ITIN SCALE COMPANY

# Ohaus VP-413DCN Voyager Precision Balances, 100/410 g x 0.001/0.01 g - Draftshield - Legal for Trade

A full featured laboratory balance with multiple weighing modes and functions. 7 Built-in application modes plus below balance weighing: animal weighing, parts counting, percent weighing, check weighing, filling and gross/net/tare.





Manufature: Ohaus SKU: VP-413DCN Weight: 30.00 lb Free Ground Shipping within the 48 continental US States

Please Call (800)832-0055

# Features

When your applications demand more than a standard balance, the new Ohaus Voyager® Pro is up to the task. Voyager Pro's Advanced Applications simplify even the most complex laboratory measurements. Whether it's determining the difference between initial and residual weights or calculating the density of solids and liquids, Voyager Pro eliminates the need for time consuming manual calculations and data logging.

Advanced in applications but not in operation. With Voyager Pro's dot matrix display and intuitive user interface, balance setup and use is effortless. For superior weighing performance, Voyager Pro's AutoCal™ feature automatically calibrates the balance when it senses a temperature change sufficient enough to affect weighing accuracy.

The Voyager Pro also includes an ergonomic leveling system; cursor keys for menu navigation and balance setup; one function per key; auxiliary port; menu and calibration lock-out switch; factory reset option; spill gutter; removable draft shield doors.

Standard Features on both the Voyager Pro Analytical and the Voyager Pro Precision

AutoCal automatic internal calibration system

- The most advanced application modes in the industry, including:
   Statistics

  - Formulation

Statistics
Formulation
Differential Weighing
Statistical Quality Control (SQC)
Density Determination
Pipette Calibration
Pipette Calibration
Standard application modes including:
Percent Weighing
Animal Weighing
Check Weighing
Filling
Parts Counting
Gross/Net/Tare Weighing
Applications library to store and quickly recall past procedures
Brilliant backlit high resolution dot matrix display with simple navigation windows and menus to guide you through balance functions
User selectable GLP/GMP outputs via RS232 to meet traceability requirements
User selectable filter, stability indicator and auto-zero tracking for use in difficult environments
Five operating languages-English, Spanish, French, German, Italian
Weigh-below hook for below-balance weighing applications
Protective in-use cover and security bracket

- Protective in-use cover and security bracket
  Industry leading 5 year warranty and support

| Model<br>Number:              | VP-213CN   | VP-413CN | VP-613CN   | *VP-413DCN        | VP-612CN | VP-2102CN | VP-4102CN | VP-6102CN  | *VP-4102DCN     | VP-4101CN | VP-6101CN | VP-8101CN |
|-------------------------------|--|----------|------------|-------------------|----------|-----------|-----------|------------|-----------------|-----------|-----------|-----------|
| Capacity                      | 210 g  | 410 g    | 610 g      | 100/410           | 610 g    | 2100 g    | 4100g     | 6100 g     | 1000/4100 g     | 4100 g    | 6100 g    | 8100 g    |
| Readability (g)               | 0.001.   |          | 0.001/0.01 | 0.01              |          |           |           | 0.01 / 0.1 | 0.1             |           |           |           |
| Repeatability<br>(std dev, g) | 0.0005 0.0015  |          | 0.0015     | 0.0005/0.005      | 0.005    |           |           | 0.01       | 0.01/0.05       | 0.05      |           |           |
| Linearity                     | +/-0.002   |          |            | +/-0.002/+/-0.005 | +/-0.02  |           |           | +/-0.04    | +/-0.02/+/-0.04 | +/-0.1    |           |           |
| Weighing<br>Modes             | gram, milligram, ounce, troy ounce, carat, pennyweight, Hong Kong tael, Singapore tael, Taiwan tael, mommes, grain, ticals, Newton, custom   |          |            |                   |          |           |           |            |                 |           |           |           |
| Features                      | Applications Library, RS232 Port, Auxiliary Display Port, GLP Protocol, Selectable Operations Language, Selectable Displayed Information Settings, Selectable<br>Environmental Settings, Selectable Auto-Print Settings, Integral Weigh Below Hook, Contrast & Brightness Control, Protective In-Use Cover |          |            |                   |          |           |           |            |                 |           |           |           |
| Applications                  | Statistics, Formulation, Differential Weighing, SQC, Density Determination, Pipette Calibration, Parts Counting, Animal Weighing, Check Weighing, Percent Weighing,<br>Filling, Gross-Net-Tare Weighing  |          |            |                   |          |           |           |            |                 |           |           |           |
| Operating<br>Temperature      | 50° to 104°F (10° to 40°C )  |          |            |                   |          |           |           |            |                 |           |           |           |
| Display                       | LCD Dot Matrix with Back light 240 x 128 pixels  |          |            |                   |          |           |           |            |                 |           |           |           |
| Power<br>Requirements         | 100-120 V AC, 220-240 V AC, 50/60 Hz   |          |            |                   |          |           |           |            |                 |           |           |           |
| Platform Size                 | 4.7" (12 cm) diameter 6.8" x 6.8" (17.2 x 17.2 cm) with windshield   |          |            |                   |          |           |           |            |                 |           |           |           |
| Dimensions<br>(W x H x D)     | 8.3" x 13.8" x 13.8"       8.5" x 4" x 13.8"         (21 x 35 x 35 cm)       21.5 x 10.3 x 35 cm   |          |            |                   |          |           |           |            |                 |           |           |           |
| Net Weight                    | 13.2 lbs (6 kg) 11 lbs (5 kg)  |          |            |                   |          |           |           |            |                 |           |           |           |

Superior Draftshield

A large 3-door draftshield is standard on all Voyager Pro Analytical and Voyager Pro Precision balances with a 0.1/1 mg readability. The draftshield design provides optimum draft protection from wind currents for superior balance stability and reproducibility even in challenging environments. the large chamber can accommodate larger vessels and the removable side doors make it easy to clean

- Automatic Calibration Voyager Pros standard AutoCal<sup>™</sup> calibration feature automatically calibrates the balance when it senses a temperature change sufficient enough to affect weighing accuracy. This feature assures accuracy while saving operational time.
- Protective Cover

Voyager Pros standard in-use cover is replaceable and protects the display from harsh environments or spills that can ruin the balance.

Large Brilliant Display

Voyager Pros high-resolution dot matrix display with backlight enhances viewing in any environment and has adjustable contrast and brightness controls. The display illustrates the weighing results with large numeric indicators and features user definable text fields to illustrate only the information you want! The display also illustrates secondary units, time and date.

• Communication Port with GLP/GMP Data Output

The standard RS232 communication port offers connectivity and its GLP/GMP data output capability prints time, date, balance, project, user ID, calibration information and weighing information. Simply connect your Voyager Pro to the optional Ohaus SF42 accessory printer and full traceability of weighing procedures is achieved without the need for sophisticated, expensive peripherals.

Innovative Software

Voyager Pros innovative user interface combines a dot matrix display with scroll down menus, software prompts and 5 operating languages. Balance setup and use is made simple and easy to follow with no training required. The three application-specific soft-keys allow direct access to features such as calibration, units, sample size and reference information at the touch of a button. An applications library stores and quickly recalls past procedures eliminating the need to re-establish application parameters.

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# Voyager Pro Applications

Advanced in applications but not in operation. With Voyager Pros dot matrix display and innovative user interface, balance setup and use is effortless. For superior weighing performance, Voyager Pros AutoCal<sup>™</sup> feature automatically calibrates the balance when it senses a temperature change sufficient enough to affect weighing accuracy.

# Statistical Quality Control (SQC)

The SQC feature is extremely useful during various types of process filling operations when it is desired to monitor and control the process to eliminate under and over filling. Provisions are made in the balance to accommodate the weight of various packaging methods. During operation, parameters of the packaged product are set into the balance such as packaging weight, acceptable weight limits and non-acceptable weight limits of the product.

These weight limits are identified as +T1, +T2, NOMINAL and -T1, -T2. As samples are weighed and stored in the balance, a trend analysis is developed and displayed on the balance. Up to 25 samples in a batch with up to 10 batches are visible on a trend screen for quality control purposes. Each batch of samples is shown on the display which indicates the maximum/minimum standard deviation and mean values for each batch. An ongoing examination of the relative deviation of the samples along with other statistical data can be viewed and is stored. By observing the results of the VIEW TRACE screen, you can effectively monitor the filling process operation.

#### Statistics

Statistics are used when it is desired to compare a number of samples along with other statistical data. A minimum of three samples are required in this program. Statistics contains menu options which include: number of samples, maximum, minimum, difference, sum, mean, standard deviation, relative deviation, auto sample, and auto print. Weighing, Animal Weighing, Check Weighing and Filling application modes can also be linked to the Statistics mode to provide statistical data.

#### **Differential Weighing**

Differential weighing stores tare and weight values so samples can be dried or processed and the difference in weight be calculated. Up to 80 samples can be stored. The balance has the capability to work with one or two different containers or no container at all.

# **Pipette Calibration**

Pipette calibration checks the accuracy and precision values of pipettes by weight analysis. An analytical balance is recommended for maximum accuracy. The balance is capable of recording data from 3 to 30 samples of each pipette tested. The density table for water is included and if liquid is used for pipette calibration, Voyager Pro will accept the alternate liquids density in g/cc at current room temperature. Since all calculations are made within the balance, it is also required that you know the atmospheric pressure which has to be entered.

# Density

Four methods of density determinations can be made with the Voyager Pro balance. These are:

- 1. Solids more dense than water
- 2. Solids less dense than water
- 3. Liquid density
- 4. Porous material (impregnated with oil)

An accessory density determination kit is designed to be used with Ohaus Voyager Pro balances. A built-in reference density table for water at temperatures between 10° C and 30°C is included in the balance software. When making density measurements, the material should weigh at least 10.0 mg on an analytical balance and 100 mg on a precision balance.

#### Formulation

Formulations can be named and have from 2 to 10 components specified. Once named, they may be recalled and used at any time. Each component of a given formulation can be specified as to its weight or percentage. Each element of a formulation is shown on a dual bar graph as a percentage and displays the desired weight. Thus, each component may be placed on the pan until 100% is indicated.

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