

Plant Design Registration Certificate

Work Health & Safety Act 2011
Work Health & Safety Regulation 2017

Registration holder

Danfoss (Australia) Proprietary Limited

ABN: 93004385997

ACN: 004385997

Design registration number

PDPRE7001349/23

Date issued

12 Dec 2023

Plant Design description

Plant type: Pressure Vessel

Model / Identification number / Name: Receiver

Manufacturer: Danfoss

Vessel type: Refrigeration and air-conditioning vessel

Hazard level: D

Design pressure (kPag): 8000

Minimum temperature (C): -45

Maximum temperature (C): 50

Number of chambers: 1

Maximum volume (L): 7.6

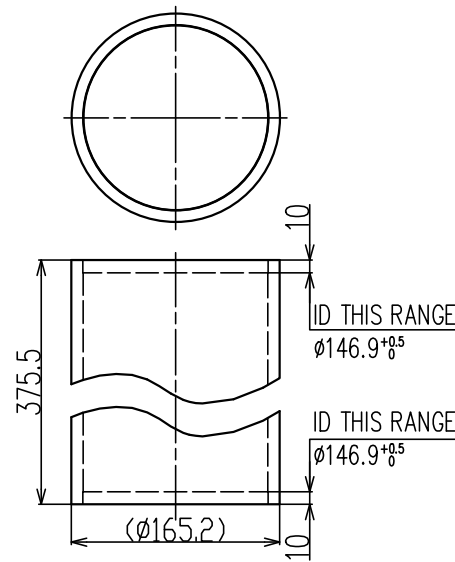
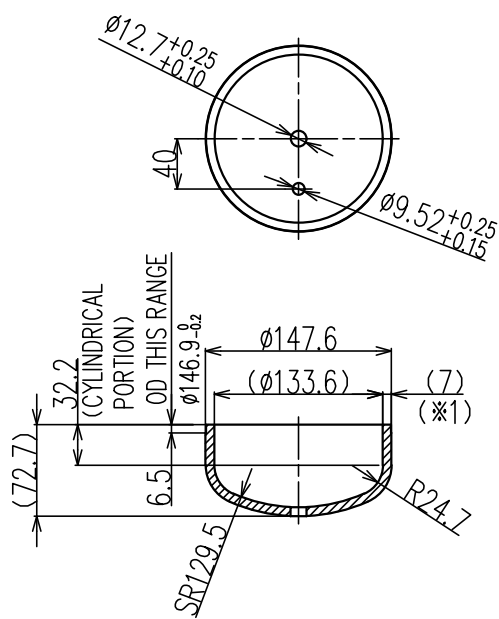
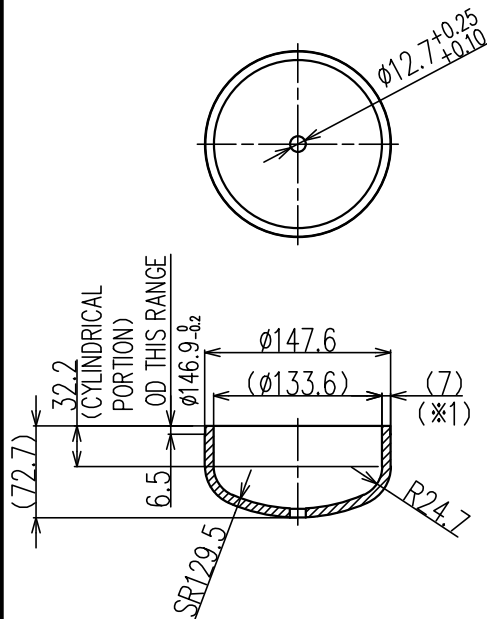
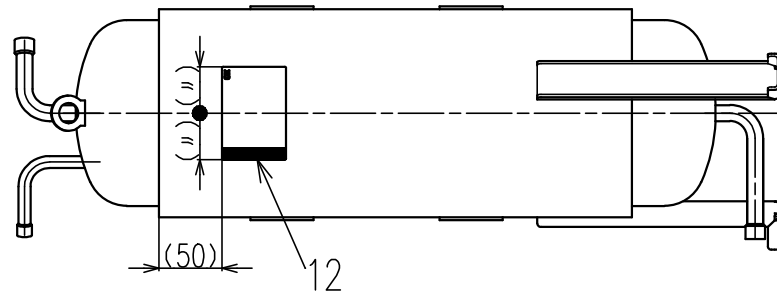
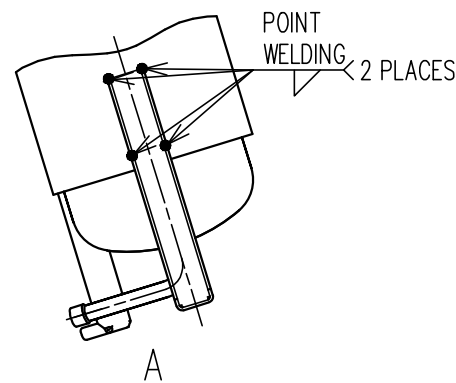
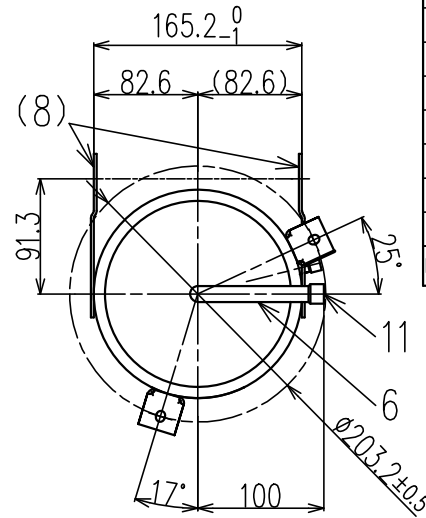
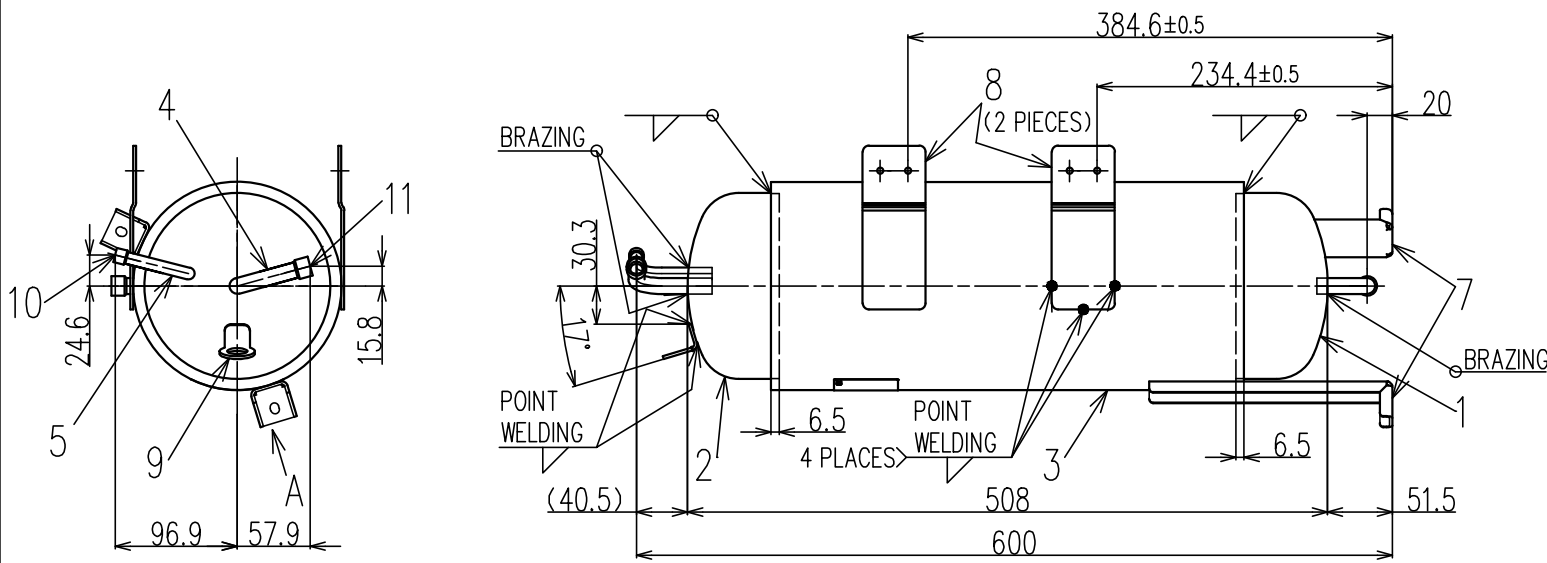
Minimum volume (L): 7.6

Technical details

Drawing details: Receiver for condensing unit LCA000Z094, Receiver for condensing unit LCA000Z095

Technical standards: JIS B8240 - 2015

Year of design: 2020



12	LCA011A003A	LABEL<PED>	1	
11	SSA326A002D	PLUG	2	
10	SSA326A002A	PLUG	1	
9	AHL217C004A	BRACKET, HOOK	1	SPHC-P, T2, 3
8	LCA116A006	BRACKET	4	SPGACHC, T2, 3
7	SAA116A353	LEG	2	SPHC-P, T2, 3
6	LCA321A011	PIPE	1	C1220T-PL, D12, 7x1, 4
5	LCA321A010	PIPE	1	C1220T-PL, D9, 52x1, 1
4	LCA321A009	PIPE	1	C1220T-PL, D12, 7x1, 4
3	SSA371A262	PLATE, SHELL	1	STPG370E, D165, 2x9, 3
2	SSA372A279C	PLATE, END	1	SPV315, T7
1	SSA372A279B	PLATE, END	1	SPV315, T7
NO.	PART. NO.	PART NAME	NO. REQ.	MATL. • DIM. • DESCRIPTION

SSA352A150		
DESIGN DATA		
HAZARD LEVEL (AS4343:2014)D		
DESIGN PRESSURE	MPa	8.0
VOLUME IN LITRES	L	7.6
DESIGN TEMPERATURE	°C	50
CORROSION ALLOWANCE	mm	1
INSULATION MATERIAL	-	
REQUIREMENT OF MANUFACTURING AND TESTING		
NDT	TYPE OF WELDING JOINT	TESTING STANDARD
	SHELL	
	JACKET	
TEST	DISH DEAD	
	TYPE OF TEST	TEST PRESSURE
	AIR TIGHT TEST	8.0 MPa OR MORE
	RESISTING PRESSURE TEST	12.0 MPa OR MORE
	STRENGTH TEST	32.0 MPa OR MORE

DESIGN CODE JIS B 8240 : 2015 CONSTRUCTION OF PRESSURE VESSELS FOR REFRIGERATION

END PLATE (UPPER, LOWER)		SSA372A279C, SSA372A279B	END PLATE CALCULATION METHOD	BODY CALCULATION METHOD
THICKNESS		6.2 mm	METHOD OF DISH SHAPE	METHOD OF INSIDE DIAMETER
COEFFICIENT OF SHAPE		W - 1.00	$t = \frac{P \cdot R \cdot W}{2 \cdot \sigma_a \cdot \eta - 0.2 \cdot P} + \alpha$ $t = \frac{P \cdot D_i}{2 \cdot \sigma_a \cdot \eta - 1.2 \cdot P} + \alpha$ P : DESIGN PRESSURE R : RADIUS OF CENTER r : RADIUS OF CORNER W : $\frac{1}{4} (3 + \sqrt{\frac{R}{r}})$ σ_a : ALLOWABLE TENSILE STRESS η : WELDING EFFICIENCY α : CORROSION ALLOWANCE	
ALLOWABLE TENSILE STRESS		σ_a N/mm ² 130		
WELDING EFFICIENCY		η - 1		
CORROSION ALLOWANCE		α mm 1		
MIN. THICKNESS		t mm 5.01		
SHELL PLATE (BODY)		SSA371A262		
THICKNESS		9.3 mm		
ALLOWABLE TENSILE STRESS		σ_a N/mm ² 78	$t = \frac{P \cdot R \cdot W}{2 \cdot \sigma_a \cdot \eta - 0.2 \cdot P} + \alpha$ $t = \frac{P \cdot D_i}{2 \cdot \sigma_a \cdot \eta - 1.2 \cdot P} + \alpha$ P : DESIGN PRESSURE R : RADIUS OF CENTER r : RADIUS OF CORNER W : $\frac{1}{4} (3 + \sqrt{\frac{R}{r}})$ σ_a : ALLOWABLE TENSILE STRESS η : WELDING EFFICIENCY α : CORROSION ALLOWANCE	
WELDING EFFICIENCY		η - 1		
CORROSION ALLOWANCE		α mm 1		
MIN. THICKNESS		t mm 9.01		

DETAIL OF ITEM 1

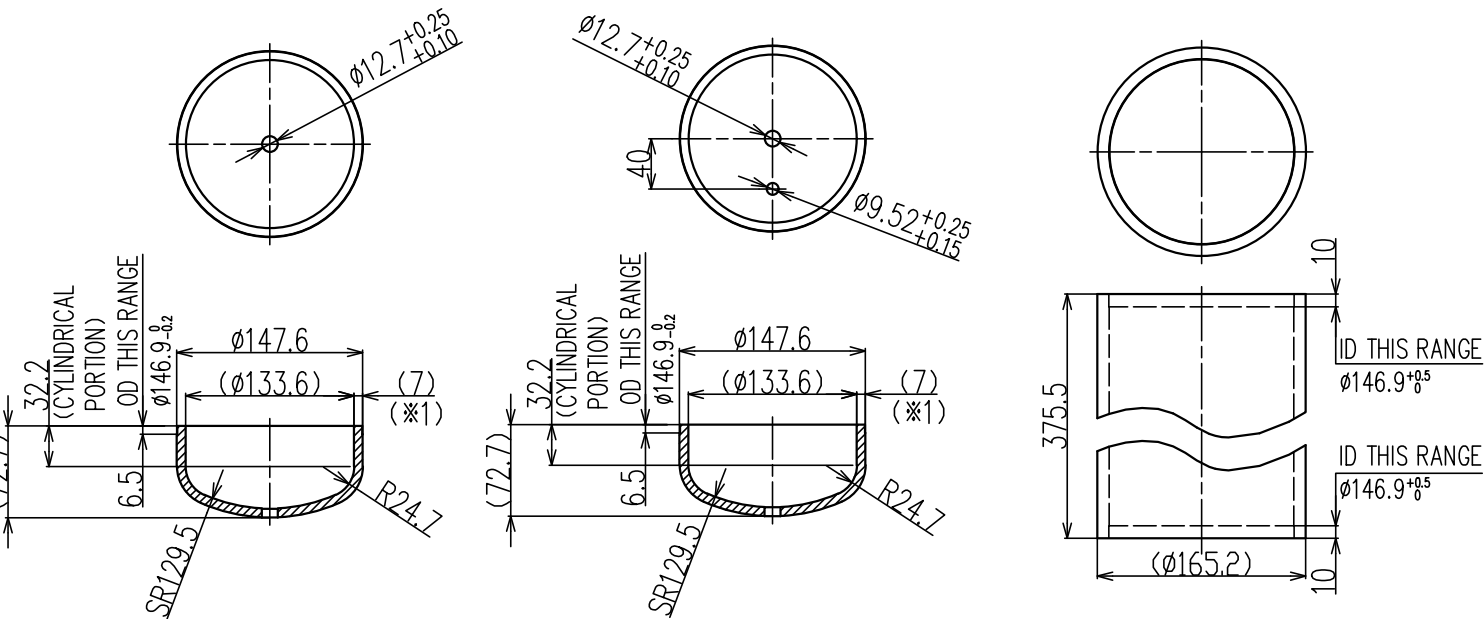
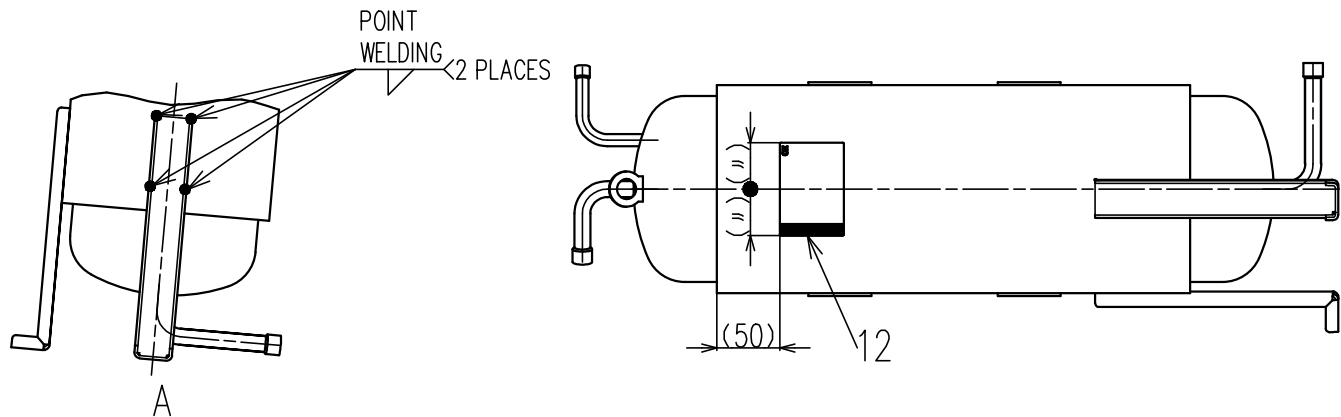
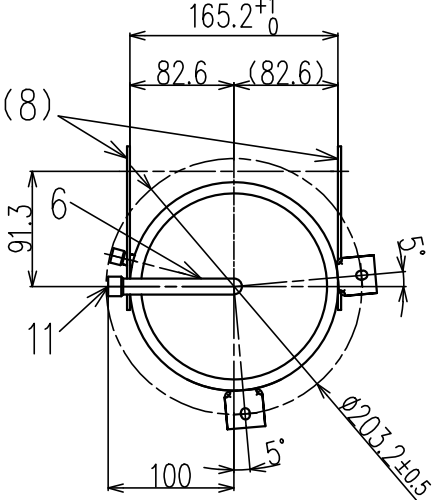
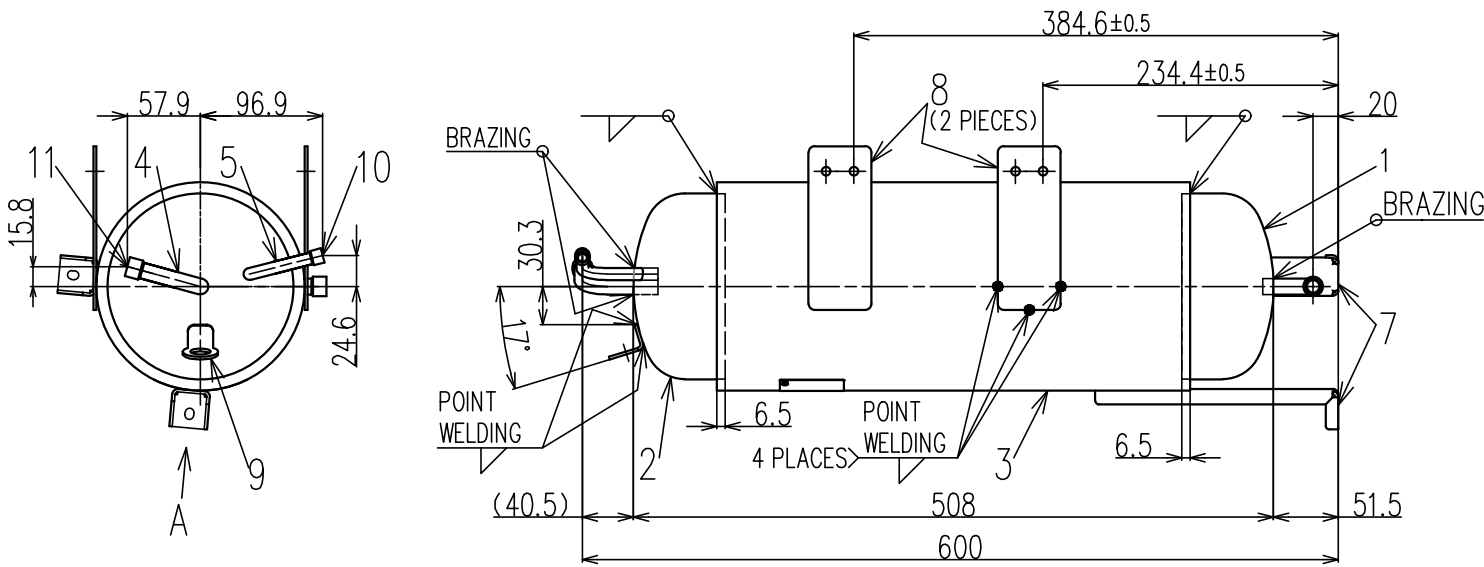
DETAIL OF ITEM 2

DETAIL OF ITEM 3

※1: MINIMUM THICKNESS TAKING INTO ACCOUNT PRESS WORKING TOLERANCE IS 6.2 mm.

MODEL TYPE		HCCV1001E		
		HCCV1001EA		
		OP-UPAC015COP04E		
ISSUE	CLASSIFICATION			
SPECIFICATION<RECEIVER>				
OKADA	DWG NO.		REV. MARK	PAGE
231110	LCA000Z094		/	1/1

12	LCA011A003B	LABEL<PED>	1	
11	SSA326A002D	PLUG	2	
10	SSA326A002A	PLUG	1	
9	AHL217C004A	BRACKET, HOOK	1	SPHC-P, T2, 3
8	LCA116A007	BRACKET	4	SPGACHC, T2, 3
7	SAA116A353	LEG	2	SPHC-P, T2, 3
6	LCA321A011	PIPE	1	C1220T-PL, D12, 7x1, 4
5	LCA321A010	PIPE	1	C1220T-PL, D9, 52x1, 1
4	LCA321A009	PIPE	1	C1220T-PL, D12, 7x1, 4
3	SSA371A262	PLATE, SHELL	1	STPG370E, D165, 2x9, 3
2	SSA372A279C	PLATE, END	1	SPV315, T7
1	SSA372A279B	PLATE, END	1	SPV315, T7
NO.	PART. NO.	PART NAME	NO. REQ.	MATL. • DIM. • DESCRIPTION



DETAIL OF ITEM 1 DETAIL OF ITEM 2 DETAIL OF ITEM 3
※1: MINIMUM THICKNESS TAKING INTO ACCOUNT PRESS WORKING TOLERANCE IS 6.2 mm.

SSA352A150A		
DESIGN DATA		
HAZARD LEVEL (AS4343:2014) D		
DESIGN PRESSURE	MPa	8.0
VOLUME IN LITRES	L	7.6
DESIGN TEMPERATURE	°C	50
CORROSION ALLOWANCE	mm	1
INSULATION MATERIAL	-	
REQUIREMENT OF MANUFACTURING AND TESTING		
NDT	TYPE OF WELDING JOINT	TESTING STANDARD
	SHELL	
	JACKET	
TEST	DISH DEAD	
	TYPE OF TEST	TEST PRESSURE
	AIR TIGHT TEST	8.0 MPa OR MORE
	RESISTING PRESSURE TEST	12.0 MPa OR MORE
	STRENGTH TEST	32.0 MPa OR MORE

DESIGN CODE JIS B 8240 : 2015 CONSTRUCTION OF PRESSURE VESSELS FOR REFRIGERATION			
END PLATE (UPPER, LOWER)	SSA372A279C, SSA372A279B	END PLATE CALCULATION METHOD	BODY CALCULATION METHOD
THICKNESS	6.2 mm	METHOD OF DISH SHAPE	METHOD OF INSIDE DIAMETER
COEFFICIENT OF SHAPE	W -	1.00	
ALLOWABLE TENSILE STRESS	σ_a N/mm ²	130	SPV315
WELDING EFFICIENCY	η -	1	
CORROSION ALLOWANCE	α mm	1	
MIN. THICKNESS	t mm	5.01	
SHELL PLATE (BODY)	SSA371A262		
THICKNESS	9.3 mm		
ALLOWABLE TENSILE STRESS	σ_a N/mm ²	78	STPG370E
WELDING EFFICIENCY	η -	1	
CORROSION ALLOWANCE	α mm	1	
MIN. THICKNESS	t mm	9.01	

$$t = \frac{P \cdot R \cdot W}{2 \cdot \sigma_a \cdot \eta - 0.2 \cdot P} + \alpha$$
$$t = \frac{P \cdot D_i}{2 \cdot \sigma_a \cdot \eta - 1.2 \cdot P} + \alpha$$

P : DESIGN PRESSURE
R : RADIUS OF CENTER
r : RADIUS OF CORNER
W : $\frac{1}{4} (3 + \sqrt{\frac{R}{r}})$
 σ_a : ALLOWABLE TENSILE STRESS
 η : WELDING EFFICIENCY
 α : CORROSION ALLOWANCE

MODEL TYPE HCCV1001E HCCV1001EA OP-UPAC015COP04E		SPECIFICATION<RECEIVER>	
ISSUE	CLASSIFICATION	DWG NO.	REV. MARK
OKADA		231110	
		LCA000Z095	1/1