**Gravure Printing Press HELIOSTAR II for printing of tipping paper with 5 print stations, printing width 1300m**

**Gravure printing press HELIOSTAR´´ S**

| | |
|---|---|
| Web width | 1320 mm |
| Max. printing width | 1300 mm |
| Gravure cylinder face width | 1380 mm |
| Min. print repeat length | 450 mm |
| Max. print repeat length | 920 mm |
| Cylinder design | Shafted cylinder (W&H standard) |
| Cylinder weight | max. 300 kg |

Note:
The use of gravure cylinders deviating from the W&H standard must be technically checked.

| | |
|---|---|
| Roll diameter | 1300 mm |
| Max. roll weight | 2240 kg |
| Min. core outer diameter | 85 mm |

**Web tension range:**

| | |
|---|---|
| • Unwind | 25 N - 450 N |
| • Draws | 25 N - 450 N |
| • Rewind | 25 N - 450 N |

**Max. mechanical machine speed**
(depending, however, on job specifications, print related factors and immersion depth of gravure cylinder, in particular with short circumference)

| | |
|---|---|
| • for print repeat length 450 mm | 450 m/min |
| • for print repeat length > 500 mm | 500 m/min |

**SUBSTRATES**

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|---|---|
| OPA | 12 - 70 µm |

| | |
|---|---|
| BOPP | 12 - 70 µm |
| PET | 8 - 30 µm |
| Paper | 20 - 120 g/m² |
| | Note: 20- 30 gsm paper to be used for cigarette paper application with corresponding paper quality and print design |
| Composite films (film/film or film/paper) | max. 150 µm |

Note: Required treatment level of films: approx. 38 - 42 mN/m (dyne).
When paper is to be printed, we recommend using an electrostatic printing aid.

**ELECTRICAL INSTALLATION**

Power characteristics: 400 volt (+/- 10 %), 50 Hz (+/- 1 Hz)
Network types: TNC, TNCS, TNS

**Installation height:**

Machine is designed for installation on 1415m above sea level.

**INKS**

NC, PVB, PVC, 2-component

**STANDARD SOLVENTS**

- Alcohols up to 100 %
- Ester up to 100 %
- Glycolether up to 70 %
- Ketones up to 50 %

**COMPRESSED AIR REQUIREMENTS**

| | |
|---|---|
| Pressure (positive) | 600 kPa |
| Vol. flow rate for the machine | approx. 10 m³/h |
| Vol. flow rate for each LEL sensor | 3 m³/h |
| Vol. flow rate for each impression roller sleeve approx. 3 min. per change | approx. 120 m³/h |

**INK COOLING**

| | |
|---|---|
| Flow rate per ink cooling system | 0.5 m³/h |

| | |
|---|---|
| Cooling capacity per ink cooling system at Delta t = 7 K between cooling water supply line and ink | 0.6 kW |
| Supply temperature ink cooling system | 7 - 15 °C |

**COOLING WATER REQUIREMENTS**

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|---|---|
| Flow rate per chill roll | 1.8 m³/h |
| Cooling capacity per chill roll | 16.5 kW |
| Supply temperature | 15 °C |

**DRYING SYSTEM**

The drying system is specified in the quotation.
Indicated air volume flow rates relate to a temperature of 20 °C and a ambient pressure of 1013 mbar

**15-nozzle dryer:**

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|---|---|
| Supply air flow rate | 7,700 m³/h |
| Effective dryer length | 2.4 m |
| Nozzle exit air velocity | 30 - 46 m/s |
| Max. nozzle air exit temperature | |
| • At 20 °C fresh air temperature | 120 °C |
| • With recirculating air | 35 % |
| Heating capacity | 136 kW |

**2 x 15-nozzle dryer:**

| | |
|---|---|
| Supply air flow rate | 15,400 m³/h |
| Effective dryer length | 2 x 2.4 m |
| Nozzle exit air velocity | 30 - 46 m/s |
| Max. nozzle exit air temperature at 20 °C fresh air temperature | 120 °C |
| Recirculating air | |
| • With solvent based inks | 30 % in zone 1 and 88 % in zone 2 |
| • With water-based inks / cold seal adhesive | 0 % in zone 1 and 30 % in zone 2 |

Heating capacity

- With solvent based inks 177 kW
- With water-based inks / cold seal adhesive 351 kW

Thermal oil supply:

- Supply temperature 210 °C
- Return temperature 180 °C

Drying system is designed for evaporation of solvents of ignition class T2 (ignition temperature > 300 °C)

Note:
The values specified relate to each printing station. The actual supply values as well as exhaust air flow rates for the complete machine need to be calculated separately.

COLOR OF PAINT:
W&H Design (RAL 3000, red / RAL 7016 anthracite / RAL 9010 white)

EXECUTION OF EX-ZONE
Acc. to EN 1010-1 annex A / ISO 12643-2 annex B / ANSI B 65.1

NOISE EMISSION dB(A) 78

The A-weighted emission sound pressure level L(PA) (re 20 µPa) is 78 dB(A). This was determined in accordance with the harmonized standards EN 13023 H.1.2 - KL3 / DIN EN ISO 3746 / DIN EN ISO 11204 at a distance of 1 m from the machine surface at a height of 1.6 m. The measurement uncertainty K(pA) is 5 dB(A).

This guarantee of noise level does not apply, if additional components are incorporated into the machine, which are not supplied by W&H.