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**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

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

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](http://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](#).

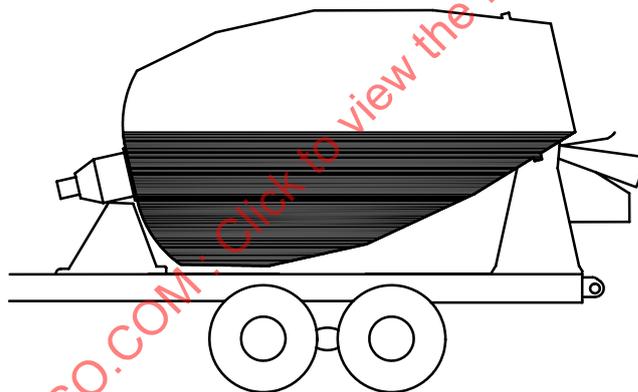


Figure 1 — Example for rated drum capacity

**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](#).

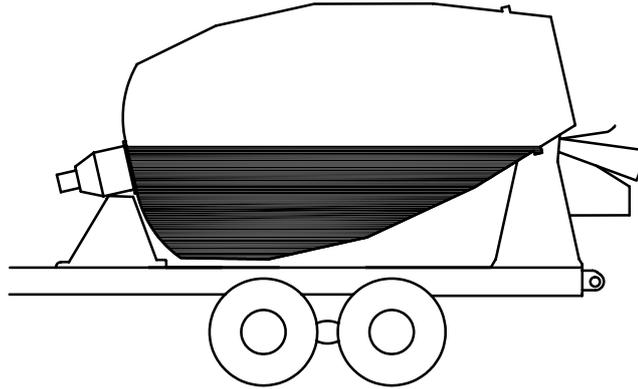


Figure 2 — Example for rated agitating capacity

### 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](#).

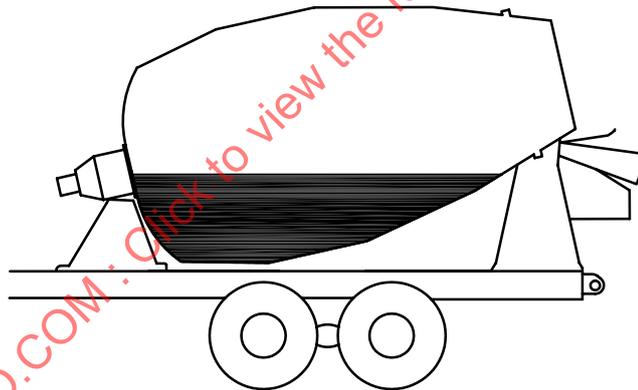


Figure 3 — Example for rated mixing capacity

### 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:  $\text{m}^3$

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

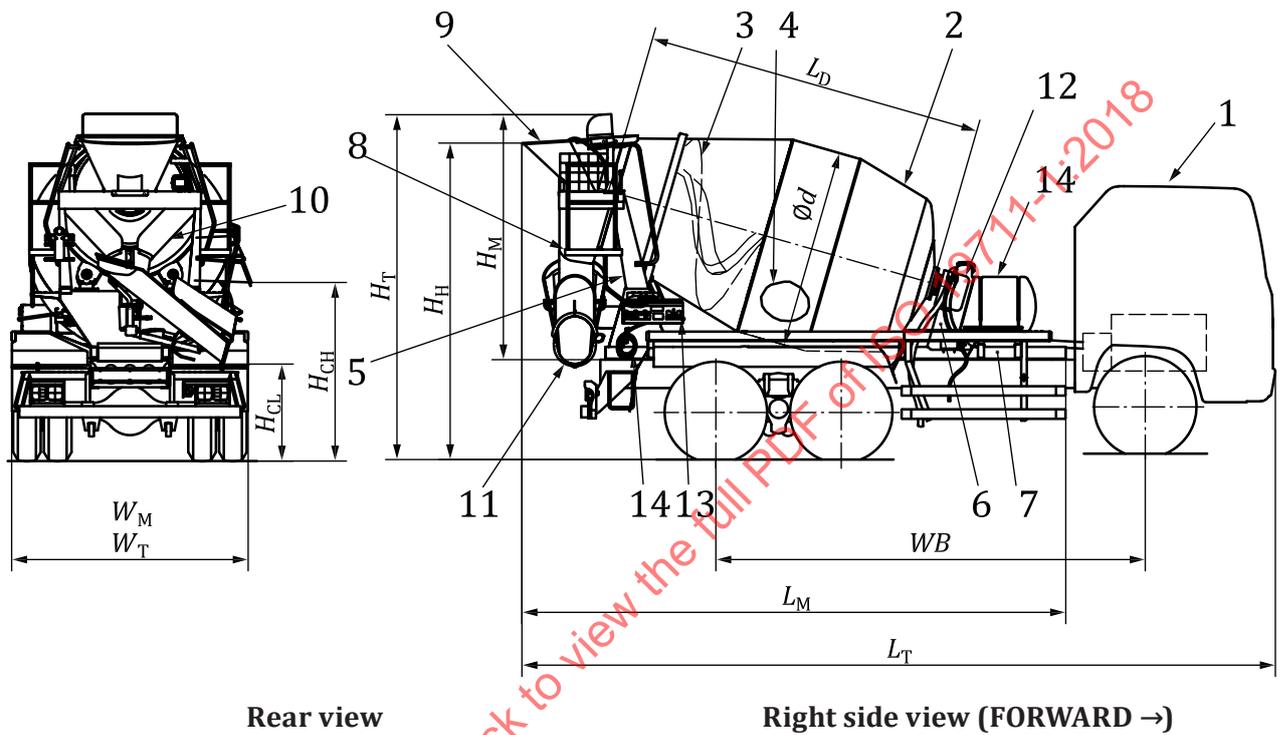
NOTE 1 Following drum type, detailed specification can be added such as for mixing, agitating and direction of rotation.

- e) maximum drum speed:  $\text{min}^{-1}$
- 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)

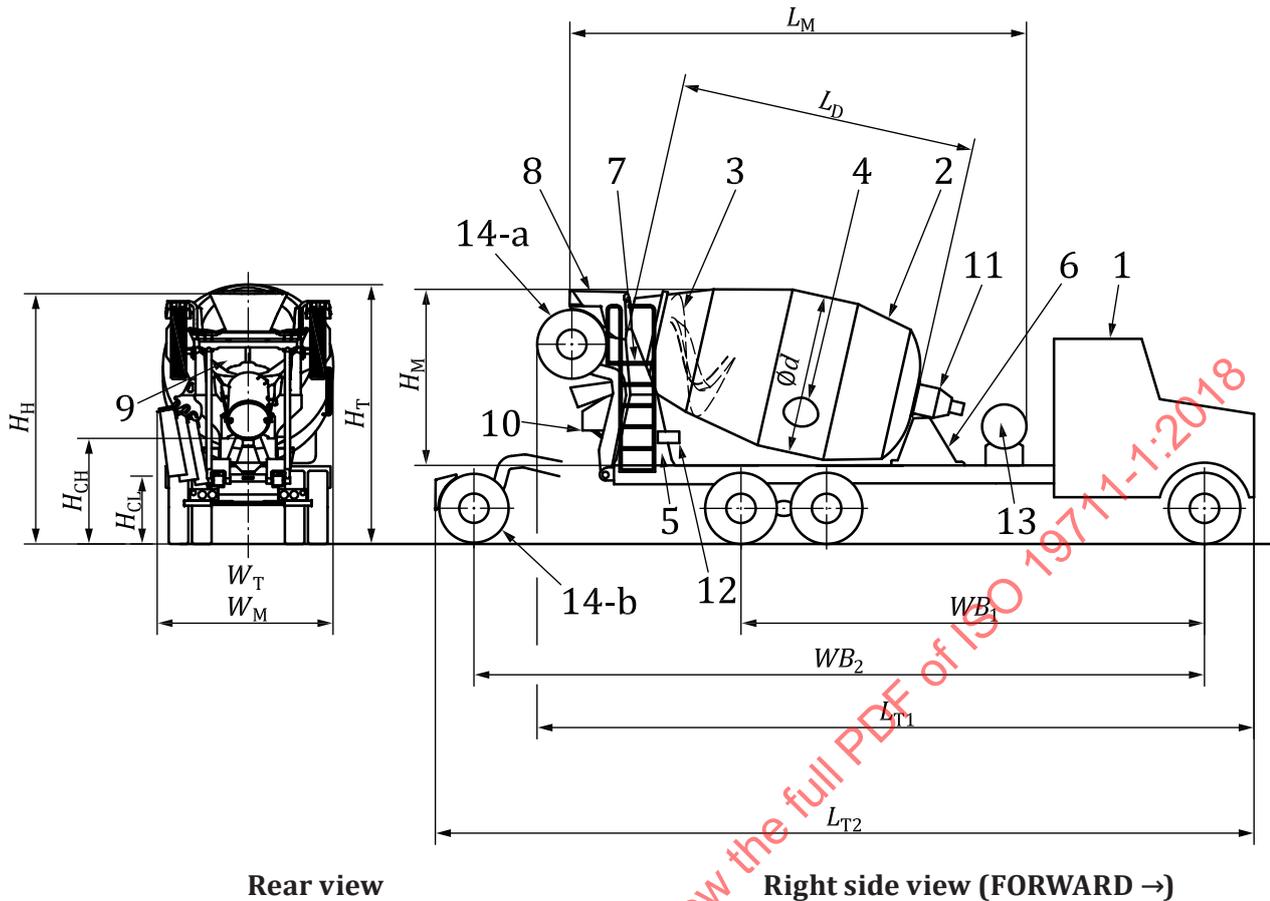
### Examples of truck mixer structures and dimensions



#### Key

1	truck chassis	$L_T$	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	basic frame	$WB$	wheelbase
8	working platform	$L_D$	drum length
9	charge device	$d$	drum diameter
10	discharge hopper	$H_H$	charge device height
11	chute system	$H_{CL}$	chute end ground clearance
12	drum drive	$H_{CH}$	chute end maximum height from ground
13	control device		
14	water system		

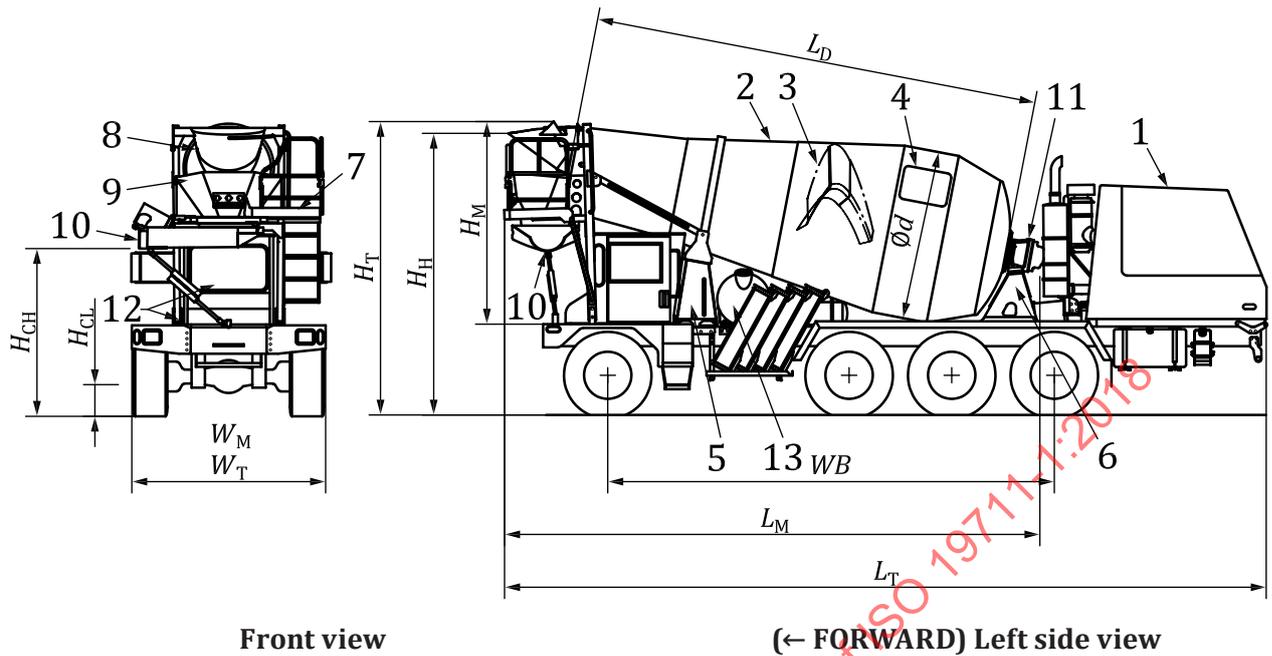
Figure A.1 — Truck mixer (rear discharge type with basic frame)



**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)   |          |  |

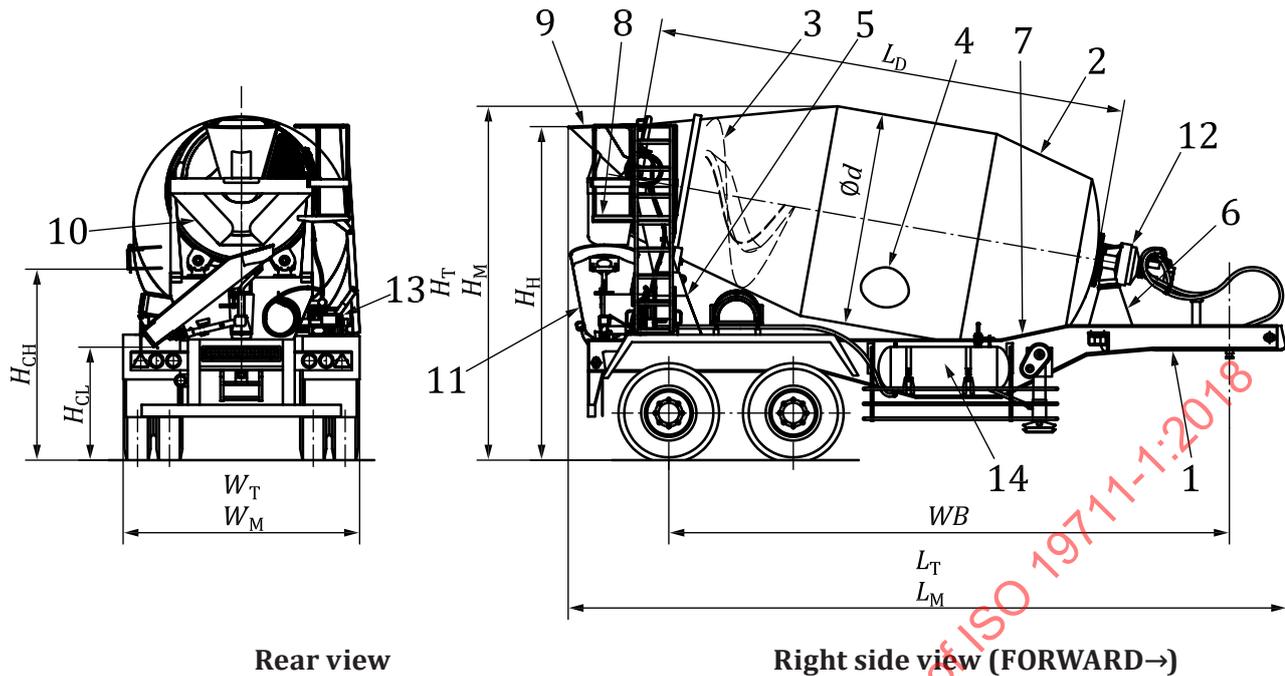
**Figure A.2 — Truck mixer (rear discharge type with bridge axle and without basic frame)**



**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)**



Rear view

Right side view (FORWARD→)

**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**