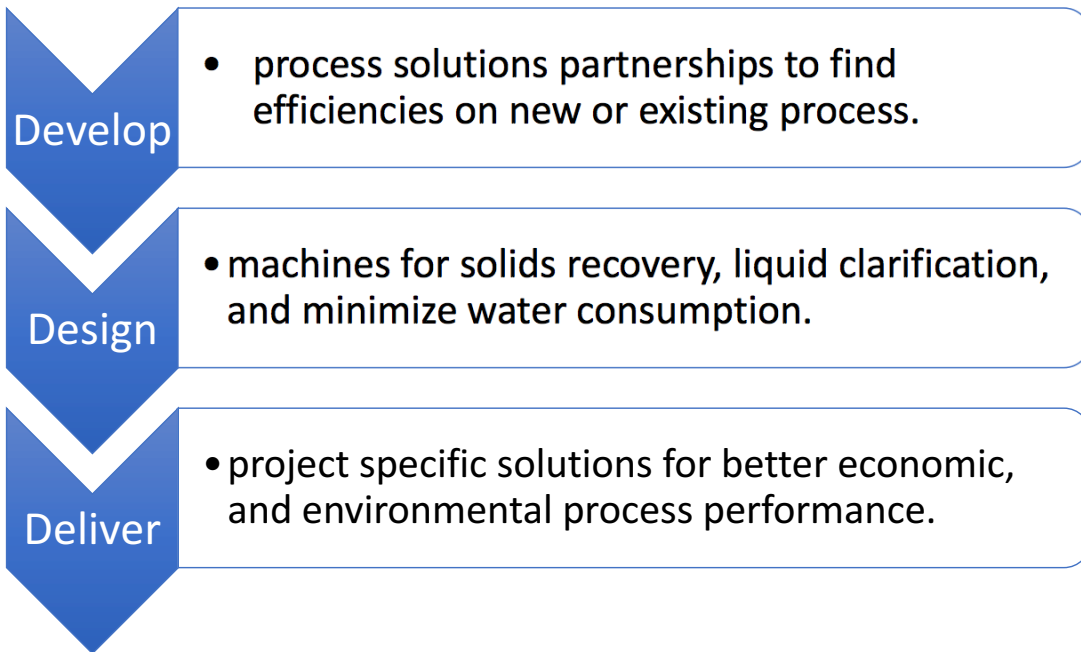


### Industrial and Municipal Process Equipment Packages



Doc# UNIDRUM-1703-R01

## MANUFACTURE

**DRYCAKE's** technical department is able to develop all the required design activities from feasibility to as-built. Process Validation can be validated using our lab or on-site pilot services.

Our equipment is manufactured in high quality Stainless Steel , and is fully customizable according to project requirements and needs.

The production team is composed by assemblers and certified welders, experts in TIG (Tungsten Inert Gas) welding, a process of arc welding with consumable electrode (Tungsten), under protection of inert gas. After the welding processes, the Stainless Steel is passivated by our operators.

Quality control during the entire design process guarantees the compliance with Customer's technical requirements, good manufacturing practices and compliance with UL and CSA, ASMI, ANSI Standards and certifications.

All equipment is subject to 3rd party witnessed factory acceptance test prior to shipment.



## OPERATION

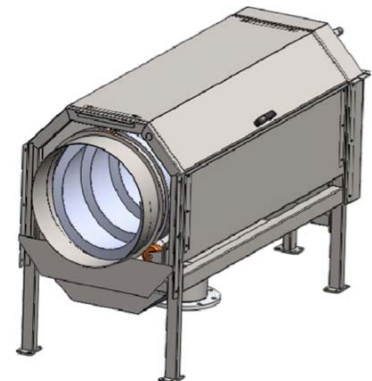
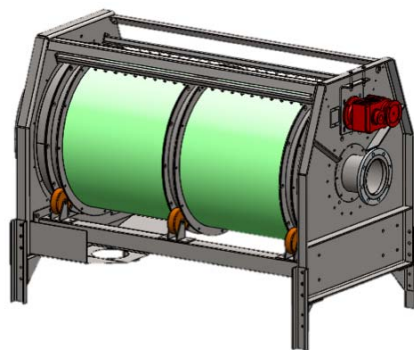
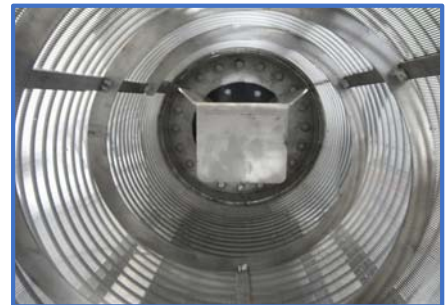
The **UNIDRUM** Drum Screen is an internally fed screening device with the flow being fed into the headbox and distributed onto the internal rotating surface of the screening cylinder. The bull gear driven screening drum assembly rotates at 7 rpm. The screening drum rotates quietly on four fully engineered wheels.

The liquid in the headbox/distribution chamber is directed onto the internal rotating surface of the screen. Solids remain on the surface of the screen while the liquid goes through the screen media.

As the screen rotates, the solids roll on the face of the screening cylinder and are intercepted by the diverter flights. The diverter flights are mounted spirally, with the spiral pointing to the discharge end of the cylinder. As the screening cylinder rotates, the solids drop off one diverter flight to the next until they reach and drop off of the discharge end of the cylinder.

The solids can drop off into a container; conveyor chute or sludge-dewatering device for further processing to reduce the water content and/or increase the solids dryness.

The **UNIDRUM** has a solid, stainless steel unibody construction. The drum screen is interchangeable and made of stainless steel. To provide the best screening/solids capture performance in all screening applications, the drum screen is available in wedge-wire or perforated holes from 0.25mm to 6mm.



## FEATURES

- ✓ Automatic Operation
- ✓ Easy installation
- ✓ No submerged mechanical components
- ✓ Manufactured in Stainless Steel AISI 304 and 316(L)
- ✓ Welding pickled and passivated
- ✓ Easy removable covers for hygienic inspection
- ✓ Odour-containing covers
- ✓ Low and easy maintenance



# MANUFACTURING QUALITY

## HYDRAULIC CONNECTIONS

The **UNIDRUM** is supplied with one or two different washing systems.

✓ **External washing system**

(to wash the drum one or two spray bars) connection 1" with manual and/or solenoid valve, Water consumption depending from drum length (0,9 to 3 lt/sec 5-7 Bar). External washing system works with a timer. During the rotation of the drum 1 minute working every 3 minutes of rotation.



✓ **Internal washing system (optional)**

connection 1" with manual and/or solenoid valve, Water consumption depending from drum length (0,9 to 3 lt/sec 5-7 Bar) Internal washing system works with a timer. During the rotation of the drum 1 minute working every 10 minutes of rotation (Standard for septage or spacing less than 4mm).



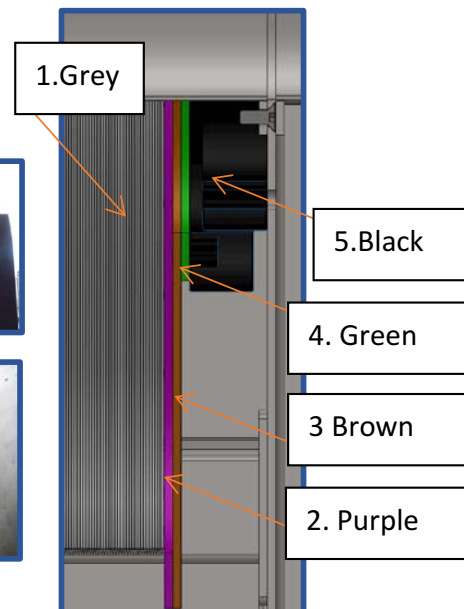
Washwater must work when the drum rotates and stop when drum stops so drum starts and stops with level sensor. If the effluent does not clog the drum holes, the drum will rotate less often and consequently less water will be consumed.

## UNIBODY BULL GEAR DRIVE

### OPTIMAL SEALING:

All components are bolted and welded together so that there is no spacing for the solids pass through.

Item	Component
1	Drum
2	Flange welded to the drum
3	Flange bolted to the flange 1
4	Flange bolted to the flange 2
5	Bearing for drum rotation

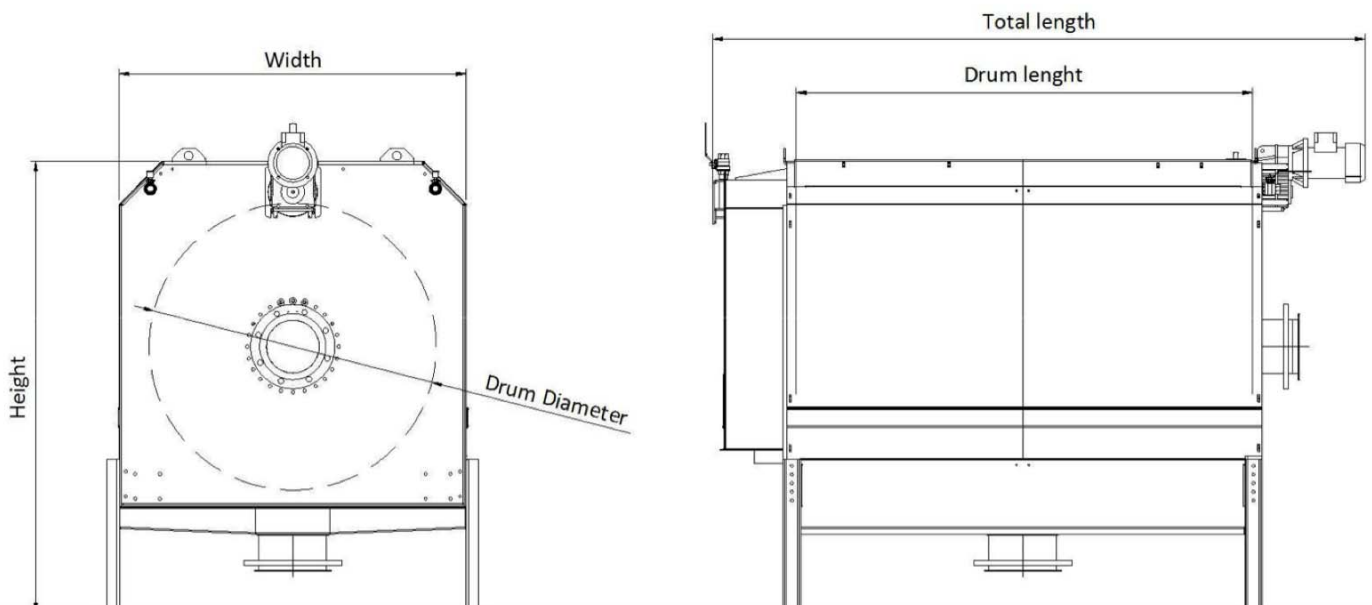


# MODEL & DIMENSION

The **UNIDRUM** is fully customizable according to the customer needs, but anyways we offer a standard range which can help the customer in his final choice.

MODEL *	Total Length		Width		Height		Drum Diameter		Drum Length		Power Installed	
	in	mm	in	mm	in	mm	in	mm	in	mm	HP	kW
DIFD500	52	1,321	29 1/2	750	53	1,344	19 3/4	500	23 1/2- 47	600-1200	3/4	0.55
DIFD700	70	1,781	35 1/2	900	63	1,600	27 1/2	700	29.5-59	750-1500	1	0.75
DIFD900	78	1,962	47 1/4	1200	68.5	1,740	35 1/2	900	39 1/4- 78 3/4	1000-2000	1	0.75
DIFD1200	89	2,266	51	1,300	77	1,950	47 1/4	1,200	49 1/4- 98 1/2	1250-2500	1.5	1.1
DIFD1500	76	1,926	65	1650	52	1,320	59	1,500	59-118	1500-3000	2	1.5
DIFD2000	85	2,155	86 1/2	2,200	63	1,600	78 3/4	2,000	78 3/4- 118	2000-3000	3	2.2

\* Other configuration available on demand



## EQUIPMENT RANGE

### Mechanical Dewatering

- Decanter Centrifuge
- High Speed Centrifuge
- Gravity Belt Press Thickener
- Belt Press
- Scrudrain: Screw Thickener
- Screw Press
- DRAIMAD Dewatering bag skid

### Thermal Systems

- Sludge Dryers
- Evaporators

### Screening

- Multi-Rake Bar Screens
- Perforated Plate Screens
- Internally Fed Drum Screens

### Grit and FOG Removal Systems

### Solid Waste

- Material Sorting & Screening

### Polymer Preparation

- Dry & Liquid polymer systems

### Materials Handling Systems

- Shaftless Screw Conveyors
- Belt Conveyors
- Live Bottoms
- Silos
- Sorting Lines
- Shredders

### Pumping

- PC Pumps

## APPLICATION FIELD

### By PROCESS

- Aggregates conveying
- Biomass drying
- Biomass gasification
- wastewater treatment
- Biosolids reduction
- Biosolids stabilization (Class A)
- BOD reduction
- Cogeneration
- Dewatering:
  - Aerobic sludge
  - Anaerobic sludge
  - Lime & Alum sludge
  - Mixed industry sludge
  - WAS sludge
- Evaporation
- Enzymatic Inactivation
- Fish processing

### By INDUSTRY

- Flour enhancement
- Head works
- Heat treatment
- Kelp processing
- Bulk materials Handling
- Leachate treatment
- Oil separation
- Paper sludge de-inking
- Plastics separation
- Pump station screening
- Pulp Recovery
- Airports
- Biomass gasification
- Cement factory
- Dairy Industry
- Die Casting Industry
- Flour Mill
- Landfill
- Municipal WWTP
- Paint Factories
- Petro-chemical refinery
- Pulp & Paper industry
- Potato plant
- Rendering plant
- Slaughtering plant
- Tar Sands
- Quarries