

Rho 512R **Rho 512R Plus**

Pre Installation Guideline
Edition 09.07.2021



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1 About this document

- ▶ Make sure that this document is accessible at all times.
- ▶ Insert all supplements received from Durst Group AG into this document.
- ▶ Read and comply with this document and all other documents in the service documentation.

1.1 Purpose and target group

This document is part of the machine documentation and contains information about the site conditions and requirements for a safe and successful installation and commissioning of the printer.

This document must be handed out to the customer prior to the installation.

A filled in and signed form must be returned to Durst Phototechnik AG not later than two weeks before start of the installation.

This information applies to Rho 512R, Rho 512R Plus printers of Durst Group AG and should be referred to by the following personnel:

- Durst service engineers (service engineer Durst group)
- General service technicians (service technician distributor)
- Customers and trained customer technicians (before machine is delivered)

1.1.1 Revisions

Edition of the document	What is new?	Editor
01.08.2016	First edition with new layout	Hn
07.08.2017	- New format - add Rho 512 Plus	lw
27.09.2018	- Corrected values for exhaust air - Modified positions of exhaust connections - Modified values for electrical power supply - Modified drawings with new top covering	lw
27.05.2019	Added Durst Workflow and Analytics	lw
09.07.2021	Added: Transformer for US	lw

Tab. 1: Revision index

1.2 Symbols and markers

Symbol	Meaning
	Note for easier or safer work
→	Cross-reference

Tab. 2: Symbols and markers

2 Shipping and transport

2.1 Requirements transport way and machine room

Parameter	Value
Min. door opening height [cm (ft)]	250 (8'3")
Min. door opening width [cm (ft)]	250 (8'3")
Min. space required [m (ft)]	13 x 9 (43 x 30)
Min. needed floor loading capacity [N/cm ² (N/sq.in.)]	20 (130)

Tab. 3: Requirements on installation place

2.2 Dimensions

For the dimensions of the machine parts please see drawings (→ Chapter 4, p. 14) in this document.

2.2.1 Shipping per truck

The machine is vacuum packed and loaded on a wooden pallet.

Parameter	
Length [mm (ft)]	8750 (28'8")
Width [mm (ft)]	2250 (7'4")
Height [mm (ft)]	2395 (7'9")
Weight [kg (lb)]	8500 (18740)

Tab. 4: Crate dimensions for truck load

2.2.2 Shipping per air or sea

The machine is vacuum packed and loaded on a wooden pallet as per ISPM 15. Additionally there are walls and a roof to protect the printer.

Parameter	
Length [mm (ft)]	8750 (28'7")
Width [mm (ft)]	2250 (7'4")
Height [mm (ft)]	2500 (8'2")
Weight [kg (lb)]	9000 (19840)

Tab. 5: Crate dimensions for sea or air freight

2.3 Weight

Printer parts	Weight
Rho 512R, Rho 512R Plus cpl. [kg (lb)]	7500 (16530)

Printer parts	Weight
Rho 512R, Rho 512R Plus cpl. + wooden pallet [kg (lb)]	8500 (18740)
Rho 512R, Rho 512R Plus cpl. + wooden box [kg (lb)]	9000 (19850)

Tab. 6: Shipping weights

2.4 Forklift standard

All necessary equipment to move the unit (Fork lifts, heavy duty rollers, transport rolls, hydraulic jacks) must be supplied by the customer.

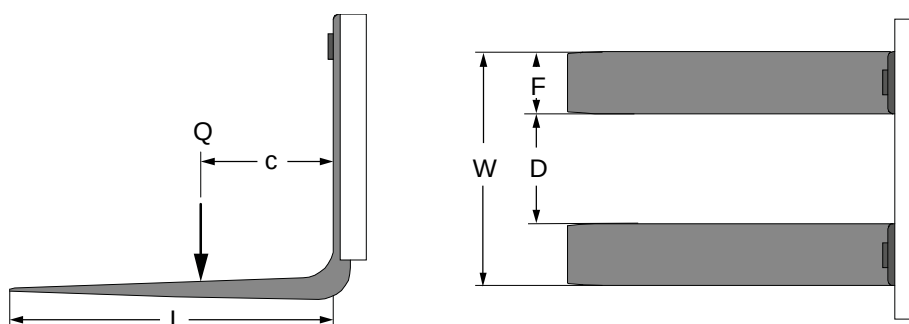


Fig. 1: Fork lift dimensions

Parameter	Value
Capacity [kg (lb)]	12000 (26500)
l (min. fork length) [cm (ft)]	180 (5'10")
w (min. fork dist.) [cm (ft)]	150 (4'10")
f (max. fork width) [cm (in)]	20 (8)
Q/c (min. capacity) [kg/mm]	6000/1000

Tab. 7: Fork lift standards



To handle the unit with any type of crane please contact Durst customer service since special equipment and instructions are needed for it.

2.5 Storage

The lowest storage temperature prior to the installation is 4°C (40°F); the highest storage temperature is 30°C (86°F).

The maximum period of storage depends on the shipping method. Contact Durst Service Department for detailed information.

3 Site requirements

3.1 Printer Mains Power Supply

-  The connection of the Rho 512R, Rho 512R Plus (and the transformer) to the main power must be carried out by an authorized local electrician!
All needed cables and connection parts must be supplied by the customer.
All power cords must be IEC/UL approved!
Use copper cables only!
For USA and Canada: The installation must be done according to NEC requirements.
-  Specification of the power supply cables and the safety switches or devices to match the national electrical safety regulations must be done by an authorized local electrician.
-  An IEC/UL approved master switch to disconnect all phases (Incl. neutral) simultaneously is already mounted on the printer.
-  A backup fuse with the correct rating (see tabs below) must be installed close to the machine.
The backup fuse is not supplied with the machine.
-  It is recommended to install an RCD. (Residual-current-device) The RCD must be:
500 [mA] industrial type - all current sensitive! **(Type B or B+)**
Check this with your local authorized electrician!
-  The Rho 512R, Rho 512R Plus printer is built for fixed main connection only. The power cords must enter the unit in the areas described in the drawings (→ Chapter 0, p. 11) in this document.
-  The Durst system is built for solidly earthed neutral supply systems only.
(European systems TN-S, TN-C, TN-CS or American WYE systems).

Following power supply is required. Mains supply must be available at any time (24/7)!

Parameter	
Phases	3ph+N+PE
Voltage [V]	230 / 400 ($\pm 10\%$)
Frequency [Hz]	50 / 60
Max. power input [kVA]	26
Max. current p. phase [A]	36
Backup fuse (field provided) [A]	60
Conductor size supply cable Rho 512R, Rho 512R Plus [mm ² (AWG)]	5x10 (8)

Parameter	
SCCR value	10KA rms symm.
Max. cable length [m (ft)]	50 (164)

Tab. 8: Main power supply EU - Standard

-  If the local available power supply does not fit to the requirements the customer has to provide equipment to fulfill the needs.
For some mains supplies, transformers can be ordered together with the printer
(→ Chapter 3.2, p. 9)
For questions contact Durst Service Department.

-  If something in electrical installation will be modified after the system was installed, warranty will be void!

3.2 Transformers

The following transformers can be ordered together with the printer.

3.2.1 Autotransformer (available not for US)

-  The autotransformer is built for two different supply voltages – the correct supply voltage must be set during commissioning.
There are no cables delivered together with the autotransformer!

Parameter		
Phases	3ph+PE	3ph+PE
Voltage [V]	208 (± 10%)	480 (± 10%)
Frequency [Hz]	60	60
Max. power input [kVA]	26	26
Max. current p. phase [A]	70	30
Backup fuse (field provided) [A]	80	60
Conductor size supply cable printer [mm ² (AWG)]	5 x 10 (8)	5 x 10 (8)
Conductor size supply cable autotransformer [mm ² (AWG)]	4 x 16 (6)	4 x 10 (8)
SCCR value	10KA rms symm.	10KA rms symm.
Max. cable length [m (ft)]	50 (164)	50 (164)

Tab. 9: Main power supply US – Standard

3.2.2 Isolating transformer (available for US only)

-  No cables are delivered with the transformer.
For questions contact Durst US Service Department.

Parameter	
Phases	3ph+PE
Voltage [V]	208 (± 10%)
Frequency [Hz]	60
Max. power input [kVA]	26
Max. current p. phase [A]	70
Backup fuse (field provided) [A]	80
Conductor size supply cable, between transformer and printer [mm ² (AWG)]	5 x 10 (8)
Conductor size supply, input cable to transformer [mm ² (AWG)]	4 x 16 (6)
SCCR value	10KA rms symm.

Tab. 10: Isolating transformer

3.3 Air supply

Availability of air pressure must be assured at all times (24/7)!

Parameter	Value
Pressure [bar (psi)]	6...8 (87...116)
Max. consumption [l/min (gal/min)]	5 (1.3)
Class	Particle 1, Water 4, Oil 1
Connection type	Coupling standard MIGNON
Location of the connection	Check the drawings in (→ Chapter 4, p. 14) in this document.
Min. hose inner diameter [mm (mil)]	8 (315)

Tab. 11: Air supply specification

3.4 Exhaust

-  To prevent from over temperature problems and to exhaust possible exhalations the installation of a ventilation system must be done.
-  Exhaust tubes, exhaust fans and exhaust pipes are not supplied with the machine and must be organized by the customer. Flanges are delivered with the machine.
Five exhaust tubes must be installed on the top of the machine.
Thermo-insulation on the exhaust tubes is recommended.

Parameter	Value
Performance of air on machine output [m³/h (cu.ft/h)]	Min. 2000 (71000)
Connection diameter of exhaust tubes [cm (in)]	6 x 15 (6)
Location of the connection	Top of the machine. Check drawing in this document (→ Chapter 4.2).

Tab. 12: Ventilation

3.5 Environment conditions

Parameter	Value
Max. altitude (Above sea level) [m (ft)]	2400 (7870)
Temperature range [°C (°F)]	15 - 30 (59 - 86)
Relative air humidity [%]	25 - 80 non-condensing
Ventilation [m³/h (cu.ft/h)] fresh air needed at input of machine room	Min. 2000 (71000)

Tab. 13: environment conditions



It is strongly recommended to install an active air conditioning system on the printer side of the installation place.

3.6 Workflow workstation and network connection

3.6.1 Network topology

Refer to the following diagram for the setup of the local network and the specification of the used network components.

Main requirements:

- Internet access on all computers to be able to do remote support.
- All network components between Durst Workflow and the printer workstation must have a data transfer rate of 10Gbit/s. Alternatively there can be a direct connection between Durst Workflow and printer workstation to protect the LAN from a lot of data transfer.
- Network specialist must be available during the installation to perform connections to the local network and for the internet connection.

Parameter	Value
Network cable specification between Durst Workflow and printer workstation (cables are not supplied with the printer)	Cat6
Data transfer rate of network components for connection via LAN (switches,...)	10Gbit/s

Parameter	Value
Number of needed IP addresses	3

Tab. 14: Network specification

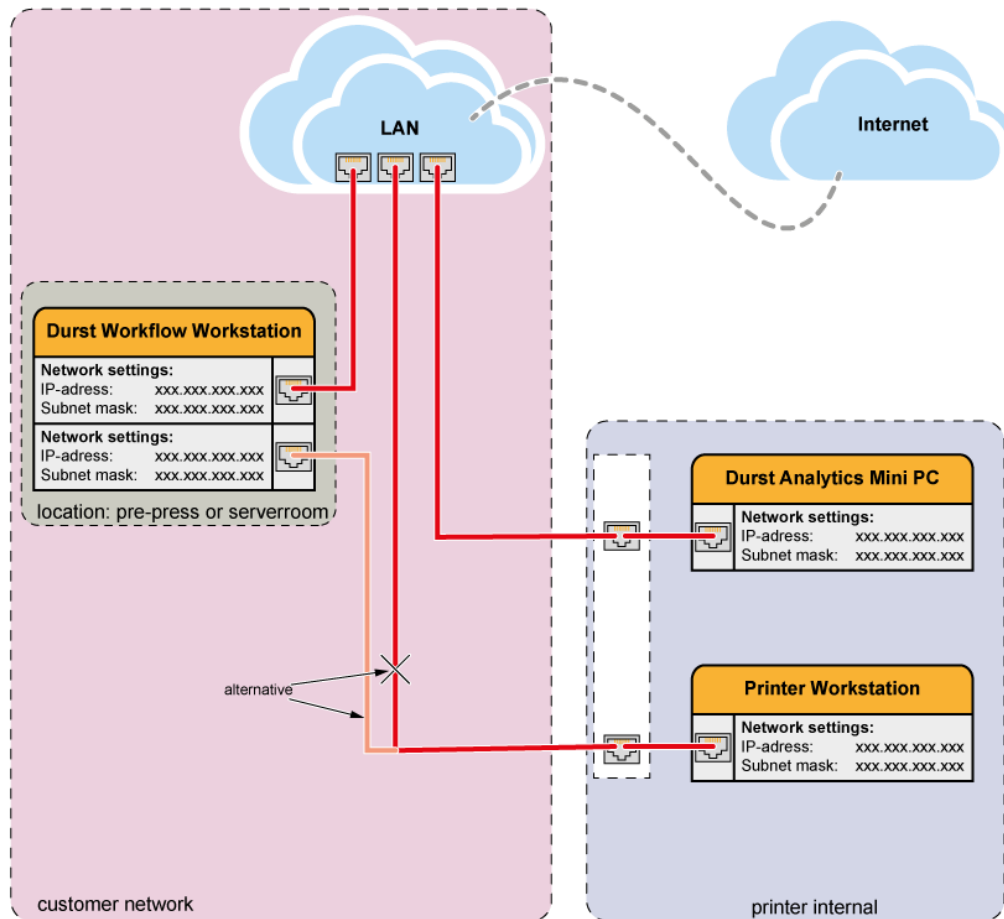
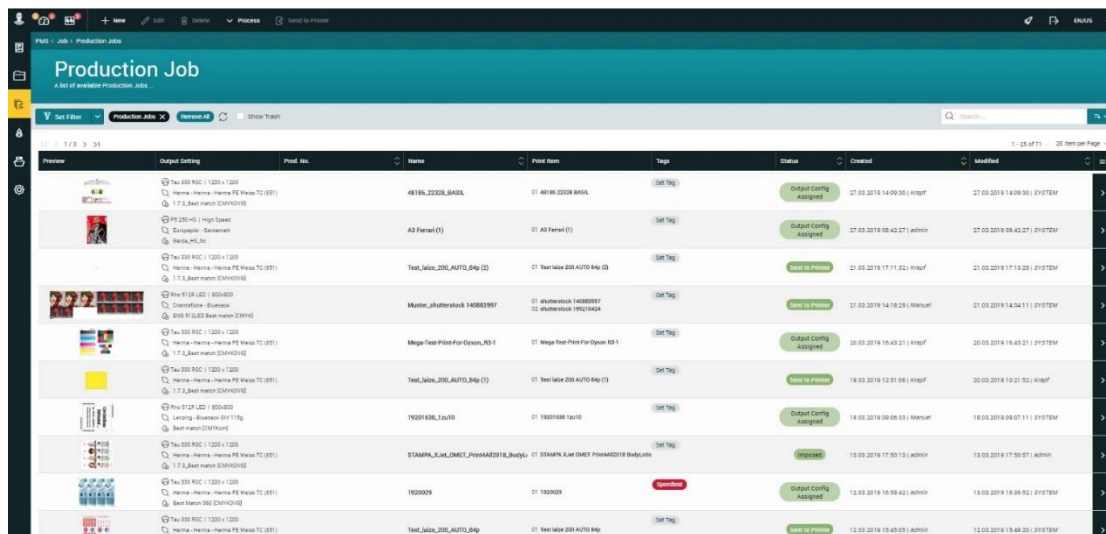


Fig. 2: Network topology

3.6.2 Durst Workflow



The screenshot displays the 'Production Job' interface of the Durst Workflow software. It features a table with columns for 'Preview', 'Output Setting', 'Prod. No.', 'Name', 'Print Item', 'Tags', 'Status', 'Created', and 'Modified'. The table lists several production jobs, including '4816L_220208_BA08L', 'A3 Farnell (1)', 'Test_Label_200_AUTO_Bsp (2)', 'Master_Whiterack 140881997', 'Mega Test Print For Cyan K9-1', 'Test_Label_200_AUTO_Bsp (1)', '19001608_12x10', 'STAMPPL_KLM_OSET_PhysAA02018_BodyK9', '1900029', and 'Test_Label_200_AUTO_Bsp'. Each row shows the job's status (e.g., 'Output Config Assigned', 'Good to Print', 'Good to Finish', 'Good to Print', 'Good to Print', 'Good to Print', 'Good to Print', 'Good to Print', 'Good to Print', 'Good to Print') and the user who created or modified it (e.g., 'Kropf', 'Admin', 'Manuel', 'Kropf', 'Manuel', 'Kropf', 'Manuel', 'Admin', 'Kropf', 'Admin').

Fig. 3: Durst Workflow

Durst Workflow software is responsible for file preparation. A separate workstation is delivered with every printer, where the software is installed.

The software has a web-based user interface that can be accessed from any computer in the local network via a browser (Google Chrome). It is recommended to install the Durst Workflow workstation (tower, monitor, keyboard and mouse) in the prepress department or in a server room.

3.6.3 Durst Analytics



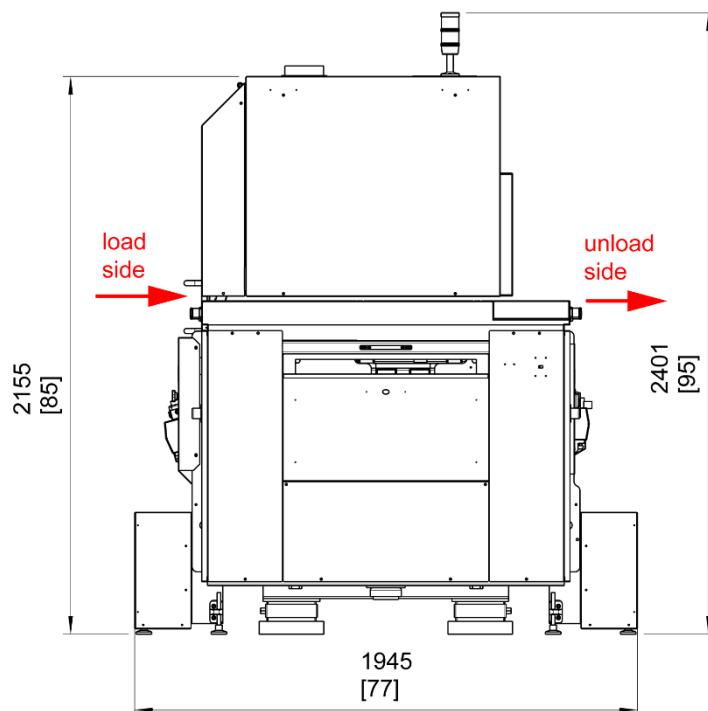
Fig. 4: Durst Analytics

The Durst Analytics is a system that analysis the status and productivity of the printer. The mini PC for the data preparation is located inside the printer.

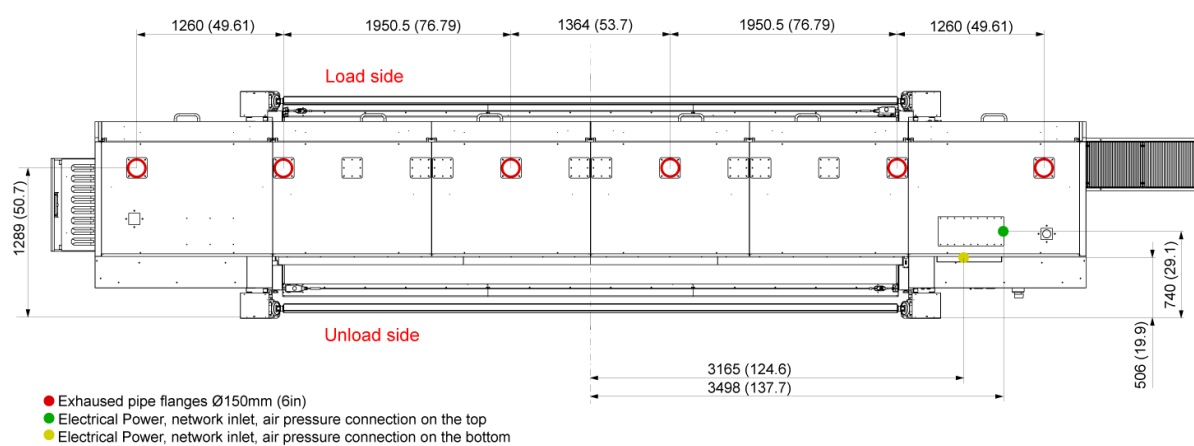
The prepared and anonymized data can be accessed in the local area network via a web browser. On an active internet connection, the data is also forwarded to central Durst Analytics Server which is located at Durst Phototechnik AG in Brixen.

4 Dimensions / space requirements

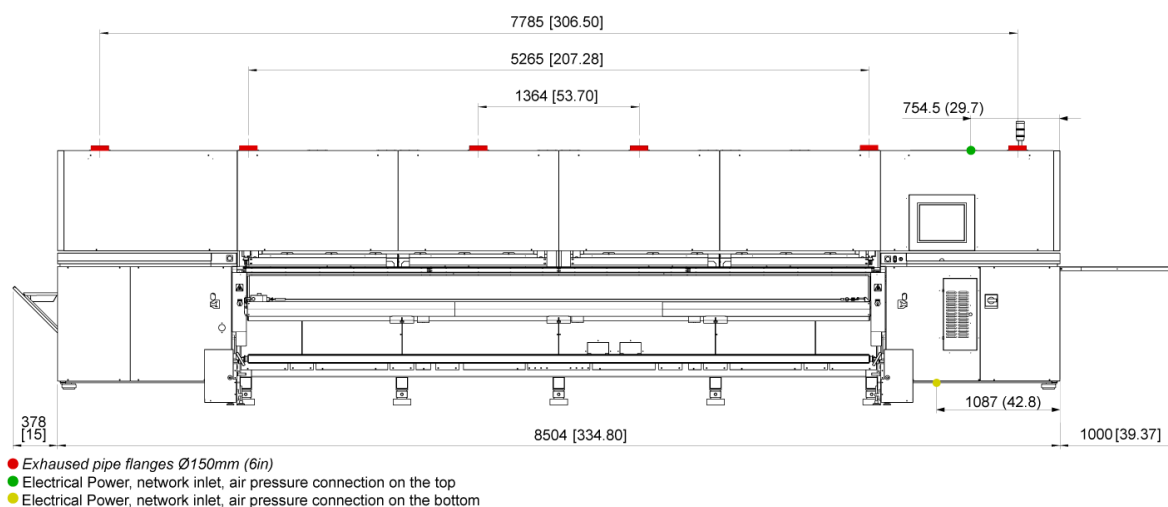
4.1 Side view



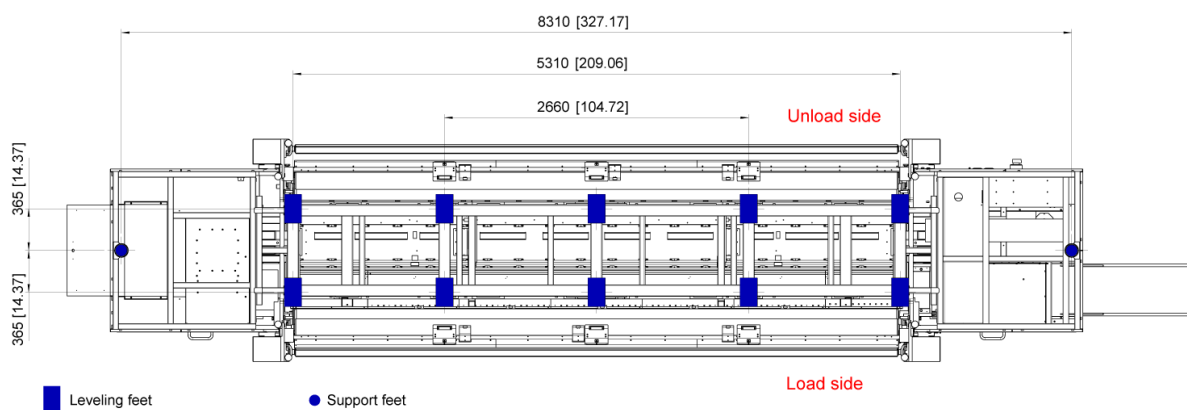
4.2 Top view - Exhaust pipe flanges



4.3 Rear view - Connection points



4.4 Bottom view – Leveling points



5 Health and safety at work

For some work during installation and maintenance platforms and ladders must be used. These utilities must be provided by the customer and must fulfill national safety regulations.

For safety reasons during installation it might be necessary to create a barrier around the machine to avoid persons to access to the machine area.
The customer has to provide warning tape and pillars to have the possibility to separate the machine area.

Persons which support Durst staff during installation or maintenance work must be qualified for this kind of work and must wear adequate PPE (personal protective equipment) following to national safety regulations.

The customer must announce a person which is responsible for safety related issues and questions and can be contacted by service staff if necessary.
For emergency cases the national emergency number (e.g.112) must be announced.

Responsible safety contact person

Name:.....

Telephone number:.....

National emergency number:.....

Place, Date:.....

Signature Customer:.....

6 Acceptance



All dimensions in English and Imperial units are without guarantee!

The latest technical developments are constantly being incorporated into Durst products. Illustrations and descriptions are therefore subject to modification.

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The buyer herewith confirms to the seller that he has read attentively the Pre Installation Guideline for the implementation of the installation of the printing machine. Buyer shall be obliged to arrange before or at the latest until the delivery date of the printing machine all the preparatory measurements mentioned in this Pre Installation Guideline.

In addition, the buyer herewith declares that the responsibility for the preparatory measurements rests solely on the shoulders of himself. The seller shall neither assume any responsibility nor liability if the buyer fails to fulfil the preparatory measurements.

6.1 Confirmation of preparation

Especially following preparations must be done until the installation date:

- ☐ Min door opening between unloading area and installation place appropriate
- ☐ Floor level and space requirement at installation place appropriate
- ☐ Fork lift available / organized
- ☐ Electrical power supply / authorized electrician for installation available
- ☐ Compressed air supply available
- ☐ Exhaust system available
- ☐ Ethernet network connections and IP addresses available
- ☐ Ink ordered for installation

Special notes

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Distributor info

Distributor Name:

Sales Person:

Customer info

Company name:

Street:

City, State, Country:

1st contact person:

Phone:

E-Mail:

Web:

Place, Date:

Signature Customer:

Signature Distributor:



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