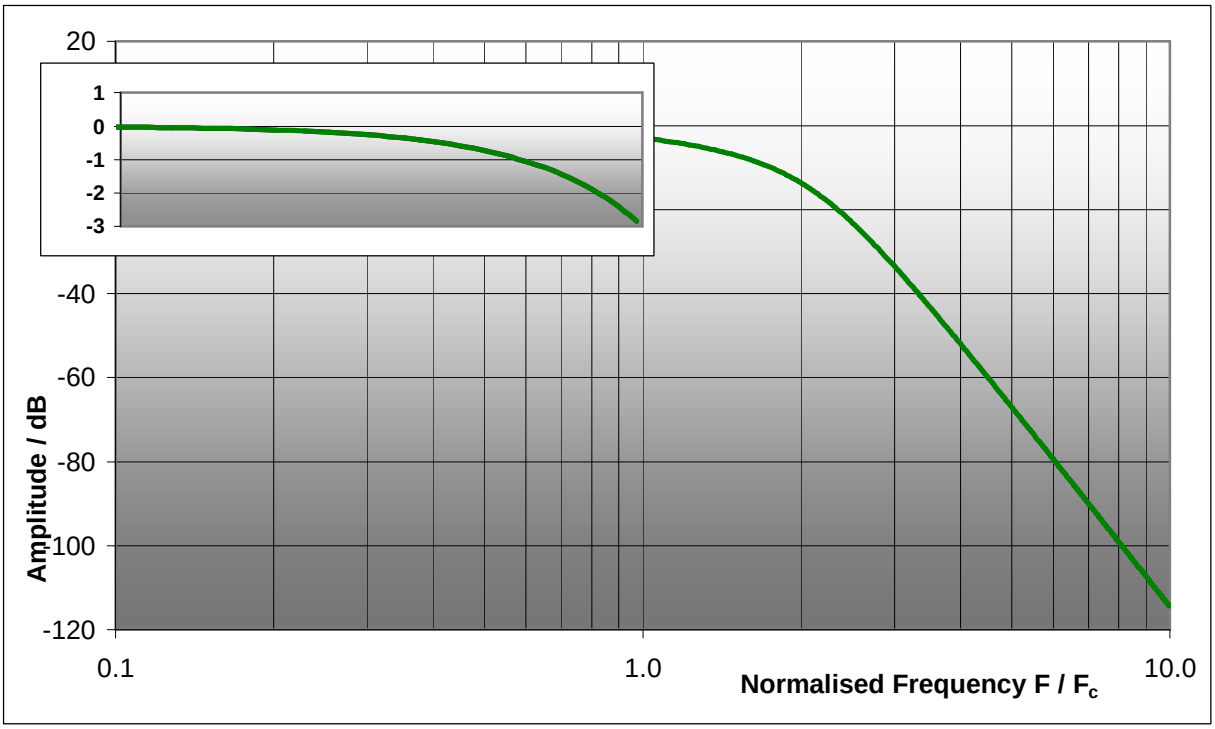
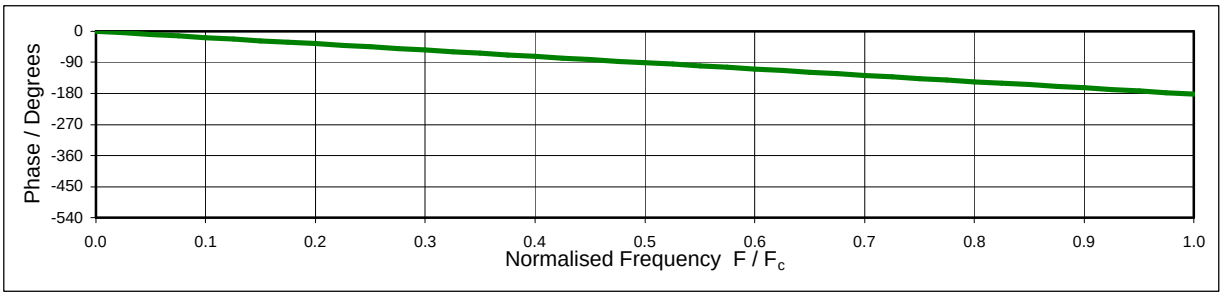
Filter Response 07
8 Pole Bessel



Amplitude Response

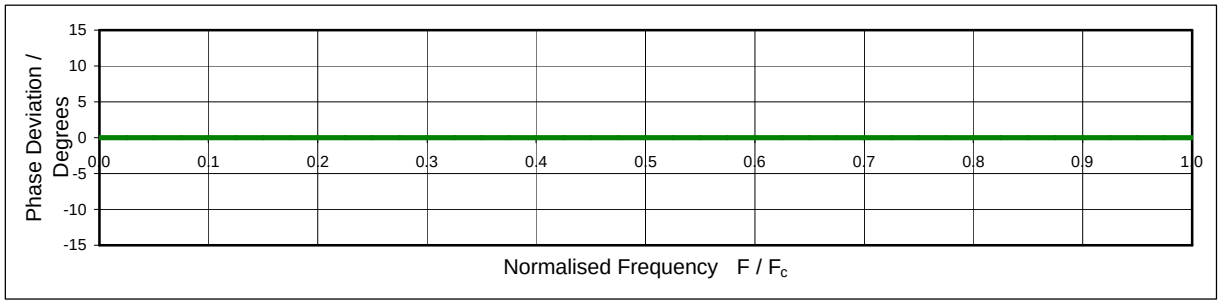
Kemo Filter Response 07 is a classic 8 pole Bessel filter, 48 dB/Octave roll off, -3 dB at cut-off, low overshoot and linear phase.
This response is also available in high pass (07 HP)

Response 07 Data			
Equivalent Slope		48 dB / Octave	
Stopband (theoretical)		> monotonic	
Overshoot (theoretical)		0.4 % at 0.93 /F_c	
Risetime to 0.996		0.8/F_c	
Mean phase line (theoretical)		-182.3 f/F_c	
Attenuation / dB	**Normalised Frequency F / F_c**		Attenuation / dB
0.10	0.186	1.00	3.0
0.25	0.293	1.10	3.6
0.50	0.413	1.25	4.8
1.00	0.584	1.50	7.1
3.00	1.000	1.75	10.0
6.00	1.390	2	13.7
12.00	1.885	3	33.5
24.00	2.535	4	51.9
36.00	3.130	5	66.9
48.00	3.768	8	99.1
60.00	4.512	10	80.0
80.00	6.065	-	114.5



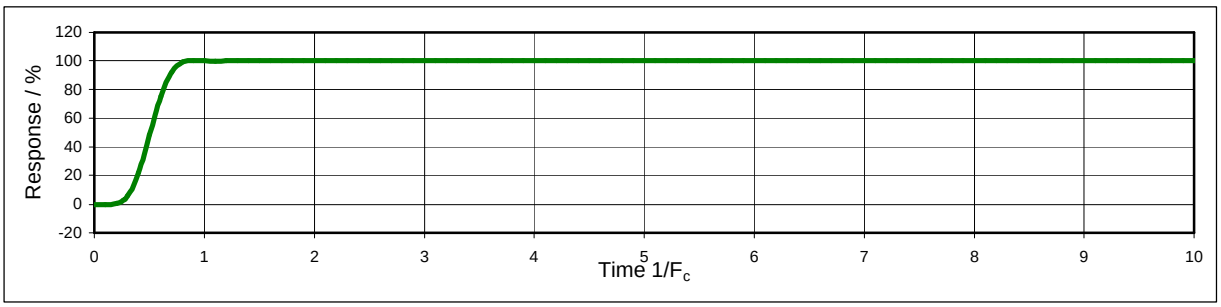
Passband Phase Response

The curve above shows the passband phase response of the Kemo response07 filter.



Passband phase deviation

The above curve shows the passband phase variation for the Kemo response 07 filter, this is the difference between the mean phase line and the passband phase response of the filter.



Time Response to Step Input

The curve above shows the time response to a step input to the response 07 filter.

Other Filter Responses

Anti-Aliasing **(01)** – a filter optimized for anti-aliasing protection before sampling and D-A conversion, where analysis is in the frequency domain.
Butterworth **(03)** **(05)** – traditional Butterworth filters, often used to match existing systems, type 01 is superior for alias protection, and type 41 is a better general purpose filter.
General Purpose **(41)** – a filter optimized for low signal distortion. Flat passband and linear phase characteristics, with moderate settling time.

General Notes about Filter Responses

Selecting a filter is a compromise. We have been manufacturing filters since 1965, and this sheet shows one selection of standard responses built up over a number of years to meet most applications. One of the most important aspects of filter selection is to allow for the total effect on the signal, passband amplitude, phase variation, and step response.

Note $-F_c$ is cut-off frequency