

FERROUS PARTICULATE REMOVAL FROM COOLANTS USING VERTICAL BAR MAGNETIC SEPARATION

In the process of rolling steel strip, the roll coolant over time will become contaminated with ferrous particles and tramp oils. These contaminants in high enough concentrations can result in increased roll wear and roll changes, reduced production and product quality, increased roll oil and water consumption and decreased coolant life. The Filtertech model MSI magnetic separator utilizes a vertical bar design in which a series of magnetic bars form a chain that is driven by a rotating assembly. The bar chains are arranged in parallel to form a magnetic grid through which the dirty coolant passes. As the dirty coolant passes through the magnetic grid the ferrous particles are attracted to the magnetic bars and attach themselves to it. The particles are then removed from the bars by an efficient wiping system.

Wiping Gland Assembly and ConveyORIZED Trough



*Model MSI 12-46/192 Magnetic Separator with
Variable Speed Drive*

EQUIPMENT FEATURES

Standard

- Heavy duty structural steel construction.
- 304 Stainless steel magnetic bars with swivel-pin connectors.
- Non magnetic reinforced upper and lower rotating assembly.
- Non-magnetic wiping gland assembly allows 360° wiping around the circumference of each bar.
- 304 Stainless steel conveyor trough with heavy duty chain and flights.
- 2 Hp shear pin protected drive motor with variable speed control.
- Upper and lower sealed bearing assemblies.
- Compact rugged design for installation in existing reservoir tank or separate external tank.
- 460V/3Ø/60Hz control panel with variable speed drive (other voltages available).

Options

- Hot rolled steel cover with access doors.
- Magnetic Separator tank with bottom drain internal baffle, inlet and outlet connections.
- Stainless steel wetted surfaces.
- Epoxy coated wetted surfaces.

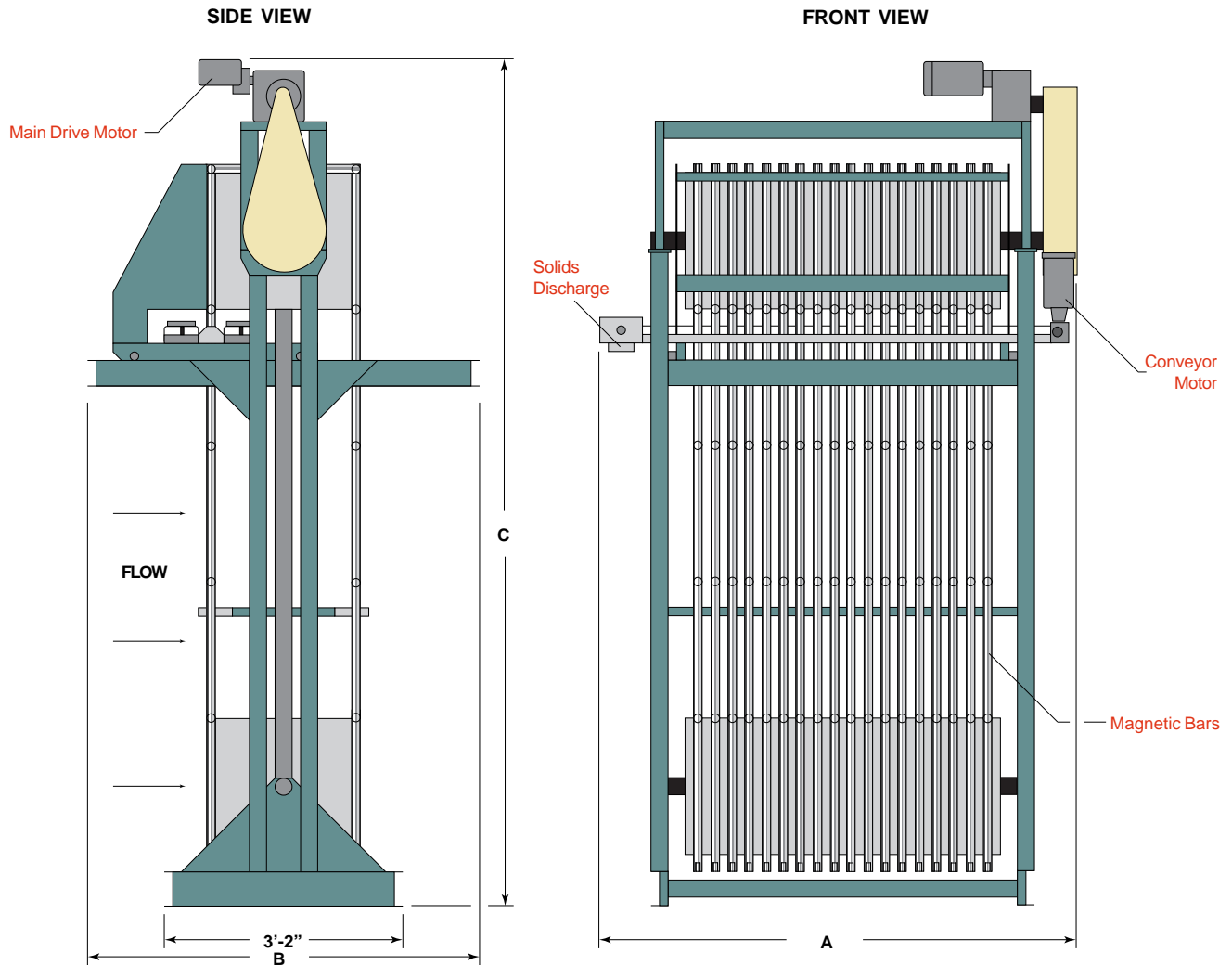
MODE OF OPERATION

The magnetic separator can be installed in the existing system reservoir tank or in its own stand alone external tank. The separator is located in the tank perpendicular to the coolant flow and spans the entire cross-sectional area of the tank to allow interception of the entire system flow.

The magnetic separator is comprised of many magnetic bar chains that are moved through a continuous loop by two rotating assemblies. The bar chains are arranged in parallel to form a magnetic grid through which the dirty coolant must pass. As the travels through the magnetic grid, the ferrous particulates are attracted to the magnetic bars and

become attached. Along with the ferrous material, tramp oils which surround the particles are also carried to the bar. As the magnetic bars travel through the coolant, the solids and tramp oil accumulate on the surface of the bars. The bars then exit the coolant and pass through wiping glands which mechanically remove the solids and oil from the bars.

The removed solids are deposited into one of the conveyORIZED troughs which transport the solids to the end of the separator for discharge. The separator is also equipped with a variable speed drive which allows the regulation of tramp oils being removed.



SPECIFICATIONS

Model	Dimensions			Est. Wt. (lbs.)	Model	Dimension			Est. Wt. (lbs.)
	A	B	C			A	B	C	
MSI-12-12/50	4'-8"	6'-0"	12'-7"	8,000	MSI-14-10/50	4'-2"	6'-0"	14'-7"	8,000
MSI-12-18/75	6'-0"	6'-0"	12'-7"	10,000	MSI-14-14/75	5'-1"	6'-0"	14'-7"	10,000
MSI-12-24/100	7'-5"	6'-0"	12'-7"	12,000	MSI-14-19/100	6'-3"	6'-0"	14'-7"	12,000
MSI-12-30/125	8'-9"	6'-0"	12'-7"	14,000	MSI-14-24/125	7'-5"	6'-0"	14'-7"	14,000
MSI-12-36/150	11'-1"	6'-0"	12'-7"	16,000	MSI-14-28/150	8'-4"	6'-0"	14'-7"	16,000
MSI-12-48/200	12'-11"	6'-0"	12'-7"	18,000	MSI-14-37/200	11'-4"	6'-0"	14'-7"	18,000

† Other filter sizes are available.

Specifications subject to change without notice.