

## CHEMICAL INJECTION SYSTEM FOR TUNNEL WASHERS

Chem-Trak Tunnel Express is the ultimate in modularity, allowing versatile configurations to fit your laundry tunnel. With the ability to add various pumps, valves, and other accessories, Chem-Trak Tunnel Express ensures consistent wash quality and predictable costs in any plant.



- The only tunnel dispenser system with air or electric operated pumps: **Air Operated Double Diaphragm Pumps** (4.0 GPM)(25.7 LPM) or **Electric Diaphragm Pumps** (.4 GPM)(1.5 LPM)
- **Less service and maintenance** is required with the AODD and EDP pumps because there are no tubes that need to be replaced.
- High speed injection with improved accuracy / resolution of chemical dosing (+/- 2%)
- Exclusive module injection assembly allows for simple, fast, and **non-invasive one person calibration**
- Precision metering of pumps to +/- .10 oz/second
- **Flush or no flush configurations**
- Simple, multi-lingual menus (English, Spanish, French, German, Italian, Dutch)
- **Data management** reports (Excel)
- Able to network with multi-washer and conventional Knight dispensers

### Chem-Trak Tunnel Express Automates and Controls Chemical Dispensing



Chem-Trak Tunnel Express captures all the simplicity and proven reliability of a Knight engineered laundry chemical injection system with several unique features geared to reduce installation time, improve the speed of your injections and deliver quality results each and every load transfer!

**New Tunnel Express Chemical Injection Controller** - This new integrated pump/valve controller features good looks, robust function keys and multilingual displays. Electronics that store usage data and manage the chemical injection are easily accessed and easy to use because they are Knight Trak!

**Bright LED Display** – easier to see in poorly lit areas

**Multilingual Function Key Label** is available in English, Spanish, French, Italian, Dutch, and German

**Large, Alpha Numeric Key Pad** designed for use with gloves on and will withstand chemical exposure



**Attractive Watertight Stainless Steel Control Cabinet and Membrane** keeps direct spray from attacking components

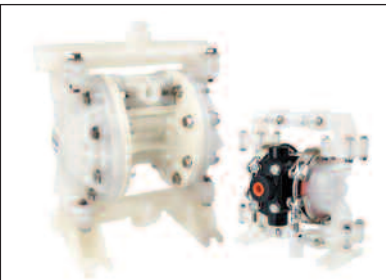
**New Intuitive Membrane Switch User Panel** is easy to use for technicians and end users.

**Security Lock**

**Bold, easy access buttons** for starting and stopping the dispensing cycle

### Exclusive Pump Options for Tunnel Dispensers

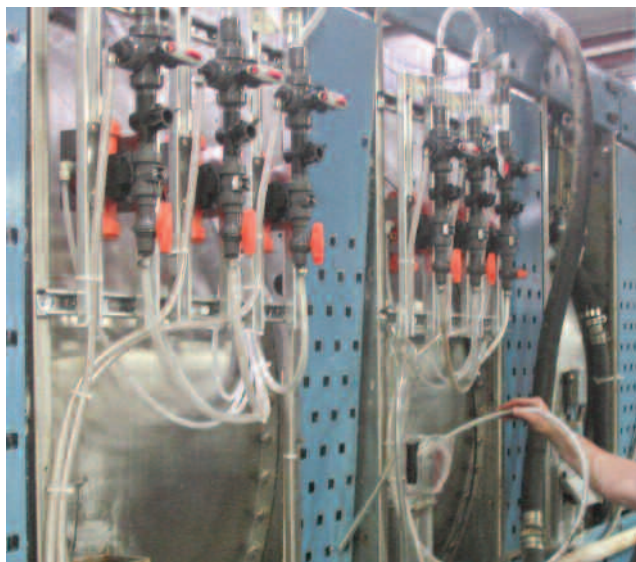
Chem-Trak Tunnel Express offers the industry's only tunnel dispenser with the choices of the industries most reliable and carefree high speed pumps. Air operated double diaphragm pumps (AODD) and CleanGuard Electric Diaphragm pumps offer fast reliable flow rates from .4 GPM (1.5 LPM) to 12 GPM (45.4 LPM). These pumps are virtually service free!



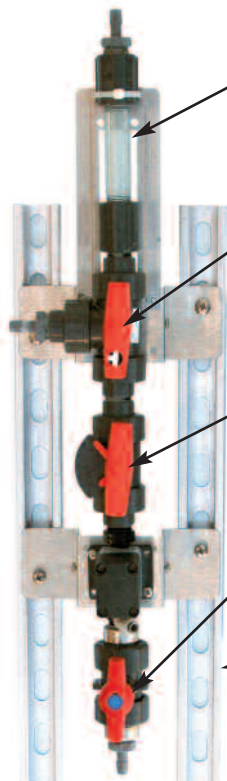
PUMP NAME	AODD PUMPS	CLEANGUARD EDP PUMPS	900 SERIES PERISTALTIC PUMPS
Pump Type	Air Operated Double Diaphragm Pump	Electric Diaphragm Pump (EDP)	Peristaltic Pump System
Flow Rate	KAP-25: 4 GPM (15 LPM) Uniflow KAP-50: 12 GPM (45.4 LPM)	.4 GPM (1.5 LPM) or 1.5 GPM (5.6 LPM) or 3.2 GPM (12.1 LPM) at 70 PSI	230 oz/min. (6.8 LPM) at 30 PSI
Power Source	Air at minimum of 8 SCFM	110 or 230 VAC	110 or 230 VAC
Chemical Compatibility	All Known Laundry Products	All Known Laundry Products	All Known Laundry Products

### Exclusive Module Injection Assembly

One of the key advantages of Tunnel Express is the ease of which pump calibration is achieved. Chem-Trak Tunnel Express offers the only injection assembly located at the washer that allows for easy and quick one person calibration and control. The module injection assembly allows for metering the chemical flow rates, dead heading the pumps during service, directing chemical to the washer or to a measuring vessel, preventing siphoning, and visualizing the chemical flow. All these controls within an arms length allows for easy one person control, and the quickest, safest calibration in the industry.



- \* Metering chemical flow rate
- \* Dead heading the pumps
- \* Directing chemical to the washer or to the measuring vessel for calibration
- \* Anti-siphoning
- \* Visualizing chemical flow



**Proof of Delivery Sight Tube:** Clear sight tube allows operators to see that chemicals are primed, supply tanks are full, and product is going into the washer. (Optional)

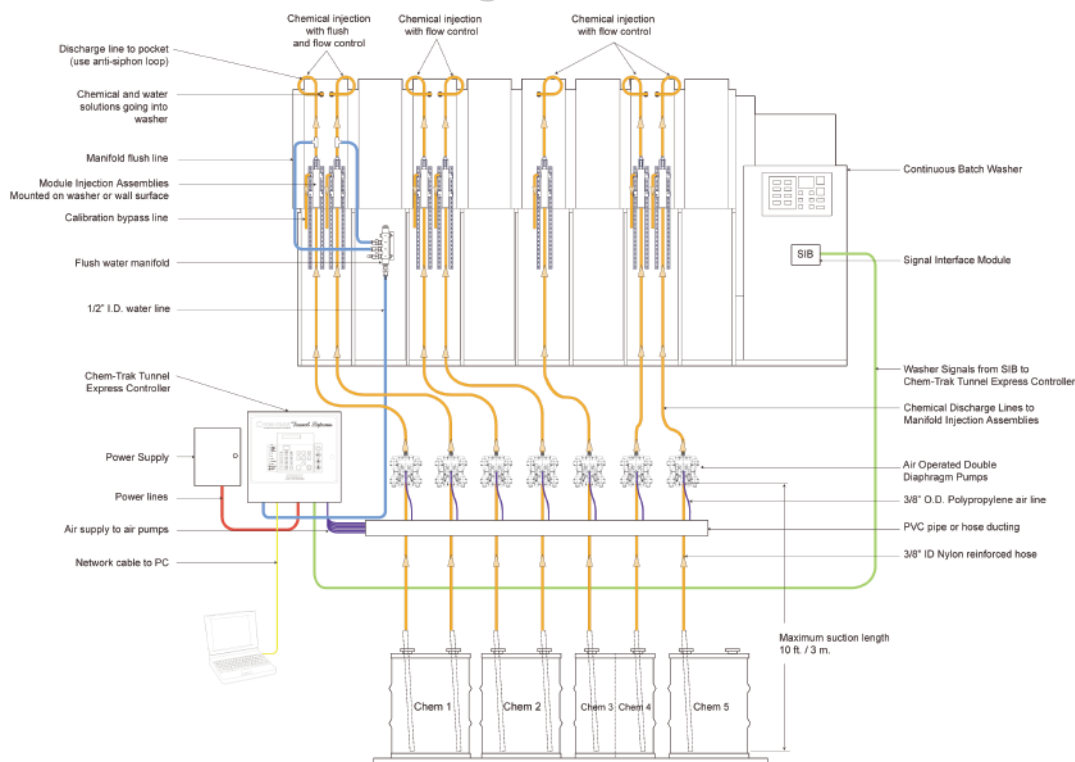
**Three Way Ball Valve:** A three way ball valve controls the flow path to the washer or to the measuring vessel. The valve eliminates the need to remove lines from the washer for calibration.

**Metering Valve:** Unique metering valve used to calibrate desired flow rates of AODD or EDP pumps. Dispense quantities as little as .25 oz (7 ml) per transfer with excellent resolution.

**On-off ball valve:** Valve used for safe service or to “dead head” pumps during calibration routine.

**Mounting Bracket:** Uni-strut mounting brackets provide versatile mounting system for the variety of Tunnel Washer designs on the market.

### Chem-Trak Installation Diagram



### Data Management

#### KNIGHT-TRAK II

DATA MANAGEMENT SYSTEM

#### Management Reports

Chem-Trak Tunnel Express windows compatible software connects the Laundry Manager directly to the system.

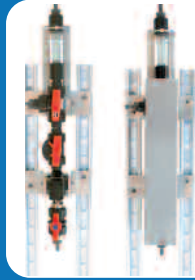
- \* Track and verify chemical usage in all areas
- \* Remote connection via ethernet or LAN
- \* Export laundry reports to Excel in one report
- \* Usage reports include product cost, consumption, batch tracking, and user activity
- \* Records data instantly as chemicals are allocated

## OPTIONS



### WATER FLUSH MANIFOLD

Provides water flush of chemicals for up to four injection points at washer or at dispenser location



### INJECTION ASSEMBLY

- \* Visual Proof of Flow
- \* Calibration of Pumps
- \* Flow Regulation
- \* Anti-siphon for air pumps



### EDP PUMP INTERFACE

Water tight, stainless steel Electric Diaphragm Pump interface box.

## SYSTEM SPECIFICATIONS

**Chem-Trak Tunnel Express Main Controller**  
 Dimensions: 19"H x 19"W x 7.5"D  
 (48.3cm H x 48.3cm W x 19.1cm D)  
 Power: 12 VDC  
 Air inlet capacity: 100 PSI (6.8 Bar)  
 Water pressure: 100 PSI (6.8 Bar)

**Chem-Trak Tunnel Power Supply**  
 Dimensions: 16"H x 8"W x 4"D  
 (25.4cm H x 20.3cm W x 10.2cm D)  
 Input power: 110 or 230 VAC  
 Output power: 12 VDC

**Chem-Trak Tunnel Flush Manifold**  
 Dimensions: 16"H x 6.5"W x 2.5"D  
 (40.6cm H x 16.5cm W x 6.4cm D)  
 Injection ports: four to washer and two inlet  
 Port size: 1/2" FPT  
 Materials: Schedule 80 PVC

**Signal Interface**  
 Dimensions: 4.75"H x 6.75"W x 1.5"D  
 (12.1cm H x 17.1cm W x 3.81cm D)  
 Signal input: 18 VAC to 230 VAC  
 Output to dispenser: low voltage data

**Electric Diaphragm Pump Controller**  
 Dimensions: 16"H x 9"W x 4"D  
 (40.6cm H x 22.9cm W x 10.2cm D)  
 Input power from main controller: 5 wire data line  
 Input power from source: 115 or 230 VAC  
 Output power: 12 VDC

**Chem-Trak Tunnel Module Injection Assembly**  
 Dimensions: 36"H x 7"W x 5"D  
 (91.4cm H x 17.8cm W x 12.7cm D)  
 Inlet thread size: 1/2" FPT  
 Outlet thread size: 1/2" FPT  
 Bypass thread size: 1/2" FPT  
 Materials: Schedule 80 PVC

**Air Operated Pumps**  
 KAP-25 (1/4")  
 Dimensions (in case): 7.2" H x 7"W x 5.5"D  
 (235mm H x 198mm W x 140mm D)  
 Flow rate: 4 GPM (15 LPM)  
 Max pressure: 100 PSI (7 bar)  
 Wetted materials: Santoprene, PTFE  
 Port size: 1/4" FPT

**Uniflow Air Operated Pumps**  
 KAP-50 (1/2")  
 Dimensions (in case): 12" H x 13"W x 8.5"D  
 (30.5cm H x 33cm W x 21.6cm D)  
 Flow rate: 12 GPM (45 LPM)  
 Max pressure: 100 PSI (6.9 bar)  
 Wetted materials: Santoprene, PTFE  
 Port size: 1/2" FPT

**CleanGuard Electric Diaphragm Pump**  
 Dimensions: 10"H x 9"W x 4.75"D  
 (25.4cm H x 22.9cm W x 12.1cm D)  
 Flow rate: .4 GPM (1.5 LPM)  
 Bypass pressure: 70 PSI (4.8 bar)  
 Wetted materials: EPDM or Viton  
 Power: 115 or 230 VAC  
 Amperage: 1.3 Amps

**Peristaltic Pump Cabinet**  
 Dimensions: 10" H x 42"W x 8"D  
 (25.4cm H x 106.7cm W x 20.3cm D)  
 Max Pumps: Six  
 Max Flow Pumps: KP-9270

## ORDERING INFORMATION

### Chem-Trak Tunnel Express

#### Base CT Tunnel Control and Options

Part Number	Description
7667007	CT Tunnel Express Main Controller
7224430	CT Tunnel Express Power Supply, 120 VAC
7224441	CT Tunnel Express Power Supply, 240 VAC
7641410	CT Tunnel Express POB Unit for EDP Pumps (10 Pump)
7641405	CT Tunnel Express Peristaltic Pump Case w/ POB-6010 (10 Pump)
7655040	WinReporter Version 3.6 PC Interface and Software Package w/ Cables and KCI PC Interface
2200084	Air Solenoid Valve/Regulators/Gage Assy (x10), Pressure Switch assy. Installed for AODD Pumps
2200085	Air Solenoid Valve/Regulators/Gage Assy (x6), Pressure Switch assy. Installed for AODD Pumps
7664209	Water Flush Solenoid Valve Assembly w/ Regulator and Gage

#### Fluid End Components

7630538	Tunnel Flush Manifold Assy., Four Port
1600929	Check Valve, 1/2" Ported w/ EPDM Seals, includes Kynar barb ftg.
1600921	Check Valve, 1/2" Ported w/ Viton Seals, includes Kynar barb ftg.
7630576-1	Tunnel Water/Chemical Injection "T" w/ Check Valve, Viton
7630576-2	Tunnel Water/Chemical Injection "T" w/ Check Valve, EPDM
1600362	1/2" Kynar port plug (for unused manifold ports)
1600826	KAP-25SP 1/4" AODD Pump, Polypropylene/Santoprene, 4 GPM
1600827	KAP-25TP 1/4" AODD Pump, Polypropylene/PTFE, 4 GPM (15 LPM)
1600828	KAP-25SK 1/4" AODD Pump, Kynar/Santoprene, 4 GPM (15 LPM)
7640638	AODD Pump Cabinet, Stainless Steel for 1/4" AODD Pumps w/ Mounting hardware
7640631	Flow Guard AODD Pump Cabinet, Stainless Steel for 1/2" AODD Pumps w/ Mounting hardware

#### Fluid End Components (cont.)

Part Number	Description
7640636-01	CleanGuard Electric Diaphragm Pump, .4 GPM(1.5 LPM), EPDM Seals, 110 VAC in Stainless Steel Case
7640636-02	CleanGuard Electric Diaphragm Pump, .4 GPM(1.5 LPM), EPDM Seals, 230VAC in Stainless Steel Case
7640637-01	CleanGuard Electric Diaphragm Pump, .4 GPM(1.5 LPM), Viton Seals, 110 VAC in Stainless Steel Case
7640637-02	CleanGuard Electric Diaphragm Pump, .4 GPM(1.5 LPM), Viton Seals, 230 VAC in Stainless Steel Case
8600126-01	KP-9270 XP, 230 Oz./min (6.8 LPM) Peristaltic Pump w/ QC Panel, 110 VAC w/ T-86E Squeeze Tube
8600126-02	KP-9270 XP, 230 Oz./min (6.8 LPM) Peristaltic Pump w/ QC Panel, 230 VAC w/ T-86E Squeeze Tube
8600115-01	KP-8120BXP, 40 Oz./min(1 LPM) Peristaltic Pump w/ QC Panel, 110 VAC w/ T-66E Squeeze Tube
8600115-02	KP-8120BXP, 40 Oz./min(1 LPM) Peristaltic Pump w/ QC Panel, 230 VAC w/ T-66E Squeeze Tube

#### Tunnel Module Chemical Injection Components

2200096	Module Injection Assembly w/ Ball Metering Valve, Three Way Ball Valve, Two Way Ball Valve and Uni-strut Mounting Brackets, Inlet Check Valve (EPDM)
2200097	Module Injection Assembly w/ Ball Metering Valve, Three Way Ball Valve, Two Way Ball Valve and Uni-strut Mounting Brackets, Inlet Check Valve (Viton)
2200082	Air Operated Antisiphon Valve w/ PTFE Body/Seals mounted on above
2200083	Sight Glass for MIA, mounted

### KNIGHT LIMITED WARRANTY

Knights controls and pump systems are warranted against defects in material and workmanship for a period of ONE YEAR. All Electronic Control Boards have a TWO YEAR warranty. Warranty applies only to the replacement or repair of such parts when returned to the factory with a KRA number, freight prepaid and found to be defective upon factory inspection. Rubber and synthetic rubber parts such as "O" rings, diaphragms, squeeze tubing and gaskets are considered expendable and are not covered under warranty. Warranty does not cover liability resulting from performance of this equipment nor the labor to replace this equipment. Product abuse or misuse voids warranty. Knight products are not for use in potentially explosive environments. Any use of our equipment in such an environment is at the risk of the user. Knight does not accept any liability in such circumstances.

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