

Introducing

# CondensSyn™ MINI

## the waterless condenser



Asynt hotplate stirrer kit, DrySyn, clamp and support shown for illustration purposes. All are available separately

- Robust
- Easy to clean
- High performance
- Simple and safe to use
- Environmentally friendly
- Short pay-back time
- No risk of flooding
- Single or parallel use

At Asynt our customers are concerned about both the environmental impact and indeed costs of running a research facility. A condenser is often required for synthetic experiments and therefore an essential tool for the research chemist. Condensers cooled by a circulating fluid such as water are effective and common; however these are often simply used directly with tap water which creates an environmental and cost issue. Ideally such condensers should be attached to a recirculating chiller unit which will not just reduce the environmental impact but also the long term running costs.

Now there is an alternative which used correctly can be used to replace the water condenser in many bench scale reactions; the **CondensSyn** and the **CondensSyn MINI**.

We used our 34 years of scientific glass manufacturing knowledge to come up with a design that offers effective condensing by not just increasing surface area but also by having thicker glass than traditional glass condensers.

The CondensSyn is manufactured from borosilicate glass; the design also allows for easy cleaning and has a non-roll feature to stop accidents when left on a bench. Available in a wide range of sizes with fittings to suit all standard flasks, find out how much you could be saving!

## CondensSyn - simple, safe, & no risk of flooding



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# CondensSyn MINI

Independent tests were performed by a leading UK University to evaluate the performance for safe use in their research and teaching laboratories.

Evaluations were based upon a basic 200mm effective length CondensSyn with B19 ground glass joint, a 100ml 2-neck round bottom flask with ~25ml of solvent along with an internal thermometer.

CondensSyn is currently available in three lengths; 200mm (as tested), 350mm, and 450mm for enhanced performance for more demanding applications. You can also choose from a variety of socket sizes.

Due to the light weight of CondensSyn two can easily and safely be stacked on top of each other for longer term critical low loss experiments.

Solvent	DCM	Acetone	THF	IMS <sup>1</sup>	Acetonitrile	Water	Toluene
<i>bp [°C]</i>	40	56	66	~78	82	100	110
<i>DrySyn [°C] probe</i>	60	80	90	100	100	120	140
<i>Internal [°C] temp.</i>	41	59	66	80	82	100	110
<i>difference [°C]</i>	21	21	24	20	18	20	30
<i>Time [min]</i>	240	240	240	240	240	240	240
<i>%-loss<sup>2</sup> [total]</i>	3.4%	2.2%	1.9%	0.16%	0.64%	0.1%	0.34%
<b><i>%-loss [per hour]</i></b>	<b>0.85%</b>	<b>0.55%</b>	<b>0.48%</b>	<b>0.04%</b>	<b>0.16%</b>	<b>0.025%</b>	<b>0.08%</b>

In these tests the weighed contents were stirred at the given temperature for the stated time to test the loss of solvent, *i.e.* how much solvent would be lost once the contents have cooled to room temperature.

<sup>1</sup> Industrial Methylate Spirits (denatured ethanol).

<sup>2</sup> This was calculated by mass. The entire apparatus (with solvent) was weighed before and after heating for the stated time, and the loss calculated as a % of the initial weight.

The average rate of water used in a condenser is 2 litres per minute; this rate was confirmed by a major UK research institution as the average measured use per water condenser in their facility.

The water costs used below are at £1.00 per cubic metre supply and £1.10 per cubic metre waste which is equivalent to 0.21p per litre.

	5 hours per day	24 hours per day
<i>Water used per day</i>	600 litres	2880 litres
<i>Cost per day</i>	£1.26	£6.05
<i>Cost per month (working days)</i>	£25.20	£121.00
<i>Cost per year (working days)</i>	£302.40	£1452.00



This commercial rate cost is from a water supplier here in the UK, Anglian Water. See table (left) for savings.

**Order Information: (key sizes shown below but other sizes are also available)**

**GB-C-200-B14** 200mm with B14 socket

**GB-C-200-B19** 200mm with B19 socket

**GB-C-200-B24** 200mm with B24 socket



## Save time, money & water!

