

## HYDROCYCLONE

### MATERIALS / MATERIAL OPTIONS:



#### Standard

Steel jacket with flanges	1.4301
Lining	Mineral composite
Putty	Cement

#### Options

Steel jacket with flanges	1.4571
	GRP, GRP-conductive
Lining	Aluminium oxide, silicon carbide
Putty	Silicone, PUR (polyurethane)

### FUNCTION:

Hydrocyclones are devices for separating solid materials and liquid materials liquids that do not mix (emulsions) or do not dissolve in the carrier medium (suspensions).

The tangential introduction of the suspension into the cyclone head via the inlet nozzle generates a rotating flow and the resulting centrifugal acceleration (centrifugal force) concentrates the solid materials against the walls of the cyclone. The solid materials slide down the wall to the bottom and are discharged via the underflow nozzle. The liquid largely remains in the core area of the cyclone, but loses speed and is extracted through the overflow nozzle. Very fine particles remain in the liquid here.

Cyclones are used for separating particles of between 0.5 mm and 5 µm in size.

At appropriately high input pressures, in cyclones 100 to 1000 times faster separation can be achieved than in gravimetric sedimentation processes.

In order to increase the throughput capacity, multiple cyclones are often connected together to form a ring battery or multi-cyclone system.

By connecting up cyclones in series, it is possible to achieve not only a higher degree of separation, but also the separation of finer particles.

### NOMINAL DIAMETER RANGE:

Head diameter: DN 40 (1 1/2") to DN 200 (8")  
 Flange connections: DN 25 (1") to DN 100 (4")  
 Sizes: HZ 40, HZ 65, HZ 100, HZ 125, HZ 150, HZ 200

### PRESSURE RANGE:

PN 2,5 to PN 16 (PN 40 possible)  
 ANSI class 150 (class 300 possible)

### LINING MATERIAL:

Mineral composite  
 Aluminium oxide  
 Silicon carbide

### HOUSING MATERIAL:

Stainless steel 1.4301  
 GRP (glass fibre reinforced plastic)

### TEMPERATURE RANGE:

Standard GRP:  
 -30 °C to + 100 °C / -22 °F to +212 °F  
 Standard mineral composite:  
 -30 °C to + 95 °C / -22 °F to +203 °F  
 Standard ceramics:  
 -30 °C to + 350 °C / -22 °F to +662 °F

### TYPICAL APPLICATION AREAS:

#### FGD plants in power stations and waste incineration plants:

- Gypsum separation

#### Ore dressing:

- Soil aggregate separation
- Recyclable material separation

#### Paper industry:

- Cellulose cleaning (cleaner)

#### Silicon industry:

- Recyclable material separation

#### Chemical industry:

- Product precipitation

#### Metal processing:

- Chip separation