

# Commercial Dryers/Irons/Steam Conditioners/Tunnel Dryers

## Summary/Principles of Operation<sup>1</sup>

### Dryers

Dryers are rated in pounds of dry laundry that they can hold. *Residential* gas dryers have inputs of about 30,000 BTUs per hour. The most common *commercial* gas fired dryers have a capacity of about 75 lbs and have gas input ratings of about 250,000 BTUs. The largest-common *industrial* dryers are in the 400 - 600 lbs range with gas inputs in the 500,000 to 750,000 BTU range. Dryers may also be steam fired, with steam from a central boiler. Older facilities tend to have steam fired equipment with newer equipment more commonly being direct gas fired. It is NOT common to see electric equipment in laundries.

In addition to being vented to the outside, most commercial and industrial dryers will draw their combustion air from the outside. This large volume of air then comes in direct contact with the product being dried. Efficiency improvements on some units pre-heat the incoming combustion air with the exhaust air via some sort of heat-exchanger. Dryers operate at 160F to 180F. Most dryers have atmospheric burners, but the larger units may require elevated gas delivery pressure due to high air fan volumes and back-pressure.

### Irons

Irons are used for doing flat work, such as towels and bed sheets. The iron may also be followed by an automatic folder. Irons can be direct fired with gas or be steam or electrically heated.

### Steam Conditioners/Tunnel Dryers

These units are designed to produce wrinkle-free garments without ironing. They may be direct fired, steam fired or a combination of direct-fired for drying and steam injection from a central boiler for conditioning. These units became necessary with the introduction of 'extractors' and a desire to have less ironing.

In an effort to save money and speed drying time, 'extractors' have been developed to remove as much moisture from the laundry as possible before it goes to the dryer. Newer washing machines may also include a built-in 'extractor'. These are essentially very high G-force spin cycles or presses that squeeze the laundry. The garments are then hung-out on a conveyor that takes them first through a steam chamber that relaxes the wrinkles without increasing their moisture content and then dries them with convection air flow.

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<sup>1</sup> DTE Energy Technology Profiles

## Commercial Dryers/Irons/Steam Conditioners/Tunnel Dryers Fact Sheet

### **Strengths/Opportunities**

- Gas dryers are less expensive to operate than electric clothes dryers. Consumers can dry two loads of clothes in a natural gas dryer, on average, for the same amount of money it costs to dry just one load in an electric dryer.
- With pilotless ignition systems there's no continuously burning pilot light so customers save money and energy, and insulated drums keep the heat in, reducing wasted energy and keeping buildings cooler.
- Natural gas dryers create a gentle moist heat rather than one that is harsh and dry. Fabrics come out fluffier and softer with less static cling and less wear and tear.

### **Weaknesses/Barriers**

- Piping installation when switching from oil to gas for steam production.

### **Market Niches**

- Hotels and Motels
- Public Laundromats
- Hospitals & Institutions
- Multi-family
- Clubs and Associations
- Nursing Homes
- Resorts
- Uniform Rental Companies
- Linen and Bedding Rental Companies
- Restaurants

### **Competition**

Competition for this equipment is oil fired steam equipment. Electricity can also be used for irons.

### **Typical Costs**

According to sales representatives at EDRO Dyna Wash prices for the above equipment is as follows:

*Dryers* - 75 lb dryers are about \$3,000. 250 lb dryers are approximately \$48,000-\$50,000.

*Irons* - range between \$10,000 and \$300,000. Irons for small hotels and nursing homes typically cost \$10,000. Number of rollers, throughput and automation features affect price.

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Fact Sheet

**Manufacturers**

<b>Manufacturer</b>	<b>Representative</b>	<b>Phone Number</b>	<b>Website</b>
EDRO DynaWash		(860) 828-0311	<a href="http://www.edrodynawash.com/contact.htm">www.edrodynawash.com/contact .htm</a>
Pellerin Milnor Corporation		(504) 467-9591	<a href="http://www.milnor.com">www.milnor.com</a>
UniMac Sales	Daniels Equipment Co. Inc.	(603) 641-9487	<a href="http://www.uniwash.com">www.uniwash.com</a> <a href="http://www.decequip.com">www.decequip.com</a>