
**Building construction machinery and
equipment — Truck mixers —**

**Part 1:
Terminology and commercial
specifications**

*Machines et matériels pour la construction des bâtiments — Camions
malaxeurs —*

Partie 1: Terminologie et spécifications commerciales



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Foreword

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This document was prepared by Technical Committee ISO/TC 195, *Building construction machinery and equipment*, Subcommittee SC 1, *Machinery and equipment for concrete work*.

A list of all parts in the ISO 19711 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Truck mixers are used for producing concrete or mortar and for delivering concrete, mortar or the materials of the mixture to worksites.

Examples of truck mixer structures covered by this document can be found in [Annex A](#).

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Building construction machinery and equipment — Truck mixers —

Part 1: Terminology and commercial specifications

1 Scope

This document defines terms and commercial specifications for truck mixers used for producing concrete or mortar and for delivering concrete, mortar or the materials of the mixture to worksites.

This document is applicable to truck mixers that are either

- a) truck mounted, or
- b) semi-trailer mounted.

This document does not apply to

- fixed (stationary) mixers (see ISO 18650-1);
- turbo mixers (see ISO 18650-1);
- concrete or mortar mixing plants (see ISO 19720-1);
- small portable mixers (see ISO 18650-1);
- purpose-built underground truck mixers;
- volumetric mixers (mobile concrete or mortar mixing plants).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 1176:1990, *Road vehicles — Masses — Vocabulary and codes*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 1176 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

3.1 truck mixer

drum-shaped *mixer device* (3.2) mounted on a chassis capable of producing the *mixture* (3.20) and delivering the *mixture* (3.20) or the materials of the *mixture* (3.20) to worksites

Note 1 to entry: The materials of the *mixture* (3.20) that can be delivered by a truck mixer include cement, aggregate (sand, gravel, stone) and rock before processing.

3.1.1 rear discharge type truck mixer

truck mixer (3.1) where the *discharge device* (3.11) unloads the *mixture* (3.20) at the rear of the truck

Note 1 to entry: See [Annex A, Figures A.1](#) and [A.2](#).

3.1.2 front discharge type truck mixer

truck mixer (3.1) where the *discharge device* (3.11) unloads the *mixture* (3.20) at the front of the truck

Note 1 to entry: See [Annex A, Figure A.3](#).

3.1.3 semi-trailer mounted mixer

drum-shaped *truck mixer* (3.1) where the *mixer device* (3.2) is mounted on a semi-trailer chassis

Note 1 to entry: See [Annex A, Figure A.4](#).

3.2 mixer device

upper portion of *truck mixer* (3.1) (excluding the chassis) which is typically composed of a *drum* (3.3), *basic frame* (3.8), *drum drive* (3.12), *roller pedestal* (3.6), *drive pedestal* (3.7), *charge device* (3.10), *discharge device* (3.11) and *control device* (3.13)

3.3 drum

vessel for *mixing* (3.19), *agitating* (3.17) and discharging concrete or mortar

3.4 drum fin

spiral-shaped projection fitted inside the *drum* (3.3) that mixes, agitates and directs the *mixture* (3.20) out of the *drum* (3.3) for discharge

3.5 manhole hatch

access opening at the surface of the *drum* (3.3) which is fitted with a cover to allow the passage of authorized personnel for inspection and maintenance purposes

3.6 roller pedestal

support structure for the *drum* (3.3) at its open side where a *charge device* (3.10) and a *discharge device* (3.11) are fitted

3.7 drive pedestal

support structure for the *drum* (3.3) at its closed side where the *drum drive* (3.12) is fitted

3.8

basic frame

structure connecting the *roller pedestal* (3.6) and the *drive pedestal* (3.7) for attachment of the *mixer device* (3.2) to the chassis

Note 1 to entry: Certain types of *truck mixers* (3.1) are without a basic frame as the *roller pedestal* (3.6) and the *drive pedestal* (3.7) of the *mixer device* (3.2) are directly fixed to the truck chassis.

Note 2 to entry: See [Annex A, Figure A.2](#).

3.9

working platform

level surface on the *truck mixer* (3.1) for drum cleaning, maintenance and inspection

3.10

charge device

receptacle (e.g., hopper) that takes in the charged *mixture* (3.20) transitorily and charges it to the *drum* (3.3)

3.11

discharge device

components [specifically the *discharge hopper* (3.11.1) and *chute system* (3.11.2)] which receives and distributes the discharged *mixture* (3.20)

3.11.1

discharge hopper

receptacle that receives the discharged *mixture* (3.20) from the *drum* (3.3)

3.11.2

chute system

device(s) used to distribute the discharged *mixture* (3.20) to a desired location

Note 1 to entry: Components in a chute system typically can include a *swivel chute* (3.11.2.1) with *chute lock* (3.11.2.4), *flip-over chute* (3.11.2.2) and *extension chute(s)* (3.11.2.3).

3.11.2.1

swivel chute

conduit that can rotate and adjust vertically and swivel horizontally to deliver the discharged material to a desired location

Note 1 to entry: See [Annex B, Figure B.1](#).

3.11.2.2

flip-over chute

folded *extension chute* (3.11.2.3) which is attached to the end of the *swivel chute* (3.11.2.1)

3.11.2.3

extension chute

conduit which is attached to the end of the *swivel chute* (3.11.2.1) to deliver the *mixture* (3.20) to a desired distance

Note 1 to entry: Chute system can include storage location for extension chute(s).

3.11.2.4

chute lock

locking device capable of keeping the *swivel chute* (3.11.2.1) from unintended rotation

3.12

drum drive

energy transmission device for the rotation of the *drum* (3.3)

Note 1 to entry: This energy can be supplied by for example the truck engine PTO, a separate auxiliary engine, or an electrical drive.

3.13

control device

elements for the control of the *drum drive* (3.12)

Note 1 to entry: The control device is typically situated either in the cabin on the *front discharge type truck mixer* (3.1.2) or at the rear side of the *drum* (3.3) on the *rear discharge type truck mixer* (3.1.1).

3.14

water system

water delivery system used for cleaning the *truck mixer* (3.1)

Note 1 to entry: Components in the water system typically include water tank, pipes, hoses, valves and water pump.

Note 2 to entry: The water system can also be used to add water to the *mixture* (3.20) on the construction site.

3.15

rated drum capacity

maximum volume of *mixture* (3.20) the *truck mixer* (3.1) is designed for

Note 1 to entry: See [Figure 1](#).

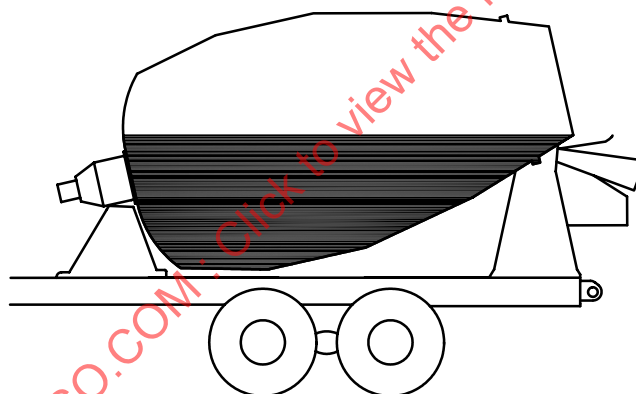


Figure 1 — Example for rated drum capacity

3.16

rated agitating capacity

maximum volume of *mixture* (3.20) that the *mixer device* (3.2) can slowly rotate without spillage

Note 1 to entry: See [Figure 2](#).

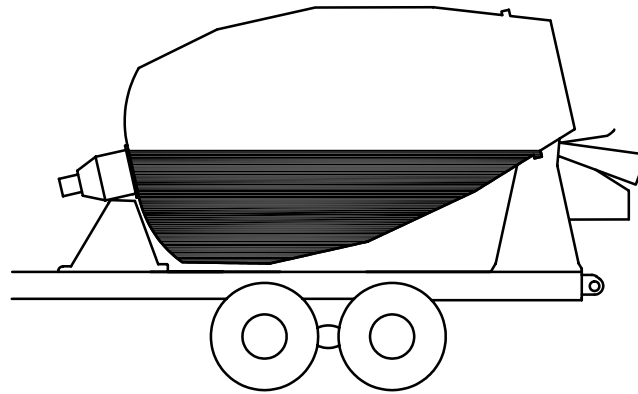


Figure 2 — Example for rated agitating capacity

3.17

agitating

rotating of the *mixer device* (3.2) slowly to maintain *mixture* (3.20) uniformity

3.18

rated mixing capacity

maximum volume of materials that the *mixer device* (3.2) can rotate without spillage at maximum rpm

Note 1 to entry: See [Figure 3](#).

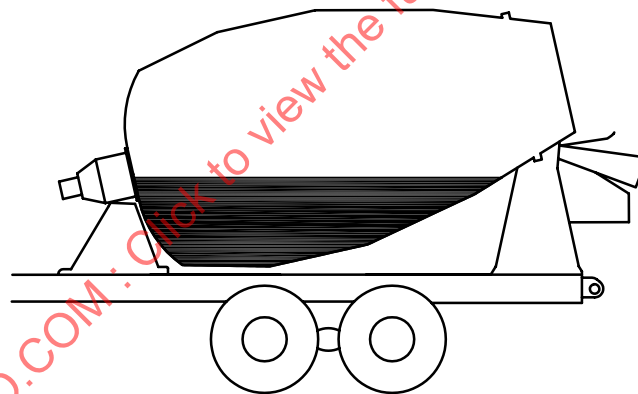


Figure 3 — Example for rated mixing capacity

3.19

mixing

rotating of the *mixer device* (3.2) to produce the *mixture* (3.20)

3.20

mixture

homogeneously mixed concrete or mortar

4 Commercial specifications

4.1 Specifications and dimensions of truck mixers

The following data shall be presented:

- a) mixer type

NOTE 1 Following truck mixer type, detailed specification can be added such as for mixing or agitating, direction of rotation, etc.

- b) rated drum capacity: m^3

NOTE 2 Following rated drum capacity, detailed specifications can be added such as for rated agitating capacity, rated mixing capacity, drum volume, etc.

- c) outside dimensions

- overall length of truck mixer: mm
- overall width of truck mixer: mm
- overall height of truck mixer: mm
- wheelbase: mm
- charge device height: mm
- chute end ground clearance: mm
- chute end maximum height from ground: mm

- d) complete vehicle kerb mass: kg

NOTE 3 Complete vehicle kerb mass is defined in ISO 1176:1990, 4.6.

NOTE 4 If chassis mass is not determined, it is not necessary to specify the complete vehicle kerb mass.

NOTE 5 The complete vehicle kerb mass includes auxiliary elements.

4.2 Specifications and dimensions of mixer device

The following data shall be presented:

- a) overall length of mixer device: mm
- b) overall width of mixer device: mm
- c) overall height of mixer device: mm
- d) drum type

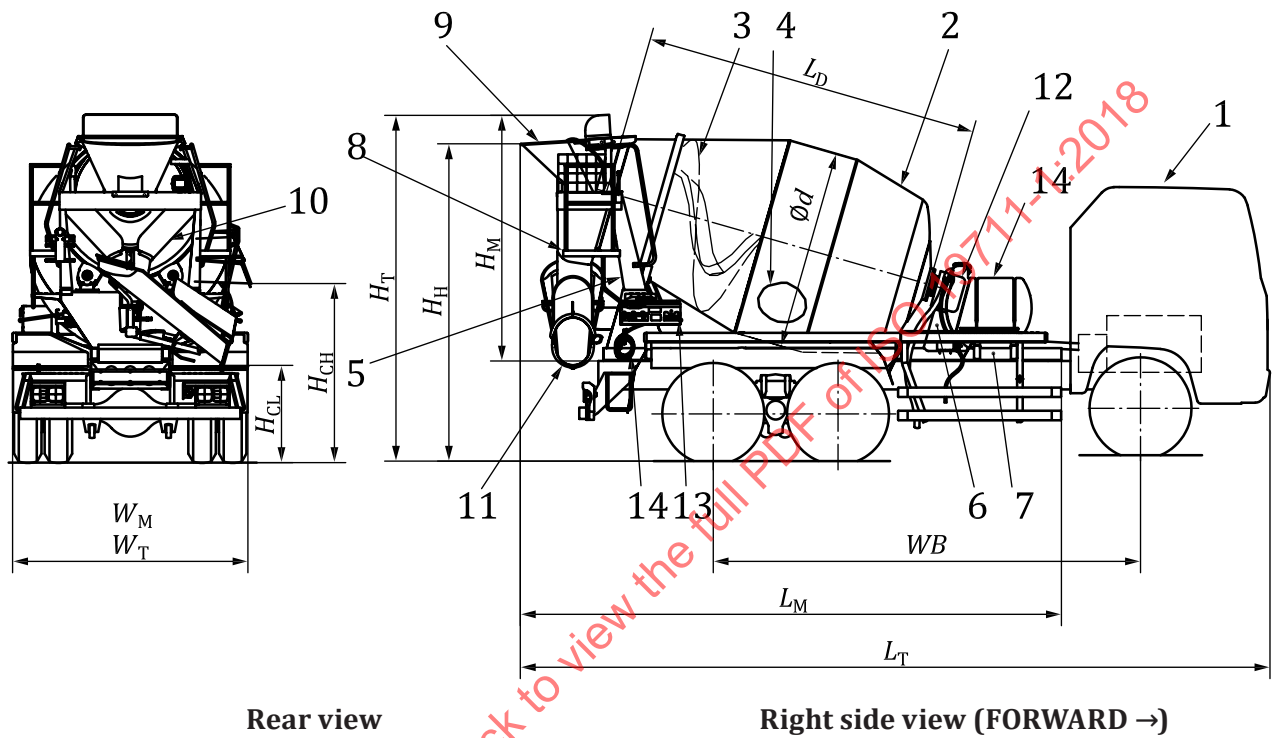
NOTE 1 Following drum type, detailed specification can be added such as for mixing, agitating and direction of rotation.

- e) maximum drum speed: min^{-1}
- f) drum length: mm
- g) drum diameter: mm
- h) type of drum drive: (hydraulic, electric or alternative)
- i) water tank capacity: L
- j) mixer device mass: kg

NOTE 2 The mixer device mass does not include any component used to travel on-road, for example, lighting, rear bumper, side guard, bridge axle etc.

Annex A (informative)

Examples of truck mixer structures and dimensions

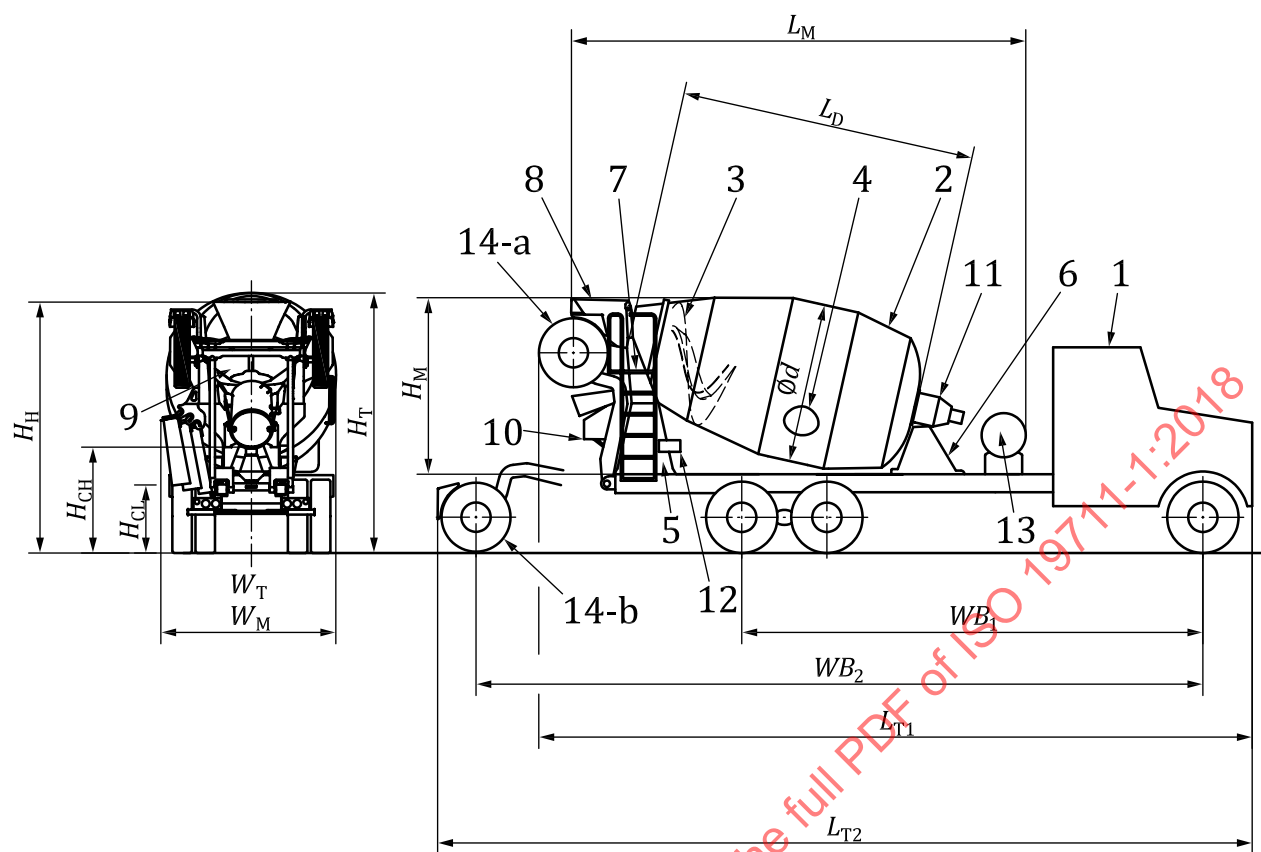


Key

- 1 truck chassis
- 2 drum
- 3 drum fin
- 4 manhole
- 5 roller pedestal
- 6 drive pedestal
- 7 basic frame
- 8 working platform
- 9 charge device
- 10 discharge hopper
- 11 chute system
- 12 drum drive
- 13 control device
- 14 water system

- L_T overall length of truck mixer
- W_T overall width of truck mixer
- H_T overall height of truck mixer
- L_M overall length of mixer device
- W_M overall width of mixer device
- H_M overall height of mixer device
- WB wheelbase
- L_D drum length
- d drum diameter
- H_H charge device height
- H_{CL} chute end ground clearance
- H_{CH} chute end maximum height from ground

Figure A.1 — Truck mixer (rear discharge type with basic frame)



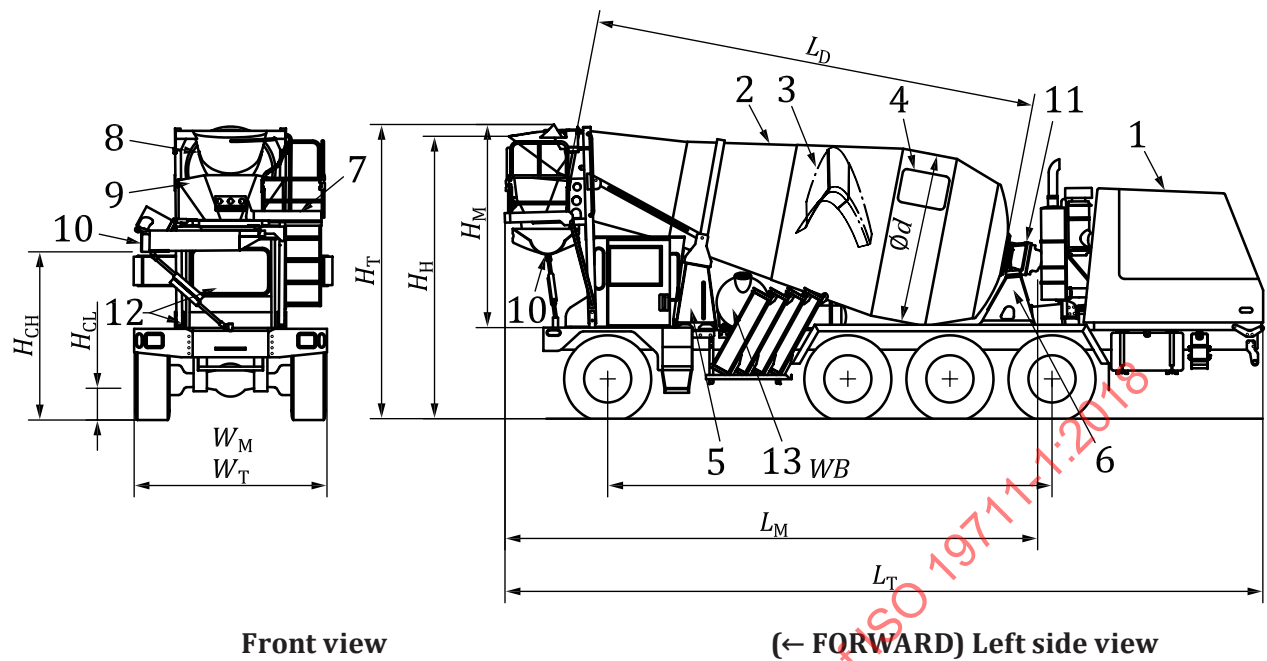
Rear view

Right side view (FORWARD →)

Key

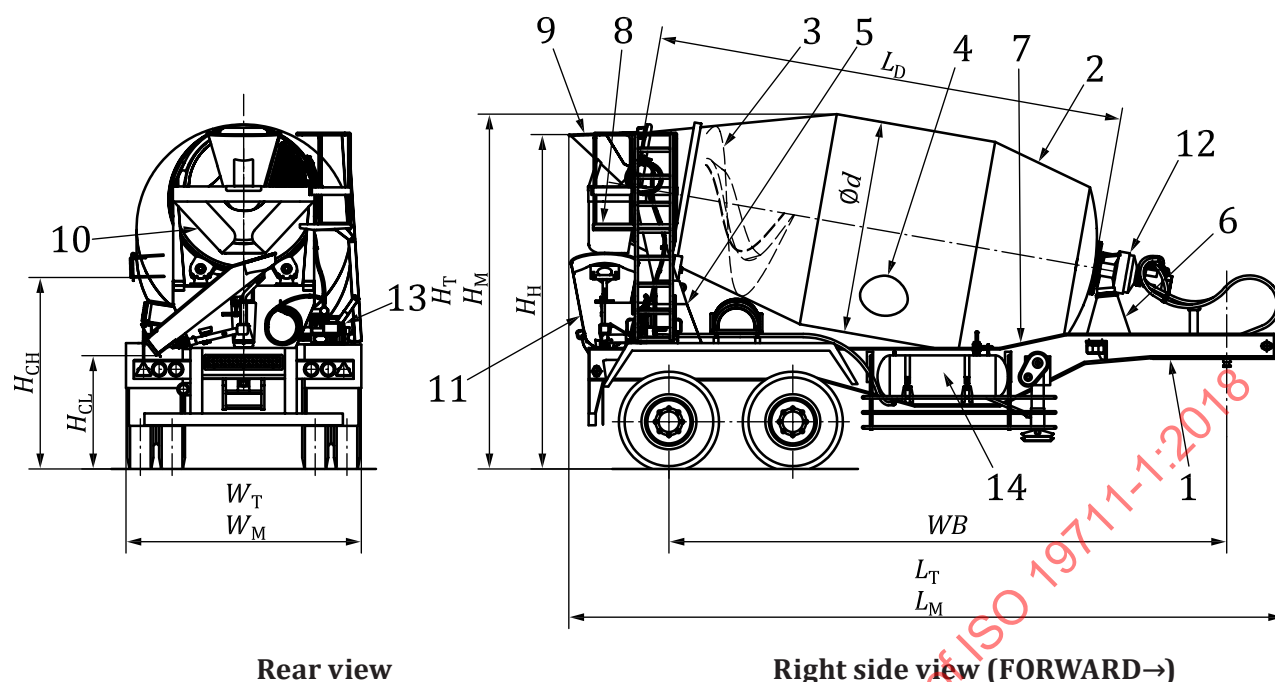
1	truck chassis	L_{T1}	overall length of truck mixer (unloaded)
2	drum	L_{T2}	overall length of truck mixer (loaded)
3	drum fin	W_T	overall width of truck mixer
4	manhole	H_T	overall height of truck mixer
5	roller pedestal	L_M	overall length of mixer device
6	drive pedestal	W_M	overall width of mixer device
7	working platform	H_M	overall height of mixer device
8	charge device	WB_1	wheelbase (unloaded)
9	discharge hopper	WB_2	wheelbase (loaded)
10	chute system	L_D	drum length
11	drum drive	d	drum diameter
12	control device	H_H	charge device height
13	water system	H_{CL}	chute end ground clearance
14-a	bridge axle (unloaded position)	H_{CH}	chute end maximum height from ground
14-b	bridge axle (loaded position)		

Figure A.2 — Truck mixer (rear discharge type with bridge axle and without basic frame)

**Key**

1	truck chassis	L_T	overall length of truck mixer
2	drum	W_T	overall width of truck mixer
3	drum fin	H_T	overall height of truck mixer
4	manhole	L_M	overall length of mixer device
5	roller pedestal	W_M	overall width of mixer device
6	drive pedestal	H_M	overall height of mixer device
7	working platform	WB	wheelbase
8	charge device	L_D	drum length
9	discharge hopper	d	drum diameter
10	chute system	H_H	charge device height
11	drum drive	H_{CL}	chute end ground clearance
12	control device (inside cab)	H_{CH}	chute end maximum height from ground
13	water system		

Figure A.3 — Truck mixer (front discharge type)



Key

- 1 semi-trailer chassis
- 2 drum
- 3 drum fin
- 4 manhole
- 5 roller pedestal
- 6 drive pedestal
- 7 basic frame
- 8 working platform
- 9 charge device
- 10 discharge hopper
- 11 chute system
- 12 drum drive
- 13 control device
- 14 water system

- L_T overall length of truck mixer
- W_T overall width of truck mixer
- H_T overall height of truck mixer
- L_M overall length of mixer device
- W_M overall width of mixer device
- H_M overall height of mixer device
- WB wheelbase
- L_D drum length
- d drum diameter
- H_H charge device height
- H_{CL} chute end ground clearance
- H_{CH} chute end maximum height from ground

Figure A.4 — Semi-trailer mounted mixer