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xerox

PowerSquare™ 200
Finishing Solutions Planning Guide

Supported Printers

Xerox Nuvera® 100/120/144/157 EA Production System
Xerox Nuvera® 200/288/314 EA Perfecting Production System
Xerox™ Color 800/1000 Press

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Introduction

The purpose of this document is to describe the features and operation of the PowerSquare 200 when used inline with validated Xerox printers. It also provides information to be used when planning the installation of this solution.

About this Guide

This guide will provide the Analyst and the Customer with common PowerSquare 200 specifications and pre-installation tasks.

Contents

This section lists the contents of this guide:

- Introduction - provides information about the use of this guide.
- Product Overview - provides Performance Specifications and Installation Planning including Space, Electrical, Environmental requirements, Installation Time, and Operating Supplies.
- Xerox Nuvera 100/120/144/157 EA Production Systems and 200/288/314 EA Perfection Production System - provides information about Limitations, System Dependencies, and Configuration Guide.
- Xerox Color 800/1000 Press - provides information about Limitations, System Dependencies, Configuration, and Productivity.
- Customer Agreement - contains the Customer Agreement form.

Professional Support Services

Xerox offers a rich set of value-added services designed to help you plan, implement, and operate your solution, migrate and build your key applications, and analyze and redesign your workflow. Your local sales representative and analyst can show you how these billable services can make your business more effective.

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Product Overview

The PowerSquare 200

The PowerSquare 200 is a new and innovative complete book making system for digital print applications. In a single machine, it combines the four processes of stitching, folding, spineforming, and face trimming to produce SquareBack™ books up to 200 pages (50 sheets).

The maximum book thickness of 200 pages, 20 lbs (80gsm), is double that of alternative booklet making machines, making it ideally suited to higher paginations or to thicker stocks. This makes the PowerSquare 200 a fast and cost effective alternative to perfect binding or tape binding.

The optional PowerSquare Book Stacker is available as an accessory to the PowerSquare 200. The PowerSquare Book Stacker has a capacity of 930mm, which means that it can run for up to an hour without operator intervention. The stacker accommodates different sized books without adjustment and can be unloaded on-the-run to provide uninterrupted production.

The PowerSquare Book Stacker

The PowerSquare 200 and the PowerSquare Book Stacker are designed and manufactured by Watkiss Automation (UK). In North America, C. P. Bourg Inc. markets the PowerSquare 200 and PowerSquare Book Stacker to Xerox customers and provides nationwide sales and support.

The Variable Thickness Kit allows operators to set variable booklet thicknesses within a range of 30 sheets. The midpoint can be set on the PowerSquare 200 User Interface. For example, a setting of 25 equals 10 to 40 sheets or 1.5 mm from the midpoint.

Install Planning

This Solutions Planning Guide will help you prepare for the installation of the PowerSquare 200.

Device Configurations

The PowerSquare 200 components are:

- PowerSquare
- Connecting Bridge
- Bridge Covers
- Stacker or PowerSquare Book Stacker
- Variable Thickness Kit (optional)

Space Requirements

The space requirements illustration provides the machine footprint as well as the overall operating and maintenance area. In addition to the diagram, there should be a minimum of 78 inches (1,981mm) clearance from the floor to the nearest overhead obstruction.

With Stacker   **With PowerSquare Book Stacker**
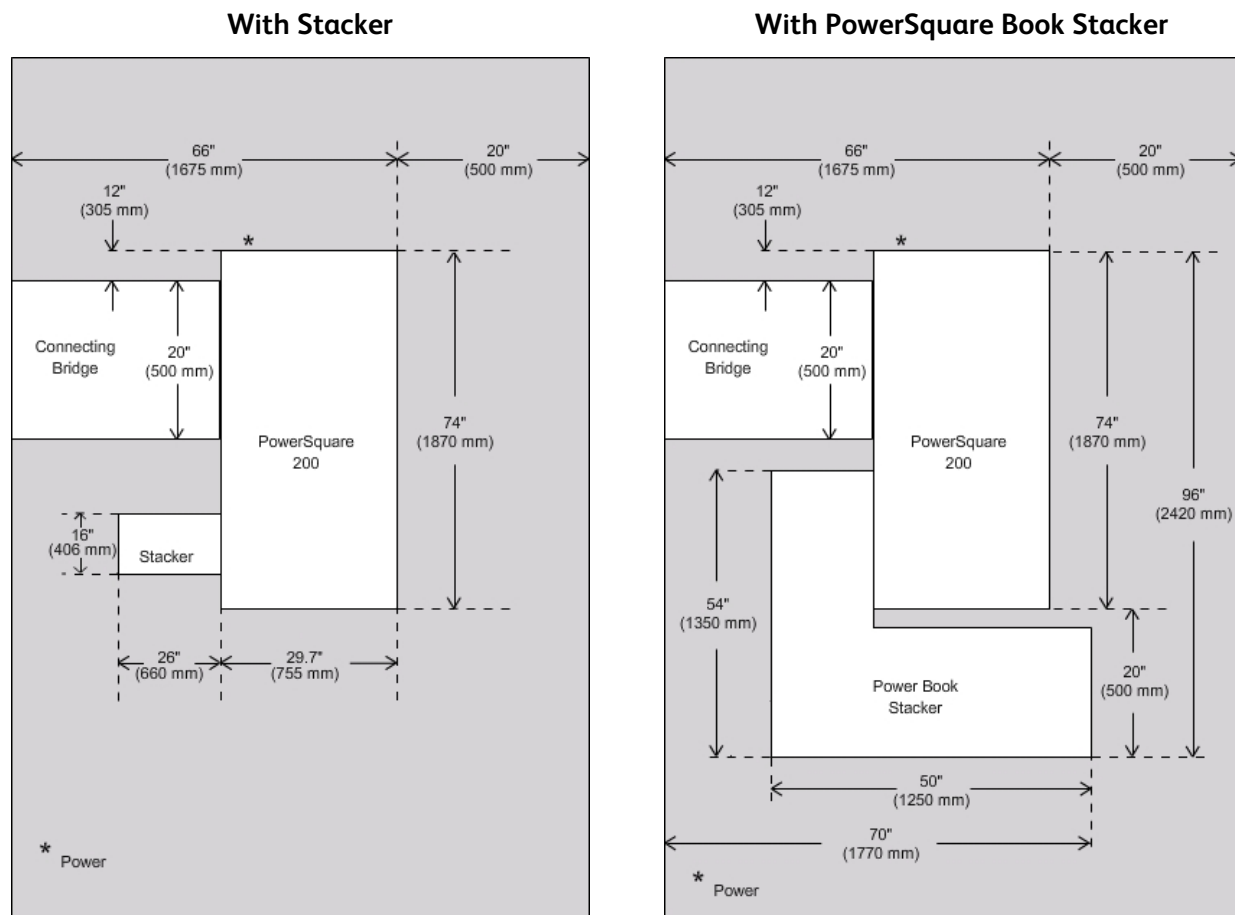
NOTE
The diagram above is a representation only and not drawn to scale.

Machine Dimensions and Weight

Machine	Width	Depth	Height	Weight
Offline PowerSquare 200 with Stacker	52" (1300 mm)	74" (1870 mm)	52" (1330 mm)	950 lb. (430 kg)*
Offline PowerSquare 200 with PowerSquare Book Stacker	50" (1250 mm)	96" (2420 mm)	52" (1330 mm)	1280 lb. (580 kg)*
Online PowerSquare 200 with Stacker and Connecting Bridge	66" (1675 mm)	74" (1870 mm)	52" (1330 mm)	1190 lb. (540 kg)*
Online PowerSquare 200 with PowerSquare Book Stacker and Connecting Bridge	70" (1770 mm)	96" (2420 mm)	52" (1330 mm)	1520 lb. (690 kg)*

* includes stitch wire

Shipping Dimensions and Weight

Device	Length	Width	Height	Weight
PowerSquare 200	83" (2090 mm)	37" (940 mm)	59" (1480 mm)	1180 lb. (535 kg)
Connecting Bridge	74" (1880 mm)	30" (750 mm)	24" (590 mm)	210 lb. (95 kg)
Bridge Covers	44" (1120 mm)	36" (900 mm)	54" (1350 mm)	320 lb. (145 kg)
PowerSquare Book Stacker	63" (1590 mm)	43" (1070 mm)	49" (1240 mm)	500 lb. (225 kg)

Electrical Requirements

Device	North America	Europe
PowerSquare 200	200 - 240VAC, 50/60 Hz, 4A Power cord: 8 ft (2,438mm)	200 - 240VAC, 50/60 Hz, 4A Power cord: 8 ft (2,438mm)
PowerSquare BookStacker	Powered by the PowerSquare 200. A separate power supply is not needed.	

Nema #6 -15R (North America)
IEC 83 'Shuko' (Europe)
BS1363 (UK)

Environmental Requirements

Device	PowerSquare 200
Temperature	50 - 95° F (10 - 35°C)
Humidity	35 – 85 % (Non-condensing)
Heat Emission	80 btu/hr. (Standby mode) 520 btu/hr. (Operating mode)
Sound Emission	Standby: 66 dB Running: 87dB peak
Altitude	0 – 6,500 ft. (0 – 2,000 m) Above Mean Sea Level (AMSL)

Install and Customer Training

In North America, C.P. Bourg installs the PowerSquare 200 and the estimated installation time is one day. Customer training is also one day.

In Europe, Watkiss Automation installs the PowerSquare 200 and the estimated installation time is one day. Customer training is also one day.

Contact information:

- **North America**: C.P. Bourg Inc. (508) 998-2171
- **Europe**: Watkiss Automation Ltd. +44 (0)1767 685700

Operating Supplies

Each PowerSquare 200 is delivered with:

Quantity	Part Number	Part Name
1	812-038	PSQ Stitch Wire Powerbind 0.6mm 15kg
1	952-017	Rule 24"
1	952-436	Air Duster
1	952-435	Digital Caliper 6" (150mm)
1	951-095	Kluber Isoflex NBU15 Grease 50G
8	951-710	Alcohol Cleaning Wipe
4	951-844	Disposable Gloves

The following PowerSquare 200 consumables are not covered by the service contract:

Consumable	Part Number	Approximate Cost
Stitch Heads	WA812031	Contact C.P. Bourg Inc. for pricing
Clinchers	WA812034	$1600.00
Trimmer Blades	WA914132	$2650.00
Stitcher Wire	WA812038	$355.00

Spare parts and supplies can be ordered as follows.

- **North America**: C.P. Bourg Inc. (508) 998-2171

- **Europe**: Watkiss Automation Ltd., Blaydon Rd., Sandy Bedfordshire, SG19 1RZ UK, +44 (0)1767 685700, Attn: Zoe Mortimer

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Xerox Nuvera® 100/120/144/157 EA Production System and 200/288/314 EA Perfecting Production System

Limitations

- When connected to Nuvera, a Sheet Enhancement Module (SEM) is required.
- When connected inline with a printer, the minimum binding capacity is 2 sheets of 20 lbs (75 gsm) bond paper.
- On books with more than 40 sheets (160 pages), a self-cover may not produce satisfactory quality and heavier cover stock may be required.
- The PowerSquare 200 is not best suited for streaming jobs and variable data jobs that require changing set size. The set size must be set up before the fold can be adjusted correctly. The initial setting will need to be changed for each set size.
- For the PowerSquare Book Stacker to stack correctly, the spine of the book must be equal to or longer than the book width.
- For FreeFlow Print Server, all finishers downstream of the stacker must be set up at the finisher; the downstream finishers cannot be set up using the print driver.

System Dependencies and Prerequisites

Listed below are the dependencies and prerequisites for installing the PowerSquare 200.

- The Finisher Transport Module or Direct Connect is required for inline connectivity to the printer.
- If the PowerSquare is inline after a Basic Finisher Module - Direct Connect (BFM-DC), SPAR 9.0.33 is required. This software kit will be shipped with each PowerSquare. Nuvera 9.0.31 machine software is required to enable this SPAR. If 9.0.31 software is not in the machine, order an RV9.0 kit from MAPS. Field upgrades without a Xerox Tape Binder (XTB) or 19.33 Sheet Feed Module (SFM) will require installing additional memory before the upgrade. Nuvera EA requires one 606K16520 kit and one 606K16510 kit. Nuvera 288 requires two 606K16510 kits.
- If the PowerSquare Book Stacker is installed on a PowerSquare machine prior to serial number PSQ/0500, the following modifications must be installed:
  - Mod. 50 - New software V3.1 onwards to support PBS and high speed operation
  - Mod. 54 - Improvement to trim strip ejection system

- The Variable Thickness Kit (TXC P/N WA940150) is required for variable thickness booklets.

NOTE
In case the floor at the customer site is very uneven, it is recommended that the Nuvera printer is installed and leveled with a Caster Leveling Kit (Kit number 498K13720).

Configuration Guide

The Configuration Guide contains diagrams of the various Finishing Solutions currently supported.

In-Line

SFM	SFM*	Printer/ Duplex Printer	SEM	Inserter*	BFM Plus*	DS3500 or BFMDC	XTB*	PowerSquare 200

SFM	SFM*	Printer/ Duplex Printer	SEM	Inserter*	XPS	XTB*	PowerSquare 200

SFM	SFM*	Printer/ Duplex Printer	SEM	Inserter*	DS3500 or XPS	BSFEx*	PowerSquare 200

*Optional

Off-Line

BSFEx	PowerSquare 200

NOTE
If an FTM is preferred, a BFM Plus is optional for stacking.

Please reference the Xerox Nuvera 100/120/144/157 Duplex Customer Expectations Document (CED) for Basic Finishing Module (BFM) and (BFM Plus) specifications. Xerox Sales Representatives can access the CED at http://xww.thefic.xerox.com/dsweb/View/Collection-92487.

Performance Specifications

Listed below are the Performance Specifications for the PowerSquare 200.

PowerSquare 200	Specifications
Paper Size/Weight	Min Input : 7.9" x 7.9" (200 x 200mm) Max Input : 13.3" x 19.6" (340 x 500mm) Min Rotation: 8.2" x 7.9" (207x200mm) Max Rotation: 12.5" x 8.9" (320x227mm) 18 lbs (70 gsm) – 32 lbs index (250gsm)
Output Tray Capacity	35 books (20 sheets of 80gsm bond paper with 2 stitches)
Book Thickness	Min Set: 2 sheets Max Set: 50 sheets 80gsm 0.2" (5mm) Max Book: 200 pages 80gsm 0.4" (10mm)
Input Height	34" (860mm)

PowerSquare Book Stacker	Specifications
Production	Cycle time: max 4.4 seconds (up to 818 books per hour)
Stock Range	70 - 250gsm
Stacker Capacity	930mm
Operator Maintenance	None required

Productivity Guide

The productivity information shown below applies to PowerSquare 200 release 3.1.

The serial number cut-in for PowerSquare 200 version 3.1 is as follows:

North, Central, and South America		Europe	
Watkiss	WA/PSQ/0524	**Watkiss**	WA/PSQ/0505
Xerox	MMA283148	**Xerox**	2300222393

Nuvera 157 EA Production System

Paper Size	Sheets	Rotate?	Body	Trim?	Booklets per Hour
8.5" x 11" LEF	1	Yes	75 gsm	Yes	430
8.5" x 11" LEF	2	Yes	75 gsm	Yes	425
8.5" x 11" LEF	5	Yes	75 gsm	Yes	410
8.5" x 11" LEF	10	Yes	75 gsm	Yes	393
8.5" x 11" LEF	15	Yes	75 gsm	Yes	278
8.5" x 11" LEF	25	Yes	75 gsm	Yes	180
8.5" x 11" SEF	1	No	75 gsm	Yes	700
8.5" x 11" SEF	2	No	75 gsm	Yes	690
8.5" x 11" SEF	5	No	75 gsm	Yes	526
8.5" x 11" SEF	10	No	75 gsm	Yes	315
8.5" x 11" SEF	15	No	75 gsm	Yes	210
8.5" x 11" SEF	25	No	75 gsm	Yes	126
8.5" x 14" SEF	1	No	75 gsm	Yes	667
8.5" x 14" SEF	2	No	75 gsm	Yes	655
8.5" x 14" SEF	5	No	75 gsm	Yes	450
8.5" x 14" SEF	10	No	75 gsm	Yes	237
8.5" x 14" SEF	15	No	75 gsm	Yes	153
8.5" x 14" SEF	25	No	75 gsm	Yes	93
11" x 17" SEF	1	No	75 gsm	Yes	679
11" x 17" SEF	2	No	75 gsm	Yes	568
11" x 17" SEF	5	No	75 gsm	Yes	450
11" x 17" SEF	10	No	75 gsm	Yes	236
11" x 17" SEF	15	No	75 gsm	Yes	155
11" x 17" SEF	25	No	75 gsm	Yes	89
12" x 18" SEF	1	No	75 gsm	Yes	583
12" x 18" SEF	2	No	75 gsm	Yes	485
12" x 18" SEF	5	No	75 gsm	Yes	286
12" x 18" SEF	10	No	75 gsm	Yes	158
12" x 18" SEF	15	No	75 gsm	Yes	105
12" x 18" SEF	25	No	75 gsm	Yes	62

Nuvera 288 EA Perfecting Production System*

Set Size	Sheets	Sheets	Sheets	Sheets	Sheets	Sheets	Sheets
8.5" x 11" (A4) 2 Staples	2	5	10	15	25	35	50
Books/Hour	878	878	720	514	321	216	160
11" x 17" (A3) 2 Staples	2	5	10	15	25	35	50
Books/Hour	720	720	390	273	166	116	83
12" x 18" 2 Staples	2	5	10	15	25	35	50
Books/Hour	720	480	272	184	111	80	56

*Productivity rates for the Nuvera 144 will be approximately 50 % of the rates shown for the Nuvera 288.

NOTE

The figures for the Release 3.1 update apply to any new sale. Also, it is not possible to upgrade from a previous version to the Release 3.1 update.

The table below shows the productivity for coated stocks.

Set Size	Sheets	Sheets	Sheets	Sheets	Sheets	Sheets	Sheets	Sheets	Sheets
8.5" x 11" (A4) 2 Staples	2	5	10	15	20	25	30	40	50
Time(seconds)/10 Books	46	72	132	192	251	311	373	502	620
Impressions/Minute	52	83	90	93	95	96	96	95	96
Books/Hour	782	500	272	187	143	115	96	71	58
11" x 17" (A3) 2 Staples	2	5	10	15	20	25	30	40	50
Time(seconds)/10 Books	48	120	240	360	480	600	720	970	1210
Impressions/Minute	50	50	50	50	50	50	50	49	49
Books/Hour	750	300	150	100	75	60	50	37	29

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Xerox Color 800/1000 Press

Limitations

- When connected inline with a printer, the minimum binding capacity is 2 sheets of 20 lbs (75 gsm) bond paper.
- On books with more than 40 sheets (160 pages), a self-cover may not produce satisfactory quality and heavier cover stock may be required.
- The PowerSquare 200 is not best suited for streaming jobs and variable data jobs that require changing set size. The set size must be set up before the fold can be adjusted correctly. The initial setting will need to be changed for each set size.
- For the PowerSquare Book Stacker to stack correctly, the spine of the book must be equal to or longer than the book width.
- For some substrates and high area coverage, the thickness (before folding) may be reduced to a maximum of 4mm (40 sheets of 80 gsm). On some coated stocks this may be reduced even further.

System Dependencies and Prerequisites

- If the PowerSquare Book Stacker is installed on a PowerSquare machine prior to serial number PSQ/0500, the following modifications must be installed:
    – Mod. 50 - New software V3.1 onwards to support PBS and high speed operation
    – Mod. 54 - Improvement to trim strip ejection system

- The Variable Thickness Kit (TXC P/N WA940150) is required for variable thickness booklets.

Configuration Guide

The Configuration Guide contains diagrams of the various Finishing Solutions currently supported.

System Configuration

In-Line

Printer	Interface Module	High Capacity Stacker *	Perfect-Binder *	Standard Finisher Plus	PowerSquare 200

*Optional

Off-Line

BSFEx	PowerSquare 200

NOTE
The configuration diagrams are representations only and not drawn to scale.

Performance Specifications

Listed below are the Performance Specifications for the PowerSquare 200.

PowerSquare 200	Specifications
Paper Size/Weight	Min Input : 7.9" x 7.9" (200 x 200mm) Max Input : 13.3" x 19.6" (340 x 500mm) Min Rotation: 8.2" x 7.9" (207x200mm) Max Rotation: 12.5" x 8.9" (320x227mm) 18 lbs (70 gsm) – 32 lbs index (250gsm)
Output Tray Capacity	35 books (20 sheets of 80gsm bond paper with 2 stitches)
Book Thickness	Min Set: 2 sheets Max Set: 50 sheets 80gsm 0.2" (5mm) Max Book: 200 pages 80gsm 0.4" (10mm)
Input Height	34" (860mm)

PowerSquare Book Stacker	Specifications
Production	Cycle time: max 4.4 seconds (up to 818 books per hour)
Stock Range	70 - 250gsm
Stacker Capacity	930mm
Operator Maintenance	None required

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Xerox	MMA283148	**Xerox**	2300222393

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Impressions/Minute	52	83	90	93	95	96	96	95	96
Books/Hour	782	500	272	187	143	115	96	71	58
11" x 17" (A3) 2 Staples	2	5	10	15	20	25	30	40	50
Time(seconds)/10 Books	48	120	240	360	480	600	720	970	1210
Impressions/Minute	50	50	50	50	50	50	50	49	49
Books/Hour	750	300	150	100	75	60	50	37	29

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Customer Agreement

As a final step in the install planning you must complete the Customer Agreement form.

Devices

Check off the modules/accessories that will be part of this install:

- PowerSquare 200 _____
- Power Book Stacker _____
- PowerSquare 200 Variable Thickness Kit(optional) _____

Primary Customer Applications

Record the primary customer applications:

_____

_____

Special Considerations/Limitations

Record any special considerations and/or limitations identified by Xerox and agreed to by the customer:

_____

_____

I have reviewed the solution expectations and understand the specifications and limitations for each of the modules that will be installed: *(Signature and Date)*

Customer:_____

Company Name:_____ Date:_____

For installations made in the US and Canada, a copy of the signed Customer Agreement must be attached to the XOA/Customer purchase order and faxed to SPA: 1-800-407-8430.