

# RAD

HEAT EXCHANGERS  
FOR GROUND SOURCE  
HEAT PUMPS



# RAD

## SHELL AND COIL HEAT EXCHANGERS

With a proven design and performance, RAD shell and coil heat exchangers are perfect for refrigerant applications, especially in ground source heat pumps. Direct refrigerant inlet into each of the heat exchanger tubes ensures uniform medium distribution. RAD has a high heat transfer coefficient and is designed for modern A2L refrigerants such as R32, R452B, R454B. With compact dimensions and vertical installation, the exchanger's footprint is greatly reduced. RAD has been designed to work with pressures up to 45 bar.

### ADVANTAGES



OPTIMIZED FOR MODERN A2L REFRIGERANTS LIKE R32, R452B, R454B AND PROPANE R290



DESIGNED TO BE USED WITH WELL, RIVER, LAKE WATER



HIGHLY RESISTANT TO CORROSION - MADE OF HIGH-ALLOY AUSTENITIC STAINLESS STEEL



EVEN REFRIGERANT DISTRIBUTION WITH LOW MALDISTRIBUTION RISK



EASY ASSEMBLY AND SMALL FOOTPRINT



MANUFACTURED IN ACCORDANCE WITH ASME, PED



HIGH THERMAL EFFICIENCY WITH HI-PERFORMANCE SUPERHEATING



PROVEN TECHNOLOGY WITH THOUSANDS OF UNITS OPERATING IN THE FIELD



# TECHNICAL DATA

**WORKING PARAMETERS:**

**SHELL SIDE (WATER)**

MAX. PRESSURE — 16 BAR  
 MAX. TEMPERATURE — 200°C

**COIL SIDE (REFRIGERANT)**

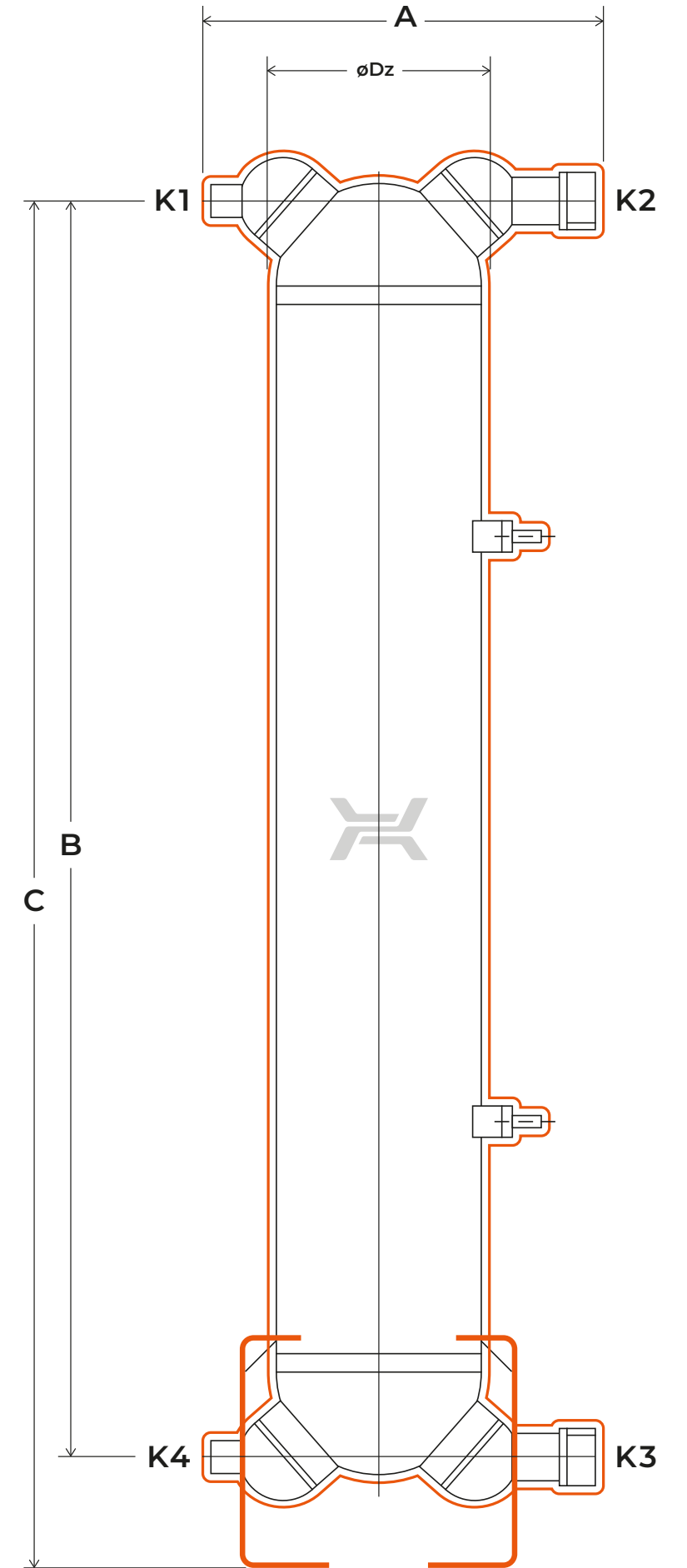
MAX. PRESSURE — 45 BAR  
 MAX. TEMPERATURE — 130°C

**TECHNICAL PARAMETERS:**

**K1 / K4** — inlet/outlet of refrigerant

**K3 / K2** — inlet/outlet of water or glycol

| Type           | Dimensions |     |     |       | Weight | Tube side volume |
|----------------|------------|-----|-----|-------|--------|------------------|
|                | A          | B   | C   | ØDz   |        |                  |
|                | mm         | mm  | mm  | mm    | kg     | l                |
| RAD 3.34.06.75 | 265        | 850 | 925 | 101,6 | -15    | 1,9              |
| RAD 5.56.06.71 | 265        | 850 | 925 | 139,7 | -20    | 3,5              |
| RAD 6.73.06.72 | 265        | 850 | 925 | 159   | -30    | 4,5              |
| RAD 9.95.06.65 | 265        | 850 | 925 | 219,1 | -40    | 8,0              |







# THE MAIN APPLICATION OF RAD HEAT EXCHANGERS

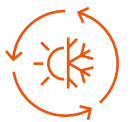
## WATER GROUND SOURCE HEAT PUMP

Water heat pumps with an open loop utilize water sourced from a well, lake, or even river to heat and cool your building. They extract water from one location, through heat exchangers in the heat pump to absorb energy from the water, and then deposit this cooler water into another location of the source. This solution is an alternative to relying on gas, coal and other non-renewable fuels.

### ADVANTAGES


 ONE OF THE MOST ENERGY-EFFICIENT TECHNOLOGIES FOR WATER HEATING.

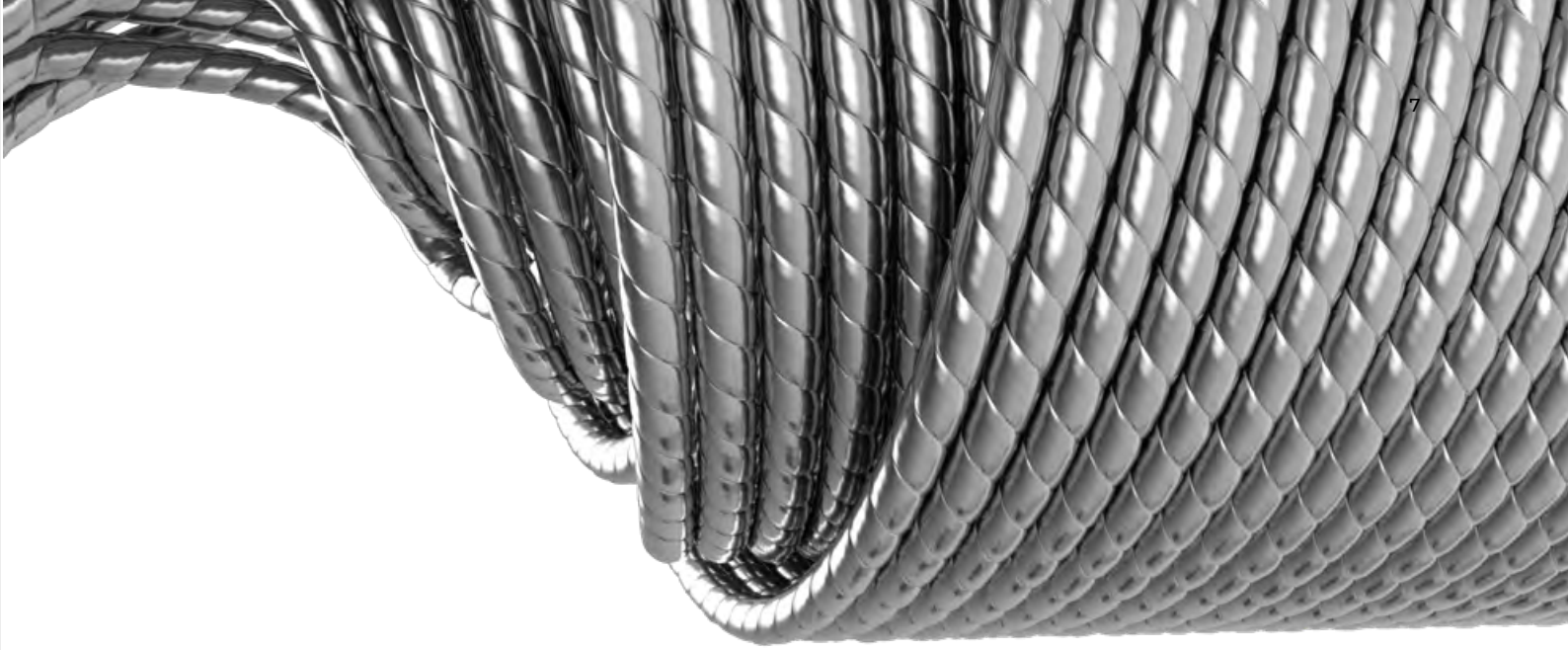
 OPEN LOOP SYSTEMS CAN BE CHEAPER TO INSTALL IF A READILY AVAILABLE SOURCE OF WATER IS USED.

 CONSTANT UNDERGROUND WATER TEMPERATURES ALLOW FOR MAINTAINING HIGH EFFICIENCIES THROUGHOUT THE YEAR.

 LOW ENVIRONMENTAL IMPACT THROUGH CARBON EMISSIONS REDUCTION.

 LOW MAINTENANCE AND LOW OPERATING COSTS.

 LONGER LIFESPAN OF COMPONENTS COMPARED TO AIR SOURCE HEAT PUMPS.



RAD shell and coil heat exchangers are perfect for installations where water from the ground heat source is fed directly into the exchanger. Larger internal diameter of the tubes makes it less prone to clogging than with brazed plate heat exchangers. A filter/strainer is still required to prevent ingress of debris and particles carried by the water. RAD exchangers are made entirely of high quality austenitic stainless steel, granting them a high resistance to corrosion.

