



GL FILTRATION Ltd

World Leaders In Solid-Liquid Separation

GL Filtration Limited

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About GL Filtration Limited

GL Filtration Limited specialise in the design and manufacture of Filtration and Drying equipment for the pharmaceutical and related industries.

The primary focus of the company's products is in R & D, Kilo Lab and Pilot Scale.

GLF's product range includes Nutsch Filters, Filter Dryers and Pan Dryers.

All the equipment is capable of being supplied with integrated containment solutions for handling high potency products and for general cGMP.

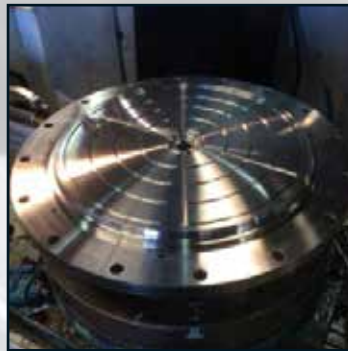
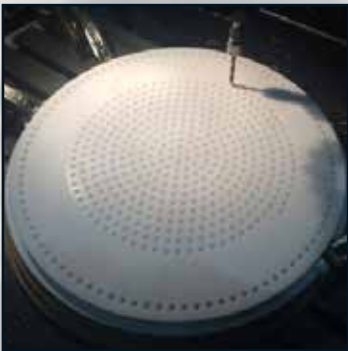


Machine shop Capacity

GL Filtration has numerous lathes from 300mm Swing up to 1000mm and up to 4m long.

Milling machines up to 3000 X 1620 X 1050.

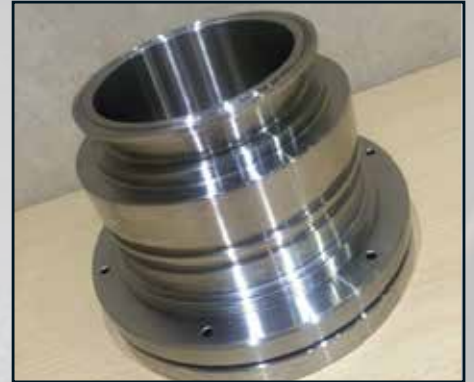
Vertical Borer up to 2300 Diameter X 1200mm high.



GL Filtration has its own CNC Machine shop. This gives great control over manufacturing. Spare parts can be made within days if not hours.

GL Filtration also offers special alloy manufacturing to its customers for custom parts difficult to source locally.

In house machining of exotic alloys



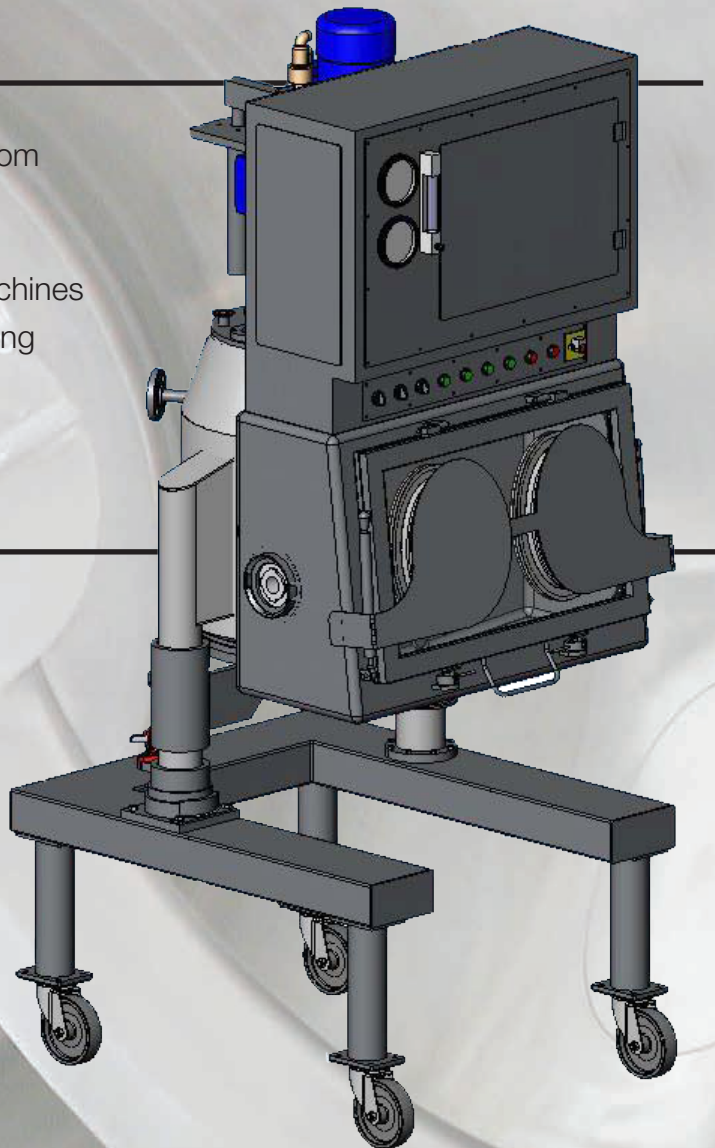
Design

The company's products are available at all scales from R&D, Kilolab, Pilot scale and full on production.

GL Filtration business model also includes many machines in a stock program partially at pilot plant scale enabling delivery in weeks, not months or years!!

Quality

GL filtration has an ongoing commitment to maintain and improve a quality service required by our customers and offer high quality products to the British and European quality standard BS EN ISO 9001 and ASME U-stamp for filters fabricated to ASME-8 division 1.



R & D

Filter Dryer Models

The Standard Range

Model	Dia mm	Filter Area m2	Slurry Capacity Litres	Cake Capacity Litres
FD80	80	0.005	1 or 2	0.5
FD100	100	0.008	2	0.8
FD150	150	0.018	5	2

FilterLab80

The FilterLab80 has been specifically designed to enable simulation of full scale filter dryers. The filter dryer incorporates:

- Alloy C22 Wetted Parts
- 2 Litre Slurry Capacity Chamber
- 0.5 Litre Cake Capacity Chamber
- Electrically Driven Variable Speed Agitator with Auto Dry Feature
- Hydraulic Raise/Lower of Agitator
- Mechanical Seal
- Heated Agitator
- Dust Filter



FilterLab80 With Extras

The FilterLab80 with extras has been specifically designed to enable simulation of full scale filter dryers. The filter dryer incorporates:-

- Alloy C22 Wetted Parts
- 2 Litre Slurry Capacity Chamber
- 0.5 Litre Cake Capacity Chamber
- Electrically Driven Variable Speed Agitator with Auto Dry Feature
- Hydraulic Raise/Lower of Agitator
- Heated Agitator
- Dust Filter
- Weight Scale
- Glass Filtrate Receiver
- Mixing Timer for Automated Dryer Mode
- HMI/PLC Control
- Output Direct to Microsoft Excel

FilterLab100

The FilterLab100 has been specifically designed to enable simulation of full scale filter dryers. The filter dryer package incorporates:

- Alloy C22 Wetted Parts
- 2 Litre Slurry Capacity
- 1 Litre Cake Capacity
- Electrically Driven Variable Speed Agitator
- Automated Raise/Lower of Agitator
- Dry Running Mechanical Seal
- Heated Agitator
- Dust Filter
- Touch Screen PLC Controls



FilterLab150

The FilterLab150 has been specifically designed to enable simulation of full scale filter dryers. The filter dryer package incorporates:

- Alloy C22 Wetted Parts
- 5 Litre Slurry Capacity
- 2 Litre Cake Capacity
- Electrically Driven Variable Speed Agitator
- Automated Raise/Lower of Agitator
- Dry Running Mechanical Seal
- Heated Agitator
- Dust Filter
- Touch Screen PLC Controls

KILOLAB

Filter Dryer Models

The Standard Range

Model	Dia mm	Filter Area m2	Slurry Capacity Litres	Cake Capacity Litres
FD200	200	0.03	10	4
FD250	250	0.05	20 or 25	6
FD300	300	0.07	25	10
FD350	350	0.1	50	15
FD400	400	0.125	75	25
FD450	450	0.16	100	30



KiloLab200

The FD200 KiloLab Scale Filter has been specifically designed to enable fully contained processing of active pharmaceuticals, yet at the time maximises product yield.

- The KiloLab incorporates:
- Alloy C22 Wetted Parts
- 10 Litre Slurry Capacity
- 4 Litre Cake Capacity
- Electrically Driven Variable Speed Agitator
- Hydraulic Raise/Lower of Agitator
- Dry Running Mechanical Seal
- Heated Agitator
- Dust Filter
- Auto-Dry Feature
- Hazardous Area Electrics Available

KiloLab200 - Glovebag

The FD200 KiloLab Scale Filter with Flexible Glovebag has been specifically designed to enable fully contained processing of active pharmaceuticals, yet at the time maximises product yield. The KiloLab incorporates:

- Alloy C22 Wetted Parts
- 15 Litre Slurry Capacity
- 6 Litre Cake Capacity
- Variable Speed Agitator
- Hydraulic Raise/Lower of Agitator
- Dry Running Mechanical Seal
- Heated Agitator (Optional)
- Dust Filter
- Fully Contained Flexible Glovebag
- Fully Contained Sampling
- Fully Contained Heel Recovery





FilterLab250 KiloLab

The FD250 KiloLab Scale Filter has been specifically designed to enable fully contained processing of active pharmaceuticals, yet at the same time maximises product yield. The filter dryer incorporates:

- Alloy C22 Wetted Parts
- 20 Litre Slurry Capacity
- 6 Litre Cake Capacity
- Pneumatically Driven Agitator
- Hydraulic Raise/Lower of Agitator
- Single/double Mechanical Seal and Flexible Alloy C22 Bellows
- Heated Agitator
- Dust Filter
- Fully Contained Glovebox Discharge
- Fully Contained Sampling
- Fully Contained Heel Recovery

FD350 High Potency

The FD350 High Potency has been specifically designed to enable fully contained processing of active pharmaceuticals, yet at the time maximises product yield. The FD350 High Potency incorporates:

- Alloy C22 Wetted Parts
- 50 Litre Slurry Capacity
- 20 Litre Cake Capacity
- Electrically Driven Agitator
- Hydraulic Raise/Lower of Agitator
- Nitrogen Purged Double Mechanical Seal and Flexible Alloy C22 Bellows
- Heated Agitator
- Dust Filter
- Fully Contained Glovebox Discharge (Optional 2 Chamber)
- Fully Contained Sampling
- Fully Contained Heel Recovery
- Vessel Tilt Mechanism
- Fully Mobile



FD450

The FD450 Filter Dryer has been specifically designed to enable fully contained processing of active pharmaceuticals, yet at the time maximises product yield. The FD450 incorporates:

- 80 Litre Slurry Capacity
- 30 Litre Cake Capacity
- Alloy C22 Wetted Parts
- Electrically Driven Agitator
- Hydraulic Raise/Lower of Agitator
- Fully Contained Glove Box Discharge Sampling and Heel Recovery
- 0.16m² Filter Area



PILOT SCALE

Filter Dryer Models

The Standard Range

Model	Dia mm	Filter Area m2	Slurry Capacity Litres	Cake Capacity Litres
FD630	630	0.3	100 or 300	60 or 90
FD720	720	0.4	300 or 400	90 or 120
FD800	800	0.5	400	120
FD875	875	0.6	500	182
FD1000	1000	0.8	800	240



Filter Dryer FD720

The FD720 Filter Dryer has been specifically designed to enable fully contained processing of active pharmaceuticals, yet at the time maximises product yield. The FD720 incorporates:

- Alloy C22 Wetted Parts
- 260 Litre Slurry Capacity
- 80 Litre Cake Capacity
- Electrically Driven Variable Speed Agitator
- Hydraulic Power Pack for Agitator Raise Lower
- Dust Filter
- Heated Agitator
- Solid Discharge System - Single Chamber Glovebox
- Contained Heel Recovery and Sampling
- Double Mechanical Seal and Bellows

Filter Dryer FD875

The FD875 Filter Dryer has been specifically designed to enable fully contained processing of active pharmaceuticals, yet at the time maximises product yield. The FD875 incorporates:

- Alloy C22 Wetted Parts
- 400 Litre Slurry Capacity
- 120 Litre Cake Capacity
- Retractable Agitator Assembly
- Hydraulic Power Pack for Agitator Raise Lower
- Dust Filter
- Solid Discharge System - Single Chamber Glovebox
- Contained Heel Recovery and Sampling
- Double Mechanical Seal and Bellows



PRODUCTION SCALE

Filter Dryer Models

The Standard Range

Model	Dia mm	Filter Area m2	Slurry Capacity Litres	Cake Capacity Litres
FD1200	1200	1.1	1000	330
FD1400	1400	1.5	1500	450
FD1425	1425	1.6	2000	480
FD1600	1600	2	2300	600
FD1800	1800	2.5	4000	1000
FD2200	2200	3.8	5000	1500



Filter Dryer FD1200

The FD1200 Filter Design has been specifically designed to enable fully contained processing of active pharmaceuticals, yet at the same time, maximizes production yield.

- 1000 Litre Slurry Capacity
- 330 Litre Cake Capacity
- Electrically Driven Variable Speed Agitator
- Hydraulic Raising / Lowering of Agitator
- Nitrogen Purged Double Mechanical Seal
- Dust Filter
- Alloy C22 Bellows
- Fully Contained Glove Box Discharge
- Contained Heel Recovery and Sampling

Filter Dryer FD1400

The FD1400 Filter Dryer has been specifically designed to enable fully contained processing of active pharmaceuticals, yet at the time maximizes product yield.

- 1500 Litre slurry capacity
- 450 Litre cake capacity
- Electrically Driven Variable speed agitator
- Hydraulic Raise/Lower of agitator
- Hydraulic raise and lower of base
- Hydraulic bayonet closure
- Dust Filter
- Fully Contained Glove box Discharge + Heel recovery



PRODUCTION SCALE

Filter Dryer FD1600

The FD1600 Filter Dryer has been specifically designed to enable fully contained processing of active pharmaceuticals, yet at the time maximizes product yield.

- 2200 Litre Slurry Capacity
- 600 Litre Cake Capacity
- Electrically Driven Variable speed agitator
- Hydraulic Raise/Lower of Agitator
- Heated Assembly
- Dust Filter
- C22 Bellows
- Fully Contained Glove Box Discharge
- Contained Heel Recovery and Sampling
- Nitrogen Purged Double Mechanical Seal



Filter Dryer FD2200

The FD2200 Filter Dryer has been specifically designed to enable fully contained processing of active pharmaceutical ingredients (APIs), yet at the same time maximize product yield.

The Filter Dryer incorporates:

- Alloy C22 Wetted Parts
- 5000 Litre Slurry Capacity
- 1500 Litre Cake Capacity
- Electrically Driven Variable Speed Agitator
- Hydraulic Raising / Lowering of Agitator
- Mechanical Seal
- 3 Bladed Heated Agitator
- Dust Filter
- Fully Contained Glove Box Discharge
- Fully Contained Sampling
- Additional Heel Recovery Glove Box

Customer Service

- Repair Work to Existing Units
- Complete Modification Service
- Part Exchange Purchase
- World Wide Customer Service
- Round The Clock Technical Assistance
- Installation & Commissioning
- Service Contracts
- Spares

Philip Morris our Commissioning and Site Service Manager has vast experience in the manufacture, testing, commissioning and after sales service of Nutsch Type Filters, Filter Dryers, Pan Dryers and similar equipment.

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