

TEST REPORT

Report No..... : GZES250400578201

Date of Issue..... : 2025-12-24

Product Model..... : CR 30H

Product Description : Collaborative Robot

Electrical Rating..... : **Control Cabinet:**
DT-CC365-0A: 200-220VAC, 1P, 8A, SCCR 0.75kA.

Applicant..... : SHENZHEN DOBOT CORP LTD

Address..... : Room 1003, Building 2, Chongwen Park, Nanshan iPark, No.3370,
Liuxian Blvd, Fuguang Community, Taoyuan Street, Nanshan District,
Shenzhen, China

Manufacturer..... : SHENZHEN DOBOT CORP LTD

Address..... : Room 1003, Building 2, Chongwen Park, Nanshan iPark, No.3370,
Liuxian Blvd, Fuguang Community, Taoyuan Street, Nanshan District,
Shenzhen, China

Testing Laboratory..... : SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou
Branch

Address..... : 198 Kezhu Road, Science City, Economic & Technology Development
Area, Guangzhou, Guangdong, China

Number of Samples
Received: Only one

Date of Samples Reception: 2025-04-01

Date Test Conducted : 2025-10-12

Test Requested..... : Power and Force Limiting

Test Method (standards).... : ISO/TS 15066:2016

Test Result..... : See pages below

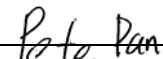


CONCLUSION

The submitted sample complies with the clauses examined.

Prepared and checked by:

Reviewed by:


Pete Pan


Walter Zhang

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

1 Collaborative Operation Requirements

Human-Robot Collaborative operation may be obtained in Robot systems and integration defined in EN ISO 10218-2:2011. Robots designed for collaborative operation shall provide a visual indication when the robot is in collaborative operation and shall comply with one or more of the requirements in accordance with EN ISO 10218-1 & ISO/TS 15066, each collaborative function shall comply with EN ISO 10218-1:2011, 5.4, PLr d. This report just specifies the test result of collision force between robot and body regions selected by manufacturer, the functional safety of such functions is not considered in this report.

- Safety-rated monitored stop
- Hand guiding
- Speed and separation monitoring
- Power and force limiting by inherent design or control.

This collaborative robot system takes the method d), for such method, biomechanical limits are given in Figure 1.1 and Table 1.1, which is extracted from the Figure 4 in ISO/TS 15066:2016 and Table, which is the summary of Table A.1 and Table A.2 in ISO/TS 15066:2016.

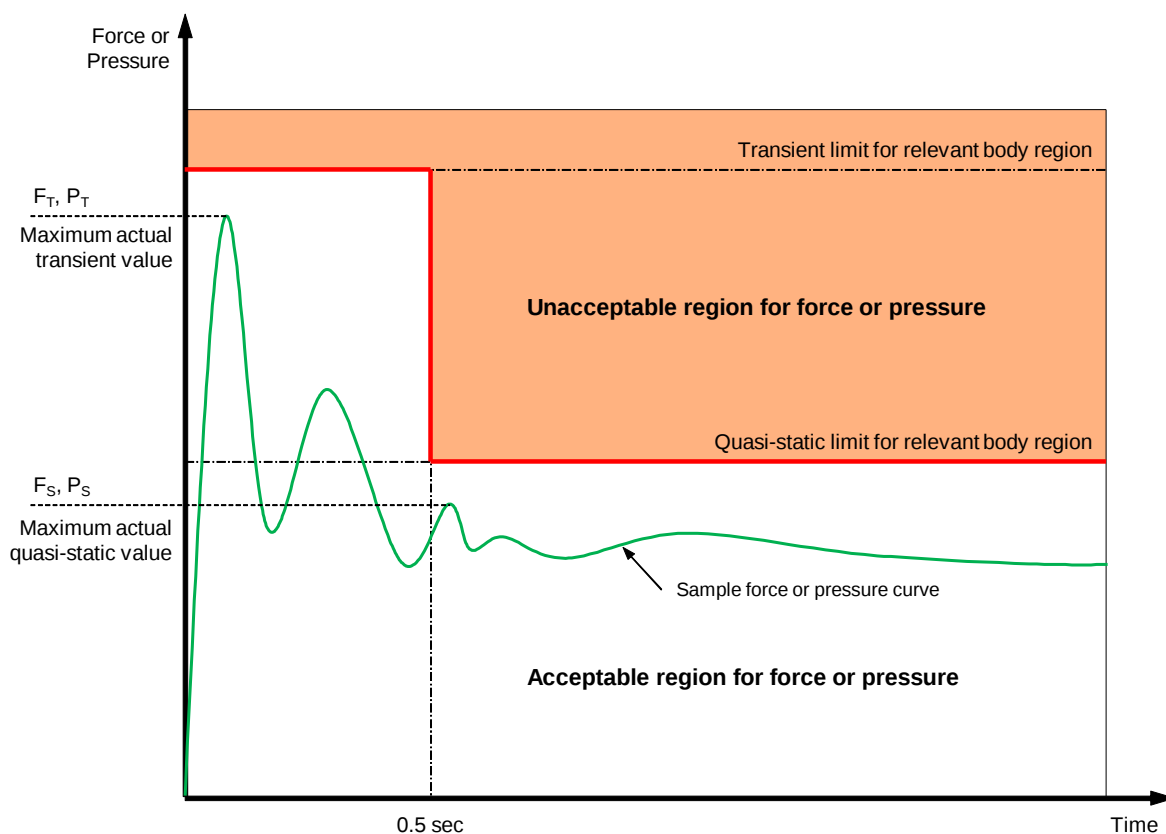


Figure 1.1: Graphical representation of acceptable and unacceptable forces or pressures

Table 1.1: Biomechanical limits

Body region	Specific body area		Quasi-static contact		Transient contact	
			Maximum permissible pressure p_s N/cm ²	Maximum permissible force N	Maximum permissible pressure multiplier P_T	Maximum permissible force multiplier F_T
<i>Skull and forehead</i> ^d	1	Middle of forehead	130	130	not applicable	not applicable
	2	Temple	110		not applicable	
<i>Face</i> ^d	3	Masticatory muscle	110	65	not applicable	not applicable
Neck	4	Neck muscle	140	150	2	2
	5	Seventh neck muscle	210		2	
Back and shoulders	6	Shoulder joint	160	210	2	2
	7	Fifth lumbar vertebra	210		2	2
Chest	8	Sternum	120	140	2	2
	9	Pectoral muscle	170		2	
Abdomen	10	Abdominal muscle	140	110	2	2
Pelvis	11	Pelvic bone	210	180	2	2
Upper arms And elbow joints	12	Deltoid muscle	190	150	2	2
	13	Humerus	220		2	
Lower arms and wrist joints	14	Radial bone	190	160	2	2
	15	Forearm muscle	180		2	
	16	Arm nerve	180		2	
Hands and fingers	17	Forefinger pad D ^a	300	140	2	2
	18	Forefinger pad ND ^a	270		2	
	19	Forefinger end joint D ^a	280		2	
	20	Forefinger end joint ND ^a	220		2	
	21	Thenar eminence	200		2	
	22	Palm D ^a	260		2	
	23	Palm ND ^a	260		2	
	24	Back of the hand D ^a	200		2	
	25	Back of the hand ND ^a	190		2	
Thighs and knees	26	Thigh muscle	250	220	2	2
	27	Kneecap	220		2	
Lower legs	28	Middle of shin	220	130	2	2
	29	Calf muscle	210		2	
^a D= Dominant body side; ND= non- dominant body side.						
^d Critical zone (italicized)						

Table 1.2: Definition of Robot Points

Named Point	Point on the Robot
P01	Base
P02	Shoulder joint
P03	Upper arm
P04	Lower arm
P05	Elbow joint
P06	Wrist joint 1
P07	Wrist joint 2
P08	Wrist joint 3
P09	Tool Center Point (TCP)

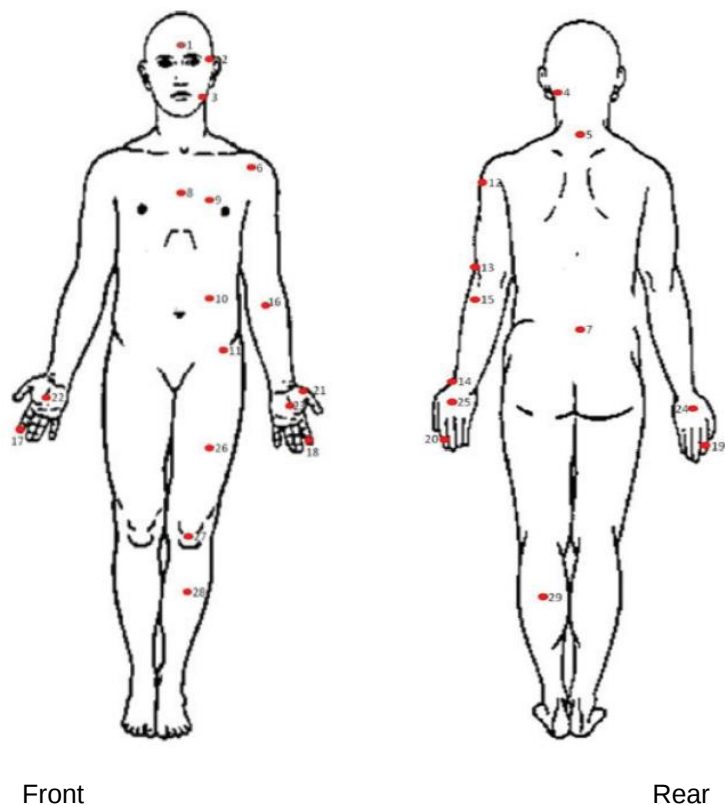


Figure 1.2: Description of Body Model

Symbols and their definitions used in the following text:

m_H	The effective mass of the human body region.
Direction	Base coordinate of the robot.
Speed Limitation	The maximum robot speed is defined by the client.
$F_{QS-QSmax}$	Maximum quasi-static force during quasi-static contact.
$F_{QS-Tmax}$	Maximum transient force during quasi-static contact.
F_{T-Tmax}	Maximum transient force during transient contact.

2 Power and Force Limiting Test Results Requirements Records

2.1 Model number: CR 30H

Robot System Model	Manipulator model name	Control cabinet model name	Teach Pendant (with or without)
CR 30H	DT-CR300H-0	DT-CC365-0A	DT-TP10-3PE-N

2.1.1 Sample photos.

Manipulator	Nameplate of manipulator																
	 DOBOT DOBOT CR 30H 深圳市越疆科技股份有限公司 深圳市南山区桃源街道福光社区留仙大道3370号南山智园崇文园区2号楼1003 SHENZHEN DOBOT CORP LTD Room 1003, Building 2, Chongwen Park, Nanshan IPark, No.3370, Liuxian Blvd, Fuguang Community, Taoyuan Street, Nanshan District, Shenzhen, China <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>型号 / 型號 / MODEL / 모델명</td><td>DT-CR300H-0</td></tr> <tr> <td>重量 / 重量 / WEIGHT / 무게</td><td>100 kg</td></tr> <tr> <td>防护等级 / 防護等級 / ENCLOSURE TYPE / 보호 등급</td><td>IP65</td></tr> <tr> <td>最大负载 / 最大負載 / PAYLOAD / 최대 부하</td><td>30 kg</td></tr> <tr> <td>臂长 / 臂長 / REACH / 도달범위</td><td>1800 mm</td></tr> <tr> <td>额定电压 / 額定電壓 / RATED VOLTAGE / 정격 전압</td><td>DC 108V</td></tr> <tr> <td>满载电流 / 滿載電流 / Full load current / 만재 전류</td><td>10A</td></tr> <tr> <td>最大关节电流 / 最大關節電流 / MAX JOINT CURRENT / 최대 관절 전류</td><td>42.3A</td></tr> </table> 中国制造 Made in China 中國製造   6 970632 061370 CAN ICES-003(A)/NMB-003(A) This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.	型号 / 型號 / MODEL / 모델명	DT-CR300H-0	重量 / 重量 / WEIGHT / 무게	100 kg	防护等级 / 防護等級 / ENCLOSURE TYPE / 보호 등급	IP65	最大负载 / 最大負載 / PAYLOAD / 최대 부하	30 kg	臂长 / 臂長 / REACH / 도달범위	1800 mm	额定电压 / 額定電壓 / RATED VOLTAGE / 정격 전압	DC 108V	满载电流 / 滿載電流 / Full load current / 만재 전류	10A	最大关节电流 / 最大關節電流 / MAX JOINT CURRENT / 최대 관절 전류	42.3A
型号 / 型號 / MODEL / 모델명	DT-CR300H-0																
重量 / 重量 / WEIGHT / 무게	100 kg																
防护等级 / 防護等級 / ENCLOSURE TYPE / 보호 등급	IP65																
最大负载 / 最大負載 / PAYLOAD / 최대 부하	30 kg																
臂长 / 臂長 / REACH / 도달범위	1800 mm																
额定电压 / 額定電壓 / RATED VOLTAGE / 정격 전압	DC 108V																
满载电流 / 滿載電流 / Full load current / 만재 전류	10A																
最大关节电流 / 最大關節電流 / MAX JOINT CURRENT / 최대 관절 전류	42.3A																

2.1.2 Maximum quasi-static force during quasi-static contact

Body region/Robot	k (N/mm)	m _H (kg)	Direction	F _{QS-QSmax} (N)	Verdict
Hands and fingers /TCP	75	0.6	X	0.3	Pass
Hands and fingers /TCP	75	0.6	Y	0.3	Pass
Hands and fingers /TCP	75	0.6	Z	0.3	Pass
Hands and fingers /Wrist joint 4	75	0.6	Z	0.3	Pass
Hands and fingers /Wrist joint 5	75	0.6	Z	0.1	Pass
Hands and fingers /Wrist joint 6	75	0.6	Z	0.1	Pass
Upper arms and elbow joints /TCP	30	3	X	1.5	Pass
Upper arms and elbow joints /TCP	30	3	Y	0	Pass
Upper arms and elbow joints /TCP	30	3	Z	0.3	Pass
Chest /TCP	25	40	Z	0.3	Pass
Back and shoulders /TCP	35	40	Z	0.3	Pass
Abdomen /TCP	10	40	Z	2.1	Pass
Remark: Direction X, Y, Z are robotic base coordinate. Payload under test is 0 kg.					

2.1.3 Maximum transient force during quasi-static contact

Body region/Robot	k (N/mm)	F _{QS-Tmax} (N)	Verdict
Hands and fingers /TCP	75	269.9	Pass
Hands and fingers /TCP	75	270.2	Pass
Hands and fingers /TCP	75	270.9	Pass
Hands and fingers /Wrist joint 4	75	262.5	Pass
Hands and fingers /Wrist joint 5	75	268.6	Pass
Hands and fingers /Wrist joint 6	75	270.6	Pass
Upper arms and elbow joints /TCP	30	288.5	Pass
Upper arms and elbow joints /TCP	30	288.4	Pass
Upper arms and elbow joints /TCP	30	299	Pass
Chest /TCP	25	278.6	Pass
Back and shoulders /TCP	35	402.4	Pass
Abdomen /TCP	10	217.8	Pass

2.1.4 Maximum transient force during transient contact

Body region/Robot	k (N/mm)	F_{T-Tmax} (N)	Speed (mm/s)	Verdict
Hands and fingers /TCP	75	26.42	125	Pass
Hands and fingers /TCP	75	10.14	48	Pass
Hands and fingers /TCP	75	21.13	100	Pass
Hands and fingers /Wrist joint 4	75	15.85	75	Pass
Hands and fingers /Wrist joint 5	75	15.85	75	Pass
Hands and fingers /Wrist joint 6	75	34.87	165	Pass
Upper arms and elbow joints /TCP	30	60.67	206	Pass
Upper arms and elbow joints /TCP	30	29.45	100	Pass
Upper arms and elbow joints /TCP	30	54.49	185	Pass
Chest /TCP	25	134.67	165	Pass
Back and shoulders /TCP	35	251.08	260	Pass
Abdomen /TCP	10	144.53	280	Pass

Test Equipment

No.	Name	Model	Serial No.	Next calibration date
1	Laser Tracker	VANTACE-E	V20003409799	2025-10-17
2	Collision testing system	PRMS	20013339	2025-10-25
3	Thermo-hygrometer	JR900	N/A	2025-12-10
Remark: N/A				

--- End of Report ---