



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.

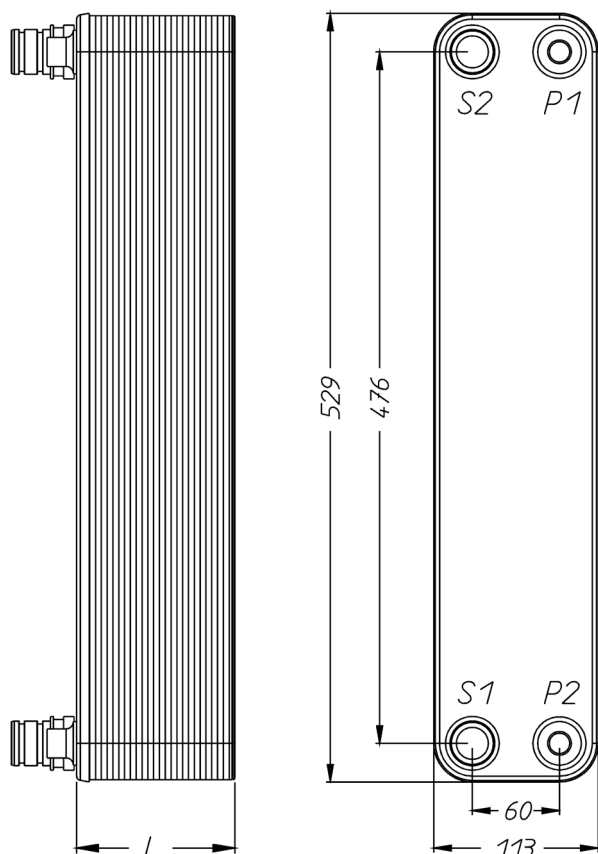
Tests in Loyal's heat pump laboratory where we simulate a ground source heat pump show that Loyal's HPA-52A is one of the best plate heat exchangers on the market.



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 ³) | Volume secondary (dm ³) |
|--------------------------|-------------------------|-----------------------------------|-------------------------------------|
| $1,87 \times n^* + 13,7$ | $0,18 \times n^* + 2,4$ | $36,5 \times n^* - 73$ | $44 \times n^*$ |

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

