

Mobile waste containers —

Part 1: Containers with 2 wheels with a capacity up to 400 l for comb lifting devices, dimensions and design

The European Standard EN 840-1:2004 has the status of a
British Standard

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National foreword

This British Standard is the official English language version of EN 840-1:2004. It supersedes BS EN 840-1:1997 which is withdrawn.

The UK participation in its preparation was entrusted by Technical Committee B/508, Waste management, to Subcommittee B/508/1, Waste containers and associated lifting devices, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
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Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 17 and a back cover.

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English version

Mobile waste containers - Part 1: Containers with 2 wheels with a capacity up to 400 l for comb lifting devices, dimensions and design

Conteneurs roulants à déchets - Partie 1: Conteneurs à 2 roues de capacité jusqu'à 400 l pour lève-conteneurs à peigne - Dimensions et conception

Fahrbare Abfallsammelbehälter - Teil 1: Behälter mit 2 Rädern und einem Nennvolumen bis 400 l für Kammschüttungen - Maße und Formgebung

This European Standard was approved by CEN on 10 December 2003.

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Foreword

This document (EN 840-1:2004) has been prepared by Technical Committee CEN/TC 183 "Waste management", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2004, and conflicting national standards shall be withdrawn at the latest by September 2004.

This document supersedes EN 840-1:1997.

This draft European Standard is one part of the series of standards of EN 840 about "Mobile waste containers" comprising the following parts:

- Part 1: Containers with 2 wheels with a capacity up to 400 l for comb lifting devices – Dimensions and design.
- Part 2: Containers with 4 wheels with a capacity up to 1 300 l with flat lid(s), for trunnion and/or comb lifting devices – Dimensions and design.
- Part 3: Containers with 4 wheels with a capacity up to 1 300 l with dome lid(s), for trunnion and/or comb lifting devices – Dimensions and design.
- Part 4: Containers with 4 wheels with a capacity up to 1 700 l with flat lid(s), for wide trunnion or BG and/or wide comb lifting device – Dimensions and design.
- Part 5: Performance requirements and test methods.
- Part 6: Safety and health requirements.

Annexes A, B and C are informative.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

1 Scope

This European Standard specifies dimensions and design requirements of mobile waste containers with 2 wheels, with capacity up to 400 l to be used by comb lifting devices.

2 Normative references

This European Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 840-5, *Mobile waste containers – Part 5: Performance requirements and test methods*.

EN 840-6, *Mobile waste containers – Part 6: Safety and health requirements*.

EN 1501-1, *Refuse collection vehicles and their associated lifting devices – General requirements and safety requirements – Part 1: Rear-end loaded refuse collection vehicles*.

EN ISO 11469, *Plastics – Generic identification and marking of plastics products (ISO 11469:2000)*.

3 Terms and definitions

Terms for components of mobile waste containers and lifting devices in three languages are given in annex A.

For the purposes of this European Standard, the following terms and definitions apply.

- 3.1**
mobile waste container
appropriately designed container fitted with wheels intended to temporarily store waste
- 3.2**
lifting device
structure which picks-up, tilts and empties containers
- 3.3**
comb lifting device
lifting device in which the picking-up system consists of a row of teeth and a locking system to retain the container during emptying
- 3.4**
volume
total space inside the container when the lid is closed (see Table 1)
- 3.5**
nominal volume
volume stated by the manufacturer (see Table 1 without tolerances)
- 3.6**
capacity
for the purpose of this standard nominal volume and capacity are deemed to be the same

NOTE The English term "capacity" and the French term "capacité" are translated in the German version by the term "Nennvolumen".

3.7

nominal load

load mass, which is calculated as given in clause 6

3.8

total permissible mass

mass of the container plus the nominal load

3.9

functional and safety dimensions

essential dimensions which ensure the functionality and interchangeability of the container with the compatible lifting device and which are necessary for the operator's safety and health

4 Volumes

This standard identifies the two classes of containers:

- Class I - small size (nominal volume up to 200 l);
- Class II - large size (nominal volume between 200 l and 400 l).

Within the two above-mentioned classes of containers the volumes shown in Table 1 are identified.

Table 1 — Volumes

Volume in l								
80^{+18}_{-5}	100^{+12}_{-5}	120^{+8}_{-6}	130 ± 7	140^{+6}_{-12}	210^{+15}_{-5}	240^{+15}_{-5}	340^{+40}_{-25}	390 ± 20

For methods of measuring capacity see EN 840-5.

The volumes shown in Table 1 correspond to mobile waste container's capacities at present used in Europe. Since there are some overlapping capacities due to the tolerances, client and manufacturer shall decide while ordering the capacity chosen.

Nominal volumes different from those referenced in Table 1 can be used by agreement between user and manufacturer. The tolerance of the volumes shall be $\pm 10\%$ maximum measured according to EN 840-5.

5 Dimensions and design

5.1 The design of the containers need not correspond to the drawings given in Figure 1. The functional dimensions given in Tables 2 and 3 shall be respected. Recommendations for manufacturers of lifting devices are given in annex B (see also EN 1501-1).

5.2 The container shall be constructed so that when it is unloaded or loaded with a nominal load (see clause 6), it fits on an approved compatible lifting device. It shall be automatically locked safely into the lifting device during the lifting operation. The frontal receiver shall correspond to one of the options given in Figure 2 (Form A, B or C).

5.3 The lid(s) shall fit the body. It/they shall be made with at least 2 fixing points and have at least one means of opening.

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5.4 Each wheel shall be capable of withstanding a static load of 100 kg.

5.5 All the surfaces of the container including design features shall be smooth and free of any foreign bodies or flaws.

5.6 The container shall be able to be immobilised by design.

6 Nominal load

The container shall be constructed strongly enough to carry a load of $0,4 \text{ kg/dm}^3 \times \text{nominal volume}$.

7 Safety and health requirements

The container shall meet the safety and health requirements according to EN 840-6.

8 Testing

The container shall fulfil the performance requirements and the tests of EN 840-5.

9 Marking

9.1 Each container complying with the requirements of this European Standard shall be durably and readably marked on the body in a visible part with:

- number of this European Standard (EN 840-1);
- nominal volume;
- manufacturer's name or trademark;
- total permissible mass, in kilograms;
- year and month of manufacturing.

9.2 Additional marking for quality, recycling, etc. is allowed. Beginning 5 years after the publication of this standard, plastic parts of containers, lids and wheels shall be marked in accordance with EN ISO 11469. The use of recycled materials is allowed, presuming that all requirements of this standard are complied with.

10 Designation

The container complying with the requirements of this European Standard shall be designated as follows:

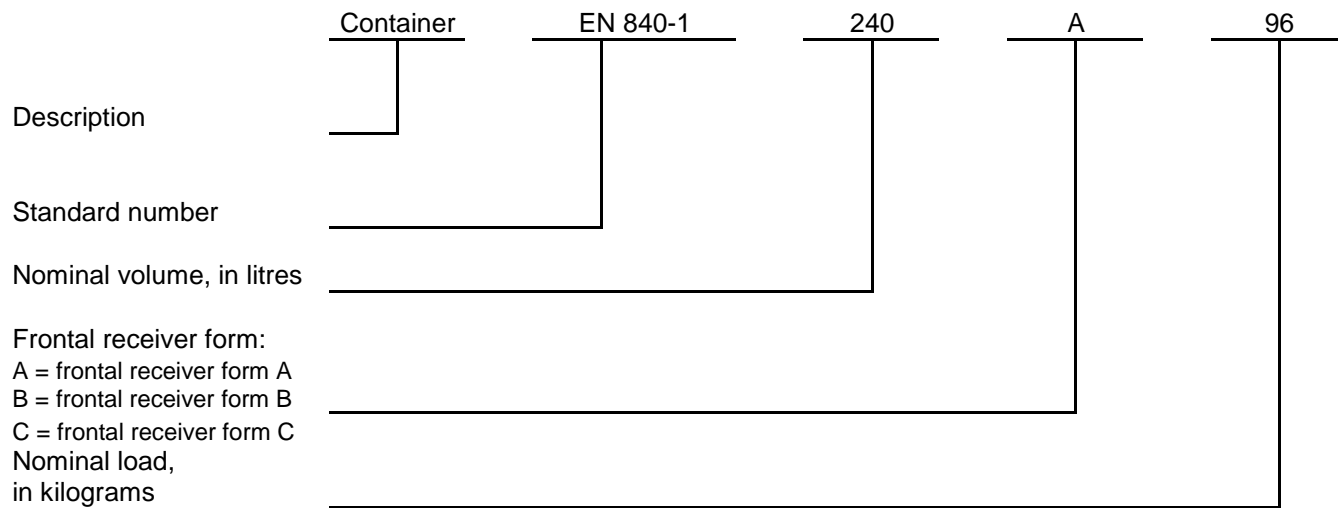


Table 2 — Dimensions for containers from 80 l to 140 l – Class I (up to 200 l)

Dimensions in mm

Dimension N°	80 l		100 l		120 l	130 l		140 l	Remarks
	a	b	a	b		a	b		
a 1	448 ± 5	480 ± 5	472 ± 5		505 max.	472 ± 5		505 max.	Total width of the container
a 2	448 ± 5	480 ± 5	472 ± 5	390 ± 10	480 ± 5	472 ± 5	390 ± 10	480 ± 5	Width of the frontal receiver
3	530 max.	555 max.	558 max.		555 max.	558 max.		555 max.	
4	975 max.		1021 max.		1005 max.	1021 max.		1100 max.	Total height including handles on the lid
a 5	860 min.; 1030 max.		860 min.; 1030 max.		860 min.; 1030 max.	860 min.; 1030 max.		860 min.; 1030 max.	
6	450 max.	490 max.	497 max.		490 max.	497 max.		490 max.	
7	1010 max.		1090 max.		1010 max.	1090 max.		1155 max.	
8	430 min.; 670 max.		430 min.; 670 max.		430 min.; 670 max.	430 min.; 670 max.		430 min.; 670 max.	For 300 mm wheels, the maximum dimension is 70 mm more
a 9	410 max.	450 max.	440 ± 10		440 ± 10	440 ± 10		450 max.	
10	320 ± 10	365 ⁺²⁰ ₋₂₅	455 ± 15		365 ⁺²⁰ ₋₂₅	455 ± 15		365 ⁺²⁰ ₋₂₅	
a 11	195 min.		195 min.		195 min.	195 min.		195 min.	Larger wheels accepted
a 12	19 min.		19 min.		19 min.	19 min.		19 min.	
a 13	6 ⁺² _{-4,5}		6 ⁺² _{-4,5}		6 ⁺² _{-4,5}	6 ⁺² _{-4,5}		6 ⁺² _{-4,5}	
a 14	25 min.		25 min.		25 min.	25 min.		25 min.	
a 15	13 ⁺⁵ ₋₃		13 ⁺⁵ ₋₃		13 ⁺⁵ ₋₃	13 ⁺⁵ ₋₃		13 ⁺⁵ ₋₃	
a 16	21 ⁺² ₋₂		21 ⁺² ₋₂		21 ⁺² ₋₂	21 ⁺² ₋₂		21 ⁺² ₋₂	
17	-		-		-	-		-	This dimension is no more used.
a 18	26 ± 1		26 ± 1		26 ± 1	26 ± 1		26 ± 1	
a 19	58 max.		58 max.		58 max.	58 max.		58 max.	
a 20	20 min.		20 min.		20 min.	20 min.		20 min.	
a 21	130 max.		130 max.		130 max.	130 max.		130 max.	
22	15 max.		15 max.		15 max.	15 max.		15 max.	
a 23	33 ⁺⁸ ₀		33 ⁺⁸ ₀		33 ⁺⁸ ₀	33 ⁺⁸ ₀		33 ⁺⁸ ₀	
a 24	40 ⁺⁵ ₋₇		40 ⁺⁵ ₋₇		40 ⁺⁵ ₋₇	40 ⁺⁵ ₋₇		40 ⁺⁵ ₋₇	
25	230 ± 12	-	279 ± 5		270 ± 12	279 ± 5		270 ± 12	Optional measurement
a 26	147 ± 8	180 ± 5	180 ± 5	291 ± 5	180 ± 5	180 ± 5	291 ± 5	180 ± 5	Compulsory dimensions when ribs are fitted, max. ribs thickness 6 mm
27	270° min.		270° min.		270° min.	270° min.		270° min.	

a Compulsory dimensions for functional and safety reasons. The other dimensions indicated are suggested recommended values.

Table 3 — Dimensions for containers from 210 l to 400 l – Class II (> 200 l)

Dimensions in mm

Dimension N°	210 l		240 l	340 l	390 l		Remarks
	a	b			a	b	
a 1	546 ± 5		580 ± 5	665 max.	745 ± 5		Total width of the container
a 2	546 ± 5	407 ± 10	580 ± 5	590 ± 20	745 ⁺⁵ ₋₁₅	660 ± 10	Width of the frontal receiver
3	730 max.		740 max.	880 max.	810 max.		
4	1095 max.		1100 max.	1115 max.	1095 max.		Total height including handles on the lid
a 5	860 min.; 1030 max.		860 min.; 1030 max.	860 min.; 1030 max.	860 min.; 1030 max.		
6	565 max.		590 max.	590 max.	775 max.		
7	1180 max.		1190 max.	1250 max.	1200 max.		
8	560 min.; 760 max.		560 min.; 760 max.	560 min.; 760 max.	560 min.; 760 max.		For 300 mm wheels, the maximum dimension is 70 mm more
a 9	490 ± 10		550 ± 7	650 max.	719 ± 10		
10	515 ± 15		430 ⁺²⁰ ₋₃₀	565 max.	722 ± 5		
a 11	195 min.		195 min.	195 min.	195 min.		Larger wheels accepted
a 12	19 min.		19 min.	19 min.	19 min.		
a 13	6 ⁺² _{-4,5}		6 ⁺² _{-4,5}	6 ⁺² _{-4,5}	6 ⁺² _{-4,5}		
a 14	25 min.		25 min.	25 min.	25 min.		
a 15	13 ⁺⁵ ₋₃		13 ⁺⁵ ₋₃	13 ⁺⁵ ₋₃	13 ⁺⁵ ₋₃		
a 16	21 ⁺² ₋₂		21 ⁺² ₋₂	21 ⁺² ₋₂	21 ⁺² ₋₂		
a 17	-		-	-	-		This dimension is no more used
a 18	26 ± 1		26 ± 1	26 ± 1	26 ± 1		
a 19	58 max.		58 max.	58 max.	58 max.		
a 20	20 min.		20 min.	20 min.	20 min.		
a 21	130 max.		130 max.	130 max.	130 max.		
22	15 max.		15 max.	15 max.	15 max.		
a 23	33 ⁺⁸ ₀		33 ⁺⁸ ₀	33 ⁺⁸ ₀	33 ⁺⁸ ₀		
a 24	40 ⁺⁵ ₋₇		40 ⁺⁵ ₋₇	40 ⁺⁵ ₋₇	40 ⁺⁵ ₋₇		
25	345 ± 5		352 ⁺⁵ ₋₂	355 max.	530 ± 5		Optional measurement
a 26	291 ± 5		291 ⁺³ ₋₅	300 ⁺⁵ ₋₁₀	390 ⁺⁵ ₋₁₀	291 ± 5	Compulsory dimensions when ribs are fitted, max. ribs thickness 6mm
27	270° min.		270° min.	270° min.	270° min.		

a Compulsory dimensions for functional and safety reasons. The other dimensions indicated are suggested recommended values.

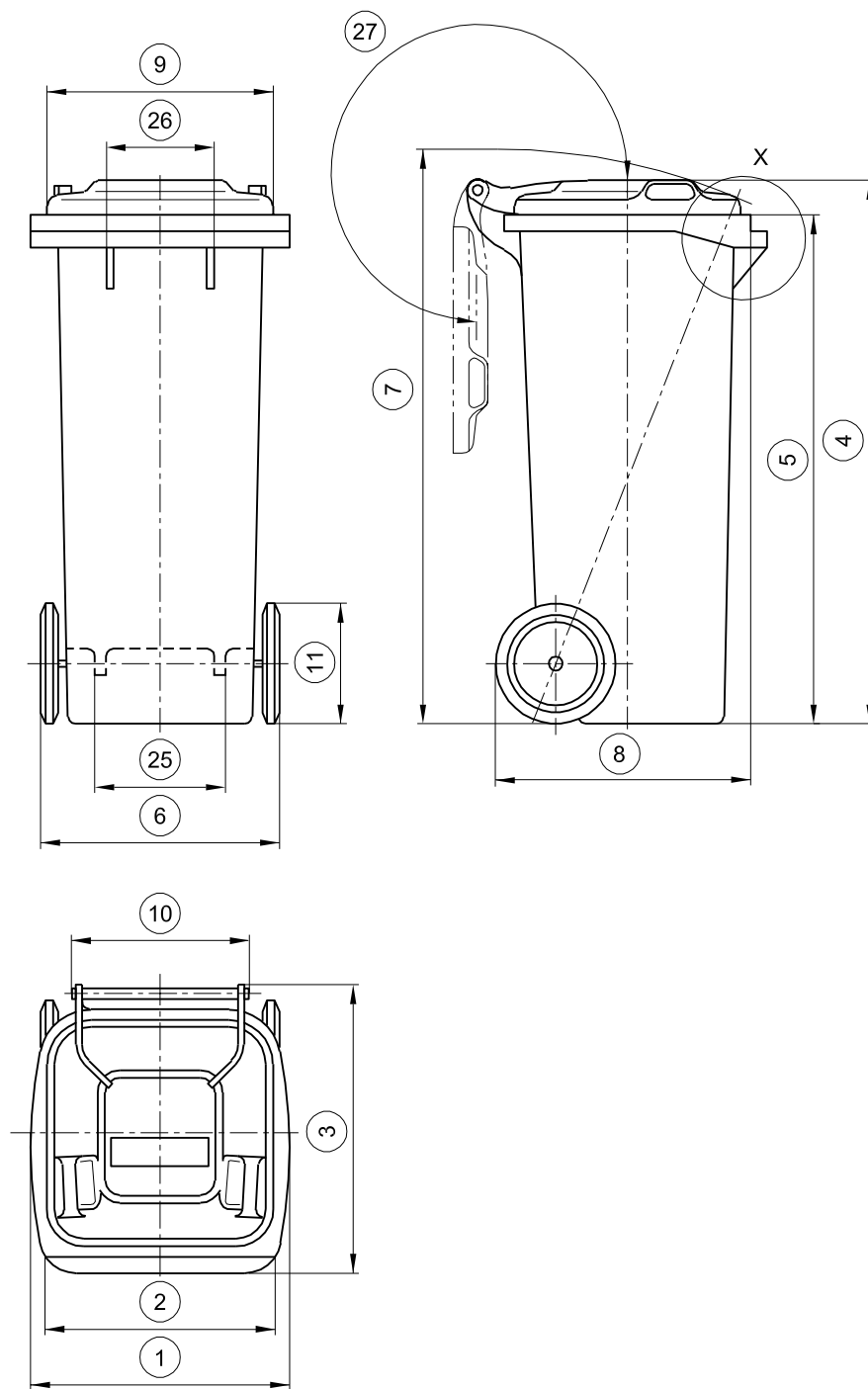
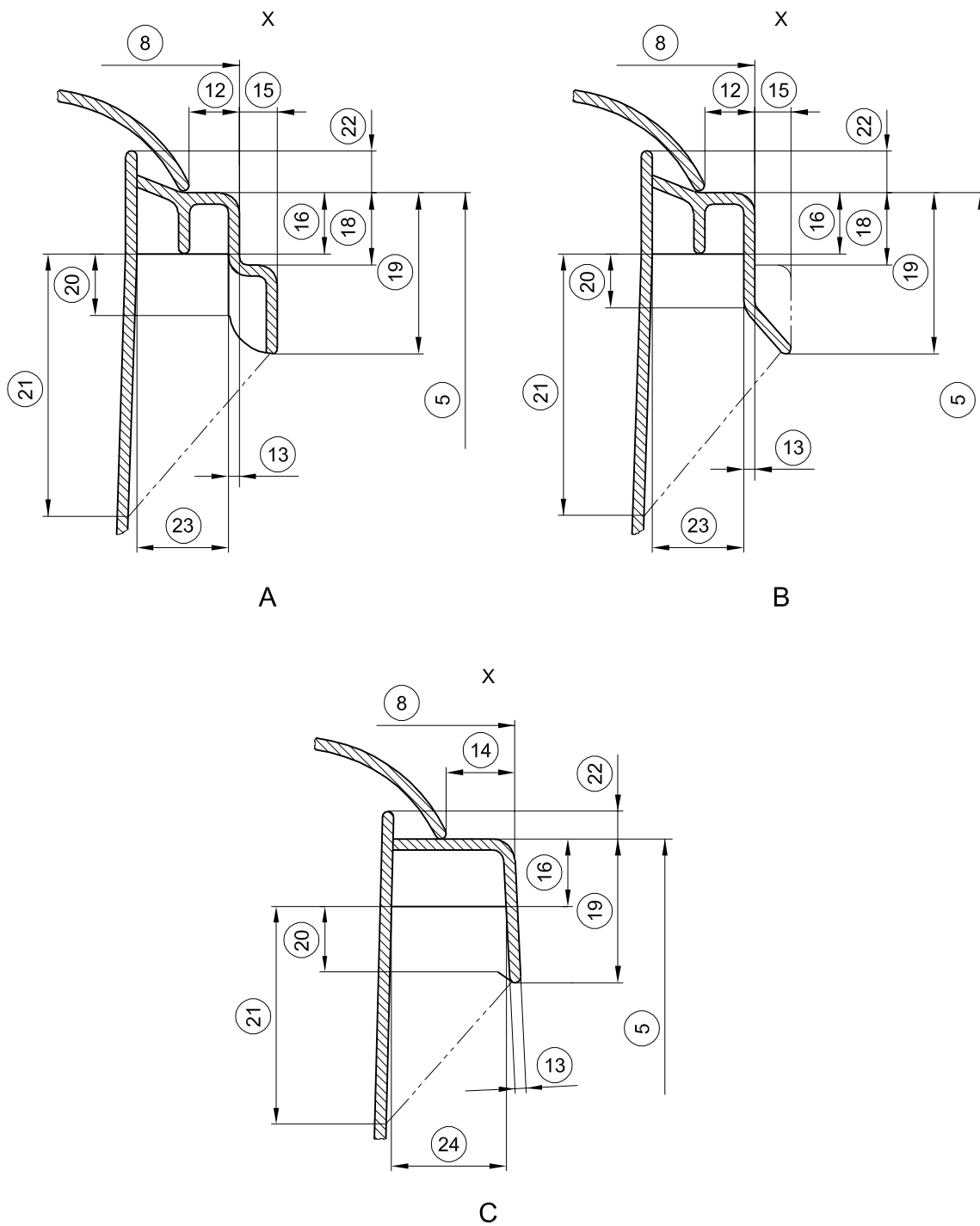


Figure 1 — System dimensions



Key

- A Form A
- B Form B
- C Form C

Figure 2 — Options for frontal receivers

Annex A (informative)

Nomenclature

Table A.1 — Terms of waste containers, lifting devices and waste collection vehicles

No	English	French	German
1	Waste container	Conteneur à déchets	Abfallsammelbehälter
2	Large-scale refuse container	Grand Conteneur pour déchets	Abfallgroßbehälter
3	Bulk refuse container	Grand conteneur	Großbehälter
4	Container	Conteneur	Behälter
5	Mobile waste container	Conteneur à déchets roulant	fahrbarer Abfallsammelbehälter
6	Disposable container	Conteneur à usage unique	Einwegbehälter
7	Dustbin	Poubelle	Abfalltonne
8	Refuse sack	Sac à déchets	Abfallsack
9	Sackstand	Support sac	Abfallsackständer
10 ^a	Body	Corps	Rumpf
11 ^a	Draft angle	Angle de dépouille	Freiwinkel
12 ^a	Lid	Couvercle	Deckel
13	Load	Charge utile	Nutzlast
14	Volume	Volume	Volumen
15	Total volume	Volume total	Gesamtvolumen
16	Body volume	Volume du corps	Rumpfvolumen
17	Lid volume	Volume du couvercle	Deckelvolumen
18	Tolerance	Tolérance	Toleranz
19	Surface	Surface	Oberfläche
20 ^a	Ground clearance	Garde au sol	Bodenfreiheit
21	Side	Côté	Seite
22 ^a	Right side	Côté droit	Rechte Seite
23 ^a	Left side	Côté gauche	Linke Seite
24 ^a	Front face	Face avant	Vorderseite
25 ^a	Back face	Face arrière	Rückseite
26 ^a	Wheel	Roue	Rad
27 ^a	Axle	Axe	Achse
^a see Figures A.1, A.2 and B.1			

Table A.1 (continued)

No	English	French	German
28 ^a	Hinge	Charnière	Scharnier
29	Lid spring	Ressort de couvercle	Deckelfeder
30	Hinge pin	Verrou d'axe	Gelenkbolzen
31	Lid seal	Joint de couvercle	Gummischutzleiste
32	Lid trunnion	Tenon de couvercle	Deckelzapfen
33 ^a	Handle	Poignée	Griff
34	Clearance of handle	Ouverture de poignée	Griffreiraum
35	Handle height	Niveau de poignée	Griffhöhe
36	Braking system	Système de freinage	Bremssystem
37	Brake pedal	Pédale de frein	Bremspedal
38	Direction lock	Blocage directionnel	Lenksperre
39	Locking system	Verrouillage	Verriegelung
40 ^a	Drain plug	Bonde de vidange	Wasserablauf
41	Travelling gear	Dispositif de roulage	Fahrwerk
42 ^a	Top rim	Collerette	Behälterrand
43 ^a	Tipping edge	Bord de déchargement	Schüttkante
44 ^a	Reinforcing rib	Gousset raidisseur	Verstärkungsrippen
45	Lifting device	Lève-conteneur	Schüttung
46 ^a	Frontal receiver	Prise frontale	Frontaufnahme
47	Comb lifting device	Lève-conteneur à peigne	Kammschüttung
48 ^a	Comb	Peigne	Kamm
49 ^a	Clamp	Pince pour retenir	Verriegelungsleiste
50 ^a	Pushing pad	Appui bas	Behälteranschlag
51 ^a	Shock absorber device	Dispositif d'amortissement	Behälter-Kippbegrenzung
52	Lateral receiver	Prise latérale	Seitenaufnahme
53	Trunnion lifting device	Basculeur par tourillon	Schüttung für Zapfenaufnahme
54 ^a	Trunnion	Tourillon de levage	Aufnahmezapfen
55	Lifting arm	Bras de prise	Schüttungsarm
^a see Figures A.1, A.2 and B.1			

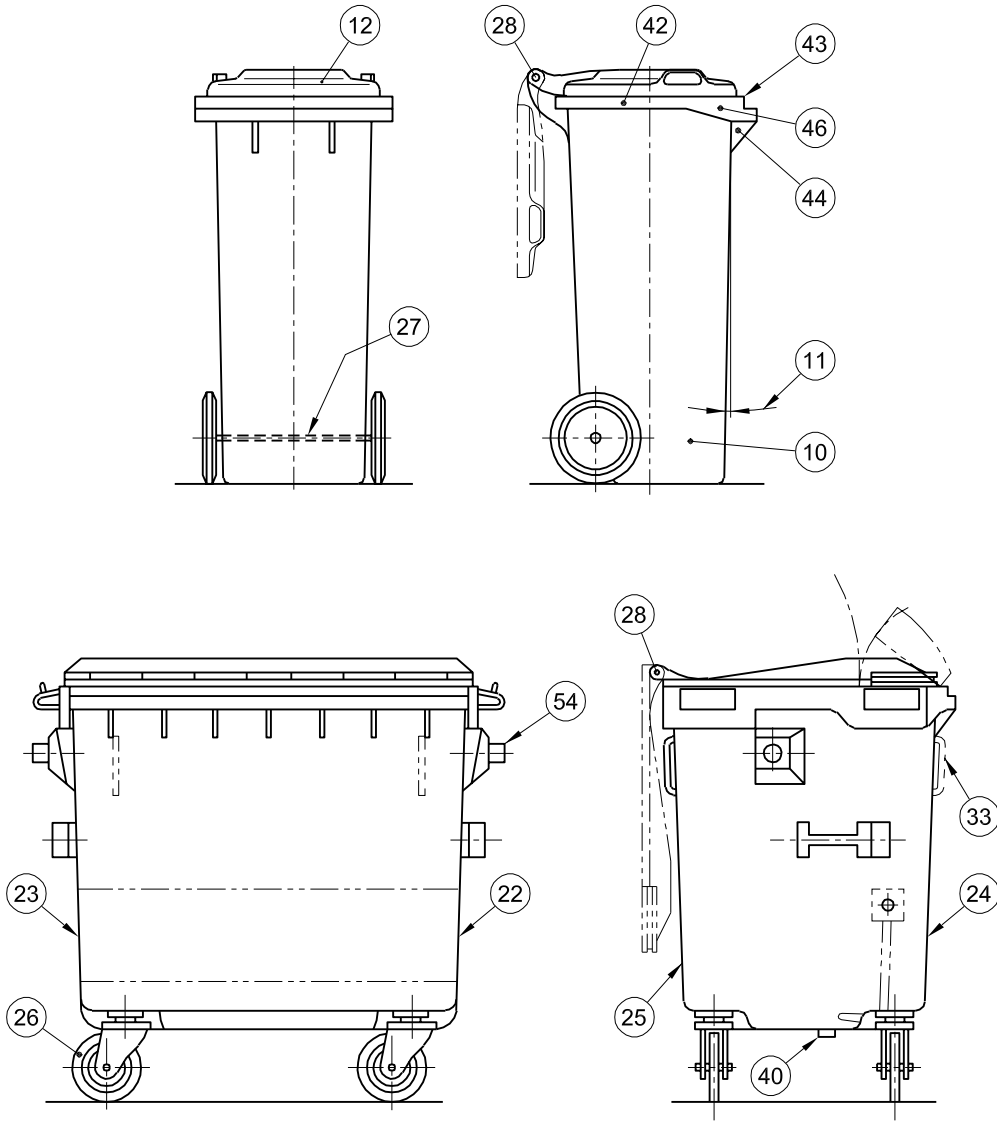


Figure A.1 — Terms

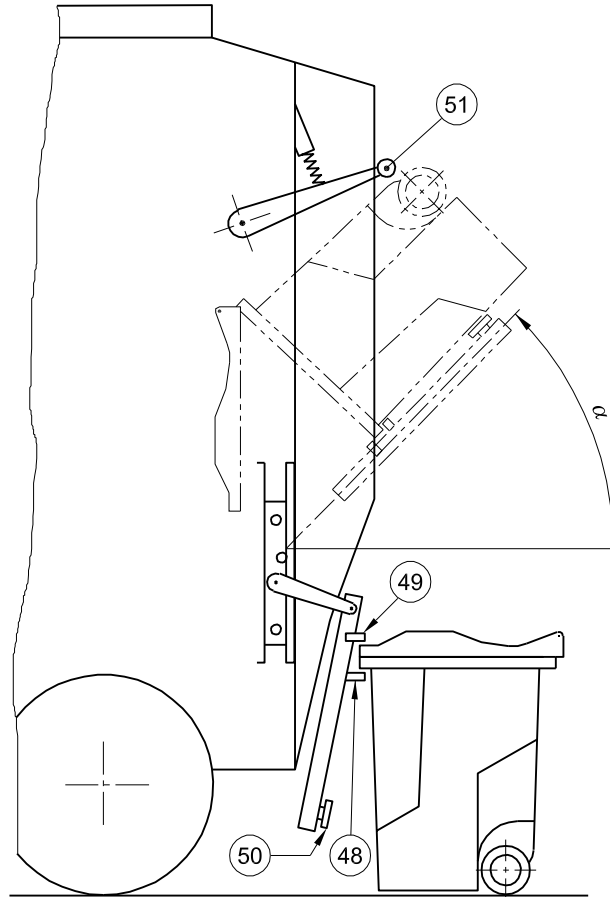


Figure A. 2 — Terms

Annex B (informative)

Recommendations for manufacturers of lifting devices

Dimensions in mm

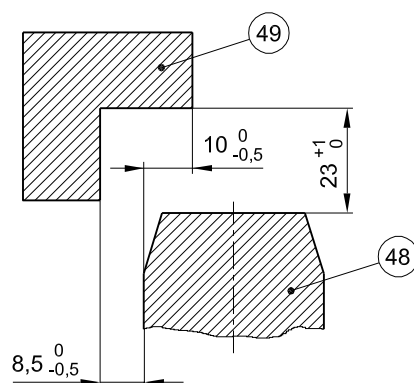


Figure B. 1 — Comb lifting device

Annex C (informative)

A-Deviations

A-Deviation: National deviation due to regulations, the alteration of which is for the time being outside the competence of the CEN/CENELEC-member.

This European Standard does not fall under any Directive of the EC. In the relevant CEN/CENELEC-countries these A-deviations are valid instead of the provisions of the European Standard until they have been removed.

DENMARK

The EN 840-1 to EN 840-6 do not fulfil the national Danish legislation regarding requirements for health and safety. This legislation is based on *EEC-Directive 89/391/EC of 12 June 1989* and *EEC-Directive 90/269/EEC of 29 May 1990*.

The Danish legislation is written down in "Executive Order No. 867 of 13 October 1994 concerning Performance of Work" and in "Executive Order No. 1164 of 16 December 1994 concerning Manual Handling" both given by the Minister of Work. The Legal understanding of the Executive Orders are written in the Danish Working Environment Service (WES) guidelines. WES-guideline No. 4.1.0.1 of 1993 describes "Manual handling and transportation of domestic garbage" and No. 4.1.0.2 describes "Construction of technical systems and equipment for handling domestic garbage" (former WES circular-order No. 10/1990).

Therefore the manual handling and use of containers described in EN 840-1 to EN 840-6 can be met in Denmark with additional requirements.

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