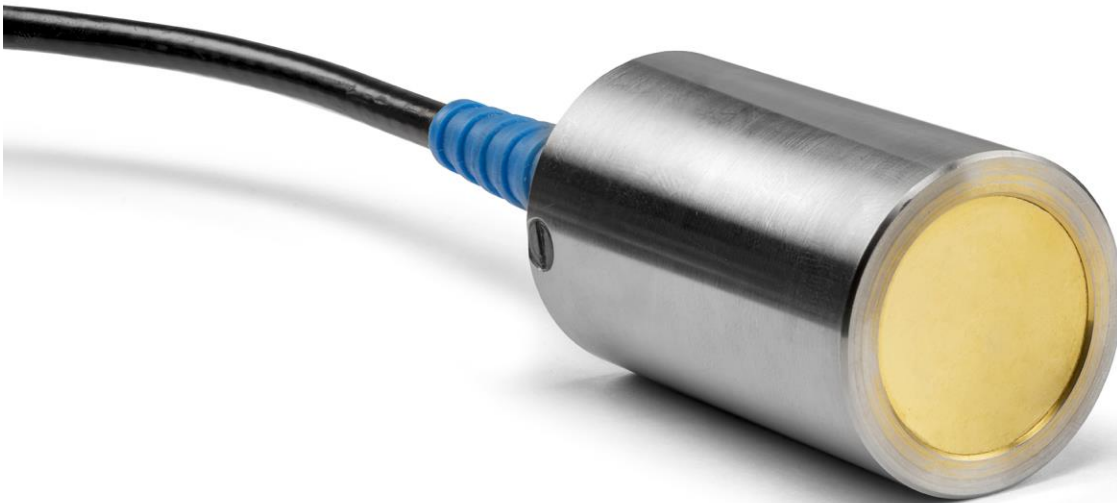


## PVDF transducers

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PVDF is a piezopolymer with high levels of internal damping. Transducers made from it tend to be very wide bandwidth devices, but typically have a lower transmit response than conventional bulk piezoceramic devices. These devices are ideal for producing short pulse or limited duration toneburst application. As such, they can often be driven quite a long way from their centre frequency with only a minimal reduction in output signal. Centre frequencies are typically in the range 5 MHz to 50 MHz.

Precision Acoustics Ltd supplies a range of PVDF transducers, all of which are designed for immersion use. PVDF transducers can be made as unfocussed devices or with either spherical (point) or cylindrical (line) focus to suit user requirements. These sort of transducers can also be supplied with a central aperture (e.g. for delivery of light via an optical fibre).

PVDF transducers are especially useful in imaging applications (medical or NDT) where excellent axial resolution and narrow beamwidths are required.

FEATURES OF PVDF TRANSDUCERS FROM PRECISION ACOUSTICS LTD:

- Centre frequency 5 MHz to 50 MHz.
  - -6 dB bandwidth (40% to 110% of centre frequency, depending on design)
  - Active element diameter 1mm to 60 mm
  - Focal length (if focussed) 3mm to 200mm
  - A 1.5 metre co-axial cable (BNC terminated) is supplied as standard.
- Other options (e.g. SMA, MCX, LEMO etc) are available on request.
  - Each transducer receives an in-house calibration including frequency response transverse beam profiles (and for focussed probes, axial profile)
  - Designed for immersion use.

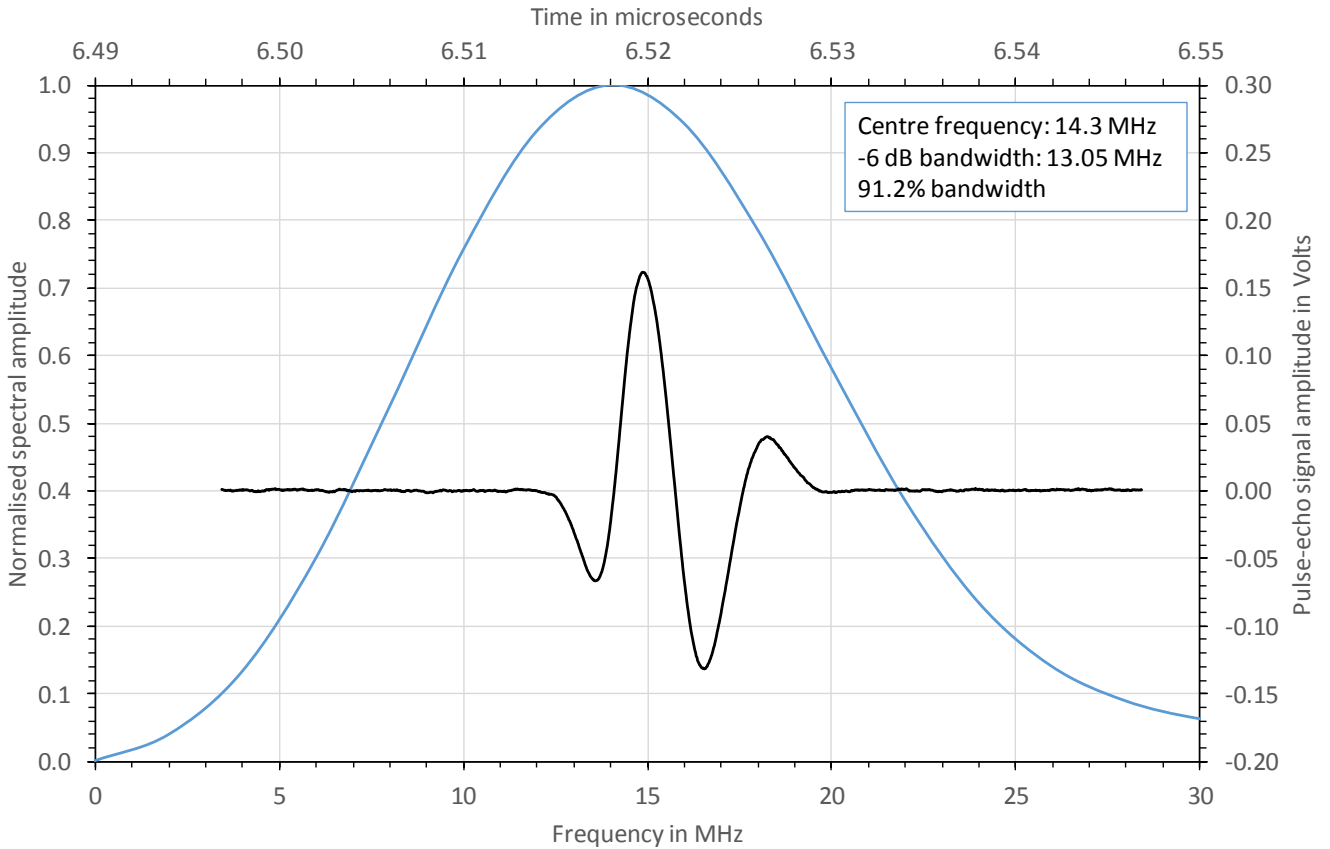


Figure 1 - Typical temporal and frequency responses for a broadband PVDF transducer



*All information is based on results gained from experience and tests and is believed to be accurate but is given without acceptance of liability for loss or damage attributable to reliance thereon as conditions of use lie outside the control of Precision Acoustics Ltd.*