



Decanter Centrifuges for Commercial Solvent Extraction Processing of Hemp & Cannabis

CBDecanter 100



CBDecanter 200



CBDecanter 300



CBDecanter 400



CBDecanter Series Decanter Centrifuges

Allied Centrifuge Technologies, CBDecanter Centrifuges, are the next generation of efficient and sustainable separation equipment for solvent-based processing during the extraction of cannabinoids from cannabis and hemp. Gone are the days of slow inefficient screw presses and basket centrifuges. CBDecanters offer continuous high capacity separation of solvent from cannabis and hemp biomass. Achieving a higher level of clarity in solvents and producing a dryer biomass, yielding more usable cannabinoid-rich solvent and limiting wasted end product. Allied's CBDecanter series operational capacities are designed to cover the entire industry from small to large-scale operations.

Solvent Extraction and Scalability

Solvent extraction is becoming the best choice for businesses looking to increase their scale and volume in processing hemp and cannabis biomass. Solvents do not have to be processed under high pressure, as is used in CO₂ extraction, which requires expensive pressure-rated equipment. Solvents are also not as flammable as other hydrocarbon processing methods and are more suitable for room temperature processing. This is resulting in solvents becoming the desired choice for large scale production. CBDecanters are a premiere choice when it comes to separating your biomass from your cannabinoid-rich solvent (micelle stream). Decanter centrifuges also have the ability to remove low gravity solids that screw presses might miss, resulting in a cleaner and clearer solvent micelle stream. This generates a greater yield of solvent from your biomass.

Design Feature

The CBDecanter is a combination of modern decanter engineering paired with years of separation experience across all industries utilizing separation technologies. The specially designed internal characteristics of the rotating element aid in the clarification and dewatering process taking place simultaneously within the decanter bowl. The smooth acceleration to over 3000G of the mixed product entering the machine allows for optimal separation without excessive agitation. The sleek and compact design of the unit permits easy integration into any facility, but the small footprint does not hinder the ability to service the machine easily at required intervals. The choice of premium materials sourced from top North American and European vendors enhances the reliability and longevity of the CBDecanter line, improving the ROI of the equipment. All components are manufactured at Allied's production facility head quartered in Calgary Alberta Canada, utilizing the highest quality standards and testing techniques in the industry to ensure our clients receive the highest quality equipment on the market. All product contact areas of the machine are built from stainless steel and can be finished to sanitary conditions if required. The CBDecanter can also be outfitted with clean-in-place connections to maintain sanitary conditions of the machine and provide easy cleaning. The units come standard with a vapour tight design and explosion proof motors.



How It Works

Separation takes place in the horizontal cylindrical bowl that is equipped with a screw conveyor inside. Your Hemp and solvent mixture is pumped inside of the bowl through a feed pipe. Centrifugal force that results from the rotation of the bowl then forces the solids to the outside internal surface of the bowl. The conveyor rotating in the same direction as the bowl, but at a slower speed, moves the solids through the conical section of the bowl. The dry solids leave the bowl through the solids discharge ports. Separation of your solid hemp material and solvent takes place throughout the entire section of the bowl. Liquids are then discharged by flowing over adjustable ports on the opposite side of the solids discharge ports.

Continuous Separation

Eliminate the slow, tedious processes of running small batches of product through basket centrifuges and screw presses. CBDecanter centrifuges offer a continuous stream of separation that require less laborious supervision. Most commonly used batch centrifuges and screw presses require manually fed input or removal of biomass and solvent slurries. Decanter centrifuges are continuously fed with slurry straight from a mixing tank, significantly reducing start and stops in processing. This increases the volume of biomass solvent slurry that can be processed in less time while achieving better results in clarity of micelle solvent stream. This in turn creates a dryer biomass cake than conventional batch centrifuges and screw presses. Offering multiple sizes, the CBDecanter series has a model that can fit your specific processing requirements, with feed capacities ranging from 91 dry kg/hr (200 dry lbs/hr) to 1519 dry kg/hr (3350 dry lbs/hr).

Customizable

Allied can design and manufacture complete plug and play modular packages for easy installation into your operation or you can take advantage of Allied's engineering and design team to configure and manufacture any ancillary piece of equipment to accompany your CBDecanter and reduce commission setup.



Controls

All CBDecanters come with Allied's intuitive VFD control system which monitors all aspects of the centrifuge operation and maintenance. With reliable industry proven drives and automation, Allied's control panel is a perfect fit for reliable operation of your process.

Benefits

- Maximum Yield of Solvent Micelle Stream from Biomass
- Maximum Separation of Fine Solids
- Compact Design
- High Performance/Price Ratio
- Dual Drive
- Mobile Options and Accessories
- Up to 3300 dry lbs/hr Capacity
- Low Energy Consumption
- Maximum Yield of End Product

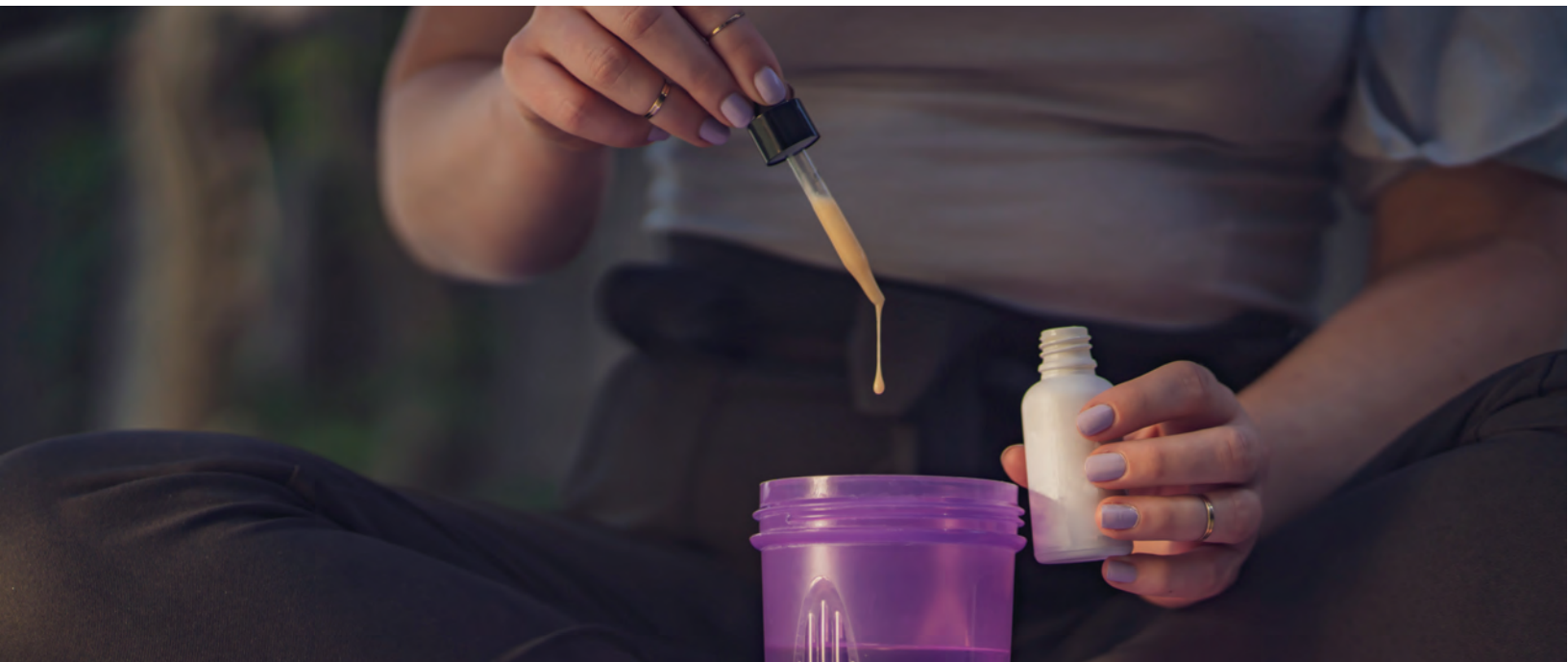


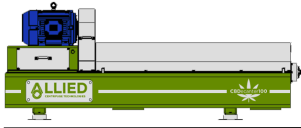
Safe Operation

With many different methods of processing botanical oils and extracts, solvent-based production is rising as the safest method for large scale extraction. CBDecanter Centrifuges provide a contained separation process that eliminates the worker from the manual process of inputting and removing feed from the equipment. Thus limiting the exposure of workers from ergonomic hazards, mechanical hazards and potential extensive chemical exposure associated with other separation equipment.

Maximize Your Product

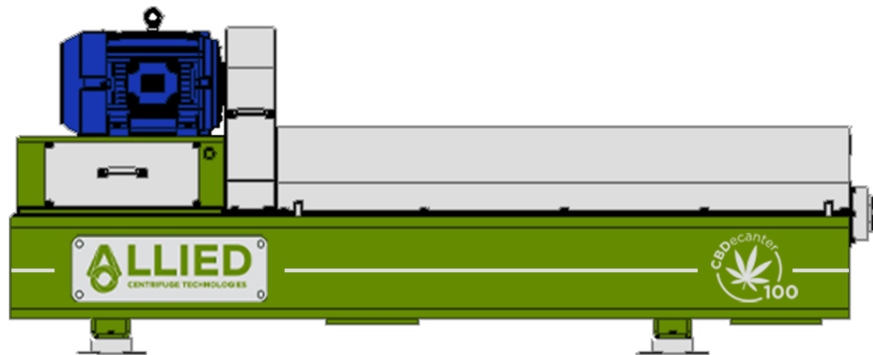
CBDecanter centrifuges provide a higher level of separation of solvent hemp slurries. CBDecanter centrifuges separate low gravity solids maximizing the clarity of your solvent extract while also creating a dryer hemp solids cake, maximizing the yield from both streams of separation.



CBDecanter 100**CBDecanter 200****CBDecanter 300****CBDecanter 400**

CBDecanter 100

Decanter Centrifuge



General Specs.

Specification:	VFD, 2-phase
Process liquid:	Min. 0°C (32°F) - Max. 100°C (212°F)
Feed Capacity:	91 dry kg/hr (200 dry lbs/hr)
Empty decanter weight:	318 kg (700lbs)
Sound level:	70 dBA at 1m
Cake Dryness:	20-40% (depending on application)

Bowl Specs.

Maximum main speed:	6500 rpm
Maximum G-force:	3600 G
L/D ratio:	4.25:1
Bowl diameter:	152 mm (6")
Solids discharge type:	4 replaceable wear inserts
Material-bowl/hubs:	1.4470
Liquid outlet, type:	(4) plate dams
Liquid outlet, radius:	(adjustable)
Bearing Lubrication:	Manual applied Grease (optional automatic system available)

Conveyor Specs.

Material-flights:	1.4401
Material-hub:	1.4401
Bearing Lubrication:	Manually Applied Grease

Drive Specs.

Gearbox type:	.29 knm (2566 in/lbs) Cyclo
Gearbox lubrication:	Manually applied grease
Typical differential range:	2-50 rpm
Main motor:	5.5Kw (7.5hp) WEG foot mount TEXP HE (SF1.15)
Back drive motor:	2.2Kw (3hp) WEG foot mount TEXP HE (SF1.15)

Control Specs.

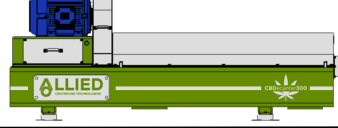
Power supply:	208V/60Hz, 460V/60, 600V/60Hz or 400V/50Hz
VFD type:	ABB or VACON
Enclosure:	Painted carbon or stainless steel and ratings for indoor or outdoor applications
HMI:	Omron 6" or 12" (depending on requirements)
Bearing Temperature Sensor:	Pt 100 bayonet, 1 on each main bearing
Vibration monitoring:	4-20ma Wilcoxon sensor, 1 on main bearing pad
Safety Controls:	(1) speed sensor on back drive coupling (1) speed sensor on bowl (1) Lid/cover open sensor

Wear Protection Specs.

Bowl solids discharge:	Removable tungsten liner
Conveyor flights:	Flame applied tungsten carbide (weld on tiles optional) or polished
Conveyor feed zone:	Flame applied tungsten or polished
Frame/Case:	Removable semi-circle wear liner

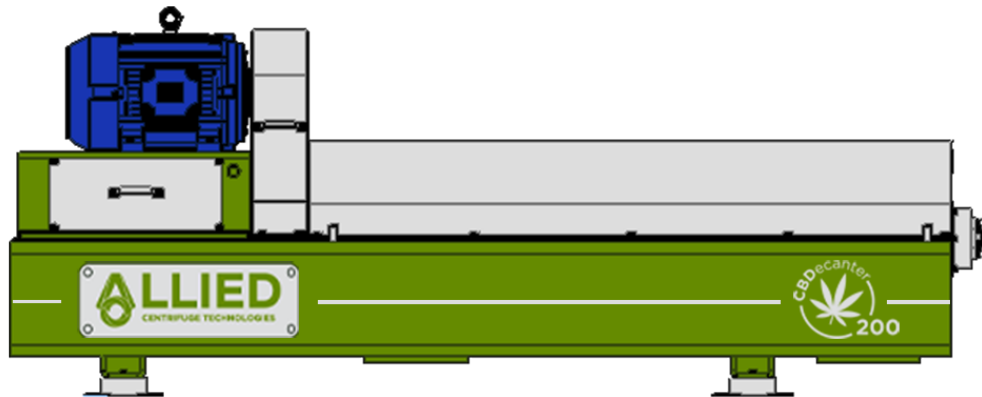
Frame/Casing Specs.

Material-frame/base:	Mild steel epoxy painted
Materials-casing/cover:	1.4401
Inside surface of casing:	Stainless steel
Design type:	vapour tight seals
Feed tube:	316L sms

CBDecanter 100**CBDecanter 200****CBDecanter 300****CBDecanter 400**

CBDecanter 200

Decanter Centrifuge



General Specs.

Specification:	VFD, 2-phase
Process liquid:	Min. 0°C (32°F) - Max. 100°C (212°F)
Feed Capacity:	453 dry kg/hr (1000 dry lbs/hr)
Empty decanter weight:	900 kg (1984lbs)
Sound level:	80 dBA at 1m
Cake Dryness:	20-40% (depending on application)

Bowl Specs.

Maximum main speed:	5000 rpm
Maximum G-force:	3556 G
L/D ratio:	4.25:1
Bowl diameter:	254 mm (10")
Solids discharge type:	6 replaceable wear inserts
Material-bowl/hubs:	1.4470
Liquid outlet, type:	(4) plate dams
Liquid outlet, radius:	(adjustable)
Bearing Lubrication:	Manual applied Grease (optional automatic system available)

Conveyor Specs.

Material-flights:	1.4401
Material-hub:	1.4401
Bearing Lubrication:	Manually Applied Grease

Drive Specs.

Gearbox type:	.75 knm (6638 in/lbs) Cyclo
Gearbox lubrication:	Manually applied grease
Typical differential range:	2-50 rpm
Main motor:	7.5Kw (10hp) WEG foot mount TEXP HE (SF1.15)
Back drive motor:	4Kw (5hp) WEG foot mount TEXP HE (SF1.15)

Control Specs.

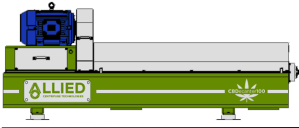
Power supply:	208V/60Hz, 460V/60, 600V/60Hz or 400V/50Hz
VFD type:	ABB or VACON
Enclosure:	Painted carbon or stainless steel and ratings for indoor or outdoor applications
HMI:	Omron 6" or 12" (depending on requirements)
Bearing Temperature Sensor:	Pt 100 bayonet, 1 on each main bearing
Vibration monitoring:	4-20ma Wilcoxon sensor, 1 on main bearing pad
Safety Controls:	(1) speed sensor on back drive coupling (1) speed sensor on bowl (1) Lid/cover open sensor

Wear Protection Specs.

Bowl solids discharge:	Removable tungsten liner
Conveyor flights:	Flame applied tungsten carbide (weld on tiles optional) or polished
Conveyor feed zone:	Flame applied tungsten carbide or polished
Frame/Case:	Removable semi-circle wear liner

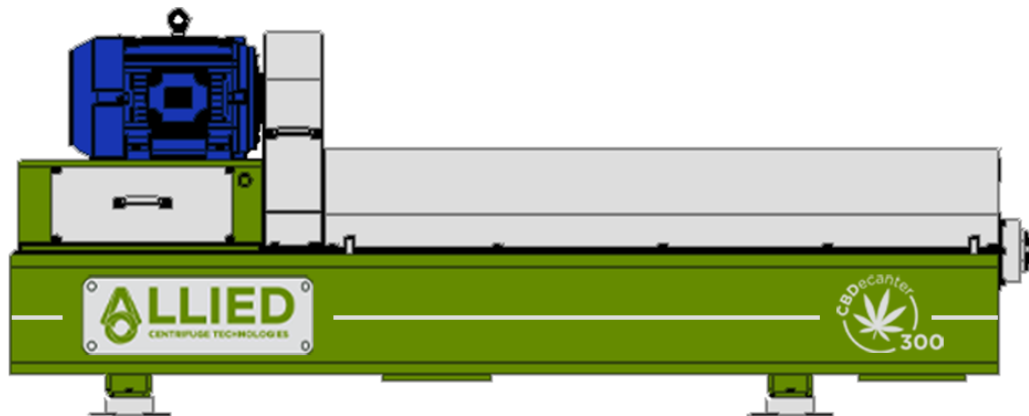
Frame/Casing Specs.

Material-frame/base:	Mild steel epoxy painted
Materials-casing/cover:	1.4401
Inside surface of casing:	Stainless steel
Design type:	vapour tight
Feed tube:	316L sms

CBDecanter 100**CBDecanter 200****CBDecanter 300****CBDecanter 400**

CBDecanter 300

Decanter Centrifuge



General Specs.

Specification:	VFD, 2-phase
Process liquid:	Min. 0°C (32°F) - Max. 100°C (212°F)
Feed Capacity:	1020 dry kg/hr (2250 dry lbs/hr)
Empty decanter weight:	1725 kg (3800lbs)
Sound level:	90 dBA at 1m
Cake Dryness:	20-40% (depending on application)

Bowl Specs.

Maximum main speed:	4250 rpm
Maximum G-force:	3600 G
L/D ratio:	4.25:1
Bowl diameter:	356 mm (14")
Solids discharge type:	8 replaceable wear inserts
Material-bowl/hubs:	1.4470
Liquid outlet, type:	(4) plate dams
Liquid outlet, radius:	(adjustable)
Bearing Lubrication:	Manual applied Grease (optional automatic system available)

Conveyor Specs.

Material-flights:	1.4401
Material-hub:	1.4401
Bearing Lubrication:	Manually Applied Grease

Drive Specs.

Gearbox type:	2.0 knm (17701 in/lbs) Cyclo
Gearbox lubrication:	Manually applied grease
Typical differential range:	2-50 rpm
Main motor:	15.5Kw (20hp) WEG foot mount TEXP HE (SF1.15)
Back drive motor:	7.5Kw (10hp) WEG foot mount TEXP HE (SF1.15)

Control Specs.

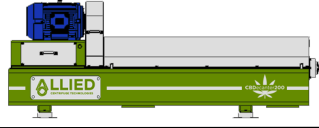
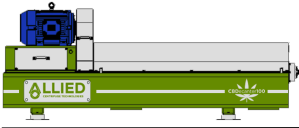
Power supply:	208V/60Hz, 460V/60, 600V/60Hz or 400V/50Hz
VFD type:	ABB or VACON
Enclosure:	Painted carbon or stainless steel and ratings for indoor or outdoor applications
HMI:	Omron 6" or 12" (depending on requirements)
Bearing Temperature Sensor:	Pt 100 bayonet, 1 on each main bearing
Vibration monitoring:	4-20ma Wilcoxon sensor, 1 on main bearing pad
Safety Controls:	(1) speed sensor on back drive coupling (1) speed sensor on bowl (1) Lid/cover open sensor

Wear Protection Specs.

Bowl solids discharge:	Removable tungsten liner
Conveyor flights:	Flame applied tungsten carbide (weld on tiles optional) or polished
Conveyor feed zone:	Flame applied tungsten carbides or polished
Frame/Case:	Removable semi-circle wear liner

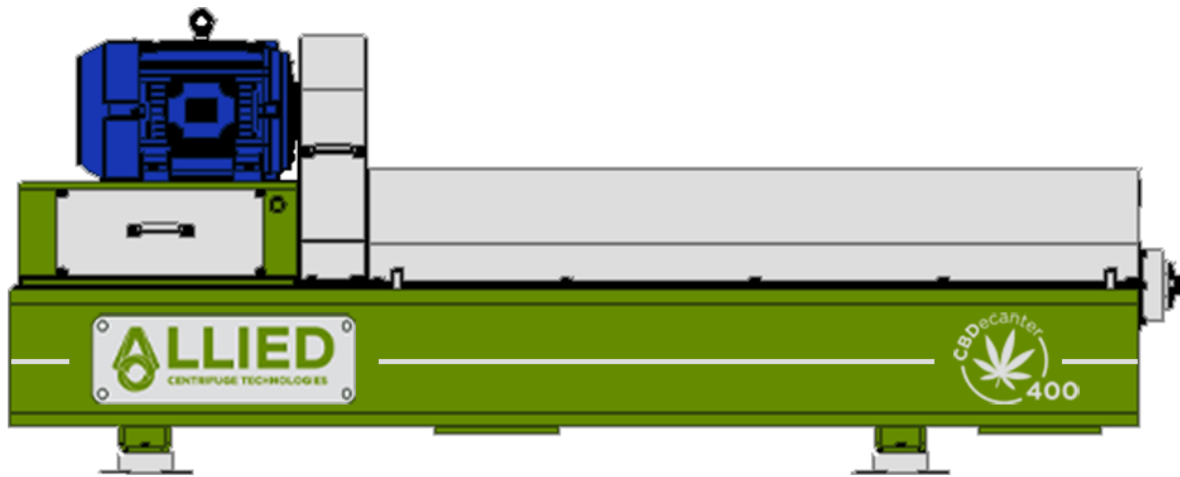
Frame/Casing Specs.

Material-frame/base:	Mild steel epoxy painted
Materials-casing/cover:	1.4401
Inside surface of casing:	Stainless steel
Design type:	Vapour tight
Feed tube:	316L sms

CBDecanter 100**CBDecanter 200****CBDecanter 300****CBDecanter 400**

CBDecanter 400

Decanter Centrifuge



General Specs.

Specification:	VFD, 2-phase
Process liquid:	Min. 0°C (32°F) - Max. 100°C (212°F)
Feed Capacity:	1519 dry kg/hr (3350 dry lbs/hr)
Empty decanter weight:	4200 kg (9259lbs)
Sound level:	90 dBA at 1m
Cake Dryness:	20-40% (depending on application)

Bowl Specs.

Maximum main speed:	3750 rpm
Maximum G-force:	3600 G
L/D ratio:	4.25:1
Bowl diameter:	457 mm (18")
Solids discharge type:	8 replaceable wear inserts
Material-bowl/hubs:	1.4470
Liquid outlet, type:	(4) plate dams
Liquid outlet, radius:	(adjustable)
Bearing Lubrication:	Manual applied Grease (optional automatic system available)

Conveyor Specs.

Material-flights:	1.4401
Material-hub:	1.4401
Bearing Lubrication:	Manually Applied Grease

Drive Specs.

Gearbox type:	6.5 knm (57530 in/lbs) Cyclo
Gearbox lubrication:	Oil capsulated
Typical differential range:	2-50 rpm
Main motor:	37Kw (50hp) WEG foot mount TEXP HE (SF1.15)
Back drive motor:	11Kw (15hp) WEG foot mount TEXP HE (SF1.15)

Control Specs.

Power supply:	208V/60Hz, 460V/60, 600V/60Hz or 400V/50Hz
VFD type:	ABB or VACON
Enclosure:	Painted carbon or stainless steel and ratings for indoor or outdoor applications
HMI:	Omron 6" or 12" (depending on requirements)
Bearing Temperature Sensor:	Pt 100 bayonet, 1 on each main bearing
Vibration monitoring:	4-20ma Wilcoxon sensor, 1 on main bearing pad
Safety Controls:	(1) speed sensor on back drive coupling (1) speed sensor on bowl (1) Lid/cover open sensor

Wear Protection Specs.

Bowl solids discharge:	Removable tungsten liner
Conveyor flights:	Flame applied tungsten carbide (weld on tiles optional) or polished
Conveyor feed zone:	Flame applied tungsten carbide or polished
Frame/Case:	Removable semi-circle wear liner

Frame/Casing Specs.

Material-frame/base:	Mild steel epoxy painted
Materials-casing/cover:	1.4401
Inside surface of casing:	Stainless steel
Design type:	Vapour tight
Feed tube:	316L sms