

# **ilShin<sup>®</sup> North America** Laboratory Freeze Dryers

Our Laboratory Freeze Dryer offers condenser capacities ranging from 3 litre up to 18 litre. The condenser is integrated in the cabinet. On the top of our models a wide range of flexible options can be fitted:

- Stainless Steel Manifolds
- Acrylic Drums with stoppering and heated shelves
- Several Stainless Steel Drums
- Shelf systems (heated or not heated)

The units can be ordered with a standard - 55 °C condenser or a two stage system down to - 85 °C in case solvents are used with a low freezing point.

We have our compact Benchtop models which can easily be installed on top of a table and we have our robust floor models.

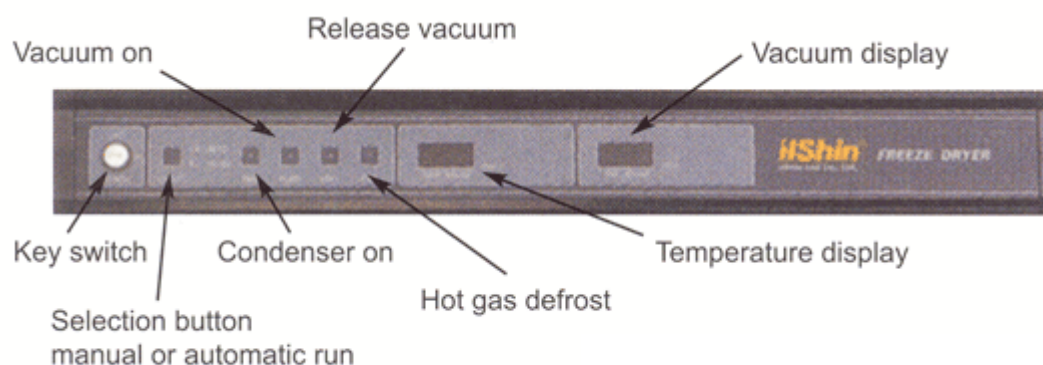
TFD series (Benchtop Model Freeze Dryers)



FD series (Floor Model Freeze Dryers)

## **Overall Specifications (Both FD and TFD freeze dryers)**

- Stainless Steel condenser;
- Hot gas defrost possibility after a run;
- Very durable compressors;
- Option for manual or automatic run;
- User-friendly drain;
- User-friendly control panel with following specifications:



## TFD Specifications

*Benchtop Models (3 litres condenser capacity)*

Model	TFD5503	TFD8503
Ice capacity per 24 hours (L)	2 liter / 24 hours	2 liter / 24 hours
Total ice capacity (L)	3 liter	3 liter
Condenser temperature (°C)	< - 55 °C	< - 85 °C
Compressor (HP)	1/3 HP	2 x 1/3 HP
Cabinet dimensions (W x D x H)	800 x 650 x 400 mm	
Weight (Kg)	68 Kg	86 Kg
Electrical	208-230/60/1	208-230/60/1
Microprocessor control	Yes	Yes
Hot gas defrosting	Yes	Yes
Temperature display	Yes (°C)	Yes (°C)
Vacuum display	Yes (mTorr)	Yes (mTorr)
Release function	Yes with needle valve (inert gas backfill)	Yes with needle valve (inert gas backfill)
Autorun programming	Yes	Yes
Including oil rotary vacuum pump 100 l /minute + oil mist filter		

## FD Specifications

*Floor Models (8 litres up to 18 litres condenser capacity)*

Model no:	FD5508	FD5512	FD5518
Ice capacity per 24 hours (L)	5 liter / 24 hours	10 liter / 24 hours	12 liter / 24 hours
Total ice capacity (L)	8 liter	12 liter	18 liter
Condenser temperature (°C)	< - 55 °C standard      < - 85°C optional Please change model number 55 to 85 (for example FD8508)		
Compressor (HP)	1/3 HP	3/4 HP	3/4 HP
Cabinet dimensions (W x D x H)	805 x 750 x 885 mm (W x D x H)		
Weight (Kg)	120 Kg	122 Kg	130 Kg
Electrical			
Microprocessor control	Yes		
Hot gas defrosting	Yes		
Temperature display	Yes (°C)		
Vacuum display	Yes (mTorr)		
Release function	Yes with needle valve (inert gas backfill)		
Autorun programming	Yes		
Including oil rotary vacuum pump 200 l /minute			

## Accessories on all models:

On top of the Freeze Dryer it is possible to place either a manifold or a drum (acrylic or stainless steel). Only one option per run can be used, but they can be changed in between runs:

1. Acrylic Drum with stoppering/heated shelves
2. Stainless Steel Manifold
3. Stainless Steel Drum



### 1. Acrylic Drum with stoppering/heated shelves

CDC3332	CLEAR CHAMBER, 2 FIXED SHELVES, 280mm H X 250mm diam
CDC3333	CLEAR CHAMBER, STOPPERING, 2 HEATED SHELVES, 330mm H X 330mm diam.

### 2. Stainless Steel Manifold

MC1224	SS MANIFOLD, 24 X 1/2 " VALVES
MC3412	SS MANIFOLD, 12 X 3/4 " VALVES
MC1324	SS MANIFOLD, 12 X 1/2 " VALVES AND 12 X 3/4 " VALVES
MC1204	SS MANIFOLD, 4 X 1/2 " VALVES



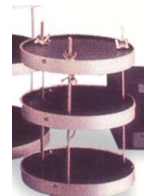
### 3. Stainless Steel Drum

DC1212	DRYING CHAMBER 12 X 1/2 " VALVES, 275 MM H X 230 MM DIAMETER
DC1316	DRYING CHAMBER 8 X 1/2 " & 8 X 3/4 " VALVES, 320 MM H X 300 MM DIAMETER
DC1218	DRYING CHAMBER 18 X 1/2" VALVES, 320 MM H X 300 MM DIAMETER



The Stainless Steel Drum can hold an additional **Shelve kit**.

PH1316	3 HEATED SHELVES KIT FOR DC1316&DC1218 (250 MM DIAMETER)
PH1212	3 HEATED SHELVES KIT FOR THE DC1212
PS1316	3 SHELVES KIT FOR DC1316&DC1218 (250 MM DIAMETER)
PS1212	3 SHELVES KIT FOR DC1212



Depending on capacity need, the **flasks** can be chosen (ranging from 40ml to 2000ml). You need adapters to connect the flasks to the valves of the manifold or drum.

CF0040	COMPLETE FLASK 40 ML, 1/2 " TOP
CF0080	COMPLETE FLASK 80 ML, 1/2 " TOP
CF0120	COMPLETE FLASK 120 ML, 3/4 " TOP
CF0150	COMPLETE FLASK 150 ML, 3/4 " TOP
CF0300	COMPLETE FLASK 300 ML, 3/4 " TOP
CF0600	COMPLETE FLASK 600 ML, 3/4 " TOP
CF0900	COMPLETE FLASK 900 ML, 3/4 " TOP
CF1200	COMPLETE FLASK 1200 ML, 3/4 " TOP
CF2000	COMPLETE FLASK 2000 ML, 3/4 " TOP



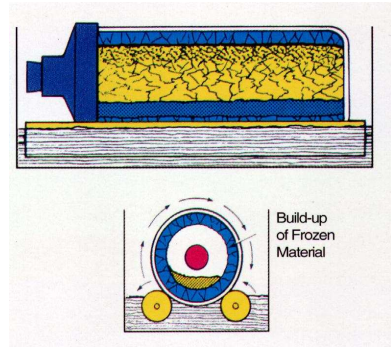
Depending on the type of manifold or drum and the flasks you have to use **adapters** to connect the flasks to the valves. (1/2 inch or 3/4 inch)

BA0012	BEND ADAPTER, 1/2 " TOP TO 1/2 " VALVE
BA0034	BEND ADAPTER, 3/4 " TOP TO 3/4 " VALVE
BA1234	BEND ADAPTER, 1/2 " TOP TO 3/4 " VALVE
BA3412	BEND ADAPTER, 3/4 " TOP TO 1/2 " VALVE

## Accessories on FD Floor models only:

### 'FDS' Shell Freezer option

To increase freeze dry efficiency, the FD freeze dryer can be ordered with an integrated shell freezing bath. Flasks with sample can be shell frozen before attaching to the adapters on the drum or manifold to speed the process of freeze drying.



#### Additional specifications with integrated Shell Freezing Bath:

Model no:	FDS5508	FDS5512	FDS5518
Condenser temperature (°C)	< - 55 °C standard		< - 85°C optional
	<i>Please change model number 55 to 85 (for example FDS8508)</i>		
Cabinet dimensions (W x D x H)	1005 x 750 x 885 mm (W x D x H)		
Weight (Kg)	178 Kg	182 Kg	190 Kg
<b>Shell Freezing system specifications</b>			
Bath dimensions	320 x 175 x 153 mm (W x D x H)		
Compressor	High Capacity 1/3 HP		
Bath temperature	< -40°C		
Flask capacity	1 flask capacity (two rollers) up to 900 ml size flask		

### 'MCF' Concentrator option

For a fast (DNA sample) concentration we offer the option of a built-in vacuum concentrator. The concentrator can hold rotors for 60 x 1,5 / 2,0 ml tubes or 24 x 10 ml tubes.



#### Additional specifications when ordering and integrated Concentrator:

Model no:	MCFD5508	MCFD5512	MCFD5518
Condenser temperature (°C)	< - 55 °C standard		< - 85°C optional
	<i>Please change model number 55 to 85 (for example MCFD8508)</i>		
Cabinet dimensions (W x D x H)	1005 x 750 x 885 mm (W x D x H)		
Weight (Kg)	175 Kg	179 Kg	187 Kg
<b>Concentrator system specifications</b>			
Heater	Built in heater with single setting at +44°C with over temperature protection		
Driver	MPB Brushless D.C. Motor		
Rotor options	Rotors for 10ml, 2.0ml or 1.5 ml tubes		
Rotor speed	2.000 RPM		

RH1024	ROTOR FOR MCFD SERIE, 10 ML x 24 HOLES
RH1560	ROTOR FOR MCFD SERIE, 1.5/2.0 ML x 60 HOLES
RH2060	ROTOR FOR MCFD SERIE, 2,0 ML x 60 HOLES