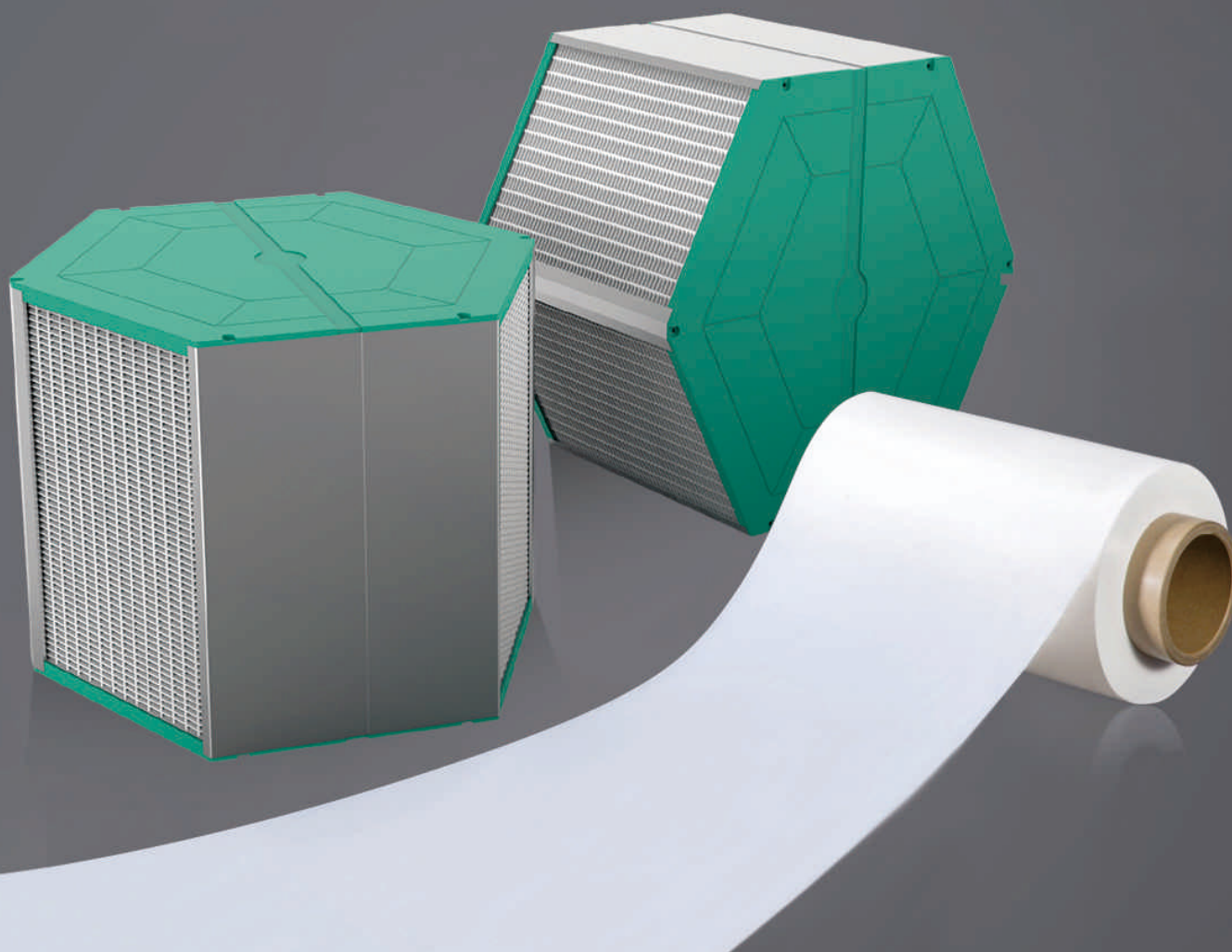




# Enthalpy exchangers

Counterflow heat exchangers  
Mair Polymer membrane technology



[www.menred.com](http://www.menred.com)



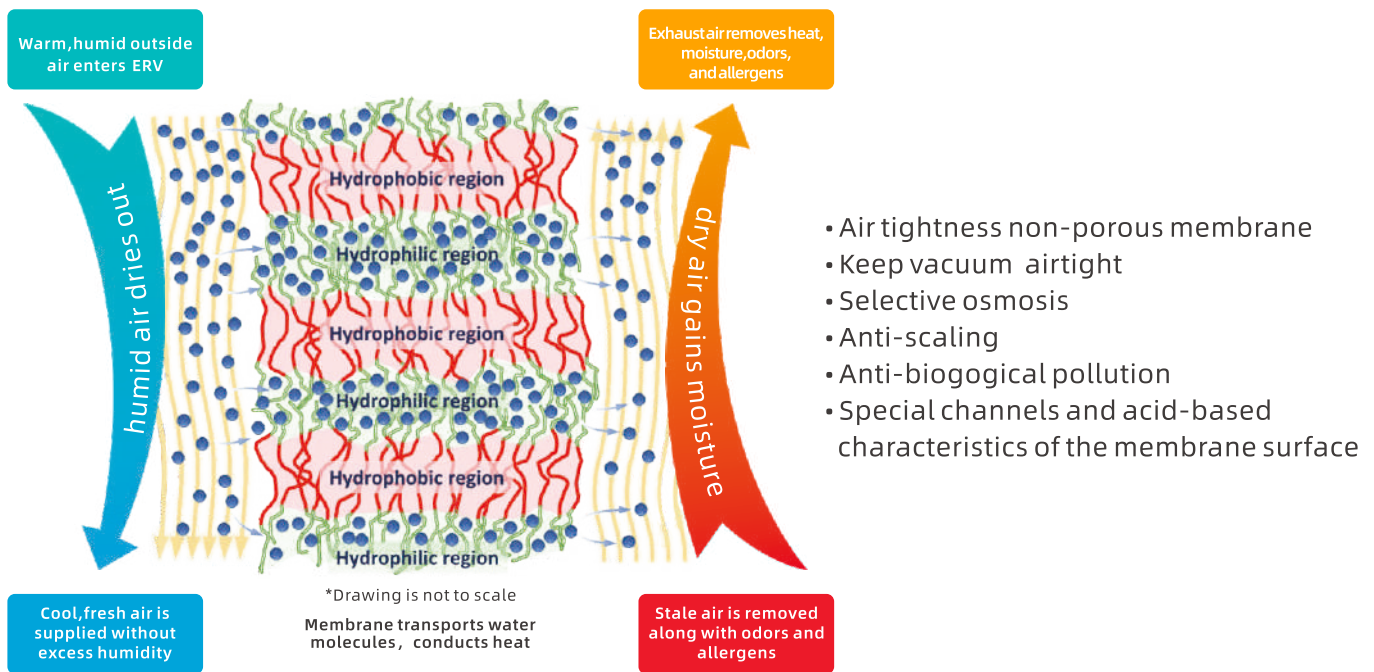
[sales@menred.com](mailto:sales@menred.com)

# Polymer Membrane

## Energy Saving for ERV

### >> Specifications

| Items                      | Items | Unit                                       | Typical value        | Test method                                                               |
|----------------------------|-------|--------------------------------------------|----------------------|---------------------------------------------------------------------------|
| Appearance                 | -     | -                                          | Creamy white         | visual measurement                                                        |
| Odor                       | -     | -                                          | Odorless             | -                                                                         |
| Thickness                  | -     | μm                                         | 27±1<br>17±1         | Micrometer                                                                |
| Width                      | -     | mm                                         | 1000                 | Tape measure                                                              |
| Working temperature        | -     | -                                          | -30°C~60°C           | -                                                                         |
| Anti-mold level            | -     | -                                          | Grade 0              | ASTM G21-15                                                               |
| Antibacterial level        | -     | -                                          | >99.999%             | JIS Z 2801:2010                                                           |
| Acid and alkali resistance | -     | -                                          | 0-14                 | GB/T11547-2008                                                            |
| Moisture permeability      | -     | g/(m <sup>2</sup> .24h)                    | 2526.22              | GB/T 1037<br>38°C/90%RH                                                   |
|                            |       | g/(m <sup>2</sup> .24h)                    | 2455.4               | JIS Z 0208,25°C/90%RH,<br>test area=2.826x10 <sup>-3</sup> m <sup>2</sup> |
| Air permeability           | -     | s/(in <sup>2</sup> .100cc.1.22kPa)         | 1450.04              | GB/T 1037<br>38°C/90%RH                                                   |
|                            |       | cm <sup>3</sup> /(m <sup>2</sup> .24h·atm) | 2.53x10 <sup>4</sup> | JIS K 7126-1<br>Co2, latm, 23±2°C                                         |
| Heat shrinkage rate        | MD    | %                                          | ≤5                   | -                                                                         |
| (90°C-1h)                  | TD    | %                                          | ≤5                   | -                                                                         |
| Tensile Strength           | MD    | Mpa                                        | ≥100                 | GB/T 1040.3-2006                                                          |
|                            | TD    | Mpa                                        | ≥100                 | -                                                                         |
| Elongation at break        | MD    | %                                          | ≥40%                 | GB/T 1040.3-2006                                                          |
|                            | TD    | %                                          | ≥40%                 | -                                                                         |

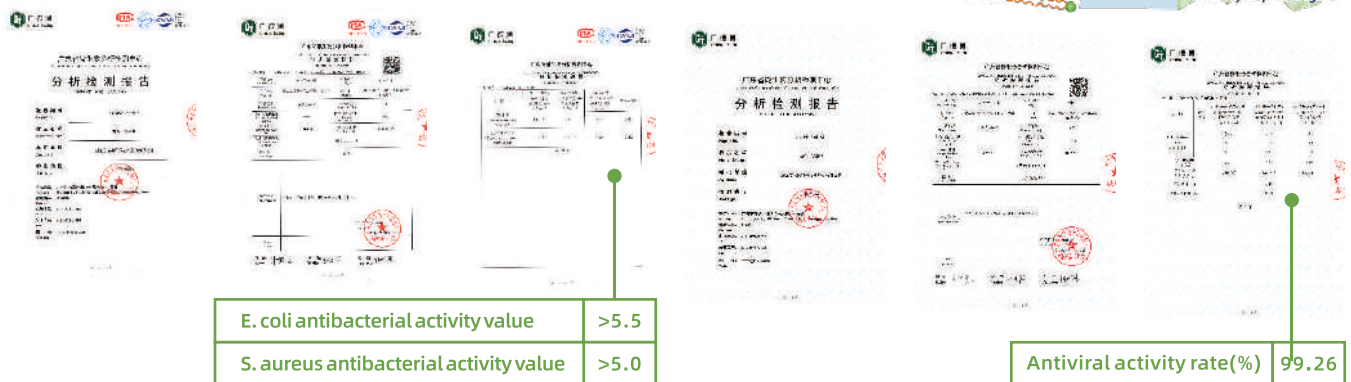
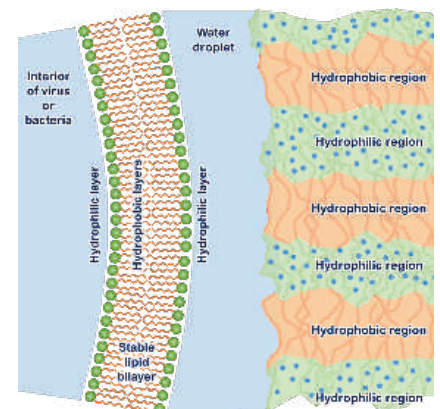


Mair Polymer membrane transfers humidity (if needed) into the Fresh Air (FA) stream (winter) and reduce moisture from the FA stream during periods of high outdoor humidity (summer). It allows heat and humidity to be transferred to the fresh supply air.

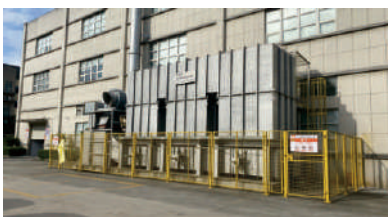
## Pathogens Approach:

Most viruses and bacteria are protected by a cell membrane or envelope known as a lipid bilayer that regulates its internal and external environments.

## Pathogen interactions with membrane



## Membrane Production workshop

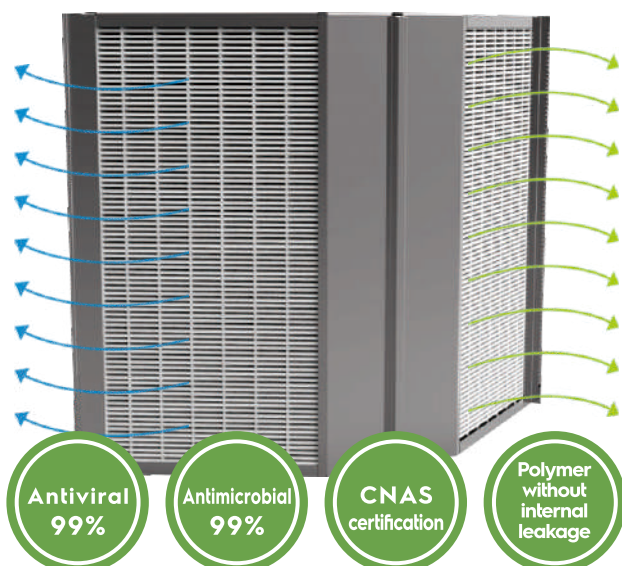


RTO Regenerative Oxidation Furnace



Fully automatic production line

## >> Mair core



Virus particle diameter: 70-200nm  
Bacterial particle diameter: 300-2000nm

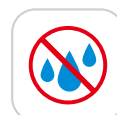
No paper core | Antimicrobial  
Nonporous membrane | No air leakage  
No cross contamination



Reusable



Washable

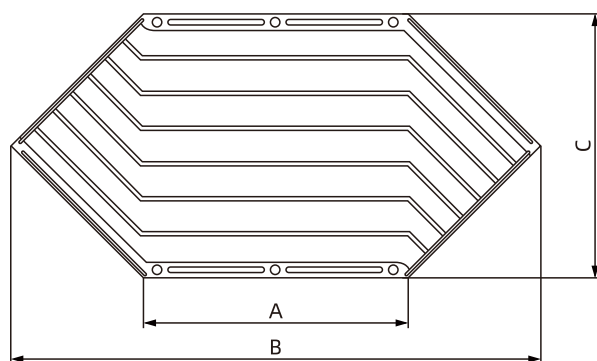


Moisture  
resistance

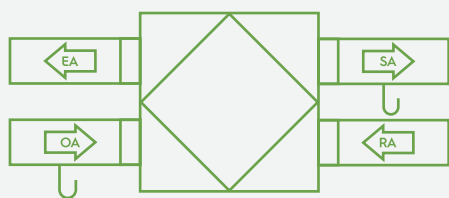


Frost  
resistant

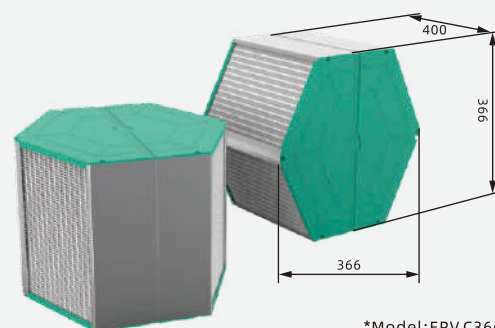
| Model  | Size(mm)    | A   | B   | C   |
|--------|-------------|-----|-----|-----|
| ERV.C1 | 380*185*100 | 100 | 380 | 185 |
| ERV.C2 | 380*230*100 | 100 | 380 | 230 |
| ERV.C3 | 400*185*200 | 200 | 400 | 185 |



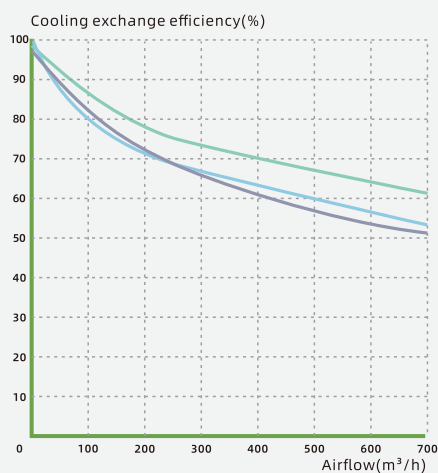
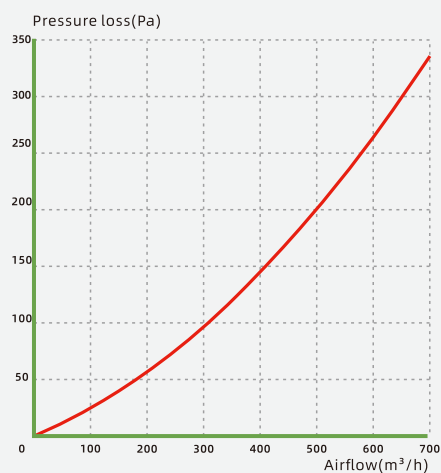
## >> Test method



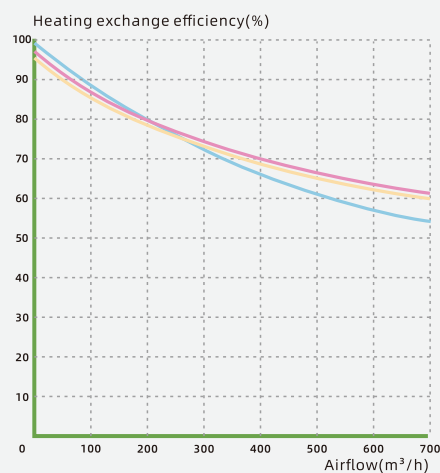
\*Note: GB/T 21087-2020



\*Model: ERV.C366



— Enthalpy — Temperature — Humidity



— Enthalpy — Temperature — Humidity