



**SES320
INSULATING OIL PURIFICATION SYSTEMS**

QUOTE REQUEST FORM



**FOR QUOTATION PLEASE FAX OR EMAIL COMPLETED WORKSHEET TO:
260-424-0607
websales@sesco-inc.com**

1. Customer Information			
Company Name:		E-mail:	
Contact Name:		Phone:	
Address:			

2. Operating Conditions		Service Description	
Minimum Oil Supply Temperature		°F	
Minimum Ambient Temperature			
Maximum Ambient Temperature		°C	

3. Select SES320 Series						
<small>X = Standard on Base System ✓ = Option Available</small>						
Oil Conditioning		Prepare new and ISO group II in service dielectric fluids for high voltage transformer use by removing dissolved water, dissolved gas, and particulate.				
Oil Regeneration		Regenerate severely degraded ISO group III insulating oils. The regeneration systems can be used to completely reverse the harmful effects caused by aging, oxidation, acid accumulation, sludge formation, and sludge precipitation. The SES320R regeneration systems add an additional adsorbent treatment processing stage to the SES320 conditioning system process.				
✓	Series	Oil Conditioning	Oil Regeneration	Batch Reservoir	Multi-pass Performance	Single Pass Performance
	SES320B	X	X	X (55 GAL)	100 ppm reduced to < 5 ppm 12% dissolved gas reduced to < 0.15%	50 ppm reduced to < 10 ppm 10% dissolved gas reduced to < 0.25%
	SES320C	X	X	X (55 GAL)	100 ppm reduced to < 5 ppm 12% dissolved gas reduced to < 0.15%	50 ppm reduced to < 10 ppm 10% dissolved gas reduced to < 0.15%
	SES320	X			100 ppm reduced to < 2 ppm 12% dissolved gas reduced to < 0.15% 3 passes	100 ppm reduced to < 10 ppm 12% dissolved gas reduced to < 0.25%
	SES320E	X			100 ppm reduced to < 2 ppm 12% dissolved gas reduced to < 0.15% 5 passes	50 ppm reduced to < 10 ppm 10% dissolved gas reduced to < 0.25%
	SES320R	X	X		100 ppm reduced to < 2 ppm 12% dissolved gas reduced to < 0.15% 3 passes	100 ppm reduced to < 10 ppm 12% dissolved gas reduced to < 0.25%

SESCO
 Systems Engineering & Sales Co., Inc.
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4. Select Flow Rate		X = Standard on Base System √ = Option Available						
		SES320C SES320B	SES320 600C	SES320 900	SES320 1200	SES320 1800	SES320 2400	SES320 3000
√								
Design Flow Rate	GPM	3	10	15	20	30	40	50
	GPH	180	600	900	1200	1800	2400	3000
	LPH	681	2271	3407	4542	6813	9084	11356
Maximum Flow Rate	GPM	3	10	20	25	33	43	52
	GPH	180	600	1200	1500	1980	2580	3120
	LPH	681	2271	4542	5677	7494	9766	11810
Electronic Rate Ctrl				X	X	X	X	X

5. Select Mounting Configuration		X = Standard on Base System √ = Option Available							
√			SES320C SES320B	SES320 600C	SES320 900	SES320 1200	SES320 1800	SES320 2400	SES320 3000
	Stationary Skid 1. Non-mobile factory use 				X	X	X	X	X
	Portable Skid 1. Tow motor provisions 2. Lifting provisions. 3. Casters or wheels for factory mobility 		X		√	√			
	Cargo Trailer 1. 21" Equipment deck height 2. Single and tandem axle 3. 4-18K GVRW 4. Pintal and ball hitches 		√	X	√	√			
	D.O. Cargo Trailer 1. 35" Equipment deck height 2. 20-32K GVRW 3. Pintal, fifth wheel & ball hitches 4. 16 – 30FT Body Length 					√	√	√	
	ISO Container 1. 20 & 40 FT Length for international shipping. 				√	√	√	√	√
	ISO Container Trailer 1. 35" Equipment deck height 2. 20-32K GVRW 3. Pintal, fifth wheel & ball hitches 4. 12 – 28FT Container length 				√	√	√	√	√
	Dry Van Trailer 1. Up to 80K GVRW 2. 47" Fifth wheel hitch height 2. Step and straight deck heights 3. Single or tandem axles 4. 28 – 48FT Length 					√	√	√	√
	Straight Truck 1. Up to 56K GVRW 2. All major chassis options 2. Tandem air ride axles 4. 22 – 28FT Body Length 					√	√	√	√
	<i>Requested Options</i>								

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6. Select Power Type								
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√	Available Power Source	SES320C SES320B	SES320 600C	SES320 900	SES320 1200	SES320 1800	SES320 2400	SES320 3000
	220VAC / 1PH / 60HZ	√						
	230VAC / 3PH / 60HZ	√	√	√	√	√	√	√
	380VAC / 3PH / 50HZ	√	√	√	√	√	√	√
	480VAC / 3PH / 60HZ	√	√	√	√	√	√	√
	575VAC / 3PH / 60HZ	√	√	√	√	√	√	√
	<i>Requested Options</i>							

7. Select Preferred Vacuum Pump Type								
X = Standard on Base System √ = Option Available								
√	Vacuum Pump Types	SES320C SES320B	SES320 600C	SES320 900	SES320 1200	SES320 1800	SES320 2400	SES320 3000
	Single Stage Oil Sealed Rotary Vane 1. Lowest cost. Shortest overhaul frequency. Air cooled. 2. Blank off @ ~ 1.0 torr. Vacuum booster required. 3. Oil Sealed. Pump performance degrades with seal oil contamination. 3. Oil change frequency is process dependent.	X	X	X	X	X	X	X
	Two Stage Oil Sealed Rotary Vane 1. Blank off @ ~ 0.01 torr. Air cooled 2. Oil Sealed. Pump performance degrades with seal oil contamination. 3. Oil change frequency is process dependent.	√						
	Single Stage Oil Sealed Rotary Piston 1. Robust - Long overhaul frequency. 2. Blank off @ ~ 0.01 torr. 3. Oil Sealed. Pump performance degrades with seal oil contamination. 4. Large oil capacity reduces oil change frequency. 5. Larger foot print. Most require closed loop liquid cooling circuit.			√	√	√	√	√
	Two Stage Oil Sealed Rotary Piston 1. Higher Cost, Robust - Longest overhaul frequency. 2. Blank off @ ~ 0.01 torr. 3. Oil Sealed. Pump performance does NOT degrade with seal oil contamination. 4. Large oil capacity reduces oil change frequency. 5. Larger foot print. Requires closed loop liquid cooling circuit.				√	√	√	√
	Dry Compression Screw 1. Higher Cost but very low operating cost, Expensive overhaul cost. 2. Blank off @ ~ 0.01 torr. Limited sizes available. 3. NOT Oil Sealed. Consistent performance. Requires only annual gear oil changes. 4. Pump shaft seal gas purge system is included.				√	√	√	√
	No Preference							
	<i>Requested Options</i>							

8. Select Preferred Vacuum Booster Type								
Available X = Standard on Base System √ = Option								
√	Vacuum Booster Pump Types	SES320C SES320B	SES320 600C	SES320 900	SES320 1200	SES320 1800	SES320 2400	SES320 3000
	Roots Style Rotary Lobe Direct Drive Booster 1. Pressure switch cut in 8-30 torr.	X	X	X	X	X	X	X
	Roots Style Rotary Lobe w/ Internal bypass 1. Pressure switch cut in 25 torr. Bypass valve closes at ~ 25 torr.				√	√	√	
	Roots Style Rotary Lobe w/ VFD Control 1. Pressure switch cut in 300 torr.				√	√	√	√
	<i>Requested Options</i>							

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9. Select Optional Vacuum System Features						√ = Option Available				
√	Vacuum System Options	SES320 900	SES320 1200	SES320 1800	SES320 2400	SES320 3000				
	Redundant Vacuum Backing Pump 1. Provides backing pump redundancy. 2. Larger pumps (over 300 sfm) can be used alone for limited oil conditioning. The second vacuum pump and booster can be dedicated to transformer evacuation to maintain the lowest possible transformer pressure while filling.	√	√	√	√	√				
	Redundant Vacuum Backing And Booster Pumps 1. Provides complete redundancy. 2. The second vacuum pump and booster can be dedicated to transformer evacuation to maintain the lowest possible transformer pressure while filling		√	√	√	√				
	Fail Safe Automatic Vacuum Valve 1. A fail closed panel actuated vacuum line valve automatically closes on power failure, vacuum loss, or vacuum related alarm	√	√	√	√	√				
	Panel Mounted Remote Transformer Vacuum Gauge 1. Includes 200' cable and remote gauge tube.	√	√	√	√	√				
	<i>Requested Options</i>									

10. Select Optional Vacuum Cold Trap						X = Standard on Base System √ = Option				
Vacuum line cold traps are used during transformer evacuation to collect measure the quantity of water removed over a specified period.										
√	Vacuum System Options	SES320 900	SES320 1200	SES320 1800	SES320 2400	SES320 3000				
	No Cold Trap	X	X	X	X	X				
	Liquid Nitrogen Cold Trap (9.25L) 1. A dolly mounted, portable 304 SS liquid nitrogen cold trap with bypass vacuum line is provided. 2. Liquid nitrogen required. N2 dispensing and ice collection are manual operations	√	√	√	√	√				
	Processor Integrated Liquid Nitrogen Cold Trap (9.25L) 1. An oil processor integrated 304 SS liquid nitrogen cold trap with bypass vacuum line is provided. 2. Liquid nitrogen required. N2 dispensing and ice collection are manual operations. 3. Not available on all trailer mounting options.		√	√	√	√				
	Processor Integrated Refrigerated Cold Trap 1. An oil processor integrated 304 SS refrigerated cold trap is provided. 2. Trap temperatures range between -60°C & -100°C. 3. Ice collection and defrosting are automatic operations. 4. Not available on all trailer mounting options		√	√	√	√				
	<i>Requested Options</i>									

11. Select Type of Heating System Options									X = Standard on Base System √ = Option Available		
√	Heating System Options	SES320C SES320B	SES320 600C	SES320 900	SES320 1200	SES320 1800	SES320 2400	SES320 3000			
	Primary Electric Heating System 1. Low watt density high surface area indirect immersion heaters are provided. 70°F temperature rise capacity is standard. Additional heating capacity will be quoted optional.	X	X	X	X	X	X	X			
	Discharge Electric Heating System 1. Low watt density high surface area indirect immersion heaters are provided. A 20-25°F temperature rise capacity is standard. Additional discharge heating capacity will be quoted optional.			√	√	√	√	√			
	Primary Indirect #2 Fuel Oil Fired Heating System 1. A fuel oil fired boiler heated closed loop water/glycol heating system is provided. A 100°F temperature rise capacity is standard.					√	√	√			
	Discharge Indirect Oil Fired Heating System 1. A dual zone closed loop heating system will be provided. A 20-25°F discharge temperature rise capacity is standard					√	√	√			
	<i>Requested Options</i>										



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12. Select Oil SES320R Regeneration Housing Size		X = Standard on Base System	√ = Option Available				
Adsorbent Media (Fullers Earth) (Regenerates class II oil. Removes sludge and acid related by-products, corrects oil TAN, IFT, & color)							
Media Housing Options	Media Type	SES320C SES320B	SES320R 900	SES320R 1200	SES320R 1800	SES320R 2400	SES320R 3000
Single (2) Cartridge Adsorbent Media Housing 1. 150 PSI C.S. housing accommodates (6) 7" O.D. x 18" fullers earth or activated alumina cartridges.	Cartridge	X					
Single (6) Cartridge Adsorbent Media Housing 1. 150 PSI C.S. housing accommodates (6) 7" O.D. x 18" fullers earth or activated alumina cartridges.	Cartridge		√				
Duplex 250 Lbs Bulk Fullers Earth System 1. Dual 150 PSI C.S. housings accommodate 250 Lbs. of bulk fullers earth media each. Series, parallel, and individual housing flow paths provided. Uses mechanical dump mechanism. Includes blow down reservoir and vacuum source for filling.	Bulk		X	X			
Duplex 500 Lbs Bulk Fullers Earth System 1. Dual 150 PSI C.S. housings accommodate 500 Lbs. of bulk fullers earth media each. Series, parallel, and individual housing flow paths provided. Uses hydraulic dumping system. Includes blow down reservoir and vacuum source for filling.	Bulk		√	√	X	√	
Duplex 750 Lbs Bulk Fullers Earth System 1. Dual 150 PSI C.S. housings accommodate 750 Lbs. of bulk fullers earth media each. Series, parallel, and individual housing flow paths provided. Uses hydraulic dumping system. Includes blow down reservoir and vacuum source for filling.	Bulk				√	X	X
Additive (Inhibitor) Mixing and Injection System			√	√	√	√	√
<i>Requested Options</i>							

13. Select General SES320 System Options		X = Standard on Base System	√ = Option Available					
√	General System Options	SES320C SES320B	SES320 600C	SES320 900	SES320 1200	SES320 1800	SES320 2400	SES320 3000
	Panel Displayed Flow Rate Meter 1. A panel displayed discharge flow rate meter is provided.	Local	X	X	X	X	X	X
	Panel Displayed Flow Totaling Meter 1. A panel displayed discharge flow totaling meter is provided.	Local	X	X	X	X	X	X
	Inlet Oil Booster Pump 1. Used to circulate through partially filled evacuated transformer.			√	√	√	√	√
	Provisions for Future Inlet Oil Booster Pump 1. Provisions are provided for future or existing pump operation			√	√	√	√	√
	Process Integrated Oil Storage 1. A 304 SS oil storage reservoir is integrated into the processor inlet and discharge. Available size options will be quoted.				√	√	√	√
	Vacuum line Integrated Dry Breathing Air System 1. A dry breathing air system is integrated into the vacuum system				√	√	√	√
	Electronic Flow Rate Control 1. Oil processor circulation rate can be panel adjusted from 10-110% of design flow rate.			X	X	X	X	X
	Panel Controlled Oil & Vacuum Valves 1. Provides panel controlled air actuated oil and vacuum valves.			√	√	√	√	√
	Instrumentation Data Logging 1. Provides spreadsheet charting (via USB drive data macro) of incremental instrumentation data every 15 minutes.			√	√	√	√	√
	Control System Remote Monitoring 1. Provides internet based real time control system monitoring via phone and browser apps. (Customer cellular data connection is required)			√	√	√	√	√
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14. Select SES320 Instrumentation Options								
					X = Standard on Base System		✓ = Option Available	
✓	Online Instrumentation	SES320C SES320B	SES320 600C	SES320 900	SES320 1200	SES320 1800	SES320 2400	SES320 3000
	Inlet Moisture Monitor 1. Provides local and panel display of inlet oil moisture (ppm) and temperature display.	✓	✓	✓	✓	✓	✓	✓
	Discharge Moisture Monitor 1. Provides local and panel display of discharge oil moisture (ppm) and temperature display.	✓	✓	✓	✓	✓	✓	✓
	Vacuum line Dew Point Monitor 1. Provides local and panel display of transformer vapor line dew point and temperature.	✓	✓	✓	✓	✓	✓	✓
	Oil Contamination Monitor 1. Provides local and panel display discharge oil ISO contamination classification.	✓	✓	✓	✓	✓	✓	✓
	Total Gas Content Monitor 1. Provides local and panel display of discharge oil total gas content.	✓	✓	✓	✓	✓	✓	✓
	<i>Requested Options</i>							

15. Select SES320 Hose Storage Options								
					X = Standard on Base System		✓ = Option Available	
✓	Oil & Vacuum Hose Storage Provisions	SES320C SES320B	SES320 600C	SES320 900	SES320 1200	SES320 1800	SES320 2400	SES320 3000
	No Hose Storage Provisions Required		X	X	X	X	X	X
	Hose Storage Reels 1. Live and storage only reel options will be provided.		✓	✓	✓	✓	✓	✓
	Tube Hose Storage Options. 1. Skid and wall and ceiling tube storage options will be provided .		✓	✓	✓	✓	✓	✓
	Coiled Hose Storage Options. 1. Trailer and trailer belly coiled hose storage options will be provided .	✓	✓	✓	✓	✓	✓	✓
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