

XPert(r) Nano Enclosure,
LABCONCO XPert(r) Nano Enclosure Specification

PART 1 - GENERAL

1.01 Work Included:

1.01.01 This specification covers the requirements for the purchase of bench-mounted XPert(r) Nano Enclosure.

1.01.02 Bench-mounted XPert(r) Nano Enclosure in 2, 3, 4, 5 and 6 foot widths are covered by this specification.

1.01.03 This specification sets the intent for quality, performance and appearance.

1.02 Quality Assurance:

1.02.01 The manufacturer maintains a testing facility at their place of business for the performance testing of bench-mounted XPert(r) Nano Enclosure. Both system and installation are in conformance to good construction practice and approved by the owner/user. The test facility as well as the manufacturing facility are available for owner/user inspection and its quality control procedures. All balance systems wired for 115 volts, 60 Hz meet or exceed all minimum requirements of UL Standard 3101-1 and CAN/CSA C22.2 No. 1010.1-92 and carry the ETL Testing Laboratories seal in the U.S. and Canada. All balance systems wired for 230 volts, 50 Hz conform to the following CE (European Community) requirements: Electrical Safety Standard: IEC 1010-1 and Electromagnetic Compatibility Directive: 89/336/EEC.

1.03 References:

1.03.01 The bench-mounted XPert(r) Nano Enclosure conform to the following regulations and standards:

UL -- Standard 3101-1/61010-1 (115 volt, 60 Hz models only)
CAN/CSA -- C22.2 No. 1010.1-92 (115 volt, 60 Hz models only)
SEFA 1-2002
Modified ASHRAE 110-1995
ANSI Z9.5-1993
CE Conformity Marking (230 volt models only)

1.04 Submittals:

1.04.01 Bench-mounted XPert(r) Nano Enclosure specification sheets and product manuals will be submitted by the manufacturer upon request. The balance system supplier will submit shop drawings when necessary for clarification.

1.04.02 A copy of the test results conducted prior to shipping to ensure proper operation will be shipped with each cabinet.

1.05 Delivery and Storage:

1.05.01 Bench-mounted XPert(r) Nano Enclosure are delivered adequately protected from damage during shipment.

1.06 Warranty

1.06.01 Manufacturer's warranty against defects in material or workmanship on its balance systems for 1 year from date of installation or 2 years from date of purchase, whichever is sooner, and includes replacement of parts (except HEPA filters and lamps) and labor.

PART 2 - PRODUCTS

2.01 Acceptable Manufacturer:

2.01.01 Labconco Corporation, 8811 Prospect Avenue, Kansas City, Missouri 64132,
XPert(r) Nano Enclosure, model numbers as described below:

2 Foot Models: 3887220, 3887221, 3887260, 3887261, 3887262
3 Foot Models: 3887320, 3887321, 3887360, 3887361, 3887362
4 Foot Models: 3887420, 3887421, 3887460, 3887461, 3887462
5 Foot Models: 3887520, 3887521, 3887560, 3887561, 3887562, 3888520, 3888521, 3888560, 3888561, 3888562
6 Foot Models: 3887620, 3887621, 3887660, 3887661, 3887662, 3888620, 3888621, 3888660, 3888661, 3888662

2.02 Materials:

2.02.01 Static-dissipating, epoxy-coated aluminum and steel is used for the outside frame.

2.02.02 Static-dissipating, 304 stainless steel is used for the inside liner, plenums and baffle. No unreliable plastic to plastic bonding is used.

2.02.03 Static-dissipating, tempered safety glass is used for front sash.

2.02.04 ULPA filters are a minimum of 99.999% efficient on all particles 0.12µm. ULPA filters are industry-standard size.

2.02.05 Fluorescent lighting provides 28 to 35 foot-candles on work surface.

2.02.06 Tempered safety glass sash is 1/4" thick tempered safety glass.

2.02.07 Pressure gauge monitors system pressure and is located on the front panel.

2.02.08 Sparkless motorized impellers are constructed of backward curved centrifugal fans highly resistant to particles with maintenance-free ball bearings and run over 50,000 hours. Two and three-foot models use 1/6 HP impellers. Four, five and six-foot models use 1/3 HP impellers. Five and six-foot models have 2 each motorized impellers.

2.02.09 Built-in impeller is mounted on vibration isolation supports.

2.02.10 Impeller has a 40% reserve so that speed may be adjusted as needed as filter loads.

2.02.11 Internal ductwork is epoxy-coated steel or stainless steel.

2.02.12 Control panel has separate rocker switches that control blowers, lights and optional ionizer.

2.02.13 Upper diffuser screen is constructed of epoxy-coated aluminum.

2.02.14 Static-dissipative stainless steel work surface is integrated into the cabinet and made of 304 stainless steel.

2.02.15 Optional adjustable height base stand (not included with balance system) is epoxy-coated steel and ADA compliant.

2.03 Fabrication:

2.03.01 Overall exterior dimensional information on benchtop filtered balance systems is as described in the table below.

Model Number	Description	Actual Width	Actual Depth	Actual Height
3887220	2 Foot Model	24.0"	29.1"	38.3"
3887221	2 Foot Model	24.0"	29.1"	38.3"
3887260	2 Foot Model	24.0"	29.1"	38.3"
3887261	2 Foot Model	24.0"	29.1"	38.3"
3887262	2 Foot Model	24.0"	29.1"	38.3"
3887320	3 Foot Model	36.0"	29.1"	38.3"
3887321	3 Foot Model	36.0"	29.1"	38.3"
3887360	3 Foot Model	36.0"	29.1"	38.3"
3887361	3 Foot Model	36.0"	29.1"	38.3"
3887362	3 Foot Model	36.0"	29.1"	38.3"
3887420	4 Foot Model	48.0"	29.1"	38.3"
3887421	4 Foot Model	48.0"	29.1"	38.3"
3887460	4 Foot Model	48.0"	29.1"	38.3"
3887461	4 Foot Model	48.0"	29.1"	38.3"
3887462	4 Foot Model	48.0"	29.1"	38.3"
3887520	5 Foot Model	60.0"	29.1"	47.5"
3887521	5 Foot Model	60.0"	29.1"	47.5"
3887560	5 Foot Model	60.0"	29.1"	47.5"
3887561	5 Foot Model	60.0"	29.1"	47.5"
3887562	5 Foot Model	60.0"	29.1"	47.5"
3888520	5 Foot Model	60.0"	35.6"	47.5"
3888521	5 Foot Model	60.0"	35.6"	47.5"
3888560	5 Foot Model	60.0"	35.6"	47.5"
3888561	5 Foot Model	60.0"	35.6"	47.5"
3888562	5 Foot Model	60.0"	35.6"	47.5"
3887620	6 Foot Model	72.0"	29.1"	47.5"
3887621	6 Foot Model	72.0"	29.1"	47.5"
3887660	6 Foot Model	72.0"	29.1"	47.5"
3887661	6 Foot Model	72.0"	29.1"	47.5"
3887662	6 Foot Model	72.0"	29.1"	47.5"
3950622	6 Foot Model	72.0"	29.1"	47.5"
3888620	6 Foot Model	72.0"	35.6"	47.5"
3888621	6 Foot Model	72.0"	35.6"	47.5"
3888660	6 Foot Model	72.0"	35.6"	47.5"
3888661	6 Foot Model	72.0"	35.6"	47.5"
3888662	6 Foot Model	72.0"	35.6"	47.5"

2.03.02 Sash is angled approximately 10 degrees on two, three, and four-foot models with a fixed opening of 9.4 inches and approximately 7 degrees on five and six-foot models with a fixed opening of 11.8 inches for better visibility. Sash has no visibility-interfering protrusions.

2.03.03 Sash is hinged to pivot upward and locks to a loading height of 19 inches. Five and six-foot models have a sash that incorporates an

external gas-assist lift and locks to a loading height of 27.7 inches.

2.03.04 Upper diffusion screen allows for 100% ULPA filter scan.

2.03.05 ULPA filter is located downstream from blower to allow for 100% filter scanning.

2.03.06 The nano enclosure contains a true bag-in/bag-out filter disposal system.

2.03.07 Clean-Sweep(tm) Air Foil allows air to sweep the work surface for maximum containment. Air foil is ergonomic to allow comfortable resting of arms.

2.03.08 Side-Entry Air foils are aerodynamic and located on both sides of sash opening to direct room air along sides of the filtered balance system.

2.03.09 Upper dilution air supply allows air into the filter balance system from above the work area which bathes the back of the sash with room air and directs concentrations away from the sash opening.

2.03.10 Upper containment sash foil allows room air to bleed in between the sash and the handle to reduce turbulence and direct concentrations away from the users breathing zone

2.03.11. Zone-perforated rear baffle contains three zoned sections of perforations to direct air in a non-turbulent laminar air stream from the sash opening

2.03.12 The enclosure control has a variable speed control to allow user defined face velocities to be adjusted from 60-100 fpm.

2.03.13 Two utility ports are located in either corner on the lower rear wall to allow for pass-through of electrical cords.

2.03.14 The positive pressure motorized impeller is surrounded by a negative pressure plenum so that if a leak should develop, the unfiltered air is captured and directed through the filter.

2.03.15 Models with Guardian Airflow monitor will continuously monitor airflow with a green LED when airflow is above a selected point and will display a red LED and sound an audible alarm when airflows go below a set velocity.

2.03.16 An 8.2-foot power cord connects to the nano enclosure by a suitable keyed connector (IEC 320 AC inlet connector or equivalent). Permanently attached cords with strain relief connectors are not used.

2.03.17 Optional trace odor carbon filters are available for work with nuisance odors that are organic, aldehyde, or ammine based.

2.03.18 Optional Canopy Connection Kit and Air-Tight Damper (not included with cabinet) for thimble ducting the nano enclosure to the outside are available.

2.03.19 Optional Ionizer, when activated, floods the work area with positive and negative ions to neutralize static charges on the surface of non-conductive items. Ionizer cannot be installed after manufacture and must be ordered as original equipment.

2.03.20 Optional adjustable-height base stand (not included with cabinet) provide a working height from 30 to 36". Dimensions are as follows:

Nominal Dimensions

2 ft. wide: 24" w x 29" d x 27.5"-33.5" h
3 ft. wide: 36" w x 29" d x 27.5"-33.5" h
4 ft. wide: 48" w x 29" d x 27.5"-33.5" h
5 ft. wide: 60" w x 29" d x 27.5"-33.5" h
6 ft. wide: 72" w x 29" d x 27.5"-33.5" h

PART 3 - EXECUTION

3.01 Inspection

3.01.01 Carefully check the contents of the carton for damage that might have occurred in transit.

3.02 Preparation

3.02.01 Verify equipment rough-in before proceeding with work.

3.02.02 Coordinate with other trades for the proper and correct installation of electrical rough-in and for rough opening dimensions required for installation of the filtered balance system.

3.03 Installation

3.03.01 Install according to manufacturer's instructions.

3.03.02 Install according to standards required by authority having jurisdiction.

3.03.03 Install equipment square and straight with no distortion and securely anchor as required.

3.03.04 Touch up minor damaged surfaces caused by installation. Replace damaged components as needed.

3.04 Field Quality Control

3.04.01 A qualified independent certifier should perform a HEPA filter leak test to verify the filter has not been damaged in transit.

3.05 Cleaning

3.05.01 Clean equipment, casework, countertops and all other surfaces as recommended by the manufacturer, rendering all work in a new and unused appearance.

3.05.02 Clean adjacent construction and surfaces, which may have been soiled in the course of installation of work in this section.

3.06 Protection

3.06.01 Provide all necessary protective measures to prevent exposure of equipment and surfaces from exposure to other construction activity.

3.06.02 Advise contractor of procedures and precautions for protection

of material and installed equipment and casework from damage by work of other trades.