

FHT

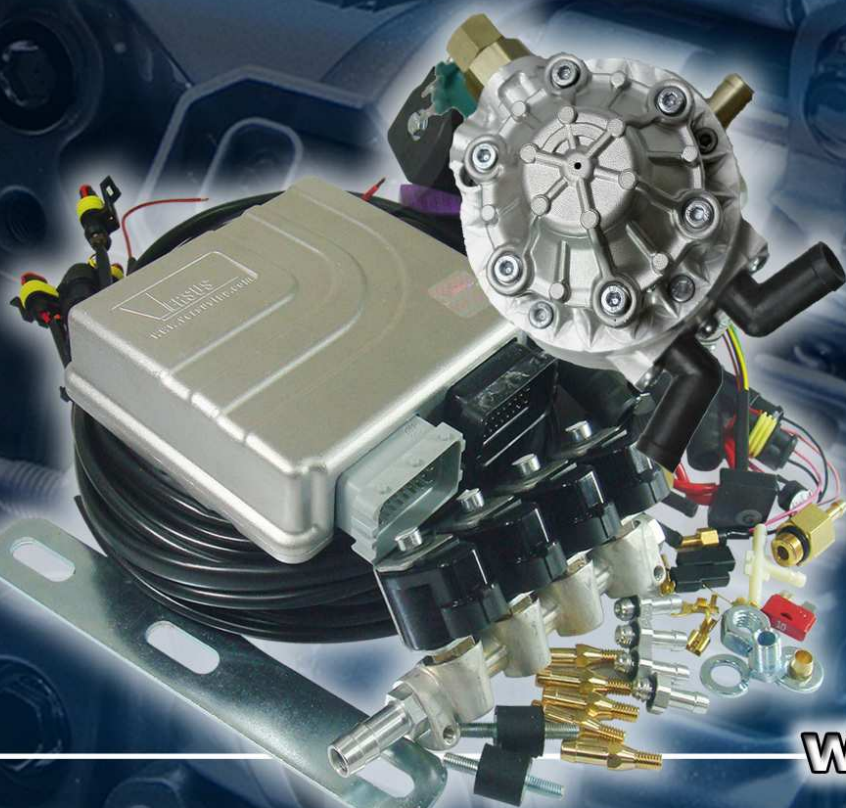
VERSUS[®]

AUTO GAS equipment

**VERSUS GAS - NGV/CNG Autogas
Parts&Accessories**

**SGI VERSUS KITS&Parts
CATALOGUE**

2010



www.versusgas.com

CNG KITS – CONTENT:

A. SGI VERSUS 4-cyl BASIC KITS

1. VERSUS MINI KIT 4-cyl VR-C/FH02-4/F1/M
2. VERSUS MINI KIT 4-cyl VR-C/4x FH02-1/F4/M

B. SGI VERSUS 6-cyl BASIC KIT

VERSUS MINI KIT 6-cyl VR-C/2x FH02-3/F2/M

C. SGI VERSUS 8-cyl BASIC KIT

VERSUS MINI KIT 8-cyl VR-C/2x FH02-4/2xF1/M

D. ECU VERSUS KIT

1. VERSUS Controller
2. VERSUS ECU KIT Components

E. INJECTORS

F. REDUCER

G. FILTERS

H. CNG LEVEL SENSOR



VERSUS MINI KIT 4-cyl VR-C/FH02-4/F1/M consists of:

1. Electronic Control Unit VERSUS 4-cyl
2. ECU VERSUS Harness 4-cyl
3. Map-sensor
4. Reducer's Temperature Sensor
5. Gas Temperature Sensor
6. Fuse + case
7. Change-over Switch
8. Horn/Buzzer
9. Small Fastening Elements
10. Injectors FH02-4 with calibration nozzles
11. Inlet manifold nozzles
12. Reducer VERSUS VR-C "Standard"
13. Reducer's support
14. Filter 1-1
15. Manometer
16. Vacuum T-Fitting



This is only a sample kit composition. Other KIT composition is the subject of negotiation

VERSUS MINI KIT 4-cyl VR-C/4x FH02-1/F4/M consists of:

1. Electronic Control Unit VERSUS 4-cyl,
2. ECU VERSUS Harness 4-cyl,
3. Map-sensor
4. Reducer's Temperature Sensor
5. Gas Temperature Sensor - "T" type
6. Fuse + case
7. Change-over Switch
8. Horn/Buzzer
9. Small Fastening Elements
10. Injectors FH02-1 with calibration nozzles (x4)
11. Inlet manifold nozzles
12. Reducer VERSUS VR-C "Standard"
13. Reducer's support
14. Filter 1-4
15. Manometer
16. Vacuum T-Fitting



This is only a sample kit composition. Other KIT composition is the subject of negotiation

VERSUS MINI KIT 6-cyl VR-C/2x FH02-3/F2/M

consists of:

1. Electronic Control Unit VERSUS 6-cyl,
2. ECU VERSUS Harness 6-cyl,
3. Map-sensor
4. Reducer's Temperature Sensor
5. Gas Temperature Sensor
6. Fuse + case
7. Change-over Switch
8. Horn/Buzzer
9. Small Fastening Elements
10. Injectors FH02-3 with calibration nozzles (x2)
11. Inlet manifold nozzles
12. Reducer VERSUS VR-C "Standard"
13. Reducer's support
14. Filter 1-2
15. Manometer
16. Vacuum T Fitting



This is only a sample kit composition. Other KIT composition is the subject of negotiation

VERSUS MINI KIT 8-cyl VR-C/2x FH02-4/2x F1/M

consists of:

1. Electronic Control Unit VERSUS 8-cyl,
2. ECU VERSUS Harness 8-cyl,
3. Map-sensor
4. Reducer's Temperature Sensor
5. Gas Temperature Sensor
6. Fuse + case
7. Change-over Switch
8. Horn/Buzzer
9. Small Fastening Elements
10. Injectors FH02-4 with calibration nozzles (x2)
11. Inlet manifold nozzles
12. Reducer's support
13. Reducer VERSUS VR-C "Standard"
14. Filter 1-1 (x2)
15. Manometer
16. Vacuum T Fitting
17. Y Fitting for Filters



This is only a sample kit composition. Other KIT composition is the subject of negotiation

ECU VERSUS KIT:

ECU VERSUS (Electronic Control Unit) has been designed based on the most recent methods of processing electronic impulses in CNG dosage systems.

Main features of ECU VERSUS:

- Efficient processor that supports automatic recognition of engine parameters
- Clear, simple, user friendly interface allowing for time efficient service.
- The software used for the ECU Versus has an option for the calibration of the system under a full load during driving. This allows for performance nearly identical to gasoline. All complicated feeding application processes are under micro-controller responsibility.
- Simplicity in service, configuration and diagnostics of the system
- Environment friendly - complies with exhaust emission standards EURO 4
- Fully automatic operations including automated switching from GAS to Gasoline when the tank is empty.
- Additional functions allow for self-diagnostics of the system and correction of problems when necessary.
- ECU Versus is extremely versatile so that it allows for various configuration of the components making it suitable to be used with almost any car on the market.

ECU VERSUS has E110R approval CNG

Other components of Electronic Control Unit VERSUS:



Map – sensor



Harness



GAS Temperature Sensor



Reducer Temperature Sensor



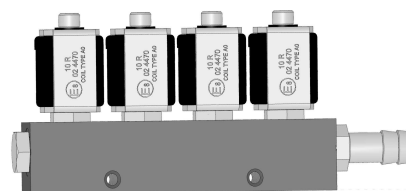
Waterproof Fuse Box



Switch, Buzzer

FH02 Technical data:

Fuel: CNG/LPG
Voltage: 12V
Working Pressure: 0,5-2,5 bar
Maximum working pressure: 4,5 bar
Opening/closing time: 3.0 msec/2.5 msec
Resistance of the coil: 3 Ohm \pm 4%, other upon request
T. range (°C): -30 /+120
GAS Inlet (external): 12 mm, other upon request
Standard Valve seat diameter: 4 mm
Calibration nozzle sizes available: 1,5 - 3,5 mm (0,25 mm step)
Body composition available: 1-cyl, 2-cyl, 3-cyl, 4-cyl
Normally: closed
Approvals: ECE 67R-01 0953, ECE 110R-00 0040



FH02-1 Injector



FH02-2 Injector



FH02-3 Injector



FH02-4 Injector

Packaging style: groupage carton box 27/35/19 cm

FH02-1 Injector: 100 pcs of the injector inside

FH02-2 Injector: 40 pcs of the injector inside

FH02-3 Injector: 20 pcs of the injector inside

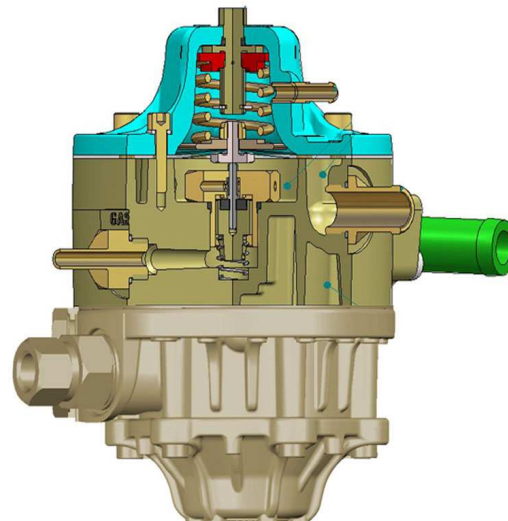
FH02-4 Injector: 20 pcs of the injector inside

CNG VR-C “STANDARD” Reducer:

VR-C is a pressure regulator designed by FHT and dedicated to CNG Sequential Gas Injection Systems.

It can be installed in most types of cars. The reducer is supplied with sensitive 1st stage reduction system that warrants stable pressure value in spite of pressure variation coming from the tank.

Thanks to its highly efficient two stage Gas flow control system it ensures the most optimal GAS dosage in any drive conditions.



VR-C “Standard” Technical Data:

Type of GAS: CNG
Body: Aluminum die cast
Homologations: ECE 110R 00
Gas Working Pressure: 1,6 bar
Maximum Power: 180 kW
Working Temperature Range (°C): -30 /+120
Gas Outlet External Diameter: 12 mm
Engine Cooling liquid Outlet/Inlet: a) 16 mm
b) 10 mm

Low Pressure Shut-off Valve: integrated
Vacuum nozzle: Present
Solenoid Valve Nominal Voltage: 12V
Overall dimension: 150/165/145 mm
Body Diameter: 100 mm
Weight: 1,3 kg

FILTERS:**Filter 1-1:**

Characteristic: one inlet, one outlet

Variation of inlets: \varnothing 11, 12, 14, 16

Variation of outlets \varnothing 11, 12, 14, 16

Filtration surface: $0,03 \text{ m}^2$

Body: Aluminum

Cartridge inside: paper

Overall dimensions: 108 mm, diameter of the body 45 mm

Approvals: E2067R 01, E20110R 00

**Filter 1-2:**

Characteristic: one inlet, two outlets

Variation of inlets: \varnothing 11, 12, 14, 16

Variation of outlets \varnothing 11, 12, 14, 16

Filtration surface: $0,03 \text{ m}^2$

Body: Aluminum

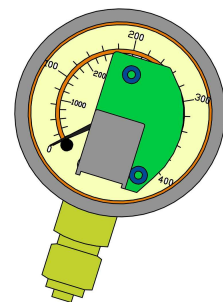
Cartridge inside: paper

Overall dimensions: 130 mm, diameter of the body 45 mm

Approvals: E2067R 01, E20110R 00

**CNG LEVEL SENSOR:**

VR-C 01 Manometer is a device integrated together with the sensor to indicate the level of CNG inside the capsule.

**VR-C 01 Manometer Technical Data:**

Body: made of steel, waterproof

Working Pressure: 200 bar

Testing Pressure: 400 bar

Burst Pressure: over 1000 bar

Accuracy: 1,6 %

Power Supply: +12V

Output Power(V): 40bar – 4V

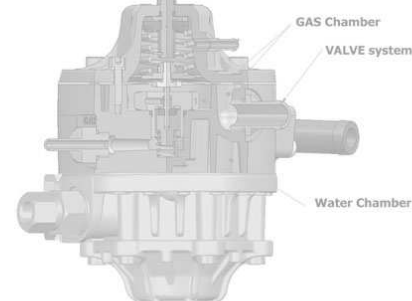
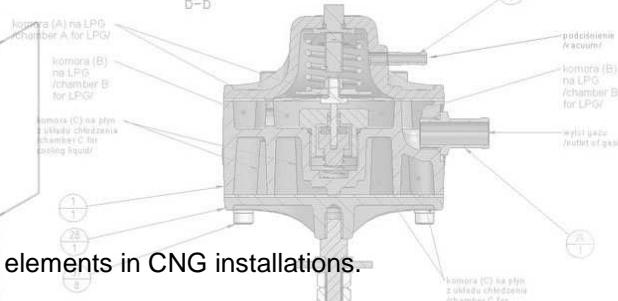
70bar – 3V

110bar – 2V

150bar – 1V

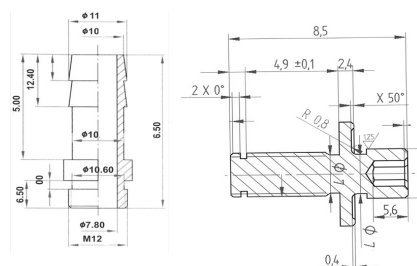
Window: Polycarbonate





All kind of copper/brass made elements in CNG installations.

Our engineers are ready to prepare any personalized design in that area (nozzles, nuts, other parts) upon request.



We offer full assortment of CNG Parts & Accessories.

Terms of cooperation with its rules are the subject of negotiation and are given individually.

We strongly believe that in any business development should be no limitations. VERSUS hereby invite its potential partners to try and discover Polish technology of innovations and functionality.

We are certain that there are a lot of opportunities for cooperation that there are many institutions and companies that could be our potential partners. We pay our attention to long-standing cooperation and warrant satisfaction to any institution that pays attention to the same.

Should you have any vision for our cooperation, that would be our pleasure to meet your expectations. We will try to find a way to implement and come your proposals into force.

For more information we encourage you to visit our website

www.versusgas.com



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