

MANUAL DE USUARIO

FILTER TOOL

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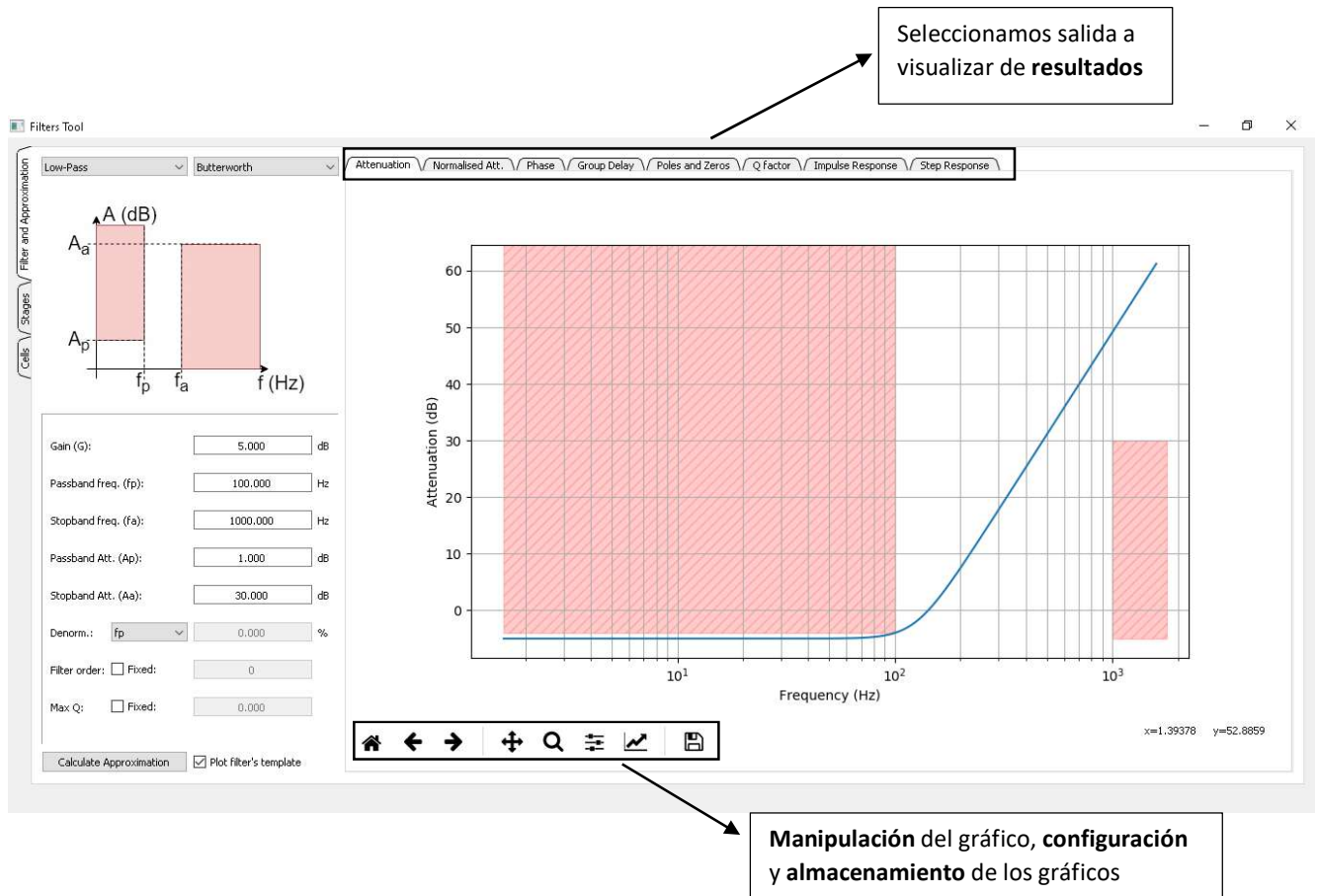
The screenshot shows the 'Filters Tool' window. At the top, there are dropdown menus for 'Filter and Approximation' (set to 'Low-Pass') and 'Butterworth'. Below these is a plot of attenuation A (dB) versus frequency f (Hz). The plot shows a passband with gain A_p and a stopband with attenuation A_a , with corner frequencies f_p and f_a . To the right of the plot, a text box says 'Opciones de diseño, tipo de filtro y aproximación usada'. Below the plot is a form with various parameters: Gain (G): 5.000 dB; Passband freq. (f_p): 100.000 Hz; Stopband freq. (f_a): 1000.000 Hz; Passband Att. (A_p): 1.000 dB; Stopband Att. (A_a): 30.000 dB; Denorm.: f_p 0.000 %; Filter order: Fixed: 0; Max Q: Fixed: 0.000. At the bottom left, there is a 'Calculate Approximation' button and a checked 'Plot filter's template' checkbox. A text box with an arrow pointing to the form says 'Plantilla del filtro a diseñar, acá se ingresan los parámetros deseados...'. Another text box with an arrow pointing to the 'Calculate Approximation' button says 'Luego, le damos a Calculate Approximation'.

Opciones de diseño, tipo de filtro y aproximación usada

Plantilla del filtro a diseñar, acá se ingresan los parámetros deseados...

Luego, le damos a **Calculate Approximation**

- Se pueden diseñar filtros: **PASABAJOS, PASAALTOS, PASABANDA y RECHAZABANDA.**
- Se puede utilizar las aproximaciones de: **LEGENDRE, BUTTERWORTH, BESSEL, GAUSS, CHEBYSHEV I, CHEBYSHEV II, CAUER.**
- Deben ingresarse los datos de la plantilla como corresponde, serán **VALIDADOS.**
- El grado de desnormalización permite mover la respuesta dentro de la banda de transición entre los extremos de la plantilla.
- El diseño puede ser realizado **POR PLANTILLA** cumpliendo los requisitos, **POR ORDEN**, para cumplir que se emplee un determinado orden de función, o bien con **MÁXIMO Q** restringiéndolo.



Se cargarán los **POLOS** y **CEROS** de nuestra transferencia para diseñar las etapas.

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The screenshot shows the 'Filters Tool' window with the 'Filter and Approximation' tab selected. The 'Poles' section contains two entries: the first with $f_p: 1.994E+01$, $Q: 1.000E+00$, and $n: 2$; the second with $f_p: 1.253E+02$, $Q: -$, and $n: 1$. The 'Zeros' section is empty. At the bottom, there are buttons for 'Automatic Cascade' and 'Accept and proceed to design', along with input fields for V_{min} (0.00V), V_{max} (0.00V), and DR_{TOTAL} . A checkbox for 'Acumulative' is also present.

Sistema **Drag&Drop** permite construir etapas con los **POLOS** y **CEROS**.

This screenshot shows the 'Filters Tool' window after a filter stage has been added. The 'Poles' and 'Zeros' input fields are now empty. Below them, a new filter stage is displayed with the following parameters: 'Type: low-pass', 'Q: 1.000E+00', $f_p: 1.994E+01$, $f_q: \dots$, $n_p: 2$, $n_q: \dots$, V_{min} (0.00V), V_{max} (0.00V), 'DR: ...', and 'Gain: 0.00dB'. A second, identical stage is shown to its right. The 'Automatic Cascade' button at the bottom is highlighted with an arrow. The 'Accept and proceed to design' button and the V_{min} , V_{max} , and DR_{TOTAL} fields are also visible.

En caso de no querer hacerlo manual, utilizar la feature **Automatic Cascade**.

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Filters Tool

Cells / Stages / Filter and Approximation

Celdas disponibles en función de la etapa seleccionada

Compensated Integrator/Derivator

Components

R1: 130.0000

R2: 150.0000

C1: 0.0000

Parameters and Sensitivities

Swp->R1: 0.0000

Swp->R2: 0.0000

Swp->C1: 0.0000

HTML Report

Type: low-pass Q: 1.000E+00

f_p : 1.994E+01 f_c : ...

n_p : 2 n_c : ...

V_{min} : 0.01V V_{max} : 15.00V

DR: 63.522 Gain: 0.00dB

Type: low-pass Q: .

f_p : 1.253E+02 f_c : ...

n_p : 1 n_c : ...

V_{min} : 0.01V V_{max} : 15.00V

DR: ... Gain: 0.00dB

Filters Tool

Cells / Stages / Filter and Approximation

Fleischer-Tow

Components

R3: 150000.0000

C1: 0.0000

C2: 0.0000

Parameters and Sensitivities

f_p : 200.1372

Q: 0.9938

Sk->R1: 0.0000

HTML Report

Type: low-pass Q: 1.000E+00

f_p : 1.994E+01 f_c : ...

n_p : 2 n_c : ...

V_{min} : 0.01V V_{max} : 15.00V

DR: 63.522 Gain: 0.00dB

Type: low-pass Q: .

f_p : 1.253E+02 f_c : ...

n_p : 1 n_c : ...

V_{min} : 0.01V V_{max} : 15.00V

DR: ... Gain: 0.00dB

Control de valores de la celda. ¡Se generan solos por diseño del software!