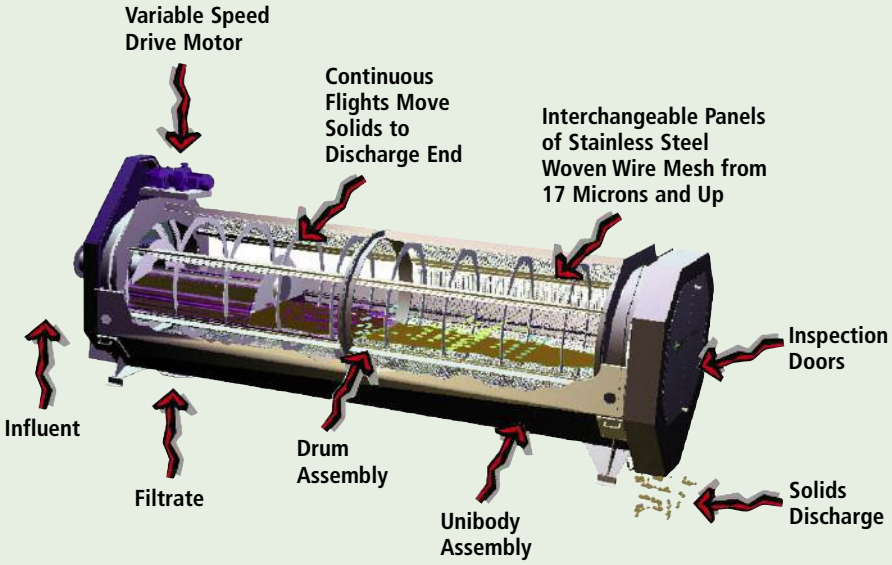
MDS, ULTIMAC AND SDS SERIES DRUM-SCREEN SYSTEMS

BAYCOR

BAYCOR

provides cost-effective solutions for a wide variety of solids/liquids separation applications. **ULTIMAC** and **SDS Series Screens**, based on the **MDS** design, are offered on an application specific basis to meet the needs of our clients.



DRUM-SCREENS

What They Are and How They Work: Operational Synopsis

The **BAYCOR MDS** 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 **MDS** has a solid, stainless steel unibody construction, a screening cylinder with interchangeable screening panels and a headbox assembly.

A standard variable speed drive electric gear motor rotates the drum screening cylinder assembly between 3 and 10 rpm The screening cylinder rotates slowly and quietly on four fully engineered wheels.

Interchangeable screen panels, of stainless steel woven wire mesh from 17 microns and up, allow for precise adjustment of the openings in the screen to provide the best screening/solids capture performance to meet your applications requirements.

BAYCOR's standard features allow you to precisely tune for the performance you want and need.

The liquid in the headbox/distribution chamber is directed over weirs 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 fights are mounted spirally, with the spiral pointing to the discharge end of the cylinder. As the screening cylinder rotates, the solids are directed up the inclined drum screen surface until they reach and drop off of the discharge end of the cylinder. The solids can drop off into a container, conveyor chute or solids dewatering device for further processing to reduce the water content and/or increase the solids dryness.

The unibody design of the **MDS** includes a flanged discharge pan that directs the treated water to a tank, channel or pit, or on through further piping.

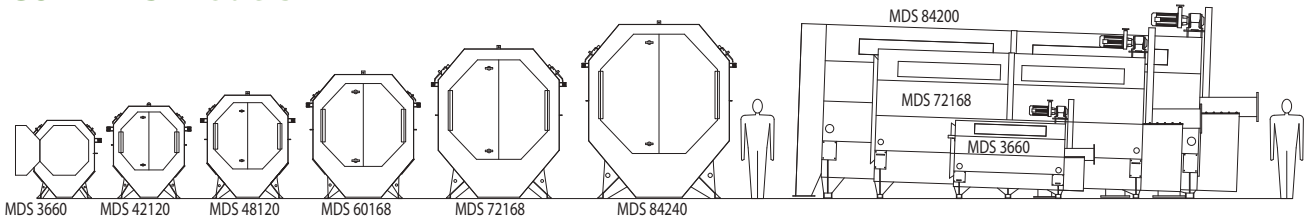
The spraying/backwash system located on the upper half of the cylinder, will wash off any solids, grease or other materials sticking to the face of the screening media and thus keep the inside of the cylinder clean. The backwash can be set manually or timed or programmed to operate on an as needed basis.

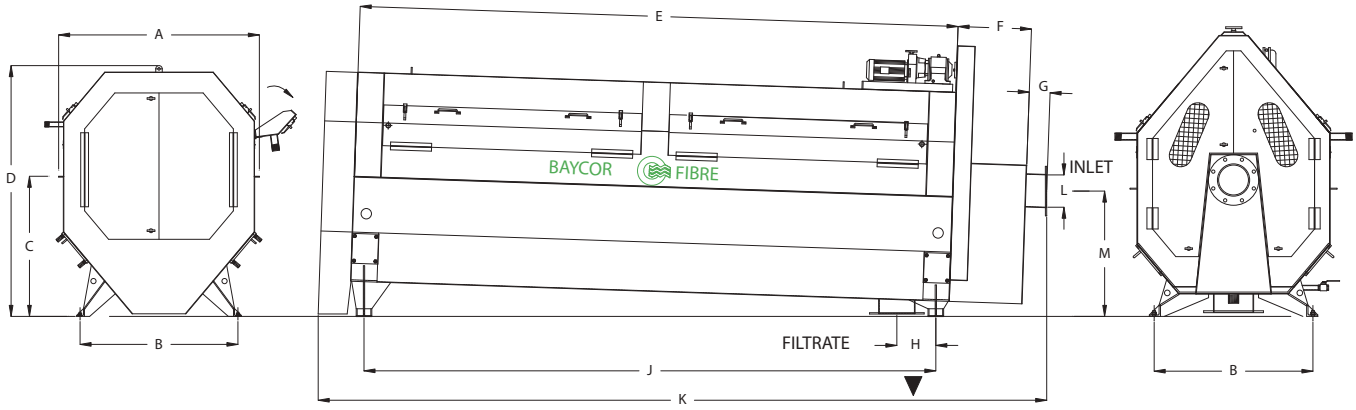
The **MDS**, with its robust and simple, stainless steel unibody construction, its interchangeable screen panels and variable speed drive is truly the state-of-the-art in screening technology.

Fibre Recovery

50 Freeness

BAYCOR MDS Models





SOLIDS DISCHARGE - END VIEW
(DISCHARGE ENCLOSURE OPTIONAL)

ELEVATION

INFLUENT - END VIEW

Model Specifications Chart

MODEL	A	B	C	D	E	F	G	H	J	K	L	M	HP	EMPTY	LOADED
MDS 2460	37.5	25	22.5	40.5	72	10.25	4	8	66	95.5	6	22.5	.5	1100	1400
MDS 3660	48	36.5	32.75	56.75	80	14.5	6.75	10	72	104	8	32	1	2200	4600
MDS 4272	55.5	42.5	37.5	65	92	17	8	10	84	12	8	36	2	3000	6000
MDS 42120	55.5	42.5	38.75	66.75	140	17	8	10.5	132	175	8	36	2	4000	7000
MDS 42168	55.5	42.5	40.5	69	194	17	8	10.5	186	230	8	36	3	5000	8500
MDS 48120	62.5	48.5	42.75	75	140	17	8	10.5	132	172	8	40.5	3	4200	7500
MDS 48168	62.5	48.5	44.5	77	140	17	8	10.5	186	230	8	40.5	3	4500	8000
MDS 6096	77.25	60.75	50	90	116	10	3	12	107	132	12	49.5	2	4000	7000
MDS 60120	77.25	60.75	50	90	140	24	11.25	12	132	171	12	49.5	3	5300	9000
MDS 60168	77.25	60.75	52.5	92.5	194	24	11.25	12	186	232	12	49.5	5	6800	10800
MDS 72168	92	73	60.5	108.5	194	29	13.5	15	186	241	14	58	5	8600	12600
MDS 72200	92	73	62	110	230	29	13.5	15	220	292	14	58	7.5	10200	15000
MDS 84168	106	85	68	124	198	29	13.5	15	188	248	14	67	5	9800	16000
MDS 84200	106	85	70	125	230	29	13.5	15	220	292	14	67	7.5	13400	24000
MDS 84240	106	85	71	126.5	273	29	13.5	15	263	336	14	67	7.5	15600	34800
MDS 96240	116	96	75	130	273	29	13.5	15	263	336	14	72	7.5	17000	38000

NOTE: Dimensions given in inches—empty/loaded weights in lbs.

Dimensions subject to change.

Conversion Table

μ = Microns
in. = Inches
mm = Millimetres

U.S. Mesh Number	Sieve Opening			U.S. Mesh Number	Sieve Opening		
	μ	in.	mm		μ	in.	mm
5	4000	0.157	4.0	45	350	0.0138	0.350
6	3360	0.132	3.36	50	297	0.0117	0.297
7	2830	0.111	2.83	60	250	0.0098	0.250
8	2380	0.0937	2.38	70	210	0.0083	0.210
10	2000	0.0787	2.00	80	177	0.0070	0.177
12	1680	0.0661	1.68	100	149	0.0059	0.149
14	1410	0.0555	1.41	120	125	0.0049	0.125
16	1190	0.0469	1.19	140	105	0.0041	0.105
18	1000	0.0394	1.00	170	88	0.0035	0.088
20	840	0.0331	0.84	200	74	0.0029	0.074
25	710	0.0280	0.71	250	62	0.0024	0.062
30	590	0.0232	0.59	270	53	0.0021	0.053
35	500	0.0197	0.50	325	44	0.0017	0.044
40	420	0.0165	0.42	400	37	0.0015	0.037

Made in Canada

U.S. Patent # 5,607,587, # 5,008,010 & #5,733,450
CDN Patent # 2,008,684 • Other Patents Pending

The Food Industry

Ideal in all applications: raw, cooked, canned, processed, steam or lye peeled, process or waste streams.

Produce Processors
- tomatoes
- potatoes
- beans
- peas
- corn
- carrots
- peppers
- mushrooms
- fruits

Meat Processors
- beef
- pork
- chicken
- turkey
- duck
- fish
- shellfish
- seafood processors
- paunch manure
- offal

Food & Beverage
- sugar processors
- cheese & dairy operations
- all processed foods

Other Processors
- rendering plants
- leather processors
- tanneries

...and more!

Produce operation doing tomatoes, potatoes, mushrooms, etc. Lye peeled tomato operation shown. Operation is accomplished without backwash. There is very little free water with the solids — note the peak of the solids.

Produce operation doing peas, beans, corn, carrots, root crops, etc. Carrot operation shown.

Slaughterhouse application — total plant effluent.

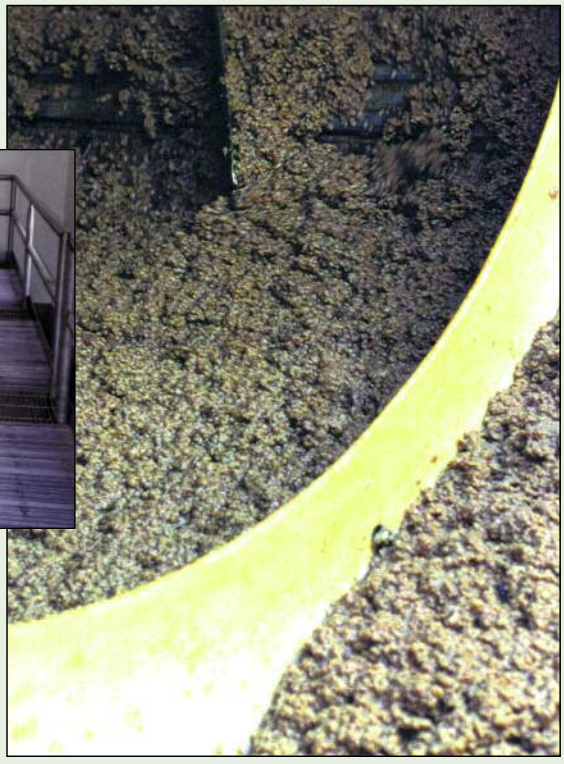
Fish processing operation — total plant effluent.

Municipal Applications

Simpler, cost-effective performance in compact systems.

- Secondary/WAS (Waste Activated Sludge) Thickening
- Primary Sludge Thickening
- Blended Sludge Thickening
- Primary Screening
- Effluent Fine Screening
- Industrial Pre-Treatment
- Sceptage Screening
- Process Screening

Primary treatment at municipal treatment plant. Designed to reduce BOD and solids loading to an overloaded lagoon system. ▼



Secondary (WAS) sludge thickening system increasing solids from <1% to 6 to 8%+ prior to hauling for disposal. Polymer consumption for this type of application is typically 4 to 9 lbs/ton of dry solids as a function of the sludge.

We get 6 to 8% easily, and often exceed this. To point out the strengths of our design, we have handled feed solids from 0.2% and up, used 5 lbs/ton and still met the 6 to 8% promised and delivered solids at 13%+ in some applications. ➤

WHAT MAKES BAYCOR DIFFERENT?

Design Philosophy

The **BAYCOR** design focuses on simplicity. Our goal is to make our systems perform better, make them more reliable, make them simpler to operate and easier to maintain. Our systems are designed to be flexible to meet with the demands of day to day operations. With more than 400 units installed in all sorts of applications, we believe that we are fulfilling our philosophy with our advanced solids/liquids separation technology.

The simplicity of our unique design simply gives us better performance. We build our units to ensure that reliability over the long term will not be a concern. Our systems represent permanent investments that retain their value better than any other piece of wastewater treatment or process equipment. Tunable, adaptable performance that operators can understand and adjust to meet with the needs of their operations make **BAYCOR** the systems of choice.

At **BAYCOR** we have incorporated a number of "firsts" into our advanced designs:

Drum Our drum is a fully engineered, structural element of our design and is independent of the screening media. The robust drum is channeled and panel-ready, and can be outfitted with panels of any size opening. Removable diverter flights are also part of the drum assembly, and are attached to the channels.

Panels Panels are available in a variety of opening sizes. We use a robust multi-weave media of 316 stainless steel construction. (Other grades of stainless and other alloys are also available.) Panels are easy to change out. In difficult solids/liquids separation applications, we have the ability to "tune" the openings in the drum to match the process and operational needs required. It is as easy to do in a pilot unit as it is in the full scale system installed at the plant.

Wheels As simple as wheels are, **BAYCOR** has made a science out of them. Our wheels have been totally designed for maximum life and minimum maintenance. Two heavy duty dual-row 100,000 hour bearings serve each wheel. Wheels and bearings operate at a small fraction of their maximum load. A unique feature of our advanced design also eliminates the need for separate guide rollers or cam followers. **BAYCOR**'s wheel design is engineered simplicity.

Typical MDS Installation

Unibody **BAYCOR**'s unibody construction is simpler, cleaner and stronger than conventional designs. Sturdy enough to meet pulp mill standards, our unibody is destined to last for generations. Built on pairs of feet of uneven length, we add a natural elevation to the discharge end of the unit. The diverter flights in the drum slowly move the solids forward and slightly uphill, out of the water that naturally runs back. The unibody automatically incorporates an integral drain pan.

Experience Since **BAYCOR** introduced our design and pioneered the use of woven-wire mesh in the screening industry many years ago, we have built up an enormous amount of application experience. **BAYCOR**'s unmatched Application Experience and factory support are at the forefront of the technology. Commissioning and start-up optimization are part of a systems purchase. There is no substitute for experience.

BAYCOR ADVANTAGE

The sum of our efforts is a system that is flexible, configurable and remarkably efficient and reliable. We tailor our advanced designs to suit a very wide range of needs in both process and wastewater treatment applications. We can provide food grade units when required, and custom designs for any special needs are our speciality. Our in-house fabrication facility is solely devoted to our pursuit of excellence in our field. Contact our office for more information about your special needs.

WHAT MAKES BAYCOR BEST?

FEATURES	BENEFITS
Drum Independent of Media	System Never Obsolete
Interchangeable Media Panels	Match Openings to Performance
Standard Variable Speed Drive or VFD	Tune to Meet Operational Goals
Fully Engineered Wheel Design	Reliable Operation, Low Maintenance
Solid S.S. Unibody Construction	Permanent Investment for Generations
Different Sizes and Models	To Suit Each Application and Budget
Advanced **BAYCOR** Process Design	High Performance
Advanced **BAYCOR** Mechanical Design	Simple, Easy-to-Maintain Operation
BAYCOR Application Experience	Quick, Sure Process Optimization
BAYCOR Factory Support	**BAYCOR** Experts – Part of Your Team
Full Custom Capabilities	Fit your Special Requirements
Agents Worldwide	Confidence in Dealing with the Leader

Panel Removal

Wheel Removal

APPLICATIONS FOR THE BAYCOR MDS DRUM-SCREEN

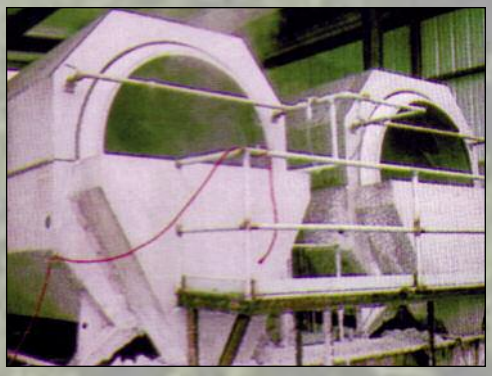
The Pulp and Paper Industry

Better performance in the process and on the environmental side of the business. Essential thickening performance for those who need to reach critical dewatering objectives.

- Fibre Recovery
- Fibre Washing
- Fibre Thickening
- Saveall Applications
- Decker Applications Broke Thickening
- Process Fine Screening
- Rejects Screening
- De-Inking Sludge Thickening
- Black Liquor Screening
- Secondary (WAS) Thickening
- Sludge Thickening
- Primary Sludge Thickening
- Blended Sludge Thickening

MDS in de-inking sludge thickening service, prior to screw press. The advantage that the MDS delivers in dryer solids was required to meet with the dry solids required from the press (50%+).

The de-inking sludge comes off of flotation clarifiers at 2–3%, with as much as 40% clay or ash. The solids come off our MDS at 12 to 15 to 18% allowing the press to meet its goal.



Two MDS units installed to wash and thicken the fibre from 1.5 to 3%, 12 to 16% out.

The recovered fibre is also cleaned and thickened at the same time. Exceptional MDS performance — each unit recovers more than 6 to 9 tons of fibre per day, achieving payback in weeks after installation.

Two MDS units in secondary (waste activated) sludge thickening service. Feed of <1% is pretreated with polymer to about 6% to 9% of dry solids.

Fibre Recovery; from white water pit, 0.06 in – 10% to 12% out, 50 freeness.

BAYCOR provides cost-effective solutions for a wide variety of solids/liquids separation applications.
ULTIMAC and SDS Series Screens, based on the MDS design, are offered on an application specific basis to meet your needs.
For more information on the complete range of products, please call us or our contact listed below.

BAYCOR SYSTEMS INC.
554 Admiral Drive
London,ON N5V 4L5
T 519 659-6881
M 519 755-7557
F 519 453-5539
info@baycorfibre.com

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