CALSCAN
reliable
temperature pressure
& flow measurement

Bear Test Separator

Electrically Controlled Portable Cyclone Separator

The Bear Test Separator uses state of the art technology to improve on the reliability, performance and the physical size compared with standard separators. Typically the whole system is mounted on a trailer and pulled by a one ton truck. The core of this separator uses a Gas-Liquid Cylinder Cyclone (GLCC) and an all electric control system.

Cyclone Separator

The momentum of the inlet process fluid generates a liquid vortex that allows sufficient gas and liquid separation to rapidly occur. The centrifugal force generated by the vortex creates dryer gas and lower pressure drop than standard vertical/horizontal separators in a much smaller foot print.
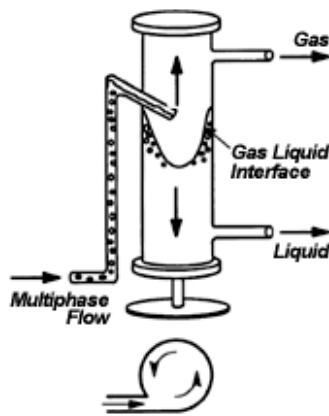
The design has been throughly characterized. This allows the use of custom software to design the correct size of separator from the expected flow rates, pressures and oil API. This ensures near zero gas carry over and liquid carry under.

Low Power Electric Controls

The electric control system allows standalone operation as well as remote monitoring/control. Requiring no fuel gas or propane, it makes for a reliable and more flexible control system versus traditional pneumatic controls.

Advantages Over Traditional Separators

- Very high efficiency, low cost and compact size
- Light weight, typically trailer mounted and pulled by a a one ton truck
- Low pressure drop
- Characterized design
- Superior separation resulting in more accurate gas and liquid measurement
- Less foaming and shearing
- Capable of standalone and remote monitored operation

Separator on Test

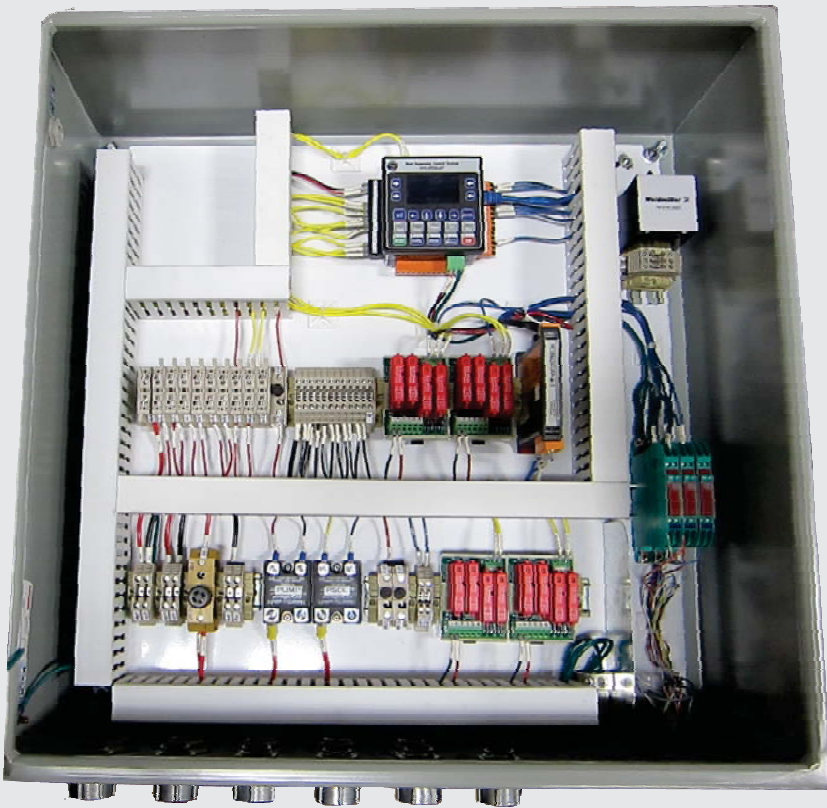8" Test Separator Configured for Transport

All Electric Control System

16" Separator Configured for Transport

Fast Acting Electric Actuator

Electric Sampler

Control Panel

Intrinsically Safe Interconnects

Specifications

Max Flow Rates

Pressure	Vessel Size 8" GLCC / 3" Inlet		Vessel Size 12" GLCC / 4" Inlet		Vessel Size 16" GLCC / 6" Inlet	
	Liquid	Gas	Liquid	Gas	Liquid	Gas
KPAG	m^3/day	e^3m^3/day	m^3/day	e^3m^3/day	m^3/day	e^3m^3/day
345	16	14	48	28	54	42
700	16	21	55	42	64	70
1725	20	28	64	56	80	100
3500	24	42	80	85	95	141
5175	32	56	95	113	120	170
7000	40	70	110	142	145	212
9,930	55	85	128	170	175	270
13,790	64	113	144	200	205	340

Pressure	Vessel Size 8" GLCC / 3" Inlet		Vessel Size 12" GLCC / 4" Inlet		Vessel Size 16" GLCC / 6" Inlet	
	Liquid	Gas	Liquid	Gas	Liquid	Gas
PSIG	bbl/day	mscf/day	bbl/day	mscf/day	bbl/day	mscf/day
50	100	500	300	1000	340	1500
100	100	750	350	1500	400	2500
250	125	1000	400	2000	500	3500
500	150	1500	500	3000	600	5000
750	200	2000	600	4000	750	6000
1000	250	2500	700	5000	900	7500
1440	350	3000	800	6000	1100	9500
2000	400	4000	900	7000	1300	12000

Each test separator can be custom sized for your flow range requirements. The above numbers are typical examples.

Control System

Control Panel
- Class 1 Div 2 CSA Approved
- Integrated PLC for control & ESD system
- PLC programming for turn key solution and easy install
- PID control available
- Solar Power system is engineered for 10 days reserve at -40°C with an average of 2 hours per day of sunlight
- Electronics rated for -40°C
- RS-485 Modbus communication available

ESD System
- Pressure Switches
- Level Switches
- Hydraulic or Pneumatic ESD Fail Safe Actuator with low power solenoid.

Level Control
- Two or Three Phase
- Displacement or Float type level control
- Electric Explosion Proof dump valve

Pressure or Flow Control
- PID controlled Explosion Proof electric actuator with choke valve

Chemical Pump
- Electric Explosion Proof Injection Pump
- Methanol and/or chemical injection with individually scalable rates.