Natural Gas Refuelling Station
Type S100-DUO

Oil-free compression

Atlas Copco

GREENFIELD

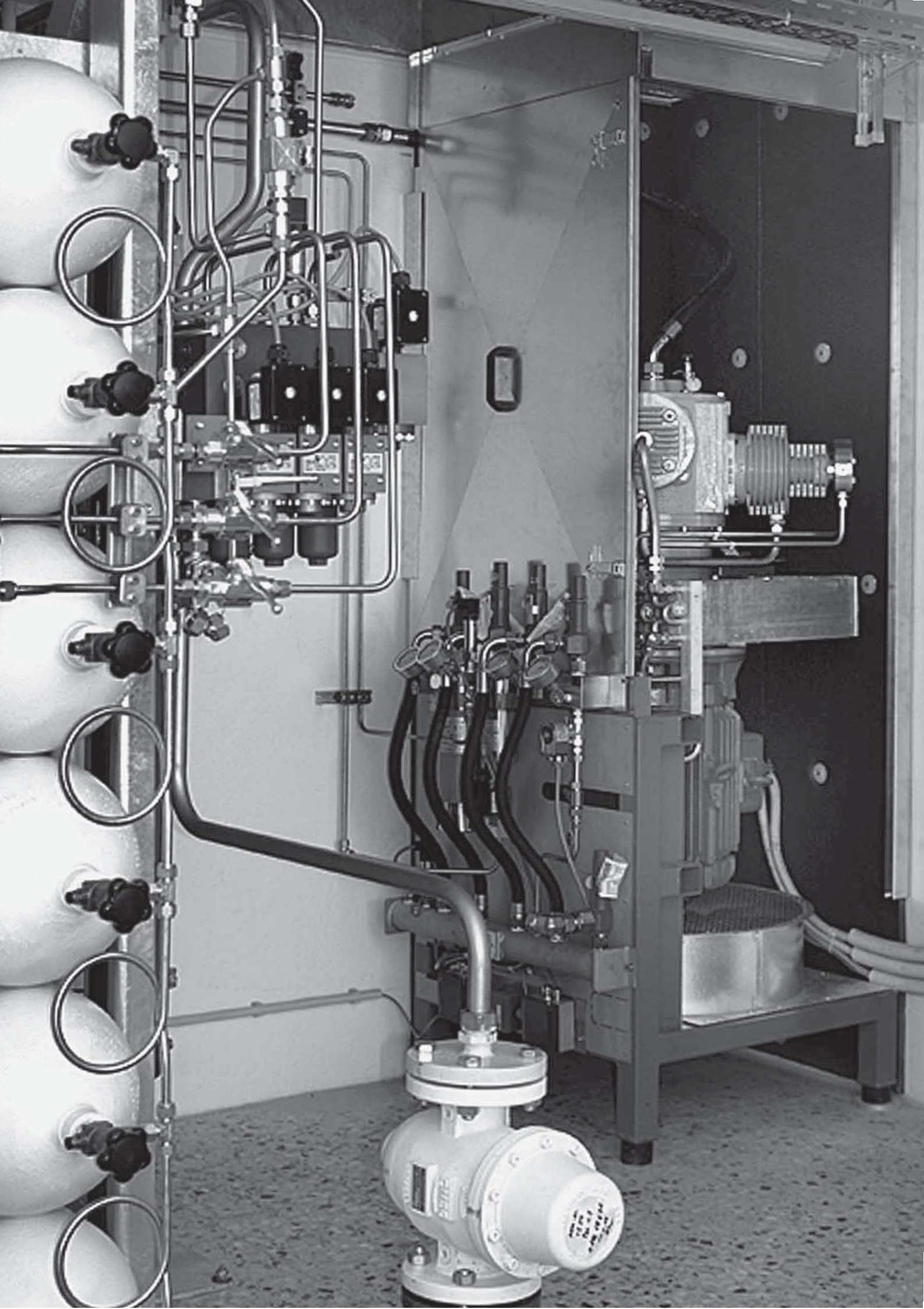
GREENFIELD is your specialist for high-pressure systems. With a century of experience in this business we have been able to maintain and even improve our strong market position providing total solutions – from a single compressor to complete systems.

Today, GREENFIELD is the technology leader worldwide with its high-end premium products engineered in Switzerland.

With a century of experience in high-pressure technology and the fact of thousands of compressors installed worldwide, GREENFIELD is ready to serve your needs for peak performance and success in the market.

As part of the Atlas Copco Group GREENFIELD has global access to over 150 markets, which are served through our production facilities either in Switzerland or in the United States.

This comprehensive Sales and Service Network assures our customers direct access to the most reliable and technologically advanced equipment available.



GREENFIELD offers the S100-DUO, an optimised CNG “total solution”, in a compact execution, featuring oil-free compression.

The S100-DUO refuelling stations are compact high-performance installations designed for the refuelling of cars and small to medium-sized bus fleets with natural gas or processed biogas. Up to 250 cars, 25 buses or 50 trucks can be filled per day. All of the assemblies are clearly laid out in a highly accessible concrete or sheet metal enclosure with compact dimensions.

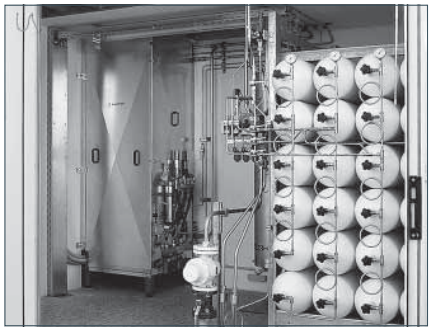
Thanks to this compact design, you should be able to find room for the S100-DUO just about anywhere. The heart of this refuelling station is the DM compressor featuring gas-tight and oil-free compression. As a result, there are no gas emissions to the atmosphere and no oil carry-over into the gas.

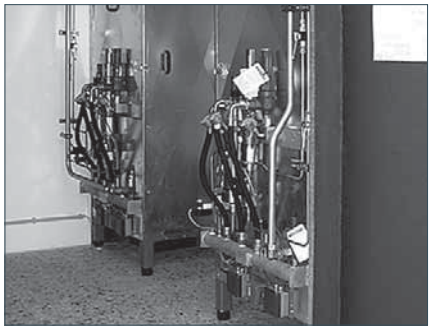
Available Refuelling Station Types:

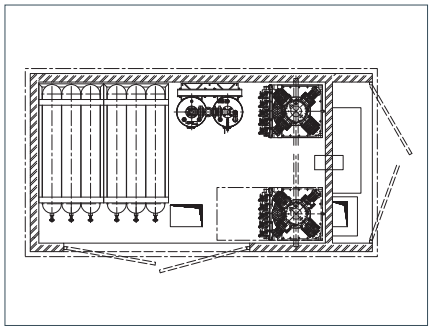
- S100-DUO-1: 1 compressor, prepared for installation of a second compressor capacity: up to 125 cars, 12 buses or 25 trucks per day
- S100-DUO-2: 2 compressors capacity: up to 250 cars, 25 buses or 50 trucks per day

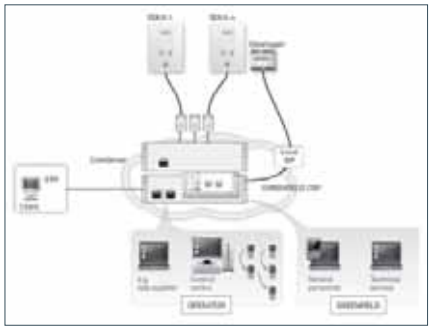
Key Parameters:

- Suction pressure: up to 40 bara
- Delivery rate: up to 210 Nm^3/h (DUO-1) up to 420 Nm^3/h (DUO-2, with 2 DM compressors)
- Electric motor: 30 kW per compressor (37 kW for D5M311.-GP)
- Working pressure: 271/291 bara
- Gas storage: max. of 42 gas cylinders (~3400 l, ~1000 Nm^3)
- Sound levels: 65/60±3 dB(A) at 1m acc. DIN/ISO 2151
- Size: 4,8 x 2,5 x 3,2 m (L x W x H)
- Weight: approx. 30 tons (100-DUO-2, concrete building) approx. 13 tons (100-DUO-2, sheet metal enclosure)









Standard Features

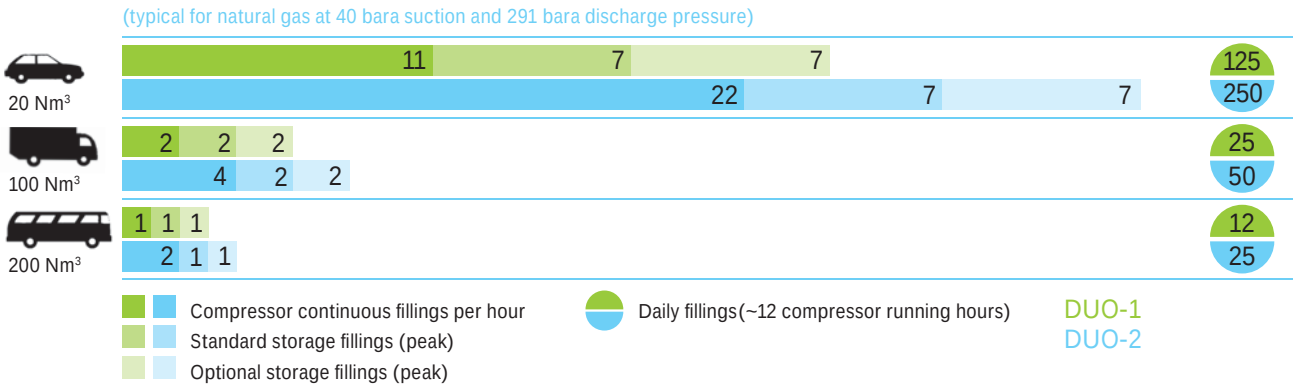
- Concrete building or sheet metal enclosure
- Left or right execution
- Sound level 65 dB (A) at 1m acc. DIN/ISO 2151
- Fully testet 2–5 stage oil-free, hermetically sealed CNG compressor, air cooled
- Working pressure of 271 bara
- Electric Motor drive with magnetic coupling
- Zone 2 classification
- 21 x 80 litre built in storage capacity (3-bank cascade)
- Inlet train with filter
- Outlet train with 3 line multifunction block for one fill hose
- Integrated Blow Down vessel for unloaded compressor start
- Control cabinet with electronic controller SEKA II
- Soft start
- Lighting inside enclosure/building
- roof gutter with open outlet
- PED/ATEX conformity

Available Standard Options*

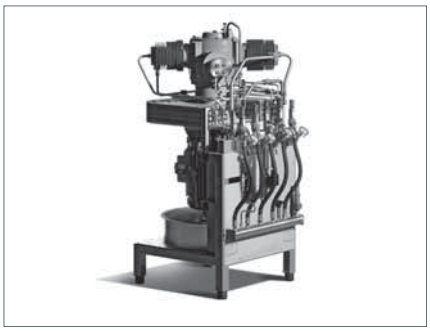
- Second Compressor
- Working pressure of 291 bara
- 42 x 80 litre built in storage capacity
- Sound level 60 dB (A) at 1m acc. DIN/ISO 2151
- Inlet pressure limiter
- Inlet gas meter
- Inlet gas dryer
- Dew point meter
- 3 line multifunction block for second fill hose
- Gas sensor with or without analyzing unit
- Frequency converter
- Remote control/monitoring software SEMON
- CSP – Customer Service Portal allows monitoring of the station via internet with common browser, so no special software is required. Automatic error messaging via High-Priority-SMS or email included.
- UPS – Uninterruptible power source (autonomy approx. 1h)
- 3rd party inspection by TUEV

* Other non-standard options on request

Vehicle fillings per hour/day



The DM Gas Compressor



The DM compressor range utilizes GREENFIELD's revolutionary oilfree high-pressure technology, which assures that oil neither contaminates the gas nor does oil disposal contaminate the environment. The hermetically sealed compressor-motor-unit with mangetic coupling ensures no gas losses to atmosphere. Due to the scotch yoke drive and antivibration pads the DM has a low vibration and noise level. The vertical arrangement allows an installation in an area of 0.7 m^2 only. As the design for 2, 3, 4 or 5 stage units remains the same, the compressor blocks can be easily exchanged if suction pressure conditions or location of the installation changes.

Compressor Data

Suction pressure:	up to 40 bara
Working pressure:	up to 450 bara
Flow rate:	up to 210 Nm^3/h
Motor power:	30 kW (37 kW for D5M311.-GP)
Gases:	Natural gas, processed bio gas, hydrogen, noble gases, typical industrial gases, etc.

The S100-DUO – All of the Benefits at a Glance:

- Mirrorable execution (left/right) allows optimum adaptation to the site
- Low space requirements, reduction of construction costs thanks to small foundations
- Oil-free compression resulting in no oil carry-over into the gas, no additional costs for lubricating oil or its disposal
- Freedom from oil deposits means longer service life for valves and fittings
- Ex-Zone 2 classification (TUeV) due to compressor-motor-unit with magnetic coupling means:
  – Cost savings for electrical equipment (motor etc.)
  – Advantages of installation location (no Ex-Zone outside the building)
- No Methane emissions to atmosphere thanks to the hermetically sealed and pressure-tight crankcase
- Reduced power consumption due to utilisation of suction pressure
- High efficiency, air-cooled
- Low compression ratios in the individual stages, resulting in low wear and low thermal loads
- Long intervals between maintenance
- Advanced maintenance concept for short downtimes
- Low total costs of ownership

GREENFIELD Europe
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