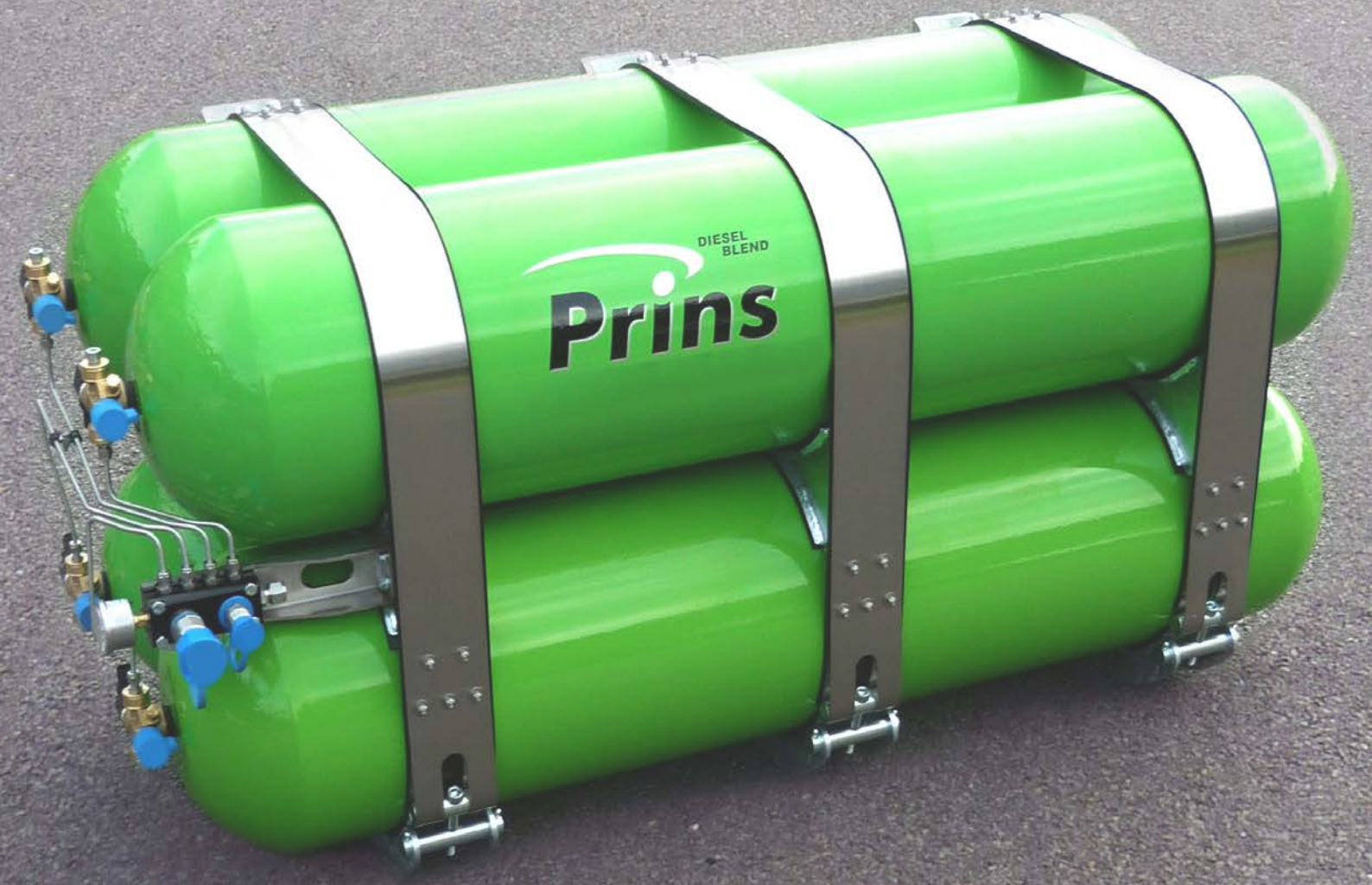
ALTERNATIVE
FUEL SYSTEMS

Prins



DieselBlend CNG

a Westport Fuel Systems company

Prins Autogassystemen B.V., specialized in alternative fuel systems, developed a new dual-fuel system for heavy-duty applications: **Prins Dieselblend CNG**.

In a dual-fuel engine, a secondary fuel is used besides diesel. The quantity of diesel injected is reduced, and secondary fuel (CNG) is injected to make up for the reduced amount of diesel.

The Prins Dieselblend system is installed in addition to the original engine management system, and it is suitable for all electronically controlled Diesel engines.

The Prins Dieselblend system gets information from the vehicle and engine through CAN-communication and from it's own sensors. This enables fully computer-controlled injection of the correct amount of CNG, in all operation conditions, resulting in:

Lower Total Cost of Ownership (TCO) and reduced CO2, NOx and Particulate Matter.

An additional benefit is the fact that, in case CNG is not available, the engine can still run on 100% diesel and will still perform the same as the original diesel engine.

The key components of the system are all of OEM quality and specially designed for heavy-duty applications. All components comply with the strictest regulations and (R110) certifications.

Features CNG tank:

- Standard outer diameter of 340mm.
- Different sizes available.
- Heavy duty coating.
- Brackets for 2- and 4-tank configurations.
- Brackets FEM analized according RDW standard.
- Electrical tank lock-off valve 12V or 24V without internal venting system.
- Working temperature: -40°C / + 85°C.
- Thermal safety valve (PRD).
- Manual security tap.
- Excess flow valve.
- Low absorption solenoid valve.

Technical Specifications:	
Type	CNG tank
Fuel type	CNG
Geometric capacity (140L version)	140[L]
Net capacity (140L version)	~23Kg@200Bar
Weight of bare unit (140L version)	135[kg]
Weight when filled (methane 0.42kg/L)	158[kg]
Dimensions without lock-off valve (DxL)	340x~1820 [mm]
Dimensions with lock-off valve (DxL)	340x~1920 [mm]
Primary relieve valve setting	1600 [kPa] (16 kgf/cm^2)
Standard operating pressure (rel.)	20 [MPa] (200kgf/cm^2)
Vessel material	Steel


Blend:
30
EGT:
360
Load:
67.0
Prins


Prins

Components

CNG pressure regulator

- By KEIHIN in cooperation with PRINS
- Based on OEM technology, quality and standards
- Integrated relief valve
- Small pressure drop level equivalent to a two stage regulator
- Manifold reference function
- System pressure is not affected by tank pressure
- Performance at cold temperature is identical as at normal temperature
- Optional in-line electrical lock-off valve.
- Wide range of inlet connections

Filter Unit

- Compact design with single or dual outlets
- Fitted with 10-micron (ß10 > 75) dry gas fillter protecting the fine tolerance of the injectors, from gaseous pollutants
- Combined OEM gaseous temperature and 10 bar pressure sensor (if applicable)
- Different hose options

Injector rail

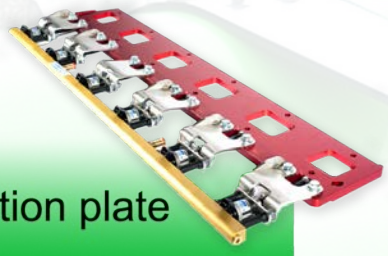
- Developed by Keihin Corp, Japan, one of the world's leading injector manufacturers, in cooperation with Prins, ensuring quality and reliability
- Excellent linear flow rate (LFR = linear behaviour from minimum to maximum flow)
- Linear from 2,5 ms
- Model range available to cater for small and large engine displacement
- OEM quality injectors, performance guaranteed and long durability
- Dedicated engine rail brackets

AFC

Alternative Fuel Controller

- Injector driver capability up to 8 cylinders
- 81 pin connector and 40 pin connector (121 pins)
- Injector drivers based on "closed loop peak & hold current control" and "plunger movement detection control"
- Number of different communication interfaces for more advanced OEM engine integration
- OEM housing
- High performance 32bit automotive controller combined with full diagnostic and self protected power out circuits for high reliability and durability
- Diagnostics, service and parameter load, software operates from Windows applications

Components



Manifold injection plate
Multi Point Injection

- Applicable for CNG, LNG and LPG
- No air flow restriction
- Compact dimensions for ease of installation between cylinder head and intake manifold
- Different injector sizes available
- Anodized for high durability
- Integrated ports to connect to MAP- sensor and MAP-reference connections on reducer
- Dedicated to engine family

Fuel selection switch

- Small and compact design suits all cab interiors
- Fuel select via smart touch control
- Informs operator of LPG tank contents
- Audible buzzer to alert low level switching or fault codes
- Illuminated fault code warning with LED
- Self programmable LED colours

SPI unit
Single Point Injection

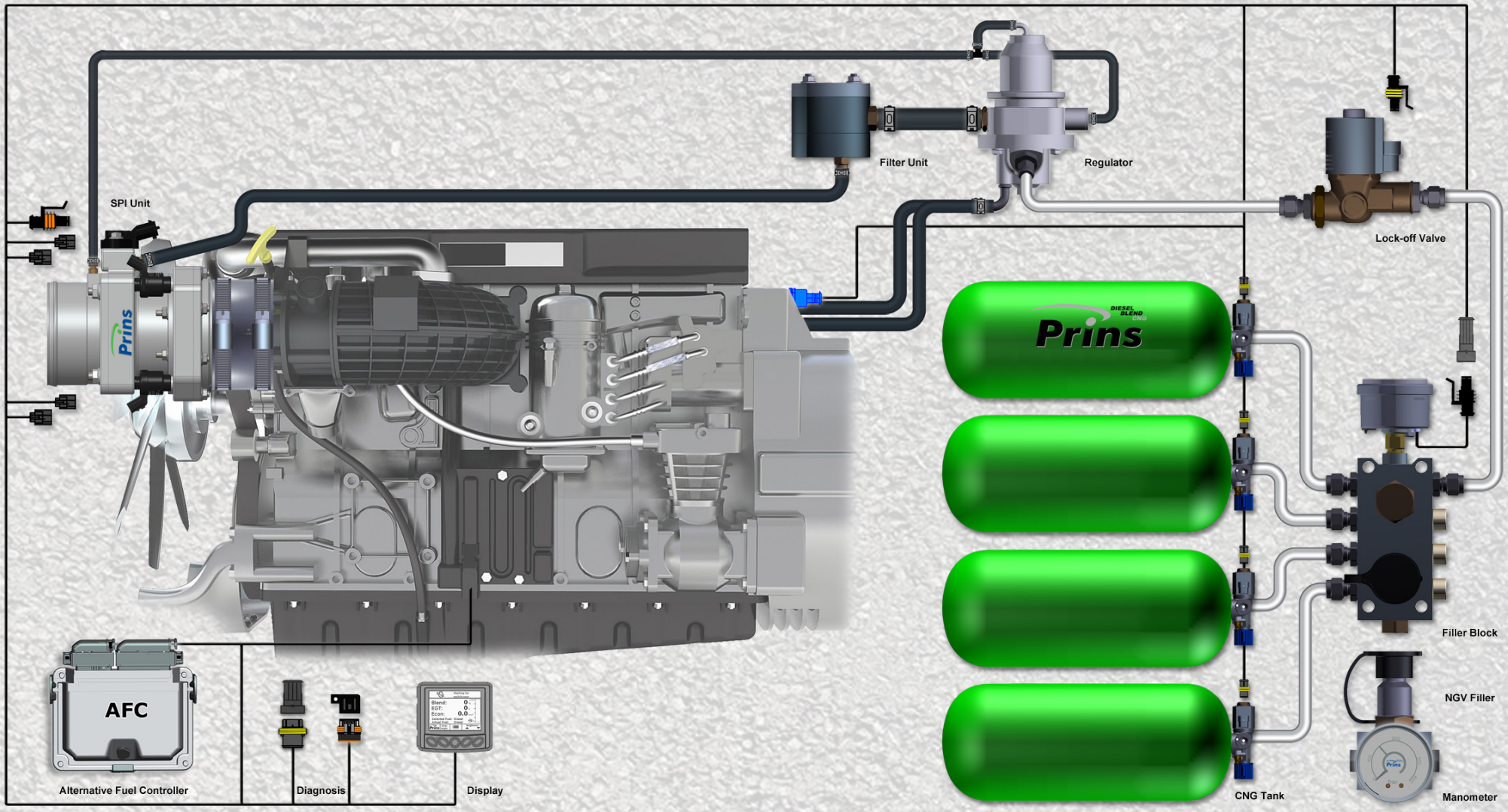
- Applicable for CNG, LNG and LPG
- Low air flow restriction
- Standard 4" (101.6 mm) hose connectors
- Compact dimensions for ease of installation between CAC and intake manifold
- Different injector sizes available
- Integrated port for air-compressor inlet connection
- Integrated gas pressure and temperature sensor
- Homogeneous mixing of fuel and air
- Anodized body for high durability
- Integrated pressure ports to connect to MAP- sensor and MAP-reference connections on regulator
- Custom inlet and outlet adapters available

Display

- Small and compact design suits all cab interiors
- FSAE J1113/2, 4, 11, 12, 21, 24, 26 and 41
- Display: 3.8" (97mm) QVGA (320x240 pixels); monochrome transflective LCD with white LED backlight and heater
- Viewing Angle: horizontally ±50°
  Viewing Angle: vertically +45°/-60°
- Keys: 5 tactile push buttons
- Alarms: Red and amber warning LEDs; capable of set point-triggered output for external piezo buzzer or shutdown relay

CNG tank

- Standard outer diameter of 340mm
- Custom tank length available
- More information see page 1



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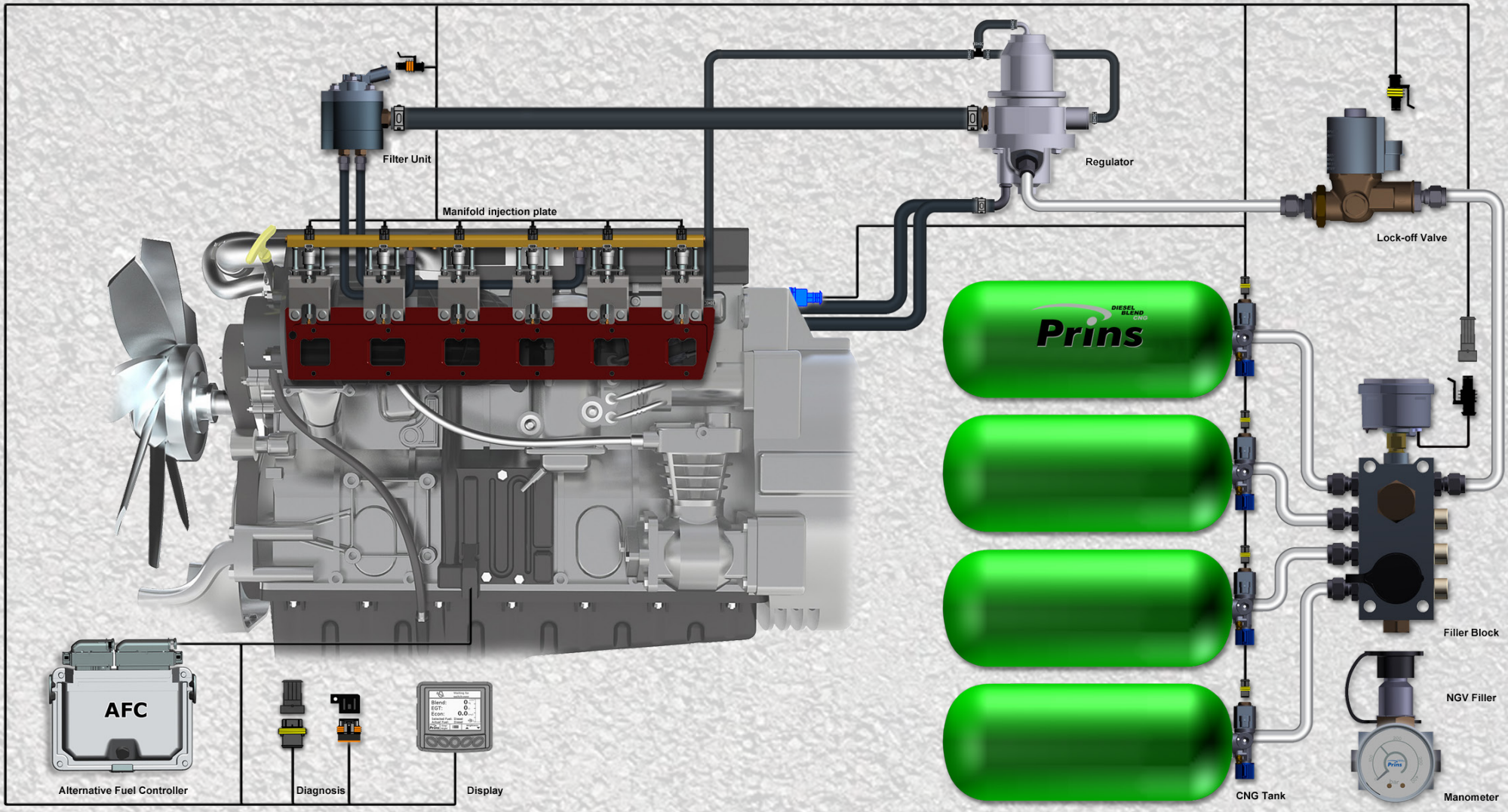

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