22303

CITY OF NEW BEDFORD

APPLICATION FOR CONNECTION TO PUBLIC SANITARY SEWER AND/OR STORM DRAIN

permit # 22303
06/10/1994

Application No. № 21464 Date 10-16-87

The undersigned hereby requests permission to connect a building sanitary and/or storm sewer from the premises located at WOOD ST. SS 150'± E. of Belleville AVE. (Street) Assessors' Plot 1160. Lot 43 to the public sanitary/storm sewer(s) in WOOD ST. (Street); the same to be installed in accordance with the terms and conditions set forth herein, and the ordinances of the City of New Bedford.

Name of Property Owner: Brodeur Machine Co. Inc. Tel. 995-2662
(Please Print)

Owner's Mailing Address: 62 WOOD ST.

If application is being submitted by other than actual property owner, indicate that person's

Name: ..... Tel. .....

Mailing Address: .....

and attach Letter of Authorization from Property Owner hereto.

BONDED CONTRACTOR OR DRAIN LAYER MAKING INSTALLATION 999-1371

Name: D.W. White Cons. Co., Inc Tel. 763-8868

Address: 862 Middle Rd, Acushnet MA 02743

JOINT MAINTENANCE AGREEMENT REQUIRED

If this connection is to be part of a private service shared jointly with other building owners, attach copy of Recorded Joint Maintenance Agreement hereto.

PERMITS TO INDUSTRIAL AND/OR COMMERCIAL APPLICANTS

Permits can be issued to Industrial and/or Commercial Applicants only upon receipt and approval by the Commissioner of Public Works of such supplemental information, including drawings, composition and quantity data, and other pertinant information as he may require.

In addition, a valid Industrial User Discharge Permit issued by the City, and a valid Permit for Sewer System Extension or Connection issued by the Commonwealth of Massachusetts, Division of Water Pollution Control, shall be required for applicants wishing to discharge industrial wastes to the City's sewer system.

Industrial User Discharge Permit No. ..... Date .....

Comm. Mass. Sewer Conn./Ext. Permit No. ..... Date .....

TERMS

a) Type of Pipe Required: PVC SDR-35

b) Separate Sanitary and Storm connections are required where a 2 - pipe system exists in the street.

c) All work must be inspected and approved by a D.P.W. Inspector, both in the street and on private property, before backfilling.

d) A Filing and Inspection Fee of $ 50.00, plus an Entrance Fee of $ ..... where applicable, must accompany this application.

e) Other requirements: INSP ONLY - D.W. White TO DO ALL WORK

Applicant agrees to abide by the above terms, as well as all pertinent ordinances of the City of New Bedford, and such other special rules as the Commissioner of Public Works may deem necessary.

Kathleen J. Buenz BH
Commissioner of Public Works

By: Susan Harris

..... Signature of Property Owner

By: Vincent Lorenzo
Signature of Owner's Representative

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REF INDUSTRIAL DISCHARGE PERMIT # S-039

Permit No. 21464

995-2662

CITY OF NEW BEDFORD

DEPARTMENT OF PUBLIC WORKS

Supplementary Information Required from Commercial or Industrial Firms in Addition to Issuance of Sewer Entrance Permit

A. Architect's floor plan showing proposed connections to building drain (inside building):

B. Architect's detail drawings of any pretreatment or equalization equipment:

C. Site plan showing:

(1) Building and location of building sewer
(2) Proposed connection to public sewer
(3) Profile of building sewer
(4) Plan and profile of storm drain
(5) Location of control manhole
(Standard type — preferably between property line and public sewer.)

D. Wastewater Information: Date: 10/10/87

(1) Name of firm: BRODEUR MACHINE CO INC

(2) Address 62 WOOD STREET

(3) Name and title of person completing form. (company representative):
MARK BRODEUR

(4) Industry type (SIC Number): 3599

(5) Number of Employees: 45

(6) Principal products manufactured, produced, processed or sold:
IRON & STEEL (MACHINE SHOP)

(7) Sources of water supply: Municipal X Well

(8) Estimated volume of water to be used per day: 276 gallons.

(9) Flow gauges in plant NO influent NO effluent.

(10) Water consumed in processes: 10 %.

(11) Recycled water: 0 %.

(12) Cooling water: 50 %.

(13) Number of operating days per week: 6

(14) Number of shifts per day: 1

(15) Type of discharge: X continuous batch.

(16) If batch per shift.

(17) Estimated volume of wastewater discharged daily 250 gallons.

(18) Wastewater abatement practices to be used:

(a) Process changes: NONE

(b) Changes in raw materials: NONE

(c) Recycling methods: NONE

(d) Wastewater treatment equipment: SLANT RIB COALESCING OIL/WATER SEPARATOR

(e) Monitoring devices: NONE

(f) Sampling and testing procedures: YES

O.K.
10-16-87
RAVI JOSHI

(19) Expected constituents of final wastewater discharge:

(a) pH 6-9

(b) Grease/Oil <100 mg/l

(c) C O D N/A mg/l

(d) Cl Req'm't. N/A mg/l

(e) S. S. N/A mg/l

(f) Color N/A mg/l

(20) Mark A. Brodeur
Signature of Property Owner

10/15/87
Date

Brodeur Machine Company, Inc.
62 Wood Street
New Bedford, Massachusetts 02745
TEL: 617-995-2662

Oct. 16, 1987

City of New Bedford
William St.
New Bedford, Ma. 02740

Gentlemen:

I hereby authorize Mr. Vincent Garcia to sign for Brodeur Machine

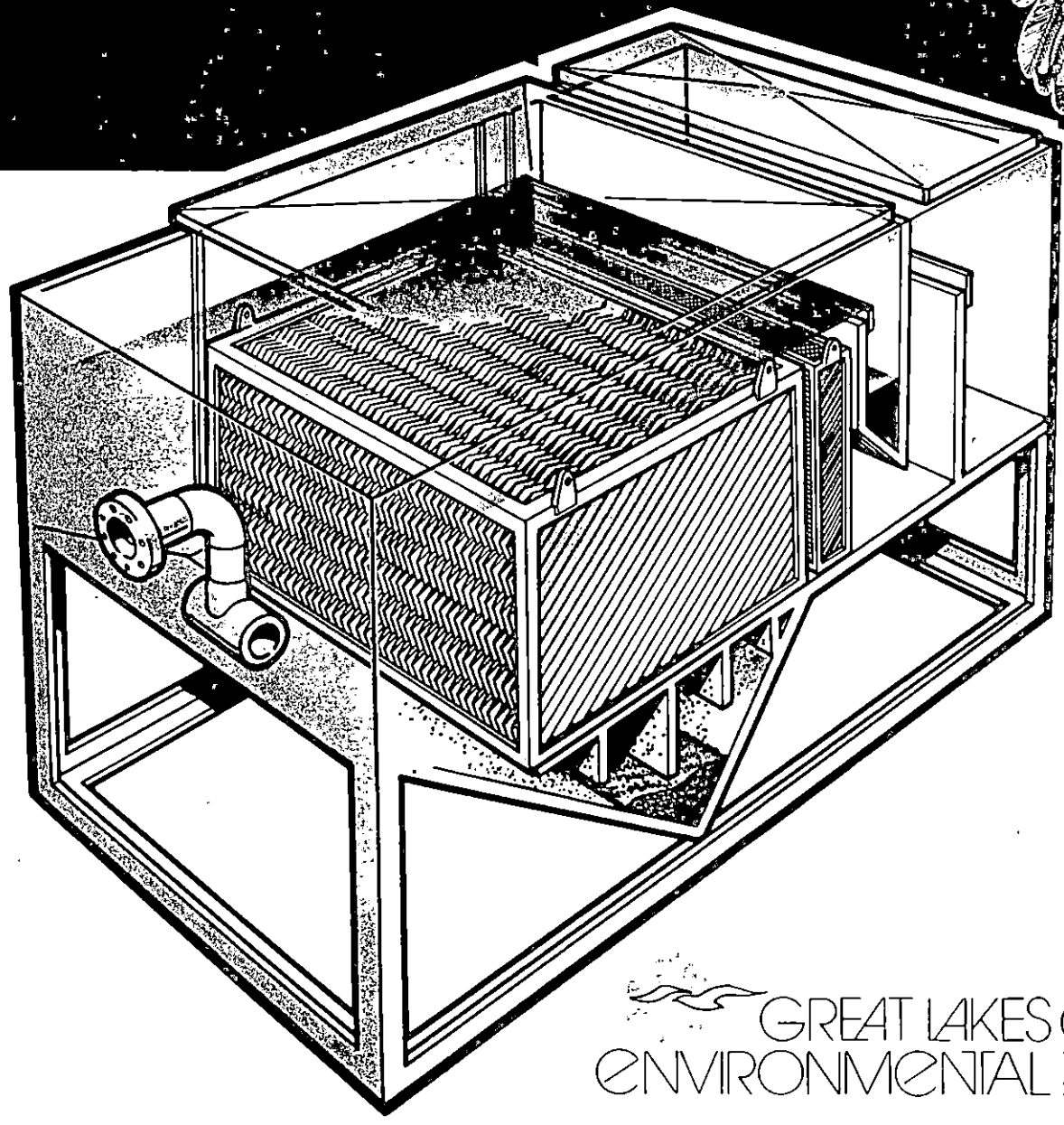
on any form you may require a signature on.

Very truly yours,
BRODEUR MACHINE CO., INC.

MARK A. BRODEUR, VICE PRES. & TRES.

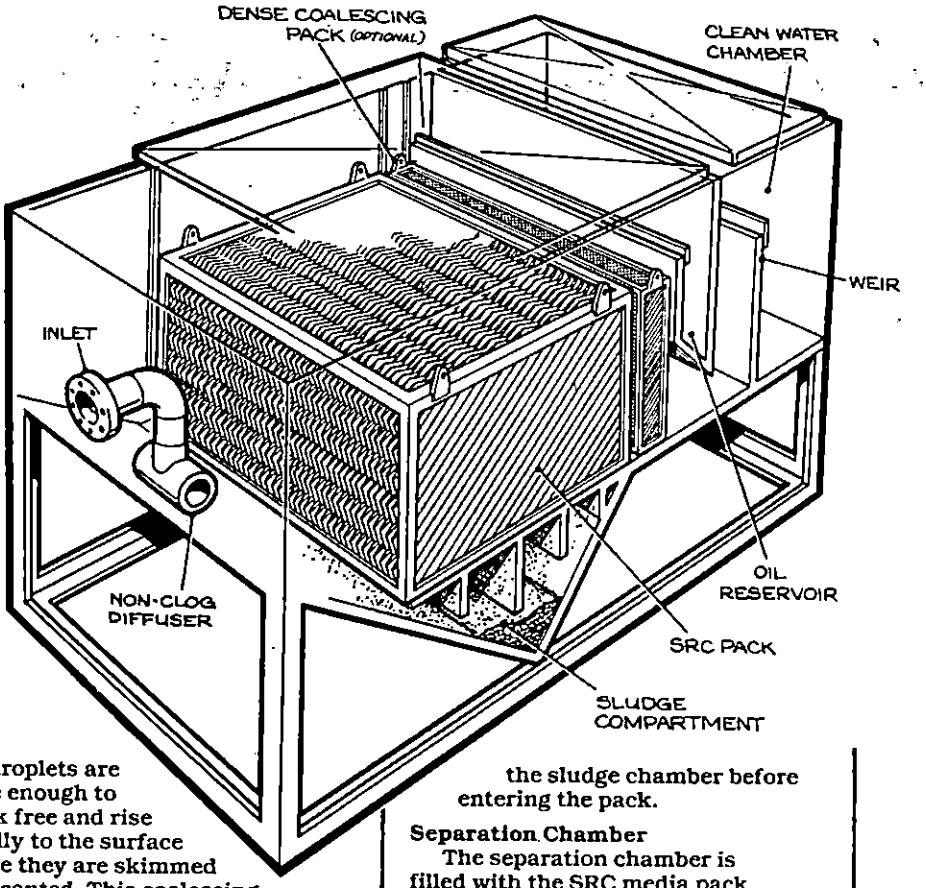
MAB/s

SLANT RIB COALESCING OIL/WATER SEPARATOR



GREAT LAKES ENVIRONMENTAL

The Slant Rib Coalescing Separator is a highly effective gravity separator for the removal of dispersed oil and solids from water.



GENERAL INFORMATION

The Great Lakes Slant Rib Coalescing (SRC) Separators are capable of effectively separating oils and solids from water where the oil and solids have a specific gravity different than that of water. The SRC performance is superior to other gravity coalescing units for the separation of dispersed oil and settleable solids. Effluent concentrations of dispersed oil are less than 10 mg/L. The SRC Separators are ½ the volume and as little as ⅛ the length of straight gravity separators.

The Slant Rib Coalescers are installed in rectangular tanks containing special baffles and weirs designed to direct flow, skim oil and control the liquid levels in the separator. Pitched sludge compartments are provided below the separation chamber for easy sludge removal.

The separators are available in standard models with capacities from 5 GPM to 2000 GPM. They can be installed above grade, flush with grade, or below grade as required. The separators can operate entirely by gravity or pumps can be supplied for product or effluent transfer when required.

DESIGN

When certain materials are placed in the waste water flow, removal efficiencies of oil increase due to impingement on their surfaces. Plastic media is particularly effective because of its oleophilic (oil attracting) characteristics. As fine oil droplets impinge upon or pass close to the plastic surface, they are attracted to it and adhere. Additional droplets continue to be attracted and coalesce or merge with previous droplets to produce much larger droplets. At a point, the droplets are large enough to break free and rise rapidly to the surface where they are skimmed or decanted. This coalescing action allows removal of smaller droplets than is possible with a straight gravity separator.

The effectiveness of any particular coalescing media is governed by several variables; density, available surface area, velocity and direction of flow and shape of the media. All of these variables influence the potential contact area, so it becomes of particular importance to form the media properly to maximize contact while minimizing blinding. The Slant Rib Coalescing (SRC) media pack was designed with consideration of all these factors. The SRC media provides greater coalescing and solids separation area than any other media currently available. The patented shape and specific spacing of the plates provides maximum protection from blinding, while providing a series of inclines that enhance solids separation and a tortuous path through which the water must pass. This continuous change of direction insures a high degree of oil droplet contact on the plate surface with resultant coalescence and oil removal. The ribs are slanted toward the surface in the direction of flow, encouraging separated oil to float to the surface along the plates before breaking free.

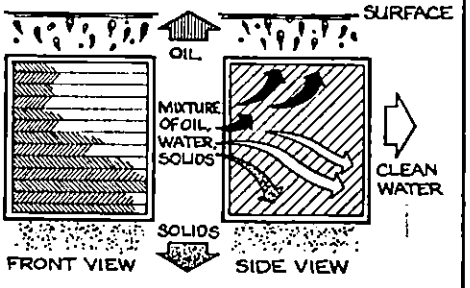
OPERATION

Inlet and Diffusion Chamber

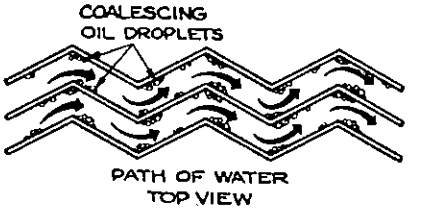
Flow enters the inlet chamber where it is dispersed through a non-clog diffuser across the width and depth of the media pack. Larger solids drop out here into the sludge chamber before entering the pack.

Separation Chamber

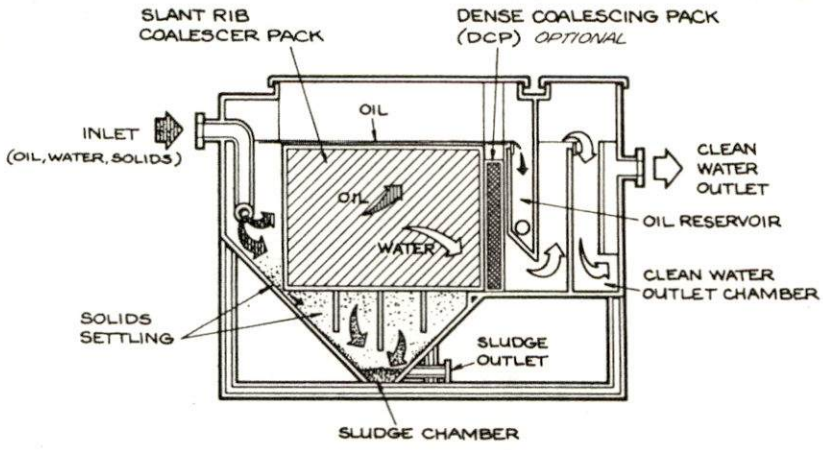
The separation chamber is filled with the SRC media pack. The ribbed plates are arranged vertically in the direction of flow,



spaced ¾" apart. When looking at the side of the media pack the ribs run from the bottom of the inlet side to the top of the outlet side on a 45° angle. The depth of the ribs is more than twice the distance of the spacing creating an overlap condition. This causes the flow to zig-zag around 90° corners throughout the pack, causing resistance to flow, collisions of the droplets 20 microns and larger with the plates and coalescence. The coalesced oil has the least restricted path to exit the waste stream, and slides to the surface on the underside of the rib.



An optional Dense Coalescer Pack (DCP) is available when additional polishing is desired.



SLANT RIB COALESCING SEPARATOR

Solids entering the pack encounter a 55° angle of inclination created by the ribs which is optimum for solids settling. The solids slide down the top of the rib and fall to the next rib, gathering mass and velocity as they near the bottom of the pack and drop into the sludge chamber. The horizontal projected area of the top side of the ribs provides a conservative 0.20 GPM per square foot separation rate at design loadings.

SOLIDS SETTLING
FRONT VIEW

Sludge Chamber

The sludge chamber is located directly beneath the separation chamber and provides adequate volume for the settled sludge. The sides of the sludge chamber are sloped 45° to insure easy and complete removal of the sludge.

Oil Removal

The separated oil accumulates at the surface of the separation chamber where it displaces the water. As the oil layer increases, oil spills over a weir into an oil reservoir where it can flow by gravity or be pumped automatically to remote storage tanks.

Clean Water Chamber

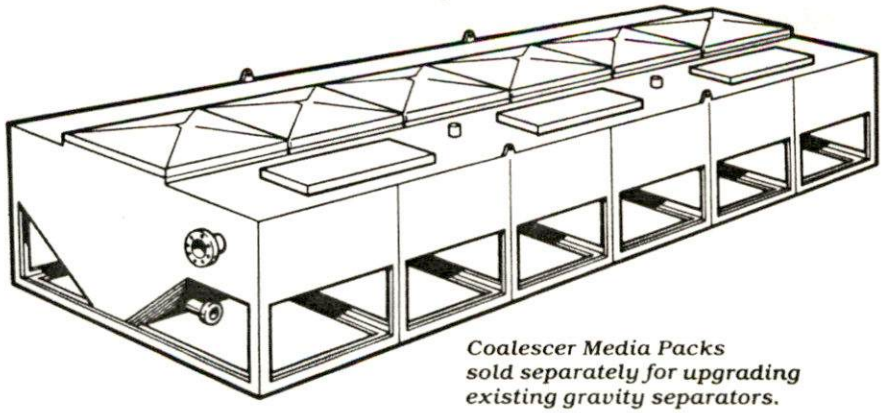
The clean water leaving the SRC media pack passes under an oil retention baffle and into the effluent or clean water chamber. From there, the clean water passes over a weir which maintains the liquid level in the separator. The clean water flows by gravity through a "T" pipe outlet or effluent pumps can be provided. The "T" pipe provides an excellent spot for sampling.

Covers

Hatches are provided for easy access into the separator. Sealed, vapor tight hatches are available. Lifting lugs are provided on the media packs and on the separator.

MATERIALS OF CONSTRUCTION

Materials of construction include ¼" thick Class A carbon steel, stainless steel and fiberglass. The standard Slant Rib Coalescing media is fiberglass reinforced plastic (FRP) with special additives to make the plates highly oleophilic. The plates can also be supplied in stainless steel. Fiberglass separators are constructed with an exterior welded steel frame encased in fiberglass for corrosion protection. All steel tank welds are Magnaflux tested in accordance with military specifications.



Coalescer Media Packs sold separately for upgrading existing gravity separators.

COATINGS

Above grade carbon steel tanks are coated on the exterior with coal tar epoxy. Flush with grade and below grade carbon steel tanks have asphaltum exterior coatings. Steel separators are supplied with a standard interior coating of zinc primer. Special interior and exterior coatings are available.

AVAILABLE OPTIONS

- Flow control package
- Water Pump out system
- Recovered Oil Pump Out System
- Effluent Oil Monitor
- Heaters for freeze protection
- Dense Coalescing Pack
- Sludge Pump Out System
- Design Flexibility to Satisfy Your Application

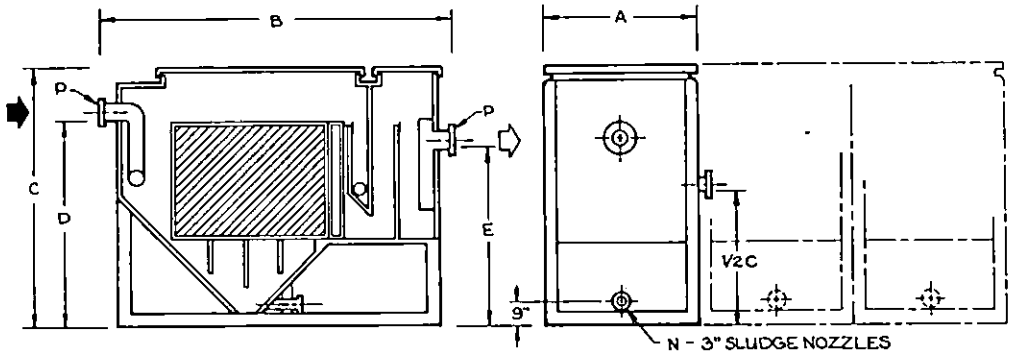
APPLICATIONS

- Automotive
- Airports
- Bus Terminals
- Bulk Plants
- Chemical Plants
- Fabricated Metal Plants
- Glass Factories
- Military Bases
- Oil Fields
- Petroleum Plants
- Pulp and Paper Mills
- Parking Lots
- Railroad Yards
- Textile Mills
- Tramp Oil
- Truck Terminals
- Utility Companies
- Wash Racks

For further information contact Great Lakes Environmental, Inc., or our local representative. We will be glad to assist you in selecting a properly sized unit for your application.

GREAT LAKES ENVIRONMENTAL

Slant Rib Coalescing Oil/Water Separator



DIMENSIONS, WEIGHTS & CAPACITIES

MODEL	A	B	C	D	E	P	N	No. Packs	Coalescing Area Sq. Ft.	Settling Area Sq. Ft.	Empty Weight	Operating Weight
SRC-15	2.7′	8.0′	5.0′	3.5′	3.0′	3″	1	1	360	90	1260	2700
SRC-30	2.7′	8.0′	6.0′	4.5′	4.0′	3″	1	1	720	180	1720	4120
SRC-50	2.7′	8.0′	7.0′	5.5′	5.0′	4″	1	1	1080	270	1840	5190
SRC-75	3.7′	8.0′	7.0′	5.5′	4.9′	4″	1	1	1620	405	2130	7160
SRC-100	3.7′	9.5′	7.9′	6.5′	5.7′	6″	1	1	2160	540	3380	10650
SRC-150	5.7′	9.5′	7.9′	6.5′	5.7′	6″	1	1	3600	900	4800	16920
SRC-200	6.7′	9.5′	7.9′	6.5′	5.5′	8″	2	1	4320	1080	5380	19920
SRC-250	8.7′	9.5′	7.9′	6.5′	5.5′	8″	2	1	5760	1440	6540	25930
SRC-300	9.7′	9.5′	7.9′	6.5′	5.3′	10″	2	2	6480	1620	7251	29060
SRC-400	12.7′	9.5′	7.9′	6.5′	5.3′	10″	3	2	8640	2160	9120	38200
SRC-500	15.7′	9.5′	7.9′	6.5′	5.3′	10″	3	2	10800	2700	10990	47340
SRC-600	18.7′	9.5′	7.9′	6.5′	5.3′	10″	4	3	12960	3240	12860	56680
SRC-700	21.7′	9.5′	7.9′	6.5′	5.3′	(2) 10″	5	3	15120	3780	14730	65630
SRC-800	24.7′	9.5′	7.9′	6.5′	5.3′	(2) 10″	5	3	17280	4320	16600	72760
SRC-900	27.7′	9.5′	7.9′	6.5′	5.3′	(2) 10″	6	4	19440	4860	18470	83910
SRC-1000	30.7′	9.5′	7.9′	6.5′	5.3′	(2) 10″	6	4	21600	5400	20340	93050
SRC-1100	33.7′	9.5′	7.9′	6.5′	5.3′	(2) 10″	7	5	23760	5940	22210	102190
SRC-1200	36.7′	9.5′	7.9′	6.5′	5.3′	(2) 10″	8	5	25920	6480	24080	111330
SRC-1300	39.7′	9.5′	7.9′	6.5′	5.3′	(3) 10″	8	5	28080	7020	25950	120470
SRC-1400	42.7′	9.5′	7.9′	6.5′	5.3′	(3) 10″	9	6	30240	7560	27820	129610
SRC-1500	45.7′	9.5′	7.9′	6.5′	5.3′	(3) 10″	9	6	32400	8100	29690	138750
SRC-1600	48.7′	9.5′	7.9′	6.5′	5.3′	(3) 10″	10	6	34560	8640	31560	147890
SRC-1700	51.7′	9.5′	7.9′	6.5′	5.3′	(3) 10″	11	7	36720	9180	33430	157030
SRC-1800	54.7′	9.5′	7.9′	6.5′	5.3′	(3) 10″	11	7	38880	9720	35300	166170
SRC-1900	57.7′	9.5′	7.9′	6.5′	5.3′	(4) 10″	12	8	41040	10260	37170	175310
SRC-2000	60.7′	9.5′	7.9′	6.5′	5.3′	(4) 10″	12	8	43200	10800	39040	184450

Dimensions and capacities are for reference only and are not to be used for construction. Model No. represent nominal flow rates in GPM.

GREAT LAKES ENVIRONMENTAL
463 Vista • Addison, IL 60101 • (312) 543-9444

GREAT LAKES ENVIRONMENTAL, INC.

SLANT RIB COALESCING

OIL/WATER SEPARATOR

STEEL CONSTRUCTION

FOR: Brodeur Machine Company
New Bedford, MA

PROPOSAL NO: 87309

DATE: June 17, 1987

Great Lakes Environmental, Inc. proposes to furnish one (1) Slant Rib Coalescing Oil/Water Separator, Model SRC-15 designed to treat 15 gpm flow of ambient wastewater containing oil of approximate specific gravity .90. The separator will produce an effluent containing less than 15 mg/l of oil droplets larger than 20 microns. The separator is designed for above grade installation.

EQUIPMENT DESCRIPTION

1. Inlet Chamber

   The influent enters the inlet chamber through an inlet baffle which disperses the flow evenly across the depth and width of the coalescing pack. Heavy solids separate here and settle into the sludge chamber.

2. Separation Chamber

   The special slant rib coalescing media provides 330 sq ft of coalescing area and 82 sq ft of effective settling area. The plates are placed a maximum of 3/4" apart. The plates are contained in a SS frame that is equipped with lifting lugs for easy removal. There is one (1) media pack that measures 4'L x 2'W x 1'H.

3. Sludge Chamber

The sludge chamber is located directly under the coalescing media and equipped with baffles, 45 degree pitched sides, and two (2) sludge outlet ports.

4. Oil Skimming And Reservoir

An integral oil storage reservoir with an oil skimming weir is provided at the end of the separation chamber. The oil reservoir has a gravity outlet nozzle located on the side of the separator.

5. Effluent Chamber

The clean water leaving the packs passes under an oil retention baffle and into the effluent chamber where it passes over an adjustable weir, which maintains the liquid level in the separator. The clean water flows by gravity through a flanged pipe outlet from the separator.

6. Covers and Hatches

The separator is completely covered with a removeable hatch which allows access to the media pack and all compartments.

7. Materials of Construction

The tank shell, cover, and baffles are constructed of A36 carbon steel. All exterior structural members are carbon steel. All weld joints are double welded and Magnafluxed in accordance with MIL Spec. 1-25135. The media plates are constructed of oleophilic plastic and housed in a stainless steel frame.

8. Lifting Lugs

Lifting lugs are provided at balance points.

9. Coatings

Interior surfaces will be prepared to SSPC-SP6, commercial blast, and given one (1) coat of Tnemec Tneme-Tar, 6 dmt, or equal.

Exterior surfaces will be prepared to SSPC-SP6, commercial blast, and given one (1) coat of Tnemec Hi-Build Epoxoline followed by one (1) coat of Tnemec Endura-Shield, 5.5 to 8.5 dmt, or equal. Final coat is Safety Blue.

10. Sizing Criteria

Influent Flow	15 gpm
Total Coalescing Area	330 sq feet
Total Settling Area	82 sq feet
Oil Reservoir Capacity	5 gallons
Tank Size - 7.3' L x 2.4' W x	4' H
Steel Plate Thickness	3/16"
Weight, Empty	1260 pounds
Operating	2700 pounds

11. Customer Connections

Inlet	(1)	3"
Outlet	(1)	3"
Oil Outlet	(1)	3"
Sludge Outlet	(2)	3"

12. Dense Pack is included.

PRICING

Total Price - - - - - - - - - - - $6,105.00
Pricing is valid for 45 days.

SHIPPING

F.O.B. Addison, IL.

DELIVERY

Approval Drawings - - 2-3 weeks after order.
Shipment - - - - - - 6-8 weeks after approval.

PAYMENT

20% with approval.
Balance Net 30 days after shipment.

DRAWINGS AND MANUALS

Three (3) sets of General Arrangement Drawings and three (3) Operation and Maintenance Manuals are included. Additional sets are available for $100 each.

TERMS OF SALE

Purchase order to be subject to the attached Terms of Sale and also subject to approval by an officer of GREAT LAKES ENVIRONMENTAL, INC.

GREAT LAKES ENVIRONMENTAL, INC. ACCEPTED:

BY _____ BY _____
Richard J. Brincks

Company

Date