RADIAL GRADER R

The radial grader is designed for grading a wide range of vegetables, including carrots, potatoes, onions, parsnips, flower bulbs, beets, rutabaga, and other similarly shaped produce.

General description

The radial grader is designed for grading a wide range of vegetables, including carrots, potatoes, onions, parsnips, flower bulbs, beets, rutabaga, and other similarly shaped produce. The Allround radial grader is a two-dimensional grading system designed for efficient produce sorting based on diameter size. The grading size can be adjusted manually or automatically. The grading size is adjustable on every belt except the last, because the largest size is always sorted on the last belt.

The produce is transported and rotated over rollers. The distance between the rollers increases, so as the produce is being transported, it will fall from small to large between the rollers. The produce falls onto a belt, which continues transportation. Several belts are mounted for several grading sizes. Adjustable angles are mounted to get the size faster and give produce more time to drop on the belt.

All dimensions in cm

Grading size minimum – maximum (mm)								
Roll diameter	Pitch 63 mm	Pitch 76.2 mm	Pitch 80 mm	Pitch 90 mm	Pitch 100 mm	Pitch 110 mm	Pitch 125 mm	Pitch 160 mm
57 mm	6 – 69	–	–	–	–	–	–	–
70 mm	–	6.2 – 82.4	10 – 90	20 – 110	30 – 130	40 – 150	55 – 180	90 – 250
76 mm	–	–	4 – 84	14 – 104	24 – 124	34 – 144	49 – 174	84 – 244
84 mm	–	–	–	6 – 96	16 – 116	26 – 136	41 – 166	76 – 236
89 mm	–	–	–	–	11 – 111	21 – 131	36 – 161	71 – 231

Estimated capacity (tons / hour)							
	R 80	R 120	R 150	R 165	R 180	R 200	R 260
Carrots	3 – 4	8	14	–	20	25	35
Baby carrots	3 – 4	5 – 8	10 – 12	–	14 – 16	18 – 22	25 – 30
Red beet	5 – 6	8 – 10	14 – 16	–	22 – 30	35	45
Potatoes	6 – 7	8 – 10	15 – 18	–	22 – 30	35 – 40	45 – 50
Parsnips	2 – 3	3 – 4	6 – 8	–	12	18	24
Onions	6 – 7	8 – 10	15 – 18	–	22 – 30	35 – 40	60
Set onions	3 – 5	6 – 8	10 – 12	–	14 – 16	18 – 22	25 – 30

All capacities are indications based on experience from the past and depend on the agro climatic, soil and logistic conditions of the product, Allround VP does not guarantee any of these.

Characteristics

- ✓ Sorts produce by diameter using rotating rollers with progressively increasing gaps
- ✓ Smaller produce falls through earlier, while larger ones continue forward for precise separation
- ✓ Each size category is collected on a dedicated conveyor belt for organized and continuous handling
- ✓ Adjustable angles improve grading precision and optimize product drop timing
- ✓ Grading size can be adjusted manually or automatically
- ✓ Ensures high efficiency, accuracy, and gentle product handling
- ✓ Anti-lift on every belt except the last. This option prevents the rollers from being lifted by produce and is typically used for elongated produce
- ✓ The frame can be made from painted mild steel, stainless steel AISI304, or zinc-sprayed painted mild steel. But the bearings and drive/idle rollers are always made from mild steel

Options:

- **Material and treatment (frame)**
  - Painted mild steel — Frame is made from painted mild steel. The bearings and drive/idle rollers are from mild steel
  - Stainless steel — Frame is made from stainless steel AISI304. The bearings and drive/idle rollers are from mild steel
  - Zinc sprayed painted mild steel — Frame is made from sandblasted, zinc sprayed and painted mild steel. The bearings and drive/idle rollers are from mild steel
- **Material and treatment (plating)**
  - Zinc plated steel — The plating is made from zinc plated steel
  - Stainless steel — The plating is made from stainless steel AISI304)
- **Belt**
  - Belt Width — The width of the belt is 40, 60, 80, 100 or 120
- **Electrical control**
  - No electric — Motors and necessary sensors

Options:

Stand-alone	Motors, necessary sensors and control panel with or without HMI. The length of the cable is 5, 10, 15 or 20 meter
Central control in line	Motors and necessary sensors

- **Material and treatment (electrical panel)**

Painted mild steel	The electrical panel is made from painted mild steel
Stainless steel	The electrical panel is made from stainless steel AISI304

- **Material and treatment (subframe)**

Painted mild steel	It is made of painted mild steel
Stainless steel	It is made of stainless steel AISI304
Galvanized steel	It is made of galvanized steel

- **Height of subframe**

Height of subframe	0 – 7 meters

- **Adjustment grading size**

Manual	The grading size can be adjusted manually by spindles. The position of the spindles is on the left or right side of the machine (produce perspective). The grading size is adjustable on every belt except the last, because the largest size is always sorted on the last belt
Automatic	The grading size can be adjusted automatically. The grading size is adjustable on every belt except the last, because the largest size is always sorted on the last belt

- **Conveyor movement**

Fixed conveyors	Conveyors can not be moved inside the radial grader
Manual	Conveyors can be moved manually inside the radial grader
Automatic	Conveyors can be moved automatically inside the radial grader

- **Alignment**

Brush on top	A brush is included to align product
Anti-lift	Anti-lift on every belt except the last. This option prevents that the rollers are lifted by produce, typically used for elongated products
Brake flap	There are 1, 2 or 3 brake flaps included to align the produce

- **Cleaning**

Cleaning brush	A brush is included to clean the rollers
Roll cleaning mat	A roll cleaning mat is mounted inside the machine to clean the rollers
Spray tube	A spray tube is included to either desinfect the product or keep the rollers slippery

- **Chain greasing**

Manual	The chain can be greased manually
Automatic	The chain is greased automatically

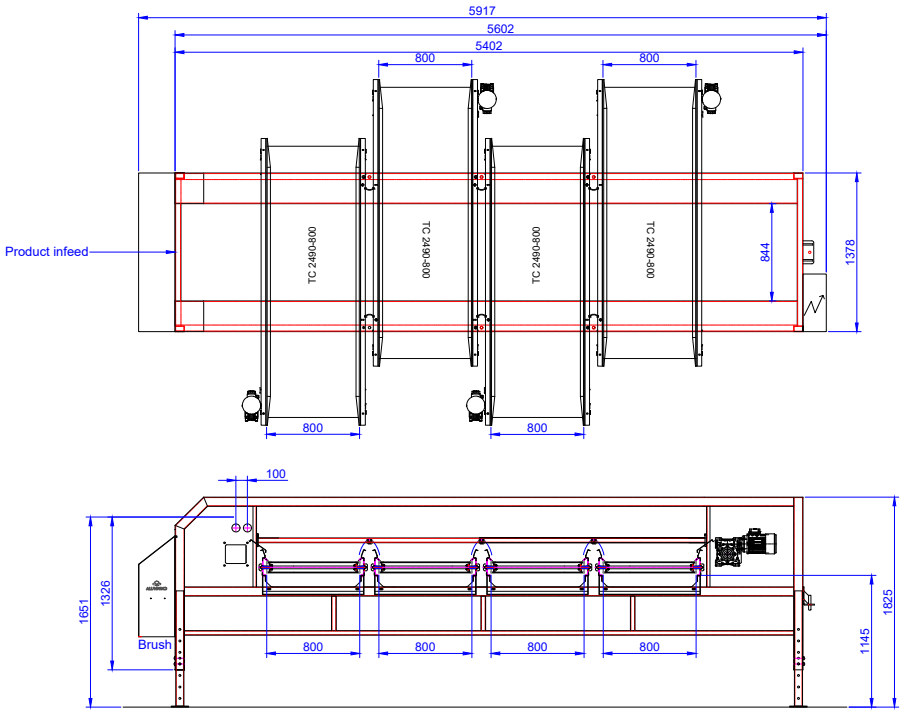
- **Oversize valve**

Oversize valve	The machine shuts down when product gets stuck between the rollers

- **Oversize sail**

Oversize sail	A sail is included to catch the oversized product

R 80

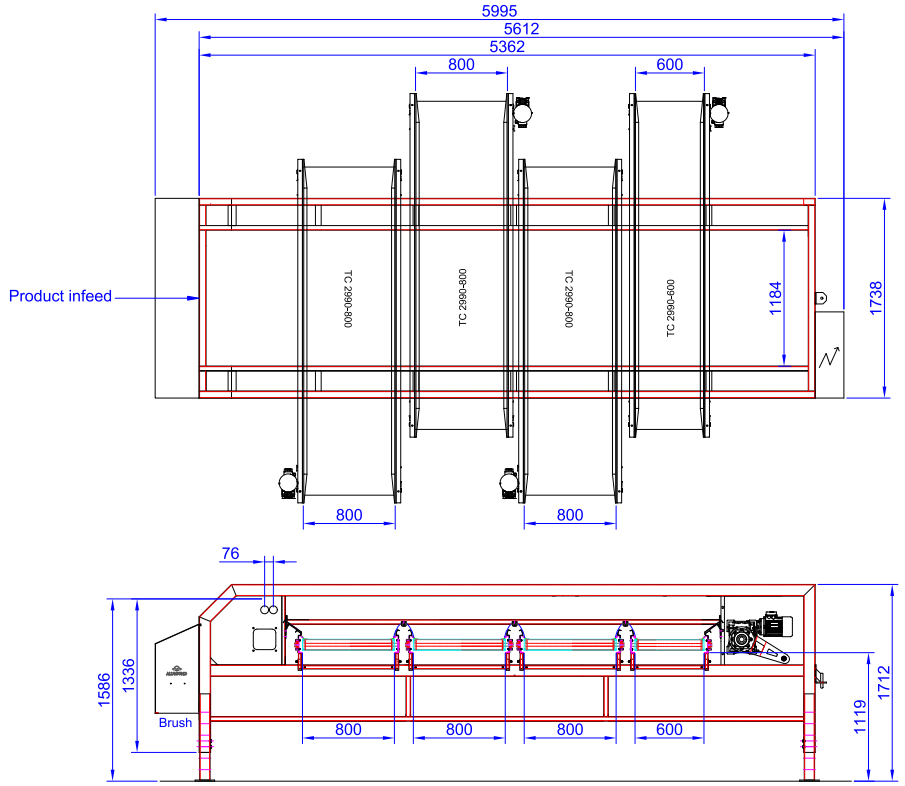


Note= 1. Ht of radial grader is Adjustable.
2. Belts Length & Direction is as per Client Demand.

For discussion only!
The dimensions are approximately.
We are free to resize and change the machines,
When we deem it necessary.

ALLROUND VEGETABLE PROCESSING	R80-70-4 stc63 stc80 stc90 stc100		
	Engineer: DS	Project: Standard	Product:
	Checked by:	Drawing Nr: 05	Capacity:
	Scale: 1:30 A3	Date: 05-07-2021	Box size:

R 120



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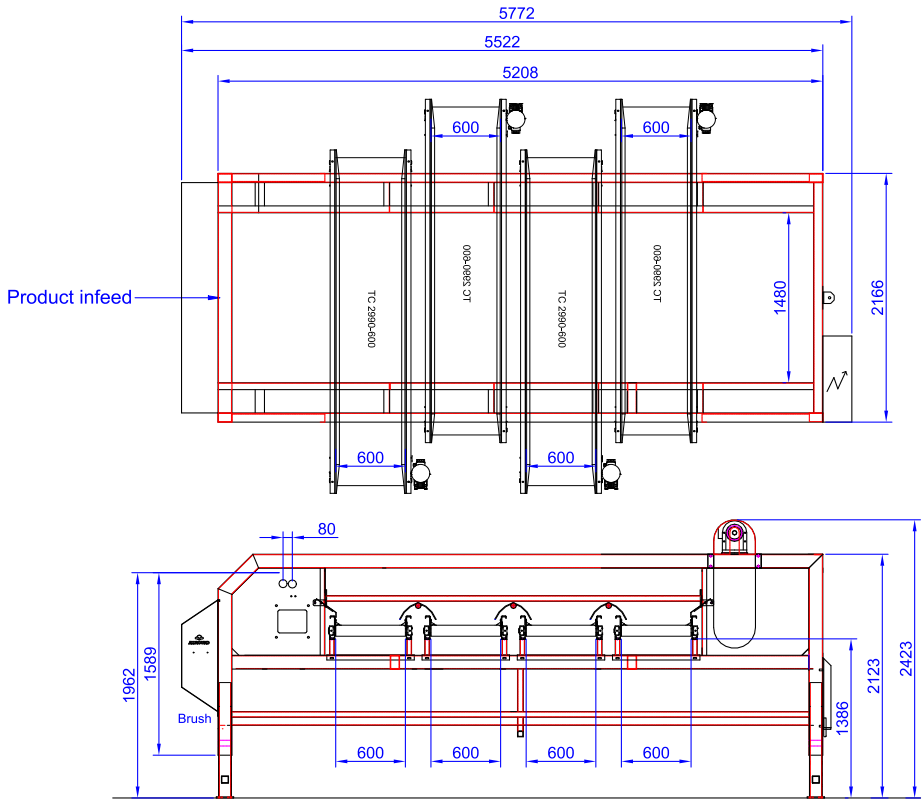
ALLROUND VEGETABLE PROCESSING	R 120-70-4 stc76		
	Engineer: DS	Project: Standard	Product:
	Checked by: SR	Drawing Nr: 13	Capacity:
	Scale: 1:30 A3	Date: 07-07-2021	Box size:

R 150



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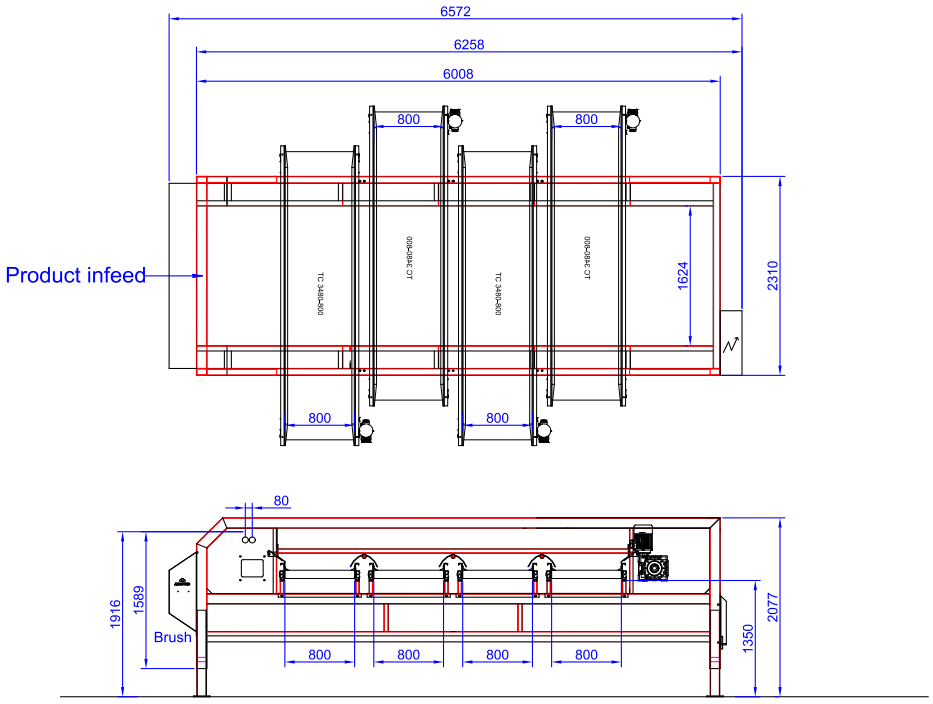
ALLROUND VEGETABLE PROCESSING		R 150-70-4 stc 80	
	Engineer: DK	Project: Standard	Product:
	Checked by:	Drawing Nr: 01	Capacity:
	Scale: 1:30 A3	Date: 17-07-2021	Box size:

R165



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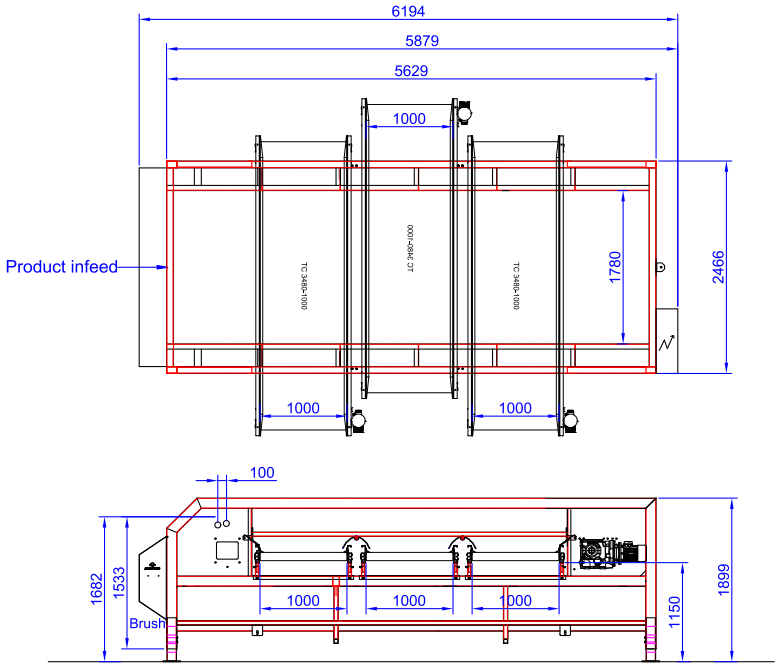
ALLROUND VEGETABLE PROCESSING		R 165-70-4 stc 80	
	Engineer: DK	Project: Standard	Product:
	Checked by:	Drawing Nr: 01	Capacity:
	Scale: 1:40 A3	Date: 26-07-2021	Box size:

R 180



Note= 1. Ht of radial grader is Adjustable.
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ALLROUND VEGETABLE PROCESSING		R 180-70-3 stc 100	
	Engineer: DK	Project: Standard	Product:
	Checked by:	Drawing Nr: 01	Capacity:
	Scale: 1:40 A3	Date: 27-07-2021	Box size:

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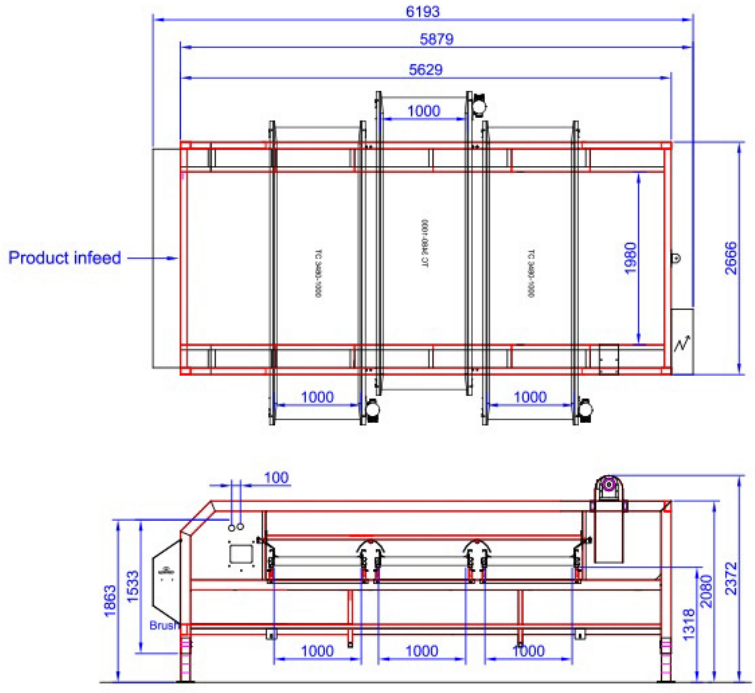
R 200



Note= 1. Ht of radial grader is Adjustable.
2. Belts Length & Direction is as per Client Demand.

ALLROUND VEGETABLE PROCESSING		R 200-70-3 stc 100	
	Engineer: DK	Project: Standard	Product:
	Checked by:	Drawing Nr: 01	Capacity:
	Scale: 1:40 A3	Date: 27-07-2021	Box size:

For discussion only!
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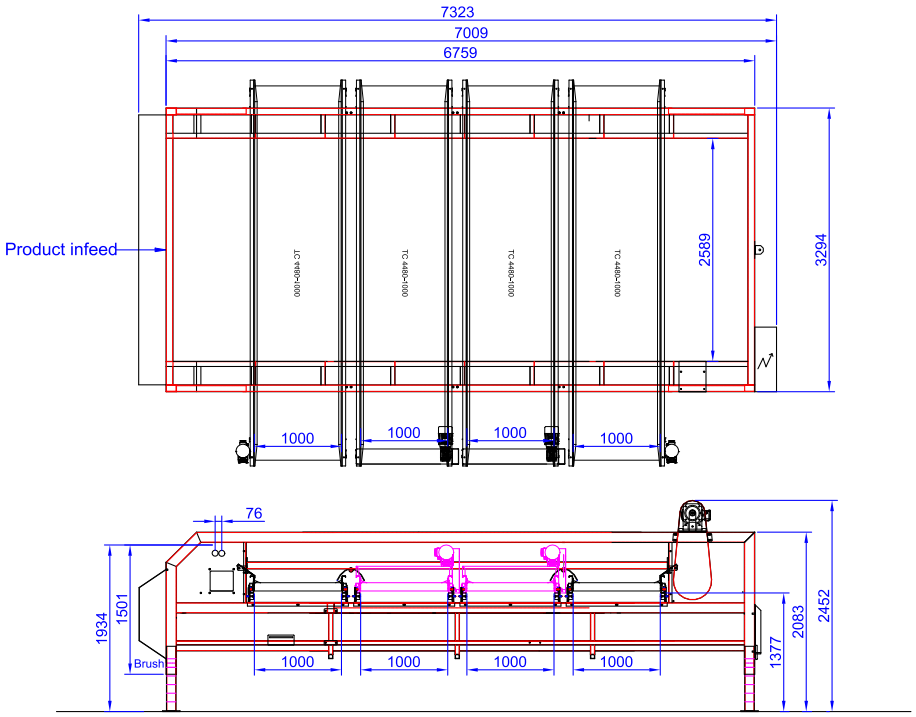
R 260



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ALLROUND VEGETABLE PROCESSING		R 260-70-4 stc 76	
	Engineer: DK	Project: Standard	Product:
	Checked by:	Drawing Nr: 01	Capacity:
	Scale: 1:40 A3	Date: 02-08-2021	Box size: