

EN 14846:2008



TESTING OF Electromechanically Operated Locks And Striking Plates

A report to:

Foshan Luokai Locking Technology
Company Limited

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TEST CONCLUSIONS

Product: ELECTRONIC LOCK
Manufactured by: Foshan Luokai Locking Technology Company Limited
Model: F7-S60, P1-S60, F1-S60, F4-S60, F5-S60, F8-S60, P5-S60, P2-S60, P3-S60

had been tested in accordance with:
EN 14846:2008 Building Hardware-Electromechanically operated locks and striking plates
by KAS Quality Service (Guangzhou) Co., Ltd. which is an IAS accredited Testing Laboratory
(NO. TL-827).
At Chenziwei, Xinsha Village Committee, Muzhou Town, Xinhui District, Jiangmen,
Guangdong 529143, China.

Summary of Test Result

Clause	Description	Compliance
5.1	General	Pass
5.1.1	<i>Compatibility between cooperating parts</i>	<i>Pass</i>
5.1.2	<i>Dangerous substances</i>	—
5.1.3	<i>Operation time for locking and unlocking</i>	<i>Pass</i>
5.2	Category of use	Pass
5.2.1	<i>Resistance to side load on latch</i>	<i>Pass</i>
5.2.2	<i>Torque to operate deadbolt</i>	<i>Pass</i>
5.2.3	<i>Strength of normal latch action and stops</i>	<i>Pass</i>
5.2.4	<i>Torque resistance of lockable follower</i>	<i>Pass</i>
5.3	Durability	Pass
5.3.1	<i>General</i>	<i>Pass</i>
5.3.2	<i>Durability of latch action</i>	<i>Pass</i>
5.3.3	<i>Durability of deadbolt mechanism</i>	<i>Pass</i>
5.4	Door mass and closing force	Pass
5.5	Suitability for use on fire doors	Pass
5.6	Safety	NA
5.7	Corrosion resistance, temperature and humidity requirements	Pass
5.7.1	<i>Corrosion resistance</i>	<i>Pass</i>
5.7.2	<i>Resistance to a range of temperatures</i>	<i>Pass</i>
5.7.3	<i>Resistance to cyclic humidity</i>	<i>Pass</i>
5.8	Security requirements	Pass
5.9	Security – Electrical function – Status indication	Pass
5.10	Security – Electrical manipulation	Pass
5.10.2	<i>Voltage drop protection</i>	NA
5.10.3	<i>Protection against the effects of cutting cables</i>	NA
5.10.4	<i>Protection against the effects of wire manipulation</i>	NA
5.10.5	<i>Resistance to electromagnetic manipulation *</i>	<i>Pass</i>
5.10.6	<i>Resistance to electrostatic discharge *</i>	<i>Pass</i>
5.10.7	<i>Resistance to electrostatic manipulation *</i>	<i>Pass</i>
5.11	Requirements for product information	Pass
7	Marking	NA

TEST CONCLUSIONS

No inferences can be made regarding performance against other requirements of this standard.
 NOTES.

These test items without mark "*" are covered by the Laboratory IAS accreditation schedule.
 These test items with mark "*" are subcontracted to DongGuan ShuoXin Electronic Technology Co., Ltd.

which is an CNAS accredited Testing Laboratory (L3098).

Tests marked "NA" were not applicable to the type of device under test.

Tests marked "NT" were not applied to the device under test.

Tests marked "NPD" mean No performance determined.

When determining the test result, measurement uncertainty has been considered.

Decision rule for statement(s) of conformity is based on Binary Statement for Simple Acceptance Rule ($w=0$) of ILAC G8: 09/2019.

Classification achieved

Category of use	Durability	Door mass and closing force	Suitability for use on fire/smoke doors	Safety	Corrosion resistance temperature and humidity	Security	Security - electrical function	Security - electrical manipulation
3	S	5	D	0	H	3	1	2

Detail "Classification" information listed as following:

First digit (Category of use): Grade 3 – for use in an application where people have a little incentive to exercise care;

Second digit (Durability): Grade S – 200,000 test cycles; 50 N load on latchbolt;

Third digit (Door mass): Grade 5 – up to 200 kg door mass; 25 N maximum closing force;

Fourth digit (Suitability for use on fire doors): Grade D – suitable for use on fire door assemblies with a minimum classification time of 60 min;

Fifth digit (Safety): Grade 0 – no safety requirement;

Sixth digit (Corrosion resistance temperature and humidity): Grade H – with high corrosion resistance in temperature ranging from -10 °C to +55 °C and humidity resistance level 1;

Seventh digit (security): Grade 3 – with medium security and no drill resistance;

Eighth digit (Security - electrical function): Grade 1 – with grade 1 of electrical security function (with status indication);

Ninth digit (Security - electrical manipulation): Grade 2 – with grade 2 of electrical manipulation security.

SIGNATURES

Tests performed by:

Singh Zhang

Name: Singh Zhang
Date: 28-Jun-24
Title: Project Engineer
KAS Quality Service

Report authorised by:

Name: Credy Chen
Date: 28-Jun-24
Title: Technical Manager
KAS Quality Service

TEST DETAILS

Applicant Information

Applicant Name: Foshan Luokai Locking Technology Company Limited

Applicant Address: Room 603, Building 10 of Photo-electronic Industrial Park,
Leliu, Shunde District, Foshan City, Guangdong, 528300,
China

Sample Information

Product: ELECTRONIC LOCK

Trade Mark: /

Model and/or type reference: F7-S60, P1-S60, F1-S60, F4-S60, F5-S60, F8-S60, P5-S60,
P2-S60, P3-S60

Manufacturer: Foshan Luokai Locking Technology Company Limited

Manufacturer Address: Room 603, Building 10 of Photo-electronic Industrial Park,
Leliu, Shunde District, Foshan City, Guangdong, 528300,
China

Sample ID: S240221001-13~24

Date of receipt of test item: 2024/2/21

Situation of receipt samples: Received in good condition

Testing Information

Standard: EN 14846:2008

Non-standard method or requirement: /

Rating(s):

3	S	5	D	0	H	3	1	2
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Testing Laboratory name: KAS Quality Service (Guangzhou) Co., Ltd.

Address: Chenziwei, Xinsha Village Committee, Muzhou Town, Xinhui District, Jiangmen, Guangdong 529143, China.

Date (s) of performance of tests: 2024/5/20~2024/6/20

Other reports to be used in conjunction with this report: 24EECS06053 04291 dated Jun 25, 2024 &
J240221001-3 dated Jun 5, 2024

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TEST SAMPLE DESCRIPTION AND ASSESSMENT

General product information:

Electronic lock, power supply: four AA alkali batteries, 6.0 V rated voltage.

Model No. are shown as below table:

Model No.	Lock body	Latch action	Deadbolt action	Battery box	Lock panel material	Test Plan
F7-S60	S60	Electrically and mechanically operated	Mechanically operated	Inside the rear panel	Stainless steel clad iron	Full test (Excluded the fire test)
P1-S60	S60			Inside the door leaf	aluminium alloy	Add durability test
P2-S60	S60					Assessment
P3-S60	S60					
F1-S60	S60			Inside the rear panel	Stainless steel clad iron	
F4-S60	S60					
F5-S60	S60					
F8-S60	S60			Inside the rear panel	Stainless steel	
P5-S60	S60					

TEST SAMPLE DESCRIPTION AND ASSESSMENT

Assessment:

These products have the same lock body and cylinder. Designs of these products are similar. The fire resistance performance of all models are assessed by the fire evaluation report No. J240221001-3 dated Jun 5, 2024. All differences between these models and corresponding test plan are listed below:

1. F7-S60, F1-S60, F4-S60, F5-S60, F8-S60: Electronic door lock, with the battery box installed inside the rear panel, with latch bolt and deadbolt, handle withdraw the latch bolt and deadbolt, cylinder operate the latch bolt and deadbolt, the turn operate the deadbolt. Front & rear panels of these models have same materials and similar construction, just the shape are different, **So model F7-S60 was chosen as representative test model for all models.**
2. P1-S60, P2-S60, P3-S60: Electronic door lock, with the battery box installed inside the door leaf, without cylinder comparing with model F7-S60. The lever handles of these models have some materials and similiar construction, just the shape are different. The materials and springs are different comparing with model F7-S60. **So model P1-S60 was chosen to be subjected additional test items: durability test and fire-resistance test.**
3. P5-S60: Construction is same as model F7-S60, but the materials of rear & front panels are stainless steel, which is different from model F7-S60 which is stainless steel clad iron. **So model P5-S60 was assessed based on model F7-S60.**

TEST RESULTS

Test procedure: Sample A1

Test sample No.: S 2 4 0 2 2 1 0 0 1 - 1 3

Model: F7-S60

Req. Clause	Test Clause	Requirement Details	Result	P = PASS F = FAIL
5.3.3.2	6.3.3.2	Durability of deadbolt mechanism electrically operated When tested in accordance with 6.3.3.2, the deadbolt mechanism shall complete the minimum number of cycles specified in Table 6. Electric strikes (deadbolt function) shall be tested in accordance with 6.3.3.2 (i.e. treated as deadbolt). The deadbolt mechanism shall function correctly after this test fulfilling the requirements in EN 12209:2003, 5.2.2.	Operated deadbolt manually only	NA
5.3.2.2	6.3.2.1.1 or 6.3.2.1.2	Durability of latch action electrically operated The latch action shall complete the minimum number of cycles specified in Table 6 according to the grade selected. The latch action shall function correctly after this test fulfilling the requirements in EN 12209:2003 5.4.2 (closing force) and 5.11.1 (torque to withdraw the latch bolt(s)).	Grade S, Door mass: 200 kg Total 200 000 cycles for latch bolt with 50 N load on it (50 000 cycles for deadbolt & latchbolt coordinatively). After test, latchbolt and deadbolt function correctly. The closing force: 22.4 N Torque to operate the deadbolt via key: 0.48 Nm Torque to operate the deadbolt via follower: 2.40 Nm Torque to operate the deadbolt via turn: 0.42 Nm Torque to withdraw the latch bolt via follower: 1.40 Nm	P

TEST RESULTS

Test procedure: Sample B

Test sample No.: S 2 4 0 2 2 1 0 0 1 - 1 4

Model: F7-S60

Req. Clause	Test Clause	Requirement Details	Result	P = PASS F = FAIL									
5.7	Corrosion resistance and temperature												
5.7.2	6.7.2	Resistance to a range of temperatures The product shall operate at the temperatures specified in Table 4. The product shall continue to operate as declared during and after the test. During any individual test, performance shall not drop by more than 25 % below the level achievable at the start of the test. After the test the product shall operate as declared:	Grade H, Initial test at normal temperature: Torque to operate deadbolt on key: 0.48 Nm Torque to operate deadbolt on follower: 2.30 Nm Torque to withdraw latch bolt with handle: 1.20 Nm At -10°C for 2 hours: Torque to operate deadbolt on key: 0.50 Nm Torque to operate deadbolt on follower: 2.40 Nm Torque to withdraw latch bolt with handle: 1.20 Nm At +55°C for 2 hours: Torque to operate deadbolt on key: 0.48 Nm Torque to operate deadbolt on follower: 2.40 Nm Torque to withdraw latch bolt with handle: 1.24 Nm After temperature test, the sample functions correctly.	P									
5.7.3	6.7.3	Resistance to side force on deadbolt Applicable to grade 1 to 4 and 6; The deadbolt shall resist a side load (F4) for 60 s specified as below, <table><tr><td>Level</td><td>Temperature</td><td>Humidity</td></tr><tr><td>1</td><td>+ 40 °C</td><td>95%</td></tr><tr><td>2</td><td>+ 55 °C</td><td>95%</td></tr></table>	Level	Temperature	Humidity	1	+ 40 °C	95%	2	+ 55 °C	95%	Grade J Level 1: +40°C with initial relative humidity of 95%. The product functions correctly during and after the test.	P
Level	Temperature	Humidity											
1	+ 40 °C	95%											
2	+ 55 °C	95%											

TEST RESULTS

Test procedure: Sample B

Test sample No.: S 2 4 0 2 2 1 0 0 1 - 1 4

Model: F7-S60

Req. Clause	Test Clause	Requirement Details	Result	P = PASS F = FAIL		
5.7.1	6.7.1	Corrosion resistance The grade of corrosion resistance achieved shall be included in the classification coding as specified in Table 4.	Grade H, EN 1670 Grade 3: 96 hours Torque to operate deadbolt on key: 0.50 Nm Torque to operate deadbolt on follower: 2.42 Nm Torque to withdraw latch bolt with handle: 1.20 Nm	P		
		Corrosion resistance			Exposure	Grade per EN 1670
		Low resistance			24 h ± 1 h	Grade 1
		Moderate resistance			48 h ± 1 h	Grade 2
		High resistance			96 h ± 1 h	Grade 3
		Very high resistance			240 h ± 1 h	Grade 4
		The energy required to operate the deadbolt or latch bolt for the last three shall not exceed the operation energy for normal operations by more than 20 % . :				

TEST RESULTS

Test procedure: Sample C

Test sample No.: S 2 4 0 2 2 1 0 0 1 - 1 5

Model: F7-S60

Req. Clause	Test Clause	Requirement Details	Result	P = PASS F = FAIL			
5.9	6.9	Security – Electrical function – status indication There shall be an audio or visual signal from the lock that can be used as an indication that the bolt is fully thrown and deadlocked or, in the case of electric strikes, that movement of the electric strike is blocked. The security of the electrical function shall be tested according to 6.9.	Grade 1, A visual signal with different color and beep voice were used to indicate the status. Before and after the test 200000 cycles, the electrical function was still correct.	P			
5.10	Security – Electrical manipulation Table 7 — Security – Electrical manipulation repquirements						
	Requirement		Test Method	Grade of security			
				0	1	2	3
	5.10.2	Voltage drop protection	6.10.1	-	-	Yes	Yes
	5.10.3	Protection against the effects of cutting cables	6.10.2	-	-	Yes	Yes
	5.10.4	Protection against the effects of wire manipulation	6.10.3	-	-	-	Yes
	5.10.5	Resistance to electromagnetic manipulation	6.10.4	-	-	Yes	Yes
	5.10.6	Resistance to electrostatic discharge EN 61000-4-2	6.10.5	-	Level 2	Level 4	Level 4
	5.10.7	Resistance to electrostatic manipulation EN 61000-4-2	6.10.6	-	-	Level 4	Level 4
5.10.1	General						
5.10.2	6.10.1	Voltage drop protection When tested in accordance with 6.10.1 with supply voltage dips and short interruptions, the locking mechanism and its operational parts shall maintain its status.	Not appliacable for the test sample	NA			
5.10.4	6.10.3	Protection against the effects of wire manipulation When tested in accordance with 6.10.3 by manipulating in the form of an electrical or magnetic pulse (or sequence of pulses) applied to any wires linking the electromechanical lock or strike to other units, the locking mechanism and its operational parts shall maintain its status :	Grade 2, No requirement	NA			

TEST RESULTS

Test procedure: Sample C

Test sample No.: S 2 4 0 2 2 1 0 0 1 - 1 5

Model: F7-S60

Req. Clause	Test Clause	Requirement Details	Result	P = PASS F = FAIL
5.10.5	6.10.4	Resistance to electromagnetic manipulation When tested in accordance with 6.10.4, by strong electromagnetic fields, the locking mechanism and its operational parts shall maintain its status.	Grade 2, Test method: EN 61000-4-3: 2006 + A1:2008 + A2:2010 level 3 and level 4 Frequency range: 80-1000, 1800, 2600, 3500, 5000 MHz Exposed side: Front, Back, Left and Right Field strength: 10V/m, 30 V/m The lock deadlocked correctly during the test. Refer to Report No. 24EECS06053 04291 dated Jun 25, 2024	P
5.10.3	6.10.2	Protection against the effects of cutting cables When tested in accordance with 6.10.2 by cutting or short-circuiting of all the wires of one cable linking the electromechanical lock or strike to other units, the locking mechanism and its operational parts shall maintain its status. This requirement applies to any cable linking the electromechanical lock or strike to other units.	Without wire linking the electromechanical lock to other units. Not applicable for this product.	NA

TEST RESULTS

Test procedure: Sample D

Test sample No.:

S	2	4	0	2	2	1	0	0	1	-	1	6
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Model: F7-S60

Req. Clause	Test Clause	Requirement Details	Result	P = PASS F = FAIL
5.10.6	6.10.5	Resistance to electrostatic discharge When tested in accordance with 6.10.5, with electrostatic discharges the locking mechanism and its operational parts shall maintain its status:	Grade 2, Test method: EN 61000-4-2: 2009 After test, the lock was operable after the test. Refer to Report No. 24EECS06053 04291 dated Jun 25, 2024	P
5.10.7	6.10.6	Resistance to electrostatic manipulation When tested in accordance with 6.10.6, with a minimum of 200 electrostatic discharges at the energy levels specified in EN 61000-4-2:1995, level 4, except that the discharge frequency shall not exceed 10 Hz, the locking mechanics and its operational parts shall maintain its status.	Grade 2, Test method: EN 61000-4-2: 2009 Applied ± 8 kV voltage for contact discharge, ± 15 kV for air discharge, min. 20 times at each test point, in total 200 times. The lock deadlocked correctly during the test. Air Discharge is not applicable for the test sample. Refer to Report No. 24EECS06053 04291 dated Jun 25, 2024	P

TEST RESULTS

Test procedure: Sample E

Test sample No.: S 2 4 0 2 2 1 0 0 1 - N A

Model: F7-S60

Req. Clause	Test Clause	Requirement Details	Result	P = PASS F = FAIL
5.5		Suitability for use on fire resistance and / or smoke control doorset.	Grade D, The test model had been assessed for fire resistance test, refer to Report No. No. J240221001-3 dated Jun 5, 2024. Integrity: 68 min; Insulation: 68 min.	P

TEST RESULTS

Test procedure: Sample F

Test sample No.:

S	2	4	0	2	2	1	0	0	1	-	1	3
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Model: F7-S60

Req. Clause	Test Clause	Requirement Details	Result	P = PASS F = FAIL
5.3.3.1	6.3.3.1	Durability of deadbolt mechanism mechanically operated The deadbolt mechanism shall complete the minimum number of cycles according to the grade given in Table 6. The deadbolt mechanism shall function correctly after this test fulfilling the requirements in EN 12209:2003, 5.2.2.	See Clause 5.3.2.2	P
5.3.3.3	6.3.3.2	Durability of deadbolt mechanism automatically operated When tested in accordance with the principle in 6.3.3.2, the deadbolt mechanism shall complete the minimum number of cycles specified in Table 6.	No deadbolt mechanism automatically operation function	NA
5.8.2	Requirements for side load			
5.8.2.1	EN12209:2003 6.8.2.1	Resistance to side load on deadbolt The dead bolt shall resist a side load F4 (see Table 5 of EN 12209):	Grade 3, Side load: 5 kN The deadbolt can resist the side load 5 kN.	P
5.8.2.2	EN12209:2003 6.8.2.2	Resistance to drilling and side load on deadbolt The deadbolt shall resist a drilling for time 't' and side load F4 (see Table 5 of EN 12209) :	Grade 3, No requirement	NA

TEST RESULTS

Test procedure: Sample G

Test sample No.: S 2 4 0 2 2 1 0 0 1 - 1 8

Model: F7-S60

Req. Clause	Test Clause	Requirement Details	Result	P = PASS F = FAIL
5.2.2	EN1220 9:2003 6.2.2	Torque to operate deadbolt The torque on the key to operate the deadbolt shall not exceed M3 = 0.8 Nm.	Grade 3, Torque to operate the deadbolt via key: 0.48 Nm Torque to operate the deadbolt via follower: 2.40 Nm Torque to operate the deadbolt via turn: 0.40 Nm	P
5.2.4	EN1220 9:2003 6.2.4	Torque resistance of lockable follower The lockable follower shall resist a torque of 80 Nm :	Not rim lock with lockable handle	NA
5.8.1.2	EN1220 9:2003 6.8.1.2	Torque resistance of knob or lever handle on rim night latch:	Not rim night latch	NA

TEST RESULTS

Test procedure: Sample H

Test sample No.: S 2 4 0 2 2 1 0 0 1 - 1 8

Model: F7-S60

Req. Clause	Test Clause	Requirement Details	Result	P = PASS F = FAIL
5.8.3	EN1220 9:2003 6.8.3	Deadbolt projection The deadbolt when fully thrown in the locking direction and detained, shall have a minimum projection L1 (see Table 5 of EN 12209) :	Grade 3, L1= 18 mm > 14 mm	P
5.2.3	EN1220 9:2003 6.2.3	Strength of normal latch action and stops The latch components and travel limit stops shall resist a torque of 60 Nm.	Grade 3: 60 Nm The latch components and travel limit stops can resist the torque. The latch action function correctly after test.	P
5.8.4	Requirements for end load on deadbolt			
5.8.4.1	EN1220 9:2003 6.8.4.1	Resistance to end load The product shall resist an end load of F5. At no time during or after the test shall the bolt projection be less than L2 (see Table 5 of EN 12209).	Grade 3, End load : 4 kN L2= 18 mm	P
5.8.4.2	EN1220 9:2003 6.8.4.2	Resistance to endload with drilling The product shall be subjected to drilling for a time "t", and afterwards resist an end load of F5. At no time during or after the test shall the bolt projection be less than L2 (see Table 5 of EN 12209).	Grade 3, No requirement	NA

TEST RESULTS

Test procedure: Sample I

Test sample No.: S 2 4 0 2 2 1 0 0 1 - 1 3

Model: F7-S60

Req. Clause	Test Clause	Requirement Details	Result	P = PASS F = FAIL	
5.4	Door mass and closing force		Grade 5, Door mass: 200 kg F10=17.5 N	P	
	Grade	Door mass			Closing force (F10)
	0	Locks without a latch bolt			
	1	Up to 100 kg			50 N
	2	Up to 200 kg			50 N
	3	Above 200 kg			50 N
	4	Up to 100 kg			25 N
	5	Up to 200 kg			25 N
	6	Above 200 kg			25 N
	7	Up to 100 kg			15 N
	8	Up to 200 kg			15 N
	9	Above 200 kg			15 N
5.3.2.1	6.3.2.1.1 or 6.3.2.1.2	Durability of latch action mechanically operated The latch action shall function correctly fulfilling the requirements after the minimum number of cycles specified in Table 6 according to the grade selected :	Grade S: 200 000 cycles Combined test with electrical operation 5.3.2.2	P	
5.2.1	EN1220 9:2003 6.2.1	Resistance to side load on latch The lock shall resist a side load of 3 kN.	Grade 3. Side load on latch: 3 kN The latch action was not affected as a result of this test.	P	

TEST RESULTS

Test procedure: Sample J

Test sample No.: S 2 4 0 2 2 1 0 0 1 - N A

Model: F7-S60

Req. Clause	Test Clause	Requirement Details	Result	P = PASS F = FAIL
5.8.5	EN1220 9:2003 6.8.5	Resistance to pulling of hook/claw bolt The bolt shall resist a direct pull of F6 (requirement see Table 5 of EN 12209) :	No hook/claw bolt	NA
5.8.6	EN1220 9:2003 6.8.6	Resistance to disengaging of hook/claw bolt The bolt shall not force the lock open with a disengaging force of F7 (see Table 5 of EN 12209). :	No hook/claw bolt	NA
5.8.7	EN1220 9:2003 6.8.7	Resistance to forcing of locating device in sliding door lock:	Applicable for sliding door lock only.	NA

TEST RESULTS

Test procedure: Sample K

Test sample No.: S 2 4 0 2 2 1 0 0 1 - N A

Model: F7-S60

Req. Clause	Test Clause	Requirement Details	Result	P = PASS F = FAIL
5.8.1.1	EN1220 9:2003 6.8.1.1	Torque resistance of knob or lever handle on bored lock and latch sets	Not applicable for mortice lock	NA
5.8.8	EN1220 9:2003 6.8.8	Resistance to pulling off of knob on bored lock and latch set :	Applicable for bored knob door lock only	NA

TEST RESULTS

Test procedure: Locking plate test
sample

Test sample No.:

S	2	4	0	2	2	1	0	0	1	-	1	8
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Model: F7-S60

Req. Clause	Test Clause	Requirement Details	Result	P = PASS F = FAIL
5.8.9	Security requirements of the component locking plate			
5.8.9.1	EN1220 9:2003 6.8.9.1	Resistance to end load on box protected locking plate.	No protecting box	NA
5.8.9.2	EN1220 9:2003 6.8.9.2	Resistance to side load on locking plate The locking plate shall resist a side load of F4 (see Table 5 of EN 12209).	Grade 3, Thickness of locking plate: 1.5 mm Side load on locking plate: 5 kN. No breakage occurred.	P
5.8.9.3	EN1220 9:2003 6.8.9.3	Resistance to pulling on locking plate	Applicable for lock with hook bolt only	NA
5.8.9.4	EN1220 9:2003 6.8.9.4	Resistance to lifting force on locking plate:	Applicable for sliding door lock only	NA

TEST RESULTS

Test procedure: Additional Durability test Test sample No.:

S	2	4	0	2	2	1	0	0	1	-	1	9
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for P1-S60 Model: P1-S60

Req. Clause	Test Clause	Requirement Details	Result	P = PASS F = FAIL
5.3.3.2	6.3.3.2	Durability of deadbolt mechanism electrically operated When tested in accordance with 6.3.3.2, the deadbolt mechanism shall complete the minimum number of cycles specified in Table 6. Electric strikes (deadbolt function) shall be tested in accordance with 6.3.3.2 (i.e. treated as deadbolt). The deadbolt mechanism shall function correctly after this test fulfilling the requirements in EN 12209:2003, 5.2.2.	Operated deadbolt manually only	NA
5.3.2.2	6.3.2.1.1 or 6.3.2.1.2	Durability of latch action electrically operated The latch action shall complete the minimum number of cycles specified in Table 6 according to the grade selected. The latch action shall function correctly after this test fulfilling the requirements in EN 12209:2003 5.4.2 (closing force) and 5.11.1 (torque to withdraw the latch bolt(s)).	Grade S, Door mass: 200 kg Total 200 000 cycles for latch bolt with 50 N load on it (50 000 cycles for deadbolt & latchbolt coordinatively). After test, latchbolt and deadbolt function correctly. The closing force: 20.8 N No key; Torque to operate the deadbolt via follower: 2.40 Nm Torque to operate the deadbolt via turn: 0.40 Nm Torque to withdraw the latch bolt via follower: 1.44 Nm	P
5.3.3.1	6.3.3.1	Durability of deadbolt mechanism mechanically operated The deadbolt mechanism shall complete the minimum number of cycles according to the grade given in Table 6. The deadbolt mechanism shall function correctly after this test fulfilling the requirements in EN 12209:2003, 5.2.2.	See Clause 5.3.2.2 in this test procedure.	P
5.3.3.3	6.3.3.2	Durability of deadbolt mechanism automatically operated When tested in accordance with the principle in 6.3.3.2, the deadbolt mechanism shall complete the minimum number of cycles specified in Table 6.	No deadbolt mechanism automatically operation function	NA

TEST RESULTS

Test procedure: Marking and other requirement

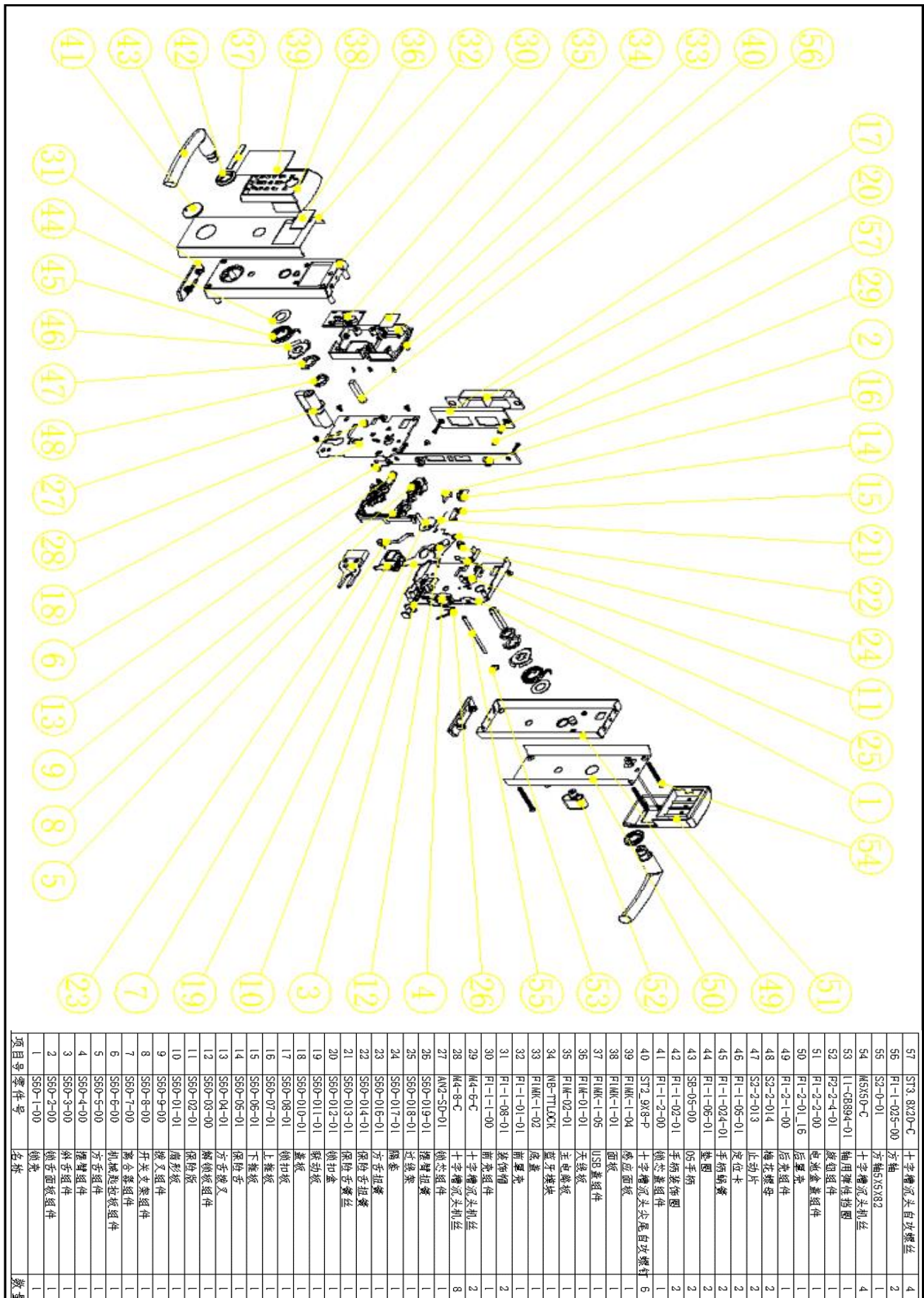
Test sample No.:

S	2	4	0	2	2	1	0	0	1	-	1	3
---	---	---	---	---	---	---	---	---	---	---	---	---

Model: F7-S60

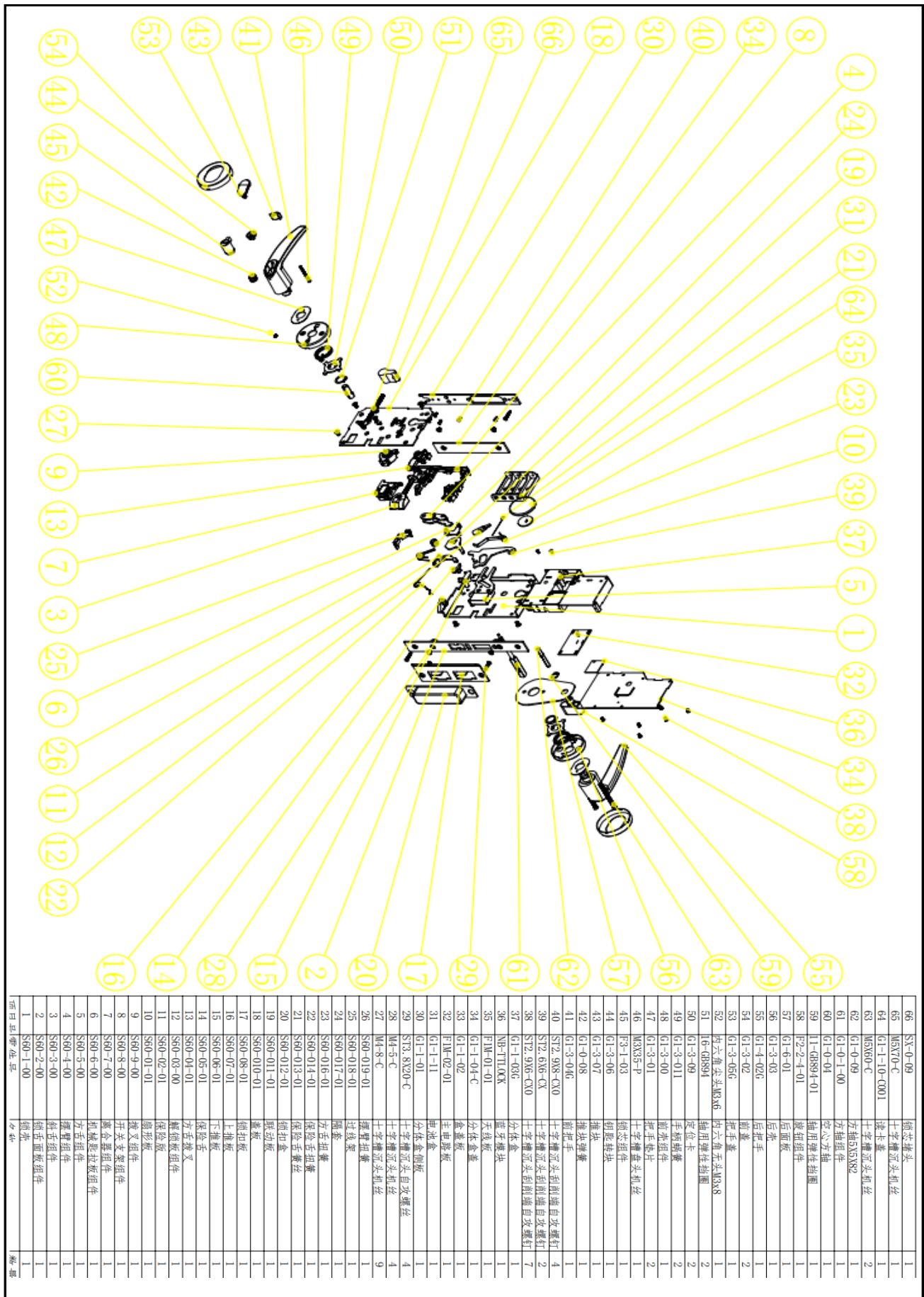
Req. Clause	Requirement Details	Result	P = PASS F = FAIL
5.1.1	Compatibility between cooperating parts The manufacturer shall state which cooperating parts have been designed to be used in combination.	All cooperating parts were provided	P
5.1.2	Dangerous substance Materials in products shall not contain or release any dangerous substances in excess of the maximum levels specified in existing European material standards or any national regulations in the country of intended use.	Informative	—
5.1.3	Operation time for locking and unlocking Operation time in both directions between the end positions shall not exceed 3 s.	< 1s	P
5.6	Safety	No safety requirement	NA
7	Marking		
	The following information shall be quoted in the labeling, packaging or literature. a) manufacturer's name or trademark or other means of positive identification; b) clear product identification c) classification according to clause 4 of this European Standard; d) number and date of this European Standard.	No Marking.	NA

PRODUCT DRAWING(S)



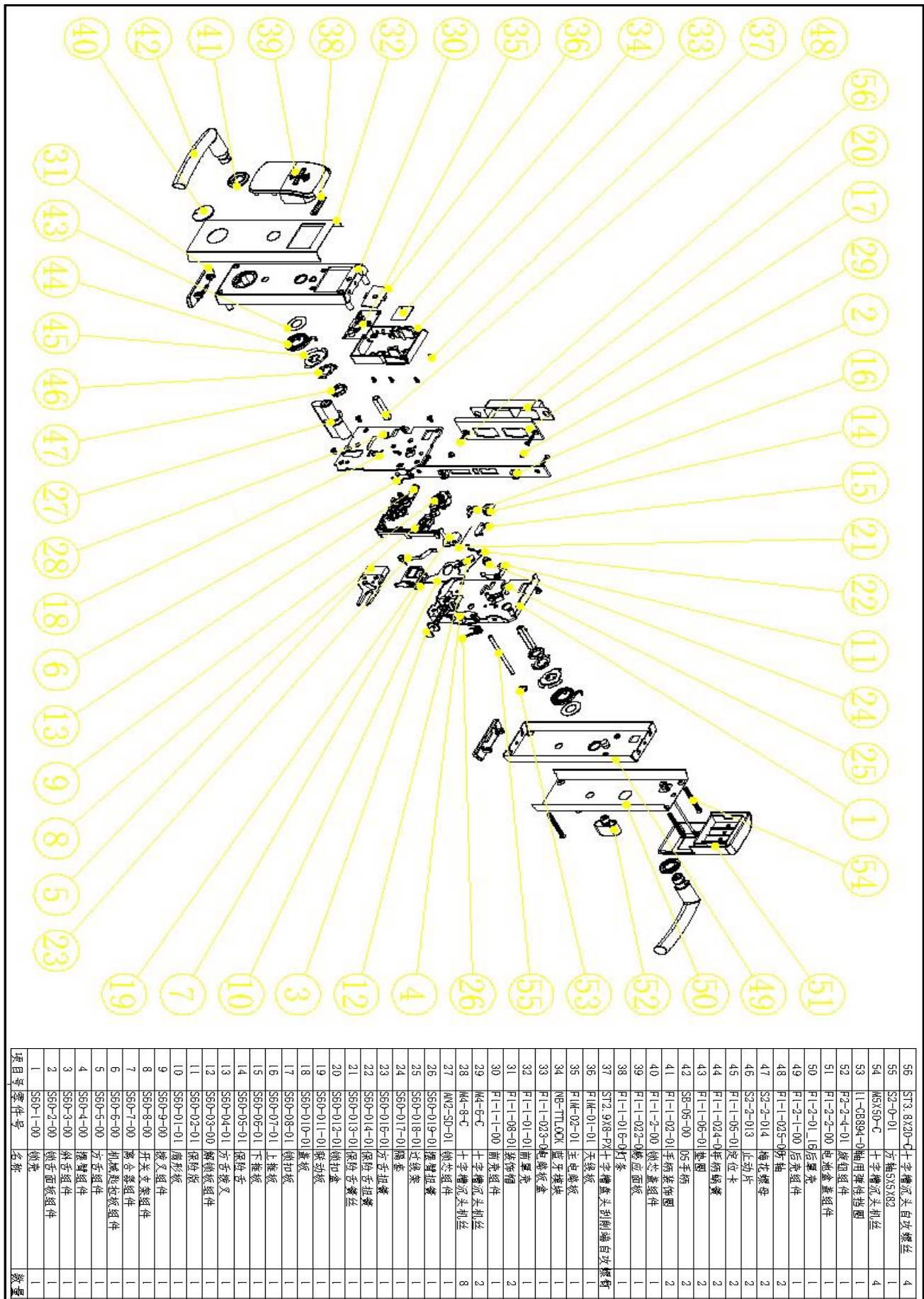
F7-S60

PRODUCT DRAWING(S)



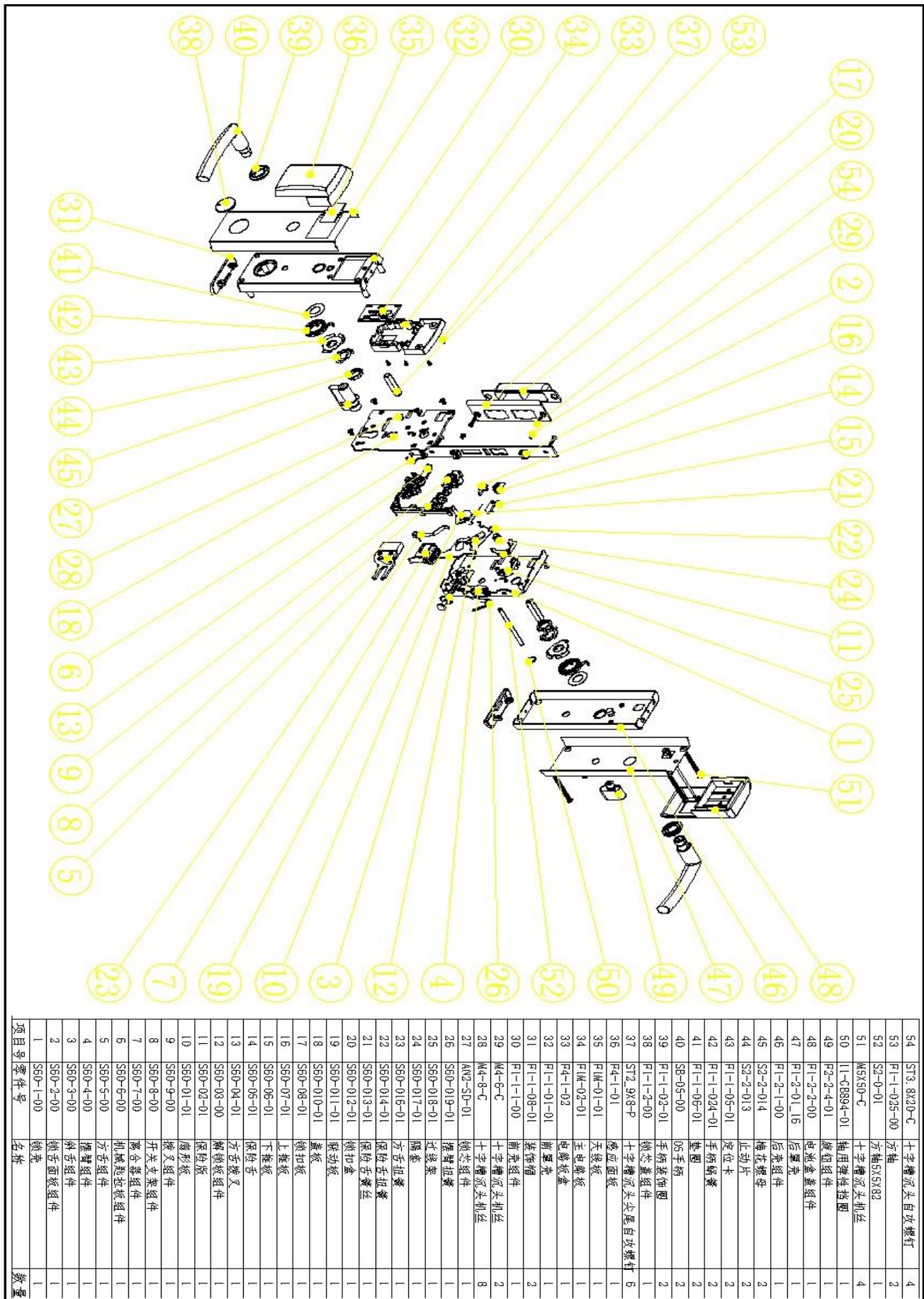
P1-S60

PRODUCT DRAWING(S)



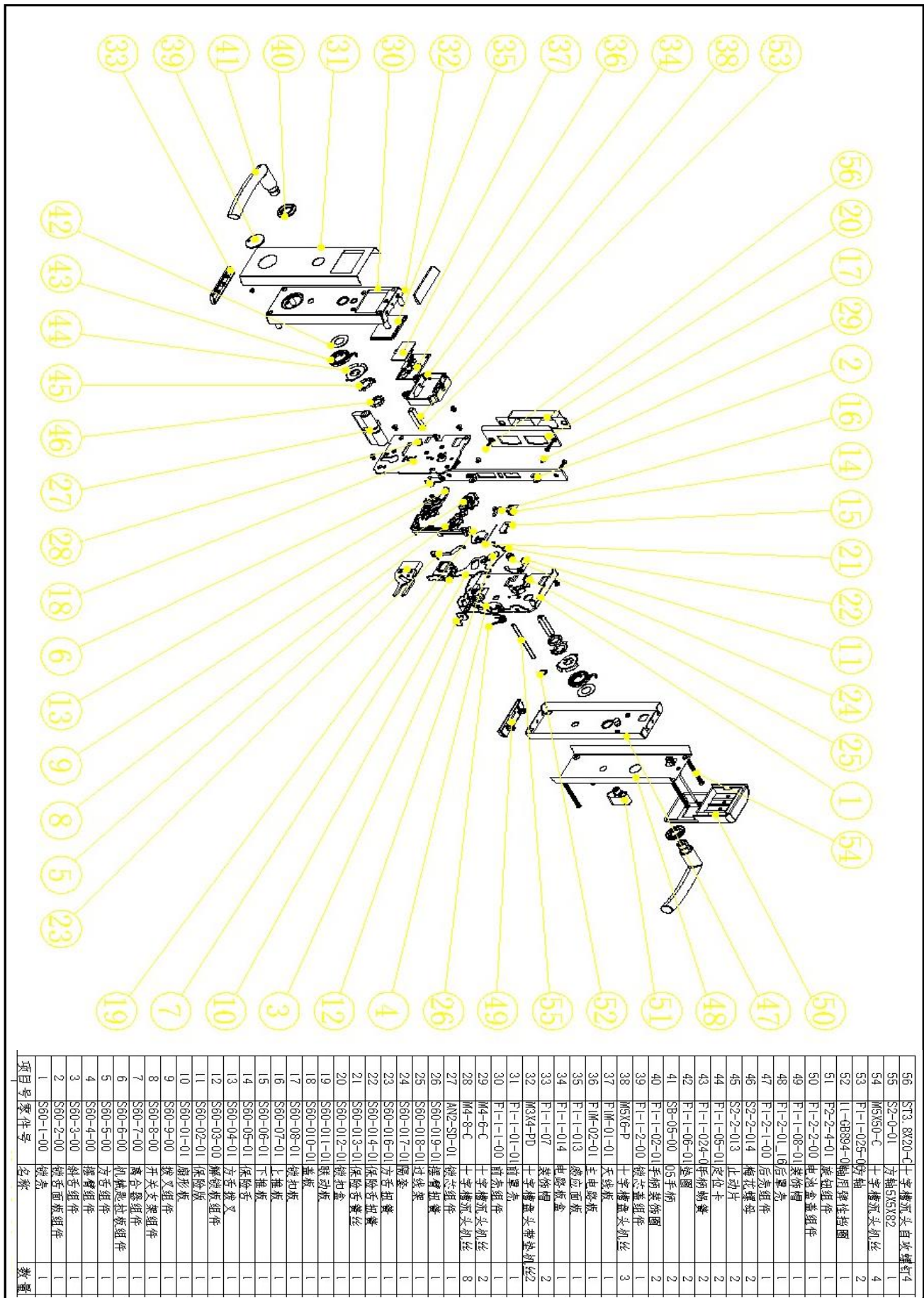
F1-S60

PRODUCT DRAWING(S)



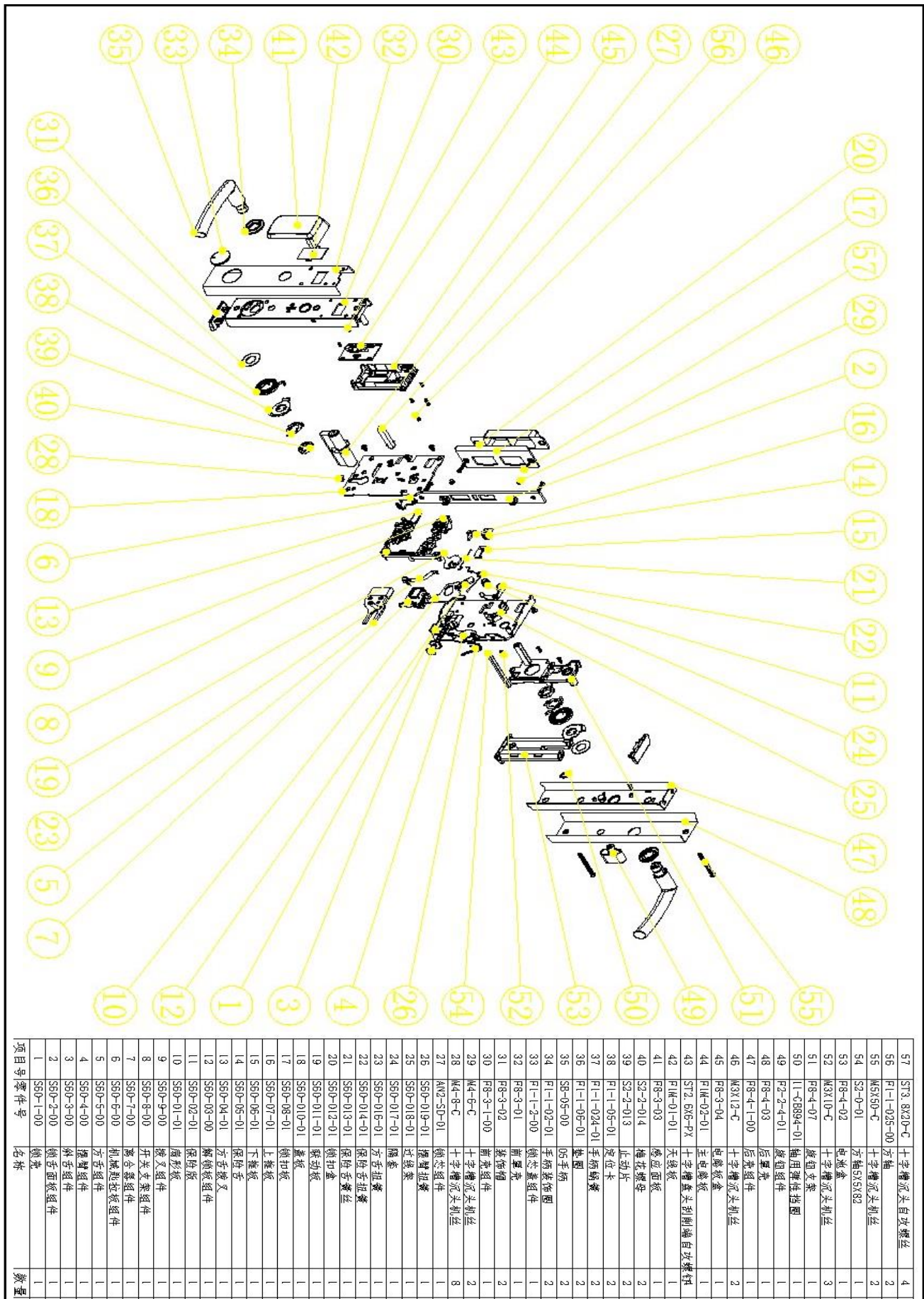
F4-S60

PRODUCT DRAWING(S)



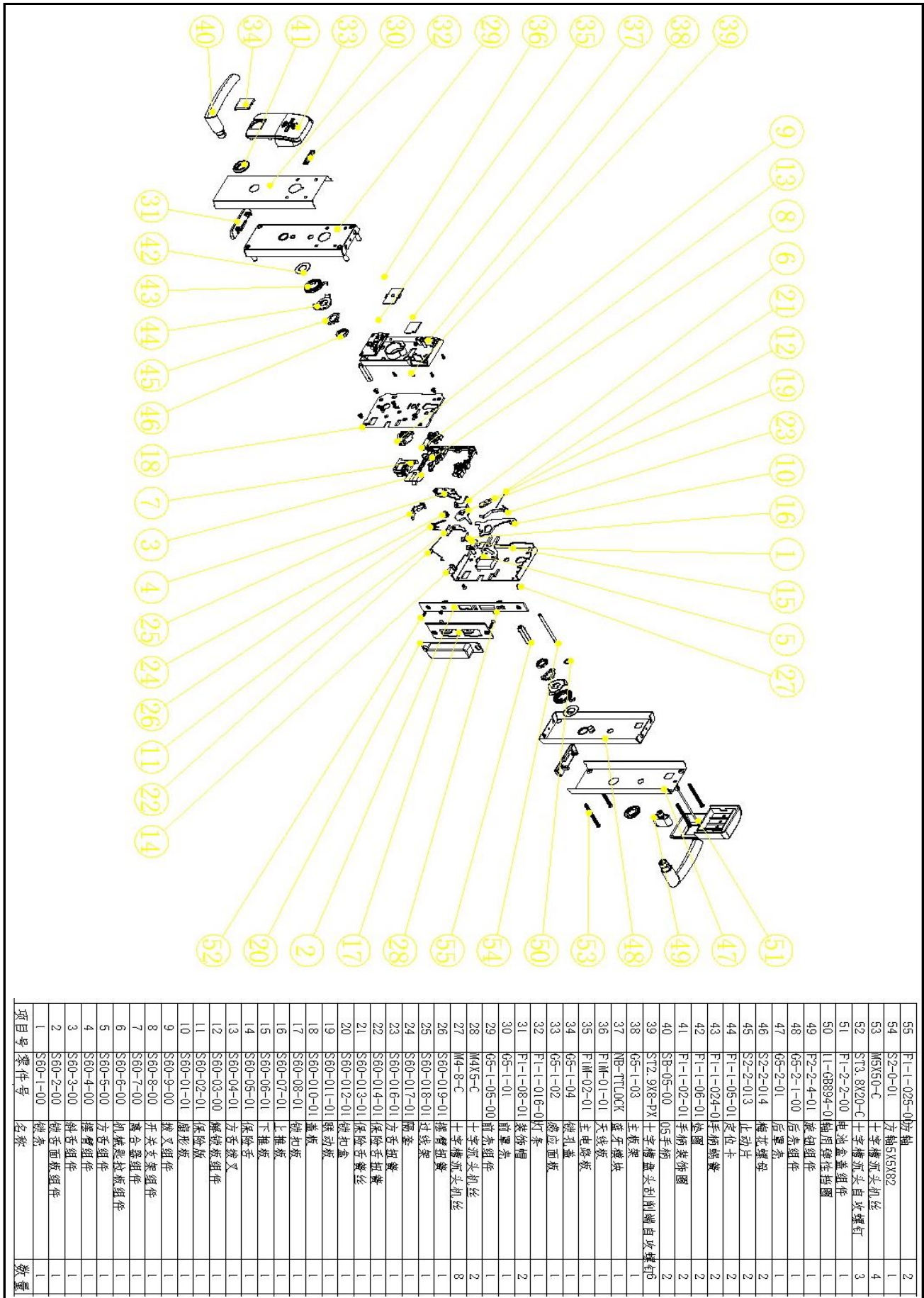
F5-S60

PRODUCT DRAWING(S)



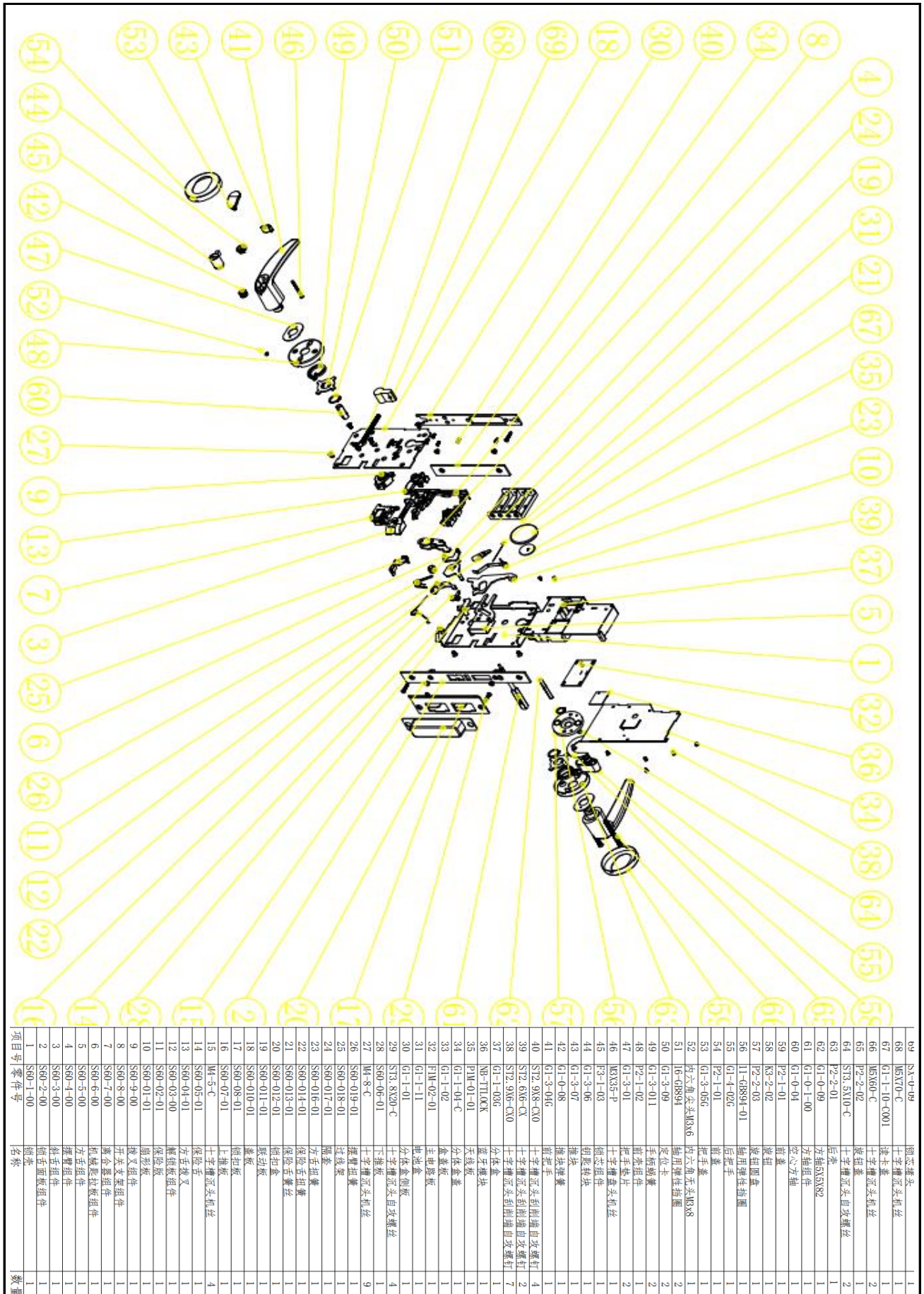
F8-S60

PRODUCT DRAWING(S)



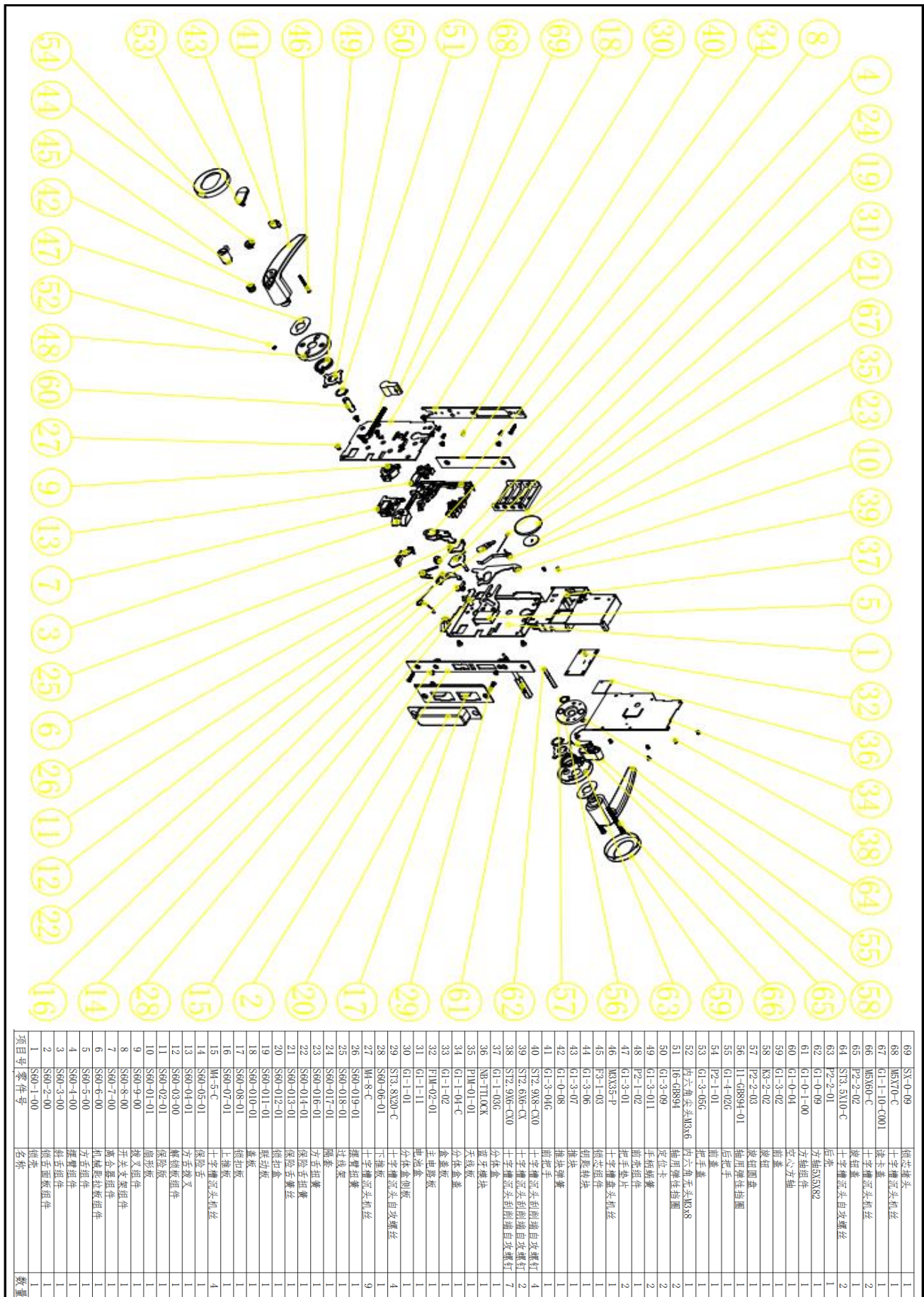
P5-S60

PRODUCT DRAWING(S)



P2-S60

PRODUCT DRAWING(S)



P3-S60

PRODUCT PHOTO(S)



F7-S60



P1-S60

PRODUCT PHOTO(S)

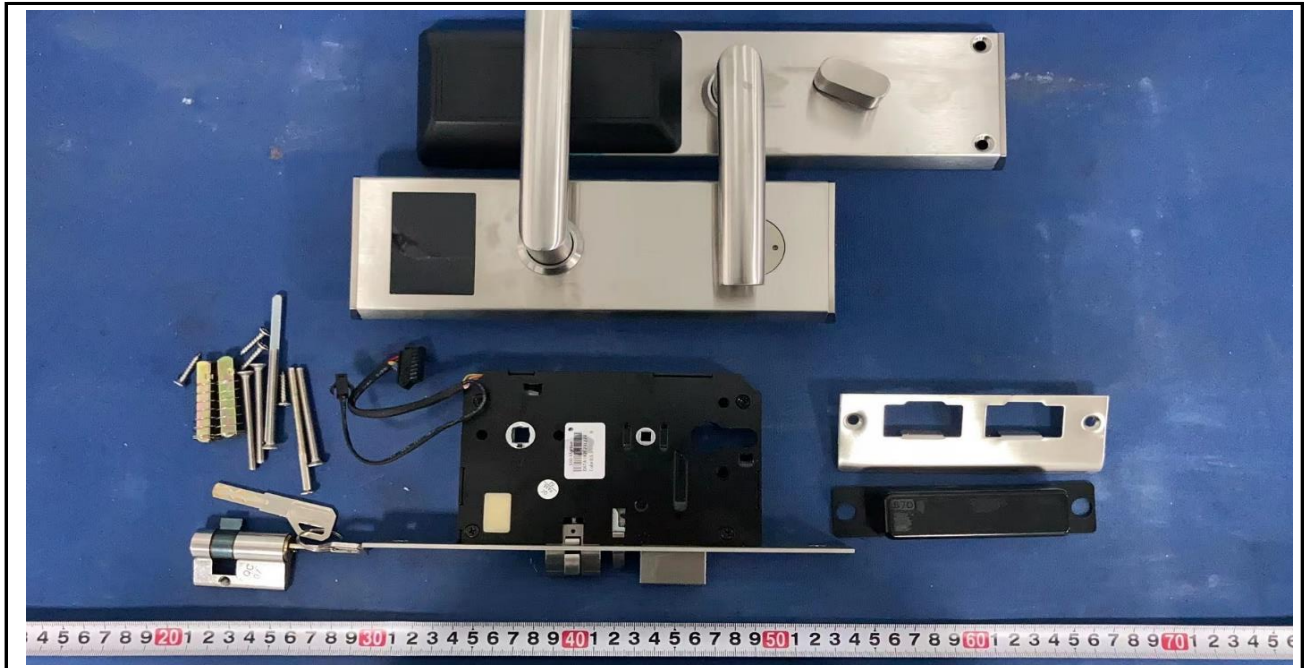


F1-S60



F4-S60

PRODUCT PHOTO(S)

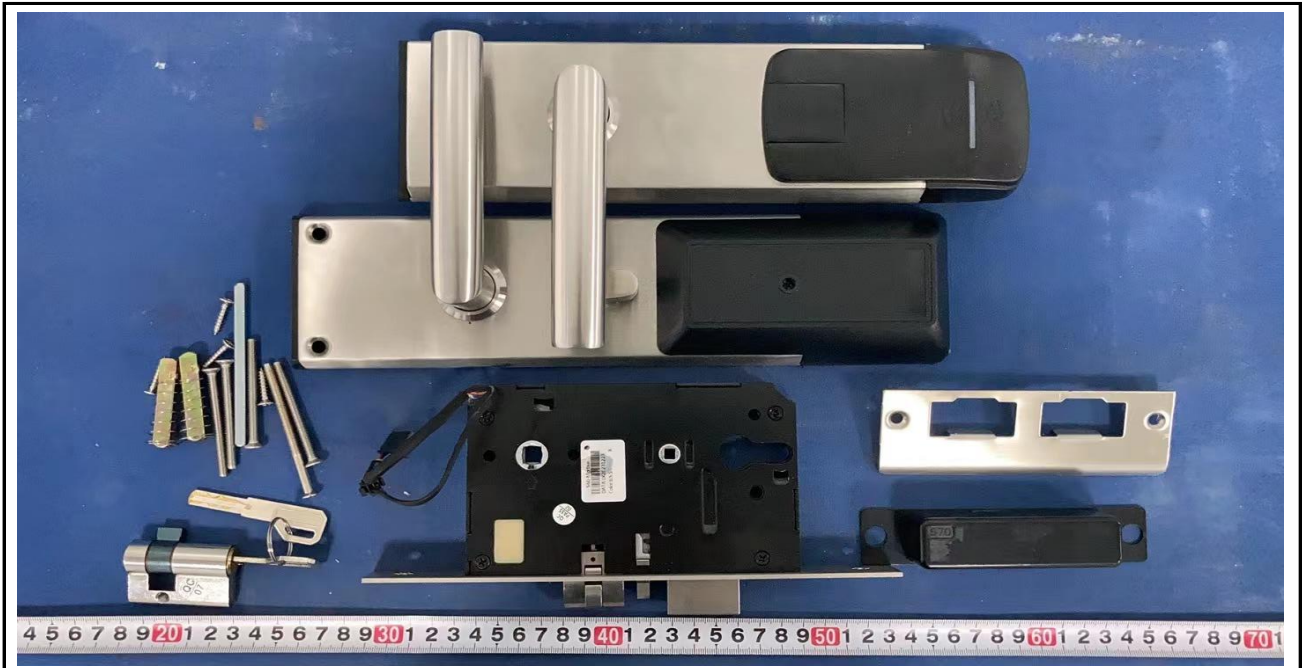


F5-S60

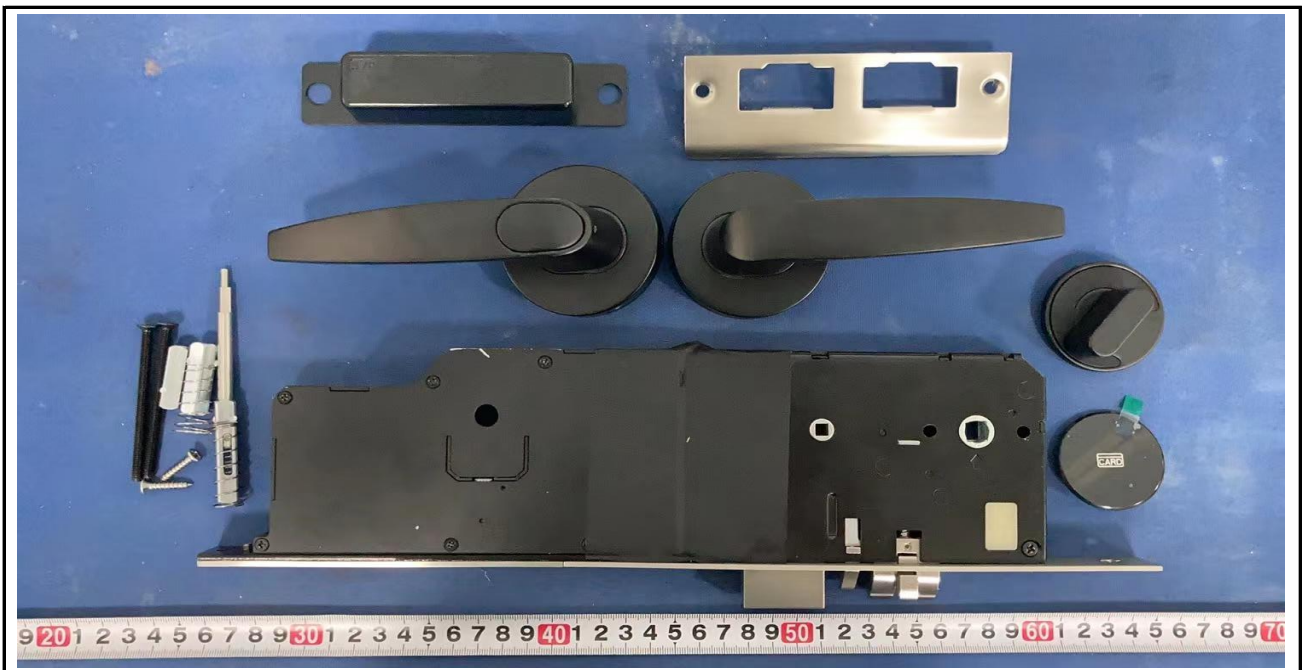


F8-S60

PRODUCT PHOTO(S)

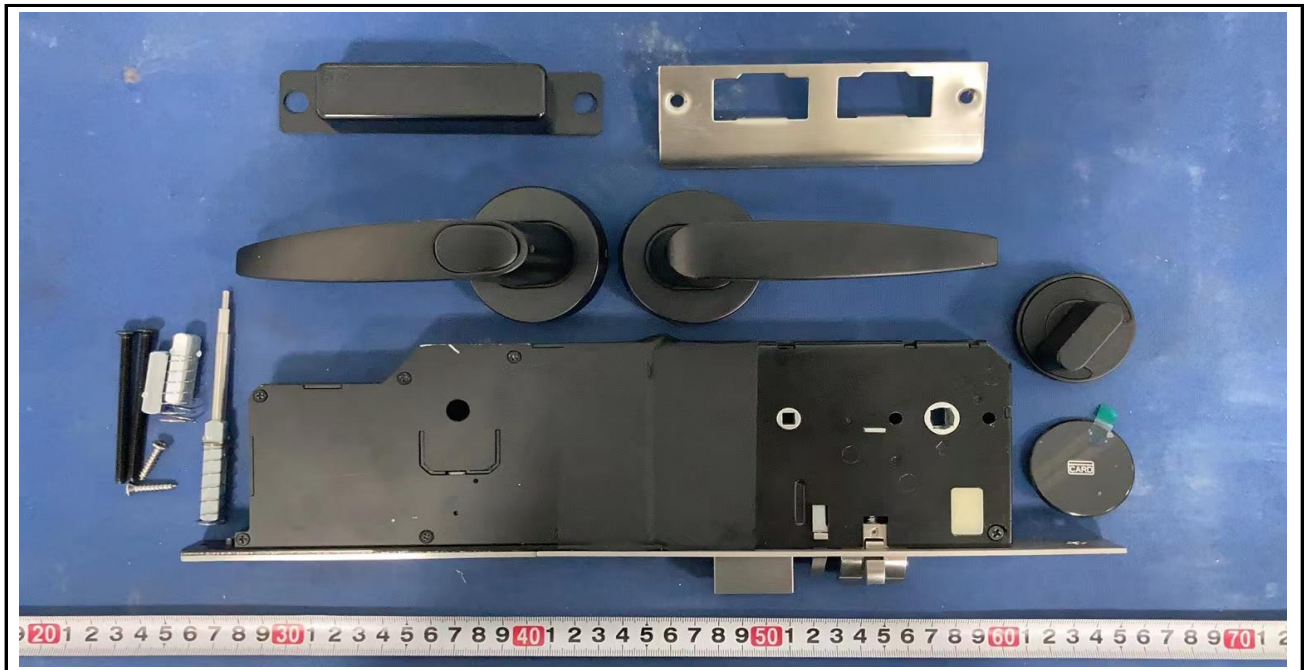


P5-S60



P2-S60

PRODUCT PHOTO(S)



P3-S60

REVISION HISTORY

Revision No.	Date	Changes	Author	Reviewer
Original	2024/6/28	First issue		

The End of Report