HQ

Mortsel

How to Handle Media on :Anapurna M$_W$

Document History

Review Date	Document Version	Changes
March 12, 2010	Version 1.2	

AGFA

1 Contents

2 Related Documents

- The :Anapurna MW Operator Manual
- How to Shut down / Start-Up the :Anapurna MW
- How to Calibrate the :Anapurna MW
- How to Maintain the :Anapurna MW
- How to use the Wasatch SoftRIP on the :Anapurna MW

3 Media Handling: Roll to Roll Media

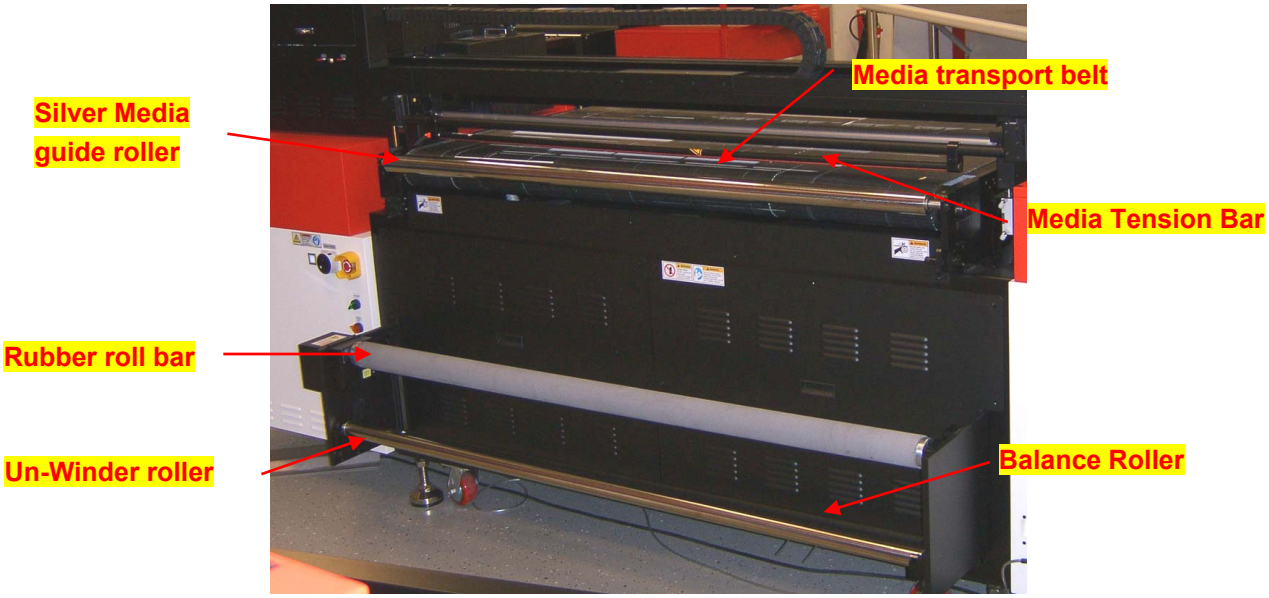
This section provides a best practice on how to place and align roll media in order to obtain a correct registration.

3.1 The paper feed mechanism

The roll to roll feed mechanism contains 3 major parts

3.1.1 Un-winder section on the back of the engine

- Un-winder roller that carries the roll media.
- Rubber roll bar. (motor driven)
- Balance roller



3.1.2 Media Table and vacuum transport belt

- Silver Media Guide Roller
- Media transport Belt
- Media Tension Bar

3.1.3 The Winder section on the front side of the engine

- Balance roller
- Winder roller for the printed media.

REMARK: A correct registration and feed result will be obtained when the rollers are aligned properly by the technician.

3.2 Media Placement Procedure

The media should be aligned to the center of the machine in order to get the optimum result.

3.2.1 Some figures:

Un-winder roller length = 1735mm

Flange width: 35 mm

Media width:

Example: Metamark Roll width = 1520 mm

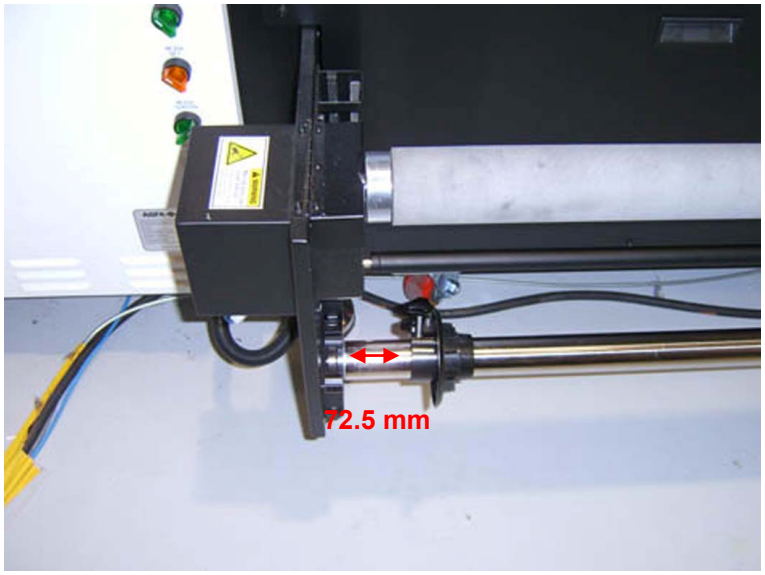
3.2.2 Procedure:

3.2.2.1 Prepare the Un-winder mechanism

In order to obtain an optimal transport, media needs to be aligned to the center of the engine.

- ⇨ Put the left flange on the un-winder roller on the following distance from the left edge (shuttle home position when standing behind the :Anapurna).
  Distance = (Un-winder roller length / 2) – (roll media width /2) – Flange width

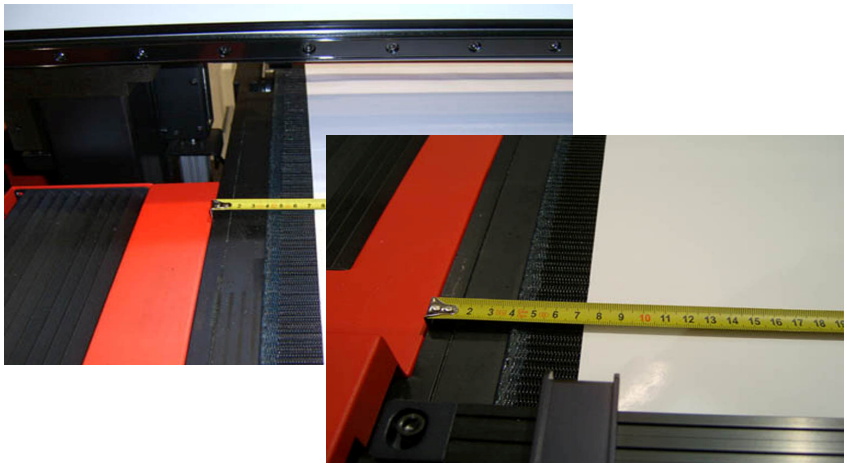
  Ex : 1735/2 – 1520/2 – 35 = 72.5 mm
- ⇨ Fix the left flange on the un-winder roller ± 72.5 mm from the left.



- ⇨ Place the roll media onto the Un-winder roller.
- ⇨ Fix the right flange onto the un-winder roller and make sure the roll media is carried by the flanges.
- ⇨ Remove the balance roller
- ⇨ Place the un-winder roller + roll media in the holder

- Unroll the media a little and place it onto the Media transport belt.
  - Take the paper on left and right side and place it on the vacuum transport belt.
  - make sure that the paper tension is almost equal between left and right.
    When going over the silver media guide roller.
  - Guide the paper till it covers 1/3 of the vacuum table.

- Switch on the vacuum and feed the paper to the front of the engine.
- Switch off the vacuum and align the media parallel to the left side of the vacuum transport table.
  - Use a ruler to measure the distance between the left of the Media transport table and the left side of the media.
    Perform this on the back and the front of the table.



- Adjust the media till the distance table-media is equal for front and back measurement.
- Switch on the vacuum again.
- Place the balance roller from the un-winder section on the back off the engine and switch on the motor for the Rubber Roll Bar.
  Make sure that the mark (dot) on the roller matches the mark (dot) on the frame at shuttle side of the engine.
- When the paper Feed stops (=lowest position of balance roller),
  switch off the motor and remove the balance roller.
  Start printing
  Watch the paper transport.

- Perform a Head Gap before printing
- Adjust the margins in the Operator Panel
  - In the Main Menu [F6 Parameter]
    the following parameters can be set.
    - Left Margin
    - N-Point = "N" for roll media
      Otherwise this will force a media 'back feed' to the first nozzle printing position
    - T = xx Value for Top Margin if required.
    - R = Right Margin is always set to MAX

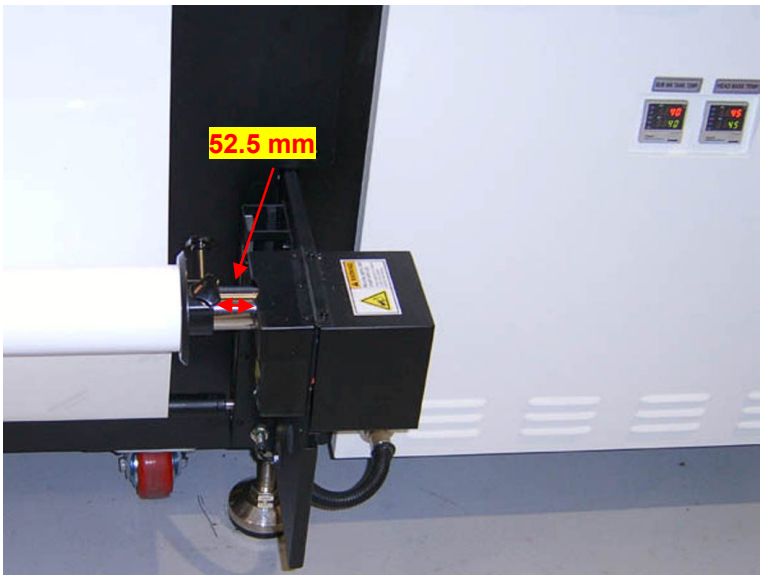
```
F1> LOAD          == PARAMETER SET ==          SAVE <F4

CONTROL = HOST          DIRECTION = BI          PASS = Q4
C-SPEED = 7     F-SPEED = 1     UNIT =MM          WEEP =3
MARGIN (L=100     N-POINT=Y          T=0     R=MAX )
```

- System is now ready to print.
- After a printed distance of ± 20 cm,
  - Interrupt the printing by pressing [ESC] button.
  - Insert the balance roller again on the un-winder section.
    The balance roller will be held in the upper position by the paper.
  - Switch on the motor for the Rubber Roll bar again.
    Paper will be fed and the balance roller will keep the paper tension equal.
  - Resume printing by pressing the [ESC] button again.

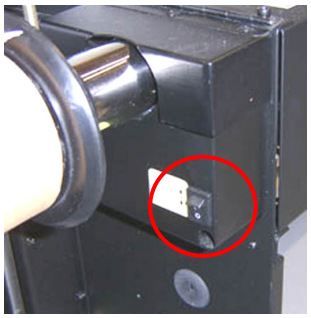
  - Switch on the tension bar.

3.2.2.2 Prepare the Winder mechanism

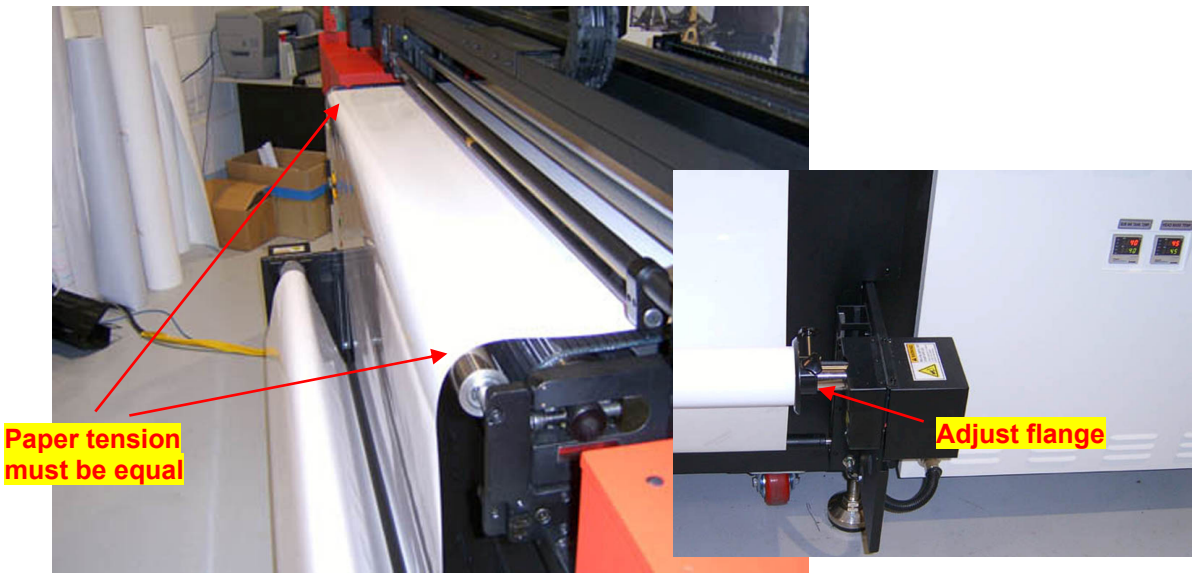
- Winder roller length = 1715 mm
- Put the flange at the right side of winder roller. (when standing in front of the :Anapurna)
  Distance = distance from the flange on the back - (minus) 20 mm because the winder roller is 20 mm shorter than the un-winder roller
  In this case the distance = 72.5 - 20 =52.5 mm



- Place the right flange (e.g. 52.5 mm from the right)
- Place an empty core on the winder roller.
- Attach the media to the core.
- Switch on the winder motor.



- ⇨ Verify the paper transport during printing.
  in case a bulb occurs on the Silver media guide roller on the back,
- ⇨ Interrupt the printing process and unlock the flanges in order to move the roll media a little on the unwinder roller till the bulb disappears.



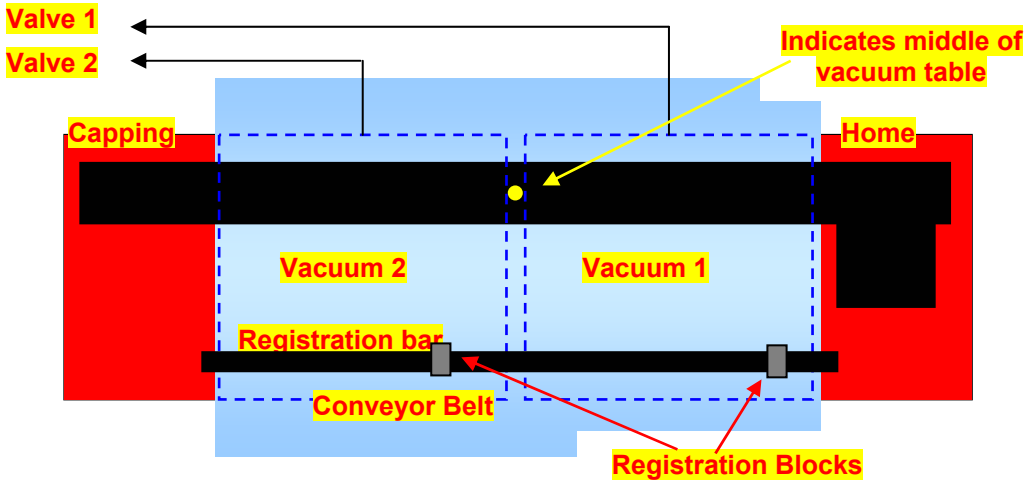
- ⇨ Fix the flanges and continue printing.

! Note: Perform the same adjustment on the Winder mechanism if necessary.

4 Media Handling: Rigid Media

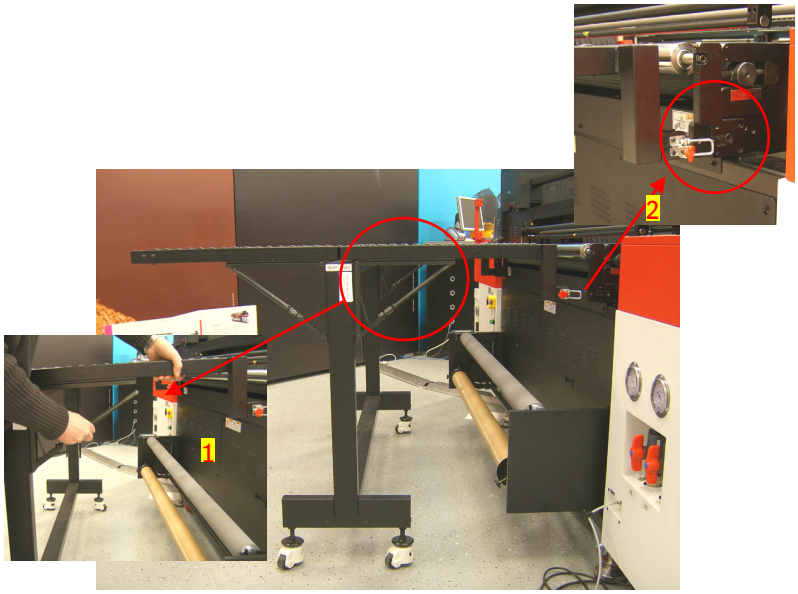
4.1 Supported format

- Width:
  - Maximum Media width = 158 cm (5,2 ft)
  - Maximum printable width = 156 cm (5.1 ft)
    Using Borderless printing = 152 cm(5 ft)
  - Minimum width = 60 cm (1.97 ft)
- Length
  - Maximum Length
    using 1 rigid roller table at input and output (default) = 150 cm (4.9 ft)
  - Maximum Length
    using 2 rigid roller table at input and output 2nd table as option) = 250 cm (8.2 ft)
- Thickness
  - Minimum Thickness = 1mm
  - Maximum Thickness = 45 mm (1,77")
- Weight
  - Maximum weight = 10 kg/m^2 on the printing table
- Dual board loading with use of a second registration block.

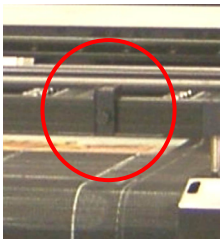


4.2 Media Placement

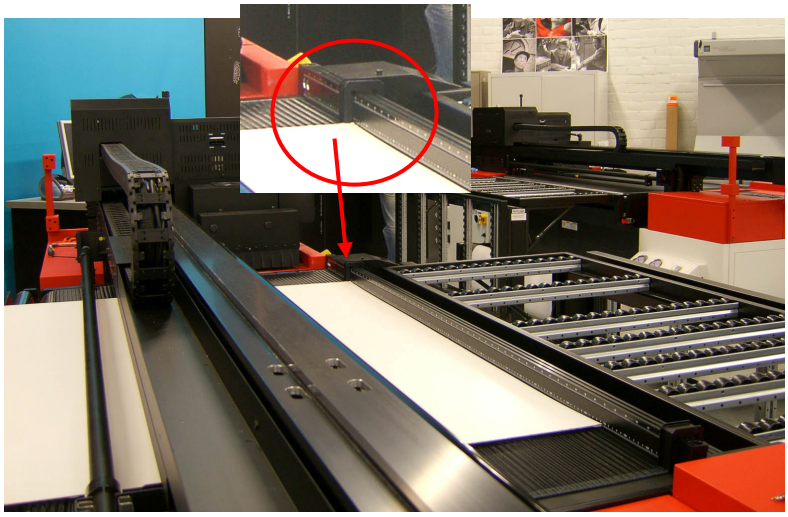
- Attach the tables to the engine.
  One at input (back) side and one at output (front) side.
  - Secure the table parts with brackets (1)
  - Attach and lock the table to the engine (2)



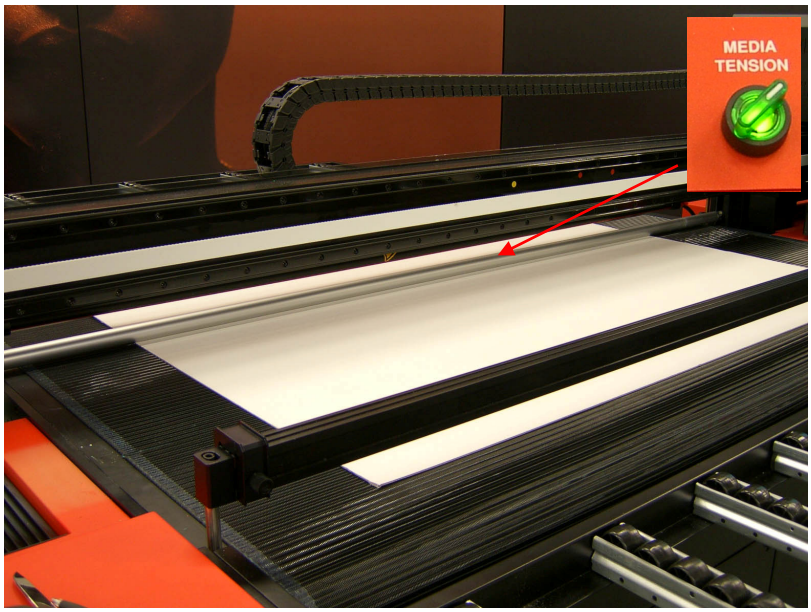
- Place the registration block at the left margin position / alignment position
- Lower the media set bar



- Place the media on the "Rigid Roller Table" at the back of the engine
- Align the media against the Media Set Bar and the registration block.



- ⇨ Switch on the vacuum (See Section 5)
- ⇨ Release the Media Set Bar
- ⇨ Lower the Media Tension Bar to tighten the media onto the vacuum table



- ⇨ Perform a Head gap
- ⇨ Modify the Media parameters in the Operator Panel.
- ⇨ Adjust the margins.
  - In the Main Menu [F6 Parameter]
    the following parameters can be set.
    - Left Margin
    - N-Point = "Y" for Rigid media
      This will force a media 'back feed' to the first nozzle printing position
    - T = xx Value for Top Margin if required.
    - R = Right Margin is always set to MAX

```
F1> LOAD          == PARAMETER SET ==          SAVE <F4

CONTROL = HOST          DIRECTION = BI              PASS = Q4
C-SPEED = 7       F-SPEED = 1       UNIT =MM        WEEP =3
MARGIN (L=100     N-POINT=Y         T=0     R=MAX )
```

- ⇨ System is now ready to print.

5 Setting the Vacuum

5.1 Purpose

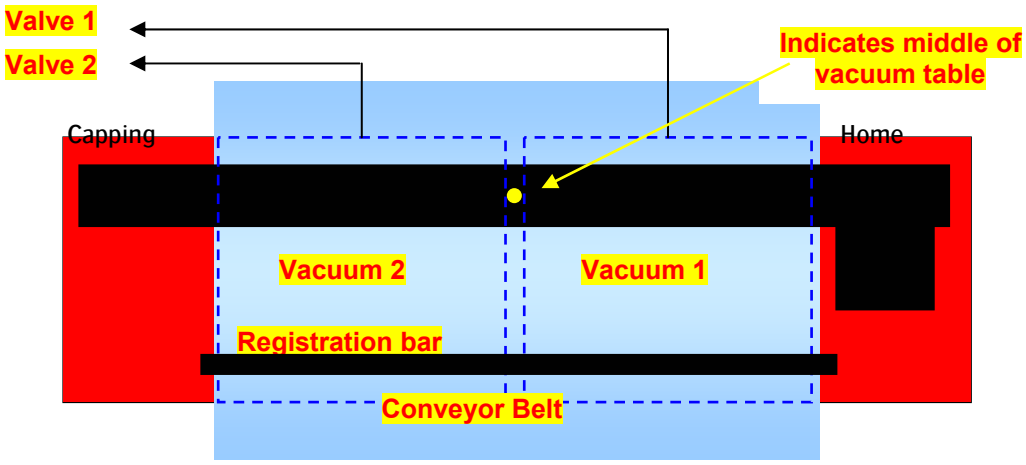
Purpose of this section is to provide an explanation on the vacuum system and a procedure to set the optimum vacuum depending on the type of media that is used.

5.2 General description

The :Anapurna M series 2nd generation use a vacuum belt transport mechanism to feed the media.
The vacuum applied on the media and the media feed system depends on the ratio between the area covered by the media and the open, non covered, area.

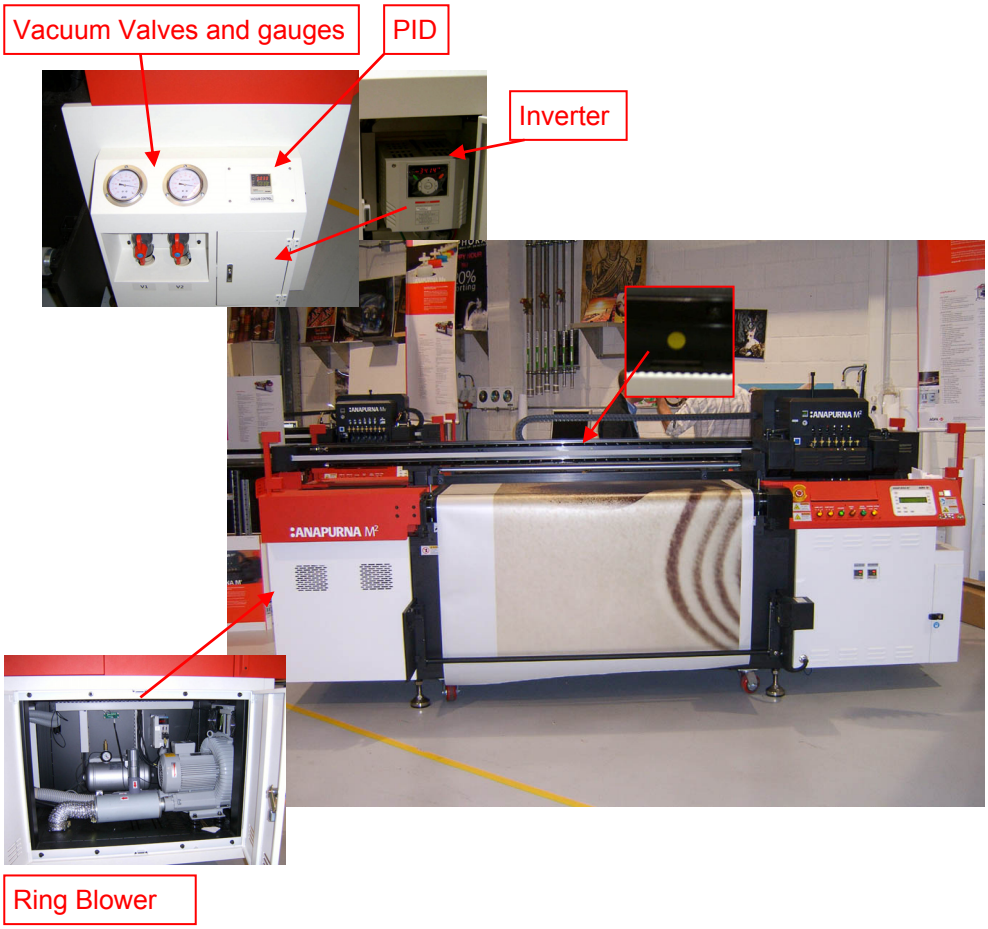
In order to obtain a constant vacuum a vacuum inverter is added to the :Anapurna vacuum transport mechanism.

This inverter system senses the effective generated vacuum and holds this constant while the media is moving over the vacuum table and compensates for the changed amount of covered area.



5.3 Parts involved

- Vacuum table with 2 separate vacuum channels
- The transport belt
- Ring blower
- Vacuum inverter
- PID regulator to set and adjust the desired vacuum.



5.4 Description

Via the vacuum settings PID we can set the nominal required vacuum to hold the media on the media transport belt.

If the table is not 100% covered, there is always an area around the media. These open areas will have a different vacuum than on the covered part and this will also result vacuum difference between the edges of the media and the middle of the media.

The inverter will control the ring blower in order to equalize the vacuum in the 2 vacuum channels.

5.5 Best practices

5.5.1 Basic rule

All media should be centered over the width of the transport belt.

- ⇨ Roll-to-roll media always has to be centered over the width of the belt, irrespective the width it has.
- ⇨ Rigid media has to be centered over the width of the belt except in these cases where the media is smaller than 1 vacuum channel.

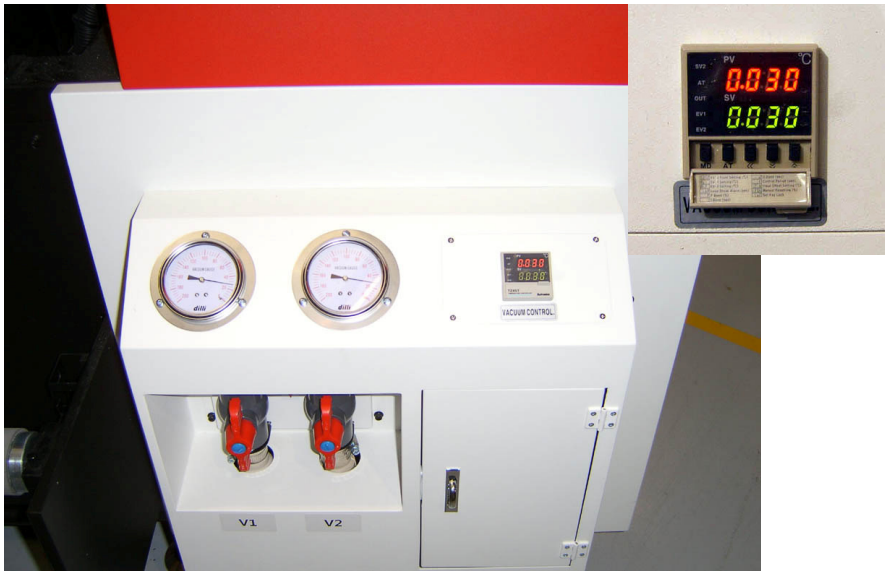
Rule of thumb:

if the media width is smaller than 60 a 70 cm, only one vacuum channel can be used in order to keep a good ratio between covered / non-covered area.

5.5.2 Vacuum settings

The lower the vacuum, the lower the media feed tolerances per printing pass.

For most cases, a value of 30 set on the PID –controller of the inverter is a good starting value.
This way, the value read on the round gauge at the back of the engine, will also indicate around 30.



5.6 Special cases

5.6.1 Printing on heat sensitive media

Heat sensitive media is media that expands due to the heat of the passing UV-lamps.
This expansion can cause some movement of the media onto the belt between the print passes.

In first instance, this media extension has to be reduced by choosing the right print mode:

- ⇨ Half UV power instead of full UV power
- ⇨ Print unidirectional instead of bidirectional
- ⇨ Print 4-pass mode instead of 8-pass mode
- ⇨ Cover the free area in front and behind the media plate, to avoid vacuum leakage that reduces the amount of vacuum around the media plate edges.

Prior to the above, the vacuum has to be increased in order to fix the media as strong as tight as possible on the belt and to minimize the movement during print.
This has a drawback: the risk of banding will go up with higher vacuum settings, so a balance has to be found between the 2 risks.

Tip: increasing the value to 40 or 45 can create a good balance.

5.6.2 Printing small sized media

5.6.2.1 Media is wide and short

If only the media length is short (42 cm or larger) but the width covers most of the belt

⇨ Keep the base value of 30 but cover the free area in front of and behind the media plate with a paper or a plate with a similar thickness.

REMARK: the thickness of the material used to cover the free area must be smaller or equal than the print media thickness.

5.6.2.2 Media width is between 80 and 120 cm

⇨ The set value can be increased to 40 without any negative influence on banding.
A higher value will compensate for the vacuum leakage left and right of the media.

5.6.2.3 Rigid Media with a width of 60 to 70 cm

⇨ Place it on one half of the vacuum belt and close the vacuum valve of the non-used vacuum table. The length of the media will determine the value to be set :

- length > 60cm, set value 30 to 40
- length < 60cm : set value 40 to 50

! CAUTION: Media smaller than 60 cm is not supported by the print engine (minimum size A2 landscape).