



Quiet Condenser Option For McQuay Applied Air Handling Systems



Reducing Noise for Sound Sensitive Applications

For many applications, low radiated sound is a critical factor in the selection and installation of air-cooled equipment. In response to the need for quieter units, McQuay offers a quiet condenser option for RoofPak™ applied rooftop systems and RCS 15-140 ton condensing units. When this option is employed, sound power at the unit is reduced by an average of 7 dB when compared to standard units. The quiet condenser option reduces overall radiated sound power levels by about 6-8 dB depending on unit size. ASHRAE Fundamentals Chapter 7 defines a 5 dB reduction as "quieter" and a 10 dB reduction as "half as loud."

This reduction in sound power can also impact where the unit can be located relative to the lot line. For example, if local code requires a maximum of 50 dB sound pressure at the lot line, the standard condenser must be located 250 feet from the lot line to comply. With McQuay quiet condensers, this distance is reduced to 120 feet.

Features and Benefits

McQuay quiet condensers are specially engineered to reduce radiated noise and improve condenser fan efficiency. Included with this option:

- Aerodynamic, airfoil, sickle-shaped blades and bell mouth orifices improve fan efficiency
- Each fan includes seven blades complete with serrated trailing edges and special blade tip to break up turbulence and reduce noise
- Individual compressor sound blankets are provided to reduce noise

Condensing Unit Performance

The use of the quiet condensers option has a nominal impact on unit performance. Get exact selections from your local McQuay representative.

Sound Performance

The table below shows the sound power levels of standard McQuay RoofPak and RCS condensing units, as well as the same units when fitted with the new quiet condenser option.

Table 1 - Sound Performance Data (in dB)

Unit Type	Model	Frequency (Hz)																			Total dB		
		100	125	160	200	250	315	400	500	630	800	1k	1.25k	1.6k	2k	2.5k	3.15k	4k	5k	6.3k		8k	10k
Standard	015D	87.0	81.3	88.5	80.7	85.2	82.3	80.6	81.3	81.5	81.6	81.2	79.1	77.3	76.3	75.8	75.0	74.4	74.5	73.9	73.0	74.1	94.8
Quiet	015D	68.4	82.4	68.8	66.6	75.2	71.0	74.5	73.9	73.8	74.3	79.7	74.0	70.6	69.6	69.0	68.2	65.1	63.6	61.4	58.7	55.7	87.0
Standard	020D	87.0	81.3	88.5	80.7	85.2	82.3	80.5	81.8	81.5	81.6	81.8	79.1	78.2	77.6	75.9	74.8	75.3	74.7	74.1	73.4	74.1	94.9
Quiet	020D	68.4	82.4	68.8	66.6	75.3	70.9	74.5	76.1	73.8	74.3	80.5	74.0	73.7	73.8	69.5	67.2	69.9	64.9	64.2	64.3	55.7	87.6
Standard	025D	87.0	81.3	88.5	80.7	85.2	82.4	80.6	81.7	81.7	81.8	81.3	79.5	79.0	77.4	76.5	75.7	74.8	74.9	74.1	73.1	74.2	94.9
Quiet	025D	68.4	82.4	68.9	66.7	75.3	71.3	74.8	75.8	75.0	75.4	79.9	75.1	75.6	73.3	71.9	71.0	67.6	66.6	64.8	61.4	58.1	87.8
Standard	030D	93.0	93.2	93.1	88.6	87.6	87.7	85.4	86.2	86.7	86.4	85.8	84.3	83.2	81.8	80.6	79.5	78.3	77.6	76.3	73.7	69.5	100.5
Quiet	030D	74.6	90.3	73.4	71.2	79.1	74.1	76.0	76.4	77.0	76.6	80.5	76.9	76.3	74.1	72.1	70.8	68.2	68.2	65.9	61.2	58.5	92.3
Standard	035D	93.0	93.2	93.1	88.6	87.6	87.7	85.5	86.3	86.7	86.4	85.7	84.3	82.7	81.6	80.6	79.5	78.2	77.4	76.2	73.7	69.5	100.5
Quiet	035D	74.6	90.3	73.3	71.2	79.1	74.0	76.1	76.5	76.6	77.1	80.4	76.5	73.3	72.5	71.9	71.1	67.9	66.5	64.2	61.4	58.5	92.2
Standard	040D	93.0	93.2	93.1	88.6	87.6	87.7	85.5	86.5	86.8	86.4	85.8	84.3	83.1	81.7	80.9	79.5	78.4	77.6	76.5	73.9	69.6	100.5
Quiet	040D	74.6	90.3	73.3	71.2	79.1	74.0	76.3	78.1	77.4	77.1	80.7	76.9	75.9	73.4	73.6	71.1	69.0	67.8	67.9	63.1	59.9	92.4
Standard	042D	90.0	84.3	91.5	83.7	88.2	85.3	83.6	84.6	84.6	84.6	84.3	82.3	81.0	79.5	79.2	78.0	77.5	77.7	77.2	76.1	77.2	97.9
Quiet	042D	71.4	85.4	71.9	69.6	78.2	74.0	77.7	78.4	77.6	77.3	82.8	77.5	76.1	73.6	73.7	71.2	69.2	67.9	68.0	63.3	60.1	90.4
Standard	045D	90.0	84.3	91.5	83.7	88.2	85.3	83.6	84.5	84.7	84.9	84.3	82.4	82.1	80.7	79.4	78.1	77.5	78.0	77.4	76.1	77.2	97.9
Quiet	045D	71.4	85.4	71.9	69.6	78.2	74.1	77.6	77.9	78.0	78.6	82.8	77.7	79.0	76.9	74.3	71.8	69.2	70.3	69.7	63.3	60.1	90.7
Standard	050D	90.0	84.3	91.5	83.7	88.2	85.4	83.7	84.9	84.7	84.8	84.4	82.6	83.0	81.0	79.9	79.0	77.9	78.0	77.3	76.2	77.2	98.0
Quiet	050D	71.4	85.4	71.9	69.7	78.3	74.3	77.9	79.5	78.0	78.1	82.9	78.4	80.6	77.7	75.8	74.7	71.3	70.3	68.8	65.3	62.0	91.2
Standard	060D	90.0	84.3	91.5	83.7	88.2	85.4	83.6	84.5	85.0	84.6	84.4	82.8	83.0	81.0	79.4	78.3	77.7	78.3	77.4	76.0	77.2	98.0
Quiet	060D	71.4	85.4	71.9	69.7	78.4	74.9	77.6	77.5	79.1	77.3	83.0	78.8	80.6	77.7	74.3	72.5	70.5	72.0	69.7	62.7	60.1	91.0
Standard	062D	94.8	95.0	94.9	90.4	89.4	89.5	87.2	88.0	88.6	88.1	87.6	86.3	85.7	84.0	82.6	81.3	80.1	79.7	78.3	75.5	71.3	102.3
Quiet	062D	80.6	92.8	77.0	75.7	82.0	77.2	77.8	78.4	79.9	78.5	80.0	79.3	80.9	78.1	74.9	73.0	71.1	72.2	69.9	63.5	60.9	94.9
Standard	068D	94.8	95.0	94.9	90.4	89.4	89.5	87.2	88.1	88.6	88.2	87.8	86.6	86.0	84.2	83.0	81.5	80.3	79.6	78.2	75.6	71.4	102.3
Quiet	068D	80.6	92.8	77.0	75.7	82.0	76.9	77.8	78.8	79.9	79.5	81.0	80.8	81.7	78.8	76.9	74.3	72.4	71.4	69.1	65.2	62.0	95.1
Standard	070D	94.8	95.0	94.9	90.4	89.4	89.5	87.2	88.2	88.6	88.4	87.6	86.2	85.6	84.2	82.8	81.4	80.1	79.7	78.6	75.6	71.4	102.3
Quiet	070D	76.4	92.1	75.1	73.0	80.9	75.8	78.0	79.4	79.6	80.2	82.4	79.0	80.6	78.6	76.0	73.4	70.8	72.0	71.4	64.9	61.7	94.4
Standard	075D	96.0	96.2	96.1	91.6	90.6	90.8	88.5	89.5	89.8	89.5	88.8	87.5	87.1	85.4	84.1	83.0	81.5	80.8	79.5	77.0	72.7	103.5
Quiet	075D	81.8	94.0	78.3	77.0	83.2	78.2	79.4	81.6	80.4	80.6	81.2	80.3	82.5	79.7	77.8	76.7	73.3	72.3	70.8	67.4	64.1	96.2
Standard	080D	91.8	86.1	93.3	85.5	90.0	87.1	85.4	86.3	86.5	86.7	86.0	84.1	83.9	82.4	81.1	79.9	79.3	79.7	79.2	77.8	78.9	99.7
Quiet	080D	75.1	90.3	74.5	72.3	80.5	76.1	79.1	81.1	79.7	79.8	83.7	80.0	82.4	79.4	77.5	76.5	73.0	72.0	70.5	67.0	63.7	93.9
Standard	085D	91.8	86.1	93.3	85.5	90.0	87.2	85.3	86.2	86.7	86.4	86.2	84.6	84.8	82.8	81.1	80.0	79.5	80.1	79.2	77.8	78.9	99.7
Quiet	085D	75.1	90.3	74.5	72.3	80.6	76.6	78.7	79.1	80.8	79.0	83.9	80.4	82.4	79.4	76.1	74.2	72.2	73.8	71.4	64.4	61.8	93.8
Standard	090D	96.0	96.2	96.1	91.6	90.7	90.8	88.5	89.3	89.9	89.4	88.9	87.5	87.1	85.4	83.9	82.6	81.4	81.0	79.6	76.8	72.5	103.5
Quiet	090D	80.7	93.7	77.4	75.8	82.7	78.1	79.1	79.8	81.3	79.8	82.8	80.8	82.5	79.7	76.4	74.5	72.6	73.9	71.6	64.9	62.3	95.9
Standard	100D	96.3	98.5	98.4	93.5	92.1	91.9	89.9	90.7	90.9	90.3	89.8	88.6	87.9	86.1	84.7	83.2	81.7	80.7	79.2	76.7	73.1	105.0
Quiet	100D	81.3	94.3	78.2	76.7	83.4	78.5	79.6	80.3	81.6	80.7	83.2	81.9	83.0	80.2	77.8	75.4	73.5	73.6	71.3	66.1	63.2	96.6
Standard	105D	96.0	96.2	96.1	91.6	90.6	90.8	88.5	89.3	89.9	89.5	89.1	87.9	87.4	85.6	84.3	82.8	81.6	80.9	79.5	76.9	72.5	103.6
Quiet	105D	80.7	93.8	77.6	76.1	82.8	77.8	79.1	80.2	81.3	80.9	83.3	82.4	83.4	80.5	78.6	75.9	74.0	73.1	70.7	66.7	63.5	96.2
Standard	110D	93.0	87.3	94.5	86.7	91.2	88.4	86.6	87.5	87.8	87.8	87.6	86.2	85.9	83.9	82.8	81.4	80.9	81.0	80.2	79.1	80.2	101.0
Quiet	110D	74.4	88.4	74.9	72.7	81.3	77.2	80.5	80.5	81.4	81.0	86.3	82.7	83.4	80.5	78.6	76.0	74.1	73.1	70.8	66.8	63.5	94.1
Standard	120D	93.9	91.7	95.5	88.8	92.2	89.2	87.4	89.6	88.5	88.5	89.6	86.6	85.5	89.1	83.0	81.9	84.5	81.2	80.3	79.6	78.7	102.4
Quiet	120D	77.0	92.3	76.3	74.1	84.0	77.4	80.2	85.4	80.3	80.1	87.6	81.4	81.0	88.1	76.7	74.2	82.2	70.9	68.6	72.7	62.2	96.6
Standard	125D	97.0	97.2	97.1	92.6	92.1	91.7	89.4	91.8	90.5	90.2	91.4	88.1	86.5	91.7	84.3	83.1	86.6	81.2	80.0	79.5	73.3	104.8
Quiet	125D	78.6	94.3	77.3	75.1	85.7	77.6	79.8	87.6	78.8	79.0	88.6	79.5	75.2	90.7	73.0	71.1	84.9	66.0	64.1	75.1	60.2	98.1
Standard	130D	97.8	98.0	97.9	93.4	92.8	92.5	90.2	92.4	91.3	91.0	92.0	88.9	87.3	91.9	85.1	83.9	86.9	82.0	80.8	80.0	74.1	105.5
Quiet	130D	79.4	95.1	78.1	75.9	86.2	78.4	80.6	87.7	79.6	79.8	88.9	80.3	76.0	90.7	73.8	71.9	84.9	66.8	64.9	75.2	61.0	98.6
Standard	140D	97.8	98.0	97.9	93.4	92.9	92.5	90.2	93.0	91.3	91.0	93.6	88.9	87.3	93.3	85.1	83.9	86.9	82.0	80.8	79.6	74.1	105.7
Quiet	140D	79.4	95.1	78.1	75.9	86.7	78.4	80.6	89.3	79.6	79.8	91.7	80.3	76.0	92.4	73.8	71.9	84.9	66.8	64.9	74.0	61.0	99.5

