Pumps and Flow Measurement for the Polyurethane Industry
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Company

100 years of experience make us stand out as a reliable partner.

We are a leading manufacturer of transfer pumps and flow meters. 290 employees at the Werndohl site and an additional 85 employees in our subsidiary companies in China, USA and Hungary design, produce and sell products in both standard versions as well as special solutions tailor-made to customer wishes.

These high-quality components are used for gear lubrication, for instance in wind power plants and ships gears, in dosing and mixing plants e.g. for manufacturing PU foams, and in testing technology. The range is supplemented by products for mobile hydraulics and industrial hydraulics which are used, for example, in construction machinery, agricultural machines, in general mechanical engineering and a multitude of stationary applications.

Dependable delivery and high-quality standards are just as important a part of the corporate philosophy as fairness to customers, suppliers and employees alike.

Made in Germany

Certificate of incorporation of today’s Kracht GmbH

1911 Registration in the commercial register under the name „Hillebrand & Kracht OHG“

1971 Construction of today’s company premises on a total area of over 50,000 square meters

1983…1993 Sale through the Swedish group BAHCO through Investmentholding Industrievärden to the COMAC Group

1992 Purchase of a gear manufacturer in Hungary, now KRACHT Hidraulik KFT.

1995 First certification according to DIN EN ISO 9001, KRACHT Hidraulik KFT, Budapest according to DIN EN ISO 9002 by Lloyd’s Register Quality Company

1996 KRACHT is once again in private ownership

1999 Mr. Peter Zahn becomes 100% proprietor of KRACHT GmbH

2000 First certification according to DIN EN ISO 14001

2002 Mr. Heiko Zahn is appointed as Second Managing Director

2003 Certification based on the ATEX Directive 94/9/EEC (ATEX 95)

2009 In New York, USA the KRACHT Corporation is founded

2011 Opening of the in-house health center on a area of approximately 280 square meters

October 2011 The company KRACHT has existed for 100 years manufacturing robust high quality components
Gear Pumps

Characteristics
– Versions for unfilled and filled polyoles, isocyanates (MDI and TDI), silicones, tin etc.
– Noise optimized
– Very robust design for a long life
– Highly effective across a wide speed range
– Versions as pump assembly with electric motor with and without gear reducer
– Optionally with flanged pressure relief valve
– Optionally in ATEX version

Displacement
0.5 ... 1056 cm³/r

Working pressure
... 200 bar / 2901 psi

Viscosity
4 ... 80 000 cSt

Temperature range
−30°C ... 220°C / −22°F ... 428°F

Shaft seals
Double rotary shaft seal with quench tank
Mechanical seal with quench tank
Magnetic coupling
Packing

Used as
Dosing pump in low and high-pressure plants
Recirculation pump
Filling pump
Feed pump for piston pump

Gear pump with double rotary shaft seal and quench tank as dosing pump for polyol and isocyanate in a low-pressure plant

Magnetic coupled gear pump as feed pump in a high-pressure plant
# Gear Pumps for the Polyurethane Industry

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<th>8 / 116</th>
<th>16 / 232</th>
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<th>25 / 363</th>
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**Additional versions on request.**

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### Speed recommendation at fixed flow rates (unfilled medias)

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<tr>
<th>Viscosity</th>
<th>KF / KP / DT</th>
<th>BT</th>
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<td>up to 200 cSt</td>
<td>1450 UpM</td>
<td>750 UpM</td>
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<td>up to 1.000 cSt</td>
<td>950 UpM</td>
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<td>up to 3.000 cSt</td>
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<tr>
<td>up to 5.000 cSt</td>
<td>550 UpM</td>
<td>400 UpM</td>
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<td>up to 8.000 cSt</td>
<td>440 UpM</td>
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<td>up to 12.000 cSt</td>
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<tr>
<td>up to 25.000 cSt</td>
<td>200 UpM</td>
<td>200 UpM</td>
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</table>

Please note: The intake line must be designed so that complete filling of the pump is guaranteed. The pressure at the pump inlet must never fall below −0.4 bar / −5.8 psi.

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### Versions

- **With high wear protection**
- **With light wear protection**
- **Stainless steel**
- **Without protection**

### Shaft Seals

1. Double rotary shaft seal
2. Magnetic coupling
3. Mechanical seal
4. Gland packing

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### Viscosity KF / KP / DT BT

- up to 200 cSt
- up to 1.000 cSt
- up to 3.000 cSt
- up to 5.000 cSt
- up to 8.000 cSt
- up to 12.000 cSt
- up to 25.000 cSt

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*Viscosity values are approximate and may vary depending on specific conditions.*
Pressure Relief Valves

- Flow rate: max. 800 l/min / 211 gal/min
- Working pressure: max. 400 bar / 5802 psi
- Temperature range: − 30°C … 220°C / − 22°F … 428°F
- Used as: pressure relief in low and high-pressure plants

Flow Measurement

- Flow rate: max. 800 l/min / 211 gal/min
- Working pressure: max. 400 bar / 5802 psi
- Temperature range: − 30°C … 220°C / − 22°F … 428°F
- Used as: pressure relief in low and high-pressure plants

Characteristics
- Flow meter optionally with wear-resistant carbide bearing
- With ball bearings
- High-precision flow and volume measurement
- Highly dynamic
- Wide measuring ranges
- Optionally in ATEX version

Housing material
- Spheroidal cast iron, stainless steel or aluminium

Flow rate
- 0.008 ... 3750 l/min / 0.002 ... 991 gal/min (viscosity-dependent)

Working pressure
- max. 400 bar / 5802 psi

Temperature range
- − 30°C ... 220°C / − 22°F ... 428°F

Measuring accuracy
- Precise to high-precision

Used for filled and unfilled medias as
- Flow and volume meters in low and high-pressure plants
- Flow meter for pentane
Electronics

On-site display
SD 1

Use as
– Flow rate display for one component

Display unit
AS 8

Use as
– Flow and mixture ratio display for one or two components
+ monitoring of the mixing ratio
– Flow and mixture ratio display for one or two components
+ control output for one component to maintain the mixing ratio

Controller
ASR 20

Use as
– Flow and mixture ratio display for one or several components
+ control output for one or several components
+ shot size measurement

You can find detailed information about the individual products in the corresponding datasheets or feel free to contact us.
Technical References

Our products prove their reliability in various plants run by leading manufacturers in the polyurethane industry.

We would be happy to personally present our references. Please get in touch with us.

Pumps and flow measurement for the polyurethane industry

Applications in:

- Low and high-pressure dosing plants
- Dosing plants for pentane processing
- Slab-stock plants
- Dye proportioning
- Master batching stations
Quality Assurance at KRACHT

All products are put through a 100% pre-delivery inspection. Along with the functions, all working parameters are set on the testbench.

KRACHT GmbH, Werdohl
according to DIN EN ISO 9001
according to DIN EN ISO 14001
according to ATEX 94/9/EEC (ATEX 95)

KRACHT Hidraulik Kft, Budapest
according to DIN EN ISO 9002

Machinery
Our focus is on the latest production machinery acquisitions, and we have significantly improved the age distribution of our machines within our plants. The current average machine age is 2 years, which allows faster processing with higher finish accuracies. With that, we are achieving substantial quality increases in our products.
Customer Service
Fair, reliable and competent

We have been developing, designing and manufacturing high-quality products for 100 years. Special solutions are implemented in close cooperation with our customers. On schedule performance and full comprehensive service are our top priorities.
We are ready to support you around the world with the professional mastery of specific applications and complete solutions based on our one-hundred years of experience. A closely woven network of sales and customer specialists provide the right tools for national and international consulting and optimal customer service.