Industrial- and Vacuum Pumps

Best Leading Technology Pumps

since 1952
Tuma epitomises a success story grown over decades of expertise. In the 1950s the company drew on the craftsmanship and patents of its founder Peter Tuma. Today we purchase internationally renowned components to manufacture and deliver state-of-the-art products.

Meeting people on a personal level.

We do not think of customers as clients - we think of them as partners. A personal approach has always been important to us. Our specialist staff is there for you with their advice to help with the realisation of your projects. With ongoing qualifications, enthusiastic attitudes and first class Equipment we can realise efficient solutions. Our partners and their needs are met on an individual level. Our philosophy is to offer a complete service: from the initial inquiry to professional advice, selection, engineering, production and testing to the on site training with your completed Tuma pumping system itself.

Quality not only on paper – but proven in action.

Our comprehensive quality control is most visible in our products, but is also documented. All Tuma components come from ISO-certified production facilities, so that our customers may be guaranteed the highest possible reliability for all system solutions.
There is an ideal system solution for each application. Or we engineer it!

Having been pump specialists for decades we understand our business. And because it is a large part of our work to be multifaceted, working in the most diverse branches is a main part of our services. Cooperating with university research teams, but most of all gaining knowledge through our constant dialog with customers, we have achieved large improvements resolving specific applications for many difficult cases. Ranging from anything such as powdered milk to VE-water, Tuma’s systems will pump whatever you need.

Our warehouse has everything that you could possibly need.

If there is a lack of stock for what you need it would cause problems which will make prices rise for both you and us, so we make sure that we always have everything that is important on stock. You may reckon with a fast and efficient response and a smooth transaction.

Industry sectors, we know who have chosen to rely on us that know us and we them.

Ranging from the Viennese underground train system to major sport stadium, alternative energies to CD production: Tuma equips customers worldwide with precise pump solutions.

- Waste water & sewerage
- Engineering
- Construction industry
- Biodiesel/Bioethanol-plants
- Chemical Industry
- Building services
- Power plants
- Plastics industry
- Agriculture
- Food industry
- OEM machine manufacturers
- Medical engineering
- Paper Mills
- Oil & Gas industry
- Pharmaceutical industry
- Rail car manufacturers
- Car wash manufacturers
- Sugar mills
**What we can offer**

**Complete solutions**

Our special strengths are system solutions: no detail is left to chance. We combine our top products, pump components as well as motors, to tailor made pumping solutions for the industrial, trade and communal sector. Terms like ATEX and TA-air are our daily business. Energy efficiency is a top priority with us.

Some examples:

- **Gear pump unit**
- **Boiler feed unit with thermosyphon cooling**
- **Vacuumsystem for methyldrying**
- **Roots blower – compressor unit**
- **CIP clean in place unit**
- **Booster system for sterilisation plant**
All services from one source

From analyses of your requirement to servicing the finishes system

Service

Individual customer service and the preparation of in all aspects optimal solutions are our strength. From the first consultation until the maintenance training on site we are there with you and your competent TUMA technician knows and advises you personally. With a worldwide network of service agents we put qualified contact people at your side to look after you, should the need ever arise.

Training

Tuma conducts regularly practical and informative in-house training for staff and customers, in an effort to make the latest developments available.

Technical Design

Whatever you need to know with regards to your pump requirement: Our experts have the solution and love to reveal it to you. Implementing your pumping system with TUMA means that we carry out meticulous investigations and calculations about your new TUMA pump unit at no extra cost.

Engineering

Our components we source from top suppliers worldwide, their quality is controlled by us on a regular basis. With engineering we don’t just trust the visual inspection, every unit is tested vigorously before leaving our factory.

Our engineering workshop is equipped with an excellent pump test bay for liquids and gases. Functional testing of the pump units assures freedom from defects and that specified parameters are kept.

During this test parameters like pressure, flow rate, temperature, noise level and speed as well as all relevant electrical values can be monitored and optimised.

Maintenance and Repair

Inspection and if required overhaul of pumps and systems, not only the ones we have delivered, are normally carried out in our workshop. The pump test bay in our workshop allows us to locate and remedy defects and weaknesses quickly. But we also come to you, if necessary in an emergency call out.
# Catalog

## Product overview

### 1. Small centrifugal-, Sidechannel-, Magnetic Drive Pumps

#### 1.1 Small Centrifugal Pumps

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Materials of construction</th>
<th>Applications</th>
<th>Benefits</th>
</tr>
</thead>
</table>

#### 1.2 Side Channel Pumps

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Materials of construction</th>
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</tr>
</thead>
</table>

#### 1.3 Magnet Drive Pumps

<table>
<thead>
<tr>
<th>Characteristics</th>
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<th>Benefits</th>
</tr>
</thead>
</table>

### 2. Centrifugal-, Process-, Heat Transfer Pumps, Split Case Pumps

#### 2.1 Centrifugal Pumps EN 733

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Materials of construction</th>
<th>Applications</th>
<th>Benefits</th>
</tr>
</thead>
</table>

#### 2.2 Process Pumps DIN EN 22858

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Materials of construction</th>
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<th>Benefits</th>
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#### 2.3 Magnet Drive Process Pumps DIN EN 22858

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<th>Characteristics</th>
<th>Materials of construction</th>
<th>Applications</th>
<th>Benefits</th>
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</thead>
</table>
# Product overview

## 3. Vertical, Multistage - Inline Pumps

### 3.1 Vertical Inline Pumps

#### Characteristics
- **Capacity:** max. 72 m³/h
- **Head:** max. 395 m
- **Speed:** 1450 / 2900 rpm
- **Rated Pressure:** PN 16
- **Temperature:** max. 120 °C

#### Materials of construction
- Shaft: 1.4301/1.4404
- Casing: 1.4305/1.4401/ GG25

#### Applications
- Booster Systems
- Boiler Feed
- Water Treatment
- Substrat Systems
- Irrigation
- Air Conditioning
- Sprinkler Systems
- Automatic Booster Units

#### Benefits
- Quick connections for casing
- Open Impeller
- Low NPSH
- Hygiene Standard 3A, EHEDG, FDA, CETIM
- Selfpriming
- No emulsifying of pumped product

## 4. Sanitary Centrifugal, - Positiv Displacement Pumps

### 4.1 Sanitary Centrifugal Pumps

#### Characteristics
- **Capacity:** max. 1000 m³/h
- **Head:** max. 100 m
- **Temperature:** max. 130 °C
- **Speed:** 1500/2900 rpm

#### Materials of construction
- Casing, Impeller, Shaft: 1.4401, 1.4408, EPDM, Viton (FDA)
- Surface: 0.8 Ra, e-polished

#### Applications
- Filtration
- Bottling
- Dairy Products
- Pharma
- Beer
- Juice
- Leach
- Brine

#### Benefits
- Quick connections for casing
- Open Impeller
- Low NPSH
- Hygiene Standard 3A, EHEDG, FDA, CETIM
- CIP clean in place

### 4.2 Helical Rotor Pumps

#### Characteristics
- **Capacity:** max. 120 m³/h
- **Head:** max. 12 bar
- **Temperature:** max. 90 °C

#### Materials of construction
- Stainless Steel 304L, 316L, NBR,EPDM (FDA)
- Shaft Seal: Mech. Seal
- Surface: 0.8 Ra, e-polished

#### Applications
- Filtration, Bottling, Dairy Products, Pharma, Beer, Vegetable Oils, Juice, Leach, Brine, Synop, Viscos Products with Soft Particles

#### Benefits
- Pulsationsfree pumping
- High pressure with low flowrate
- Gentle pumping action
- Hygiene Standard 3A, EHEDG, FDA, CETIM
- Selfpriming
- No emulsifying of pumped product
5. Lobe Pumps

5.1 Sanitary Lobe Pump

**Characteristics**
- Capacity: max. 150 m³/h
- Head: max. 22 bar
- Temperature: max. 180 °C
- Solids: max. 15mm

**Materials of construction**
- Casing, Impeller, Shaft: 1.44404, 1.4408, EPDM, NBR, PTFE
- Shaft Seal: Mechanical Seal Optionally Heated
- Surface: 0.8 Ra, e-polished

**Construction**
- Bare Shaft, Baseplate Unit or Blockpump, CIP/MIP
- Optional: Casing Cover Heating, Bypass Valve, Rotor: Trilob or Scimitar
- Connections: DIN, SMS, RJT, Clamp, etc.

**Applications**
- Filtration, Bottling, Dairy products, Pharma, Beer, Candy, Vegetable Oils, Juice, Beer, Leach, Brine Detergents, Syrup, Viscous Products with Soft Particles, Meat Pastes

**Benefits**
- Contact free rotation in pump housing
- Extremely long pump life
- High pressure with low flowrate
- Gentle pumping action
- Hygiene Standard 3A, EHEDG, FDA, CETIM
- Selfpriming
- Pulsationsfree pumping

6. Internal Gear Pumps

6.1 Internal Gear Pump

**Characteristics**
- Capacity: min. 60 l/h to max. 220 m³/h
- Head: max. 20 bar
- Temperature: max. 300 °C
- Viscosity: max. 60000 cSt

**Materials of construction**
- Casing: GG25 / Steel / Stainless Steel
- Shaft Seal: Mech. Seal, Gland Packing or Magnetic Drive

**Construction**
- Bare Shaft, Baseplate Mounted
- Options: Heating Jacket, Bypass-Valve

**Applications**
- Chocolate, Bitumen, Dispersion also with Fillers, Creme, Paint, Glue, Synthetic Resin, Fat, Heating, Molasses, Syrup, Solvents, Soap, Tar, Glucose, Mineral Oil, Crude Oil, Silicon Oil, Vegetable Oil, Brine, Caustic, Viscose, Starch, Yeast, etc.

7. Self-priming Centrifugal Pumps

7.1 Self-priming Centrifugal Pumps

**Characteristics**
- Capacity: max. 1200 m³/h
- Head: max. 68 m
- Temperature: max. 100 °C
- Solid content: max. 10%
- Viscosity: max. 50 cSt

**Materials of construction**
- Casing: GG25 / Bronze / Stainless Steel
- Shaft Seal: Single or Double Mech. Seal or Magnetic Drive

**Construction**
- Bare Shaft, Baseplate Mounted
- Options: Heating Jacket, Bypass-Valve

**Applications**
- Communal Waste Water (Dry Mount)
- Ground Water Control, Dewatering
- Garden Ponds
- Industrial Waste Water
- Quarry, Sandmine, Gravel Pit
- Irrigation
- Emergency Pump
- Industrial Cooling, Washing, Scrubbing

**Benefits**
- Built for mud and solids in suspension
- Selfpriming

8. Rotary Vane Pumps

8.1 Rotary Vane Pumps up to 2000 l/h

**Characteristics**
- Capacity: max. 2400 liter/h
- Head: max. 16 bar
- Temperature: max. 90 °C
- Speed: 1450/2900 rpm

**Materials of construction**
- Rotor/Shaft: 316 Stainless Steel
- Casing: Brass/Stainless Steel, NBR/EPDM/Viton
- Shaft Seal: Mech. Seal / Magnetic Drive

**Construction**
- Optional: EU directive 94/9/EG (ATEX 95): Ex II 2G

**Applications**
- Medical Systems
- Spraying System for Agriculture
- Post Mix Systems
- Coffee Machines
- Reverse Osmoses Water Treatment
- Boiler Feed
- Dosing
- Condensates
- Biodiesel Production

**Benefits**
- Dry self priming
- Ideal for flow control due to positive displacement
- Economical

8.2 Rotary Vane Pumps up to 100 m³/h

**Characteristics**
- Capacity: max. 100 m³/h
- Head: max. 7/10 bar
- Temperature: max. 150/250 °C
- Viscosity: max. 2000 cSt

**Materials of construction**
- Rotor/Shaft: Steel/Stainless Steel
- Casing: GG25
- Shaft Seal: Mech. Seal Viton (Fuels) PTFE (Solvents)

**Construction**
- Optional: EU directive 94/9/EG (ATEX 95): Ex II 2G

**Applications**
- Tank Farms for Solvents and Fuels
- Truck or Rail Car Unloading Transfer Pump
- Loading Pump

**Benefits**
- Dry self priming
- Ideal for flow control due to positive displacement
- Heavy duty construction
### 9. Submersible Pumps

**9.1 Submersible Pumps**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity: max. 1400 m³/h</td>
<td>Drainage of Clean or Polluted Rain- or Groundwater, Liquids with Hard or Fibrous Solid Content, Domestic or Animal Farm Waste Water, Communal Sewerage,..</td>
</tr>
<tr>
<td>Head: max. 85 m</td>
<td>Car Wash</td>
</tr>
<tr>
<td>Speed: 2900 rpm</td>
<td>Airports</td>
</tr>
<tr>
<td>Rated Pressure: PN 25 / PN 40</td>
<td>Camping Site</td>
</tr>
<tr>
<td>Solids: max. 140 mm</td>
<td>Agriculture</td>
</tr>
</tbody>
</table>

**Materials of construction**
- Casing: Alu/ Stainless Steel/ CI/Bronze
- Impeller: Alu/ Stainless Steel/ CI/Bronze

**Construction**
- Impeller: Single Channel, Multi Channel, Propeller, Vortex
- Options: Float Switch, Grinder, ATEX, Guide Rail Coupling System

**Textil Industry**
- Industrial Waste Water
- Communal Waste Water
- Roadhouse
- Residential Areas
- Sewerage Treatment Plants
- Painting Systems
- Breweries
- Drainage

### 10. Pneumatic Diaphragm Pumps

**10.1 Pneumatic Diaphragm Pumps**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity: 15 - 220 liter/min</td>
<td>Chemical- / Petrochemical Industry</td>
</tr>
<tr>
<td>Head: max. 7 bar</td>
<td>Waste Management Industry</td>
</tr>
<tr>
<td>Materials of construction</td>
<td>Paints and Coatings Industry</td>
</tr>
<tr>
<td>Casing: Aluminium, Stainless Steel, PP, PVDF Kynar</td>
<td>Printing</td>
</tr>
<tr>
<td>Elastomers: Buna-N, Neoprene, Viton, EPDM, Santoprene</td>
<td>Ceramic Production</td>
</tr>
<tr>
<td>Shaft: Sealsless</td>
<td>Food Industry</td>
</tr>
<tr>
<td>Optional: EU directive 94/9/EG (ATEX 95): Ex II 2G</td>
<td>Pharmaceutical Industry</td>
</tr>
</tbody>
</table>

**Materials of construction**
- Casing: Aluminium, Stainless Steel, PP, PVDF Kynar
- Elastomers: Buna-N, Neoprene, Viton, EPDM, Santoprene
- Shaft Seal: Sealsless

**Benefits**
- Dry self priming
- Ideal for flow control due to positive displacement
- Many options, no lubrication needed
- Robust, reliable, can handle solids

### 11. Liquid Ring Vacuum Pumps

**11.1 Vacuum Pumps & Compressors - Liquid Ring, Baseplate Pumps model VH-VU**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity: max. 31000 m³/h</td>
<td>Bottling Plants</td>
</tr>
<tr>
<td>Vacuum Pressure: max. 33 mbar abs (Service Liquid Water)</td>
<td>Seawater Desalination</td>
</tr>
<tr>
<td>Temperature: max. 120 °C</td>
<td>Meat Processing</td>
</tr>
<tr>
<td>Materials of construction</td>
<td>Textile Industry</td>
</tr>
<tr>
<td>Casing: Bronze/ Stainless Steel / GG25/ SEBF Coating</td>
<td>Biodiesel- , Bio-Ethanol Production</td>
</tr>
<tr>
<td>Impeller: Bronze/ Stainless Steel / Cr Steel</td>
<td>Compaction of Concrete</td>
</tr>
<tr>
<td>Shaft Seal: Mech. Seal, Packing</td>
<td>Compaction of Sandcasts</td>
</tr>
<tr>
<td>EU directive 94/9/EG (ATEX 95): Baseplate Pumps VH, Ex II 1/2G</td>
<td>Glueing of Plastic Components</td>
</tr>
<tr>
<td>Compressors and Custom-Made Units at Request</td>
<td>Brickyards</td>
</tr>
</tbody>
</table>

**Applications**
- Woodworking Industry
- Drying
- Impregnation
- Plastics Recycling
- Steam Sterilisers
- Vacuum Suction Trucks
- Steam Turbines
- Preservation of Food Products
- Priming of Centrifugal Pumps
- Exudation De-Gassing
- Fish- and Poultry Processing
- Solvent Recovery

**11.2 Vacuum Pumps - Liquid Ring, Blockpumps model V**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity: 6 - 450 m³/h</td>
<td>Bottling Plants</td>
</tr>
<tr>
<td>Vacuum Pressure: max. 33 mbar abs (Service Liquid Water)</td>
<td>Seawater Desalination</td>
</tr>
<tr>
<td>Temperature: max. 120 °C</td>
<td>Meat Processing</td>
</tr>
<tr>
<td>Materials of construction</td>
<td>Textile Industry</td>
</tr>
<tr>
<td>Casing: Bronze/ Stainless Steel / GG25</td>
<td>Biodiesel- , Bio-Ethanol Production</td>
</tr>
<tr>
<td>Impeller: Bronze/ Stainless Steel / Cr Steel</td>
<td>Compaction of Concrete</td>
</tr>
<tr>
<td>Shaft Seal: Mech. Seal</td>
<td>Compaction of Sandcasts</td>
</tr>
</tbody>
</table>

**Materials of construction**
- Casing: Bronze/ Stainless Steel / GG25
- Impeller: Bronze/ Stainless Steel / Cr Steel
- Shaft Seal: Mech. Seal

**Applications**
(s. above, 11.1 Vacuum Pumps & Compressors - Liquid Ring, Baseplate Pumps model VH-VU)

**11.3 Vacuum Pumps - Liquid Ring VALVELESS Blockpump model VG (New)**

<table>
<thead>
<tr>
<th>Characteristics</th>
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</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>Vacuum Pressure: max. 33 mbar abs (Service Liquid Water)</td>
<td>Seawater Desalination</td>
</tr>
<tr>
<td>Temperature: max. 120 °C</td>
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</tr>
<tr>
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<tr>
<td>Casing: Bronze/ Stainless Steel / GG25</td>
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<tr>
<td>Impeller: Bronze/ Stainless Steel / Cr Steel</td>
<td>Compaction of Concrete</td>
</tr>
<tr>
<td>Shaft Seal: Mech. Seal</td>
<td>Compaction of Sandcasts</td>
</tr>
</tbody>
</table>

**Materials of construction**
- Casing: Bronze/ Stainless Steel / GG25
- Impeller: Bronze/ Stainless Steel / Cr Steel
- Shaft Seal: Mech. Seal

**Applications**
- Food Industry
- Milk Collection Trucks

**Benefits**
- Easy to clean and excellent self cleaning properties due to elimination of dead space within pump casing
12. Rotary Vane Vacuum pumps

12.1 Rotary Vane Vacuum Pumps, oil-lubricated & oilfree

Characteristics
- Capacity: max. 1000 m³/h
- Vacuum Pressure: max. 0.005 mbar abs

Description
- Oil lubricated or oilfree Rotary Vane Vacuum pumps are generally used whenever there are few or no condensable components, the suction air or low final Vacuum Pressure is needed or service liquid is not available or practical. Pumps are not suitable for continuous operation with near atmospheric suction pressure.

Applications
- Meat Packaging and Food Processing
- Thermofomer, Plastic Industry
- Foundry, Vacuum Furnace
- Printing Industry
- Woodworking Industry
- Vacuum Transport and Handling
- Pharmaceutical Industry

Benefits
- Versatile
- No service liquid required
- Dry vacuum or compressed air - no cooling liquid, oil free
- Contact free rotation in pump housing - long pump life

13. Roots Blowers

13.1 Roots Blower

Characteristics
- Capacity: 200 - 15590 m³/h
- Differential Pressure: 130 - 40 mbar
- Speed: 2900 rpm
- Motor: 0.75 - 30 kW

Materials of construction
- Casing: Cast Iron/Steel/Viton

Applications
- Economical Pneumatic Transport of Gases, Bulk Solids (e.g. Cement,...)
- Aeration and Filter Back Wash in Sewerage Treatment Plants,
  Homogenise of Fluids, Coke Production From Coal,
  Air Supply for Furnaces, etc.

Benefits
- Dry vacuum or compressed air - no cooling liquid, oil free
- Contact free rotation in pump housing - long pump life

14. Accessories Liquid Ring Vacuum Pumps, Engineering

14.1 Accessories Vacuum Pumps

Tanks, Top/Side Mount Separators,
Ball Type Non Return Valves
Anti-Cavitation Valves
Heat Exchangers Plate and Tube Type
Measuring and Control Equipment
Solenoid Valves
Gas Ejectors

14.2 Accessories Liquid Pumps

Membrane Tanks
Valves, Fittings
Electric Motors IEC, UL, NEMA CSA
Solenoid Valves
Base Frames
Special Surface Treatment
Frequency Converters

Your enquiry should contain all or most of this information:
- Application
- Duty point = Flowrate (L/min oder m³/h) at head (m, bar)
- Medium
- Temperature of medium
- Viscosity (cSt, mm²/s) for viscous medium
- Preferred pump type
- Description of suction and discharge pipe (length/diameter/suction height/material)
- Preferred materials of construction
- Required motor voltage
- Other information e.g. explosion proof, ATEX
Visit us in the internet. Our website www.tumapumpen.at is always updated with the latest information about the TUMA services and products and a few things more:

Downloads
With a few mouse clicks find datasheets for numerous products, operation manuals, newsletters and much more.

Order window
Our practical contact forms for enquiries, catalogue requests and spare part orders will take you to the right contact person in no time.

Free Online pressure loss calculator
Calculate your system – our practical pressure loss program will deliver precise figures in seconds.

The quality spirit of TUMA Pumpensysteme is to
• deliver competitive, reliable, safe products.
• have flexibility and resources, which enable us to respond to customer requests, even custom built units if required.
• professional consulting, carefully selected products and efficient service.
• experienced order processing and delivery on time as best as possible.

Robert MITTINGER, Manager engineering
Caroline TUMA, Manager administration
You find us here

You reach us for all pump related questions; we look forward to hear from you:

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