

# Automatic Twist Flow | ATF

## Introduction

The Schroeder Automatic Twist Flow Strainer (ATF) is designed for the filtration of solid particles from water or fluids similar to water.

With filtration ratings between 200  $\mu\text{m}$  and 3,000  $\mu\text{m}$ , the ATF is particularly well suited for separating suspended solid particles, up to several grams per liter, from low-viscosity fluids.

This filter is a hybrid system consisting of a centrifugal separator and an in-line filter. The fluid to be cleaned enters the housing tangentially - similar to a centrifugal separator - and accelerates down as a result of the tapered housing. The resulting spiral flow with its centrifugal force carries the coarsest contamination first - its density is obviously higher than that of the fluid - to the inner wall of the housing. The less dense particles are filtered as the fluid passes through the element and exits the filter.

Both the sedimented particles and those separated by the filter element finally collect at the bottom of the housing and are discharged periodically from the system by opening the backwash valve.

During this cleaning procedure, part of the untreated fluid flow is used for a few seconds to flush the elements and clean the filter. Because partial flow is used, continuous filtration occurs.



## Features

- Suited to high levels of contamination and large fluctuations in the solid particle content of the untreated water.
- By using conical slotted tube elements a more consistent filtrate quality is always guaranteed, irrespective of fluctuations in operating pressure and flow rate.
- The special flow characteristics provide a low pressure drop at <14 psi over the whole operating range.
- The pre-filtration of solid particles of a higher density means that the filter surface area can take a correspondingly higher load and the filter can be comparatively smaller.
- A superior pre-filter for Schroeder's Automatic Self-Cleaning Filter (RF3) or bag polishing filter.
- Traditional back-flushing of the filter or the use of other fluids or cleaning chemicals is not required with the ATF. The filter elements are cleaned solely by surface flushing with untreated fluid.

**Schroeder**  
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## Applications

The ATF is suitable for separating solid particles from low-viscosity fluids and is used in the following applications:

- Surface Water
- Raw Water/Main Feed
- Sea Water
- Wastewater
- Reduction of Bag and Cartridge Consumption
- Cooling Systems
- 1<sup>st</sup> Stage Pre-Filtration
- Process Water
- Steel Mill Filtration
- Pump and Seal Protection
- Oil and Gas Pits
- Heat Exchanger Protection
- Mining

## Technical Data

Size	1		2		2.5	
<b>Flow Rate:</b>	35 gpm	132 L/m	110 gpm	416 L/m	260 gpm	984 L/m
<b>Pressure Rating:</b>	230 psi	16 bar	145 or 230 psi	10 or 16 bar	145 or 230 psi	10 or 16 bar
<b>Connections Inlet/Outlet:</b>	1" NPT	G 1"	2" Flange	DN 50	3" Flange	DN 80
<b>Connection Discharge Line:</b>	1" NPT	G 1"	2" Flange	DN 50	3" Flange	DN 80
<b>Filter Area:</b>	23 in <sup>2</sup>	150 cm <sup>2</sup>	55 in <sup>2</sup>	360 cm <sup>2</sup>	150 in <sup>2</sup>	966 cm <sup>2</sup>
<b>Weight:</b>	33 lbs	15 kg	132 lbs	60 kg	297 lbs	135 kg
<b>Volume:</b>	0.5 gal	1.8 L	3.5 gal	13.5 L	7.4 gal	28 L

Size:	3		3.5		4	
<b>Flow Rate:</b>	480 gpm	1816 L/m	965 gpm	3652 L/m	1760 gpm	6662 L/m
<b>Pressure Rating:</b>	145 or 230 psi	10 or 16 bar	145 or 230 psi	10 or 16 bar	145 or 230 psi	10 or 16 bar
<b>Connections Inlet/Outlet:</b>	4" Flange	DN 100	6" Flange	DN 150	8" Flange	DN 200
<b>Connection Discharge Line:</b>	4" Flange	DN 100	4" Flange	DN 100	6" Flange	DN 150
<b>Filter Area:</b>	266 in <sup>2</sup>	1720 cm <sup>2</sup>	540 in <sup>2</sup>	3500 cm <sup>2</sup>	605 in <sup>2</sup>	3900 cm <sup>2</sup>
<b>Weight:</b>	440 lbs	200 kg	578 lbs	263 kg	920 lbs	418 kg
<b>Volume:</b>	14.5 gal	55 L	34.3 gal	130 L	60.8 gal	230 L