

VACUU·LAN[®] Local Vacuum Networks: Benefits for Scientists

VACUU·LAN[®] Local Vacuum Networks are an alternative to central vacuum supply and individual pumps to provide bench and fume hood vacuum for labs. A single small, quiet pump supports as many as 16 users. The approach is suitable for new labs or lab renovations because the technology is modular and scalable from a single bench to an entire lab building.

The approach has many operating advantages for institutions building and operating labs, but also provides significant technical advantages for the scientists working in the labs.

Deeper vacuum:

Typical Central Vacuum System (CVS) is limited to about 150 Torr. VACUU·LAN[®] networks can provide vacuum as deep as 1.5 Torr, deep enough to evaporate nearly all solvents at room temperature.

More stable vacuum:

Check valves in each turret prevent sudden pressure spikes when other vacuum users open a valve.

Adjustable vacuum:

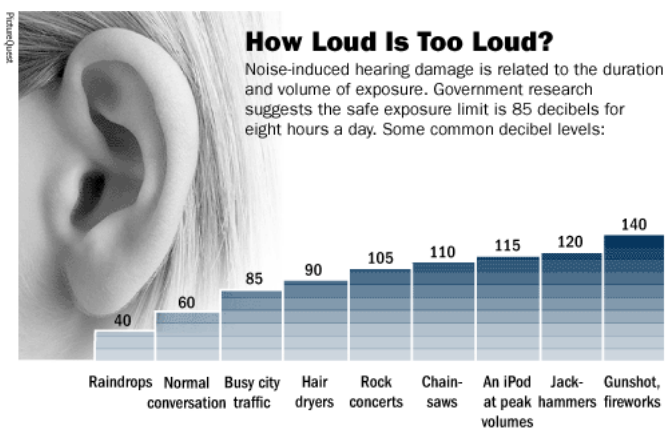
Vacuum for the network can be adjusted to a more modest level if your lab does not need the full depth of vacuum offered by the pumps. Add a local controller at any workstation to obtain programmable vacuum control without the cost or space consumption of buying a dedicated, programmable pump.

Isolated vacuum:

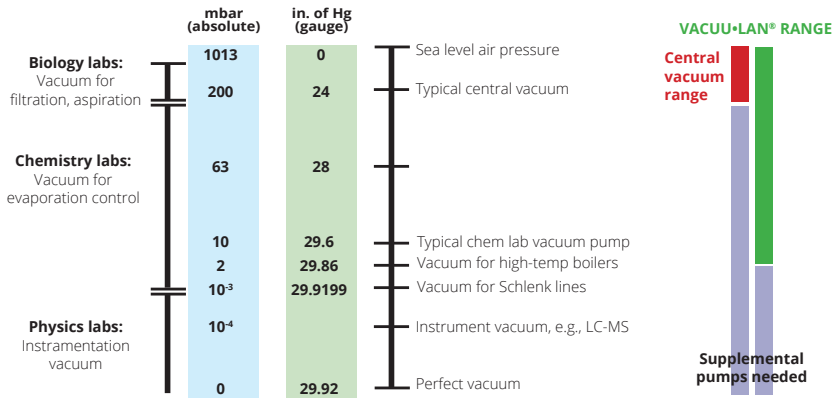
Because vacuum networks are local, operations at each turret are less affected by other vacuum users. Lab-by-lab installation eliminates the risk of inter-lab cross contamination.

Quiet vacuum:

The local pumps operate at below the sound level of quiet conversation - between 45 and 52 decibels, depending on the pump selected. No sound-proofing is necessary, and you will never have to shout over the pumps. Because your VACUU·LAN[®] network can displace several point-of-use pumps, lab sound levels drop to comfortable levels.



Comparing Local Vacuum Networks to Central Vacuum



Space-saving vacuum:

Because the network operates at as low as 1.5 Torr, and is much more stable than CVS, you can operate equipment like rotary evaporators directly from the VACUU-LAN® network and avoid the space consumption of individual pumps.

Water-saving vacuum:

Each water-aspirator vacuum pump displaced by a local vacuum network can save up to 50,000 gallons of water a year from waste and solvent pollution, while providing deeper, more stable vacuum that is unaffected by water temperatures and water pressure.

Maintenance-saving vacuum:

Recommended service intervals are 15,000 operation hours. By comparison, 40 hours of vacuum use per week, 50 weeks a year is about 2000 hours per year.

Energy-saving vacuum:

CVS vacuum is produced 24/7 by large pumps. VACUU-LAN® network vacuum is produced on demand by local pumps. If no one needs vacuum in the lab, the pumps use little to no energy. If you need to work nights or weekends on your research, the vacuum is available, using energy only locally.

Proven technology:

VACUU-LAN® networks have been installed for over 20 years in thousands of labs all over the world, largely displacing CVS. They are used in the research labs of most of the world's pharmaceutical companies, as well as in major research universities, liberal arts colleges and even high schools. Installation can be accomplished in a day or two in most labs, making it possible to upgrade vacuum supply even in operating laboratories.

