

Biogas
SOLUTIONS
USA & CANADA

ΜΑΥΕΚΑΨΑ
MYCOM



*The "Only One" choice
in the industry*

americas.mayekawa.com



About Mayekawa

Over 100 Years of Innovation

Founded over 100 years ago,

Mayekawa operates across multiple segments, from the food industry to the processing of various gases in the Light Chemical, Petrochemical, and Oil & Gas sectors.

Mayekawa has operated for over half a century in North America, supplying high-quality equipment and MYCOM compressors, as well as integrated solutions, for the entire industrial production chain.

Mayekawa's Vision

Our vision is to contribute to a more sustainable future for the planet by developing systems, technologies, and equipment that ensure efficiency across all industries.

We are committed to offering engineering solutions to companies in USA, Canada, and abroad, consolidating our position as one of the most recognized brands in gas compression.

Certifications



ELECTRICAL EQUIPMENT CERTIFICATION

Equipment certified for operation in explosive areas: **NEC Class 1 Division 2 & NEMA 4 Standard.**



PRESSURE VESSELS (DESIGN & MANUFACTURING)

Compliant with **ASME Code Section VIII, Division 1 and NR-13.** Optional **ASME U Stamp.**



QUALITY MANAGEMENT STANDARDS

Compliant with **ISO 9001** quality management standards, demonstrating our commitment to quality.



PIPING AND ACCESSORIES

Piping and valve design standards in accordance with **ASME B31.3.**



QUALITY TESTS

Quality tests (**ITP – Inspection and Test Plan**) to ensure proper operation and functionality of the unit.

Your project starts with us

Mayekawa has a team fully prepared to support your application, from concept to project delivery. We use advanced engineering programs to meet our clients' different specification levels.

Conceptual Study



Project Execution



Commercial Feasibility

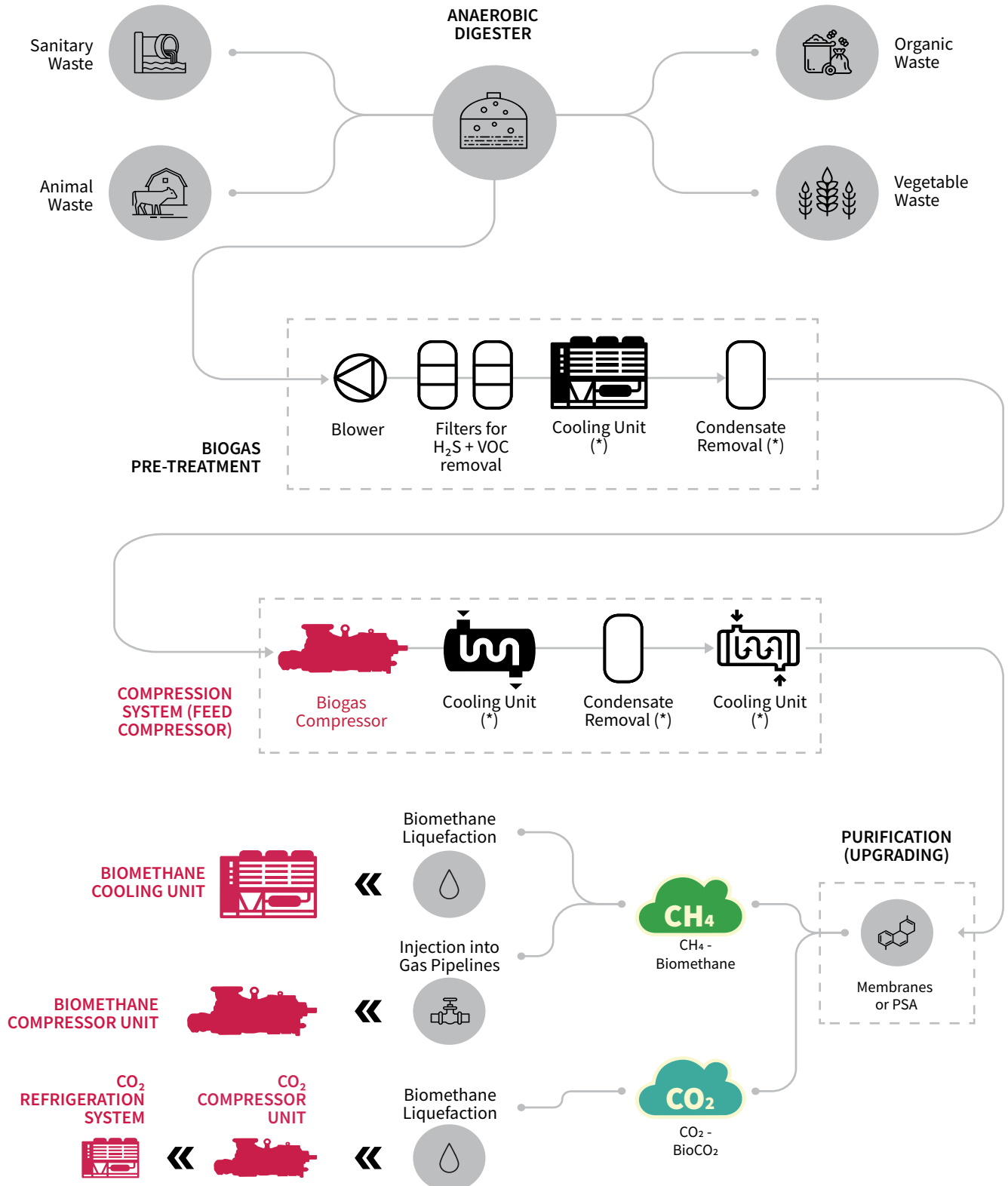
Project Delivery



Contact our specialists if you have any questions.

Process Flow Diagram
(for reference only)

Items in red – Mayekawa solutions
Items marked with (*) – Optional



Low Noise, Less Vibration

MYCOM screw compressors operate with smooth rotary motion instead of the reciprocating movement found in conventional reciprocating compressors, resulting in lower noise and vibration. They also avoid the high rotational speeds that often generate high-frequency noise in centrifugal or dry-type compressors.

High Efficiency, High Performance

Oil is injected during compression to lubricate the rotors and casing, reduce leakage, and cool the gas. This lowers discharge temperatures and maintains high volumetric efficiency across a wide range of compression ratios.

Shaft Seal Variety

Mayekawa's oil-injected screw compressors require only one shaft seal, unlike dry-type compressors; several types of shaft seals, including balanced single mechanical seals, double seals, bellows seals, gas seals, and others are available to ensure high reliability and durability in all conditions.

Capacity Control

The integrated slide valve (unloader) function allows the compressor capacity to be continuously adjusted from 10%* to 100%. This enables the compressor to operate at the appropriate load over a wide range of operating conditions.

Capacity control through bypass control valves or a variable frequency drive (VFD) can also be used in combination with the slide valve, depending on process requirements.

Durability & Ease of Maintenance

MYCOM screw compressors demonstrate very high reliability even under the most severe operating conditions due to its reduced amount of consumable or fragile parts compared to reciprocating compressors. This results in less maintenance effort and a longer operational service life.

All of MYCOM's main journal bearings, shaft seals, and rotors are fully lubricated, making the compressor construction extremely simple and robust. The rotors are also made of durable materials and can handle slightly wet gases containing mist or liquid, where reciprocating or centrifugal compressors may experience serious issues.

AVAILABLE MODELS



Operating pressures up to 50 bar(g) / 725 psi(g) *



Gas displacement capacity from 200 to 15,600 m³/h (117 to 9,000 cfm) *



Standard oil carryover of 5 ~ 2 ppm* (upgrades available)



V/UD Series
(Single Stage)



I Series
(Single Stage)



C Series
(Two Stage)



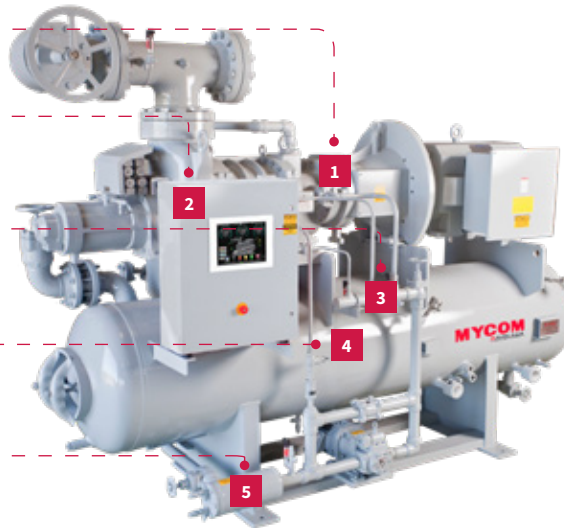
GH Series
(High-Pressure Single Stage)

* Theoretical values, subject to change depending on the application.







MYCOM compressors and cooling units feature a robust design, suitable for applications in a wide variety of environments. With more than 50 years of operation in both domestic and international markets, all our processes are audited in compliance with the main regulatory standards in the industry.

BIOGAS COMPRESSOR UNIT








- Screw Compressor** • High-efficiency MYCOM compressor with low noise and vibration.
- Panels / Junction Boxes** • Option for installation of control panels (PLC) or junction boxes suitable for classified areas.
- Stable and Continuous Operation** • Operation possible using the compressor slide valve* or a Variable Frequency Drive (VFD).
- Oil / Gas Separator** • Primary stage for gas and oil separation, including high-efficiency coalescing elements and compact design.
- Lubrication System** • Complete lubrication system including an oil pump driven by electric motors and oil cooler (air- or water-cooled option).



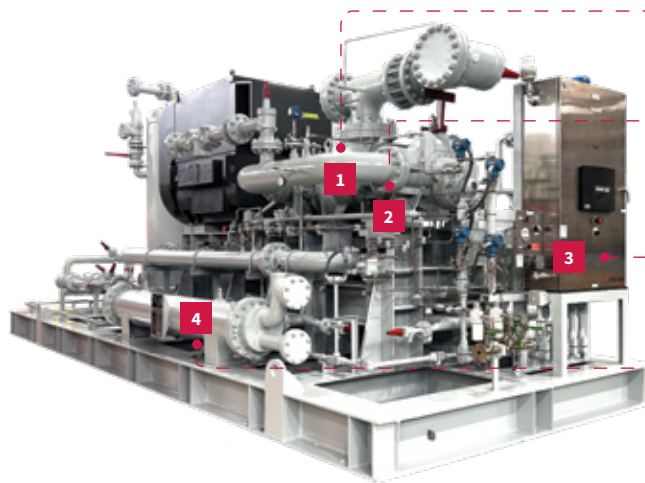
Optional Items

-  Acoustic enclosure for noise reduction
-  Additional system for oil carryover reduction, as required
-  Variable frequency drive-compatible
-  Control panel with PLC and HMI – options available for classified or safe areas
-  Air-cooled biogas cooling system (dry cooler)
-  Condensate removal vessels

Optional Items

-  Systems suitable for direct or indirect cooling
-  Acoustic enclosure for noise reduction
-  Variable frequency drive compatible
-  Control panel with PLC and HMI – options available for classified or safe areas
-  Air- or water-cooled condensation system
-  Thermal insulation for personnel protection or energy conservation
-  Accessories such as pumps and tanks

GAS OR LIQUID COOLING UNIT



- Screw Compressor** • High-efficiency MYCOM compressor with low noise and vibration.
- Stable and Continuous Operation** • Operation possible using the compressor slide valve* or a Variable Frequency Drive (VFD).
- Panels / Junction Boxes** • Option for installation of control panels (PLC) or junction boxes suitable for classified areas.
- Heat Exchangers** • Options include shell-and-tube, plate-type, or air-cooled heat exchangers.

Biogas SOLUTIONS

Biogas Compressor Units

Existing Applications in the Biogas Production Chain



WASTE







BIODIGESTER

PRE-TREATMENT



BIOGAS COOLING UNIT (INDIRECT SYSTEM)



-  **CAPACITY:**
447 kW / 1.025 MMBN/h
-  **DESIGN PARAMETERS:**
Evaporation Temp. = -17°C (1.4°F)
Condensation Temp. = 38°C (100.4°F)
-  **APPLICATION:**
Biogas pre-treatment
-  **COMPRESSOR MODEL:**
V Series – 250 VMD
(Single Stage)

SEPARATION







COMPRESSION







COMPRESSOR UNIT – FEED GAS COMPRESSOR







-  **CAPACITY:**
4012 nm³/h (2500 scfm)
-  **DESIGN PARAMETERS:**
Suction Pressure
1.5 bar(a) / 21.75 psig
Discharge Pressure
15.8 bar(a) / 229.16 psig
-  **APPLICATION:**
Landfill Gas
-  **COMPRESSOR MODEL:**
C Series – 3225 SSC
(Two Stage)



-  **CAPACITY:**
2750 Nm³/h (1713.4 scfm)
-  **DESIGN PARAMETERS:**
Suction Pressure
0.05 bar(g) / 0.72 psig
Discharge Pressure
9.5 bar(g) / 137.79 psig
-  **APPLICATION:**
Landfill Gas
-  **COMPRESSOR MODEL:**
C Series – 2520 SSC
(Two Stage)






-  **CAPACITY:**
3830 Nm³/hr (2386.29 scfm)
-  **DESIGN PARAMETERS:**
Suction Pressure
0.2 bar(g) / 2.9 psig
Discharge Pressure
17 bar(g) / 246.56 psig
-  **APPLICATION:**
Biogas digester
-  **COMPRESSOR MODEL:**
C Series – 3225 MSC
(Two Stage)



BIOMETHANE

COMPRESSOR UNIT FOR BIOMETHANE COGENERATION






-  **CAPACITY:**
300 Nm³/h (186.92 scfm)
-  **DESIGN PARAMETERS:**
Suction Pressure:
1 bar(g) / 14.50 psi(g)
Discharge Pressure:
22 bar(g) / 304.39 psi(g)
-  **COMPRESSOR MODEL:**
UD Series – 125 LUD
(Single Stage)



bioCO₂

CO₂ LIQUEFACTION SYSTEM



-  **CAPACITY:**
6000 kg/h (13227 lb/h)
-  **DESIGN PARAMETERS:**
Suction Pressure:
0.97 bar(a) / 14.06 psi(g)
Discharge Pressure:
19 bar(a) / 260.88 psi(g)
-  **COMPRESSOR MODEL:**
C Series – 2016 SSC
(Two Stage)

PURIFICATION



Mayekawa USA & Canada continuously enhances its manufacturing structure with the main objective of serving customers with greater quality and excellence. With a large warehouse and a dedicated technical service workshop, we are constantly expanding our production, technical, and service capabilities.

Maintenance Contracts

Automation

Technical Support

Upgrades

Spare Parts Inventory

We maintain a comprehensive spare parts inventory, ensuring fast response times for our customers and preventing production downtime.

We supply 100% ORIGINAL replacement parts, guaranteeing the quality and durability of our equipment. Spare parts sales are carried out both by our headquarters and regional offices.

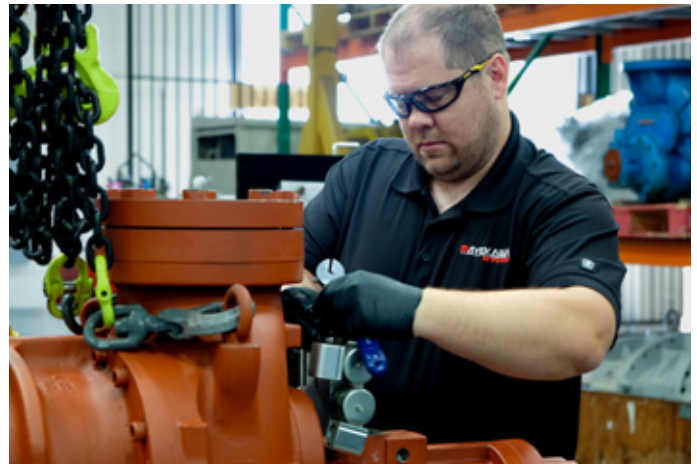
Training

Mayekawa USA offers a training schedule for its customers focused on the operation and maintenance of industrial compression systems. These programs include basic guidance and the main operational concepts of our equipment.

Global Service

Our subsidiaries around the world enable us to operate globally, offering training in maintenance and operation, field installation supervision, commissioning, startups, and operational support during the installation of our equipment at customer sites.

We have a strong presence on all continents, delivering dynamic services with a high level of technical expertise.





MAYEKAWA USA

- ☎ Toll Free: 1-800-806-9266
- ✉ General: info@mayekawausa.com
- Parts: parts@mayekawausa.com
- Warranty: warranty@mayekawausa.com

KATY, TX PLANT

- ☎ 832-975-0975
- 📍 29875 Medline Ln
Katy, TX 77494
U.S.A.

HOUSTON, TX

- ☎ 832-547-2320
- 📍 10810 Train Ct
Houston, TX 77041
U.S.A.

TORRANCE, CA

- ☎ 310-328-1362
- 📍 19240 Van Ness Ave.
Torrance, CA 90501
U.S.A.

SEATTLE, WA

- ☎ 425-645-9400
- 📍 Suite B8, 4630 16th St E
Fife, WA 98424
U.S.A.

YORK, PA

- ☎ 717-779-0138
- 📍 3395 Farmtrail Road
York, PA 17406
U.S.A.

SPRINGDALE, AR

- 📍 2871 E. Robinson Avenue
Springdale, AR 72764
U.S.A.

MAYEKAWA CANADA

- ☎ Toll Free: 1-800-806-9266
- ✉ General: customerservice@mayekawa.ca
- Parts:
 - West: partswest@mayekawa.ca
 - East: partseast@mayekawa.ca

VANCOUVER, BC

- ☎ 604-270-1544 | Fax 604-270-9870
- 📍 #4-1595 Cliveden Avenue
Delta, B.C., V3M 6M2
Canada

CALGARY, AB

- ☎ 403-250-1554
- 📍 10447 50th Street SE
Calgary, AB, T2C 3E3
Canada

TORONTO, ON

- ☎ 905-564-0664
- 📍 Unit 1, 1745 Bonhill Road
Mississauga, Ontario, L5T 1C1
Canada

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