

# PPTS Pneumatic Tube System Components

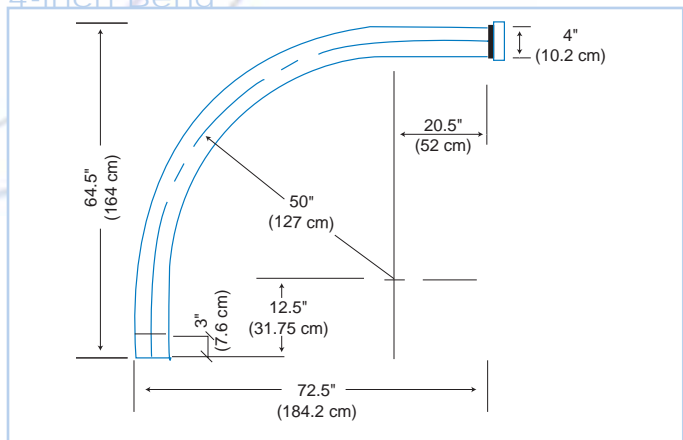
## Tubing

Pneumatic tube transmission equipment consists of straight tubing, bends, couplings and assorted fittings used to construct the carrier distribution network. Tubing and bends are 16-gauge galvanized steel, available in 4-inch O.D. and 6-inch O. D.

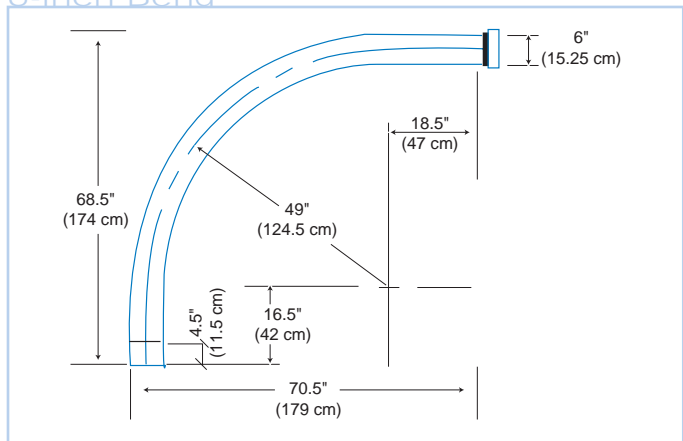
### Bends

Partial bends and 90 degree bends are used to change the direction of tubing. Illustrated below are the 90 degree bends available in 4-inch and 6-inch.

#### 4-inch Bend



#### 6-inch Bend

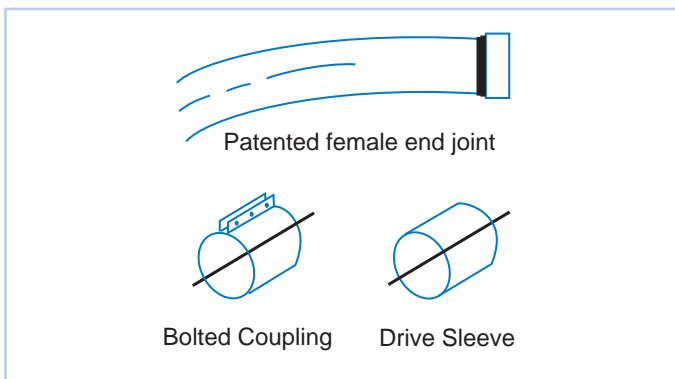


## Joint Components

Three types of joints are used throughout the tubing network, the female end joint, drive sleeve and bolted coupling.

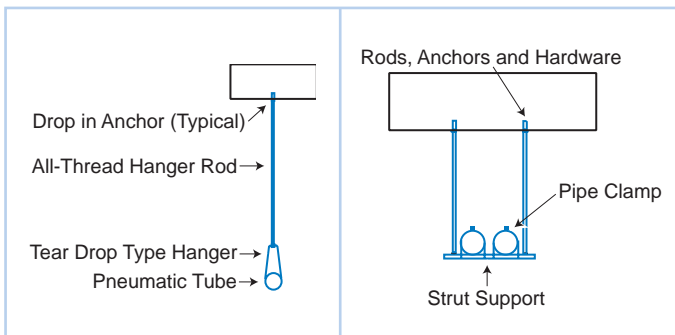
The standard joint is a slip socket type. The female tubing ends have a patented design that provides the smoothest possible transition for a carrier and minimizes noise and carrier wear.

Cut tubing ends are joined with either a drive sleeve or a bolted coupling. Joints at major components (stations and transfer units) are usually made with a bolted coupling.



## Tube Hangers

Tube hangers are used to suspend pneumatic tubing from the structure. Both hangers mount to 13/16" channel as illustrated.



## Blower Unit

The blower assembly provides vacuum and pressure to move carriers throughout the system. One blower unit is required for each zone in the system. The blower assembly consists of a heavy-duty regenerative blower motor and a shifter valve mechanism. The blower selectively connects the intake or exhaust side of the blower to the system, as commanded by the computer for vacuum or pressure. The blower allows the carrier to coast to a stop prior to its direction being reversed.

The blower provides consistent carrier speeds regardless of payload or proximity to the blower, allowing the transport of fragile items and speed sensitive items, for example, certain lab specimens.

The blower unit is an open frame design and is suitable for installation in areas such as mechanical equipment rooms.



Swisslog also offers a sound attenuated model, completely enclosed in a sheet metal housing with sound absorbing lining and equipped with mufflers. The sound levels of the sound attenuated version permit installation near occupied areas. Both models use blower motor isolation mounts which insulate vibrations from the building structure. To conserve energy, the blower is automatically turned off during periods of inactivity.

### Specifications

Blower Type: Regenerative

Power Requirements:

Shifter Valve Motor: 105-125 VAC, 60 Hz, 1 Phase, 5.4 A

Blower Motor: 208-230-460 VAC, 50/60 Hz, 3 Phase

	208 VAC	230 VAC	460 VAC
<b>Horsepower*</b>			
4-inch	4.2	4.5	4.5
6-inch	9	10	10
<b>Full Load Amperage*</b>			
4-inch	10.5 A	10.5 A	5.5 A
6-inch	26 A	26 A	13 A
<b>Locked Rotor Amperage*</b>			
4-inch	102 A	102 A	51 A
6-inch	190 A	190 A	95 A

\* Size all circuit protection in accordance with local, state and national electrical codes.

Max. vacuum/pressure at 5000 ft/ 1.5 km: 3 1/2 psig

Max. output at zero pressure and 500 ft / 152.4 m:

165 SCFM for 4-inch / 330 SCFM for 6-inch

Environmental Requirements:

Temperature Operating 0° to 120° F

Storage Temperature -20° to 180° F

Relative Humidity 0 to 90%

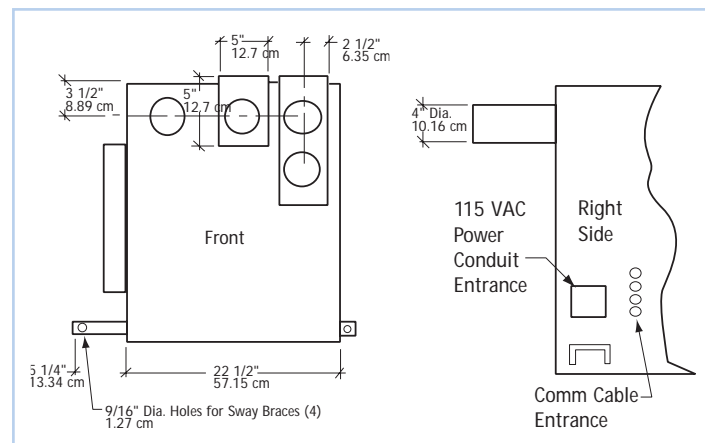
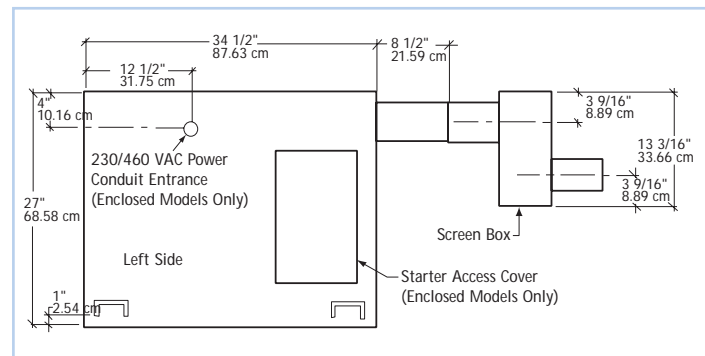
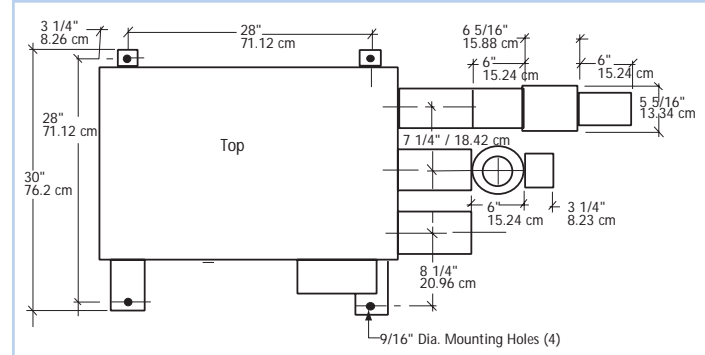
Maximum operating RPM 3500

	4-inch	6-inch
Weight without sound pkg.	240 lbs./ 108.9 kg.	395 lbs./ 179.2 kg.
Weight with sound pkg.	375 lbs./ 170.1 kg.	530 lbs./ 240.4 kg.
Heat output (approximately)	9000 BTU/hr	8000 BTU/hr
Sound levels		
In open area (non-attenuated)	75 dbA	82 dbA
In open area (attenuated)	61 dbA	72 dbA
Mounted above ceiling**	51-55 dbA	61-66 dbA

\*\*Attenuated model only - sound measurement 3 feet below ceiling

Control Requirements:

4 conductor cable, #22 AWG stranded, 5 VDC maximum open circuit voltage, 200 mA maximum short circuit current



## Transfer Unit

The transfer unit is a switching device used at branching points in the system to direct the path of a carrier from a single pipe at one end to any one of two, four, or six selectable pipes at the other end. An optical sensor is contained within each unit to detect the passage of a carrier. A moveable tube, with a slight offset, gently guides the carrier through the unit in either direction. The tube is positioned precisely at the selected port by a magnetic proximity sensor.

Air leakage is prevented at both ends of the rotating tube by resilient plastic sliding seals, which are constructed of a special material that provides a long wear-life with very little periodic maintenance.

The entire transfer unit is enclosed in a rigid metal box frame with removable side covers for service.



The simple design and heavy-duty construction provide very high reliability. Diagnostic features, such as a built-in port alignment gage and diagnostic switches and indicators on the control assembly simplify maintenance. A port cap is used to cover an unused line from a transfer unit.

### Specifications

Drive Mechanism: Electromechanical

Power Requirements:

105 to 125 VAC, 60 Hz, Single phase, 3A

Control Requirements:

4 conductor cable, #22 AWG stranded, 5 VDC maximum open circuit voltage, 200 mA maximum short circuit current

Environmental Requirements:

Operating Temperature: 0° - 120° F

Relative Humidity: 0 - 90%

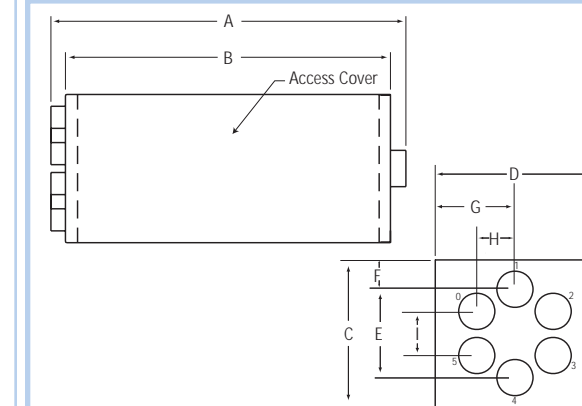
Storage Temperature: -20° - 180°

Max. System Vacuum/Pressure: 4 psig

Positioning Time: Typically 2 sec. (3 sec. max.)

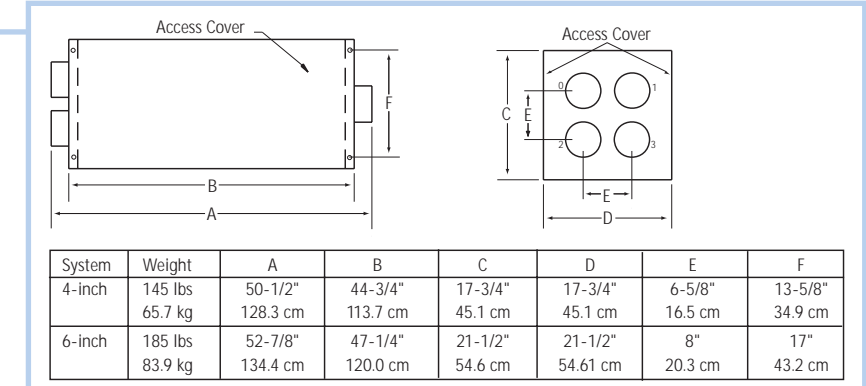
Heat Output: Approx. 130 BTU/hr

#### 1 x 6 Transfer Unit



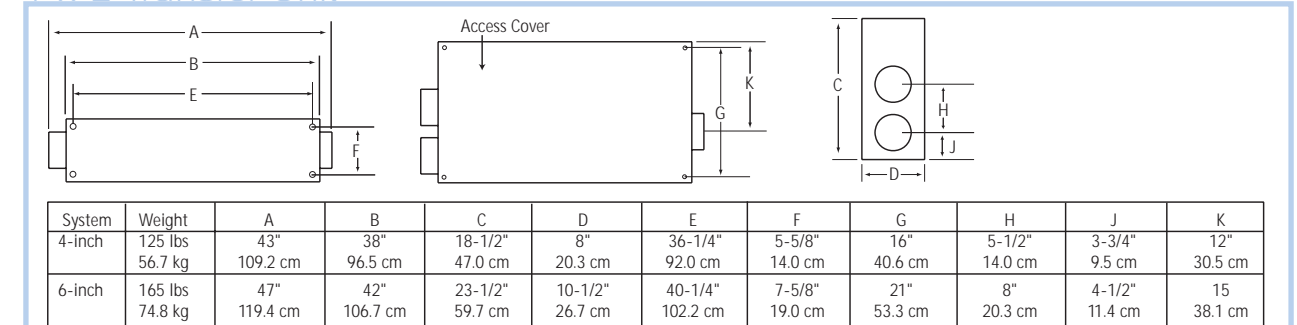
System	Weight	A	B	C	D	E	F	G	H	I
4-inch	205 lbs 93.0 kg	53-3/4"	48-3/4"	19-1/2"	20-11/16"	10-11/16"	4-5/16"	10 5/16"	4-5/8"	5-5/16"
6-inch	250 lbs 113.4 kg	58-7/8"	53-11/16"	24-3/8"	26-7/16"	11-1/8"	4-15/16"	13-1/8"	6-5/16"	7-1/2"

#### 1 x 4 Transfer Unit



System	Weight	A	B	C	D	E	F
4-inch	145 lbs 65.7 kg	50-1/2"	44-3/4"	17-3/4"	17-3/4"	6-5/8"	13-5/8"
6-inch	185 lbs 83.9 kg	52-7/8"	47-1/4"	21-1/2"	21-1/2"	8"	17"

#### 1 x 2 Transfer Unit



System	Weight	A	B	C	D	E	F	G	H	J	K
4-inch	125 lbs 56.7 kg	43"	38"	18-1/2"	8"	36-1/4"	5-5/8"	16"	5-1/2"	3-3/4"	12"
6-inch	165 lbs 74.8 kg	47"	42"	23-1/2"	10-1/2"	40-1/4"	7-5/8"	21"	8"	4-1/2"	15"

# Pneumatic Tube System

## Accessories

### Remote Arrival Indicators

The remote arrival indicator notifies the user when a carrier arrives by a flashing yellow light and/or sounding a chime. Both the light and chime are reset at the panel by pressing the button.

The indicator may be installed at either the station or at a remote location.

#### Remote Personal Indicators

Remote personal indicators perform the same function as the remote arrival indicator by notifying users when a carrier has arrived at the common station. However, remote personal indicators can notify up to six individual users using a common station.

Each remote personal indicator acts as a virtual station using a unique address and may be installed at a remote location. The common station may also use one of the six remote personal indicators to notify a user located at the station.

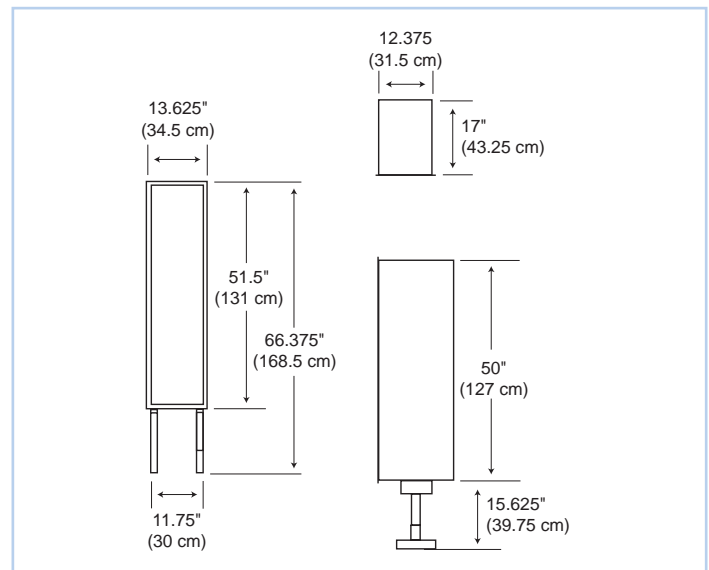


Both the light and chime are reset at the panel by pressing the button.

### Carrier Storage Unit

The carrier storage unit provides ample and convenient storage for Universal and Eco-Seal carriers. The carrier storage unit stores up to 39 4-inch carriers or up to 16 6-inch carriers.

The non-invasive carrier storage unit has a carpeted interior and is flush-mounted into a finished wall - requiring no additional floor space.



On the Move in Healthcare

Due to ongoing improvement programs, Swisslog reserves the right of production or design change without notice or obligation.

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