



LPM SERIES LIQUID PHASE ADSORBERS LPM-1000, LPM-2000, LPM-2500, LPM-3000

Applications

The LPM Series liquid phase adsorbers are prefabricated steel vessels engineered to remove contaminants from low pressure liquid streams at moderate flow rates. The steel adsorbers are provided with lifting lugs and are mounted on a fork truck mobile base for easy placement and carbon exchange service. Evoqua Water Technologies provides a complete turnkey service to handle carbon reactivation and service of these adsorbers. These adsorbers can be utilized by industrial, municipal or commercial users in a variety of liquid phase applications including but not limited to the following:

- Emergency Treatment
- Decolorization
- Product Purification
- Drinking Water Treatment
- Wastewater Treatment
- Groundwater Treatment
- Well Water Treatment
- Process Water Filtration

Installation, Startup and Operation

The LPM Series liquid phase adsorbers are delivered filled with activated carbon and ready to install. The vessels are self-supporting and should be installed on a level, accessible area near the influent source. Installation is easy, requiring pipe connections to the adsorber vessel's MNPT inlet and outlet fittings. Flexible connectors should be used to make adsorber change-out easier and to prevent damage to the system piping and adsorber vessel fittings. Additionally, the system piping should include a pressure relief valve installed in an unobstructed part of the inlet line leading

to the adsorber's inlet fitting to prevent damage to the adsorber vessel by overpressurization.

Prior to operation, the carbon in each liquid phase adsorber must be wetted with clean water and allowed to deaerate with the adsorber vent line open for approximately 24 hours. After this time, close the vent line, reconnect the outlet piping and the liquid phase adsorber is ready for operation.

Evoqua can provide a total service package that includes utilizing OSHA trained personnel providing on-site carbon changeouts, packaging and transportation of spent carbon for recycling at our reactivation facilities, where the contaminants are thermally destroyed. We provide instructions on sampling the spent carbon and completion of our spent carbon profile form. Spent carbon acceptance testing can be performed at our certified laboratory. When requested, a certificate of reactivation will be issued.

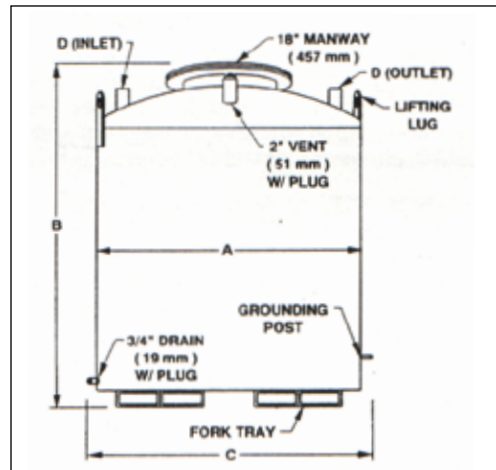
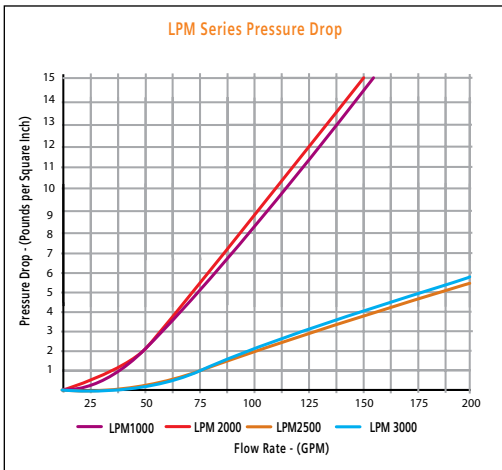
BENEFITS & DESIGN FEATURES

- Adaptable - Adsorber is charged with the media best suited for the application: oil absorbent, filter media, virgin or reactivated carbon
- Dependable - Operates continuously with minimal maintenance
- Durable - Adsorber is heavy steel construction lined with a high performance epoxy resin for superior corrosion resistance and maximum service life
- Portable - Easily transported and installed at almost any location
- Versatile - Easily configured as single or multiple unit systems to handle higher flows

DIMENSIONS AND CAPACITIES

Adsorber	A inches (mm)	B inches (mm)	C inches (mm)	D inches (mm)	Max. Flow (GPM) (L/min)	Carbon Fill (lbs.) (kg.)	Shipping Weight lbs. (kg.)
LPM - 1000	48 (1219)	66 (1676)	52 (1321)	2 (51)	70 (265)	1000 (454)	2100 (953)
LPM - 2000	48 (1219)	90 (2286)	52 (1321)	2 (51)	90 (341)	2000 (908)	3350 (1520)
LPM - 2500	54 (1372)	90 (2286)	58 (1473)	3 (76)	110 (416)	2500 (1134)	3900 (1769)
LPM - 3000	60 (1524)	91 (2311)	64 (1626)	3 (76)	140 (530)	3000 (1361)	4800 (2177)

The standard vessel is furnished with MNPT inlet and outlet fittings. The vent and drain are FNPT fittings furnished with a plug. The manway is furnished with a bolted-on cover and neoprene gasket. Other optional fittings can be provided as required. All dimensions and capacities are approximate.



Materials Of Construction

Absorber Vessel..... Carbon steel
 Internal Piping..... Schedule 40 PVC
 Internal Coating..... High performance epoxy resin
 External Coating..... Industrial enamel

Operating Conditions

Maximum Working Pressure..... 15 psig (103 kPa)
 Temperature Limit..... 140 Deg. F (60°C)

The pressure drop across a liquid phase adsorber is a function of the liquid flow rate as shown on the above pressure drop chart. Additionally, sufficient retention time must be provided within the carbon bed. For this reason, the recommended

maximum flow rate through each type of liquid phase adsorber is as follows:

- LPM - 1000: 70 GPM (265 L/min)
- LPM - 2000: 90 GPM (341 L/min)
- LPM - 2500: 110 GPM (416 L/min)
- LPM - 3000: 140 GPM (530 L/min)

If higher flows or lower pressure drops are required, multiple liquid phase adsorbers may be installed in parallel operation.

Safety Note: Wet activated carbon readily adsorbs atmospheric oxygen. Dangerously low oxygen levels may exist in closed vessels or poorly ventilated storage areas. Workers should follow all applicable state and federal safety guidelines for entering oxygen depleted areas.



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