

# Filter Dryers



POWDER SYSTEMS LIMITED



## POWDER SYSTEMS LIMITED

PSL BELIEVES IN WORLD CLASS PEOPLE WORKING TOGETHER TO PROVIDE **WORLD CLASS SOLUTIONS.**

Our experienced engineering teams work closely with our skilled chemists to accelerate process development and create the most suitable and ergonomic solutions. 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.

PSL is an international manufacturer of filtration, drying and high containment solutions. We have been supporting pharmaceutical, biopharmaceutical, chemical and laboratory industries since 1989.

PSL's experienced technical experts have refined our filtration and drying designs over many years using the latest global technology.



## OUR GLOBAL OFFICE BASE

PSL continues to increase its number of global offices, agents and distributors to aid the smooth distribution of its equipment to any part of the world.

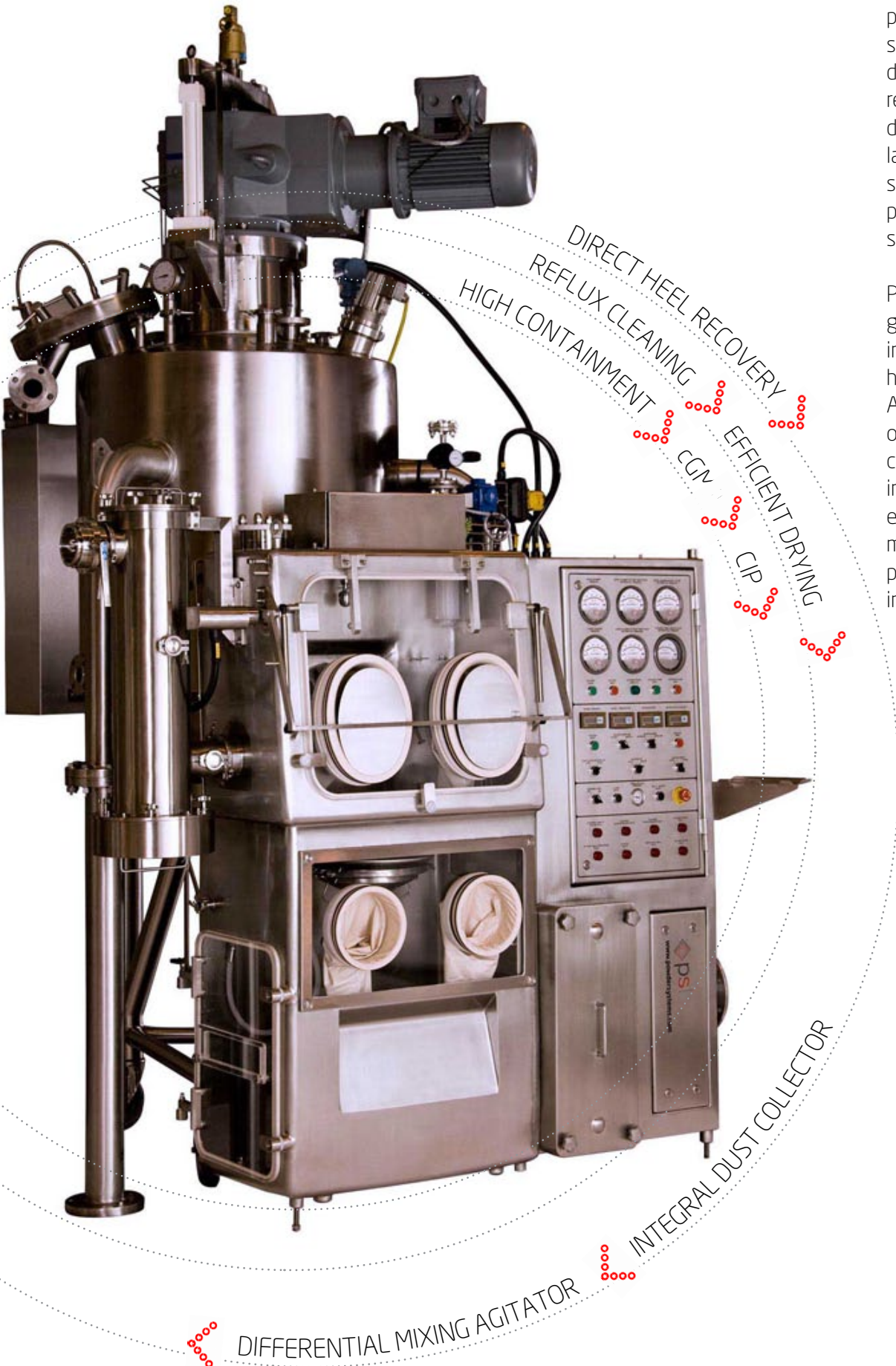


# FILTER DRYERS FROM PSL

## PSL's filter dryers

provide optimum levels of safety and quality and are designed to meet industry regulations. Our filter dryers range from laboratory and R&D to full scale production, thus providing a full process solution.

PSL's high containment gloveboxes can be incorporated for the safe handling of highly potent APIs. We manufacture all of our filtration, drying and containment products in-house at our global engineering and manufacturing base, providing the complete integrated solution.



DIRECT HEEL RECOVERY  
REFLUX CLEANING  
HIGH CONTAINMENT

CGM

EFFICIENT DRYING  
CIP

INTEGRAL DUST COLLECTOR

DIFFERENTIAL MIXING AGITATOR

## DIRECT SCALE-UP



LABORATORY (GFD®)

0.002m<sup>2</sup> to 0.05m<sup>2</sup>



KILO LABORATORY

0.03m<sup>2</sup> to 0.125m<sup>2</sup>



PILOT PLANT

0.3m<sup>2</sup> to 0.6m<sup>2</sup>



COMMERCIAL PRODUCTION

1m<sup>2</sup> to 2.5m<sup>2</sup>

## FILTER DRYER RANGE

Filtration area (m <sup>2</sup> )	0.05	0.125	0.3	0.6	1	1.6	2	2.5
Max liquid volume (litres)	20	50 to 105	200 to 270	490 to 620	1,000	1,600	2,000	2,500
Cake volume range (litres)	8 to 10	19 to 50	90 to 120	180 to 200	300 to 400	480 to 640	600 to 800	750 to 1,000
Design temperature (°C)	-20 to 165	-20 to 165	-20 to 165	-20 to 165	-20 to 165	-20 to 165	-20 to 165	-20 to 165
Design temperature (°F)	-68 to 329	-68 to 329	-68 to 329	-68 to 329	-68 to 329	-68 to 329	-68 to 329	-68 to 329
Design pressure (Barg)	6	6	6	6	6	6	4.5	4.5
Design pressure (psig)	87	87	87	87	87	87	65	65
Stroke (mm)	150-200	150-400	300-400	300-400	300-400	300-400	300-400	300-400
Motor size (Kw)	0.25	1.5	3	4	5.5	7.5	11	15

†Other sizes and specifications are available

### Aseptic/Sterile Filter Dryers

PSL's aseptic/sterile filter dryers are designed and built to meet the strict manufacturing requirements necessary for aseptic/sterile processes. PSL's filter dryers utilise gas lift-off mechanical seals, unique off-loading designs and have CIP (clean-in-place) and SIP (steam-in-place) capabilities.

## DESIGN FEATURES

- Highly efficient drying due to unique underplate heating system
- Reflux cleaning can typically achieve less than 2.5ppm
- Tapered filter plate and seal design provides minimum product retention
- Differential mixing agitator achieves homogeneity and uniformed drying even with difficult cakes
- Omega wave bellows



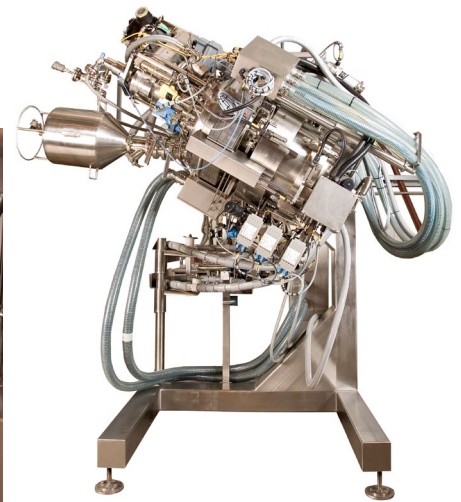
Discharge hatch with sampling port including high containment product offload and heel recovery gloveboxes designed and integrated by PSL



Minimum solvent volumes beneath mesh and direct heating



Internal dust collector design for higher product yield and ease of cleaning

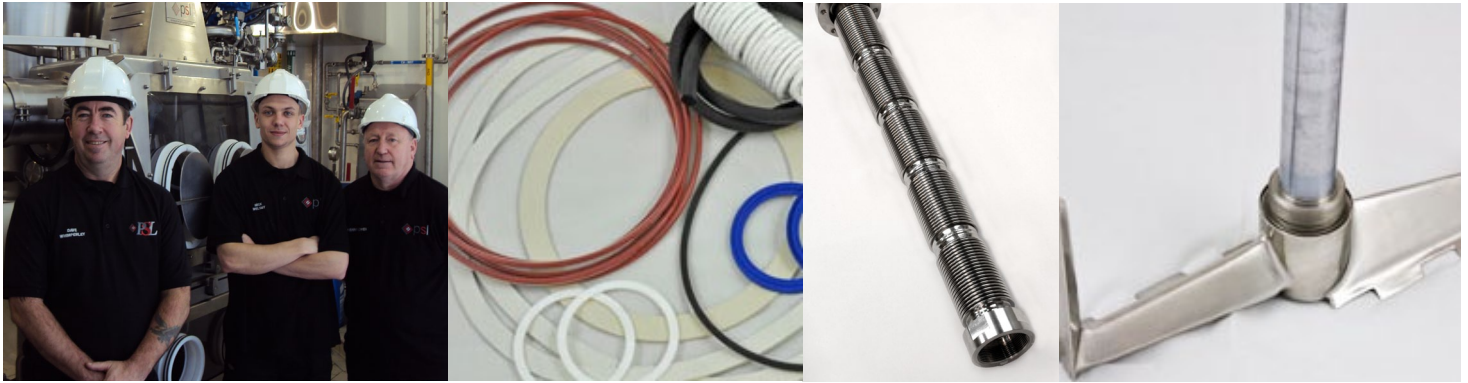


Tiltable filter dryer options are available

## AFTERCARE SERVICE FROM PSL

**PSL Serve** is our dedicated after sales 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 repair of existing PSL equipment and any spare parts required.

PSL Serve offers full installation, commissioning, training and preventative maintenance contracts. Information on our filter dryer IQ/OQ packages is available upon request.



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[www.powdersystems.com](http://www.powdersystems.com)