

Causti-COR Nanofiltration Membrane Systems

The Causti-COR[®] nanofiltration membrane system offers a best-in-class solution for caustic recovery for a variety of applications. This system is available in six configurations, including three small modified batch systems for feed flow rates up to 100,000 GPD (gallons per day) or 16 m³/hr and three larger continuously operated systems for feed flow rates between 25,000 to 200,000 GPD (4 – 32 m³/hr). Up to 95% caustic recovery can be achieved through the removal of low molecular weight organic and inorganic contaminants.

Caustic solutions are used to clean process equipment and are expensive. Koch Membrane Systems' highly crosslinked polymer SelRO[®] spiral membranes used in the Causti-COR systems are designed to withstand pH levels from 0 to 14 and high concentrations of acids and bases, making them a reliable and long-lasting solution to recover, purify, and reuse caustic. The Causti-COR system promotes operating and caustic savings in food, beverage, and industrial markets.

Recovering and reusing caustic can provide environmental benefit and operational savings. Pre-engineered Causti-COR systems allow for easy startup at your facility and a quick return on your investment. The typical payback period of a Causti-COR system is less than 18 months and depends on a number of factors. Please contact KMS if you are interested in exploring the return on investment for your specific opportunity.

BENEFITS

- Less spending on caustic and acid materials
- Reduction in effluent volume
- Reduced waste treatment costs
- Lower energy consumption
- Decreased wastewater TDS/Sodium

Special Features

| | Causti-COR 1 | Causti-COR 2 | Causti-COR 3 | Causti-COR 4 | Causti-COR 5 | Causti-COR 6 |
|-----------------------------|---|--------------|--------------|-----------------|--------------|--------------|
| Operating Mode | Modified Batch / Batch Mode | | | Continuous Mode | | |
| Automation | Semi-Auto | | | Automatic | | |
| Design Recovery | 80 – 90% | | | | | |
| Operating Conditions | 30 bar (450 psi) max / 70 °C (160 °F) max | | | | | |

System Models

| | Max. Number of SeIRO 8" Elements | Feed Flow Rate | | Membrane Area | |
|--------------|----------------------------------|----------------|--------------------|-----------------|----------------|
| | | 1,000 GPD | m ³ /hr | ft ² | m ² |
| Causti-COR 1 | 5 | 6.5 – 25 | 1 – 4 | 1,050 | 97.5 |
| Causti-COR 2 | 10 | 13 – 50 | 2 – 8 | 2,100 | 195 |
| Causti-COR 3 | 20 | 25 – 100 | 4 – 16 | 4,200 | 390 |
| Causti-COR 4 | 20 | 25 – 100 | 4 – 16 | 4,200 | 390 |
| Causti-COR 5 | 30 | 37.5 – 150 | 6 – 24 | 6,300 | 585 |
| Causti-COR 6 | 40 | 50 – 200 | 8 – 32 | 8,400 | 780 |

Note: Custom-engineered solutions can be developed for larger feed flow rates.

Installation

| Model | Footprint (L x W x H) | Shipping Weight | Operating Weight | Total Connected HP (460V) | Feed Pump Skid | | |
|---------------------------|---|----------------------|----------------------|---------------------------|--|----------------------|----------------------|
| | | | | | Footprint (L x W x H) | Shipping Weight | Operating Weight |
| Causti-COR [®] 1 | 19.75' x 7.75' x 7' / 6.02m x 2.36m x 2.13m | 3,250 lbs / 1,474 kg | 5,000 lbs / 2,268 kg | 70 HP / 52 kw | N/A | N/A | N/A |
| Causti-COR 2 | 19.75' x 7.75' x 7' / 6.02m x 2.36m x 2.13m | 3,660 lbs / 1,660 kg | 5,800 lbs / 2,631 kg | 80 HP / 60 kw | N/A | N/A | N/A |
| Causti-COR 3 | 19.75' x 7.75' x 7' / 6.02m x 2.44m x 2.13m | 5,050 lbs / 2,291 kg | 8,750 lbs / 3,969 kg | 120 HP / 89 kw | N/A | N/A | N/A |
| Causti-COR 4 | 19.75' x 4.5' x 6.67' / 6.02m x 1.37m x 2.03m | 4,200 lbs / 1,905 kg | 5,900 lbs / 2,676 kg | 105 HP / 78 kw | 6.5' x 6.67' x 6.33' / 1.98m x 2.03m x 1.93m | 2,450 lbs / 1,111 kg | 2,500 lbs / 1,134 kg |
| Causti-COR 5 | 19.75' x 4.5' x 6.67' / 6.02m x 1.37m x 2.03m | 4,820 lbs / 2,186 kg | 7,250 lbs / 3,289 kg | 105 HP / 78 kw | | | |
| Causti-COR 6 | 19.75' x 4.5' x 7.25' / 6.02m x 1.37m x 2.21m | 5,450 lbs / 2,472 kg | 8,600 lbs / 3,901 kg | 105 HP / 78 kw | 9' x 9' x 6' / 2.7m x 2.7m x 1.8m | 1,650 lb / 750 kg | 6,700 lb / 3,040 kg |

Note: Shipping and operating weights are approximations.



Koch Membrane Systems, Inc.

850 Main Street, Wilmington, MA 01887-3388

Main: +1-978-694-7000 • Fax: +1-978-657-5208 • Toll Free: +1-888-677-5624