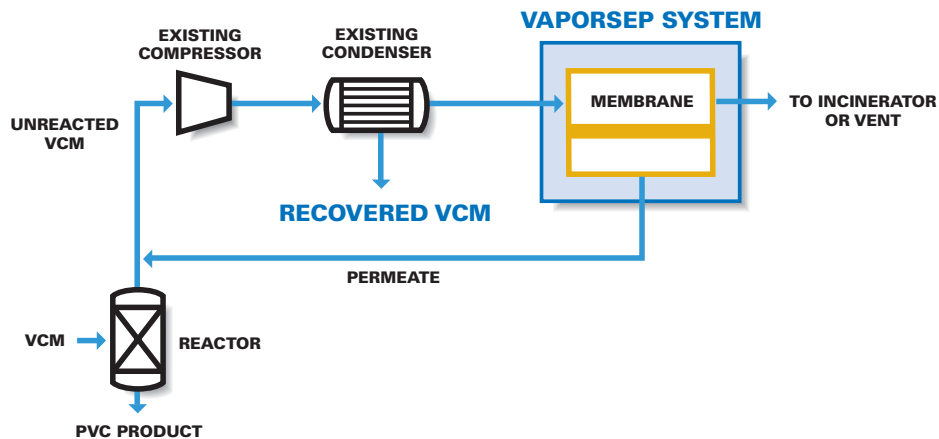


PVC Producers



- Recovers valuable VCM with payback time of one year or less
- Minimizes installation cost with skid-mounted construction
- Contains no moving parts, simple to operate and maintain
- Reduces or eliminates incineration and scrubbing costs

Problem

Polyvinyl Chloride (PVC) is produced by polymerization of Vinyl Chloride Monomer (VCM). A portion of the VCM does not react, and is pumped out of the reactor and condensed to recover the VCM. Due to the presence of noncondensables, a substantial amount of VCM is vented from the condenser. Depending on the temperature and pressure of the condenser, this vent stream contains from 50 lb/hr to over 2,000 lb/hr of VCM. Typically this stream is incinerated, resulting in loss of VCM, and the expense of operating the incinerator and acid gas scrubbing equipment.

VaporSep Solution

VaporSep systems allow PVC producers to recover 90 to 99+% of the VCM currently lost in these vent streams, providing a significant economic benefit. The VaporSep system is designed to separate VCM from inert gases such as oxygen and nitrogen. The vent stream from the existing VCM condenser is sent to the VaporSep system. VCM passes through the membrane at a greater rate than inert gases, producing a VCM enriched permeate and a VCM depleted residue. The permeate is recycled to the inlet of the existing compressor and the residue is incinerated. Moreover, in many cases, the VCM content is low enough that the residue stream can be vented directly to the atmosphere. The VaporSep system is simple to install and operate because it contains no moving parts. The VCM recovered by the VaporSep system is condensed in the existing condenser.

VaporSep systems are currently used by major PVC producers including Oxychem, Westlake, EVC, Geon, Solvay, Aiscondel and Hydro Polymers.

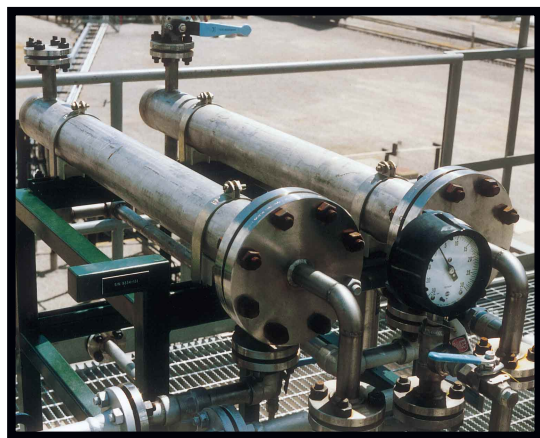
“The MTR system on the vinyl chloride process does an excellent job.”

VaporSep® Systems for

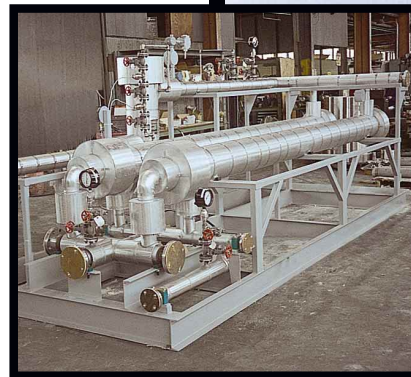
PVC Producers

Benefits

- Recovers valuable vinyl chloride monomer with typical payback time of less than one year
- Minimizes installation cost with skid-mounted construction
- Reduces or eliminates incineration and scrubbing costs
- Achieves significantly higher VCM recovery than possible by condensation alone
- Achieves recovery at more moderate temperatures and pressures than condensation alone
- Minimizes footprint and weight
- Minimizes maintenance with no moving parts



This small VaporSep system can treat up to 100 lb/hr.



This VaporSep system treats more than 2000 lb/hr and recovers more than 95% of the VCM contained in the feed.

System Description

- Complete, skid-mounted unit includes all necessary instrumentation and controls
- Typical material of construction is 304 stainless steel
- Unit dimensions:
6 to 15 ft (L) x 6 ft (W) x 6 ft (H);
1,000 to 5,000 lbs

System Performance

- Suitable for vent streams from 50 lb/hr to greater than 2,000 lb/hr, with VCM concentrations from 20 to 80 vol%
- VCM recovery up to 99+ %

Corporate Headquarters

Membrane Technology
& Research, Inc.

1360 Willow Road
Menlo Park, CA

94025-1516 USA

Tel: 650.328.2228

Fax: 650.328.6580

Email: sales@mtrinc.com

U.S. Gulf Coast Office

Houston, Texas USA

Tel: 713.466.7608

Fax: 713.466.9602

European Office

Brussels, Belgium

Tel/Fax: 32.2.633.6751

MTR

MEMBRANE
TECHNOLOGY
& RESEARCH