

DRAFT
Specification of JPL-2580BA-KHM

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I. Scope of Document

- This document describes the specification of loading unit JPL-2580B, for use in CD/DVD players with KHM313 traverse unit - incl. OPU - mounted and loader cables attached.
- The provisions of this document may be altered upon agreement between both parties.
- If any disagreement should arise, these two parties shall meet in good faith to resolve the problem.
- Within the range of these specifications, parts are subject to change without notice for technical improvement.
- Please be sure to observe the following each time you deliver your finished and/or semi-finished products containing the loaders. Otherwise, StreamUnlimited may not be able to assume responsibility.
 - *Always use the loaders within conditions given in the specification.*
 - *Never apply additional process to the loader.*
 - *Make sure that a finished product containing SUOS loader is in compliance with the rules and regulations for spurious radiation.*
 - *Measure leak laser output from a finished product containing the loader and make sure that the finished product is in compliance with applicable requirements.*

2. General Specification

2.1. Mechanical Specification

2.1.1. Outside dimensions: refer to attachment 7

2.1.2. Weight: 430g

2.1.3. Operating position: horizontal

The loader must operate within the following range with reference to the Horizontal level.

Horizontal: 10°

Vertical: 10°

2.1.4. Color: Black base, aluminum tray shell and grey plastic tray

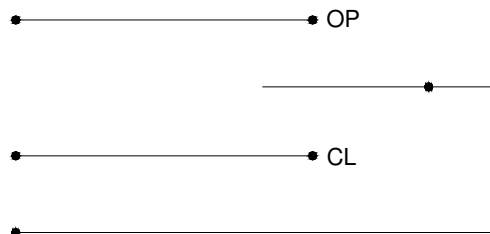
2.1.5. Loading tray stroke: 130mm

2.1.6. Disc chuck method: magnetic clamping

2.2. Electrical Specification

2.2.1. Tray loading motor: RF-300C-11440B

2.2.2. Leaf switch

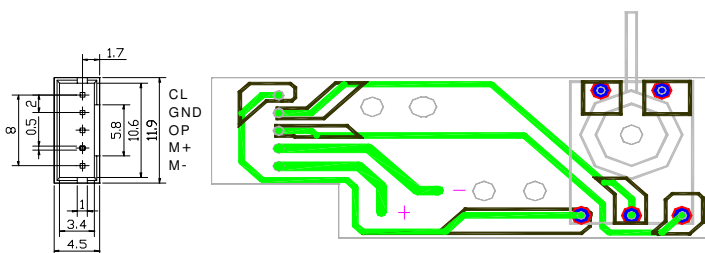


2.2.3. Operating voltage: 4.0±0.8V

2.2.4. Access time (single stroke): ≤1.5s (applied voltage 5V)

2.4.5. Current consumption: ≤150mA (applied voltage 5V)

2.4.6. 5-pin socket layout



5P(2.*5)插座尺寸图

3. Evaluation Condition

3.1. Operating position: horizontal

3.2. Evaluation Environment: Temperature: 22°C ± 2°C
 Rel. Humidity: 60% ± 5%

If no doubt occur in evaluation, the following conditions shall be acceptable

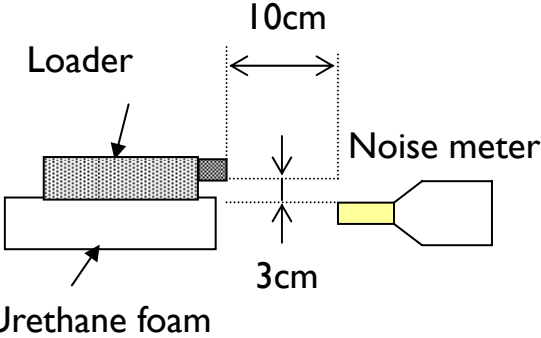
Temperature: 15°C~35°C
 Rel. Humidity: 45% ~ 85%

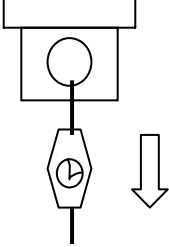
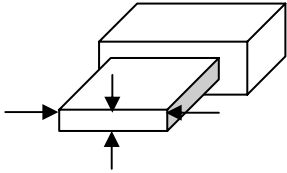
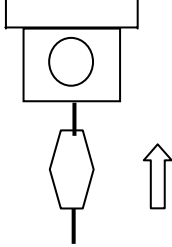
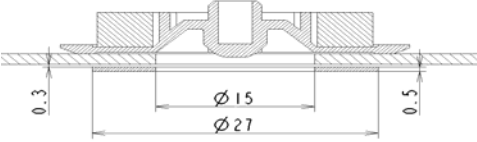
3.3. Loading voltage: 4.5V ± 0.8V

3.4. Test equipment: Standard 8cm and 12cm test-disc, thickness 1.1mm~1.5mm

4. Characteristic Specification

4.1. Mechanical initial performance specifications

Item	Standard	Remarks
Disc slant	Disc and clasper shall not come in contact with other parts	Philips Vertical Deviation Disc 710409924974 (12cm) Philips Skew disc 0.6° 710409928262 (8cm)
Loading/unloading noise	70dB (A) or less There shall be no ticking noise (e.g. from 1 or more damaged tooth of a gearwheel)	Noise meter: t.b.f. Background noise 30dB or less For the measurement put the loader on an urethane foam and measure 10cm in front of tray. Refer to below picture  <p>The diagram illustrates the noise measurement setup. A loader is placed on a block of urethane foam. A noise meter is positioned to the right of the loader. A horizontal double-headed arrow indicates a distance of 10cm between the front edge of the loader and the noise meter. A vertical double-headed arrow indicates a height of 3cm from the top surface of the urethane foam to the microphone of the noise meter.</p>
Disc movement	Tilt the loader 10° from the horizontal position and perform open close movement. The disc must not dislocate from	

Item	Standard	Remarks
Disc movement	the tray recess area	
Tray pull-out force	With tray open apply the force of 80N in the open direction and the tray must not come loose nor any breakage appear.	Measure at the center of the tray using a push pull gauge 
Tray rigidity	With tray open apply the force of 60N in any direction perpendicular to the tray movement near the tray tip and the tray must not come loose nor any breakage appear.	
Push-to-close force	With tray open apply the force of 5N in the close direction on the left 1/3 of the tray front and the tray switch will shift from OPEN to MOVING position	Measure at the center of the tray using a push pull gauge 
Disc clamping force	Using a sheet of iron with an outer diameter of 27mm, a hole diameter of 15mm and a thickness of 0.5mm, a 0.3mm crevice is given, put a disc with 1.2mm thickness and the pull off force of the clamber in z-direction shall be 1-2N	Subtract the mass of the disc and clamber from the measured value 
Rattling	Load an unbalanced disc with 10gmm and apply a DC voltage to the spindle motor, no rattling must occur for disc rotation up to 35Hz	

5. Reliability Specification

5.1. Temperature

- 5.1.1. Operating at high temperature: 60°C during 4 hrs
- 5.1.2. Operating at low temperature: -5°C during 4 hrs
- 5.1.3. Storage at high temperature/dry heat: 70°C, 96hrs, recovery 4 hrs at 22°C
- 5.1.4. Storage at low temperature: -25°C, 24hrs, recovery 4 hrs at 22°C

5.2. Vibration

- 5.2.1. Swept vibration (logarithmic) 10Hz-30Hz-10Hz: displacement 0.75mm, sweep speed: 1 oct/min, 5 cycles each in x-, y- and z-direction *
- 5.2.1. Swept vibration (logarithmic) 30Hz-55Hz-30Hz: displacement 0.2mm, sweep speed: 1 oct/min, 5 cycles each in x-, y- and z-direction *

* the time T (mins) for one full cycle is given by

$$T = 6.64 * \log(f2/f1)$$

f2 upper limit frequency

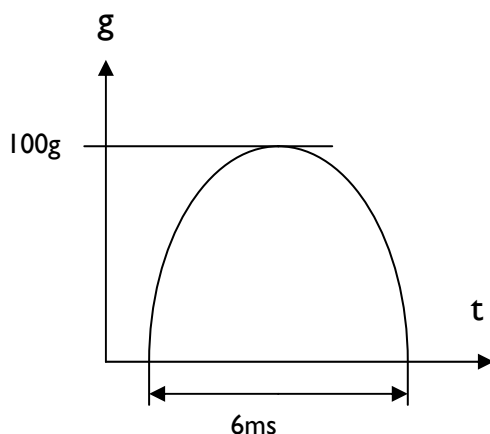
f1 lower limit frequency

5.3. Lifetime

- 5.3.1. Tray Open/Close cycles at room temperature: 50000

5.4. Shock

- 5.4.1. Mount the loader in shock mounting jig and apply 100g (980m/s²) for 6ms in each of the 6 directions.

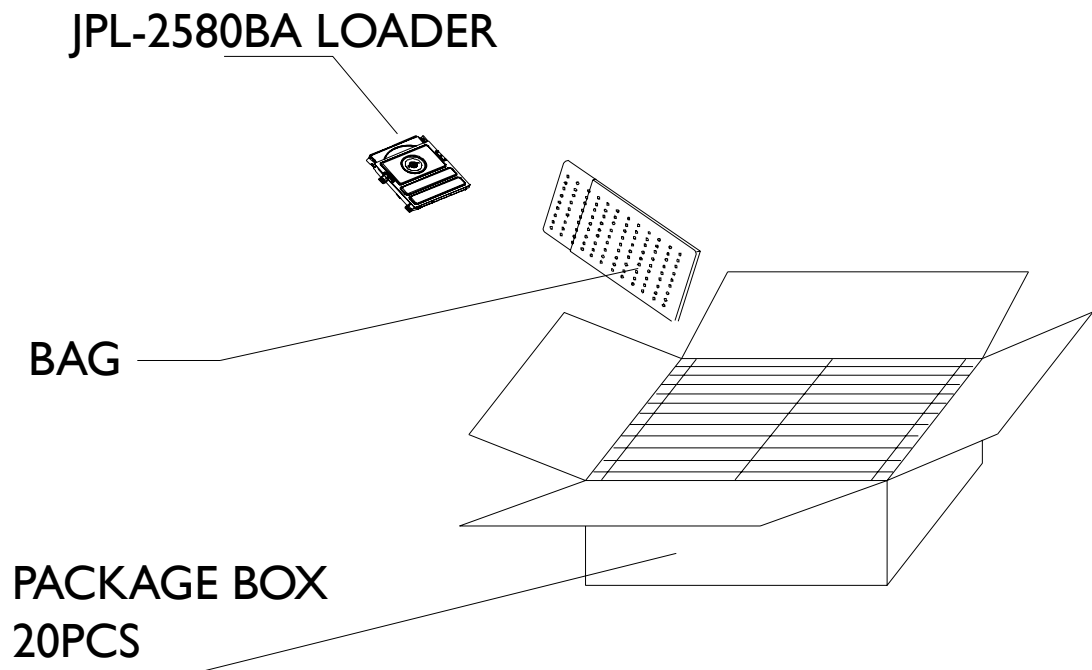


5.5. Drop test

5.5.1. Fall of packaging box on each of the 6 faces: 80cm;
3 corners and 1 edge fall: 60cm

6. Packaging Specification

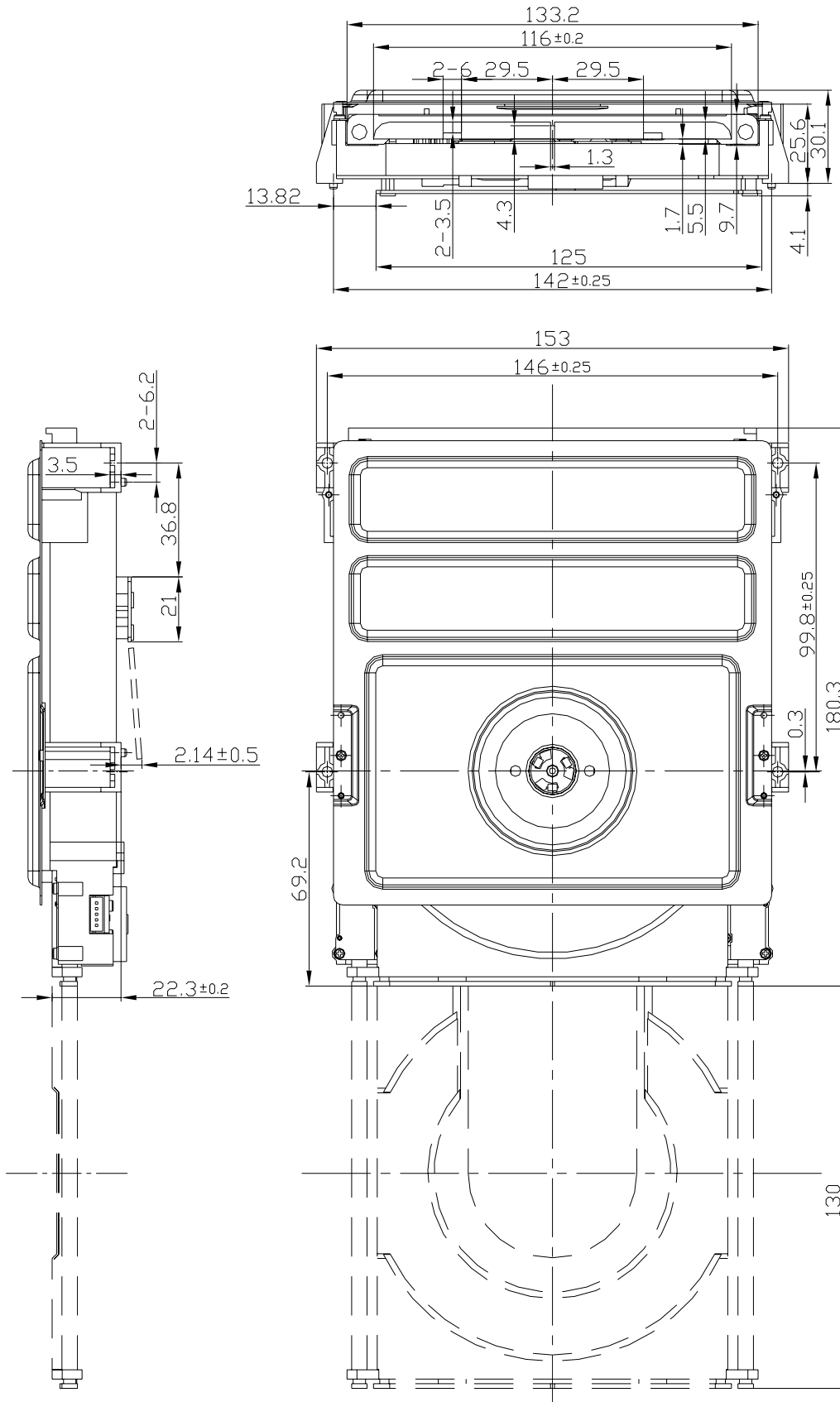
There are 20 PCS Loader in every package box , every loader is put into a protectice bag. Make sure to avoid be strong impact in transports and load/unload.

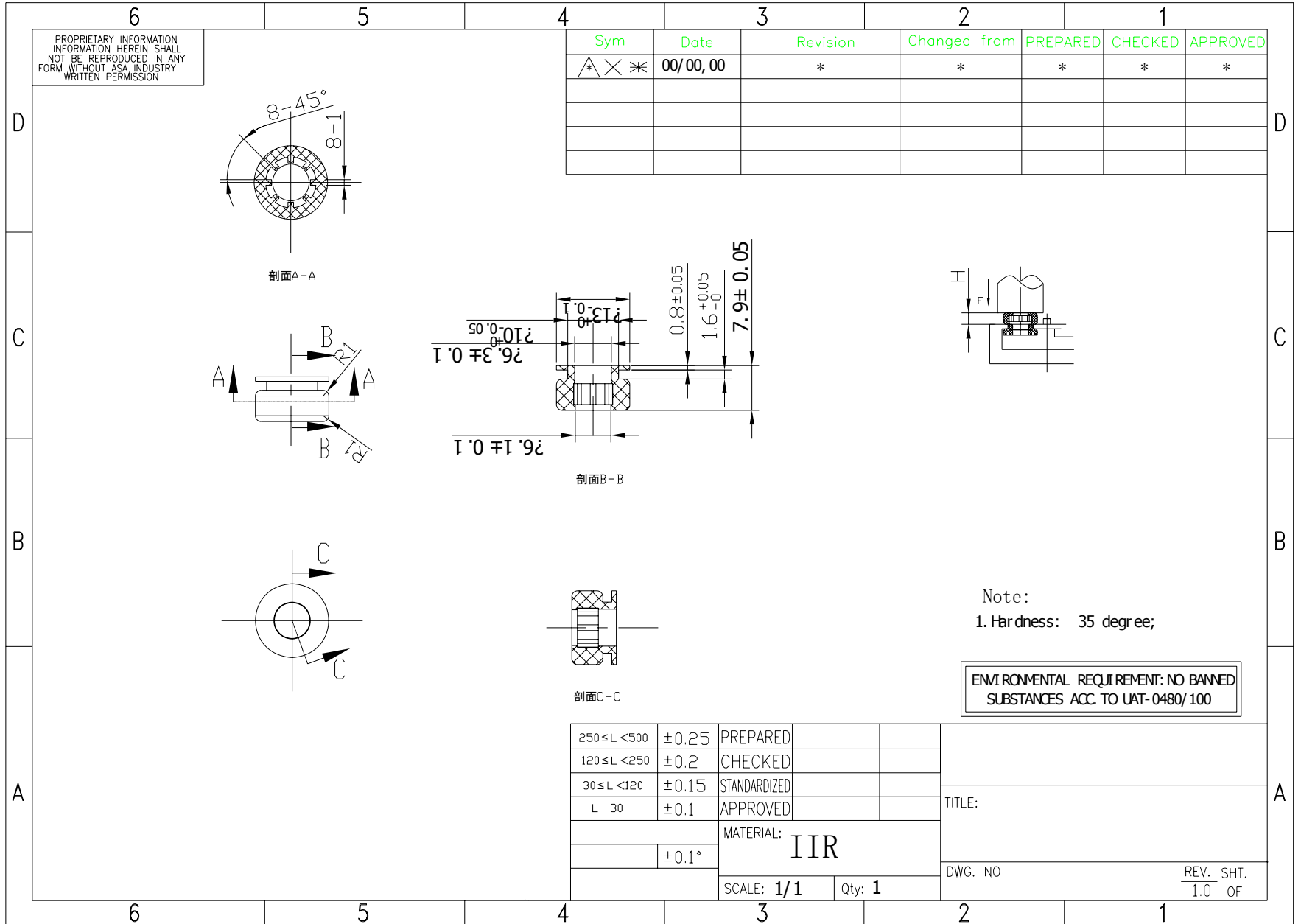


Carton dimension(mm): LxWxH=470x425x180

7. Attachments

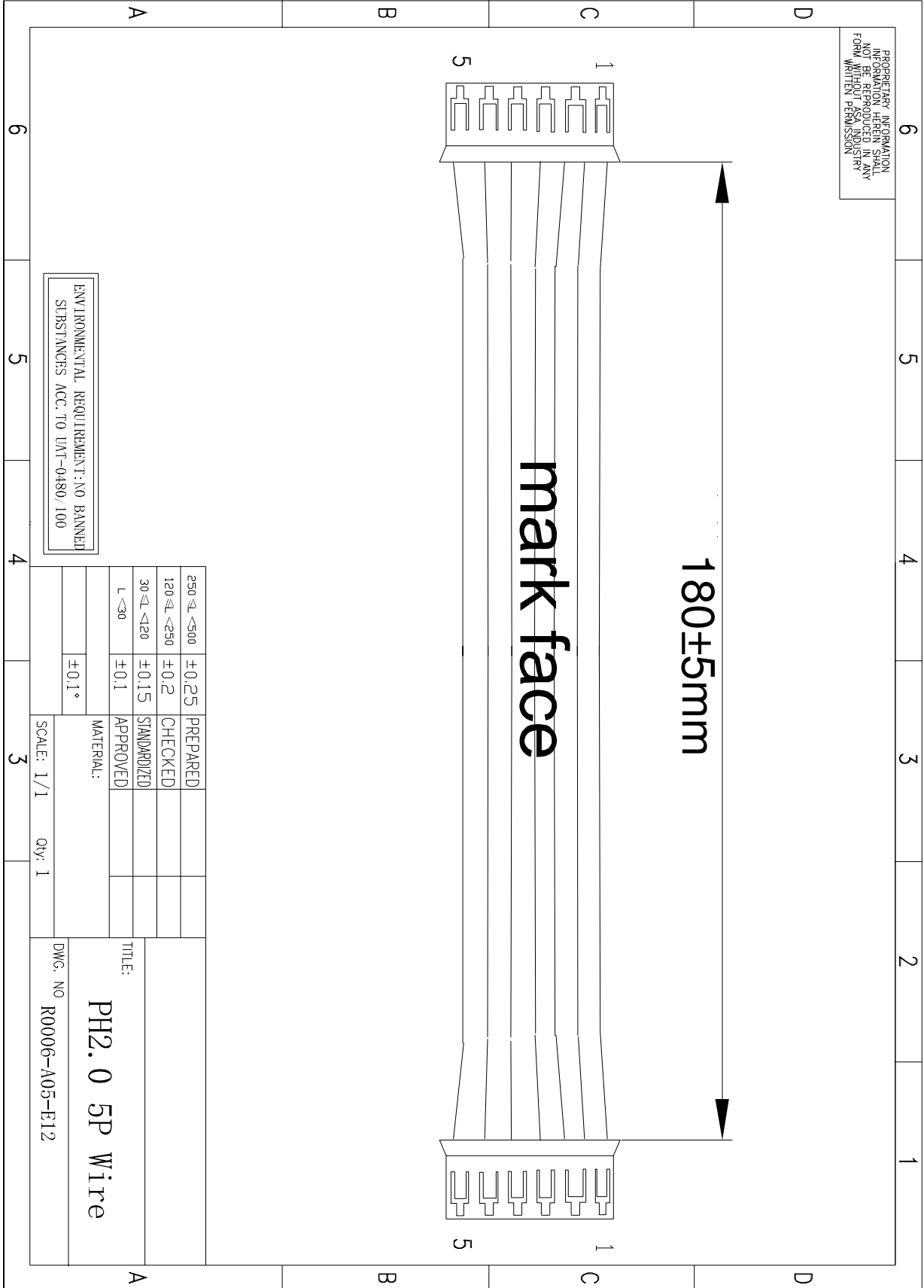
7.1. JPL-2580BA loader layout



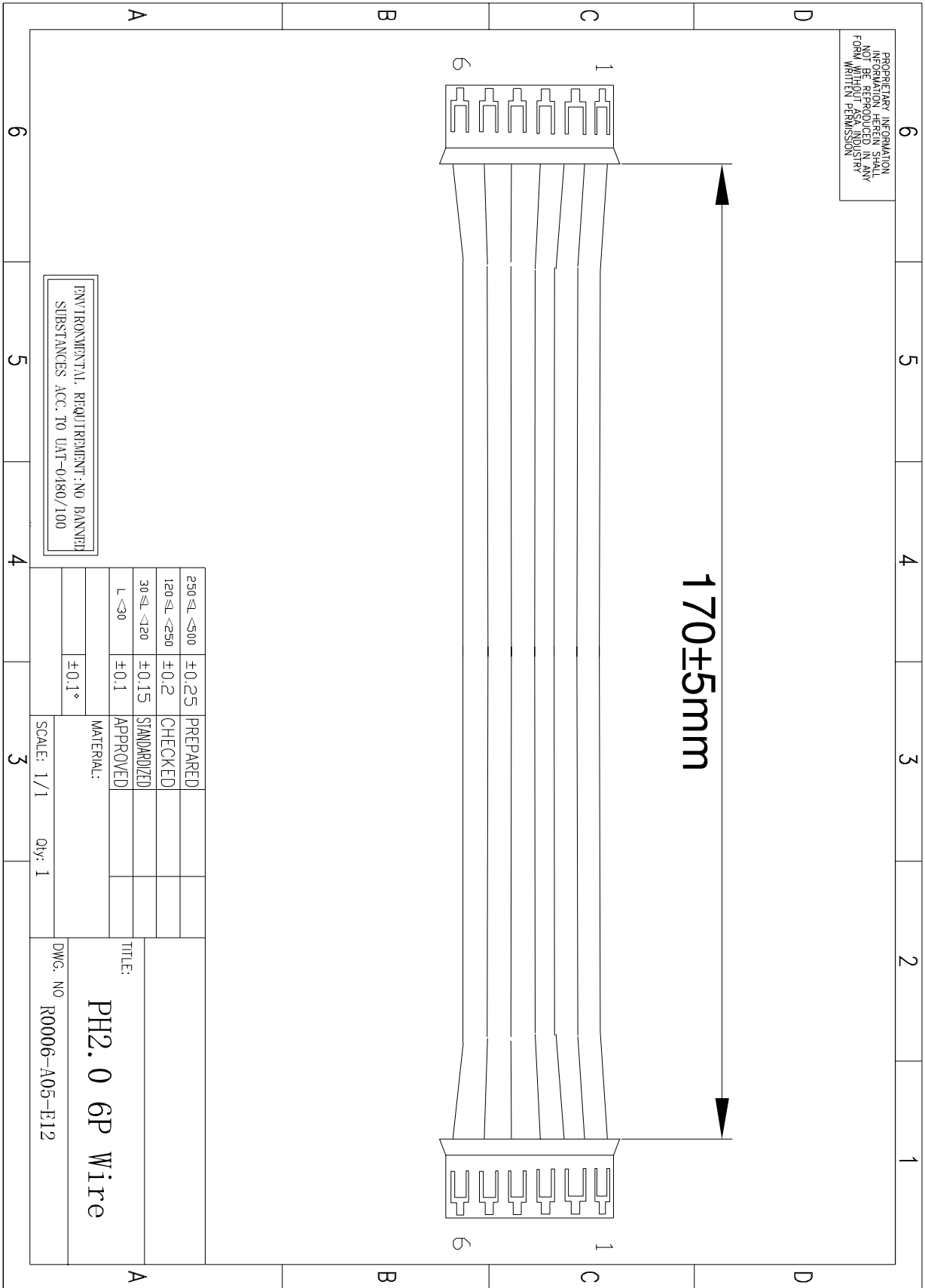


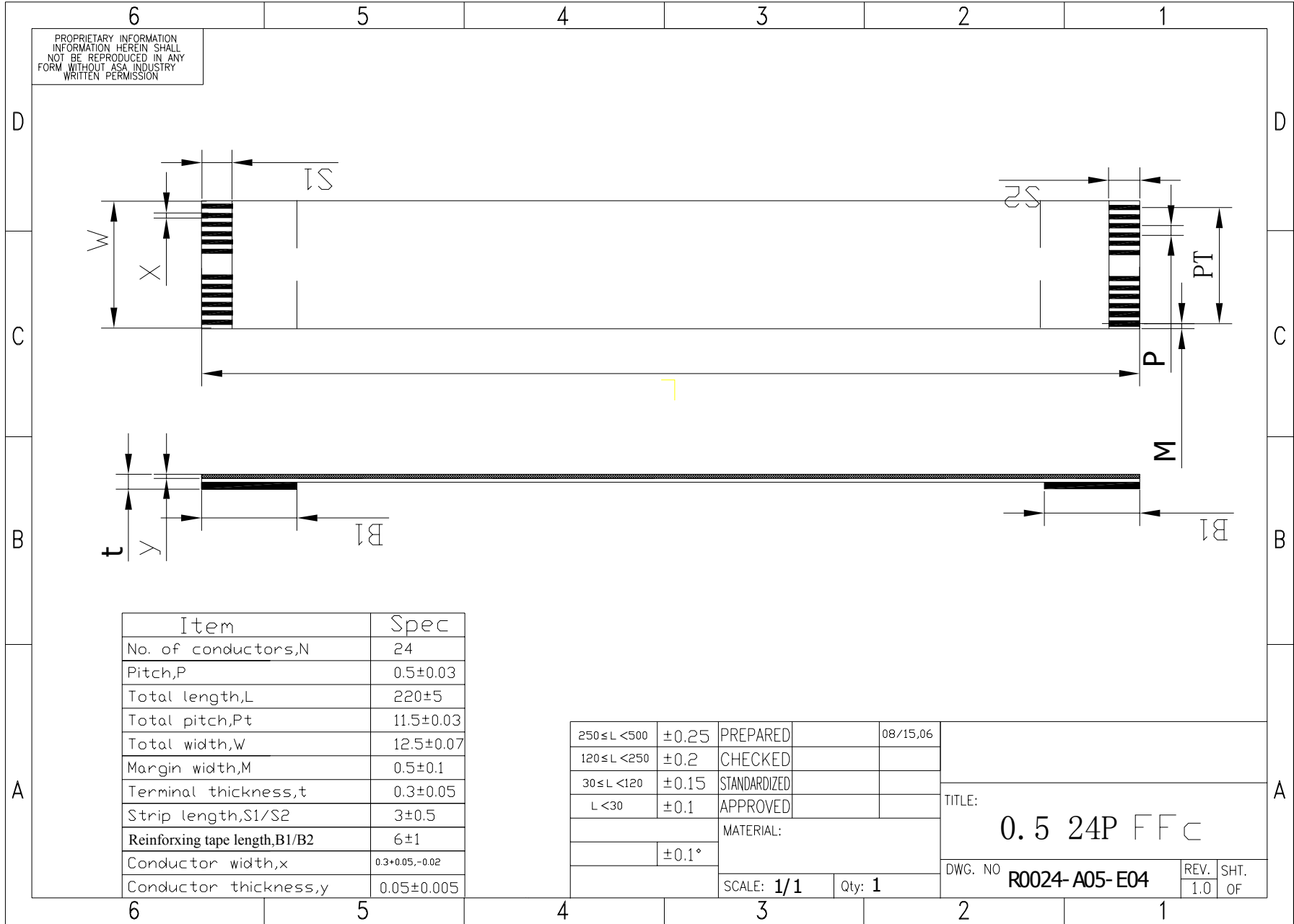
7.3. Cables

7.3.1 5P wire



7.3.1 6P wire





7.4. KHM3I3AAA

See Annex