ProStream 2000 series

Technical guide

Site Survey

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Data security

Introduction

Security is about safeguarding communication and data and keeping our online society and economy secure. It is critical for our customer's business and we take it seriously at Canon Production Printing. Security is incorporated in the early stages of our product development process. Our hardware and software products are developed according to industry security standard working methods, and equipped with the required features to protect our printing products and PRISMA workflow and application software against cyber security threats.

Policy / Guidelines / Rules

Canon's Secure Development Life Cycle (SDLC) process is an agile based development process that also models itself comparing with the National Institute of Standards and Technology (NIST) and Open Web Application Security Project (aka OWASP).

It uses the practice of sprints to take advantage of the continuous delivery and flexibility that an agile process enables.

Our back office support program (development of service tools and online services) is ISO/IEC 27001:2013 certified.

Regulation notices

For more detailed information on the security of our products, services and solutions please refer to your local Canon representative or to *https://cpp.canon/security* .

Source code

Introduction

The listed open source components are governed by different licenses. Some of the licenses contain regulations regarding the provision of the pertaining source code.

Policy / Guidelines / Rules

If you would like to obtain a machine-readable copy of the source code of an open source component, which is made available under applicable license terms, you may request such copy of the source code by sending an e-mail to **opensource@cpp.canon** indicating the following:

1. Name and version of the Canon Production Printing software you licensed.
2. Name and version of open source software modules contained in the above identified Canon Production Printing software of which you legitimately would like to obtain the source code.

We will provide you with a find place where you can obtain a machine-readable copy of the source code or we will deliver a complete machine-readable copy of the corresponding source code of the respective open source software component, as available and as is, on a medium of our choice which can be customarily used for software interchange. You may be required to pay the cost incurred for the source code distribution, however, the cost will in no event excess the cost incurred for physically performing the source code distribution.

Regulation notices

This offer is valid to anyone in receipt of this information.

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Chapter 1
Introduction

Introduction

These instructions have been created for the global marketplace. They may contain information on accessories and licensed functions that are not supported by your local Canon organization or their dealer.

In some regions where this product is sold, the trading name may be registered as the model number.

Trade name	Model number	Designation
ProStream 2000 series	01500	Printing system

NOTE
As of the version dated 2024-07, this document is only available in English.

Notes for the reader

Safety symbols

Before you use this product, make sure you read and understand the safety information that belongs to the product. You can find the safety information in this manual. Also be sure to follow all warnings and instructions marked on the product.

This manual uses the following safety symbols to indicate hazards and precautions.

Symbol	Type of symbol	Indicates
	WARNING	Indicates a warning concerning operations that may lead to death or injury to persons if not performed correctly. To use the machine safely, always pay attention to these warnings.
	CAUTION	Indicates a caution concerning operations that may lead to injury to persons if not performed correctly. To use the machine safely, always pay attention to these cautions.
	IMPORTANT	Indicates an operational requirement or restriction. Read these items carefully in order to prevent damage to equipment, software, data, media, or property.
	NOTE	Indicates a clarification of an operation or contains additional explanations for a procedure. Reading these notes is highly recommended.

Chapter 2

Checklist

Customer data

Participant at the site inspection

Name	Status	Company

Customer information

Call up address

Contact	Status	Telephone

Canon Service information

Service area		
Contact	**Name**	**Telephone**

Date of the site inspection

_____

Delivery data

Printer configuration

Printer type	_____
Pre- and post-processing units	_____
Mandrel size (Unwind/rewind unit)	_____

NOTE
An unwind and rewind unit are required for the time of the installation.

Delivery conditions

Delivery date	_____
Installation time period	_____
Approval test	_____
Start of production	_____

Technical delivery data

No.	Topic		Action?
(if action is required, fill out the table under *Required actions* on page 25)			
1	Space for unloading (from delivery vehicle) available?	☐ yes ☐ no	☐ yes
1a	Customer delivery acceptance times?	_____ to _____	☐ yes
2	Does the customer have an (un)loading ramp available for the delivery vehicle?	☐ yes ☐ no	☐ yes
2a	Maximum delivery vehicle length? Number of delivery vehicles?	_____ _____	☐ yes
3	Load-bearing capacity of the loading ramp?	_____	☐ yes
4	Has a forklift been arranged for unloading/depalletizing? • Weight of the heaviest part: see section *Dimensions and Weight* on page 37 • Minimum fork length: 2400 mm (94.49 inch) • Maximum fork height: 70 mm (2.76 inch) • Maximum fork width: 100 mm (3.94 inch) IMPORTANT Liability and insurance details must be clarified in advance!	☐ yes ☐ no	☐ yes
5	Are the dimensions of the main entrance suitable? Dimensions of the largest part (L x W x H): See section *Dimensions and Weight* on page 37	☐ yes ☐ no	☐ yes
6	Are the dimensions of all doors and corridors leading to the installation area sufficiently large? Dimensions of the largest part (L x W x H): See section *Dimensions and Weight* on page 37 NOTE When transported with the pallet truck, the modules are lifted by approx. 150 mm (5.9 inch)	☐ yes ☐ no	☐ yes
7	Is the use of an elevator required? If "no", go to item 10.	☐ yes ☐ no	
8	Load-bearing capacity of the elevator?	_____	☐ yes

No.	Topic		Action?
9	Are the dimensions of the elevator suitable? Dimensions of the largest part (L x W x H): See section *Dimensions and Weight* on page 37 NOTE The length of the pallet truck that is used must also be taken into account. When transported with the pallet truck, the modules are lifted by approx. 150 mm (5.9 inch)	☐ yes ☐ no	☐ yes
10	Is the floor on which the delivery is to be transported suitable?	☐ yes ☐ no	☐ yes
11	Will floor protection be necessary?	☐ yes ☐ no	☐ yes
12	Will metal plates be required in certain areas? NOTE Metal plates should be used when the load-bearing capacity of the floor is insufficient.	☐ yes ☐ no	☐ yes
13	Are pallet trucks available for the installation? ☐ Minimum fork length: 2500 mm (98.43 inch) ☐ Additional standard pallet truck, fork length: 1150 mm (45.28 inch) ☐ Minimum load-bearing capacity: 2500 kg (5511.6 lb) ☐ If not, who is organizing this for the time of the installation?	☐ yes ☐ no	☐ yes
14	Are the packaging materials (paper, cardboard, etc.) to be disposed of by the customer?	☐ yes ☐ no	☐ yes

Installation Requirements

No.	Topic		Action?
(if action is required, fill out the table under *Required actions* on page 25)			
15	Is the available floor for the printing area sufficient to hold the printer weight? IMPORTANT Load (maximum point load) that the printer places on the base area: See section *Dimensions and Weight* on page 37	☐ yes ☐ no	☐ yes
16	Load-bearing capacity of the floor?	_____	☐ yes
17	Do any other devices need to be moved? ☐ Along the route from the delivery vehicle to the installation area ☐ In the installation area (for example, other printers)	☐ yes ☐ no	☐ yes
18	Are any other devices in the direct vicinity of the printer? e.g. air heater, humidifier, etc.	☐ yes ☐ no	☐ yes

No.	Topic		Action?
19	Is an installation plan being worked on? The contents should include: ☐ Space for the printer in the printing room ☐ Unwinder ☐ Peripherals* ☐ Controller ☐ Paper post-processing unit[3] ☐ Paper web cleaning system ☐ Electrical connection to the printer, controller and post-print processing system/pre-print processing system ☐ Compressed-air connection to the printer and post-print processing system/pre-print processing system ☐ Coolant connections to CCUs ☐ Connection area for extraction system ☐ Table for printouts NOTE *) CCU, PCI, supply duct The positions of the components cannot be changed, see section: *Installation Plans and Maintenance Areas* on page 40. [3]) When installing or replacing the print head, a rewind unit is required, or it must be possible to remove entire sheets from the paper post-processing unit.	☐ yes ☐ no	☐ yes
20	Does the available power correspond to the specification? NOTE See section: • *Electrical Connection and Power Input* on page 43 • *Additional devices* on page 68 ☐ For printer ☐ For controller ☐ For post-print processing system/pre-print processing system	☐ yes ☐ no	☐ yes
21	Is the customer providing all cables? Cable to the printer, controller, post-print processing system/pre-print processing system. • *Electrical Connection and Power Input* on page 43 • *Additional devices* on page 68	☐ yes ☐ no	☐ yes

No.	Topic		Action?
22	Are cables laid between the controller cabinet and the printer? NOTE Laying cables above the ceiling must be carried out by the customer.	☐ Above ceiling ☐ Above floor	
	Length of the optical fiber cable?	☐ 25 m (984.25 inch) ☐ 50 m (1968.5 inch) ☐ 100 m (3937 inch) ☐ 150 m (5905.5 inch)	
23	Is the air conditioning system sufficient? See section *Environmental Conditions* on page 47	☐ yes ☐ no	☐ yes
23a	Is an external cooling assembly available for supplying the CCU with cold water? See section: *Cooling Water, Compressed Air and Fiber-Optic Connections* on page 53	☐ yes ☐ no	☐ yes
23b	Is there enough demineralized water (50 l) with a conductivity of max. 10 µS/cm (0.10 CF) to fill the CCU?	☐ yes ☐ no	☐ yes
24	Is a ventilation/extraction system available? NOTE • A system for extracting exhaust air to the outside is required • The customer's exhaust duct must be impervious to liquid and vapor. • The flue must be equipped with a deflector to prevent the exhaust air from condensing on the roof. • See section *Exhaust air* on page 49	☐ yes ☐ no	☐ yes
24a	Is there feedback from the exhaust air system? NOTE • Feedback from the exhaust air system is required if the signal for switching on the customer's exhaust air system is connected. • See section *Exhaust air* on page 49	☐ yes ☐ no	☐ yes
25	Is there a supply of compressed air available according to the specification for the printer and post-print processing system/pre-print processing system? See section: • *Cooling Water, Compressed Air and Fiber-Optic Connections* on page 53 • *Additional devices* on page 68	☐ yes ☐ no	☐ yes

No.	Topic		Action?
26	Has the waste disposal system been coordinated? • e.g. for filters, waste ink, condensates • Ink and cleaning fluid: see safety data sheet at *Downloads*	☐ yes ☐ no	☐ yes
27	Has the availability of consumables been ensured following confirmation of installation and order placement? NOTE Ink, ColorGrip, cleaning fluid, filter, etc.	☐ yes ☐ no	☐ yes
28	Is a remote connection to the controller available? NOTE • Speed: 4 Mbit/s upload. • VPN tunnel via the customer network or direct DSL connection • See "On Remote Service (ORS) white paper" at *Downloads* IMPORTANT If "yes", please fill out the ORS connection information — see white paper.	☐ yes ☐ no	☐ yes
29	Is an Internet connection available for the installation?	☐ yes ☐ no	☐ yes
30	Are a table/chairs available in the vicinity of the installation area for the print sample evaluation?	☐ yes ☐ no	☐ yes
31	Is a power supply available in the vicinity of the installation area?	☐ yes ☐ no	☐ yes
32	Has a PRISMA connection to the controller been coordinated? ☐ 10-gigabit network (standard configuration) ☐ 10-gigabit optical SMF/LR ☐ 10-gigabit optical MMF/SR NOTE • Additional network cards may be required for the server. • Laying cables above the ceiling must be carried out by the customer.	☐ yes ☐ no	☐ yes
33	The electrical test for the entire printer can be carried out on the basis of the local NSO requirements. Responsible for installation: @ NSO project manager NOTE Germany: DIN VDE 0105-100 / DGUV 3	☐ yes ☐ no	☐ yes

No.	Topic		Action?
34	Are special service tools available for the installation? NOTE These are described in the TSM, in the printer/tools section. The TSM can be accessed by Service personnel once training has been completed.	☐ yes ☐ no	☐ yes
35	Is adjustment paper available for the installation? NOTE The 558 mm (21.9 inch)-wide adjustment paper must be ordered if the Inline Quality Control with Nozzle Uniformity Correction is used and the entire print width of 556 mm (21.8 inch) is to be used.	☐ 540 mm (21.25 inch) ☐ 558 mm (21.9 inch)	☐ yes
36	SPO PC: Installation discussed? See document with the order number A29246-X69-X-80: Single Point of Operation (SPO), commissioning/operator manual	☐ yes ☐ no	☐ yes
37	Are mobile phones, USB tools and notebooks allowed in the printing area?	☐ yes ☐ no	☐ yes
38	Does the customer have a stepladder available for maintenance? • Stepladder with five steps • Height: 100 – 110 cm (39.37 – 43.3 inch) • Width: 88 – 110 cm (34.64 – 43.3 inch) NOTE If not, the ladder must be included in the order (S29312-F2162 / 2100057268) or an alternative ladder must be purchased from NSO.	☐ yes ☐ no	☐ yes
39	Has the operator manual for the printing system been handed over to the local Service representative?	☐ yes ☐ no	☐ yes

Declaration of conformity in accordance with the Machinery Directive

Interlinking to the assembly of machines

No.	Topic		Action?
(if action is required, fill out the table under *Required actions* on page 25)			
40	Which machines are to be spatially connected to each other?	_____ _____ _____ _____ _____ _____ _____ _____ _____ _____	☐ yes
41	Are there declarations of conformity or installation for each of these machines?	☐ yes ☐ no	☐ yes
42	Is there technical documentation for the respective machines?	☐ yes ☐ no	☐ yes
43	Do these machines work together in terms of production technology?	☐ yes ☐ no	☐ yes
	The machines are installed connected to each other; they work together and are operated together. The machines form a unit and have a common purpose, such as producing a product.	☐ yes ☐ no	
	The machines are linked mechanically or by the same control system. A common or higher-level control system is required for the production sequence.	☐ yes ☐ no	
44	Are these machines connected in terms of safety mechanisms?	☐ yes ☐ no	☐ yes
	Can an event on one machine lead to a hazard on another machine in the system? If this is the case, safety measures must be applied to the whole assembly, for example by means of a common safety control system and common emergency stop control devices.	☐ yes ☐ no	
45	Should these machines work together as an assembly of machines like "a single machine"?	☐ yes ☐ no	☐ yes
46	Who creates the operating manual for the assembly of machines?	☐ CPP ☐ 3rd party ☐ Customer	☐ yes

No.	Topic		Action?
47	Who is the manufacturer of this assembly of machines?	☐ NSO ☐ 3rd party ☐ Customer	☐ yes
48	Who is to issue the declaration of conformity?	☐ NSO ☐ 3rd party ☐ Customer	☐ yes
49	Is there a contractual agreement on this?	☐ yes ☐ no	☐ yes

Significant changes to machines and systems

No.	Topic		Action?
(if action is required, fill out the table under *Required actions* on page 25)			
50	Should significant changes be made to an existing product at the customer's premises by installing the existing machines with the aim of modifying the product's original performance, use or design?	☐ yes ☐ no	☐ yes
51	Will the change lead to new hazards that cause significantly new risks for the installation as a whole and not just for individual (incomplete) machines in the installation?	☐ yes ☐ no	☐ yes

Training

Operator/key operator training

Number of operators/key operators:_____

Training location: ITC Poing ☐ At the customer's site ☐

Date: _____

NOTE
Training during installation is only possible in ITC.

Service training

Date: _____

Post-print processing and/or pre-print processing

Training conducted by: _____

Date: _____

Notes

Required actions

No.	Performs	Responsibility	Date/ Status

No.	Performs	Responsibility	Date/ Status

Confirmation

Customer Canon

_____ _____

Infrastructure must be completed before the installation is started

Customer

_____

Chapter 3
Technical Data

Introduction

Technical Data

This section contains the most important technical data for the printing system.

Overview

You will find information on the following topics:

- *Technology* on page 31
- *Productivity* on page 33
- *Paper* on page 34
- *Dimensions and Weight* on page 37
- *Installation Plans and Maintenance Areas* on page 40
- *Electrical Connection and Power Input* on page 43
- *Environmental Conditions* on page 47
- *Exhaust air* on page 49
- *Cooling Water, Compressed Air and Fiber-Optic Connections* on page 53
- *Interfaces* on page 56
  - *Overview* on page 56
  - *Type 1* on page 58
  - *E-Stop IN* on page 60
  - *E-Stop OUT* on page 61
  - *Permission to move web (PTMW)* on page 62
  - *Speed* on page 63
- *Dryer* on page 64
- *Inline Quality Control (IQC)* on page 66

NOTE
For information on spare parts or safety components, please contact your Service engineer.

Technology

Printing method
DigiDot, drop-on-demand, piezoelectric • pigment-based polymer ink with ColorGrip • InkSafe technology

Print Resolution	
1200 x 1200 dpi	with print speed: • 80 m/min (262 ft/min) • 60 m/min (196 ft/min) • 40 m/min (131 ft/min)
1200 x 720 dpi	with print speed: • 133 m/min (436 ft/min) • 110 m/min (360 ft/min)
Multilevel with variable droplet sizes at all print speeds	
EdgEnhance RIP option	

Quality control
Inline Quality Control (IQC) including: • Nozzle Activity Control (NAC) • Nozzle Uniformity Control (NUC)

Controller
SRA MP, with most current Adobe PDF Print Engine (APPE) (**S**calable **R**aster **A**rchitecture, **M**assively **P**arallel)

Data streams:
• via PRISMAproduction:
  • PDF (PDF/X, PDF/VT)
  • AFP/IPDS (IS/3)
  • and others

Color management conforms with AFP color consortium

Network connection
PRISMAproduction: • 10 Gigabit Ethernet (copper, optic MMF/SR, optic SMF/LR)

Print mode/page layout
• 2-up simplex • 2-up duplex

Color configurations
• 4/4 • 1/1 • 4/1 • 1/4 • 4/0 • 0/4 NOTE If none of the CMYK colors are printed in a printer, this printer will also not print with ColorGrip.

Productivity

ProStream 2080	
Print speed	• 80 m/min (262 ft/min) • 60 m/min (196 ft/min) • 40 m/min (131 ft/min)
Throughput per minute (CMYK duplex)	• 1 076 A4 prints • 112 B2 sheets
Throughput per hour (CMYK duplex)	• 64 500 A4 prints • 6 800 B2 sheets
Maximum effective monthly utilization	• 35 000 000 A4 prints • 3 700 000 B2 sheets

ProStream 2133	
Print speed	• 133 m/min (436 ft/min) • 110 m/min (360 ft/min) • 80 m/min (262 ft/min) • 60 m/min (196 ft/min) • 40 m/min (131 ft/min)
Throughput per minute (CMYK duplex)	• 1 790 A4 prints • 188 B2 sheets
Throughput per hour (CMYK duplex)	• 107 500 A4 prints • 11 300 B2 sheets
Maximum effective monthly utilization	• 58 000 000 A4 prints • 6 100 000 B2 sheets

Paper

NOTE
The Media specifications ProStream series manual contains detailed information on the permissible paper types.

Paper	
Paper transport	• Roll to roll • Pinless • Highly tensioned paper web (Tight web) with automatic web tension control
Continuous paper	• Offset uncoated papers • Matt and glossy coated papers • Inkjet-treated papers • LWC (Light Weight Coated)
Paper input	• Unwind unit from a Canon-certified partner with integrated paper web cleaning • Connection: see section *Interfaces* on page 56
Paper Output	• Rewind unit from a Canon-certified partner • Barcode-controlled post-processing (cutting and stacking, signature-creation, dynamic perforation) • Inline, offline or nearline • Connection: see section *Interfaces* on page 56
Paper conditioning unit	• Remoistening unit from a Canon-certified partner for variable water application to the front and rear side • Inline or offline
Format width	• Standard area: 406 – 558 mm (16 – 22 inch) • Option Narrow Web: 292 – 406 mm (11.5 – 16 inch)
Maximum print width	556 mm (21.88 inch) Areas in which you cannot print: • Data integrity marks, including protected areas • Post-print processing marks, including protected areas • every 1 mm (0.039 inch) on the lateral edges of the paper
Format height (Logical page length)	• 152 – 1524 mm (6 – 60 inch), dynamically variable • Zero Gapfunction (virtually infinite pages)
Paper thickness	50 – 300 µm (1.97 – 11.8 mils)

Paper

Paper weight (grammage)

- Standard area: 60 – 300 g/m^2

Maximum paper weight ProStream 2000 series	at maximum print speed
300 g/m^2	40 m/min (131 ft/min)
250 g/m^2	80 m/min (262 ft/min)
150 g/m^2	133 m/min (436 ft/min)

- Option Lightweight Paper: 28 – 60 g/m^2

NOTE
For paper weights under 60 g/m², paper can be printed at a speed of 80 m/min (262 ft/min) or 133 m/min (436 ft/min). These lightweight papers generally require detailed evaluations of movement capability throughout the entire printing and finishing work procedure. For each of these lightweight papers, a working window with crease-free paper web and stable paper path must be found.

- Paper weights over 300 g/m² are permitted provided that the maximum permissible paper thickness is not exceeded and the media has passed the tests and has been approved by our media laboratory.

IMPORTANT
Before using new media, ensure that they comply with the Media specifications. If the paper weight is outside the standard range, the paper must be checked before releasing it for production:

- Under no circumstances may the paper touch the print heads:
  - Is the distance between the paper web and the print heads great enough?
  - Are there any creases or wrinkles in the paper, especially at print start?
  - Is the splice sensor still working?
- The paper must be dry enough:
  - Is there ink on the deflection rollers?
  - Is the print image smeared?
  - Is the print image being transferred onto the paper reverse side ("stamping") in the rewind unit?
  - Is there any friction? Is the print image smeared in post print processing?
- If in doubt, please contact our media laboratory.

Paper path

- Unwind unit + printer 1 + turning unit + printer 2 + rewind unit:

Printing system	Paper path
ProStream 2000 series	57 m (187 ft)

- Print the front side in printer 1 up to the rewind unit:

Printing system	Paper path
ProStream 2000 series	42,9 m (140.7 ft)

Misprint

Depending on the configuration, the type of print stop and the relevant print speed, a certain length of paper misprint is produced. This misprint must be cut off and ejected by means of suitable devices during post-print processing.

NOTE
- The following lengths are rounded to whole numbers. Metric and imperial values may therefore differ slightly.
- The last printed page of the print job is transported to the rewind unit after the end of the print job.
  After a stop due to an error message, all pages that have not arrived in the rewind unit are discarded. These pages need to be reprinted.

ProStream 2000 series	**Print speed**		
	40 m/min (131 ft/min)	**80 m/min (262 ft/min)**	**133 m/min (436 ft/min)**
Start of printing until the first line is printed	1,5 m (5 ft)	2,3 m (8 ft)	4,3 m (14 ft)
• Start of printing after powering on the printing system (including the paper in the printing system) • between print jobs with halt of paper movement • Print stop and restart	44 m (144 ft)	45 m (148 ft)	47 m (155 ft)
Splice detection during printing and start of printing	12 m (39 ft)		
Affixing of a new paper web and start of printing	57 m (186 ft)		

Dimensions and Weight

Complete printing system

ProStream 2000 series	Length x Width x Height	Weight (approximate)
Twin printing system	11263 x 4057 x 2025 mm (443.43 x 159.72 x 79.72 inch) Maximum height 2575 mm (101.4 inch) at the exhaust air connection	• Two printers: 10740 kg (23678 lb) • Two cable bushings: 2x 270 kg (2x 595 lb) • Two supply units: 2x 1010 kg (2x 2227 lb)
Twin printing system with roller to roller	16000 x 4057 x 2025 mm (629.92 x 159.72 x 79.72 inch)	13900 kg (30644 lb)

Transport Units (Including Palettes)

	Length x Width x Height	Weight (approximate)
main module	2730 x 2310 x 2400 mm (107.48 x 90.94 x 94.49 inch)	2455 kg (5412 lb)
Paper transport module	2730 x 1720 x 2400 mm (107.48 x 67.72 x 94.49 inch)	1795 kg (3935 lb)
Turning unit	1850 x 1340 x 2400 mm (72.83 x 52.76 x 94.49 inch)	610 kg (1344 lb)
Base PCI	1400 x 800 x 1650 mm (55.12 x 31.5 x 64.96 inch)	300 kg (661.4 lb)
Logic unit	900 x 800 x 1650 mm (35.43 x 31.5 x 64.96 inch)	110 kg (242.5 lb)
Dryer PCI	1400 x 800 x 1650 mm (55.12 x 31.5 x 64.96 inch)	235 kg (518 lb)
Central cooling unit (CCU)	1800 x 980 x 2250 mm (70.87 x 38.58 x 88.58 inch)	560 kg (1235 lb)

	Length x Width x Height	Weight (approximate)
Controller, single-door	1650 x 1000 x 2400 mm (64.96 x 39.37 x 94.49 inch)	840 kg (1852 lb)

ProStream 2000 series	Length x Width x Height	Weight (approximate)
Cooling module	2730 x 1720 x 2400 mm (107.48 x 67.72 x 94.49 inch)	• With three cooling rollers: 1985 kg (4376 lb) • With two cooling rollers: 1865 kg (4112 lb)

NOTE
- The transport units are packed in wooden boxes.
- Some controller components are delivered separately and installed during installation.
- If necessary, the controller cabinet can be laid horizontally for a short time while it is transported through doorways. To do this, however, the servers and blades must be removed before tilting.
- In order to reduce environmental influences (temperature, paper dust), the controller can also be installed outside the production environment of the printing system. The maximum cable length is 150 m (492.13 ft).
- The double-door controller cabinet is used if an uninterruptible power supply or additional raster performance is required.

Transport units (without pallets)

	Length x Width x Height	Weight (approximate)
main module	2550 x 2100 x 2030 mm (100.39 x 82.68 x 79.92 inch)	1990 kg (4387 lb)
Paper transport module	2550 x 1500 x 2030 mm (100.39 x 59.06 x 79.92 inch)	1430 kg (3153 lb)
Turning unit	1370 x 1150 x 2030 mm (53.94 x 45.28 x 79.92 inch)	530 kg (1168 lb)
Base PCI	1200 x 520 x 1410 mm) (47.24 x 20.47 x 55.51 inch	250 kg (551 lb)
Logic unit	600 x 520 x 1410 mm (23.62 x 20.47 x 55.51 inch)	75 kg (165 lb)
Dryer PCI	1200 x 520 x 1410 mm (47.24 x 20.47 x 55.51 inch)	185 kg (408 lb)
Central cooling unit (CCU)	1610 x 610 x 2020 mm (63.39 x 24.02 x 79.53 inch)	500 kg (1102 lb)

	Length x Width x Height	Weight (approximate)
Controller, single-door	1400 x 800 x 2200 mm (55.12 x 31.50 x 86.61 inch)	up to 640 kg (1411 lb)
Controller, double-door (optional)	1400 x 1600 x 2200 mm (55.12 x 63 x 86.61 inch)	825 kg (1818.8 lb)

ProStream 2000 series	Length x Width x Height	Weight (approximate)
Cooling module	2550 x 1640 x 2030 mm (100.39 x 64.57 x 79.92 inch)	• With three cooling rollers: 1620 kg (3571 lb) • With two cooling rollers: 1500 kg (3307 lb)

Load and ground condition

Surface load (approximate)	
Printers	5000 N/m² (0.7252 psi)

Surface load (approximate)	
Controller cabinet	6000 N/m² (0.87024 psi)

Concentrated load (maximum)	
Printers	5000 N

Concentrated load (maximum)	
Controller cabinet	1750 N

Floor conditions	
Permissible floor unevenness	• Angle: max. 16 mm (0.63 inch) open 15 m (16.4 yd) • Evenness: max. 4 mm (0.157 inch) open 1 m (1.09 yd)

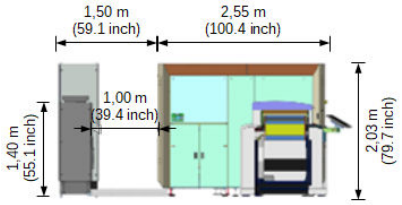
Installation Plans and Maintenance Areas

NOTE
Between the Paper conditioning unit and the post-print processing system (rewind unit, buffer, etc.), it is recommended to run the web for 5 m (16.4 ft) without a pair of drive rollers.

NOTE
- When loading or unloading the paper using the unwinder or rewinder, an additional area of approx. 2 m (6.56 ft) is required.
  The corresponding instructions from the manufacturer must be observed.
  The entire space requirements and the total weight are dependent on the post print processing used.
- Locally applicable regulations and workplace guidelines must be adhered to. Sufficient space must be planned for rescue and escape routes.
- The necessary maintenance areas specified in the following graphics are to be understood as a minimum requirement.

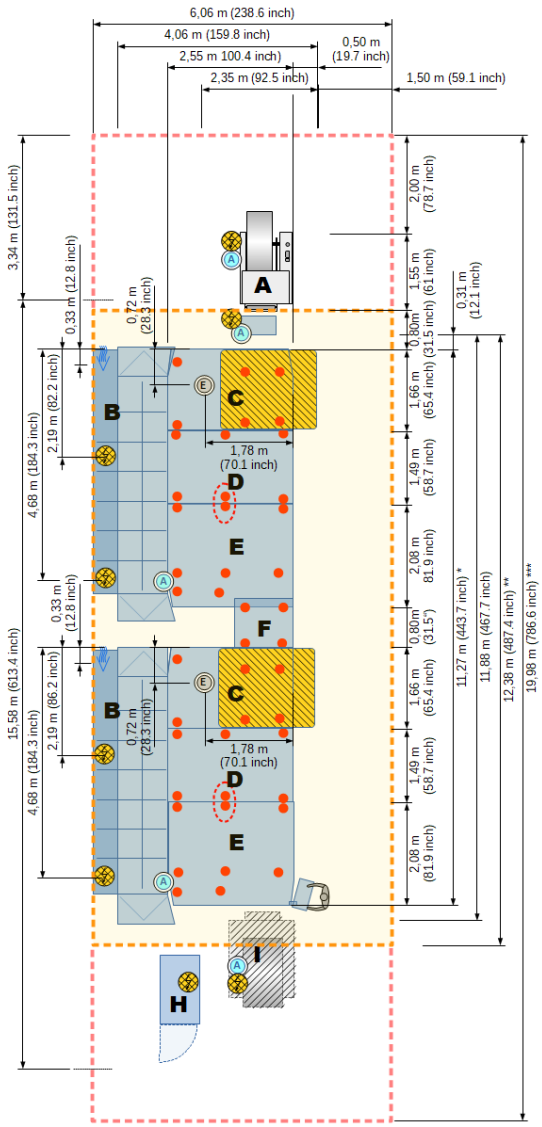
Height

Minimum required height



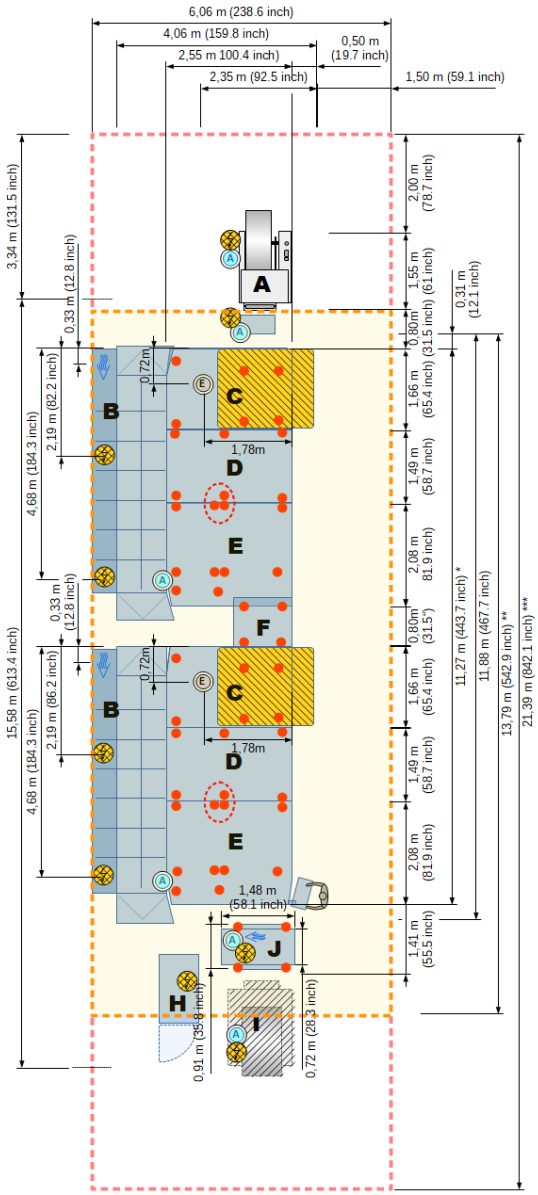
ProStream 2000 series: Installation Plans and Maintenance Areas

ProStream 2000 series/I-Twin



*	Complete printing system
**	Maintenance area
	Electrical connection
	Exhaust air/extraction
	Compressed air connection
	Connection to external cooling water supply
	Fiber-optic connection
	Base
A	Unwinder with paper web cleaning
B	Control cabinets transport unit (base PCI and dryer PCI) with central cooling unit (CCU)
C	Cooling module transport unit **IMPORTANT** Plug bars must not be routed under the area of the cooling rollers in the cooling module. This avoids the risk of a short circuit in the event of a possible leak in the hose connections to or from the cooling rollers.
D	Paper transport module transport unit
E	Main module transport unit
F	Turning unit
H	Controller cabinet A minimum distance of 0,5 m (1.64 ft) is required between the sides and the wall.
I	Rewinder

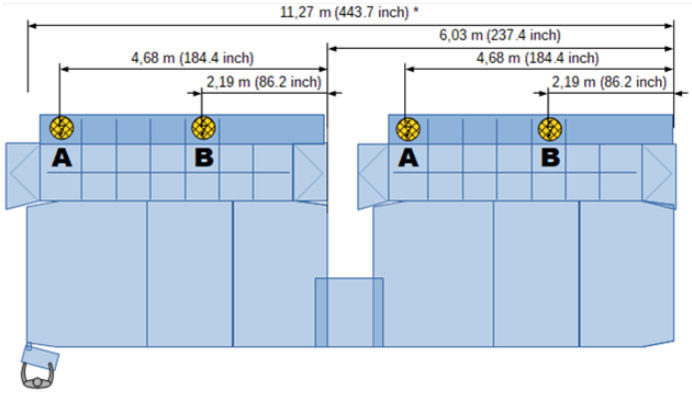
ProStream 2000 series/I-Twin with Paper conditioning unit



*	Complete printing system
**	Maintenance area
	Electrical connection
	Exhaust air/extraction
	Compressed air connection
	Connection to external cooling water supply
	Fiber-optic connection
	Base
A	Unwinder with paper web cleaning
B	Control cabinets transport unit (base PCI and dryer PCI) with central cooling unit (CCU)
C	Cooling module transport unit
	IMPORTANT Plug bars must not be routed under the area of the cooling rollers in the cooling module. This avoids the risk of a short circuit in the event of a possible leak in the hose connections to or from the cooling rollers.
D	Paper transport module transport unit
E	Main module transport unit
F	Turning unit
H	Controller cabinet A minimum distance of 0,5 m (1.64 ft) is required between the sides and the wall.
I	Rewinder
J	Paper conditioning unit

Electrical Connection and Power Input

Overview

Electrical connections	
ProStream 2000 series	
A	Printer (base PCI)
B	Dryer PCI

Printer (base PCI)

Connection A
ProStream 2000 series: • per printer 400 V ± 10 % (3L+N+PE) • Nominal value: 36 A • Overcurrent protection device: 64 A • Installed capacity: 25 kVA

Connection A

• Where a power supply other than 400 V is in use, the required voltages can be generated by an optional transformer.
• The electrical cable must be connected on-site by trained electricians under the supervision of the Agent.
  • Appropriate metric screw connections must be used and the hole must be drilled according to the diameter of the cable.
  • The bushing must be impervious to light (check from the inside).
  • If the electrical connecting cable is routed from the top to the PCI, the cable bushing through the aluminum plate and the tension relief must be installed in accordance with the applicable country-specific regulations.
  • Torque for terminals (main switch PCI/conductor rails): each 30 Nm (265.5 inch.lb)

Dryer PCI

Connection B
ProStream 2000 series: • containing 400 V ± 10 % (3L+PE) • Nominal value: 145 A • Overcurrent protection device: 160 A • Installed capacity: 100 kVA

Apparent power

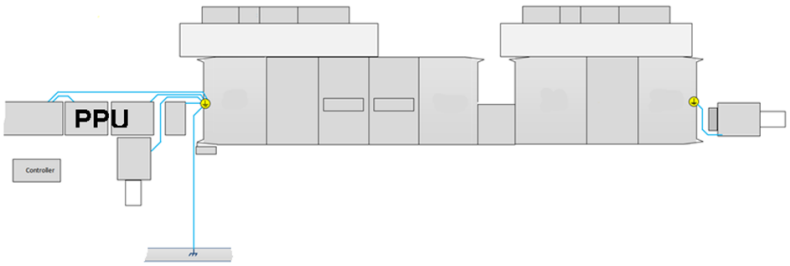
Complete printing system	
ProStream 2000 series	Apparent power: 270 kVA Rated power: 250 kVA Rated current at 400 V: • Printer 1 dryer: 145 A • Printer 1 basic: 36 A • Printer 2 dryer: 145 A • Printer 2 basic: 36 A

Controller

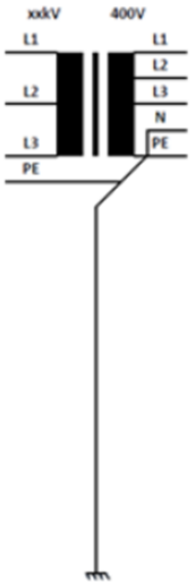
Controller	400 V 50/60 Hz	208 V 50/60 Hz
Connection	• 16 A • Phases: 3L-N-PE • Torque for terminals: 2,8 Nm (24,8 inch.lb)	• Phases: 3L-PE • Torque for terminals: 2,8 Nm (24,8 inch.lb)
Connection power	• Effective power: 3,178 kW • Apparent power: 3,403 kVA • Maximum power consumption per phase: 7,0 A	• Effective power: 3,34 kW • Apparent power: 3,57 kVA • Maximum power consumption per phase: 10,60 A
Average power (standby)	• Effective power: 2,117 kW • Apparent power: 2,299 kVA • Power consumption per phase: 3,3 A	• Effective power: 2,22 kW • Apparent power: 2,41 kVA • Power consumption per phase: 3,47 A
Average power (printing)	• Effective power: 2,69 kW • Apparent power: 2,87 kVA • Power consumption per phase: 4,1 A	• Effective power: 2,83 kW • Apparent power: 3,01 kVA • Power consumption per phase: 4,31 A

Grounding concept

Grounding concept



NOTE
This graphic depicts a ProStream 3000 series printing system; however, the information also applies to ProStream 2000 series printing systems.



Legend	
Controller	Controller
PPU	Post-print processing (variable — shown here as an example)
	Single Entry Point

IMPORTANT
Please note, when routing the grounding cable:
- Keep the length as short as possible.
- There must be no loops.

Minimum wire cross section	
< 10 m (< 32.8 ft)	10 mm² (0.0155 inch²)
> 10 m (> 32.8 ft)	16 mm² (0.0248 inch²)
> 15 m (> 49.2 ft)	22 mm² (0.0341 inch²)
> 20 m (> 65.6 ft)	34 mm² (0.0527 inch²)
> 35 m (> 114.8 ft)	42 mm² (0.0651 inch²)

Residual Current Devices (RCD)

A maximum leakage current of 300 mA can occur per PCI. Residual current circuit breakers(RCCB) are not required.

Circuit Diagrams

Information on the circuits that are not switched off by the main switch can be found in the circuit diagrams supplied with the printing system.

Unwinder with external paper web cleaning/rewinder/external cooling

More detailed information about the electrical values for these devices can be found in the external original documentation.

Environmental Conditions

Introduction

A controlled and stable room environment for the printing system is of the utmost importance. The temperature and humidity of both the print room and the print substrate affect the print quality, even when only black is printed. In color printing, this effect can quadruple (CMYK), making environmental conditions even more critical.

In addition, the room in which the printing system is installed should be relatively free of dust and other airborne particles. The printing system should not be installed in an area where milling cutters, grinders or trimmers are used.

Printing system

Temperature	
Room temperature	20 °C – 26 °C (68 °F – 78.8 °F)
Relative humidity	40 % – 60 %
Air pressure	840 – 1060 hPa
Absolute humidity (dew point)	< 15 g/m³
Height above sea level	Below 1500 m (4921 ft)
Heat emission	37 kW (126000 BTU/h)

Sound	
Noise level	< 80 dB(A)

Storage and Transport

IMPORTANT
Condensation is not permitted under any circumstances.

Printing system (transport units)	
Temperature range	-10 °C – 50 °C (14 °F – 122 °F)
Relative humidity	5 % – 90 %
Temperature adjustment	Maximum 1 K/min
Air pressure	450 – 1060 hPa

Papers	
Relative humidity	35 % – 55 %

Ink/ColorGrip/cleaning fluids	
Transport temperature range	-10 °C – 40 °C (14 °F – 104 °F)
Storage temperature range	15 °C – 30 °C (39 °F – 86 °F)
Relative humidity	5 % – 90 %

Ink/ColorGrip/cleaning fluids	
Air pressure	450 – 1060 hPa
Temperature adjustment	Maximum 1 K/min

Exhaust air

Introduction

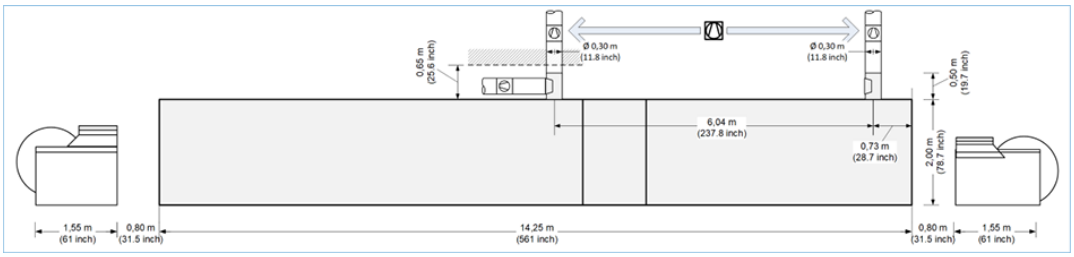
Each inkjet printer emits a certain amount of VOC (volatile organic compounds), depending on the surface coverage of the printed image and the print speed.

The ProStream 2000 series printing systems have an integrated exhaust air cleaning system. The cleaned exhaust air is blown upward.

CAUTION
To ensure compliance with the occupational exposure limits (OELs), the Agent of the printing system must provide an external suction system.

Exhaust air

Overview (unit of measurement: meters)



NOTE
This graphic depicts a ProStream 3000 series printing system; however, the information also applies to ProStream 2000 series printing systems.

Exhaust air	
Height of the connection	Approximately 2577 mm (101.5 inch)
Exhaust air volume flow (customer-side)	The customer-side air volume flow contains the following volume fractions: • Drying • ColorGrip • 20 % Additional fresh air at the flue Values for exhaust air volume flow and internal diameter: see section *Dryer* on page 64
Exhaust air temperature	Maximum 60 °C (140 °F)

Exhaust air control

With the aid of the optional exhaust air control, the Agent can control the external exhaust air system via a potential-free contact.

IMPORTANT
The connection of the optional exhaust air control must comply with the requirements of the applicable Functional Safety guidelines. After commissioning, the jumper must be removed from the optional exhaust air control.

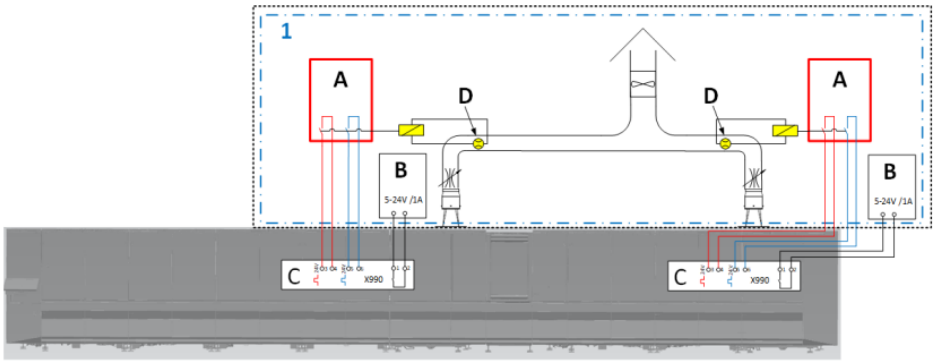
Process description:	
1.	The printing system requests the start-up of the exhaust air system.
2.	The exhaust air system starts up within 30 seconds. This is reported back to the printing system by two redundant signals. The two signals may have a maximum delay of 2500 ms between them.
3.	As soon as the exhaust air system is running, printing starts.
4.	After printing, the printing system stops and switches off the exhaust air system again.

Interface description

NOTE
The variants described outline two ways in which the exhaust air system of the printing system can be monitored. Other types of monitoring are possible, but they are dependent on the infrastructure and must be discussed with the Agent before commissioning the printing system.

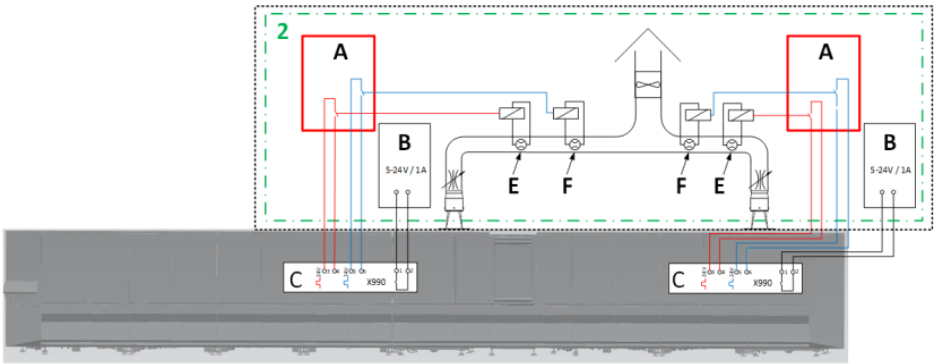
NOTE
These graphics depict a ProStream 3000 series printing system; however, the information also applies to ProStream 2000 series printing systems.

Variant 1



		Customer area of responsibility
1 Variant 1	A	Mandatory if exhaust air control 'B' is used: Exhaust air status monitoring
	B	optional: Exhaust air control by the customer: potential-free contact (5 – 24 V / 1 A)
	D	Per printer: 1 Sensor (24 V) for air flow control with Performance Level d (PLd) or Safety Integrity Level 2 (SIL2)
C	Printer interface • 2 redundant pulsed 24 V circuits that must be closed when the exhaust air system is running. The two signals may have a maximum delay of 2500 ms between them. • one potential-free relay contact for activating the exhaust air system	

Variant 1		
Terminal block X990		6-pin
Cable	shielded 6-core cable Maximum 50 m (164.04 ft)	

Variant 2		
		
		Customer area of responsibility
2 Variant 2	A	Mandatory if exhaust air control 'B' is used: Exhaust air status monitoring
	B	optional: Exhaust air control by the customer: potential-free contact (5 – 24 V / 1 A)
	E	1 sensor each (24 V) for the air flow control
	F	
C	Printer interface • 2 redundant pulsed 24 V circuits that must be closed when the exhaust air system is running. The two signals may have a maximum delay of 2500 ms between them. • one potential-free relay contact for activating the exhaust air system	
Terminal block X990		6-pin
Cable	shielded 6-core cable Maximum 50 m (164.04 ft)	

Extraction inside the building

The customer's exhaust duct must be impervious to liquid and vapor (longitudinally welded pipes). The material of the pipes and the seals must be water- and glycerin-resistant.

IMPORTANT
The condensate accruing in the exhaust piping must be collected separately. The printing system is not designed to accommodate larger quantities of condensate from the exhaust piping.

The exhaust fan should be a radial fan in which the motor is not directly installed in the exhaust air flow:

Axial fan		Fan	
✗	Example:	✓	Example:

Extraction outside the building

The country-specific regulations for the "Derivation of organic solvents" must be observed (for example in Germany: VDI 2280).

The following minimum requirements must be observed for the flue height:
- 3 m (9.84 ft) above the ridge of a saddle roof
- 5 m (16.40 ft) above flat roofs and pent roofs
- 5 m (16.40 ft) above the ridge height of residential buildings located at a distance of 50 m (164.04 ft)
- As a basic principle, at least 10 m (32.81 ft) above the ground.

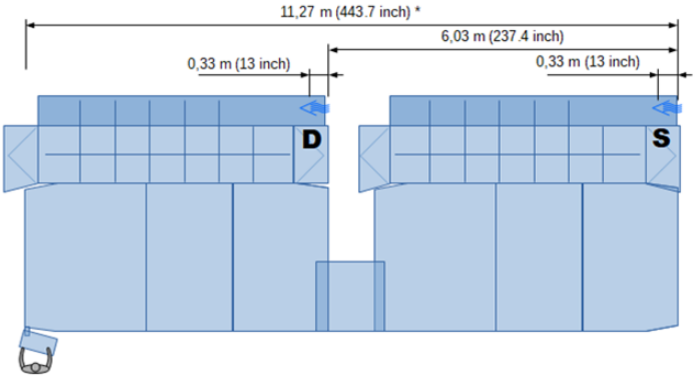
The flue must be equipped with a deflector and point straight upwards (without a bend) to prevent the exhaust air from condensing on the roof.

The discharge speed of exhaust air (vertically upward) must be a minimum of 7 m/s (22.97 ft/s).

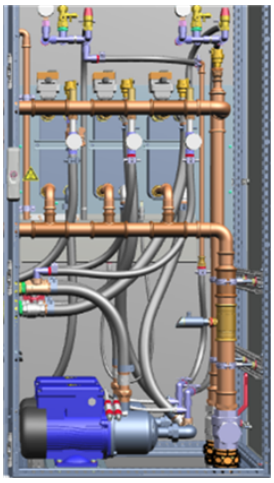
Cooling Water, Compressed Air and Fiber-Optic Connections

NOTE
- The devices for pre-print processing and post-print processing must have separate power supplies.
- More detailed information about the cooling water, compressed air and fiber-optic connection points can be found in section *Installation Plans and Maintenance Areas* on page 40.

Coolant connection

Overview	
ProStream 2000 series	
S	Printer 1
D	Printer 2

NOTE
The values for temperature, pressure and flow refer to the inlet of the central cooling units (CCU) rather than to the outlet of the external coolant supply.

Coolant connection	
	DN 50 /2 inch thread/supply line with outer thread
Nominal pressure of the water supply	PN 10 (ISO 7268 / EN 1333)
Buffer store (cooling assembly)	2x 350 l required

Coolant connection	
Temperature at the intake	12 °C ± 2 °C (53.6 °F ± 3.6 °F)
Temperature at the drain	maximum of 50 °C (122 °F) at switch-on
minimum volume flow	• 9 m³/h (317.83 ft³/h) per CCU (18 m³/h (635.7 ft³/h) total for CCU for printer 1 and CCU for printer 2) • Pressure relief valve in the CCU enables minimum volume flow of 9 m³/h (317.83 ft³/h) at 0,8 bar (11.6 psi)
Maximum pressure	9 bar (130.53 psi) IMPORTANT A higher pressure is not permitted and must be prevented by the customer.
Maximum pressure loss of one central cooling unit (for printer 1 or printer 2)	1,0 – 1,5 bar (14.50 – 21,76 psi)
Water quality	• pH value: 7 – 8 pH • Conductivity: 10 – 500 µS/cm (0.10 – 5.00 CF) • Water hardness: 6 – 15 °dH
Cooling water requirement for filling the primary circuits of the CCU for printer 1 and the CCU for printer 2	32 l
Central cooling unit interface (CCU)	A floating interface for the external cooling assembly is available. These ports are bridged by default. • Digital – OUT (central cooling unit -> external cooling assembly): 24 V, maximum 1 A • Digital – IN (external cooling assembly -> central cooling unit): 24 V DC, 50 mA IMPORTANT As the printer only provides a floating contact, the 24 V for the signal must not be used by the printer.
Required cooling output (ProStream 2000 series)	• CCU for printer 1: 60 kW • CCU for printer 2: 85 kW • simultaneously for the printing system: 140 kW

Compressed air connection

Compressed air connection	
	Separate connection per printer, dry and oil free
Quality	DIN ISO 8573-1 (Particles: 1, Water: 4, Oil: 1)
Hose pressure	6 – 12 bar (87,02 – 174,04 psi)
Inside diameter	8 mm (0.315 inch) Connection with quick coupling, thread 1/4 inch
Volume flow	Twin printing system: 800 Nl/min (2 x 400 l_S/min (@ 0°C, 1013 mbar)
Consumption	Twin printing system: approximately 240 Nl per print head purge (120 Nl per connection/printer)

Fiber-optic connection

Fiber-optic connection	
6x OFC connector (Y/M/Y/C/CG)	
Cable length (standard)	25 m (82.02 ft)

Interfaces

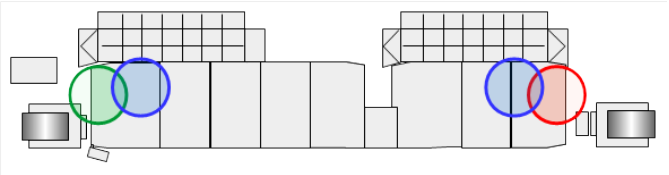
Overview

Introduction

The post-print processing and pre-print processing devices are connected to the printing system via various interfaces.

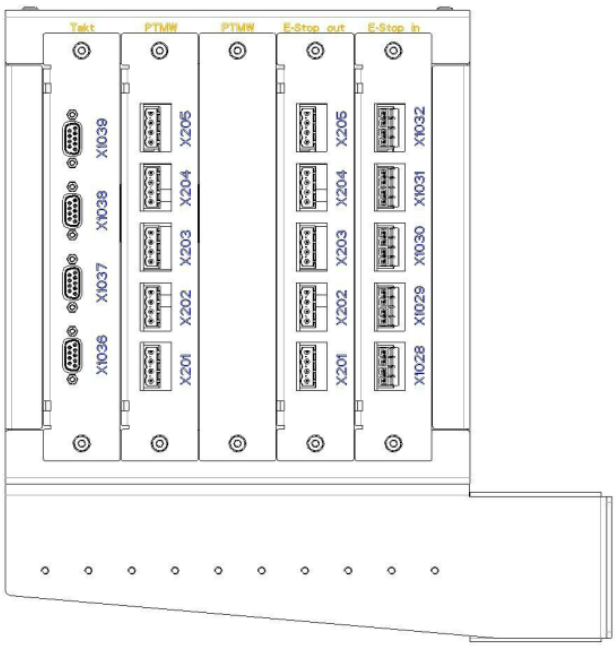
- Normal operation is controlled via Type 1 interfaces.
- The printing system also has bidirectional emergency stop interfaces to the pre- and post-print processing devices in accordance with DIN EN ISO 13850. If the pre- or post-print processing devices will be integrated into a shared emergency stop circuit, these devices must provide two-channel emergency stop interfaces (E-Stop IN / E-Stop OUT) to the printing system. It is essential for any pre- or post-print processing devices that can trigger web movement in the printing system to be connected to the emergency stop circuit.
- The printing system provides additional Permission to move web (PTMW) interfaces.
- Higher resolution encoder signals (Speed interfaces) make it possible to connect up to four post-processing devices that require a more precise encoder signal (Tight web integration) owing to their functionality.

Interface overview



NOTE
This graphic depicts a ProStream 3000 series printing system; however, the information also applies to ProStream 2000 series printing systems.

Explanation	
	Type 1interface
	E-Stop IN and Permission to move web (PTMW)

Explanation	
	Extended safety interface for connecting multiple post-print processing devices to the safety circuit of the printing system 

Interfaces in printer 1 for pre-print processing devices	Interfaces in printer 2 for post-print processing devices:
• 1x Type 1 • 1x E-Stop IN and 1x Permission to move web (PTMW)	• 2x Type 1 • 5x E-Stop IN and 5x Permission to move web (PTMW) • 5x E-Stop OUT • 4x Speed

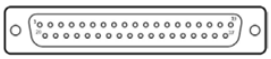
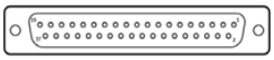
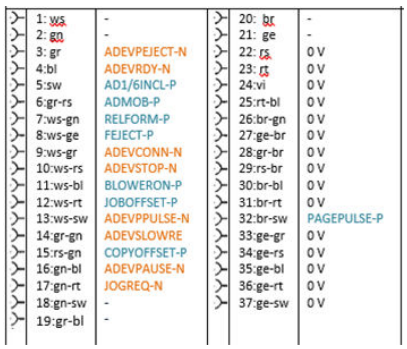
Overview

You will find information on the following topics:

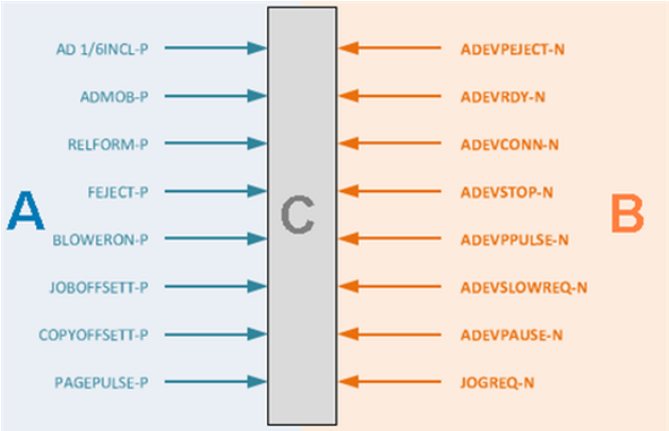
- *Type 1* on page 58
- *E-Stop IN* on page 60
- *E-Stop OUT* on page 61
- *Permission to move web (PTMW)* on page 62
- *Speed* on page 63

Type 1

Connection

Connection	
Type 1cable, for example T26312-H120-V100	
Printer: X703 / X704	Post-print processing and pre-print processing devices
Plug-in connector: D1757 interface card  D-sub socket 37-pin	Plugs:  D-sub plug, 37-pin
 1: ws - 2: gn - 3: gr ADEVPEJECT-N 4:bl ADEVRDY-N 5:sw AD1/6INCL-P 6:gr-rs ADMOB-P 7:ws-gn RELFORM-P 8:ws-ge FEJECT-P 9:ws-gr ADEVCONN-N 10:ws-rs ADEVSTOP-N 11:ws-bl BLOWERON-P 12:ws-rt JOBOFFSET-P 13:ws-sw ADEVPPULSE-N 14:gr-gn ADEVSLOWRE 15:rs-gn COPYOFFSET-P 16:gn-bl ADEVPAUSE-N 17:gn-rt JOGREQ-N 18:gn-sw - 19:gr-bl - 20: br - 21: ge - 22: rs 0 V 23: rt 0 V 24:vi 0 V 25:rt-bl 0 V 26:br-gn 0 V 27:ge-br 0 V 28:gr-br 0 V 29:rs-br 0 V 30:br-bl 0 V 31:br-rt 0 V 32:br-sw PAGEPULSE-P 33:ge-gr 0 V 34:ge-rs 0 V 35:ge-bl 0 V 36:ge-rt 0 V 37:ge-sw 0 V	Cable: • LiYC 20 x 2 x 0,14 mm² (0.000217 inch²) AWG26/7 • Shielded cable • EMC cable category: EMV-5 • Maximum length: 15 m (16.4 yd) Cable specification in accordance with legal and environmental requirements (for example resistance to oils, fluids, mechanical strength, RoHS, etc.)

Signals at the universal interface Type 1

Logic interface	
	
A	Printing system
B	Additional device (post-print processing or pre-print processing)
C	Universal interface
→	Signal from the printing system to the additional device (active high signal)
←	Signal from the additional device to the printing system (active low signal)

Signal evaluation if multiple devices are connected

If multiple post-print processing or pre-print processing devices are connected, the printing system evaluates the different signals in accordance with the following table:

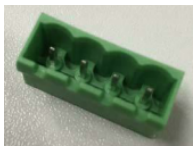
PIN	Signal	Direction	Status	Prerequisite for multiple devices
3	ADEVPE-JECT-N	←	Recommended	EJECT in response to a request by at least one unit.
4	ADEVRDY-N	←	Mandatory	Hard stop as soon as a unit is not ready. Hard stop overwrites soft stop and pause.
5	AD1/6INCL-P	→	Recommended	on all devices
6	ADMOP-P	→	optional	on all devices
7	RELFORM-P	→	optional	on all devices/curl prevention mode
8	FEJECT-P	→	Recommended	on all devices
9	ADEVCONN-N	←	Mandatory	Each unit that is not connected is ignored.
10	ADEVSTOP-N	←	Mandatory	Soft stop as soon as a unit requests a soft stop.
11	BLOWER-ON-P	→	Mandatory	on all devices
12	JOBOFF-SET-P	→	Recommended	on all devices
13	ADEV-PULSE-N	←	optional	Only one device can send this signal to the printing system; the selection is switchable on the device.
14	ADEVSLOW-REQ-N	←	optional	The printing system transports the paper web slowly as soon as one unit requests ADEVSLOW. Requirements: The printing system is in printing mode.
15	COPYOFF-SET-P	→	optional	on all devices
16	ADEV-PAUSE-N	←	Recommended	The printing system interprets this request as a hard stop.
17	JOGREQ-N	←	optional	The printing system transports the paper web slowly as soon as one unit requests JOG.
32	PAGE-PULSE-P	→	Recommended	on all devices

E-Stop IN

Emergency stop interface from the pre- and post-print processing devices

The E-Stop IN interface enables up to five pre- and post-print processing devices to be connected in the emergency stop circuit. If an emergency stop control unit is pressed on a connected device, the printing system likewise responds with an emergency stop.

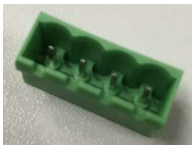
To enable this, the pre- or post-print processing device must offer a two-channel emergency stop circuit to the emergency stop interface of the printing system, which is interrupted when the emergency stop control unit of the pre- or post-print processing device is actuated.

Connection	
Printer: X1028 to X1032	Post-print processing and pre-print processing devices
 Phönix EMSTBA 2,5/ 4-G • Pin 1: pulse in Ch2 • Pin 2: pulse return Ch2 • Pin 3: pulse in Ch1 • Pin 4: pulse return Ch1	 • Precut cable with Phönix FKCN 2,5/ 4-ST connector, or • Precut cable with end ferrules (connector is supplied with the printing system)
Cable: • Core cross-section 1 mm² (0.00155 inch²) • sheathed cable suitable for the ambient conditions • shielded cable • Shield connection approx. 280 mm (11 inch) to the connector/end ferrules • EMC cable category: EMV-5 • Maximum length: 20 m (21.9 yd) • with end ferrules Cable specification in accordance with legal and environmental requirements (for example resistance to oils, fluids, mechanical strength, RoHS, etc.)	
Signal: • Two-channel 24 V pulsed; max. 50 mA per channel • Exclusive OR check	• Two-channel switching(24 V) • Circuit open: E-Stop for post-print processing activated

E-Stop OUT

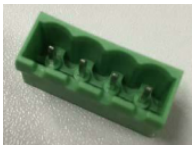
Emergency stop interface to the pre- and post-print processing devices

The E-Stop OUT interface is designed as an explicit emergency stop connection for all pre- and post-print processing devices. All dangerous actuators of the connected post-print processing devices must be controlled via this interface.

Connection	
Printer: X201 to X205	Post-print processing and pre-print processing devices
 Phönix EMSTBA 2,5/ 4-G • Pin 1: safe interface in Ch1 • Pin 2: safe interface out Ch1 • Pin 3: safe interface in Ch2 • Pin 4: safe interface out Ch2	 • Precut cable with Phönix FKCN 2,5/ 4-ST connector, or • Precut cable with end ferrules (connector is supplied with the printing system)
Cable: • Core cross-section 1 mm² (0.00155 inch²) • sheathed cable suitable for the ambient conditions • shielded cable • Shield connection approx. 280 mm (11 inch) to the connector/end ferrules • EMC cable category: EMV-5 • Maximum length: 20 m (21.9 yd) • with end ferrules Cable specification in accordance with legal and environmental requirements (for example resistance to oils, fluids, mechanical strength, RoHS, etc.)	
Signal: • 24 V, maximum 1 A • two channels (galvanically isolated selective contactors) with exclusive OR check • PL_R (Performance Level): E-Stop = PL_D • Contacts closed: E-Stop OUT active • Contacts open: E-Stop OUT inactive	

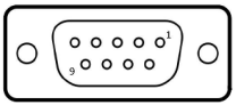
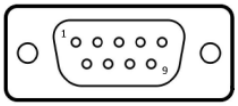
Permission to move web (PTMW)

The PTMW interface is used to prevent unintentional web movements in the printing system. Any web movement caused by pre- or post-print processing is only allowed with the permission of the printing system (PTMW = true).

Connection	
Printer: X201 to X205	Post-print processing and pre-print processing devices
 Phönix EMSTBA 2,5/ 4-G • Pin 1: safe interface in Ch1 • Pin 2: safe interface out Ch1 • Pin 3: safe interface in Ch2 • Pin 4: safe interface out Ch2	 • Precut cable with Phönix FKCN 2,5/ 4-ST connector, or • Precut cable with end ferrules (connector is supplied with the printing system)
Cable: • Core cross-section 1 mm² (0.00155 inch²) • sheathed cable suitable for the ambient conditions • shielded cable • Shield connection approx. 280 mm (11 inch) to the connector/end ferrules • EMC cable category: EMV-5 • Maximum length: 20 m (21.9 yd) • with end ferrules Cable specification in accordance with legal and environmental requirements (for example resistance to oils, fluids, mechanical strength, RoHS, etc.)	
Signal: • 24 V, 1 A • two channels (galvanically isolated selective contactors) with exclusive OR check • PL_D • Contacts closed: PTMW OUT active • Contacts open: PTMW OUT inactive	

Speed

Higher resolution encoder signals (Speed interfaces) make it possible to connect up to four post-processing devices that require a more precise encoder signal (Tight web integration) owing to their functionality.

Connection	
Printer: X1036 to X1039	Post-print processing and pre-print processing devices
 D-sub socket, 9-pin • Pin 1: A • Pin 2: R • Pin 3: B • Pin 4: - • Pin 5: - • Pin 6: /A • Pin 7: /R (not used) • Pin 8: /B (A/B: incremental signal) • Pin 9: GND (R: reference signal)	 D-sub plug, 9-pin
Cable: • 3 x twisted pair cables + GND • Core cross-section 1 mm² (0.00155 inch²) • sheathed cable suitable for the ambient conditions • shielded cable • EMC cable category: EMV-5 • Maximum length: 20 m (21.9 yd) • Z cable: maximum 120 Ohm Cable specification in accordance with legal and environmental requirements (for example resistance to oils, fluids, mechanical strength, RoHS, etc.)	
Technical data: • Interface: RS-485/RS-422 • Shielding via capacitor on the housing • 5 V differential • 1 MHz maximum (signal frequency) • 120 Ohm terminating resistor on the receiver side	

Dryer

NOTE
Specifications for standard cubic meters (Nm³/h) are always based on 20 °C (68 °F), 1013 hPa.

General	
Coating materials	approved ink and ColorGrip in accordance with the ProStream 2000 series operating instructions
Carrier materials	Papers specified in Media specifications ProStream series
Application quantity	Quantity of ink and ColorGrip
Length of main drying stage	11 Hot air nozzles: 2750 mm (108.3 inch)
Air temperature in standby	> 80 °C (176 °F)
Air circulation temperature when printing	normal 120 – 170 °C (248 – 338 °F) Maximum 180 °C (356 °F)
Hot air temperature at the nozzle plate when printing	120 – 210 °C (248 – 410 °F), maximum 235°C (455 °F)
Paper temperature (T_{max})	Maximum 150 °C (302 °F)
Circulating air flow, main dryer	Approximately 6600 m³/h (3885 ft³/min)
Exhaust air flow from drying area	• Printer 1: approximately 850 Nm³/h (500.3 ft³/min) • Printer 2: approximately 1250 Nm³/h (735.7 ft³/min)
Exhaust air temperature	Maximum 60 °C (140 °F)
Internal diameter of the exhaust air pipe	300 mm (11.8 inch)
Exhaust air volume flow (customer-side) (Values respectively -0 % +10 %)	• Printer 1: approximately 1250 Nm³/h (735.7 ft³/min) • Printer 2: approximately 1800 Nm³/h (1059.4 ft³/min)
Explosion protection	**CAUTION** **Only the combination of ink and ColorGrip approved by Canon Production Printing Germany GmbH & Co. KG for this printer type must be used. Safety-relevant setups must not be modified or manipulated. Otherwise, the explosion protection cannot be guaranteed.** Dryer type A as per DIN EN 1539 Printer 1 and printer 2 are parameterized differently. The explosion-protection-relevant parameterization is ensured with suitable safety functions as per EN IEC 13849-1/2 (for example, maximum drying temperatures, maximum permitted ink quantity, minimum exhaust air volume, etc.).
Operating noise	See section *Environmental Conditions* on page 47

ProStream 2000 series	
Overall length of dryer	• Printer 1: 2750 mm (108.3 inch) • Printer 2: 2750 mm (108.3 inch)
Heating output (total)	per printer: 100 kW

Inline Quality Control (IQC)

Inline Quality Control (IQC)	
Environmental Conditions	as with the printing system
Water cooling	via coolant supply for the printer
Electrical connection	via the PCI for the printer

Chapter 4
Additional devices

Additional devices

Introduction

The devices listed below have been tested and correspond to the required range of functions. However, the overview is not a definitive list.

Post-print processing system/pre-print processing system

	Hunkeler (UW8/RW8)	Tecnau (u9/r9)
Power connection	400 - 480 V ± 10%	200 - 240 V ± 10%
Maximum current/apparent power	16 A 1750 VA	10 A –
True power	1000 W	1800 W

Paper web cleaning system

	Hunkeler iPEM 570.1	ACE (Tecnau Pro)
Power connection	230 V ±10%	400 V ±10%
Maximum current/apparent power	16 A 3,68 kVA	10 A 11 kVA
True power	1,4 kVA	1,1 kVA
Air pressure	1x 35 Nm³/h at 1,7 bar Connection 12 mm (0.47 inch)	See manufacturer hand-book
Compressed air quality (DIN ISO 8573-1)	See manufacturer hand-book	See manufacturer hand-book

Paper conditioning unit WEKO DigiCon 22"

NOTE
The distance between the Weko and the pressure roller must be 5 m (196,85 inch).
The turning bar can be added in to this 5 m (196.85 inch) distance.
We recommend a distance of 1 m (39.37 inch) to the rewind unit.

Please refer to the WEKO manual for the current connection values.

External cooling assembly

Connection values for coolant: See section *Coolant connection* on page 53

Design of the external cooling assembly (not supplied by Canon): Consult the manufacturer

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