Bona Tech

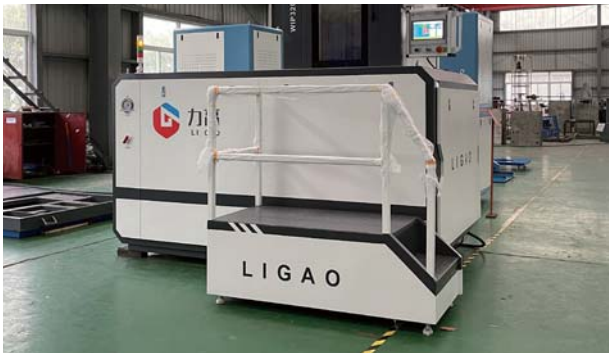
博 纳 科 技

HIGH PRESSURE EQUIPMENT

PRODUCT CATALOG

ABOUT US

Bona Technology Co., Ltd. is one of the most energetic advocates of industrial application on Hi-tech equipment, advanced materials, and green energy. We take pride in dedicating ourselves to this as our primary mission to make the world running safer, healthier and more effective. Following the firm ideal and faith, we have established strategic partnerships with several sound high-tech enterprises in China to share our featured products and technology to the global markets since our inception in year 2017:



01 Innovative high-pressure equipment up to1000MPa.

02 Full range of brands and high cost-effective diesel generators (3 ~ 3000 kW).

03 High-efficiency distributed and home use solar panel & energy storage system and inverter.

04 Customized forging, casting and precision machining products by EN standards.

HIGH PRESSURE EQUIPMENT

In High-pressure field, we are a leading manufacturer specializing in design, manufacture, assembly and maintenance of ultra-high pressure equipment.

We are capable of designing and producing of cylinder diameter from 80mm to 2150mm, pressure from 50 MPa to 1000 MPa Series of cold and warm isostatic presses, ultra-high pressure food processing machines, large oil hydraulic presses, stud tensioners, ultra-high pressure separation hydraulic jacks and hydraulic wrenches, ultra-high pressure sheet molding presses, four-post presses and other hydraulic equipment.

We have been listed as one of the "Leading manufacturers of Key Equipment in the realm of MLCC & RF Filter" by Ministry of Industry and Information Technology of PRC (MIIT) in year 2021.

COLD ISOSTATIC PRESS (CIP)

DATASHEET

INTRODUCTION

CIP makes use of the Pascal's Principle, i.e. "a change in the pressure of an enclosed incompressible fluid is conveyed undiminished to every part of the fluid and to the surface of its container". Powder materials are sealed in a forming mold with low deformation resistance like a rubber bag to apply liquid pressure. Then, the molded body is compressed uniformly over its entire surface by transmitting the liquid pressure. CIP enables powder materials to products with high density and excellent material homogeneity, and the products can be further processed by sintering, hot isostatic pressing or other processes.

KEY FEATURES

- Pressure up to 600 MPa
- Inner diameter of the cylinder up to 2150 mm
- Inner length of cylinder up to 3500mm
- Can be customized according to user's requirements

TYPICAL USE

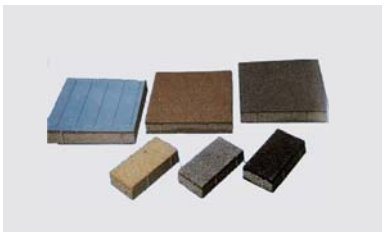
CIP IS WIDELY USED IN THE FOLLOWING MATERIALS:

Hard alloy

High speed steel

Titanium & alloys

Powder metallurgy



Refractory

Graphite

Crucible

Ceramics

Medicine

RE permanent magne

Crystalloid

Food

GENERIC COMPOSITION OF MODEL TYPE

CIP300-200-1000

Inner length of cylinder	1000 mm
Inner diameter of cylinder	200 mm
Max working pressure	300 MPa
Product	Cold Isostatic Press

TECHNICAL PARAMETER

MODEL TYPE	MAX. WORKING PRESSURE	INNER DIAMETER OF CYLINDER	INNER LENGTH OF CYLINDER	PRESSURE BOOST TIME	POWER
CIP200 series	200 MPa	1200 mm	1500~3500 mm	18~20 min.	150KW
		1500 mm		18~25 min.	175KW
		1650 mm		20~25 min.	
		1850 mm		25~30 min.	250KW
		2150 mm			275KW
CIP300 series	300 MPa	800 mm	1000~3000 mm	3~10 min.	100KW
		900 mm			120KW
		1000 mm			
CIP400 series	400 MPa	400 mm	500~3500 mm	6~20 min.	45KW
		500 mm		8~20 min.	55KW
		600 mm		10~20 min.	
		700 mm			75KW
CIP600 series	600 MPa	200 mm	300~3500 mm	3~10 min.	25KW
		300 mm		4~10 min.	40KW

WARM ISOSTATIC PRESS (WIP)

DATASHEET

INTRODUCTION

WIP is a type of Cold Isostatic Press equipment that comes with heating function. It uses Isostatic technology to make compact body from powder materials by using hot water or oil as a pressure medium. It is often used to eliminate molding deviation of seasonal changes because it keeps the molding powder at constant temperature throughout the year.

The WIP (liquid boost type) was successful developed in 2018 and has been recognized by large MLCC production enterprises such as Guangdong Fenghua Advanced Technology Holding CO., LTD.

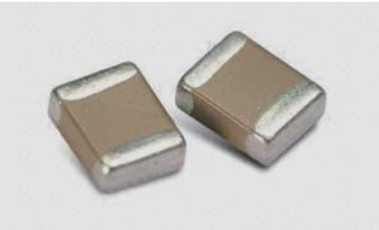
KEY FEATURES

- Pressure up to 200 MPa
- Temperature up to 200 ℃ (medium: oil) or 85 ℃ (medium: water)
- Medium can be water or oil
- Inner diameter of cylinder up to 800 mm
- Inner length of cylinder up to 1500mm
- Can be customized according to user's requirements

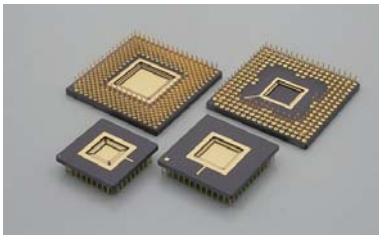
TYPICAL USE

WIP is mainly used for obtaining solid body from powder materials under high temperature and high pressure. It's widely used in:

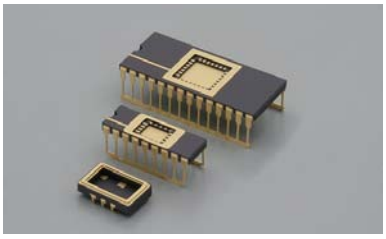
Electronic ceramics



Multilayer ceramic capacitors (MLCC)



Low temperature co-fired ceramic (LTCC)



High temperature co-fired ceramic (HTCC)

Graphite

Polyamide rubber, etc.

GENERIC COMPOSITION OF MODEL TYPE

WIP100-IS-200-500-85-GL

Pressure boost mode	Gas-liquid boost
Max. working temperature	85
Inner length of cylinder	500 mm
Inner diameter of cylinder	200 mm
Form of machine	Integrated style
Max. working pressure	100 MPa
Product	Warm isostatic press

Pressure boost mode

Letters Meaning

GL	Gas-liquid boost
L	

Pressure boost mode

Letters Meaning

SP	Separate bodies
IS	Integrated style

TECHNICAL PARAMETER

MODEL TYPE	MAX. WORKING PRESSURE	BOOST MODE	INNER DIAMETER OF CYLINDER	INNER LENGTH OF CYLINDER	PRESSURE BOOST TIME	FIRST TEMP. RISE TIME	TEMP	TEMP. CONTROL ACCURACY.
WIP100 series (Integrated style)	100 MPa	Gas liquid boost	200 mm	300-1000 mm	≤ 5 min.	≤ 90 min.	Room temp. ~ 85 ℃ (water) Room temp. ~ 200 ℃ (oil)v	± 2 ℃
			300 mm		≤ 10 min.	≤ 120min.		
			400 mm	500-1000 mm	≤ 15 min.			
			500 mm		≤ 22min.	≤ 150v min.		
		Liquid boost	200 mm	300-1000 mm	≤ 3 min.	≤ 90 min.		
			300 mm		≤ 5 min.	≤ 120min.		
			400 mm	500-1000 mm	≤ 8 min.			
			500 mm		≤ 10min.	≤ 150v min.		
WIP200 series (Integrated style)	200 MPa	Gas liquid boost	200 mm	300-900 mm	≤ 8 min.	≤ 90 min.	Room temp. ~ 85 ℃ (water) Room temp. ~ 200 ℃ (oil)	± 2 ℃
			250 mm		≤ 10 min.			
			300 mm		≤ 16 min.	≤ 120 min.		
			320 mm		≤ 18 min.			
			400 mm		≤ 35 min.			
		Liquid boost	200 mm		≤ 3 min.	≤ 90 min.		
			250 mm		≤ 4 min.			
			300 mm		≤ 8 min.	≤ 120 min.		
			320 mm		≤ 10 min.			
			400 mm		≤ 12 min.			
WIP100 series (Separate bodies)	200 MPa	Liquid boost	200 mm	500-1500 mm	10 ~ 15 min.	60 ~ 150 min.	Room temp. ~ 85 ℃ (water) Room temp. ~ 200 ℃ (oil)	± 3 ~ 5 ℃
			320 mm					
			400 mm					
			500 mm					
			630 mm					
			700 mm					
			800 mm					

High Pressure Processing Equipment (HPPE)

DATASHEET

INTRODUCTION

HPPE is a revolutionary equipment that changes food safety in the 21st century. It can be applicated in the food preservation, refrigeration and sterilization, medical sterilization and parasites killing,

HPPE has significant advantages comparing with high temperature sterilization:

- Kill harmful microorganisms in all dimension.
- Sterilization at room temperature to maintain the food nutrients, colors and fragrances.
- The pressure transmits fast, uniform, no pressure gradient, thus the process is simple.
- Less energy consumption. Energy consumption is in pressure boost stage only.
- Operation simple and safe.

KEY FEATURES

- Pressure up to 600 MPa
- The cylinder can be vertical or horizontal
- Inner diameter of the cylinder up to 350 mm
- Capacity of the cylinder up to 200 liters
- Can be customized according to user's requirements

TYPICAL USE

Fruit / vegetable juice sterilization

meat / delicatessen sterilization

Dairy products sterilization

Sauce sterilization

Seafood shelling

Plant ingredient extraction

GENERIC COMPOSITION OF MODEL TYPE

HPPE600-200-30

Capacity of cylinder		30 L
Inner diameter of cylinder		200 mm
Max working pressure		600 MPa
Product	High Pressure Processing Equipment	

TECHNICAL PARAMETER

MODEL TYPE	.INNER DIAMETER OF CYLINDER	MAX. WORKING PRESSURE	CAPACITY OF CYLINDER	PRESSURE BOOST TIME	SIZE	POWER
HPPE600 Series	80 mm	600 Mpa	2 L	5~10 min	1500*1000*1000 mm	7.5 KW
	120 mm		5 L		1200*1200*1500 mm	11 KW
	150 mm		10 L		1500*1500*1500 mm	22 KW
	200 mm		30 L		2500*1500*1600 mm	33 KW
	250 mm		50 L		4200*3500*2000 mm	55 KW
	320 mm		100 L		5500*3500*2000 mm	80 KW
	350 mm		200 L		6000*3500*2500 mm	110 KW

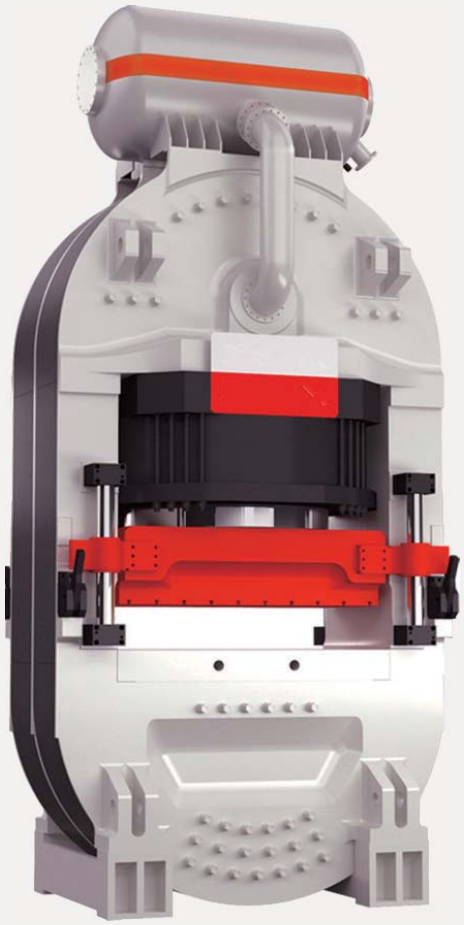
WIRE WINDING HYDRAULIC PRESS (WWHP)

DATASHEET

INTRODUCTION

WWHP is mainly used for pressing / forming large thin shell plates such as titanium plates, stainless-steel plates, powder plates and rods. It is widely applied for metal materials cold / hot extrusion, hardware product embossing, laminating, imitation die-casting aluminum pots drawing and extrusion composite forming.

Our WWHP has independent power mechanism and electric control system, adopts centralized control of buttons, and has manual and semi-automatic working modes. Also the working pressure and working speed are adjustable, which makes it a more advanced molding press for heat exchanger plates and sheets.



KEY FEATURES

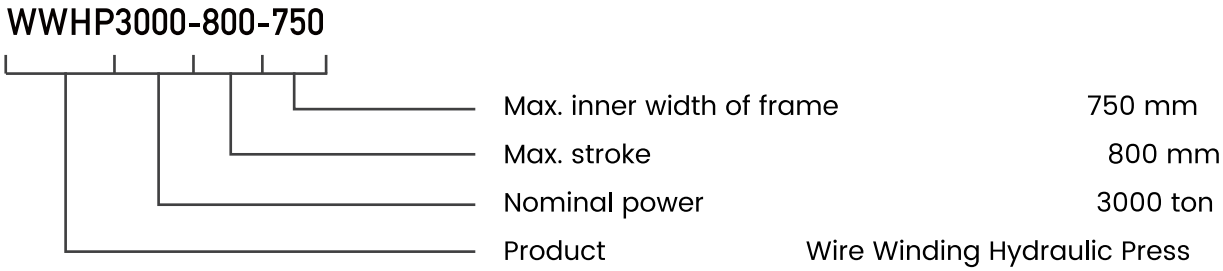
- Wire winding structure, high pressure load.
- High pressure boost and compact structure.
- Energy storage technology and variable frequency technology, high energy efficiency.
- PLC control.
- Multiple safety protection.
- Hydraulic control check valve.

TYPICAL USE

WWHP IS WIDELY USED IN THE FOLLOWING INDUSTRIES:

- Metal cold (hot) extrusion, kitchenware pot, clocks, car shell, motorcycle accessories.
- Metal sheet hydraulic press is used for high-density corrugated shallow drawing and forming of non-metallic plates, such as plate heat exchanger plates, hydrogen electrode plates and silicon carbide plates.

GENERIC COMPOSITION OF MODEL TYPE



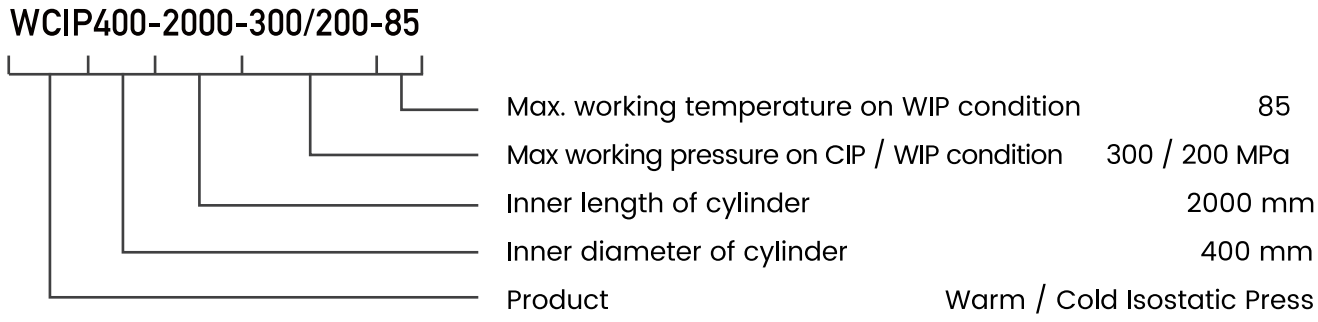
TECHNICAL PARAMETER

MODEL TYPE	NOMINAL POWER	MAX. STROKE	MAX. INNER WIDTH OF FRAME	EFFECTIVE AREA OF WORKING PLATFORM	SIZE(W*L*H)
WWHP3000	3000 ton	300~800 mm	750 mm	950*950 mm	2700*1900*3800 mm
WWHP3500	3500 ton		850 mm	1020*1020 mm	2800*2000*4000 mm
WWHP4000	4000 ton			1080*1080 mm	3000*2150*4200 mm
WWHP5000	5000 ton	350~800 mm	950 mm	1250*1250 mm	3200*2300*4500 mm
WWHP6000	6000 ton		1100 mm	1500*1500 mm	3500*1500*5300 mm
WWHP8000	8000 ton				4000*1600*6000 mm
WWHP9000	9000 ton				4500*2000*6100 mm
WWHP10000	10000 ton	400~900 mm	900 mm	1800*1800 mm	3200*4100*5690 mm
WWHP12000	12000 ton			1900*1900 mm	3500*4100*5890 mm

TYPICAL USE

WCIP can be applied in producing special ceramic products, achieving dual uses in one equipment (cold / warm isostatic press). The pressure can be multi-stage boosted and released.

GENERIC COMPOSITION OF MODEL TYPE



TECHNICAL PARAMETER

MODEL TYPE	WORKING COND ITION	INNER DIAMETER OF CYLINDER	INNER LENGTH OF CYLINDER	MAX. WORKING PRESSURE	WORKING TEMP.
WCIP200	CIP	200 mm	500~1000 mm	400 MPa	Room temp.
	WIP			200 MPa	0~85°C (water) 0~150°C (oil)
WCIP300	CIP	300 mm	500~1000 mm	400 MPa	Room temp.
	WIP			200 MPa	0~85°C (water) 0~150°C (oil)
WCIP400	CIP	400 mm	500~2000 mm	300 MPa	Room temp.
	WIP			200 MPa	0~85°C (water) 0~150°C (oil)

WARM / COLD ISOSTATIC PRESS (WCIP)

DATASHEET

INTRODUCTION

Our WCIP is the first dual-mode isostatic press in China, which combines the technical features of CIP and WIP. It took two-years of SLUPEC's technical team to explore and develop the model. And the end product becomes an efficient solution for customers with both needs of WIP and CIP.

KEY FEATURES

- WCIP can be applied as either CIP or WIP, which reduce client's investment, save space and improve efficiency.
- Max working pressure up to 400MPa on CIP mode and 200 MPa on WIP mode.
- Temperature rise device and temperature control device are in the cylinder.
- Can be customized according to user's requirements.
- Can be customized according to user's requirements

INTELLECTUAL PROPERTY

PATENTS OBTAINED :

- Patent for an isostatic press
- Patent for a high-pressure sealing structure of warm isostatic press
- Patent for a hydraulic control system for isostatic press
- Patent for a lid opening and closing device for operating cylinder of isostatic press
- Patent for a positioning device for isostatic press
- Patent for a pressure measuring device for isostatic press
- Patent for a range limit structure of ultra-high pressure stud tensioner
- Patent for an electric heating rod and an operating cylinder with the electric heating rod

AWARDS AND HONOURS

National High-tech Enterprise

- Science & Technology Department of Sichuan Province
- Finance Department of Sichuan Province
- Sichuan Provincial Tax Service, State Taxation Administration
- Sichuan Province Local Taxation Bureau

Practice Teaching Base

- Xihua University
- School of Food and Bioengineering

(Industry-University-Research Cooperation Unit)

Research Center on Food High Pressure Pressing Technology

- Xihua University

COOPERATION

Multi-layer Ceramic Capacitor

Guangdong Fenghua Advanced Technology Holding Co., Ltd,

Fujian Torch Electron Technology Co., Ltd.

Chengdu Hongming Electronics Co., Ltd.

Structural Ceramic

Shanghai Institute of Ceramics

Central South University

Dongguan Mingrui Ceramic Tech. Co.,Ltd.

Ningbo Vulcan Technology Co.,Ltd.

Food Ultra-high Pressure Tech

Xihua University

Sichuan Province Food Safety Institute

Yaomazi Food Co. LTD.

Qianhe Condiment And Food Co.,Ltd

Electronic Target

Southwest Jiaotong University

Chengdu *** Institute

Guizhou*** Institute

Stud Tensioner for Nuclear Reactor

Nuclear Power Institute of China

Piezoe lectric Ceramic

Tianjin University

Jiangxi Size Materials Co., Ltd.

Suzhou Pant Piezo-electric Tech Co, Ltd

No.798 Institute

No.26 & 46 Institute of CETC

Deep Sea Simulation

No. ***Institute of China Shipbuilding Industry Corporation

Beijing Information S & T University

Xiamen University

Transparent Ceramic

Dalian Maritime University

Beijing Tejing Optoelectronic Technology Co.,Ltd.

Deep Sea Oil Drilling

Southwest Petroleum University

SUPPLY RECORD

2021.09	1	**WIP**	Kailida Technology
2021.08	2	**CIP**	CDGM Glass Co., Ltd.
2021.08	3	**CIP**	TEDA
2021.07	4	**CIP**	Wuhan University of Technology Zibo Advanced Ceramic Institute
2021.07	5	**CIP**	University of Science and Technology Beijing
2021.03	6	**WIP**	Zhejiang Decotec Technology Co., Ltd.
2021.01	7	**WIP**	Nantong Tongzhouwan New Material Technology Co., Ltd.
2020.12	8	**CIP**	No. 46 Institute of CETC
2020.11	9	**CIP**	China Space Sanjiang Group Co., Ltd.
2020.10	10	**CIP**	No. 46 Institute of CETC
2020.05	11	**CIP**	Dongguan Mingrui Ceramic Tech. Co., Ltd.
2020.03	12	**CIP**	Marine Chemical Research Institute
2019.11	13	**CIP**	Audiowell Electronics (Guangdong) Co., Ltd.
2019.11	14	**WIP**	Honghua Group
2019.08	15	**WIP**	Dongguan *** Ceramics Co., Ltd.
2019.07	16	**WCIP**	South Huiton Co., Ltd.
201 9.03	17	**CIP**	Ningbo Vulcan Technology Co., Ltd.

2019.01	18	**CIP**	Dalian Maritime University
2019.01	19	**WIP**	Chengdu Huitong Electromechanical Co., Ltd.
2019.01	20	**CIP**	Zhejiang Vulcan Technology Co., Ltd.
2018.10	21	**WIP**	Southwest Petroleum University
2018.10	22	**CIP**	Dalian Maritime University
2018.08	23	**CIP**	Chongqing Academy of Social Sciences
2018.05	24	**CIP**	Chongqing Ceramic Research Institute
2018.05	25	**CIP**	Shanghai Institute of Ceramics
2018.02	26	**WIP**	Hebei Xinyuan Graphite Products Co., Ltd.
2018.02	27	**CIP**	Shandong Dongnai Refractories Co., Ltd.
2018.01	28	**CIP**	Chengdu *** Equipment Co., Ltd.
2018.01	29	**CIP**	Chengdu *** New Materials Co., Ltd.
2018.01	30	**WIP**	Jiangxi Size materials Co., Ltd.
2017.12	31	**WIP**	Chongqing Zhonglei Technology Co., Ltd.
2017.10	32	**Oil**	Green Magnesium Group Co., Ltd.
2017.06	33	**WIP**	Guangdong *** Automation

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