

Compressed Air Solutions (**CAS**)
Providing Energy Saving Solutions

Leading the way in Green Energy





CAS energy management project >

Significant financial return

Remarkable social benefits

Customers' interests

- Reduction in investment risk of fixed assets
- Remarkable social benefits thanks to optimal energy consumption
- Increased cash flow
- No risk of downtime and unplanned overhaul
- Reduction in operating costs of system
- Professional services
- Efficient and steady air supply system

Social benefits



Every 1 kWh of electricity saved



Saving of **0.404kg** standard coal
(equivalent value of electric power converting to standard coal)

Reduction in carbon emission of **0.272kg**

Reduction in carbon dioxide emission of **0.997kg**



Every 1 kg of coal saving



Reduction in carbon dioxide emission of **2.493 kg**

Reduction in carbon emission of **0.68 kg**



Every 10000 kWh of electrical energy saving



Planting **7.25** trees

Based on the 100 years of experience and good global resources, GD has developed high-efficiency and environmentally friendly compressed air system by optimized design, upgraded technology and better management. We insist on lowering the energy cost of compressed air system and making effects for a green earth.



Customer earnings

Share of quota earnings

Customer earnings = the agreed reduction in unit energy cost X the supply during metering period

GD is responsible for optimized design and technology updating as well as management of maintenance and operation during contract period. The customer can receive quota earnings from energy-saving and avoid all the technology and capital risks. GD can receive the floating earnings from energy-saving and make continuous optimization of technology.

Share of fixed ratio earnings

Customer earnings = the agreed energy-saving share proportion X reduction in unit energy cost X Supply during metering period

GD is responsible for optimized design and technology update while GD and the customer jointly perform management of maintenance and operation. The customer will receive equally proportional earnings from floating energy-saving earnings, avoid the technology and capital risks and bear the agreed responsibilities. GD can receive equally proportional earnings from floating energy-saving earnings and bear the agreed responsibilities.

Customers' interests

Energy Management Contracting.

Affording all costs of energy saving with reduced costs of energy

- Allowing that customer updates factory and equipment with future energy-saving earnings to reduce current operating costs.
- We provide energy-saving services by promising energy-saving benefits and contracting overall energy costs.

Models of cooperation

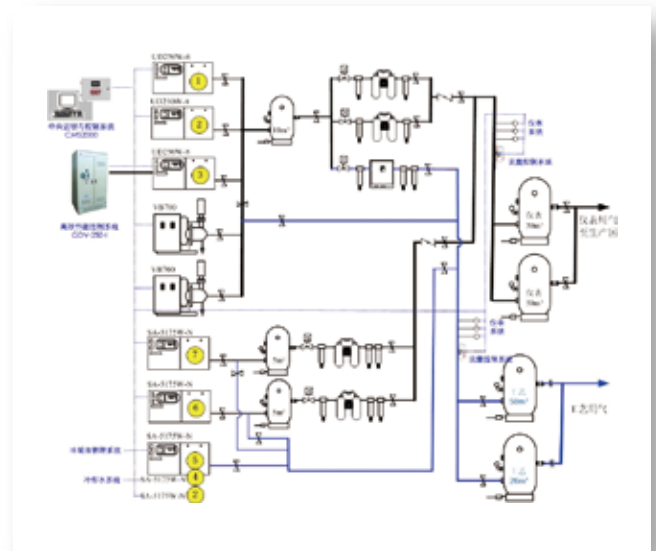
- Guaranteeing energy saving
- Managing costs of energy
- Sharing energy-saving benefits
- Financing and leasing
- Combination of above models

Process flow of cooperation



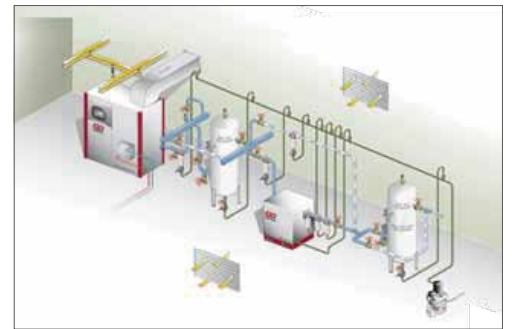
Our CAS overall solutions of CAS energy management fully meet customers' demands and further reduce users' energy costs, avoid all the technology and capital risks, and share total capital earnings due to total reduction in energy resulting from technical updating.

- Advanced design concept
- New concept of business operation
- Building efficient, energy-saving, environmentally friendly compressed air systems
- Professional evaluation
- Flexible configuration of systems
- Strong technical support system



Energy auditing

We collect real-time operating data on site, including but not limited to pressure, flow, power consumption, dew point, oil content, particle size, etc. Through professional and systematical evaluation on equipment installed on customer site for 1 to 2 years, then, we attain accurate actual customer's air quality and flow fluctuation and quantitatively and accurately analyze the potential to energy saving of customer's existing system with consideration of corresponding energy consumption.



Solutions

We optimize systems in an all-round way to build efficient and energy-saving compressed air systems by considering energy saving in design, product, application, management, etc., including but not limited to:

Heat recovery	Energy saving by variable speed	Energy saving due to central control	Design of pipe network	Energy saving through products	Energy saving by pressure
60~100%	10~35%	5~15%	5~15%	10~20%	10~30%

Agreeing earning sharing



Concluding agreement of cooperation



Installing and commissioning equipment



Executing project cooperation



Optimizing execution processes

Gardner Denver is always committed to environmental protection, health and safety during business operation. Up to now, we have offered and implemented overall solutions of energy saving to more than 5600 customers in the world (more than 1500 of them come from the Greater China Region). We keep on going forward.....

Cases of CAS Project

Customers' demands on air quality and flow

Stable pressure, proper dew point, steady supply and suitable oil content and particle size, and sufficient flow

Supply pressure

Discharge pressure of compressed air station

0.75Mpa

Temperature at dew point

for instrument air

≤ -20°C

for process air

≤ 5°C

Oil content

for discharge air from outlet of compressed air station

≤ 1-5 ppm

Annual operating hours

≥ 8,400

Current supply

Average 280 m³/min
Min. 240 m³/min
Max. 340 m³/min



Air quality and airflow in CAS solution

Supply pressure

Discharge pressure of compressed air station

> 0.75 MPa

Temperature at dew point

Instrument air

≤-40°C

Process air

≤-40°C

Oil content

Discharge air from outlet of compressed air station

0

Designed operating hours

24 hours x 365 days

Designed flow (including original system)

>620 m³/min

Predicted supply

280-340 m³/min

GD and customer jointly fulfilled professional evaluation of air system.

The customer made statistics for costs of electric energy consumption, maintenance and overhead.

GD provides overall solutions of energy saving, including design optimization, equipment updating and management optimization.

Customer shared benefits with quota benefits. It attained direct financial return of more than 550,000 yuan per year while obtaining new efficient and stable compressed air system, eliminating technical and capital risks.

Total energy saved for this project per year



4.018 million kWh

Equivalent to



Reduction in combusted standard coal of 1623 tons



Reduction in CO2 emission of 4047 tons



Planting 2913 trees

Gardner Denver industry leader with experience of 100+ years

Adhering to the principle of providing high quality products, we have supplied products for many end markets and our products have been applied widely. We have become one of the first choices of high-end customers and governments. Our business and as well as offices, branches and subsidiaries are distributed worldwide. We have 40 manufacturing centers around the world.

Founded in 2004, Gardner Denver (Shanghai) Co., Ltd. is a wholly-owned subsidiary of Gardner Denver in China. It mainly produces screw air compressors, Roots blowers, high pressure reciprocating compressors, centrifugal compressors, etc. We have been introducing other products into China. We have established distribution network in Chinese mainland, Taiwan and Hong Kong. Through the cooperation with other sales companies in the group, our business has covered Asia-Pacific and Australia.

- One of the world's top 1000 Enterprises
- One of the top 100 enterprises with fastest growth ranked by FORTUNE
- One of the top 100 medium-sized enterprises ranked by FORBES
- Titled with "Energy Star"
- Awarded with "Hermers Award" (Oscar in industry) and "German Industrial Competition Prize"



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