

Homag Holzbearbeitungssysteme GmbH • Homagstr. 3-5 • D-72296 Schopfloch

Projecta Oy
Lukkosepänkatu 14
20321 TURKU
FINNLAND

Homag Holzwerkzeuge GmbH

Postfach 10, Postfach 2 100
Schopfloch 1 A

Postfach 10, Postfach 2 100

Order number : 030927
Customer :
Machine number : 0-200-03-0927

Customer number : 32870
Your order number : PO22894
Your order date : 12.11.2014
Competent person : J. Baumann
Tax-ID : FI23694906

G.00

KAL210 AIRTEC 2274

HOMAG SINGLE-SIDED EDGE BANDING MACHINE

Single-sided edge banding machine for processing straight workpiece edges and for gluing and post-processing different edging materials in longitudinal and cross through-feed.

OVERVIEW OF THE UNIT EQUIPMENT:

- SEPARATING AGENT SPRAYING UNIT
- JOINTING TRIMMING UNIT
- GLUING UNIT A20 WITH 2 COILS
- AIRTEC ACTIVATION UNIT
- SNIPPING UNIT HL84
- PRE-TRIMMING UNIT BF10
- PROFILE TRIMMING UNIT FK11
- FREE SPACE UF10/KS10
- PROFILE SCRAPER PN21 AUTOMATIC FLEXBLADE
- FINISHING UNIT

1. BASIC MACHINE:

- continuous machine frame for mounting the processing units

Telefon: +49 7443 13-0
Telefax: +49 7443 13-2300
E-Mail: info@homag.de

Internet: <http://www.homag.com>
Ust-IDNr: DE 144251939
Steuernr. des Organträgers: 42070 / 06960

Gesellschaft mit beschränkter Haftung mit Sitz in D-72296 Schopfloch; Registergericht Stuttgart HRB 735174
Geschäftsführer: Dr. Christian Compera (Sprecher), Ulrich Schmitz, Michael Stolz, Ulrich Walk
Vorsitzender des Aufsichtsrats: Dr.-Ing./U.Cal. Markus Flik

Banken	Biz	Kto	SWIFT	IBAN
BW-Bank, Stuttgart	600 501 01	4901040	SOLA DE ST 600	DE56 6005 0101 0004 9010 40
Commerzbank AG, Villingen	694 400 07	1542000	COBA DE FF 694	DE50 6944 0007 0154 2000 00
Deutsche Bank AG, Stuttgart	600 700 70	053943700	DEUT DE SS	DE19 6007 0070 0053 9437 00
HypoVereinsbank AG, Freiburg	680 201 86	7602855	HYVE DE MM 357	DE82 6802 0186 0007 6028 55
Kreissparkasse, Freudenstadt	642 510 60	308733	SOLA DE S1 FDS	DE53 6425 1060 0000 3087 33

Vertriebs- u. Service NL Bayern
Alemannenstr. 11A
D-85095 Denkendorf
Tel. +49 8466 9040-0
Fax +49 8466 9040-40
Service-Station:
Dieselstraße 73
D-33442 Herzebrock
Tel. +49 5245 9220-0
Fax +49 5245 9220-46044

Date : 04.12.2014 Customer : RAUMA Page : 2
 Machine number : 0-200-03-0927 Type : KAL210 AIRTEC 2274
 Order number : 030927 Execution : 2

- fixed stop side on the left
- lacquering grey RDS 240 80 05
- infeed fence adjustable
- infeed interlocking pneumatically controlled
- top pressure:
 - driven and sanded compound V-belt
 - electronic height adjustment
 - mechanical digital position read-out
 - floatingly supported
- workpiece transport device:
 - transport chain with rubber coating, 80 mm wide
 - hardened precision running and guiding surfaces
 - magnetically braked transport chain
 - cooling front part of the chain track
- panel support with roller guide, extractable by approx. 800 mm
- noise protection for jointing part and unit part with individual suction
- remote control for set-up mode

- feed		18-25 m/min
- feed max. with FK11		20 m/min
- working height		950 mm
- pneumatic connection		6 bar
- total length		8635 mm

- floor conditions must correspond to the layout and suction plan no.: 5-027-01-2301 or 5-027-01-3301

2. WORKPIECE AND EDGE PARAMETERS:

- workpiece width without edge min:
 - in case of workpiece thickness 12-22 mm | 60 mm*
 - in case of workpiece thickness 23-40 mm | 105 mm*
- *depends on the workpiece length
- workpiece overhang | 30 mm
- workpiece thickness | 12-40 mm
- (workpiece thickn. optional) | 8-60 mm
- edge height max. = workpiece thickness | + 4 mm
- edging material coil | 0,3-3 mm
- edging mat.cross section max. |

Date : 04.12.2014 Customer : RAUMA Page : 3
Machine number : 0-200-03-0927 Type : KAL210 AIRTEC 2274
Order number : 030927 Execution : 2

- for PVC | 135 mm²
 - for veneer | 100 mm²
 - coil diameter max. | 830 mm
 - edging material strips | 0,4 - 20 mm
 - edging mat.cross section max. |
 - for strips | 900 mm²
- for edge feeding via servo drive:
- projecting edge material on the front and rear edge for 35 m/min max. +/- 3 mm
 - in case of surface overhang the accuracy can not be guaranteed
- if no radius is indicated, R=2 and chamfer 20° will be run-in and delivered
- the machine operator is responsible for the use of suitable materials (boards, glues, edging materials, cleaning means, lacquers etc.)

3. U N I T E Q U I P M E N T

3.1 SEPARATING AGENT SPAYING UNIT TOP/BOTTOM:

- prevents adhesion of the glue on the workpiece surface
- without separating agent, must be provided by the customer

3.2 JOINTING TRIMMING UNIT:

- for jointing trimming the workpieces before the gluing process
 - 2 motors each 3 kW, 150 Hz, 9000 rpm
 - electropneumatic control of both motors
 - workpiece blowing-off device
 - manual adjustment device horizontally and vertically
- incl. tool:
- 2 I DIA jointing cutter heads D=125 x 43 x 30 mm, keyway, Z=2x3

3.3 GLUING UNIT A20 WITH 2 COILS:

Consisting of:

Date : 04.12.2014 Customer : RAUMA Page : 4
Machine number : 0-200-03-0927 Type : KAL210 AIRTEC 2274
Order number : 030927 Execution : 2

WORKPIECE PREHEATING

- for heating the workpiece edge before glue application
- for improvement of the gluing quality

HOT MELT GLUING UNIT

- melting unit with granular container Basic
- melting capacity 6 - 12 kg/h, depending on the used glue
- level control of the application quantity
- temperature control, electronic
- automatic decrease in glue temperature when interrupting the work (time is freely selectable)
- application unit QA65
- heated glue roller
- glue roller drive in case of feed stop
- glue container lift-off in case of feed stop
- glue container clamping workpiece-actuated

QUICK CLAMPING SYSTEM

- for quick change of the application unit

MANUAL MAGAZINE WITH 2 COILS

- for solid wood edges, strip material and roller material
- autom. strip separation via vacuum suction cups optionally (sales no. 2475)
- 1 edging material feeding device
- 2 chucks for edging material coils horizontal
- MANUAL edging material change
- clipping unit
- edging material control with feed stop
- magazine height adjustment manually via spindle +/- 5 mm
- edge sequence control for pre-selection of the edge channels in arbitrary sequence. If an edge channel is empty, the next selected channel is triggered (in case of multiple magazine)
- edging material feeding device via servo drive

PRESSURE ZONE C

- 1 driven prepressure roller, diameter 150 mm
- 6 postpressure rollers diam. 70 mm
- pressure adjustment pneumatic

Date : 04.12.2014 Customer : RAUMA
Machine number : 0-200-03-0927 Type : KAL210 AIRTEC 2274
Order number : 030927 Execution : 2

Page : 5

- automatic adjustment to different edge thicknesses

3.4 AIRTEC ACTIVATION UNIT:

Consisting of:

airTec unit:

- for melting the edge activation layer on the edge material
- manual edge height adjustment / as an option automatically in connection with stepless edge holding-down device (sales no. 2474)

Processing parameters:

- workpiece thickness in connection |
with airTec for feed 20 m/min |max. 38 mm
for feed 25 m/min |max. 19 mm
(depends on the edge material |
used) |
- edge thickness coil |min. 1 mm
- edge thickness coil |max. 3 mm
- processing of strip material and solid strips with airTec not possible
- edge material with activation layer possible
- workpiece thickness in connection |max. 60 mm
with hot melt glue |

Flexible edge management:

- for the management of edge specific performance parameters

Note for the operator:

- suction of dusts and excess hot air by standard suction
- suction heat recovery by a heat exchanger
- suction through active carbon filter or optionally exhaust to the outside
- the gluing unit is installed in such way that can be processed either with EVA/PU-glue or airTec depending on the equipment
- resetting from airTec to PU/EVA manually
- designed for straight workpiece edges, no softforming

Date : 04.12.2014 Customer : RAUMA Page : 6
Machine number : 0-200-03-0927 Type : KAL210 AIRTEC 2274
Order number : 030927 Execution : 2

- for airTec a permanent air volume of 1500 Nl/min must be provided
- in connection with airTec also for exact edge feeding an edge overhang of 20 mm at the front edge and of 30 mm at the rear edge is necessary

Training:

- the operator should receive a training for the airTec-unit

3.5 SNIPPING UNIT HL84 CHAMFER/STRAIGHT 0,8 KW:

- for snipping the projecting edges at front and rear edge
- upright snipping stop
- 2 motors each 0,8 kW, 200 Hz, 12000 rpm
- pneumatic adjustment for reset from chamfer to straight snipping
- pneumatic adjustment of the snipping motors for flush or overhang snipping
- incl. tool:
 - 2 hard metal snipping saws with HSK25, 120 mm diameter

3.6 PRETRIMMING UNIT BF10 1,5 KW:

- for pretrimming the PVC and flush trimming the solid wood edges
- 2 motors one above the other with 1,5 kW each, 200 Hz and 12000 rpm
- height adjustment with the top pressure
- pneumatic adjustment of the pretrimming unit for flush and overhang trimming
- working in opposite movement
- swiveling range +/- 1 degree
- incl. tool:
 - 2 I cutters of hard metal 70 x 25 mm, HSK25, Z=4

3.7 PROFILE TRIMMING UNIT FK11:

- for processing the edge overhangs at the workpiece upper and lower edge as well as for trimming around the workpiece front and rear

Date : 04.12.2014 Customer : RAUMA Page : 7
Machine number : 0-200-03-0927 Type : KAL210 AIRTEC 2274
Order number : 030927 Execution : 2

edge

- per profile and per edging material (wood or plastics) a separate changing head is necessary

SET OF CHANGE HEADS I AUTOMATICALLY ADJUSTABLE

- 2 changing heads
- automatic adjustment to different edge thicknesses in case of chamfer trimming and/or for automatic reset from chamfer trimming to radius trimming
- max. edge thickness for chamfer with radius trimming cutter:
 - in case of R 1,5 = 0,6 mm
 - in case of R 2,0 = 0,8 mm
 - in case of R 3,0 = 1,0 mm
- bevel angle approx. 15 degrees
- incl. tool
 - 2 I-DIA chamfer/radius cutters, base diameter 62 mm, Z=4 with integrated chip catching system for chamfer 15° and R=.. mm

3.8 FREE SPACE UF10/KS10:

- free space for:
 - universal trimming unit UF10 (for grooving and trimming rebates of the panels) O R
 - sanding unit KS10 (for sanding of veneer edges)

3.9 PROFILE SCRAPER PN21 AUTOMATIC FLEXBLADE:

- for chamfer finishing or rounding off pre-trimmed PVC edges
- quick profile change for 2 profiles
- profile change is effected automatically
- automatic edge thickness adjustment
- vertical tracing roller adjustment automatic
- tracing from top, below and lateral
- pneumatic adjustment for lateral moving away out of the working zone
- blowing nozzles with electropneumatic control
- edge thickness max. 3 mm
- unit on top and bottom max. 50 mm laterally movable

Date : 04.12.2014 Customer : RAUMA Page : 8
Machine number : 0-200-03-0927 Type : KAL210 AIRTEC 2274
Order number : 030927 Execution : 2

- height adjustment with the top pressure
- incl. tools
 - profile knife with 2 profiles
 - 2 radii are to be determined:
R=1; R=2; R=2,5; R=3
- suction box for PVC chips

3.10 FINISHING UNIT:

- for finishing the longitudinal edge consisting of:
 - GLUE JOINT SCRAPER
 - for removal of residual glue
 - incl. hard metal knife
 - BUFFING UNIT
 - for cleaning the edges
 - PNEUMATIC ADJUSTMENT
 - for movement out of the working zone

4. power control PC22:

Modern control system based on a Windows PC

Hardware:

- PLC control accord. to international standards IEC 61131
- integrated line control for contactless control of the processing units
- modern industrial PC with operating system Windows and Intel CPU
- TFT flat screen 19 inch with touch screen operation for selecting and adjusting all necessary production parameters such as e.g. program selection, edging material selection and change of the workpiece thickness
- 1 hard disk fixed
- 1 hard disk for data securing (option)
- USB connection
- digital field bus system for infeeds/outfeeds and peripheral units
- network connection ETHERNET via additional card and network software (option)

Date : 04.12.2014 Customer : RAUMA Page : 9
Machine number : 0-200-03-0927 Type : KAL210 AIRTEC 2274
Order number : 030927 Execution : 2

Software:

- operation menu-guided with Windows standard
- software kit woodCommander with
 - comfortable, graphically supported creation and storage of machine programs with keyboard and mouse
 - administration of tool data by tool macros
- operator guiding system for indicating necessary manual adjustments at the machine in case of resets
- error message in plain text
- diagnostic system woodScout (option)
- MMR basic for maintenance based on usage and for the representation of important production figures (e.g. number of pieces, production time), expendable to MMR professional

TeleServiceNet-Soft:

- remote diagnosis via internet
- invoicing accord. to separate TeleService contract
- access to the internet is to be provided on part of the customer
- access to 1 machine PC is possible

5. ELECTRIC EQUIPMENT:

- operating voltage 400 volt, 50/60 Hz
- switch cabinet installed at the machine
- installation accord. to European Norm EN 60204
- frequency convertor, electronic, with motor braking function
- country-specific adaptation of operating voltage by transformer (optional)
- FI-safety switching only permitted in connection with an all-mains sensitive/-selective FI-safety switch; if the performance of this device is not sufficient, we recommend using a differential current monitor, which is to be provided by the customer
- prescribed environmental temperature:
+ 10°C up to + 40°C

Date : 04.12.2014 Customer : RAUMA Page : 10
Machine number : 0-200-03-0927 Type : KAL210 AIRTEC 2274
Order number : 030927 Execution : 2

6. SAFETY AND PROTECTION FACILITIES:

- EC conformity (CE) according to the currently valid Machinery Directive for individual machines in operation
- for linked machines in operation (cells/several cells) an additional EC conformity assessment (on site) is necessary. The assessment has to be done by the user (customer) himself or optionally by the supplier sales no. 8945
- wood dust protection max. 2 mg/m³, subject to the required extraction capacity being provided by the customer according to the suction plan
- condition for our warranty/product liability is the unrestricted observance of the original production instructions delivered along with the machine including the safety instructions

7. HOMAG QUALITY KIT:

- TÜV certificate accord. to DIN EN ISO 9001: 2000
- energy-efficient drives accord. to the EU no. 640/2009
- the machine will be run-in and delivered accord. to HOMAG standard program
- energy saving functions:
 - ECO Plus button for start of the stand-by mode, which can be activated during the production. After running empty or when the machine is empty it provokes the following:
 - the drives stop running
 - public supply infrastructure is switched off
 - when the machine is not producing, the control voltage is disconnected by means of preset time
 - the function can be switched on and off
 - modern, decentralized control system with passive cooling
 - for the illumination of the machine compartment, modern energy-saving luminaires are used
- in order to save energy the pneumatic

Date : 04.12.2014 Customer : RAUMER Page : 11
Machine number : 0-200-03-0927 Type : KAL210 AIRTEC 2274
Order number : 030927 Execution : 2

cylinders and the blowing nozzles use
2 different pneumatic supplies

8. Documentation

- documentation as CD-ROM
- operator instruction and maintenance manual additionally in printed form

- G.0001 Number : 0007 1 x left
AUTOMATIC ADJUSTMENT INFEEED FENCE SINGLE-SIDED
- for machines with a preceding jointing part
- G.0004 Number : 0841 1 x left
PANEL THICKNESS 60 MM INSTEAD OF 40 MM
- preparation of the basic machine and all units for panel thickness 60 mm
- in case of reduced feed speed max. 20 m/min
- 2 I DIA jointing cutters, 63 mm high
- G.0007 Number : 0843 1 x left
PANEL THICKNESS 8 MM KAL200/300/KFL500
- preparation of the basic machine for panel thickness min. 8 mm instead of 12 mm
- only longitudinal processing possible without corner processing and without profile scraper
- only in case of panels without surface overhang
- with fine trimming or flexTrim the following is valid:
Panel thickness for R <= 2 mm | min. 8 mm
Panel thickness for R <= 3 mm | min 10 mm
Panel thickness for R > 3 mm | min. 13 mm
- with multiple trimming MF20/21 the following is valid:
Panel thickness for chamfer 20° |
and panel thickness 0,4 mm | min. 8 mm
panel thickness for radii | min. 13 mm

Date : 04.12.2014 Customer : RAUMA Page : 12
Machine number : 0-200-03-0927 Type : KAL210 AIRTEC 2274
Order number : 030927 Execution : 2

- G.0010 Number : 0893 1 x left
PREINSTALLATION FOR BOOMERANG ZHR05
- feed interlock and mechanical interface adaptation
- E.01 Number : 6174 1 time
OVERVOLTAGE PROTECTION F.MACHINES W.ELECTRONICS
- overvoltage protection for the electric and electronic components of a machine, e.g. in case of a lightning stroke or transient overvoltage
- additionally the customer is recommended to install a lightning conductor type 1
- E.04 Number : 6176 1 time
UNINTERRUPTIBLE POWER SUPPLY (UPS)
- in case of a voltage loss the electronic control is provided with current from the installed batteries for approx. another 10 minutes
- all values and states are stored
- the PC must be restarted
- furthermore the UPS serves as voltage stabilizer for the electronics (online UPS)
- E.07 Number : 6308 1 time
HOMAG GROUP CONTROL SYSTEM POWERTOUCH
- operating panel with FULL-HD multitouch display in widescreen format
- equal HOMAG Group operating surface powerTouch
- ergonomic touch operation with gestures such as zooming, scrolling and swiping
- easy navigation for equal and intuitive operation of the machine
- intelligent display of readiness of production by light function
- machine data capturing MMR basic for maintenance depending on need and for the representation of important operating figures (e.g. number of pieces, production time)
- expendable to MMR professional for optimization of production by capturing and

Date : 04.12.2014 Customer : RAUMA Page : 13
Machine number : 0-200-03-0927 Type : KAL210 AIRTEC 2274
Order number : 030927 Execution : 2

evaluation of the downtimes of the machine
as well as the reasons for disturbances
- operating system Windows 7 professional
- system conditions for office PC: operating
system Windows 7

- D.01 Service: 8331 1 time
DOCUMENTATION AND CONTROL TEXTS: FINNISH.
The following will be translated:
1. production instructions
consisting of operator's manual and
maintenance guidelines on DIN A4 paper
and CD-ROM
 2. on-screen operator control texts
for machine operators, for PC22,
PC52, PC83 and PC85
 3. spare parts designations in ENGLISH
on CD-ROM

B.23

B.26