

KBI HEAVY-DUTY Cold Weather Starting Aids



DIESELMATIC STARTING FLUID INJECTION SYSTEMS

Authorized for Original
Equipment Installation by
Major Engine Manufacturers

GET THE DIESELMATIC ADVANTAGE

DIESELMATIC® Starting Fluid Injection Systems inject a precisely controlled amount of vaporized starting fluid into the air intake system of a diesel engine to obtain dependable engine starting even at temperatures as cold as -25° F and below.

KAPower & KrankingKAP SUPER CAPACITORS

GET YOUR ENGINE STARTED EVEN WITH RUNDOWN BATTERIES

KAPower™ & KrankingKAP™ Super Capacitors are designed as auxiliary power sources. They supply reliable cranking power unaffected by cold temperatures.



KBI SYSTEMS AVAILABLE FOR:

- Trucking
- Generators
- Military
- Mass Transit
- Agriculture
- Utilities
- Construction
- Locomotives
- Snow Removal

Products and Cylinders Shipped Worldwide. No Special Handling Required. Call for Distributor Listing.



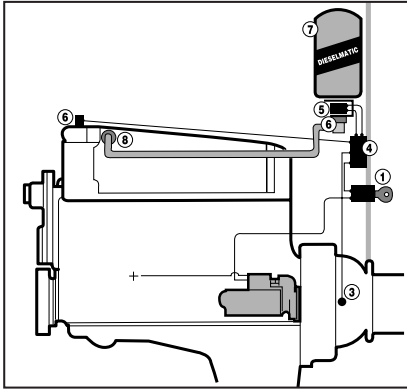
KBI's Drive-in Cold Cell with an extensive data application system, is available to lease for research purposes or to prepare for military cold weather tests. Commercial diesel engines are also available.

Special Applications Engineering Assistance Available.



KBI/KOLD-BAN INTERNATIONAL, LTD.
8390 PINGREE ROAD • LAKE IN THE HILLS, IL 60156-9637 U.S.A.
TELEPHONE: 847/658-8561 • FAX: 847/658-9280
www.koldban.com 1-800-527-8278

Patented Design Makes DIESELMATIC® Unique



1. KEY ACTIVATED. Fully automatic system operates only when the key is turned to START position and the cranking motor is engaged. Operator error and experimentation are totally eliminated.
2. ENGINE COOLANT SENSOR. (Thermistor on DIESELMATIC EC.)
3. FLYWHEEL MAG PICKUP. (DIESELMATIC EC only.)
4. ELECTRONIC CONTROL UNIT. Firewall-mounted unit has LED indicator, which lights when fluid cylinder is low, and a reset switch. (DIESELMATIC EC only.)
5. DIESELMATIC VALVE. Patented solenoid-activated valve introduces starting fluid immediately upon activation. Reservoir maintains flow to prevent engine faltering.
6. BLOCKOR® FITTING. Patented field-serviceable metering orifice vaporizes and controls flow of starting fluid more precisely than other systems.
7. STARTING FLUID CYLINDER. Each pressurized cylinder is uniformly filled with the highest grade premium engine starting fluid. Cylinder's patented design assures industry's highest quality.
8. EFFICIENCY & SAFETY. The starting fluid enters the air intake system in predominantly gaseous form, allowing the DIESELMATIC System to operate with a higher degree of efficiency and safety.



DIESELMATIC FULLY AUTOMATIC STARTING FLUID SYSTEM

Standard systems are available for over 95% of all applications (Diesel engines from 14 cu. in. {.229 liters} to 13,000 cu. in. {213 liters}).

DIESELMATIC systems include all necessary hardware for normal installation. ENGINEERED SYSTEMS feature a universal wiring harness which yields a "factory-installed" installation.

COMPLETE DIESELMATIC SYSTEMS

- | | |
|-------|---|
| 62008 | 12 V. DIESELMATIC KIT < 740 CID |
| 62034 | 12 V. DIESELMATIC KIT < 740 CID W/O FLUID CYLINDER |
| 62019 | 12 V. DIESELMATIC KIT > 741 CID |
| 62035 | 12 V. DIESELMATIC KIT > 741 CID W/O FLUID CYLINDER |
| 62100 | 12 V. ENGINEERED DIESELMATIC KIT < 740 CID W/O FLUID CYLINDER |
| 62235 | 12 V. ENGINEERED DIESELMATIC KIT > 741 CID W/O FLUID CYLINDER |
| 64006 | 24 V. DIESELMATIC KIT < 740 CID |
| 64007 | 24 V. DIESELMATIC KIT < 740 CID W/O FLUID CYLINDER |
| 64017 | 24 V. DIESELMATIC KIT > 741 CID |
| 64018 | 24 V. DIESELMATIC KIT > 741 CID W/O FLUID CYLINDER |

KOMPAC® DIESELMATIC® FULLY AUTOMATIC SYSTEM IN A COMPACT SIZE

The KOMPAC has all of the fully-automatic features of the DIESELMATIC. It has been developed to meet the specific needs of smaller displacement engines.

KOMPAC models have also been specially designed for larger displacement diesels with space-restricted engine compartments.

KOMPAC uses the same mounting configuration as older aerosol-can injection systems. Retro-fitting can be made without drilling or repositioning.

COMPLETE KOMPAC SYSTEMS

- | | |
|-------|--|
| 22003 | 12 V. KOMPAC DIESELMATIC KIT 50-225 CID |
| 22002 | 12 V. KOMPAC DIESELMATIC KIT 50-225 CID W/O FLUID CYLINDER |
| 22009 | 12 V. KOMPAC DIESELMATIC KIT 226-740 CID |
| 22008 | 12 V. KOMPAC DIESELMATIC KIT 226-740 CID W/O FLUID CYLINDER |
| 22045 | 12 V. ENGINEERED KOMPAC DIESELMATIC KIT < 740 CID W/O FLUID CYLINDER |
| 24010 | 24 V. KOMPAC DIESELMATIC KIT 226-740 CID |
| 24011 | 24 V. KOMPAC DIESELMATIC KIT 226-740 CID W/O FLUID CYLINDER |

Contact KBI for Full-line Catalog



DIESELMATIC EC

ELECTRONICALLY OPTIMIZES DIESEL STARTING AND WARM-UP



The microprocessor-controlled DIESELMATIC EC receives inputs concerning: Flywheel RPM, Coolant Temperature & Starting Fluid Flow. The microprocessor monitors these data and injects precisely-controlled amounts of vaporized Starting Fluid into the engines air intake system to initiate the optimal engine start and a smooth warm-up while eliminating the white smoke and other detrimental effects usually associated with a cold start. The fully-automatic DIESELMATIC EC ensures that the proper amount of Starting Fluid will be injected into the engine at the proper time. Contact KBI for specific applications.

THE DIESELMATIC EC WILL:

1. Decrease initial cranking time to "First Fire."
2. Eliminate additional cranking cycles on cold soaked engines.
3. Lessen engine vibration, due to uneven combustion chamber firing, by monitoring entire warm-up period and providing Starting Fluid until engine is running smoothly.
4. Help prevent dilution of engine oil from unburned fuel by reducing time the cylinders are not firing.
5. Reduce white smoke by shortening time the cylinders are not firing.
6. Indicate when the Starting Fluid Cylinder is low by activating a "Low Cylinder" light.
7. Totally eliminate operator error or abuse through fully-automatic controls that cannot be over-riden.

The DIESELMATIC EC Electronic Control Module



DIESELMATIC NVT

INTERFACES DIRECTLY WITH ELECTRONIC CONTROL MODULE

The DIESELMATIC NVT's patented system is specially designed to be compatible with the new generation of ECM engines. This revolutionary new unit is fully automatic. It plugs directly into the "Starting Fluid" port on the engine's Electronic Control Module, no separate interface is required. Full professional installation is accomplished with ease.

The DIESELMATIC NVT is activated by the signal from the ECM based on vital engine information (speed, temperature, etc.), to deliver starting fluid more precisely than any other injection system on the market today. The fully integrated metering orifice and filter have been totally re-engineered, setting a new standard in performance and reliability.

Contact KBI for specific applications.

EXCLUSIVE FEATURES FOR DIESELMATIC NVT

Compatible with ECM Engines

- Direct Interface
- Low Current Draw
1.3 amps @ 12v
.6 amps @ 24v
- Diode Protection
- Polarity sensitive

Engineered for Reliability

- Sealed from Environment
- O-ring Cylinder Seal
- Encapsulated Coil
- Non-corroding Brass Connections
- Field-serviceable Metering Orifice/Filter

Designed for Superior Performance

- Automatically Activated by Engine Control Module
- Injects Starting Fluid Precisely



KBI/KOLD-BAN INTERNATIONAL, LTD.

8390 PINGREE ROAD • LAKE IN THE HILLS, IL 60156-9637 U.S.A.

TELEPHONE: 847/658-8561 • FAX: 847/658-9280

www.koldban.com 1-800-527-8278 • Contact KBI for Full-line Catalog

KAPower & KrankingKAP SUPER CAPACITORS

RELIABLE AUXILIARY & EMERGENCY CRANKING POWER

KBi KAPower™ & KBi KrankingKAP™ Super Capacitors are designed as auxiliary power sources. They derive power from your batteries and discharge this power when needed. KBi KAPower™ & KBi KrankingKAP™ have an essentially unlimited charge/discharge cycle life, and can be recharged almost indefinitely - even by rundown batteries. Both are virtually unaffected by cold temperatures, supplying reliable cranking power at -25° F and below. No maintenance is required. Safe and easy to install, KBi Super Capacitors contain no Haz-Mats.

- **High Power Cranking**
Generates currents 2-3 times higher than the battery-only system during the critical, initial 2-3 seconds of cranking motor engagement.
- **Second Chance Starting**
Allows the capacitor to recharge in 10-30 seconds, for a second try at nearly the same power level.
- **Constant-Life Performance**
Maintains constant starting performance over the life of the battery. Only the capacitor charging time is increased as the battery ages.
- **Weight Reduction**
The capacitor is a non-lead product. Weight reduction can be achieved without loss of cranking power.

TYPICAL TECHNICAL CHARACTERISTICS

Subject to change based on application

Nominal Voltage Window	6.5 - 13 Volts
Operating Voltage Window	3.0 - 14.5 Volts
Energy Stored at Nominal Voltage Window	60 Kilojoule
Capacitance	1000 F
Internal Resistance, Ohm,	+68°F (+20°C) 0.003 -22°F (-30°C) 0.0045
Maximum Power	17 kW
Charged Capacitor Voltage Reduction After 6 Months of Storage at +20°C (+68°F), not more	6
Cycle Life Duty, not less than	100,000
Operating Temperature Range,	-58 to 122°F -50 to 50°C
Weight	30.8 lbs..
Overall Dimensions (L x W x H), inches	13.2 x 3.48 x 9.92

KAPower

ELECTRICAL POWER SOURCE

KAPower™ is designed as a supplemental power source to be installed in parallel with your cranking batteries, providing consistent starting power over the service life of the battery.



TYPICAL TECHNICAL CHARACTERISTICS

Subject to change based on application

Nominal Voltage	12 Volts
Maximum Voltage	15 Volts
Full Energy Store, not less	50 kJ
Capacitance	695 F
Internal Resistance at 1kHz, not more	0.001 Ohm
Discharge Current	1800 Amps
Cycle Life Duty, not less than	100,000
Operating Temperature Range	122°F to -58°F from +50 to -50°C
Weight	55 lbs.
Overall Dimensions (L x W x H), inches	14.8 x 6.88 x 9.6

KrankingKAP

AUXILIARY POWER SUPPLY

KrankingKAP™ is designed as an emergency power source. A 10-second charge provides full cranking power, even from rundown batteries.



Contact KBi for specific applications. © 2001 KBi, Ltd. Form 131165



KBi/KOLD-BAN INTERNATIONAL, LTD.

8390 PINGREE ROAD • LAKE IN THE HILLS, IL 60156-9637 U.S.A.

TELEPHONE: 847/658-8561 • FAX: 847/658-9280

www.koldban.com 1-800-527-8278 • Contact KBi for Full-line Catalog