



Heating and Brazing Solutions  
Loyal Engineering®

**Loyal**



**HPA-52A**

## ASYMMETRIC HEAT EXCHANGER

Loyal has manufactured copper brazed stainless steel plate heat exchangers for over 10 years.

The HPA-52A is especially designed as a condenser or an evaporator for a heat pump.

The asymmetric design increases the overall performance while simultaneously allowing a 30% reduction in refrigerant amount.

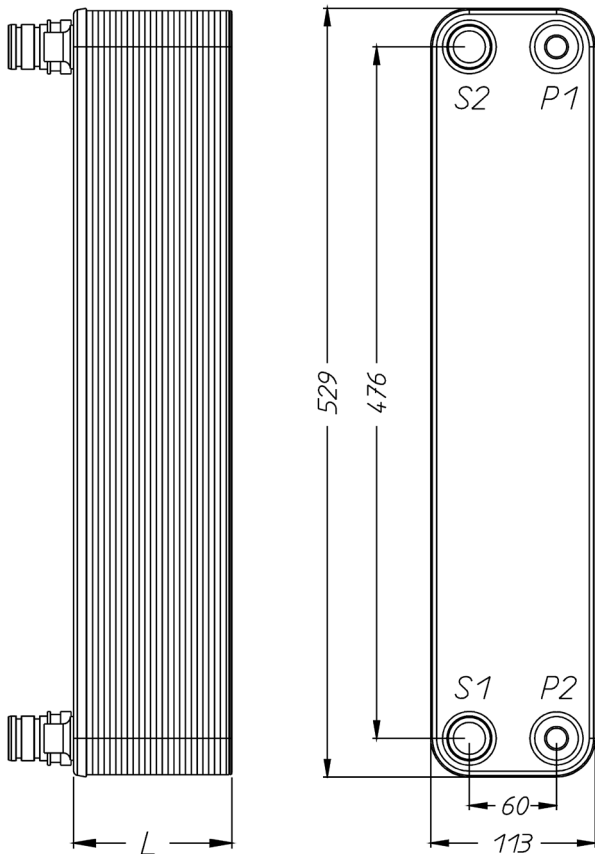
Tests in Loyal's heat pump laboratory where we simulate a ground source heat pump show that Loyal's HPA-52A is one of the best plate heat exchangers on the market.



### ADVANTAGES

- Optimized plate pattern for maximum heat transfer
- Asymmetric design allows for decreased refrigerant amount in heat pumps
- Compact size combined with high strength
- Easy to install with tailor-made connections

## HPA-52A TECHNICAL FEATURES



### COMPONENT MATERIALS:

Plates:	EN 1.4404 or EN 1.4301
Connections:	EN 1.4301
Top/Bottom plate:	EN 1.4301
Filler metal (brazing material):	Pure copper

### CONNECTION DIMENSIONS:



Connection dimensions (P1, P2, S1, S2) according to customers needs.

### TECHNICAL DETAILS

\*n = number of plates

L (height, mm)	Weight (kg)	Volume primary (dm <sup>3</sup> )	Volume secondary (dm <sup>3</sup> )
$1,87 \times n^* + 13,7$	$0,18 \times n^* + 2,4$	$36,5 \times n^* - 73$	$44 \times n^*$

Maximum number of plates 110 pcs.

Fixing bolts can be welded to top or bottom plates.

### PRESSURE APPROVAL (according to PED)

	20 °c	150 °c	225 °c
Primary	35 bar	32 bar	28 bar
Secondary	10 bar	10 bar	10 bar

### APPROVALS:

- Pressure Equipment Directive 97/23/EC
- Unfired Pressure Vessels EN 13445 - 3:2009
- EN ISO 9001:2008
- EN ISO 14001:2004

