GlobeCore

OIL PROCESSING EQUIPMENT

TransVolt
Power Solutions Limited

GlobeCore Products have
been sold to over 80 countries

Introduction:

Modern power transformers are an essential link in long-distance transmission of electricity. This is why servicing of transformers throughout their lifecycle (filling with oil, vacuumizing, purification and regeneration of oil, drying etc) must be performed professionally and to the highest standard.
GlobeCore manufactures a wide range of equipment to maintain transformers during their entire service life.

Insulation (paper and oil) damage, contamination and moisture account for approximately 37% of power transformer failures.

The GlobeCore regeneration technologies allow complete restoration of transformer oil to bring its performance to the required quality specifications.

Timely regeneration guarantees reliable protection of paper insulation, extends transformer lifetime and saves on new oil purchases. Beside regeneration systems, this catalogue offers a choice of other equipment for power transformer servicing.

CMM-12R

CMM-12R Mobile Oil Regeneration Unit

CMM-12R

full automation | regeneration | transformers restoration | competitive price

After GlobeCore oil regeneration process it becomes possible to fill the transformer with those oils that required disposal previously and possible to use the same oil throughout the entire service life of the transformer without change.

CMM-12R units are designed to extend the service life of transformers by restoring the dielectric strength and chemical composition of electrical insulating oils. During the regeneration process decay products and acidic components are removed from the oil, it is clarified, its resistance to oxidation increases and the tendency to dissolve gases decreases.

Parameter		Value
Maximal processing rate, max, m^3/h (gal/hour)		4 (1056)
Nominal Processing rate, max, m^3/h (gal/hour)		1-2 (264-528)
The processed product losses in the regeneration mode, %		2-25
Maximum acceptable product temperature, °C (°F)		90 (194)
Outlet pressure, bar (Psi)		2,5 (36)
Rated fineness of filtration, μm	coarse filter, μm	25
	fine filter, μm	0,3
Maximum power consumption, kW		55
Weight of the adsorbent used, kg (pound)		1600 (3500)
Power supply parameters		Fully customizable
Overall dimensions, max, mm (in)	length	5500 (217)
	width	2320 (91)
	height	2450 (96)
Weight, max, kg (pound)		6000 (13220)

CMM-6RL

CMM-6RL Mobile Oil Regeneration Unit

CMM-6RL

semi-automatic | regeneration | compact size | silent work | competitive price

Mobile oil station CMM-6RL is designed for transformer oils regeneration.

GlobeCore regeneration makes it possible to use transformer oil which previously required disposal, and use the same transformer oil throughout transformer service life without change.

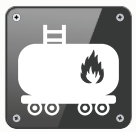
In the regeneration process, the products of aging and acids are removed from the oil; the oil's color is improved, along with oxidation stability and gas solubility.

Parameter		Value
Processing rate, m^3/h (gal/hour)		0,45 (119)
Max sorbent reactivation mode time		19 hours
Power consumption, kW		14,5
Power supply parameters		Fully customizable
Overall dimensions, mm (in), max	length	2820 (111)
	width	1570 (62)
	height	1520 (60)
Weight, kg (pound), max		2100 (4630)

CMM-10

Transformer oil processing unit

CMM - 10



oil overheating protection

high maneuverability

degassing and dehydration

enlarged wheels for better mobility

vacuuming transformer

corrosion resistance

The secret to the high efficiency of GlobeCore units is the activators, which help vaporize gases and water from the oil.

CMM units are equipped with a special oil heater, which eliminates oil sticking due to the low specific surface power, and also eliminates oil overheating after the unit is stopped.

In addition to high reliability, the units are compact in size and provide a high degree of mobility.

Parameter		Value
Processing rate	in the degassing mode, m^3/h (gal/hour)	10 (2642)
	in the heatig and filtration mode, m^3/h (gal/hour)	15 (3963)
Oil heater power, kW		150
Power consumption, kW		200
Power supply parameters		Fully customizable
Overall dimensions, mm (in), max	length (w/o trailer / with trailer)	2240 (88)
		4365 (172)
	widtg (w/o trailer / with trailer)	1600 (63)
		2270 (89)
	hight (w/o trailer / with trailer)	1750 (69)
		2300 (91)
Weight, kg, (pound) (w/o trailer / with trailer)		2350 (5180)
		3100 (6830)

CMM

Thermal Vacuum Degassing Units

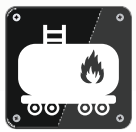
CMM

The CMM unit is designed for removal of solved gases, free and solved water and particulate matter from oil, as well as for heating transformer oil before filling power transformers and other electrical systems.

The CMM units are used during installation and repairs of power transformers.

The CMM is a comprehensive solution for transformer manufacturers and servicing facilities.

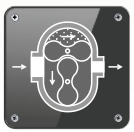
Parameter		Value	
		CMM -4/7	CMM -6/7
Processing Rate	Degassing mode, m^3/hour	4 (1057)	6 (1585)
	Heating and filtration mode, m^3/hour	7 (1849)	7(1849)
Oil heater power, kW		50	100
Power consumption, kW		65	115
Power supply parameters		Fully customizable	
Dimensions, max, mm	Length without trailer/ with trailer	2600 (102) 3750 (148)	2600 (102) 3750 (148)
	Width without trailer/ with trailer	1250 (49) 1840 (72)	1250 (49) 1840 (72)
	Height without trailer/ with trailer	1500 (59) 1940 (76)	1500 (59) 1940 (76)
Weight, kg, without trailer/with trailer		1000 (2204) 1400 (3080)	1100 (2425) 1500 (3300)


oil overheating protection


high maneuverability


degassing and dehydration


large wheels for better rough road mobility


transformer vacuumizing


corrosion protection

CMMur-4LT

Transformer oil purification unit

CMMur - 4LT

The CMMur-4LT unit is designed for comprehensive purification of transformer oils from mechanical impurities, water and gases.

The unit has original design solutions, in particular, the combination of a vacuum tank and a heater. This combination made it possible to reduce unit dimensions and to use unit in service of transformers that are located in a limited space (on ships and electric locomotives, in mines and industrial premises, as well as in complete substations).

Parameter		Value
Processing rate	in the thermal vacuum drying and filtration mode, m^3/h (gal/hour)	4,0 (1056)
	in the degassing mode, m^3/h (gal/hour)	3,0 - 4,0 (792-1056)
Parameters of oil after processing in several passes:	total gas content, %, max	0,1
	moisture mass content in oil, g/t (ppm), max	10
	ISO 4406 cleanliness	-/14/12
Max output oil temperature, °C (°F)		55 (131)
Output pressure, bar (Psi)		3 (43.5)
Oil heater power, kW, max		36
Power consumption, kW		46
Power supply parameters		Fully customizable
Overall dimensions, mm (in)	length	1435 (56)
	width	830 (33)
	height	1500 (59)
Weight, kg (pound)		700 (1540)


oil heating


high fineness of filtration


high maneuverability


oil degassing and dehydrating


oil overheating protection


competitive price

CMMur-1L

CMMur transformer oil processing unit

CMMur-1L

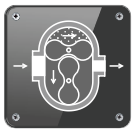
The CMMur unit is designed to remove water, dissolved gases and solid impurities from insulating and lubricating oils. The unit can be used to fill oil-filled electrical devices with hot transformer oil. The unit is used for assembling, maintenance and usage of oil-filled high-voltage equipment. Due to its compactness, the unit has high mobility, and a large side-glass provides a good view of the processes taking place inside the vacuum vessel.

Parameter		Value	
		CMMur - 1L	CMMur - 2L
Processing rate, m^3/h (gal/hour)		1,0 (264)	2,0 (528)
Max output oil temperature at heating mode, °C (°F)		60 (140)	
Processed oil parameters (with initial moisture content not more than 100 g/t):	filtration fineness, μm	5	
	breakdown voltage, kV, min	75	
	ISO 4406 cleanliness	-/14/12	
Input oil pressure, MPa (Psi), max		0,1 (14.5)	
Output oil pressure, MPa (Psi), max		0,25 (36)	
Oil heater power, kW, max		20,4	31
Specific surface power of the heater, W/cm^2 (W/in^2), no more		1,1 (7)	
Power consumption, kW		25	36
Power supply parameters		Fully customizable	
Overall dimensions, mm (in), max	length	1500 (59)	
	width	1000 (39)	
	height	1550 (61)	
Weight, kg (pound), max		650 (1430)	635 (1400)

oil overheating protection

high maneuverability

degassing and dehydration



vacuuming transformer

CMM

Thermal and Vacuum Degassing Units


oil heating


fine filtration


high maneuverability


high dielectric strength


oil overheating protection


dehydration

CMM - 0,6L

The CMM units are designed for removal of water and particulate matter from electrical insulation and lubrication oils.

The CMM units are used during installation and repairs of power transformers and for washing and filling of hydraulic systems.

The CMM units feature simple design, making them easy to operate and service.

Beside being highly reliable, the units are compact and highly mobile.

Parameter		Value			
		CMM - 0.4/0.6L	CMM-1LT	CMM-2LT	CMM-4LT
Processing rate in dehydration mode, m^3/hour		0,4 (105)/ 0,6 (158)	1 (264)	2 (528)	4 (1057)
Oil heater power, kW		12	12	36	36
Power consumption, kW		14	15	42	46
Moisture content, g/t (ppm)		10			
Dielectric strength after processing, kW		>65			
Nominal filtration fineness, μm		5 (1 optional)			
Power supply parameters		Fully customizable			
Dimensions, max, mm	Length without trailer/ with trailer	750 (30)	910 (36) / 2450 (96)	1050 (41) / 2450 (96)	1100 (43) / 2450 (96)
	Width without trailer/ with trailer	525 (21)	620 (24) / 1420 (56)	760 (30) / 1420 (56)	780 (31) / 1420 (56)
	Height without trailer/ with trailer	1450 (57)	1500 (59) / 1910 (75)	1470 (58) / 1910 (75)	1470 (56) / 1910 (75)
Weight, kg, without trailer/with trailer		230 (507)	280 (617) / 730 (1600)	420 (926) / 870 (1920)	450 (992) / 900 (1980)

ZP-260 Sorbent Cartridges

ZP-260

low power requirements

dielectric strength after processing

filtration

dehydration

competitive price

Sorbent cartridges are used to dry oil with zeolite. The sorbent cartridge unit is equipped with hatches for rapid loading and unloading of the sorbent. The unit can be filled not only with zeolite, but also with other sorbents, such as Fuller's earth or silica gel. This allows the unit to be used for reduction of oil acidity and oil Regeneration.

Parameter		Value
Throughput, m^3/hour		4 (1057)
Total volume of vessels, liters		260 (69)
ISO 4406 purity class		-/14/12
Nominal filtration fineness, μm		5 (optionally – 1 μm)
Vessel operation modes		- parallel - consecutive
Max input oil temperature, °C		40 (104)
Dimensions, mm	length	1100 (43)
	width	1000 (39)
	height	2190 (86)
Weight, kg		570 (1260)

BRZ

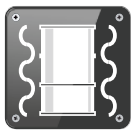
BRZ Zeolite Regeneration Unit

BRZ


zeolite regeneration


wheels for better mobility


high maneuverability


vibration stability


competitive price

The BRZ zeolite regeneration units restore performance of zeolite in sorbent cartridges, such as ZP-260.

With a stream of hot air, moisture is removed from the sorbent, restoring its absorption properties.

BRPS is a modified version of the BRZ with a steam generator.

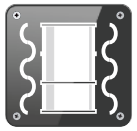
The steam purges the sorbent and removes dust from zeolite.

The unit is designed for the power industry and any facility which uses zeolite to dry electrical insulation or lubrication oil.

Parameter		Value	
		BRZ	BRPS
Oil heater power, kW		10,8	
Zeolite drying mode parameters	Air blower capacity, m^3/hour	100 (58.8)	
	Hot air temperature °C (°F)	400 (752)	
Parameters for vacuumizing mode	Evacuation rate, liter/sec (CFM)	1,6 (3.4)	
	Residual pressure, mbar (Psi)	250 (3.6)	
Power consumption, kW		13,2	
Power supply parameters		Fully customizable	
Dimensions, mm (in)	length	1000 (39)	1100 (43)
	width	650 (26)	650 (26)
	height	1300 (51)	1350 (53)
Weight, kg (poud)		190 (419)	210 (463)

CMM-F


competitive price


vibration stability


high maneuverability


filtration


universal filters
100 µm
40 µm
25 µm
5 µm

CMM-4F

The CMM-F units are designed for filtration of lubrication and electrical insulation oils.

The units are used for filling and cleaning of gearboxes, hydraulic systems, transformers and in other areas where filtration is required.

These units are equipped with universal filter casings. Required filtration fineness can be specified by the customer.

Parameter		Value		
		CMM-1F	CMM-2F	CMM-4F
Processing rate, m^3/hour		1 (264)	2 (528)	4 (1057)
Nominal filtration fineness, µm		5 (optionally – 1 µm)		
ISO 4406 purity class		-/14/12		
Power consumption, max, kW		0,75	1,1	1,5
Oil output pressure, bar (Psi)		5 (72.5)		
Power supply parameters		Fully customizable		
Dimensions, mm	length	580 (23)		
	width	560 (22)		
	height	1115 (44)		
Weight, kg (pound)		115 (254)	125 (276)	145 (320)

UVD Vacuum Oil Filling Unit

competitive price

dielectric strength after processing

high maneuverability

wheels for better mobility

transformer vacuumizing

UVD

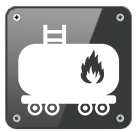
The UVD vacuum oil filling unit is designed for preparation (degassing), storage, transportation and adding transformer oil into high voltage inputs of transformers and switches.

Parameter		Value
Amount of prepared oil, liters(gal)		30 (8)
Amount of oil in the tank, liters (gal)		4 (1)
Residual pressure in degassing section, mbar (Psi)		250 (3.6)
Oil supply pressure, bar (Psi)		4 (58)
Power consumption, kW		0,25
Max input oil temperature, °C		Fully customizable
Dimensions, mm (in)	length	900 (35)
	width	780 (31)
	height	1500 (59)
Weight, kg (pound)		80 (175)

PPM

PPM Continuous Oil Heaters

PPM


oil overheating protection


custom application design


oil heating


competitive price

The PPM continuous oil heater is designed for heating of transformer oil during filling or change of the oil and drying of transformers. The unit can heat mineral, industrial, turbine and other oil types.

The unit can be used in transformer manufacturing and servicing facilities, power plants and oil processing facilities.

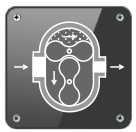
Parameter		Value		
		PPM-18	PPM-50	PPM-70
Heating rate at 2 bar input pressure, m^3/hour, max		2,2 (581)	4 (1057)	4 (1057)
Output pressure, bar (Psi)		6 (87)	4 (58)	2,5 (36)
Power consumption, kW		19,5	56	74
Power supply parameters		Fully customizable		
Dimensions, mm (in)	length	800 (31)	1180 (46)	1220 (48)
	width	660 (26)	800 (31)	820 (32)
	height	1830 (72)	1870 (74)	1900 (75)
Weight, kg (pound)		180 (395)	400 (880)	500 (1100)

GlobeCore has manufactured over 2500 units, now successfully operated around the world.

GlobeCore also manufactures equipment for operation on ship and maritime vessels, off-shore driling rigs wind farms

BV Transformer Vacuumizing Units

BV-2000


transformer vacuumizing


corrosion protection


lower power consumption


quiet operation


transformer winding dehydration

This GlobeCore vacuum unit is designed for pulling vacuum on transformers and other electrical systems.

The BV vacuum unit is a double stage vacuum system.

The first stage creates preliminary vacuum up to 0.5 mbar. It is equipped with a rotary vane vacuum pump. The second stage brings vacuum to 0.01 mbar. This stage is equipped with a Roots vacuum blower.

Parameter		Value				
		BV-200	BV-280	BV-500	BV-1000	BV-2000
Rate of evacuation, m^3/hour (CFM)		200 (118)	280 (165)	500 (294)	1000 (589)	2000 (1177)
Highest vacuum, mbar (Psi)		0,01 (0.00014)				
Power supply parameters		Fully customizable				
Dimensions, mm (in)	length	990 (39)	990 (39)	1400 (55)	1400 (55)	1500 (59)
	width	670 (26)	670 (26)	900 (35)	900 (35)	1000 (39)
	height	1330 (52)	1330 (52)	1350 (53)	1350 (53)	1610 (63)
Weight, kg (pound)		300 (660)	300 (660)	490 (1080)	690 (1520)	1300 (2865)

UVV

Vacuum Cold Trap Units

UVV

full automation

transformer vacuumizing

lower power consumption

drying of transformer windings

The vacuum cold trap units are designed for vacuumizing and drying of transformer solid insulation.

Due to the unique design, these units can achieve temperatures as low as -70°C. With such temperatures, the moisture from transformer windings condenses in the unit, improving efficiency of transformer drying.

The machine is available is a separate unit (UH-70), which can be used with BV transformer vacuum units, or as a UVV unit with a built-in vacuum system.

Parameter		Value	
		UH-70	UVV
Air evacuation rate, m^3/hour(CFM)		—	2000 (1177)
Temperature of water vapor condensation surface, °C (°F)		-70 (-94)	
Residual solid insulation moisture content achieved, %		1,0	
Cold capacity, W		600	
Condensation surface area, m^2 (in^2)		6,1 (9455)	
De-frosting system power consumption, kW		2,1	
Power consumption, kW		3,5	21
Power supply parameters		Fully customizable	
Dimensions, mm (in)	length	1700 (67)	1900 (75)
	width	1600 (63)	1860 (73)
	height	1950 (77)	2080 (82)
Weight, kg (pound)		700 (1540)	2050 (4520)

MOJAVE HEAT

Mohave Heat Air Drying Units

MOJAVE HEAT

The Mohave Heat is designed for purging of transformer tanks and electrical systems with hot dry air to prevent moisturizing of windings during transformer servicing or assembly.

Air is dried by a synthetic sorbent. The Mohave Heat unit can regenerate the sorbent multiple times, eliminating the costs of unit maintenance and refills.

Parameter		Value	
		Mojave heat - 0,7	Mojave heat - 4
Dry air capacity, m^3/hour (CFM)		1,7 (60)	2,5 (88.2)
Dry air dew point, °C (°F)		- 50 (-58)	
Dry air pressure, bar (Psi)		0,18 (2.6)	0,25 (3.6)
Max dry air temperature, °C (°F)		90±15 (194±59)	90±15 (194±59)
Adsorbent load, kg (pound)		190 (419)	
Number of adsorbent cartridges		1	2
Zeolite regeneration temperature, °C (°F)		430 (806)	
Air heater power, kW		24	
Power consumption, kW	Air drying (nominal operation)	1	5,5
	Regeneration of adsorbent in one cartridge	25	30
	Regeneration of adsorbent in two cartridges	—	55
Power supply parameters		Fully customizable	
Output air temperature for regeneration of adsorbent in external equipment, °C (°F)		430 (806)	
Dimensions, mm (in)	length	1350 (53)	1500 (59)
	width	800 (32)	1120 (44)
	height	1700 (67)	2120 (83)
Weight, kg (pound) (w/o trailer / with trailer)		550 (1210)	1050 (2315)

UDM Oil Transportation and Filling Units

UDM

custom application design

large wheels for better rough road mobility

vibration stability

high maneuverability

The UDM-1 oil filling unit is designed for pumping, storage, transportation and supplying transformer oil. Oil can be supplied from the unit by manually or electrically driven pumps the unit is equipped with.

Parameter		Value
Tank volume, liters (gal)		1000 (264)
Electric pump capacity, m^3/hour (gal/hour)		1,7 (449)
Manual output pump max capacity, l/min (gal/hour)		up to 30 (475.5)
Power consumption, kW		1,1
Power supply parameters		Fully customizable
Dimensions, mm (in)	length	3575 (140)
	width	1805 (71)
	height	1705 (67)
Weight, kg (pound)		850 (1870)

CMM-CF

CMM-CF Coagulation Drying Unit

CMM-CF

high maneuverability

designed for all mineral oils

low power consumption

exclusive

CMM-1CF mobile oil unit is designed to remove water from oil.

This unit dehydrates oils with especially high water content. The amount of water in the product can exceed 50%. The unit is based on the process of coagulation. When the oil passes through the unit's filters, the water molecules coagulate into large droplets and flow down the surface of the filter into a special settling container, where the water can be drained though a valve.

The unit can be used to dry vegetable oil, biodiesel, diesel, kerosene, petrol and transformer oil.

Parameter		Value	
		CMM - 1CF	CMM - 4CF
Processing rate at filtration mode, m^3/h (gal/hour)		1 (264)	4 (1056)
Processed oil parameters: ISO 4406 purity class		-/16/13	-/16/13
Outlet pressure, bar (Psi)		2,5 (36)	2,5 (36)
Power consumption, kW		1,1	1,5
Power supply parameters		Fully customizable	
Dimensions, mm (in), max	length	835 (33)	1200 (47)
	width	560 (22)	575 (23)
	height	1480 (58)	1480 (58)
Weight, kg (pound), max		235 (518)	320 (705)

LFD

Low Frequency Heating Device

LFD

The LFD device is designed for heating and drying transformer windings. The working principle of the device is based on low-frequency electric currents through the transformer windings and heating these windings to a standard drying temperature of +75-+120°C. Due to the fact that when heated by low-frequency currents, the heat source is the winding itself and the heating comes from the inside, the removal of moisture from the insulation proceeds faster and more completely in comparison with other heating methods.

The LFD device can be used in combination with the CMM or CMMur thermal vacuum dryers to improve the drying oil-filled transformers efficiency. In this case during the drying of the transformer there are two simultaneous processes of direct heating of the windings of the disconnected transformer and the removal of moisture which was released from the windings into the oil.

If the oil is drained from the transformer, then it is effective to use the LFD device complete with BV or UVV or Mojave heat units, which remove moisture released from the windings into the transformer tank.

The process lasts automatically after the windings warming up to a temperature of +75 - +120°C until the amount of moisture in the oil becomes less than 10 g/t (ppm).

Parameter		Value
Maximum input current (AC), A		185
Maximum output current (sinusoidal AC), A		200
Automatically controlled AC output voltage, V		0-400
Ambient temperature, °C (°F)		0-40 (32-104)
Relative humidity, %		Condensation is not acceptable
Output frequency, Hz		0,5-5
Ingress Protection Rating		IP 54, IK 09
Power supply parameters		Fully customizable
Overall dimensions, mm (in)	length	800 (31)
	width	800 (31)
	height	2000 (79)
Weight, kg (pound)		500 (1100)


full automation


Intelligent Hardware


compact size


low power consumption


drying of transformer windings


windings overheating protection

Timely regeneration of transformer oil extends power transformer life by at least 20 years.

Options for the Oil Processing Units

Upgrades	Control	Custom application design		Extra options	
Auxiliary vacuum system	Manual	Ex-proof design	Insulated container	moisture measurement and indication systems	Hose storage drums
Refrigeration vapor condenser, -70°C	Semi-automated	Designed for operation at off-shore oil rigs	Metal container	Particle sensors	Mechanical oil flow meter
Refrigeration vapor condenser, -35°C	Automated	Built with stainless steel	Container with air-conditioned operator workstation	TSS transformer oil level control system	Digital oil flow meter
	Automated with remote monitoring		Stainless steel sheet plating	Online transformer content monitoring	Operation with oil regeneration unit

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