A Safer, Greener, More Cost-Effective Pumping Solution

Maag, part of Dover Corporation’s Pump Solutions Group (PSG®), is a leading global provider of innovative, high-quality industrial twin-screw and multi-phase pumps for the safe and efficient transfer of liquids. Maag is proud to offer the S Series. This durable screw pump line is perfectly suited to applications with the Process, Energy, Transport and Marine markets. Maag S Series pumps offer a wide range of highly customizable pumps and systems for the world’s most demanding applications.

Our world-class distributor network ensures that you will have access to the pump you need when you need it. We are devoted to your business’s success servicing your needs with world-class products, delivery and best of class expertise. Put us to the test today and contact your local distributor at www.maag.com

S Series Pumps are Ideally Suited For...

- Chemicals
- Caustics
- Adhesives
- Food and beverage
- Soap
- Petrochemicals
- Acids
- Polymers
- Crude oil
- Asphalt
- Diesel
- Seawater
- Lube oil
- Kerosene
- Oilfields
- Residuals
- Bulk transfer
- Loading/unloading
- Terminals
- Shipping
- Bilge and ballast
- Fire-suppression
How it Works

Maag Twin Screw Pumps are rotary, positive displacement pumps capable of handling various clean liquids that contain no solids. The pump is composed of two sets of opposed screws. During pump operation, the screws on the two shafts are engaged and form a sealed cavity with the surrounding pump casing. The pumped liquid is shifted axially as the screw shafts turn and steadily and constantly convey the liquid to the center of the pump where the discharge port is located. Since hydraulic forces on two screws are opposite and equal, the hydraulic axial stress on shafts is automatically balanced.
Maag’s Twin Screw Pumps are offered with a double-suction design configuration. Twin screw pumps with timing gear (WTG) transmissions are perfectly suited for transferring low-lubricity fluids, or even abrasive media. The WTG pump series offers no metal contact between the hydraulic components and automatic axial balancing. Maag WTG Series pumps can be applied in a variety of different operating conditions with fluids that include, but are not limited to: corrosive and non-corrosive, low or high viscosities, clean or abrasive.

### Applications
- Petroleum
- Petrochemical
- Refineries
- Chemicals
- Storage and transportation
- Shipping
- Oil terminals
- Food and beverage
- Lubricating oil
- No fluid agitation
- No emulsified shear
- Suitable for a wide range of viscosities

### Features and Benefits:
- Low noise
- Overload protection
- Nearly pulsation-free
- Increased reliability
- Direct drive
- No metal contact
- Convenient to change the location of the suction and discharge

### Technical Data:
- Pump Casing: Cast iron/ductile iron/cast stainless steel
- Shaft: Alloy steel/stainless steel
- Screws: Ductile iron/alloy steel/stainless steel
- Bearing Housing: Grey cast iron
- Pump Nozzle Flange: GB/DIN/ANSI
- Flange: DN80-DN300
- Two casing constructions to select:
  1. Side inlet, side outlet
  2. Side inlet, up outlet

### Certifications & Associations:

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2HE Horizontal General Twin Screw Pumps, WTG

The 2HE series is designed for conveying lubrication mediums. This series is a double-suction, self-priming Twin Screw pump with internal bearings and timing gears. With only one seal, it is easy to maintain and is more reliable. It can replace a Triple Screw pump at larger flow conditions.

### Applications
- Petroleum
- Petrochemical
- Lubricating oil
- Storage and transportation
- Loading/unloading
- No metal contact
- Convenient to change the location of the suction and discharge

### Features and Benefits:
- Meshed power screw shaft and idle screw shaft in the pump casing form sealed chambers
- Torque is safely transferred by the timing gears

### Technical Data:
- Pump Casing: Cast iron/ductile iron/cast stainless steel
- Shaft: Alloy steel/stainless steel
- Screws: Ductile iron/alloy steel/stainless steel
- Bearing Housing: Grey cast iron
- Pump Nozzle Flange: GB/DIN/ANSI
- Flange: DN80-DN300
- Two casing constructions to select:
  1. Side inlet, side outlet
  2. Side inlet, up outlet
**TECHNOLOGY: SCREW**

**2HC Twin Screw Pumps, WTG**

The 2HC series is designed for marine applications where space is highly confined. Its compact, lightweight design can be used to transfer liquid without solid contents, including lubricating or non-lubricating liquids, low- or high-viscosity liquids, and corrosive liquids. It features a high flow rate, strong self-suction capability, smooth operation, and is simple to operate and maintain.

**Applications**
- Petrochemical
- Chemicals
- Oil terminals
- Shipping

**Features and Benefits:**
- Meshed power screw shaft and idle screw shaft in the pump casing form sealed chambers
- Torque is safely transferred by the timing gears
- No metal-to-metal contact
- Convenient to change the location of the suction and discharge

**Technical Data:**
- Pump Casing: Cast iron/ductile iron/cast steel/cast stainless steel
- Shaft: Alloy steel/stainless steel
- Screws: Ductile iron/alloy steel/stainless steel
- Bearing Housing: Grey cast iron
- Pump Nozzle Flange: GB/DIN/ANSI
- Flange: DN125-DN300

**Certifications & Associations:**

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**TECHNOLOGY: SCREW**

**2HM Horizontal General Twin Screw Pumps, WTG**

These double-suction, self-priming twin screw pumps have external bearings and timing gear transmission. They are especially suitable for the delivery of various fluids in a wide range of viscosities that are free of solid substances or with a little abrasiveness and at a moderate temperature.

**Applications**
- Petrochemical
- Chemicals
- Paint and coatings
- Oil terminals
- Storage and transportation
- Food and beverage
- Loading/unloading
- Shipping

**Features and Benefits:**
- Meshed power screw shaft and idle screw shaft in the pump casing form sealed chambers
- Torque is safely transferred by the timing gears
- No metal-to-metal contact
- Convenient to change the location of the suction and discharge

**Technical Data:**
- Pump Casing: Cast iron/ductile iron/cast steel/cast stainless steel
- Shaft: Alloy steel/stainless steel
- Screws: Ductile iron/alloy steel/stainless steel
- Bearing Housing: Grey cast iron
- Pump Nozzle Flange: GB/DIN/ANSI
- Flange: DN50-DN300

**Certifications & Associations:**

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**2VM Vertical General Twin Screw Pumps, WTG**

**Applications**
- Suitable for handling various media without solids, including various oil products, chemical products and high-polymer media.
- Also suitable for clean liquids with entrained gas content less than 60%.
- Primarily used in ship-building and other applications where installation space is limited.

**Technical Data:**
- Pump Casing: Grey cast iron/ductile iron/cast steel/cast stainless steel
- Shaft: Alloy steel/stainless steel;
- Screw: Ductile iron/alloy steel/stainless steel
- Bearing Housing: Grey cast iron/carbon steel
- Pump Nozzle Flange: GB/DIN/ANSI
- Flange: DN80-DN300

**2VE Vertical General Twin Screw Pumps, WTG**

**Applications**
- Mainly used in ship-building and other applications where installation space is limited.
- Delivers various oil products with lubricating qualities and no solids.

**Technical Data:**
- Pump Casing: Grey cast iron/ductile iron/cast steel/cast stainless steel;
- Shaft: Alloy steel/stainless steel;
- Screw: Ductile iron/alloy steel/stainless steel
- Bearing Housing: Grey cast iron
- Pump Nozzle Flange: GB/DIN/ANSI
- Flange: DN80-DN300

**2VR Vertical Twin Screw Pumps, WTG**

**Applications**
- Especially suitable for the delivery of various fluids that are free of solid substances or with a little abrasiveness at higher temperature, or the fluid needs to be heated.
- Primarily used in ship-building and other applications where installation space is limited.

**Technical Data:**
- Pump Casing: Carbon steel/stainless steel
- Shaft: Alloy steel/stainless steel
- Screw: Ductile iron/alloy steel/stainless steel
- Bearing Housing: Carbon steel
- Pump Nozzle Flange: GB/DIN/ANSI
- Flange: DN80-DN500
TECHNOLOGY: SCREW

2HR Horizontal, High-Temperature, High-Viscosity Twin Screw Pumps, WTG

Applications
- Installed in applications where the median temperature is much higher than 120°C (248°F) or needs to be heated to maintain high temperatures
- Suitable for applications where the viscosity is ultra-high and can accept a wide range of mechanical seal types

Technical Data:
- Pump Casing: Carbon steel/stainless steel
- Liner: Ductile iron/nickel cast iron
- Shaft: Alloy steel/stainless steel
- Screws: Alloy steel/stainless steel
- Bearing Housing: Grey cast iron/carbon steel
- This pump casing construction is suitable for applications requiring heating jacket

2HH High-Pressure Twin Screw Pumps, WTG

Applications
- Used as a long-distance delivery pump for high-pressure applications or as main filling pumps for high-pressure units
- Suitable to deliver various fluids with viscosities higher than 100 mm²/s (cSt)

Technical Data:
- Pump Casing: Carbon steel/stainless steel
- Liner: Ductile iron/nickel cast iron
- Shaft: Alloy steel/stainless steel
- Screws: Alloy steel/stainless steel
- Bearing Housing: Carbon steel
- Pump Nozzle Flange: GB/DIN/ANSI
- Flange: DN80-DN300
TECHNOLOGY: SCREW

2H Single-End Twin Screw Pumps, WTG

Applications
• Especially suitable for the small capacity and quick flashing applications where operating pressure is up to 16.0 bar (230 psi) and capacity is up to 40 m³/h (180 gpm)
• Suitable for various low-, middle- and high-viscosity fluids without solids
• Pump can be provided in mobile configurations, whether or not the medium is lubricating or corrosive

Technical Data:
• Pump Casing: Grey cast iron/ductile iron/stainless steel
• Shaft: Alloy steel/stainless steel
• Screws: Ductile iron/alloy steel/stainless steel
• Bearing Housing: Grey cast iron
• Pump Nozzle Flange: GB/DIN/ANSI
• Flange: DN50-DN80

Twin Screw Pumps

<table>
<thead>
<tr>
<th>Series</th>
<th>Capacity (m³/h)</th>
<th>Diff. Pressure (bar/psi)</th>
<th>Viscosity (mm²/s (cSt))</th>
<th>Max. Temp. (°C/°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2HM/2VM</td>
<td>2-2,500</td>
<td>10-11,000</td>
<td>up to 40</td>
<td>up to 580</td>
</tr>
<tr>
<td>2HR/2VR</td>
<td>2-2,500</td>
<td>10-11,000</td>
<td>up to 40</td>
<td>up to 580</td>
</tr>
<tr>
<td>2HE/2VE</td>
<td>2-2,500</td>
<td>10-11,000</td>
<td>up to 25.0</td>
<td>up to 360</td>
</tr>
<tr>
<td>2HH</td>
<td>10-1,000</td>
<td>50-4,400</td>
<td>up to 60.0</td>
<td>up to 870</td>
</tr>
<tr>
<td>2HC</td>
<td>35-750</td>
<td>150-3,300</td>
<td>up to 16.0</td>
<td>up to 230</td>
</tr>
<tr>
<td>2H</td>
<td>1-40</td>
<td>5-180</td>
<td>up to 16.0</td>
<td>up to 230</td>
</tr>
</tbody>
</table>
**NTG Series** Twin Screw Pumps

The twin screw non-timing gear (NTG) pumps are a single-suction design. The axial hydraulic force on the components is compensated by a balance piston. Metal contact exists between the screw profiles; however, there is no metal contact between the screws and casing. The NTG series pumps are especially suitable to deliver various lubricating fluids with high viscosity, e.g., bitumen and residual oil, at medium or high temperatures.

**Applications**
- Asphalt
- Heavy fuel oil
- Petrochemical
- Chemical fiber
- Chemicals
- Oil terminals
- Lubricating oil
- Shipping

**Features and Benefits:**
- Low noise
- Low pulsation reliability
- No fluid agitation
- No emulsified shear
- Suitable for wide range of viscosities

**Certifications & Associations:**

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**2LA Horizontal Twin Screw Pumps, NTG**

**Applications**
- Self-priming, single-suction twin screw pump especially suitable to deliver various lubricating fluids with high viscosity at medium or high temperature

**Features and Benefits:**
- Two series pump, typical non-timing gear transmission
- Strong self-priming capability
- Low pulsation
- Low noise level
- No agitation of the fluids and no emulsified shear
- Suitable for high temperature applications

**Technical Data:**
- Pump Casing: Carbon steel/stainless steel
- Shaft: Alloy steel/stainless steel
- Bearing Housing: Grey cast iron/carbon steel
- Pump Nozzle Flange: GB/DIN/ANSI
- Flange: DN80-DN300
- Two casing constructions to select:
  1. Side inlet, side outlet
  2. Side inlet, up outlet

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**2KA Vertical Twin Screw Pumps, NTG**

**Applications**
- Self-priming, single-suction twin screw pump especially suitable to deliver various lubricating fluids with high viscosity at medium or high temperature
- Primarily used in applications where installation space is limited

**Features and Benefits:**
- Two series pump, typical non-timing gear transmission
- Strong self-priming capability
- Low pulsation
- Low noise Level
- No agitation of the fluids and no emulsified shear
- Suitable for high temperature applications
TECHNOLOGY: SCREW

2LE Horizontal Twin Screw Pumps, NTG

Applications
- Self-priming, single-suction twin screw pump especially suitable to deliver various lubricating fluids with high viscosity at medium temperature

Technical Data:
- Two series pump, typical non-timing gear transmission
- Strong self-priming capability
- Low pulsation
- Low noise level
- No agitation of the fluids and no emulsified shear

TECHNOLOGY: SCREW

2KE Vertical Twin Screw Pumps, NTG

Applications
- Self-priming, single-suction twin screw pump especially suitable to deliver various lubricating fluids with high viscosity at medium temperature
- Primarily used in applications where installation space is limited

Technical Data:
- Two series pump, typical non-timing gear transmission
- Strong self-priming capability
- Low pulsation
- Low noise Level
- No agitation of the fluids and no emulsified shear

Twin Screw Pumps

<table>
<thead>
<tr>
<th>Series</th>
<th>Capacity 1</th>
<th>Diff. Pressure 1</th>
<th>Viscosity 1</th>
<th>Max. Temp. 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>2LE/2KE</td>
<td>1-480 m³/h</td>
<td>5-2,200 bar</td>
<td>≤3,000 mm²/s (cSt)</td>
<td>80 °C, 176 °F</td>
</tr>
<tr>
<td>2LA/2KA</td>
<td>1-480 m³/h</td>
<td>5-2,000 bar</td>
<td>≤200,000 mm²/s (cSt)</td>
<td>350 °C, 662 °F</td>
</tr>
</tbody>
</table>
**Multi-phase Twin Screw Pumps**

Designed for medium- to low-pressure applications, the Multi-phase Twin Screw Pumps are robust, reliable and built to last within the Water and Oil & Gas industries. Maag multi-phase pumps are commonly used in the oilfields that have untreated streams. The 2MP Series is designed for higher differential pressure and higher suction pressure applications.

**Applications**
- Crude oil
- Desert oilfield
- Beach-sea oilfield
- Offshore platform
- Wellhead

**Features and Benefits:**
- Reduces backpressure
- Increased production
- Quick installation
- Reduces downtime
- Unique materials for extreme operating conditions

**Certifications & Associations:**

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**2MPS Multi-phase Twin Screw Pumps, WTG**

Multi-phase pumps are boost and delivery equipment, commonly used in oilfields that have untreated streams. In order to satisfy multi-phase delivery of oil, gas and water, containing small particulates, Maag multi-phase pumps adopt a unique screw profile and design along with a special pump casing chamber to achieve boosting for gas in mixture and heat distribution.

In order to meet a variety of adverse operating conditions in the field, Maag multi-phase pumps use specially selected materials, hardening treatment and specialty seals. To allow our customers simple, convenient and quick installation Maag can provide a multi-phase skid system that includes filter, valve, connecting pipeline and control equipment.

**Applications**
- Crude oil
- Desert oilfield
- Beach-sea oilfield
- Offshore platform
- Wellhead

**Technical Data:**
- Pump Casing: Carbon steel/stainless steel
- Shaft: Alloy steel/stainless steel
- Screws: Alloy steel/stainless steel
- Bearing Housing: Grey cast iron/carbon steel
- Pump Nozzle Flange: GB/DIN/ANSI
- Flange: DN150-DN500

**Multi-phase Pumps**

<table>
<thead>
<tr>
<th>Series</th>
<th>Capacity m³/h</th>
<th>gpm</th>
<th>Diff. Pressure bar</th>
<th>psi</th>
<th>Max. Product Temp. °C</th>
<th>°F</th>
<th>GVF</th>
</tr>
</thead>
<tbody>
<tr>
<td>2MPS...B</td>
<td>30-1,500</td>
<td>130-6,500</td>
<td>up to 30.0</td>
<td>up to 430</td>
<td>120</td>
<td>248</td>
<td>up to 80%</td>
</tr>
<tr>
<td>2MPS...H</td>
<td>30-1,000</td>
<td>130-4,400</td>
<td>up to 36.0</td>
<td>up to 520</td>
<td>120</td>
<td>248</td>
<td>up to 97%</td>
</tr>
<tr>
<td>2MP</td>
<td>30-800</td>
<td>130-3,500</td>
<td>up to 60.0</td>
<td>up to 870</td>
<td>120</td>
<td>248</td>
<td>up to 97%</td>
</tr>
</tbody>
</table>