PREPARING A SCREEN FILE IN PHOTOSHOP

PREPARING THE DESIGN

Make sure the size of your design is as desired, and chance the resolution to **720 ppi**: Image -> Image Size, Tick Resample

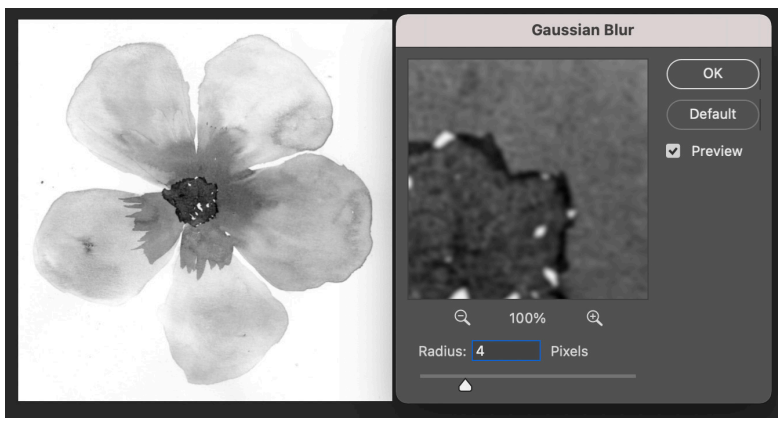
Change the colour mode to Grayscale: **Image -> Mode -> Grayscale**

Cleaning the design:

Texture of a sketching paper etc could be smoothed by blurring:
Filter –> Blur –> Surface, Smart or Gaussian Blur (1-4 px)

Some filters might also help, try e.g. Filter –> Filter Gallery –> Sketch: Graphic/Stamp or Artistic: Watercolor/Dry Brush/Cutout

For cleaning small pixels, try e.g. Filter –> Noise –> Dust & Scratches



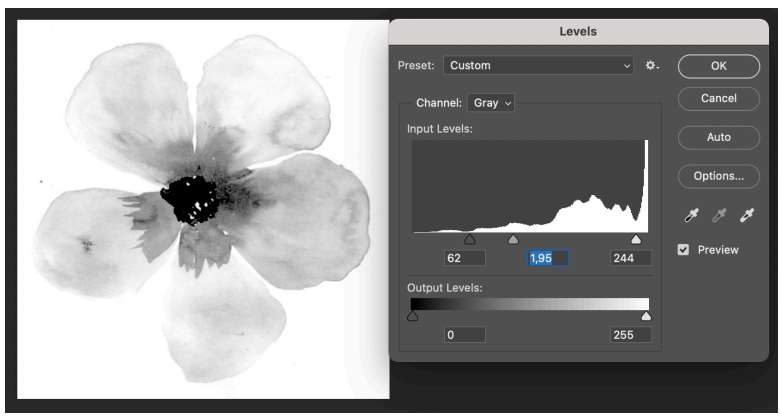
Whitening the design and increasing contrast:

Use **Image –> Adjustments –> Levels**

Especially raster screen file should contain some areas of solid colour (black) and some areas without any colour (white), because printing with a screen full of raster would easily result in smudgy print. Drag the black slider right to blacken the dark-est areas in the design, and drag the white slider left to whiten the lightest areas. (The highest peak on the right is usually the white paper or background, and can be removed entirely)

Print dye droplets spread a little while printing, and thus the print result will look darker than the screen file. To avoid too dark results, lighten middle tones = drag the grey slider left.

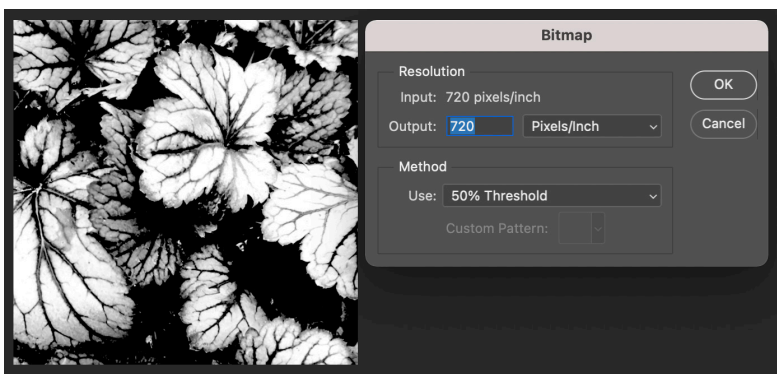
A good screen file looks lighter than the desired end result, but has some areas of full black and pure white.



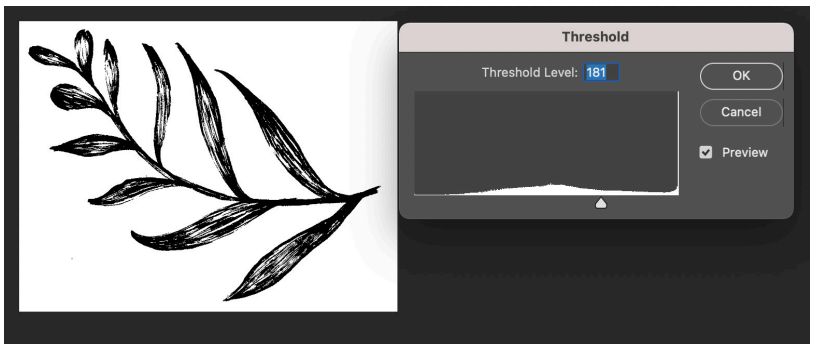
COLOUR SEPARATION - REDUCING THE COLOURS INTO ONLY BLACK AND WHITE

OPTION 1 - THRESHOLD

Converts the design into only black and white pixels. For automatic conversion do **Image –> Mode –> Bitmap –> Method: 50% Treshold**



OR, to better control the end result, do first **Image –> Adjustment –> Threshold**, and only after it convert the design into bitmap - mode.



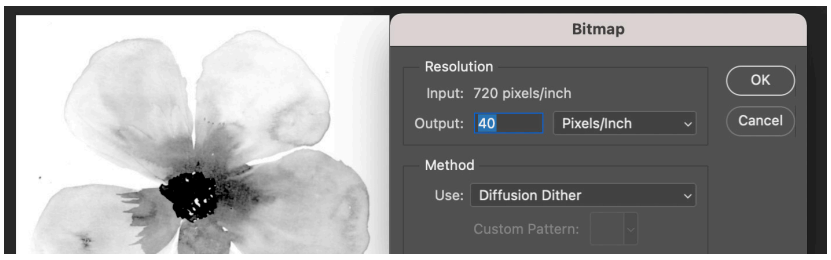
OPTION 2 - RASTER

2A - DIFFUSION DITHER (“PIXELATED” OUTCOME)

Do **Image –> Mode –> Bitmap –> Method: Diffusion Dither**

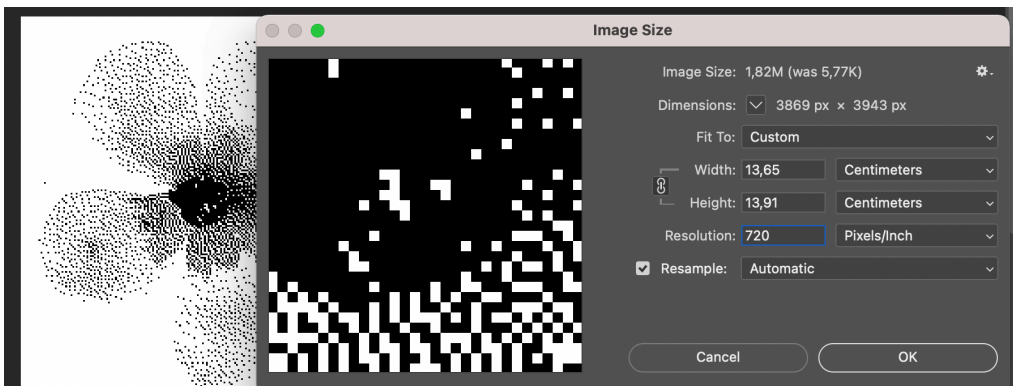
The size of the raster depends on output resolution, for hand-printing use **40-80 ppi**.

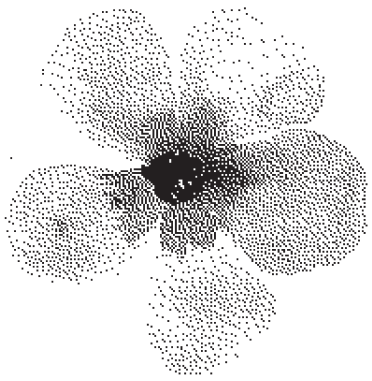
Input = the image resolution (720 ppi), Output – the size and density of pixel dots (40–80 ppi)



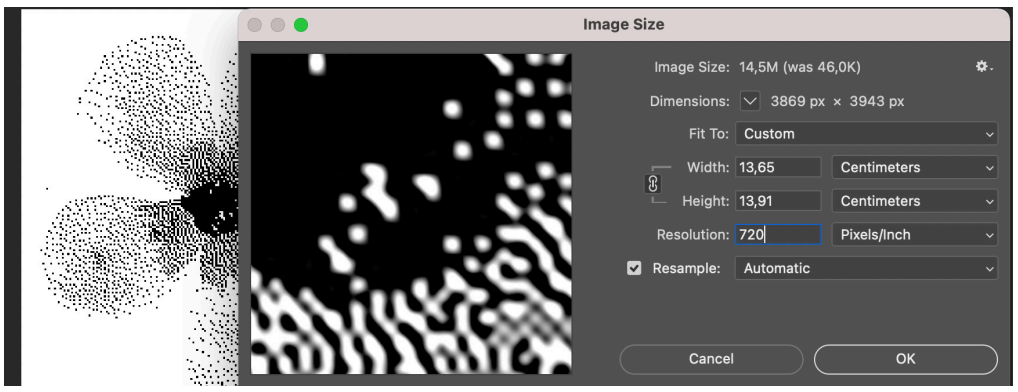
Rasterized image has to be scaled back up to resolution **720 ppi:**

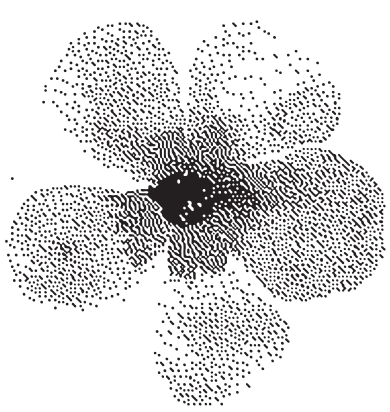
This can be done in bitmap-mode (square-shaped pixel dots in the final outcome): Image -> Image Size, Tick Resample: Automatic





OR in grayscale-mode (pixel dots with rounded edges in the final outcome): Change the colour mode to Grayscale (size ratio 1). Scale the image: Image –> Image Size, Tick Resample: Bicubic. After scaling, reduce the colours back to only black and white by returning to Bitmap mode: Image –> Mode –> Bitmap –> Method: 50% Threshold (output 720 ppi)





2B - HALFTONE SCREEN (DOTTED RASTER IN DIAGONAL LINES)

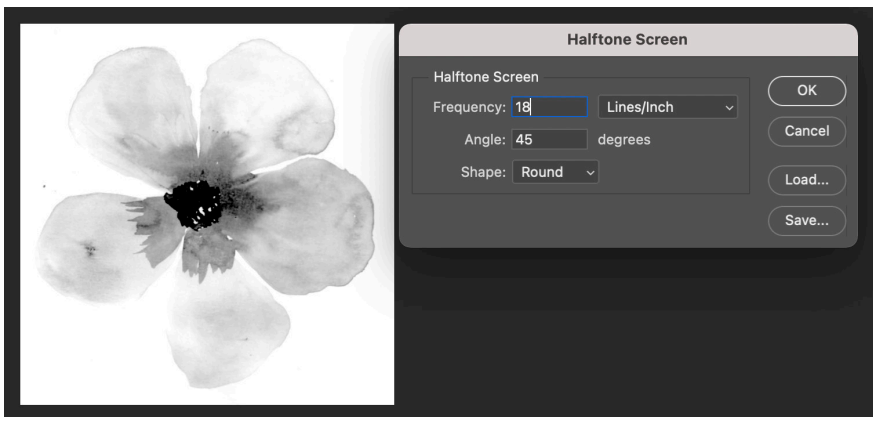
Do **Image –> Mode –> Bitmap –> Method: Halftone Screen**

Input = the image resolution (720 ppi), Output = use 720 ppi

Frequency (lpi): the distance of lines in the raster. With hand-printing try **18-30 lpi**. For best quality use lpi value that divides evenly into the image resolution (e.g. with 720 ppi, use lpi 18/20/24/30...)

Angle: often 45° (with several colour rasters printed on top of each other use different angles in each, e.g. 30 degrees more in each)

Shape: try different shapes. With screen printing on textile usual shapes are round and ellipse.



FINAL STEPS

Check that resolution is **720 ppi** and the file contains only black (0,0,0) and white (255,255,255)

Save the file to **TIFF from Bitmap mode**, no layers.