IRIS ANALYTICAL

High-Pressure Reactors

cs@irisanalytical.com

+1 706 760 4500

www.irisanalytical.com

Iris High-Pressure Reactor manufactures a stirred reactor with a magnetic stirrer and overhead stirrer along with a magnetic clutch. Build-in stainless steel SUS 316L and sophisticated or Hastelloy. The systems are available with manual fast closing that can be close without the use of tools using a conical flange lock and O-ring seal of PTFE, FKM, or FFKM. The high-pressure reactor is a very essential part of the chemical reaction to conduct a reaction under pressure and temperature.

Iris High-Pressure Reactor offered different temperatures, pressure, and different vessel capacity combination to meet the different processing and handling requirements and provide easy, safe operation under high temperature and pressure.

The various application area including in chemical reactions that are not restricted to Hydrogenation, Polymerization, Synthesis, Catalytic, Petrochemical, and so on. Also, it used to achieve in research such as upstream and downstream process, biomass production, biopolymer, and zeolite production, etc. the different models are available to suit your requirements.

Small Scale Pressure Reactor IPR-2000 Series

Small Scale Pressure Reactor IPR-2000 Series provides a wide range of high-pressure reactor configurations; options thermocouple, internal heating, and cooling coil. We provide the best range of your specification requirements with custom high-pressure reaction vessels. The reactors are supplied in stainless steel 316 as standard and Hastelloy with PTFE lining of all sides. The usable volume of the reactor can be varied between 310 ml and 600 ml using different reactor vessels. Corrosion-resistant materials PTFE lining on all sides.

- Suitable for valuable reagents
- O-seal ring made of PTFE insert or completely made of SUS 316LTl or Hastelloy
- Heating and stirring by laboratory hot-plate with integrated magnetic stirrer
- Provide high-pressure range up to 200 bar along with high temperature 250 to 300 °C
- The reactor accommodate different capacities ranging from 390 ml and 630 ml
- Build-I special design of magnetic clutch to prevent leakage of fluid with low maintenance
- Provide maximum yield with zero impurities
- Design with excellent corrosion and stress resistance, providing high stability
- The reactor designs with strong and robust construction ensuring high consistency and stability
- Note: When using PTFE inserts the maximum allowable temperature is 230℃ and The number of free ports can be enlarged by the use of T-connections

Model	IPR-2300 SUS316Ti or HC	IPR-2300 SUS316Ti + PTFE	IPR-2500 SUS316Ti or HC	IPR-2500 SUS316Ti + PTFE
Material	SUS316Ti or HC	SUS316Ti + PTFE	SUS316Ti or HC	SUS316Ti + PTFE
Reactor Volume	390 ml		630 ml	
Temperature Range	300?	250?	300?	250?
Pressure Range	200 bar			
No. of Tube Connection	8 mm			
Ports (total)	6			
Ports (free)	2			
Stirring	Overhead stirrer with magnetic clutch		Magnetic stirrer	
Reactor Dimension	68x108 mm		68x175 mm	
Reactor Weight	4 kg		6 kg	
TFMTM-PTFE Insert Volume	-	310 ml	-	500 ml
TFMTM-PTFE Insert Dimension	-	62.5x98 mm	-	62.5x165 mm
Catalogue No.	2301005-04	2301010-04	2301015-04	2301020-04

Mini Scale Pressure Reactor IPR-1000 Series

Mini Scale Pressure Reactor IPR-1000 Series reactors permit research and produced homogenous concentrated reaction mass. The concentration reaction mass builds the basis for reliable and reproducible experiment results. Build-in stainless steel SUS 316L and sophisticated Hastelloy with a total of 5 to 6 connection options are provided in the lid including an immersion tube for temperature probes, rupture disc of metal for the safe limitation of maximum pressure, pressure display, and vent valve, and gas sampling valve or liquid sampling point is available as optional. The system can accommodate 6 different capacities of reactors as standard 30 ml, 47 ml, 45 ml, 68 ml, 170 ml, and 190 ml.

- Suitable for valuable reagents
- O-seal ring made of PTFE insert or completely made of SUS 316LTl or Hastelloy
- Heating and stirring by laboratory hot-plate with integrated magnetic stirrer
- Provide high-pressure range up to 200 bar along with high temperature 250 to 300 °C
- The reactor accommodate different capacities ranging from 30 ml 47 ml, 45 ml, 68 ml, 170 ml, and 190 ml
- Build-I special design of magnetic clutch to prevent leakage of fluid with low maintenance
- Provide maximum yield with zero impurities
- Design with excellent corrosion and stress resistance, providing high stability
- The reactor designs with strong and robust construction ensuring high consistency and stability
- Note: When using PTFE inserts the maximum allowable temperature is 230℃ and The number of free ports can be enlarged by the use of T-connections

Model	IPR-1025 SUS316Ti or HC	IPR-1025 SUS316Ti + PTFE	IPR-1040 SUS316Ti or HC	IPR-1040 SUS316Ti + PTFE	IPR-1100 SUS316Ti or HC	IPR-1100 SUS316Ti + PTFE
Material	SUS316Ti or HC	SUS316Ti + PTFE	SUS316Ti or HC	SUS316Ti + PTFE	SUS316Ti or HC	SUS316Ti + PTFE
Reactor Volume	30 ml	47 ml	45 ml	68 ml	170 ml	190 ml
Temperature Range	300?	250?	300?	250?	300?	250?
Pressure Range	200 bar					
No. of Tube Connection	1/8" Tube Connection				8 mm	
Ports (total)	6	6	6	6	5	5
Ports (free)	2	2	2	2	1	1
Stirring	Magnetic stirrer					
Reactor Dimension	25x62 mm	27x83 mm	24x99.6 mm	29x104 mm	42x126 mm	44x127,7 mm
Reactor Weight	0.6 kg		0.7 kg		1.8 kg	
TFMTM-PTFE Insert Volume	-	29 ml*	-	45 ml*	-	95 ml*
TFMTM-PTFE Insert Dimension	-	22x77 mm	-	24x101 mm	-	32x121 mm
Catalogue No.	2300505-04	2300510-04	2300515-04	2300520-04	2300525-04	2300530-04

Medium Scale Pressure Reactor IPR-3000 Series

Medium Scale Pressure Reactor IPR-3000 Series design to reach the pressure ranging from 150 to 200 bars and the temperature up to 250°C to 300℃. It is used for homogeneous hydrothermal processing. The reactor capacities: 1220 ml, 2230 ml, and 5500 ml. additionally, select the vessel capacity in the product options.

The reactor seal is established using a conical flange lock and O-ring seal of PTFE, FKM, or FFKM. The appropriate fitting inserts are available in stainless steel SUS 316L and sophisticated Hastelloy with a total of 5 to 6 connection options are provided in the lid including an immersion tube for temperature probes, rupture disc of metal for the safe limitation of maximum pressure, pressure display and vent valve, and gas sampling valve or liquid sampling point is available as optional.

- Suitable for valuable reagents
- O-seal ring made of PTFE insert or completely made of SUS 316LTl or Hastelloy
- Heating and stirring by laboratory hot-plate with integrated magnetic stirrer
- Provide high-pressure range up to 150 to 200 bar along with high temperature 250 to 300 °C
- The reactor accommodate different capacities ranging from 1220 ml, 2230 ml, and 5500 ml
- Build-I special design of magnetic clutch to prevent leakage of fluid with low maintenance
- Provide maximum yield with zero impurities
- Design with excellent corrosion and stress resistance, providing high stability
- The reactor designs with strong and robust construction ensuring high consistency and stability
- Note: When using PTFE inserts the maximum allowable temperature is 230℃ and The number of free ports can be enlarged by the use of T-connections

Model	IPR-3100 SUS316Ti or HC	IPR-3100 SUS316Ti + PTFE	IPR-3200 SUS316Ti or HC	IPR-3200 SUS316Ti + PTFE	IPR-3400 SUS316Ti or HC	IPR-3400 SUS316Ti + PTFE
Material	SUS316Ti or HC	SUS316Ti + PTFE	SUS316Ti or HC	SUS316Ti + PTFE	SUS316Ti or HC	SUS316Ti + PTFE
Reactor Volume	1220 ml		2230 ml		5500 ml	
Temperature Range	300?	250?	300?	250?	300?	250?
Pressure Range	200 bar				150 bar	
No. of Tube Connection	8 mm					
Ports (total)	6					
Ports (free)	2					
Stirring	Overhead stirrer with magnetic clutch					
Reactor Dimension	90x193 mm		90x352 mm		136x390 mm	
Reactor Weight	10.5 kg		16 kg		10.5 kg	
TFMTM-PTFE Insert Volume	-	1,000 ml	-	1,880 ml	-	4,700 ml*
TFMTM-PTFE Insert Dimension	-	84x182.5 mm	-	84x340 mm	-	126x378 mm
Catalogue No.	2301505-04	2301510-04	2301515-04	2301520-04	2301525-04	2301530-04

Large Scale Pressure Reactor IPR-4000 Series

Large Scale Pressure Reactor IPR-4000 Series allows excellent control of high-pressure reactions up to 100 bar. The system is ideal for universal experiment reactions, where elevated pressures are required.

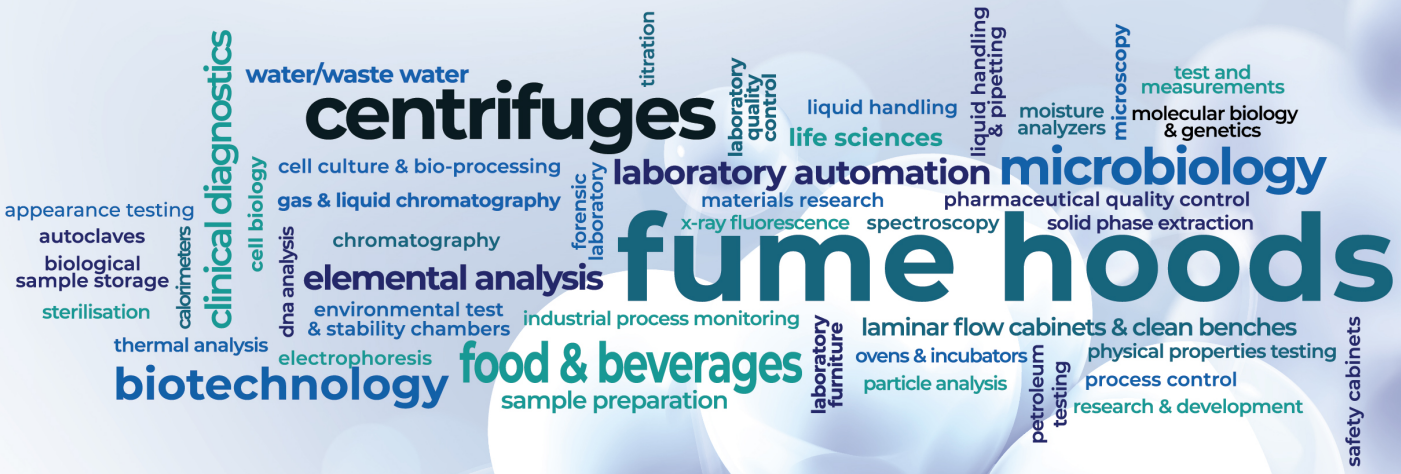
Automating your pressure reactions could not be easier. We offer Overhead stirrer with magnetic clutch and stirrer drives of different performance classes. Constructed with SUS 316L stainless steel and sophisticated with or with bottom outlet and the reactor capacities ranging from 300 ml and 2,000 ml.

Options include the internal heating/cooling coil and thermocouple. We provide safety by setting 100 bar maximum pressure burst disc and maximum temperature cut-outs to ensure that your reaction does not fall outside suitable factors.

- Suitable for valuable reagents
- O-seal ring made of PTFE insert or completely made of SUS 316LTl or Hastelloy
- Heating and stirring by laboratory hot-plate with integrated magnetic stirrer
- Provide high-pressure range up to 100 bar along with high temperature 250 to 300 °C
- The reactor accommodate different capacities ranging from 300 ml, 500 ml, 1000 ml and 2000 ml
- Build-I special design of magnetic clutch to prevent leakage of fluid with low maintenance
- Provide maximum yield with zero impurities
- Design with excellent corrosion and stress resistance, providing high stability
- The reactor designs with strong and robust construction ensuring high consistency and stability
- Note: When using PTFE inserts the maximum allowable temperature is 230℃ and The number of free ports can be enlarged by the use of T-connections

Model	IPR-1300	IPR-1500	IPR-1700	IPR-1900
Material	SUS 316L			
Reactor Volume	300 ml	500 ml	1,000 ml	2,000 ml
Temperature Range	300?	250?	300?	250?
Pressure Range	100 bar			
No. of Tube Connection	8 mm			
Ports (total)	7			
Ports (free)	3			
Reactor Dimension	68x108 mm	68x175 mm	90x193 mm	90x352 mm
Reactor Weight	4 kg	6 kg	11 kg	16 kg
Catalogue No.	2302005-04	2302010-04	2302015-04	2302020-04

IRIS ANALYTICAL



IRIS Analytical Inc.

cs@irisanalytical.com +1 706 760 4500 www.irisanalytical.com