TC 104

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Freight containers — Container equipment data exchange (CEDEX) —

Part 1: General communication codes

Conteneurs pour le transport de marchandises — Échange de données sur les équipements de conteneurs (CEDEX) —

Partie 1: Codes des communications générales

Reference number
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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 9897-1 was prepared by Technical Committee ISO/TC 104, *Freight containers.*

ISO 9897 will consist of the following parts, under the general title *Freight containers — Container equipment data exchange (CEDEX)*:

— *Part 1: General communication codes*

— *Part 2: Manual for telex transmission*

— *Part 3: Message types for electronic data interchange*

Annexes A to L (except J) form an integral part of this part of ISO 9897. Annexes J and M are for information only.

Introduction

As containers move throughout the world in domestic and foreign service, there is need to dispatch information from one office or facility to another, concerning damage repair or the replacement of worn parts. Such communications may announce, for example, the expected arrival date of a container at a certain repair depot, or describe the nature of some repair, or may be a price quotation for work about to be done. CEDEX was prepared to fill that need for a fast, efficient and cost-effective communications system.

The communication may be between any parties who wish to adopt CEDEX. However, there is an unwritten obligation on the part of all users to maintain their system up-to-date with the latest issue of the Code. Procedures for maintenance and revision are set down in the various parts of ISO 9897.

Over the years since the introduction of containerization, containers have become quite similar in design and manufacturing techniques, irrespective of manufacturer or country of origin. Thus it is now possible to identify and encode the structural elements and operating devices of all types of containers. This uniformity of construction is a prerequisite to being able to identify component parts of a container in an abbreviated (i.e. encoded) way and in such a manner that the communication becomes clear and unambiguous.

For the first time in the history of the ISO container standards project, an extensive nomenclature has been established which will aid not only in the transmission of encoded information in electronic data processing or by telex, as set forth in this part of ISO 9897, but will also be valuable for all kinds of communication (spoken or written). Its widespread use is anticipated in such fields as repair manuals, sales literature, engineering specifications, legal work, academia, training guides, customs declarations, etc. Pictorial representations of most component parts are given.

For those companies whose communications are few in number or where the nature of the messages is principally internal, no code may be required. But for those companies whose communications about containers might be frequent or where they commonly extend to unaffiliated firms outside of their management control, there needs to be a common protocol for transmitting and receiving information. CEDEX was established to provide that common protocol. Where an internal code is different from CEDEX, operators will have to provide a means of translating information to and from CEDEX.

The pressing need of CEDEX by the container industry prompted ISO/TC 104 to release this standard as quickly as possible. Because of this urgency, there may be unforeseen problems in implementing the system which could have been circumvented had a slower and more meticulous development process been used. The delay, however, would perhaps have seen the introduction of additional internal systems incompatible with CEDEX and hence retard industry-wide adoption. Therefore, the standard was accelerated and released so that early use, familiarity and experience might lead to feedback of ideas for improvement.

Comments and suggestions are welcome. They should be sent to the secretariat of ISO/TC 104, *Freight containers,* SC 4, *Identification and communication*.

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Freight containers — Container equipment data exchange (CEDEX) —

Part 1: General communication codes

1 Scope

This part of ISO 9897 specifies general communication codes for container equipment data exchange (CEDEX).

It is intended for business entities for use in communications relating to freight container transactions.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 9897. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 9897 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 3166 : 1988, *Codes for the representation of names of countries.*

ISO 6346 : 1984, *Freight containers — Coding, identification and marking.*

3 Principle

In this part of ISO 9897, codes are assigned to pieces of information (called "data elements") which are commonly used in such transactions. These data elements are named and defined and a five-digit numerical code is assigned to each, along with a CEDEX alphabetical code.

The data element may be a phrase about the material of construction of a container. For example, numerical code 05350 means "Material is vertically laminated softwood plank". It may describe an actual operating defect. For example, numerical code 04290 means "Motor will not function". There are many other coded data elements that describe various physical characteristics of containers and other essential pieces of information about their movement and management.

It can be seen from these examples that the text of a message can be substantially reduced in length by using the numerical code instead of plain words. It is even possible to reduce the length further by using letters instead of digits. That is what CEDEX does. It permits the five-digit numerical code to be transmitted by alpha codes of one, two or three characters, thus reducing the overall length of messages and saving time and cost.

In the first example (05350), the CEDEX code is LS and in the second one (04290) it is MF. Through proper programming of a computer, a CEDEX encoded message can be printed out in plain language for the benefit of the communicators, if so desired, or it can be left in its encoded form. The personnel using the code routinely will develop the skill of being able to read messages in the coded form. Also, many operators will not require use of all the CEDEX codes assigned in this part of ISO 9897, but only a portion of them due to the limited variety of containers and chassis in their domain.

4 Data elements and codes

4.1 Data elements

Data elements and their equivalent codes required to describe equipment components, their condition, repair methods, etc., are listed in table 1.

4.2 Code assignments

All codes assignments of CEDEX shall be taken as obligatory. That is, an operator shall not pick and choose alternative codes unilaterally, nor depart from the established protocol, nor introduce new codes without having registered the codes in accordance with 4.3.

NOTE — Annex J is at the moment merely informative; it describes the manner in which a directory of users will eventually be developed. Until the directory is issued, annex J is not a mandatory requirement of this part of ISO 9897.

Table 1 — Data elements and code sets

Data elements	Code set; see annex
Message type	A
Full/empty indicator (container)	B
Structural condition (container)	B
Repair condition (container)	B
Outside coating (container)	B
Inside coating (container)	B
Damage location	C
Damage type	D
Material type	E
Repair type	F
Measure unit specifier	G
Repair size dimension	G
Work scale (standard time factor)	G
Responsibility (for repair action)	H
Party identification and location	J
Component for container	K
Component for chassis	L

4.3 Updating data elements

The ISO Council has, in accordance with the provisions of the Directives for the technical work of ISO, designated the Secretariat of ISO/TC 104/SC 4 as the Registration Authority for the data elements:

Registration Authority for ISO 9897
FAKRA im DIN
Westendstrasse 61
Postfach 170563
D—6000 Frankfurt (Main) 17
Germany, F.R.

Additional data elements will be added to table 1 at the request of international organizations, ISO/TC 104 member bodies, and approval of TC 104/SC 4. The actual process of registration will be performed by the TC 104/SC 4 Secretariat in consultation with the experts of this group.

Each additional data element will

— carry a serial number in correct series following the reference number of the last data element code recorded;

— be allocated an alpha code, not at present in use.

Annex A
(normative)

Codes — Message type
(see 4.1. and 4.2)

Numerical code	Name	Description	CEDEX code[1]	EDIFACT code[2]	Operator code
01010	On-hire interchange	Interchange between leasing company and operator	ON	ONHIRI	
01020	Off-hire interchange	Interchange between operator and leasing company	OF	OFHIRI	
01030	Interchange	Interchange between two parties with or without damage description	IN	INTERC	
01040	Damage description	Detailed damage description	DD	DDESCR	
01050	Work estimate	Work cost quotation submitted for approval	WE	WESTIM	
01060	Third party claim	Third party, damage description and cost claim	WC	WCLAIM	
01070	Work tender request	Cost estimate request based on damage description	WR	WREQUE	
01080	Work order	Work order with detailed work description approved	WO	WORDER	
01090	Work cost invoice	Work cost invoice	WI	WINVOI	

1) To be used for telex transmission. See ISO 9897-2.

2) To be used for electronic data transmission. See ISO 9897-3.

Annex B
(normative)

Codes — Structural condition, repair condition, outside coating, inside coating; full/empty indicator
(see 4.1 and 4.2)

Numerical code	Name	Description	CEDEX code	Operator code
B.1 Structural condition, repair condition, outside coating, inside coating				
01110	Bad	Inferior quality or state of structural parts, workmanship, surface treatment, etc.	B	
01120	Poor	Poor quality or state of structural parts, workmanship, surface treatment, etc.	P	
01130	Medium	Average or acceptable quality or state of structural parts, workmanship, surface treatment, etc.	M	
01140	Good	Good quality or state of structural parts, workmanship, surface treatment, etc.	G	
01150	Excellent	Excellent quality or state of structural parts, workmanship, surface treatment, etc.	X	
B.2 Full/empty indicator				
01160	Empty	Empty condition of equipment	E	
01170	Full	Loaded condition of equipment	F	

Annex C
(normative)

Codes — Damage location
(see 4.1 and 4.2)

C.1 Location coding convention

The location coding convention consists of three parts:

a) For dry cargo, open top, thermal, tanks and other container types:

— A 1 200 mm × 1 200 mm (4 ft × 4 ft) numerical square system is used to identify damage to any face of the container.

— A component numbering system is in addition employed to identify damage to cross-members, roof bows and other similar components, which are an integral part of the container.

b) For container ancillary equipment, which are an integral part of the container, such as reefer machinery, tank specific components, diesel generator set:

— The location field is used to indicate the functional group to which a component belongs.

c) For chassis:

— (to be developed).

C.1.1 Containers

The container location coding convention locates damages within an area as large as a complete face of the container or as small as a nominal 1 200 mm × 1 200 mm (4 ft × 4 ft) square, or even less for the main components located on its edges (rails, corner posts).

The location code shall consist of four characters depending upon the area to be described. It identifies the smallest area containing the entire vertical and horizontal length of the damage.

C.1.1.1 First character

It shall be selected to identify the appropriate face of the container:

right side	R
left side	L
roof or top	T
bottom (floor)	B
front end	F
door end (rear)	D
understructure	U
whole container	X
container interior	I
container exterior	E

C.1.1.2 Second character

It shall be selected to identify the appropriate part of the container face where the damage is contained. The vertical faces of the container are divided into top and bottom halves and upper and lower main components. The horizontal faces of the container (roof or top and floor or bottom and understructure) are divided into right and left halves when viewed from the door end.

The relevant codes are:

upper (higher) component	H
top half	T
bottom half	B
lower component (ground)	G
left half	L
right half	R
both halves (i.e. top and bottom, or left and right, or centre	X

C.1.1.3 Third and fourth characters

They shall be selected to identify the section of the container part in which the damage is contained.

On all containers the front and door ends are divided into vertical sections numbered as follows when viewed from the door end from left to right:

1 for the left-hand side corner post

2 for the left half

3 for the right half

4 for the right-hand side corner post

On all containers the right and left sides, the roof, the floor and the understructure are divided into equal sections:

— for 10 ft and 20 ft containers, five sections numbered 1 to 5

— for 30 ft and 40 ft containers, ten sections numbered 1 to 0 (1, 2, 3,..., 9, 0).

When the damage covers one section only, the third character indicates the appropriate section number and the fourth character shall be N [see figure C.1a)].

When the damage covers several adjacent sections the first and last section numbers are used [see figure C.1b)].

When the damage covers several non-adjacent sections or if damage repair details are not the same, then separate line items shall be used [see figure C.1c)].

When the damage covers the entire length of the container face, the third and fourth characters shall each be X [see figure C.1d)].

C.1.1.4 Numbering system for multiple components

In addition to the location code described in C.1.1.1 to C.1.1.3, some components are more precisely identified in numerical order.

The particular components of the door and front end such as door locking bars or front (side) posts are numbered consecutively from left to right when viewed from the door end of the container.

The particular components contained in all the other faces such as roof, bows, side posts, cross-members, are numbered consecutively from the door end of the container, with the exception of the fork-lift pockets which are numbered 1 and 2 for those designed to lift the container in the loaded condition (outer set), and 3 and 4 for those designed to lift the container in the empty condition (inner set). Numbers 1 and 3 are closest to the door end.

Such particular components are then identified by:

— the relevant location code;

— their component code;

— their numerical order which is displayed in size of repair field (see clause G.2).

EXAMPLES

NOTE — LHS means left-hand side;
RHS means right-hand side.

Location field	Component field	Size of repair	Description	Reference in figure C.1
UX1N	CMA	1	Cross-member No. 1	e)
UL12	CMA	2,3,4	LHS of cross-members Nos 2 to 4	f)
TX12	RBO	3,4,5	Roof bows Nos 3 to 5	g)
TR1N	RBH	1	RHS Roof bow holder of bow No. 1	h)
UR8N	CMA	1	RHS outrigger No. 1	i)
UX3N	FLW	4	The web or side of FLP No. 4	j)
UL4N	FLS	2	LHS strap of FLP No. 2	k)
RX1N	SBO	2	RHS side post No. 2	l)
UX15	RLA		Central intermediate rail	m)
UL80	TUA		LHS tunnel rail	n)
DX2N	LBA		LHS locking bar of LHS door	o)

C.1.1.5 General location coding

When the damage/action covers *several faces of the inside* of the container such as steam cleaning, inside refurbishment, refixing or sealing of panels, then the code IXXX shall be used.

When the damage/action covers *several faces of the outside* of the container such as outside refurbishment, refixing or sealing of panels, removing of cargo stickers, then the code EXXX shall be used.

When the damage/action covers *several inside and outside faces* of the container such as examinations, handling/transport, complete refurbishing, then the code XXXX shall be used.

C.1.2 Ancillary equipment

The specific components of ancillary equipment which are an integral part of a container such as refrigeration machinery, diesel generator, tank fittings are identified

— firstly, by the two alpha characters selected to identify the major functional group to which the component belongs: they are the first and second characters of the location code;

— secondly, by the code NN: it forms the third and fourth characters of the location code.

EXAMPLES

MQNN Reefer machinery — compressor
TKNN Tank
AENN Other ancillary equipment

Components that occur more than once in an ancillary equipment or which are common or similar to other components are given the same component code but are differentiated by the functional group code.

EXAMPLES

Location field	Component field	Description
MKNN	MAS	Refrigeration machinery — Condenser fan motor
MVNN	MAS	Refrigeration machinery — Evaporator fan motor
MPNN	VSS	Refrigeration machinery — Suction solenoid valve
TDNN	VSF	Tank — Safety valve

C.1.3 Chassis (To be developed.)

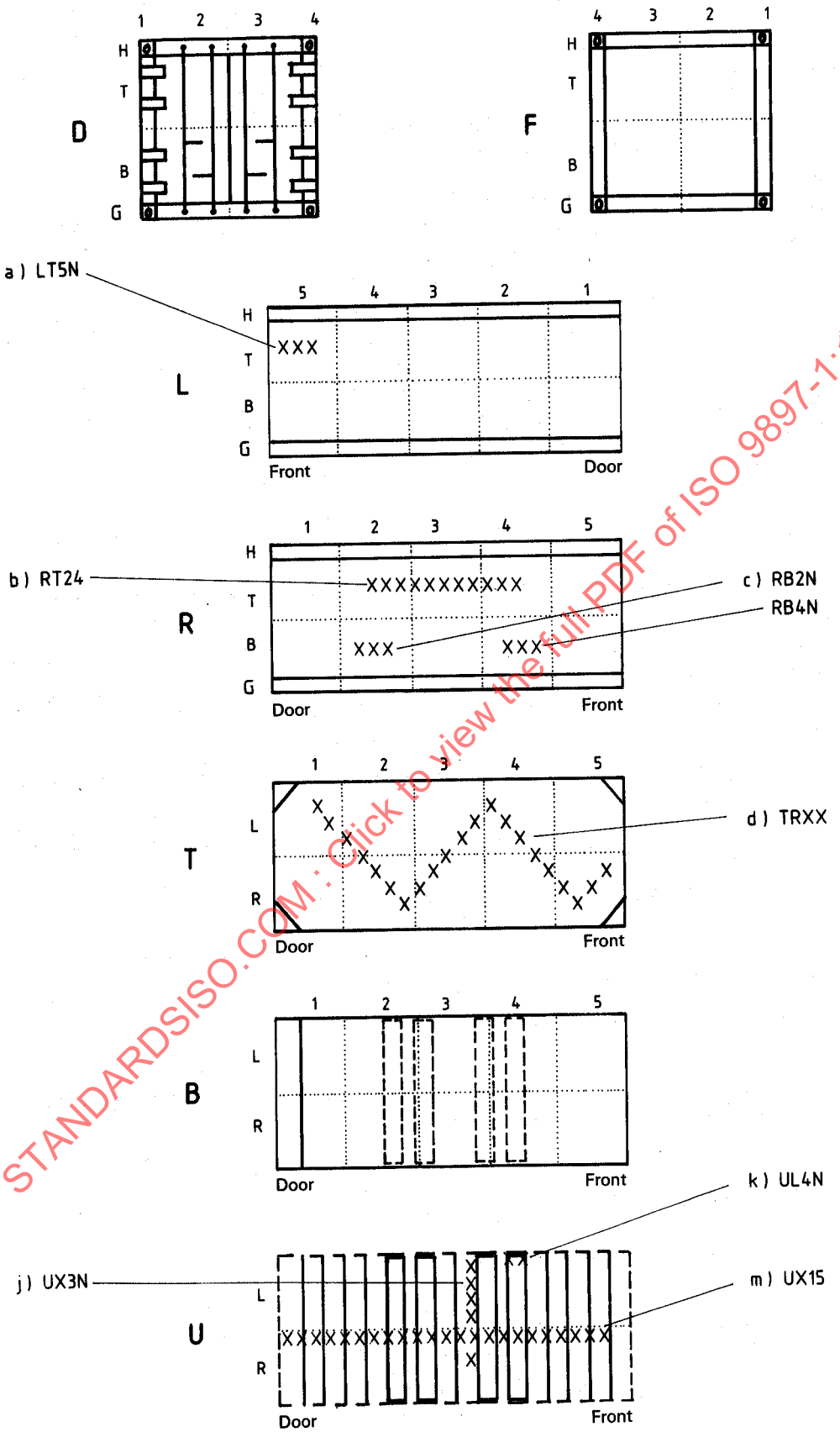

Figure C.1 — Examples of location coding for containers

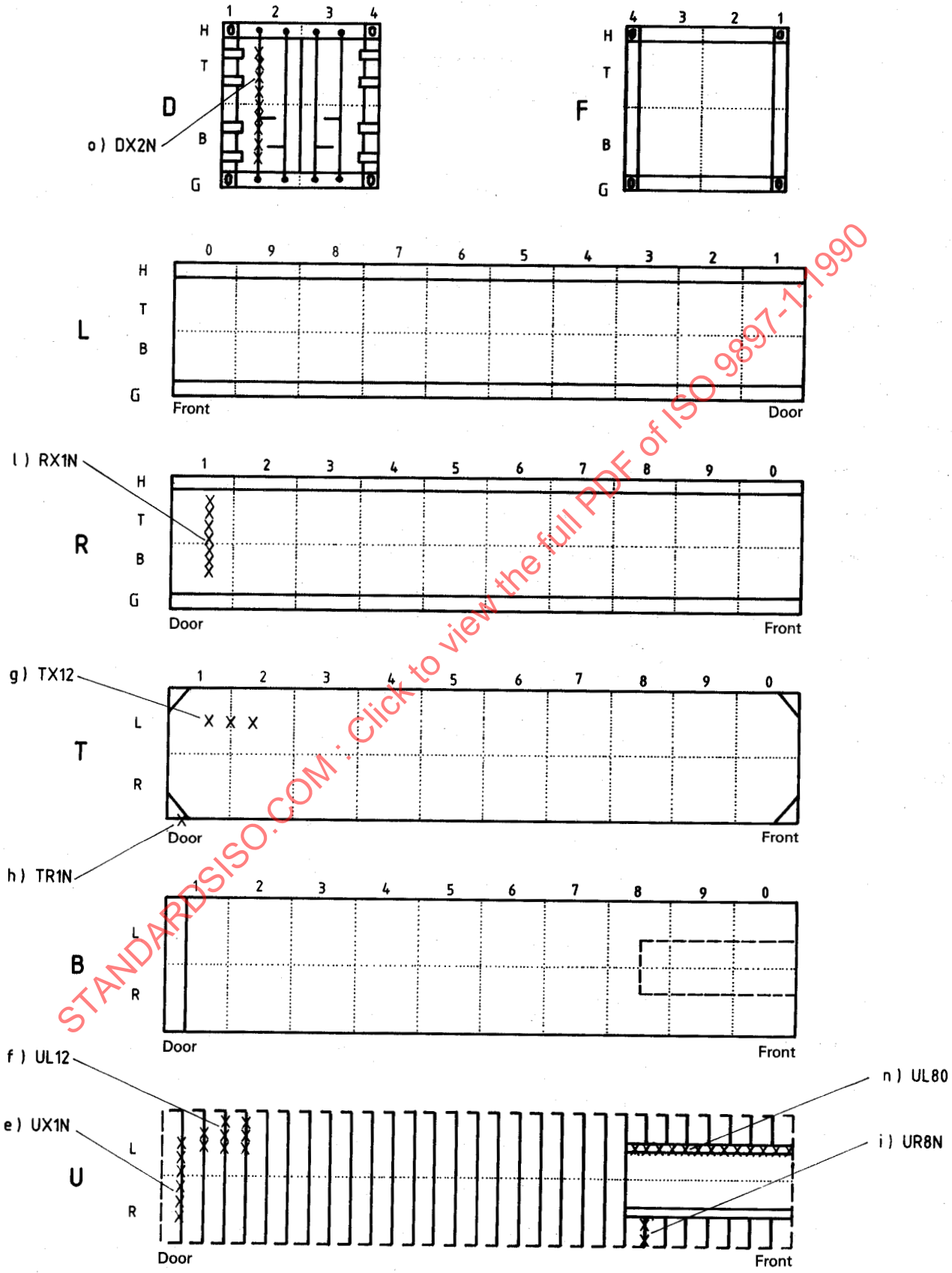

Figure C.1 — (*concluded*)

Annex D
(normative)

Codes — Damage type
(see 4.1 and 4.2)

Numerical code	Name	Description	CEDEX code	Operator code
04010	Bald	Tyre is bald or worn to less than legal tread depth remaining	WB	
04020	Bent	Component is damaged by being bent	BT	
04030	Bowed	Component is damaged by being bowed. Usually damage is gradual over the length of the component	BW	
04040	Blocked	Drain, tube, outlet, etc., is blocked	BK	
04050	Blowout	Tyre is unusable due to a blowout	BL	
04060	Broken/split	Component is damaged by being broken or split	BR	
04070	Burned out	Electrical component is burned out	BO	
04080	Casing/tread separation	Casing or tread has separated from the carcass of the tyre	TS	
04090	Compression line	A series of dents in a straight line that decreases the strength of a component when it is placed in compression	CL	
04100	Contaminated	Equipment is rendered unsuitable for cargo because of contamination by chemicals or other cargo products, or by infestation	CT	
04110	Corroded/rusty	Component is corroded or rusty	CO	
04120	Cut	Component is damaged by being cut	CU	
04130	Curbing	Tyre is rendered unusable by being damaged in the shoulder area by running up on the curb	CB	
04140	Debris/dunnage	Equipment is unusable due to cargo residue or dunnage left inside	DB	
04150	Delaminated	Component, usually of wood, is damaged due to separation of laminations	DL	
04160	Dent	Component is damaged by being dented	DT	
04170	Flat/puncture	Tyre is deflated due to being punctured	FP	
04180	Flat spots	Tyre has spots or areas where tread is worn below legal limits for tread depth remaining	FS	
04190	Frozen	Component is inoperable by being frozen or corroded	FZ	
04200	Gouged	Component is damaged by being gouged	GD	
04210	GRP surface crack	GRP panel is cracked through the glass and gelcoat only	GO	
04220	GRP surface and plywood crack	GRP pannel is cracked through the glass, gelcoat and plywood	GP	

Numerical code	Name	Description	CEDEX code	Operator code
04230	Holed	Component is damaged by being holed	HO	
04240	Improper repair	A repair that does not conform to owner's requirements or industry standards	IR	
04250	Leak	Equipment or component leaks	LK	
04260	Loose	Component is loose	LO	
04270	Low fluid level	Component or system has less than the required amount of fluid	LF	
04280	Markings/labels	Labels, marks, logos and graffiti, etc., not required by owner	ML	
04290	Motor failure	Motor will not function	MF	
04300	Misaligned	Component, usually chassis tandem, is misaligned	MA	
04310	Mismatched	Two adjacent tyres have different diameters and are, therefore, not acceptable as a matched pair	MM	
04320	Missing/lost	Component is missing or lost	MS	
04330	Nails	Equipment is rendered unsuitable for cargo due to nails, usually in flooring	NL	
04340	Not within ISO dimensions	Equipment is not usable because it is no longer within the ISO dimensional envelope	NI	
04350	Not to TIR requirements	Equipment or component no longer complies with TIR regulations	NT	
04360	Not as required by owner	Equipment or component no longer complies with owner's requirements	NO	
04370	Odour	Equipment is rendered unsuitable for cargo because of odour	OR	
04380	Oil saturated	Component, usually flooring, is damaged by being heavily contaminated with oil	OL	
04390	Oil stains	Component, usually flooring, is damaged by being spotted with oil	OS	
04400	Other unacceptable repairs	Any repair deemed unacceptable by the owner or for reasons not specifically covered	OU	
04410	Out-of-date	Renewal of a periodic inspection, test or document is over-due	OD	
04420	Over-inflated	Tyre is damaged by being run while over-inflated	OI	
04430	Under-inflated	Tyre is damaged by being run while under-inflated	UI	
04440	Pin holes	Component is damaged with minute holes	PH	
04450	Run flat	Tyre is damaged by being run flat	RF	
04460	Separated	Brake lining has separated from the brake shoe	SP	
04470	Short/open circuit	Electrical system is inoperable due to a short or open circuit	SH	

Numerical code	Name	Description	CEDEX code	Operator code
04480	Shrunk	Component, usually tarpaulin, cover, tilt or flooring is damaged by shrinkage	SR	
04490	Stretched	Component, usually tarpaulin, cover or tilt is damaged by stretching	SD	
04500	Switched	Tyre is not original and is not comparable to the other tyres on the chassis	SW	
04510	Uneven tread	Adjacent tyres have different tread depth remaining	TU	
04520	Paint failure	Component suffers from a breakdown of the paint system	PF	
04540	Warped	Component is damaged by being warped	WA	
04550	Weathered	Tyre is rendered unusable due to long exposure	WV	
04560	Wear and tear	The unavoidable deterioration of a component during usage under proper operating conditions	WT	
04570	Worn	Component is rendered unusable by being worn. Tyre is worn to below legal tread depth remaining	WN	
04580	Wrong material	Previous repair or replacement was carried out using the wrong material	WM	

Annex E
(normative)

Codes — Material type
(see 4.1 and 4.2)

Numerical code	Name	Description	Cedex code	Operator code
05000	Material unspecified	Material is not specified	MU	
05100	Steel unspecified	Material is steel of no specific type	SU	
05110	Steel, carbon	Material is of carbon steel	ST	
05120	Steel, cor-ten	Material is of cor-ten steel	SK	
05130	Steel muffler	Material is muffler grade steel (semi-corrosion resistant)	SM	
05140	Steel, stainless	Material is stainless steel (corrosion resistant)	SS	
05150	Steel, galvanized	Material is galvanized steel	SG	
05200	Aluminium unspecified	Material is aluminium of no specific type	AU	
05210	Aluminium pre-painted	Material is of pre-painted aluminium	AP	
05300	Wood	Material is of wood of no specific type	WU	
05310	Wood, hard plank	Material is of hardwood plank	WH	
05320	Wood, soft plank	Material is of softwood plank	WS	
05330	Wood, laminated plank	Material is vertically laminated plank of no specific wood type	LU	
05340	Wood, hard laminated plank	Material is vertically laminated hardwood plank	LH	
05350	Wood, soft laminated plank	Material is vertically laminated softwood plank	LS	
05360	Plywood	Plain plywood	PP	
05370	GRP plywood	Plastic coated, glass fibre reinforced plywood	PG	
05380	Plymetal	Material is plywood, faced with metal of no specific type on both sides	PM	
05400	Plastic	Plastic plain	PU	
05410	Plastic reinforced	Plastic reinforced with fibres	PE	
05420	Insulation material unspecified	Insulated material in slab	IS	
05430	Insulation material *in situ*	Insulated material injected	II	
05440	Rubber unspecified	Material is rubber of no specific type	RU	

Annex F
(normative)

Codes — Repair type
(see 4.1 and 4.2)

Numerical code	Name	Description	CEDEX code	Operator code
06010	Abrasive clean and paint	To clean mechanically with abrasive grit or shot and paint	AB	
06020	Adjust	To adjust a mechanical part or system (usually brakes) to improve performance	AJ	
06030	Air	To inflate or deflate tyres to correct pressure	AR	
06040	Air clean	To clean a component or equipment with high pressure air	AC	
06050	Blank out	To remove a ventilator and "blank out" the panel behind	BU	
06060	Brand	To apply a name/initial or other mark to tyres to denote ownership or other information	BD	
06070	Chemical clean	To clean a component with chemical wash	CC	
06080	Drain	To drain the system	DR	
06090	Drain and fill	To drain the system and refill with appropriate fluid	DF	
06100	Inspect and report	Inspect equipment or component for proper function, damage or reason for non-operation, and re-estimate. An additional report will follow on completion	IP	
06110	Free	To free a frozen, seized or stiff component by means of force, lubricants or heat	FR	
06120	Insert	To remove and replace part of the cross sectional profile of a component over its entire length and/or width. The replacement portion is butt welded to the original component	IT	
06130	Lubricate	To apply lubrication	LC	
06140	Overlapping partial section	To remove and replace part of the cross sectional profile of a component over its entire length and/or width. The replacement portion is overlapped with and fillet welded to the original component. The exterior of the patch is continuously welded to the original component. The interior may be continuously or skip welded with sealer applied to the seams between skip welds	OP	
06150	Paint	To apply paint	PA	
06160	Partial refurbishment	To remove localized corrosion and repaint the surface of the equipment fully or partially	PR	
06170	Patch	To remove and replace a part of the cross sectional profile of a component, over only part of the component's length and/or width. A patch is overlapped with and fillet welded to the original component. The exterior of the patch is continuously welded to the original component. The interior may be continuously or skip welded with sealer applied to the seams between skip welds	PT	

Numerical code	Name	Description	CEDEX code	Operator code
			VM	
06180	Preventive maintenance	Maintenance carried out under the owner's instructions		
06190	Re-align	a) To remove or unfasten a component, usually doors, and refit to bring into alignment b) To move chassis tandem into alignment	RA	
06200	Rebuild	To strip, clean, lubricate and reassemble a mechanical component	RB	
06210	Recharge	Supply a full charge of fluid to system	CH	
06220	Recondition/refurbish	To prepare surface of equipment and repaint in accordance with the owner's instructions	RC	
06230	Refit	To refit a removable component to its proper position	FT	
06240	Re-glass	To repair surface and veneer cracks or damage to GRP panels	RG	
06250	Re-mark	To replace markings	MK	
06260	Remove and dispose	To remove and dispose of debris, dunnage or packing material	RD	
06270	Repairs prior to refurbishment	Repairs ordered by owner prior to refurbishment	PV	
06280	Remove	a) To remove unwanted labels, marks, logos, graffiti and b) To remove and not replace any component	MV	
06290	Remove and refit	To remove and refit after repair	RR	
06300	Replace	Remove and replace the complete cross sectional profile of a component over its entire length and width	RP	
06310	Re-rate	To modify data relating to maximum gross weight or tare weight on any data plate or weight marking	RT	
06320	Rewire	To repair an electrical component or system by rewiring	RW	
06330	Seal	a) To repair pin holes in a tarpaulin cover or tilt using sealant b) To apply sealant to or around component	SE	
06340	Section	To remove and replace the complete cross sectional profile of a component over part of its length and/or width	SN	
06350	Splice	To repair by section using rivets with, usually, a doubler piece or backing plate at the joint	SI	
06360	Straighten	To repair by straightening	GS	
06370	Straighten and resecure	To repair by straightening and resecuring the component when repaired	RS	
06380	Straighten and weld	To repair by straightening a component and rewelding it into position	GW	
06390	Steam clean	To clean the component, usually the floor, using high pressure steam	SC	
06400	Surface preparation and paint	To clean and prepare the surface and apply paint	PS	

Numerical code	Name	Description	CEDEX code	Operator code
06410	Sweep	To clean the component, usually the floor, by sweeping	WP	
06420	Top up	Refill fluid to correct level	TP	
06430	Water wash	To clean the component, usually the floor, using water	WW	
06440	Weld	To repair by welding	WD	

Annex G
(normative)

Codes — Measure unit specifier; repair size dimension and work scales
(see 4.1 and 4.2)

G.1 Measure unit specifier

Numerical code	Name	Description	CEDEX code	Operator code
07010	Inches	Measurement is in inches	INH	
07020	Feet	Measurement is in feet	FOT	
07030	Millimetres	Measurement is in millimetres	MMT	
07040	Centimetres	Measurement is in centimetres	CMT	
07050	Metres	Measurement is in metres	MTR	

G.2 Size of repair

Size of repair, where required, is defined as either length, length and height, or length and width.

EXAMPLE

Length only	6
Length and height	1 500 × 100
Length and width	2 × 1

G.3 Work scale

The work scale is a factor related to the standard time to reflect ease or difficulty of repair. The factor is a percentage shown as 2-numeric. In normal cases it may range from 05 (i.e. 50 % easier work) to 10 (i.e. standard time) to 15 (i.e. 50 % over the standard time needed).

Annex H
(normative)

Codes — Responsibility
(see 4.1 and 4.2)

Numerical code	Name	Description	CEDEX code	Operator code
08010	Manufacturer	The repair is necessary to correct a manufacturer's defect outside the guarantee period	H	
08020	Depot	The repair is necessary to correct damage/negligence by depot and is for the account of the depot	D	
08030	Terminal	The repair is necessary to correct damage/negligence by terminal and is for the account of the terminal	S	
08040	User	The repair is for the user's account	U	
08050	Owner	The repair is for the owner's account	O	
08060	Third party	The repair should be charged to the party responsible, usually not the owner or user	T	
08070	Warranty	The repair is required under a manufacturer's warranty within the agreed period	W	
08080	DPP/insurance	The repair costs are covered by insurance or an insurance programme	I	

Annex J
(informative)

Codes — Party identification and location
(see 4.1 and 4.2)

In addition to this part of ISO 9897, a directory of names and addresses of companies participating in standardized communication rules for commercial transaction related to containers will be developed.

The ISO Council has, in accordance with the provisions of the Directives for the technical work of ISO, designated the International Container Bureau as the Registration Authority for the party identification and location codes:

Registration Authority for ISO 9897-1
International Container Bureau
14, rue Jean-Rey
F-75008 Paris
France

The code of business names and addresses will consists of a 5-alpha code which is the LOCODE for the location nearest the business address, plus a 4-alpha code for the identification of the individual company.

The International Container Bureau will publish an updated directory of business names and addresses and codes at least once a year.

Annex K
(normative)

Codes — Components of container
(see 4.1 and 4.2)

NOTES

1 Material is assumed to be of normal type for the design and type of container unless specified otherwise in the material code.

2 The number in brackets under the CEDEX code is the number of the figure where the component is illustrated.

Numerical code	Name	Description	CEDEX code	Operator code
K.1 Components of general-purpose containers				
K.1.1 Bow (roof)				
10200	Roof bow	Members mounted transversely accross the top of a container and either forming part of a rigid roof structure or supporting flexible, removable covers, in which case the members are commonly removable, or so designed as to slide to facilitate the loading of cargo through the top of the container [from ISO 830]	RBO (K.2)	
10210	Roof bow securement device	A device at the top rail to support the ends of the roof bow	RBS (K.2)	
10220	Roof bow holder	A device at the top rail to support the ends of a detachable roof bow	RBH (K.2)	
K.1.2 Cargo securing device				
10230	Cargo securing device assembly	Cargo tie-down fittings fixed to any part of the container for the attachment of straps or other devices to restrain movement of cargo	LSA (K.1)	
10240	Lashing bar	Bar for the attachment of straps or other devices to restrain movement of cargo	LSB (K.1, K.2)	
10250	Lashing ring	The part of the securing device assembly to which straps or other lashings are secured to restrain cargo movement	LSR (K.1)	
K.1.3 Corner posts				
10260	Corner post assembly	Vertical structural member at either side of an "end frame" of a container joining a top and a bottom corner fitting (and thereby forming a "corner structure") [from ISO 830]	CPA (K.2, K.3)	
10270	Clip on gen set clamp socket	Fitting in the corner post into which the lower part of a clip on a generator set is secured	COS (K.2)	
10280	Corner fitting	Fittings located at the corners of containers providing means of supporting, stacking, handling and securing the container [from ISO 830]	CFG (K.2, K.3)	
10290	Corner post gusset	A reinforcement between the corner fitting and the corner post, particularly in a platform-based container	CPG (K.1)	
10300	Corner post inner piece	The inner part of a two- or multi-component corner post	CPI (K.3)	
10310	Corner post J-bar	The portion of the exterior part of the rear corner post that encircles the door hinges	CPJ (K.3)	

Numerical code	Name	Description	CEDEX code	Operator code
10320	Corner post hinge lug	Hinge component permanently attached by welding to the rear corner post	CPL (K.3)	
10330	Corner post outer piece	The outer part of a two- or multi-part corner post	CPO (K.3)	
10340	Corner post reinforcement	The vertical reinforcement of a corner post, normally welded to the corner post outer part	CPR (K.3)	
10350	Corner post single piece	The single component of a one-piece corner post	CPS (K.2)	
10360	Corner post whole section	The complete transverse section of a corner post	CPT (K.3)	

K.1.4 Cross-members (including outriggers)

10370	Cross-member assembly	Components in the base structure of a container supporting the floor	CMA (K.1)	
10380	Cross-member fixing plate	Components welded to the cross-member ends for their securing to the bottom side rails by rivets or special bolts	CMF (K.1)	
10390	Cross-member lower flange	The lower flange of a cross-member	CML (K.1)	
10400	Cross-member upper flange	The upper flange of a cross-member	CMU (K.1)	
10410	Cross-member web	The web of a cross-member	CMW (K.1)	
10420	Cross-member whole section	The complete transverse section of a cross-member	CMS (K.1)	

K.1.5 Door gaskets

10430	Gasket assembly	The seal running round the edge of a door and other fittings needed to ensure its proper fixing	GTA	
10440	Gasket retainer strip	A strip running inside a gasket around a door through which fasteners are passed to secure the gasket to the door edge	GRS (K.3)	
10450	Inner gasket	The inner gasket of a multi-gasket system, usually on thermal containers	GIN (K.3)	
10460	Inner/outer gasket	The whole part of a multi-leaf gasket, combining the effects of both the inner and outer gaskets, usually found on thermal containers	GIO (K.3)	
10470	Outer gasket	The outer part of the multi-leaf gasket, usually on thermal containers	GTO (K.3)	

K.1.6 Door hinges

10480	Hinge assembly	Fitting on which door rotates	HGA (K.3)	
10490	Hinge blade	Hinge component that is secured to the door and holds the pin	HGB (K.3)	

Numerical code	Name	Description	CEDEX code	Operator code
10500	Hinge pin	Hinge component attaching the blade to the lug	HGP (K.3)	

K.1.7 Door gear

10510	Locking bar assembly	The complete mechanism that keeps the door secured closed	LBA (K.3)	
10520	Locking bar bracket	A device attaching the locking bar to the top and bottom of a door, usually containing a bushing	LBB (K.3)	
10530	Locking bar cam	The part of the door securing device that engages the retainer, which, by a lever action, forms the cam lock	LBC (K.3)	
10540	Locking bar guide	A component, intermediate to the locking bar brackets, which holds the locking bar to the door in proper alignment	LBG (K.3)	
10550	Locking bar handle	A component attached to the locking bar rod by mean of the lug, which, by turning, operates the assembly	LBH (K.3)	
10560	Locking bar lug	A component, part of the locking bar rod to which the locking bar handle is secured	LBL (K.3)	
10570	Locking bar rod (tube)	The vertical shaft or rod to which the cam locks are fitted	LBR (K.3)	
10580	Door customs flap	A protective cover over the customs seal	LBF (K.3)	
10590	Door handle lock assembly	The device which can be sealed for compliance with the CCC and which locks the door in the closed position	DHL (K.3)	
10600	Door handle catch	A component of the door handle lock assembly, 10590 fixed to the door and in which the door handle is engaged when the doors are closed	DHC (K.3)	
10610	Door handle retainer	A component of the door handle lock assembly, 10590 which rotates and holds the door handle in the closed position, and through which the seal is secured	DHR (K.3)	
10620	Door custom seal point	The holes in the door handle catch and door handle retainer through which the customs seal is secured	DCS (K.3)	
10630	Door retainer	A device which retains the door in the open position	DRT (K.2, K.3)	
10640	Anti-rack device	A device which reinforces the securement of the locking bar assembly and limits the racking of the door frame	ARD (K.3)	
10650	Anti-rack omega	An anti-rack device in the form of an omega reinforcement running vertically, up the edge of the back door, which is connected to the horizontal members of the door frame by spigots	ARO (K.3)	
10660	Anti-rack plate	An anti-rack device, consisting of a plate at the top and bottom of the right-hand door which is connected to the left-hand door and door frame by spigots	ARP (K.3)	
10670	Anti-rack spigot	A device in the transverse members of a door frame, and the left hand door in the plate system, over which the anti-rack device fits	ARS (K.3)	

Doors/Panels — See K.1.11, Panels

End transverse members — See K.1.13, Rails

Numerical code	Name	Description	CEDEX code	Operator code
K.1.8 Floor (wooden)				
10680	Wood floor assembly	Complete wooden floor	FWA (K.1)	
10690	Plain plank	Flooring of wood plank	FPB (K.1)	
10700	Hat section	A hat or omega steel section running longitudinally, sometimes used with either plywood or plank floorings	FHS (K.1)	
10710	Laminated plank	Flooring of (vertically) laminated wood plank	FLB (K.1)	
10720	Plywood panel	Flooring of plywood	FPP (K.1)	
10730	Threshold plate	Steel plate secured inside doorway to protect flooring against cargo handling equipment	FTP (K.1)	
Floor panel (insulated)		See clause K.5, Components of thermal containers		
K.1.9 Fork lift pockets				
10850	Fork lift pocket assembly	Reinforced pockets running transversally across the base of a container, piercing the bottom side rails at prescribed positions to permit the entry of the tines of fork lift devices for lifting and carrying the container	FLA (K.1)	
10860	Fork lift pocket lower flange	The flange formed at the bottom edge of the fork lift pocket	FLL (K.1)	
10870	Fork lift pocket strap	The plate welded to the bottom of each fork lift pocket entrance	FLS (K.1)	
10880	Fork lift pocket top plate	The plate welded to the top of the fork lift pocket	FLP (K.1)	
10890	Fork lift pocket upper flange	The flange formed at the top edge of the fork lift pocket	FLU (K.1)	
10900	Fork lift pocket web	The web or side of the fork pocket	FLW (K.1)	
10910	Fork lift pocket whole transverse section	The complete transverse section of a fork lift pocket	FLT (K.1)	
K.1.10 Hatches				
10930	Discharge hatch assembly	A hatch, when opened, which is used to discharge bulk cargo	HAD (K.3)	
10940	Loading hatch assembly	A hatch, when opened, through which bulk cargo is loaded	HAL (K.2)	
10950	Hatch cover	A cover that closes off a hatch	HCV (K.2, K.3)	
10960	Hatch gasket	A gasket that seals the hatch cover	HGT (K.3)	
10970	Hatch discharge sleeve	A sleeve fitted to the discharge hatch for discharge	HDS (K.3)	

Numerical code	Name	Description	CEDEX code	Operator code
10980	Hatch handle catch	A component of the hatch handle locking assembly, fixed to the hatch cover, through which the customs seal is secured	HHC (K.2, K.3)	
10990	Hatch hinge	Fitting on which the hatch cover rotates	HHG (K.2, K.3)	
11000	Hatch handle retainer	A device which retains the hatch locking handle in the closed position, and through which the customs seal is secured	HHR (K.3)	
11010	Hatch customs point	The holes in the hatch handle catch and hatch handle retainer through which the customs seal is secured	HCP (K.2, K.3)	
11020	Hatch locking bar	The bar which holds the hatch cover closed	HLB (K.2)	
11030	Hatch locking handle	The handle which operates the hatch locking bar	HLH (K.2, K.3)	
11040	Hatch locking mechanism	The device that keeps the hatch cover secured closed	HLM (K.2, K.3)	
K.1.11 Panels				
11200	Panel assembly	A complete panel (of all types)	PAA (K.2)	
11210	Panel — behind hinge	Section of the door panel behind the hinge	PBH (K.3)	
11240	Panel — fixing strip	A metal strip securing the edge of the plywood lining to the frame of a container	PFX (K.3)	
11320	Panel — plywood lining	Plywood panel that lines the inside of dry cargo and other types of containers	PPW (K.2)	
11330	Panel — plymetal	A panel, usually a door panel, made of plywood faced on both sides with metal sheet	PPM (K.3)	
11340	Panel — steel corrugation	A panel formed of corrugated steel	PSC (K.2)	
11350	Panel — inner face	The inner face of a single-piece panel	PIP (K.3)	
11360	Panel — outer face	The outer face of a single-piece panel	POP (K.3)	
K.1.12 Panel equivalents				
11380	Side bar socket	Socket in the stanchion and end frames to support a side bar	SBS (K.1)	
11390	Side bar	Horizontal bar in a platform-based container connecting stanchions and end frames to provide cargo restraint	SBR (K.1)	
11400	Bulkhead	A demountable panel which acts as an end wall in a platform-based container to provide cargo restraint	PBK (K.1)	
11410	Stanchion	Vertical members at each side rail in a platform-based container to provide cargo restraint	STC (K.1)	
11420	Stanchion lashing chain	Lashing chain for the stanchion lashing system, 11440	SLC (K.1)	

Numerical code	Name	Description	CEDEX code	Operator code
11430	Stanchion chain hook	Hook for the stanchion lasting system, 11440	SCH (K.1)	
11440	Stanchion lashing system	A system used in open-side containers to provide mutual support to stanchions by means of chains and hooks running between stanchions on opposite sides	SLS (K.1)	
11450	Side gate assembly	Removable frame system used for cargo restraint	SGA (K.1)	
11460	Side gate frame	Frame of the gate system	SGF (K.1)	
11470	Side gate mesh	Mesh used inside the frame of a gate system	SGM (K.1)	
11480	Side gate pin	Pin used in locking a gate in position	SGP (K.1)	
11490	Side post (inner)	A reinforcing vertical member, placed between top and bottom, side or end rails, on the inside of the panel, in a side or end wall	SPI (K.2)	
11500	Side post (outer)	A reinforcing vertical member, placed between top and bottom side or end rails, on the outside of the panel, in a side or end wall	SPO (K.1)	

K.1.13 **Rails** (including end transverse members and tunnel rails)

11510	Rails assembly	The longitudinal and transverse structural members at the bottom, top and sides of the container, and sides of the tunnel	RLA (K.1, K.2)	
11520	Cam keeper	A device at the rear top and bottom end transverse member which retains the locking bar cam when the locking bar mechanism is locked closed	RCK (K.3)	
11530	Rail doubling plate	An additional plate attached to the container roof, adjacent to the top corner fittings, providing protection from misuse of spreader equipment	RDP (K.2)	
11540	Rail gusset	Reinforcement plate — either between the corner fitting and the side or end rail — or inside the front and rear lower rails	RLG (K.1, K.2, K.3)	
11550	Rail inner web	A closing plate on the inside of the front and rear lower rails. Used as an alternative to the rail gusset, 11540	RIW (K.3)	
11560	Rail lower flange	Lower flange of bottom side and end rails	RLF (K.1, K.3)	
11570	Rail upper flange	Upper flange of top, side and end rails	RUF (K.3)	
11580	Rail web	Web of side and end rails	RLW (K.1, K.3)	
11590	Rain gutter	Part of, or attachment to, rear upper end rail to divert water away from door frame	RNG (K.3)	
11600	Stanchion socket	Socket which holds the stanchion, 11410	SST (K.1)	
11610	Rail doubler plate	Doubler plate on top and bottom rails	RUP (K.3)	

Numerical code	Name	Description	CEDEX code	Operator code
11620	Rail whole section	The complete transverse section of a rail	RLT (K.3)	

K.1.14 Tarpaulin

11680	Tarpaulin assembly	Tarpaulin, cover or tilt for open top- and open-side containers	TNA (K.1, K.2)	
11690	Tarpaulin belt	Webbing or similar providing support to a tarpaulin (longitudinally), in addition to roof bows (transversally)	TNB (K.2)	
11700	Tarpaulin rubber cord	A rubber cord secured to the tarpaulin and TIR cord ring under tension to tighten tarpaulin	TNC (K.2)	
11710	Tarpaulin customs seal point	A device to permit the ends of the TIR cord to be customs sealed	TNS (K.2)	
11720	Tarpaulin grommet	A ring set in the tarpaulin that fits over the TIR cord ring	TNG (K.2)	
11730	Tarpaulin fixing strip	Strip used to fix tarpaulin semi-permanently on some open-top and open-side containers	TNX (K.1)	
11740	TIR cord	The cord specified by customs convention which, passed through the TIR cord ring, seals the container	TIC (K.2)	
11750	TIR cord ring	Rings set in the container which secured the tarpaulin by means of the grommets, and which takes the TIR cord	TIR (K.2)	

K.1.15 Tunnel

11760	Tunnel assembly	Recess in the front portion of a container understructure to accommodate the raised portion of a gooseneck chassis	TUA (K.1)	
11770	Tunnel cross-member	Transverse members providing support to the tunnel plate	TUC (K.1)	
11780	Tunnel plate	A steel plate separating the tunnel recess from the interior of the container	TUP (K.1)	
11790	Tunnel bolster	A transverse member which supports the rearmost portion of the tunnel	TUB (K.1)	

Tunnel rail [See K.1.13, Rails]

Tunnel outriggers [See K.1.4, Cross-members]

K.1.16 Ventilators

11800	Ventilator assembly	A device permanently attached to the side (or front) panel of a container which permits air exchange with the ambient atmosphere	VRA (K.2)	
11810	Ventilator baffle	A baffle inside the ventilator which prevents ingress of sea water	VRB (K.2)	
11820	Ventilator cover	The outermost portion of the ventilator, which is a part of the exterior of the container	VRR (K.2)	
11830	Ventilator grid	Lower portion of the ventilator which is either pierced with holes or formed with mesh to permit passage of air	VRG (K.2)	

Numerical code	Name	Description	CEDEX code	Operator code
K.1.17 Miscellaneous				
11840	Fumigating nozzle	A nozzle set in the side (or front) panel which permits fumigation of the container	FUN (K.2)	
K.1.18 Hardware				
11900	Hardware	Screws, nuts and bolts	HWR	

K.4 Components applicable to marking

K.4.1 ISO markings

40010	Country code	Code designating the country of registration of the owner, in accordance with ISO 3166	MCC (K.3)	
40020	Identification marking set	Owner's code, 40040; serial number and check digit, 40050; size and type code, 40060; in accordance with ISO 6346	MIS (K.2)	
40030	Mass marking	Maximum gross and tare weights in accordance with ISO 6346; payload	MMI (K.3)	
40040	Owner's code	Owner's mark, in accordance with ISO 6346	MOC (K.3)	
40050	Serial number and check digit	Number of the equipment plus check digit, in accordance with ISO 6346	MSN (K.3)	
40060	Size/type marking	Code designating the size and type of the equipment, in accordance with ISO 6346	MST (K.3)	
40070	Height marking	Optional height marks for containers of height greater than 2,6 m (8,5 ft), in accordance with ISO 6346 : 1984, annex H	MHT	
40080	Caution marking	Warning sign of overhead electrical danger, in accordance with ISO 6346 : 1984, annex C	MCA	
40090	Consolidated data plate	A single consolidated data plate preparated according to a means of combining various labels and plates provided for in ISO 6359	MPD	

K.4.2 Other markings

40200	CSC plates	A plate on which data required by the safety convention is displayed	MPS (K.3)	
40210	ACEP marking	A marking required of a container that is operated under an approved continuous examination programme prescribed in the CSC	MCE	
40220	Class survey marking	Marking of classification societies and other organizations approved by the competent authority	MCS	
40230	Customs plate	Plate on which customs approval data is displayed	MPC (K.3)	
40240	Owner's plate	A plate on which the owner's name, and sometimes address, is displayed	MPO (K.3)	
40250	Manufacturer's plate	A plate on which the manufacturer's name and/or logotype, and sometimes other data is displayed	MPM (K.3)	
40260	Cargo label plate	An area, usually marked in black, for cargo labels	MPL (K.2)	

Numerical code	Name	Description	CEDEX code	Operator code
40270	Tank plate	A plate on which data relating to tank containers, including a label and caution mark described in the IMDG Code, is displayed	MPT	
40280	Timber chemical treatment	A plate on which data relating to quarantine treatment of exposed wooden component is displayed	MTT (K.3)	
40290	Other markings	Any unspecified marking	MRU	
40300	Owner's logo	Owner's logotype	MOL (K.2, K.3)	

K.5 Components of thermal containers

K.5.1 Air opening

50010	Air opening assembly	The complete port hole assembly to permit cold/hot air to and from the port hole thermal container	AOA (K.2)	
50020	Valve retainer cam	Port hole valve retaining the cam (also called regulating knob) for the valve closing operation (detail of the air opening assembly, 50010)	VVR (K.2)	
50030	Valve disk	Port hole valve disk or valve plate (detail of the air opening assembly, 50010)	VVD (K.2)	
50040	Valve foil	Diffuser to ease/ensure good air distribution behind the air screen; in some cases called "distance ring" (detail of the air opening assembly, 50010)	VVF (K.2)	
50050	Valve gasket	Valve disk gasket to ensure proper airtightness (detail of the air opening assembly, 50010)	VVG (K.2)	
50060	Valve handle	Valve operating handle open/closed (detail of the air opening assembly, 50010)	VVH (K.2)	
50070	Valve handle seal	Valve handle seal to ensure proper closure in compliance with the CCC (detail of the air opening assembly, 50010)	VVS (K.2)	
50080	Valve ring	The valve rod flange for mounting on the air screen flap (detail of the air opening assembly, 50010)	VVI (K.2)	
50090	Valve spring	Valve rod spring to maintain in open position (detail of the air opening assembly, 50010)	VVP (K.2)	
50100	Valve axle (rod)	Valve rod on which the valve can move from closed to open position and *vice versa* (detail of the air opening assembly, 50010)	VVA (K.2)	
50110	Port hole collar	The collar that surrounds the post in a port hole thermal container (detail of the air opening assembly, 50010)	PHC (K.2)	
50120	Port (modified atmosphere)	Port to permit injection of special gases into thermal containers to modify the atmosphere	POM (K.2)	
50130	Plug (modified atmosphere)	Plug to close port to permit injection of special gases into thermal containers to modify the atmosphere	PLM (K.2)	

K.5.2 Air screen

50150	Air screen assembly	Air screen intermediate panel assembly separating the air inlet from the air outlet	ASA (K.2)	
50160	Air screen flap	Hinged air screen flap on which the valve assembly is mounted permitting access to the valve and behind inlet or outlet screen	ASF (K.2)	

Numerical code	Name	Description	CEDEX code	Operator code
50170	Air screen hinge	Air screen flap hinge	ASH (K.2)	
50180	Air screen lock	Air screen flap locking devices	ASL (K.2)	
50190	Air screen panel	Inlet or outlet air screen panel to ensure proper air distribution in the container	ASP (K.2)	
50200	Stiffener / splitter	Inlet or outlet air screen panel stiffener or distance piece to ensure screen flap or valve position as well as air space behind the screen	STF (K.2)	

K.5.3 Air duct

50250	Airduct	Component which allows proper air circulation throughout the thermal container	ADU (K.2)	

K.5.4 T-floor

50300	T-floor assembly	An aluminium flooring of T-section which permits air flow, used in thermal containers	TFA (K.1)	
50310	T-floor casting	An aluminium casting which forms the rear end of the T-floor	TFC (K.1)	
50320	T-floor drain	Drain hole used in thermal and other containers	TFD (K.1)	
50330	T-floor end seal	Seal that closes off the joint between the T-floor and the rear bottom end transverse member (rear sill)	TFS (K.1)	
50340	T-floor plate	Front angled plate or curved moulding that seals the front of the T-floor from the refrigerating machinery air outlet	TFF (K.1)	
50350	T-floor gutter	Curved moulding that seals the side wall panel from the bottom edge of the T-floor	TFG (K.1)	
50360	T-floor plank	Section of T-floor	TFP (K.1)	
50370	T-floor strip	Transverse reinforcement on top of the T-floor at either its front or rear end	TFI (K.1)	
50380	T-floor angle bar	Angle that forces air from the refrigerating machinery down through the T-floor	TFB (K.1)	
50390	Recess for modified atmosphere curtain equipment	Recess at the doorway to take a special rail for fixing the curtain in containers filled with modified atmosphere equipment	RRM (K.2)	
50400	Modified atmosphere curtain equipment	The curtain type equipment	RCM (K.2)	

K.5.5 Panels

50450	Panel edge profile	A profile that closes off the edge of an insulated panel, usually a door panel	PEP (K.1, K.3)	

Numerical code	Name	Description	CEDEX code	Operator code
50460	Panel-frame	A profile that frames the door, usually an insulated type	PAF (K.3)	
50470	Battens in insulated panel	Raised or recessed type of battens in the interior lining of thermal container side and door panels	PBT (K.3)	
50480	Panel inner cladding	Inner lining panel of an insulated panel	PIC (K.2, K.3)	
50490	Insulation material	Material, usually foam, used for insulation	PIM (K.1, K.2)	
50500	Panel — internal stiffener	Usually in thermal container side walls	PIS (K.2)	
50510	Panel — joint capping	Curved moulding or angle that closes off between insulated side wall and roof panels	PJC (K.2)	
50520	Panel — joint profile	A profile that secures the panel joint capping to the side wall and/or roof panel	PJP (K.2)	
50530	Panel — outer cladding	The material on the outside of an insulated panel	POC (K.2, K.3)	
50540	Panel transverse section	A whole transverse section of an insulated panel	PAT (K.2, K.3)	

K.5.6 Miscellaneous

50600	Hanging rail assembly	Rail for hanging cargo in the container	HRA (K.2)	
50610	Hanging rail bar	Bars for hanging cargo in the container	HRB (K.2)	
50620	Hanging rail hook	Hook for hanging cargo in the container	HRH (K.2)	

K.6 Components of reefer units

K.6.1 Compressor

60010	Compressor, complete (with motor)	Compressor assembly and its driving electric motor	ASY (K.4)	
60020	Open compressor (without motor)	Compressor assembly without its driving electric motor	QAS (K.4)	
60030	Shaft	Cylindrical bar to transmit motion by rotation	SFT (K.4)	
60040	Cylinder head cover	Plate covering the piston chamber	CYH (K.4)	
60050	Cylinder unloader	Device to cut off the cylinder or to allow communication between high pressure and low pressure to decrease the compressor power	CYU (K.4)	
60060	Unloader solenoid	Solenoid coil which operates opening/closing of one cylinder unloader	CYS (K.4)	
60070	Cylinder head cover gasket	Gasket to seal the cylinder head cover on the compressor body	CYG (K.4)	

Numerical code	Name	Description	CEDEX code	Operator code
60080	Cylinder	Chamber in which moves one piston	CYA (K.4)	
60090	Piston	Sliding piece to compress refrigeration gas in the cylinder	PTA (K.4)	
60100	Piston rod	Bar between the shaft and the piston	PTR (K.4)	
60110	Piston ring	Ring used around a piston to make a gastight joint	PTB (K.4)	
60120	Compressor pulley	Wheel to transmit motion to the compressor shaft	PUQ (K.4)	
60130	Motor pulley	Pulley to transmit motion from the motor shaft	PUM (K.4)	
60140	Suction service valve	Valve to allow operations such as opening/closure or pressure measurement of the input refrigeration gas (low pressure)	VSU (K.4)	
60150	Discharge service valve	Valve to allow operations such as opening/closure or pressure measurement of the output refrigeration gas (high pressure)	VDI (K.4)	
60160	High-pressure cutout	Safety device to switch off the system in case of pressure above a fixed limit	CHP (K.4)	
60170	Low-pressure cutout	Safety device to switch off the system in case of pressure below a fixed limit	CLP (K.4)	
60180	Oil cutout	Safety device to switch off the system in case of oil pressure below a fixed limit	CLO	
60190	Oil pump	Pump for distributing oil under pressure through the compressor to lubricate moving parts	PPO	
60200	Oil sight glass	Sight glass for checking the oil level	SGO	
60210	Oil sump gasket	Gasket seal between the oil sump and the compressor body	SGS (K.4)	
60220	Oil charge	Quantity of oil	OCH (K.4)	
60230	Others	Other compressor devices not listed	QMI (K.4)	
60240	Reed (or ring valves)	Intake and exhaust valves for refrigerant flow through compressor cylinders	RRV	
60250	Motor	Motor assembly excluding the compressor items	MAS (K.4)	
60260	Stator	Stationary winding part of the motor	STA (K.4)	
60270	Rotor	Winding part of the motor that revolves in the stator	ROT (K.4)	
60280	Collector	Conductor maintaining contact between the rotor and the stator	COL (K.4)	
60290	Collector brush	Carbon electrical conductor that makes sliding contact on the collector	COB (K.4)	
60300	Bearings	Part of the motor to support the revolving rotor in the centre of the stator	BNG (K.4)	

Numerical code	Name	Description	CEDEX code	Operator code
60310	Terminal mounting plate	Electrical connections on the compressor motor	TMP (K.4)	
60320	Overload protection switch	Safety device to switch off the system in case of overloading of the motor	POL	
60330	Others (motor)	Other compressor motor devices not listed	MIM (K.4)	
60340	Fixing/securing device	Fixing elements of the compressor/motor assembly to the frame	FIX (K.4)	
60350	Accumulator	A storage chamber for liquid refrigerant in the suction line	ACC	

K.6.2 Condenser — Location: MKNN

60510	Coil assembly	Series of pipes connected in rows to increase heat exchange	CAS (K.4)	
60520	Inlet tubing	Series of pipes through which the refrigeration gas gets into the condenser	TIN (K.4)	
60530	Outlet tubing	Series of pipes through which the refrigeration gas gets out of the condenser	TOU (K.4)	
60540	Bent tube (return tube)	Bent tubes to connect one row of pipes to another one	TBE (K.4)	
60550	Straight tube	Tube to allow refrigeration gas circulation through the fins of the condenser	TPI (K.4)	
60560	Motor	Motor assembly to revolve the fan	MAS (K.4)	
60570	Stator	Stationary winding part of the motor	STA (K.4)	
60580	Rotor	Winding part of the motor that revolves in the stator	ROT (K.4)	
60590	Collector	Conductor maintaining contact between the rotor and the stator	COL (K.4)	
60600	Collector brush	Carbon electrical conductor that makes sliding contact on the collector	COB (K.4)	
60610	Bearings	Part of the motor to support the revolving rotor in the centre of the stator	BNG (K.4)	
60620	Terminal mounting plate	Electrical connections on the condenser motor	TMP (K.4)	
60630	Overload protection switch	Safety device to swith off the system in case of overloading of the motor	POL	
60640	Fixing/securing device	Fixing elements of the condenser/motor assembly to the frame	FIX (K.4)	
60650	Fan	Device to produce a volume of air through the coil	FAN (K.4)	
60660	Blade	Arm of an electric fan	BLA (K.4)	

Numerical code	Name	Description	CEDEX code	Operator code
60670	Refrigerant condenser/receiver	Heat exchanger in which refrigerant is changed from a gas to a liquid by a cooling medium and stored for recirculation within the refrigeration system	KWT (K.4)	
60680	Refrigerant inlet valve	Device for closing/opening the refrigerant inlet flow	VFI (K.4)	
60690	Refrigerant outlet valve	Device for closing/opening the refrigerant outlet flow	VFO (K.4)	
60700	Water inlet valve	Device for closing/opening the water inlet flow in the water-cooled condenser	VWI (K.4)	
60710	Water outlet valve	Device for closing/opening the water outlet flow out of the water-cooled condenser	VWO (K.4)	
60720	Liquid sight glass	Sight glass for checking the refrigerant level	SGL (K.4)	
60730	Others	Other condenser devices not listed	KMI (K.4)	

K.6.3 Evaporator — Location: MVNN

60810	Coil assembly	Series of pipes connected in rows to increase heat exchange	CAS (K.4)	
60820	Inlet tubing	Series of pipes through which the refrigerant gets into the evaporator	TIN (K.4)	
60830	Outlet tubing	Series of pipes through which the refrigerant gets out of the evaporator	TOU (K.4)	
60840	Bent tubes (return tube)	Bent tubes to connect one row of pipes to another	TBE (K.4)	
60850	Straight tube	Tube to allow refrigeration gas circulation through the fins of the evaporator	TPI (K.4)	
60860	Motor	Motor assembly to revolve the fan	MAS (K.4)	
60870	Stator	Stationary winding part of the motor	STA (K.4)	
60880	Rotor	Winding part of the motor that revolves in the stator	ROT (K.4)	
60890	Collector	Conductor maintaining contact between the rotor and the stator	COL (K.4)	
60900	Collector brush	Carbon electrical conductor that makes sliding contact on the collector	COB (K.4)	
60910	Bearings	Part of the motor to support the revolving rotor in the centre of the stator	BNG (K.4)	
60920	Terminal mounting plate	Electrical connections on the evaporator motor	TMP (K.4)	
60930	Overload protection switch	Safety device to switch off the system in case of overloading of the motor	POL	
60940	Fixing/securing device	Fixing elements of the evaporator/motor assembly to the frame	FIX (K.4)	

Numerical code	Name	Description	CEDEX code	Operator code
60950	Fan	Device to produce a volume of air through the coil	FAN (K.4)	
60960	Blade	Arm of a rotary fan	BLA (K.4)	
60970	Others	Other evaporator devices not listed	VMI (K.4)	

K.6.4 Electrical power — Location: MENN

61010	Electrical plug	Device to connect the main power cable to the power supply receptacle	EPL (K.5)	
61020	Cable	Cable to transmit electric power to the refrigerant unit	ECB (K.5)	
61030	On/off main switch	Manual device which makes and breaks the refrigeration unit electric circuit	SMN (K.5)	
61040	Voltage selection switch	Device which allows to adapt voltage accepted by the unit according to the power supply available	SVS (K.5)	
61050	Circuit breaker	Safety device which breaks the electric circuit if a fault develops in it	CBR (K.5)	
61060	Transformer	Apparatus which converts electric current from the supply voltage to the one required for the refrigeration unit	TFM (K.5)	
61070	Phase reversal device	Device which reverses the electric current phase order in case of unsuitable phase order of the power supply	PRS (K.5)	
61080	Power supply terminal plate	Electrical connections which receive the power supply directly from the mains	EPS (K.5)	
61090	Compressor capacitor	Apparatus for accumulating electricity which allows the compressor motor to be started up	CAQ	
61100	Evaporator fan motor capacitor	Apparatus for accumulating electricity which allows the evaporator motor to be started up	CAV	
61110	Condenser fan motor capacitor	Apparatus for accumulating electricity which allows the condenser motor to be started up	CAK	
61120	Compressor contactor	Contactor which makes or breaks the compressor electric circuit according to the control box order	CQA (K.5)	
61130	Compressor low-speed contactor	Contactor which makes or breaks the compressor low-speed electric circuit according to the control box order	CQL (K.5)	
61140	Compressor high-speed contactor	Contactor which makes or breaks the compressor high-speed electric circuit according to the control box order	CQH (K.5)	
61150	Evaporator contactor	Contactor which makes or breaks the evaporator electric circuit according to the control box order	CVA (K.5)	
61160	Evaporator fan motor low-speed contactor	Contactor which makes or breaks the evaporator low-speed electric circuit according to the control box order	CVL (K.5)	
61170	Evaporator fan motor high-speed contactor	Contactor which makes or breaks the evaporator high-speed electric circuit according to the control box order	CVH (K.5)	

Numerical code	Name	Description	CEDEX code	Operator code
61180	Condenser fan motor contactor	Contactor which makes or breaks the condenser electric circuit according to the control box order	CKA (K.5)	
61190	Condenser fan motor low-speed contactor	Contactor which makes or breaks the condenser low-speed electric circuit according to the control box order	CKL (K.5)	
61200	Condenser fan motor high-speed contactor	Contactor which makes or breaks the condenser high-speed electric circuit according to the control box order	CKH (K.5)	
61210	Defrost/heating resistors contactor	Contactor which makes or breaks the heating resistor electric circuit according to the control box order	CHR (K.5)	
61220	Phase contactor	Contactor which sets up the phase order according to the phase reversal system	CPH (K.5)	
61230	Connections	Points where electric/electronic components are connected	CON (K.5)	
61240	Wiring	System of wires between electric components	WIR (K.5)	
61250	Others	Other electrical power devices not listed	EMI (K.4)	

K.6.5 Regulation/control — Location: MCNN

61410	Controller	Device which controls essential functions of the refrigeration unit, especially temperature	CTR (K.5)	
61420	Temperature recorder	Device which records the inside temperature of the container	REC (K.5)	
61425	Recorder clock	Clock which rotates the recorder chart	RCL	
61430	Timer	Device which controls and sets up delays between the different functioning modes of the refrigeration unit	TIM (K.5)	
61440	Stylus	Point which records the temperature *versus* time on a chart	STY (K.5)	
61450	Thermostat	Device which regulates the container inside temperature according to the set point temperature	TMT (K.5)	
61460	Record sensor probe	Apparatus which indicates the container temperature to the recorder	SRE (K.5)	
61470	Modulation sensor return air	Apparatus which indicates the temperature of the return air to the controller	SRA (K.5)	
61480	Modulation sensor supply air	Apparatus which indicates the temperature of the supply air to the controller	SSA (K.5)	
61490	Hourmeter	Clock which records the compressor running hours	HMT	
61500	Thermometer (Simpson) sensor	Apparatus which indicates the temperature to the thermometer jack	SSY (K.5)	
61510	Thermometer (Simpson) jack	Plug where the thermometer indicator can be connected	SYJ (K.5)	
61520	Electric reading sensors	Sensor probes which indicate the temperature to the digital temperature display	SER (K.5)	

Numerical code	Name	Description	CEDEX code	Operator code
61530	Defrost relay	Relay which controls the defrosting of the evaporator coil	RDE (K.5)	
61540	Phase reversal relay	Relay which operates the reversal of two electrical current phases	RPR (K.5)	
61550	Timer relay	Relay which controls the start up of the electric components of the refrigeration unit	RTM (K.5)	
61560	Heating relay	Relay which operates the heating resistors	RHR (K.5)	
61570	In range relay	Relay which operates the "in range" light when the container is in the correct temperature range	RIR (K.5)	
61580	Cooling relay	Relay which operates the "cooling" light when the compressor is working	RFC (K.5)	
61590	Unloading relay	Relay which operates the unloading of the compressor cylinders when the container is reaching the set point temperature	RCU (K.5)	
61600	Compressor cooling relay (quench)	Relay which operates the quench valve	RQQ (K.5)	
61610	Overload relay	Relay which switches off the compressor motor in case of overload	ROL (K.5)	
61620	Partial cool relay	Relay which operates the "partial cool" light when the compressor is working at reduced power (temperature close to the set point)	RPC (K.5)	
61630	Mother electronic board	Main electronic board which is connected to all the other electronic boards	BMN (K.5)	
61640	Control electronic board	Electronic board which manages all the controller functions	BCT (K.5)	
61650	Phase reversal electronic board	Electronic board which controls the reversal of the phase sequence	BPR (K.5)	
61660	Power + supply in range electronic board	Electronic board which controls the power supply and the temperature inside the container	BMS (K.5)	
61670	Timing + current control electronic board	Electronic board which controls the motor starting sequence and the electric current of the modulating valves	BCC (K.5)	
61680	Temperature control electronic board	Electronic board which controls the temperature inside the container	BTC (K.5)	
61690	Relay electronic board	Electronic board which all the various relays are connected to	BRY (K.5)	
61700	Amplifier electronic board	Electronic board which amplifies the data coming from the various sensors	BAM (K.5)	
61710	Temperature display	Device which displays the temperature of the supply or return air	TDI (K.5)	
61720	Transformer	Apparatus which converts electric current from the input voltage to the one required for the control circuit or mains power supply	TRF (K.5)	

Numerical code	Name	Description	CEDEX code	Operator code
61730	Fuse	Short piece of wire which melts and breaks the control circuit if a fault develops in it	FUS (K.5)	
61740	Monitor lights	Device which indicates the running condition of the refrigeration unit	LIT (K.5)	
61750	Remote monitoring receptacle	Special receptacle designed for the remote monitoring device	MRR (K.5)	
61760	Remote monitoring plug	Device to connect the remote monitoring device	MRP (K.5)	
61770	Override delay switch	Device which allows to cancel the motor starting sequence	SOR (K.5)	
61780	Connections	Points where electric/electronic components are connected	CON (K.5)	
61790	Operation test (toggle) switch	Device which allows to simulate a temperature different from the set point in order to test the refrigeration unit	TSW (K.5)	
61795	Set point selector	Device to set the temperature to be maintained	SPS (K.6)	
61800	Others	Other regulation/control devices not listed	CMI (K.4)	

K.6.6 Defrost/heating — Location: MHNN

61810	Evaporator coil heaters	Electric resistors for defrosting the evaporator or heating the inside of the container	HVC (K.6)	
61820	Drain pan defrost heaters	Electric resistors for defrosting the drain pan or heating the container	HDP (K.6)	
61830	Klixons (overheat protection switch)	Device which switches off heaters in case of too high a temperature	KLX (K.6)	
61840	Defrost timer	Clock which controls the space of time between two defrostings	TDF (K.6)	
61850	Manual defrost	Device which allows to start the defrosting manually	SMD (K.6)	
61860	Defrost termination switch	Device which switches off the defrosting of the evaporator	SDT (K.6)	
61870	Air pressure switch	Device to pick up pressure difference across evaporator coil for defrost initiation	APS (K.6)	
61880	Drain tube defrost heaters	Electric resistors provided on the drain tube for defrosting	DTH (K.7)	
61890	Drain port defrost heaters	Electric resistors provided on the drain port for defrosting	DPH	
61900	Others	Other defrost/heating devices not listed	HMI (K.4)	

K.6.7 Piping — Location: MPNN

62010	Quench valve	Device which allows refrigeration of the compressor during the partial cool sequence and/or when the suction modulating valve is nearly closed	VQA (K.6)	

Numerical code	Name	Description	CEDEX code	Operator code
62020	Quench valve body	Mechanical structure of the quench valve	VQB (K.6)	
62030	Quench valve solenoid	Solenoid coil which operates the quench valve solenoid	VQS (K.6)	
62040	Suction modulating valve	Device which allows the suction modulation of the compressor during the partial control	VMA (K.6)	
62050	Modulating valve body	Mechanical structure of the modulating valve	VMB (K.6)	
62060	Modulating valve solenoid	Solenoid coil which operates the modulating valve	VMS (K.6)	
62070	Suction solenoid valve	Device which is opened when the temperature inside the container is far from the set point and closed when it is close to it (partial cool)	VSA (K.6)	
62080	Suction solenoid body	Mechanical structure of the suction valve	VSB (K.6)	
62090	Suction valve solenoid	Solenoid which operates the suction valve	VSS (K.6)	
62100	Hot-gas modulating valve	Device which allows the evaporator defrosting and/or modulating by injection of hot refrigerant into the evaporator coil	VGA (K.6)	
62110	Hot-gas modulating valve body	Mechanical structure of the hot gas modulating valve	VGB (K.6)	
62120	Hot-gas modulating valve solenoid	Solenoid which operates the hot gas modulating valve	VGS (K.6)	
62130	Expansion valve	Device which allows the expansion of the refrigerant into the evaporator and regulates the super-heat of the gas from the evaporator	VEX (K.6)	
62140	Feeler bulb	Sensor which indicates the temperature of the gas getting out of the evaporator to the expansion valve	BOH (K.6)	
62150	Heat exchanger	Device which allows the exchange of heat between hot gas and cold liquid in order to increase the efficiency of the refrigeration system	HEX (K.6)	
62160	Suction line insulation	Material which prevents heat transfer in the suction line	ISL (K.6)	
62170	Liquid line service valve	Device which regulates the liquid refrigerant flow from the condenser	VLL (K.6)	
62180	Moisture indicator	Device which indicates when there is some moisture in the refrigerant charge	SGI (K.6)	
62190	Drier filter	Device which allows to dry the refrigerant charge	DRF (K.6)	
62200	Fusible plug	Device which opens the piping circuit in case of overpressure	FUP (K.6)	
62210	Discharge pressure gauge	Device which indicates the discharge pressure of the compressor	GDI (K.6)	
62220	Suction pressure gauge	Device which indicates the suction pressure of the compressor	GSU (K.6)	

Numerical code	Name	Description	CEDEX code	Operator code
62230	Condenser pressure switch	Device which operates the condenser fans according to the discharge pressure of the compressor	SPK (K.6)	
62240	Water condenser pressure switch	Device which switches off the condenser fans when the water-cooled condenser is connected	SPW (K.6)	
62250	Dial thermostat	Device for setting up the required temperature	THE (K.6)	
62260	Vibrabsorber	Flexible pipes on the suction and the discharge line of the refrigeration unit which absorb vibrations	VIB (K.6)	
62270	Refrigerant charge	Volume of refrigerant inside the refrigeration unit	FCH	
62280	Others	Other piping devices not listed	PMI (K.4)	

K.6.8 Frame — Location: MFNN

62510	Frame assembly	Structure of the refrigeration unit	FAS (K.7)	
62520	Evaporator access panel	Panel which can be removed to access the evaporator section from outside the container	VAP (K.7)	
62530	Condenser grille	Device which protects the condenser fan outside the container	GLK (K.7)	
62540	Compressor protection enclosure / provision cable	Device which protects the compressor from shocks and allows to stow the power supply cable	QPG (K.7)	
62550	Evaporator grille	Device which protects the evaporator fan inside the container	GLI (K.7)	
62560	Inner panel	Front inside panel of the container	INP (K.7)	
62570	Compressor base	Plate to which the compressor is fixed	QBS (K.7)	
62580	Hardware	Screws, nuts and bolts	HWR (K.7)	
62590	Frame gaskets	Seals between the refrigeration unit frame and the container frame	GAS (K.7)	
62600	Thermometer insertion port	Frame opening designed to insert a thermometer (either in the return air or the supply air)	TTU (K.7)	
62610	Drain pan	Device fixed underneath the evaporator coil to collect defrost water	DPA (K.7)	
62620	Drain tube	Tube which drains water out of the unit	DRN (K.7)	
62630	Air renewal system	Device which allows air renewal to reduce the concentration of carbonic gas inside the container (in case of breathing cargo)	ARE (K.7)	
62640	Electrical box	Box which contains all the electrical components for power control and recorder	BEA (K.7)	
62650	Electrical door	Opening panel of the electrical box	BED (K.7)	

Numerical code	Name	Description	CEDEX code	Operator code
62660	Electrical door gasket	Seal designed to close the electrical box door tightly to keep water out	BEG (K.7)	
62670	Controller box	Box which contains all the electric and electronic equipment components of the controller	BCA (K.7)	
62680	Controller box door	Opening panel of the controller box	BCD (K.7)	
62690	Controller box door gasket	Seal designed to close to controller box door tightly	BCG (K.7)	
62700	Recorder box	Box which contains the temperature recorder	BRA (K.7)	
62710	Recorder box door	Opening panel of the recorder box	BRD (K.7)	
62720	Recorder box door gasket	Seal designed to close the recorder box door tightly	BRG (K.7)	
62730	Recorder key/chain	Key designed to wind up the clock of the recorder and the chain fastening this key to the box	RKY (K.7)	
62740	CO_2 sampling plug	Device which allows to sample air from the container to measure the concentration of carbonic gas	COO (K.7)	
62750	Markings	Printed information or warnings on the refrigeration unit	MRK (K.7)	
62760	Compressor/frame insulation	Device which insulates the compressor from the frame and absorbs vibrations	IFQ (K.7)	
62770	Others	Other frame devices not listed	FMI (K.4)	

K.7 Components of tank containers (To be developed.)

K.8 Components of diesel engines (To be developed.)

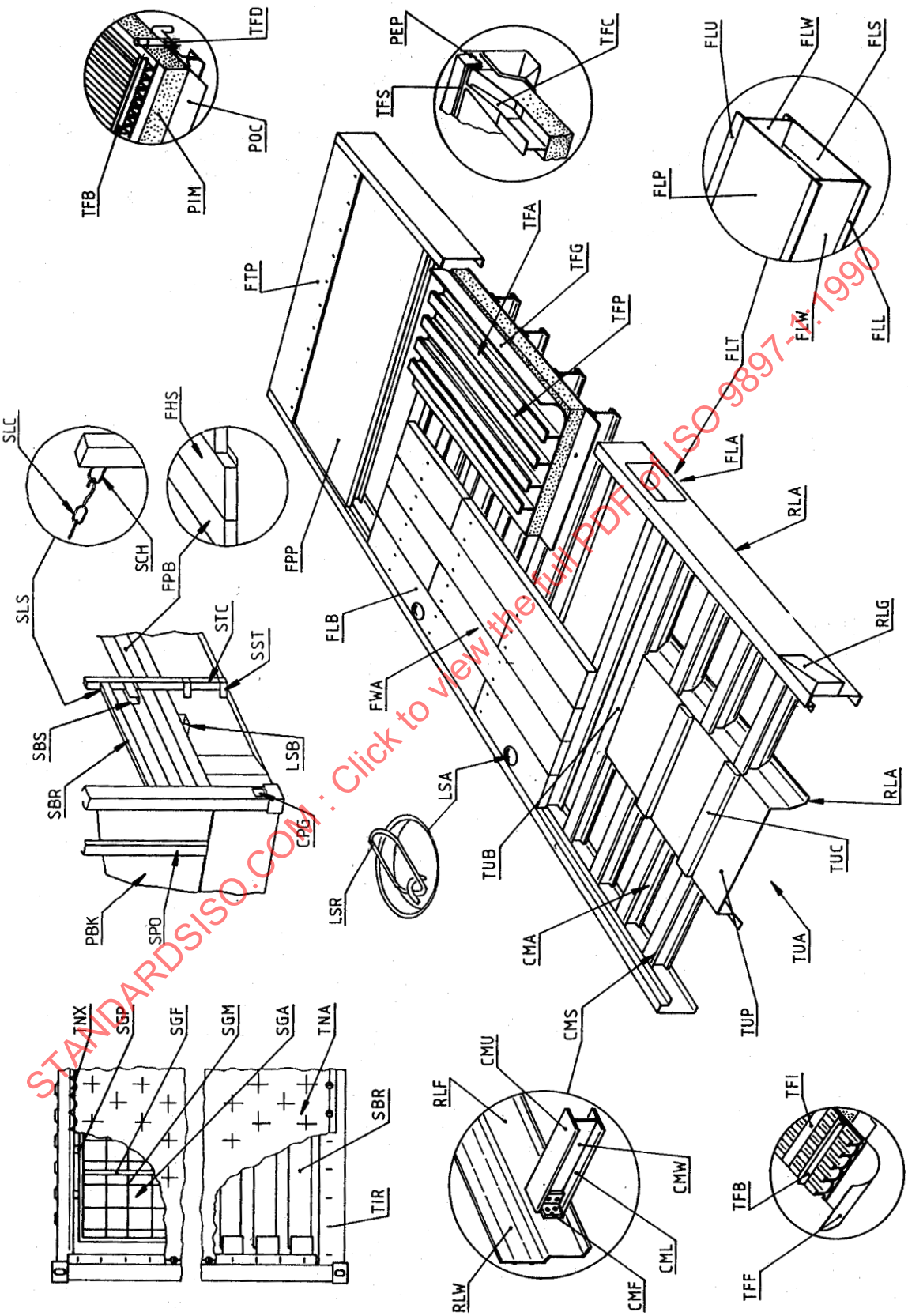

Figure K.1

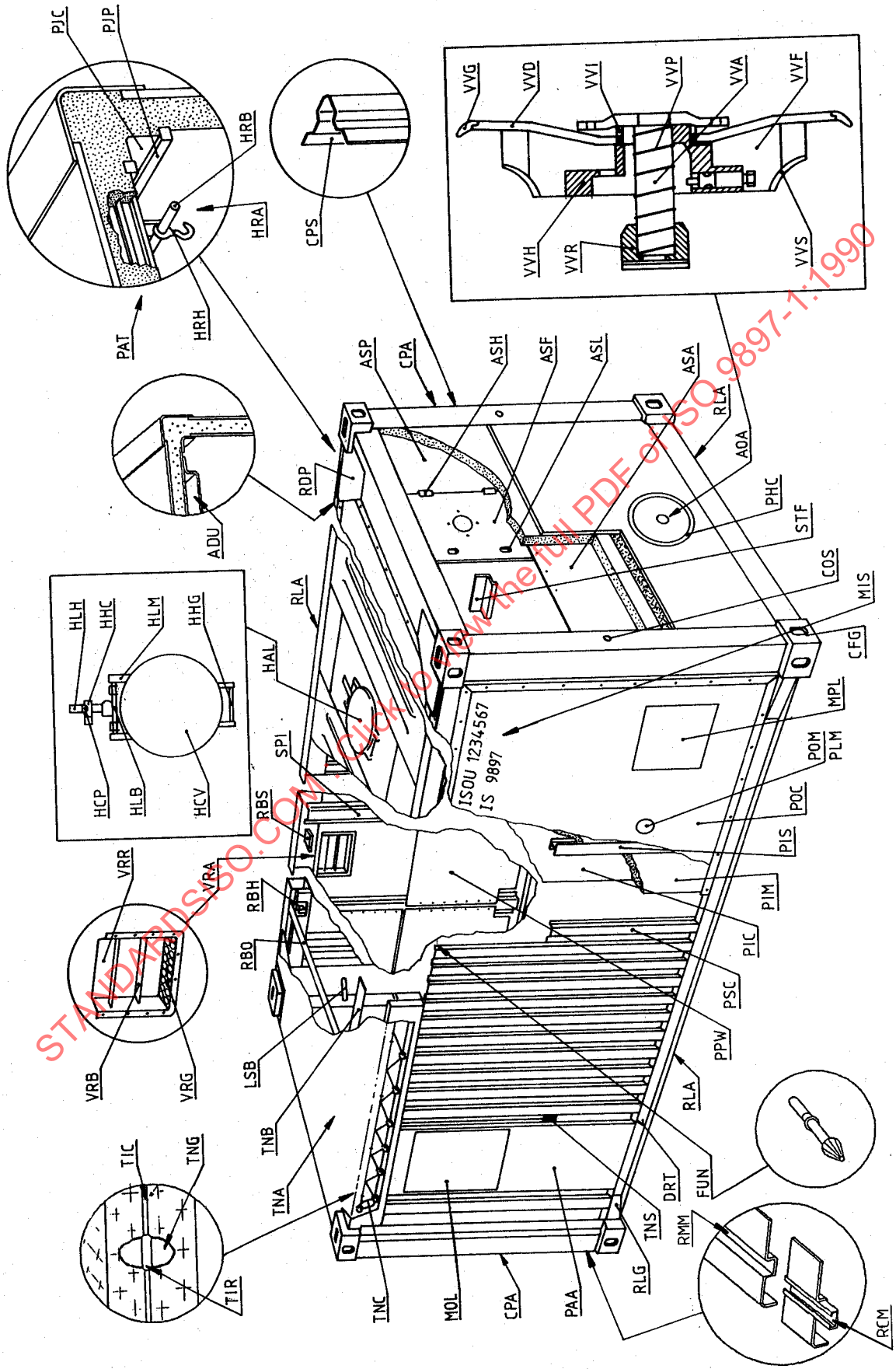

Figure K.2

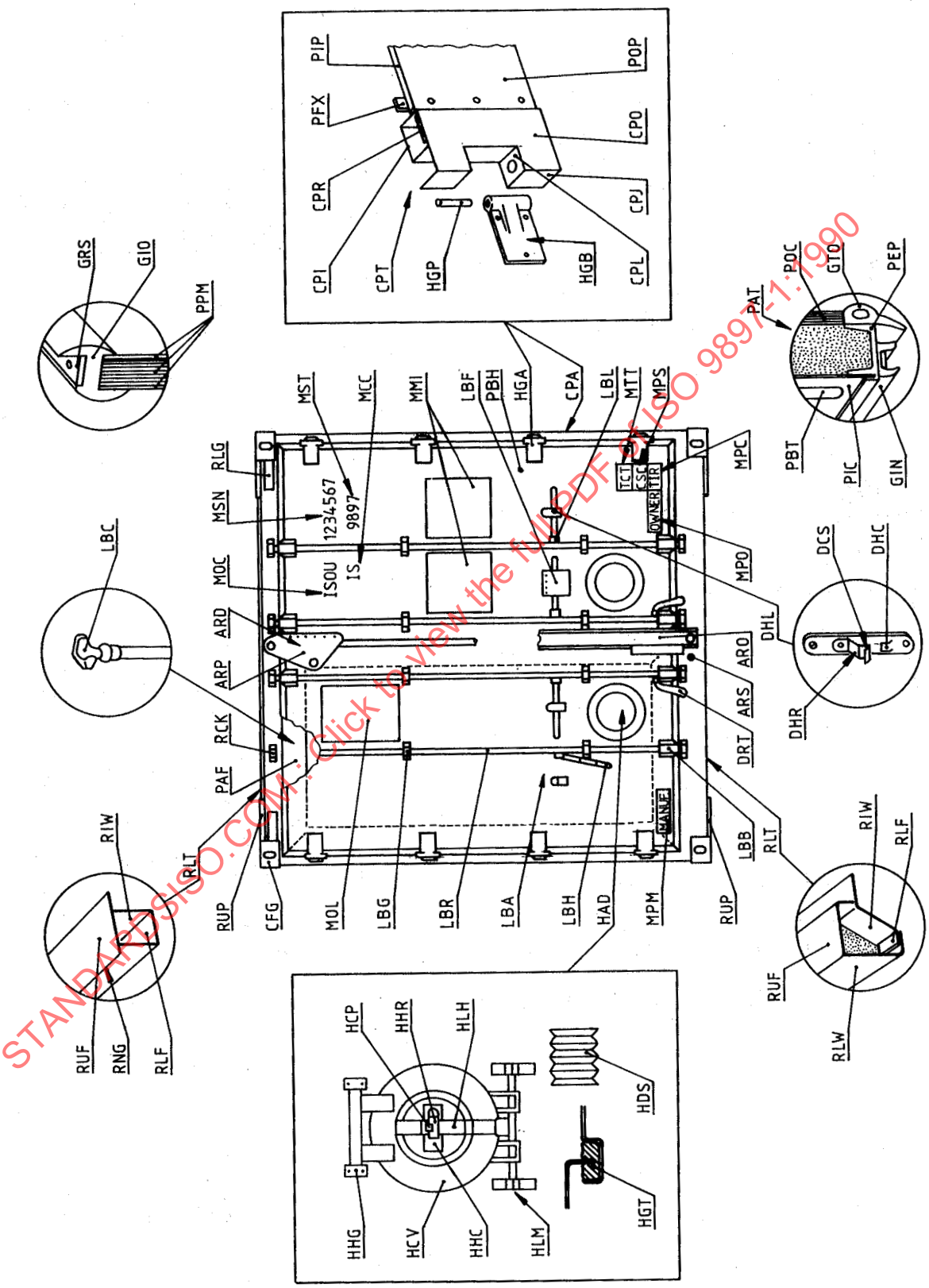

Figure K.3

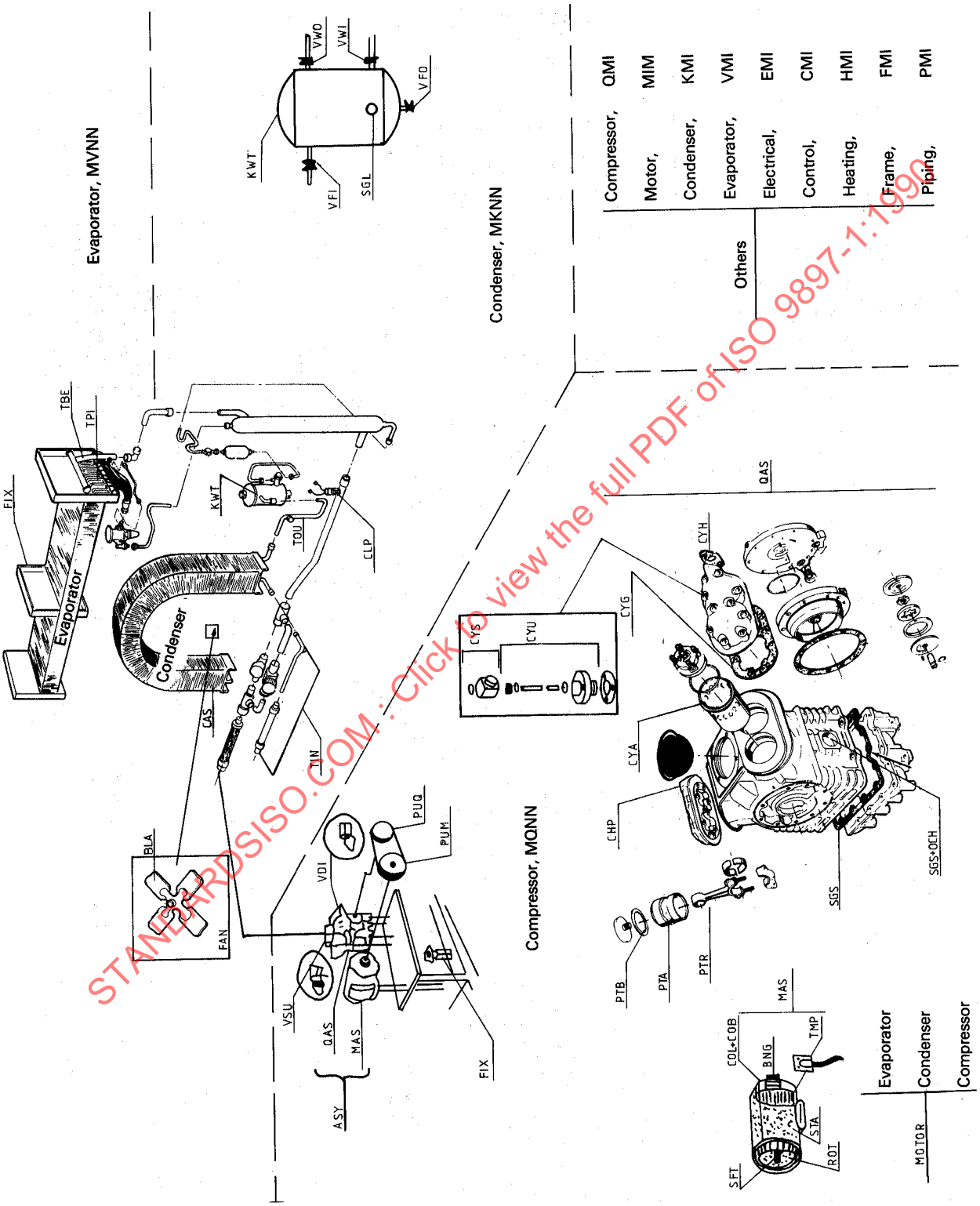

Figure K.4

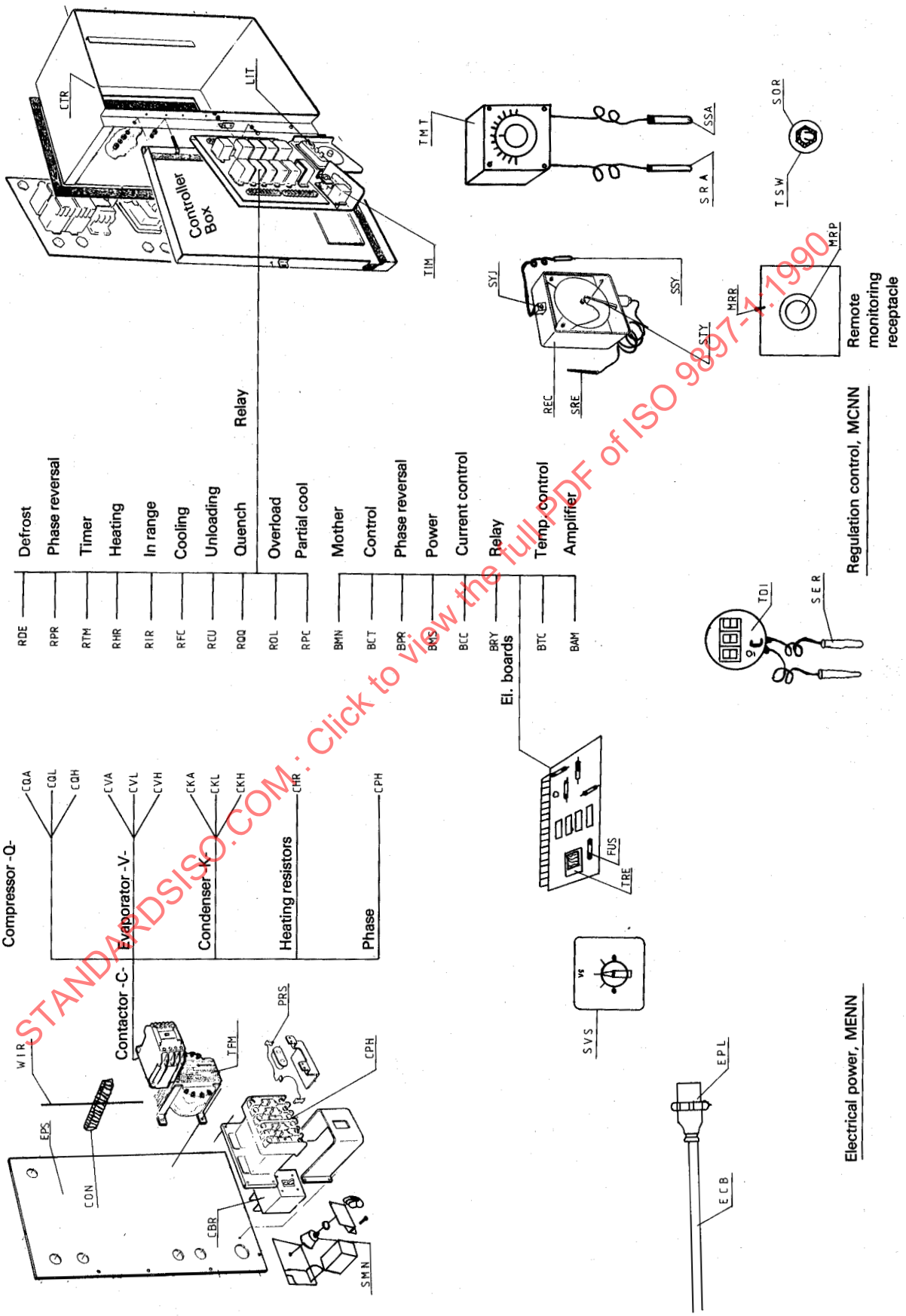

Figure K.5