



# NEIGHBORLY INSTALLATION OF HEAT PUMPS

This pamphlet provides simple advice to owners and installers of heat pumps on how to proactively prevent a noise nuisance.

Residential properties have been protected from excessive noise since the 1980's. Eugene has noise standards (*See: [Eugene Code 6.750 Environmental Noise Disturbance](#) for more details*) that limit the allowable output of noise that heat pumps produce. The maximum allowable noise is 60 dBA which is measured at any property line of an affected residential property.

By considering the following factors, a new heat pump owner may enjoy many years of comfort without creating a noise nuisance.

- Locating heat pumps
- Selecting heat pumps
- Maintaining heat pumps
- Controlling noise



## LOCATING THE HEAT PUMP

- Noise complaints are mainly due to the inappropriate location of heat pumps close to, and facing, neighboring bedrooms and living areas. Before installing a heat pump consider the effects noise from the unit may have on yourself and your neighbors.
- Heat pumps should be as far away from your own and your neighbor's bedrooms as possible. The fan unit should face the boundary of the property furthest away from the adjoining residences, not towards windows or outdoor living areas of a neighboring residence.
- Avoid mounting the pump on a wall and in particular at a high level, as this can result in unimpeded transmission of noise to neighboring properties. If possible mount the heat pump at ground level and on a solid base, preferably a concrete pad or block. Use rubber pads between the unit and the base to eliminate vibration.
- Make use of fences and walls between you and your neighbor's home as these can help reduce the transmission of noise. Acoustic barriers or acoustic treatment may be necessary if a noise nuisance develops.

[www.eugene-or.gov/bps](http://www.eugene-or.gov/bps)

## SELECTING A HEAT PUMP

Installers are a great resource for advice and service to prevent noise nuisance.

- Discuss noise issues with your installer before signing a contract. Determine the appropriate size of unit for the area to be heated/cooled, and select the most suitable unit to prevent excessive operation times and load on the unit.
- The sound power level is a measure of the sound generated by the heat pump. Choose a heat pump with a low sound power level, because a higher sound power level indicates a louder heat pump. The exterior sound power level will be specified on the side of the unit.

## MAINTAINING A HEAT PUMP

Sounds with a narrow frequency range are common from fans and motors. These noises can greatly increase without regular maintenance to replace worn bearings, limited life parts, or tighten loose screws that create buzzing or rattling noises.

- Ask the installer to provide you with an appropriate maintenance schedule.

## SELECTING AN INSTALLER

When selecting an installer it's a good idea to verify that the contractor is licensed and bonded. Also verify that the contractor is going to obtain the proper permits to assure the equipment is installed correctly and your home will be kept safe.

## CONTROLLING NOISE

There may not be enough space between residences for exterior heat pump units to be installed without causing noise problems. Noise may be directly transmitted to a neighbor's house wall, or indirectly from reflection off the wall of the house being heated, or a combination of both. Higher frequency sounds are readily reduced by structure, but lower frequency sounds may penetrate structures unless they are reduced at the source.



If you are not able to locate the unit away from the vicinity of neighbor's rooms, noise reduction measures are options to consider for lowering the decibels.

Conceptually, a soundproof enclosure should provide a noise reduction of at least 5 decibels. If it is well constructed, you can be reasonably sure of a 10 decibel reduction, and you may be able to achieve a 15 to 20 decibel reduction.

### Additional Information

- If you have questions, please contact staff at 541-682-5505 or [permitinfo@ci.eugene.or.us](mailto:permitinfo@ci.eugene.or.us).