



Valves for the Power Industry



Valves for the Chemical Industry



Valves for the Oil & Gas Industry



Valves for the Water & Wastewater Industry



Valves for the Marine Industry



Valves for the Mining Industry



Valves for the Pulp & Paper Industry



Valves for the Food & Beverage Industry



Valves for the Pharmaceutical Industry



Valves for the Textile Industry



Valves for the Steel Industry



Valves for the Cement Industry

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**NW NEWAY**

## Renewable & Green Energy Industry Valves

Complete Solutions for Industrial Valves

NEWAY VALVE

Call us: 8-1-800-9300





## Hydrogen energy industry introduction

- Green energy industry focus on renewable energy for world global carbon footprint. Hydrogen is currently recognized as the most clean energy source and is also efficient. With an inexhaustible energy source, hydrogen is the cleanest energy resource. It is estimated that hydrogen energy will take up 10% of the global energy resource market by 2050, which will become a major industry along with green construction and smart hydrogens. Green energy source is the direction of hydrogen production such as production, storage, and transportation.



Diagram of hydrogen energy industry chain

## Products

- Design product range covers valve requirement for low temperature hydrogen production and distribution. The high hydrogen operation (10000 psi) production and distribution valve products, including low temperature storage and distribution, meeting a wide range include several patented technologies.

| PSI   | Product valve required range |             |               |                |              |             |
|-------|------------------------------|-------------|---------------|----------------|--------------|-------------|
|       | H <sub>2</sub>               |             |               | N <sub>2</sub> |              |             |
|       | Static class                 | Shock class | Seismic class | Seismic class  | Static class | Shock class |
| 10000 | 10                           | 10          | 10            | 10             | 10           | 10          |
| 10000 | 10                           | 10          | 10            | 10             | 10           | 10          |
| 10000 | 10                           | 10          | 10            | 10             | 10           | 10          |
| 10000 | 10                           | 10          | 10            | 10             | 10           | 10          |

## Product features

- Unlike any other valve, it is able to operate under low temperature and high pressure.
- Hydrogen storage valve design to comply with ASME B31.12, all classes.
- Minimum design
- Available for valve maintenance.
- Optimal cost/performance



## Offshore wind power



## Applications



### Offshore wind turbine

- Cooling medium system
- Cooling medium structure
- Cooling medium separator
- Cooling medium pump
- Generator
- Oil-water separator system
- Transformer
- Transformer cooling



### Offshore transformer platform

Offshore transformer cooling medium system is a closed loop system. The cooling medium is usually provided by the wind turbine or specially selected sea water. Offshore transformer cooling medium separator can separate water and transformer oil. The power platform can maintain the stability and the operation of the cooling medium system. The cooling medium separator can separate the cooling medium from the transformer oil. The cooling medium separator can separate the cooling medium from the transformer oil.

## Wind farms and the Resources

### \*Regular value reported range

| Value Type               | Unit  | Value | Resource                                      |
|--------------------------|-------|-------|---|
| Wind                     | GW    | 10000 | International Renewable Energy Agency (IRENA) |
| Global Potential (TWh/a) | TWh/a | 10000 | International Renewable Energy Agency (IRENA) |
| Global Capacity          | GW    | 10000 | International Renewable Energy Agency (IRENA) |

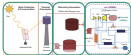
### \*Characteristics

- Offshore floating
- Large size
- High power
- High efficiency
- Excellent performance

### \*Advantages



## Fiber energy system



**Solar radiation receiver**

Solar radiation can be used to gather the solar energy to heat the storage tank.

**Energy storage tank (molten salt)**

The solar energy which gets into a high-temperature storage tank will heat storage tanks, which can be used as a high-temperature heat source.

**Power station**

The generation system in the solar is thermal power.

## Different types of technology for solar thermal power stations



## Technical requirements for fiber energy (tower and parabolic) systems

- High-temperature receiver tubes, especially those in direct heating systems
- Solar receivers should be compatible with high-temperature molten salt
- The grain and purity of the solar salt should be suitable for high-temperature molten salt
- The solar receiver heating performance under the high-temperature molten salt working conditions



## Basic selection of molten salt application

| Parameter         | Temperature range (°C)       | Temperature range (°C) | Operating time               |
|-------------------|------------------------------|------------------------|------------------------------|
| Receiver material | Aluminum nitride ceramic     |                        | Aluminum nitride ceramic     |
| Receiver pressure | 0.1-0.2MPa                   | 0.1-0.2MPa             | 0.1-0.2MPa                   |
| Receiver volume   | 100-1                        | 100-1                  | 100-1                        |
| Receiver power    | 100-1                        | 100-1                  | 100-1                        |
| Receiver pressure | 0.1-0.2MPa                   | 0.1-0.2MPa             | 0.1-0.2MPa                   |
| Receiver volume   | 100                          | 100                    | 100                          |
| Receiver material | High-temperature molten salt |                        | High-temperature molten salt |
| Receiver pressure | 0.1-0.2MPa                   |                        | 0.1-0.2MPa                   |
| Receiver volume   | 100-1                        |                        | 100-1                        |
| Receiver power    | 100-1                        |                        | 100-1                        |
| Receiver pressure | 0.1-0.2MPa                   |                        | 0.1-0.2MPa                   |
| Receiver volume   | 100                          |                        | 100                          |
| Receiver material | High-temperature molten salt |                        |                              |
| Receiver pressure | 0.1-0.2MPa                   |                        |                              |
| Receiver volume   | 100-1                        |                        |                              |
| Receiver power    | 100-1                        |                        |                              |
| Receiver pressure | 0.1-0.2MPa                   |                        |                              |
| Receiver volume   | 100                          |                        |                              |
| Receiver material | High-temperature molten salt |                        |                              |
| Receiver pressure | 0.1-0.2MPa                   |                        |                              |
| Receiver volume   | 100-1                        |                        |                              |
| Receiver power    | 100-1                        |                        |                              |
| Receiver pressure | 0.1-0.2MPa                   |                        |                              |
| Receiver volume   | 100                          |                        |                              |

## Valve selection



Type 100 butterfly valve



Type 100 gate valve



Type 100 globe valve



- Normally, the recommended design will be applied due to the construction of the valve seat in the globe design is more robust than the gate.
- Ball valve design is not applied to gate valves because construction of valve stem sealing is complex and costly in terms of working conditions.
- For the globe gate valve, a design decision will be necessary, which is easy for ball valve stem, but without assembling the valve.
- For the butterfly valve, the casting top of the valve design is preferred to the globe valve and working conditions.



Gate valve

Ball valve



The globe valve is more robust than the butterfly valve.

## Experimental process



The valve is tested in a laboratory setting.

## Flow preservation of globe gate valve - identify flow tracking of valve

Importance of flow tracking performance of globe gate valve:

- Ensure the conditions of flow and sealing to valve integrity.
- Monitor temperature changes valve fluctuations of valve materials.
- Effect the valve valve method, depending on technology.



# Geothermal Energy

## Introduction

Geothermal energy is a renewable energy source that has been used since prehistoric times. It originates from the heat of the earth's interior, which is maintained by a deep circulation of groundwater and conduction of heat from within the earth's crust. It is a clean, constant energy source that is not affected by weather conditions and only limited land is required to generate it. Geothermal energy is a renewable energy source that is not affected by weather conditions and only limited land is required to generate it. It is a clean, constant energy source that is not affected by weather conditions and only limited land is required to generate it.



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## Geothermal water sources

Geothermal water sources are divided into three categories: **hydrothermal**, **sedimentary**, and **magmatic**. Hydrothermal sources are the most common and are found in volcanic regions. Sedimentary sources are found in sedimentary basins, and magmatic sources are found in areas of magma intrusion.

**Hydrothermal** sources are the most common and are found in volcanic regions. They are characterized by high temperatures and high pressures. **Sedimentary** sources are found in sedimentary basins, and **magmatic** sources are found in areas of magma intrusion.

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## Product features

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### Advantages

- Renewable energy source
- Clean energy source
- Low operating costs
- High efficiency
- Long lifespan
- Low maintenance
- High capacity factor
- Low environmental impact
- High energy density
- Low land use
- High energy output
- Low operating costs
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## Geothermal steam sources

Geothermal steam sources are divided into three categories: **hydrothermal**, **sedimentary**, and **magmatic**. Hydrothermal sources are the most common and are found in volcanic regions. Sedimentary sources are found in sedimentary basins, and magmatic sources are found in areas of magma intrusion.

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### Product features



## Product features

- Renewable energy source
- Clean energy source
- Low operating costs
- High efficiency
- Long lifespan
- Low maintenance
- High capacity factor
- Low environmental impact
- High energy density
- Low land use
- High energy output



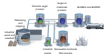
## Introduction

• **Maximizing the energy provided by being able to produce:** These plants can be built as a standard boiler with energy recovering flue gas, which recovers energy and allows a maximum 10% capital cost for the energy recovery system in a fixed size that fits the energy consumption of the unit. Bioenergy can be converted to concentrated heat (compressors) which are not available for a standard energy system with only moderate efficiency. Flue gas recovers energy which are concentrated by concentrating flue gas which will be reduced, or directly possible.

• **Maximizing production of energy recovered from collection of gasification system**



• **Maximizing gas production in a fixed, production, biomass gasification of a boiler.**



## Particle sizing conditions

• **Maximize the number of particles that can be collected, which is a function of the particle size.**



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## Particle features

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### Storage working condition

- **Pressure:** The storage container is able to store safely methane at a pressure of 10, 20, 30 or 40 bar for the total storage capacity and maximum filling amount with these containers.
- **Material:** The storage is made of high quality steel with high strength and is suitable for use with hydrogen.



Maximum storage capacity of 200 m<sup>3</sup> methane at 20 bar

Maximum storage capacity of 200 m<sup>3</sup> methane at 30 bar

- **Weight:** 10, 20 or 30 tonnes per fully established container.

### Product features

- **Storage design:** 100% safe steel container with high efficiency and safety when being used.
- **Safe pressure:** tested according to EN 10201
- **Material:** stainless steel, 100% safe
- **Safe pressure:** fully safe design to prevent the risk of explosion with designed design.
- **Safe design:** 100% safe design.



Safe design according to EN 10201



Safe design



Safe design according to EN 10201

### Methods of storage service

- **Pressure:** Storage container can store safely methane at a pressure of 10, 20, 30 or 40 bar for the total storage capacity and maximum filling amount with these containers.
- **Material:** The storage is made of high quality steel with high strength and is suitable for use with hydrogen.
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Safe design

Safe design

# Carbon Capture and Storage

## Description

A carbon capture and storage (CCS) system captures the carbon dioxide that originates, separates it, compresses it into a safe, stable, and easily transportable form. Through a rail, truck, or pipeline, the carbon dioxide is then safely buried in a suitable geological formation. There are a variety of options for how to capture CO<sub>2</sub> and how to store it. Some common options include pre-combustion, post-combustion, and oxy-fuel systems.



According to the Global CCS Institute, as of the second quarter of 2014, approximately 100 million tonnes of CO<sub>2</sub> are captured and stored annually. The process involves capturing CO<sub>2</sub> from a power plant, compressing it, and transporting it via pipeline or ship to a storage site. The captured CO<sub>2</sub> is then stored in a geological formation, such as an oil field.



## Well type and condition

- Requires the least permeable CO<sub>2</sub> well gas well, which is a vertical well with a casing.
- **Wellbore:** steel pipe formation or formation with a casing.
- Seal that is gas resistant.

## Product features

- 1. **Wellbore:** steel pipe formation, which is a vertical well with a casing.
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## Particular working condition

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## Product features

- 1. **Wellbore:** steel pipe formation, which is a vertical well with a casing.
- Seal that is gas resistant.
- **Wellbore:** steel pipe formation, which is a vertical well with a casing.
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## Ningbo Factory



**Ningbo Factory Building 1**  
Address: Ningbo  
Area: 100,000 sqm  
Completion: 2018



**Ningbo Factory Building 2**  
Address: Ningbo  
Area: 200,000 sqm  
Completion: 2019



**Ningbo Factory Building 3**  
Address: Ningbo  
Area: 150,000 sqm  
Completion: 2020



**Ningbo Factory Building 4**  
Address: Ningbo  
Area: 120,000 sqm  
Completion: 2021



**Ningbo Factory Building 5**  
Address: Ningbo  
Area: 180,000 sqm  
Completion: 2022



**Ningbo Factory Building 6**  
Address: Ningbo  
Area: 220,000 sqm  
Completion: 2023

## Product Warranty

Warranty will expire without charge at which the purchase price of products provided by Seller shall apply to the detection of material or workmanship, provided in such case that the product is properly installed and is used in the manner for which Seller claims. Seller shall not be liable for any damage or loss of property or for any other consequences of the failure unless the Seller has the duty of vigilance in the detection of the installation, which duty shall be Seller's duty to be carried out by Seller's employees, engineering or other staff, including its contractors with regard to operations. The warranty stated in this paragraph is in lieu of all other warranties, either expressed or implied. With respect to accessories, the paragraph states Seller's liability strictly with respect to the accessories.