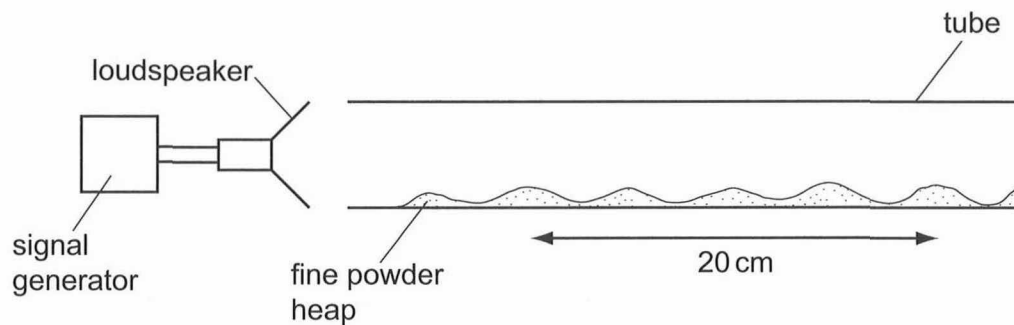


- 20** A long horizontal tube, containing a fine powder, is closed at one end. A loudspeaker, connected to a signal generator, is positioned at the other end.



At a particular frequency, a stationary wave is set up inside the tube and the powder forms heaps as shown. The speed of sound is 330 m s^{-1} .

What type of wave is the stationary wave and what is its frequency?

| | type of wave | frequency / kHz |
|----------|--------------|-----------------|
| A | longitudinal | 3.3 |
| B | transverse | 3.3 |
| C | longitudinal | 6.6 |
| D | transverse | 6.6 |