Summary of the most common types of filters, their functions and their recommended uses.

TYPE OF FILTER	APPLICATIONS	FUNCTION	SPECIFICATIONS	REMARKS
Sand Media	a. Required for any open or surface water sources where large amounts of organic matter are present. b. Frequently used with well water	Fine sand particles within two or more closed tanks create a three-dimensional filtering surface trapping algae, slimes and fine suspended solid particles. Tanks are back-flushed one at a time, while remaining units continue filtration.	a. Filtration from 200 mesh (74 μm) to 600 mesh (25 μm) b. Tank sizes are typically ranging from 12-48 in.–dia. (0.30-1.20 m) . c Recommended using at least three tanks.	a. Cleaned by back-flushing. b. Stainless steel epoxy-coated or fiber-glass tanks are available for acid injection. c. Several tanks can be used in parallel for large flow rates.
Screen	a. May be used as a primary filter for clean water sources. b. Can be a safety back-up downstream from the sand media filter. c. Can be used as a submain secondary field filter	a. Fine mesh screen(s) enclosed in one or more pressurize tanks traps organic and inorganic particles. b. Filter can be cleaned manually or automatically by various high pressure rotating water jets and/or brushes	Available screen materials and mesh varies based on manufacturers and types of filter; common sizes: 50-200 mesh (300-74 μm).	a. Cleaned by manual removal or automatic flushing while using rotating water jets. b. can be easily clogged by organic contaminants
Disk	a. Use for primary filtration similar in application to media filters.	a. Filters through densely packed thin color-coded polypropylene disks that are grooved diagonally on both sides to a specific micron size (Fig. 7-28). b. The flushing process starts automatically when given	a. Commonly available disks range in sizes: 18-600 mesh (800-25 μm). b. Multiple filter con-figuration adjustable to water quality and capacity demands.	a. Flushing commands are sent from the electronic controller. b. Flushing is rapid and water efficient. c. Stacked filter do not require a lot of space. d. Disks should be

		pressure different-tials or time setting are reached; flush commands from the controller.		replaced annually unless not processing a lot of dirty water.
Gravity-Flow	a. Used for low levels of particulate matter. b. Used to deliver a large volume of water at low pressure.	Water falls on a screen separator which traps particulate matter which is then washed out into a collection tank	Available from 100 to 200 mesh (150-74 μm).	a. Cleaned by water flow and additional spray nozzles. b. Booster pump is usually necessary after this filter.
Centrifugal Sand Separator	a. Used to remove sand and other inorganic particles. b. Used as a pre-filter to help reduce back-flushing of main filter.	Centrifugal action creates a vortex that pushes away particles heavier tan water. Removes well casing scale, sand and other inorganic particles.	a. Removes particles heavier than water down to 200 mesh (74 μm). b. Works with a 5-7 psi (0.35-0.49 kg/cm^2) pressure loss.	a. Self-cleaning. b. Low maintenance. c. Does not remove organic matter. d. Is not 100 % effective-usually used as a pre-filter.
Suction screen	For pre-filtration at pump intake in ponds or reservoirs or lakes.	Coarse screen traps debris, birds and fish. preserve foot-valve pump.	Available in 10-30 mesh (1500-500 μm).	Cleaned by rotating inner water jets
Settling basin	Pre-filter to remove silt or other inorganic particles.	Allows silt and clay particles to settle. May also provide aeration to remove dissolved solids and iron in suspension.	Sized based on peak water budget and particulates types and load	Cleaned by draining and removing build up. Inlet must be away from inlet. Must control algae.