

ROBSON

HANDLING TECHNOLOGY



ATEX Products
Bulk Handling



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1. ATEX CERTIFIED EQUIPMENT

The risk of an explosion within a dust environment, from such as Conveyors and Elevators etc, has necessitated an approval for equipment used within these areas.

The ATEX directive covers this requirement and became mandatory, for new installations, from July 2003. The DSEAR regulations cover the zoning of the site.

White sugar processing produces sugar dust, Robson's range of White Sugar Conveyors are certified to suit customer and site requirements.

Robson have the experience and the range of products to suit any environment. Over many years Robson have supplied products to the Sugar, Biomass, Food, Chemical, Grain and Coal Industries.

With products that can work within the harshest or more sensitive environments the components used are ATEX certified, the equipment is designed with eliminating risks in mind.

With control sensors monitoring the equipment at all times, any failure or anomaly will alarm and alert users to investigate further. If a problem arises that could cause fire or explosion, it is detected and the plant is automatically shut down to prevent the potential explosion.

The monitoring of the equipment is not the only safeguard.

Robson ATEX Equipment Range has the following equipment where appropriate.

Blast panels.

Sacrificial Panels in the body of the conveyor that give way safely in the event of explosion. Safeguarding the equipment, the plant and the personnel.

Releasing the pressure in a controlled way the panels are the only items damaged and are easy replaceable to minimise disruption and downtime.

Suppression Systems

The technique of explosion suppression involves the detection of a developing explosion at an early stage and extinguishing it before a destructive pressure is reached.

An explosion suppression system consists of an explosion detector, control system and suppressor unit. The suppressor unit contains the suppressant material, which is stored under pressure and released at high speed.



SUGAR INDUSTRY PRODUCTS

2.1 SCREW CONVEYOR (FOR SUGAR)

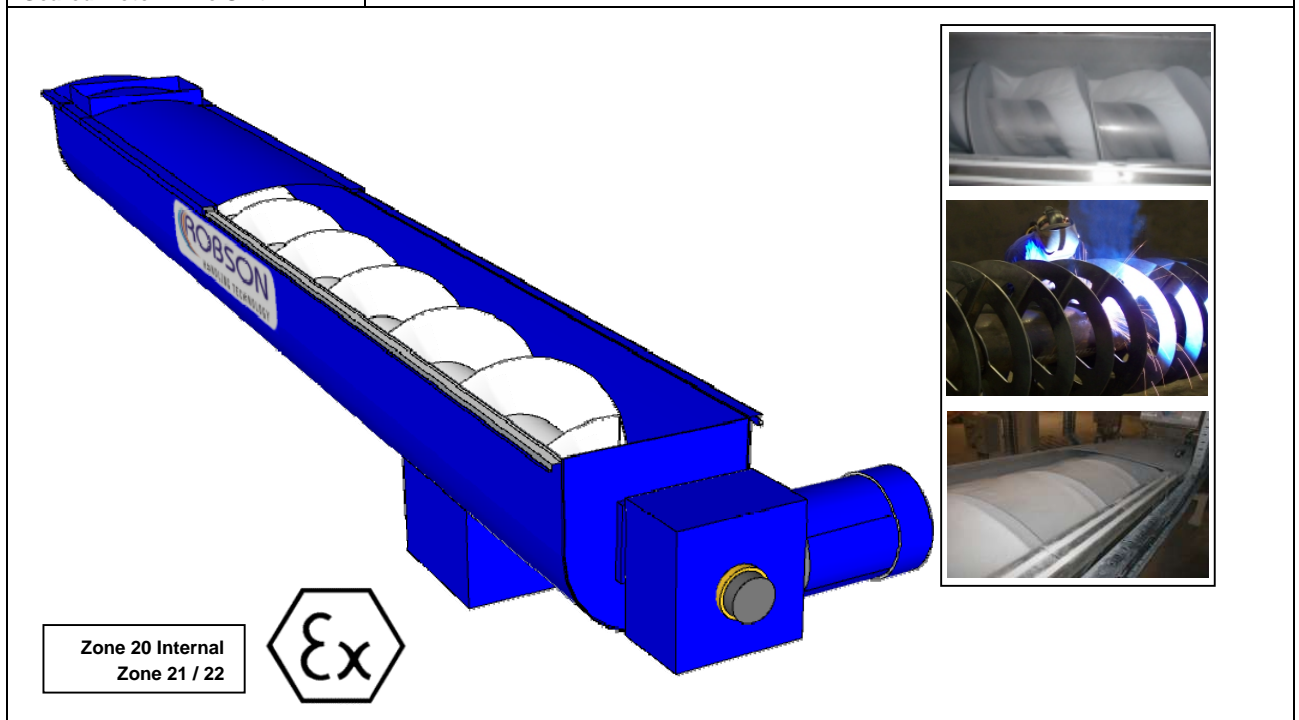
Each Screw Conveyor is bespoke to the customer's requirements; Screw conveyors have a variety of uses. Variations in the flight design allow the Screw Conveyor to:

- Convey
- Mix
- Feed
- Elevate

With the bespoke construction of the screw conveyor it is possible to have multiple in feeds and a single out feed. Made for heavy duty the Robson Screw Conveyor is robust and reliable.

ATEX Certified for the Sugar Industry with the following parameters, variations to standard are available.

Certificate Number	Sira 08ATEX6307X	
Marking	II 1/2 D c b T200°C	II 1/3 D c b T200°C (Ta -15°C to +40°C)
	Steute EEX IS M30 B for Zone 21	Whirlygig PU1DR (A) for Zone 22
Material	Stainless Steel	
Max Surface Temperature	T200°C	
Ambient Temp Range	-15 to + 40°C	
Maximum Length	12.5M	
Maximum Diameter	1500mm	
Maximum Peripheral Speed	3m/S - 80rpm	
Capacity	Max - 100 TPH	
Atex Rating	Zone 20 inside / Zone 21 or 22 outside.	
Rotation Sensor Assembly	Synatel Whirlygig (Baseefa03ATEX0675) with Steute EEX IS M30 B (TÜV 06 ATEX 553179) for Zone 21 or Synatel PU1DR (A) (BAS01ATEX2365X) for Zone 22	
Bearings	Cooper	
Geared Motor Drive Unit	ATEX Rated to Suit Environment	



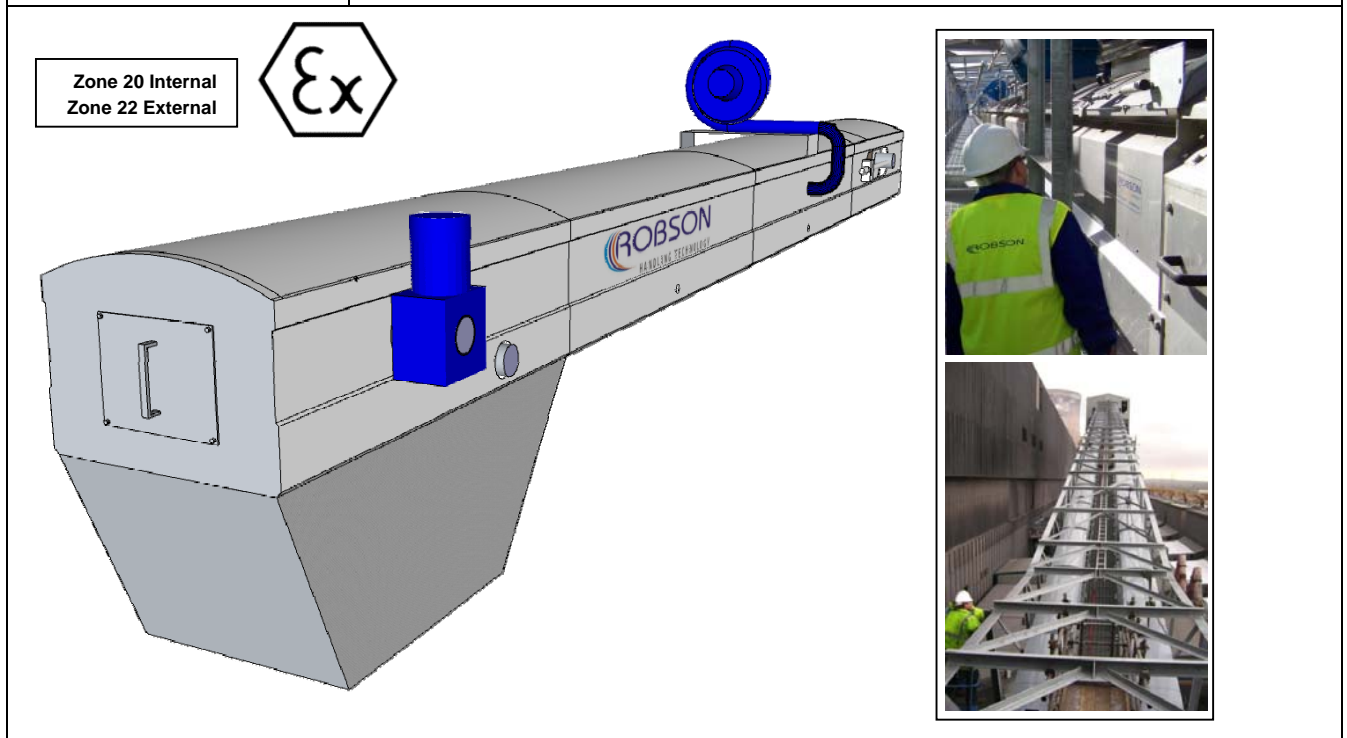
2.2 AIRGLIDE CONVEYOR (FOR SUGAR)

The Robson Airglide Belt Conveyor is a development of the traditional belt conveyor, but instead of carrying idlers it employs a cushion of air, being the means of supporting the loaded belt between the feed and the discharge.

The design uses the latest sheet metal fabrication technology with strong but lightweight construction. These sections are generally pre-assembled and delivered to site as head, tail, 3m intermediate, and make-up, casings, all designed to bolt together to form the requisite length of conveyor.

ATEX Certified for the Sugar Industry with the following parameters, variations to standard are available.

Certificate Number	Sira 07ATEX6155X
Marking	II 1/3 D c b T200°C (Ta -10°C to 50°C)
Material	Stainless Steel
Max Surface Temperature	T200°C
Ambient Temp Range	-10 to + 50°C
Maximum Length	100M
Maximum Width	1200mm
Maximum Peripheral Speed	1.5m/S
Maximum Incline / Decline	20°
Capacity	Max - 100 TPH
Atex Rating	Zone 20 inside / Zone 22 outside.
Fan Unit	To Suit Environment Zone 22 or if Un-zoned Spark free running
Belt	Ammeraal Flexam EF 15/3 10+20 white AS FR FG (578620) (INERIS 03ATE9025U)
Bearings	SKF
Pressure switch	Telemecanique Pressure Switch Ref XMLBL05R2S 12 EX (INERIS 04ATEX0058)
Rotation Sensor Assembly	Synatel Whirlygig (Baseefa03ATEX0675) with Synatel PU1DR (A) (BAS01ATEX2365X) for Zone 22
Belt Alignment	4B Comps Touch Switch TM Electronic Limit Switch 24 VDC TS14VCA (BAS01ATEX2193X) B4004V46CAI Elite Alignment Monitor 110-220 VAC Atex Zone 22
Sealing Tape	Sealing Tape 12x4 Ref RA-91 White
Geared Motor Drive Unit	ATEX Rated to Suit Environment



2.3 BUCKET ELEVATOR CONVEYOR (FOR SUGAR)

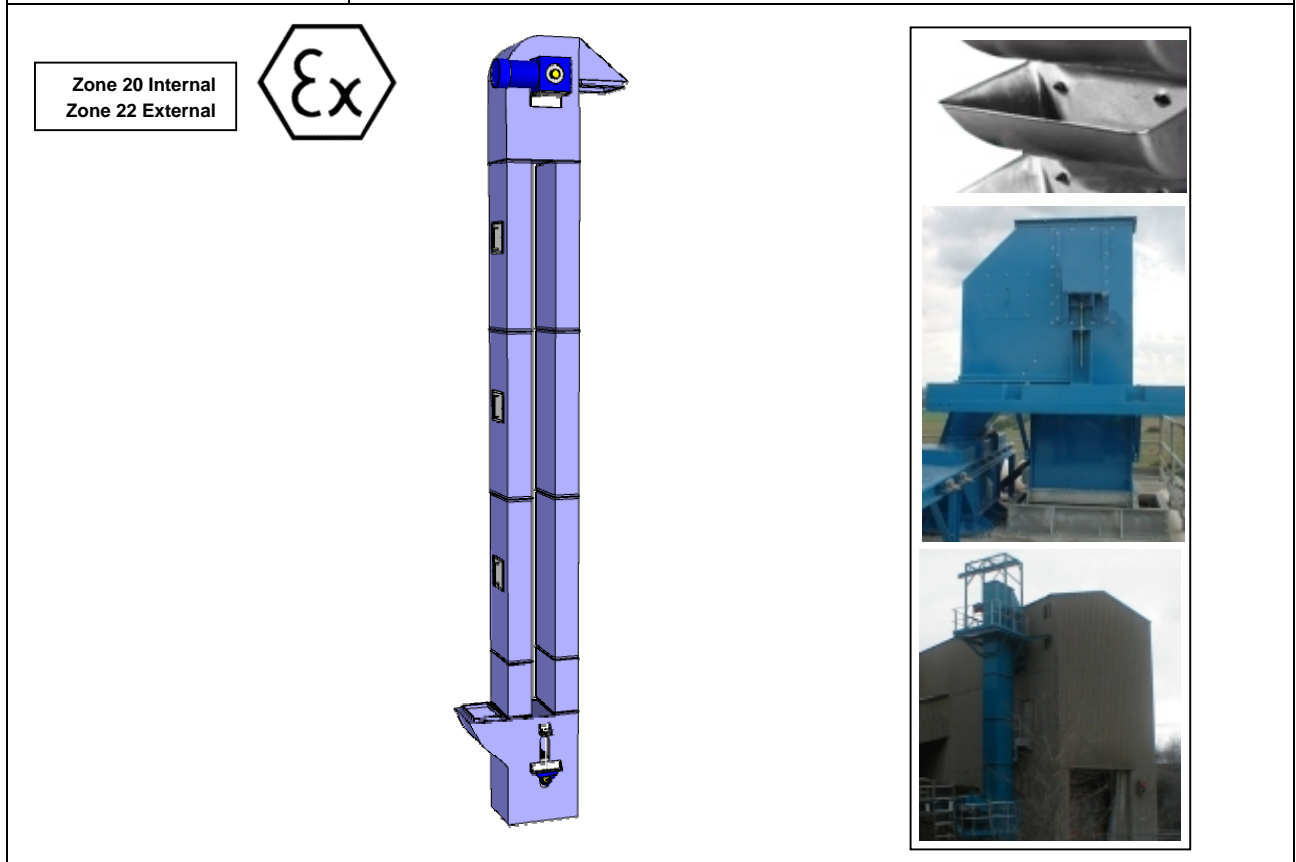
The Robson Bucket Elevator is a precise solution to the vertical movement of dry and free flowing bulk materials. The Bucket Elevator is constructed using stainless steel or mild steel buckets attached to a belt.

Encased in a steel enclosure the elevated material is protected from the atmosphere, giving the Bucket Elevator the ability to be used internally or externally of buildings.

With each bespoke application, the Robson Bucket Elevator is designed to suit the need of the customer's environment and application.

ATEX Certified for the Sugar Industry with the following parameters, variations to standard are available.

Certificate Number	Sira 07ATEX6025X
Marking	II 1/3 D c b T145°C (Ta -10°C to 50°C).
Material	Stainless Steel
Max Surface Temperature	T200°C
Ambient Temp Range	-10 to + 50°C
Maximum Height	150M
Maximum Width	2500mm
Maximum Peripheral Speed	2m/S
Capacity	Max - 500 TPH
Atex Rating	Zone 20 inside / Zone 22 outside.
Rotation Sensor Assembly	Synatel Whirlygig (Baseefa03ATEX0675) with Synatel PU1DR (A) (BAS01ATEX2365X) for Zone 22
Elevator Belt	Elevator Belt 400R 3PLY 3.2 & 1 Thick Covers (INERIS 03ATEX9025U) Antistatic & Flame Retardant
Belt Alignment	WDA3V34CAI Belt Misalignment / Tracking Sensor Unit 12-24VDC Atex Zone 20 (Baseefa05ATEX0089X) A4004V46CAI Elite Alignment Monitor 110-220 VAC Atex Zone 22 (Baseefa04ATEX0131X)
Bearings	Cooper
Geared Motor Drive Unit	ATEX Rated to Suit Environment



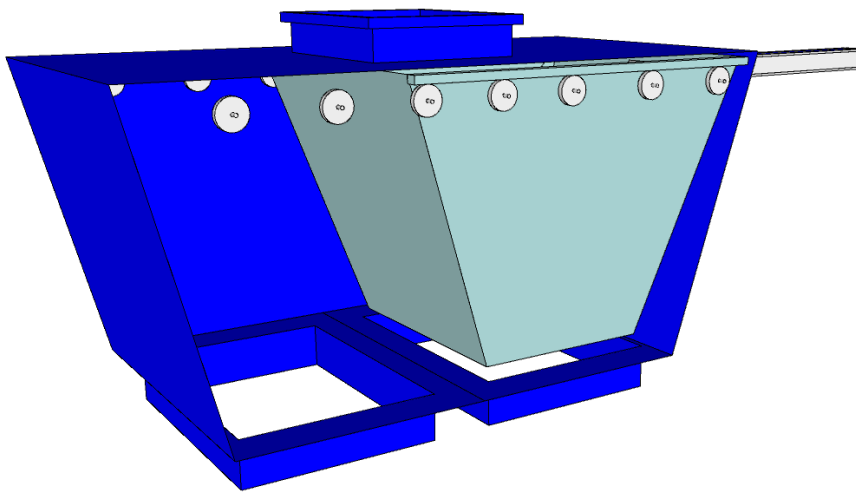
2.4 SHUTTLE CHUTE, SLIDE VALVE AND FLAP VALVE

Shuttle Chute's are used to divert the flow of material from one chute to another. An internal sliding bucket assembly is actuated via a pneumatic cylinder. The bucket is mounted on flanged wheels to ensure a smooth operation.

Slide Valves are used to stop the flow of material; pneumatic cylinders are also used to operate the valve from the open to the closed position.

Flap valves are used inline to quickly divert the flow of material, normally used in connection with metal or foreign object detectors as reject flap valves. The Flap Valve operates to reject a slug of material from the main flow to the reject chute.

Certificate Number	Sira 09ATEX6104X
Marking	II 1/3 D c T145°C (Ta -10°C to +50°C)
Material	Stainless Steel / Mild Steel
Max Surface Temperature	T145°C
Ambient Temp Range	-10 to + 50°C
Maximum Length	3500mm
Maximum Width	700mm
Capacity	Max - 500 TPH
Atex Rating	Zone 20 inside / Zone 22 outside.
Proximity Switch	Schneider XS618B1PAL10EX Proximity Sensor (INERIS 04ATEX0022X)
Pneumatic Cylinder	To Suit the Requirement and Environment.
Solenoid Valve	Double Acting Solenoid Valve 0820 025912 (PTB 03 ATEX 2081 X)



Zone 20 Internal
Zone 22 External



3. BIOMASS INDUSTRY PRODUCTS

3.1 SCREW CONVEYOR (FOR BIOMASS)

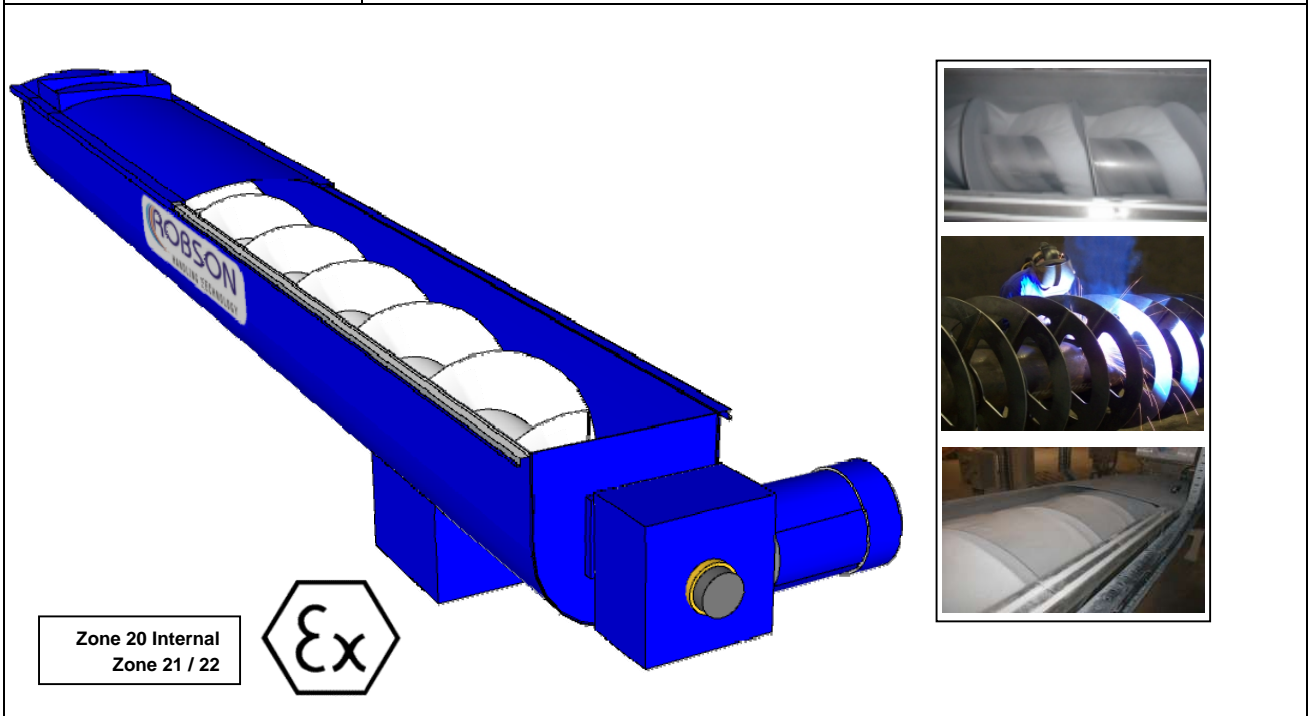
Each Screw Conveyor is bespoke to the customer's requirements; Screw conveyors have a variety of uses. Variations in the flight design allow the Screw Conveyor to:

- Convey
- Mix
- Feed
- Elevate

With the bespoke construction of the screw conveyor it is possible to have multiple in feeds and a single out feed. Made for heavy duty the Robson Screw Conveyor is robust and reliable.

ATEX Certified for the Biomass Handling Industry with the following parameters, variations to standard are available.

Certificate Number	Sira 08ATEX6350X	
Marking	II 1/2 D c T135°C Ta -10°C to +40°C	II 1/3 D c T135°C Ta -10°C to +40°C
	Zone 20 inside Zone 21 outside	Zone 20 inside Zone 22 outside
Material	Stainless Steel / Mild Steel	
Max Surface Temperature	T135°C	
Ambient Temp Range	-10 to + 40°C	
Maximum Length	12.5M	
Maximum Diameter	1500mm	
Maximum Peripheral Speed	1.5m/S - 80rpm	
Capacity	Max - 500 TPH	
Atex Rating	Zone 20 inside / Zone 21 or 22 outside.	
Rotation Sensor Assembly	Synatel Whirlygig (Baseefa03ATEX0675) with Steute EEX IS M30 B (TÜV 06 ATEX 553179) for Zone 21 or Synatel PU1DR (A) (BAS01ATEX2365X) for Zone 22	
Bearings	Cooper	
Geared Motor Drive Unit	ATEX Rated to Suit Environment	



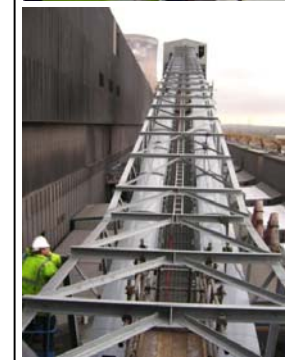
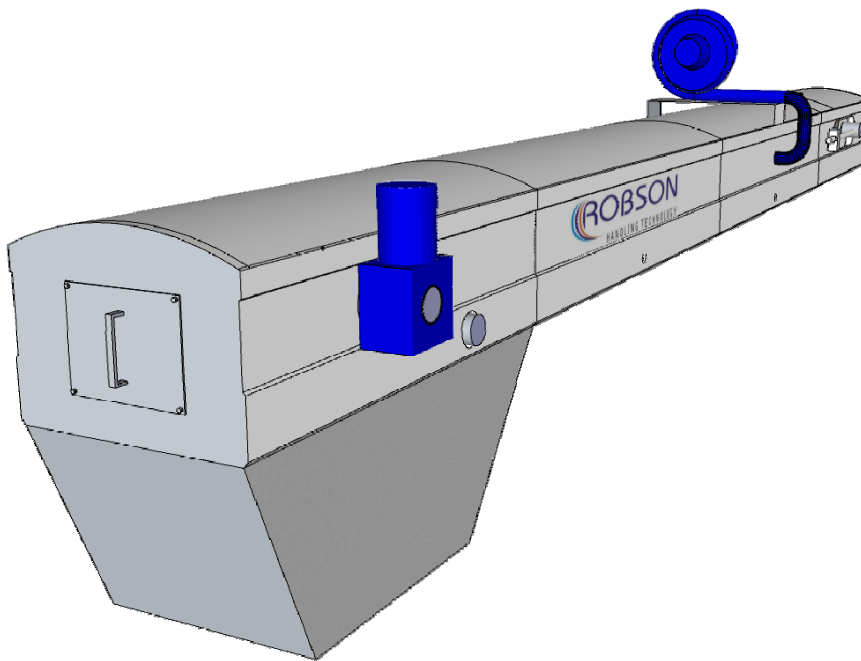
3.2 AIRGLIDE CONVEYOR (FOR BIOMASS)

The Robson Airglide Belt Conveyor is a development of the traditional belt conveyor, but instead of carrying idlers it employs a cushion of air, being the means of supporting the loaded belt between the feed and the discharge.

The design uses the latest sheet metal fabrication technology with strong but lightweight construction. These sections are generally pre-assembled and delivered to site as head, tail, 3m intermediate, and make-up, casings, all designed to bolt together to form the requisite length of conveyor.

ATEX Certified for the Biomass Handling Industry with the following parameters, variations to standard are available.

Certificate Number	Sira 09ATEX6098X	
Marking	II 1/2 D c b T135°C Ta = -10°C to +40°C	II 1/3 D c b T135°C Ta = -10°C to +40°C
	Zone 20 inside Zone 21 outside	Zone 20 inside Zone 22 outside
Material	Stainless Steel	
Max Surface Temperature	T135°C	
Ambient Temp Range	-10 to + 40°C	
Maximum Length	100M	
Maximum Width	1200mm	
Maximum Peripheral Speed	1.5m/S	
Maximum Incline / Decline	20°	
Capacity	Max - 500 TPH	
Atex Rating	Zone 20 inside / Zone 21 or 22 outside.	
Fan Unit	To Suit Environment Zone 22 or if Un-zoned Spark free running	
Belt	Rap EP 315/3 PLY Nitrile Oil Resistant and Fire Retardant to DIN22103k	
Bearings	SKF	
Pressure switch	Telemecanique Pressure Switch Ref XMLBL05R2S 12 EX (INERIS 04ATEX0058)	
Rotation Sensor Assembly	Synatel Whirlygig (Baseefa03ATEX0675) with Steute EEX IS M30 B (TÜV 06 ATEX 553179) for Zone 21 or Synatel PU1DR (A) (BAS01ATEX2365X) for Zone 22	
Sealing Tape	Sealing Tape 12x4 Ref RA-91 White	
Geared Motor Drive Unit	ATEX Rated to Suit Environment	



Zone 20 Internal
Zone 21 / 22



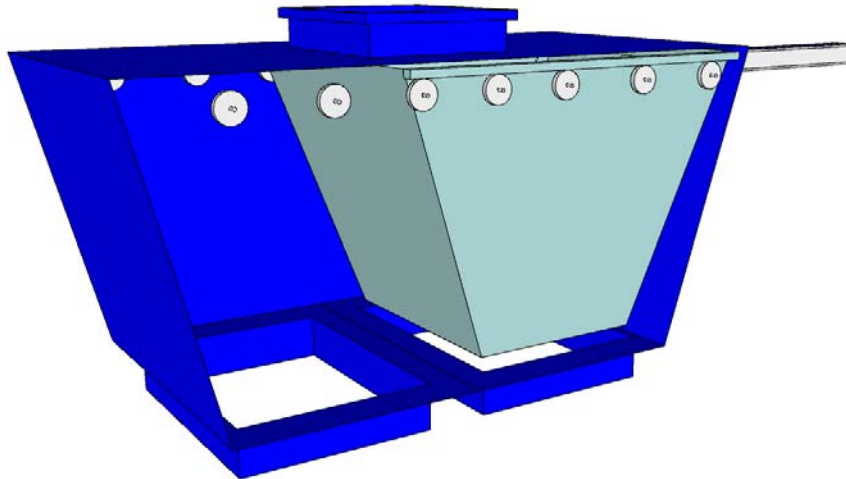
3.3 SHUTTLE CHUTE, SLIDE VALVE AND FLAP VALVE (FOR BIOMASS)

Shuttle Chute's are used to divert the flow of material from one chute to another. An internal sliding bucket assembly is actuated via a pneumatic cylinder. The bucket is mounted on flanged wheels to ensure a smooth operation.

Slide Valves are used to stop the flow of material; pneumatic cylinders are also used to operate the valve from the open to the closed position.

Flap valves are used inline to quickly divert the flow of material, normally used in connection with metal or foreign object detectors as reject flap valves. The Flap Valve operates to reject a slug of material from the main flow to the reject chute.

Certificate Number	Sira 09ATEX6104X
Marking	II 1/3 D c T145°C Ta = -10°C to +50°C
Material	Stainless Steel / Mild Steel
Max Surface Temperature	T145°C
Ambient Temp Range	-10 to + 40°C
Maximum Length	3500mm
Maximum Width	700mm
Capacity	Max - 500 TPH
Atex Rating	Zone 20 inside / Zone 22 outside.
Proximity Switch	TELEMECHNIQUE 18 DIA PROXIMITY SENSOR (INERIS 04ATEX0022X)
Pneumatic Cylinder	To Suit the Requirement and Environment.
Solenoid Valve	Double Acting Solenoid Valve 0820 025912 (PTB 03 ATEX 2081 X)



Zone 20 Internal
Zone 22 External



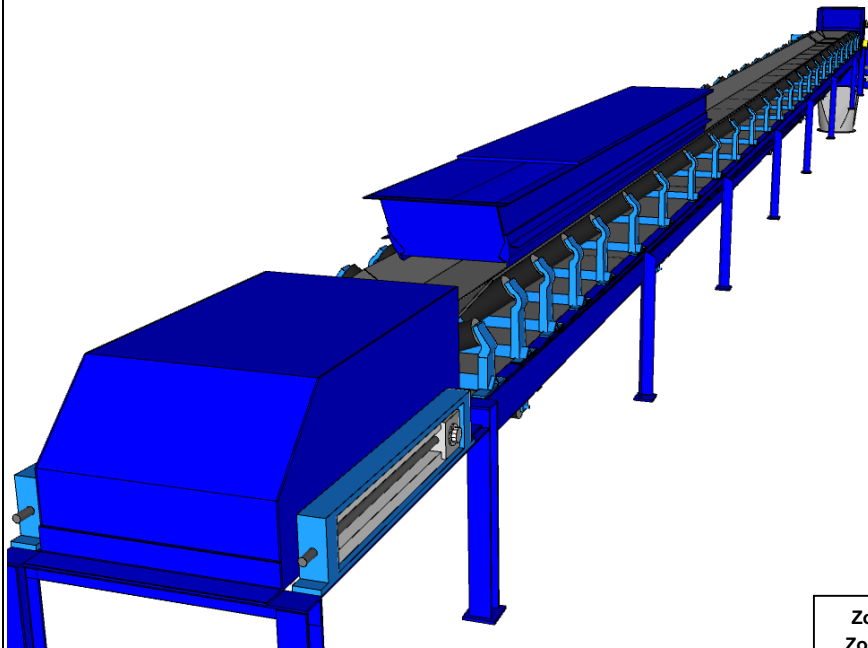
3.4 BELT CONVEYOR (FOR BIOMASS)

The Robson Belt Conveyor is manufactured from only the best quality components, driven by drive units and gearboxes supplied by the top motor manufacturers.

The Robson Belt Conveyor is robust enough to perform in the harshest of environments and offers an enviable reliability.

ATEX Certified for the Biomass Handling Industry with the following parameters, variations to standard are available.

Certificate Number	Sira 09ATEX6114X
Marking	II 1/3 D c b T135°C Ta = -10°C to +40°C
Material	Mild Steel
Max Surface Temperature	T135°C
Ambient Temp Range	-10 to + 40°C
Maximum Length	100M
Maximum Width	1500mm
Maximum Incline / Decline	20°
Maximum Peripheral Speed	2m/S - 80rpm
Capacity	Max 500 TPH
Atex Rating	Zone 20 inside 22 outside.
Rotation Sensor Assembly	Synatel Whirlygig (Baseefa03ATEX0675) with Synatel PU1DR (A) (BAS01ATEX2365X) for Zone 22
Geared Motor Drive Unit	ATEX Rated to Suit Environment



Zone 20 Internal
Zone 22 External



3.5 VIBRATORY CONVEYOR & VIBRATORY SCREENS (FOR BIOMASS)

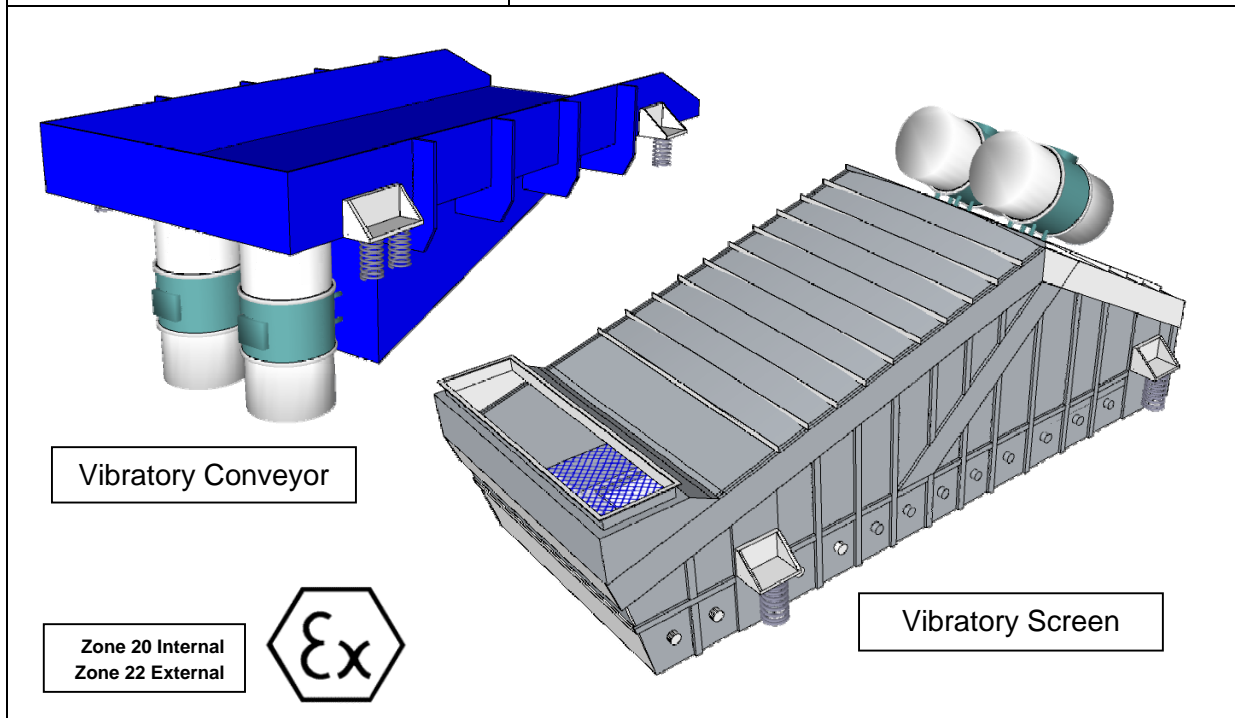
The Vibration Feeder Conveyor is designed for conveying biomass materials. It comprises of a fabricated stainless steel or mild steel trough mounted on springs or rubber mounts.

A pair of unbalanced rotary motors rotating in opposite directions provides the required oscillation to convey the material; alternatively, electro-magnetic motors may be used.

The Vibratory Screen is of a similar construction to the Vibration Feeder Conveyor with the material moving along a screen deck. Oversized material or foreign objects are held by the screen or conveyed to a reject chute.

ATEX Certified for the Biomass Handling Industry with the following parameters, variations to standard are available.

Certificate Number	Sira 09ATEX6121X
Marking	II 1/3 D c T135°C Ta -10°C to +40°C
Material	Stainless Steel / Mild Steel
Max Surface Temperature	T135°C
Ambient Temp Range	-10 to + 40°C
Maximum Length	10M
Maximum Width	3000mm
Capacity	Max – 500m ³ per hour
Atex Rating	Zone 20 inside 22 outside.
Unbalanced Motors / Electromagnetic Drive	ATEX Rated to Suit Environment
Mounts	Springs or Rubber Mounts
Screens	Stainless Steel



3.6 OVERBAND MAGNET SEPARATOR (FOR BIOMASS)

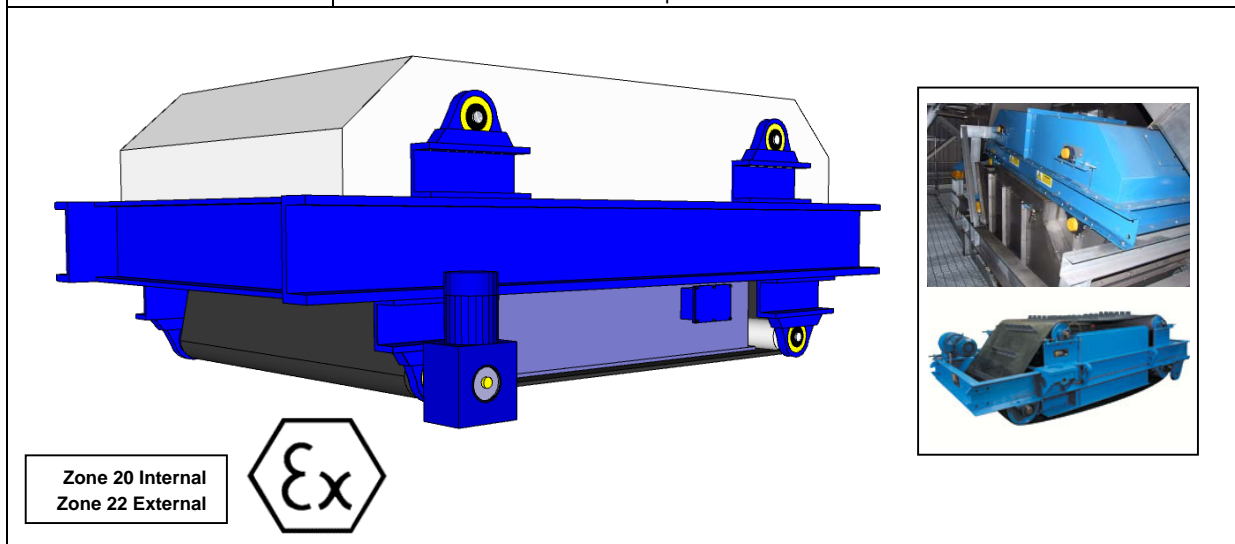
The Robson Overband Separators are effective units for the continuous removal of tramp metal/ferrous material from a product stream. This type of magnetic separator is used to protect, clean and separate materials on Biomass applications. Overband Magnets are self-cleaning, so that no manual cleaning is required and downtime for the end user is reduced to a minimum.

Due to its high magnetic strength, the overband is able to work at an increased operating gap, enabling it to extract ferrous from deep troughed conveyors and at a faster speed should customers want to increase the feed rate.

Overband Magnets are commonly used for installation in Power Generation Plants within the Kiln and or recycling industries where they would be positioned either inline over the head pulley, across a conveyor belt or above a Vibratory Conveyor.

ATEX Certified for the Biomass Handling Industry with the following parameters, variations to standard are available.

Certificate Number	Sira 09ATEX6144X
Marking Belt Assembly	II 1/3 D c b T135°C (Ta = -10°C to + 40°C)
Marking Magnet Assembly	Ex tD A20 IP6X T135°C (Ta = -10°C to + 40°C)
Material	Mild Steel
Max Surface Temperature	T135°C
Ambient Temp Range	-10 to + 40°C
Maximum Length	To Suit Application
Maximum Width	To Suit Application
Maximum Speed	0.7m/S
Atex Rating	Zone 20 inside 22 outside.
Rotation Sensor Assembly	Synatel Whirlygig (Baseefa03ATEX0675) with Synatel PU1DR (A) (BAS01ATEX2365X) for Zone 22
Temperature Sensor	TST 310 Temperature Sensor
Geared Motor Drive Unit	ATEX Rated to Suit Environment
Note	Oil Cooler and Transformer to be placed in safe area.



3.7 DRUM MAGNET SEPARATOR (FOR BIOMASS)

The Robson Drum Magnet Separators are effective units for the continuous removal of tramp metal/ferrous material from a product stream. This type of magnetic separator is used to protect, clean and separate materials on Biomass applications.

The Drum Magnet is designed to remove ferrous materials from biomass material within a conveying system. It comprises a shaft mounted, stainless steel drum rotating about a stationary permanent magnet; these are all within a mild steel casing. The material flows over the drum, which attracts ferrous objects and deposits them to the reject chute.

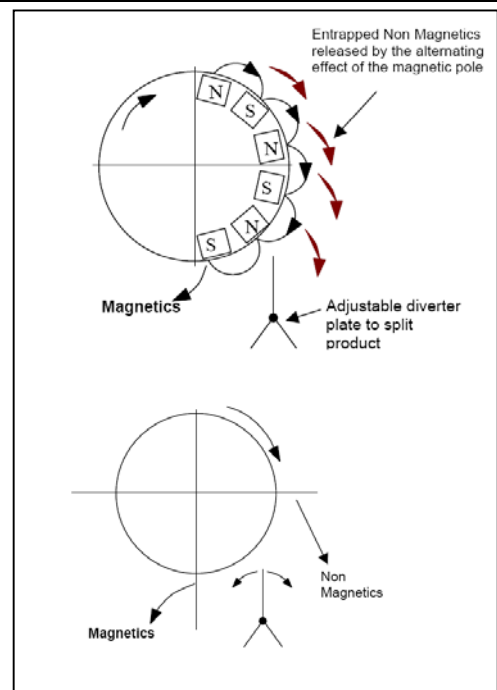
Drum Magnet Separators are commonly used for installation in the Power Generation and the Kiln Firing Process industries where they would be positioned within vertical chutes.

ATEX Certified for the Biomass Handling Industry with the following parameters, variations to standard are available.

Certificate Number	Sira 09ATEX6128X
Marking Belt Assembly	II 1/3 D c b T135°C Ta = -10°C to +40°C
Material	Mild Steel
Max Surface Temperature	T135°C
Ambient Temp Range	-10 to + 40°C
Maximum Length	2m
Maximum Width	2m
Maximum Speed	50RPM
Atex Rating	Zone 20 inside 22 outside.
Rotation Sensor Assembly	Synatel Whirlygig (Baseefa03ATEX0675) with Synatel PU1DR (A) (BAS01ATEX2365X) for Zone 22
Geared Motor Drive Unit	ATEX Rated to Suit Environment



Zone 20 Internal
Zone 22 External



3.8 ANCILLARY EQUIPMENT

Robson scope also includes the supply Atex Rated ancillary items and protection equipment including:

- Walkway and Gantry Lighting
- Blockage Detectors
- Level Transmitters
- Emergency Stop Buttons and Pull Wire E-Stop Systems
- Pressure Relief Valves
- Detection Systems Flame / Spark / Smoke / Gas
- Belt Break Sensors
- Water Deluge Systems
- Suppression Systems
- Relief Panels
- Diverter Chutes and Reject Systems
- Metal Detection and Screening Systems
- Sampling Systems
- Dosing, Measuring and Weighing Systems



Robson Conveyor Systems exported to over 40 countries



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