

- 400 MCF / day capacity
- 5.5 gal of NGL / MCF processed (typical for Bakken gas)
- High quality methane output (Cummins MN 70+)
- Rapidly deployed & redeployed (24 hrs, typical)
- Scalable via paralleled units
- Turndown to 180 MCF / day
- Ethane is removed (tunable down to as low as 2%)
- Completely self-powered (using extracted ethane)

Description

The *Flarecatcher 400* is a mobile gas processing plant that processes liquid-rich associated gas at the oil well, producing Y-Grade Natural Gas Liquids (NGLs) and high quality lean methane. MAGS reduces or eliminates flaring, enabling monetization of associated gas & reducing environmental footprint.

Raw associated gas is first **compressed** then **dehydrated** through use of a molecular sieve. A two stage mechanical refrigerator cools the gas to **between -65 C and -80C**, liquefying C3+ components. A sophisticated separation system then dissociates the gas into 3 streams: **Y-Grade NGLs** (to be transported to market), **lean methane** (fuel for onsite loads, or can be converted to CNG or LNG), and low-value rejected ethane (consumed onboard).



Flarecatcher 400 Characteristics

COMPRESSION	Compressor: Knox Western TP-245 Drive: 50-HP totally enclosed fan cooled, explosion-proof Gas Coolers: Harsco 24VV air-cooled with pneumatically controlled dampers Liquid traps, with auto-drains, at compressor inlet and after each compression stage
DEHYDRATION	304SS vessels Molecular Sieve 4A (dries gas to -100C dewpoint) 304SS gas-to-gas heat-exchanger Metal-seated control valves
REFRIDGERATION	Semi-hermetic reciprocating compressors Oil-separators, filter-driers, suction-accumulators used to improve reliability and performance Plate-heat-exchangers 304SS (copper-brazed in refrigeration, nickel-brazed where associated gas contacts) Air-cooled condensing units with floating-coils and TEFC motors
SEPARATION	304SS construction Cyclonic-separator: Outputs lean gas (CNG quality) and feeds condensed liquid to stripping column Stripping column: Random-fill design to maximize C3+ capture in NGL Reboiler: Electric immersion heaters 30-kWe to control ethane content in NGL Transfer Pump: Mag-coupled rotary-vane
FILTRATION	Demisting pads used in inlet slug-catcher vessel as well as cyclonic-separator and stripping column Coalescing gas filters pre-and-post dehydration vessels
CONTROLS	Wireless cellular communications protocol used with satellite back-up Opto22 controllers, mGuard security firewall All control valves pneumatically actuated Control valves equipped with limit-switches to report valve position Instrumented to measure temperatures, pressures, and flow in all critical areas
DIMENSIONS	41.5-ft long x 8.5-ft wide x 13.5-ft tall (during transport), 43-ft long x 11.5-ft wide x 13.5-ft tall (when deployed) Est. Weight: 37,500 lbs
TRAILER	Single-axle drop-deck trailer with all metal construction (steel & aluminum).
POWER	Magnum MGG200 12.9L 150kWe continuous genset, 480-VAC, 3-phase, 60Hz Tuned for high-ethane content gas
SAFETY	Electrical wiring Class-1, Division-2, Group C, D Pressure relief valves and rupture-disks used Pressure relief devices plumbed to manifold to direct any flows to utility flare Automatic blow-down system to quickly and safely empty system of all liquid hydrocarbons Redundant instrumentation used in critical areas

Flarecatcher 400 Performance

Raw Gas Input		1,350	1,500	1,650	1,800	BTU/ft ³
COMPOSITION	Flow Rate	400	300	260	240	Mcf/day
	Cummins fuel quality MN	54.8	48.8	44.7	41.3	
	Methane	74%	64%	54%	44%	Vol %
	Ethane	11%	15%	19%	24%	
	Propane	7%	10%	13%	16%	
Butane+	7%	9%	12%	15%		
Lean Methane Output		1,075	1,091	1,128	1,183	BTU/ft ³
Diesel fuel replacement		2,403	1,590	1,258	1,076	gal / day
Dry Methane flow rate		320	210	160	130	Mcf/day
Cummins fuel quality MN		78.3	75.8	71.3	66.4	
Power generation est.		1.2	0.8	0.5	0.4	MWe
Y-Grade NGL Output (0% methane, ethane rejected to 2% by volume)						
COMPOSITION	Daily capture rate	1,338	1,437	1,614	1,823	gal / day
	Methane	0%	0%	0%	0%	
	Ethane	2%	2%	2%	2%	
	Propane	41%	42%	42%	42%	
	Butane+	57%	56%	56%	56%	

Flarecatcher 400 Deployed Configuration

