GFD®

from psl

Lab Nutsche Filter Dryer

Quality · Innovation · Global Relationships

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from psl

The new **GFD® Benchtop Nutsche Filter Dryer** efficiently performs laboratory process development.

The **GFD® Lab Filter Dryer** is an innovative piece of laboratory/ pilot plant equipment. It is a miniature version of a production filter dryer, allowing easy lab scale filtration and drying with the same reliability and benefits as full size PSL filter dryer products. The different sizes available means that there will be a **GFD®** to meet any laboratories' needs.

This modern laboratory apparatus works under vacuum and pressure, has a heated jacket for drying and a removable filtration basket for collection of the product.

The **GFD®** technology supersedes old style laboratory filtration and drying methods such as Buchner filtration and tray drying.

BENEFITS

- Removable filter basket
- Easy cleaning
- Efficient filtration and drying
- Easy to install and use - plug and play
- Enhanced ergonomics

All **New Digital Display** with recipe input and automated control.

PROCESS CONTROL

- HMI/PLC System
- Accurate process control
- Sequence recipe import
- Full automation and repeatability

DATA RECORDING & EXPORT

- HMI Display
- Real-time values and graphs
- Export CSV files via USB or ethernet

OPTIONS

- Pyrometer and pressure relief and sensor
- Alternative product contact materials
- Range of filtration media and pore sizes
- TCU and vacuum pump packages
- Metallic vessel up to 4barg pressure rated
- High containment solution, **GFD® FilterBox**

INTERCHANGABLE SIZES AND MATERIALS OF VESSEL AVAILABLE

Borosilicate 3.3 Glass • 316L Stainless Steel • C22 Alloy

Direct Scale-Up

Mini **Lab** › **Lab** › Maxi **Lab**

From Laboratory Synthesis Up To Production Scale.

STANDARD GFD® SPECIFICATIONS	Mini **Lab**	**Lab**	Maxi **Lab**
Filtration Area	0.002m²	0.01m²	0.05m²
Filter Cake Volume (Max)	0.1 Litre	0.5 Litre	5 Litres
Filter Cake Depth (Max)	50mm	50mm	100mm
Volume	0.3 Litres	2 Litres	10 Litres
Vessel Operating Temperature (Min)*	-25°C (-13°F)		
Vessel Operating Temperature (Max)*	150°C (302°F)		
Vessel Operating Pressure (Min)	FV		
Glass Vessel Operating Pressure (Max)	0.5 barg (7.25 psi)		
Metallic Vessel Operating Pressure (Max)	4 barg (58 psi)		
Dimensions (HxWxD) (mm)	980 x 530 x 330	980 x 530 x 330	1680 x 780 x 650
Glass Product Contact Materials	Borosilicate 3.3 Glass, 316L Stainless Steel, Polypropylene, Silicone, Polyurethane, Viton.		
Metallic Product Contact Materials	316L Stainless Steel, Polypropylene, Silicone, Kalrez.		
Filtration Media	Polypropylene 20µm pore size supplied in all **GFD® 2.0**		
Agitator Seal	PTFE vacuum and pressure rated seal		
Hazardous Area Classification	Safe Area		
Agitator Rotation Speed	5 to 100 RPM	5 to 100 RPM	5 to 26 RPM
Motor Power (W)	44	44	180

AWARD-WINNING PROCESS TECHNOLOGY

INSPIRING A NEW GENERATION TO PROVIDE GLOBALLY ENHANCING, INNOVATIVE AND QUALITY PROCESS SOLUTIONS

QUALITY & INNOVATION

PSL is an award winning international manufacturer providing quality innovative technology with process development expertise to the pharmaceutical, biopharmaceutical, chemical and laboratory industries.

PSL have received two awards by the 2016 Queen's Award for Enterprise, the UK's highest accolade for business success. Our awards were received for both International Trade and Innovation.

THE QUEEN'S AWARDS FOR ENTERPRISE: INTERNATIONAL TRADE 2016

THE QUEEN'S AWARDS FOR ENTERPRISE: INNOVATION 2016

Process development support through **C.O.P.E. (Center of Process Excellence)**

C.O.P.E. gives clarity and optimizes processes to a higher degree of performance. Providing consultation, trials and testing of process formulations and offers different equipment solutions to optimize manufacturing.

C.O.P.E. brings to the marketplace a high level of industry based knowledge and expertise or our clients along with the latest in equipment designs for trials and testing formulations.

- Process Optimization
- Research & Feasibility Trials
- Microsphere Development
- Particle Size Reduction
- Process scale-up

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SPARES, SERVICE AND CUSTOMER CARE FROM PSL

PSL Serve is our dedicated customer care, on-site service and spares team. They are technical specialists, here to aid the smooth installation of new equipment, along with the servicing and repairs of existing PSL equipment and any spare parts required.

PSL Serve offers full installation, training and preventative maintenance contracts. Information on our IQ/OQ packages is available on request. Contact one of our dedicated customer care experts on **serve@powdersystems.com**

To see the full PSL product range go to **www.powdersystems.com**

GFD®
Lab Filter Dryers

MSR®
Microsphere Refiner

CakeStand
Tray Dryers

Nutsche Agitated
Filter Dryers

High Containment
Glovebox and
Sterile Isolators

GLOBAL RELATIONSHIPS

PSL's established supply chain management ensures all components, sourced from across the globe, are of the highest quality and value. This enables market savings to be passed directly onto our customers.

We continue to increase our number of global offices, agents and distributors to aid the smooth distribution of equipment to any part of the world.

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