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Central impression cylinder (CIC) lithographic printing press

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Foreword

This document is drafted in accordance with the provisions of GB/T 1.1—2020 Directives for standardization work — Part 1: Structure and drafting rules of standardization documents.

Attention is drawn to the possibility that some contents of this document may involve patents. The issuing body of this document shall not be responsible for identifying patents.

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This document is the first issuance.

Central impression cylinder (CIC) lithographic printing press

1 Scope

This document specifies the structure, basic parameters, nomenclature, model and technical requirements of satellite central impression cylinder lithographic printing presses, describes the corresponding test methods, and stipulates the inspection rules, marking, packaging, transportation and storage.

This document applies to the manufacture of satellite central impression cylinder lithographic printing presses.

2 Normative References

The contents of the following documents constitute indispensable provisions of this document by normative reference in the text. Among them, dated references apply only to the version corresponding to that date; undated references apply to the latest version of the referenced document (including all amendments).

GB/T 191 Packaging—Pictorial marking for handling of goods

GB/T 3785.1 Electroacoustics—Sound level meters—Part 1: Specifications

GB/T 4728.1—2018 Graphical symbols for electrical diagrams—Part 1: General information

GB/T 4879—2016 Rust preventive packaging

GB/T 5226.1—2019 Safety of machinery—Electrical equipment of machines—Part 1: General requirements

GB/T 6388 Transport packaging—Shipping marking

GB/T 9969 Instructions for use of industrial products—General principles

GB/T 13306 Nameplates

GB/T 13384 General specifications for packaging of mechanical and electrical products

GB/T 16754—2021 Safety of machinery—Emergency stop function—Principles for design

GB/T 17934.2—2022 Graphic technology—Process control for production of halftone colour separations, proofs and production prints—Part 2: Offset lithographic printing

GB/T 19437—2004 Graphic technology—Spectrophotometric measurement and colorimetric computation of printed images

GB/T 23649—2009 Graphic technology—Process control—Optical, geometrical and metrological requirements for reflection densitometers for printing

GB/T 23821 Safety of machinery—Safety distances to prevent hazard zones being reached by upper and lower limbs

GB/T 28387.1—2012 Safety requirements for the design and construction of printing and paper converting machines—Part 1: General requirements

GB/T 34690.7—2017 Graphic technology—Digital process control for offset printing—Part 7: Computer-to-plate

JB/T 6530 Nomenclature and model coding methods for printing machinery

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 planographic printing press

Printing press using a planographic plate as the image carrier.

[Source: JB/T 4178—2016, 5.1]

3.2 central impression cylinder

Impression cylinder surrounded by multiple plate cylinders or printing units.

[Source: JB/T 4178—2016, 2.6]

3.3 satellite central impression cylinder (CIC) lithographic printing press

Planographic printing press (3.1) in which multiple plate cylinders share one central impression cylinder (3.2).

4 Structure, Basic Parameters, Nomenclature and Model

4.1 Structure

The satellite central impression cylinder lithographic printing press (hereinafter referred to as “the printing press”) consists of an unwinding unit, a printing unit, a drying (curing) device, a winding unit, a control system and other components.

4.2 Basic Parameters

The basic parameters of the printing press are given in Table 1.

Table 1 Basic Parameters

Item		Parameter				
Equipment sizea (mm)		850	1050	1250	1350	1650
Maximum printing width (mm)		≥800	≥1000	≥1200	≥1300	≥1600
Printing repeat length (mm)		800–1200				
Number of printing colors		4–8				
Maximum printing speedb (m/min)		≥200				
Series of maximum unwinding and winding diameters mm		600, 800, 1000, 1300, 1500				
Specifications of applicable substrates	Paper grammage (g/m^2)	80–220				
	Plastic film thickness (mm)	0.01–0.15				

a Classified by the maximum unwinding width of the printing press.

b The maximum length of substrate that can be printed per minute by the printing press under the test conditions specified in this document.

4.3 Nomenclature and Model

The nomenclature and model coding of the printing press shall comply with the provisions of JB/T 6530.

5 Technical Requirements

5.1 Idling Performance

5.1.1 The actuating mechanisms shall operate in a coordinated and accurate manner, without jamming or spontaneous movement.

5.1.2 The transmission system shall run smoothly, free from abnormal noise.

5.1.3 The lubrication and pneumatic systems shall function reliably.

5.1.4 The pipelines shall be unobstructed, without leakage.

5.1.5 The printing press shall feature smooth speed regulation.

5.1.6 The noise level of the printing press shall not exceed 85 dB(A).

5.1.7 The temperature rise of the bearing housing shall not exceed 35 K.

5.2 Printing Performance

5.2.1 Register Error

The longitudinal and transverse register errors of printed products shall comply with the provisions of Table 2.