

INSULATING OIL CONDITIONING & REGENERATION SYSTEM

**CUSTOMIZABLE
STATIONARY &
MOBILE OPTIONS**



- ***Mineral Insulating Oils***
- ***Synthetic Ester Fluids***
- ***Natural Ester Fluids***
- ***Silicone Fluids***

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Oil Conditioning

Optional Oil Regeneration

Transformer Dry-Out

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// INTRODUCTION

The SESCO SES320 series of insulating oil conditioning and regeneration systems have been manufactured for more than 30 years and can be found in the power generation, transmission, distribution and transformer manufacturing industries world-wide.

The SES320 family of oil purifiers are used to condition new and recondition in service insulating fluids for use in high voltage electrical equipment. The SES320R incorporates an optional adsorbent treatment stage to add oil regeneration capability.

All SES320 models are designed to “single pass” oil processing performance standards to accommodate transformer maintenance and commissioning requirements.

The SES321-600 and SES321-900 are compact, versatile, easy to tow, trailer mounted pre-configured systems with relatively few options.

The SES320-900 through SES320-3000, are fully configurable, and available in stationary skid as well as numerous mobile versions.



// CAPABILITIES

• Prepare new and Group 2 in service dielectric fluids for transformer service	✓
• Reclaim badly degraded Group 3 in service mineral dielectric fluids for transformer service	✓ Requires optional adsorbent treatment stage.
• Remove moisture from transformer insulation via multi-pass oil circulation	✓
• Remove sludge from a transformer via multi-pass hot oil circulation	✓ Requires optional adsorbent treatment stage.
• Circulating oil within an energized transformer *	✓
• Drain transformer for maintenance	✓ Optional dry breathing air systems are available for dry air back fill.
• Heat transformer core for vacuum dry-out via multi-pass hot oil spray while under vacuum	✓ Requires optional inlet oil booster pump. Optional spray connection manifold recommended.
• Evacuate transformer for vacuum dry-out	✓
• Measure rate of water extraction during vacuum dry-out	✓ Requires optional vacuum line cold trap.
• Fill transformer while holding under vacuum **	✓

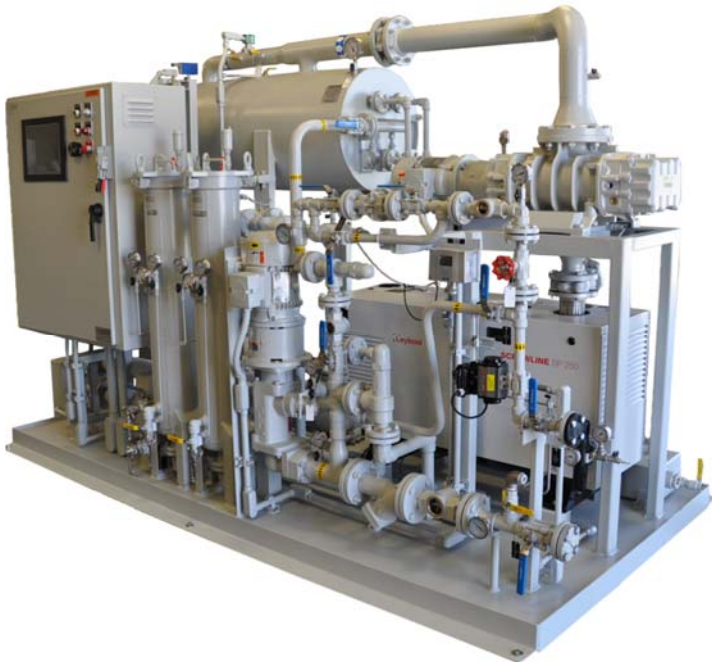
*Safe energized transformer processing is procedure dependent and requires an experienced transformer service technician.

** A redundant vacuum pump configuration is required to achieve for holding pressures < 0.5 torr while filling.

TREATMENT STAGES

01	02	03	04	05	06
Oil Heating The fluid is gently heated to reduce the viscosity in preparation for the vacuum dehydration and optional adsorbent treatment stages.	Polar Contaminant Adsorption (optional) The heated fluid then passes through an optional (bypass included) adsorbent media process that removes acids, color bodies and other polar contaminants.	Filtration (3µ β200) The next treatment phase uses long life, low pressure drop, pleated synthetic filter media to remove 99.9% of all particulate > than 3 microns.	Vacuum Dehydration & Degasification Vacuum and high efficiency thin film low temperature evaporation is used to remove dissolved water and dissolved gases.	Filtration (0.5µ β75) A polishing filter completes the process. Pleated synthetic filter media is used to remove 98.7% of all particulate > than 0.5 microns.	Ready for Use The conditioned oil is now ready for use. Discharge flow rate and pressure are adjustable to accommodate the application requirements.

// PROCESSING PERFORMANCE & SPECIFICATIONS



Design Flow Rate	20 GPM 4542 LPH
Max Flow Rate	24 GPM 54500 LPH
Vacuum Capacity @ 1 Torr	1150 - 1750 CFM
Processing Vacuum Range	2.0 - 0.2 Torr
Electric Heating Capacity	96-176 kW
Electric Heat Watt Density	11.5 W/in ²
Fuel Oil Burner Heating	160kW & 230kW
Processing Temperature	Adjustable 40-87 C°
Filtration Stages	2
Filtration Efficiency	$\beta_x \geq 1000 @ 3 \mu$ $\beta_x \geq 200 @ 0.5 \mu$
Inlet Pressure	7 - 25 psia
Outlet Pressure	75 lbf/in ²
Seal Material	Fluorocarbon
Standard Control System	HMI w/ Automatic System Protection
Electrical Classification	NEMA, IEC
Power Supply	575V / 3 ϕ / 60Hz 480V / 3 ϕ / 60Hz 240V / 3 ϕ / 60Hz 380V / 3 ϕ / 50Hz
Power Consumption	60 - 220 kW

MINERAL OIL

Dielectric Strength (ASTM-D1816-84A) (2 mm gap)	> 65 kV
Moisture Content Single pass (ASTM-D1533-88)	100 ppm reduced to < 10 ppm 50 ppm reduced to < 5 ppm
Moisture Content 3 Passes (ASTM-D1533-88)	100 ppm reduced to < 2 ppm
Total Gas Content Single Pass (ASTM-D2945)	Saturation reduced to < 0.25%
Total Gas Content 3 Passes (ASTM-D2945)	Saturation reduced to < 0.15%
Particulate Content	99.9% > 1 μ 97.8% > 1/2 μ
Processing Temperature (Adjustable)	Min 120 F° 49 C° Max Limit 190 F° 88 C°
Processing Vacuum Level	1.5 - 0.3 Torr

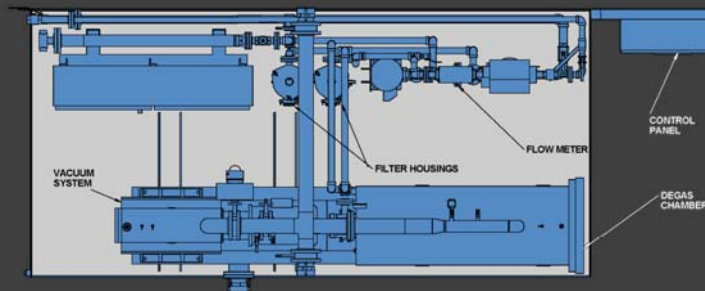
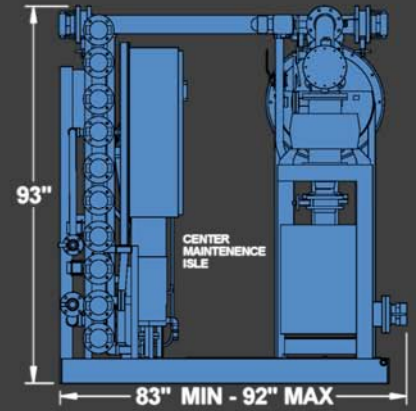
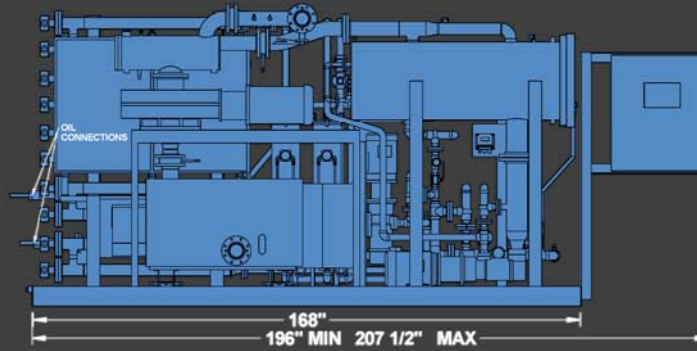
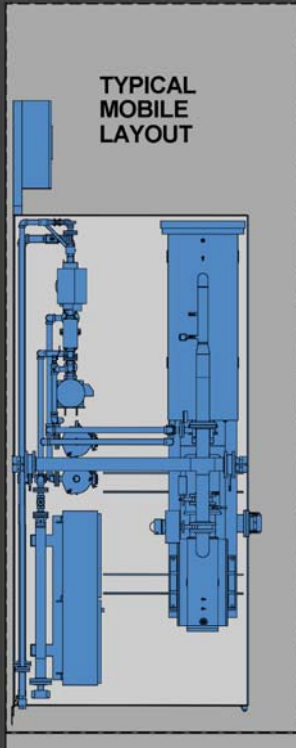
SYNTHETIC ESTER FLUIDS

Processing Rate	Derate processing rate by 25% (Multiple Passes Recommended)
Dielectric Strength (ASTM-D1816-84A) (2 mm gap)	> 60 kV
Moisture Content Single pass (ASTM-D1533-88)	200 ppm reduced to < 100 ppm
Moisture Content 3 Passes (ASTM-D1533-88)	200 ppm reduced to < 60 ppm
Total Gas Content Single Pass (ASTM-D2945)	Saturation reduced to < 0.25%
Total Gas Content 3 Passes (ASTM-D2945)	Saturation reduced to < 0.15%
Particulate Content	99.8% > 1 μ
Processing Temperature (Adjustable)	Min 170 F° 76 C° Max Limit 190 F° 88 C°
Processing Vacuum Level	1.5 - 0.2 Torr

NATURAL ESTER FLUIDS

Processing Rate	Derate processing rate by 25% (Multiple Passes Recommended)
Dielectric Strength (ASTM-D1816-84A) (2 mm gap)	> 60 kV
Moisture Content Single pass (ASTM-D1533-88)	100 ppm reduced to < 40 ppm
Moisture Content 3 Passes (ASTM-D1533-88)	200 ppm reduced to < 30 ppm
Total Gas Content Single Pass (ASTM-D2945)	Saturation reduced to < 0.25%
Total Gas Content 3 Passes (ASTM-D2945)	Saturation reduced to < 0.15%
Particulate Content	99.8% > 1 μ
Processing Temperature (Adjustable)	Min 170 F° 76 C° Max Limit 190 F° 88 C°
Processing Vacuum Level	1.5 - 0.2 Torr

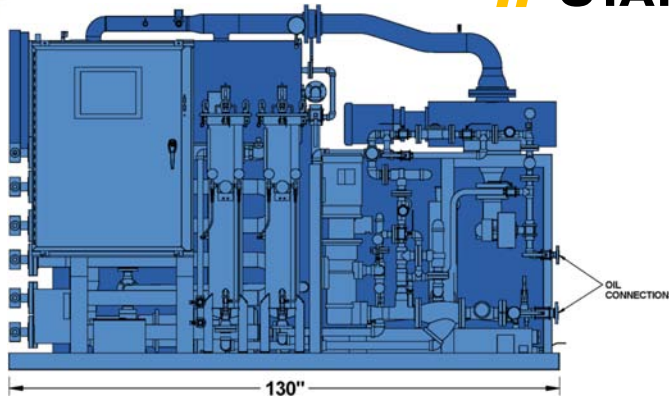
// MOBILE APPLICATION



Inlet Connection	2.0" NPT
Outlet Connection	1.5" NPT
External Vacuum Connection	4" ANSI FLG
Length	196 - 207.5 in
Width	83 - 92 in
Height	93 in
Weight	7250 lb

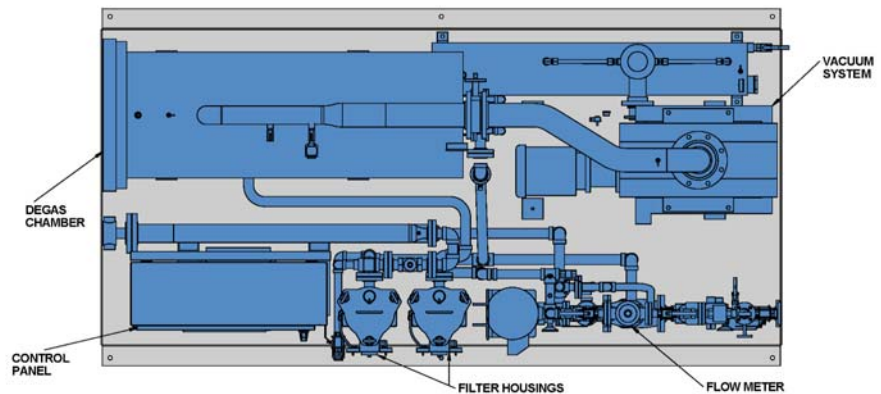
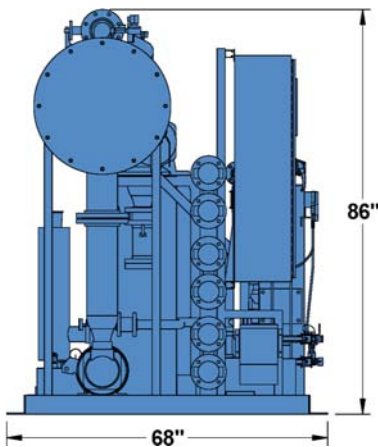
* Dimensions and weight will vary with options

// STATIONARY APPLICATION



Inlet Connection	2.0 NPT
Outlet Connection	1.5 NPT
External Vacuum Connection	4 ANSI FLG
Length	130 in
Width	68 in
Height	86 in
Minimum Weight	6990 lb

* Dimensions and weight will vary with options



// STANDARD FEATURES

- **Completely Customizable**
- **Numerous Mobile Options**
- **Variable Speed Flow Rate**
- **Automatic Temperature & Chamber Level Control**
- **Two Stage Vacuum System**
- **Vane, Piston, & Dry Screw Backing Pump Options**
- **Low Maintenance Vacuum Booster Pump**
- **Multi-Stage Degasification System**
- **Automatic Foam Control System**
- **Positive Displacement Low Speed Inlet & Discharge Oil Pumps**
- **Low Watt Density Oil Heating System**
- **7 Inch ASME Code Filter Housings (outer diameter)**
- **Discharge Flow & Totaling Rate Meters**
- **System Full Scale Vacuum Gauge**
- **Color Touchscreen Control System with Data Logging**
- **Optional Switch and Pilot Light Control System**



SES320-1200 PART NUMBER MATRIX

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
SES320-1200																																
1	Oil Regeneration Capacity	None - Oil conditioning only Provisions to use external adsorbent (FE) system for regeneration Adsorbent (FE) treatment stage provided for oil regeneration	C P R																													
2	Purifier Mounting	Stationary - Open skid Stationary - Enclosed skid Mobile (See mobile option part number)	S E M																													
3	Power Supply	240V/3PH/60HZ 380V/3PH/50HZ 480V/3PH/60HZ 575V/3PH/60HZ	A B C D																													
4	Inlet Heating System	96kW, (79°F 4.3°C Rise @ 1200 GPH) 128kW, (107°F 59°C) 144kW, (125°F 69°C) 160kW, Fuel Oil Burner (129°F 71°C) 190kW, Fuel Oil Burner (155°F 86°C)				96 128 144 160 190																										
5	Discharge Heating System	None 32KW, (15°F 8°C Rise @ 1800 GPH) 48KW, (23°F 13°C) 48kW, Fuel Oil Dual Zone (23°F 13°C)					X 32 48 48D																									
6	Vacuum System Configuration	Standard single vacuum / booster pumpset Redundant vacuum pumps w/ single booster. (optional for transformer service use) Redundant vacuum pump / booster pumpsets. (optional for transformer service use)	A B C																													
7	Vacuum System Type & Capacity	1150 CFM, Vane (170) CFM - 1450 CFM booster - 8 torr cut-in 1150 CFM, Piston (180) CFM - 1450 CFM booster - 8 torr cut-in 1250 CFM, Vane (288) CFM - 1450 CFM booster - 20 torr cut-in 1250 CFM, Dry Screw Pump (340) CFM - 1450 CFM booster - 30 torr cut-in 1750 CFM, Vane (444) CFM - 1950 CFM booster - 15 torr cut-in 1750 CFM, Piston (340) CFM - 1950 CFM booster - 20 torr cut-in 1750 CFM, Dry Screw Pump (340) CFM - 1950 CFM booster - 20 torr cut-in						1 2 3 4 5 6 7																								
8	Vacuum Booster Control	Cut In @ safe pressure VFD for atmospheric start. (Recommend for transformer evacuation) Booster pump internal bypass for 30 torr start (Only if specified)	C V B																													
9	External Vacuum Connection	None (Oil processing only) Single connection point (For transformer evacuation) Dual connection points (Mobile applications- both sides of trailer)								X 1 2																						
10	External Vacuum Valve	None - No connection - not required Manual Automatic close to preserve transformer vacuum									X M A																					
Regeneration Treatment Phase (Required for regeneration capacity only)																																
11	Earth System Housing Configuration	None Single Dual										X S D																				
12	Earth Housing Capacity	None 500# 800#										X 5 8																				
13	Inhibitor Injection System	None Oxidation inhibitor mixing & injection system (Also used as a sample sink)											X I																			
Control System & Instrumentation																																
14	Control System	Standard HMI (NEMA 4 touch screen operator interface) HMI w/ remote monitoring HMI w/ redundant backup HMI HMI w/ backup & remote monitoring Switch & pilot light operator interface													H R Z Y S																	
15	Moisture (ppm) & Temperature Monitors	None Inlet Outlet Inlet & Outlet													X 1 2 3																	
16	External Vac Line Dew Point & Temperature Monitor	None Provided w/ local & HMI display													X C																	
17	Contamination Monitor (ISO Classification)	None Provided w/ local & HMI display														X C																
18	Total Dissolved Gas Monitor (%)	None Provided w/ HMI display only														X G																
19	Chamber Level Transmitter	None Provided w/ HMI display															X L															
20	Dirty Filter Alarms	None Provided w/ HMI display																X F														
21	Additional Vacuum Gauges	Dual Gauges - Degas chamber & external connection Dual Gauges- System & remote transformer Three Gauges Degas chamber, external connection & remote transformer																					2 3 4									
Hose Reels & Loose Hose																																
22	Oil Hose Reels (Includes Hose & bypass)	None Live reel w/ electric rewind Live reel w/ manual rewind Storage reel w/ manual rewind																						X E M S								
23	Reel Capacity	None 50FT 75FT 100FT (May not be available on all mounting options)																						X 5 7 1								
24	Suction & Discharge Hose (20FT Sections)	None 60FT 80FT 100FT																							X 3 4 5							
25	Vacuum Hose (4") (20 ft Sections)	None 40FT 60FT 80FT 100FT																							X 2 3 4 5							
Integrated Oil Storage (Mobile Applications Only)																																
26	Oil Storage Capacity	None 125 Gallons 225 Gallons																								X 1 2						
27	Oil Storage Processing Control	None Manual valve processor integration Automatic actuated valve integration and reservoir processing mode logic																												X M A		
28	Storage Reservoir Level HMI Display	None HMI Display																												X L		
29	Misc. Skid Lifting Provisions	None Fork lift pockets Crane lifting provisions																													X P C	
30	Spare Parts Kit	None Include																													0 1	

// CUSTOMIZABLE MOBILE APPLICATIONS



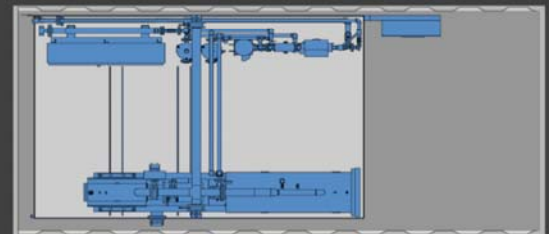
- SESCO offers a wide variety of mounting options to address specific operational requirements and/or restrictions.
- All mobile packages can be upgraded with oil processor accessories to extend or enhance the package transformer service capabilities.
- Each mobile application can be upgraded with options designed for increased practicality and comfort in order to further accommodate your needs.

ISO CONTAINER



SES953

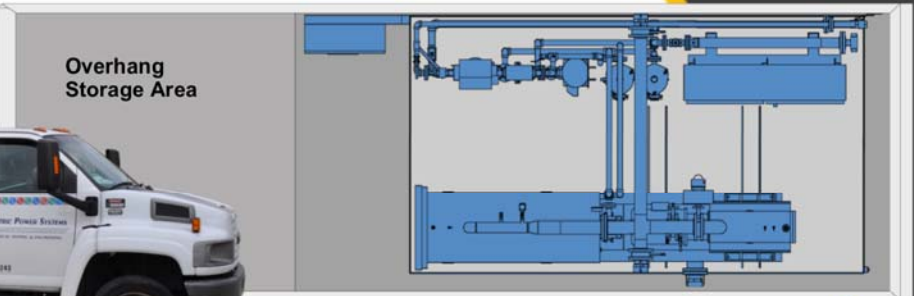
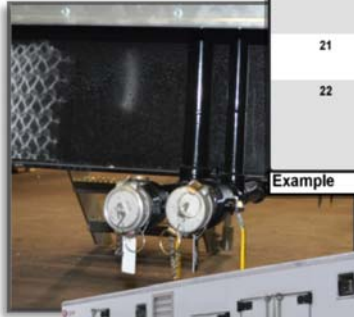
SES953 - ISO Container Mounting Matrix		1	2	3	4	5	6	7	8	9	10	11		
		SES953 -												
1	Container Type	None	1											
		20' ISO Standard	2											
		40' ISO Standard High Cube	3											
		Custom Length High Cube (ft)	#											
2	Chassis	None		X										
		Standard Spring Suspension		S										
		Air Ride Suspension		A										
3	Condition	New			N									
		Used Once			U									
		Used - Restored			R									
4	Oil Connections	None				X								
		Single Rear				R								
		Dual Rear				2								
5	Vacuum Connections	None					X							
		Single Rear					R							
		Single Side					1							
		Dual Driverside & Curbside					D							
6	Ventilation	None						X						
		Factory Installed						V						
		Kit for Customer Installation						K						
7	Lighting Package	None							X					
		Interior							I					
		Interior & Exterior							E					
		Interior Kit for Customer Installation							K					
		Interior & Exterior Kit for Customer Installation							C					
8	120V Package	None								X				
		Interior								I				
		Interior & Exterior								E				
		100A Load Center Only								L				
9	HVAC	None									X			
		Forced Air Heater									H			
10	Vacuum Hose Storage	None										X		
		Vertical Wall Mounted Storage Tube Assembly										V		
		Ceiling Mounted Storage Tube Assembly										C		
11	Loose Oil Hose Storage	None										X		
		Interior Wall Hangers										W		
		Vertical Wall Mounted Storage Tube Assembly										V		
Example			SES953 -	1	S	U	2	R	V	E	E	H	V	X



20' Container Option

// DECK OVER CARGO TRAILER

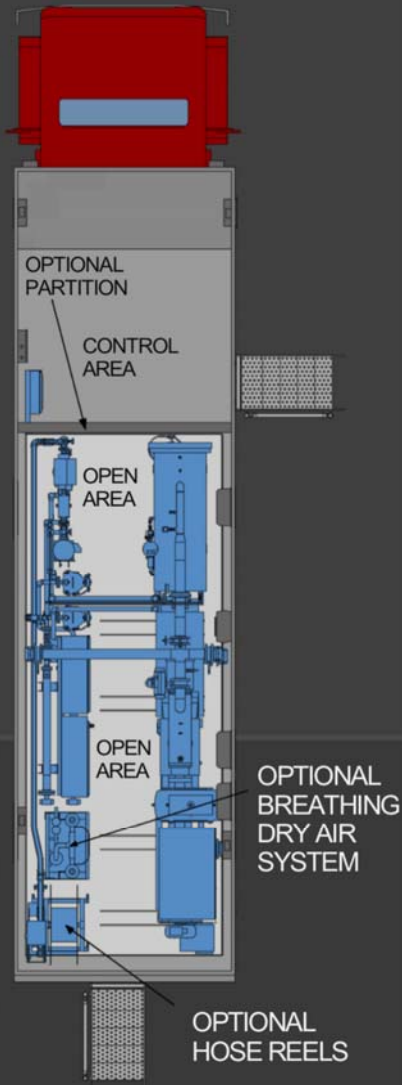
SESS951 - DECK OVER CARGO TRAILER MOUNTING MATRIX			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19			
SESS951-																								
1	Hitch Type	Rear Ball Hitch	1																					
		Rear Pintal Ring Hitch	2																					
		Gooseneck Ball Hitch	3																					
		Gooseneck Fifth Wheel Hitch	4																					
4	Wall Lining	None		X																				
		½" White Plywood or FRP	L																					
5	Mounted Spare Tire	None			X																			
		Tongue Mounted Spare Tire	T																					
6	Oil Connections	None				X																		
		Single Rear				1																		
		Dual Rear				2																		
		Dual Exterior Belly Mounted				3																		
7	Vacuum Connections	None					X																	
		Single Rear					R																	
		Single Side Wall					1																	
		Dual Driverside & Curbside Side Wall					D																	
8	Side Man Door	None						X																
		Trailer Grade FRP w/ Cam Lock							P															
		SS Commercial Grade with SS Lockset							S															
9	Side Access Doors	None							X															
		Gooseneck Area Access Doors								G														
10	Control Area Length	Minimum Amount Required										M												
		Custom Length (36" Min - 76" Max)											#											
11	Control Area Partition	None									X													
		Solid Framed Wall with Man Door										S												
		Clear Hinged Sliding Partition										T												
12	DO Trailer Entry Stairs	None									X													
		Rear										R												
		Side											S											
		Rear & Side											B											
13	Entry Stair Railings	None										X												
		Single											S											
		Dual											D											
15	Interior Lighting Package	None												X										
		Equipment & Control Area													A									
		Equipment, Control, & Gooseneck Area													B									
16	Exterior Lighting Package	None													X									
		Curbside & Driverside Flush Mount Flood Lights (2)														2								
		Curbside & Driverside Flush Mount Flood Lights (4)														4								
17	Interior 120V/1 Package	None													X									
		Equipment & Control Area														A								
		Equipment, Control, & Gooseneck Area														B								
18	Exterior 120V/1 Package	None														X								
		Curbside & Driverside Receptacles (2)															2							
19	HVAC	None																		X				
		Forced Air Heater																			H			
		Nose Wall Mount Air Conditioner																				A		
		Heater & Air Conditioner																					B	
20	Vacuum Hose Storage	None																			X			
		Vertical Wall Mounted Storage Tube Assembly																				V		
		Trailer Frame Integrated Storage Tube Assembly																					T	
21	Loose Oil Hose Storage	None																				X		
		Interior Wall Hangers																					W	
22	AL Belly Storage Box (18" W x 14" H x 48" L)	None																					X	
		Curbside																					C	
		Roadside																					R	
		Both																					B	
Example			SESS951-	1	L	T	2	R	S	X	76	T	B	S	A	2	A	2	B	T	X	C		



(34" deck height, no wheel wells, 96" - 102" width)

SES951

Box Truck



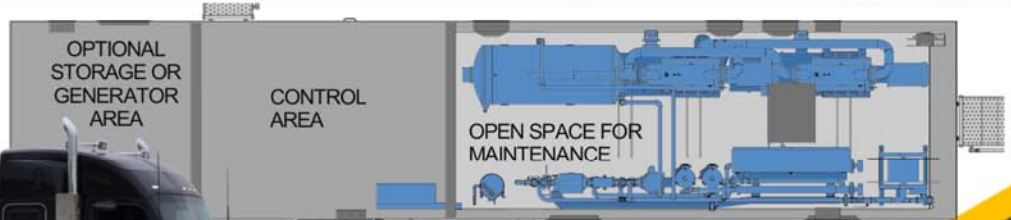
SES952 - BOX TRUCK MOUNTING MATRIX		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
SES952-																							
1	Chassis Mfg	International	I																				
		Freightliner	F																				
2	Generator(s)	None		X																			
	(See Generator PN Matrix)	Secondary Only	G																				
3	Isolated Control & Lab Area	Do not isolate the control area			X																		
		Use a clear sliding partition to isolate the control area and allow degas chamber observation. Provide a curbside control area entry door						T															
		Use a solid partition with a hinged entry door with window to isolate the control area. Provided a curbside control area entry door						S															
4	Attic Storage Area	None				N																	
		36" deep attic storage area				A																	
5	Oil Connections	Dual Rear					1																
		Dual Exterior Belly Mounted (both sides)					2																
6	Vacuum Connections	None						0															
		Single interior rear						1															
		Dual interior upper side wall						2															
		Dual exterior belly mounted (both sides)						3															
7	Side Man Door	304 SS exterior door & frame w/ observation window & SS lockset							S														
		FRP door w/ exterior cam lock & interior latch & observation window							F														
8	Control Area Side	None							0														
		Aluminum stairs with single removable railing							1														
		Aluminum stairs with dual removable railings							2														
9	Rear Entry Stairs	None								X													
		Aluminum stairs per control area railing arrangement on rear								R													
10	Belly Stair Storage	None									X												
		Provide lockable aluminum belly mounted dual stairs storage assembly									S												
11	Side Windows	None										X											
		Control room roadside observation window										W											
12	Interior Lighting Package	None											X										
		Area LED ceiling mounted lighting with individual load center control											F										
		Area LED ceiling mounted lighting with wall switch control											W										
13	Exterior Lighting Package	None												X									
		Curbside & Driver side Flush Mount LED Flood Lights with dual load center control (2 lights)												2									
		Curbside & Driver side Flush Mount LED Flood Lights with dual load center control (4 lights)												4									
14	Interior 120V/1 Package	None																	X				
		STD PKG - 15A GFCI Outlets Equipment area (4), Control area(6)																	F				
		STD PKG plus two additional dedicated 15A GFCI appliance outlets																	A				
15	Exterior 120V/1 Package	None																	X				
		Curbside & Driver side GFCI Receptacles (2)																	E				
16	Control Area Heating	None																		X			
		Control area 5KW ceiling forced air heater w/ wall thermostat																		1			
		Control & Equipment area 5KW ceiling forced air heaters w/ wall thermostats																		2			
17	Control Area Cooling	None																		X			
		Wall mounted 18K BTU A/C																		W			
18	Loose Hose Storage	None																			X		
		Skid integrated vacuum & oil straight length hose storage. (100 Ft 4" vacuum hose. 160 FT 2" oil hose)																			S		
19	Power Cable Provisions	None																				X	
		(4) conductor 15FT pigtail / 50FT cable set with high amperage quick connectors w/ access door																				1	
		(4) conductor exterior high amperage twist lock connection box & 50FT cable set w/ mating twist connectors																				2	
20	Belly Storage	None																				X	
		Propose belly storage to fit the available space																				F	
21	Control Area Furniture	None																					X
		Propose control area furniture to fit the available space																					F
22	Waste Oil Storage Tank	None																					X
		Provide a 40 GAL aluminum belly mounted waste oil tank with exterior level gauge & 3" fill connection																					T
Example		SES952- N X T N 3 3 S 1 A S W F 4 F E 2 W S 2 F F T																					



DRY VAN TRAILER



SES954



SES954 - DRY VAN SEMI TRAILER MOUNTING MATRIX		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	Dry Van Type	Straight	N																										
		Step Deck	S																										
2	Max Length	Minimum Amount Required	48																										
		Custom Length (29' Min - 48' Max)	#																										
3	Max Height	Standard 13.5 FT	13																										
		Custom 12.5 FT	12																										
4	Installed Equipment Type	SES320 Conditioning System	C																										
		SES320R Conditioning & Regeneration System (FE)	R																										
5	Generator(s)	None						X																					
	(See Generator PN Matrix)	Primary - Full Load Diesel Tier IVF						G																					
		Secondary Only						A																					
		Primary & Secondary						B																					
6	Isolated Control & Lab Area	None						X																					
		96" Min w/ side door w/ clear observation sliding partition						T																					
		96" Min w/ side door w/ solid wall partition whinged man door						S																					
7	Isolated Storage Area	None						N																					
		Yes w/ solid room partition access door						P																					
		Yes w/ solid partition and curbside exterior man door						C																					
8	Oil Connections	Dual Rear								1																			
		Dual Exterior Belly Mounted both sides								2																			
		Dual Exterior Belly Mounted w/ enclosures both sides								3																			
9	Vacuum Connections	None								0																			
		Single Interior Rear								1																			
		Dual Interior Upper Side Wall								2																			
		Dual Exterior Belly Mounted both sides								3																			
		Dual Exterior Belly Mounted w/ enclosures both sides								4																			
10	Side Man Door Construction	304 SS exterior door & frame w/ observation window & SS lockset								S																			
		FRP door w/ exterior cam lock & interior latch & observation window								F																			
11	Control Area Side Entry	None								0																			
		Aluminum stairs with single removable railing								1																			
		Aluminum stairs with dual removable railings								2																			
		Belly mounted pull out landing wire/removable stair and railing assemblies								3																			
12	Additional Entry Stairs	None									X																		
		Aluminum stairs per control area railing arrangement on rear only									R																		
		Aluminum stairs per control area railing arrangement for all entry doors									A																		
13	Belly Stair Storage	None									X																		
		Provide lockable aluminum belly mounted dual stairs storage assembly									S																		
14	Side Windows	None															X												
		Control room roadside observation window															W												
		Equipment area egress window (rear door access)															E												
15	Ventilation	Factory standard																				F							
		Power intake louvers																				P							
16	Interior Lighting Package	None																				X							
		Area LED ceiling mounted lighting with individual load center control																				F							
		Area LED ceiling mounted lighting with wall switch control																				W							
17	Exterior Lighting Package	None									X																		
		Curbside & Driver side Flush Mount LED Flood Lights with dual load center control (2 lights)																				2							
		Curbside & Driver side Flush Mount LED Flood Lights with dual load center control (4 lights)																				4							
18	Interior 120V/1 Package	None																				X							
		STD PKG - 15A GFCI Outlets Equipment area (4), Control area(6), Front Area(4)																				F							
		STD PKG plus two additional dedicated 15A GFCI appliance outlets																				A							
19	Exterior 120V/1 Package	None																				X							
		Curbside & Driver side GFCI Receptacles (2)																				E							
20	Area Heating	None																				X							
		Control area 5KW ceiling forced air heater w/ wall thermostat																				1							
		Control & Equipment area 5KW ceiling forced air heaters w/ wall thermostats																				2							
21	Area Cooling	None																				X							
		Wall mounted 18K BTU A/C																				W							
		Exterior nose mounted commercial duty 24K BTU A/C																				N							
22	Loose Hose Storage	None																				X							
		Skid integrated vacuum & oil straight length hose storage. (100 F14" vacuum hose. 160 FT 2" oil hose)																				S							
		Full width belly compartment vacuum and oil hose storage																				B							
23	Power Cable Provisions	None																				X							
		(4) conductor 15FT pigtail / 50FT cable set with high amperage quick connectors w/ access door																					1						
		(4) conductor exterior high amperage twist lock connection box & 50FT cable set w/ mating twist connectors																					2						
24	Belly Storage	None																				X							
		Propose belly storage to fit the available space																				F							
25	Control Area Furniture	None																				X							
		Propose control area furniture to fit the available space																				F							
26	Waste Oil Storage Tank	None																											
		Provide a 40 GAL aluminum belly mounted waste oil tank with exterior level gauge & 3" fill connection																											
27	Belly Pull Out Table	None																											
		48" x 36" deep pull out aluminum work table with lower storage drawer assembly.																											
28	Testing Power Supplies	None																				X							
		230V/3PH - 30A - with receptacle and 50FT cable																					3						
		220V/1PH - 30A - with receptacle and 50FT cable																					1						
		Both																											
Example			SES954-N 48 13 C X T N 3 3 S 1 A S W F F 4 F E 2 W S 2 F F T P X																										



// ACCESSORIES

SES320 Mobile Accessories Matrix		SES320A							
Inlet Oil Booster Pump	None	X							
	Centrifugal 135 Lbs (Recommended)	C							
	Positive Displacement - 475 Lbs	P							
Transformer Vacuum Manifold	None	X							
	Vacuum	V							
	Vacuum & Hot Oil Spray	S							
	Both	B							
Vacuum Line Cold Trap	None	X							
	Portable 9.2L Liquid Nitrogen Trap	P							
	Integrated 9.2L Liquid Nitrogen Trap	N							
	Intgrated Cascade Refrigerated Trap	C							
Dry Air System 28CFM Contiuous Duty	None	X							
	-70°F, Not Breathing Certified	1							
	-90°F, Not Breathing Certified	2							
	-70°F, Breathing Certified	3							
	-90°F, Breathing Certified	4							
Dry Air Dew Point Monitor	None	X							
	Local	L							
	HMI Alarm	H							
Dry Air CO Monitor	None	X							
	Local	L							
	HMI Alarm	H							
Dry Air Hose (85FT SS Braid w/ cover)	None	X							
	Dry Air Hose Only	H							
	Dry Air Hose & Spring Return Reel	R							
Example		SES320A	C	X	P	3	L	X	R

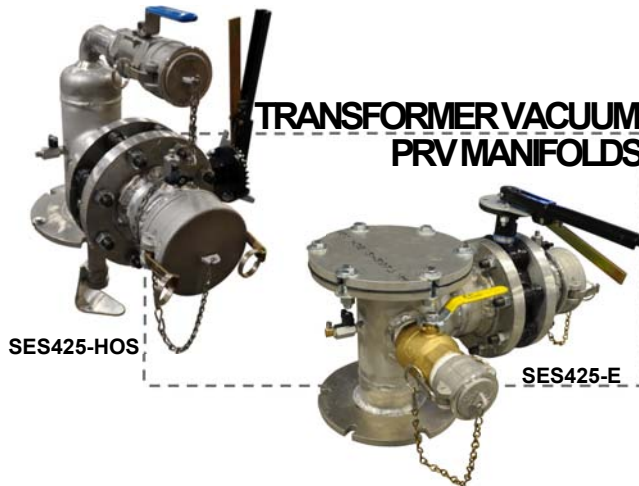
INLET OIL
BOOSTER PUMPS



LIQUID NITROGEN
COLD TRAP



TRANSFORMER VACUUM
PRV MANIFOLDS



DRY AIR SYSTEM

// STANDARD SPARE PARTS KIT

- First Stage Filter Elements (4)
Pleated Synthetic Media (5 μ β200 Efficiency)
- Second Stage Filter Elements (4)
Pleated Synthetic Media (1/2 μ β75 Efficiency)
- Vacuum Chamber Dispersal Elements (1 set)
- Vacuum Pump Oil (20 L)
- Gasket Kit

(Fuses are not required)

CUSTOM SES320-1200 PACKAGE

To request a quotation for your customized SES320 -1200 package, fill in the three categories below with the numbers that correspond to your desired options. Use the tables shown on previous pages as guides for generating each number.

// Processor Configuration (Page 5)

SES320 -1200

1	2	3	4	5	6	7	8	9	10	11	-	12	13	14	-	15	16	17	18	19	20	21	-	22	23	24	-	25	26	27	28	-	29	30
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// Mobility Options (Pages 6 - 9)

SES 95

SES953

SES951

SES952

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
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// Accessories (Page 9)

SES320A

1	2	3	4	5	6	7
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