



# TURBOCOLLECTOR 45

TurboCollector 45mm is designed to be the optimal choice for 115mm boreholes. It has many benefits such as: Easy installation, high flow rate, low borehole resistance and more.

## EASY INSTALLATION IN A 115MM UNDERGROUND PIPE

The 45 mm TurboCollector have been designed to allow installation in a 115mm borehole. They are as easy to install as the 40 mm collector, and considerably easier to install than the 50mm Collector. The 45mm TurboCollector can be installed, in one coil, in a borehole as deep as 500m, where as a 50mm collector must always be in two coils.

## INCREASED FLOW RATE

The flow rate of a 45mm TurboCollector can be adjusted to be higher than a 40mm collector. Measurements have shown that TurboCollector 45mm can achieve a flow rate that's 33% higher compared to the 40mm collectors with a flat inside using the same circulating pump delivery head.

## SMALLER BOREHOLE RESISTANCE

In a 115mm borehole, the borehole resistance using TurboCollector 45mm is on average 11% smaller compared to the 40mm collector.

## IMPROVED ENERGY CONSUMPTION

The surface area of the 45mm TurboCollector is 12.5% larger compared to the 40mm collectors, meaning that with equal flow rates, the 45mm Turbo ground loops benefit from a considerably smaller pressure loss. This translates into significantly smaller circulating pump energy consumption.

Heat exchanger	Flow rate	Pressure drop	Energy consumption
Single U-pipe 40mm SDR17 Smooth	0,6	152	91,2
<b>Single U-pipe 45mm SDR17 Turbo</b>	<b>0,6</b>	<b>93</b>	<b>57,4</b>
Single U-pipe 50mm SDR17 Smooth	0,8	79	59,3
	Minimum flow rate (l/s)	Pressure drop (kPa)	Added energy consumption of the circulation pump due to pressure drop and flow rate(W)

All cases. Antifreeze: Ethanol 25%, Working temperature: 0°C and Borehole depth: 300 m

The table shows the differences in pressure drop and energy consumption of the circulation pump. TurboCollector 45mm has the lowest energy consumption even compared to 50mm. The energy consumption can differ between different models of the circulation pump.

## PRODUCT DIMENSIONS

2x45mm PE45x4,1 PN16 SDR11

2x45mm PE45x2,6 PN10 SDR17

Collectors can be ordered in standard lengths between 60-500 meters.

The coils are designed to be optimal for transportation and easy installations.



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