nexen®

WEB CONTROL PRODUCTS

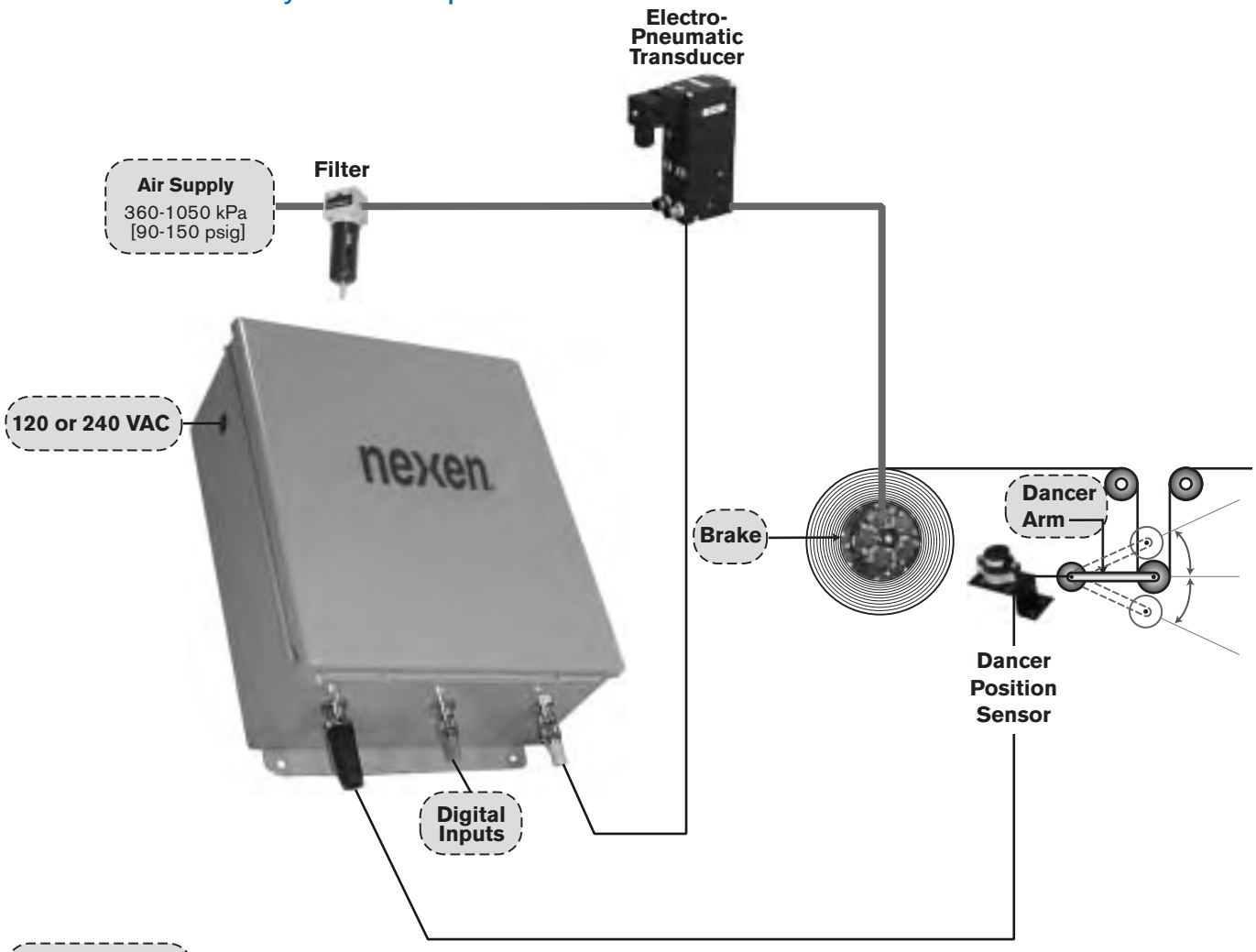
Technical Data Sheet

Unwind Dancer Package
RSD250

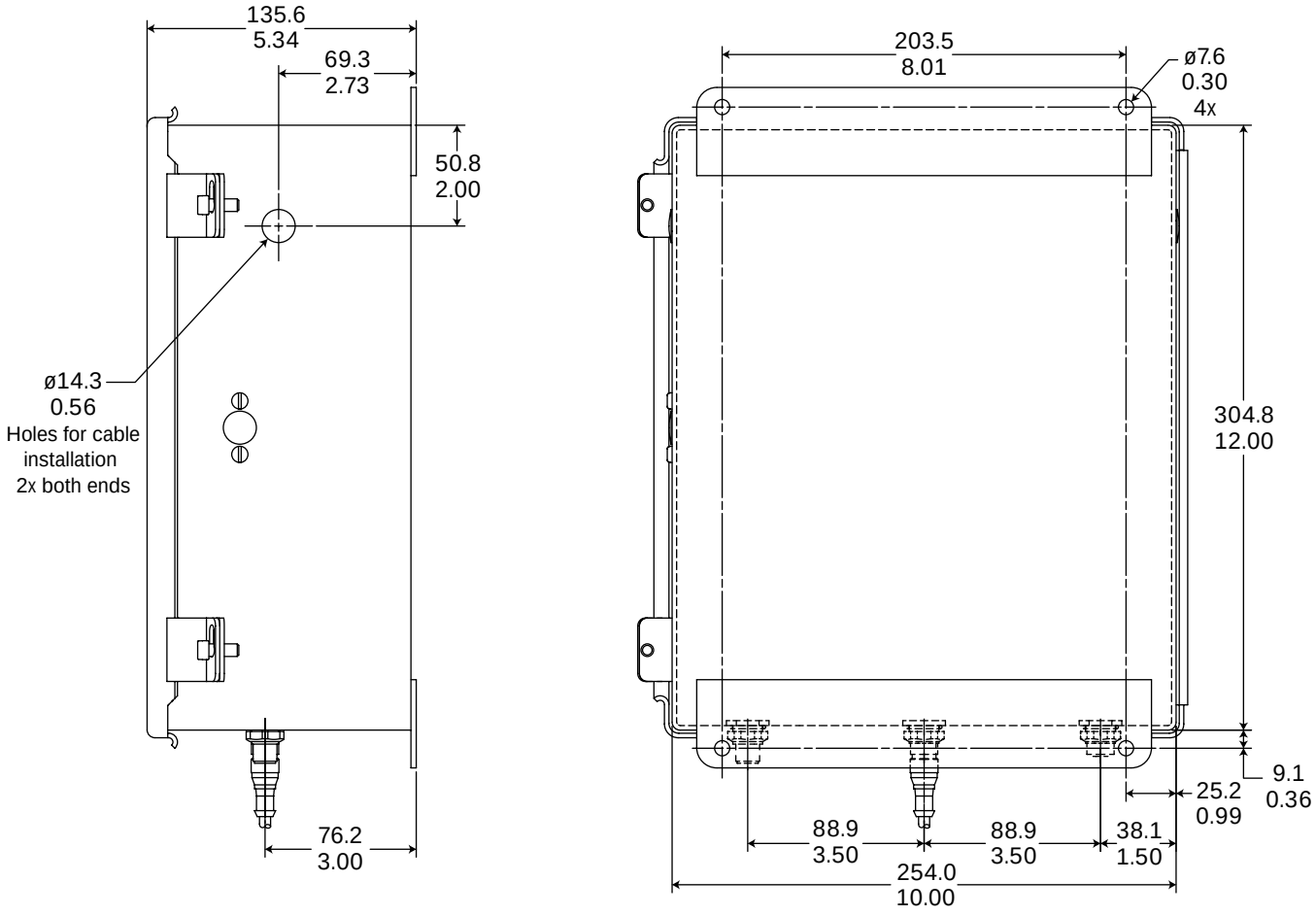
Nexen's RSD250 Unwind Dancer Package includes all the essential components for state-of-the-art dancer arm control. Preconfigured for unwind applications using a pneumatic brake, this closed loop dancer control system features the RSD250 dancer position controller, which automatically adapts to changes in roll size and inertia. The RSD's advanced control algorithm provides drive-like performance using Nexen brakes, eliminating the need for expensive feedback sensors.

Each RSD250 Package includes an RSD250 dancer controller, DPS60 dancer arm position sensor, EN50 pressure converter, air supply filter, air line tubing with fittings, and electrical cables with quick connect fittings. This complete package, ideal for paper, film, foil, textiles, rubber, and wire applications, combines high performance with easy installation.

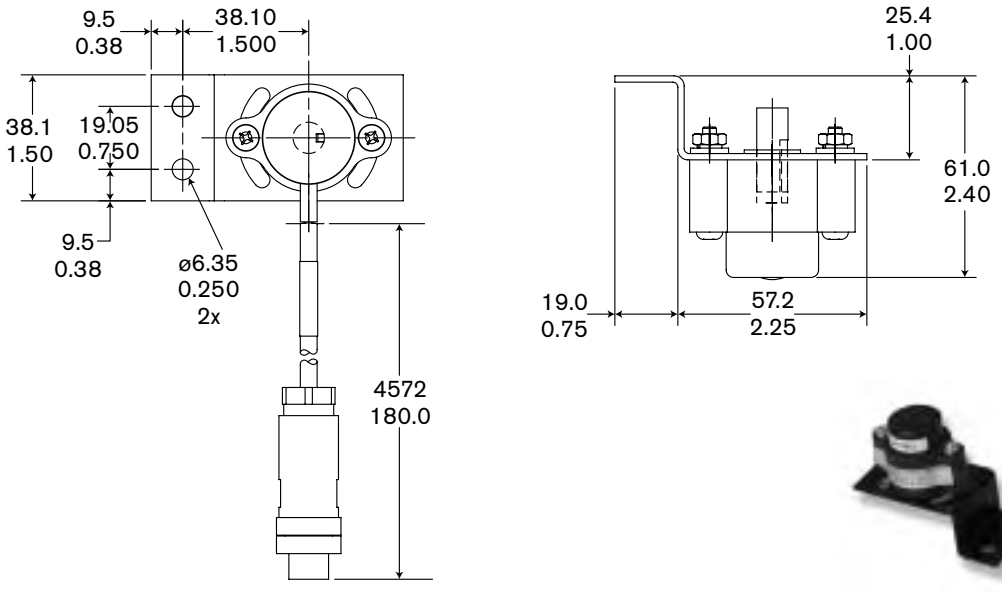
Dancer Controller System Setup



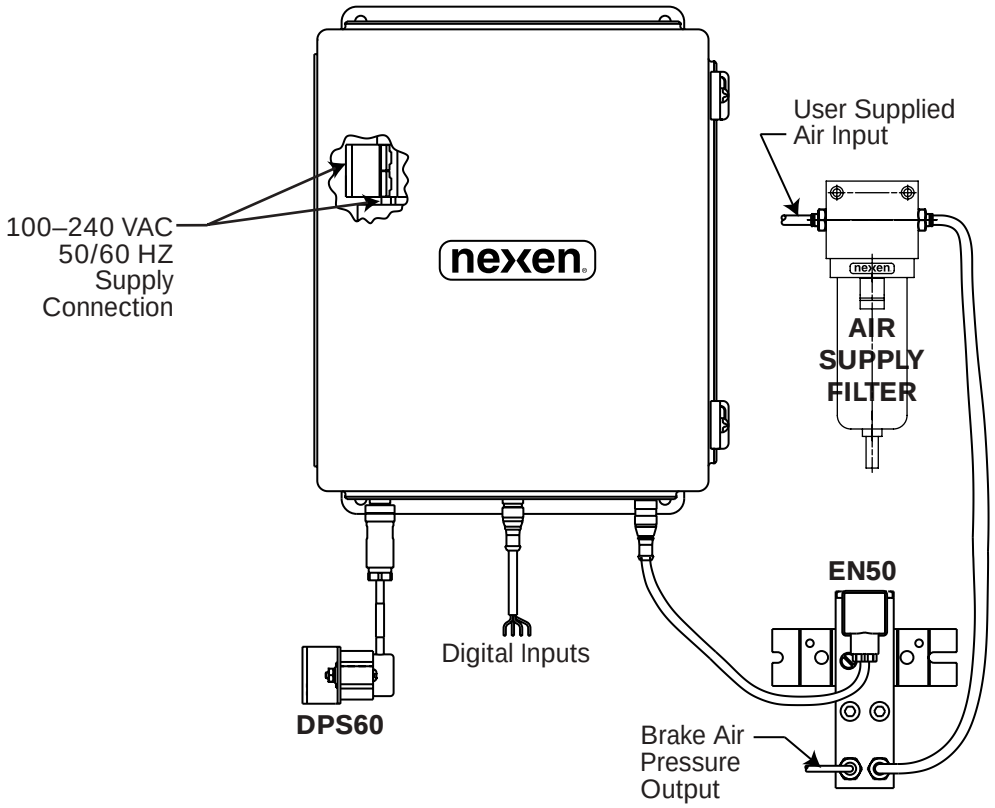
RSD250 Enclosure, Approximate Dimensions



DPS60, Approximate Dimensions



RSD250, Unwind Dancer Package



RSD250 Specifications

Power Supply		100 – 240 VAC, 12 VA, 50/60 Hz
Ambient Operating Temperature	RSD250	0°C – 60°C [32°F – 140°F]
	Air Filter	4°C – 50°C [40°F – 120°F]
Air Supply		630 – 1050 kPa [90 – 150 psig]
EN50 & Digital Inputs Cable		6 m [236 in] long
DPS60 Cable		4.5 m [180 in] long
Air Line Tubing		6.1 m [240 in] long

Product Numbers

RSD250 Unwind Dancer Package	964260
RSD Communications Software (optional)	964521

Communications Software

Optional RSD Communications Software features a graphical user interface for accurate setup and tuning adjustments. The unique diagnostics window displays parameters in digital and graphical form, all in real time. As adjustments are made, their effect is displayed on the diagnostics graph. Data can be saved in spreadsheet format for future analysis. Nexen's communications software is required for advanced setup of tuning parameters on RSD250 systems. This Microsoft® Windows 95®/NT (and later) based software is accompanied by an RS232 interface cable. One software package will set up multiple RSD systems.

In accordance with Nexen's established policy of constant product improvement, the specifications contained in this document are subject to change without notice. Technical data listed in this document are based on the latest information available at the time of printing and are also subject to change without notice. For current information, please consult www.nexengroup.com

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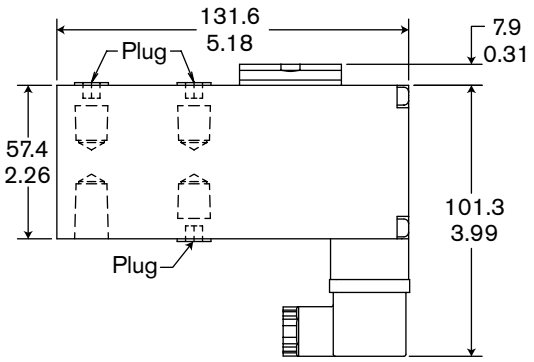
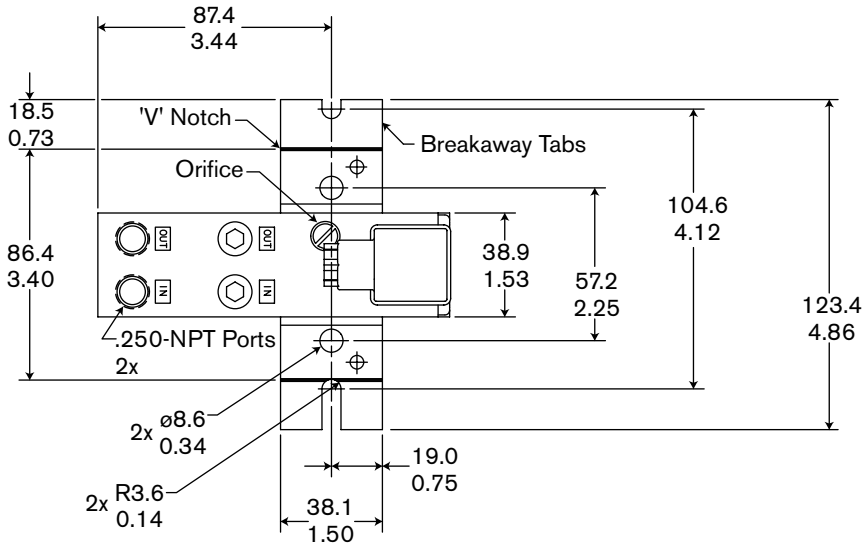
EN50, Approximate Dimensions





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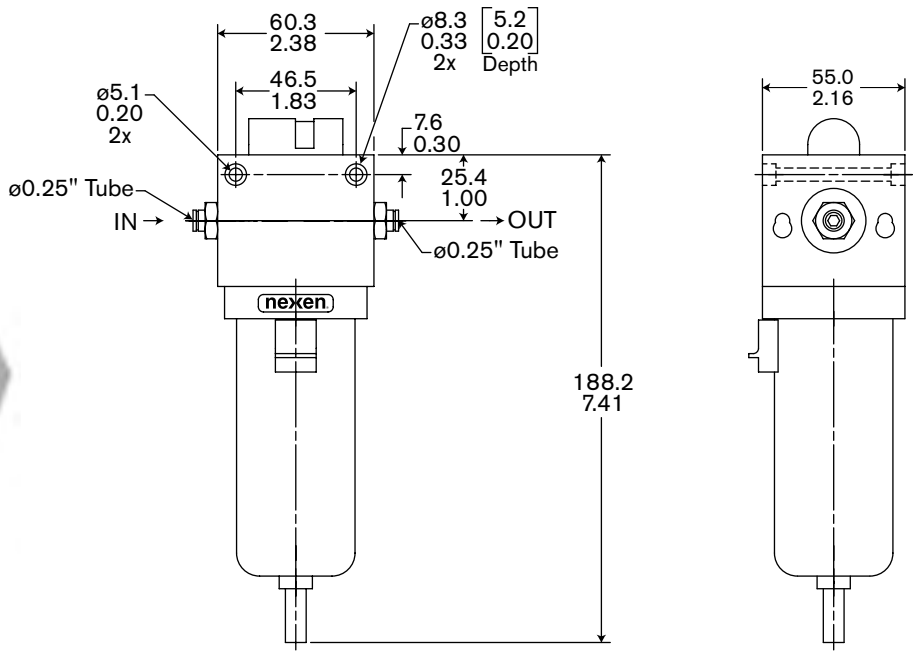
Filter, Approximate Dimensions



Web tension is created by the force applied to the dancer arm. The RSD system works to maintain constant and consistent tension and keeps the dancer in the center of its range of travel. The dancer arm stores web material in a loop, and maintains constant tension by increasing or decreasing the amount of material in the loop. The dancer arm functions best when kept in it's mid-range position, so it is always able to increase or decrease storage quickly. If the dancer arm position changes, Nexen's position sensor senses the movement and sends a signal to the RSD250, which provides a corrective signal to the tension brake to increase or decrease web storage accordingly. Nexen's RSD250 system offers the following features/benefits to your web tension operation:

Preconfigured System Simplifies Setup and Installation

The RSD250 Package comes preconfigured for unwind pneumatic brake applications, with essential setup parameters set. Installers simply calibrate the dancer arm range and select the start/stopped signal used on the machine. Tuning is also simple with only two potentiometer adjustments. Once tuned and calibrated, it automatically compensates for tension disturbances.

Adaptive Gain Ensures Optimal Tension Control

The RSD250 Package features state-of-the-art technology that actually takes into account the changes in both roll diameter and inertia, compensating for these issues before tension disturbances occur. This keeps the dancer arm stable while maintaining constant web tension.

Smart Splicing Reduces Roll Waste

The RSD250 quickly adapts to new rolls without causing tension disturbances, regardless of differences in roll size or speed.

All-Inclusive Package Integrates Individual Components

The RSD250 Package is designed to take care of itself, requiring only dancer arm feedback and a machine start/stop signal to expertly adapt to any tension situation. Electrical connections between each component of the RSD250 system are prewired; pneumatic connections feature tool-less quick connect fittings, so making connections is fast and easy with little chance of error.

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Additional Features / Benefits

- Simple setup and use
- Adaptive gain control
- Drive-like performance without the cost
- Inertia and diameter based gain compensation
- Super crawl: handles very small rolls and low speeds
- Minimal sensor feedback needed
  - Automatically compensates for roll-diameter changes, egg-shaped rolls, and other tension disturbances
  - Low integration and startup costs
- Only two potentiometer adjustments for tuning
- Connectors provided on external components
- All-in-one filter included
  - Protects pneumatic components