

# ENGINEERING COMMUNIQUÉ

JAY R. SMITH MFG. CO.® ♦ October, 2011 ♦ VOLUME 1- ISSUE 11



FAMILY OF COMPANIES

**From:  
THE SMITH ENGINEERING GROUP**

## **PRODUCT ALERT: 8600 Series Ultracept®**

The Ultracept® oil/water separator provides high separation efficiency without high maintenance coalescing packs. The design is simple but reliable. It is a multi-stage, continuous skimming pattern. It uses water as a carrier which enables sheens of oil to be skimmed along with mechanically emulsified oil and water. The oils and the carrier skimming water are conveyed to a quiescent, off-line compartment where the skimming water is automatically decanted back to the sump and the oil and mechanical emulsions are given extended detention time for effective separation.

These units are available in stainless steel or mild steel and are available in 2, 5, 10, 25 & 45 GPM sizes.

Additionally information is available on the website or you may contact Sales Engineering for additional assistance.

On the following page are photos of two 45 GPM units recently installed on a project site near Atlanta, GA. The units are stainless steel creating an aesthetically nice appearance along with providing durability and longevity. Please refer to the accompanying submittal drawings (8600-Series 1 & 8600 Series 2).



## **NICKEL BRONZE:**

Recently the question was asked by an architect concerning which material should be specified on floor drains in a finished area. He had wanted to specify nickel bronze but was told it would not embrace foot traffic because it was a coating. This could not be further from the facts. Nickel bronze is ideal for areas subjected to the abrasive polishing action of shoe (foot) and other traffic. Nickel bronze is not a coating but a solid cast metal of added strength which is regularly furnished with a permanent silvery satin finish blending in with most décor. The buffing action of foot traffic actually helps it maintain and increase its lustre.

Metals are classified on a noble scale of least noble (anodic) to the most protected (cathodic). Nickel bronze is towards the protected end (most noble) side of the scale.



FIGURE NUMBER	<b>8600 Series1</b>	DRAWN BY: CMD	CHECKED BY: SW	APPROVED BY: SW	DATE: 6-19-98	SCALE: NONE	SIZE A	DRAWING NUMBER s8600 Series1	T
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DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCE AND CHANGE WITHOUT NOTICE

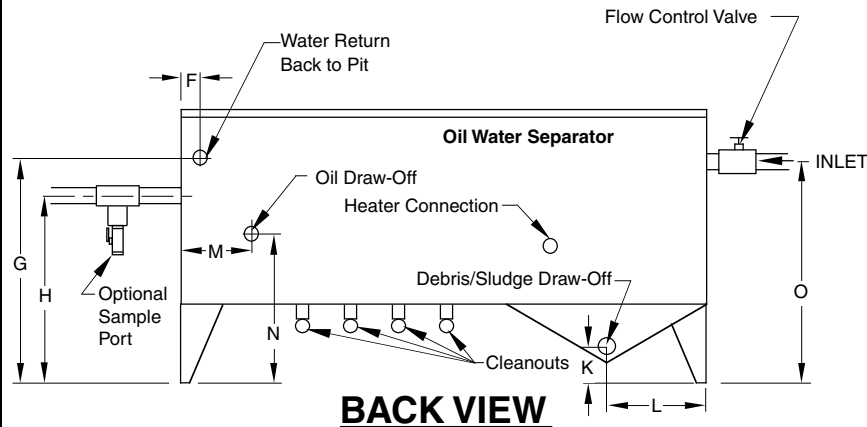
WE CAN ASSUME NO RESPONSIBILITY FOR USE OF SUPERSEDED OR VOID DATA

## ULTRACEPT® WATER COHESIVE OIL/WATER SEPARATOR

U. S. Pat. No. 6,139,730

**CITY OF LOS ANGELES  
DEPT. OF BUILDING AND  
SAFETY RR-55-49**

ACCEPTED FOR USE  
CITY OF NEW YORK  
DEPARTMENT OF BUILDINGS  
**MEA-350-96-E**



**BACK VIEW**

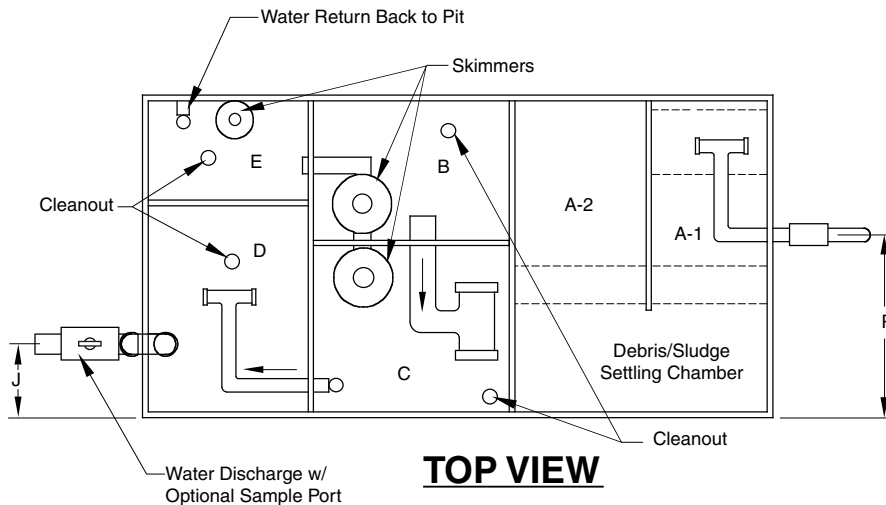
Model	Construction Material	Flow Rate GPM	Inlet	Outlet	Water Return	Sludge Draw-Off	Oil Outlet	Waste Oil Cap	Length	Width	Height	Weight	Water Volume
8602	S, M	2	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	4 gal	36"	24"	36"	150 lbs	67 gal
8605	S, M	5	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	12 gal	60"	36"	36"	600 lbs	168 gal

**S = Stainless Steel**

**M = Mild Steel**

Model	F	G	H	J	K	L	M	N	O	P	Q
8602	4.00	31.00	28.5	10.00	12.00	6.32	8.00	24.56	34.25	21.00	12 <sup>3'</sup>
8605	5.125	25.7	25.7	2.5	4.47	12.07	12.00	16.7	33.32	18.00	45 <sup>3'</sup>

**All Cleanouts and Water Return Lines are to be plumbed to a common 3" Line that goes back to Surge Pit. All external plumbing fittings are Sch. 40 PVC unless otherwise specified.**



**TOP VIEW**

- |  |  |
|--|--|
| <b>A</b> Inlet Compartment                 | <b>K</b> Sludge draw-off height from grate |
| <b>B</b> Primary Skimming Compartment      | <b>L</b> Sludge draw-off from side         |
| <b>C</b> Secondary Skimming Compartment    | <b>M</b> Oil draw-off from side            |
| <b>D</b> Final Polishing Compartment       | <b>N</b> Oil draw-off height from grate    |
| <b>E</b> Oil Collection Compartment        | <b>O</b> Inlet height from grade           |
| <b>F</b> Water Return from Side            | <b>P</b> Inlet location from side          |
| <b>G</b> Water Return height from grade    | <b>Q</b> Cubes (ft.)                       |
| <b>H</b> Water Discharge height from grade |  |
| <b>J</b> Water Discharge from side         |  |

**NOTE:** Ultracept® units exposed to freezing temperatures may require pipe insulation to be installed on exposed plumbing. Pipe insulation is by others.



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TEL: 334-277-8520 FAX: 334-272-7396 www.jrsmith.com



MEMBER OF:



T 8-10-11  
S 6-7-11  
R 5-11-11  
Q 09/25/08  
P 1-9-06

Rev. Fig. No., Tables  
Revised Table  
Revised Table, Added Note  
Corrected "J" Dimension  
Revised Table

TBW  
TBW  
TBW  
JJ  
TBW

TK  
TK  
SW  
SW

REV.	DATE	DESCRIPTION	BY	CKD. BY	WT. LBS	VOL. CF

FIGURE NUMBER	<b>8600 Series1</b>	DRAWN BY: CMD	CHECKED BY: SW	APPROVED BY: SW	DATE: 6-19-98	SCALE: <b>NONE</b>	SIZE <b>A</b>	DRAWING NUMBER s8600 Series1 BS	D
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## ULTRACEPT® WATER COHESIVE OIL/WATER SEPARATOR

### THE OIL REMOVAL PROCESS

From the surge pit, either above or below grade, contaminated water is pumped to the Ultracept® oil/water separator. The separator, having been filled with clean water prior to start-up, then uses the clean water to promote and enhance waste separation. The effluent from the pit passes through a screen in compartment A to remove any floating debris. The oil is skimmed as the effluent passes through compartment B and C. Skimmed oil and the water that transports it empties into compartment E. The water that transported the oil into compartment E is then automatically drained back to the surge pit. The oil collected in compartment E is periodically removed for disposal during factory recommended scheduled maintenance, or can be continually decanted into a separate container.

The flow of water through the unit allows the cleanest water to be drawn from the bottom of each compartment. From the bottom of compartment B, water is siphoned through the T-pipe to the top of compartment C. The transfer pipe in compartment C transfers the clean effluent to compartment D where it is gravity discharged to an approved sewer system.

The Ultracept® System features simplicity. No moving parts, no filters, no coalescing plates or chemicals are used for oil removal. For proper performance, a minimum size surge pit of 4x4x4 is required and the ratio of oil to water entering the unit shall not exceed 15% oil to 85% water. No additive can be used that will leave oil emulsified in the waste water.

Ultracept® equipment is modular in design, so that modifications or additions may be made to always keep operations in compliance with EPA regulations.

### TYPICAL APPLICATIONS

- |  |   |   |
|--|---|---|
| <ul style="list-style-type: none"> <li>• Service and Wash Areas <ul style="list-style-type: none"> <li>-Trucks and Automobiles</li> <li>-Heavy Equipment</li> <li>-Fork Lifts</li> <li>-Engine Rebuilders</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• Process Water Cleanup <ul style="list-style-type: none"> <li>-Asphalt Plants</li> <li>-Industrial Plants</li> <li>-Compressors</li> <li>-Generators</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• Environmental Cleanup <ul style="list-style-type: none"> <li>-Parking Lot Run-off</li> <li>-Groundwater Remediation</li> <li>-Holding Ponds</li> <li>-Oil and Gasoline Spills</li> </ul> </li> </ul> |
|--|---|---|

#### REGULARLY FURNISHED:

Modular Unit, Flow Control Valve. All Required Plumbing Components, Sch. 40 PVC.

#### OPTIONS:

- Supply Pump
- Heaters for Outside Freeze Protection (HK)
- Surge Pit Alarm (Tank Alert)
- Sample Port
- Copper Plumbing (Outside Only)



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MEMBER OF:



D	8-10-11	Rev. Fig. No.			
C	10/10/03	Added Optional Sample Port			
B	7-21-99	Revised Reg. Furn., Opt. Materials			
A	9-9-98	Revised			
REV.	DATE	DESCRIPTION	BY	CKD. BY	WT. LBS
			TBW JJ TBW CMD	TWK SW SW SW	VOL. CF

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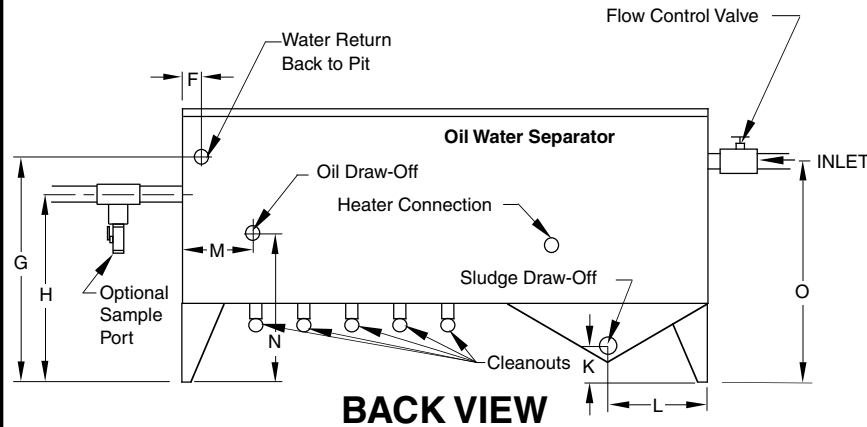
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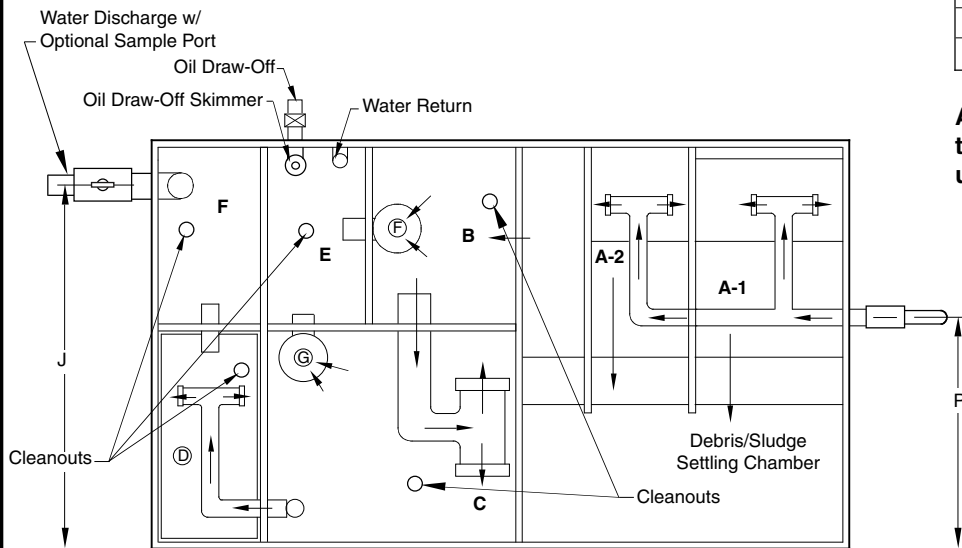
Model	Construction Material	Flow Rate GPM	Inlet	Outlet	Water Return	Sludge Draw-Off	Oil Outlet	Waste Oil Cap	Length	Width	Height	Weight	Water Volume
8610	S,M	10	2"	3"	1 1/2"	3"	1 1/2"	23 gal	72"	36"	48"	925 lbs	400 gal
8625	S,M	25	2"	3"	1 1/2"	3"	1 1/2"	29 gal	84"	48"	48"	1175 lbs	628 gal
8645	S,M	45	2"	3"	1 1/2"	3"	1 1/2"	35 gal	96"	48"	48"	1395 lbs	718 gal

**S = Stainless Steel**

**M = Mild Steel**

Model	F	G	H	J	K	L	M	N	O	P	Q
8610	18.07	35.82	33.7	29.88	6.00	12.07	21.875	28.82	43.69	18.00	72
8625	18.99	31.70	33.70	6.00	6.00	18.07	23.875	21.70	43.57	24.00	112
8645	26.875	36.00	33.88	42.12	6.15	18.07	32.31	29.00	43.88	24.00	128

**All Cleanouts and Water Return Lines are to be plumbed to a common 3" Line that goes back to Surge Pit. All external plumbing fittings are Sch. 40 PVC unless otherwise specified.**



- |  |  |
|--|--|
| <b>A</b> Inlet Compartment                 | <b>K</b> Sludge draw-off height from grade |
| <b>B</b> Primary Skimming Compartment      | <b>L</b> Sludge draw-off from side         |
| <b>C</b> Secondary Skimming Compartment    | <b>M</b> Oil draw-off from side            |
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| <b>E</b> Oil Collection Compartment        | <b>O</b> Inlet height from grade           |
| <b>F</b> Water Return from Side            | <b>P</b> Inlet location from side          |
| <b>G</b> Water Return height from grade    | <b>Q</b> Cubes (ft.)                       |
| <b>H</b> Water Discharge height from grade |  |
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REV.	DATE	DESCRIPTION	BY	CKD. BY	WT. LBS	VOL. CF
K	8-22-11	Rev. Fig. No., Tables	TBW	TWK		
J	05/13/09	Added Sch. 40 PVC note	JJ	SW		
H	01/09/09	Spelling Correction	JJ	SW		
G	2-28-05	Revised Table	TBW	SW		
F	10/10/03	Added Optional Sample Port	JJ	SW		

FIGURE NUMBER	<b>8600 Series2</b>	DRAWN BY: CMD	CHECKED BY: SW	APPROVED BY: SW	DATE: 10-13-98	SCALE: <b>NONE</b>	SIZE <b>A</b>	DRAWING NUMBER s8600 Series2 BS	D
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|--|---|---|

#### REGULARLY FURNISHED:

Modular Unit, Flow Control Valve. All Required  
Plumbing Components, Sch. 40 PVC.

#### OPTIONS:

- |                          |  |
|--------------------------|--|
| <input type="checkbox"/> | Supply Pump                                |
| <input type="checkbox"/> | Heaters for Outside Freeze Protection (HK) |
| <input type="checkbox"/> | Surge Pit Alarm (Tank Alert)               |
| <input type="checkbox"/> | Sample Port                                |
| <input type="checkbox"/> | Copper Plumbing (Outside Only)             |



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MEMBER OF:



D	8-22-11	Rev. Fig. No.			
C	05/14/09	Added Sch. 40 PVC & Optional Copper	TBW	TWK	
B	10/10/03	Added Optional Sample Port	JJ	SW	
A	7-21-99	Revised Reg. Furn., Opt. Materials	TBW	SW	
REV.	DATE	DESCRIPTION	BY	CKD. BY	WT. LBS
					VOL. CF