

**HYDROCYCLONE SOLUTIONS** Solid – Liquid separation technology

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# Solid – Liquid separation technology

The hydrocyclone solutions manufactured by Técnicas Hidráulicas operation aim is to separate suspended solid particles by size to obtain singular-quality sand suitable for specific applications which required fine fractions. Equipment component dimensions and operating conditions can be adjusted for precise classification within the 20 to 180 microns range.

Tecnicas Hidraulicas' Hydrocylones are easy due its wide range of applications and can be rapidly adapted to a variety of working conditions by using different construction formats and / or implementing different units working in parallel. This makes them the ideal solution to handle high flows that require high separation performance.

#### **ADVANTAGES**

- Highly versatile equipments covering ranges from Ønom. 1200 mm to Ønom. 25 mm with various configurations.
- Lower operating and maintenance costs.
- Maximum return on investment by using materials that would normally be considered as process leftovers.
- Lower investment costs by reducing the amount of solid to be treat on settling and dewatering processes.

#### **OPERATING PRINCIPLE**

Hydrocyclone units are used to classify solid particle by sizes on the basis of the speed with which the grains fall through a fluid medium. Thanks to the use of centrifugal forces, hydrocyclone will accelerate the settling rate of particles to assure the obetntion of higher quality fines.

In the feed inlet, the particles in suspension are propelled radially towards the outer wall of the vortex finder. The larger particles are distributed radially in the outer area while the finer particles remain on the inside of the column. The larger particles remain in place and settle towards the underflow discharge mouth at the bottom of the unit, forming what is known as the primary downward vortex. The finer particles are blocked at the underflow discharge and forced upwards toward the overflow discharge, forming what is known as the secondary upward vortex.

Thanks to adjustments on the feed inlet speed oron equipment's main body design, underflow discharge or overflow discharge, tecnicas HIdraulicas Hydrocylcones will be able to generate separation of fine particles under the 20 to 180 microns range.

#### **APPLICATIONS**

Aggregates, Industrial Sands & Kaolins

**Coal Tailings** 

**Ores & Minerals** 



# Cyclones

	HCH-35	HCH-50	HCH-65	HCH-80	HCH-100
Cyclone diameter (mm)	3550	4250	4850	5400	5950
d <sub>50</sub> μm Cut point	60 - 75	65 - 100	75 - 120	85 - 140	90 - 150
Feed capacity (m3/h)	65 - 120	100 - 300	200 - 400	300 - 500	400 - 600
Pressure (mWc)	7 - 13	6 - 12	5 - 11	4 - 11	4 - 10

# Microcyclones

	HCM-200	HCM-100	HCM-50
Cyclone diameter (mm)	200	100	50
d <sub>50</sub> μm Cut point	30 - 50	15 - 25	5 - 15
Feed capacity (m3/h)	30 - 70	16 - 40	0,8 - 6
Pressure (mWc)	10 - 18	15 - 25	15 - 35

## **EXPERIENCE**

Aricalsa (Spain)







Caolines la Piedra (Spain)





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