

VEHICLE SQUARE RAIL - EXTERNAL CRAB (VSRX™)

RAIL SYSTEMS

The Vehicle Square Rail - External Crab (VSRX) is the ideal solution for heavy-duty vehicles that move through an apparatus garage up to 120 ft (36,5 m) in length. The rail runs parallel with the vehicle, and the nozzle disconnects automatically as the vehicle exits the facility. The nozzle can be connected at the door entry when the vehicle returns, ensuring maximum exhaust capture.

VSRX features a square rail that can be used in the future should the station acquire a vertical stack exhaust vehicle.

APPLICATIONS

The square rail profile in VSRX provides exceptional airflow volume to support apparatus bays in which two to four heavy-duty vehicles are aligned. The crab travels outside of the rail profile, and the crab duct opens the rubber seal lips within the profile.



SPECIFICATIONS

■ Air Volume

Air volumes as high as 1400 CFM (2380 m³/h)

■ Length of Service Area

Up to 120 ft (36,5 m); square rails are 19 ft (5,8 m) in length.

■ Energy Efficiency

- Automatic start-stop of energy-efficient fan by pressure sensor.
- For multiple rails and a single fan, automatic motorized dampers turn on/off the system, reducing energy costs.

■ Height

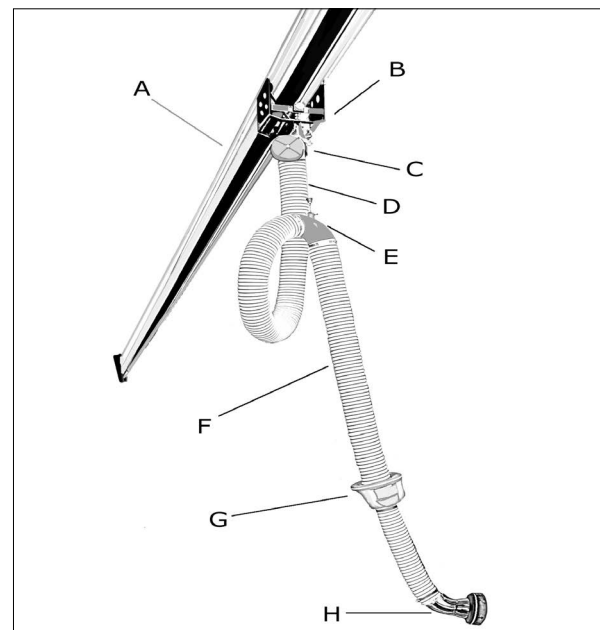
Rail should be mounted 12 to 14 ft (3,7 to 4,2 m) from the floor.

■ Occupational Health Benefits

- Protects operators and service personnel from harmful exhaust emissions.
- Operator can connect nozzle to the vehicle while standing in an upright position, further limiting exposure to harmful exhaust emissions.

■ Facility and Vehicle Requirements

- Rail length ranges from 19 to 120 ft (5,8 to 36,5 m)
- Supports both drive through and back in connections.
- Supports undercarriage tailpipes
- Rail can be reconfigured to support vertical stack exhaust pipes, if needed
- Rail profile is connected to the duct system by a 160 mm (6.3 in.) flexible hose



CONSTRUCTION

- A. Aluminum square rail profile with 3.3 in. (84 mm) opening for crab; one end stop is fitted with a rubber shock absorber that prevents damage to crab and hose
- B. Steel crab trolley that runs externally on rail and sealed via flexible rubber lips
- C. Non-locking spring recoil balancer
- D. Upper hose
- E. Metal Saddle
- F. Mid Hose
- G. Safety Disconnect Handle and Lower Hose
- H. Magnetic Grabber®

PRESSURE LOSS

The diagrams to the right show the pressure loss at two different airflows, based on hose diameter, hose length and rail length. The pressure loss for each system may vary.

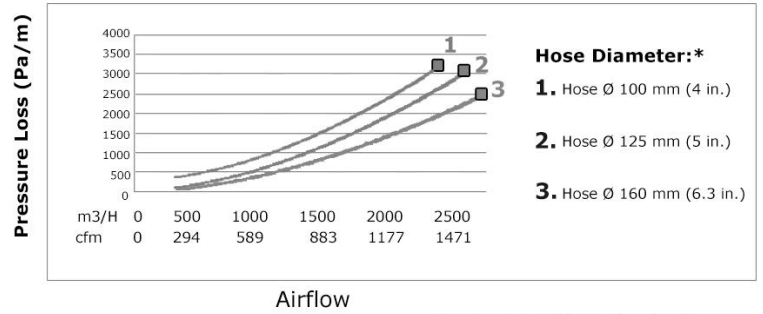
Recommended Airflows:

- Fire truck up to 10 ltr engine: 420 cfm (720 m³/h)
- Fire truck up to 16 ltr engine: 630 cfm (1070 m³/h)
- Fire truck up to 24 ltr engine: 1060 cfm (1800 m³/h)

Recommended Air Velocity:

In ducting: 2000 - 3000 fpm (10 - 15 m/s)

Pressure Loss for VSRX Rail



*Measured at 21°C (70°F) and at Sea Level

COMPONENTS

External Trolley

The external crab trolley travels outside of the VSRX rail profile, and pulls open the sealing lips as it moves.



Balancer

The non-locking spring recoil balancer controls the point at which the Grabber disconnects from the tailpipe. As the hose reaches it's maximum length, the balancer locking cable will bottom out, in turn pulling the nozzle from the moving vehicle.



Hose Package

The hose package consists of the following:

- upper hose and metal saddle
- mid-hose
- lower hose with ergonomic Safety Disconnect Handle



Hose Length:

Lengths are available in 19.7 ft to 32.8 ft (6 m to 10 m).

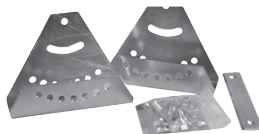
Hose Diameter:

Diameters range from 4 in. to 6.3 in. (100 mm to 150 mm)

Grabber®:

Two Grabbers are available, based on operator preference and station design:

- The Magnetic Grabber® nozzle includes integrated magnets that provide a quick and easy "Click and Seal" connection to the tailpipe;
- The Pneumatic Grabber® connects to the vehicle exhaust pipe via an inflatable rubber bladder.



Suspensions:

Vertical and/or horizontal plates are available and allow for adjustments needed for angled ceilings to adjust the pitch to vertical. Side brace kits and vertical leg hanging material are also included.

ACCESSORIES

Tailpipe Reducer & Bracket

The tailpipe reducer easily converts an exhaust tailpipe to a larger size so that the conical tailpipe adapter can be installed. In addition, a tailpipe support bracket ensures a secure connection between the tailpipe and body / chassis.



PC-500 Pressure Sensor:

Pressure sensor for automatic exhaust fan start.



Fans:

See separate data sheets for F-Series and TEV fans and mounting kits.

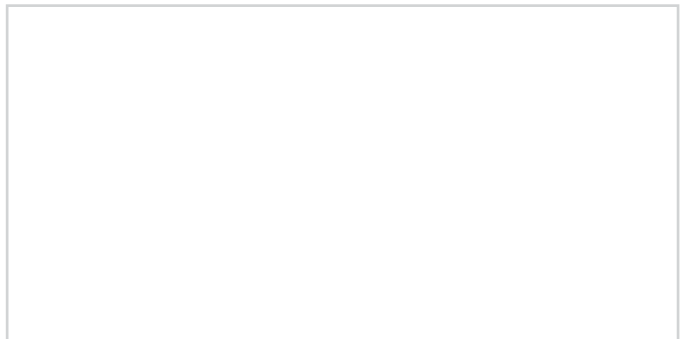


Starter SA-24 or OS-3:

Automatic control unit for exhaust fan, which can be controlled by a manual or automatic pressure sensors.



Authorized Plymovent Distributor:



Product type	VSRX™
Article no.	see remaining specifications
Product category	rail systems
Version	181217/1
Always check the latest version on www.plymovent.com	