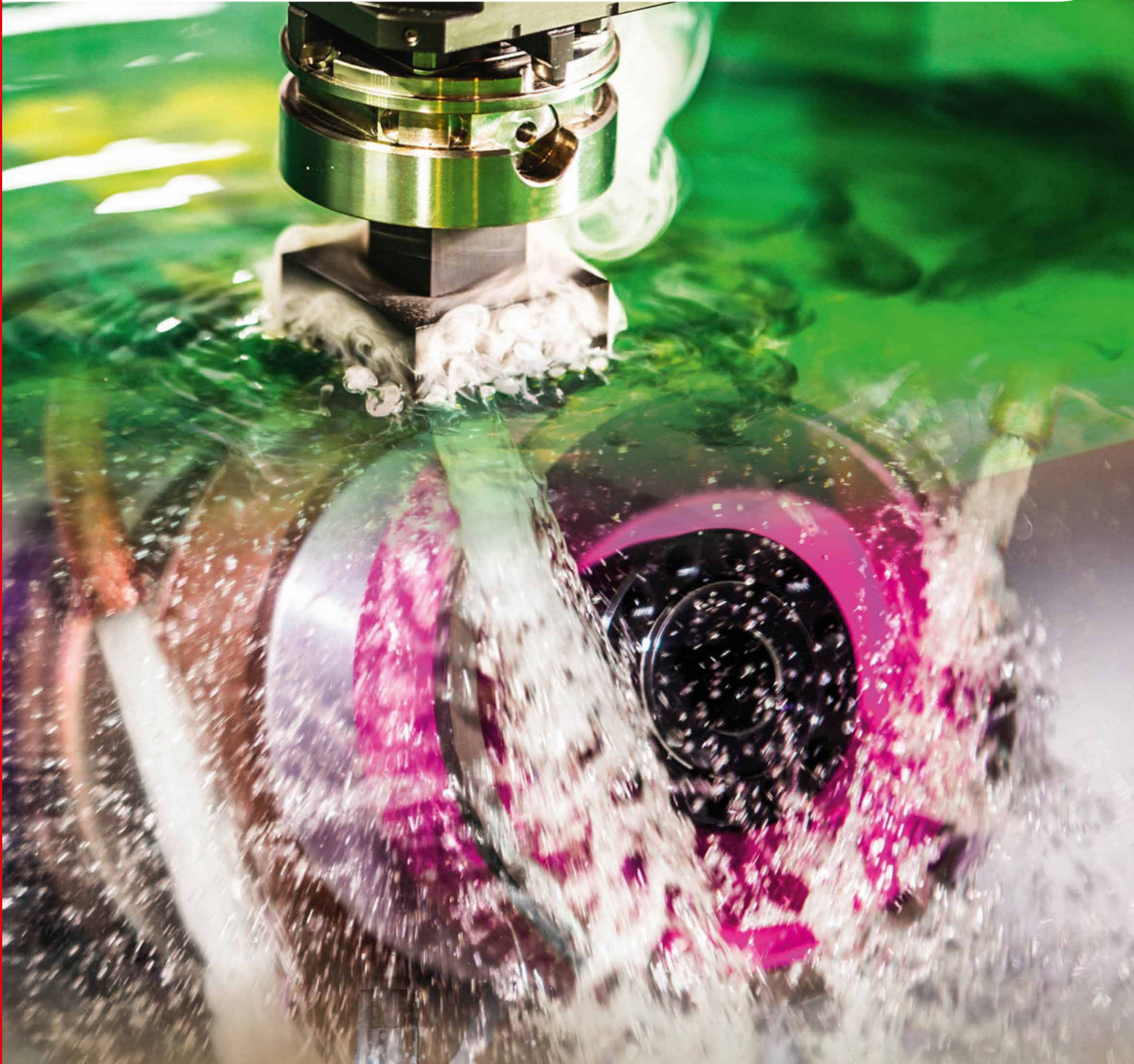


## Product Range



Innovations since 1887



Philipp and Martin Storr • Managing Directors

## Your partner for cooling lubricants

oelheld is a medium-sized company, which has more than 130 years of tradition and experience. Since the foundation in 1887 by Carl Christian Held, oelheld has become an established specialist for lubricants. Partnerships, research, and human resources technology have grown as a valuable tradition which we are proud of.

Numerous customers and machine manufacturers along with national and international universities have partnered with us to develop high quality lubricants. Through this cooperation we are able to focus intensively on meeting and adjusting to specific requirements on a wide range of different manufacturing processes. Our laboratories are equipped with state-of-the-art analytical equipment and numerous application testing systems that guarantee today's demanding requirements, and many of tomorrow's ever changing new standards.

**„Innovative product development, strengthened by continuous quality control and comprehensive customer service, is the key to the success of our products.“**





## Human Technology

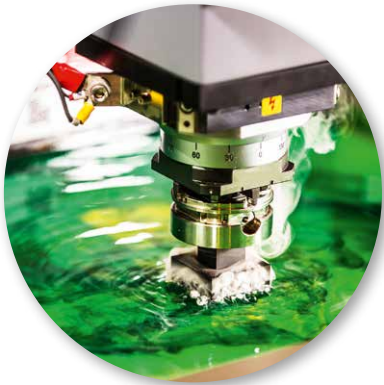
### Innovations for man, environment and machines

Hutec is our main focus in the development and production of our products. It is also our mission statement in our use of resources and at oelheld always presence.

### What does this mean?

- REACH requirements are fulfilled
- Skin reviews and approvals available for most products
- Low emission and aromatics free / low aromatic products
- Products free of heavy metal
- State-of-the-art production facilities
- Environmentally friendly production processes
- Products are tested for compatibility with machine components
- Sustainability in the selection of raw materials
- Environmentally friendly and resource-saving products





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## Dielectrics

Spark erosion is a modern, metal-removing machining process suitable for all conductive materials. The advantages over machining in high-precision and demanding machining tasks are obvious: It is suitable for all common materials and even complicated geometric shapes can be manufactured.

We distinguish between four procedures: Wire erosion, die-sinking erosion, fast-hole erosion and rotary erosion. The spark erosion process takes place in a mainly non-conductive liquid, the dielectric. The tasks of the dielectric are ionization, isolation, cooling and removal of particles. Apart from the generator, the dielectric is the most important process component in this machining process. oelheld is a pioneer in this field, because more than a century ago odorous, unhealthy and environmentally harmful liquids were replaced by odorless dielectrics. In our own R&D department and in close cooperation with leading machine manufacturers, our products are constantly being enhanced in order to achieve greater productivity. The basis for this is provided by our separate technology center „Spark Erosion“, where our specialists put dielectrics through their paces.

Tell us your requirements and we will help you optimize your production process, because we have the right product for every application. Contact us!



Product name	Density at 15°C (g/cm <sup>3</sup> )	Flash point (°C)	Kin. visc. 40°C (mm <sup>2</sup> /s)	Application
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### Dielectrics for EDM die-sinking machines

<b>EcoSpark 105</b>	0.81	105	2.3	EDM machining in fine finishing and rough cut applications
<b>Dielectric IME 56</b>	0.77	56	1.3	EDM machining for finest applications and EDM drilling
<b>Dielectric IME 63</b>	0.77	63	1.3	EDM machining in finest application with the smallest spark gap
<b>Dielectric IME 82</b>	0.77	82	2.0	EDM machining in fine finishing and rough cut applications
<b>Dielectric IME 110</b>	0.78	110	2.5	EDM machining in fine finishing and rough cut applications
<b>Dielectric IME 126</b>	0.82	114	3.6	EDM machining in rough cut applications with optimal flushing conditions
<b>IonoPlus IME-ET</b>	0.77	63	1.4	EDM machining in the finest finishing applications with smallest spark gap (micro work)
<b>IonoPlus IME-ZK</b>	0.79	82	2.0	EDM machining in roughing and finishing applications
<b>IonoPlus IME-MH</b>	0.79	107	2.5	EDM machining in roughing and finishing applications
<b>IonoPlus IME-GL</b>	0.82	125	3.8	EDM machining in the roughing sector. In the finishing sector it can only be used under optimum flushing conditions

### Dielectrics for combination machines

<b>IonoGrind Dielectric</b>	0.84	155	7.3	For universal grinding and EDM machines
<b>IonoGrind 105 Dielectric</b>	0.78	106	2.3	For universal grinding and EDM machines
<b>IonoGrind 165</b>	0.83	>160	8.5	For universal grinding and EDM machines
<b>IonoGrind X160</b>	0.82	160	6.0	For universal grinding and EDM machines
<b>IonoRex 500 Plus</b>	1.05	-	-	Water-soluble dielectric for universal machining

### Dielectrics for EDM wire-cutting machines

<b>IonoFil 80</b>	0.78	90	2.1	Spark erosion wire processing
<b>IonoFil 100</b>	0.79	115	2.9	Spark erosion wire processing
<b>IonoFil 2776</b>	0.78	90	2.1	Spark erosion wire processing
<b>IonoFil 2788</b>	0.79	>100	3.6	Spark erosion wire processing

### Dielectrics for fast hole drilling machines

<b>IonoVit S</b>	1.01	-	-	Spark erosion drilling
<b>IonoVit 0</b>	1.00	-	-	Spark erosion drilling
<b>IonoVit S concentrate</b>	1,05	-	-	Spark erosion drilling
<b>IonoVit 0 concentrate</b>	1,10	-	-	Spark erosion drilling

# Metalworking lubricants

Depending on the field of application, metalworking fluids must meet a wide variety of requirements and be specially adjusted. Here you will find suitable products for most applications in metalworking, where non-water mixable machining fluids are used. The wide range includes grinding oils, superfinishing oils, honing oils, cutting oils, broaching oils, deep drilling oils, thread cutting oils, punching oils, drawing oils, forming oils, lapping oils and oils for minimum quantity lubrication. Should you not find what you are looking for in our wide range of standard products, please do not hesitate to contact us with your special requirement.

## Grinding oils

Our ToolGrind, DiaGrind and SintoGrind grinding oil products cover the entire range of grinding applications. The selection of the right grinding oil is of high importance, since productivity, production costs, process stability and, ultimately, the quality of the tools produced are highly affected. In our own R&D department and in close cooperation with leading machine manufacturers, we develop products which fulfill and even exceed the requirements of the entire market. Our goal is to increase your competitiveness with our grinding oils. The advantages are: shorter processing times, less grinding wheel wear and better surfaces.

## Superfinish oils, honing and lapping oils

Highest surface quality and process stability can be achieved by the DiaMond series (Superfinish oils), DiaHon series (Honing oils) and the FlexiOil series (Lapping oils). These products are designed with additives and viscosity exactly to the requirements of ultra-fine machining processes. Applications include superfinishing, fine grinding, coordinate grinding, honing and lapping.

## Thread cutting fluids

The thread cutting fluid of the Cutting Gel series is used for all common thread machining processes.

## Minimum quantity lubricants

For metal cutting in combination with minimum quantity lubrication we offer a complete and efficient product range with our Metal-O-Fluid products. Metal-O-Fluid products have excellent cooling, wetting and lubricating properties. It can also be used for all cutting and in some cases also forming machining processes.

## Cutting, broaching and deep drawing oils

The SulFol LC series cutting oils by oelheld have been developed especially for all applications in the area of chipping with geometrically defined blades. They are the ideal solution and, due to their special composition, completely up to date with newest cutting oil technology. Therefore, all oils of the SulFol LC-series are free from chlorine, nearly free from aromatics and low in oil fumes.

## Punching and forming oils

The products of our DiaCut series are heavy duty lubricants for every level of difficulty which are free from chlorine and heavy metals. Adapted for the requirements of your punching process our products offer you the best wetting and separating properties for punching of thin aluminium sheets or fine cutting works with high alloy steels. Our DiaPress series can be used in all forming processes.

## Hardening oils

Quenching oils are used for hardening workpieces. This is achieved by quenching the heated workpiece in an oil bath. As a result, the structure of the materials changes. In order to relieve stresses it is essential that the workpiece is tempered after hardening. The hardening oils EvoFluid BHO have a mild quenching effect. They minimize discolouring of the workpiece during quenching. They possess a high ageing stability and thus will retain their durability in the oil baths.







# Metalworking lubricants

Product name	Density at 15°C (g/cm³)	Flash point (°C)	Kin. visc. 40°C (mm²/s)	Materials	Application
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## Grinding oils in the ToolGrind series

<b>ToolGrind TC-X 620</b>	0.82	>150	6.2	HSS, carbide, PCD, CBN, cermet, ceramic	Flute grinding, profile grinding, external and internal cylindrical grinding
<b>ToolGrind TC-X 1000</b>	0.83	>150	10	HSS, steel, cast iron, carbide, PCD, CBN, cermet, ceramic	Flute grinding, profile grinding, external and internal cylindrical grinding
<b>ToolGrind HSS-X 1400</b>	0.88	>150	14	Steel, HSS-, PM- and medical steel	Flute grinding, profile grinding, external and internal cylindrical grinding

## Grinding oils in the DiaGrind series

<b>DiaGrind TTK 105</b>	0.79	>100	2.7	HSS, carbide, PCD, CBN, cermet, ceramic	Flute grinding, profile grinding, external and internal cylindrical grinding
<b>DiaGrind KSB 1100-B</b>	0.84	>150	8.8	Non-ferrous, high-alloyed chrome-nickel steel	For high-speed grinding applications, such as thread and flute grinding. Universally usable, also for cutting and punching applications
<b>DiaGrind 535/5</b>	0.83	>120	5.5	Non-alloyed to high alloyed steel	Grinding, rolling, honing and milling
<b>DiaGrind 535/10</b>	0.84	>150	10	Non-alloyed to high alloyed steel	Cylindrical, gear- and profile grinding as well as milling, turning, honing and deep drilling
<b>DiaGrind 535/15</b>	0.845	>160	15	Steel	For the production of gears and precision tools. Suitable for flute and gear grinding, ID and OD grinding, hobbing, shaping, crankshafts as well as camshafts
<b>DiaGrind 535/25</b>	0.85	>180	25	Non-alloyed to high alloyed steel	Gear milling, shaping and shaving, as well as honing, milling, turning, broaching and deep drilling
<b>DiaGrind RHM 850</b>	0.84	>150	11	Non-ferrous, non-alloyed to high alloyed steel	Cylindrical, gear- and profile grinding as well as milling, turning, honing and deep drilling
<b>DiaGrind IN</b>	0.85	>150	8.5	Nickel-base alloy	Flute grinding and fir tree profile grinding

## Grinding oils in the SintoGrind series

<b>SintoGrind 353</b>	0.82	>150	8.7	Steel	For the production of gears and precision tools. Suitable for flute and gear grinding, ID and OD grinding, hobbing, shaping, crankshafts as well as camshafts
<b>SintoGrind IG 540</b>	0.80	>150	5.4	Carbide, HSS, CBN, PCD, cermet, ceramic	Flute grinding, profile grinding, ID and OD grinding
<b>SintoGrind HSS-X 1400</b>	0.81	>180	14	Steel, HSS-, PM- and medical steel	Flute grinding, profile grinding, ID and OD grinding
<b>SintoGrind MP 830</b>	0.82	>150	8.3	Steel, HSS, PM- and medical steel, carbide, PCD, CBN, cermet, ceramic	Flute grinding, profile grinding, ID and OD grinding
<b>SintoGrind PSA</b>	0.82	>150	7.2	Steel difficult to machine	Flute grinding
<b>SintoGrind SI</b>	0.81	>150	5.4	Glas and Saphir	Fine grinding
<b>SintoGrind TC-X 630</b>	0.81	>150	6.3	Carbide, HSS, PCD, CBN, cermet and ceramic	Flute grinding, profile grinding, ID and OD grinding
<b>SintoGrind TC-X 1000</b>	0.81	>150	9.8	HSS, steel, cast iron, carbide, PCD	Flute grinding, profile grinding, ID and OD grinding
<b>SintoGrind TC-X 1500</b>	0.82	>200	15	HSS, steel, cast iron, carbide, PCD, CBN, cermet, ceramic	Flute grinding, profile grinding, ID and OD grinding
<b>SintoGrind TTK</b>	0.80	>150	5.3	Carbide, HSS	Especially for tool production
<b>SintoGrind TTS</b>	0.81	>150	7.1	Carbide, HSS	High-speed grinding
<b>SintoGrind ZO</b>	0.81	>150	5.7	Zirconium oxide and ceramic	Fine grinding

Product name	Density at 15°C (g/cm <sup>3</sup> )	Flash point (°C)	Kin. visc. 40°C (mm <sup>2</sup> /s)	Materials	Application
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## Superfinish oils

<b>DiaMond 80</b>	0.78	>82	2.0	Steel, aluminium, carbide and non-ferrous	Superfinishing, fine and jig grinding
<b>DiaMond 100</b>	0.78	>106	2.4	Steel, aluminium, carbide and non-ferrous	Superfinishing, fine and jig grinding
<b>DiaMond 120</b>	0.82	>114	3.6	Steel, aluminium, carbide and non-ferrous	Superfinishing, fine and jig grinding
<b>DiaMond 160</b>	0.83	>160	6.0	Steel, aluminium, carbide and non-ferrous	Superfinishing, fine and jig grinding

## Honing oils

<b>DiaHon ESH 1300</b>	0.865	>115	13	Steel	Heavy honing
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## Lapping oils

<b>FlexiOil 01</b>	0.84	>148	10	Steel, carbide, non-ferrous	Fluid with high pressure absorption capacity for universal use of grit sizes of approx. 8 to 18 µm (e.g. SiC 600 and 400)
<b>FlexiOil AG</b>	0.87	>150	9.0	Steel, carbide, non-ferrous	Sedimentation of the lapping agent is effectively prevented by special additives
<b>FlexiOil GAL</b>	0.83	>114	3.9	Steel, carbide, non-ferrous	Sedimentation of the lapping agent is effectively prevented by special additives

## Thread cutting fluids

<b>CuttingGel chlorine free</b>	0.97	>150	200	Steel	Thread grinding
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## Minimum quantity lubricants

<b>Metall-O-Fluid 38</b>	0.84	>200	20	Aluminium	Minimum-quantity lubrication
<b>Metall-O-Fluid E</b>	0.92	>200	43	Stainless steel, steel, non-ferrous	Minimum-quantity lubrication
<b>Metall-O-Fluid SPL</b>	0.92	>150	43	Steel, stainless steel	Minimum-quantity lubrication
<b>Metall-O-Fluid OH464</b>	0.91	>180	15	Stainless steel, steel, non-ferrous	Minimum-quantity lubrication

## Broaching oils

<b>SulFol HXS 6000</b>	1.02	>150	60	Steel	Broaching, thread grinding and forming, grooving and fine blanking
<b>SulFol LCR 1700</b>	0.89	>150	17	High alloy steels	ID broaching. Especially suitable for the heaviest, slowest broaching operations
<b>SulFol SPR 3400</b>	0.94	>140	35	Steel	Broaching and thread grinding

## Deep drilling oils

<b>SulFol TMH 2200</b>	0.86	>160	21	Chrome-nickel-steel, acid and soft-annealed steel, case-hardening steel, titanium. Not suitable for non-ferrous materials	Deep drilling
<b>SulFol HST 1100</b>	0.86	>150	11	Austenitic steel, chrome-nickel-steel, acid and soft-annealed steel, case-hardening steel, titanium	Deep drilling and heavy machining



# Metalworking lubricants

Product name	Density at 15°C (g/cm³)	Flash point (°C)	Kin. visc. 40°C (mm²/s)	Materials	Application
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## Cutting oils

<b>SulFol LCD 500</b>	0.82	>120	5	Steel, non-ferrous, cast material, aluminium- and magnesium alloys	Drilling, turning, milling, thread grinding and hobbing
<b>SulFol LCD 850</b>	0.835	>150	9	Steel, non-ferrous, cast material, aluminium- and magnesium alloys	Drilling, turning, milling, thread grinding and hobbing
<b>SulFol LCD 1500</b>	0.84	>160	15	Steel, non-ferrous, cast material, aluminium- and magnesium alloys	Drilling, turning, milling, Honing, punching, broaching and deep drilling
<b>SulFol LCD 2200</b>	0.84	>180	22	Steel, non-ferrous, cast material, aluminium- and magnesium alloys	Drilling, turning, milling, thread grinding and hobbing
<b>SulFol LCD 3200</b>	0.88	>180	32	Steel, non-ferrous, cast material, aluminium- and magnesium alloys	Drilling, turning, milling, thread grinding, forming and hobbing
<b>SulFol LCO 500</b>	0.83	>120	5.6	Nitrided steel, non-alloy and alloyed heat-treated steel, tool steel and high alloy steel	Drilling, turning, milling, Honing, punching, broaching and deep drilling
<b>SulFol LCO 1000</b>	0.85	>155	10	Nitrided steel, non-alloy and alloyed heat-treated steel, tool steel and high alloy steel	Drilling, turning, milling, Honing, punching, broaching and deep drilling
<b>SulFol LCO 1500</b>	0.87	>160	15	Nitrided steel, non-alloy and alloyed heat-treated steel, tool steel and high alloy steel	Drilling, turning, milling, Honing, punching, broaching and deep drilling
<b>SulFol LCO 2500</b>	0.88	>180	25	Nitrided steel, non-alloy and alloyed heat-treated steel, tool steel and high alloy steel	Drilling, turning, milling, Honing, punching, broaching and deep drilling
<b>SintoCut PE-S</b>	0.82	>160	7.1	Nitrided steel, non-alloy and alloyed heat-treated steel, tool steel and high alloy steel	Milling, turning and drilling
<b>SintoCut PE-B</b>	0.82	>160	7.1	Steel, non-ferrous, cast material, aluminium- and magnesium alloys	Milling, turning and drilling
<b>SintoCut PE-B 1000</b>	0.82	>150	10.4	Steel, non-ferrous, cast material, aluminium and magnesium alloys	Milling, turning and drilling

## Punching oils

<b>DiaCut CP 1</b>	0.78	>56	1.8	Non-ferrous, stainless steel, steel, aluminum	Very thin punching oil of highest purity. Evaporates almost residue-free
<b>DiaCut CP1/43</b>	0.77	>43	1.2	Non-ferrous, stainless steel, steel, aluminum	Extremely thin punching oil, which evaporates without residue within a very short time
<b>DiaCut CP1/63</b>	0.78	>61	1.6	Non-ferrous, stainless steel, steel, aluminum	Very thin punching oil of highest purity. Evaporates almost without leaving any residue
<b>DiaCut CP 2</b>	0.78	>56	1.7	Non-ferrous, stainless steel, steel, aluminum	Very thin punching oil of highest purity. Evaporates almost without leaving any residue
<b>DiaCut CP 5</b>	0.80	>56	1.7	Non-ferrous, stainless steel, steel, aluminum	Low-residue punching and forming oil which, among other things, offers increased temporary corrosion protection
<b>DiaCut CP 6</b>	0.80	>56	1.8	Stainless steel, steel, aluminium	Low-residue punching and forming oil which, among other things, offers increased temporary corrosion protection. Especially suitable for chrome-nickel steel
<b>DiaCut EMM 1000</b>	0,87	200	10	Steel, non-ferrous metal etc.	Punching, forming and deep-drawing
<b>DiaCut EMM 2500</b>	0,90	>200	25	Steel, non-ferrous metal etc.	Punching, forming and deep-drawing
<b>DiaCut EMM 4300</b>	0,93	>200	43	Steel, non-ferrous metal etc.	Punching, forming and deep-drawing
<b>DiaCut EMM 5400</b>	0,93	>200	54	Steel, non-ferrous metal etc.	Punching, forming and deep-drawing
<b>DiaCut EMM 9000</b>	0,96	>200	90	Steel, non-ferrous metal etc.	Punching, forming and deep-drawing
<b>DiaCut FAA 21</b>	0.79	>63	2.1	Non-ferrous, stainless steel, steel, aluminum	High-performance punching and forming oil, especially for the production of air conditioning components
<b>DiaCut FBB 15</b>	0.78	>63	1.5	Non-ferrous, stainless steel, steel, aluminum	Heavy duty punching oil with high pressure additives. Low evaporation residue
<b>DiaCut FD</b>	0.77	>56	1.3	Non-ferrous, stainless steel, steel, aluminum	Extremely thin punching oil that evaporates without leaving any residue within a very short period of time
<b>DiaCut FMB 600</b>	0.86	>63	6.1	Non-ferrous, stainless steel, steel, aluminium	Punching oil for demanding punching processes that require partial self-evaporation. It is also suitable for medium-heavy deep-drawing and forming operations
<b>DiaCut FMS 125</b>	0.76	>56	1.2	Non-ferrous, steel, aluminium	Extremely thin punching oil that evaporates without leaving any residue within a very short period of time

Product name	Density at 15°C (g/cm³)	Flash point (°C)	Kin. visc. 40°C (mm²/s)	Materials	Application
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## Punching oils

<b>DiaCut FMS 130</b>	0.77	>63	1.3	Non-ferrous, steel, aluminium	Extremely thin punching oil that evaporates without leaving any residue within a very short period of time
<b>DiaCut MAW 400</b>	0.82	>115	4.4	Aluminium	Rolling and punching processing
<b>DiaCut MST 200</b>	0.94	>180	180	Stainless steel, steel, aluminium	Heavy duty punching and forming oil with special wetting agents that simplify cleaning. Suitable for medium to heavy forming processes
<b>DiaCut MXW 18000</b>	1.00	>160	180	High alloyed steel	Punching, forming, cutting
<b>DiaCut NCL</b>	0.80	>63	3.4	Non-ferrous, stainless steel, steel, aluminium	Low-viscosity high-performance stamping oil which is also suitable for light deep-drawing and forming operations
<b>DiaCut OEGR</b>	0.80	>63	2.7	Stainless steel, steel, aluminium	Low-viscosity high-performance punching oil which is also suitable for light deep-drawing and forming operations
<b>DiaCut OH 2344</b>	0.80	56	1.9	Steel, stainless steel	Punching and forming
<b>DiaCut OH 1186 N</b>	0.86	180	52	Steel	Punching and forming
<b>DiaCut TOE 230</b>	0.82	>100	2.4	Aluminium	Rolling
<b>DiaCut VCE</b>	0.87	>63	17	Stainless steel, steel, aluminium	High-performance punching and forming oil for demanding parts up to 5 mm material thickness. It has good adhesion and offers temporary corrosion protection
<b>DiaCut VFD 1</b>	0.75	>43	1.2	Steel, aluminium, non-ferrous	Extremely thin punching oil that evaporates without leaving any residue within a very short period of time
<b>DiaCut VPH 70</b>	0.92	>180	65	Steel sheet, stainless steel	Chipless machining, medium to heavy forming processes
<b>DiaCut VSD 46</b>	0.93	>160	46	Stainless steel, steel, aluminium	Highly-additive punching and forming oil for demanding punching, deep-drawing and impact extrusion operations
<b>DiaCut VSG 511</b>	0.91	>200	140	Stainless steel, steel, aluminium	Highly-additive stamping and forming oil for medium to heavy stamping and forming operations
<b>DiaCut VSS 76</b>	0.91	>180	76	Stainless steel, steel, aluminium	Universal micro blanking, punching and forming oil for highest requirements up to 8 mm material thickness. Also ideal for deep drawing and bending

## Drawing and forming oils

<b>DiaPress CS 12000</b>	0.94	>150	120	High-strength steel, stainless steel	Chipless machining, challenging punching, deep-drawing, bending and impact extrusion operations
<b>DiaPress HAS 4300</b>	0.86	>100	43	Non-ferrous, aluminium	Forming and punching oil with excellent adhesion which evaporates residue-free after heat treatment
<b>DiaPress LCI 3200</b>	0.88	>160	32	Stainless steel, steel, aluminium	Special forming oil for rotary swaging of rods, pipes and wires
<b>DiaPress MFP</b>	0.925	>160	32	Non-ferrous, stainless steel, steel, aluminium	Forming oil for demanding jobs. Solid lubricants are included to improve the compressive strength
<b>DiaPress TZE</b>	0.96	>160	170	Non-ferrous, stainless steel, steel, aluminium	Special deep-drawing oil with special high-pressure additives
<b>DiaPress ZHO</b>	1.04	>180	160	Stainless steel, steel, aluminium	Heavy duty forming oil for machining very demanding parts with a high degree of forming

## Hardening oils

<b>EvoFluid BHO 32</b>	0.86	>210	32	Universal	Hardening oils for workpieces up to 1 kg
<b>EvoFluid BHO 68</b>	0.88	>220	68	Universal	Hardening oils for workpieces up to 5 kg
<b>EvoFluid BHO 100</b>	0.88	>230	100	Universal	Hardening oils for workpieces over 5 kg

## Water-soluble coolants

Users know exactly what to expect from water-miscible coolants and what problems their use can cause. These expectations, special requirements and problems have been taken care of by our research team in cooperation with machine manufacturers, universities and customers. As a result of this extensive development work, our water-miscible cooling lubricants of our AquaTec series were developed.

The AquaTec series offers the right product for every application, e.g. for high-pressure applications or for processing non-ferrous metals. During the development, special attention was paid to process stability and the reduction of maintenance costs, as this offers an enormous competitive advantage for our customers when working at high capacity. The use of modern raw materials and therefore the compliance with the latest chemical laws, make the products of the AquaTec series a long-term choice.





# Water-soluble coolants

Product name	Density at 20°C (g/cm³)	pH-value 5%	Boron-free	Amine-free	Materials	Application
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## Water-soluble coolants (emulsions)

<b>AquaTec 1250</b>	0.980	9.0	•	•	Non-ferrous materials, aluminium alloys, steel	Sawing, milling, turning, drilling, deep drilling, thread grinding, thread forming, forming
<b>AquaTec 1548</b>	0.970	9.1	•	•	Non-ferrous materials, plastics	Sawing, milling, turning, drilling
<b>AquaTec 1550</b>	0.950	9.0	•	•	Aluminium alloys, steel, plastics	Sawing, milling, turning, drilling, deep drilling, thread grinding, thread forming, forming
<b>AquaTec 1570</b>	0.925	9.0 - 9.2	•	•	Casting alloys, non-ferrous materials, aluminium alloys, steel, plastics	Grinding, sawing, milling, turning, drilling, thread grinding
<b>AquaTec 1638</b>	0,972	9,2	•	•	Non-ferrous materials, aluminium alloys, steel, plastics, carbide	Grinding, sawing, milling, turning, drilling
<b>AquaTec 5530</b>	0.965	9.8	•		Aluminium alloys, steel	Grinding, sawing, milling, turning, drilling
<b>AquaTec 5620</b>	0,975	9,3	•		Steel	Grinding, sawing, milling, turning, drilling
<b>AquaTec 7520</b>	1.013	9.3			Casting alloys, aluminium alloys, steel, plastics	Grinding, sawing, milling, turning, drilling
<b>AquaTec 7544</b>	0.980	9.4			Casting alloys, non-ferrous materials, aluminium alloys, steel, plastics	Sawing, milling, turning, drilling, deep drilling, thread grinding, thread forming, forming
<b>AquaTec 7630</b>	0,973	10			Casting alloys, aluminium alloys, steel, plastics	Sawing, milling, turning, drilling, deep drilling, thread grinding, thread forming
<b>AquaTec 7650</b>	0.930	9.2			Aluminium alloys, steel, plastics	Sawing, milling, turning, drilling, deep drilling, thread grinding, thread forming, forming
<b>AquaTec 7655</b>	0.973	9.6			Aluminium alloys, steel, plastics	Sawing, milling, turning, drilling, deep drilling, thread grinding, thread forming, forming

## Water-soluble coolants (solutions)

<b>AquaTec 5000</b>	1.056	9.7	•		Ceramic, casting alloys, steel	Grinding
<b>AquaTec 5001</b>	1.070	9.2	•		Ceramic, steel, carbide	Grinding
<b>AquaTec 5301</b>	1,075	9,1	•		Ceramic, non-ferrous materials, aluminium alloys, steel, carbide	Grinding, milling, turning, drilling
<b>AquaTec 7000</b>	1.090	9.1 - 9.3			Ceramic, casting alloys, steel	Grinding
<b>AquaTec 7300</b>	1.090	9.1 - 9.3			Ceramic, casting alloys, steel	Grinding, milling, turning, drilling

## 2 component products

<b>AquaTec 7005</b>	1.090	10.4			Aluminium alloys, steel	all machining operations
<b>AquaTec Additive APS</b>	0.935	6.8			Aluminium alloys, steel	all machining operations

## Lapping concentrate

<b>PlanoFlex 1000</b>	1.082	9.1	•			Lapping
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## Corrosion protection concentrate for wire cutting

<b>ControFil 2</b>	1.250	-				Corrosion-protection
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## Hot rolling concentrates

<b>AquaTec W5572</b>	0.928	8.95			Aluminium and copper strip	Hot rolling
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## Water-soluble coolants

Product name	Application
<b>Additives</b>	
<b>AquaTec Additive AF-W</b>	Defoamer especially for rolling emulsions
<b>AquaTec Additive BIZ-10</b>	Post-conserver (fungi)
<b>AquaTec Additive DFM-17</b>	Defoamer for emulsions and solutions
<b>AquaTec Additiv KOM-01</b>	Complexing agent for water lime
<b>AquaTec Additive KORR-30</b>	Corrosion protection for emulsions and solutions
<b>AquaTec Additive KORR-Alu</b>	Corrosion inhibitor for aluminium for emulsions and solutions
<b>AquaTec Additive LAV-01</b>	Deaerator for emulsions and solutions
<b>AquaTec Additive OH 1668</b>	Non-ferrous metal inhibitor for emulsions and solutions
<b>AquaTec Additive OH 2377</b>	Corrosion protection for emulsions and solutions
<b>AquaTec Additive OH 3407</b>	Supporting emulsifier / wetting agent for emulsions and solutions
<b>AquaTec Additiv OH 3568</b>	Humidifier for emulsions
<b>AquaTec Additiv OH 3738</b>	EP additive for all emulsions
<b>AquaTec Additive pH</b>	pH stabilizer (contains amine)
<b>AquaTec Additive VP 156</b>	Supporting emulsifier
<b>AquaTec Additive VP 183</b>	Water hardener
<b>Vinkocide CMI 1,5 M</b>	Post-conserver (bacterias)





## Forging products

Increasingly demanding and complex forging processes require new developments of release agents that reduce the number of forming steps in the process.

oelheld's AirForge products (glass coating) for the aerospace industry have been established in the international market for many years. Now, oelheld is increasingly penetrating the market of water-miscible forging lubricants, both in the hot and in the warm forging industry, e.g. in the automotive industry.

Whether with or without graphite, i.e. black or white, the outstanding properties of AirForge products meet the highest demands. We are also well positioned in the field of oil graphite products.

Tell us your requirements and optimize your manufacturing process with the right product of our AirForge series.



Product name	Density at 20°C (g/cm³)	pH-value concentrate	Solid content	Materials	Application
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## Forging lubricants

<b>AirForge 4027</b>	1.1	approx. 7.3	0 %	Steel alloys	Hot forming
<b>AirForge 4028</b>	1.2	approx. 7.6	0 %	Steel alloys	Hot forming
<b>AirForge 4351</b>	1.0	approx. 9.0	0 %	Aluminium	Hot forming
<b>AirForge 4500</b>	1.07	max. 9.0	0 %	Steel alloys	Hot forming for flood lubrication
<b>AirForge 4507</b>	1.06	max. 8.8	0 %	Steel alloys	Hot forming for flood lubrication
<b>AirForge 5200</b>	1.12	approx. 8.6	20 %	Steel alloys	Hot and semi-hot forming
<b>AirForge 5300</b>	1,20	9,0	30 %	Steel alloys	Hot forming
<b>AirForge 5308</b>	1,20	10,0	30 %	Steel alloys	Hot forming
<b>AirForge 5310</b>	1,20	10,0	30 %	Steel alloys	Hot forming
<b>AirForge 5410</b>	1,20	9,0 - 10,0	40 %	Aluminium und non-ferrous	Hot forming

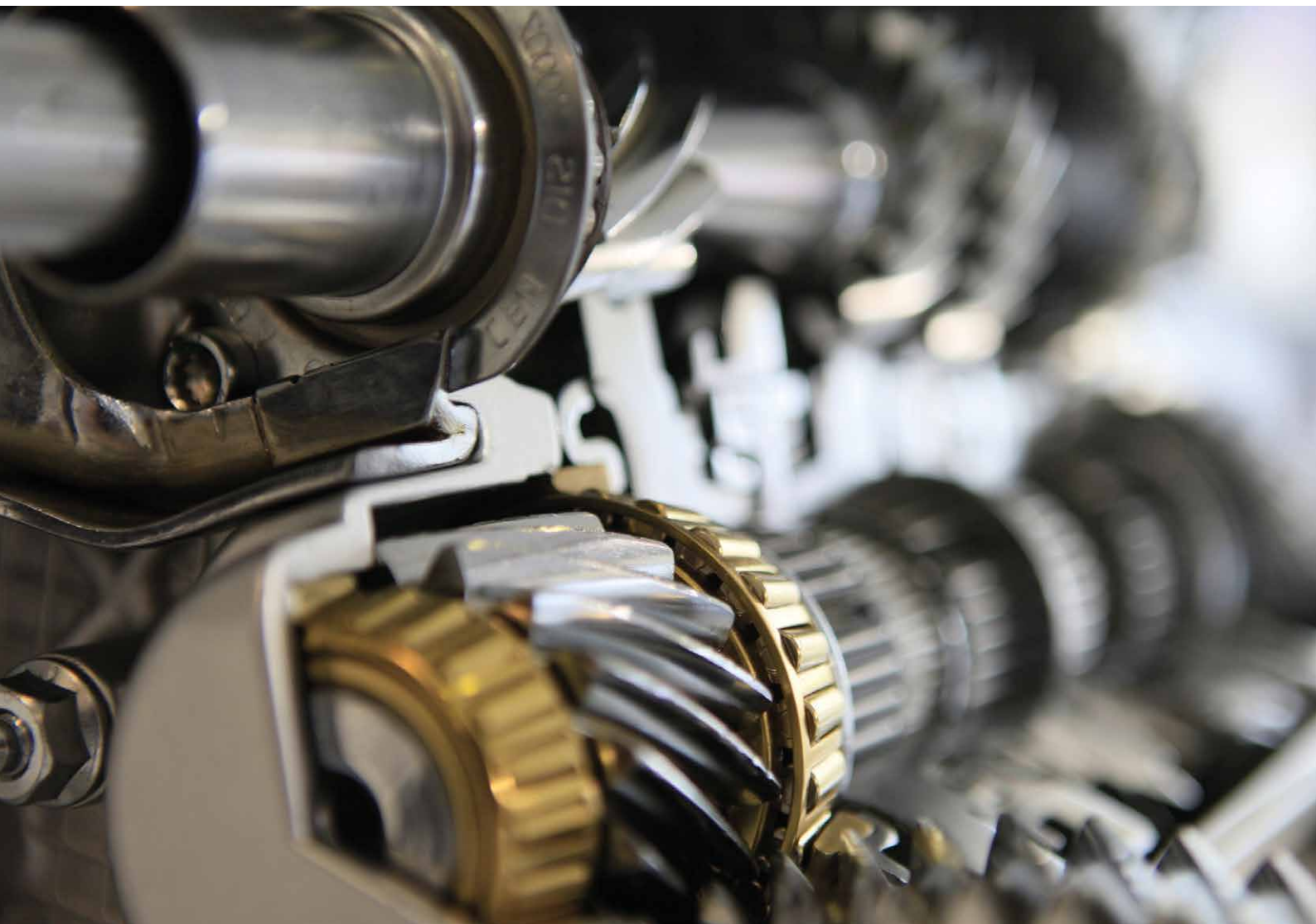
## Glass-coating products

<b>AirForge 1983</b>	1.28	-	approx. 35 %	Titanium, titanium alloys nickel, nickel based alloys	Hot forming
<b>AirForge 2371</b>	1.28	-	approx. 35 %	Titanium, titanium alloys nickel, nickel based alloys, special steel alloys	Hot forming
<b>AirForge 2472</b>	1.27	-	approx. 35 %	Titanium, titanium alloys	Hot forming
<b>AirForge 2596</b>	1.27	-	approx. 35 %	Titanium, titanium alloys nickel, nickel based alloys	Hot forming

The mixing ratio depends on the degree of forming and must be individually adjusted for each process.

## Industrial lubricants

Industrial lubricants ensure smooth operation and optimum power transmission. Our industrial lubricants of the EvoFluid series are ideally suited for use in machine tools and offer a genuine added value in combination with our metalworking fluids. With our product range we cover all requirements of a modern production plant.





Product name	Density at 15°C (g/cm <sup>3</sup> )	Flash point (°C)	Kin. visc. 40°C (mm <sup>2</sup> /s)
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## Slideway oils DIN CGLP

EvoFluid CGLP 32	0.87	200	32
EvoFluid CGLP 68	0.88	230	68
EvoFluid CGLP 220	0.89	250	220

## Full synthetic slideway oils (PAO)

EvoFluid CGLP-PAO 32	0.84	>200	32
EvoFluid CGLP-PAO 46	0.85	>200	46
EvoFluid CGLP-PAO 68	0.85	>200	68
EvoFluid CGLP-PAO 100	0.85	>200	100
EvoFluid CGLP-PAO 220	0.86	>200	220

## Gear oils – extreme pressure

EvoFluid CLX 68	0.88	242	68
EvoFluid CLX 100	0.89	225	100
EvoFluid CLX 150	0.89	245	150
EvoFluid CLX 220	0.90	250	220
EvoFluid CLX 320	0.90	250	320
EvoFluid CLX 460	0.90	>230	460

## Full synthetic gear oils (PAO)

EvoFluid CLX-PAO 100	0.84	>200	100
EvoFluid CLX-PAO 220	0.85	>200	220

## Flushing oils

EvoFluid 4	0.82	>115	3.8
EvoFluid 8	0.83	155	8.5

## Hydraulic oils

oelheld offers high-quality hydraulic oils for the most different applications, which lubricate your hydraulic system and guarantee a transmission of hydraulic forces without any loss. Hydraulic oils of our EvoFluid series are highly resistant to ageing and offer excellent corrosion and wear protection. We have a wide range of different viscosities and base oil versions. In addition, we offer ultra-fine filtered hydraulic oils.



Product name	Density at 15°C (g/cm³)	Flash point (°C)	Kin. visc. 40°C (mm²/s)	Kin. visc. 100°C (mm²/s)	VI	Pour-Point (°C)	Zinc and ash free
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## Hydraulic oils – according to DIN HLP

EvoFluid HLP 2,5	0.78	>110	2.5	-	-	-	•
EvoFluid HLP 5	0.84	125	5	-	-	-48	•
EvoFluid HLP 10	0.84	150	10	2.5	81	-45	•
EvoFluid HLP 22	0.845	>165	22	4.2	97	-30	•
EvoFluid HLP 32	0.87	>175	32	5.3	98	-27	•
EvoFluid HLP 46	0.88	>185	46	6.7	99	<-15	•
EvoFluid HLP 68	0.88	>195	68	8.6	98	<-12	•
EvoFluid HLP 100	0.88	>205	100	11.1	96	<-12	•

## Hydraulic oils – according to DIN HLPD

EvoFluid HLPD 22	0.87	187	22	4.4	109	<-21	•
EvoFluid HLPD 32	0.88	189	32	5.5	108	<-18	•
EvoFluid HLPD 46	0.88	192	46	6.9	105	<-15	•
EvoFluid HLPD 68	0.88	192	68	8.9	101	<-12	•

## Hydraulic oils – according to DIN HVLP

EvoFluid HVLP 15	0.87	148	15	4.8	220	<-39	
EvoFluid HVLP 32	0.88	185	32	6.7	190	<-30	
EvoFluid HVLP 46	0.88	190	46	8.6	160	<-27	
EvoFluid HVLP 68	0.88	190	68	12.3	160	<-24	

## Hydraulic oils – ultra-fine filtered

HiPure HLPD 32	0.85	>180	32	5.6	113	-33	•
HiPure HLPD 46	0.86	>190	46	7.0	109	-28	•
HiPure HLPD 68	0.88	245	68	8.7	104	-24	•

## Full synthetic hydraulic oils (PAO)

EvoFluid PE-B 1	0.81	>150	10	3.2	214	<-57	
EvoFluid PE-B 2	0.83	>150	25	7.6	303	-54	
EvoFluid PE-B 3	0.84	182	46	9.9	209	-36	
EvoFluid HLP-PAO 5	0.80	>150	5	2	n.a.	<-65	
EvoFluid HLP-PAO 10	0.81	>150	10	3	110	<-60	
EvoFluid HLP-PAO 15	0.82	>160	15	4	119	<-60	
EvoFluid HLP-PAO 32	0.83	>200	32	6	140	<-50	
EvoFluid HLP-PAO 46	0.83	>220	46	8	141	<-50	
EvoFluid HLP-PAO 68	0.84	>220	68	10	136	<-40	



## Automotive lubricants and greases

oelheld offers various automotive lubricants that meet the current specifications of the automobile manufacturers. Furthermore, we have greases of the various NLGI classes in our product range, so that your roller and plain bearings are optimally lubricated. We also have the right special lubricating greases for special conditions, such as heat-resistant high-temperature greases, low-temperature greases and high-pressure greases or greases for food processing technology.



# Automotive lubricants and greases

Product name	Density at 15°C (g/cm³)	Flash point (°C)	Kin. visc. 100°C (mm²/s)	Specification / approval
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## Engine oils

<b>ADDINOL Turbo Diesel MD 105</b>	0.86	240	6.6	ACEA E2, API CG-4, SJ, MAN 270, MTU oil category 1, MB approval 228.0
<b>ADDINOL Premium 0530 C3-DX</b>	0.853	230	11.8	ACEA C3, API SN / CF, MB approval 229.52, MB approval 229.51, MB approval 229.31, VW 502 00 / 505 00 / 505 01, BMW Longlife-04

Product name	Classification to DIN 51502	Soap base	NLGI class	Base oil visc. at 40°C (mm²/s)	Application temperature (°C)
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## Greases

<b>EvoGrease Li 2 EP</b>	KP 2 K-30	Lithium	2	110	-30 to +120
<b>EvoGrease Li 00 EP</b>	GP 00 K-30	Lithium	00	200	-30 to + 120
<b>EvoGrease Li 000 EP</b>	GP 00/000 K-50	Lithium	000	45	-50 to +120
<b>Heldolith 1 EP</b>	KP 1 K-30	Lithium	1	200	-30 to + 120
<b>EvoGrease PowerSaver</b>	KPHC 1-2 N-50	Lithium complex	1-2	40	-50 to +150
<b>EvoGrease LiX 00GP</b>	GP00 N-30	Lithium complex	00	100	-30 to + 150

## Additional products / Auxiliaries / Miscellaneous

To round off our product range, we offer you high-quality additional products such as solvent cleaners, cleaning fluids, corrosion protection fluids and many more. We are also an authorised OKS dealer and can offer you other special lubricants from our wide portfolio.

Product name	Density at 15°C (g/cm³)	Flash point (°C)	Kin. visc. 40 °C (mm²/s)	Side area	Application
<b>Solvent cleaners</b>					
Cleaning solvent DSP 100/140	0.744	<10	-	-	Cleaning of parts and surfaces contaminated with oil and grease. Suitable for all metallic materials, ceramics and hydrocarbon-resistant materials.





# Additional products / Auxiliaries / Miscellaneous

Product name	Density at 15°C (g/cm³)	Flash point (°C)	Kin. visc. 40 °C (mm²/s)	Side area	Description
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## Cleaning fluids

EvoFluid Clean 56	0.76	56	1.3	180-190	Cleaning fluid
EvoFluid Clean 63	0.77	63	1.3	190-210	Cleaning fluid

## Corrosion-protection fluids

ControXid S	0.80	56	1.7	-	Corrosion-protection fluid
ControXid CS	0.79	56	1.8	-	Corrosion-protection fluid
ControXid Dewatering	0.78	56	2.0	-	Corrosion-protection fluid
ControXid RCC 850	0.86	140	10	-	Corrosion-protection fluid
ControXid RCC 3200	0.88	>180	32	-	Corrosion-protection fluid

## Corrosion-protections fluids for coolant circuits

ControXid 1642	1,03	-	-	-	Corrosion-protection fluid for coolant circuits
ControXid 1642 F	1,00	-	-	-	Corrosion-protection fluid for coolant circuits
ControXid 5000 F	1,04	-	-	-	Corrosion-protection fluid for coolant circuits
ControXid W 5	1,04	-	-	-	Corrosion-protection fluid for coolant circuits

## LubTool

LubTool 2000	-	-60	-	-	Full synthetic lubricating and fine oil
LubTool 4000	-	-97	-	-	Universal cleaner spray
LubTool 6000	-	-	-	-	Corrosion-protection-spray

Product name	Description
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## Auxiliaries / Miscellaneous

EvoSorb	Universal binding agent type III R
CoverSkin	Skin protection agent



## Packing sizes

The majority of our products are available in the following standard packages:



Jerry can 20 l



Small drum 60 l

H 60,5  
ø 37



Drum 208 l

H 88  
ø 60



IBC container 1000 l

	L	B	H
	1200	1000	1175
Filling opening	DN 150		
Outlet fitting	DN 50		



## Seminar courses

oelheld offers free seminars all year round, which teach the correct handling of grinding fluids. Through this, the best possible application can be guaranteed.

Registration is possible at any time. For larger groups oelheld offers separate seminars.

**Registration:**

Current dates can be found on our website: <https://www.oelheld.com/en/service/seminars/>

We are looking forward to seeing you!







## **Service analytics and technical advice for your all-round service**

- We accompany you right from the start with our technical service on site and our service analysis.
- With us each customer has a direct technical service contact person, who provides advice and support.

The combination of service analytics and technical service in particular offers our customers added value and the security of receiving the appropriate service for the product.

Our service analytics offer a wide range of methods and state-of-the-art analytical instruments, which are used specifically for the requirements of our customers. With this know-how we can provide assistance in troubleshooting and optimize production processes. Employees in these areas take part in training courses and exchange knowledge with each other. This systematic transfer of knowledge ensures that know-how continues to grow and plays an important role in future product developments.

**Contact us to learn more about our role for future service!**

You want your machine to be more efficient?

1



Contact oelheld

2



First analysis on site by an expert

3



Detailed consultation and proposal

6



Purchase

5



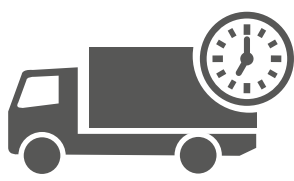
Optimal laboratory analyses

4



Testing phase (if applicable)

7



Fast delivery

8



Regular checks by your oelheld contact

9



Seminars

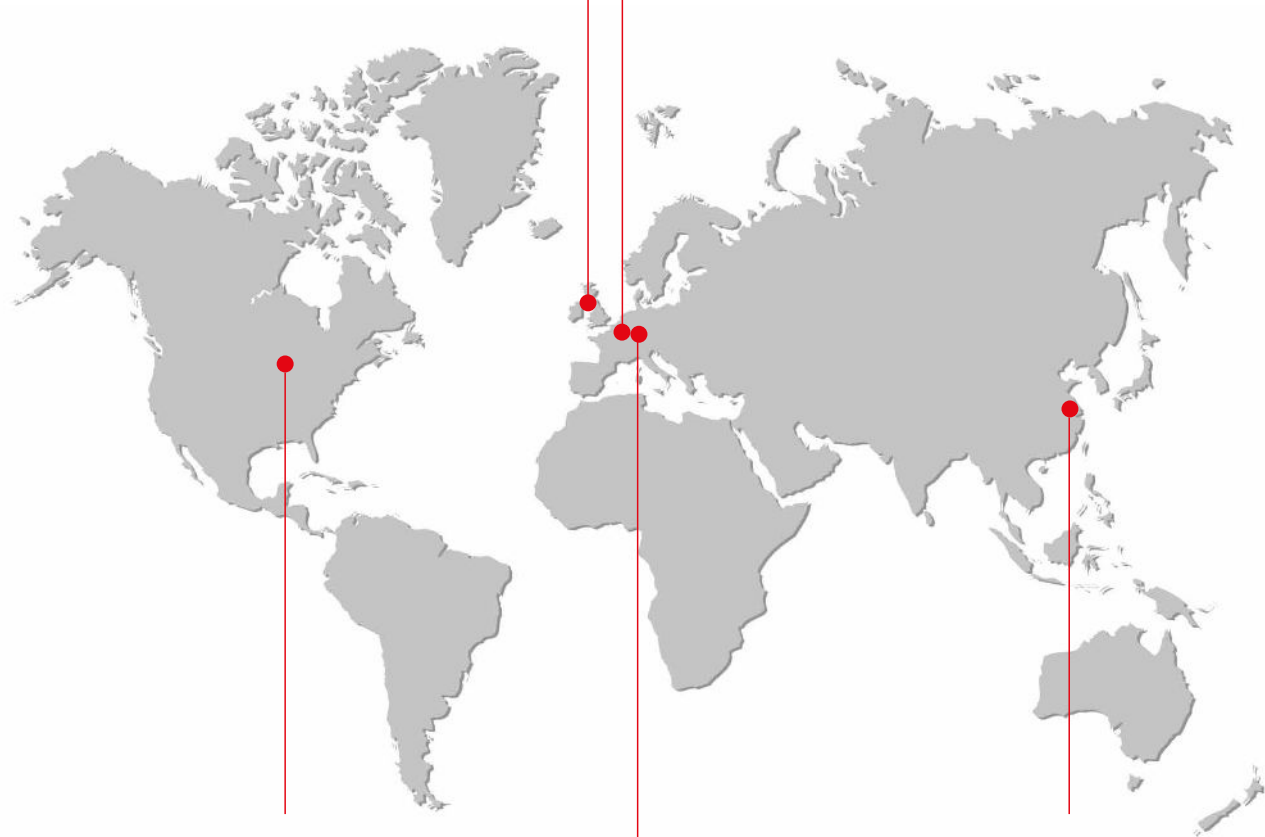
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