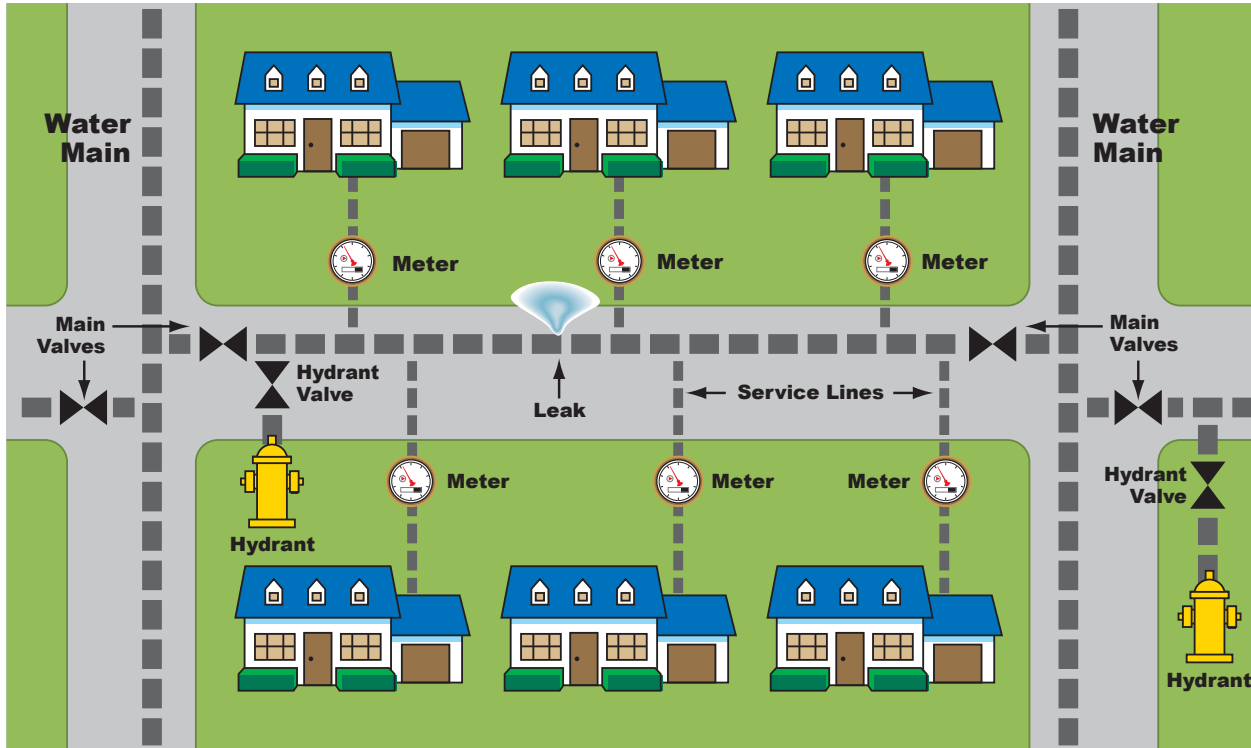


with the LD-8 Leak Survey Tool

1. The sounds of leaks in pressurized water pipes can travel for hundreds (even thousands) of feet in every direction down the mains and services:

2. Different pipe materials and different pipe diameters transmit leak sounds down their pipe walls very differently:



Distances Leak Sounds May Travel

Pipe Material	Pipe Diameter	Distance Sound Travels*
Iron Pipe	6 inch	1000 – 1200 ft
Iron Pipe	12 inch	800 – 1000 ft
Iron Pipe	24 inch	600 – 800 ft
A/C Pipe	6 inch	800 – 1000 ft
A/C Pipe	12 inch	700 – 900 ft
A/C Pipe	24 inch	400 – 600 ft
PVC Pipe	6 inch	400 – 600 ft
PVC Pipe	12 inch	200 – 300 ft
PVC Pipe	24 inch	100 – 150 ft

* For a 5 gal/min leak at 60 psi pressure

3. The service line material is also very important when listening at meters or curb stops:

Service Line Material	Distance Sound Travels*
Copper Tubing	600 – 1000 ft
Galvanized Steel Pipe	800 – 1200 ft
“Poly” Plastic Tubing	50 – 100 ft

* For a 2 gal/min leak at 50 psi pressure

If the distribution system experiences main breaks (5 to 10 gal/min or more) at certain times of the year and the mains are iron pipe or A/C pipe, then a “Hydrant Survey” can be effective and an efficient use of time. Listen at every hydrant in every block. If there is no hydrant for 500 ft., then choose a main valve.

If the distribution system has PVC mains and copper services, then an “Every Meter and Every Valve Survey” may be necessary. Particularly if the system experiences small leaks at the corp valves (taps into mains).

4. The leak survey “strategy” must consider the pipe materials, pipe diameters, service line materials, and types of leaks expected.

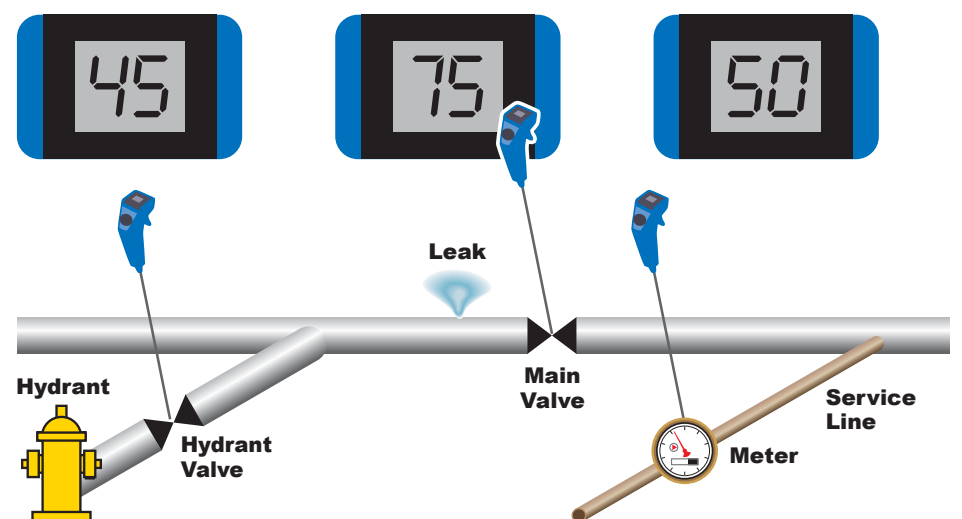
5. If you hear a leak, listen at the adjacent service lines, hydrants, and valves. If the sound is louder, then you are closer. If you cannot tell which one is louder with your ears, then study the two-digit display:



Hydrant Survey



Meter Survey



The leak is closest to the main valve because the two-digit display is higher here.