

karma

Aluminum Surface Treatment Machines

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ULTIMATE SOLUTIONS FOR ALUMINUM MECHANICAL SURFACE TREATMENT

ABOUT KARMA S.R.L.

Karma S.r.l. is specialized in designing and manufacturing mechanical surface treatment machines for aluminum profiles.

Thanking to the engineering and design teams' experience and knowledge gained through many years of hard work and using the latest Italian technology our machines are especially developed to meet the heavy-duty use needs of our customers in aluminum industry.

The product groups that we offer are as follows;

- Polishing machines
- Brushing machines
- Grinding machines
- Sand blasting machine
- Taping machines
- Automatic Loading & Unloading Systems
- Protective Taping Machines

In addition to our standard production program, we are capable of developing and offering custom-made solutions for the different needs of our customers.

Our motto is KARMA!

We supply Good machines to achieve Good results...



LIST OF COUNTRIES OUR MACHINES EXIST...

- ARGENTINA
- AUSTRIA
- BOSNIA HERZEGOVINA
- BULGARIA
- CHINA
- CYPRUS
- GREECE
- ITALY
- KAZAKHSTAN
- LEBANON
- POLAND
- PORTUGUAL
- RUSSIA
- SPAIN
- TURKEY
- USA
- VENEZUELA

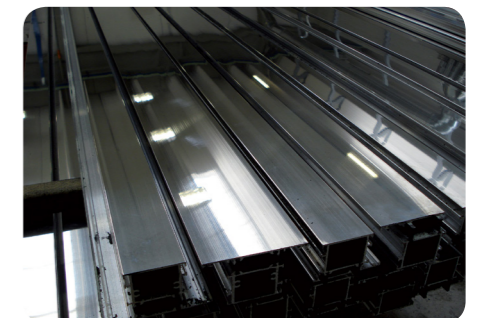
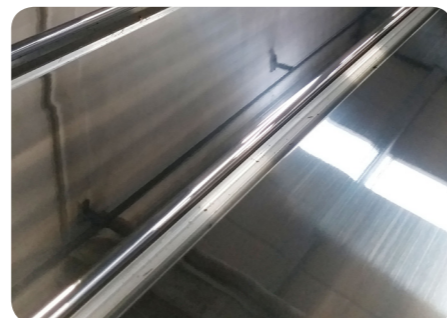
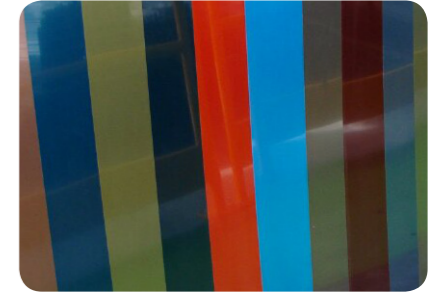


POLISHING MACHINES FOR ALUMINUM PROFILES

FOR
BRIGHTER
SURFACES

General Information

- Developed for effortlessly making special high gloss decorative effects on the aluminum surfaces
- In order to meet the exact needs of every individual application we are able to offer the most suitable solution to our customers thanking to our wide variety of polishing machine choices;
 - Polishing with 2 Brush
 - Polishing with 3 Brush
 - Polishing with 4 Brush
 - Different table widths
- During the polishing process the shining effect is achieved by repeatedly brushing the profiles with cotton discs and at the same time by applying polishing paste on the surface
- Depending on the desired gloss appearance on the aluminum surface the polishing cycle is repeated several times
- The natural oxide layer formed during the time when the profiles are stocked is removed at the beginning of the mechanical polishing procedure
- Once the surface is cleaned and surface becomes free from oxide layer and flawless then the surface is further smoothed by means of further polishing cycles to obtain a satisfactory shining effect



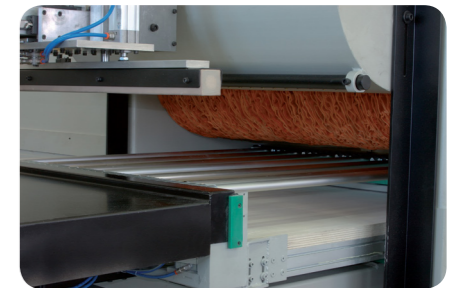
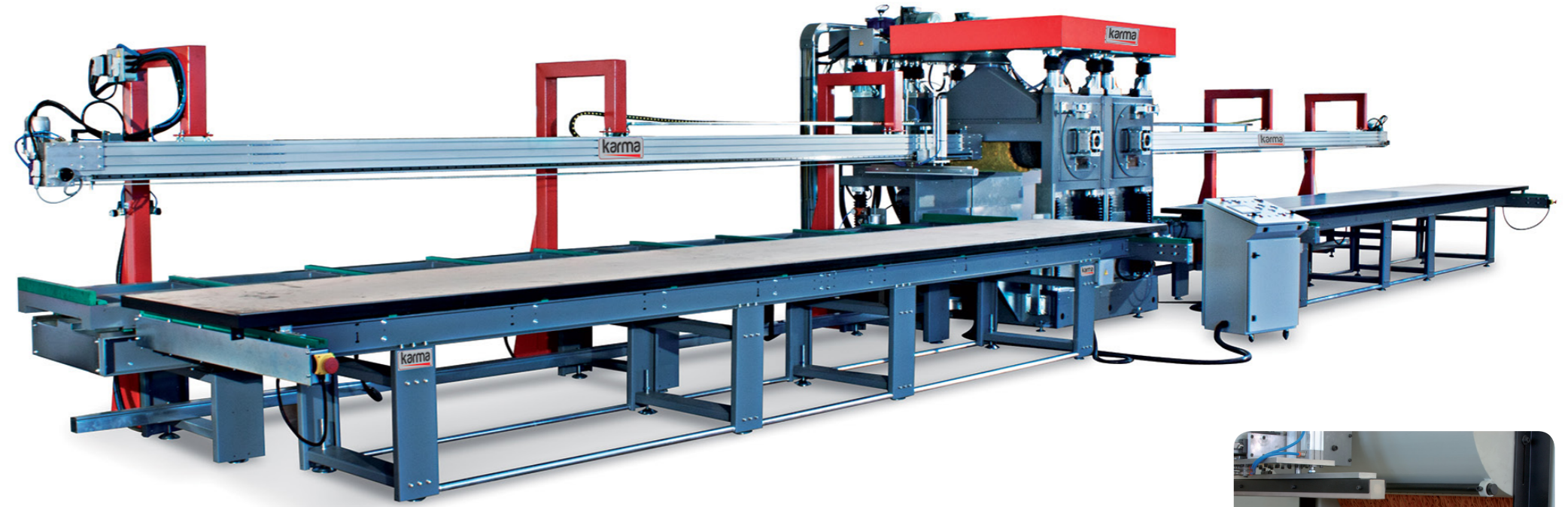
Model: ZAK 2

Polishing Machine with 2 Independent Brushes

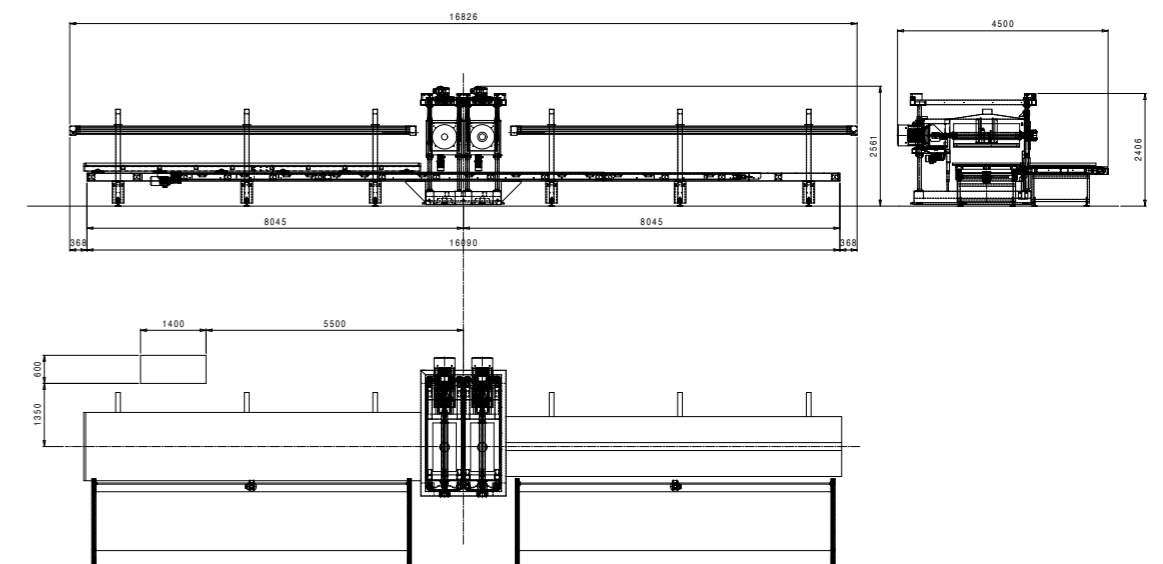
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Main Features

- Equipped with 2 polishing brushes
- Each brush is operated and controlled independently
- Brushes are driven by 2 electric motors (37 kW/each)
- Rotation speed can be adjusted invariably by means of inverters
- 1000 mm table width. Other table widths are optionally available
- Many operating functions such as number of work cycles, brush pressure etc. controlled by PLC
- Brush pressure on the work piece is constantly maintained by automatic control
- Carriage's movement speed can be adjusted by means of inverter
- Brushes can make oscillation movement to remove extrusion lines when necessary
- PLC controlled paste spraying system
- Other various optional features



Dimensions



Basic Technical Specifications

TABLE WORKING WIDTH	1000 mm
TABLE WORKING LENGTH (max)	8000 mm
BRUSH MOTOR POWER	2 x 37 W
OSCILLATING SHAFT MOTOR POWER	2 x 0.37 kW
TABLE MOVEMENT MOTOR	2.2 kW
TABLE TRAVELLING SPEED	0 - 20 m/min
BRUSH ROTATION SPEED	0 - 1400 rpm
BRUSH DIAMETER (max)	500 mm

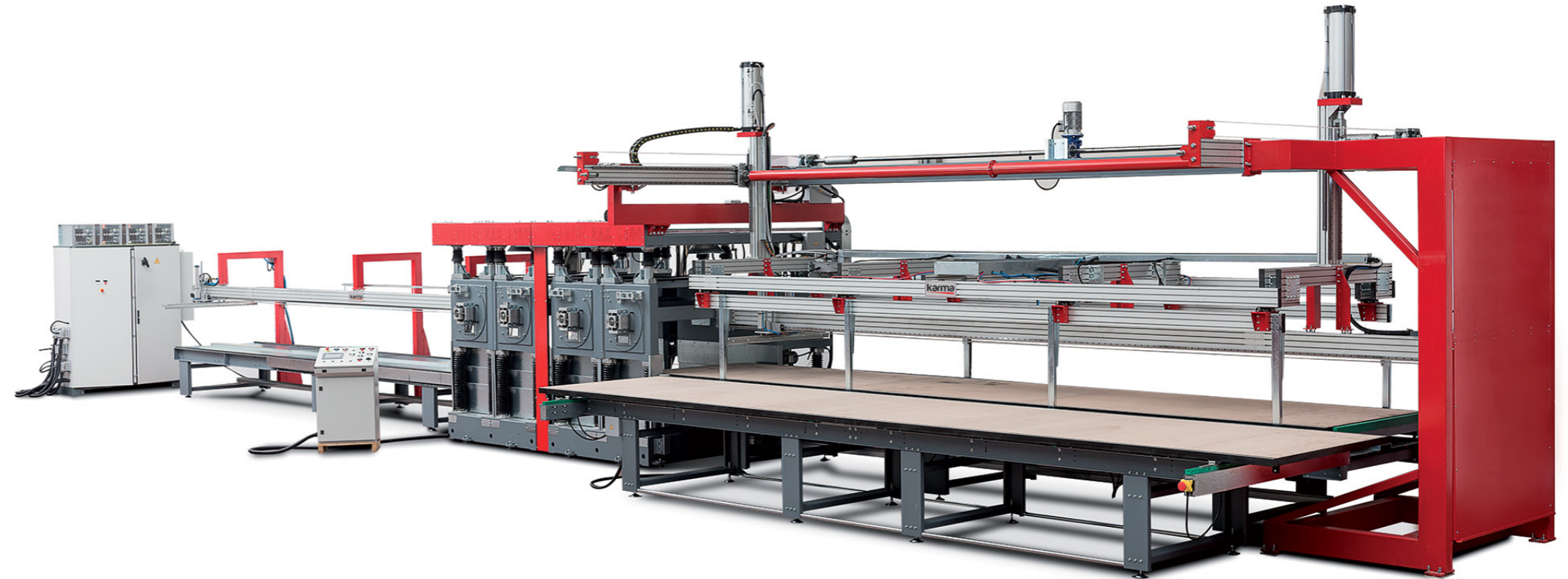
Model: ZAK 4

Polishing Machine with 4 Independent Brushes

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Main Features

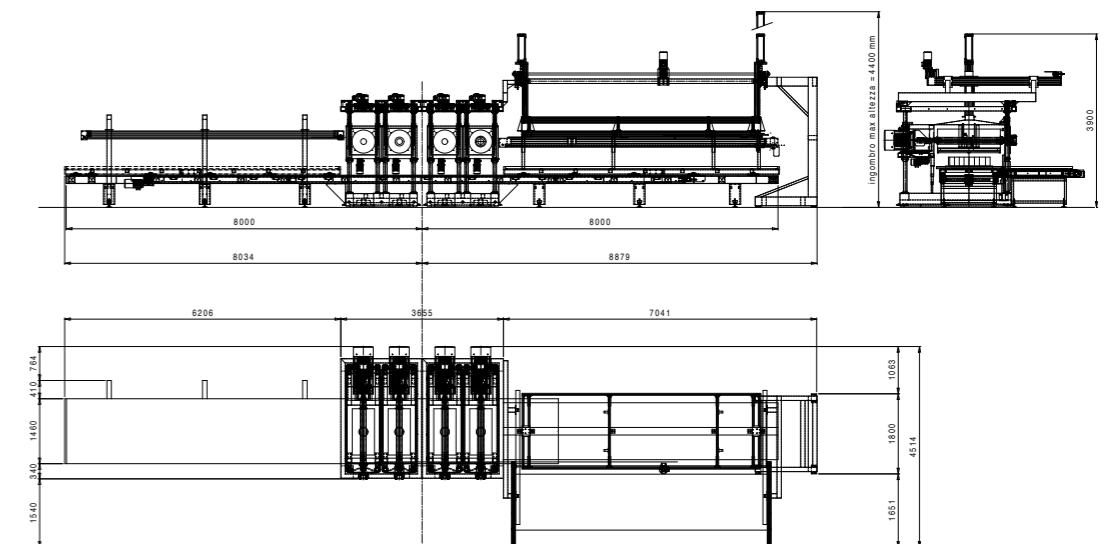
- Equipped with 4 polishing brushes
- Each brush is operated and controlled independently
- Brushes are driven by 4 electric motors (37 kW/each)
- Rotation speed can be adjusted invariably by means of inverters
- 1000 mm table width. Other table widths are optionally available
- Many operating functions such as number of work cycles, brush pressure etc. controlled by PLC
- Brush pressure on the work piece is constantly maintained by automatic control
- Carriage's movement speed can be adjusted by means of inverter
- Brushes can make oscillation movement to remove extrusion lines when necessary
- PLC controlled paste spraying system
- Other various optional features



Basic Technical Specifications

TABLE WORKING WIDTH	1000 mm
TABLE WORKING LENGTH (max)	8000 mm
BRUSH MOTOR POWER	4 x 37 W
OSCILLATING SHAFT MOTOR POWER	4 x 0.37 kW
TABLE MOVEMENT MOTOR	2.2 kW
TABLE TRAVELLING SPEED	0 - 20 m/min
BRUSH ROTATION SPEED	0 - 1400 rpm
BRUSH DIAMETER (max)	500 mm

Dimensions



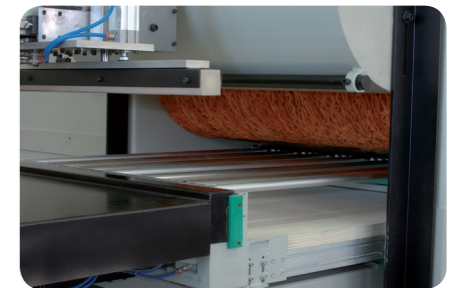
Model: ROLL 2

Polishing Machine with 2 Brushes

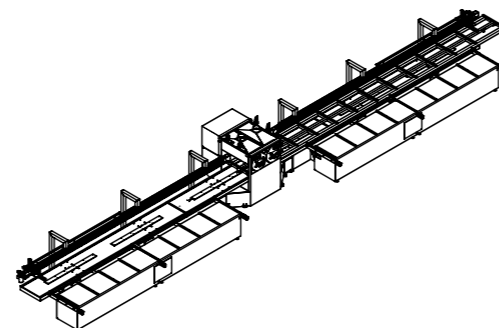
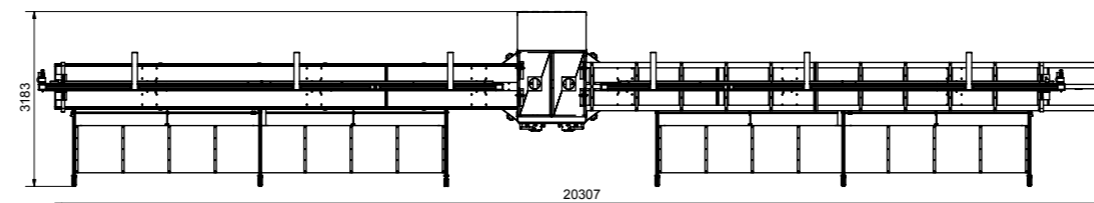
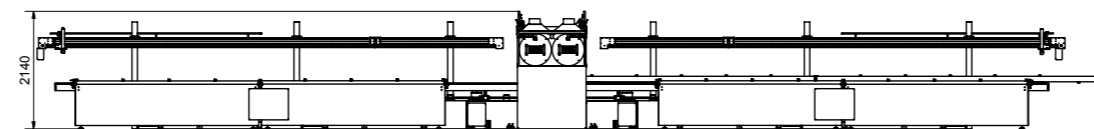


Main Features

- Equipped with 2 polishing brushes
- Brushes are driven by 2 electric motors (37 kW/each)
- Rotation speed can be adjusted invariably by means of inverters
- 1000 mm table width. Other table widths are optionally available
- Many operating functions such as number of work cycles, brush pressure etc. controlled by PLC
- Brush pressure on the work piece is constantly maintained by automatic control
- Carriage's movement speed can be adjusted by means of inverter
- Brushes can make oscillation movement to remove extrusion lines when necessary
- PLC controlled paste spraying system
- Other various optional features



Dimensions



Basic Technical Specifications

TABLE WORKING WIDTH	1000 mm
TABLE WORKING LENGTH (max)	8000 mm
BRUSH MOTOR POWER	2 x 37 W
OSCILLATING SHAFT MOTOR POWER	2 x 0.37 kW
HYRDAULIC CONTROLLER POWER	5.5 kW
TABLE MOVEMENT MOTOR	2.2 kW
TABLE TRAVELLING SPEED	0 - 20 m/min
BRUSH ROTATION SPEED	0 - 1400 rpm
BRUSH DIAMETER (max)	500 mm

Model: ROLL 4

Main Features

- Equipped with 4 polishing brushes
- Brushes are driven by 4 electric motors (37 kW/each)
- Rotation speed can be adjusted invariably by means of inverters
- 1000 mm table width. Other table widths are optionally available
- Many operating functions such as number of work cycles, brush pressure etc. controlled by PLC
- Brush pressure on the work piece is constantly maintained by automatic control
- Carriage's movement speed can be adjusted by means of inverter
- Brushes can make oscillation movement to remove extrusion lines when necessary
- PLC controlled paste spraying system
- Other various optional features

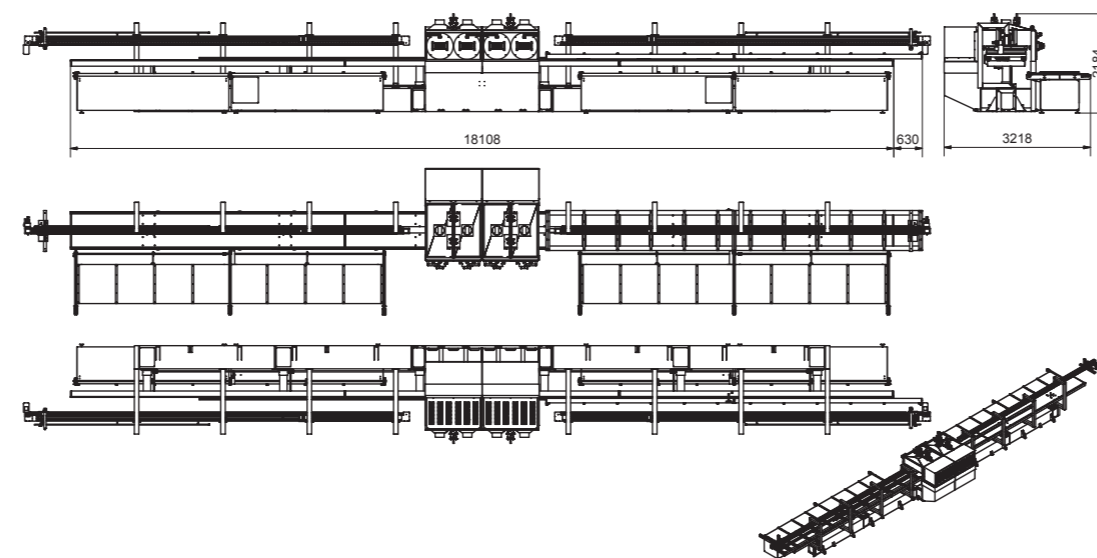


Polishing Machine with 4 Brushes

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Dimensions



Basic Technical Specifications

TABLE WORKING WIDTH	1000 mm
TABLE WORKING LENGTH (max)	8000 mm
BRUSH MOTOR POWER	4 x 37 W
OSCILLATING SHAFT MOTOR POWER	2 x 0.37 kW
HYDRAULIC CONTROLLER POWER	5.5 kW
TABLE MOVEMENT MOTOR	2.2 kW
TABLE TRAVELLING SPEED	0 - 20 m/min
BRUSH ROTATION SPEED	0 - 1400 rpm
BRUSH DIAMETER (max)	500 mm

General Information

- Developed to create special decorative satin-mat effects on the aluminum surfaces which remains visible after anodizing process
- Faults such as extrusion lines, scratches occurred during handling or poor quality of the raw aluminum before the final treatment such as painting or anodizing can be removed by brushing machine
- To obtain various types of satin-finish surfaces different types of brushes are used;
 - Stainless steel wires with different thicknesses (or diameters)
 - Tinex brushes (plastic wire saturated in abrasive substance)
- In order to meet the exact needs of every individual application we are able to offer the most suitable solution to our customers thanking to our wide variety of brushing machine choices;
 - Brushing with 3 + 3 Brush
 - Brushing with 4 + 4 Brush
 - Brushing with 5 + 5 Brush
 - Brushing with 6 + 6 Brush
- Depending on the desired appearance on the aluminum surface combination of different brushes can be used

DECORATIVE BRUSHING ALTERNATIVES



Model: SAT 3

Main Features

- Equipped with in total 6 brushes; 3 upper and 3 lower
- Brushes are driven by 6 electric motors (2.2 kW/each)
- Rotation speed can be adjusted by means of inverters for each brush separately
- 300 mm table working width
- Profiles moved by a roller conveyor with 11 rollers
- Conveyor system makes it possible to work with thin profiles
- Brushes types possible to use with;
 - Stainless steel
 - Tinex
 - Scotch-brite

Brushing Machine with 3 + 3 Independent Brushes

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Basic Technical Specifications

MAX. WORKING WIDTH	300 mm
MAX. WORKING HEIGHT	250 mm
BRUSH MOTOR POWER	6 x 2.2 kW
BRUSH ROTATION SPEED	0 - 900 rpm
BRUSH DIAMETER (max)	300 mm
CONVEYOR MOTOR	0.75 kW
HYDRAULIC MOTOR POWER	2.2 kW

Model: SAT 4

Brushing Machine with 4 + 4 Independent Brushes

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Main Features

- Equipped with in total 8 brushes; 4 upper and 4 lower
- Each brush is operated and controlled independently
- Each brush can be set with different pressure
- Brushes are driven by 8 electric motors (2.2 kW/each)
- Rotation speed can be adjusted by means of inverters for each brush separately
- 300 mm table working width
- Completely made of stainless steel
- Profiles moved by a roller conveyor with 11 rollers
- Conveyor system makes it possible to work with thin profiles
- Brushes types possible to use with;
 - Stainless steel
 - Tinex
 - Scotch-brite



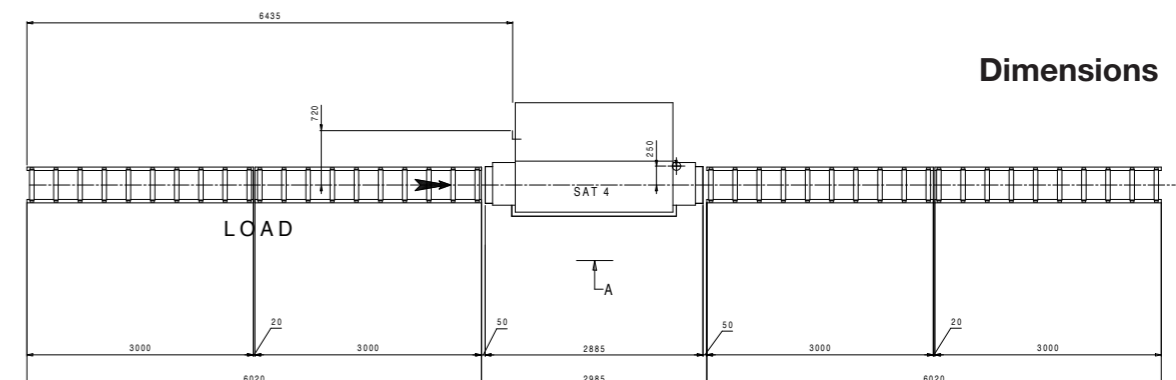
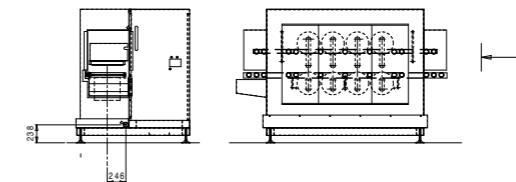
Basic Technical Specifications

MAX. WORKING WIDTH	300 mm
MAX. WORKING HEIGHT	250 mm
BRUSH MOTOR POWER	8 x 2.2 kW
BRUSH ROTATION SPEED	0 - 900 rpm
BRUSH DIAMETER (max)	300 mm
CONVEYOR MOTOR	0.75 kW
HYDRAULIC MOTOR POWER	2.2 kW

Optional Features



Automatic unloading system can be integrated



Dimensions

Model: SAT 5

Brushing Machine with 5 + 5 Independent Brushes

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Main Features

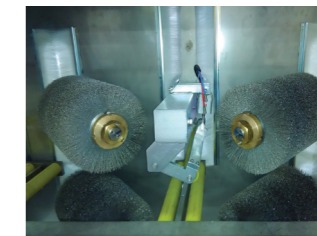
- Equipped with in total 10 brushes; 5 upper and 5 lower
- Each brush is operated and controlled independently
- Each brush can be set with different pressure by means of inverter
- Brushes are driven by 10 electric motors (2.2 kW/ each)
- Rotation speed can be adjusted by means of inverters for each brush separately
- 300 mm table working width
- Completely made of stainless steel
- Profiles moved by a roller conveyor with 11 rollers
- Conveyor system makes it possible to work with thin profiles
- Brushes types possible to use with;
 - Stainless steel
 - Tinex
 - Scotch-brite



Basic Technical Specifications

MAX. WORKING WIDTH	300 mm
MAX. WORKING HEIGHT	250 mm
BRUSH MOTOR POWER	10 x 2.2 kW
BRUSH ROTATION SPEED	0 - 900 rpm
BRUSH DIAMETER (max)	300 mm
CONVEYOR MOTOR	0.75 kW
HYDRAULIC MOTOR POWER	2.2 kW

Optional Features



Angled brush positioning possible to create decorative diagonal brushing effect



Automatic unloading system can be integrated

Model: SAT 6

Main Features

- Equipped with in total 12 brushes; 6 upper and 6 lower
- Each brush is operated and controlled independently
- Each brush can be set with different pressure
- Brushes are driven by 12 electric motors (2.2 kW/ each)
- Rotation speed can be adjusted by means of inverters for each brush separately
- 300 mm table working width
- Completely made of stainless steel
- Profiles moved by a roller conveyor with 11 rollers
- Conveyor system makes it possible to work with thin profiles
- Brushes types possible to use with;
 - Stainless steel
 - Tinex
 - Scotch-brite

Brushing Machine with 6 + 6 Independent Brushes

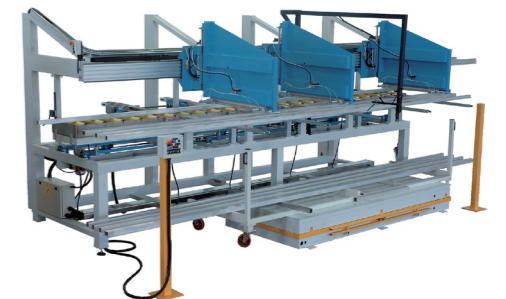
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Basic Technical Specifications

MAX. WORKING WIDTH	300 mm
MAX. WORKING HEIGHT	250 mm
BRUSH MOTOR POWER	10 x 2.2 kW
BRUSH ROTATION SPEED	0 - 900 rpm
BRUSH DIAMETER (max)	300 mm
CONVEYOR MOTOR	0.75 kW
HYDRAULIC MOTOR POWER	2.2 kW

Optional Features



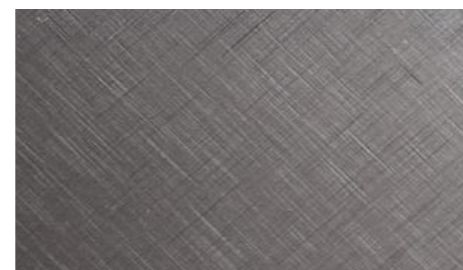
Automatic unloading system can be integrated

GRINDING MACHINES FOR ALUMINUM PROFILES

General Information

- Grinding machines developed to create special decorative effects (i.e. stainless steel appearance) on the aluminum surfaces which remains visible after anodizing process
- Grinding surface is obtained by using abrasive belts, which can be more aggressive or less aggressive depending on the targeted surface effect
- The difference between the appearances of grinded surface and brushed surface can be defined as follows;
 - Grinded surface: Brief, irregular and discontinuous scratching lines
 - Brushed surface: Regular and continuous scratching lines
- In order to meet the exact needs of every individual application we are able to offer the most suitable solution to our customers thanking to our wide variety of grinding machine choices;
 - 4 Grinding Heads
 - 3 Grinding Heads + 2 Brushes
 - Angled Grinding Heads and/or Brushes

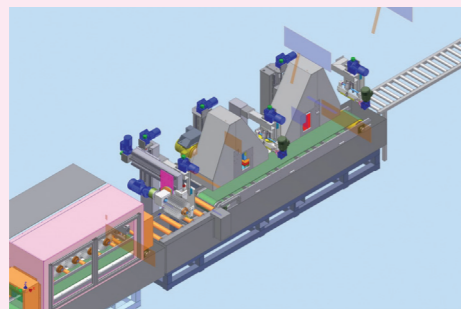
ULTIMATE GRINDING SOLUTIONS



Model: SM 4

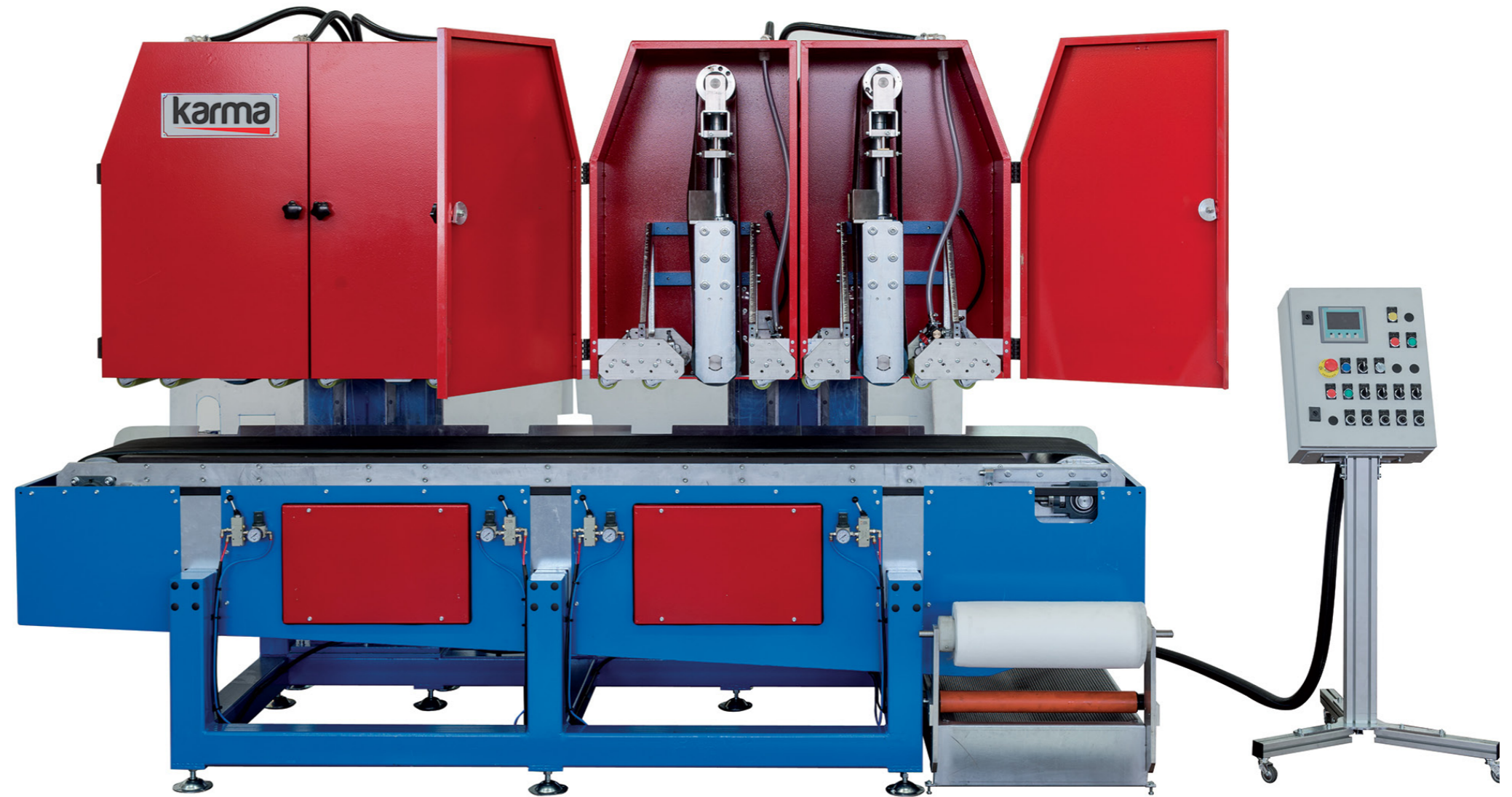
Main Features

- Equipped with 4 grinding belts
- Each belt is operated and controlled independently
- Belts are driven by 4 electric motors (4 kW/each)
- Belt rotation and conveyor speed can be adjusted invariably by means of inverters
- The grinding belts are changed quickly by means of automatic disengagement of the tensioner piston
- The belt is lubricated through the nozzle placed in the proximity of each belt
- The cooling liquid is recovered and filtered in the storage tank
- Depending on the desired surface effect canvas or scotchbrite belts can be used
- Other various optional features



Grinding Machine with 4 Independent Belts

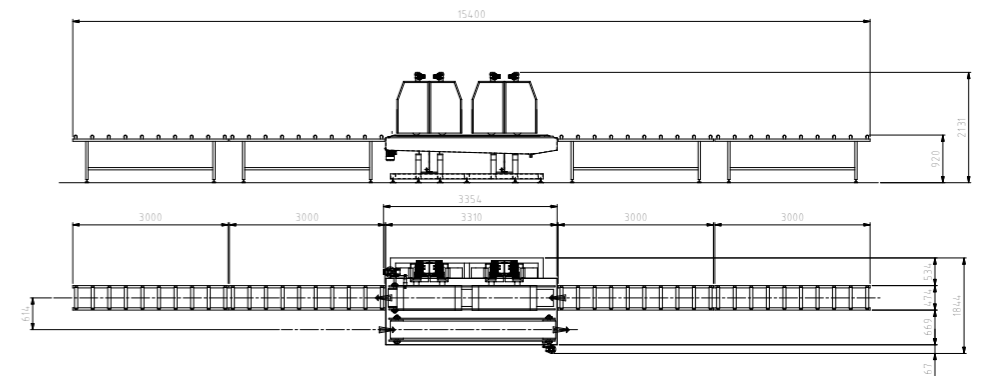
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Basic Technical Specifications

WORKING WIDTH	300 mm
BELT ROTATION MOTOR POWER	4 x 4 kW
BELT ROTATION SPEED	0 - 2000 rpm
GROUP LIFT MOTOR POWER	4 x 0.25 kW
CONVEYOR MOTOR POWER	1.5 kW

Dimensions



Model: SME 5

Combi Grinding & Brushing Machine with 3 Independent Belts & 2 Independent Brushes

Main Features

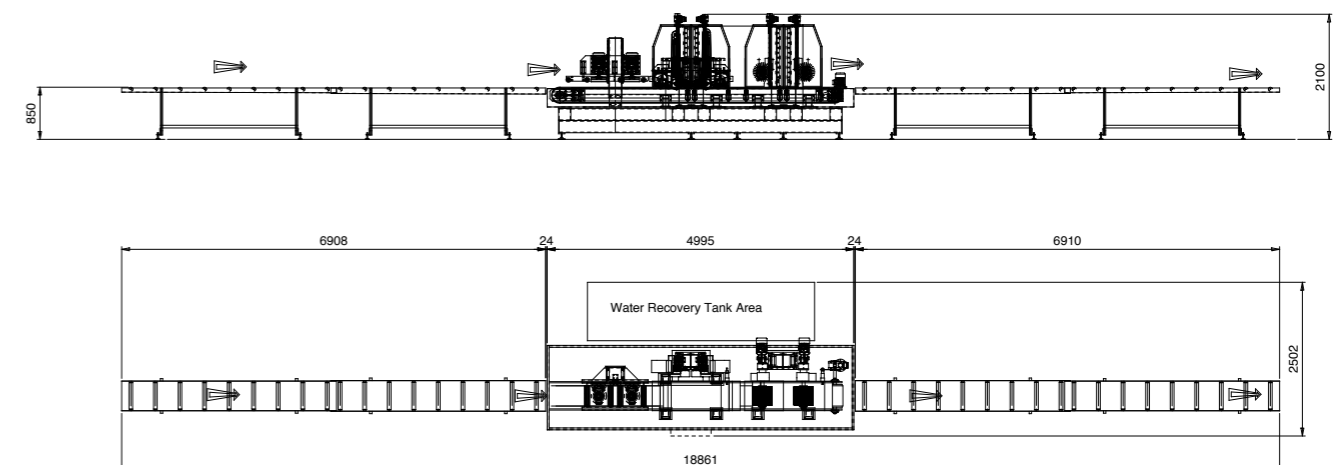
- Equipped with 3 grinding belts and 2 brushes
- Each belt & brush is operated and controlled independently
- Belts and brushes are driven by 5 electric motors (4 kW/each)
- Belt & brush rotation speed as well as conveyor speed can be adjusted invariably by means of inverters
- The grinding belts are changed quickly by means of automatic disengagement of the tensioner piston
- The belt is lubricated through the nozzle placed in the proximity of each belt
- The cooling liquid is recovered and filtered in the storage tank
- Depending on the desired surface effect combination of canvas or Scotch-brite belts and stainless steel or tinex brushes can be used
- Optional Feature: Brush angle can be set between 0 - 45 °



Basic Technical Specifications

WORKING WIDTH	300 mm
BELT ROTATION MOTOR POWER	3 x 4 kW
BELT ROTATION SPEED	0 - 2000 rpm
BRUSH ROTATION MOTOR POWER	2.2 kW
BRUSH ROTATION SPEED	0 - 900 rpm
CONVEYOR MOTOR POWER	1.5 kW

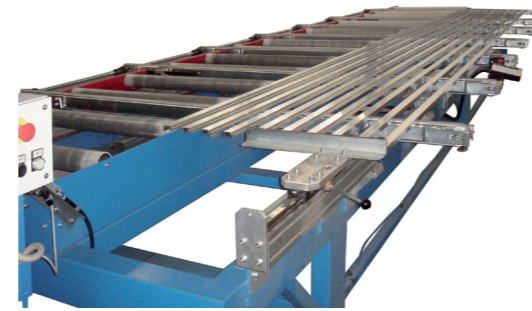
Dimensions



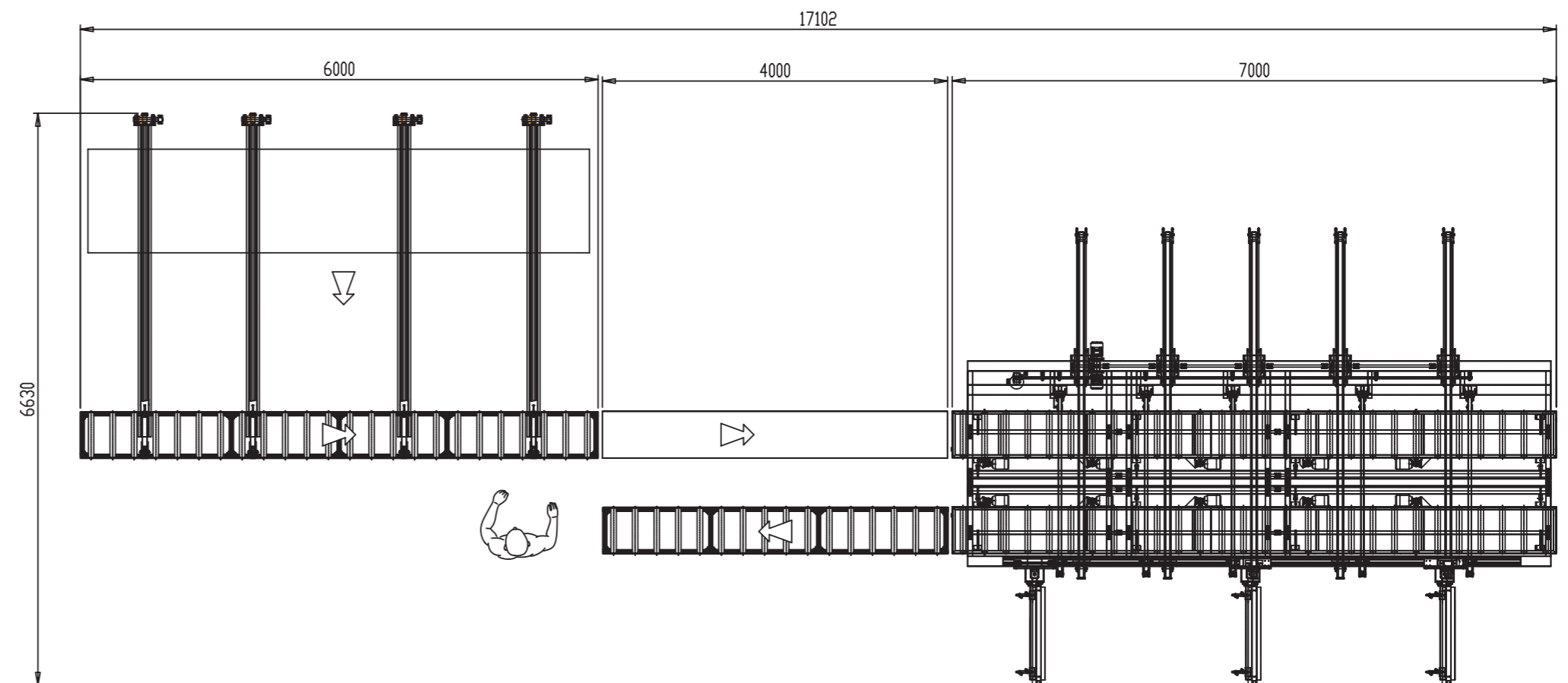
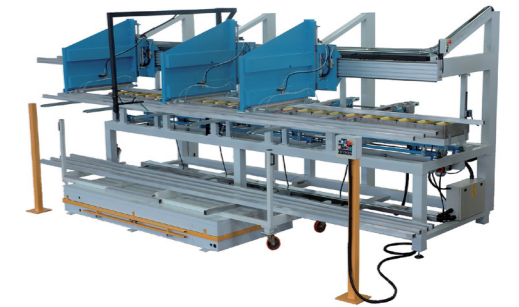
AUTOMATIC LOADING & UNLOADING SYSTEMS FOR ALUMINUM

General Information

- Automatic handling systems are developed to be integrated into the mechanical surface treatment stage at the aluminum anodizing and powder painting production plants
- Automatic stackers are used for loading, unloading and stacking the profiles before and after mechanical surface treatment step
- Our advanced automated handling systems makes it possible to reduce the number of workers for loading and unloading at the mechanical surface treatment machines such as grinding or brushing. Thus, a substantial labor cost saving is granted
- Depending on the customers' needs our expert designers are able to develop custom made integrated solutions such as;
 - Profile loading lines
 - Profile unloading lines
 - Profile recycle lines etc.



**EFFICIENT
HANDLING
SOLUTIONS**



SHOT BLASTING LINES FOR ALUMINUM PROFILES

ALTERNATIVE DECORATIVE APPEARANCES

General Information

- Main use of shot blasting machine is to remove the surface mistakes such as extrusion marks, pitting etc. and refining the aluminum profile surface before;
 - o powder painting
 - or
 - o anodizing
- Machine is equipped with continuous tunnel chamber
- The profiles to be treated pass through the blast chamber on driven roller conveyors with designated lengths to suit specific work sizes
- 4 turbines allow to work with all surface of the profiles at one time
- Working speed is adjustable by means of inverters as well as the speed of turbines
- Loading conveyor can also be supplied as stacker
- Depending on the customers' needs different size and type of shot blasting media can be used



Basic Technical Specifications

MAX. WORKING WIDTH	1000 mm
MAX. WORKING HEIGHT	400 mm
NUMBER OF TURBINES	4
TURBINE MOTOR POWER	4 x 11 kW
WORKING SPEED	0 - 5 m/min
CONVEYOR MOTOR	0.75 kW



Automatic tilter to eliminate grit



Automatic stacker



The loading bench with accumulation conveyors eliminates waiting times and allows for continuous machining

Model: FL 200

- Developed for protecting the aluminum profile surfaces by coating the surface with protective foil
- It takes only 15 seconds to apply protective film on to a 6 m long aluminum profile
- Equipped with double axis drive system
- Pressure can be adjusted manually
- Travelling speed is controlled
- Conveyor motor power: 0.37 kW
- Working width: 250 mm
- Delivered complete with loading and unloading conveyors Optional Features:
- Applying protective tape on 3 side of the profile at one time
- Applying protective tape on 4 side of the profile at one time
- Working width: 300 mm

PROTECTIVE TAPING MACHINES FOR ALUMINUM PROFILES

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AN EASY AND EFFICIENT WAY

TO PROTECT ALUMINUM SURFACES





karma



 +39 0721 1702084

 info@karma-srl.it

 www.karma-srl.it

 Karma S.R.L.
Via G. Montanelli, 54
61122 Pesaro PU - Italy