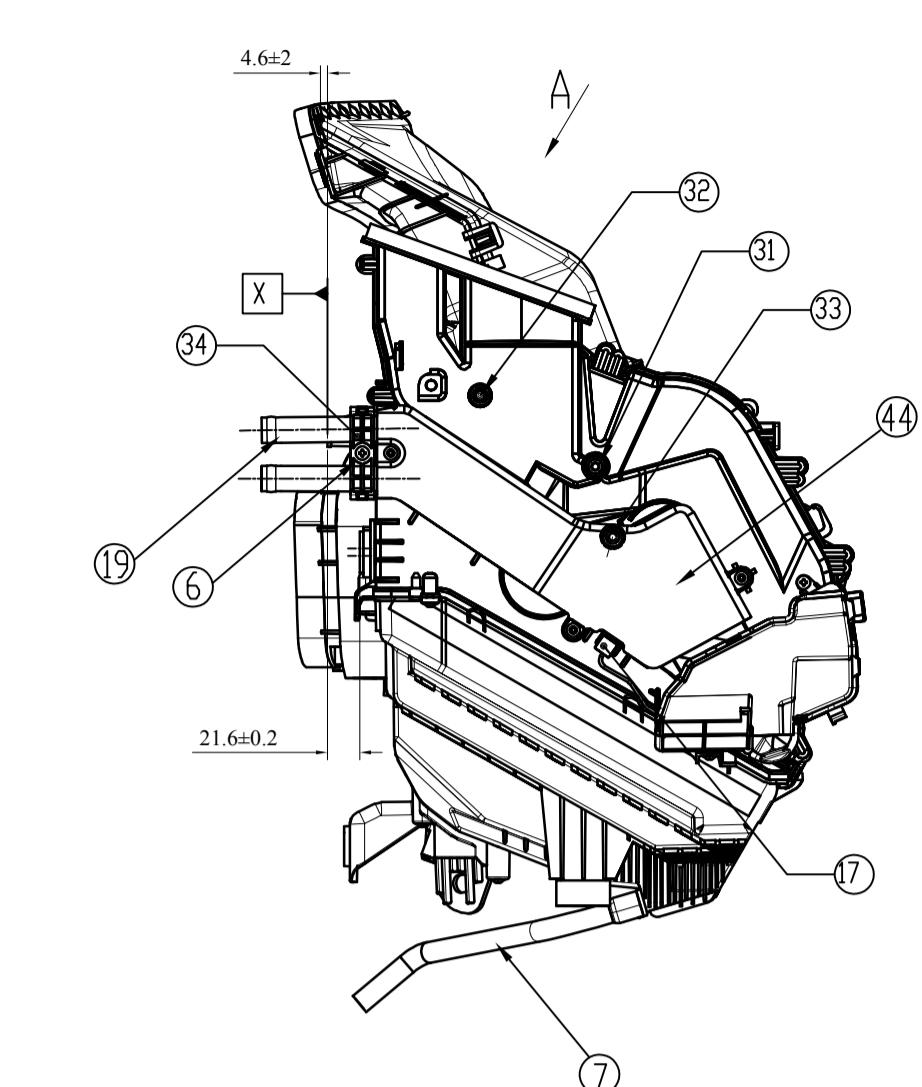
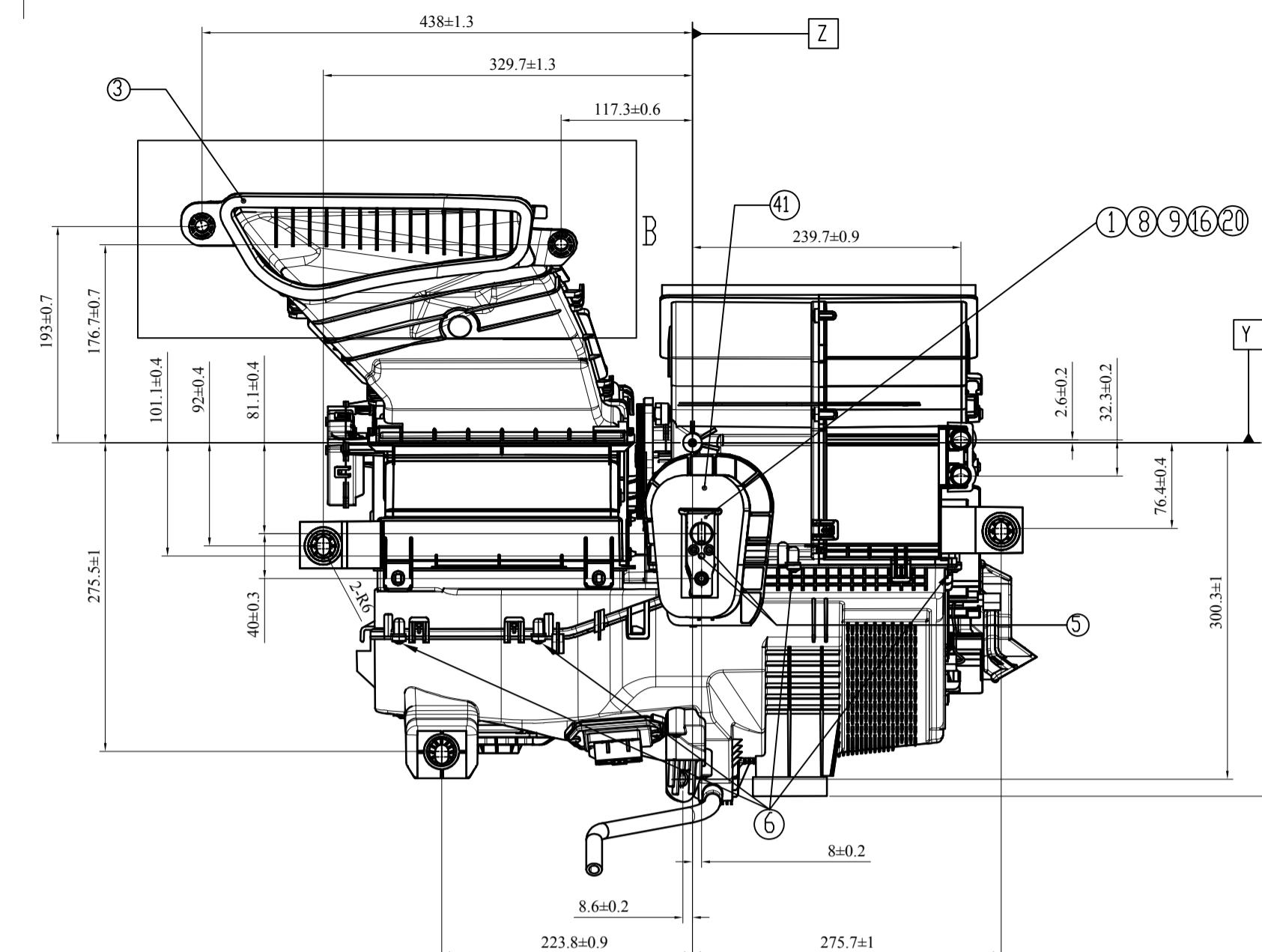
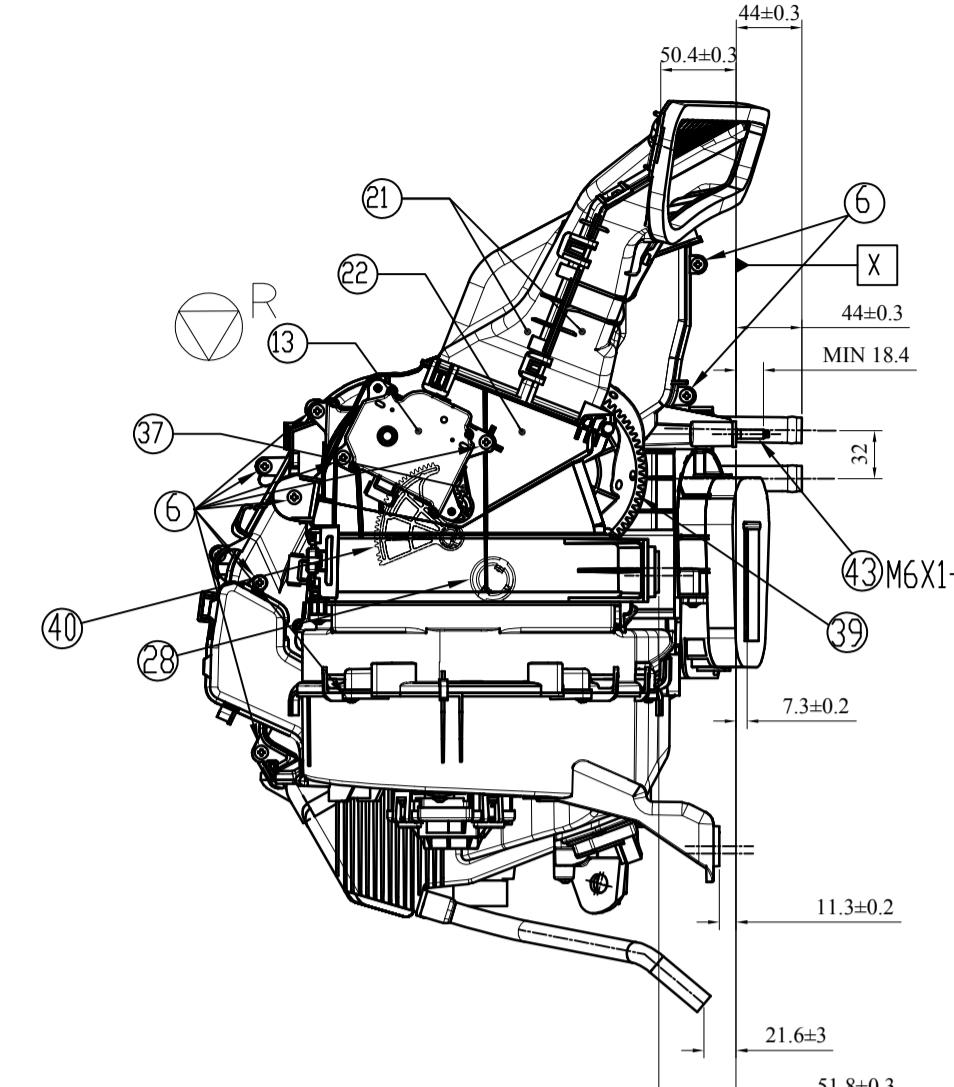
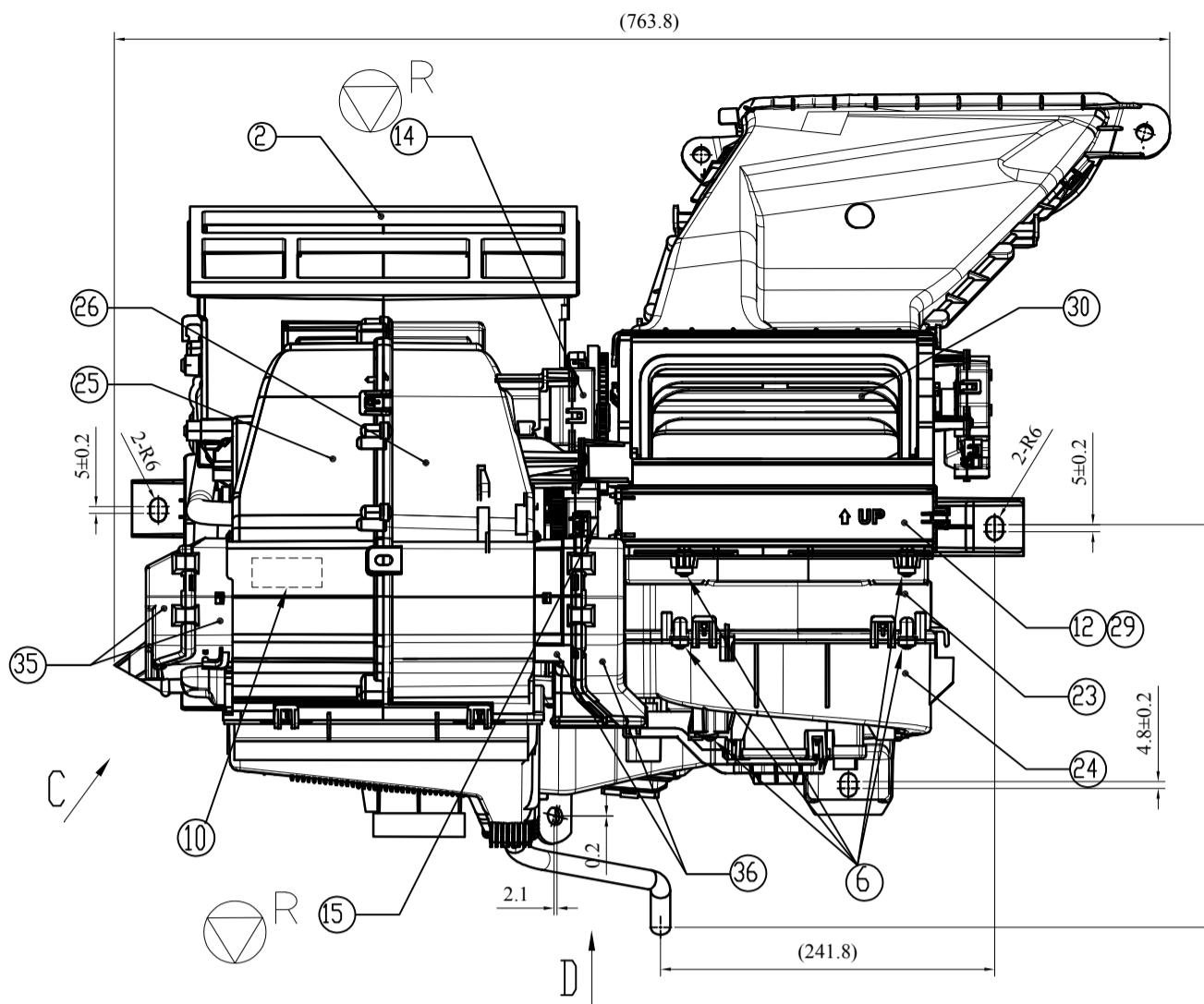


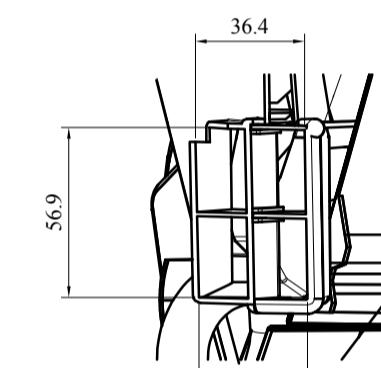
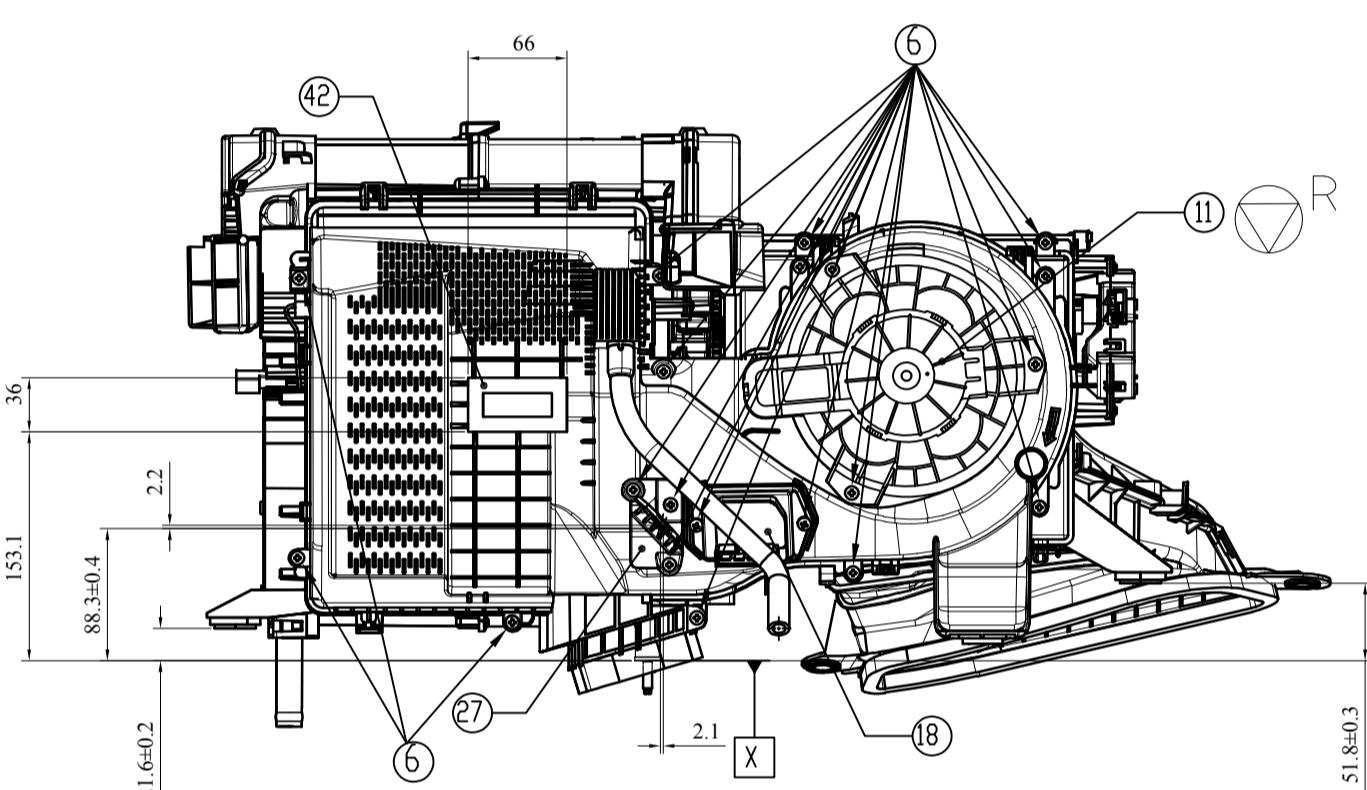
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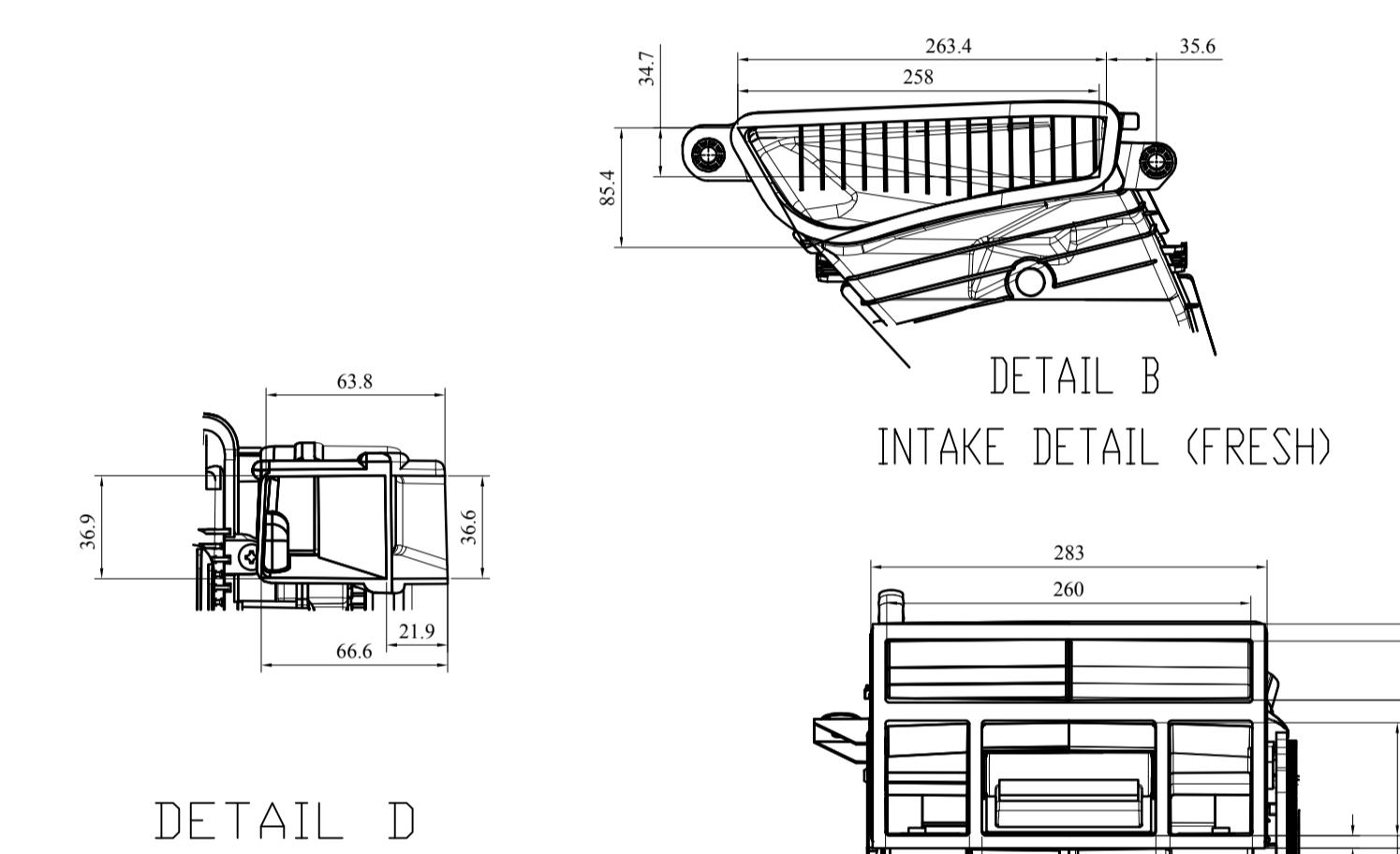
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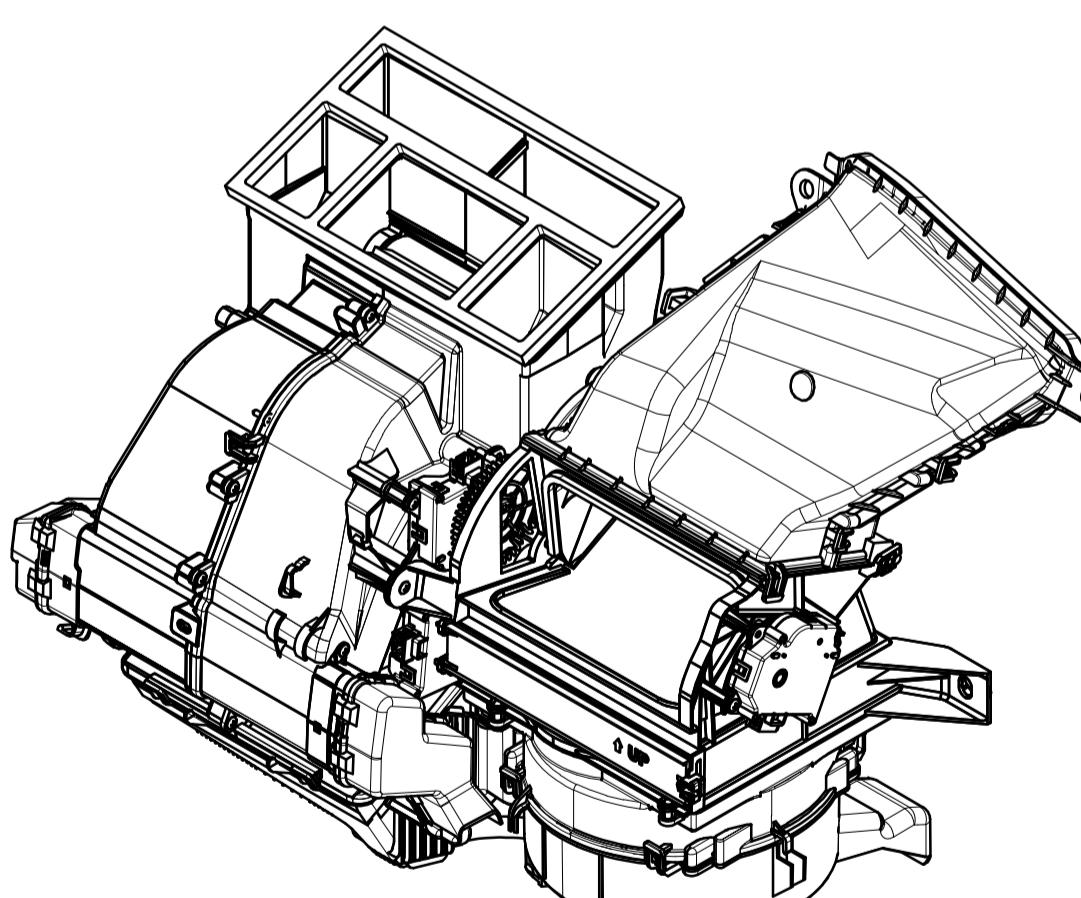
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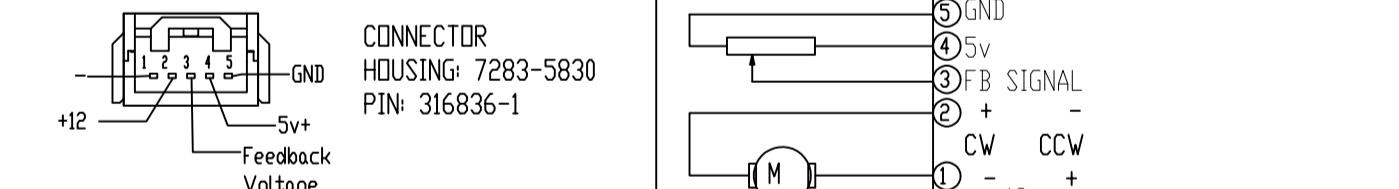
DETAIL C
SCALE 2:5
LEFT FOOT OUTLET DETAIL



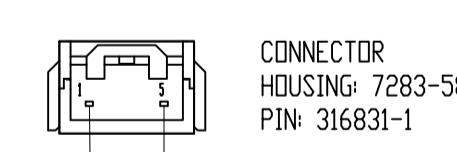
DETAIL B
INTAKE DETAIL (FRESH)



ISOMETRIC VIEW



MODE & AIRMIX MOTOR ACTUATOR PIN AND SCHEMATIC DIAGRAM



INTAKE MOTOR ACTUATOR PIN AND SCHEMATIC DIAGRAM



FAN SPEED MODULE PIN AND SCHEMATIC DIAGRAM

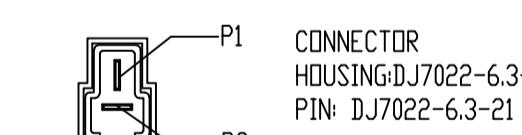
CONNECTOR HOUSING: 7283-5846

NOMINAL RESISTANCE AND TOLERANCE

R2a=4.394KΩ±2% / R6a=3.7715KΩ±2%

MATERIAL CONSTANT: B25/50=3900±1%

Thermistor Pin and Schematic Diagram



BLOWER MOTOR PIN AND SCHEMATIC DIAGRAM

1. GENERAL SPECIFICATION :

- (1) CASE
 - 1) STANDARD THICKNESS: 1.5±0.2mm.
 - 2) MATERIAL: PP-TD20% & PP-TD40%.
 - 3) COLOR : BLACK .

- (2) DOOR
 - 1) COLOR : BLACK
 - 2) MATERIAL : P.P - TD40%

- (3) ARM AND LEVER
 - 1) MATERIAL : POM
 - 2) COLOR : BLACK
 - 3) VENT, DEFROST, FOOT : MOTOR ACT
 - 4) TEMP DOOR : MOTOR ACT

(4) DRAIN HOSE & TXV RUBBER GROMMET

- 1) COLOR : BLACK
- 2) MATERIAL : EPDM BASE ON KES BL005A
- 3) CLASSIFICATION SYMBOL AA, GROUP I
- 4) HARDNESS 60±5: HS

4) TEST METHOD IS BASED ON KES BL006

(5) PACKING OUTLET DUCT & PACKING DUCT INTAKE

- 1) MATERIAL: PUR FOAM
- 2) COLOR IS GRAY OR DARK GRAY.

3) DENSITY IS 30kg/m³.

	ABOVE 3° BELOW	ABOVE 3° BELOW	ABOVE 4° BELOW	ABOVE 30° BELOW	ABOVE 120° BELOW	ABOVE 35° BELOW	ABOVE 100° BELOW	OVER	90°	ANGLE (°)
A	0.05	0.1	0.15	0.2	0.3	0.4	0.7	1.0	—	1.5
B	0.2	0.3	0.4	0.5	0.7	1.0	1.6	2.5	—	
C	0.4	0.5	0.6	0.8	1.2	1.6	3.0	4.0	—	
D	0.5	0.8	1.0	1.2	1.8	2.8	4.0	6.0	—	
E	1.0	2.5	2.5	3.5	5.0	7.0	10.0	15.0	—	
F				10.0	15.0	20.0	30.0	45.0	15%	—

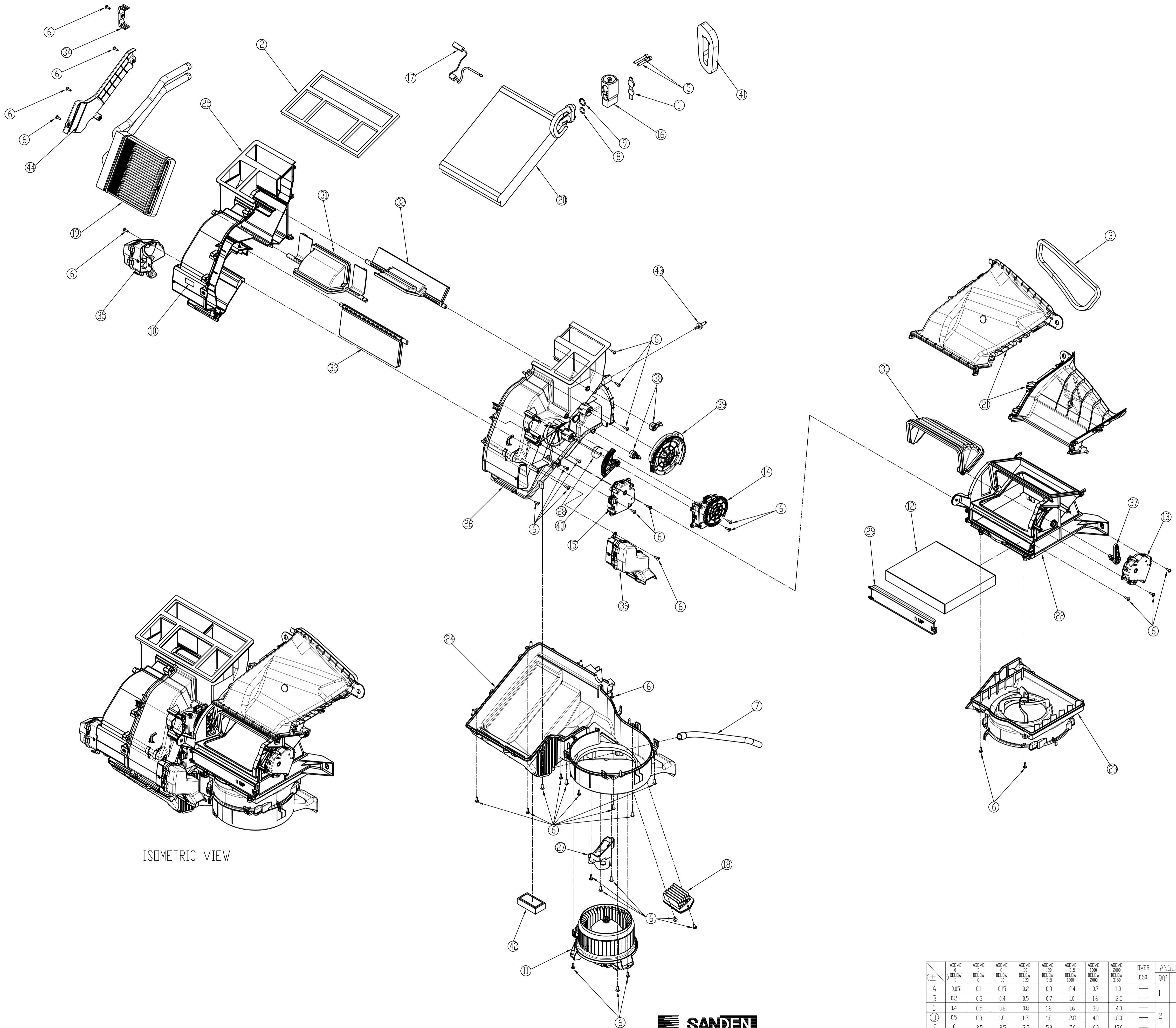
MODE	AIR DISTRIBUTION (%)					AIR FLOW RATE (m³/h)	CONDITION
	VENT	COOL MAX	40	55	5		
RECIRC	BL	INTERMEDIATE	20	40	40	420	BLOWER VOLTAGE 12V
FRESH	FOOT	HOT MAX	5	20	75	0	280
	FOOT/DEF	HOT MAX	0	15	45	40	320
	DEF	HOT MAX	0	15	5	80	320
						±5%	±10%

S/N	PART NUMBER	DESCRIPTION	QTY	UNIT	MATERIAL	DIMENSION	REMARKS
1	R1436-D0240	TXV Cap	1	PC	PE		
2	R1194-40470	PACKING OUTLET DUCT	1	PC	PU FOAM	110	30 (kg/m ³)
3	R1194-40470	PACKING DUCT INTAKE	1	PC	PU FOAM	110	30 (kg/m ³)
4	R1550-10070	WIRE HARNESS (AUTO)	1	PC			
5	R1851-04060	M5x40 BOLT	2	PC			
6	R1852-40030	TAPPING SCREW T4x14	40	PC			
7	S1420-40540	DRAIN HOSE	1	PC	EPDM		
8	S4439-00041	10.8 O-RING	1	PC	H-NBR	Ø10.8x2.4	
9	S4439-00051	13.4 O-RING	1	PC	H-NBR	Ø13.4x2.4	
10	R1901-00020	LABEL	1	PC			
11	S1104-10020	BLOWER MOTOR	1	PC			R1500-10070
12	C1186-40040	AIR FILTER	1	PC			
13	C1502-10340	MA INTAKE ASSY	1	PC			
14	C1502-10350	MA MODE ASSY	1	PC			ONLY AUTO
15	C1502-10360	MA AIRMIX ASSY	1	PC			ONLY AUTO
16	C1515-A0070	TXV	1	PC			
17	C1533-40240	TERMOSTOR	1	PC			
18	C1540-10211	FAN DRIVER	1	PC			ONLY AUTO
19	R1141-10110	HEATER ASSY	1	PC			
20	C1751-A0030	EVAP CORE	1	PC			
21	R1511-1130	DUCT INTAKE ASSY	1	PC			
22	R1511-41360	CASE INTAKE	1	PC	PP-TD20		
23	R1511-41370	CASE BLOWER UPPER	1	PC	PP-TD20		
24	R1511-41380	CASE BLOWER LOWER	1	PC	PP-TD20		
25	R1511-41390	CASE HEATER LEFT	1	PC	PP-TD20		
26	R1511-41400	CASE HEATER RIGHT	1	PC	PP-TD20		
27	R1511-41410	LOWER INSTL BRACKET	1	PC	PP-TD20		
28	R1511-41420	CASE COVER GEAR HOLE	1	PC			
29	R1519-40250	COVER AIR FILTER	1	PC	PP-TD20		
30	R1519-10170	DOOR INTAKE ASSY	1	PC			
31	R1519-10180	DOOR FOOT ASSY	1	PC			
32	R1519-10190	DOOR VENT DEF ASSY	1	PC			
33	R1519-40290	DOOR AIRMIX	1	PC	PP-TD40		
34	R1519-80230	HEATER CORE PIPE BRACKET	1	PC			
35	R1570-10670	DUCT LEFT FOOT ASSY	1	PC			
36	R1570-10680	DUCT RIGHT FOOT ASSY	1	PC			
37	R5571-40150	LEVER INTAKE	1	PC	POM		
38	R5571-40160	LEVER GEN	2	PC	PBT		
39	R5571-40170	GEAR MODE (AUTO)	1	PC	POM		
40	R5571-40190	GEAR AIRMIX (AUTO)	1	PC	POM		
41	R11190-40160	TXV PACKING	1	PC	PVC		
42	S1185-10050	SUPPORTING RUBBER	1	PC	EPDM		
43	S1851-41060	CENTER BOLT	1	PC			
44	R1151-40370	PIPE COVER	1	PC			

STA	REVISION	DATE	NAME	PROJECT:	SP100	DATE: 1400/12/07
DRW.	Jabbari	SANDEN		SUBJECT:	HVAC ASSY, FULLY AUTOMATIC	
CHECK	Yadegar	SANDEN		CONF:		
CONF	Yadegar	SANDEN		PART NO:	TN28127110D	SCALE: 1:5
APP	Khosravi	S.G.S.		DRAWING NO.:	TN28127110D	A1 SHEET: 1
TOLERANCES ACCORDING TO:						ROUGHNESS: MAT.

1 2 3 4 5 6 7 8

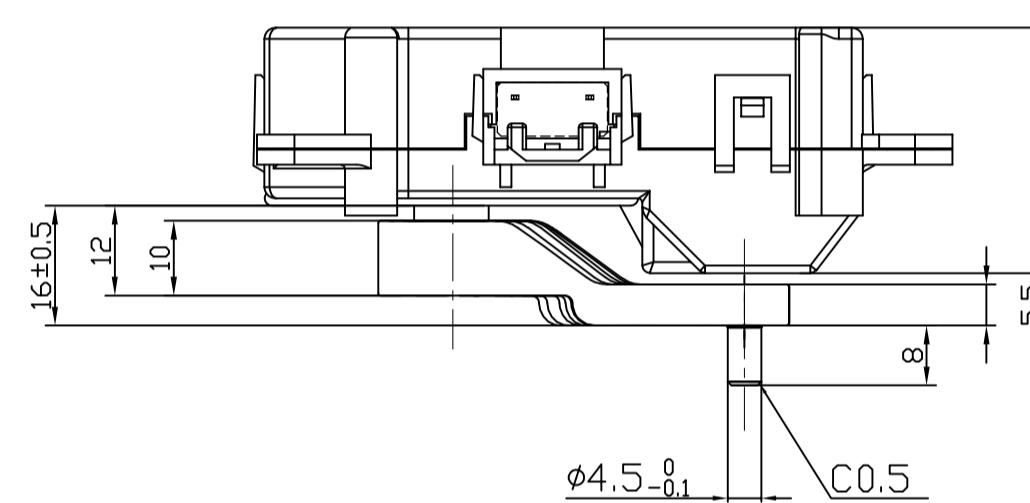
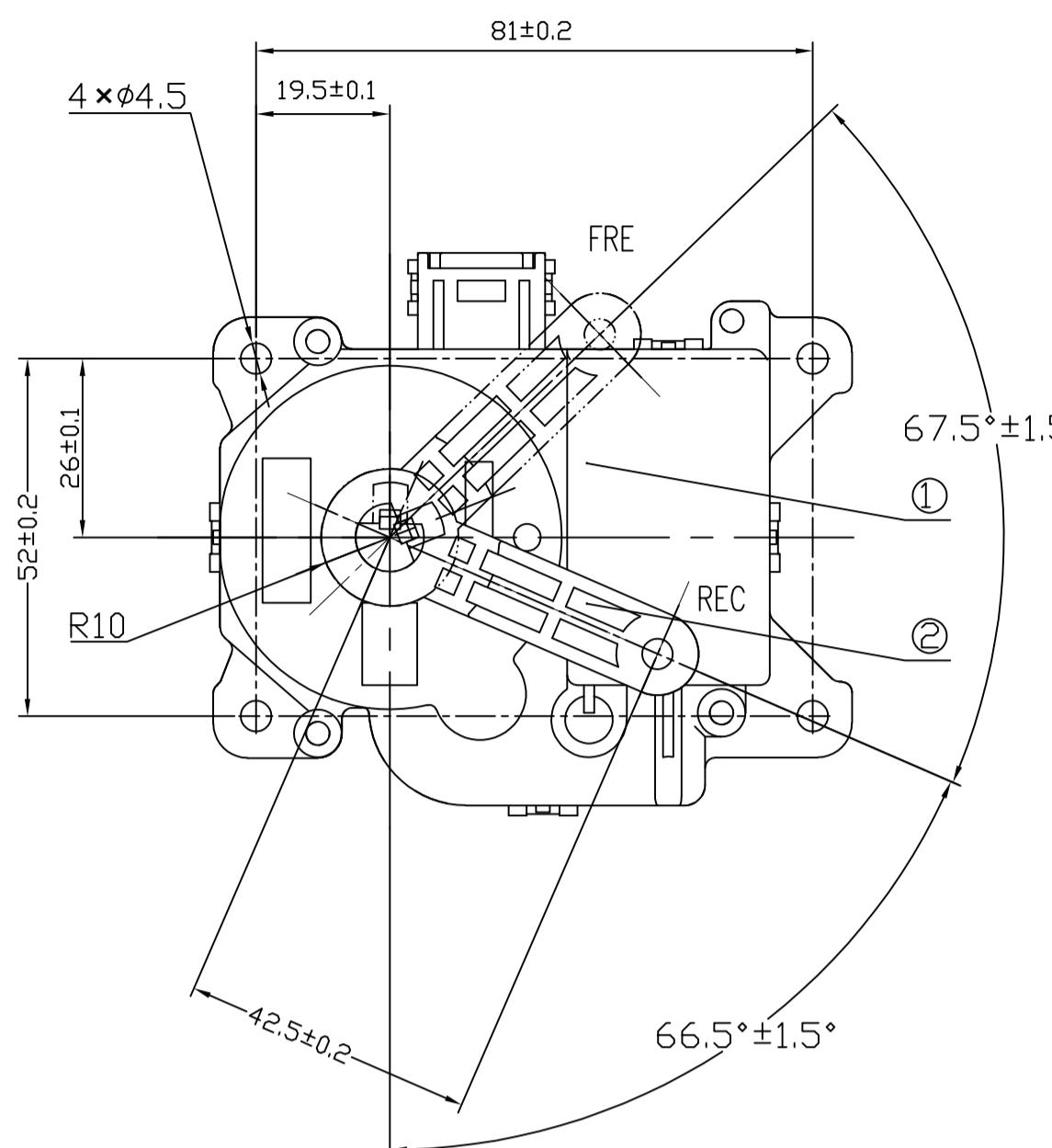
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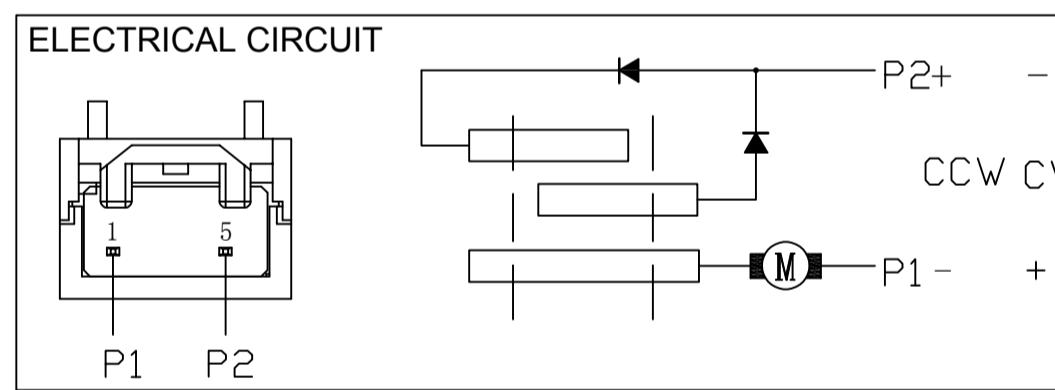
S/N	PART NUMBER	DESCRIPTION	QTY	UNIT	MATERIAL	DIMENSION	REMARKS
1	R1436-0024	TV Cap	1	PC	PE		
2	R1194-40470	PACKING OUTLET DUCT	1	PC	PU FOAM	110	30 (kg/m³)
3	R1194-40480	PACKING DUCT INTAKE	1	PC	PU FOAM	110	30 (kg/m³)
4	R1550-10070	WIRE HARNESS (AUTO)	1	PC			
5	R1851-40660	M5x40 BOLT	2	PC			
6	R1852-40038	TAPPING SCREW T4x14	40	PC			
7	S1420-00540	DRAIN HOSE	1	PC	EPDM		
8	SA439-00041	10.8 O-RING	1	PC	H-NBR	Ø10.8x2.4	
9	SA439-00051	13.4 O-RING	1	PC	H-NBR	Ø13.4x2.4	
10	R1901-00020	LABEL	1	PC			
11	S1104-10020	BLOWER MOTOR	1	PC			R1500-10070
12	C1186-40048	AIR FILTER	1	PC			
13	C1502-0340	MA INTAKE ASSY	1	PC			
14	C1502-10350	MA MODE ASSY	1	PC			ONLY AUTO
15	C1502-10360	MA AIRMIX ASSY	1	PC			ONLY AUTO
16	C1515-40070	TXV	1	PC			
17	C1532-40240	THERMISTOR	1	PC			
18	C1540-10211	FAN DRIVER	1	PC			ONLY AUTO
19	R1141-10110	HEATER ASSY	1	PC			
20	C1751-40030	EVAP CORE	1	PC			
21	RS151-11830	DUCT INTAKE ASSY	1	PC			
22	RS151-41360	CASE INTAKE	1	PC	PP-TD20		
23	RS151-41370	CASE BLOWER UPPER	1	PC	PP-TD20		
24	RS151-41380	CASE BLOWER LOWER	1	PC	PP-TD20		
25	RS151-41390	CASE HEATER LEFT	1	PC	PP-TD20		
26	RS151-41400	CASE HEATER RIGHT	1	PC	PP-TD20		
27	RS151-41410	LOWER INST BRACKET	1	PC	PP-TD20		
28	RS151-41420	CASE COVER GEAR HOLE	1	PC			
29	RS159-40250	COVER AIR FILTER	1	PC	PP-TD20		
30	RS159-40179	DOOR INTAKE ASSY	1	PC			
31	RS159-10180	DOOR FOOT ASSY	1	PC			
32	RS159-10190	DOOR VENT DEF ASSY	1	PC			
33	RS159-40290	DOOR ARMIX	1	PC	PP-TD40		
34	RS159-80230	HEATER CORE PIPE BRACKET	1	PC			
35	RS170-10670	DUCT LEFT FOOT ASSY	1	PC			
36	RS170-10680	DUCT RIGHT FOOT ASSY	1	PC			
37	RS571-40150	LEVER INTAKE	1	PC	POM		
38	RS571-40160	LEVER GEN	2	PC	PBT		
39	RS571-40179	GEAR MODE (AUTO)	1	PC	POM		
40	RS571-40190	GEAR AIRMIX (AUTO)	1	PC	POM		
41	R1190-40160	TXV PACKING	1	PC	PVC		
42	S1185-10050	SUPPORTING RUBBER	1	PC	EPDM		
43	S1851-41060	CENTER BOLT	1	PC			
44	R1151-40370	PIPE COVER	1	PC			

STA	REVISION	DATE	NAME	PROJECT:	SP100	DATE:	1400/12/07
DRW.	Jabbari	SANDEN		SUBJECT:	HVAC ASSY, FULLY AUTOMATIC	UNIT:	mm
CHECK	Yadegar	SANDEN					
CONF	Yadegar	SANDEN		PART NO:	TN28127110D	SCALE:	1:5
APP	Khosravi	S.G.S.		DRAWING NO:	TN28127110D	A1	SHEET:
TOLERANCES ACCORDING TO:				ROUGHNESS:			
				MAT.			

SHEET: 3



CIRCUIT DIAGRAM



Motor actuator terminal type number:
Socket: 7283-5830
Terminal: 316836-1
Terminal tin plating

- SPECIFICATION:**
- Standard test voltage DC12±0.2V, standard test torque 20N·cm (2kgf·cm).
 - Operating voltage range: DC7V ~ 15V.
 - Operating temperature range: -30 ° C ~ +60 ° C.
 - Starting voltage: When a torque of 20 N·cm (2 kgf·cm) is applied to the output shaft, the applied voltage is from 0 V to The step of 0.5V rises and the voltage rises The speed is 0.5V/3sec. When the output shaft reaches the running angle and can be operated, the voltage is measured, and DC7V or less is required.
 - Rated current: When a torque of 69 N·cm (7 kgf·cm) is applied to the output shaft, the output is measured at DC12V. The current at the time of the turn requires 0.2A or less.
 - Starting torque: When DC12V is applied, the torque on the output shaft is measured, and 69 N·cm (7 kgf·cm) is required. on.
 - Locking current: When the motor shaft is fixed, the motor current value when DC12V is applied is measured. Below 0.5A.
 - Stop position allowable tolerance: Run the test piece and measure the deviation from the stop position, requiring ±2° Inside.
 - Action time (1 reciprocating): When the torque is DC12V, 69N·cm (7kgf·cm), measure the full running angle 5 reciprocating times, requiring an average of 27 sec/low/running angle.
 - Noise: At DC12V, no noise is used to measure noise with a noise meter. The noise meter is separated from the motor assembly 100mm, the position of the front, back, left and right and the upper and lower directions are measured, and the requirement is 47dB or less.
 - Insulation resistance: use DC500V megger insulation resistance meter, between each terminal and box, motor terminal 5MΩ or more with the potential terminal.
 - Withstand voltage: AC600V/1sec is applied between each terminal and the box, and there is no abnormality required.
 - Wire tensile strength: Apply a static load of 19.6 N (2 kgf) to the substrate in the horizontal and vertical directions. There was no deformation or damage after the test.
 - Connection strength:
 - The sheath is fully fitted, applied in each direction of stretching (2 directions) and vertical direction (4 directions) Static load of 98N (10kgf) for 5sec.
 - Start until the state in which the sheath and the terminal come into contact, insert the vertical direction of the stretching direction in four directions, each A static load of 98 N (10 kgf) was applied for 5 sec, and there was no abnormality after the test, and there was no deviation from the lock. - Terminal strength: Apply static load of 49N (5kgf) or more for 5sec in the tensile direction of the terminal Abnormal.
 - Reliability test: The test method is as follows. The test requirements are as required in the left table.
 - Operation endurance test: In the vehicle installation state, the test of the following conditions is applied, and the number of reciprocating operations 100,000 times
 - test voltage: DC 13.5V,
 - load 0.196N·m (2kgf·cm).
 - Vibration resistance test: Test in the order of 1 → 2 in the vehicle installation state,
 - Resonance point detection: vibration frequency 5 ~ 100Hz, period 10min, vibration acceleration 5m / s² / (0.5G). The detection condition is that the vibration measurement mode is an equivalent peak (EP);
 - Vibration durability:
 - When there is no resonance: vibration acceleration 68.6m / s² / (7.0G), vibration frequency 33Hz, the test time is 4hr (3hr) up and down, 2hr (1.5hr) left and right, 2hr (1.5hr) before and after, When there is resonance in the brackets.
 - When there is resonance, the resonance frequency (the main frequency is obtained when two or more), below 50 Hz acceleration at 10m/s²(1.02G) at full amplitude of 0.35mm or over 50Hz degree is measured in the direction of vibration for 1 hr, left and right and 0.5 hr before and after the test, after which only a does not have a total test at the time in brackets.
 - Temperature shock test: in the vehicle installation state, according to the cycle of Figure 3 for 6 cycles.

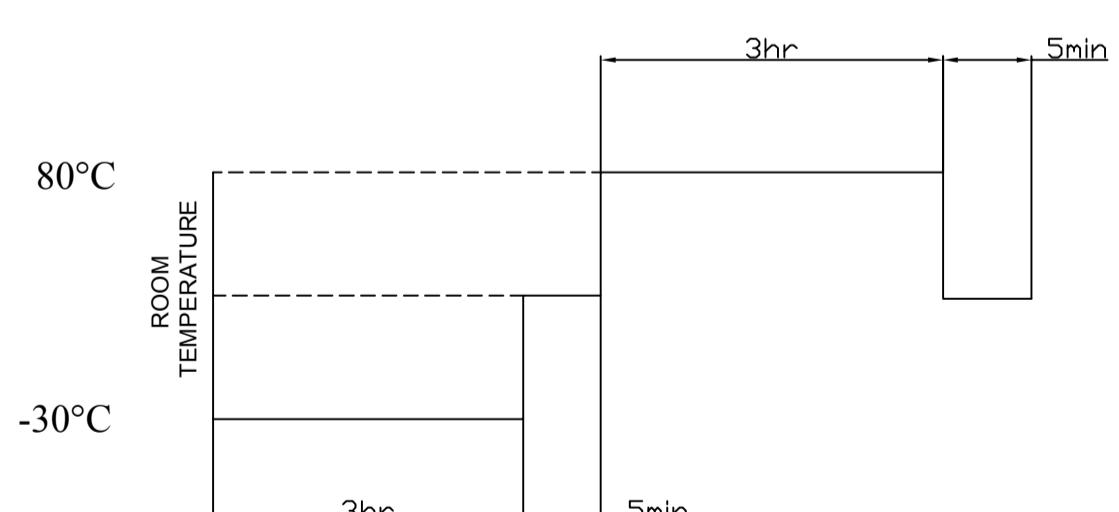
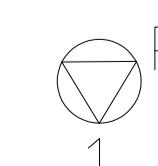


FIGURE 3



SANDEN

S/NO	PART NUMBER	DESCRIPTION	QTY	MATERIAL	DIMENSION	FINISHING	REMARKS
1	C1502-80110	MA INTAKE	1				
2	C1571-80360	LEVER	1	PBT			

- high temperature and high humidity test: after standing at 80 ° C / 90% RH for 72 hr, placed at room temperature for 2 hr;
- low temperature placement test: after standing at -35 ° C for 72 hr, placed at room temperature for 2 hr;
- Low temperature operation test: after standing at -35 ° C for 72 hr, apply DC9V at the same temperature;
- high temperature operation test: after standing at 60 ° C for 72 hr, apply DC9V at the same temperature;
- LOCK test: The motor shaft is locked under the following conditions, the test voltage is DC14.5V, Test temperature 60 ° C, test time 72 hr;
- Composite temperature cycle: 12 cycles according to the vehicle installation state and the cycle of Figure 4, but in the last cycle The following vibrations are applied within the range where the upper and lower limits are stable: 68.6m/s², 33Hz (7.0G, 2000 cpm) the axial direction is 0.5 hr;

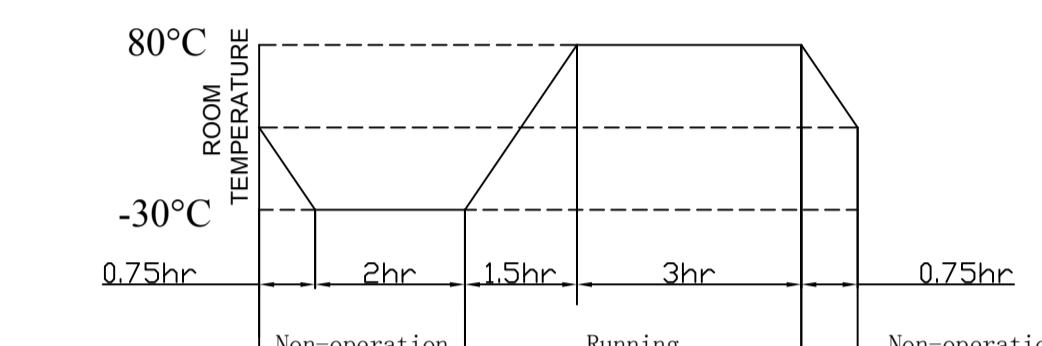


FIGURE 4

- Dust resistance test: In the state of vehicle installation, in order to achieve uniformity of dust in the test tank, stirring after a certain period of time, this is repeated as one cycle. The sample status is on-operating, and the dust size is the median diameter.
6.6 ~ 8.6μm, dust concentration 60000mg / m³ / above, stirring time 2sec, stop time 10min, anti-composite Counting time 8hr;

RELIABILITY TEST

Characteristic Item	Test Condition	Test items							
		High temperature operation	Low temperature operation	High temperature and humidity	Compound temperature cycle	Low temperature placement	Temperature shock	Vibration resistance	Dust resistance
1 Starting voltage	Less than DC7V	○	○	○	○	○	○	○	-
2 Starting current	Less than 0.5A	○	○	○	○	○	○	-	-
3 Starting torque	More than 69N·cm(7kgf·cm)	○	○	○	○	○	○	○	-
4 No load current	Less than 0.03A	○	○	○	○	○	○	-	-
5 Stop position tolerance	Within ±2°	○	○	○	○	○	○	-	-
6 Running time	27sec or less / running angle	○	○	○	○	○	○	-	-
7 noise	Less than 47dB	○	○	○	○	○	○	-	-
8 Insulation resistance	More than 5MΩ	○	○	○	○	○	○	-	-
9 Appearance, other	No external or internal abnormalities such as deformation, damage, and	○	○	○	○	○	○	-	-

- When the product is delivered, the stop position of the rotating rod should be in the REC state shown in the figure.
- This product must meet the requirements

For the non-metallic parts of the interior, the odor emission should meet the requirements of Grade 4 in Q/CC JT001-2009 "Test methods and limits for odor emission of automotive interior materials".

The limit requirements for lead, cadmium, mercury, hexavalent chromium, PBB and PBDE in Q/CC JT098-2008 "Limited Requirements for Toxic and Hazardous Substances in Automotive Products" are in compliance with environmental protection requirements;

Q/JLY J711291-2008 Volatile organic matter limit requirements for automotive interior materials;

Q/JLY J711169-2009 Details of the banned and restricted substances for automobile products;

Q/JLY J711175-2009 Technical conditions for the odour level limit of non-metallic parts in the car;

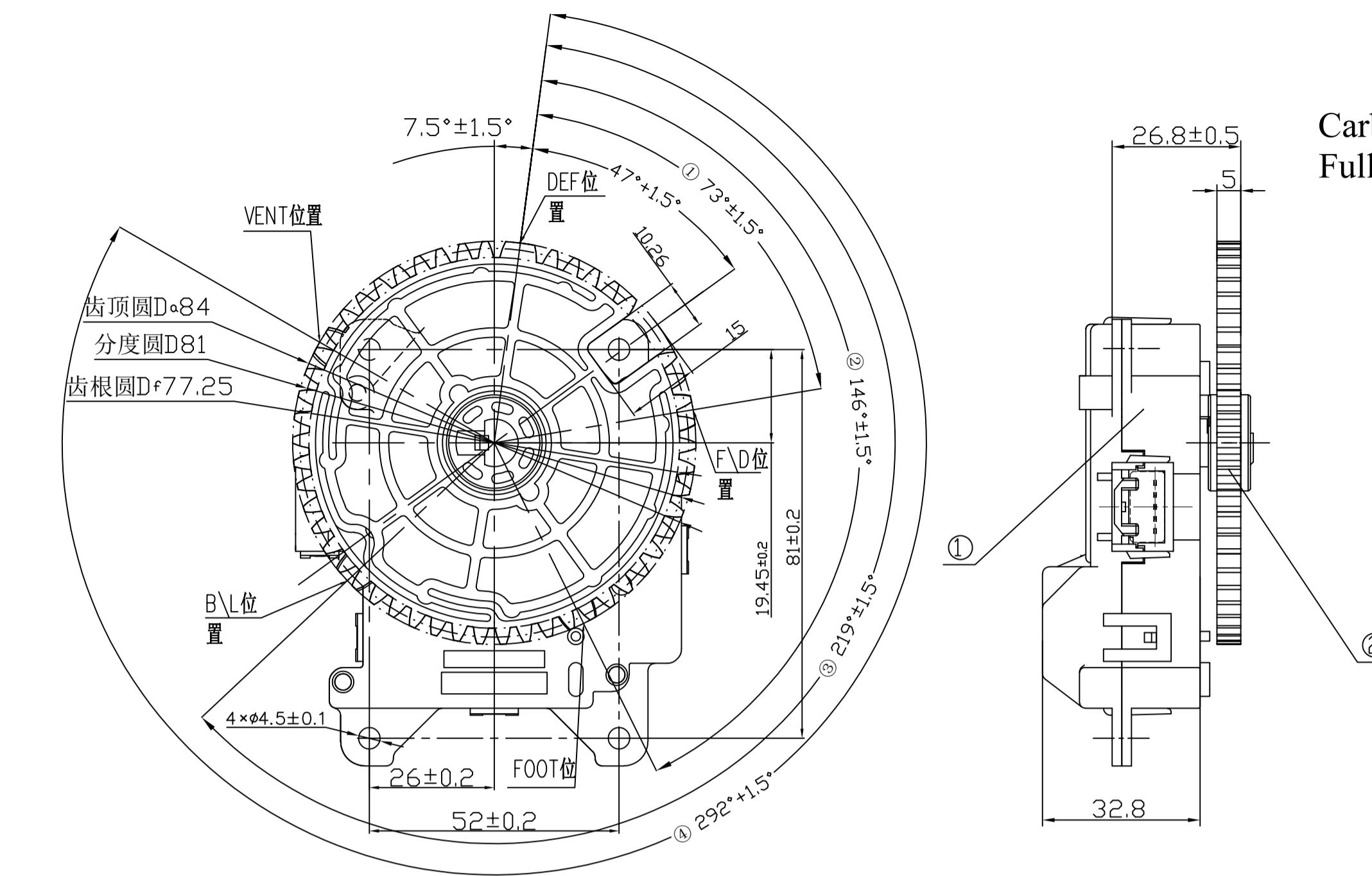
JLYY-JT30-08 Standard for polypropylene materials.

19. Manufacturer: Hubei Kate Auto Electronic System Co., Ltd.

20. Product weight: about 0.12kg.

21. Sanden part number of MA INTAKE ASSY: C1502-10340

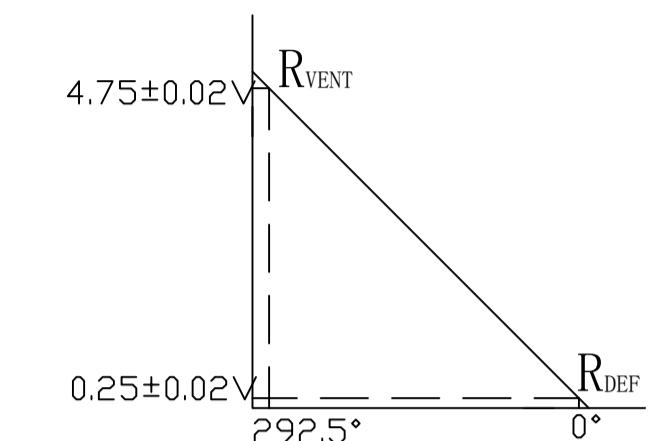
STA	REVISION	DATE	NAME	PROJECT:	SP100	DATE: 1400/10/28		
DRW.	Jabbari	SANDEN		SUBJECT:	HVAC ASSY, FULLY AUTOMATIC	UNIT: mm		
CHECK	Yadegar	SANDEN		CONF	Yadegar	SANDEN	PART NO: TN28127110D	SCALE: 1:1
APP	Khosravi	S.G.S.	DRAWING NO: TN28127110D	A1	SHEET: 1	TOLERANCES ACCORDING TO:	ROUGHNESS: MAT.	



SPECIFICATION: MA MODE ASSY(C1502-10350)

1. Standard test voltage DC12±0.2V, standard test torque: 59N·cm (6kgf·cm);
 2. Operating voltage range: DC7V ~ 15V;
 3. Operating temperature range: -30 °C ~ +60 °C;
 4. Starting voltage: When a torque of 59 N·cm (6 kgf·cm) is applied to the output shaft, the applied voltage rises from 0 V to 0.5 V, and the voltage rise rate is 0.5 V/3 sec. When the output shaft reaches the operating angle, it can be operated. When measuring the voltage, it is required to be below DC7V;
 5. Rated current: When a torque of 127 N·cm (13 kgf·cm) is applied to the output shaft, the current during the output operation is measured at DC 12 V, and is required to be 0.2 A or less;
 6. Starting torque: When applying DC12V, measure the torque on the output shaft, requiring 127N·cm (13kgf·cm) or more;
 7. Locking current: When the motor shaft is fixed, the motor current value when DC12V is applied is measured, and it is required to be 0.5A or less;
 8. Stop position allowable tolerance: Run the test piece and measure the deviation from the stop position, within ±2°;
 9. Operating time (one reciprocating): When DC12V, 127N·cm (13kgf·cm) torque is used, the full running angle is measured for five reciprocating times, and an average of 8 sec or less/running angle is required;
 10. Noise: In DC12V, when no load is used, the noise is measured by a noise meter. The noise meter and the motor assembly are 100mm in phase, and the positions in the front, back, left and right, and up and down directions are measured, and the requirement is 47dB or less;
 11. Insulation resistance: DC500V megger insulation resistance meter is used, which requires more than 5MΩ between each terminal and the box, between the motor terminal and the potential terminal;
 12. Withstand voltage: AC600V/1sec is applied between each terminal and the box, and there is no abnormality;
 13. Wire bundle tensile strength: A static load of 19.6 N (2 kgf) was applied to the substrate in the horizontal and vertical directions, and there was no deformation and breakage after the test.
 14. Connection strength:
 - 1) The sheath is completely fitted, and a static load of 98 N (10 kgf) is applied for 5 sec in each direction of stretching (2 directions) and vertical direction (4 directions).
 - 2) until the state in which the sheath and the terminal start to contact, the vertical direction of the insertion direction is inserted, and a static load of 98 N (10 kgf) is applied for 5 sec each, and there is no abnormality after the test, and there is no deviation from the lock; 15. Terminal strength: a static load of 49 N (5 kgf) or more is applied for 5 sec in the tensile direction of the terminal, and there is no abnormality after the test;
 16. Reliability test: The test method is as follows. The test requirements are as required in the left table.
- 1) Operation endurance test: In the vehicle installation state, the test of the following conditions is applied, and the number of reciprocating operations is 100,000 times.
- ① test voltage: DC 13.5V,
 - ② load 0.588N·m (6kgf·cm);
 - 2) Vibration resistance test: Test in the order of 1 → 2 in the vehicle installation state,
- ① Resonance point detection: vibration frequency 5 ~ 100Hz, period 10min, vibration acceleration 5m / s² / (0.5G), The detection condition is that the vibration measurement mode is an equivalent peak (EP);
- ② vibration durability:
When there is no resonance: vibration acceleration 68.6m / s² / (7.0G), vibration frequency 33Hz, test The time is 4 hr (3 hr) up and down, 2 hr (1.5 hr) left and right, 2 hr (1.5 hr) before and after, brackets There is a time when there is resonance.

Carbon film feedback corresponding characteristics:
Full-running angular resistance linearity requirement within ±3%



MODE	ANGLE(°)	VOLTAG(V)
DEF	0	0.25
DEF-F/D	73.1	1.38
F/D-FOOT	146.3	2.5
FOOT-B/L	219.4	3.63
B/L-VENT	292.5	4.75

- b. When there is resonance, the resonance frequency (more than 2 when acquiring the main The desired frequency), at 50 Hz or less, at a full amplitude of 0.35 mm, or when the temperature exceeds 50 Hz, the vibration acceleration is 10m/s²(1.02G). The vibration direction was 1 hr up and down, and the test was performed for 0.5 hr left and right and before and after. Then, when only a is not shared, the test is carried out according to the time in parentheses;
- 1) Temperature shock test: in the vehicle installation state, according to the cycle of Figure 3 for 6 cycles;

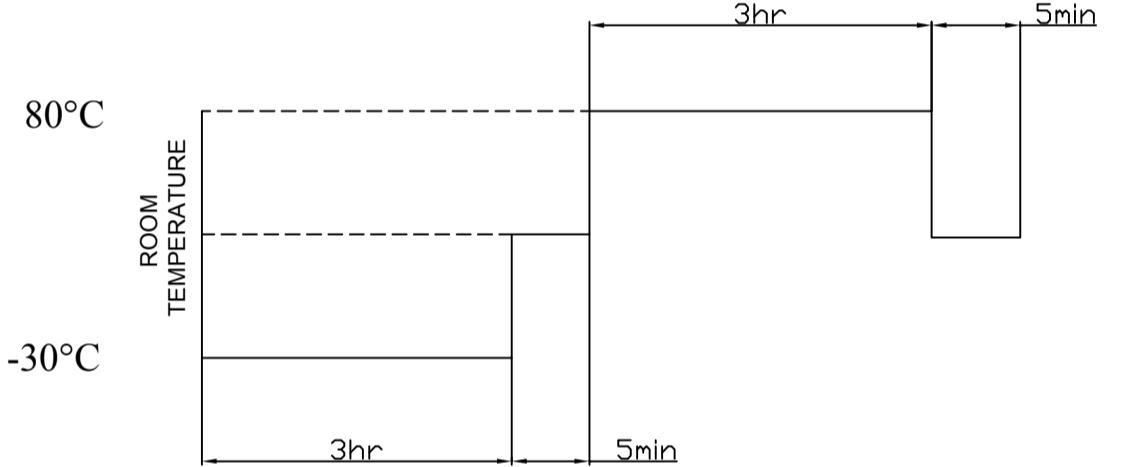


FIGURE 3

- 2) high temperature and high humidity test: after standing at 80 °C / 90% RH for 72 hr, placed at room temperature for 2 hr;
- 3) low temperature placement test: after standing at -35 °C for 72 hr, placed at room temperature for 2 hr;
- 4) Low temperature operation test: after standing at -35 °C for 72 hr, apply DC9V at the same temperature;
- 7) high temperature operation test: after standing at 60 °C for 72 hr, apply DC9V at the same temperature;
- 8) LOCK test: The motor shaft is locked under the following conditions, the test voltage is DC14.5V, the test temperature is 60 °C, and the test time is 72 hr;
- 9) Composite temperature cycle: 12 cycles are performed according to the vehicle installation state and the cycle of Fig. 4, but the following vibration is applied within the range where the upper and lower limits of the last cycle are stable: 68.6 m/s², 33 Hz (7.0 G, 2000 cpm))

0.5 hr in the direction of the up and down axis;

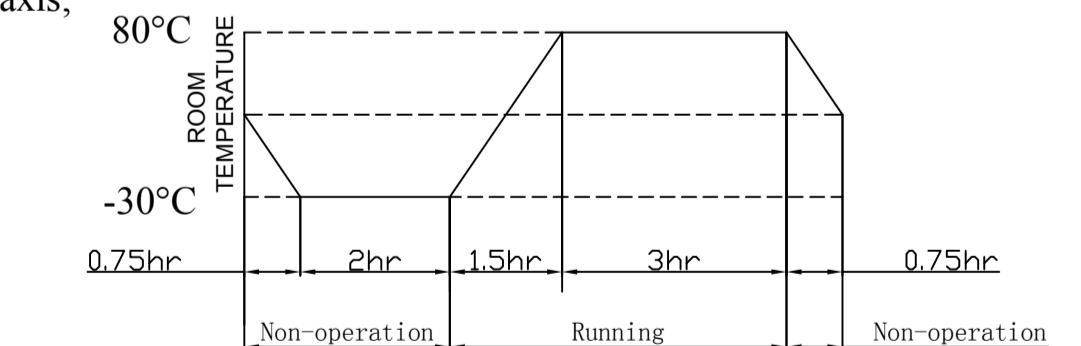
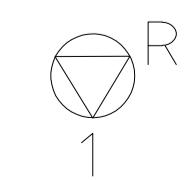


FIGURE 4

- 10) Dust resistance test: In the state of vehicle installation, in order to achieve uniformity of dust in the test tank, stirring after a certain period of time, this is repeated as one cycle. The sample status is non-operating, and the dust size is the median diameter. 6.6 ~ 8.6μm, dust concentration 60000mg / m³ / above, stirring time 2sec, stop time 10min, anti-composite

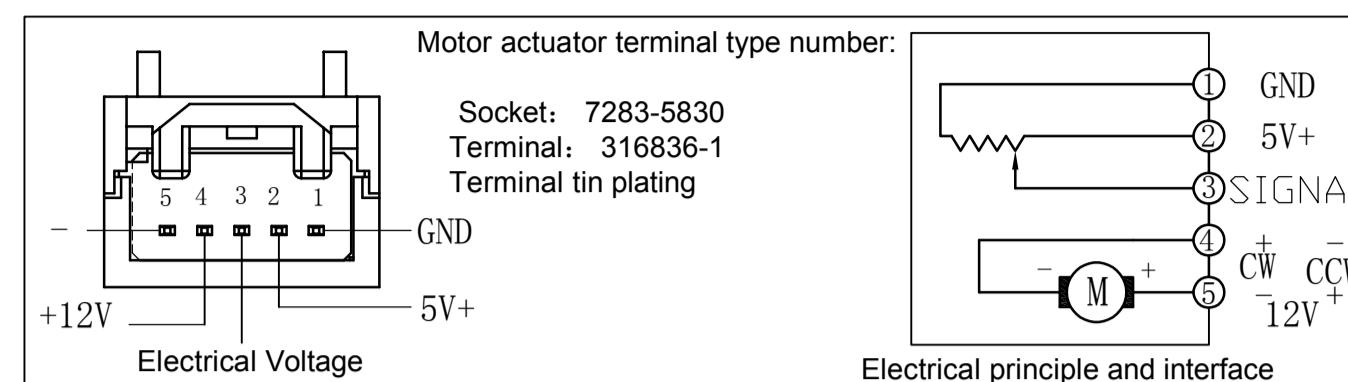
- Counting time 8hr;
17. When the product is delivered, the positioning position of the gear rocker arm should be in the DEF state shown in the figure;

18. The connector type is 7283-5830 (YZK); the terminal type is 7116-4231-02;



SANDEN

S/N	PART NUMBER	DESCRIPTION	QTY	MATERIAL	DIMENSION	FINISHING	REMARKS
1	C1502-80090	MA MODE	1				
2	C1571-80340	LEVER	1	PBT			



RELIABILITY TEST

Characteristic Item	Test Condition		Test items
	Low temperature operation	High temperature operation	
1) Starting voltage	Less than DC1V	Less than DC1V	Compound temperature cycle
2) Starting current	Less than 0.5A	Less than 0.5A	Temperature shock
3) Starting torque	More than 127N·cm (13kgf·cm)	More than 127N·cm (13kgf·cm)	Vibration resistance
4) No load current	Less than 0.03A	Less than 0.03A	Temperature shock
5) Stop position tolerance	Within ±2°	Within ±2°	Duration
6) Running time	8 sec or less / running angle	8 sec or less / running angle	lock
7) noise	Less than 47dB	Less than 47dB	lock
8) Insulation resistance	More than 5MQ	More than 5MQ	lock
9) Appearance, other	No external or internal Abnormalities such as deformation, damage, and burning.	No external or internal Abnormalities such as deformation, damage, and burning.	lock

19. Motor output shaft drive gear rocker arm can rotate in both clockwise and counterclockwise directions.

20. Products must meet the following environmental requirements:
QCC JT098-2011 Limited requirements for toxic and hazardous substances in automotive products;
QCC JT321-2011 Limits for volatile organic compounds and aldehydes in non-metallic parts of vehicles
QCC JT001-2011 Automotive interior materials odor emission test methods and limits;
QCC JT146-2011 Test methods and limits for atomization characteristics of automotive interior materials;

22. The mode damper motor rocker arm meets the following gear parameter requirements:

The basic parameters of gear	
1	Modulus (m)
2	Index circle diameter (D)
3	pressure angle (α)
4	Tip height factor (ha*)
5	Root height coefficient (c*)
6	Pitch (p)
7	Tooth thickness (s)
8	Space width (e)

23. Unfilled dimensional tolerances according to GB/T 1804-2000-m;
24. Unfilled position tolerance according to GB/T 1184-2000-H;
25. Manufacturer: Hubei Kate Auto Electronic System Co., Ltd.
26. Product weight: about 120gr ± 5%.

27. Sanden part number of MA MODE ASSY: C1502-10350 .

STA	REVISION	DATE	NAME	PROJECT:	SP100	DATE:
DRW.	Jabbari	SANDEN		SUBJECT:	HVAC ASSY, FULLY AUTOMATIC	1400/10/28
CHECK	Yadegar	SANDEN		UNIT:	mm	
CONF	Yadegar	SANDEN		PART NO:	TN28127110D	SCALE: 1:1
APP	Khosravi	S.G.S		DRAWING NO:	TN28127110D	A1 SHEET: 1
				TOLERANCES ACCORDING TO:		ROUGHNESS: MAT.

SHEET: 5

SPECIFICATION: MA MODE ASSY(C1502-10350)

1. Standard test voltage DC12±0.2V, standard test torque: 59N·cm (6kgf·cm);
 2. Operating voltage range: DC7V ~ 15V;
 3. Operating temperature range: -30 ° C ~ +60 ° C;
 4. Starting voltage: When a torque of 59 N·cm (6 kgf·cm) is applied to the output shaft, the voltage is applied from 0 V to 0.5 V, the voltage rise rate is 0.5V/3sec, and the voltage is measured when the output shaft reaches the operating angle and can be operated, requiring DC7V or less;
 5. Rated current: When a torque of 98 N·cm (10 kgf·cm) is applied to the output shaft, the current at the output operation is measured at DC12V requires less than 0.2A;
 6. Starting torque: When applying DC12V, measure the torque on the output shaft, which is 98N·cm (10kgf·cm) or more;
 7. Locking current: When the motor shaft is fixed, the motor current value when DC12V is applied is measured, and it is required to be 0.5A or less;
 8. Stop position allowable tolerance: Run the test piece and measure the deviation from the stop position, within ±2°;
 9. Action time (1 reciprocating): When the torque is DC12V, 98N·cm (10kgf·cm), measure the full running angle for 5 reciprocating time, requiring an average of 8sec / running angle;
 10. Noise: When using DC12V, no noise is used to measure noise with a noise meter. The noise meter is 100mm away from the motor assembly, front and rear, left the position in the right and upper and lower directions is measured, and the requirement is 47 dB or less;
 11. Insulation resistance: use DC500V megger insulation resistance meter, between each terminal and the box, between the motor terminal and the potential terminal both are above 5MΩ;
 12. Withstand voltage: AC600V/1sec is applied between each terminal and the box, and there is no abnormality required;
 13. Wire bundle tensile strength: a static load of 19.6 N (2 kgf) was applied to the substrate in the horizontal and vertical directions, and no deformation after the test. And damage.
 14. Connection strength:
 - 1) The sheath is completely fitted, and a static load of 98 N (10 kgf) is applied for 5 sec in each direction of stretching (2 directions) and vertical direction (4 directions).
 - 2) until the state in which the sheath and the terminal start to contact, the vertical direction of the insertion direction is inserted, and a static load of 98 N (10 kgf) is applied for 5 sec each, and there is no abnormality after the test, and there is no deviation from the lock;
 15. Terminal strength: a static load of 49 N (5 kgf) or more is applied for 5 sec in the tensile direction of the terminal, and there is no abnormality after the test;
 16. Reliability test: The test method is as follows. The test requirements are as required in the left table.
 - 1) Operation endurance test: In the vehicle installation state, the test of the following conditions is applied, and the number of reciprocating operations is 500,000 times.
 - ① test voltage: DC 13.5V,
 - ② load 0.588N·m (6kgf·cm);
 - 2) Vibration resistance test: Test in the order of ① → ② in the vehicle installation state,
 - ① Resonance point detection: vibration frequency 5 ~ 100Hz, period 10min, vibration acceleration 5m / s2 / (0.5G), the detection condition is that the vibration measurement mode is the equivalent peak (EP);
 - ② Vibration durability:
 - a. When there is no resonance: vibration acceleration 68.6m / s2 / (7.0G), vibration frequency 33Hz, test time is 4hr (3hr) up and down, 2hr (1.5hr) left and right, 2hr (1.5hr) before and after, When there is resonance in the brackets.
 - b. When there is resonance, the resonance frequency (the main frequency is obtained when two or more), the vibration amplitude of 10m/s2/(1.02G) is above and below the vibration amplitude of 50m or less at a full amplitude of 0.35mm or more than 50Hz. 1hr, about 0.5hr in the left and right and before and after the test, and then only when a has no resonance, the test is performed according to the time in parentheses;
 - 3) Temperature shock test: in the vehicle installation state, according to the cycle of Figure 3 for 6 cycles;

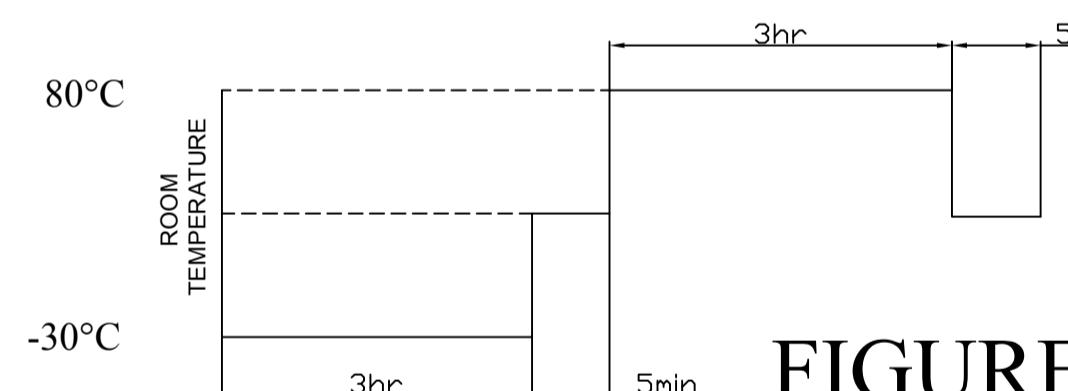


FIGURE 3

- 4) high temperature and high humidity test: after standing at 80 °C / 90% RH for 72 hr, placed at room temperature for 2 hr;
 - 5) low temperature placement test: after standing at -35 °C for 72 hr, placed at room temperature for 2 hr;
 - 6) Low temperature operation test: after standing at -35 °C for 72 hr, apply DC9V at the same temperature;
 - 7) high temperature operation test: after standing at 60 °C for 72 hr, apply DC9V at the same temperature;
 - 8) LOCK test: The motor shaft is locked under the following conditions, the test voltage is DC14.5V, the test temperature is 60 °C, and the test time is 72 hr;
 - 9) Composite temperature cycle: 12 cycles are performed according to the vehicle installation state and the cycle of Fig. 4, but the following vibration is applied within the range where the upper and lower limits of the last cycle are stable: 68.6 m/s²/, 33 Hz (7.0 G, 2000 cpm)) 0.5 hr in the direction of the up and down axis;

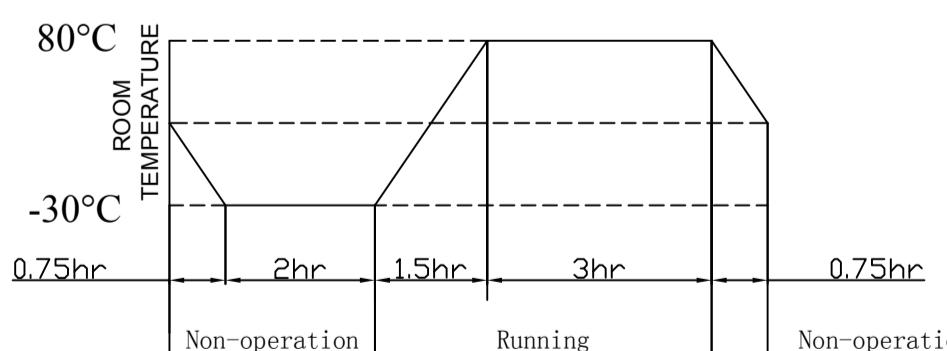
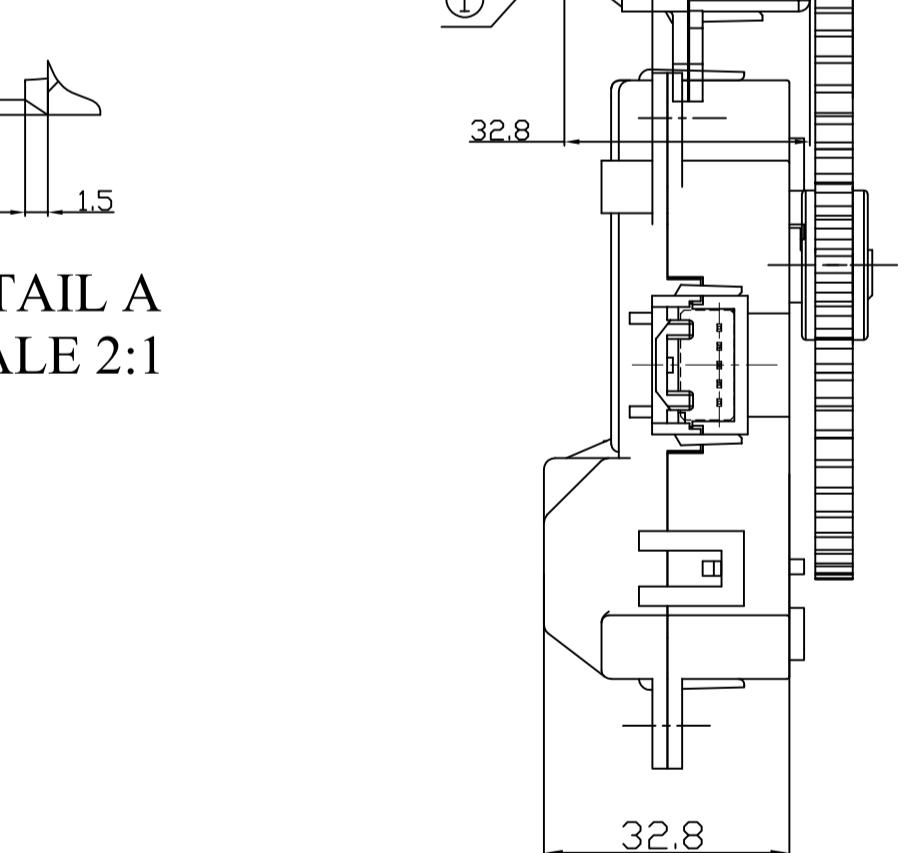


FIGURE 4

- 10) Dust resistance test: In the vehicle installation state, in order to achieve uniformity of dust in the test tank, after stirring for a certain period of time, this is repeated as one cycle. The sample state is non-operating, the dust size is the median diameter of 6.6 ~ 8.6 μ m, the dust concentration is 60000mg / m³ / above, the stirring time is 2sec, the stopping time is 10min, and the anti-composite time is 8hr;
 17. When the product is delivered, the positioning position of the gear rocker arm should be in the fully cold state shown in the figure;
 18. The connector type is 7283-5830 (YZK) and the terminal type is 7116-4231-02
 19. Motor output shaft drive gear rocker arm can rotate in both clockwise and counterclockwise directions.

RELIABILITY TEST

Switch Mode	Angle (°)	Voltage (V)
Cold Max	0	0.5
Middle position 1	16.9	0.77
Middle position 2	30.9	1
Middle position 3	47.8	1.27
Middle position 4	61.9	1.5
Middle position 5	75.9	1.73
Middle position 6	92.8	2
Middle position 7	106.9	2.23
Middle position 8	123.8	2.5
Middle position 9	137.8	2.73
Middle position 10	154.7	3
Middle position 11	168.8	3.23
Middle position 12	185.6	3.5
Middle position 13	202.5	3.77
Middle position 14	216.6	4
Middle position 15	233.4	4.27
Hot Max	247.5	4.5



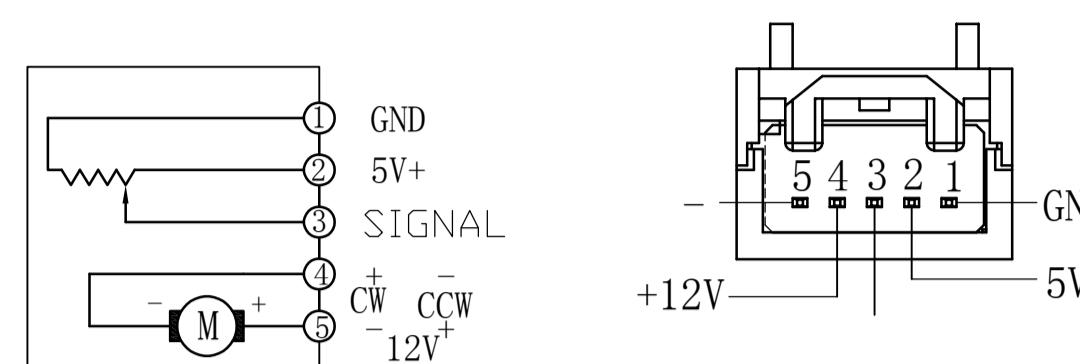
DETAIL A SCALE 2:1

20. Products must meet the following environmental requirements: QCC JT098-2011 Limited requirements for toxic and hazardous substances in automotive products; QCC JT321-2011 Limits for volatile organic compounds and aldehydes in non-metallic parts of vehicles QCC JT001-2011 Automotive interior materials odor emission test methods and limits; QCC JT146-2011 Test methods and limits for atomization characteristics of automotive interior materials.

of automotive interior materials,

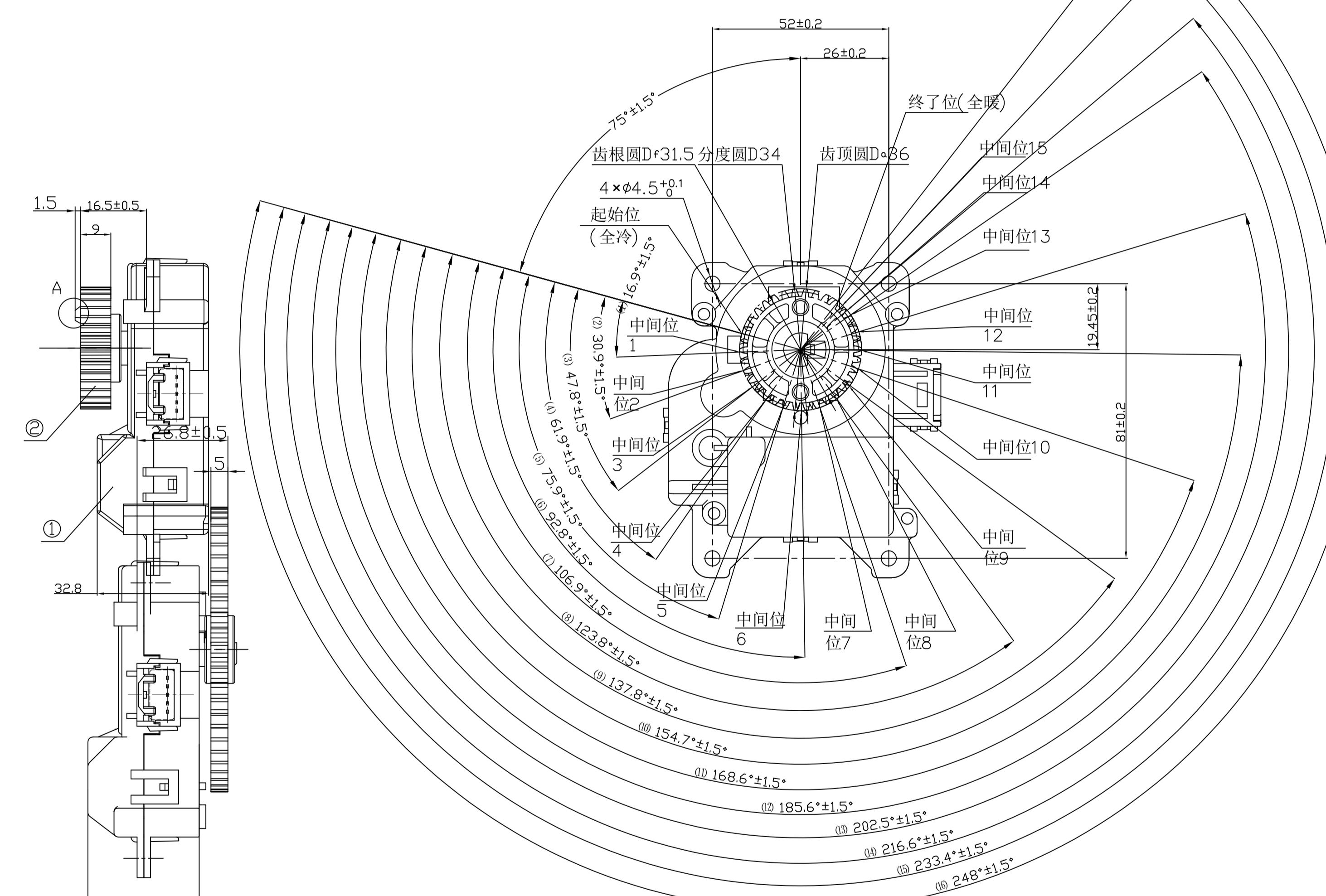
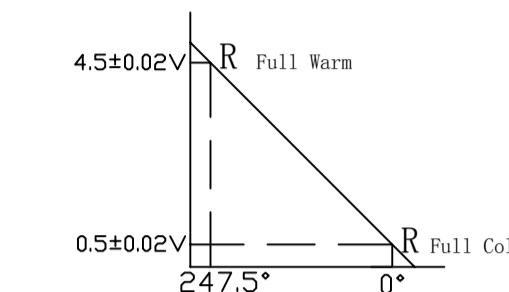
- 21. The cold and warm damper motor rocker arm meets the following gear parameter requirements:
- 22. Unfilled dimensional tolerances according to GB/T 1804-2000-m;
- 23. Unfilled position tolerance according to GB/T 1184-2000-H;
- 24. Manufacturer: Hubei Kate Auto Electronic System Co., Ltd.;
- 25. Product weight: $120g \pm 5\%$.
- 26. Sanden part number of MA AIRMIX ASSY: C1502-10360 .

S/NO	PART NUMBER	DESCRIPTION	QTY	MATERIAL	DIMENSION	FINISHING	REMARKS
1	C1502-80100	AIR MIX MA	1				
2	C1571-80350	LEVER	1	PBT			



Electrical principle and interface

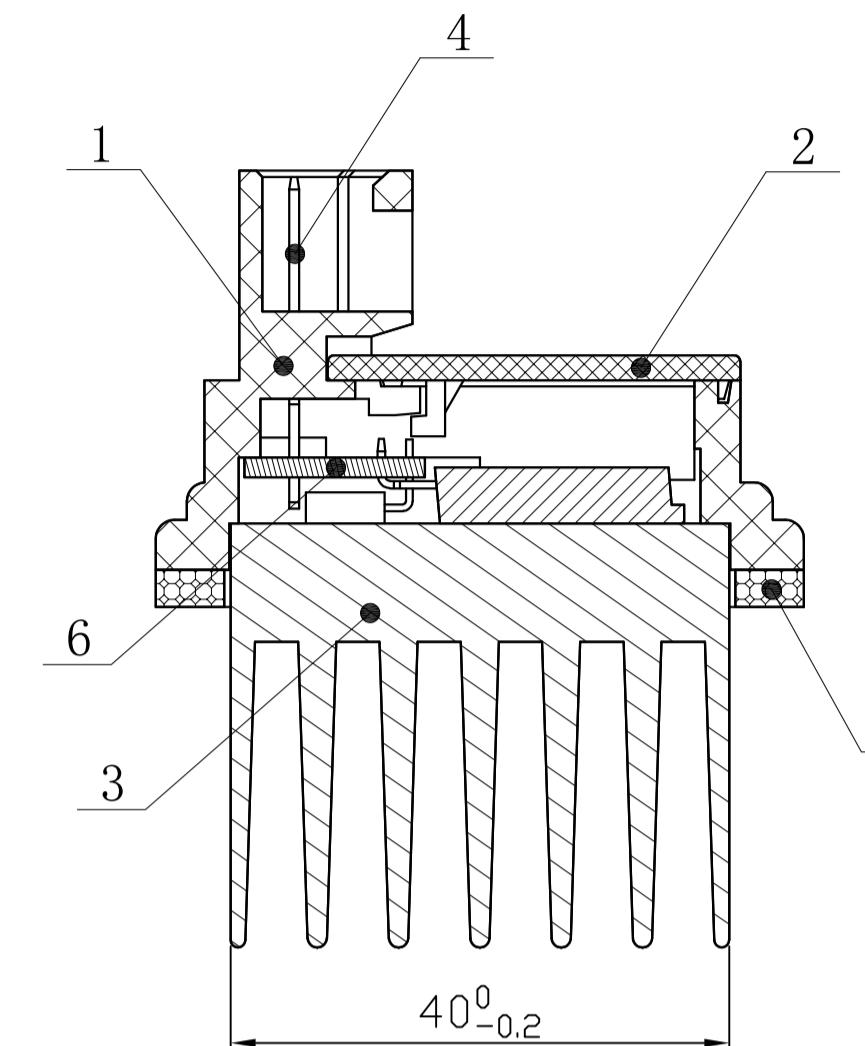
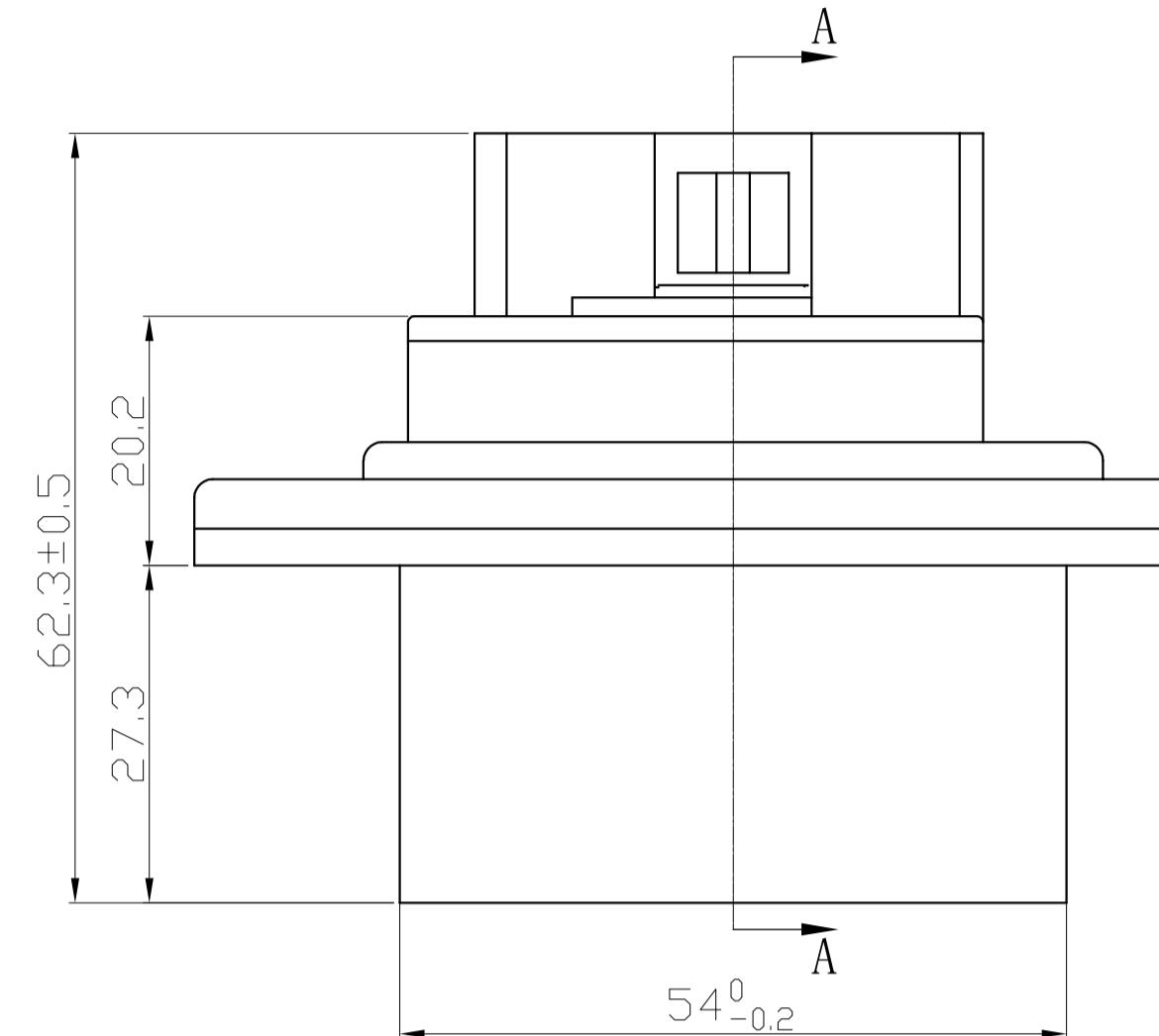
Motor actuator terminal type number:
Socket: 7283-5830
Terminal: 316836-1
Terminal tin plating



(\pm)	ABOVE 0 BELOW 3	ABOVE 3 BELOW 6	ABOVE 6 BELOW 30	ABOVE 30 BELOW 120	ABOVE 120 BELOW 315	ABOVE 315 BELOW 1000	ABOVE 1000 BELOW 2000	ABOVE 2000 BELOW 3150	OVER 3150	ANGLE(°)		STA:	REVISION:	DATE:	NAME:					
										90°	OTHERS									
A	0.05	0.1	0.15	0.2	0.3	0.4	0.7	1.0	—	1	1.5	DRW.	Jabbari	SANDEN	PROJECT: SP100			DATE: 1400/10/28		
(B)	0.2	0.3	0.4	0.5	0.7	1.0	1.6	2.5	—			CHECK	Yadegar	SANDEN						SUBJECT: HVAC ASSY, FULLY AUTOMATIC
C	0.4	0.5	0.6	0.8	1.2	1.6	3.0	4.0	—	2	3	CONF	Yadegar	SANDEN	PART NO: TN28127110D			SCALE: 1:1		
D	0.5	0.8	1.0	1.2	1.8	2.8	4.0	6.0	—			APP.	Khosravi	S.G.S						DRAWING NO: TN28127110D
E	1.0	2.5	2.5	3.5	5.0	7.0	10.0	15.0	—	TOLERANCES ACCORDING TO:						ROUGHNESS:		MAT.		
F	10.0				15.0	20.0	30.0	45.0	1.5%	—	—									

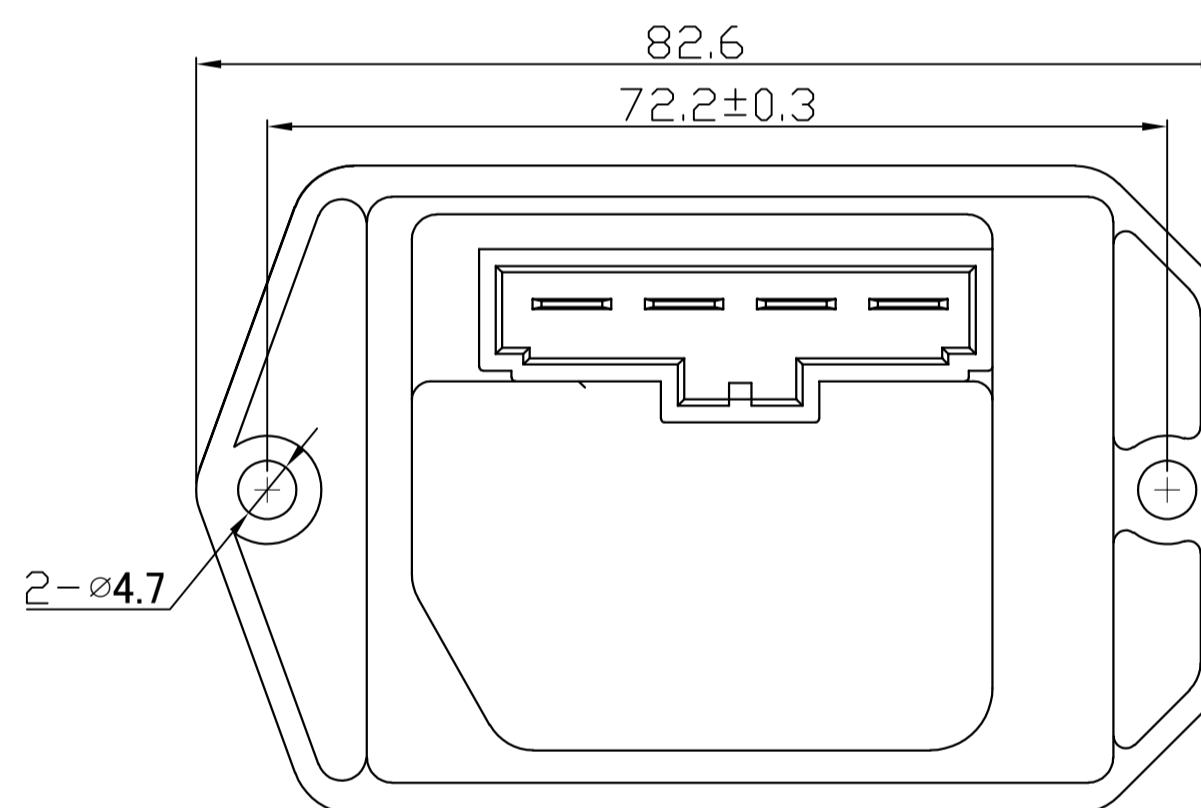
SHEET: 6

A



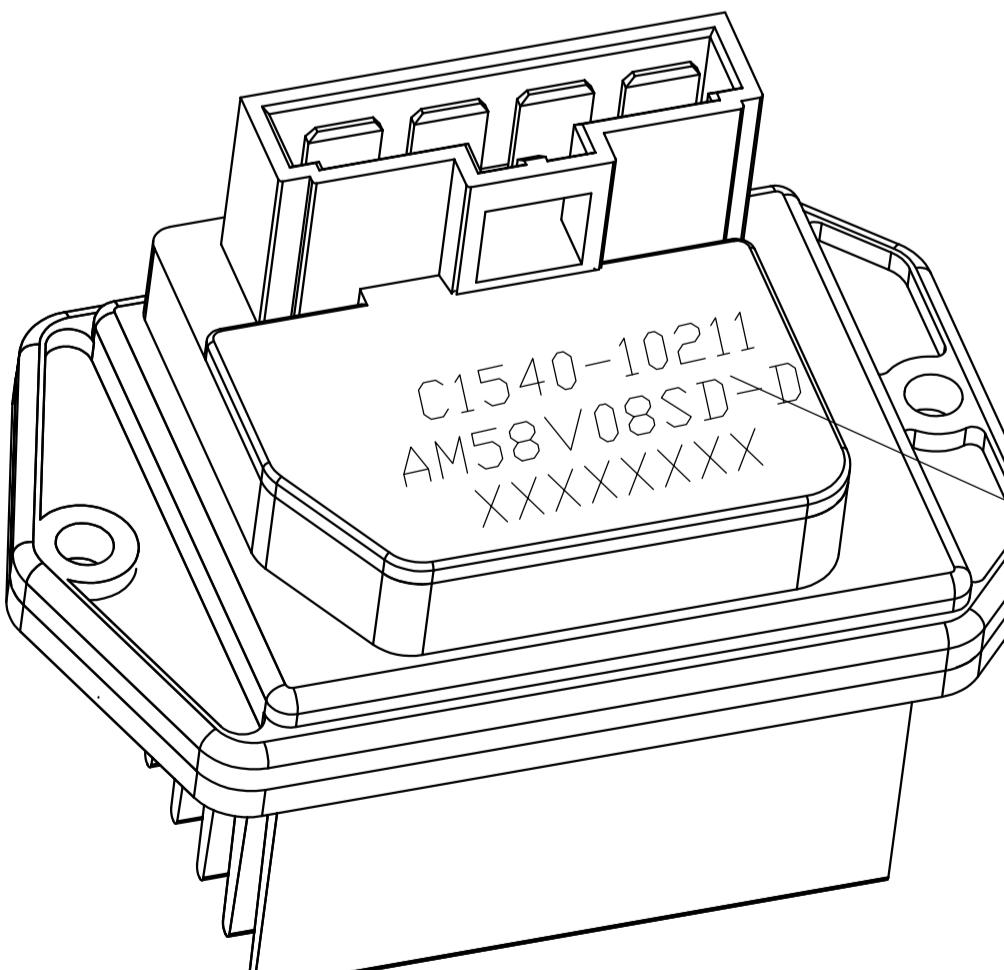
S/NO	DESCRIPTION	QTY	MATERIAL	DIMENSION	FINISHING	REMARKS
1	Plastic seat	1	PA66+ GF30		Black	
2	Plastic cap	1	PA66+ GF30		Black	
3	Heat sink	1	A6063			
4	Insert	4	H62			
5	Sponge	1	CR		Black	
6	AM58V08SD-C0	1	FR-4			

B



>50~120	±20'
>10~50	±30'
0~10	±1°
f	m
Size Range	Tolerance
Angle Size	
>120~400	±0.2 ±0.5
>30~120	±0.15 ±0.3
>6~30	±0.1 ±0.2
0.5~6	±0.05 ±0.1
f	m
Size Range	Tolerance
Linear Size	
Non Toleranced linear and angle size GB/T 1804-2000	

Definition of joint

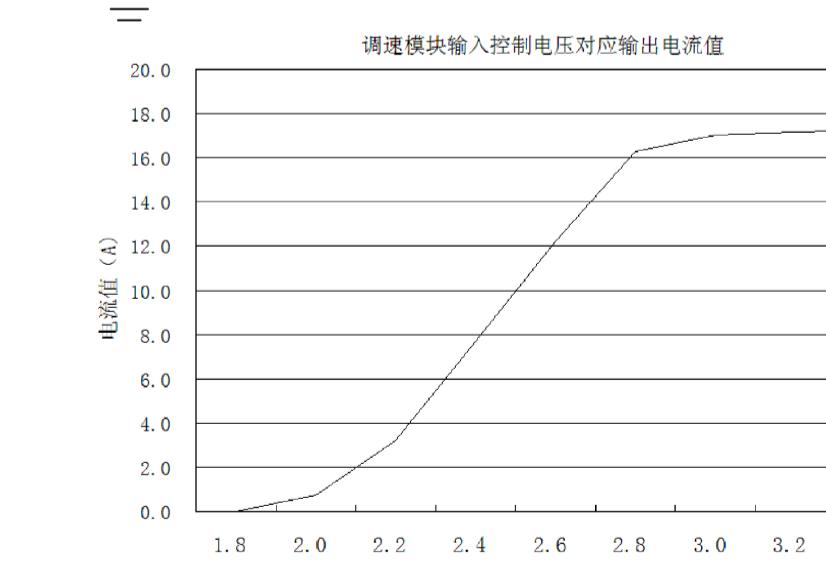
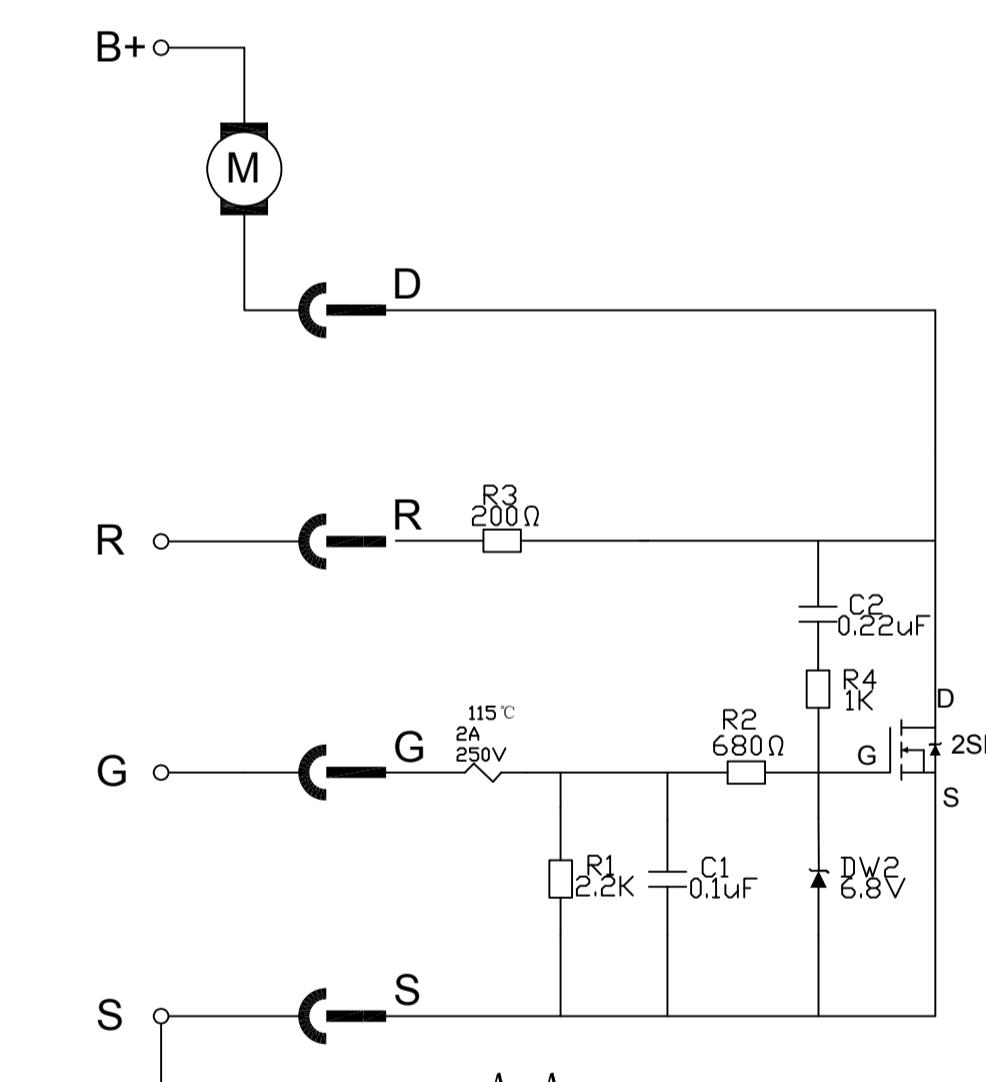


External circuit connection method:

1. D fan negative
2. S connected to the power ground
3. G connected to the console
4. R feedback

Laser marking on the finished plastic cover

C1540-10211 Customer part number
AM58V08SD-D Product number
XXXXXXX Production date



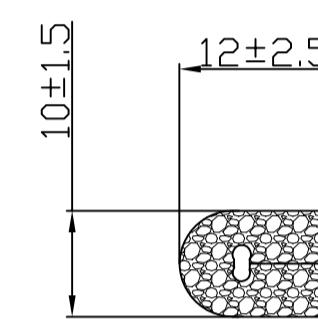
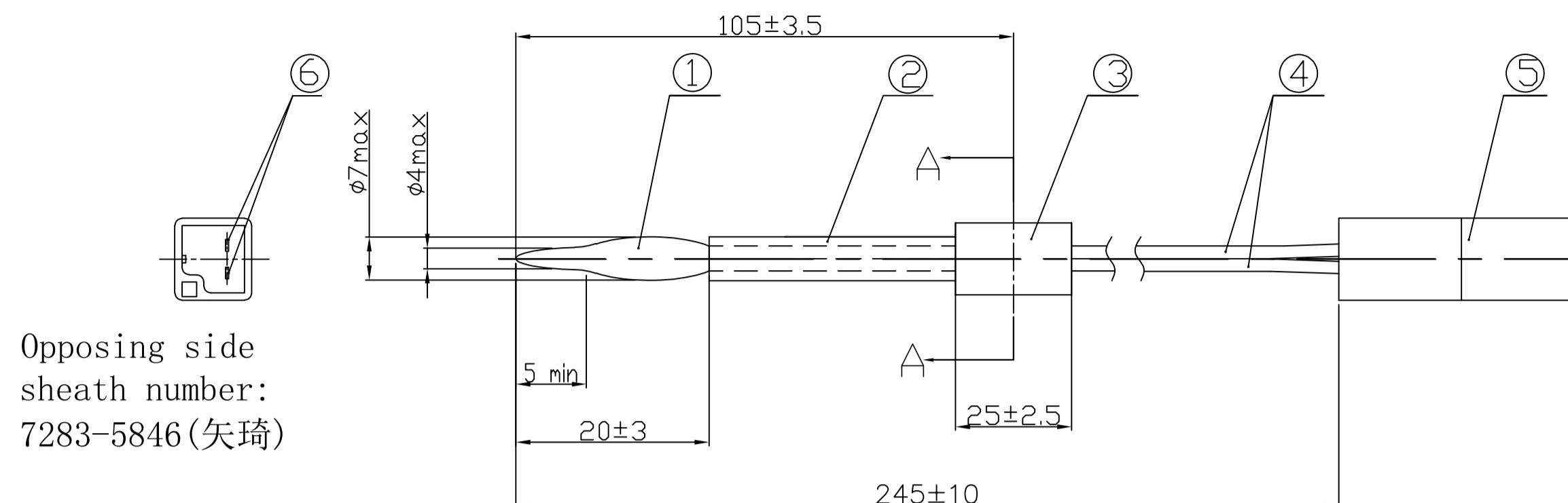
Test conditions: normal temperature, DC: 13.5V
HVAC assembly mode: air circulation, full cooling, blowing head

SPECIFICATION:

1. The surface of the plastic body is smooth, the surface of the insert and the heat sink is smooth and free of burrs, and the insert has no obvious skew;
2. The power module works reliably under the following conditions:
 - a. Ambient temperature: -40 °C ~ +85 °C
 - b. Relative humidity: ≤95%
 - c. Rated voltage: DC 13.5V.
 - d. Rated current: 25AMAX
 - e. Operating voltage range: DC 9V ~ DC 16V
3. Temperature protection fuse temperature is 115 ± 10 °C;
4. Insert the blade firmly, apply 68N to each insert, and continue to pull or pressure 30S, no looseness;
5. The insulation resistance between the insert and the sheath is ≥20MΩ;
6. 550V, 50Hz sinusoidal voltage between the insert and the sheath, no flickering after 1min;
7. Flame retardant meets the requirements of GB8410-2006, burning speed <100mm/min;
8. Control input impedance: 2.2KΩ;
9. ELV: Must comply with Q/CC JT098-2013 "Limited Requirements for Toxic and hazardous Substances in Automotive Products" Environmental protection requirements;
10. Odor: in line with Q/CC JT001-2011 "Test method and limits for odor emission of automotive interior materials" Level 4 requirements;
11. VOC limit: in line with Q/CC JT321-2011 "Volatile organic compounds in non-metallic parts of the car" and aldehydes restrictions requirements
12. Atomization: in line with Q/CC JT146-2011 "Test methods and limits for atomization characteristics of automotive interior materials"
13. Unfilled tolerances are performed according to the accuracy of GB1804-79-IT14;
14. In the position shown in the figure, mark the content: "C1540-10211" and the batch number;
15. This product meets the specifications of ATS-B-0025 speed control module .
16. Setting point: 4.5, 5.5, 6.5, 7.5, 8.5, 9.5, 10.5, max V at speed 1~8 .
17. Sanden part number of FAN DRIVER: C1540-10211 .

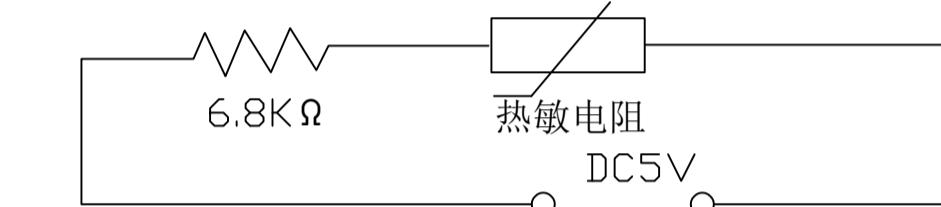
STA	REVISION	DATE	NAME	PROJECT:	SP100	DATE:	14/00/10/28			
DRW.	Jabbari	SANDEN		SUBJECT:	HVAC ASSY, FULLY AUTOMATIC	UNIT:	mm			
CHECK	Yadegar	SANDEN		CONF:	Yadegar	SANDEN	PART NO:	TN28127110D	SCALE:	1:1
APP	Khosravi	S.G.S.		DRAWING NO.	TN28127110D	A1	SHEET:			
TOLERANCES ACCORDING TO:						ROUGHNESS:			MAT.	

SHEET: 7



A-A

S/NO	DESCRIPTION	QTY	MATERIAL	DIMENSION	FINISHING	REMARKS
1	Temperature head	1	Epoxy resin package		Black	
2	Soft casing	1	PVC	Φ4.2 (inside diameter) x0.45 (wall thickness)	Black	
3	Heat sink	1	PU FOAM		Black	
4	Insert	1	PVC	2x7/0.26 flame retardant	Gray	
5	Sponge	1	PBT		3TD02MW(HL)	
6	AM58V08SD-C0	2	Brass		619323BSS	

**SPECIFICATION:**

1. Nominal resistance value and allowable deviation:

$$R3^{\circ}\text{C}=4.1743\text{K}\Omega \pm 2\%; R7^{\circ}\text{C}=3.4132\text{K}\Omega \pm 2\%$$

$$R2^{\circ}\text{C}=4.3943\text{K}\Omega \pm 2\%; R5^{\circ}\text{C}=3.7715\text{K}\Omega \pm 2\%$$

2. Material constant: $B_{25}/50=3900\text{K} \pm 1\%$

3. Rated specification:

- 1) Operating temperature range: $-30^{\circ}\text{C} \sim +80^{\circ}\text{C}$
- 2) Storage temperature range: $-40^{\circ}\text{C} \sim +80^{\circ}\text{C}$

4. Strength performance:

- 1) Connector strength: 98N (10kgf) static load for 5 seconds
- 2) Terminal strength: 49N (5kgf) static load for 5 seconds

5. Reliability test:

- 1) High temperature placement: continuously placed in air at $+80^{\circ}\text{C}$ for 1000 h.
- 2) Low temperature placement: continuously placed in air at -40°C for 1000 h.
- 3) Temperature shock: -30°C 10 min, $+80^{\circ}\text{C}$ 10 min, 1000 cycles.

6. Drop performance: naturally fall from the height of 1.5m to the cement floor more than 100mm thick 5 times.

7. Vibration performance:

- 1) Detection of resonance point: frequency 5 ~ 100HZ, period 10min, vibration acceleration 0.5G
- 2) Vibrating point endurance: frequency 33HZ, time up and down 4h, 4h before and after, left and right, vibration acceleration 7.0G

8. P.C.T placed in water test: 121°C , placed at 2 atmospheres for 48 hours, after powered in water at 25°C for 4000h

9. Dust resistance test: Sprinkle dust evenly into the test tank, stir for a certain period of time, stop for a certain period of time, this is a cycle, and the test is repeated. Test sample status: Installed according to vehicle installation status, does not work
The size of the dust: the middle diameter is 6.6-8.6|Mm (the eighth type of Kanto sand),
Dust concentration: 3000mg/m³ or more
Stirring time: 2 sec, stop time: 10 min, anti-composite test time: 8 h.
10. Wire tensile strength: 49N (5kgf) static load 10sec
11. Wire bending strength: Fix the heat sensitive part of the component to the left within the bend of the wire bend 90 degrees, bend 90 degrees to the right after reset, 10 cycles.
12. This product must comply with Q/CC JT098-2008 "Poisonous and Hazardous Substances in Automotive Products" limit requirements for lead, cadmium, mercury, hexavalent chromium, PBB, PBDE in the Limit Requirements.
13. The white jacket is marked with a production date consisting of 6 digits (eg, year, month, month, day and day).
14. Product weight: 7g.
15. Manufacturer: Hubei Kate Auto Electronic System Co., Ltd.
Test requirements: After the completion of each test, the thermistor assembly shall be free from abnormal deformation, color change, cracks, etc., and the resistance change rate at 3°C and 5°C shall be within $\pm 3\%$, and the insulation resistance $\geq 100\text{ M}\Omega$.
16. Sanden part number of THERMISTOR: C1532-40240 .

SANDEN

STA	REVISION	DATE	NAME	PROJECT: SP100		DATE: 1400/10/28
				DRW.	Jabbari	
CHECK	Yadegar	SANDEN		CONF	Yadegar	SANDEN
APP	Khosravi	S.G.S.		CONTR	Yadegar	SANDEN
				DRAWING NO.	TN28127110D	SCALE: 1:1
				A1		SHEET: 1
						TOLERANCES ACCORDING TO: ROUGHNESS: MAT.

PERFORMANCE

COOLING CAPACITY	5100 W ±10%
AIR FLOW RESISTANCE	MAX 200 Pa (at WET)
REFRIGERANT PRESSURE DROP	MAX 0.3MPa
TEST CONDITIONS	JIS D 1618
INLET AIR FLOW RATE	450 m³/h
SUPER HEAT	5±3 DEG
SUB COOL	5±3 DEG
EVAP. INLET AIR TEMPERATURE	27 ° (DRY BULB) 19.5 ° (WET BULB)
EVAP. OUTLET PRESSURE	0.18 MPa

CORE SPECIFICATIONS

CORE SIZE	HEIGHT	212.4 mm
	WIDTH	276.6 mm
	DEPTH	38 mm
FIN PITCH	6.8 mm	

Skills required:

- When assembling, pay attention to cleaning all parts, and the fins should not be bumped.
- The thermistor is installed using the tool.
- Evaporator core and expansion valve are connected with M5 × 35 hexagon socket bolt, torque 5 + 0.5 / 0 Nm
- O-rings should be coated with PAG lubricant.
- Nominal resistance of the thermistor and allowable deviation:

$$R3 \text{ } ^\circ\text{C} = 4.1743K\Omega \pm 2\% ; R7 \text{ } ^\circ\text{C} = 3.4132K\Omega \pm 2\% \\ R2 \text{ } ^\circ\text{C} = 4.3943K\Omega \pm 2\% ; R5 \text{ } ^\circ\text{C} = 3.7715K\Omega \pm 2\%$$

Material constant: B25 / 50 = 3900K ± 1

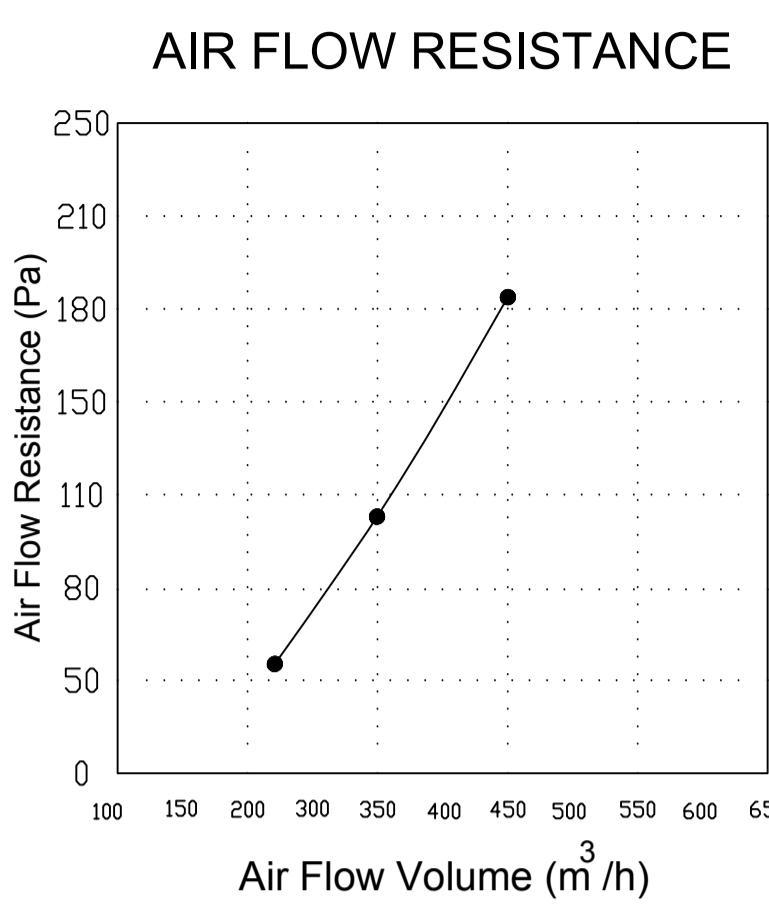
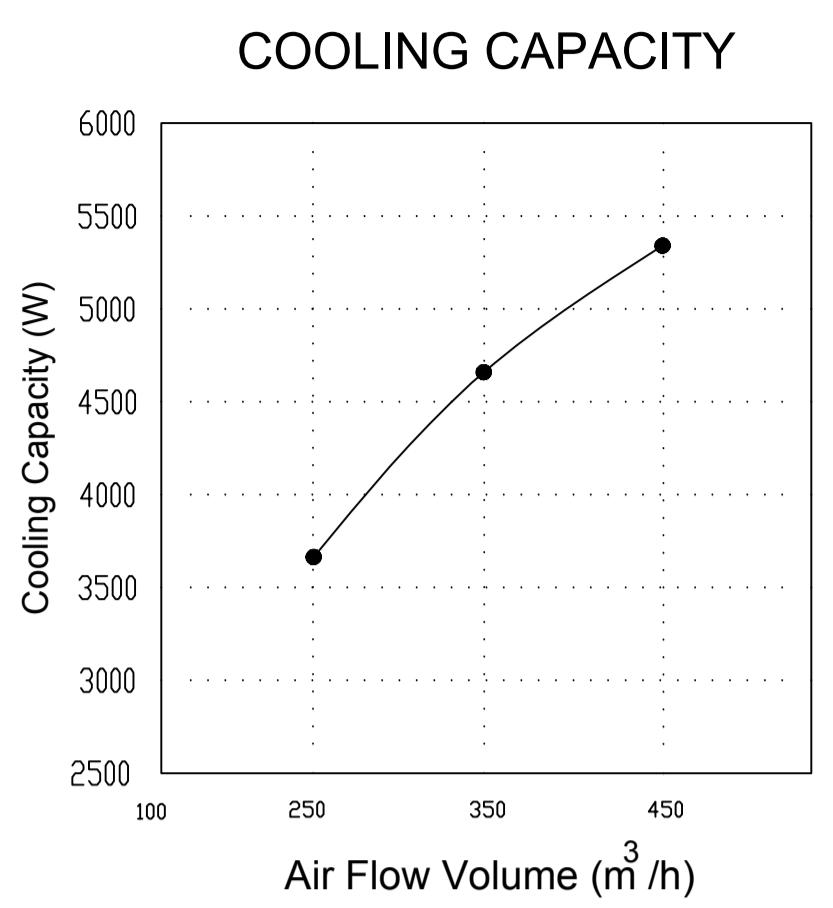
Inlet terminal plug housing model: 7283-5846

- This part must meet the requirements of lead, cadmium, mercury, hexavalent chromium, PBB, PBDE in QCC JT098-2011 "Limited requirements for toxic and hazardous substances in automotive products" and meet the requirements of environmental protection.

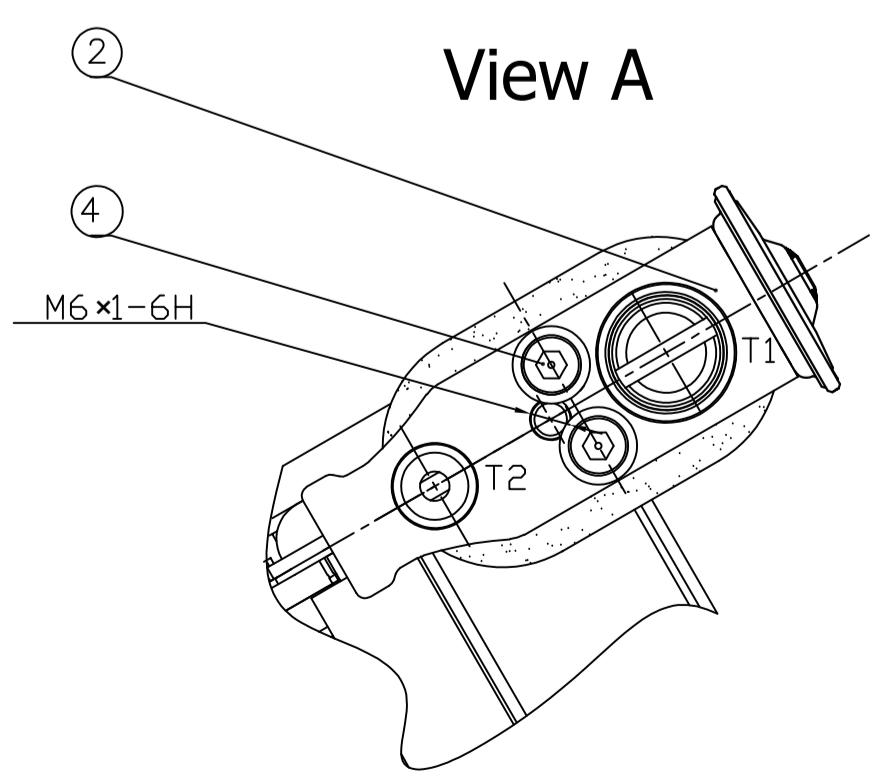
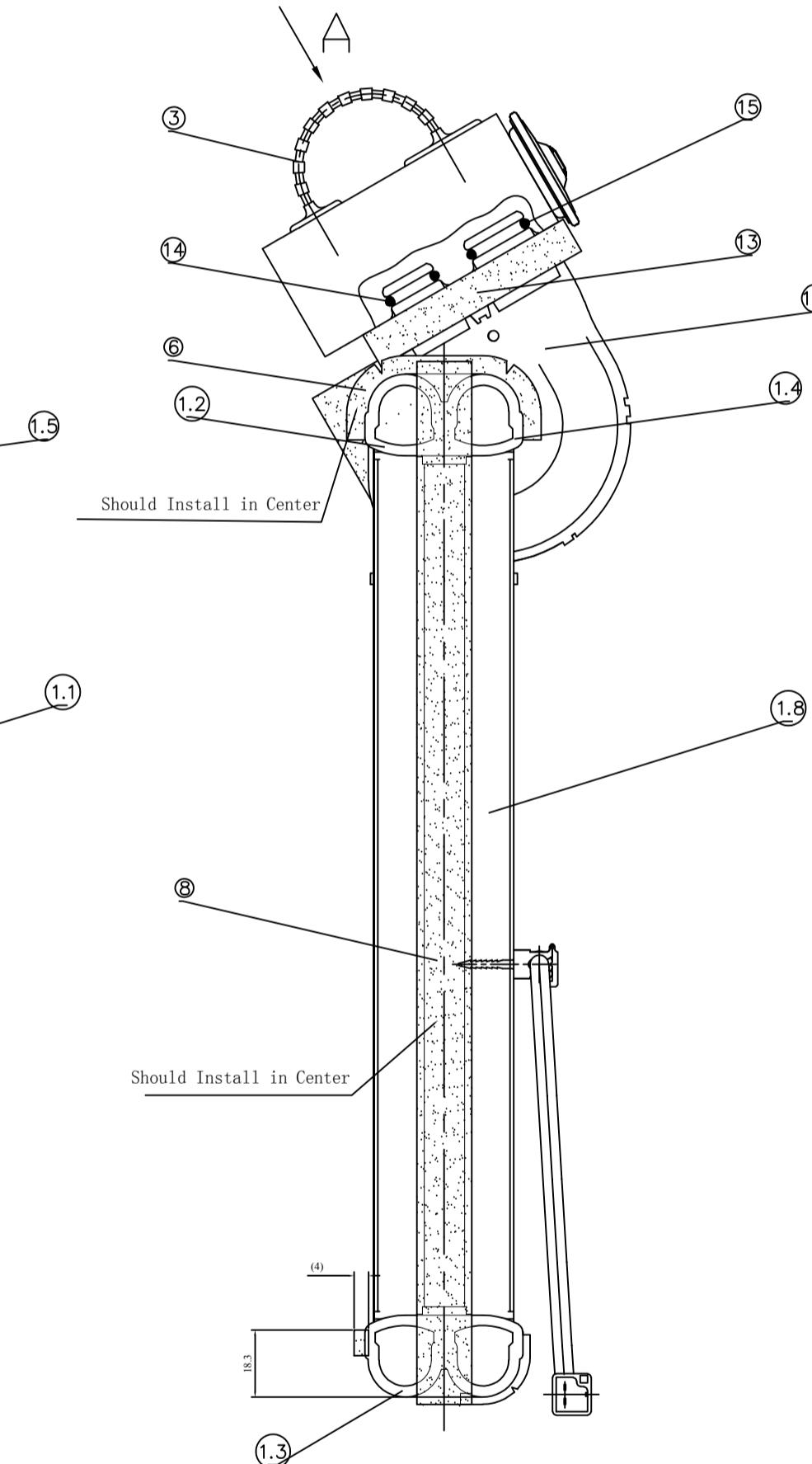
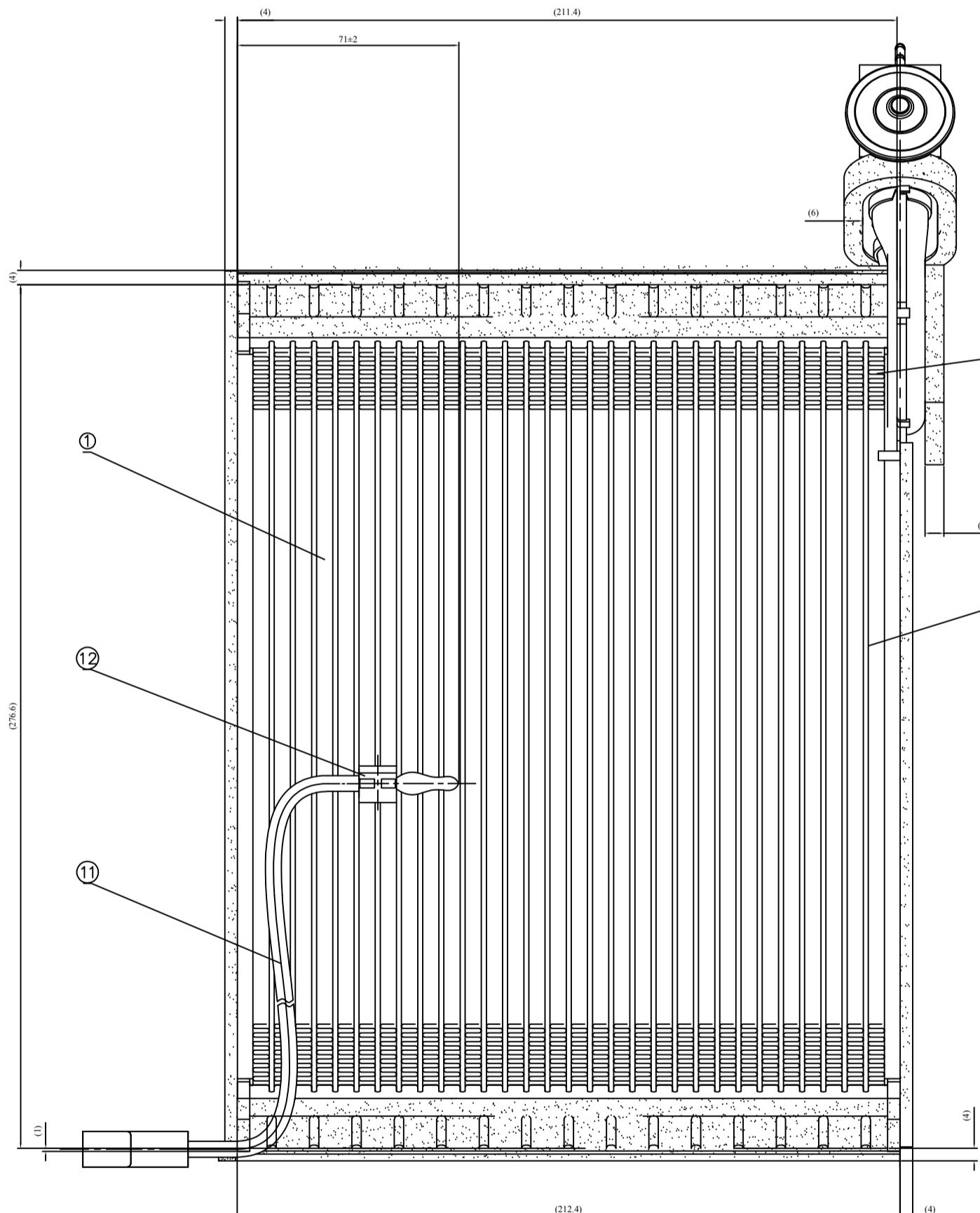
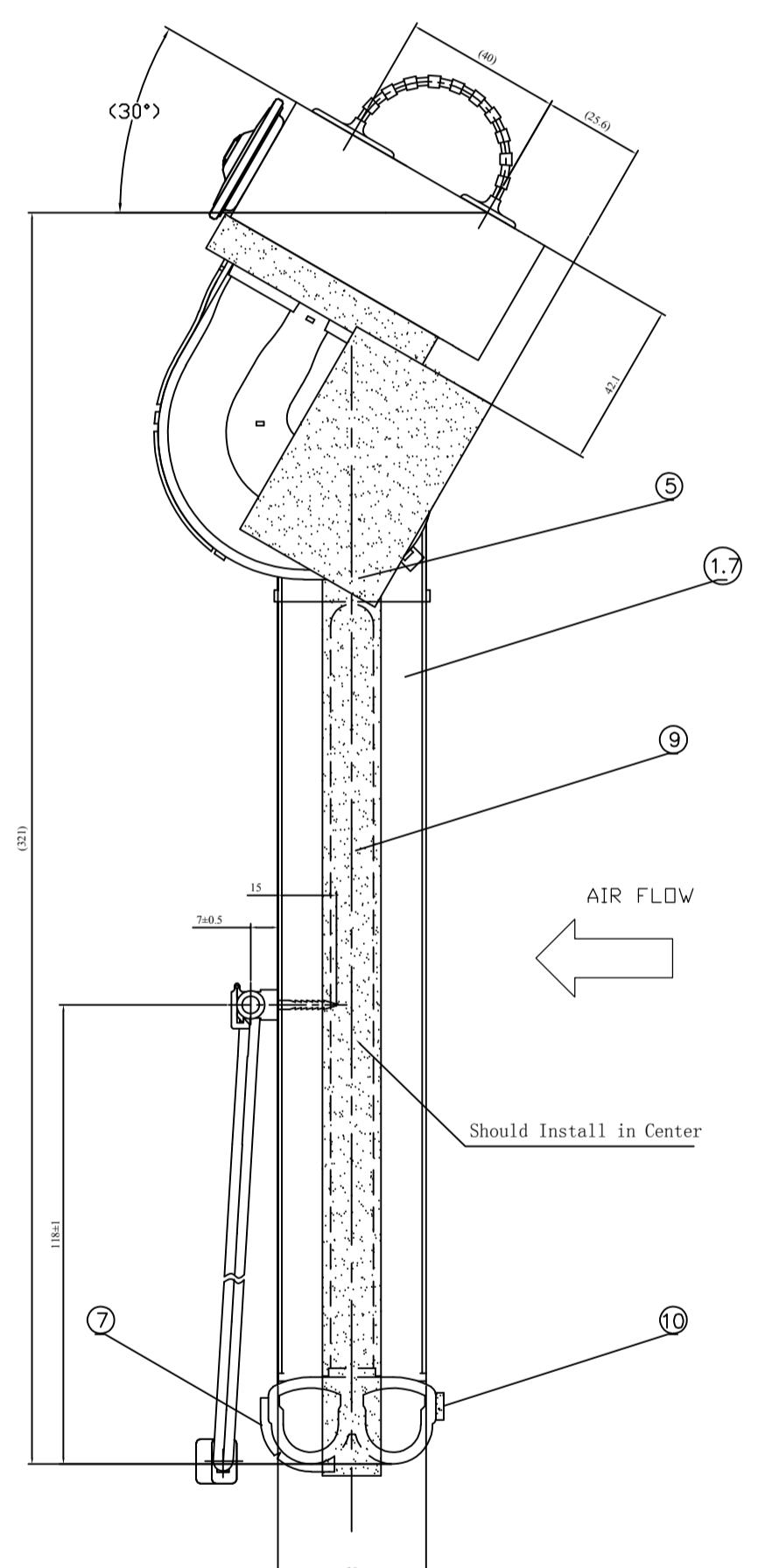
Odor emission from non-metallic internal components shall be in accordance with QCC JT001-2011 "Test methods and limitations of odor emission from vehicle internal materials"

NOTES

- PIPE INTERIOR SHOULD BE CLEAN AND FREE FROM DUST ETC.
- END FITTINGS MUST BE FITTED WITH CAPS.
- LEAK CHECK IS REQUIRED AFTER THE ASSEMBLY PROCESS.
- EVAPORATOR ASSY SHOULD BE WELL PROTECTED AND HANDLED WITH CARE DURING THE ASSEMBLY AND PACKING PROCESS.
- THIS DRAWING SHOWS A/C EVAPORATOR ASSY FOR SP100 WITH WHICH INTENDED REFRIGERANT TO BE APPLIED IS HFC-134a.
- APPEARANCE : NO DAMAGE AT ALL FOR FIN SURFACE.
- SPECIFICATION OF SIDE PACKING:
- COLOR IS GRAY OR DARK GRAY
- DENSITY FOR PVC MATERIAL IS 180±20Kg/m³
- ADHESIVE SHOULD WITH NET
- SANDEN PART NO. : R1700-A0050

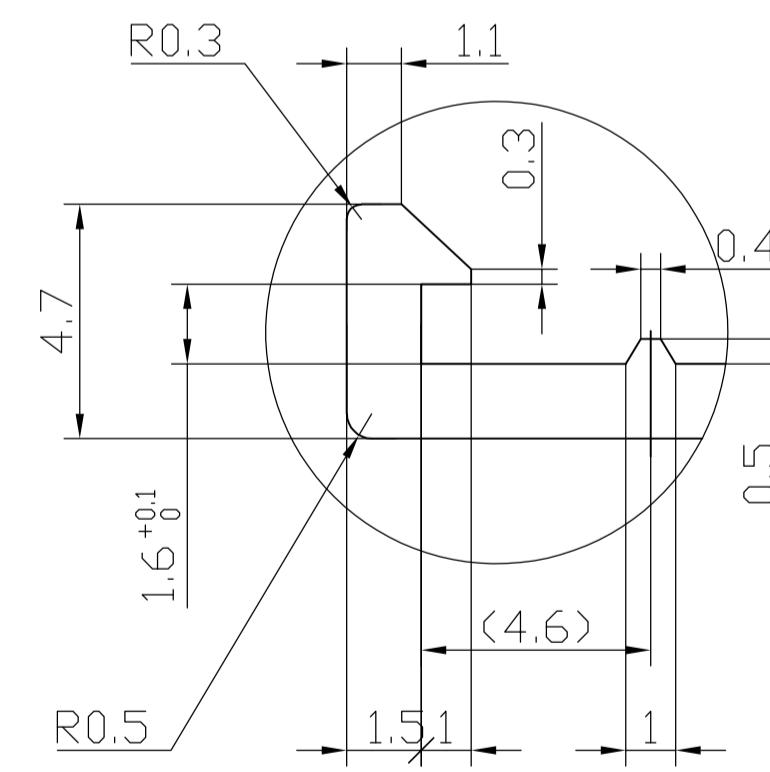
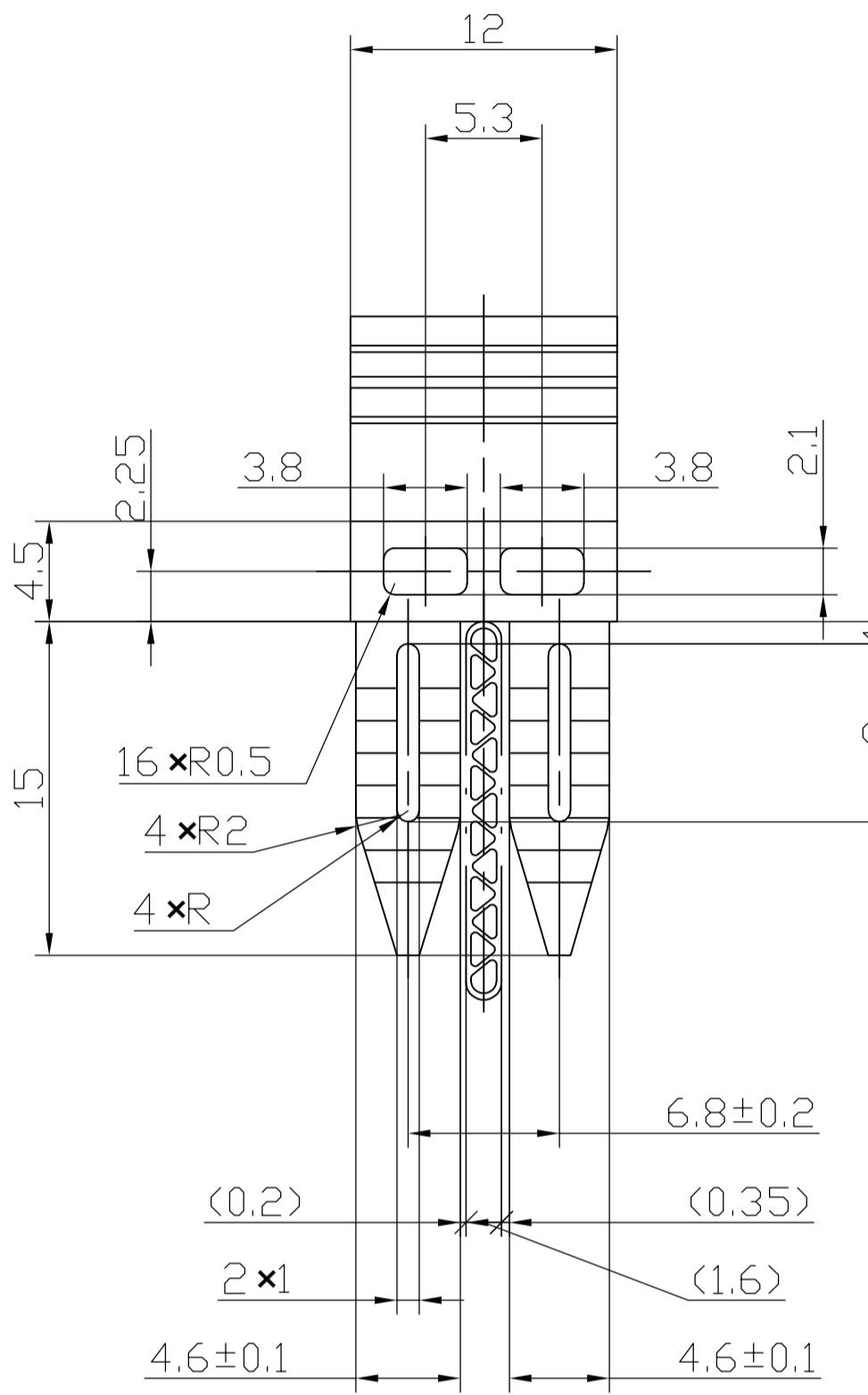


No.	PART NUMBER	DESCRIPTION	QTY	UNIT	MATERIAL	DIMENSION
0	R1700-A0050	EVAP. ASSY	1	PC	-	-
1	C1751-A0030	EVAP CORE	1	PC	-	-
1.1	-	M-TUBE	58	PC	-	-
1.2	-	D-TUBE A ASSY	1	PC	A4343	-
1.3	-	D-TUBE B ASSY	2	PC	A4343	-
1.4	-	D-TUBE C ASSY	1	PC	A4343	-
1.5	-	FIN	30	PC	A4343	-
1.6	-	INLET/OUTLET FLANGE	1	PC	-	-
1.7	-	SIDE PLATE A	1	PC	A4343/A3003	-
1.8	-	SIDE PLATE B	1	PC	A4343/A3003	-
2	C1515-A0070	TXV	1	PC	-	-
3	R1436-D0240	TXV CAP	1	PC	PE	-
4	R1851-40660	M5x40 BOLT	2	PC	-	-
5	R1194-40580	PACKING EVAP TOP	1	PC	PE FOAM	t5.0
6	R1194-40590	PACKING EVAP A	1	PC	PE FOAM	t5.0
7	R1194-40600	PACKING EVAP B	1	PC	PE FOAM	t5.0
8	R1194-40610	PACKING EVAP C	1	PC	PE FOAM	t5.0
9	R1194-40620	PACKING EVAP D	1	PC	PE FOAM	t5.0
10	R1194-40630	PACKING EVAP E	1	PC	PE FOAM	t5.0
11	C1532-40240	THERMISTOR	1	PC	-	-
12	C1873-40081	THERMISTOR HOLDER	1	PC	PP	-
13	R1194-40640	PACKING TXV	1	PC	PE FOAM	t10
14	SA439-D0041	10.8 O-RING	1	PC	H-NBR	Ø10.8x2.4
15	SA439-D0051	13.4 O-RING	1	PC	H-NBR	Ø13.4x2.4

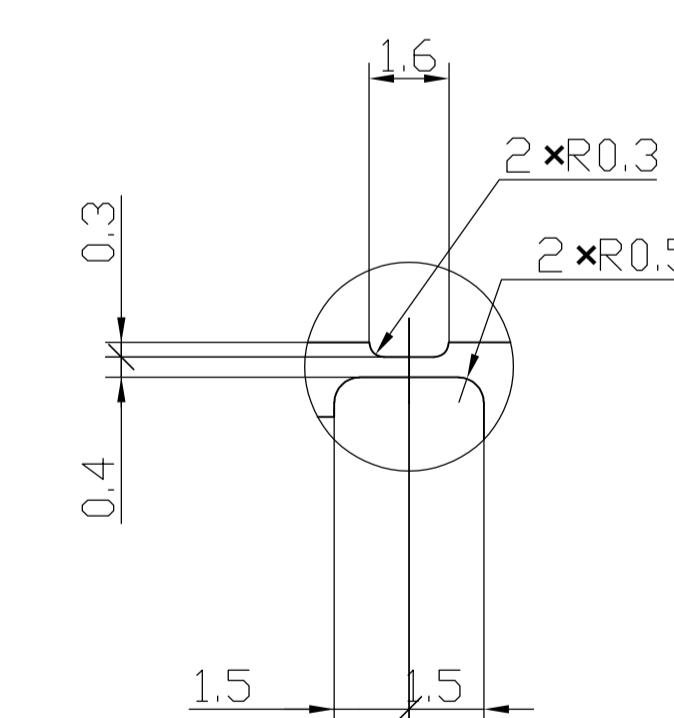
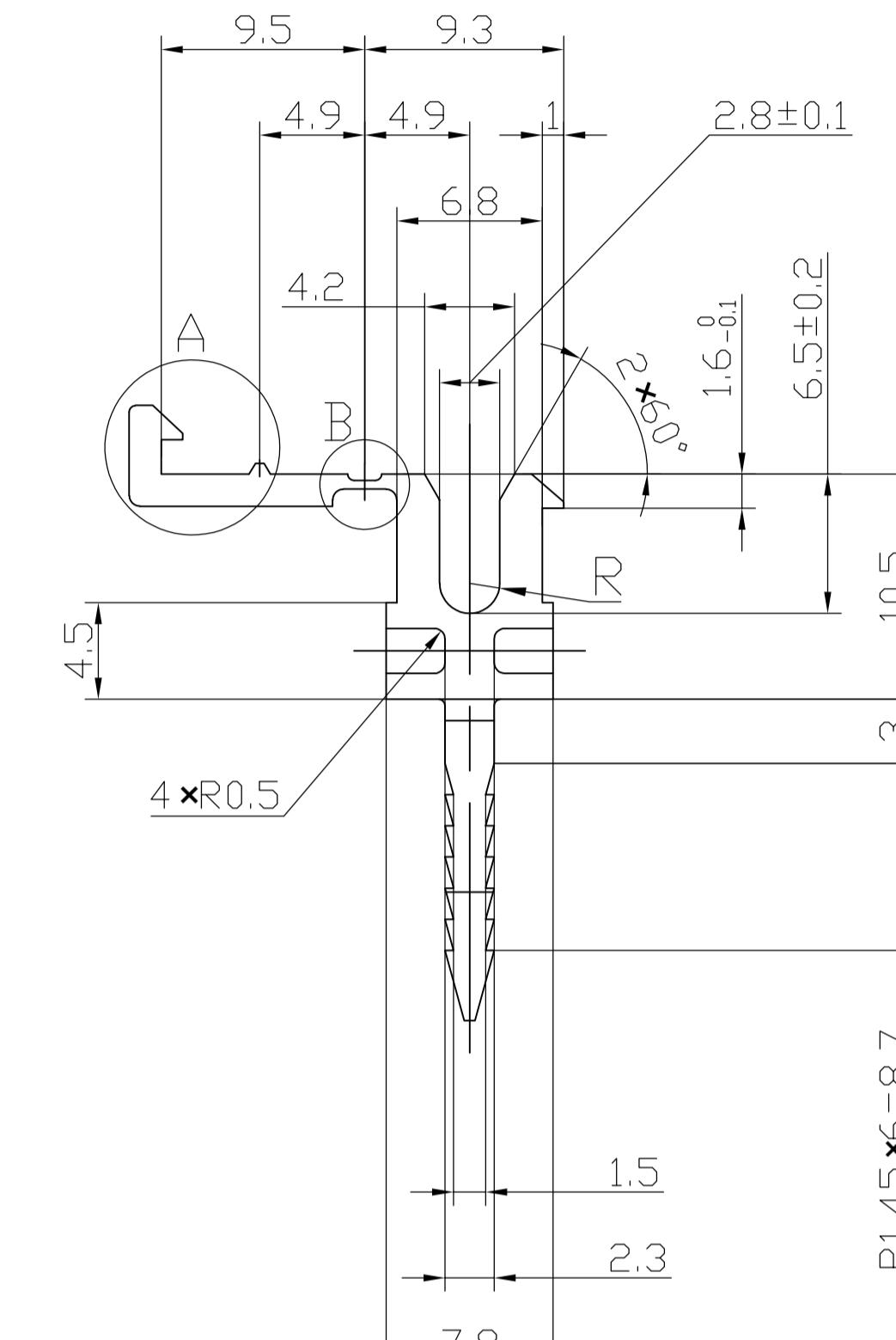


SANDEN

STA	REVISION	DATE	NAME	PROJECT:	SP100	DATE:	14.00/10/28
DRW.	Jabbari	SANDEN		SUBJECT:	HVAC ASSY, FULLY AUTOMATIC	UNIT:	mm
CHECK	Yadegar	SANDEN		CONF:	Yadegar	SANDEN	
APP	Khosravi	S.G.S.		PART NO:	TN28127110D	SCALE:	1:1
				DRAWING NO:	TN28127110D	A1	SHEET:
				TOLERANCES ACCORDING TO:		ROUGHNESS:	MAT.



VIEW A
SCALE 4:1

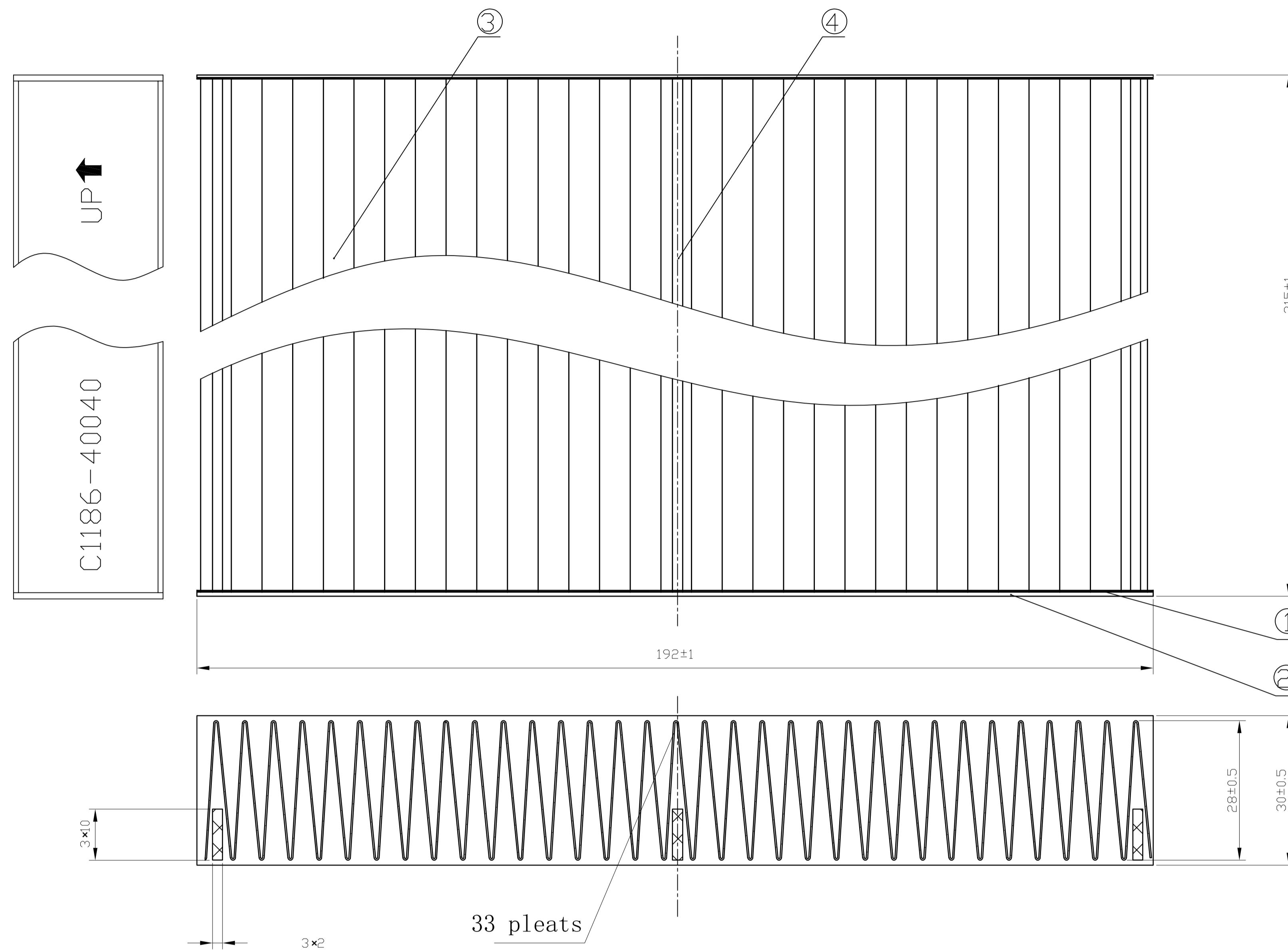


VIEW B
SCALE 4:1

SPECIFICATION:

1. Color: black or natural.
2. Draft slope: min.
3. This part is fixed with C1532-40240 in parallel flow 38mm evaporator.
4. This product has no deformation at a temperature of 22 °C and a relative humidity of 60%.
5. This part can not be scratched C1532-40240.
6. This product must meet the environmental protection requirements for the limits of lead, cadmium, mercury, hexavalent chromium, PBB and PBDE in QCC JT098-2011 "Limited Requirements for Toxic and Hazardous Substances in Automotive Products".
For the odor emission of non-metallic parts in the interior, it should meet the requirements of Grade 4 in QCC JT001-2011 "Test methods and limits for odor emission of automotive interior materials".
7. This product must meet the following Geely automotive technical requirements.
Q/JLY J711291-2008 Volatile organic matter limit requirements for automotive interior materials.
Q/JLY J711169-2009 Details of the banned and restricted substances for automobile products.
Q/JLY J711175-2009 Technical conditions for the odour level limit of non-metallic parts in the car.
8. Material burning characteristics <100mm/min, test method according to GB8410.
9. Product weight: about 1.15g.
10. PP-TD20 Material Information: Changchun Yongfeng Industrial Co., Ltd. PP-T20 type product.
11. Sanden part number of THERMISTOR HOLDER: C1873-40081 .

SHEET: 11



S/NO	DESCRIPTION	QTY	MATERIAL	DIMENSION	FINISHING	REMARKS
1	Hot melt adhesive	1	KS908N			Melting point 195-210 ° C
2	Core	2	AFHKL2	$\delta=0.9\pm 0.2$, Width 30		
3	Filter material	1	AF955	Width 213.6 ± 0.3 pleat height 28 ± 0.5		
4	Support plate	3	ABS	Width 213.6 ± 0.3		

SANDEN

SPECIFICATION:

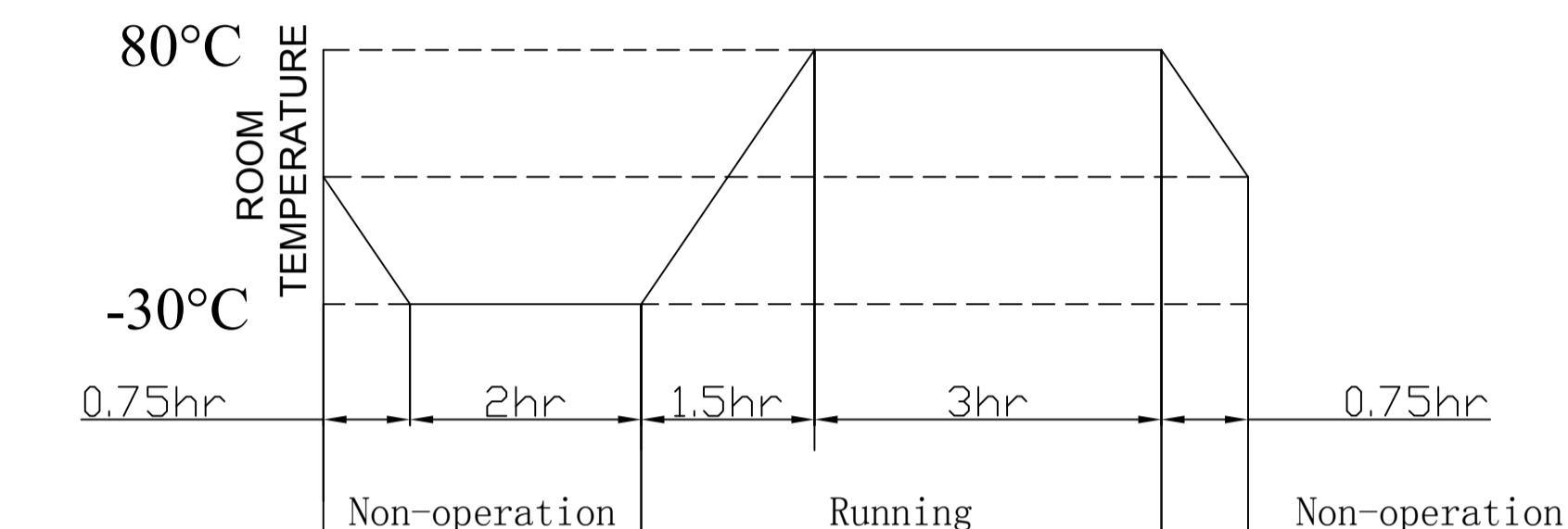
Testing according to the German Standard DIN 71460 Part 1

1. Pressure loss:

Air flow (m/h)	180	300	420	600
Pressure drop (Pa)	≤ 13	≤ 26	≤ 44	≤ 77

2. Dust collection capacity: When the air flow rate is 300 m/h, the experimental ash SAE, when the pressure is increased by 70 mg/m, the ash storage amount is 6.8 g.

3. Dust collection efficiency: (air flow 300 m / h, test dust for SAE)

**FIGURE 4**

4. The product should meet the requirements

Q/CC JT098-2008 "Limited Requirements for Toxic and Hazardous Substances in Automotive Products" and Q/CC JT001-2009 "Test Methods and Limits for Odor Emissions of Automotive Interior Materials"

For the non-metallic parts of the interior, the odor emission should meet the requirements of Grade 4 in Q/CC JT001-2009 "Test methods and limits for odor emission of automotive interior materials".

Q/JLY J711169-2009 Details of the banned and restricted substances for automobile products

Q/JLY J711175-2009 Technical conditions for odor level limits of non-metallic parts in vehicles

Q/JLY J711291-2008 VOC requirements for automotive interior materials

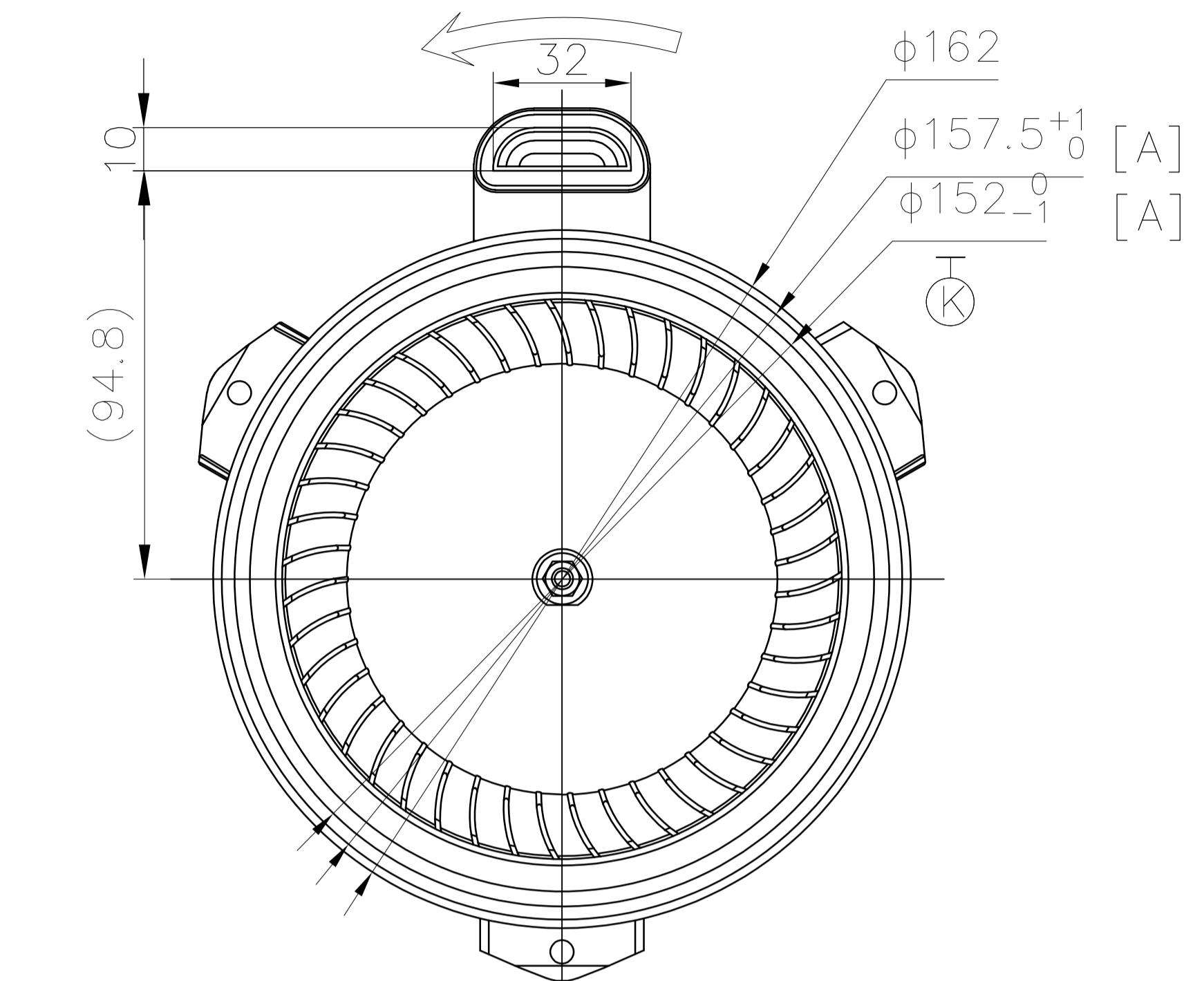
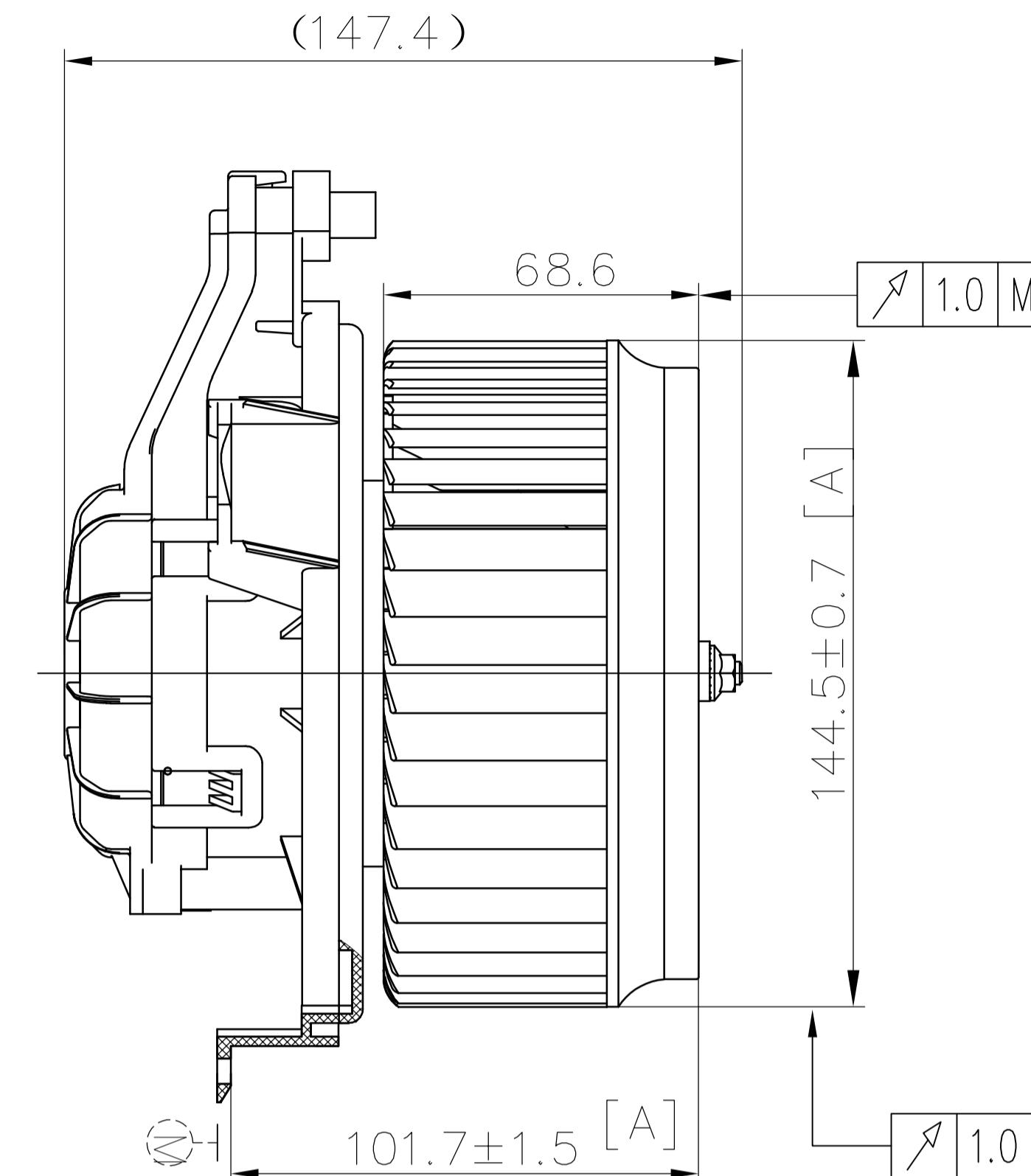
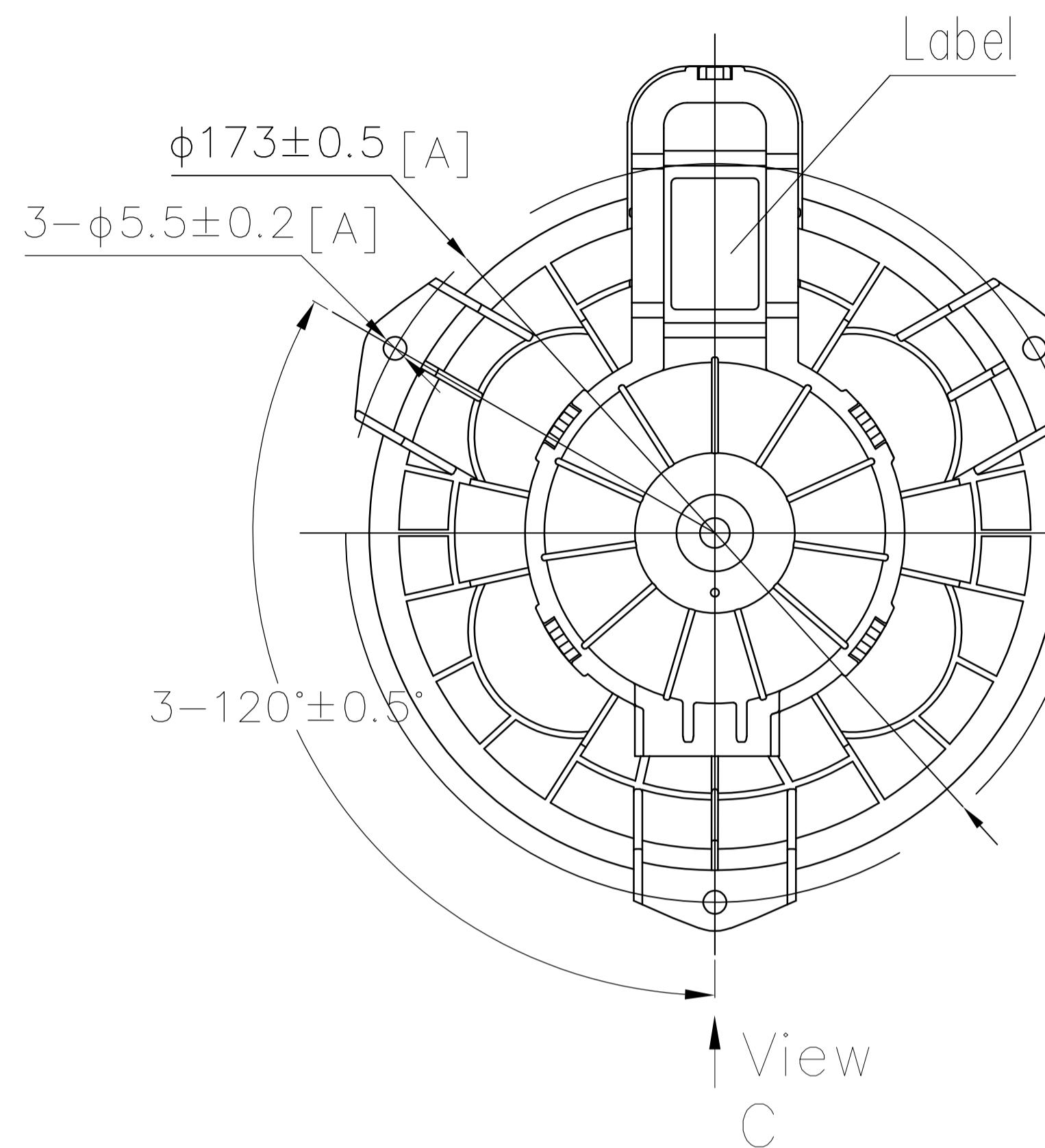
5. Manufacturer: Changchun Kedebao·Baoyu Filter Co., Ltd.

6. Product weight: about 75g.

7. Sanden part number of AIR FILTER: C1186-40040 .

										PROJECT: SP100C		DATE: 1400/10/28				
STA	REVISION	DATE	NAME							DRW:	Jabbari	SANDEN	SUBJECT: HVAC ASSY, FULLY AUTOMATIC	UNIT: mm		
										CHECK	Yadegar	SANDEN	CONF: Yadegar SANDEN PART NO: TN28127110D			SCALE: 1:1
										APP:	Khosravi	S.G.S.	DRAWING NO.:	TN28127110D	A1	SHEET: 1
										TOLERANCES ACCORDING TO:			ROUGHNESS: MAT.			

SHEET: 12



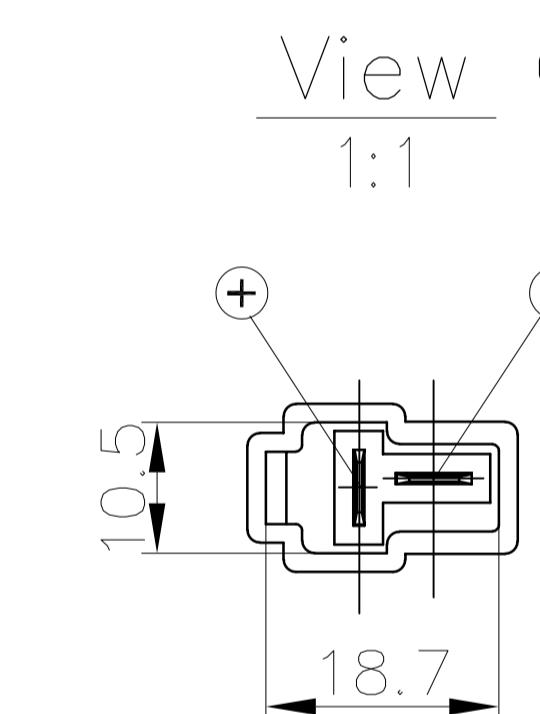
Technical requirements:

1. No corrosion, damage and bad appearance;
2. Nominal Voltage: DC12V ; Working Voltage: DC3~16V;
3. Using temperature range: -40~+85°C; Saving temperature range: -40~+95°C;
4. Rotation: CCW;
5. Noise: ≤70dB(A)(N=1500rpm, Probe distance from the center of the flange at the bottom of 100 mm);
6. 9V.DC aging 20 minutes,Nominal Voltage: DC12V;
Speed Range: 3900±200rpm Current Range: 19±1.5A
7. Resistance: ≥ DC500V/1MΩ;
8. Insulation resistance voltage: AC600V, 50Hz, Leakage current≤5mA, 1S;
9. No load start: DC2V
10. Vibration: DC8V No abnormal vibration;
11. Blower assembly balance: Static unbalance≤0.6g.cm ; Dynamic unbalance≤0.6g.cm(in each plane);Balancing clip number≤3;
12. No different sound,no abnormal vibration;
13. Operating Torque: 0.39 N.m ;
14. Sanden part number of BLOWER MOTOR: S1104-10020 .

[] Feature importance symbol: [A] Special features: customer requirements or key features of parts;
[B] Important features: Features that affect the performance and assembly of the whole machine

R
1

SANDEN



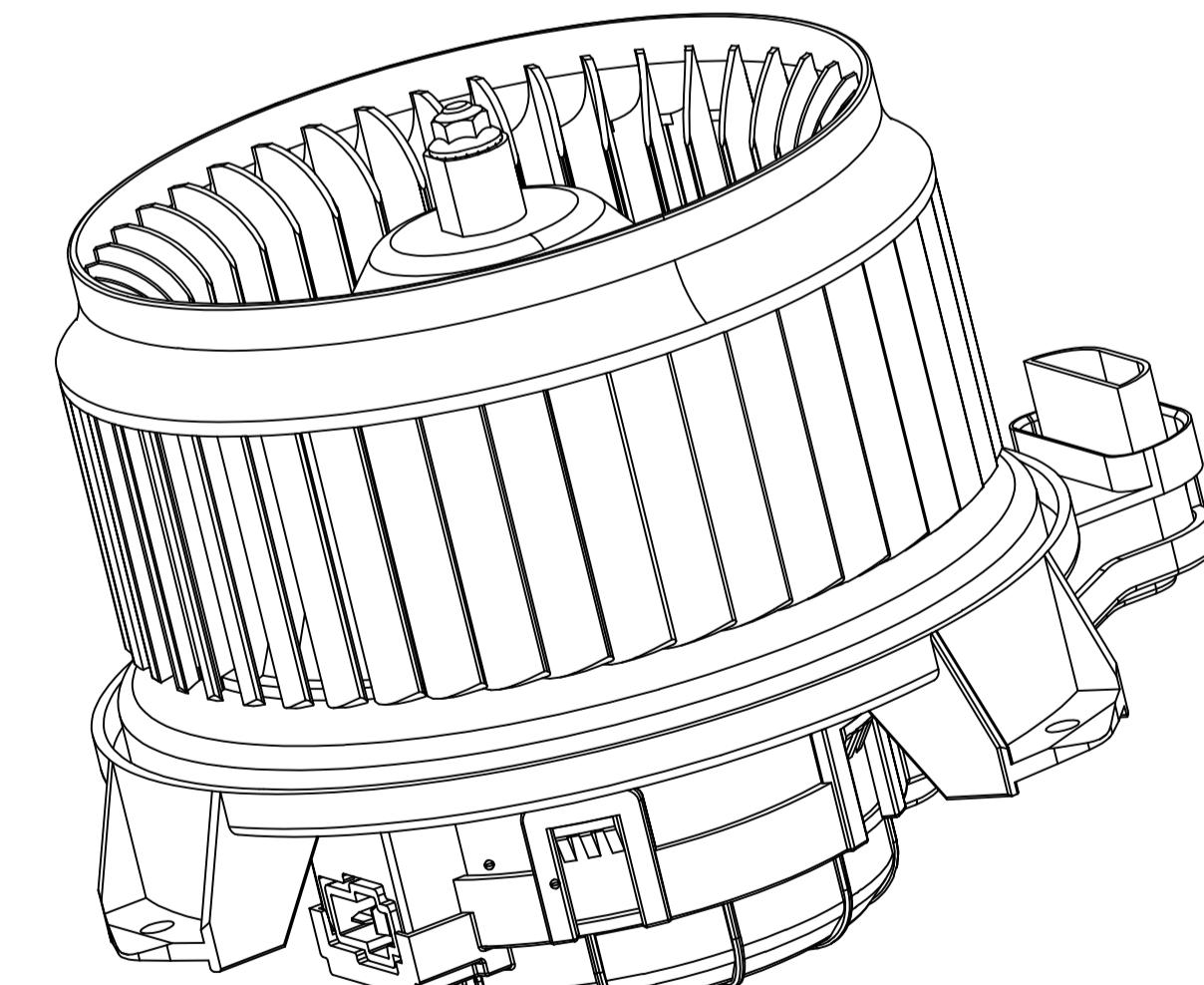
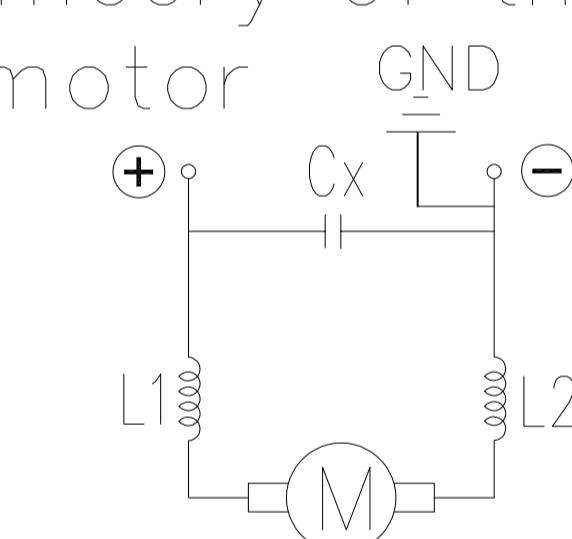
Label
+ ⊖ DC12V
S1104-10020
21 A 25 A

Class Morning Noon Evening
A B C

Date Year Month Day Class Line
21 A 25 A

Month Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
A B C D E F G H I J K L

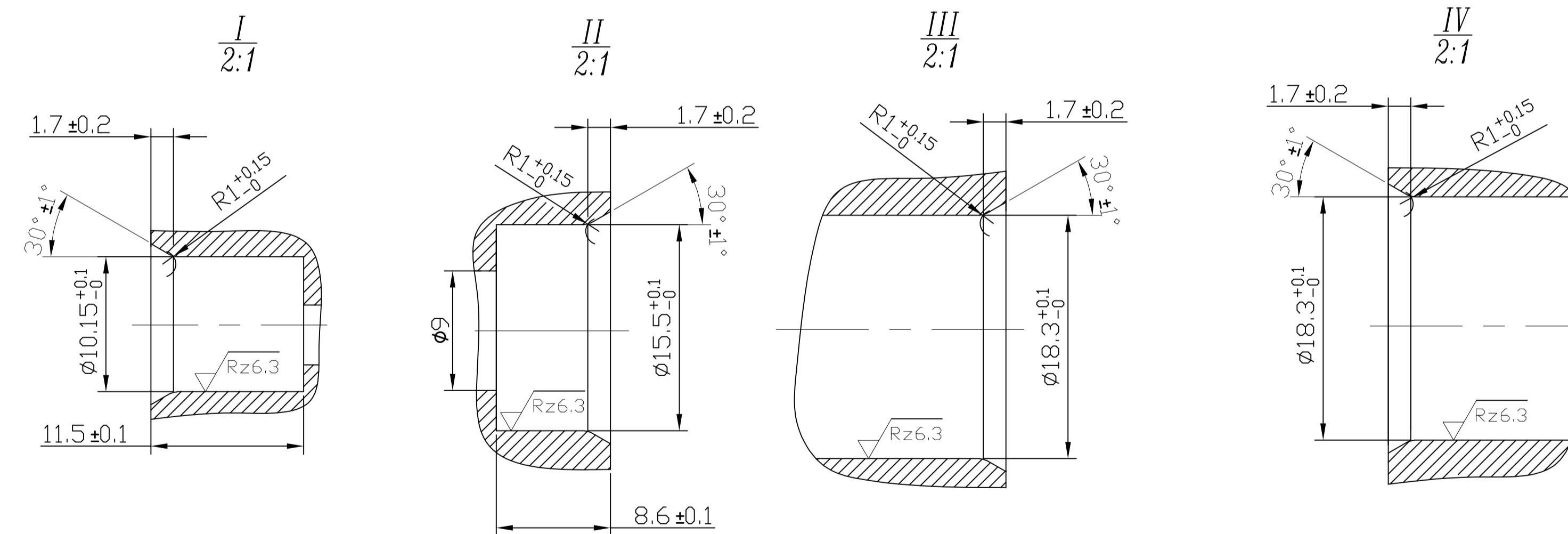
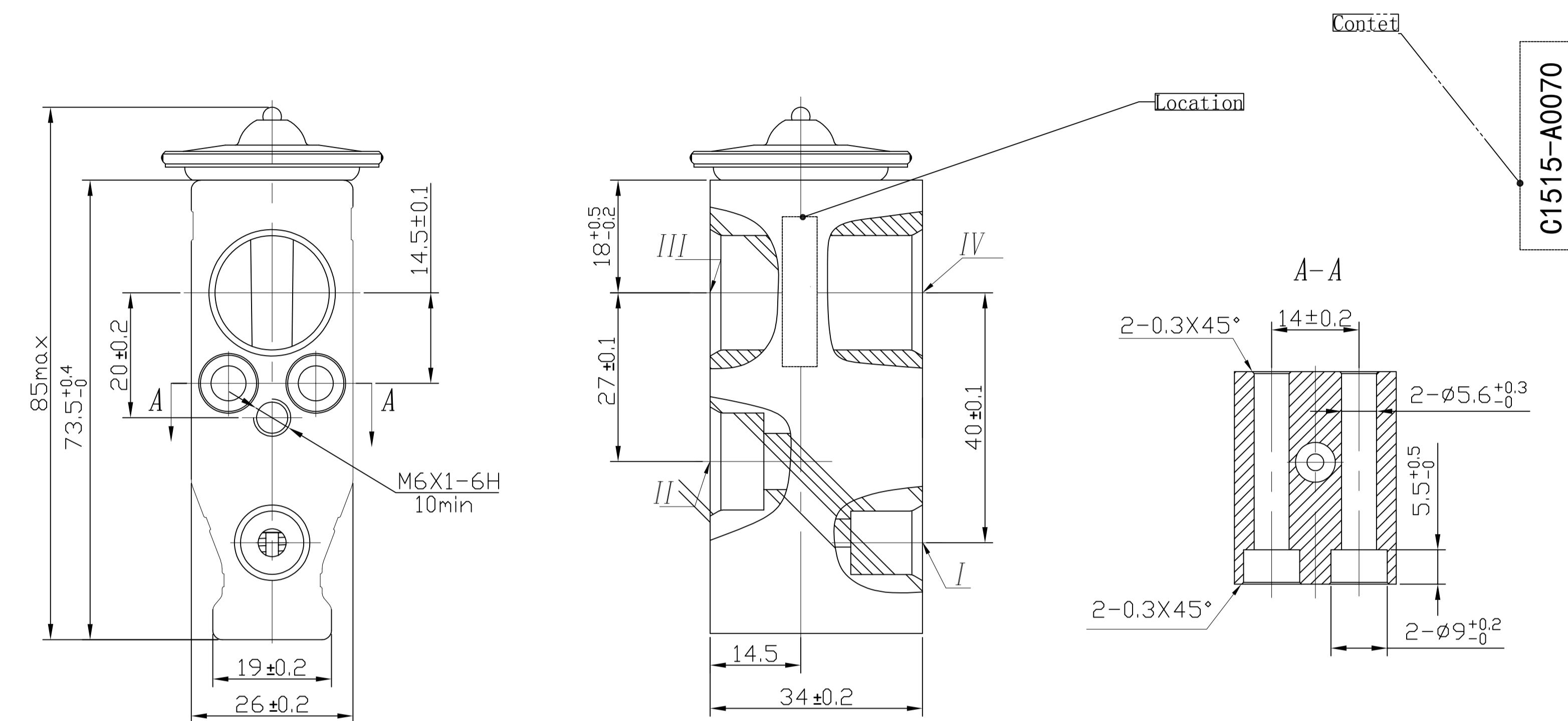
Theory of the motor



Tolerance	K
Dimension	Classification
	H J K
0-4	±0.05±0.1 ±0.3
4-16	±0.07±0.2 ±0.5
16-63	±0.1 ±0.3 ±0.7
63-250	±0.2 ±0.5 ±1.2
250-1000	±0.3 ±0.8 ±2.0

STA	REVISION	DATE	NAME	PROJECT:	SP100	DATE:
DRW.	Jabbari	SANDEN		SUBJECT:	HVAC ASSY, FULLY AUTOMATIC	1400/10/28
CHECK	Yadegar	SANDEN		UNIT:	mm	
CONF	Yadegar	SANDEN		PART NO:	TN28127110D	SCALE: 1:1
APP	Khosravi	S.G.S.		DRAWING NO:	TN28127110D	A1 SHEET:
				TOLERANCES ACCORDING TO:		ROUGHNESS: MAT.

SHEET: 13

**SPECIFICATION.**

- 1-Refrigerant: HFC134-a
- 2-Capacity1.5:USR
- 3-Charge: Gas Charge
- 4-Superheat Setting:

Bulb temperature(°C)	Superheat setting(MPaG)
☆ 0	0.220 ± 0.010
10	0.287 ± 0.020

Condition:

- Inlet Pressure: 1.03MPa
- Orifice dia $\varnothing 0.8\text{mm}$

- 5-Leakage of the valve seat $0.098: \leq \text{Mpa}10/\text{s}$
- 6-Pressure of air tightness: High pressure side 3.53Mpa, Low pressure side 1.67Mpa
- 7-Resistance pressure: High pressure side 5.30Mpa, Low pressure side 2.50Mpa
- 8-Burst test: High pressure side 10.6Mpa, Low pressure side 4.4Mpa
- 9-Temperature of working environment: $40^\circ\text{C} \text{ to } 120^\circ\text{C}$
- 10-The balance part leakage amount:below 50ml/min with a pressure difference of 0.2Mpa

NOTES:

- 1- Appearance: check appearance defect which can cause influence of product's function
- 2-There shall not be residual moisture or foreign contamination
- 3-Print P/N & Lot No. (both letters are black) on the surface of the valve with the laser print
- 4-Body color:Natural aluminium

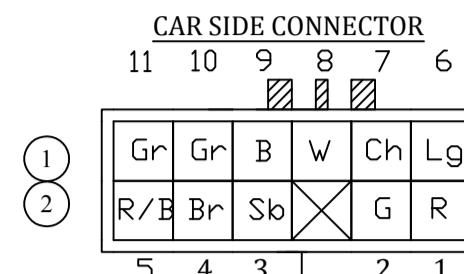
NOTE:

1. APPEARANCE: ANY DEFECTS THAT DAMAGE COMMERCIAL VALUE OR AFFECT THE PERFORMANCE SHALL NOT BE FOUND.
2. OPERATING AMBIENT TEMPERATURE: -40°C to $+80^\circ\text{C}$
3. SANDEN PART NUMBER OF TXV: C1515-A0070

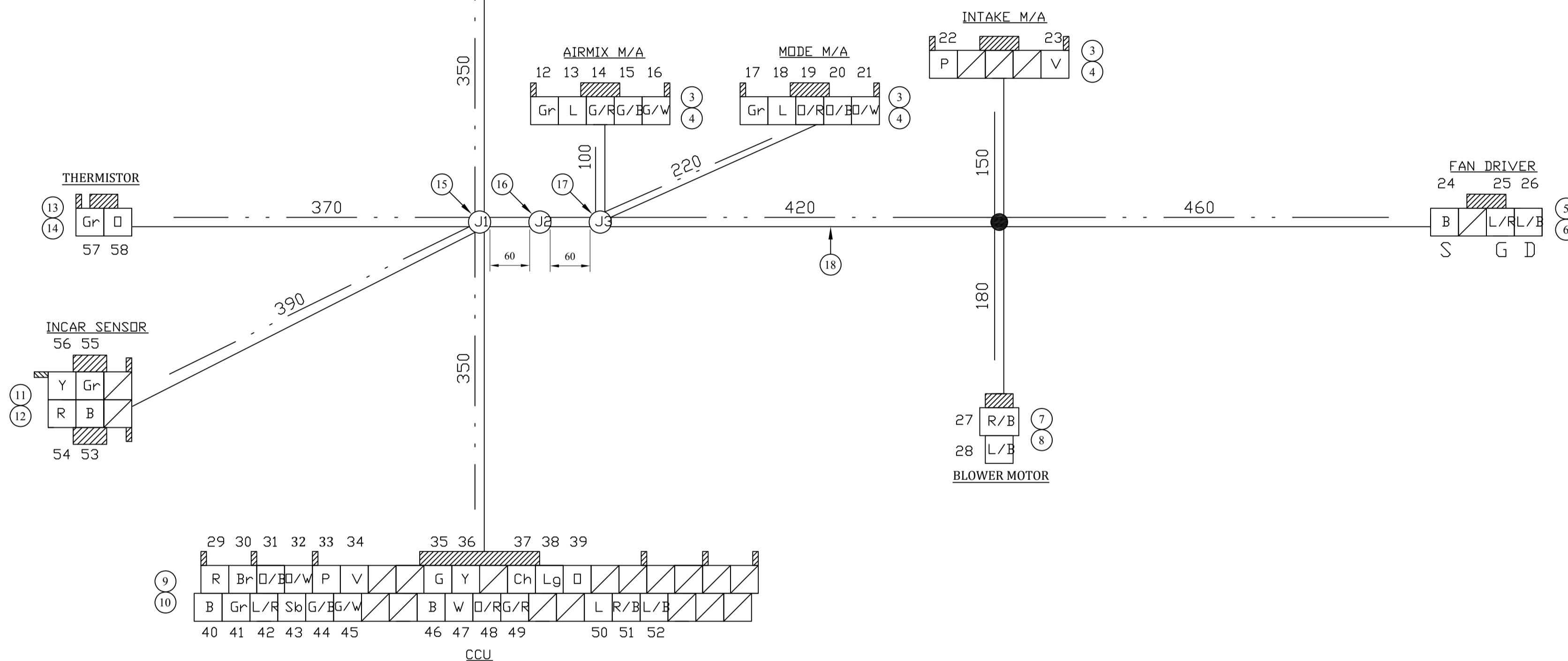
SANDEN

STA	REVISION	DATE	NAME	PROJECT:	SP100	DATE:	1400/10/28
DRW.	Jabbari	SANDEN		SUBJECT:	HVAC ASSY, FULLY AUTOMATIC	UNIT:	mm
CHECK	Yadegar	SANDEN		PART NO:	TN28127110D	SCALE:	1:1
CONF	Yadegar	SANDEN		DRAWING NO.	TN28127110D	A1	
APP	Khosravi	S.G.S.					
TOLERANCES ACCORDING TO:				ROUGHNESS:			
				MAT.			

SHEET: 14



No.	PART NUMBER	DESCRIPTION	QTY	REMARKS	No.	PART NUMBER	DESCRIPTION	QTY	REMARKS
1		11P HOUSING M	1	AMP144535-1	11		6P HOUSING F	1	AMP MQS 6V
2		TERMINAL	11	AMP142755-754	12		TERMINAL	4	144969-1
3		5P HOUSING F	3	7283-5830	13		2P HOUSING F	1	7283-5845
4		TERMINAL	12	7116-4231-02	14		TERMINAL	2	7116-4231-02
5		4P HOUSING F	1	DJ70415-6.3-21	15		JOINT TERMINAL	1	ST760146
6		TERMINAL	3	ST730267-269	16		JOINT TERMINAL	1	ST760146
7		2P HOUSING F	1	DJ7022-6.3-11 or MG610043	17		JOINT TERMINAL	1	ST760146
8		TERMINAL	2	ST730269		AVS 0.5	CORD		
9		40P HOUSING F	1	JAE CONNECTOR MX34040SF1		AVS 3.0	CORD		
10		TERMINAL	24	JAE CONTACT M34S75C4F2			HARNESS TAPE		

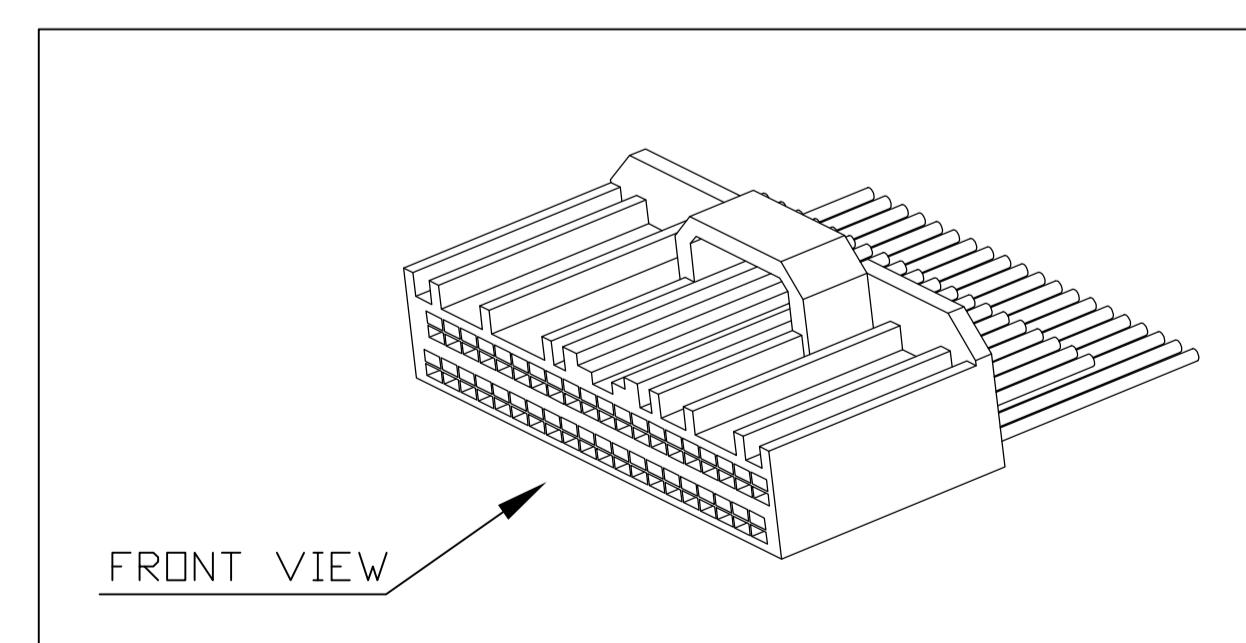


CORD NAME	WIRE DIAMETER	COLOR	DIMENSION	JUNCTION TABLE
A	AVS 0.5	R	680	1 — 29
B	AVS 0.5	R	720	54 —
C	AVS 0.5	G	680	2 — 35
D	AVS 0.5	Sb	680	3 — 43
E	AVS 0.5	Br	680	4 — 30
F	AVS 3.0	R/B	1050	5 — 27
G	AVS 0.5	R/B	870	51 —
H	AVS 0.5	Lg	680	6 — 38
I	AVS 0.5	Ch	680	7 — 37
J	AVS 0.5	W	680	8 — 47
K	AVS 3.0	B	1330	9 — J2 — 24
L	AVS 0.5	B	400	40 —
M	AVS 0.5	B	400	46 —
N	AVS 0.5	B	440	53 —
O	AVS 0.5	Gr	680	10 — J1 — 41
P	AVS 0.5	Gr	340	11 —
Q	AVS 0.5	Gr	210	12 —
R	AVS 0.5	Gr	330	17 —
S	AVS 0.5	Gr	380	55 —
T	AVS 0.5	Gr	360	57 —
U	AVS 0.5	L	300	13 — J3 — 18
V	AVS 0.5	L	460	50 —
W	AVS 0.5	G/R	550	14 — 49
X	AVS 0.5	G/B	550	15 — 44
Y	AVS 0.5	G/W	550	16 — 45
Z	AVS 0.5	O/R	670	19 — 48
AA	AVS 0.5	O/B	670	20 — 31
AB	AVS 0.5	O/W	670	21 — 32
AC	AVS 0.5	P	1020	22 — 33
AD	AVS 0.5	V	1020	23 — 34
AE	AVS 0.5	L/R	1330	25 — 42
AF	AVS 3.0	L/B	620	26 — 28
AG	AVS 0.5	L/B	1050	52 —
AH	AVS 0.5	Y	680	36 — 56
AI	AVS 0.5	O	700	39 — 58

- NOTE :
1. CORD COLOR INDICATED SHOULD BE VIEWED FROM HOUSING CONNECTOR FRONT VIEW.
 2. CRIMPING STRENGTH OF CORD SHOULD BE ABLE TO WITHSTAND THE FOLLOWING PULLING FORCE:
0.5 mm² 88.2N (9 KgF)
0.85 mm² 127.4N (13 KgF)
1.25 mm² & ABOVE 176.4N (18 KgF)
 3. SANDEN PART NUMBER (R1550-10070) AND PRODUCTION DATE MARKED ON HARNESS TAPE. (18)
 4. BRANCHING WIRES MAY BE SECURED BY CABLE TIES.
 5. ANY SPECIFICATIONS NOT STATED AS ABOVE SHOULD FOLLOW TO WIRING HARNESS STANDARD (S041-550-001).
 6. NO COMBINE OR MIXTURE OF AVS OR AVSS FOR ONE WIRE HARNESS ASSY IS ALLOWED.
 7. WIRE DIMENSION MUST BE SPECIFIED FROM END OF SOCKETS.
 8. WIRE LENGTH DIMENSION TOLERANCE IS +10 mm.
 9. CORD COLOR SHOULD FOLLOW THE TABLE BELOW.

G	W	B	R	Y	L	O	Gr	Br	Ch	Sb	P	V	Lg
GREEN	WHITE	BLACK	RED	YELLOW	BLUE	ORANGE	GREY	BROWN	DARK BROWN	SKY BLUE	PINK	VIOLET	LIGHT GREEN

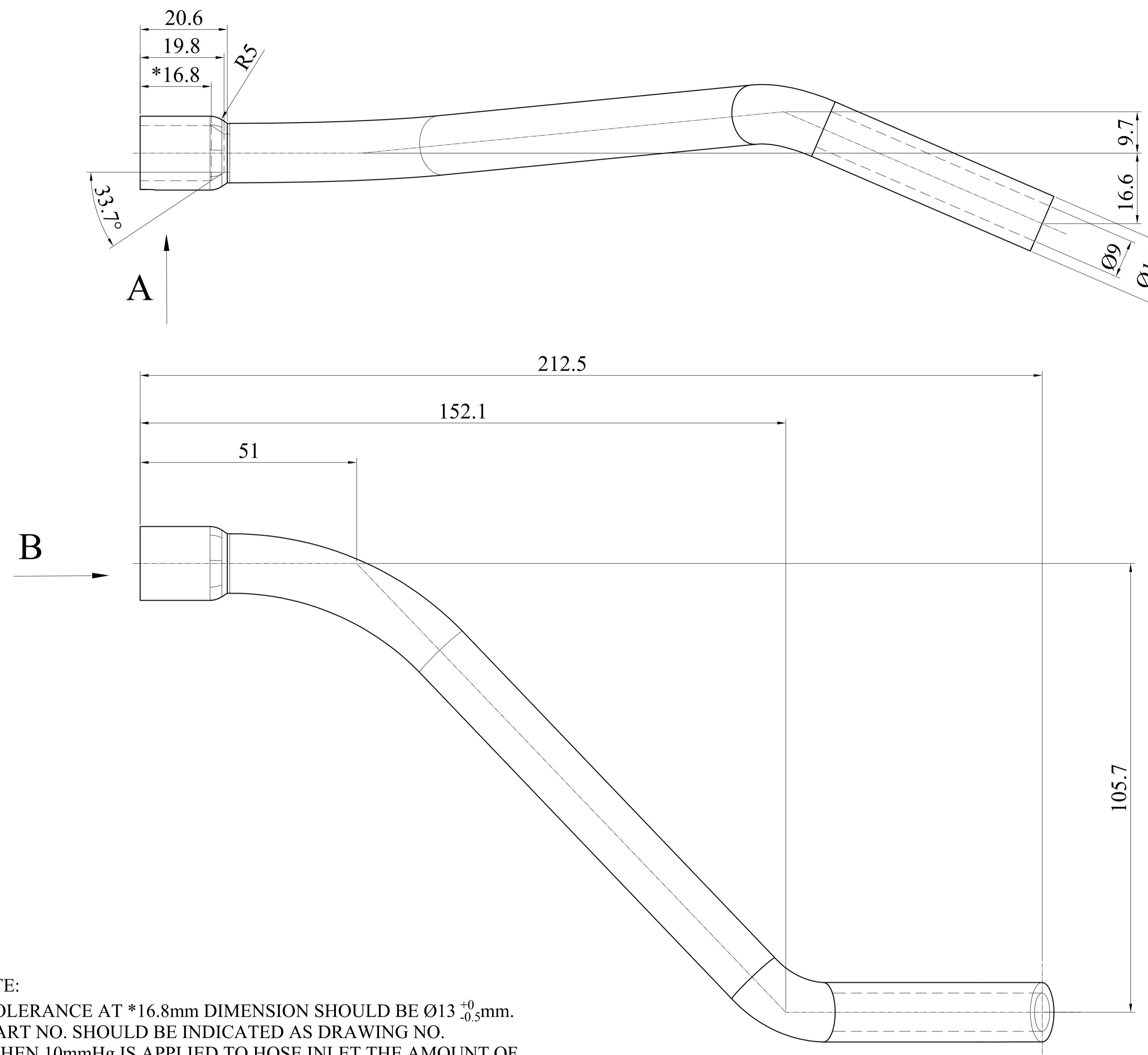
10. SANDEN PART NO. OF WIRE HARNESS: R1550-10070



STA	REVISION	DATE	NAME	PROJECT:	SP100	DATE: 1400/10/28
DRW.	Jabbari	SANDEN		SUBJECT:	SAZEH GOSTAR SAIPA	
CHECK	Yadegar	SANDEN		UNIT:		mm
CONF	Yadegar	SANDEN		PART NO:	TN28127110D	SCALE: 1:1
APP	Khosravi	S.G.S.		DRAWING NO:	TN28127110D	A1 SHEET:
				TOLERANCES ACCORDING TO:	ROUGHNESS: MAT.	

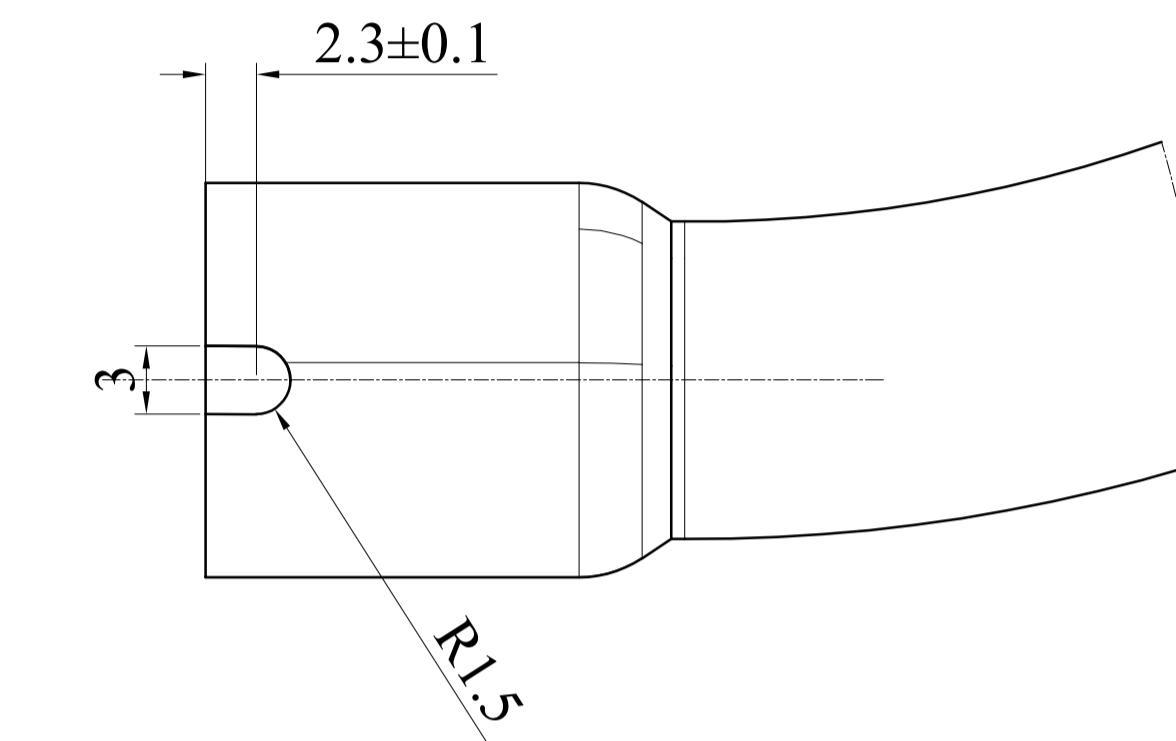
SANDEN

SHEET: 16

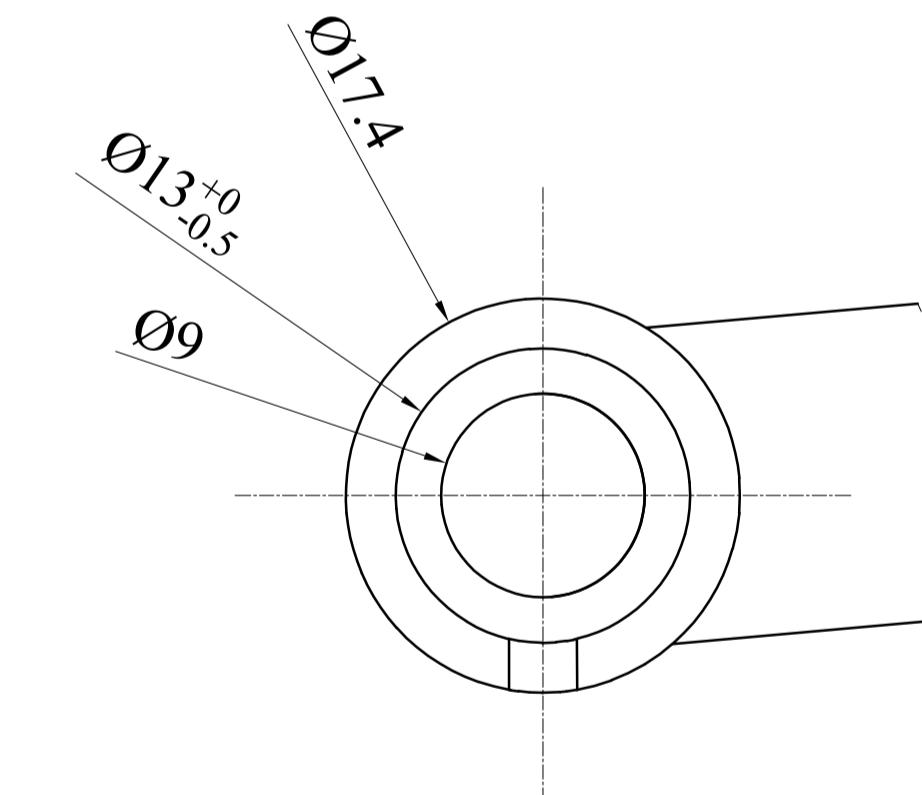


- NOTE:
1. TOLERANCE AT *16.8mm DIMENSION SHOULD BE $\varnothing 13^{+0}_{-0.5}$ mm.
 2. PART NO. SHOULD BE INDICATED AS DRAWING NO.
 3. WHEN 10mmHg IS APPLIED TO HOSE INLET THE AMOUNT OF DRAINING AT OUTLET MUST BE OVER 0.16L/Min.
 4. WHEN MUD IS ATTACHED TO HOSE OUTLET IT MUST BE FELL APART BY NATURAL DRAINAGE.
 5. SURFACE OF THE HOSE TO BE SMOOTH AND FREE FROM DETERIMENTAL BURRS, FLAWS, ETC.
 6. MATERIL IS BASE ON KES BL005A.
 7. HARDNESS: 60±5 HS
 8. TEST METHOD IS BASED ON KES BL006.
 9. COLOR: BLACK .
 10. SANDEN PART NO. OF DRAIN HOSE: R1420-40220

STA	REVISION	DATE	NAME	PROJECT:	SP100	DATE:
DRW.	Jabbari	SANDEN		SUBJECT:	HVAC ASSY, FULLY AUTOMATIC	1400/10/28
CHECK	Yadegar	SANDEN		UNIT:	mm	
CONF	Yadegar	SANDEN	PART NO:	TN28127110D	SCALE:	1:1
APP	Khosravi	S.G.S	DRAWING NO:	TN28127110D	A1	SHEET:
TOLERANCES ACCORDING TO:				ROUGHNESS:	MAT.	



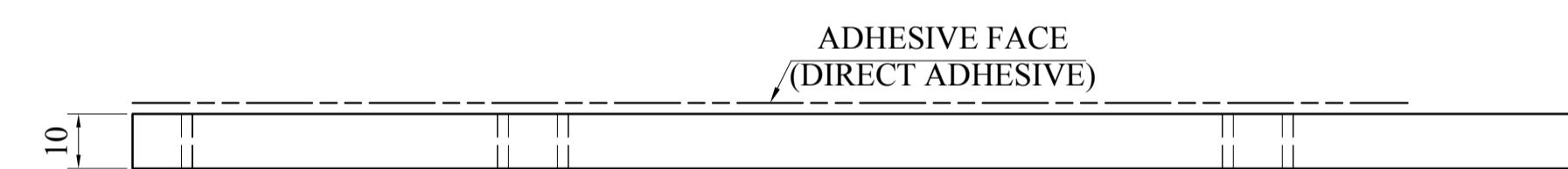
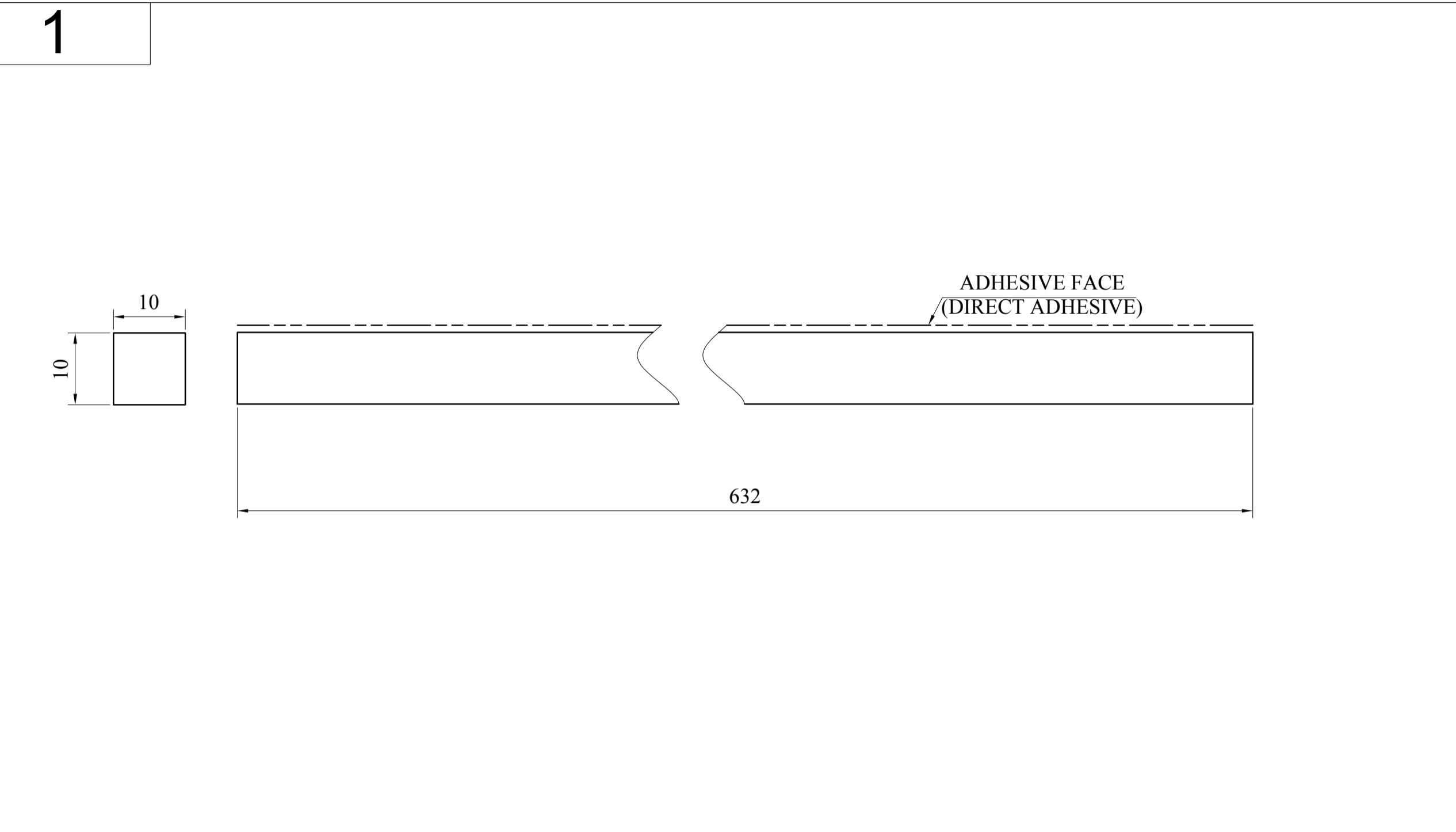
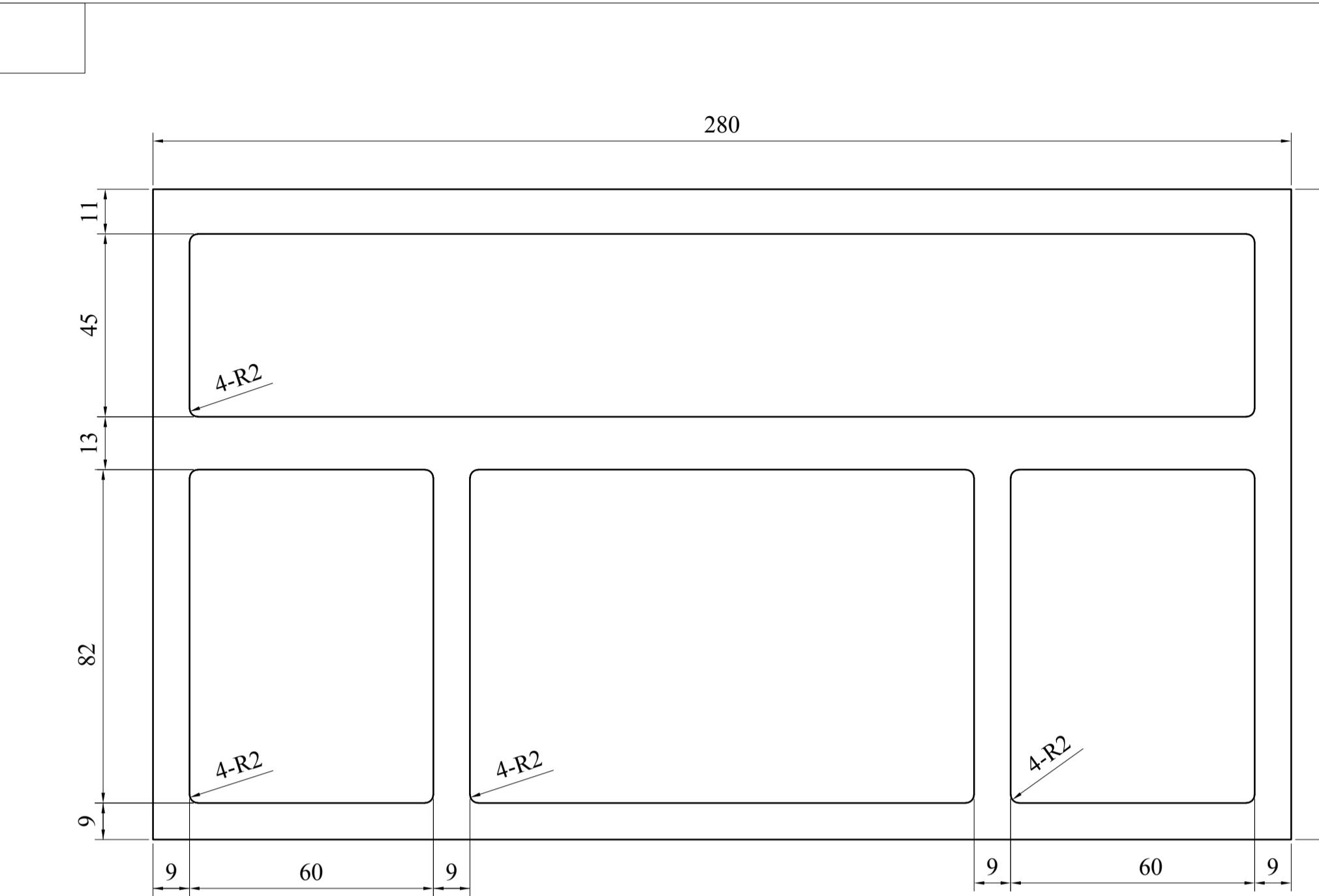
VIEW A
SCALE 2:1



VIEW B
SCALE 2:1

SHEET: 17

A

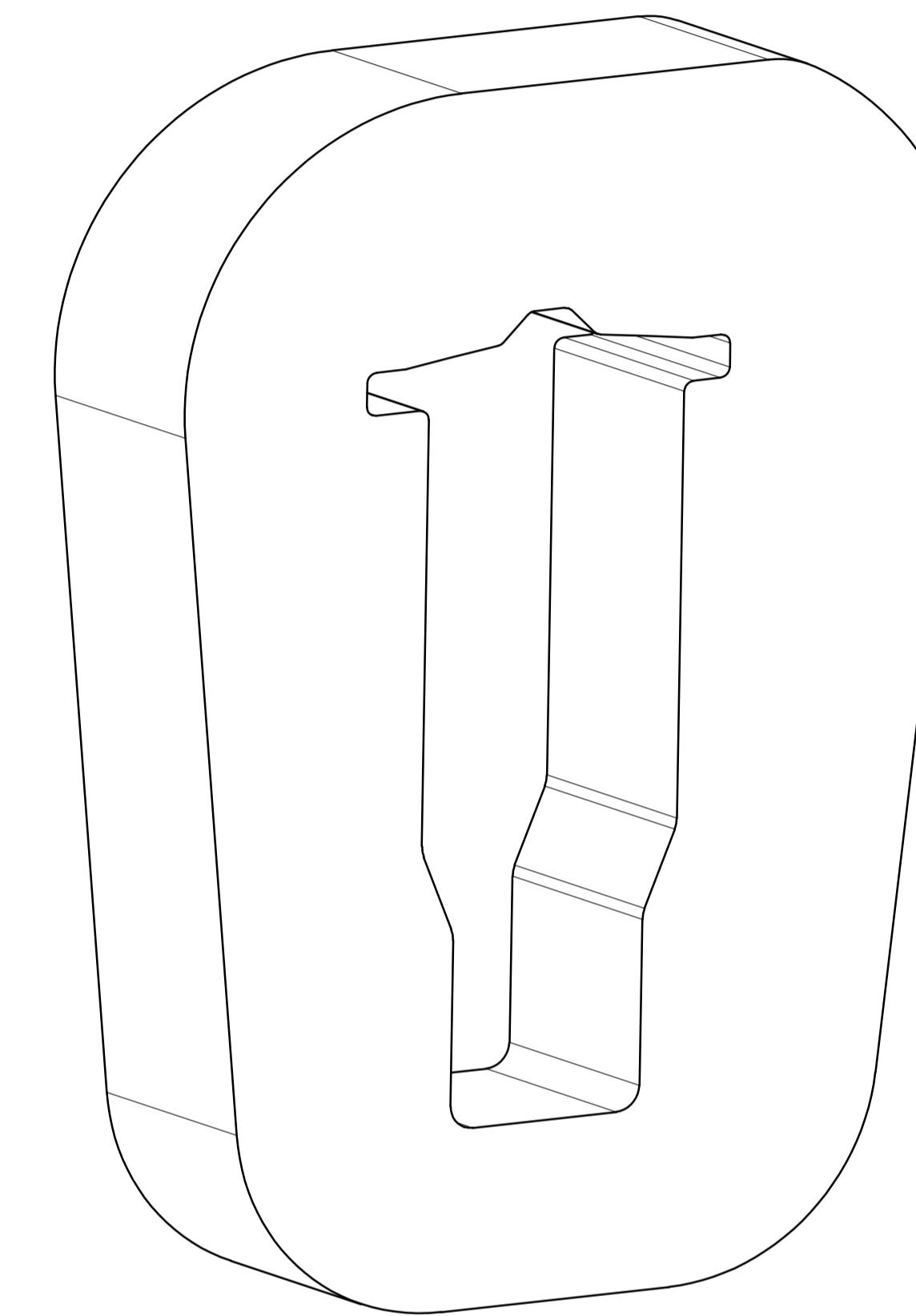
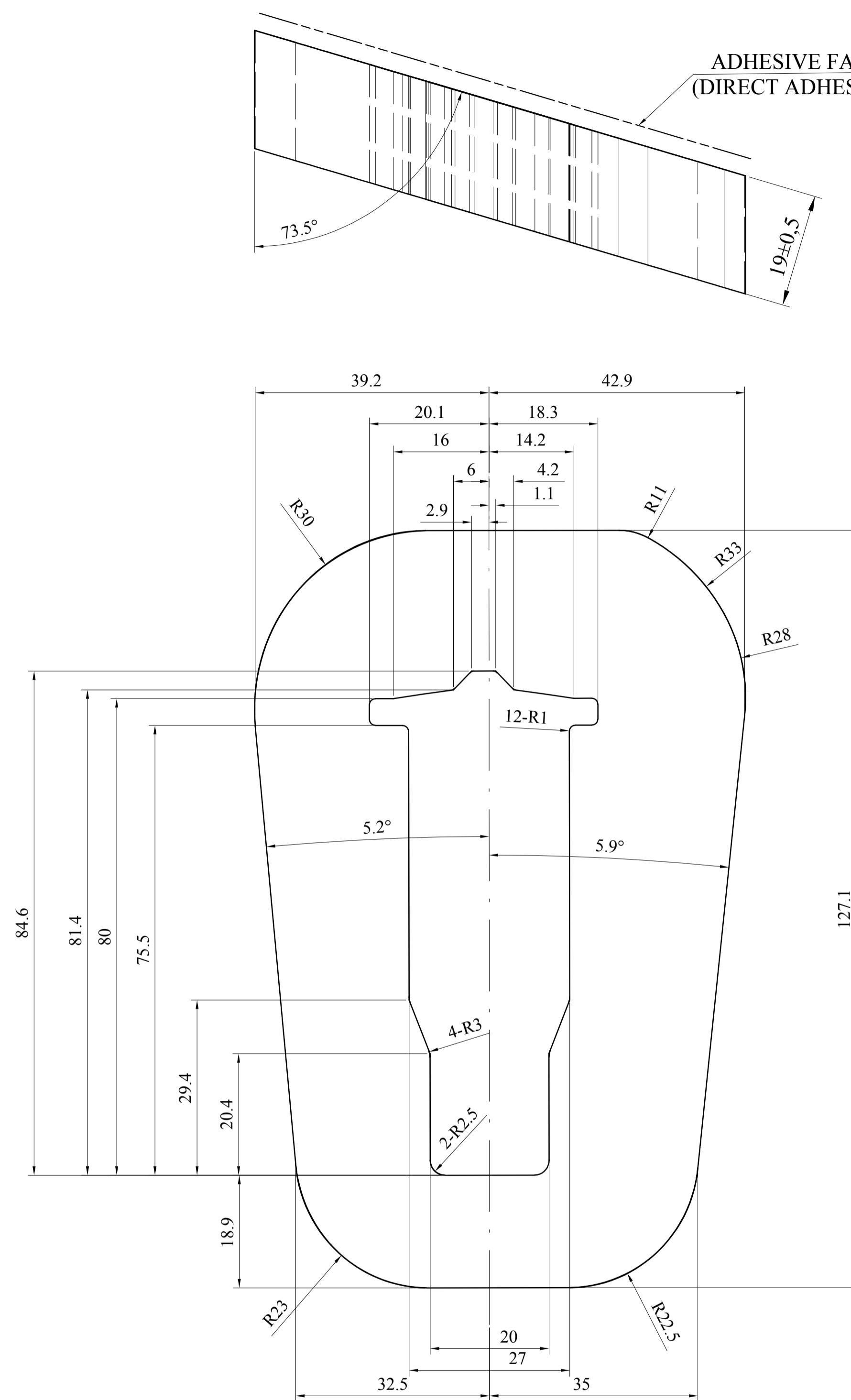


S/NO	PART NUMBER	DESCRIPTION	QTY	UNIT	MATERIAL	DIMENSION	REMARKS
1	R1194-40470	PACKING OUTLET DUCT	1	PC	PU FOAM	t10	Density: 30 (kg/m3)
2	R1194-40480	PACKING DUCT INTAKE	1	PC	PU FOAM	t10	Density: 30 (kg/m3)

SANDEN

(+/-)	ABOVE 3 BELOW 6	ABOVE 3 BELOW 6	ABOVE 4 BELOW 30	ABOVE 30 BELOW 120	ABOVE 120 BELOW 300	ABOVE 300 BELOW 800	ABOVE 800 BELOW 3150	OVER 3150	90° ANGLES(*)	OTHERS
A	0.05	0.1	0.15	0.2	0.3	0.4	0.7	1.0	—	1.5
B	0.2	0.3	0.4	0.5	0.7	1.0	1.6	2.5	—	—
C	0.4	0.5	0.6	0.8	1.2	1.6	3.0	4.0	—	—
D	0.5	0.8	1.0	1.2	1.8	2.8	4.0	6.0	—	2 3
E	1.0	2.5	2.5	3.5	5.0	7.0	10.0	15.0	—	—
F				10.0		15.0	20.0	30.0	45.0	15%

STA	REVISION	DATE	NAME	PROJECT:	SP100	DATE: 1400/10/28
DRW.	Jabbari	SANDEN		SUBJECT:	HVAC ASSY, FULLY AUTOMATIC	UNIT: mm
CHECK	Yadegar	SANDEN		CONF:	TN28127110D	SCALE: 1:1
APP	Khosravi	S.G.S.	DRAWING NO.	TN28127110D	A1	SHEET: 1
TOLERANCES ACCORDING TO:				ROUGHNESS: MAT.		



ISOMETRIC VIEW

NOT

1. COLOR IS GRAY OR DARK GRAY.
 2. DENSITY FOR PVC MATERIAL IS 180 ± 20 Kg/m³.
 3. ADHESIVE SHOULD WITH NET.
 4. UNSPECIFIED RADIUS TO BE R1mm.
 5. SANDEN PART NUMBER OF TXV PACKING: R1190-40160

	ABOVE 0 BELOW 3	ABOVE 3 BELOW 6	ABOVE 6 BELOW 30	ABOVE 30 BELOW 120	ABOVE 120 BELOW 315	ABOVE 315 BELOW 1000	ABOVE 1000 BELOW 2000	ABOVE 2000 BELOW 3150	OVER 3150	ANGLE(°)		STA:	REVISION:	DATE:	NAME:											
										90°	OTHERS															
A	0.05	0.1	0.15	0.2	0.3	0.4	0.7	1.0	—	1	1.5	DRW.	Jabbari	SANDEN	SUBJECT: <i>HVAC ASSY, FULLY AUTOMATIC</i>			DATE: 1400/12/07								
B	0.2	0.3	0.4	0.5	0.7	1.0	1.6	2.5	—			CHECK	Yadegar	SANDEN				UNIT:	mm							
C	0.4	0.5	0.6	0.8	1.2	1.6	3.0	4.0	—			CONF	Yadegar	SANDEN				PART NO: TN28127110D			SCALE:	1:1				
D	0.5	0.8	1.0	1.2	1.8	2.8	4.0	6.0	—			APP.	Mohmmadian	S.G.S				DRAWING NO:	TN28127110D	A1	SHEET:					
E	1.0	2.5	2.5	3.5	5.0	7.0	10.0	15.0	—			TOLERANCES ACCORDING TO:						ROUGHNESS:			MAT.					
F	10.0				15.0				20.0				30.0				45.0				1.5%					