



# COMPRESSOR SYSTEMS HOLLAND

CUSTOM BUILT PACKAGES

# CSH

Compressor Systems Holland

CNG

AIR COMPRESSORS

GAS COMPRESSORS

MUD PUMPS

BLOWER PACKAGES

FUEL GAS BOOSTERS

# TAILOR MADE: NATURAL GAS COMPRESSORS,

*We specialise in the design, engineering and packaging of custom-built compressor, blower and pump packages, that meet the international standards and codes. Manufacturing capabilities, after sales service, spares, repairs and maintenance services complete the portfolio of solutions provided by CSH.*

*CSH is committed to provide our customers with innovative, high-quality products and services and to protect the health of our workers and the environment.*

*Our 850 m2 workshop located near the canal connecting Vianen and Rotterdam allows us to build and handle structures up to 10 x 4 x 5 meters and weights of up to 100 tons. In house testing facilities guarantee the performance you demand. Electric test power is available up to 750 kW.*

*Drawing on CSH's experience, we can supply complete studies, equipment packages and consultancy services for the oil and gas industry, engineering companies, petrochemical industry and more. In all cases a rational approach to any problem will be taken by CSH to achieve a solution, satisfactory to you, our customer.*



## **CNG NATURAL GAS FUEL- LING**

*Natural gas fuelling of cars, buses, trucks and other vehicles has become increasingly popular during recent years. The vehicles are*

*hydraulic driven compressors ranging from 10 Nm<sup>3</sup>/h to 5000 Nm<sup>3</sup>/h, using world brand names such as Ariel, Gemini, Greenfield, etc.*

*The capacity of the station is determined by the number of vehicles that have to be filled at peak hours, the maximum allowed filling time*



**FILLING OF CITY BUSES**

*filled up to an average pressure of around 200 bar. Natural gas fuel for vehicles is clean (considerably reduces CO<sub>2</sub> and NO<sub>x</sub> emissions). In most countries readily available in pipeline systems, cheaper than other fuels and safer.*

*The compressor is the heart of the CNG filling station. CSH designs and packages CNG compressor skids using screw compressors (to boost up initial low pipeline pressure), reciprocating compressors and*



**350 BAR ARIEL CNG COMPRESSOR PACKAGE**

*per vehicle and the total capacity of CNG in Nm<sup>3</sup> to be filled per day.*



# AIR AND GAS COMPRESSORS, MU

## 3-BANK CNG STORAGE

The three bank storage system receives high pressure gas (typically 250 bar) from the compressor for storage until it is required at the dispenser. This storage enables vehicles to be filled without the compressor having to start-up each time the dispenser is in use.



## 3 CNG COMPRESSOR PACKAGES FOR FILLING OF CITY BUSESSES WITH NATURAL GAS

Our three line dispensers enable fast and safe fully automatic refuelling, they come in either single or double hose execution, with flow meters. Slow-fillers are also available and mostly used by fleetowners for overnight filling of buses and trucks. They generally have one common flow-meter. In order to properly control the filling sequence as well as

subsequent refilling of storage banks, so called priority panels are required. The priority panel allocates gas from the compressor to the three bank storage and from the storage to the vehicle in the optimum sequence. It may also have a compressor 'top off' facility so that gas may flow directly from the compressor to the dispenser.

The CSH refuelling stations comply with all international codes and standards.

We can also provide the 'mother-daughter' CNG station.

In close cooperation with our partners, CSH can provide a wide variety of stations from small compact stations to large stations. The stations will be designed with a modular approach so that components can be quickly installed and serviced. If required, the station can be designed for easy upgrade in the future.

## NGV FILLING STATION



## AIR COMPRESSORS

Count on CSH for your custom built air compression needs. We can provide you with an engine or e-motor driven, trailer or skid mounted custom air compression solution. Rotary screw compress-



at the top of the top head drive. The air is forced down through the drilling pipe and out through the holes at the bottom of the rotary drill bit. A small stream of water is often introduced into the air system to help cool the drill bit and control dust.

The air serves to cool the drill bit and forces the cuttings up out of the hole, to be collected at the top.

Air is used principally in hard clay or rock formations, as once the air pressure is turned off, loose cavity formations would cave-in against the drill pipe. This is not the case when mud is used.



## CONTAINERISED HURRICANE AIRDRILLING BOOSTER WITH CE MARKING

sors offer solutions to a broad array of compressed air needs, ranging from 7.5 to 500 kW.

## AIR DRILLING BOOSTER

Air drilling is basically the same as mud drilling except that the mud pump is replaced by a compressor assembly including cooling system, air receiver and unloading system.



24 AIR DRILLING BOOSTERS

Depending on your requirements we can supply standard or custom built air boosters for your all special applications.

The air line is connected to the swivel hose



HURRICANE AIR DRILLING BOOSTER

# JD PUMPS, BLOWER PACKAGES...



**GAS COMPRESSORS**  
 CSH custom fabricates all sizes of compressor packages for gas gathering

compressors up to 13 barg, instrument and working air compressors up to a 13 barg and capacities maximum of 4.000 m<sup>3</sup>/h and reciprocating loading pumps for oil/water emulsions.

**VAPOUR RECOVERY COMPRESSOR**

Corken compressors and pumps have been used to transfer a wide range of toxic, explosive or flammable liquids and gases. Corken compressors are highly reliable in applications as varied as compression of exotic gases for research, process gas compression in the chemical industry, compression of corrosive

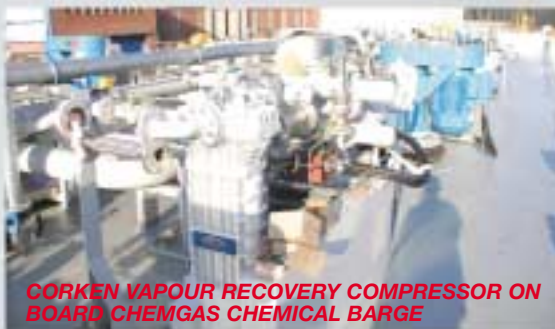


applications. We match a compressor package to your design requirements, whether your application warrants boosting of a new line or an already existing line. Electric motor driven or natural gas engine drivers are both available for gas gathering applications

**FPSO PACKAGES**

For both onshore and offshore applications like FPSO's, CSH offers gas boosting reciprocating compressors up to ± 2500 kW, rig tensioning compressors and heavy compensation compressor packages, starting air compressor up to 30 barg, instrument and working air

**OFFSHORE TRANSPORT GAS COMPRESSOR PACKAGE**



**CORKEN VAPOUR RECOVERY COMPRESSOR ON BOARD CHEMGAS CHEMICAL BARGE**



**SHELL LPG VAPOUR RECOVERY PACKAGE**

biogas from landfills and gas boosting in the petroleum industry.

**MUD PUMPS**

CSH supplies a diverse group of pump packages that



are used in oil and natural gas drilling production, well servicing and stimulation. Gardner Denver Duplex and Triplex Pumps are available from 24 to 559 kW. The pumps can be electric motor, diesel engine or hydraulically driven.

**DRILLING RIG WITH MUD PUMP**



**HYDRAULIC DRIVEN FXG DUPLEX PUMP**

Heavy duty construction engineered for high pressure mud service pumps with smooth discharge flow and low vibration.



**BLOWER PACKAGES**

Pneumatic transport, blowers, vacuum pumps, 3-lobe positive displacement blowers, Cycloblowers, Lubricated oil free.

Gardner Denver is a manufacturer of positive displacement and centrifugal blowers, exhausters and vacuum pumps, industrial vacuum systems, blower control and monitoring systems and engineered packaged solutions all backed by extensive local and factory aftermarket products and service support.

Gardner Denver Blower Solutions serve customers worldwide in numerous air and gas applications such as wastewater treatment, dry and chemical bulk hauling, landfill and digester gas, pneumatic conveying, industrial vacuum systems,

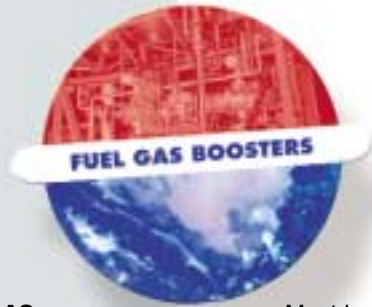


**BLOWER PACKAGE FOR ABB LUMMUS GLOBAL**

commercial carpet cleaning, combustion and process air and many more.

Our product lines include CycloBlower, DuroFlow, Hoffman, Invincible, Lamson, Sutorbilt, TurboTron and Wittig.

# ...FUEL GAS BOOSTING...



## FUEL GAS BOOSTING

*Reciprocating compressors or rotary screw compressors are most commonly used as they provide the most flexibility and the best horsepower efficiencies. Electric motors most commonly used; gas engine drivers are also available. Reciprocating or rotary screw packages are available as design conditions require.*

Most large gas turbine power generation plants require compressors to boost the pressure of low pressure the fuel gas from the distribution system of the local mains gas, up to the higher pressures required by the turbine.

These units are typically driven by an electric motor and their control systems need sophisticated regulation to ensure a proper flow of fuel while the turbine is undergoing load changes.

The professionals at CSH can custom fabricate a fuel gas booster package for your specific co-generation plant application.

We will custom design a fuel boosting solution for gas engine or turbine operating on sweet pipeline quality gas to low BTU landfill gas that meets the demands of your budget and your application, such as complete automated loading / unloading and control systems utilizing

**FUEL GAS BOOSTER FOR GAS TURBINES**



**FUEL GAS BOOSTING UNIT FOR 1.8 MW GAS TURBINE LOCATED IN RUSSIA**



PLC controls and high end transmitters. Multiple, staging or special fabrication considerations for sweet or sour gas including stainless steel piping can be implemented into your custom design.

**FUEL GAS BOOSTING UNIT BUILT ACCORDING API 618 LOCATED IN MIDDLE EAST**

# CSH delivery program

## CNG systems

- biogas systems (also landfill applications)
- high pressure compressors for filling Natural Gas vehicles (NGV)

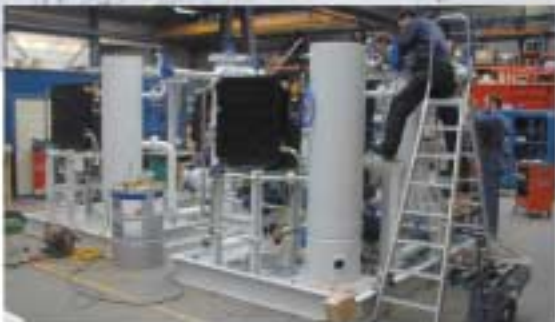
### OFFSHORE



### ONSHORE SIBERIA RUSSIA



### ASSEMBLY OF FUEL GAS BOOSTER PACKAGES IN WORKSHOP



## Aircompressors

- air drilling boosters
- instrument air packages



## Gas compressors onshore & offshore

- fuel gas boosting
- pipe line boosters
- vapour recovery systems
- gas transport packages
- upgraded biogas
- nitrogen boosters
- gas recovery systems
- gas storage systems

*CSH is a experienced packager of complete systems using, but not limited to such international brandnames as Ariel, Gemini, Gardner Denver, Corken, Hurricane etc.*

## Pump packages

## Blower packages



# COMPRESSOR SYSTEMS HOLLAND

In-house innovation delivered worldwide

CSH is the place to be for custom-built rotating units made to your own special requirements.

Unique engineering concepts are produced, packaged and delivered to order throughout the world. CSH's plant is an ideal location allowing access and the capacity to build, handle and move structures up to 10 x 4 x 5 metre and weights up to 100 tons.

CSH's design background and long international experience, plus well equipped testing workshops and facilities ensure that the highest standards and all your specific demands are met. Complete studies, component packages and consultancy

services are provided for shipowners, shipyards, conversion and new projects, on & offshore contractors, refineries, oil & gas companies, tug operators and a wide variety of government and commercial institutions. CSH not only solves problems, but creates



CSH OFFICE

new opportunities!



## CSH B.V.

P.O. Box 256  
4130 EG Vianen  
The Netherlands  
Placotiweg 1A  
4131 NL Vianen

Phone: + 31 347324610

Fax: + 31 347373459

E-mail:

[csh@compressorsystems.com](mailto:csh@compressorsystems.com)

www.

[compressorsystems.com](http://compressorsystems.com)