

TECHNICAL DATA SHEET

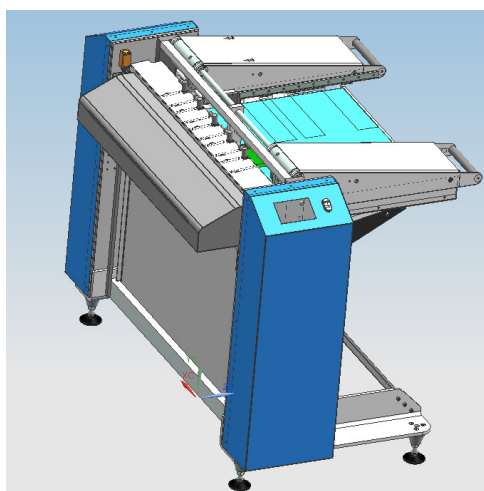
/// TPF550 LT

Revision 05 /// 26 March 2021

INTRODUCTION

This datasheet provides key technical parameters for BDT's **TPF550 LT** Independent Pile Feeder

The Independent Pile Feeder is designed specifically to address the challenges of the wide media range to be handled in the digital print and finishing industry. Using BDT's Tornado technology, the widest range of media types, surfaces and Format geometries can be handled automatically with no media specific mechanical adjustments, and no compressed air.



TPF 550 LT



/// Imprint

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Release 2.0 Peter Kearney Product Management Tornado Products

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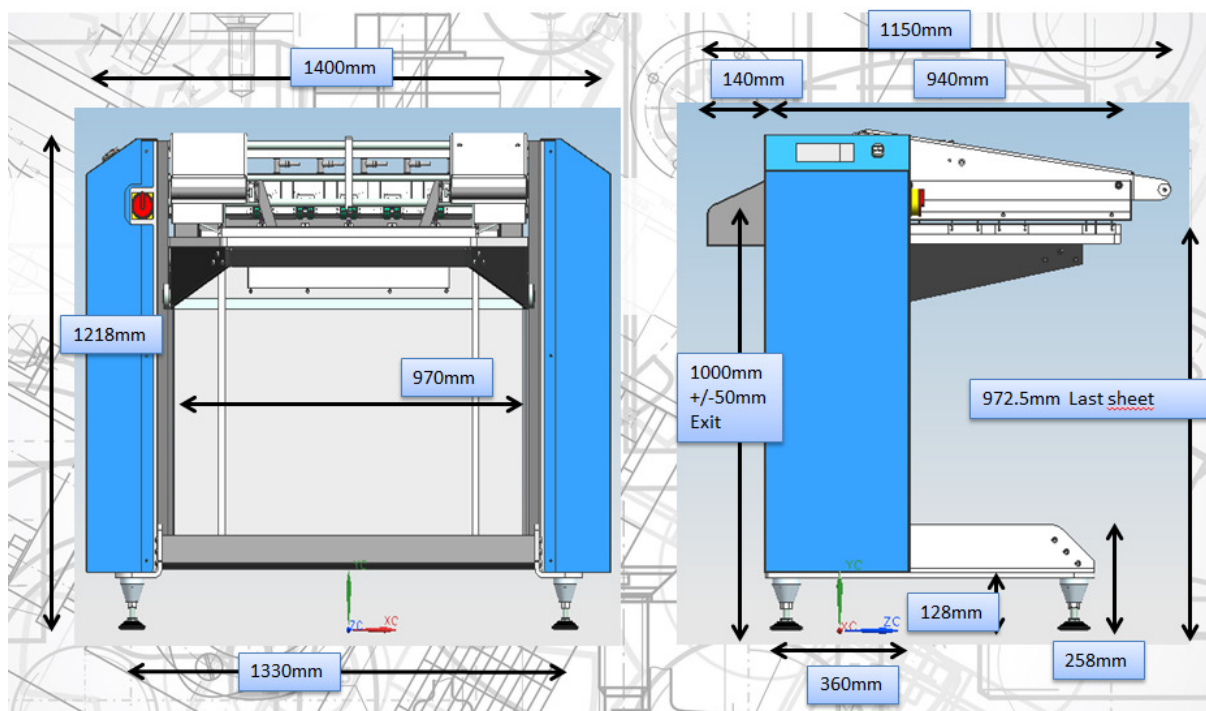
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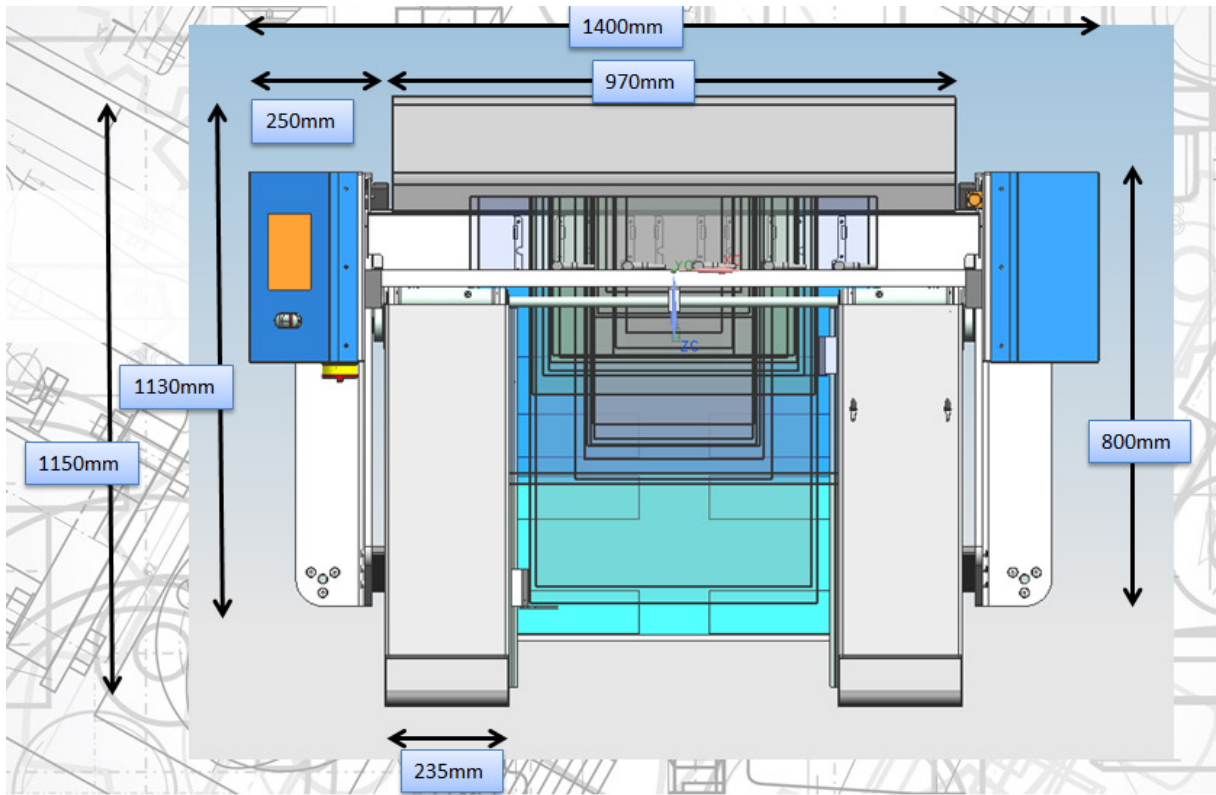
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BASE PRODUCT DIMENSIONS

Length in transport direction:	1150 mm
Width :	1400 mm
Height :	1220 mm
Media Exit Height :	1000 mm +/-50mm





MASS

TPF550 Feeder : Approx. 300kg

TRANSPORT SPEED (Host Process)

In current applications :	up to 3,0 m/s
Speed is adjustable in a range to:	0-3,0 m/s
Max. acceleration (+/-)of the Tornado belt drive:	up to 2 m/s ²

TRANSPORT POSITION RESOLUTION (e.g. Staging)

TDM Module with Encoder: ~28 steps / mm. (1/2000 revolution/step)

NOISE LEVEL (rating @ 90gsm A4 media, 0,4m/sec process speed)

Depending on the required Tornado impeller speed, from approx. 50 dB (A) to 78 dB (A)

OPERATING CONDITIONS

Temperature range: 17°C – 32°C

Humidity range: 20% - 70% R.H. (no condensation)

The time to attract a media at a distance depends on the media weight and the distance.

System is designed for low dust environments. Special applications / environmental conditions should be tested and proven by the customer.

MEDIA

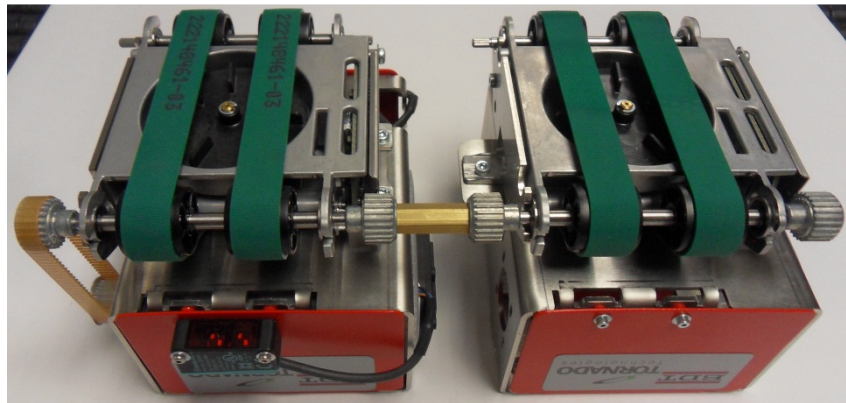
Graphics/Publishing	Coated Uncoated Offset Specialty Label stock Other
Packaging	Paperboard C1S, C2S Virgin, recycled Metallised Microfluted
Max. width orthogonal to transport :	550mm
Min. width orthogonal to transport:	180mm
Max. length in direction of transport:	Standard table 750mm
Min. length in direction of transport	210mm
Guideline Min. Media weight**: (coated & uncoated)	67gsm 3pt 45lb text
Guideline Max. Media weight (example graphics cover)**:	450gsm 18pt 150lb
Guideline Max. Media weight (example packaging Trucard Gloss)**:	600 micron

Notes:

** weight/m² values are examples of media types that have been running in the Tornado Feeder of the HP Indigo 10000, and 30000 machines. As the relationship between thickness and weight is not fixed, and many exotic or specialty stocks are coming onto the market, it should be noted that the Tornado Feeder technology can also handle heavier stocks. This should be tested by the OEM partner or Integrator for a desired media set.

PREVENTIVE MAINTENANCE

Design Lifetime of Tornado and Side Blower Modules is designed for one year (24/7/365) of nonstop production, or approx. 8700 operating hours under specified environment (21 °C / 50% R.H.) without maintenance. The modules can be unscrewed & swapped out easily to avoid any downtime in production. The belts are available in a spare part kit and can be replaced. All the belts should be replaced at the same time.



Depending on the transported media and the operating environment, it may be necessary to clean the transport belts in case of a build-up of dust or dirt on the belts, as this may affect the maximum transport speed / acceleration. All optical Sensors to be cleaned on a regular basis according to the instruction in the User & service Manuals.

CERTIFICATES

No standalone certificates yet available (OEM requests to be evaluated on a case by case basis)

- RoHS – compliant materials is the design target
- CE compliant materials and design – Declaration of Incorporation on request.
- UL listed and compliant materials

Information about materials safety certificates can be supplied on request.

ELECTRICAL REQUIREMENTS

The Feeder has a three phase connector for connection to a 3-phase star net.

Input voltage: 400VAC/ 230VAC +/- 10% (3 wires+N+PE)

Internal Voltages are synthesized by the Feeder.

Frequency: 50/60Hz

Input power: 2,2kW

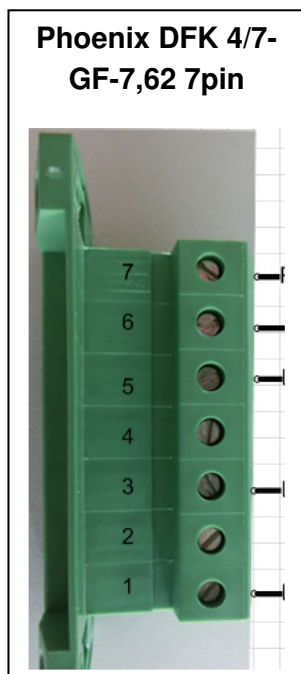
Input current: 3,5A AC

Leakage current: < 40mA

Back up fuse: 16A

Grounding: M6 bolt will support additional grounding of the feeder frame.

Power connector: Phoenix Combi Con PC 4/7-ST-7,62 with hood KGG-PC 4/7-F



Pin	Line
1	L1
2	nc
3	L2
4	nc
5	L3
6	N
7	PE

SAFETY CIRCUIT

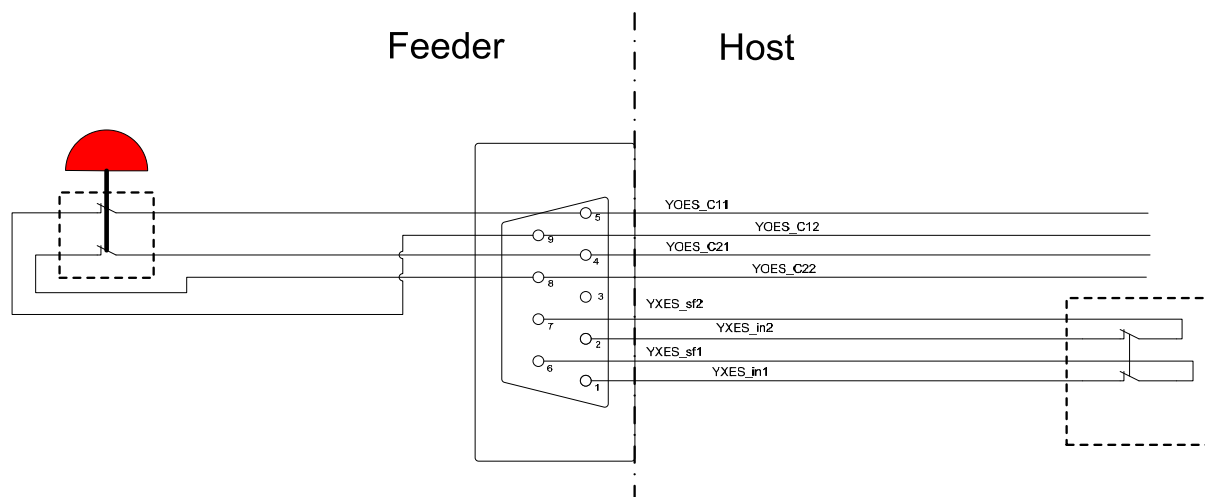
The feeder motion elements can be disabled by a host emergency stop system.

A 9-pin female D type connector @ the feeder provides access to a double pole safety path.

The two lines shall be connected to dry contacts at the host.

Diverging feedback of the two poles will be handled as safety error.

The feeder provides an emergency button, for intergration into a Host emergency stop system. The activation of this butten has to deactivate the safety path (YXES_xxx) without delay.

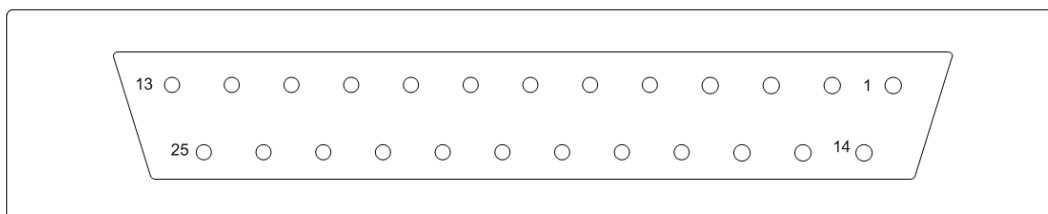


Pin	Signal	Note
1	YXES_in1	Pole 1
2	YXES_in2	Pole 2
3	nc	
4	YOES_C21	Emy Button Chanel 2
5	YOES_C11	Emy Button Chanel 1
6	YXES_sf1	Pole 1

CONTROL (Note Update to TCP/IP, CAN on Request)

The feeder is equipped with 25 pin female D type connector to connect digital control lines to a host.

Pin	signal	Signal direction	Note
1	IXY0	In	Goto Standby
2	IXY1	In	Feed sheet
3	IXY2	In	Future use
4	IXY3	In	Future use
5	IXQ0	Out	Online
6	IXQ1	Out	Error (abnormal condition)
7	IXQ2	Out	Feeding
8	IXQ3	Out	Multipick
9	IXQ4	Out	Tray empty
10	IXQ5	Out	Paper low
11	n.c.		
12	nc		
13	GND		
14	GND		
15	GND		
16	GND		
17	GND		
18	GND		
19	GND		
20	GND		
21	GND		
22	GND		
23	GND		
24	n.c.		
25	24V DC	Out	



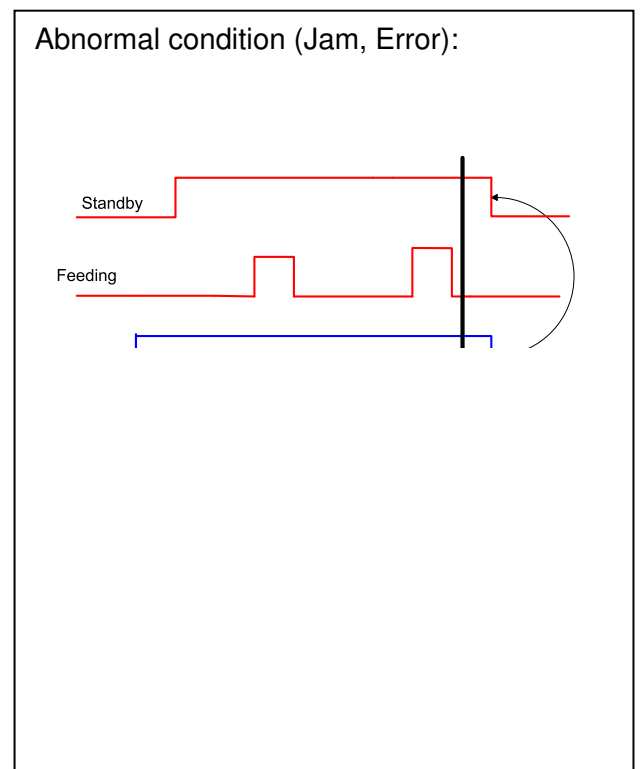
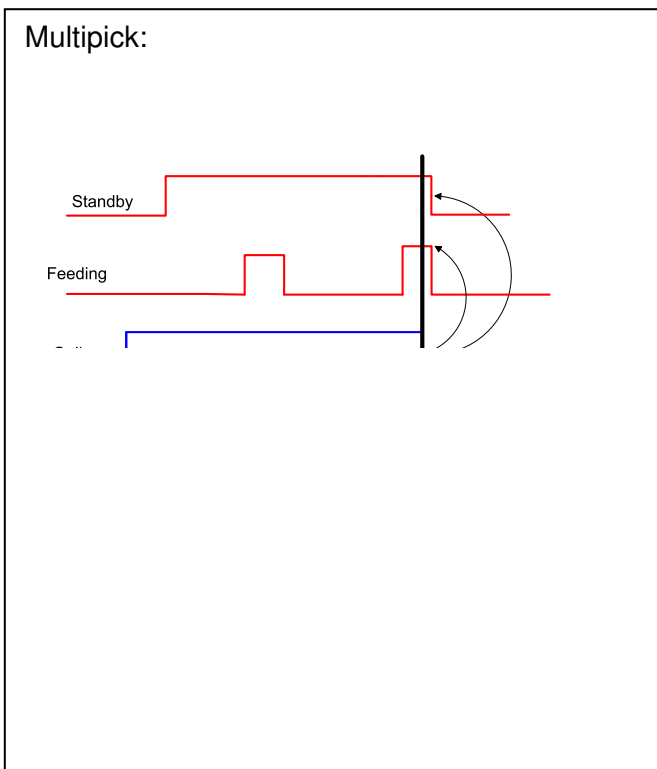
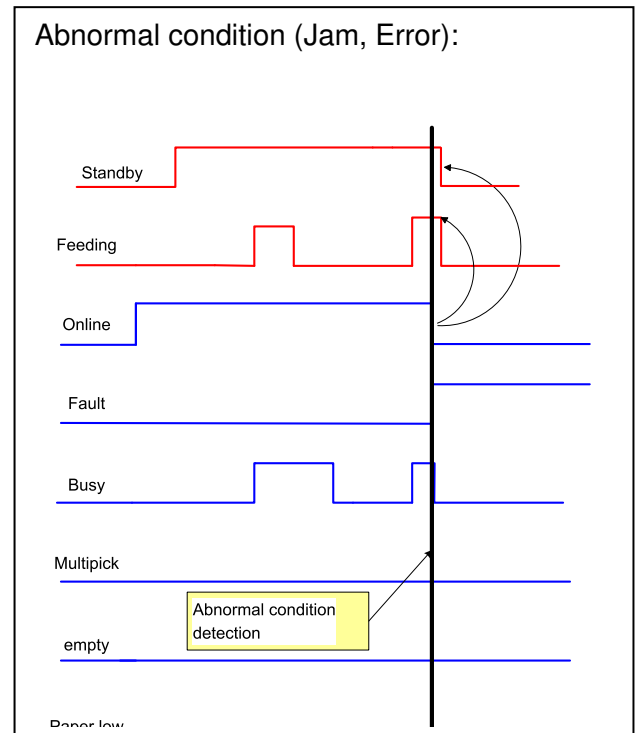
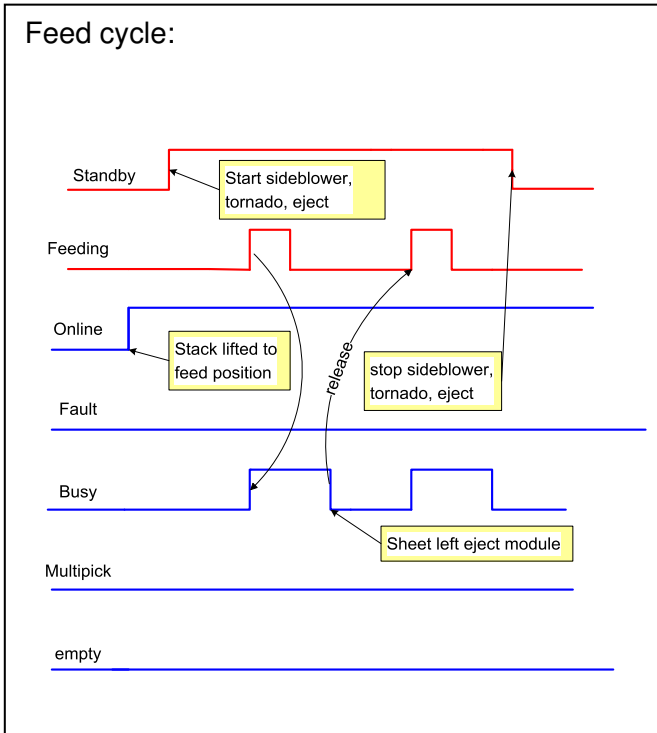
Signal Specification:

Feeder input signals		
Low signal "0"	-2 .. 4	V
High signal "1"	1628	V
Input current	3 (typ)	mA
Feeder output signals		
Low signal "0"	-1 .. 3	V
High signal "1"	18....27	V
Output current	250(max)	mA

Signal description:

Signal name	Signal level	Function
(Goto Standby	1	Feeder starts Sideblower, Tornado and eject drive → ready to feed sheets
	0	Feeder stops Sideblower, Tornado and eject drive
Feed sheet	1 (pulse)	Feeder feeds on sheet per pulse; Pulse width 100-150ms
Online	1	Stack is in Feedposition
Error (abnormal condition)	1	Abnormal condition detected by Feeder
Feeding	1	1: Feed cycle started 0: sheet released from Feeder
Multipick	1	Seperation of two or more sheets detected
Tray empty	1	Tray empty condition detected

Sequence of control signals:



Revision history

Technical Data Sheet for:

TPF 550 LT

Version	Date	Name	Description
01	05 March 14	P. Kearney	Initial version
02	10 March 14	P. Kearney	Added new electrical values
03	02 April 14	P. Kearney	Changes for TPF 550 Values
04	08 April 14	P. Kearney	Dimensions added to drawings
05	26 March 21	B. Thieringer	Added new logo