

motralec

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KRAL Screw Pumps
for Cooling Lubricants.

KRAL



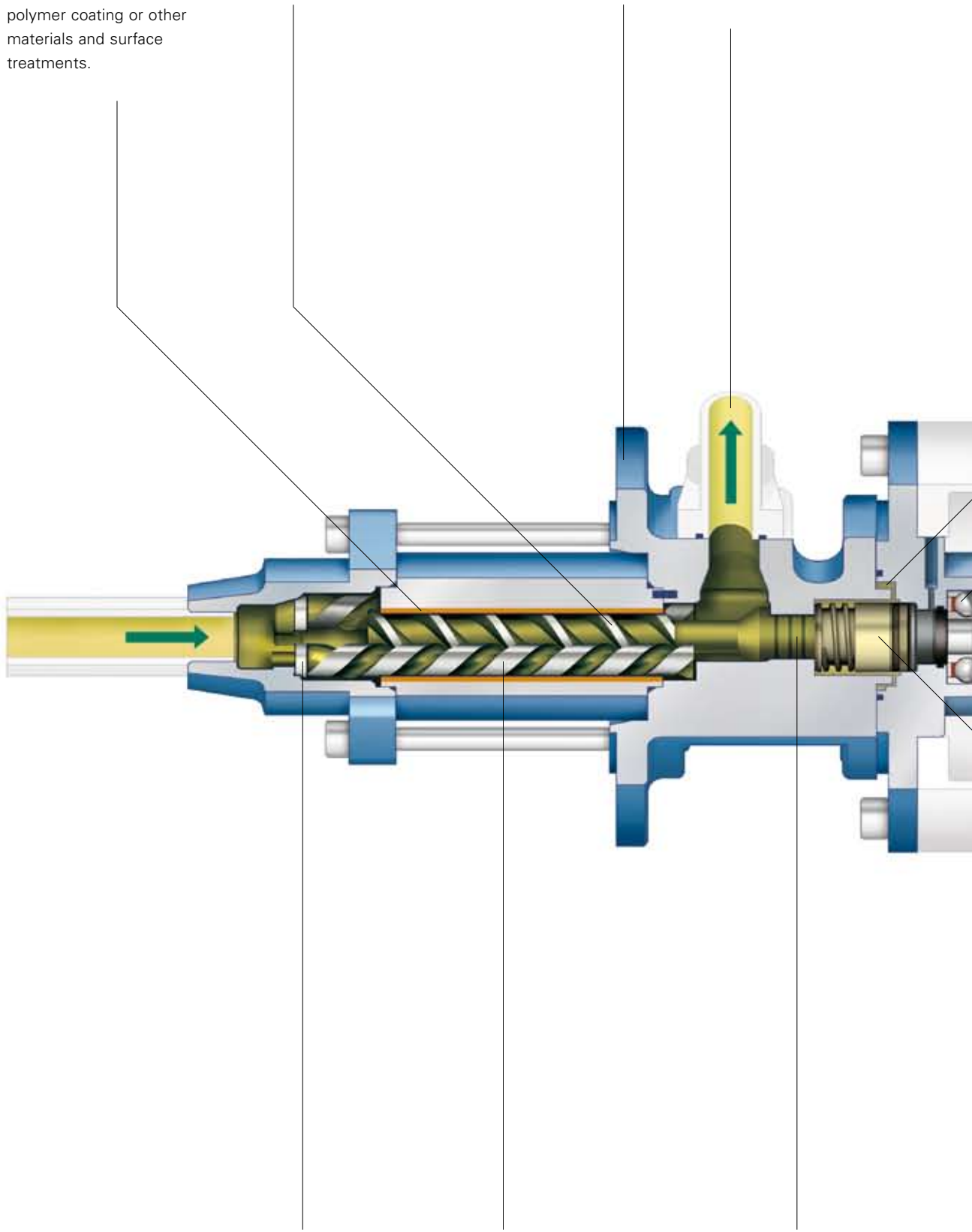
Optimal Technology Including Designs for Customer-Specific Requirements

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 120 bar.

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.



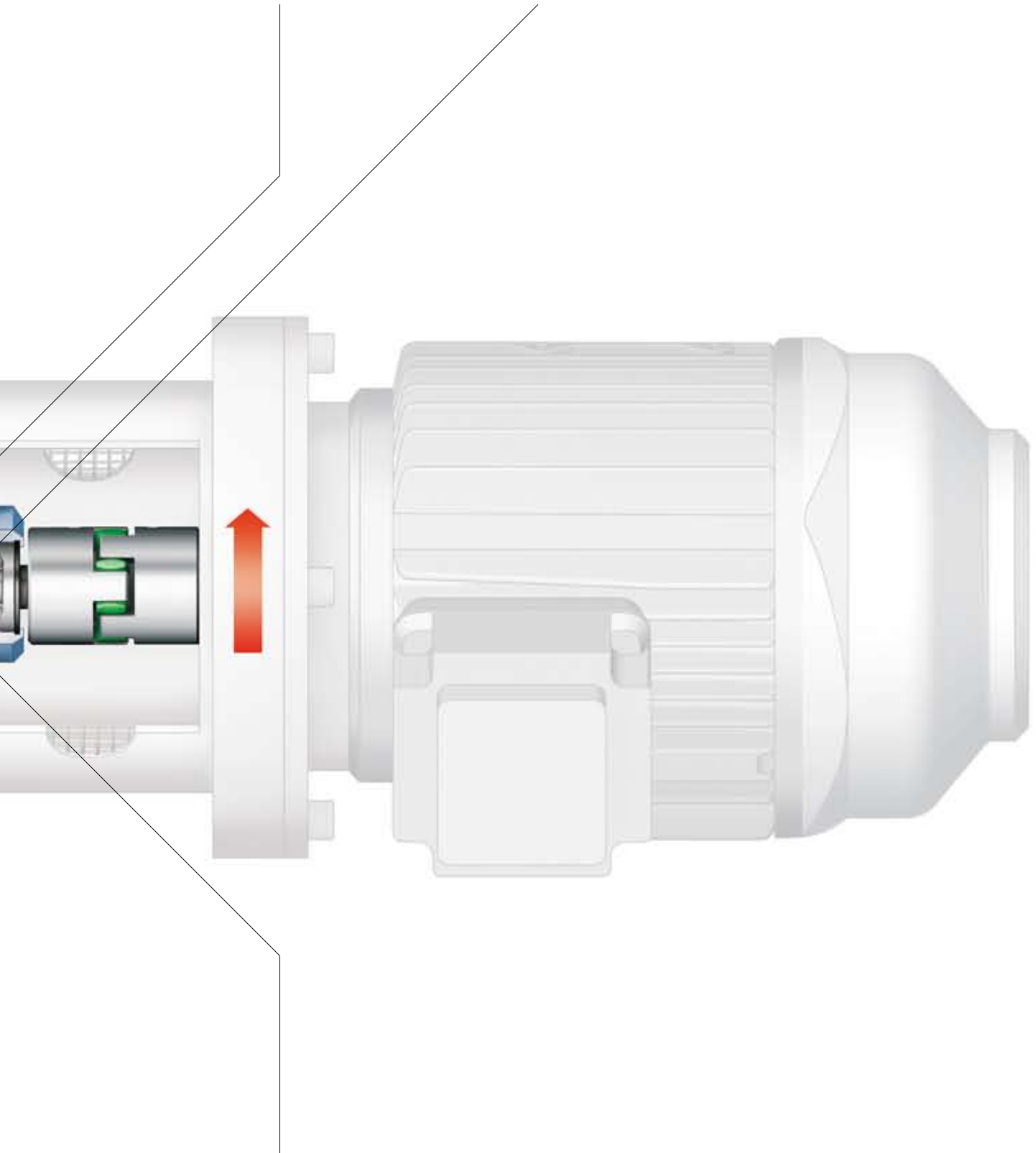
Hydrodynamic balance is applied to reduce wear and noise emission.

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.		15-20	32-42	55-74-85	105-118
Flow rate at 2.900 min⁻¹, 40 bar, 1 mm²/s	l/min	up to 25	up to 60	up to 120	up to 180
Max. difference pressure	bar	120	120	120	120
Max. temperature	°C	180	180	180	180
Viscosity	mm ² /s	> 1	> 1	> 1	> 1
Max. rotation speed	min ⁻¹	3.500	3.500	3.500	3.500
Max. suction pressure	bar	16	16	16	16

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	mm	19x35	19x35	28x50	28x50
Pilot diameter	mm	125	125	160	160
Bracket flange diameter	mm	185	185	220	220
Total length	mm	395	450	560	586

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 outstanding 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 mm²/s. They must be delivered at high pressure, and contain 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:	15 to 280 l/min.
Max. diff. pressure:	120 bar.
Max. suction pressure:	16 bar.
Viscosity:	> 1 mm ² /s.
Max. temperature:	Up to 180 °C.
Installation:	Dry or wet-well.
Case:	EN-GJS-400.
Coats:	EN-GJS-400, polymer coating or other material options.
Spindles:	Steel, nitrided.
Filtration:	Min. 70 µm.



High pressure at low viscosity.

Cooling emulsions are delivered at pressures of up to 120 bar. 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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