



**Pharmatech**  
Innovation in Pharmaceutical Engineering

# Drums & Drum Systems

## PharmaDrums



Innovative Processing &  
Handling Solutions.

# The PharmaDrum™ System

## GMP correct Processing Grade Drums



Pharmatech have developed a range of high quality drums and accessories that are ideal for use as processing containers within GMP environments.

The requirements of a GMP correct processing container are much greater than the requirements of a basic transport container - hence the need for **PharmaDrums™**.

**PharmaDrum™** - more than just a transport drum

## Why Choose a Drum Based Processing System?

PharmaDrums™ make an ideal low cost processing container for batches up to 500 litres. Typically the cost of a PharmaDrum™ will be approximately 25% of the equivalent IBC cost.

Pharmatech has supplied innovative drum processing systems to pharmaceutical companies around the world, we have supplied all types from small R&D companies right through to the major multi-nationals. Please contact us for a reference list.

## Containment

PharmaDrums™ can be fitted with virtually any style of valve or transfer system for high containment. Pharmatech offer containment solutions for all categories of products.

At Pharmatech we understand your concerns when handling potent chemicals and pharmacologically active substances - contact us for a solution.



The modern approach to batch processing



# Features of a PharmaDrum™

Each PharmaDrum™ is packed full of features that make it easy to use and easy to look after.

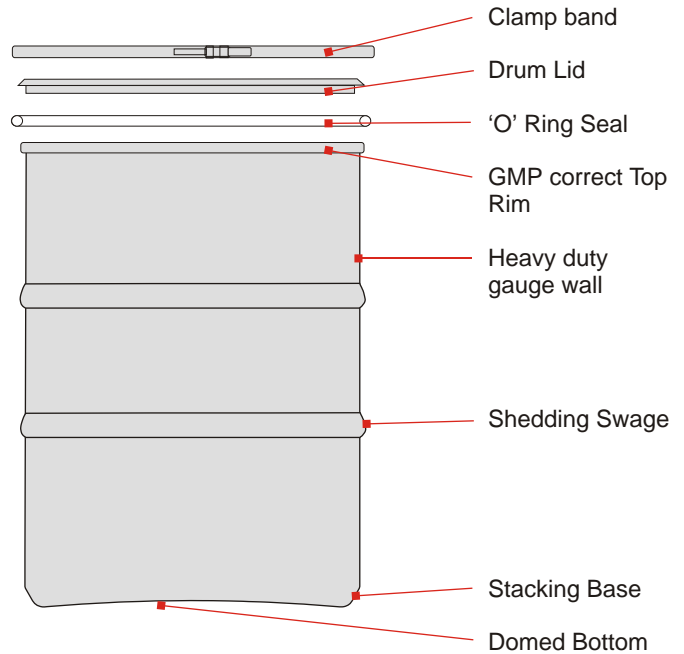
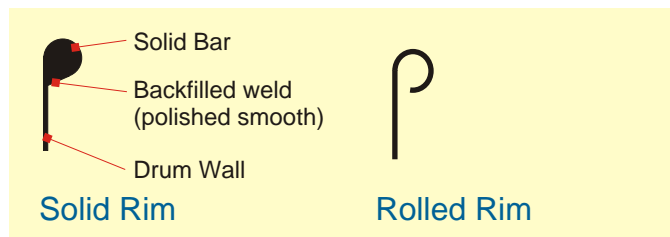
## Fully Welded Construction

PharmaDrums™ have a fully welded, crevice-free interior, this helps to prevent cross contamination and facilitates thorough cleaning.

## Heavy Gauge Stainless Steel

PharmaDrums™ are manufactured from heavy gauge stainless steel to build in strength and provide a long life. 316L stainless steel is used as standard for maximum corrosion protection.

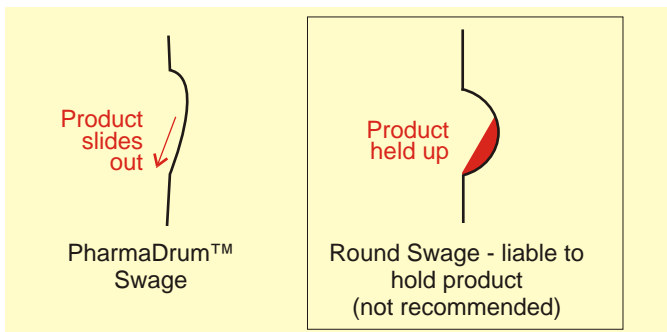
## GMP correct Top Rim



PharmaDrums™ are available with either a solid top rim or a rolled top rim. For GMP Correct applications we recommend a solid top rim.

The advantage of the solid rim is that the under side of the rim is smooth and crevice free. This means that there are no traps for product or biological contamination. Where a crevice under the rim is not an issue a rolled rim is available at lower cost. The solid rim is also stronger.

## Self Emptying Swages

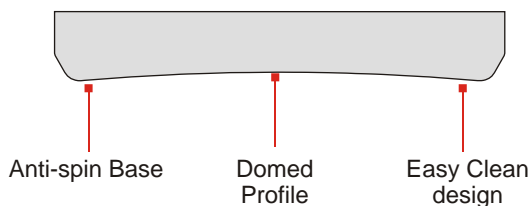


PharmaDrums™ are manufactured from heavy gauge stainless steel and so do not require swages to give them additional rigidity. Swages are recommended if the drum is to be mechanically handled.

PharmaDrums™ have asymmetric swages that are designed to shed product when inverted (poorly designed round swages are well known to hold product).

The method of emptying the drum will determine the orientation of the swages.

## Easy Clean Base



PharmaDrums™ are manufactured with a carefully contoured base to provide maximum strength, be easily cleanable and ensure stability under all load conditions.

## 'O' Ring Seals



Standard 'O' Ring seals are manufactured from white, virgin silicone rubber (to FDA/CFR standard 177.2600).

For more demanding applications 'O' rings are available manufactured from the following polymers:

- PTFE coated silicone
- Viton
- EPDM
- Fluorosilicone

## PharmaDrum™

### Product Contact Parts

- 316L stainless steel
- Silicone rubber (FDA/CFR) acceptable grade

### Non-Product Contact Parts

- 304 stainless steel (clampband)

### Standard Finish

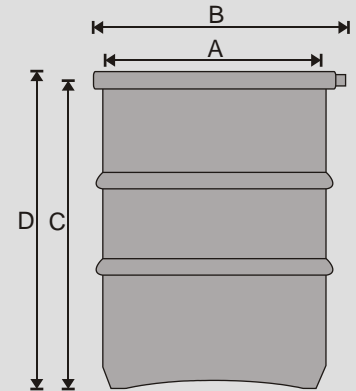
- Internal - 1.0µm Ra (240 grit) welds ground and polished
- External - 1.0µm Ra (240 grit) welds left as laid, crevice free and blended in
- Other finishes available on request

### Documentation

- Certificate of Conformity (free of charge)
- Material Certificates (extra cost option)
- Other documentation is available at extra cost

### GMP Marking

- Lids and bodies to be etched with a unique identification number
- Customer specific information can also be etched - ask for details



	25	50	100 Standard	100 Squat	150	200	300	400	500
Nominal Volume (litres):	25	50	100	100	150	200	300	400	500
Brimfull Volume (litres):	28	54	107	108	160	216	320	430	530
Internal Diameter (mm) <b>A</b> :	305	400	457	560	560	560	647	750	750
Max. Overall Diameter (mm) <b>B</b> :	365	460	520	630	630	630	750	820	820
Drum Body Height (mm) <b>C</b> :	400	440	670	450	660	895	980	980	1210
Max Overall Height (mm) <b>D</b> :	410	450	680	460	670	905	990	990	1220
Metal Thickness (mm):	1.2	1.2	1.2	1.2	1.2	1.2	1.5	1.5	1.5
Total Weight* (Kg):	6	8	13	13	17	21	28	39	47

\* Total weight includes drum body, lid, clampband & 'O' ring

Intermediate volumes available based on standard diameters - contact Pharmatech for details

## Drum Washing

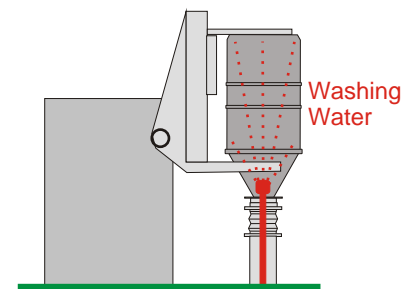
A great advantage of using PharmaDrums™ is that they are easy to clean between batches.

Pharmatech offer a complete range of washing systems. These systems are individually tailored to meet the requirements of the customer.

- Internal and external washing systems
- Suitable for GMP applications
- Custom built according to the application requirements
- Validatable washing cycles
- Drum dryers



Mobile Washing Station



Drum Washer (180° Tipper) -

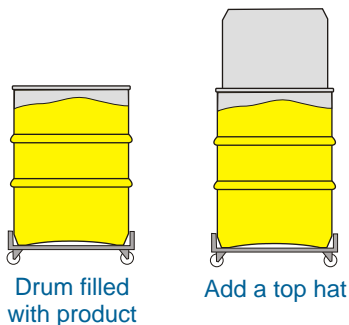
The machine shown is used to invert drums over a washing lance, which then sprays the inside



## Top Hats

A Top Hat allows a drum to be filled to the top as it provides the extra space required for efficient blending.

The Top Hat usually has 50% of the volume of the drum.



Top Hats clamp to the drum in place of the drum lid.

For extra security Pharmatech have developed a heavy duty clamp band - this is able to withstand the increased forces encountered when blending with a Top Hat.

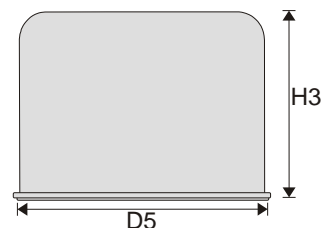
Top Hats are available to suit all sizes of PharmaDrums™.



### Dimensions and Weights of Top hats

Volume (litres):	25L	50L	50L	100L	150L	200L	250L
Diameter (mm) D5:	400	457	560	560	647	750	750
Height (mm) H3:	225	325	225	450	475	475	600
Weight (kg):	4	6	6	10	12	19	23

Intermediate Top Hat sizes are available - ask for details



## Heavy Duty Clampbands

The Standard Clampband is designed primarily to retain the lid during storage and transportation. Security locking is achieved by using plastic ties.

The Heavy Duty Clampband is specially designed to handle the increased forces that are experienced when blending with a drum and top hat.

Heavy Duty Clampbands are available for 560mm, 647mm and 750mm diameter drums only.



### Heavy Duty Clampband features

- 304 stainless steel construction
- Finish 180 grit (1.25µm Ra)
- Welds cleaned
- High strength
- Easy to clean
- Fully welded, GMP correct latch mechanism
- Long handle provides extra leverage when clamping
- Built in, easy to use locking device.



# Cones

- Suitable for use with PharmaDrums™
- Range of sizes available
- Symmetrical and Asymmetrical designs available
- Clamps in place of the drum lid
- 316L stainless steel construction
- Internal finish: 1.0µm Ra (240 grit), welds ground and polished
- External finish: 1.0µm Ra (240 grit), welds ground and polished
- 'O' Ring Seal - FDA/CFR acceptable silicone rubber



Pharmatech MB1200A with a 500L Drum and Cone



Hygienic quick release butterfly valve attached to a cone

## Poorly flowing Product?

For products with poor flow characteristics Pharmatech have developed the FlexiCone™.

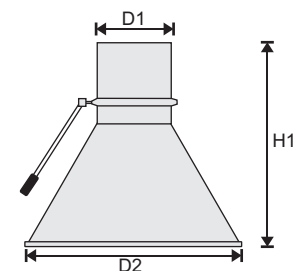
- Use in place of a standard cone
- Ideal for use in GMP environments
- No moving parts within the product



Contact Pharmatech for details about the FlexiCone™

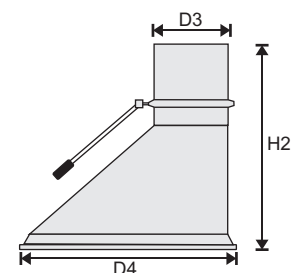
## Symmetrical Cone: Heights (H1) & Weights

Cone Diameter D2 (Weight of cone)	Valve Diameter D1 (Weight of Valve)							Height - H1
	100 (4)	150 (4.5)	200 (6)	250 (8)	300 (12)	350 (18)	400 (20)	
305 (3)	275	255	240	N/A	N/A	N/A	N/A	
400 (4.5)	350	330	315	295	280	N/A	N/A	
457 (6)	400	385	365	350	330	310	N/A	
560 (9)	480	460	440	425	405	390	370	
650 (12)	575	560	540	520	500	480	465	
750 (15)	655	640	620	600	585	565	550	



## Asymmetrical Cone: Heights (H2) & Weights

Cone Diameter D4 (Weight of cone)	Valve Diameter D3 (Weight of Valve)							Height - H2
	100 (4)	150 (4.5)	200 (6)	250 (8)	300 (12)	350 (18)	400 (20)	
305 (3)	295	270	245	N/A	N/A	N/A	N/A	
400 (4.5)	385	360	335	300	275	N/A	N/A	
457 (6)	440	415	390	365	340	315	N/A	
560 (9)	530	505	480	455	430	405	380	
650 (12)	640	615	590	565	540	515	490	
750 (15)	735	710	685	660	635	610	585	



**Note:** All dimensions are in mm, all weights are in kg



Pharmatech are market leaders in drum processing equipment

## Drum Blenders

Drum Blenders are ideal for multi-product environments as the drum can be filled and emptied away from the blender so that the blender is not contaminated.

Drum Blenders are available to suit all sizes of drums from 1 litre right up to 500 litres



MB1200A Blender with a 500L drum & top hat



Hoist Blender with a 200L drum & cone



Removable Drum Baffles - just one of a range of baffle systems to assist blending of difficult products

## Drum Hoists & Tipplers

Hoists are ideal when a drum has to be lifted so that it can be discharged under gravity. Gravity feed systems reduce product separation and they reduce cleaning costs.

Hoists can be up to 17m and can lift loads up to 6 Tonnes.

Pharmatech hoists offer custom built solutions and reliability is assured with our modular design system.

Pharmatech are specialists in **dust tight connections** - systems are available that allow all levels of containment to be achieved.



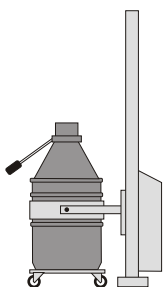
Drum Hoist with a 200L drum



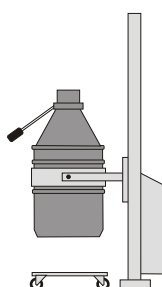
135° Drum Tipper



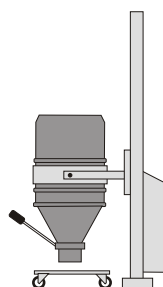
Drum discharging into a Diosna Mixer Granulator



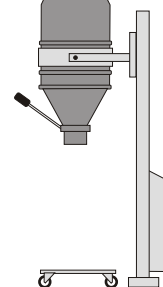
Clamp



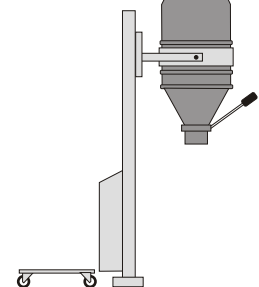
Lift to Inversion Height



Invert



Lift to full height



Slew & Discharge

## Drum Trolleys

Drum Trolleys allow drums to be moved around a factory with the minimal amount of manual handling

- 304 stainless steel construction
- 240 grit finish
- non-marking wheels
- Four streeable wheels (two of which have brakes)

### Standard & Square Trolleys



Standard Trolley with optional antistatic wheels and a Square Trolley with regular wheels

Product Code		To Suit Drum dia (mm)	Overall Height (mm)	Capacity (kg)
Standard Trolley	Square Trolley			
082/1	083/1	400	197	200
082/2	083/2	457	197	200
082/3	083/3	560	197	200
082/4	083/4	647	197	200
082/5	083/5	750	197	200

082 Deck Height = 150mm

083 Deck Height = 155mm

### Heavy Duty Trolleys



Flat deck trolleys are ideal when the load has to be slid on and off the trolley.

Product Code	Length (mm)	Width (mm)	Deck Height (mm)	Capacity (kg)
080/1	405	380	141	300
080/2	500	465	141	300
080/3	600	566	141	300
080/4	800	700	141	300

## Transport Pallets



- Transport Pallets allow drums to be safely transported around the world
- Designed to prevent drum leakage due to the reduced pressures experienced in aircraft holds at altitude
- Suitable for fork lift handling
- Stackable
- Tamper Evident Seal System
- Protects drums during transport

## Special Manufacturing

Pharmatech has an in-house Design and Manufacturing Team. We are experts at taking on special projects and building customised solutions to processing problems.

Example -  
1500 litre round IBCs



### Further Information

Contact Pharmatech for further information about any of the equipment in the Pharmatech range