

**GROMATEX**

**CYCLONES**

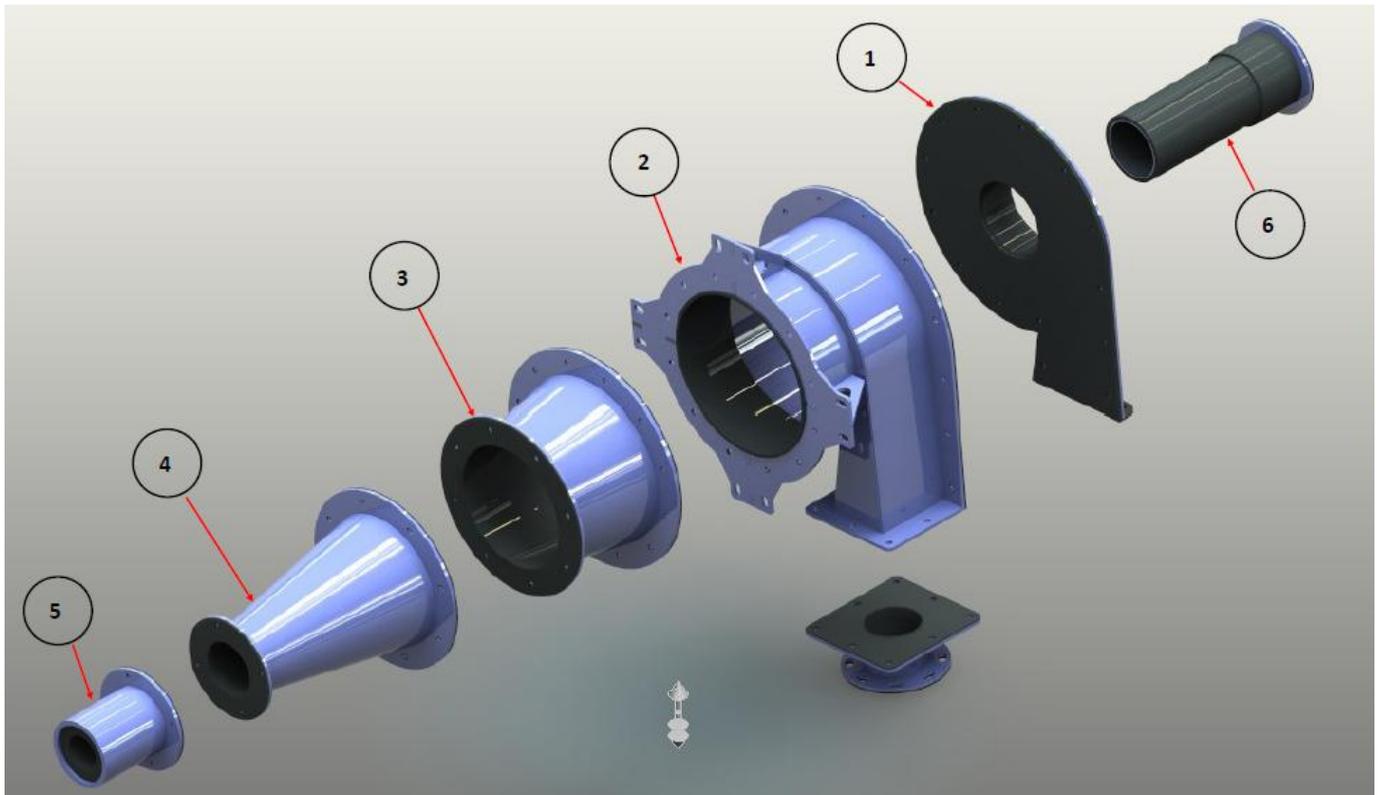
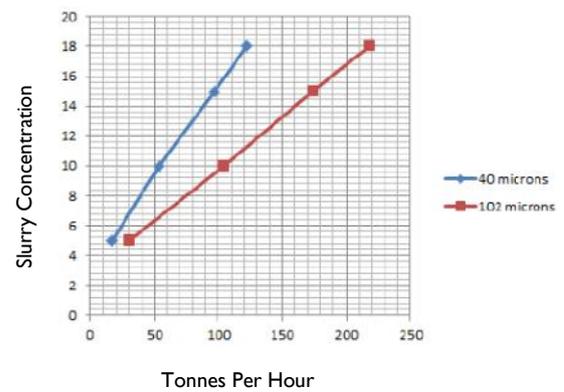


# C26 HYDROCYCLONE

The C26 is currently the largest of the Gromatex hydro cyclone range. It has a 660mm feed chamber and a 6" inlet. Typically paired with an 8-6 pump, this cyclone has a max output up to 200 TPH or 110 cubic metres per hour. Desired operating range for slurry concentration is between 0 and 18%. The standard cut point for this cyclone is 75 microns, however a range of cut points can be achieved from 40 to 102 microns.

It is lined with the highest quality abrasive resistive rubber which is designed to work in the toughest applications. The rubber has a shore hardness of 40IRDH and an abrasion resistance of 108. The rubber is hot vulcanised to the steel body at pressure to ensure a top quality seamless liner.

Item No	Part Name
1	Lid
2	Feed Chamber
3	Cone 1
4	Cone 2
5	Spigot and Housing
6	Vortex Finder

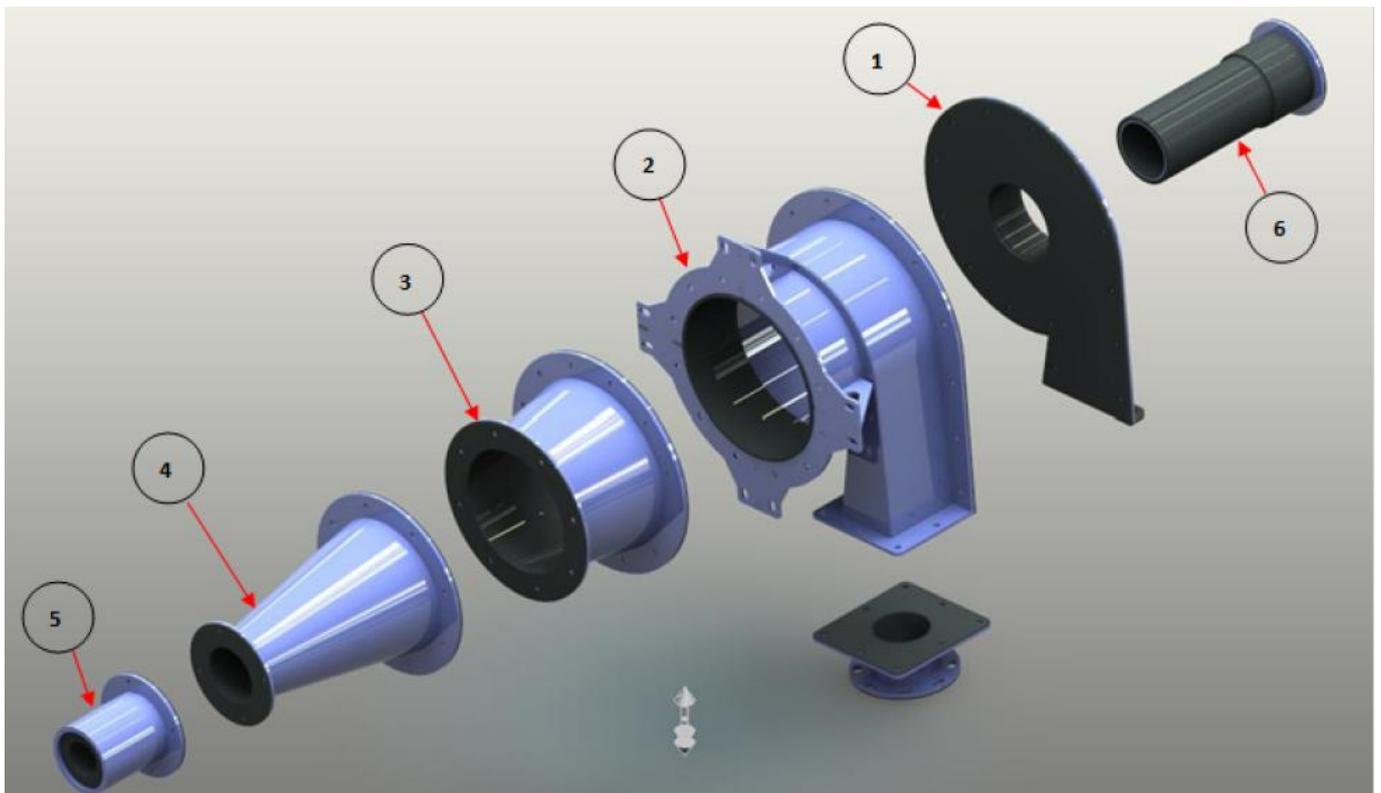
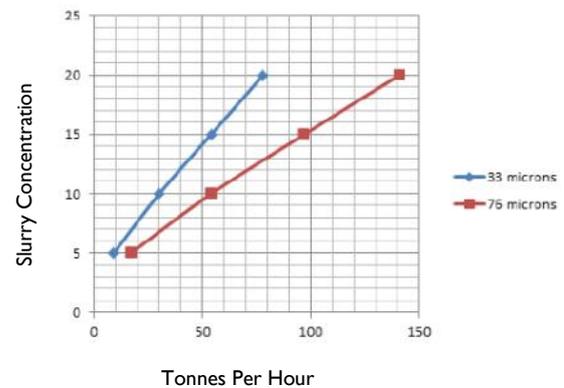


# C20 HYDROCYCLONE

The C20 is currently the medium sized cyclone of the Gromatex hydro cyclone range. It has a 500mm feed chamber and a 6" inlet. Typically paired with an 6-4 pump, this cyclone has a max output up to 150 TPH or 83 cubic metres per hour. Desired operating range for slurry concentration is between 0 and 20%. The standard cut point for this cyclone is 63 microns, however a range of cut points can be achieved from 33 to 76 microns.

It is lined with the highest quality abrasive resistive rubber which is designed to work in the toughest applications. The rubber has a shore hardness of 40IRDH and an abrasion resistance of 108. The rubber is hot vulcanised to the steel body at pressure to ensure a top quality seamless liner.

Item No	Part Name
1	Lid
2	Feed Chamber
3	Cone 1
4	Cone 2
5	Spigot and Housing
6	Vortex Finder

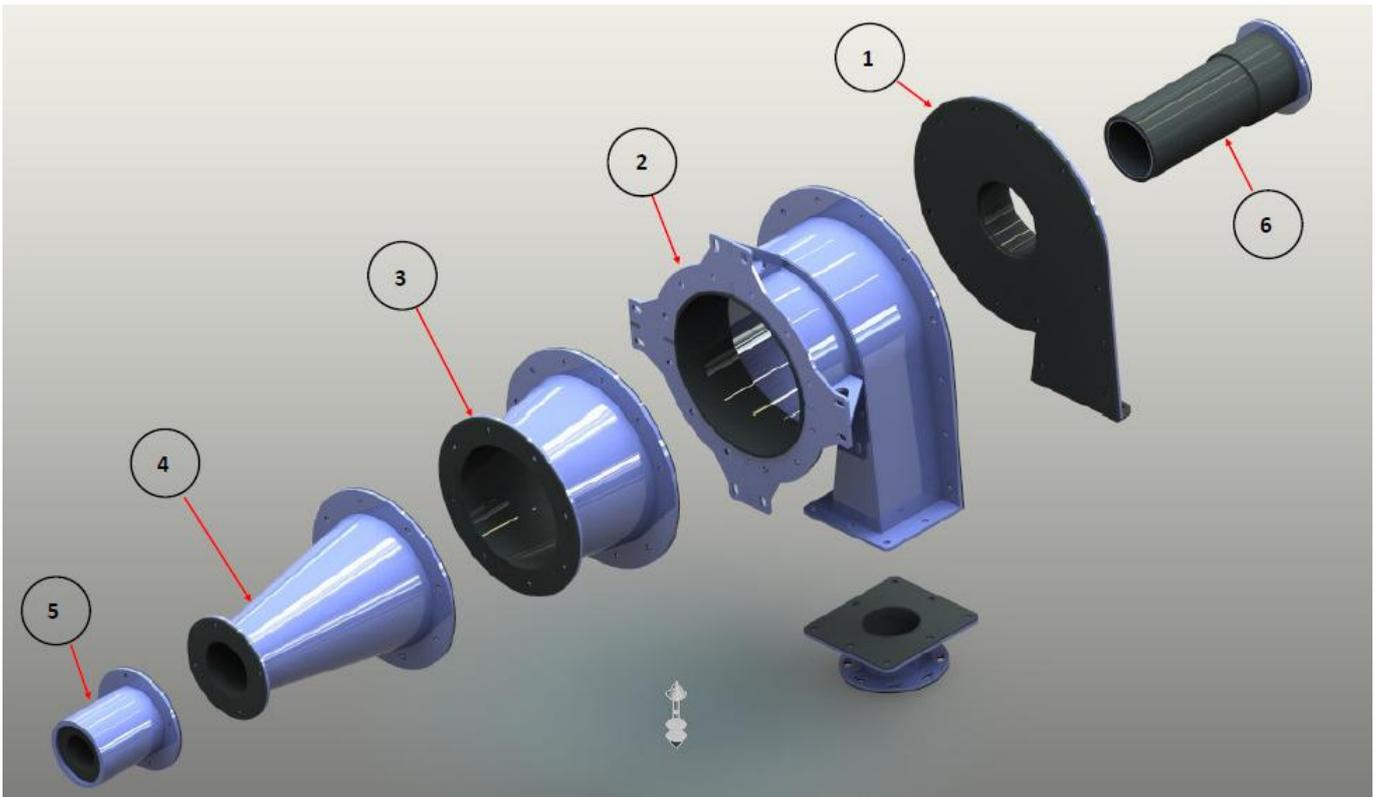
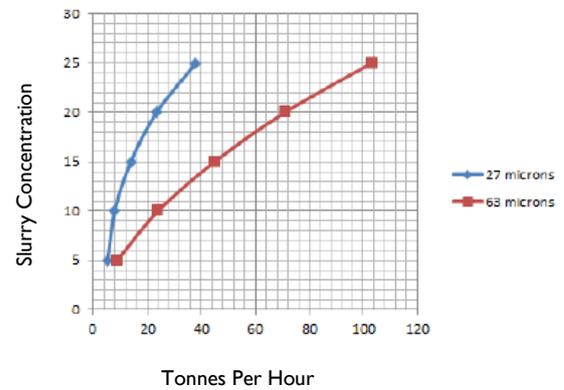


# C15 HYDROCYCLONE

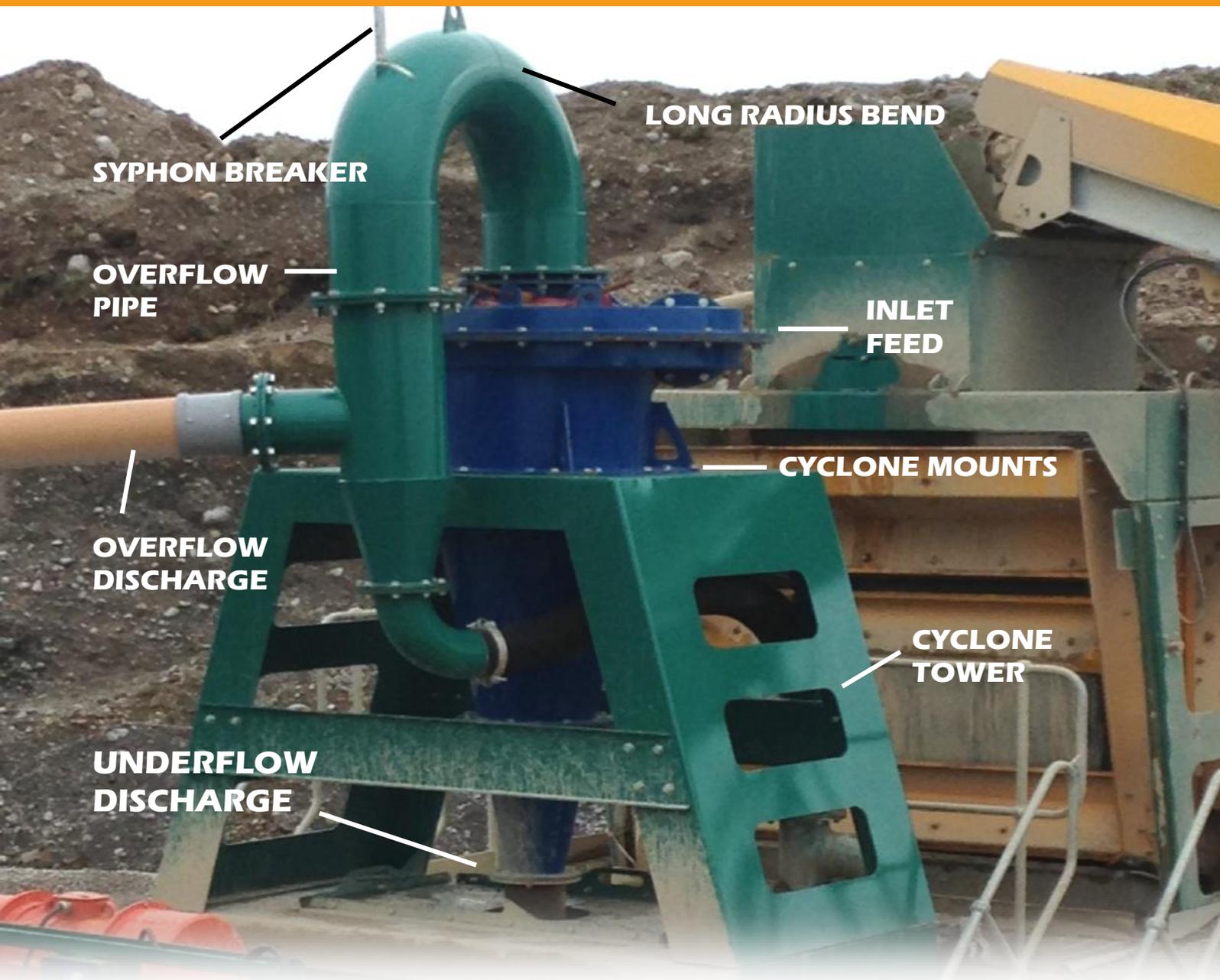
The C15 is currently the smallest cyclone of the Gromatex hydro cyclone range. It has a 380mm feed chamber and a 4" inlet. Typically paired with an 4-3 pump, this cyclone has a max output up to 100 TPH or 55 cubic metres. Desired operating range for slurry concentration is between 0 and 25%. The standard cut point for this cyclone is 63 microns, however a range of cut points can be achieved from 27 to 63 microns.

It is lined with the highest quality abrasive resistive rubber which is designed to work in the toughest applications. The rubber has a shore hardness of 40IRDH and an abrasion resistance of 108. The rubber is hot vulcanised to the steel body at pressure to ensure a top quality seamless liner.

Item No	Part Name
1	Lid
2	Feed Chamber
3	Cone 1
4	Cone 2
5	Spigot and Housing
6	Vortex Finder



# INSTALLATION REQUIREMENTS



**Overflow pipe work** should be manufactured from the pipes specified in the table below. It should also include a syphon breaker vented to atmosphere also as specified in the table. The overflow pipe should be independently supported and should not hang from the cyclone. Flanges are PN16 and details for inlet and overflow flanges can be found at the end of this brochure.

**Underflow** should feed into a collection box and should not have restricting pipework fitted to it.

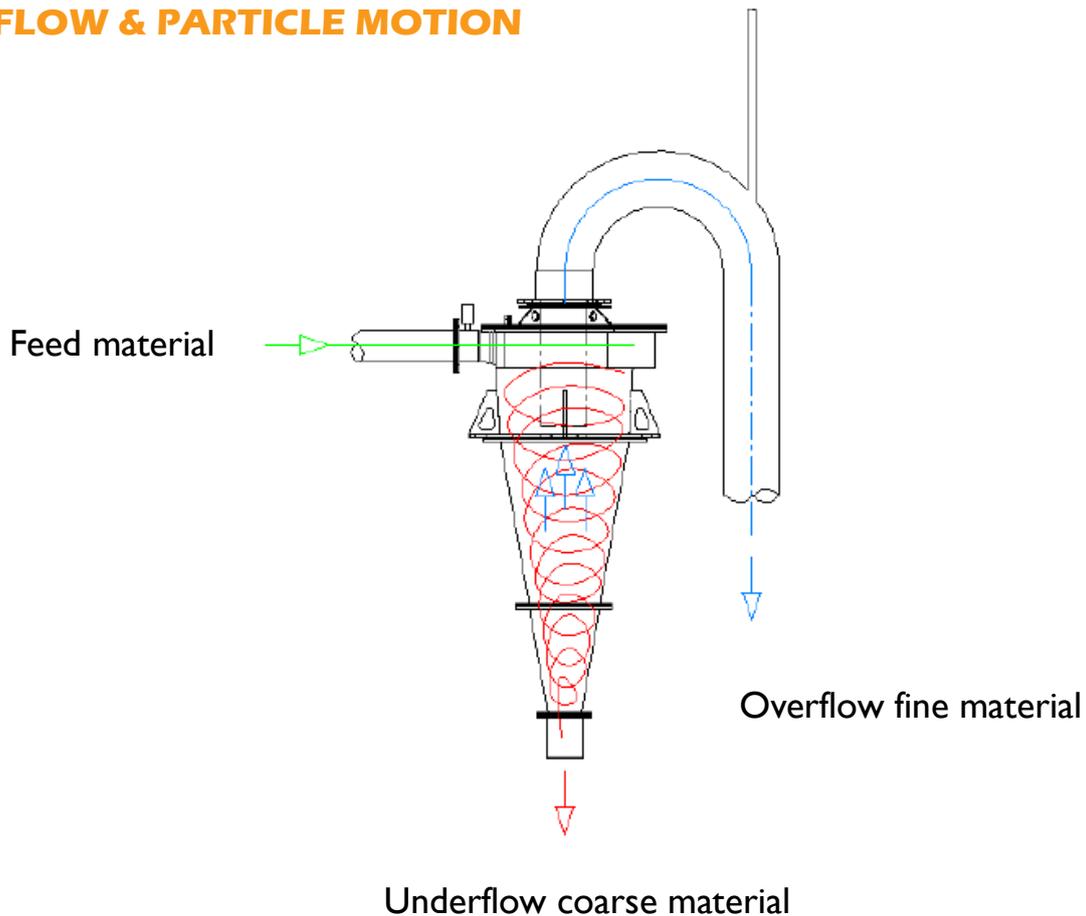
**Cyclone mount and tower** details of the mounting holes PCD can be seen in the table below. Adapter plates are available to allow the cyclone to act as a direct replacement for other cyclone brands.

Cyclone	Syphon Dia	Syphon Length	Overflow Pipe Dia	Mounting PCD
C15	38mm	800mm	212mm	TBC
C20	50mm	800mm	275mm	747mm
C26	50mm	1000mm	323mm	963mm

# OPERATING PRINCIPLES

A hydro-cyclone is a device used for the classification of sub sieve materials typically below 200 microns. The material (in slurry form) is fed into the feed chamber at pressure, using a centrifugal pump. The centrifugal pump is paired with a cyclone to ensure optimal feed rate for the cyclone to perform efficiently.

## FLUID FLOW & PARTICLE MOTION



## PRESSURE WITHIN THE CYCLONE

Due to the conical shape of the cyclone, as the material makes its way down the cone, the pressure increase creating a vortex within the centre of the cyclone capable of lifting particles caught within it, carrying them up through the overflow of the cyclone

## HOW THE SEPARATION OCCURS

The cyclone separates the solid particles due to their relative settling rate. The separation of the solid particles occurs due to centrifugal force which is created within the body of the cyclone. As the material is fed in tangentially, the solid particles are accelerated against the walls of the cyclone. The force within the cyclone acts greatest on the largest particles and are forced against the wall of the cyclone. The smaller finer particles find themselves drawn towards the centre of the cyclone. The finer particles in the centre of the cyclone are caught in the vortex and carried up through the overflow, allowing the coarser particles to continue falling and eventually leaving through the underflow.

# PUMP REQUIREMENTS

Gromatex cyclones can be paired with any brand of centrifugal slurry pump, however care must be taken to ensure that the pump feed rates and operation pressures are optimal with the cyclones requirements to ensure optimal operating conditions and maximum efficiency. Gromatex recommend using Slurry Pro's centrifugal pump range. We can specify and supply pumps according to your specific requirements. As a rule the tables below indicate typical pairings.

## SINGLE PUMP / SINGLE CYCLONE SETUP

Cyclone Type	Cyclone Size	Pump Size	Max Output
C15	380	4-3	Up to 100 TPH
C20	500	6-4	Up to 150 TPH
C26	660	8-6	Up to 200 TPH



## SINGLE PUMP / DOUBLE CYCLONE SETUP

Cyclone Type	Cyclone Size	Cyclone Qty	Pump Size	Max Output
C15	380	2	6-4	Up to 100 TPH
C20	500	2	8-6	Up to 150 TPH
C26	660	2	10-8	Up to 200 TPH

When dealing with cyclo-pacs, i.e. more than two cyclones arranged in a cluster it is advisable to contact Gromatex and our engineers will take on board each specific application and can advise on the set up required.

# CYCLONE PERFORMANCE AND TUNING

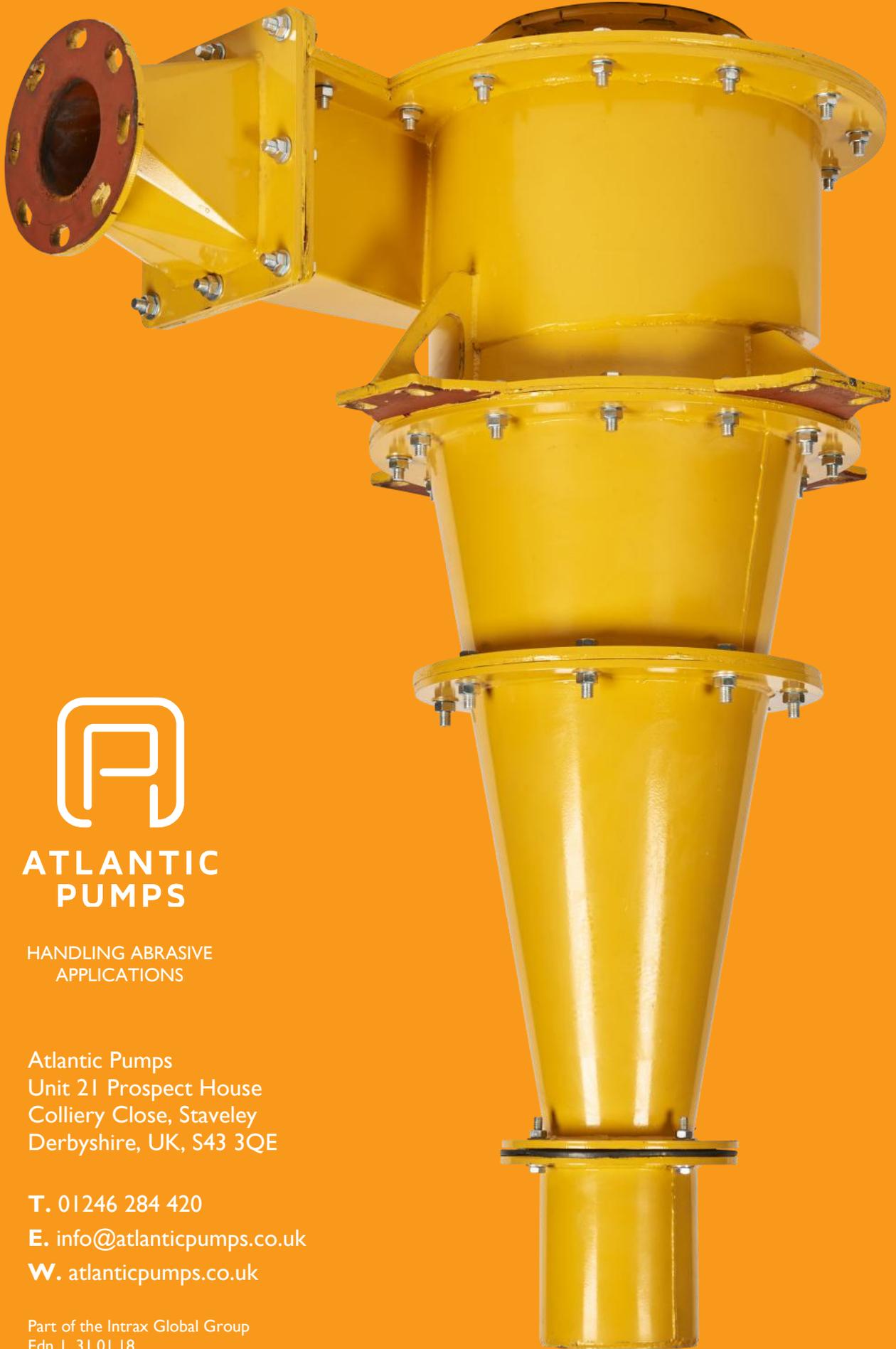
## OPERATING VARIABLES

During the operation of the cyclone there are certain variables that will change and can affect the performance of the cyclone. The two main variables to be concerned about are feed solids concentration and feed pressure.

## CYCLONE VARIABLES

Certain parts within the assembly of the cyclone can be altered to change or tune the properties of the cyclone. Cut points can be managed by changing the inlet diameter, the vortex finder and most easily the spigot assembly. Gromatex carry a fully range of spigots and vortex finder which are available upon request.

Cyclone Type	Cyclone Size (mm)	Typical Cut Point
C15	380	63 microns
C20	500	63 microns
C26	660	75 microns



## ATLANTIC PUMPS

HANDLING ABRASIVE  
APPLICATIONS

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