

CNG System for Vehicles

(Compressed Natural Gas)
max. 248 bar in / range 3.4 to 10 bar out
high capacity / high flow rates

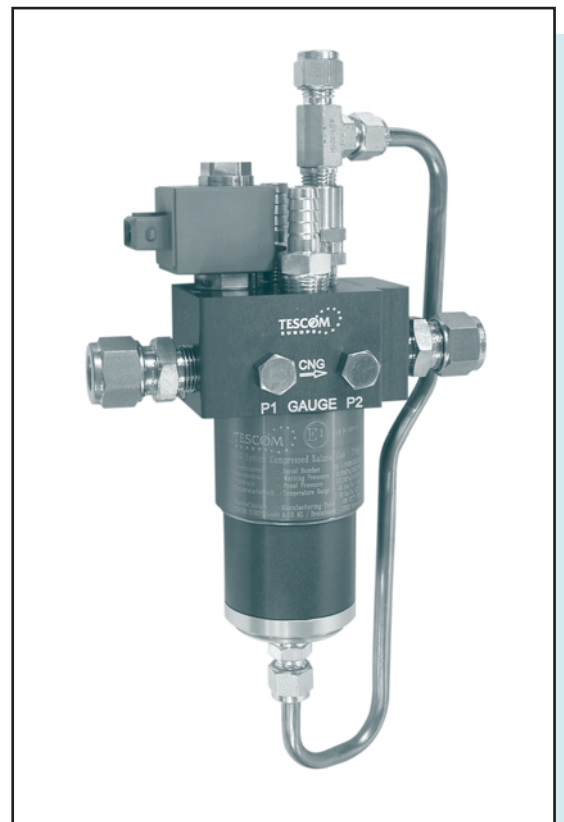
20-1100 Series

Application

The CNG pressure regulator system was specifically developed for the engine injection system of CNG vehicles. The main function is the reduction of the tank pressure to a preset outlet pressure. The system contains a pressure regulator with filter and heat exchanger, a solenoid shut-off valve (high-pressure), a pressure relief valve and optionally up to two pressure sensors (high-pressure and/or low-pressure). The pressure regulator is based on the TESCO M 20-1000 series CNG regulator which has been used in this market for more than 10 years. The pressure regulator is a single stage, spring loaded pressure regulator with balanced main valve. The regulator is piston sensed providing enhanced safety and long service life. Simple installation with suitable screws.

Advantages

- Compact aluminum body (hard-anode oxidised) for light weight and optimized thermal conductivity
- Pressure regulator provides a highly stable outlet pressure and low droop over a wide range of inlet pressures as well as high flow rates
- Integral 40 µm filter, layer sintered mesh
- Very efficient heat exchanger
- High pressure solenoid shut-off valve integrated
- Pressure relief valve integrated
- Optional high-pressure and/or low pressure sensor
- Fail-safe system, relief connection for potential gas leakage
- Wide range of fittings for gas inlet, outlet and heat exchanger connections
- ECE-R 110 approval



20-1100 Series CNG System for Vehicles

Specifications

Operating Parameters

Type of gas:CNG (Compressed Natural Gas)
 Max. rated inlet pressure:248 bar (3600 PSIG)
 Outlet pressure range: 3.4 - 10 bar (49 - 145 PSIG)
 Design proof pressure: .. 150 % of max. rated pressure
 Leakage: Bubble-tight
 Operating temperature: -40 °C to +105 °C
 Nominal flow rate: Up to 75 kg/h (1.25 kg/min)
 1543 l/min (density CNG 0.81 g/dm³)
 Flow capacity: Cv = 0.8
 Integral filter: Filter rate 40 µm, one-piece,
 2 layer sintered mesh
 Connections: Wide range of fittings
 Solenoid shut-off valve:
 Supply: 24 V DC ± 15 % or 12 V DC ± 15 %
 Electrical connection: AMP connector
 Pressure relief valve: . 8.6 - 19 bar (125 - 275 PSIG)
 Pressure sensor:
 Supply: 5 V DC ± 0.25 V DC
 Output signal: 0.5 V...4.5 V proportional
 Electrical connection: Packard connector
 Metering range: 0 to 7, 10, 20 or 250 bar
 (0 to 102, 145, 290 or 3626 PSIG)

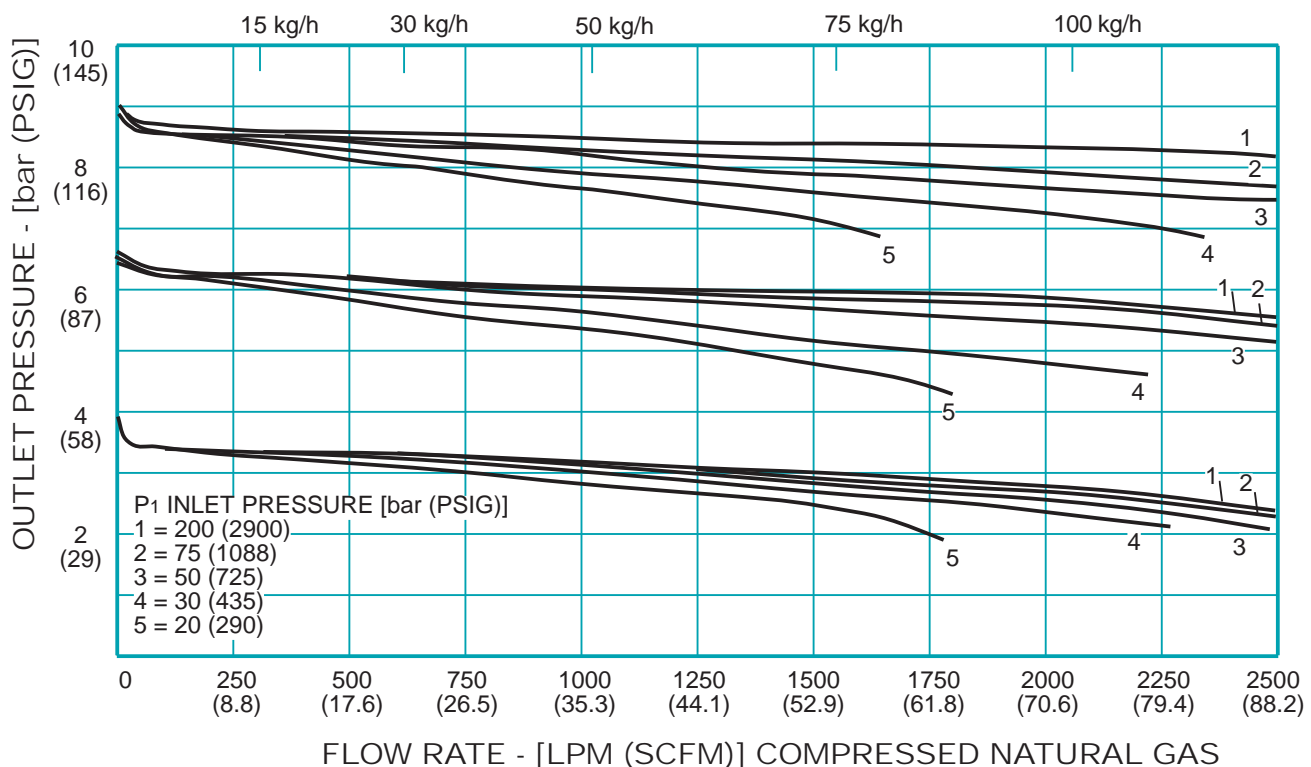
Weight (approximately): 1.6 kg

Media Contact Materials

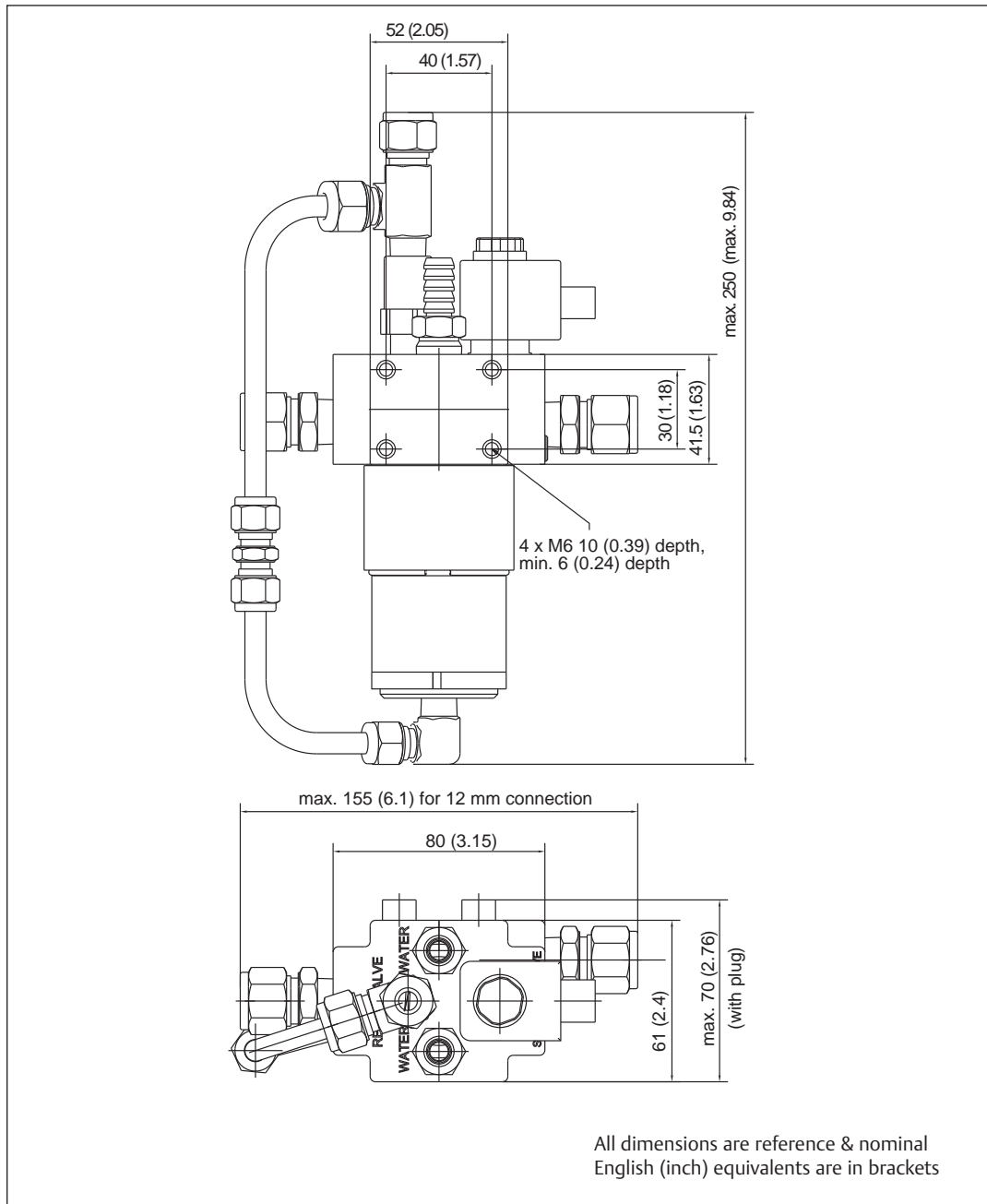
Pressure Regulator
 Body, sensor: Aluminum EN AW - 6082 T6
 (hard-anode oxidised)
 Seat: Vespel SP-1®
 O-rings: NBR
 Fittings: 316 Stainless Steel
 Remaining parts: Stainless Steel, Aluminum,
 Brass or Teflon®
 Filter: 316 Stainless Steel
 Heat Exchanger:
 Body: . Aluminum EN AW - 6082 T6 and 6061 T6
 Fittings: Brass
 O-rings: EDPM
 Solenoid shut-off valve:
 Body: Stainless Steel
 Seat: PA 6.6
 Pressure relief valve:
 Body: Brass
 O-rings: NBR
 Pressure sensor/Plug:
 Body: Brass/Steel with surface coating
 O-rings: Fluorosilicone/NBR
 For other materials and modifications, please contact factory.

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Flow Chart



20-1100 Series CNG System for Vehicles



Part Number Selector

Example Part Number:

20-11	9	085	0	0	3	3	-	2	M
BASIC SERIES	MATERIAL FAIL-SAFE SYSTEM	OUTLET PRESSURE RANGE* [bar (PSIG)]	HIGH-PRESSURE SENSOR [bar (PSIG)]	LOW-PRESSURE-SENSOR [bar (PSIG)]	INLET CONNECTION	OUTLET CONNECTION	HEAT EXCHANGER CONNECTION	WINDING POWER SUPPLY	PRESSURE RELIEF VALVE [bar (PSIG)]
20-11	0 - without safe relief connection 6 - safe relief stainless steel 9 - safe relief brass / copper	085- 3.4 to 10 (49 to 145)	0 - Plug 1 - 250 (3626)	0 - Plug 1 - 7 (102) 2 - 10 (145) 3 - 20 (290)	0 - w/o 1 - 8 mm 2 - 10 mm 3 - 12 mm 4 - 5/16" 5 - 3/8" 6 - 1/2"	0 - w/o 1 - 8 mm 2 - 10 mm 3 - 12 mm 4 - 5/16" 5 - 3/8" 6 - 1/2"	- - 3/8" (10 mm)	1 - 12 V DC 2 - 24 V DC	L - 10.0 (145) M - 10.3 (150) N - 11.0 (160) O - 12.1 (175) P - 13.8 (200) R - 15.9 (230)
<p>* - designation in MPa e.g. 085 for 0.85 MPa (8.5 bar) - adjustment dynamically (p1 = 100 bar, Q = 40 l/min, ≈ 2 kg/h) > idling</p>									

For more information on **Repair Kits, Accessories & Modifications** please contact factory.



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