



**KEMCO**  
SYSTEMS

WATER & ENERGY SOLUTIONS  
industry leader since 1969

SUMMER 2016

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**MAINTENANCE TIP:**

**PNEUMATIC POWERED COMPONENTS**

To keep your pneumatic equipment in good working order, remember, keep it tight, keep it clean, keep it lubricated and inspect all systems and equipment thoroughly and frequently.

In general, preventative maintenance of pneumatic systems includes various activities such as:

- removal of dust, moisture and other foreign particles
- checking of possible loose bolts and nuts in the system components
- reducing frictional losses
- preventing air leakage

Air leakage is a major reason for pressure drops. Leakage can occur but may remain undetected. The efficient operation of compressed air system demands the detection and stoppage of the compressed air leakage. The following measures can be taken to prevent air leakage:

- Maintain good quality of air in the system, contaminants in the air system will cause increased leakage and equipment malfunction.
- Take special care during assembly of all fittings and tubing. Use special tube cutters and leakage-resistant equipment.
- Stop air consumption during non-operational times.
- Estimate the correct air pressure for the system, over-pressurization will result in more compressed air leakage and higher energy costs

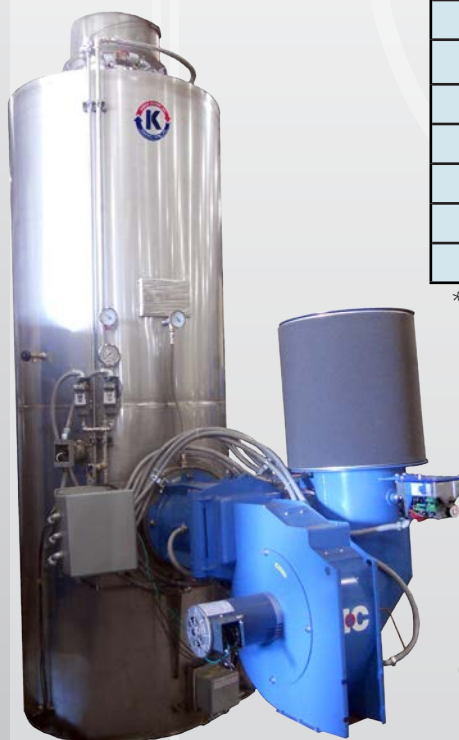
**Low NOx Water Heating**

Kemco was first in the market place to offer the Direct Contact Water Heater, and has been supplying its 99.8% efficient TE-100 since the early 1980's. Over this period, the Kemco Direct Contact Water Heater has become widely accepted as the most efficient means for hot water production.

Environmental concerns about NOx emissions generated in the combustion process of natural gas-fired burners have led several states to initiate standards for NOx emissions. During combustion, the natural gas-fired Direct Contact Water Heater generates between 100-120 ppm NOx. Several states have initiated regulations requiring NOx emission to be below 30 ppm; and, in the most stringent areas, below 5 ppm.

In order to continue to offer the 99.8% efficient technology in areas of the country where the more restrictive emission standard apply, Kemco developed our Low NOx version of the TE-100 heater. This heater will effectively reduce the NOx emission to single digit (ppm), while maintaining thermal efficiency levels at 99.8%.

custom  
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Actual Results

BURNER POSITION	O <sub>2</sub> %	NOx PPMc
100	7.6	5
90	7.9	4
80	7.7	5
70	7.8	5
60	7.9	5
50	7.6	5
40	7.5	6
30	8.8	2
20	9.6	1
10	-	-
0	-	-

\* PPMc = Parts per Million, corrected to 3% O<sub>2</sub>

Kemco continues to apply an innovative approach to its engineering and design, successfully addressing evolving environmental and sustainability goals.

Contact Kemco for an on-site survey of your plant's heating needs.

## FEATURED PROJECT - DAIRY HIGH STRENGTH WASTE TREATMENT

Recently a highly respected consultant in the water industry issued a challenge:

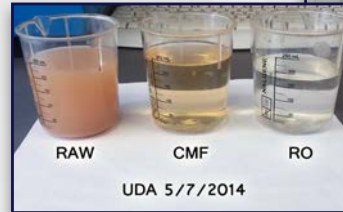
*Could we treat a high strength dairy waste that was not treatable using conventional Dissolved Air Flotation? A waste that was generated by the cleaning of dairy evaporators and dryers and other process equipment. The waste was very high in COD and TSS – so high it was being hauled to an off-site disposal facility. Everyday. At great expense.*

The consultant was risking his reputation and a 20-year relationship with this prominent dairy cooperative to bring in Kemco. This dairy has a knack for “going green” and they wanted to further their sustainability efforts by eliminating or minimizing a persistent waste stream, converting it into a reusable and beneficial condition.

Here’s what happened:

After conducting bench and pilot tests, Kemco designed and built a system to remove the butter fats, milk proteins and other solids using a ceramic microfiltration system (CMF); to follow that, a reverse osmosis (RO) system was built to remove the dissolved contaminants – glucose, lactose, milk salts and detergents.

The full scale system was installed at the dairy in September 2015. The dairy operators were trained to operate and maintain the system, and the results followed.



Pilot Study - May 2014

ARIZONA DAIRY PLANT WASTEWATER TREATMENT				
PARAMETER	RAW*	CMF*	RO*	REMOVED %
COD	4,500	3,500	65	98.5%
TDS	7,700	6,570	276	96.4%
TSS	188	32	2	98.9%

\*RESULTS IN MG/L - SAMPLE DATE 9/15/15

ARIZONA DAIRY PLANT WASTEWATER TREATMENT				
PARAMETER	RAW*	CMF*	RO*	REMOVED %
COD	9,200	7,600	49	99.4%
TDS	15,540	13,500	824	94.6%
TSS	2,170	31	8	99.6%

\*RESULTS IN MG/L - SAMPLE DATE 10/2/15

### CONCLUSION

- The treated water is good enough to reuse, supplying water to the plant’s belt spray system.
- The treated water no longer has to be hauled off-site for disposal.
- Lots of money is being saved!

Contact us if you want to learn what we can do for your waste water concerns.

## KEMCO ANNIVERSARIES

Thank you to our dedicated employees for your continued hard work and contributions to Kemco’s success!

Nate Dewing	1 year
Teresa Kozlowski	1 year
Jose Gonzalez	1 year
Henry Walaszek	2 years
Cesar Canela	3 years
Jill Allen	3 years
Michel Laue	3 years
Nikola Vlacic	5 years
Marc Hawn	6 years
Pete Peters	6 years
Michelle Mills	7 years
Vinh Nguyen	9 years
Sheena Baker	10 years
John O’Hehir	13 years
Pete Cassidy	13 years
Scott Vanlandingham	13 years
Julio Lopez	14 years
Mathew Wrege	14 years
Thanh Pham	14 years
Richard Ruffi	15 years
John Pabalan	16 years
Gerard Van Gils	17 years
Allan Dodge	23 years

