



**SAVAY**  
Polyurethane Industries Co.

# HYDROCYCLONE

Engineering, Procurement, Construction

Cluster, Distributer, Launder, Feed Chamber Inlet, Apex/Spigot, Cone  
Vortex Finder, Overflow Pipes, Linear



## What is Hydrocyclone

A classification hydrocyclone uses centrifugal force to selectively concentrate slurry particles through a separation process. Their cylindrical top and conical base create a vortex which helps to separate and classify differently-sized particles.

Feed enters the hydrocyclone via the inlet head with pressure. As the velocity increases inside the cone, larger particles with a greater mass pass through the cyclone to the underflow. Smaller particles (often referred to as fines) are pushed out through the overflow.

Hydrocyclones are used in mining and processing minerals, manufacturing, aggregates, food processing, wastewater management and other industries for classification, dewatering, densifying, fines recovery & more.

## Applications

- Iron ore processing
- Coal fines dewatering
- Coal refuse dewatering
- Phosphate beneficiation
- Dewatering mine tailings
- Sand washing and dewatering
- Desliming process
- Preparation of flotation conditioner feed.



## Savay Hydrocyclone advantage

- High process performance efficiency
- Range of classification size from 8 - 200 microns
- Achieve precise cut size in slurry
- Long wear life & Maximum capacity
- Variable size from 2" to 33"
- With an extensive range of vortex finders and spigot sizes.
- Wide range of liners such as polyurethane (PU) & ceramic (alumina-SiC).
- Manufacturing hydrocyclone distributors supporting up to 62 hydrocyclones.
- Customized hydrocyclone sizes and designs according to your application requirements.
- Ropping and wear detection sensor.



## Engineering Design

Effectiveness and efficiency of hydrocyclone separators are highly depend on their geometrical parameters and flow characteristics. Performance of the hydrocyclone can, therefore, be improved by modifying the geometrical parameters or flow characteristics. In addition to enhancing efficiency, achieving precise output with high sharpness is one of the primary objectives in all SAVAY hydrocyclone designs.

The completion of hydrocyclone designs is executed and validated through the following key steps, utilizing the most advanced engineering methods and the development of the company's unique tools:

- Performing CFD simulations and predicting the impact of geometric parameters on efficiency and effectiveness.
- Competing and enhancing existing empirical equations by incorporating CFD simulation results and available experimental data.
- Developing an efficient tool for designing hydrocyclone whit any desired specification.

In the next phase of development, SAVAY is in the final stage of designing a modular test bench to enhance the accuracy of its designs.



## SAVAY Design advantage

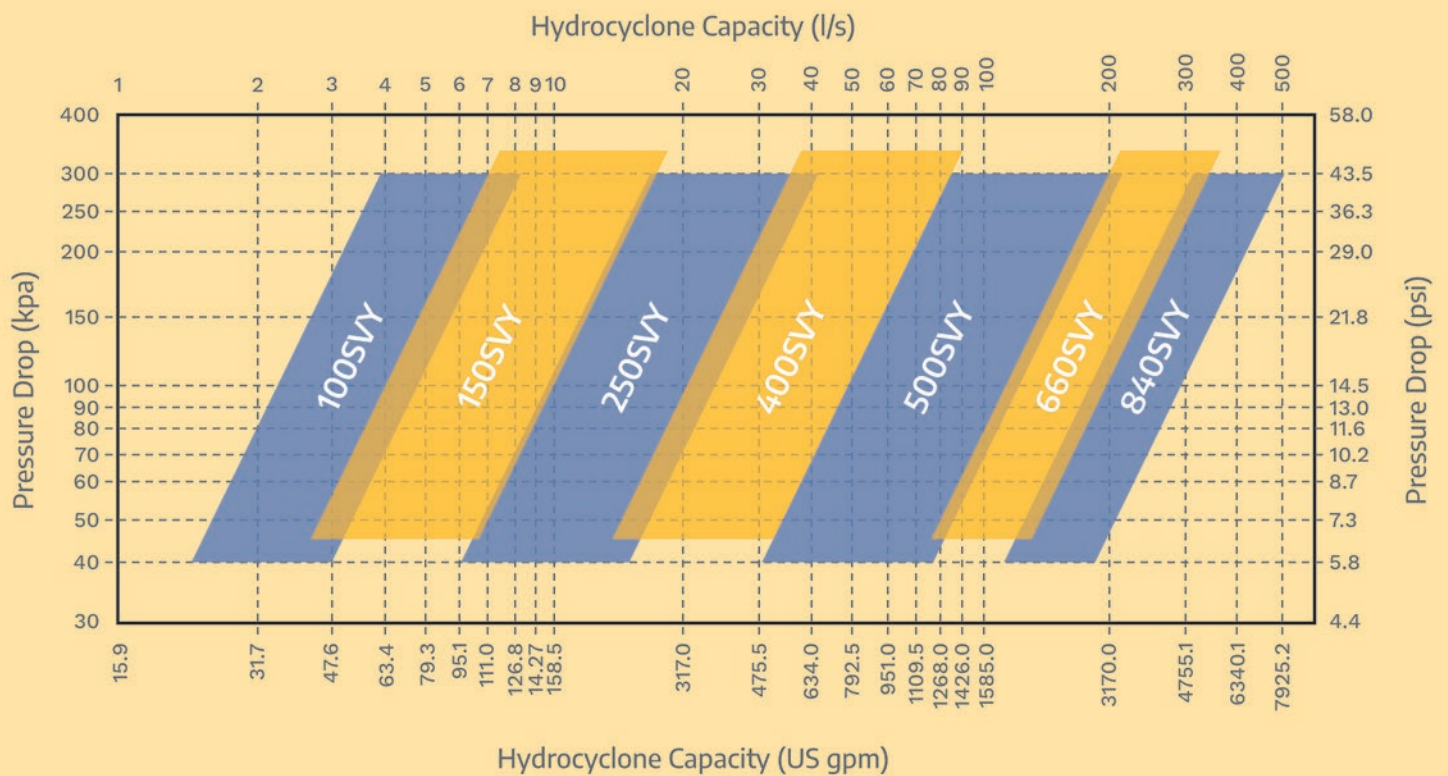
- A design that delivers max efficiency, max capacity and longer wear life.
- Increase circuit capacity by minimizing the quantity of fine bypassing to the underflow stream.
- Reduced turbulence throughout the hydrocyclone.
- Possibility of make design modifications on-site.
- Unique involute feeding eliminates the disturbance, reduce wear and improves the classification efficiency.



## Savay Hydrocyclone – Sizes and linings

	SOLID POLY	POLYURETHANE LINERS	RUBBER LINED	METAL HOUSING	CERAMIC TILED
50SVY	✓				
75SVY	✓				
100SVY	✓	✓	✓		
150SVY	✓	✓	✓	✓	✓
250SVY		✓	✓	✓	✓
400SVY		✓	✓	✓	✓
500SVY		✓	✓	✓	✓
660SVY		✓	✓	✓	✓
840SVY		✓	✓	✓	✓

## Savay Hydrocyclone – Capacities (approximate)





## Reference List and Projects



NICICO, Canymes, ZISCO, MSE, KSC  
 ICIOC, Chadormalu, Nazm Avaran, GRSCO, SISCO  
 SIMIDCO, SIOC, OPSIM, RFA-CO, Sabanour

NO	HYDROCYCLONE /MODEL	CLIENT
1	220HC-01 HYDROCYCLONE CLUSTER INCLUDING FEED DISTRIBUTER, CYCLONE OVERFLOW, UNDERFLOW COLLECTION LAUNDER, HYDROCYCLONES, WORKING PLATFORM (WALKWAY), LADDER	ZISCO
2	PRIMARY AND SECONDARY HYDROCYCLONE MINCO165/MINCO250: CHEHEL KOOREH (CYCLONE ASSEMBLY) GMAX20-3140: SARCHESHMEH COPPER MINE - DER ALO COPPER MINE (APEX, CONE LINER & CASING, INLET HEAD LINER & CASING, ...) DS26-1716: SARCHESHMEH (APEX, CONE LINER, ...) GMAX26-3137: DAREZAR (APEX, CONE LINER, HEAD LINER & COVER PLATE LINER,...)	NICICO
3	FX500-GX-B, D26B-1085 (APEX, CONE LINER, HEAD LINER & COVER PLATE LINER, VORTEX , ...)	ICIOC
4	FX500-GX-B, FX660-GX-B, FX350-GX-B (APEX, CONE LINER, HEAD LINER & COVER PLATE LINER, VORTEX , ...)	GRSCO
5	120HC-01-04, 220HC-01 (CONE ASSY, SPIGOT, OVER FLOW, LOOSE RUBER LINER, VORTEX FINDER, INLET HEAD SHELL, ...)	SISCO
6	FX660-GX-B - FX150-GX-B EPC (ENGINEERING, PROCUREMENT, CONSTRUCTION) HYDROCYCLONE CLUSTER INCLUDING FEED DISTRIBUTER, CYCLONE OVERFLOW, UNDERFLOW COLLECTION LAUNDER, HYDROCYCLONES, WORKING PLATFORM(WALKWAY), LADDER	RFA-CO
7	GMAX 250	KANI GOSTAR
8	KREBS-FX 450 CLASSIFIER	ROWSHAN SANAT
9	FX180	SAHAND SILICA

## About us

Savay Polyurethane Industries Company is proud to be manufacturer in the field of producing parts and equipment needed in mining industries with more than 20 years of experience. It is currently known as the advanced manufacturer and designer of polyurethane parts and equipment in the country.



Knowledgebase  
Certificate



IMS



ISO 9001:2015

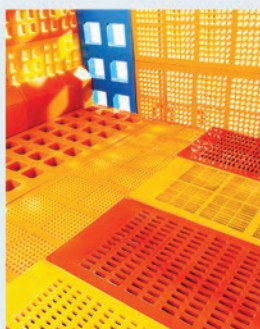


ISO 14001:2015



ISO 45001:2018

## Products



Panel Screen



Trommel Screen



Flotation Cell



Hydrocyclone



Roller

## Contacts

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