KRAL Screw Pumps
for Cooling Lubricants.

KRAL

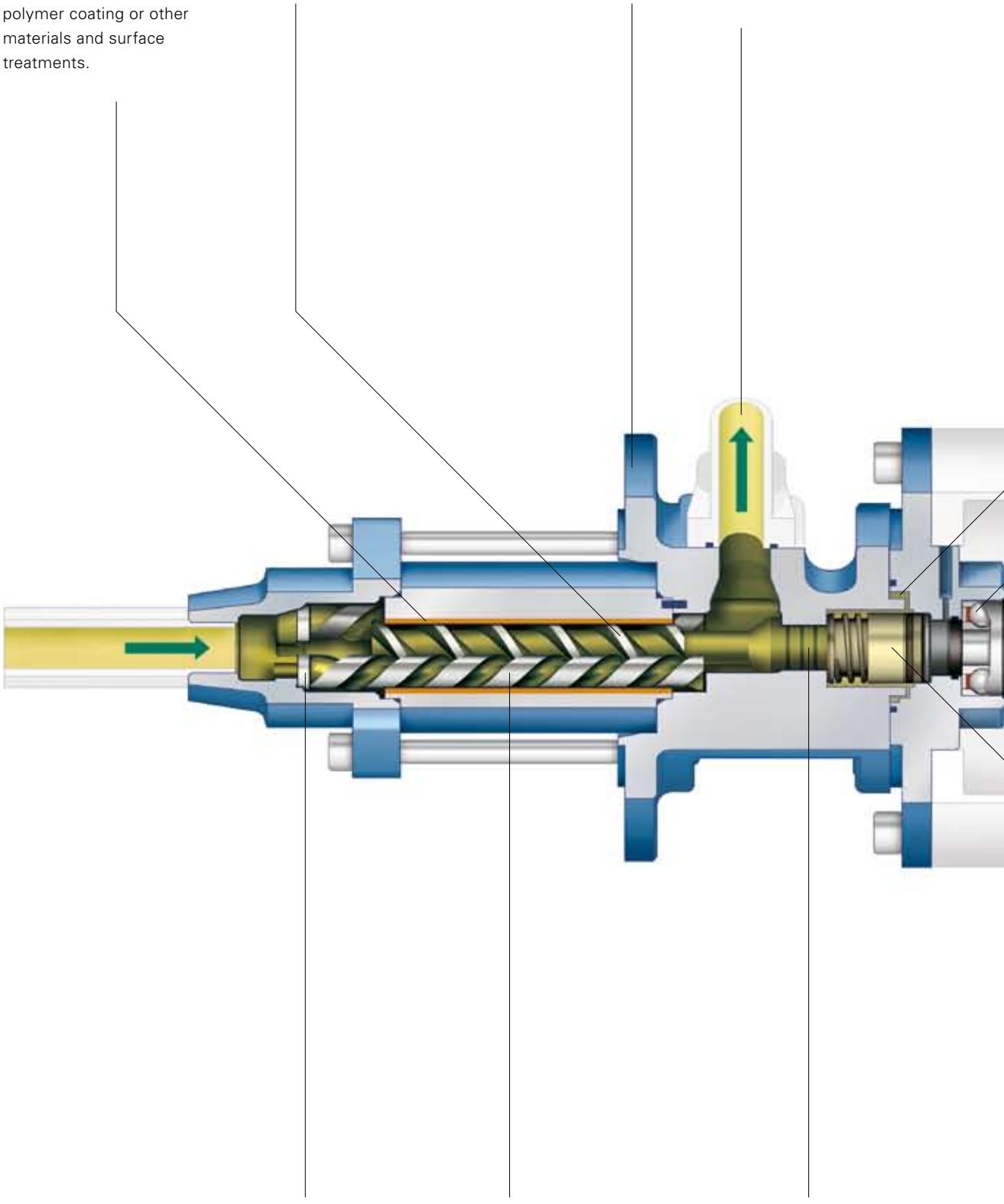
Optimal Technology Including Designs for Customer-Specific Requirements

According to the pumped fluid, you can choose between a grey cast-iron case without coating, a polymer coating or other materials and surface treatments.

Long spindles allow high pressures of up to 1,740 psig.

The flange is designed for mounting the pump into a tank.

When installed in the tank, the discharge flange is located above the tank cover.



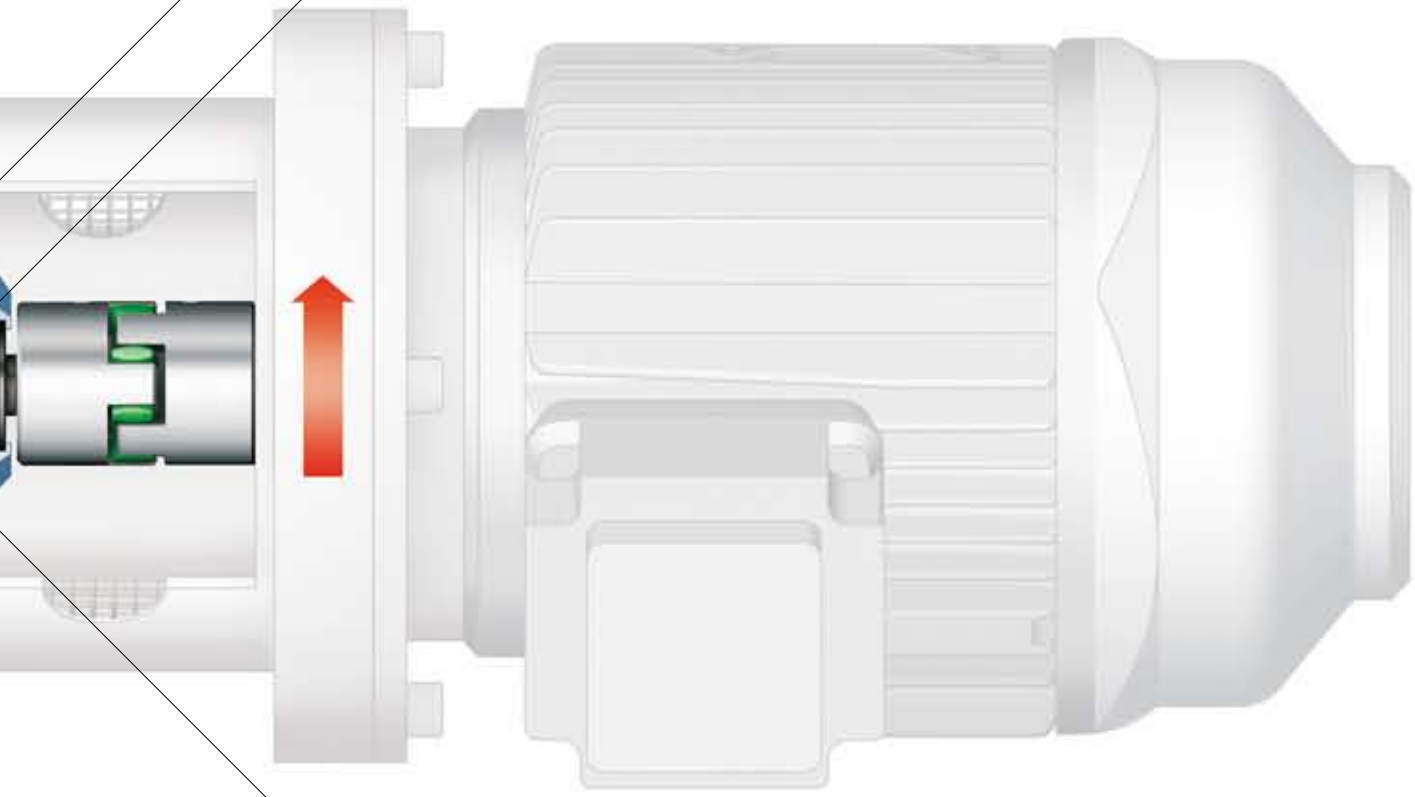
Hydrodynamic balance is applied to reduce wear and noise emission.

Spindles made of special steel.

The balance piston is provided with grooves to optimise the efficiency by reducing the leakage rate.

The internal leakage return is especially important in case of dry-well installation.

The permanently lubricated outside bearing does not come into contact with the liquid.



A mechanical seal is included in the standard design. Optionally, the pump can be equipped with a radial lip seal.

Technical Data and Dimensions

Technical data.		15-20	32-42	55-74-85	105-118
Flow rate at 3,500 rpm, 580 psig, 1 cSt	gpm	up to 9	up to 21	up to 42	up to 61
Max. difference pressure	psig	1,740	1,740	1,740	1,740
Max. temperature	°F	356	356	356	356
Viscosity	cSt	> 1	> 1	> 1	> 1
Max. rotation speed	rpm	3,500	3,500	3,500	3,500
Max. suction pressure	psig	232	232	232	232

Dimensions.		15-20	32-42	55-74-85	105-118
Pressure side	inch	SAE 3/4"	SAE 1"	SAE 1 1/2"	SAE 1 1/2"
Suction side	inch	Thread 1"	Thread 1 1/4"	Thread 2"	Thread 2"
Shaft end	inch	0.75 x 1.38	0.75 x 1.38	1.10 x 1.97	1.10 x 1.97
Pilot diameter	inch	4.92	4.92	6.30	6.30
Bracket flange diameter	inch	7.28	7.28	8.22	8.22
Total length	inch	15.55	17.72	22.05	23.07

Product brochures available upon request.

KRAL Screw Pumps for Cooling Lubricants

Even for high pressure cooling lubricants you can benefit from the advantages of a screw pump. Customer-specific design solutions are available.

Special requirements.

Compared with other pump principles, screw pumps have a number of oustanding qualities. The pump delivers continuously with a low pulsation rate and low noise level. They achieve high flow rates even in small sizes. Cooling lubricants are difficult liquids with viscosities as low as 1 cSt. The fluid must be delivered at high pressure, and contains abrasives, mostly metal residues.

Thanks to the innovative design, particularly in regards to the case materials, the KRAL screw pump offers many advantages when pumping water soluble coolant emulsions.

Contamination? No problem!

Metal residues in cooling lubricants can cause abrasive damage to the pump's internal surfaces. When precautions are not taken, the case, the spindles and the ball bearing are affected.

KRAL coats the case with a resistant polymer, this synthetic material can absorb particles within limits. Depending on the liquid used, other materials can also be provided. Additionally, the pump is provided with a permanently lubricated outside bearing which has no contact with the medium.

Working conditions and materials.

Flow rate:	4 to 74 gpm.
Max. different pressure:	1,740 psig.
Max. suction pressure:	232 psig.
Viscosity:	> 1 cSt.
Max. temperature:	Up to 356 °F.
Installation:	Dry or wet-well.
Case:	EN-GJS-400.
Coats:	EN-GJS-400, polymer coating or other material options.
Spindles:	Steel, nitrited.
Filtration:	Min. 70 µm.

High pressure at low viscosity.

Cooling emulsions are delivered at pressures of up to 1,740 psig. Only in this way can sufficient cooling and evacuation of tooling holes be insured.

The balance piston on the drive spindle is provided with grooves for the purpose of reducing the leakage rate and to insure high efficiency. The clearances of the spindle material and the case coatings are adjusted in such a way that media of low viscosity can be delivered.

Installation options.

The KRAL cooling lubricant pump can be designed for dry or wet-well installation.

For a vertical wet-well installation a mounting plate is provided.

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KRAL-USA, Inc., P.O. Box 2990, Matthews NC 28106, 901A Matthews-Mint Hill Road, Matthews NC 28105, USA
Tel.: (704) 814-6164, Fax: (704) 814-6165, www.kral-usa.com, e-mail: sales@kral-usa.com