

# Hydro Cyclones



SERIES: HY  
 SIZES: 1", 2" & 3"  
 ENDS: Alfa Rapid Grooved, MNPT, MNPT Union  
 BODY: PAG or PPG  
 O-RINGS: Nitrile (Standard)

Chemline HY Series Hydro Cyclones separate sand and other solids from water using centrifugal force. External power is not required. Solid plastic construction means no rust or corrosion. The cones are abrasion resistant. Three different sizes have male threaded or grooved pipe end connections. Chemline's Alfa Rapid range of plastic flexible pipe clamps and grooved end PP fittings are ideal for plumbing these units.

## Features

### Economical Sand Separators

- For surface or ground water
- Self-powered

### Ideal for Pretreatment in Water Filtration Systems

#### All Plastic

- Corrosion and abrasion resistant
- 2" and 3" cone is glass filled polyamide (PAG)
- 1" Cone is glass filled polypropylene (PPG)

#### Bleed Tank and Flush Valve is Included

#### Easy Connections

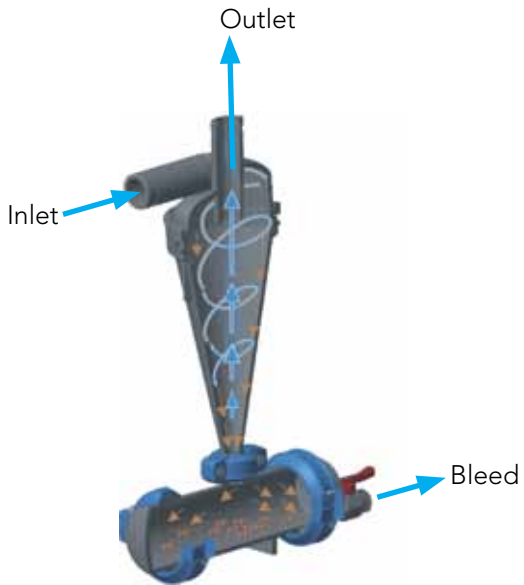
- Threaded or "Victaulic" style grooved pipe ends



Male threaded versions shown

## how they work

Water enters the filter tangentially to the cone body and is accelerated by circular motion. The sand or other solids are pushed against the cone side walls and by centrifugal force and settle into a PP bleed tank while clear water flows up through the central outlet. The tank may be flushed occasionally using the supplied ball valve.



## technical

### Maximum Working Pressure

- 75 psi (5 bar)

### Maximum Working Temperature Range

- -10C to 95C (-14°F to 203°F)

### Optimal Particle Size

- >70 micron

### Optimal Particle Specific Weight

- $\geq 2.5 \text{ kg/cm}^3$  (156 lb/ft<sup>3</sup>)

### Normal Filtration Efficiency

- >80%

### Bleed Tank Capacity

- 1" Model: 0.62 li (0.164 USGal)
- 2" Model: 2.87 li (0.758 USGal)
- 3" Model: 7.44 li (1.96 USGal)

## connections



Plain MNPT



Grooved



MNPT Union

## accessories

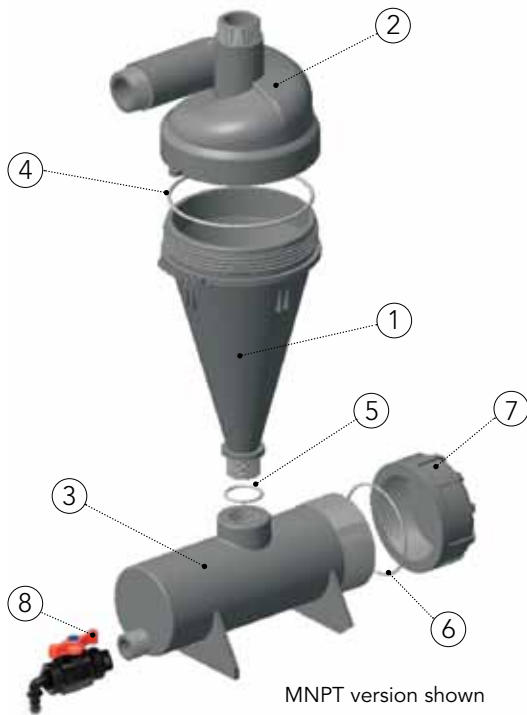
Create custom filter banks with Alfa Rapid™ flexible pipe clamps and grooved end PP fittings



# Hydro Cyclones



## 1" model



MNPT version shown

### PARTS

▲ Recommended Spare Parts

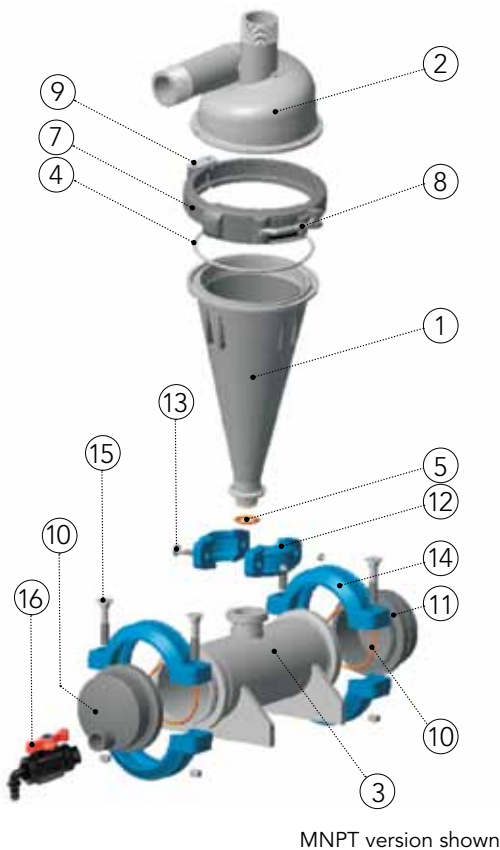
No.	Part	Pcs.	Materials
1	Cone	1	PPG
2	Cover	1	PPG
3	Bleed Tank	1	PP
4▲	Top Cone O-Ring	1	Nitrile
5▲	Bottom Cone O-Ring	1	Nitrile
6▲	Tank Cap O-Ring	1	Nitrile
7	Screw-on Cap	1	PP
8	Ball Valve	1	PP

### PRESSURE LOSS vs. FLOW RATE

Flow Rate			Pressure Loss	
USGPM	l/sec	m <sup>3</sup> /h	psi	bar
12.7	0.80	2.9	2.90	0.20
16.0	1.01	3.6	4.35	0.30
18.2	1.15	4.1	5.80	0.40
20.4	1.29	4.6	7.25	0.50
22.5	1.42	5.1	8.70	0.60
24.4	1.54	5.5	10.15	0.70

RECOMMENDED FLOW RATES • 13 to 25 USGPM

## 2" model



MNPT version shown

### PARTS

▲ Recommended Spare Parts

No.	Part	Pcs.	Materials
1	Cone	1	PAG
2	Cover	1	PAG
3	Bleed Tank	1	PPG
4▲	Upper Cone O-Ring	1	Nitrile
5▲	Lower Cone O-Ring	1	Nitrile
6▲	Tank End O-Rings	2	Nitrile
7	Cover Clamp Pieces	1	PAG
8	Lock Lever	1	304 SS
9	Hinge Assembly	1	Steel
10	Tank End with Outlet	1	PPG
11	Plain Tank End	1	PPG
12	Bottom Cone Clamp Pieces	2	PAG
13	Bottom Cone Clamp Bolt Sets	4	304 SS
14	Tank End Clamp Pieces	4	PAG
15	Tank End Clamp Bolt Sets	8	304 SS
16	Ball Valve	1	PP

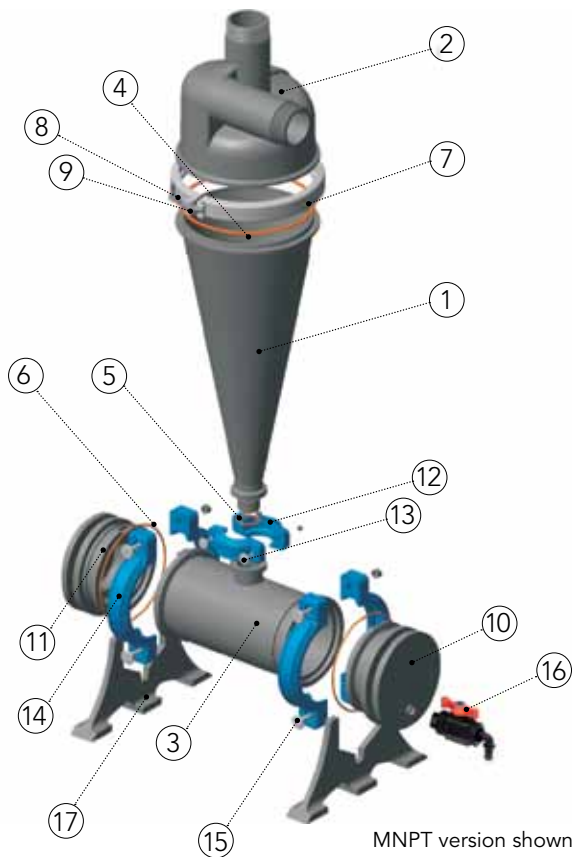
### PRESSURE LOSS vs. FLOW RATE

Flow Rate			Pressure Loss	
USGPM	l/sec	m <sup>3</sup> /h	psi	bar
44.4	2.8	10.0	2.90	0.20
53.5	3.4	12.2	4.35	0.30
63.4	4.0	14.4	5.80	0.40
71.3	4.5	16.2	7.25	0.50
79.3	5.0	18.0	8.70	0.60
84.5	5.3	19.2	10.15	0.70

RECOMMENDED FLOW RATES • 44 to 84 USGPM



## 3" model



### PARTS

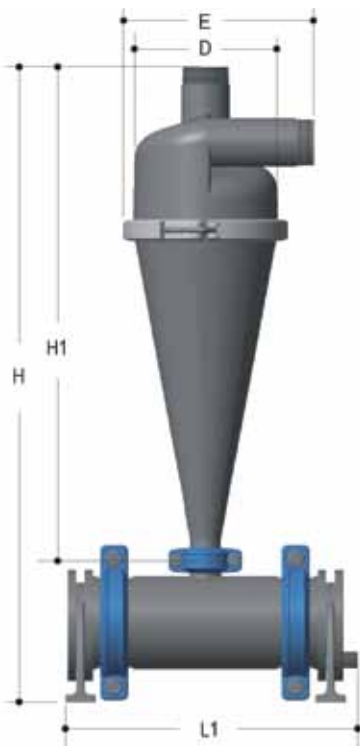
▲ Recommended Spare Parts

No.	Part	Pcs.	Materials
1	Cone	1	PAG
2	Cover	1	PAG
3	Tank	1	PPG
4▲	Upper Cone O-Ring	1	Nitrile
5▲	Lower Cone O-Ring	1	Nitrile
6▲	Tank End O-Rings	2	Nitrile
7	Cover Clamp Pieces	2	PAG
8	Lock Lever	1	304 SS
9	Hinge Assembly	1	Steel
10	Tank End with Outlet	1	PPG
11	Plain Tank End	1	PPG
12	Bottom Cone Clamp Pieces	2	PAG
13	Bottom Cone Clamp Bolt Sets	4	PAG
14	Tank End Clamp Pieces	4	PAG
15	Tank End Clamp Bolt Sets	8	PAG
16	Ball Valve	1	PP
17	Tank Stand	2	PAG

### PRESSURE LOSS vs. FLOW RATE

Flow Rate			Pressure Loss	
USGPM	l/sec	m <sup>3</sup> /h	psi	bar
114.1	7.2	25.9	2.90	0.20
137.9	8.7	31.3	4.35	0.30
156.1	9.9	35.5	5.80	0.40
178.3	11.3	40.5	7.25	0.50
196.6	12.4	44.6	8.70	0.60
211.3	13.3	48.0	10.15	0.70

RECOMMENDED FLOW RATES • 114 to 211 USGPM



### DIMENSIONS INCHES

### WEIGHTS

Size	L1	H	H1	D	Tank Outlet	E Plain MNPT or Grooved Ends	F Add for Union MNPT*	Lbs.	Kg.
1"	8.7	15.3	11.0	4.9	1/2"	6.3	N/A	1.87	0.85
2"	16.5	29.9	22.8	8.7	3/4"	10.2	3.2	13.86	6.30
3"	20.1	45.3	35.4	10.6	3/4"	13.8	3.5	31.90	14.50

\* Add to H, H1 and E dimensions

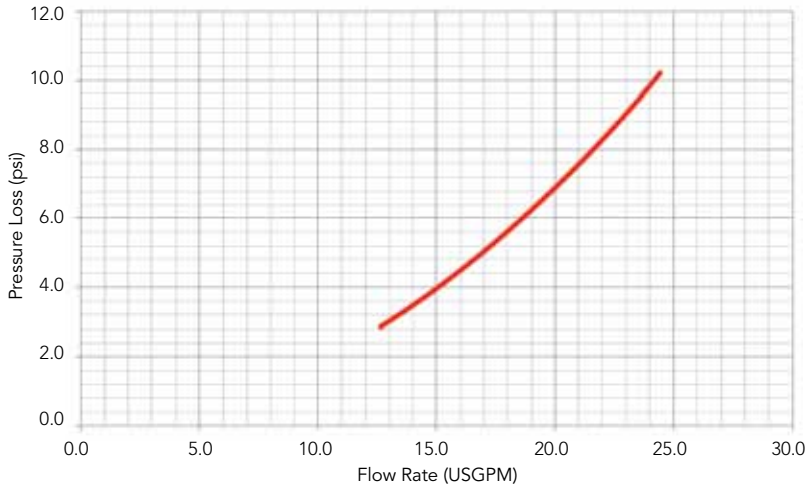
### ORDERING EXAMPLE

Chemline Hydrocyclones			HY	020	N	A
Size	010 – 1"	020" – 2"	030" – 3"			
O-Rings	N – Nitrile					
Ends	A – AlfaRapid™ Grooved		T – Plain MNPT	AT – MNPT Union		

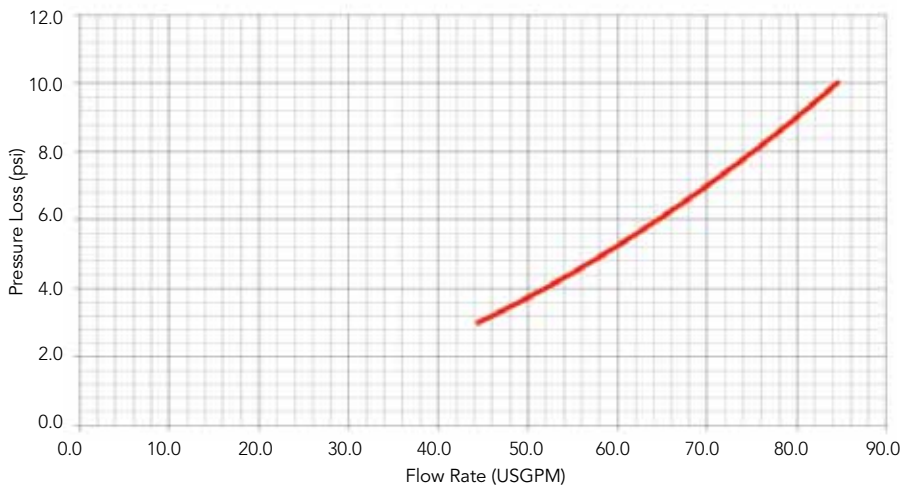
Example: Chemline HY Hydro Cyclone, 2", with Nitrile O-Rings, Alfa Rapid grooved ends

## pressure loss vs. flow rate

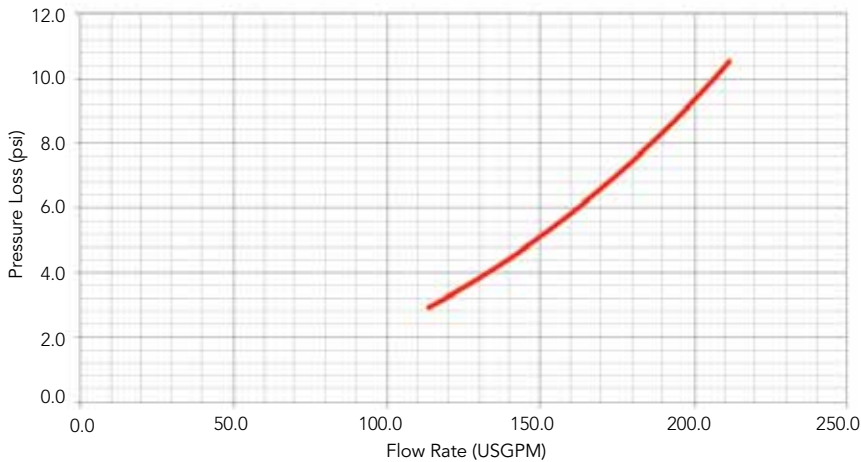
### 1" HYDRO CYCLONE



### 2" HYDRO CYCLONE



### 3" HYDRO CYCLONE





# Hydro Cyclones



## Pre-Filtration for Membrane Water Treatment

• Simplified example showing components



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