



General Pneumatics



TL/TKF Series Refrigerated Dryers

*The Pinnacle In Engineering Design*

# TL/TKF Series Refrigerated Dryers

With production facilities and sales outlets worldwide, General Pneumatics is recognized as a world leader in the manufacture and supply of compressed air purification equipment. As a result, General Pneumatics offers a wide range of compressed air accessory products, from desiccant dryers and refrigerated dryers to engineered systems.



INSIST ON EQUIPMENT THAT WILL PERFORM AT FULL RATED CONDITIONS



TKF5000W

TL75

TKF250A

## Why refrigerated dryers?

### Water ruins operation

Water can be a real problem in a compressed air system. The outlet air temperature of a compressor/aftercooler installation is typically 70-120°F and saturated with water vapor, which results in significant amounts of liquid downstream. Water in a compressed air system can cause serious problems ranging from product spoilage to equipment malfunction, making a refrigerated air dryer an important component in many systems.

### The refrigeration solution

Pressure dew point is a measure of the moisture content of compressed air; it is the temperature at which water vapor will begin to condense. A refrigerated air dryer reduces the concentration of water vapor and lowers the dew point of the air to eliminate harmful moisture.

### New refrigerants help protect the environment

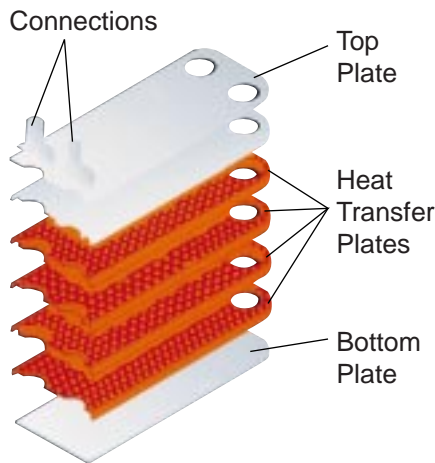
Various studies have emphasized the damaging environmental effects of the common category of refrigerants known as chlorofluorocarbons, or CFCs.

This increasing awareness has prompted General Pneumatics to bring new refrigerated dryers on the market that only use environmentally-safe, non-CFC refrigerants. During extensive lab and field tests, a refrigerant is thoroughly tested. Selection criteria for the refrigerants include the effect of the refrigerant on the environment and the impact of the refrigerant on the lifetime and the power consumption of the dryer.

## Why choose General Pneumatics?

- Highest reliability
- Simple to operate
- Lowest operating costs
  - Low pressure drop
  - Low power consumption
- State-of-the-art microprocessor controls
- Latest in dryer design & efficiency
- Long component life

## Plate Stainless Steel Heat Exchanger Advantages

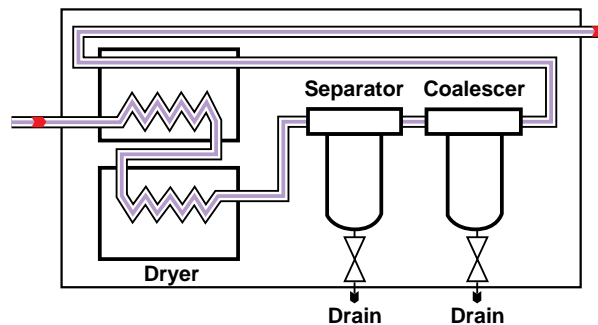


- 316L stainless steel (TKF200-1500)
- Most efficient heat transfer designs
- Lowest dew point performance
- Long heat exchanger life
- Corrosion free



## Cold Coalescing Option (TKF Series)

- Single engineered compressed air treatment system
- Single point installation
- Reduced pressure drop
- More efficient filtration



## Cold coalescing is 8 times more efficient.

Example Comparison of Theoretical Filtration Efficiency at 100°F and 35°F

Filtration Temperature	Hydrocarbon Concentration (ppm)						Actual Efficiency
	At Filter Inlet			At Filter Outlet			
	Liquid	Vapor	Total	Liquid	Vapor	Total	
100°F (38°C)	2.0	0.62	2.62	0.0004	0.62	0.6204	76.3%
35°F (2°C)	2.616	0.004	2.62	0.00052	0.004	0.00452	99.8%

Compressor manufacturers generally agree that typical liquid oil (hydrocarbon) carryover from their equipment is 2 ppm. Compressed air at 100°F (38°C) will also contain 0.62 ppm of hydrocarbon vapor, for a total carryover of 2.62 ppm. Cooling the air to 35°F (2°C) (as in refrigerated drying) causes some of the vapor, 0.616 ppm, to condense, increasing the liquid hydrocarbon content to 2.616 ppm and reducing the vapor content to 0.004 ppm. Coalescing filters can remove oil only as a liquid or an aerosol. Oil vapors pass right through. Assuming a 99.98% filtration efficiency, at 100°F (38°C), effluent air will contain 0.0004 ppm liquid oil plus all the vapor for an actual filtration efficiency of 76.3%. At 35°F (2°C), effluent air will contain 0.00052 ppm liquid oil plus the total inlet vapor, for an actual efficiency of 99.8%.

# TKF Series Electronic Synoptic Controller

Introducing the latest version of the industry leading TKF Electronic Synoptic Controller first introduced in 1989.

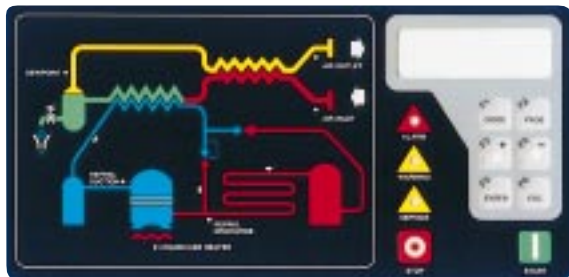
The Electronic Synoptic Controller microprocessor now features fiber optics, RS-232/485

serial port for remote monitoring and remote interface, new graphics, soft pressure-sensitive keypad, LED alarm, warning and service indicators, and LCD display, as well as multiple machine interface capability, to make this controller **state of the art**.

International Voltages

Battery Backup

5 volt logic



80-character LCD readout capable of displaying in 5 languages

Field Programmable

Alarm indicators both LED & LCD

RS-232/485 or Fiber Optic Communication

## Standard Features Include:

### Logic Board

Clock function with battery backup provides run time, time to service, and alarm and warning history which are displayed on an 80-character, 4-line, field programmable LCD. The LCD also displays alarm and warning messages, and service company name and telephone number. This board features fiber optic technology, 5 volt logic, fault indicator lights, thermocouple inputs, analog pressure inputs, fiber optic isolation and international graphics.

### High Voltage Board

This board provides an interlink to the logic board through fiber optic technology. It has a remote common fault alarm relay, and fused transformer and control circuits with LED status indicators. Gold plated connectors on each controlled device simplify field servicing. It is capable of controlling up to 3 drain solenoids and has multiple voltage capability at 50 or 60 Hz.

### Communications and Remote Control

RS-232/485 serial port for communications and remote start/stop.

### Safety Features

Includes warning and eventual shutdown protection for the following conditions:

- high refrigerant pressure
- low refrigerant pressure
- high refrigerant temperature
- ice-up condition
- low oil pressure shutdown (20 hp and larger)
- coalescing filter changeout



**General Pneumatics**

A United Dominion Company

Flair Industrial Air