

## Annex I. Safety Certification Report or Declaration of Conformity

The Safety Certification Report or Declaration of Conformity shall apply the following:

1. Safety Certification Report (in English or Chinese-English version) with at least the following contents:
  - (1) Hazard identification and risk assessment.
  - (2) Compliance assessment of CNS14490, ISO 10218 or any equivalent standards
2. The representative of business entities and supplier (or the importer) shall submit Declaration of Conformity if the Safety Certification Report is unable to be obtained:
  - (1) The representative of business entities and supplier (or the importer) shall submit Declaration of Conformity of CNS14490-1, ISO 10218-1 or any equivalent standards (such as ANSI/RIA R15.06, JISB 8433 or UL1740).
  - (2) The example for Declaration of Conformity submitted by the representative of business entity is shown as Annex I-1.
  - (3) The example for Declaration of Conformity submitted by supplier (or the importer) is shown as Annex I-2.

# **Annex I-1 Template for Declaration of Conformity submitted by Supplier (or the Importer)**

## **Declaration of Conformity to Type**

**Please sign and submit this Declaration of Conformity to Type  
after submitting relevant technical documents**

**Name of Supplier (or the Importer) :** \_\_\_\_\_

**Address :** \_\_\_\_\_

**Tel :** \_\_\_\_\_

**Chinese (English) Name of Product :** \_\_\_\_\_

**Product Type :** \_\_\_\_\_

**Conformed Standards or Versions :** \_\_\_\_\_

This Declaration is issued to guarantee the aforesaid Collaborative Robot (the Product) satisfy the requirements of CNS 14490-1, ISO 10218-1 or any equivalent standards (such as ANSI/RIA R15.06, JISB 8433 or UL1740). Relevant personnel shall bear relevant legal liability and recall unqualified products should any matters against the Declaration is detected.

**Signature of Representative of Business Entity :** \_\_\_\_\_

**Month/ Day/ Year**

**Descriptions :**

(1) The preservation period of this Declaration of Conformity and technical documents is 5 years after the cease of manufacturing or importation of the Product.

(2) The Product would be deemed as not qualified by Declaration of Conformity to Type or the Declaration of Conformity to Type to be invalid if any of the following matters occurs :

1. False, inaccurate or incomplete information provided in the contents of Declaration of Conformity to Type or relevant documents.
2. Errors or unqualified matters, or testing result not conformed to standards need to shut down and repair the robot during the on-site inspection.
3. Refusing to provide relevant documents without any good reason.
4. Using Product with the approach not specified in the contents of Declaration of

Conformity.

5. Any change of design, contents, or management approach may affect the equipment safety during the inspection.
6. Official abolishment or revision of the applied standards.
7. Any critical rule violation or occupational injury.
8. Any matters which may result in abolishment as specified in Article 123 of Administrative Procedure Act.

# **Annex I-2 Template for Declaration of Conformity submitted by Product User**

## **Declaration of Conformity to Type**

Please sign and submit this Declaration of Conformity to Type  
after submitting relevant technical documents

**Name of Product User :** \_\_\_\_\_

**Address :** \_\_\_\_\_

**Tel :** \_\_\_\_\_

**Chinese (English) Name of Product :** \_\_\_\_\_

**Product Type :** \_\_\_\_\_

**Conformed Standards or Versions :** \_\_\_\_\_

This Declaration is issued to guarantee the aforesaid Collaborative Robot (the Product) satisfy the requirements of CNS 14490-1, ISO 10218-1 or any equivalent standards (such as ANSI/RIA R15.06, JISB 8433 or UL1740). Relevant personnel shall bear relevant legal liability and recall unqualified products should any matters against the Declaration is detected.

**Signature of Representative of Business Entity :** \_\_\_\_\_

**Month/ Day / Year**

**Descriptions :**

(1) The preservation period of this Declaration of Conformity and technical documents is 5 years after the cease of manufacturing or importation of the Product.

(2) The Product would be deemed as not qualified by Declaration of Conformity to Type or the Declaration of Conformity to Type to be invalid if any of the following matters occurs :

1. False, inaccurate or incomplete information provided in the contents of Declaration of Conformity to Type or relevant documents.
2. Errors or unqualified matters, or testing result not conformed to standards need to shut down and repair the robot during the on-site inspection.
3. Refusing to provide relevant documents without any good reason.
4. Using Product with the approach not specified in the contents of Declaration of

Conformity.

5. Any change of design, contents, or management approach may affect the equipment safety during the inspection.
6. Official abolishment or revision of the applied standards.
7. Any critical rule violation or occupational injury.
8. Any matters which may result in abolishment as specified in Article 123 of Administrative Procedure Act.

## **Annex II Brief Introduction to the Operation or Process of Collaborative Robots**

The brief introduction to the operation and process of Collaborative Robots shall at least include the following:

1. Description of operation mode and process of Collaborative Robots:
  - (1) Action modes (moving or grabbing objects) of Collaborative Robots.
  - (2) Potential Process hazards during the operation of Collaborative Robots (high-temperature welding or high-pressure lamination, and please specify the exact temperature and pressure scale of operation).
2. The Detailed Range of Motion of Collaborative Robot and Collaborative Workspace:
  - (1) The layout for the floor where Collaborative Robots are installed for operation, including but not limited to the number and location of Robots, and those of the workers participating the works, the repairing and maintenance areas, and the number staff working at such floor.
  - (2) The moving paths of the Collaborative Robots in conducting the collaborative works, which includes detailed illustration for Robots traffic flow and collaborative workspace and the walking paths for collaborative workers.
  - (3) The layout of collaborative workspace includes the collaborative workspace and range of motion for all Collaborative Robots.
3. Collaborative Robots shall be marked with the following:
  - (1) The manufacturer's and, where appropriate, the authorized supplier's business name and complete address;
  - (2) The designation of type of collaborative robot and model number or reference number (if any);
  - (3) The month and year of manufacture;

- (4) The mass and/or weight of robot;
  - (5) The maximum reach and load capacity;
  - (6) Supply data for electrical and, where applicable, hydraulic and pneumatic systems (e.g. minimum and maximum pneumatic pressures);
  - (7) Lifting points for transportation and installation purposes, where applicable.
  - (8) Telephone number of the manufacturer for emergency contact.
  - (9) The above items all comply with CNS14490, ISO10218 or other equivalent standards.
4. The content of safety manual of Collaborative Robots shall be disclosed risks and safety measures at least including Robots' transportation, assembly and installation, commissioning, operational use (including start-up, shut-down, setting, teaching/programming or process change over, operation, cleaning, fault finding, and maintenance), and Robots shall comply with the requirements of CNS14490, ISO 10218 or equivalent standards.
5. Relevant Information
- (1) The cases of successful installation and operation of such Collaborative Robots at other companies or factories.
  - (2) The plans of review and improvement for incident caused by Collaborative Robots at the business entity.

## Annex III Safety Management Plans

The safety management plans shall at least include the following:

1. Organization chart of the business entity.
2. Management of Collaborative Robots and control facilities at operation area (including access restrictions to irrelevant personnel).
3. Plans for contract management.
4. Staff education and training courses:
  - (1) The contents of education and training courses shall include at least the contents of the safety manual, standard operating procedures and management for Collaborative Robots.
  - (2) Operators, safety and health staff shall be completely trained and educated based on the above courses
  - (3) Other relevant personnel shall be at least trained and educated based on courses related to their works.
5. The procedure of investigation and handling of incident.



## Annex IV Safety Procedures and Report of The Commissioning Test

Safety procedures and report of the commissioning test shall comply with the following requirements:

1. Safety procedures and report of the commissioning test shall comply with requirements of CNS14490 or ISO 10218, and at least include the following:

Phase	Items for Commissioning test
Before applying power	The robot has been properly mechanically mounted and is stable.
	The electrical connections are correct and the power (i.e. voltage, frequency, interference levels) is within the specified limits.
	The proper electrical earth is provided.
	Over-current protection is provided.
	The safety-related parts of the control system are properly installed.
	The other utilities (e.g. water, air, gas) are properly connected and within specified limits.
	The peripheral equipment including interlocks is properly connected.
	The limiting devices that establish the restricted space (when utilized) are installed.
	The appropriate safeguarding means are applied.
	The physical environment is as specified (e.g. lighting and noise levels, temperature, humidity, atmospheric contaminants, vibration, electromagnetic radiation).
	The proper version of all programmes – normal control and safety-related – have been validated and are the versions that are installed.
	If necessary, recommendations about protective measures which have to be taken by the user. (e.g. additional or interim safeguards, safety distances, safety signs and signals)
During applying power	All personnel have withdrawn from the range of motion before the powering up.
After applying power	The start, stop and mode selection (including the key lock switches) control devices function as intended.
	Emergency stop and protective stop (where included) circuits and devices are functional.

	It is possible to disconnect and isolate the external power sources.
	Each axis moves and is restricted as intended.
	The teach and playback capabilities function correctly.
	Environmental conditions are considered for compatibility (e.g. explosion, corrosiveness, humidity, dust, temperature, electromagnetic, interference (EMI), radio frequency interference (RFI) and electrostatic discharge (ESD)).
	All safeguards, protective devices, enabling devices, and interlocks function as intended.
	All other safeguarding is in place (e.g. barriers, warning devices).
	In manual mode, the robot operates properly and can handle the product or workpiece.
	In automatic (normal) operation, the robot operates properly and can perform the intended task at the rated speed and load.

2. Any repeatedly regulated provision between the aforesaid Items and those (specified in ISO 10218-2 or any equivalent standards) of the Safety Certification Report requires no re-test.
3. The commissioning test shall be conducted by the technical staff of original manufacturer or qualified personnel recognized by the original manufacturer (certificates are required), and all testing shall be photographed and filmed for evidence.

## Annex V Safety Procedures and Report of The Initial Start-up

Safety procedures and report of the initial start-up shall comply with the following requirements:

1. Safety procedures and report of the initial start-up shall comply with requirements of CNS14490 or ISO 10218, and at least include the following:

Phase	Items of Start-up
Before applying power	The robot has been properly mechanically mounted and is stable.
	The electrical connections are correct and the power (i.e. voltage, frequency, interference levels) is within the specified limits.
	Over-current protection is provided.
	The safety-related parts of the control system are properly installed.
	The other utilities (e.g. water, air, gas) are properly connected and within specified limits.
	The peripheral equipment including interlocks is properly connected.
	The limiting devices that establish the restricted space (when utilized) are installed.
	The appropriate safeguarding means are applied.
During applying power	All personnel have withdrawn from the range of motion before the powering up.
After applying power	The start, stop and mode selection (including the key lock switches) control devices function as intended.
	Emergency stop and protective stop (where included) circuits and devices are functional.
	It is possible to disconnect and isolate the external power sources.
	Each axis moves and is restricted as intended.
	The teach and playback capabilities function correctly.
	All safeguards, protective devices, enabling devices, and interlocks function as intended.
	All other safeguarding is in place (e.g. barriers, warning devices).
	In manual mode, the robot operates properly and can

	handle the product or workpiece.
	In automatic (normal) operation, the robot operates properly and can perform the intended task at the rated speed and load.

2. Any repeatedly regulated provision between the aforesaid Items and those (specified in ISO 10218-2 or any equivalent standards) of the Safety Certification Report requires no re-test.
3. The initial start-up shall be conducted by the technical staff of original manufacturer or qualified personnel recognized by the original manufacturer (certificates are required), and all testing shall be photographed and filmed for evidence.

## Annex VI Automatic Inspection Plan and Inspection Record Form

The automatic inspection plan and inspection record form shall include the automatic inspection plan and the following information of automatic inspection (please refer to Annex VI-1):

1. Inspection items include the test for safety interlock at least.
2. Implementation approach (description to measurement instruments).
3. Frequency
4. Inspection personnel
5. Results

## Annex VI-1 Automatic Inspection Record Form (Template)

Inspection		Implementation Approach	Frequency	Results	Remarks
Safety interlock	A. Test for safety interlock		Quarterly		
	B. Test for safety interlock		Monthly		

Signature of Inspection Personnel \_\_\_\_\_ Signature of Supervisor \_\_\_\_\_

Note: The business entity shall add inspection items according to the actual usage of Collaborative Robots.

## Annex VII Emergency Response Plan

The emergency response plan shall at least include the following:

1. Organization and process of emergency response:
  - (1) Structure and responsibilities of the emergency response organization.
  - (2) Location and facilities of the emergency response center.
  - (3) Matters related to the preparation and maintenance of various incident prevention equipment.
  - (4) The emergency communication measures with companies (including manufacturers) and relevant official authorities.
  - (5) The emergency communication measures for off-duty personnel (including staff of the contractor) who are familiar with the operation and function of Collaborative Robots during the operation at nights or holidays.
  - (6) Operation procedure and description of emergency response.
2. Emergency response drill plan and drill record.
3. Amendment of the emergency response plan.