 400nm type and UV through type) | No | yes |
| C | 32 quartz test reactors and magnetic stirrer with 32 magnetic fields(can do 32 samples experiments at the same time) | No | yes |

TOPT- MINI photochemical reactor

1. Mercury lamp power supply controller can be made of 5W, 10W, 20W and other specifications, (optional 185NM, 254NM, 310NM, 360NM and other specifications).
2. Glass reaction vessel can be used 5ML, 15ML, 30ML, 50ML, 100ML, 150ML and other specifications.
3. The quartz glass protection cold trap.
4. With the bottom aeration filter interface.
5. The reactor is provided with fixing device.
6. A portable box.



10ml mini type

Falling film photochemical reactor

| Model | TOPT-200FR | TOPT-500FR | TOPT-700FR | TOPT-1500FR |
|--|----------------------------|------------|------------|-------------|
| Light source power | 200W | 500W | 700W | 1500W |
| Light source life | 1000H | 1000H | 1000H | 1000H |
| The effective long | 57MM | 77MM | 97MM | 128MM |
| The list layer type emulsifying capacity | 500ML、1000ML、3000ML、5000ML | | | |
| The Double layer type emulsifying capacity | 500ML、1000ML、3000ML、5000ML | | | |
| Glass structure | A type or B type | | | |
| Construction of the Falling speed | 2000RPM | | | |
| Connect Material | PTFE | | | |
| Operate Material | 316L | | | |

Advantages of falling film photochemical reactor

1. An effective circulation of the liquid to be radiated inside the reactor.
2. Due to the falling film principle, an intensive radiation is reached.
3. Only a small liquid volume is necessary.
4. Operations in low temperature range ensure more application facilities.
5. Used materials Borosilicate glass 3.3, quartz glass and plastic parts of PTFE.

High pressure photochemical reactor vessel

1. Main components: stainless steel reaction vessel, PTFE sets, pressure quartz glass, filter etc.
2. Customization: -120 °C ~300 °C High and Low Temperature Circulator, Overpressure release gas protection device, Taylor standard sieve.
3. This type high pressure photochemical reactor vessel need to use together with TOP-X series light source.

TPR-S series



TPR-HP series



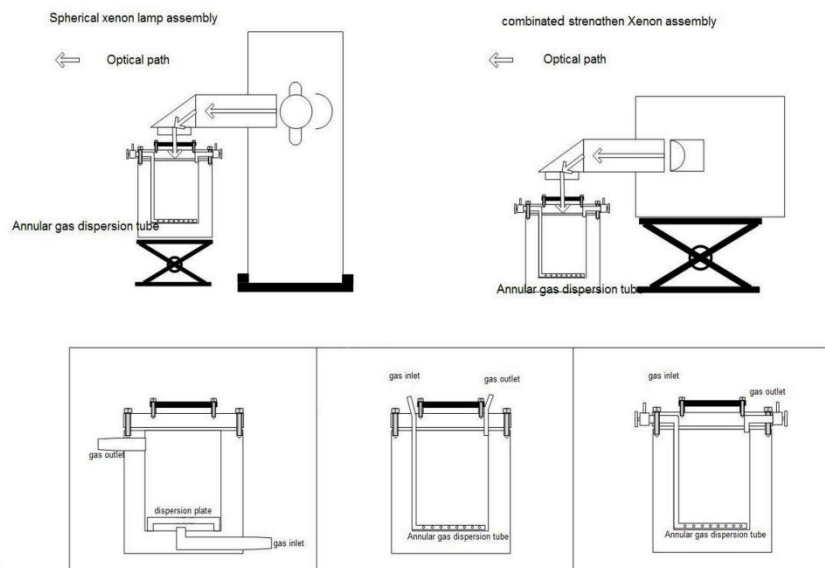
Technical specification:

| Model | TPR-S150 | TPR-S300 | TPR-S500 | TPR-S1000 |
|--|---|----------|----------|-----------|
| Irradiation diameter | 80MM | 80MM | 80MM | 100MM |
| Pressure light window | have | have | have | have |
| Main material of the reaction vessel | Stainless steel 316L/ (pure titanium / Hastelloy alloy material) optional | | | |
| Single corrosion PTFE inner capacity | 150ML | 300ML | 500ML | 1000ML |
| Jacket type corrosion resistant PTFE inner capacity (optional) | 150ML | 300ML | 500ML | 1000ML |
| Design pressure (optional) | 2KG/5KG/10KG | | | |

TPR-HP series

| Model | TPR-HP150 | TPR-HP300 | TPR-HP500 | TPR-HP1000 |
|--|---|--------------|--------------|--------------|
| Light source type | Xenon/UV lamp | | | |
| Light source power | 500W | 500W | 1000W | 1500W |
| Light source life span | 1000H | 1000H | 1000H | 1000H |
| Radiation characteristics | Point source | Point source | Point source | Point source |
| Irradiation diameter | 80MM | 80MM | 80MM | 100MM |
| Cooling system | 3 strong radiator | | | |
| Pressure light window | have | | | |
| Magnetic stirring apparatus | have | | | |
| Lifting platform | have | | | |
| The main material of the reaction vessel | Stainless steel 316L/ (pure titanium / Hastelloy alloy material) optional | | | |
| Single corrosion PTFE inner capacity | 150ML | 300ML | 500ML | 1000ML |
| Jacket type corrosion resistant PTFE inner capacity (optional) | 150ML | 300ML | 500ML | 1000ML |
| Design pressure (optional) | 2KG/5KG/10KG/20KG | | | |

Customization provide, please refer to the below drawing :



1. A. SS316L inner, PTFE protection jacket can be attached. Strong acid and alkali resistance, excellent physical and chemical properties.
 2. Actual bear max temperature of 900℃.
 3. Actual bear positive pressure will base on your requests.
 4. Bottom dispersion plate gas inlet.
 5. Top visual and gripping filter.
 6. Detachable lid and body.
1. B. SS316L inner, PTFE protection jacket can be attached.
 2. Strong acid and alkali resistance, excellent physical and chemical properties.
 3. Actual bear max temperature of 900℃.
 4. Actual bear positive pressure will base on your requests.
 5. Bottom annular gas dispersion tube for gas inlet.
 6. Top visual and gripping filter.
 7. Detachable lid and body.
1. C. Full SS316L inner.
 2. Strong acid & alkali resistance, excellent physical & chemical properties.
 3. Actual bear max temperature of 900℃.
 4. Actual bear positive pressure will base on your requests Bottom annular gas dispersion tube for gas inlet.
 5. Top visual and gripping filter.
 6. Detachable lid and body.
 7. Needle valve which can bear pressure to control gas inside.

Pilot photochemical reactor

1. Capacity: 5L, 10L, 20L, 30L, 50L, 100L.
2. Chiller is available.



TPR-M pilot type

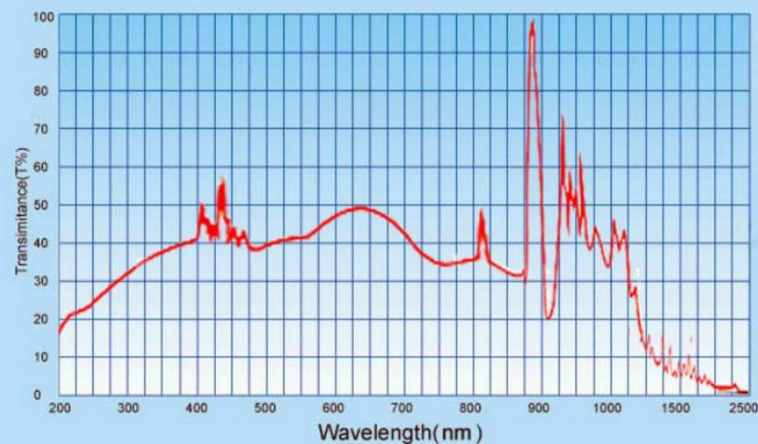


100L type

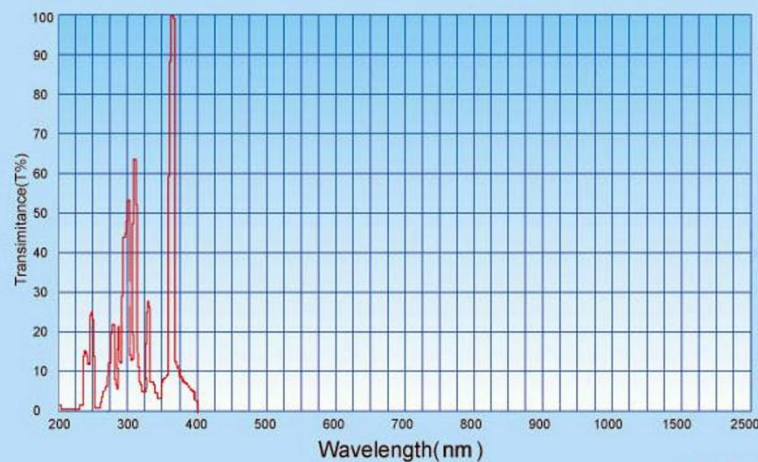
| Model | TPR-M5 | TPR-M10 | TPR-M20 | TPR-M30 | TPR-M50 | TPR-M100 |
|----------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Mercury lamp | 1000W | 2000W | 3000W | 4000W | 6000W | 10000W |
| Xenon lamp | 1000W | 2000W | 3000W | 4000W | 6000W | 10000W |
| Mercury xenon lamp | ○ | ○ | ○ | ○ | ○ | ○ |
| Mercury lamp power supply | 1000W | 2000W | 3000W | 4000W | 6000W | 10000W |
| Xenon lamp power supply | 1000W | 2000W | 3000W | 4000W | 6000W | 10000W |
| Mercury xenon lamp power supply | ○ | ○ | ○ | ○ | ○ | ○ |
| Lamp Protect Material | Quartz | Quartz | Quartz | Quartz | Quartz | Quartz |
| Prevent from liquefaction device | ● | ● | ● | ● | ● | ● |
| Emulsifying capacity | 5L | 10L | 20L | 30L | 50L | 100L |
| Vacuum sealing Material | PTFE | PTFE | PTFE | PTFE | PTFE | PTFE |
| Discharge | ● | ● | ● | ● | ● | ● |
| Reflux condensing | ● | ● | ● | ● | ● | ● |
| Stirring rod | ● | ● | ● | ● | ● | ● |
| Frequency converting | ● | ● | ● | ● | ● | ● |
| Protect box | ● | ● | ● | ● | ● | ● |
| Observe window | ● | ● | ● | ● | ● | ● |
| Low temperature .supply pump | -30℃~Room temp | -30℃~Room temp | -30℃~Room temp | -30℃~Room temp | -30℃~Room temp | -30℃~Room temp |
| Power | 220V/50HZ | 220V/50HZ | 220V/50HZ | 220V/50HZ | 220V/50HZ | 220V/50HZ |

Note: ○—Increase choice ●—Change choice

Long arc xenon lamp Source



Long Arc UV lamp source



Short Arc Xenon Lamp Source



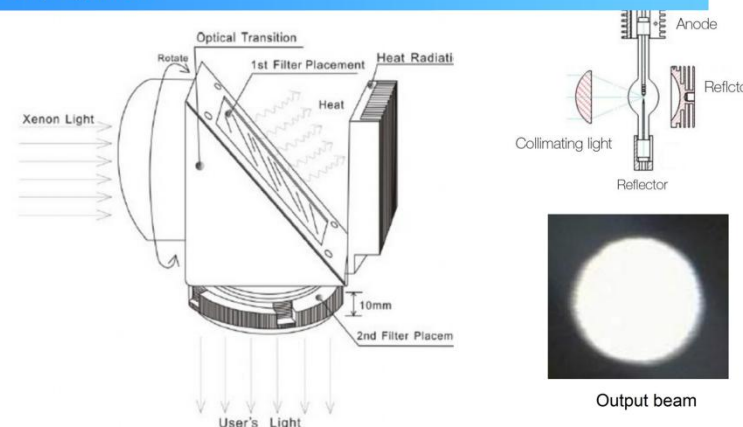
1. Spectral range from UV to VIS(200-2500nm).
2. Optical axis height is 157-193mm.
3. Output beam diameter is 46mm.
4. Supports wide range of accessories.
5. Fan cooled housing.

Short Arc Xenon Light Source

Description:

Xenon arc lamp light sources are the preferred artificial sources to simulate sunlight. The high color temperature(6000K) of the Xenon lamps is a close match to the solar temperature. This results in very similar solar spectra in the UV and VIS although the source has some Xe emissions lines in the near IR.

Lamp Adjustment

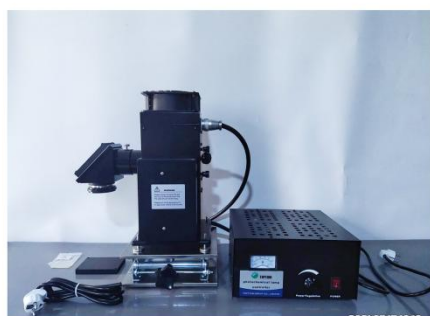


Short Arc Lamp Power Supply

Ordering Information:

To build a complete light source you will need: Lamp housing, condensing optics, lamp with appropriate adapter, electrical interface, cable and power supply. As an option we suggest the rear reflector for more output.

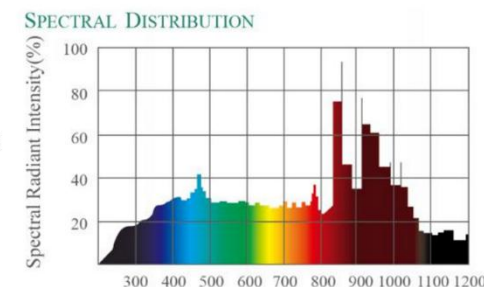
| Model | Description | Details |
|-----------|--------------------------|--|
| TOP-X300 | 300W Xenon Light Source | 300W Xenon Light Source includes housing (TSH-X300), power supply (TSP-X300) and Lamp (TSL-X300), the filter are optional. |
| TOP-X500 | 500W Xenon Light Source | 500W Xenon Light Source includes housing (TSH-X500), power supply (TSP-X500) and Lamp (TSL-X500), the filter are optional. |
| TOP-X1000 | 1000W Xenon Light Source | 1000W Xenon Light Source includes housing (TSH-X1000), power supply (TSP-X1000) and Lamp (TSL-X1000), the filter are optional. |
| TOP-X2000 | 2000W Xenon Light Source | 2000W Xenon Light Source includes housing (TSH-X2000), power supply (TSP-X2000) and Lamp (TSL-X2000), the filter are optional. |



Optical filter

TOPTION optical filter has three types:

1. Catalyst evaluation type optical filter.
2. Sunshine ultraviolet accelerated analog optical filter.
3. UV-CUT optical filter.
4. AM1.5G filter.



| Catalyst evaluation type optical filter | | | | | | | | | | | | |
|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Peak wavelength | 254nm | 350nm | 365nm | 380nm | 400nm | 420nm | 435nm | 450nm | 475nm | 500nm | 520nm | 550nm |
| Half-wave bandwidth | 15nm | 15nm | 15nm | 15nm | 15nm | 15nm | 15nm | 15nm | 15nm | 15nm | 15nm | 15nm |
| Substrate material | Quartz | Quartz | Quartz | Quartz | Quartz | Quartz | Quartz | Quartz | Quartz | Quartz | Quartz | Quartz |
| Dimension (mm) | Φ 52mm | Φ 52mm | Φ 52mm | Φ 52mm | Φ 52mm | Φ 52mm | Φ 52mm | Φ 52mm | Φ 52mm | Φ 52mm | Φ 52mm | Φ 52mm |

| Model | Sunshine ultraviolet accelerated analog optical filter | UV-CUT optical filter | |
|---------------------------|--|--|-------------|
| | UVREF | UV-CUT400nm | UV-CUT420nm |
| Filter method | 45° transmission-reflect type ultraviolet region | Transmission-reflect type ultraviolet region cut-off ability: 99.9%. | |
| Dimension (mm) | 70*70mm | Φ 52mm | |
| Plating process | Hafnia epidural. Visible reflect, infrared transmission. 70*70*2mm | Hafnia epidural | |
| Substrate material | Quartz | Quartz | |
| Average reflectance | >85% | \ | |
| Reflecting region (nm) | 250nm-400nm | \ | |
| Visible-IR transmissivity | >90% | \ | |

Hydrothermal synthesis reactor



PTFE Lined



PPL Lined

PTFE Liner (200°C)

| Model | Material | Capacity | Remark |
|-------------|---|----------|--|
| TOPT-HT10 | 1. Shell made of quality stainless steel.304L | 10ml | 1. Safe temperature is 170°C. |
| TOPT-HT25 | | 25ml | |
| TOPT-HT30 | | 30ml | 2. Working pressure ≤3 Mpa (surface pressure). |
| TOPT-HT50 | | 50ml | |
| TOPT-HT100 | | 100ml | |
| TOPT-HT150 | 2. Liner materials is special PTFE. | 150ml | 3. Tempe heating and cooling speed: ≤ 5°C/min. |
| TOPT-HT200 | | 200ml | |
| TOPT-HT250 | | 250ml | |
| TOPT-HT300 | | 300ml | 4.Break down the refractory material quickly. |
| TOPT-HT400 | | 400ml | |
| TOPT-HT500 | | 500ml | |
| TOPT-HT1000 | | 1000ml | |
| TOPT-HT1500 | | 1500ml | |
| TOPT-HT2000 | | 2000ml | |

PPL Liner (260°C)

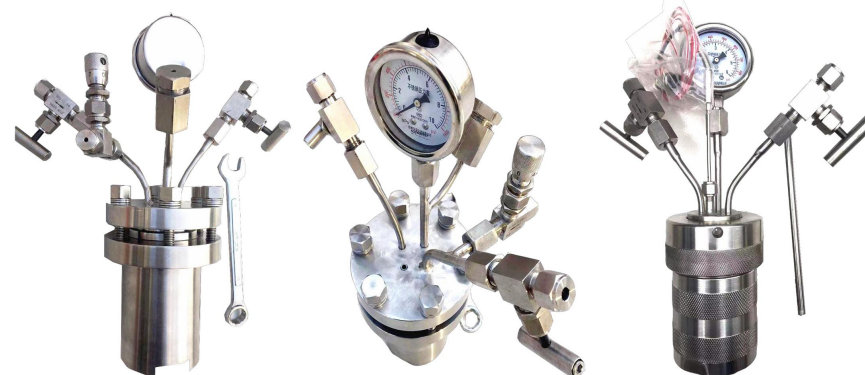
| Model | Material | Capacity | Remark |
|------------|---|----------|--|
| TOPT-HP10 | 1. Shell made of quality stainless steel.304L | 10ml | 1. Safe temperature is 220°C. |
| TOPT-HP25 | | 25ml | |
| TOPT-HP30 | | 30ml | 2. Working pressure ≤3 Mpa (surface pressure). |
| TOPT-HP50 | | 50ml | |
| TOPT-HP100 | | 100ml | |
| TOPT-HP150 | 2. Liner materials is special PPL. | 150ml | 3. Tempe heating and cooling speed: ≤ 5°C/min. |
| TOPT-HP200 | | 200ml | |
| TOPT-HP250 | | 250ml | |
| TOPT-HP300 | | 300ml | 4.Break down the refractory material quickly. |
| TOPT-HP400 | | 400ml | |
| TOPT-HP500 | | 500ml | |

Please note: Shell can be made of SS316L or copper



High pressure vessel - with pressure gauge and gas needle valve

- Temperature ≤200°C.
- Pressure ≤3MPa.
- Lined material: PTFE.
- Basic configuration: pressure gage, vent valve, gas outlet valve (support customize special request).
- Capacity range: 5ml, 10ml, 15ml, 25ml, 50ml, 100ml, 150ml, 200ml, 250ml, 300ml, 500ml, 1000ml.



THR type high pressure reactor with magnetic stirrer

1. Temperature display - display real time temp. when working.
2. Rotating speed display - display real time rotating speed during working.
3. Indicator lamp display - function indicator when working.
4. Temp & time set key [T-Set] - used to set temperature, timing, and parameters which is related with temperature & time.
5. UpKey - add key.
6. Down key and self set key - reduce key and self set key.
7. Lift key and check key - shift key and check working time & timing.
8. Speed set key - used to set speed and related parameters.
9. Working and stop key - start or stop working.



Technical specification

| The stirring reactor laboratory miniature high-pressure reaction kettle | | | | |
|---|---|--------------------------------|--------------------------------|--------------------------------|
| Model | THR50 | THR100 | THR250 | THR500 |
| Material capacity(L) | 50ml | 100ml | 250ml | 500ml |
| The working interface | LCD Display | LCD Display | LCD Display | LCD Display |
| The maximum operating temperature | 200℃ | 200℃ | 200℃ | 200℃ |
| The maximum operating temperature with PTFE Liner | 180℃ | 180℃ | 180℃ | 180℃ |
| Heating mode | Module heating | Module heating | Module heating | Module heating |
| The heating power | 1.2KW | 1.2KW | 1.5KW | 2.0KW |
| Stirring speed | 0-1200rpm | 0-1200rpm | 0-1300rpm | 0-1300rpm |
| Stirring method | The internal magnetic stirring | The internal magnetic stirring | The internal magnetic stirring | The internal magnetic stirring |
| The stirring power | 40W | 40W | 40W | 80W |
| The maximum working pressure | 10Mpa | 10Mpa | 10Mpa | 10Mpa |
| Materials of construction | SS304 (standard); (SS316L Alloy TA2, ALLOY C-276, Nickel ALloy, Zirconium materials are optional) | | | |
| PTFE liner | Optional | | | |

- Note:
1. Max volume 2000ml could be customized.
 2. Suitable for the material which temp <200℃ and is nonmagnetic.
 3. Temperature timing set, temp. set when working, this function is optional.

MHR type high pressure reactor with magnetic coupling mechanical agitation

Configuration and description

1. Rotating speed and temperature control panel (LCD display and Nixie tube display are optional).
2. Internal heat collection heater.
- 3.4. Stainless steel reactor.
5. Air inlet valve (sampling valve).
6. Air exhaust valve.
7. Principal axis cooling jacket.
8. The coupling magnetic steel.
9. Sensor insert mouth.
10. Pressure meter.
11. Transmission flexible shaft.
12. Flexible shaft support frame.
13. Dynamical system.
14. MHR high pressure reactor is suitable for small capacity sample reaction, high temp, big viscosity or magnetism medium.
15. Safety explosion protection valve is 12.5MPa, digital display pressure meter is optional.
16. Max working temp:300℃, module electric heating, heating quickly and control temp precise.



| Model | MHR50 | MHR100 | MHR250 | MHR500 |
|---|--|----------------|----------------|----------------|
| Material capacity(L) | 50ml | 100ml | 250ml | 500ml |
| The working interface | LCD Display | | | |
| The maximum operating temperature | 300℃ | 300℃ | 300℃ | 300℃ |
| The maximum operating temperature with PTFE Liner | 180℃ | 180℃ | 180℃ | 180℃ |
| PPL liner | 250℃ | 250℃ | 250℃ | 250℃ |
| Heating mode | Module heating | Module heating | Module heating | Module heating |
| The heating power | 1.2KW | 1.2KW | 1.5KW | 2.0KW |
| Stirring speed | 0-1200rpm | 0-1200rpm | 0-1300rpm | 0-1300rpm |
| Stirring method | Rare earth permanent magnetic coupling drive | | | |
| The stirring power | 40W | 40W | 40W | 80W |
| The maximum working pressure | 10Mpa | 10Mpa | 10Mpa | 10Mpa |
| Materials of construction | SS304 (standard); (SS316L, Alloy TA2, ALLOY C-276, are optional) | | | |
| PTFE liner/PPL liner | Optional | | | |

- Note:
1. Max volume 2000ml could be customized.
 2. Suitable for the material which temp >250℃ and has magnetism, viscosity is a little big.
 3. Temperature timing set, temp. set when working, this function is optional.

KCFD type mini high pressure reactor

Description

1. Make cumbersome experimental simple, it can be realized in one operation with different environments or with different environment temperature/ pressure diversified series of different experiments.
2. Through the RS232 communication interface a computer connected to print and show the historical value and the actual curve according to user's needs, the whole system can be monitored real time by software.
3. Catalysis, high temperature and pressure synthesis, dynamics testing, Fischer- tropch, and hydrogenation reaction. Mainly used in the fields of biochemical, chemical material, environmental protection new material reaction, etc.



| | | |
|---|-----------------|---|
| Small- high-pressure reactor (the Lid can rise ,the reactor can turn,without bottom discharge) | TOPT-KCFD025-10 | 1. Volume:0.25L 2. Design pressure: <10MPa 3. Temp:RT--300°C 4. Materials:SS304 5. Agitation type:with Mechanical agitation |
| | TOPT-KCFD03-10 | 1. Volume:0.3L 2. Design pressure: <10MPa 3.Temp: RT--300°C 4.Materials:SS304 5.Agitation type:with Mechanical agitation |
| | TOPT-KCFD05-10 | 1. Volume:0.5L 2. Design pressure: <10MPa 3. Temp:RT--300°C 4. Materials:SS304 5. Agitation type:with Mechanical agitation |
| | TOPT-KCFD1-10 | 1. Volume: 1L 2. Design pressure: <10MPa 3. Temp:RT--300°C 4. Materials:SS304 5. Agitation type:with Mechanical agitation |
| | TOPT-KCFD2-10 | 1. Volume: 2L 2. Design pressure: <10MPa 3. Temp:RT--300°C 4. Materials:SS304; 5. Agitation type:with Mechanical agitation |
| | TOPT-KCFD5-10 | 1. Volume: 5L 2. Design pressure: <10MPa 3. Temp:RT--300°C 4. Materials:SS304; 5. Agitation type:with Mechanical agitation |

TFCF type hand-lifted high pressure reactor

Customization support



Technical specification

| | | |
|---|----------------|--|
| High-pressure reactor (the Lid can rise ,the reactor can not turn,with bottom discharge) | TOPT-TFCF1-10 | 1. Volume: 1L 2. Design pressure: <10MPa 3. RT--300°C; 4. Material: SS304; 5. Type agitation:with Mechanical agitation |
| | TOPT-TFCF2-10 | 1.Volume: 2L 2.Design pressure: <10MPa 3.RT--300°C; 4.Material: SS304; 5.Type agitation:with Mechanical agitation |
| | TOPT-TFCF5-10 | 1.Volume: 5L 2.Design pressure: <10MPa 3.RT--300°C; 4.Material: SS304; 5.Type agitation:with Mechanical agitation |
| | TOPT-TFCF10-10 | 1.Volume: 10L 2.Design pressure: <10MPa 3.RT--300°C; 4.Material: SS304; 5.Type agitation:with Mechanical agitation |
| | TOPT-TFCF20-10 | 1.Volume: 20L 2.Design pressure: <10MPa 3.RT--300°C; 4.Material: SS304; 5.Type agitation:with Mechanical agitation |
| | | |

High pressure reactor customization

Expo & Customer Case

Rotary Evaporator

Glass Reactor

High Shear Homogeneous Reactor

Ultrasonic Reactor

Filter

Photochemical Reactor

Hydrothermal Synthesis Reactor

High Pressure Reactor

Expo & Customer Case



More high pressure reactor, welcome contact with our specialist:
0086-29-88763980
info@toptionlab.com



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EDUCATION: JULY 20-22 | EXHIBITS: JULY 21-27

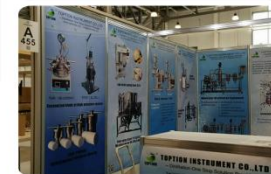


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CANNABIS BUSINESS CONFERENCE



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Laboratory & Analytical Equipment
16-19 April
KINTEX1, Hall4

ASIA INTERNATIONAL HEMP EXPO & FORUM 2023
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THAILAND

Rotary Evaporator

Glass Reactor

High Shear Homogeneous Reactor

Ultrasonic Reactor












Filter

Photochemical Reactor

Hydrothermal Synthesis Reactor

High Pressure Reactor

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| | | | | | | | |
|--------------------------------|---|---|--|---|---|---|--------------------------------|
| Rotary Evaporator |  |  |  |  |  |  | Rotary Evaporator |
| Glass Reactor |  |  |  |  |  |  | Glass Reactor |
| High Shear Homogeneous Reactor |  |  |  |  |  |  | High Shear Homogeneous Reactor |
| Ultrasonic Reactor |  |  |  |  |  |  | Ultrasonic Reactor |
| Filter |  |  |  |  |  |  | Filter |
| Photochemical Reactor |  |  |  |  |  |  | Photochemical Reactor |
| Hydrothermal Synthesis Reactor | | | | | | | Hydrothermal Synthesis Reactor |
| High Pressure Reactor | | | | | | | High Pressure Reactor |
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