

## ECLA EUROPEAN CLASSIFICATION

### B65G

**TRANSPORT OR STORAGE DEVICES, e.g. CONVEYERS FOR LOADING OR TIPPING; SHOP CONVEYER SYSTEMS; PNEUMATIC TUBE CONVEYERS** ([N: preventing fire in special objects or places [A62C3/00](#)]; transport or storage devices used in a particular handling or treatment of articles or materials, see the relevant subclass, e.g. in metal-working [B21D43/00](#), [B23Q7/00](#), [B23Q41/02](#); vehicle, railway, sea or aircraft aspects B60 to B64; in packaging B65B; handling thin or filamentary materials B65H; hoisting, lifting, hauling, e.g. truck loaders B66; handling liquids B67; [N: transport or storage containers for preparing or distributing road building materials E01C; construction or assembling of bulk storage containers employing civil engineering techniques in site or off the site [E04H7/00](#)]; specially adapted to underground conditions in mines [E21F13/00](#); storing or distributing gases or liquids F17; in handling radioactive materials [G21C19/00](#))

[N: **WARNING**  
[C0903]

- The following IPC groups are not used in the internal ECLA classification scheme. Subject matter covered by these groups is classified in the following groups:

<a href="#">B65G33/28</a>	covered by	<a href="#">B65G33/26B</a>
<a href="#">B65G47/10</a>	covered by	<a href="#">B65G1/137D</a>
<a href="#">B65G47/86</a>	covered by	<a href="#">B65G47/84A2</a> , <a href="#">B65G47/84B2</a>
<a href="#">B65G49/07</a>	covered by	<a href="#">H01L21/677</a>
<a href="#">B65G69/32</a>	covered by	<a href="#">B65G69/28</a>
<a href="#">B65G69/34</a>	covered by	<a href="#">B65G69/28</a>

]

**Guide heading:** **Storing; Storage devices**

### B65G1/00

**Storing articles, individually or in orderly arrangement, in warehouses or magazines** (conveyer combinations in warehouses, magazines, or workshops [B65G37/00](#); stacking of articles [B65G57/00](#); removing articles from stacks [B65G59/00](#); loading machines [B65G65/02](#); arrangements of articles for drying or baking in kilns or ovens [F26](#); [F27](#))

[N: **Note**  
group [B65G1/04D](#) takes precedence over the other groups, except over [B65G1/08](#)  
]

### B65G1/02

- Storage devices (furniture, shop fittings, table equipment [A47B](#), [A47E](#), [A47G](#); mechanical garages [E04H](#); for data record cards in association with machines for making or sensing data [G06K](#); coin changers or sorters [G07D](#); coin-free apparatus [G07F](#)) [N: pallets [B65D19/00](#)]

### B65G1/02A

- [N: Arrangements of article supporting rollers on racks]

### B65G1/02B

- [N: Racks equipped with a displaceable load carrying surface to facilitate loading or unloading] [N9506]

### B65G1/04

- mechanical

- B65G1/04B . . . [N: using stacker cranes (constructional features of stacker cranes [B66F9/06](#))]
- B65G1/04B2 . . . . [N: provided with satellite cars adapted to travel in storage racks]
- B65G1/04B4 . . . . [N: with control for stacker crane operations]
- B65G1/04B6 . . . . [N: Transfer means for the stacker crane between the alleys]
- B65G1/04B8 . . . . [N: with pulling or pushing means on either stacking crane or stacking area]
- B65G1/04D . . . . [N: for elongated articles (drill pipe racking [E21B19/14](#))]
- B65G1/04F . . . . [N: in a circular arrangement, e.g. towers]
- B65G1/04H . . . . [N: with suspended load carriers]
- B65G1/04J . . . . [N: with access from above]
- B65G1/04L . . . . [N: with access from beneath]
- B65G1/04M . . . . [N: for matrix-arrangements]
- B65G1/04N . . . . [N: Check-in, check-out devices]
- B65G1/04R . . . . [N: with cars adapted to travel in storage aisles]
- B65G1/06 . . . . with means for presenting articles for removal at predetermined position or level ([B65G1/12](#) takes precedence)
- B65G1/06D . . . . . [N: with self propelled cars]
- B65G1/07 . . . . . the upper article of a pile being always presented at the same predetermined level
- B65G1/08 . . . . . the articles being fed by gravity [N: braking arrangements for roller-ways [B65G13/00B](#); separating or stopping elements [B65G47/88](#)]
- B65G1/10 . . . . . with relatively movable racks to facilitate insertion or removal of articles [N: cabinets with means for moving compartments up and down [A47B51/00](#); cabinet system, e.g. consisting of cabinets arranged in a row with means to open or close passages between adjacent cabinets [A47B53/02](#)]
- B65G1/12 . . . . . with [N: separate] article supports or holders movable in a closed circuit to facilitate insertion or removal of articles [N: the articles being books, documents, forms or the like]
- B65G1/127 . . . . . the circuit being confined in a vertical plane
- B65G1/133 . . . . . the circuit being confined in a horizontal plane
- B65G1/137 . . . . . with arrangements or automatic control means for selecting which articles are to be removed (devices for feeding articles to conveyers from several groups of articles [B65G47/10](#))
- B65G1/137B . . . . . [N: with data records]
- B65G1/137D . . . . . [N: for fulfilling orders in warehouses]
- B65G1/137D2 . . . . . . [N: the orders being assembled on a commissioning stacker-crane or truck] [N0009]
- B65G1/137D4 . . . . . . [N: the orders being assembled on a commissioning conveyor] [N0009]
- B65G1/137D6 . . . . . . [N: the orders being assembled on fixed commissioning areas remote from the storage areas] [N0009]
- B65G1/14 . . . . . Stack holders or separators
- B65G1/16 . . . . . Special arrangements of articles in storage spaces
- B65G1/18 . . . . . Articles inclined so as to be mutually self-supporting
- B65G1/20 . . . . . Articles arranged in layers with spaces between articles

**B65G3/00** **Storing bulk material or loose, i.e. disorderly, articles (filling or emptying storage spaces or containers, spreading out or piling up bulk material or loose articles** [B65G65/28](#), [B65G65/30](#), [B65G69/04](#) [N: [B65G63/00](#); storing agricultural or horticultural

produce [A01F25/00](#)])

[B65G3/02](#) . in the open air ([B65G3/04](#) takes precedence)

[B65G3/04](#) . in bunkers, hoppers, or like containers

**[B65G5/00](#)** **Storing fluids in natural or artificial cavities or chambers in the earth** (modification of mine passages or chambers for storage purposes, especially for fluids [E21F17/16](#))

[N: **Note**

When the cavity or chamber is lined documents are classified in [F17C3/00B](#)

]

[B65G5/00B](#) . [N: in porous layers]

**Guide heading:**

**Devices assisting manual conveyance of articles over short distances, e.g. in storage depots, warehouses or factories** ([chutes B65G11/00](#); [roller-ways B65G13/00](#); [luggage carriers A45C13/38](#); [holders or carriers for hand articles or for use while travelling or camping A45F5/00](#); [vehicles in general, axles, wheels B60](#); [air-cushion vehicles B60V](#); [handcarts, sledges, features of hand-propelled wheeled devices or pedestrian-controlled, power-driven vehicles equally applicable to handcarts B62B](#); [ship-moving devices B63C, E02C](#); [containers, pallets B65D](#); [air-cushions as bearing elements F16C29/00](#))

**[B65G7/00](#)** **Devices for moving or tilting heavy loads** (for tilting and emptying barrels or casks [B65G65/24](#))

[B65G7/02](#) . Devices adapted to be interposed between loads and the ground or floor, e.g. crowbars with means for assisting conveyance of loads ([crowbars per se B66F15/00](#))

[B65G7/04](#) . . Rollers

[B65G7/06](#) . . using fluid at high pressure supplied from an independent source to provide a cushion between load and ground [N: conveying articles over a flat surface by jets located in the surface [B65G51/00](#)]

[B65G7/08](#) . . for tilting the loads

[B65G7/10](#) . . for rolling cylindrical loads

[B65G7/12](#) . Load carriers, e.g. hooks, slings, harness, gloves, modified for load carrying

**[B65G9/00](#)** **Apparatus having suspended load carriers movable by hand or gravity** (manually-operated endless-rope or chain conveyers [B65G17/00](#); railway systems [B61B](#))

[B65G9/00B](#) . [N: Load-carriers, rollers therefor] [N0607]

[B65G9/00G](#) . [N:Loading or unloading arrangements] [N0607]

[B65G9/00M](#) . [N: Arresting, braking or escapement means] [N0607]

[B65G9/00P](#) . [N: Rails or switches] [N0607]

- Guide heading:** **Chutes; Kinds or types of conveyers; Constructional features, details, or auxiliary devices peculiar to conveyers of particular types** ([feeding or discharging conveyers by devices incorporated in or operatively associated with conveyers B65G47/00](#); [loading or unloading B65G65/00](#); [escalators or moving walkways B66B21/00](#); [drag-line scraper conveyers E02F3/46](#))
- B65G11/00** **Chutes** (used as storage devices [B65G1/02](#), [B65D88/26](#); for sports, games, or amusements [A63G21/00](#); for refuse disposal in buildings [E04F17/12](#))
- B65G11/02 . of straight form
  - B65G11/02A . . [N: for articles] [N0210]
  - B65G11/02B . . [N: for bulk] [N0210]
  - B65G11/04 . for mail in buildings
  - B65G11/06 . of helical or spiral form
  - B65G11/06A . . [N: for articles] [N0210]
  - B65G11/06B . . [N: for bulk] [N0210]
  - B65G11/08 . with discontinuous guiding surfaces, e.g. arranged in zigzag or cascade formation
  - B65G11/08A . . [N: for articles ([B65G11/08Z](#) takes precedence)] [N0210]
  - B65G11/08B . . [N: for bulk ([B65G11/08Z](#) takes precedence)] [N0210]
  - B65G11/08Z . . [N: with zig-zag formations]
  - B65G11/08Z1 . . . [N: for articles] [N0210]
  - B65G11/08Z3 . . . [N: for bulk] [N0210]
  - B65G11/10 . flexible
  - B65G11/10A . . [N: for articles] [N0210]
  - B65G11/10B . . [N: for bulk] [N0210]
  - B65G11/12 . pivotable
  - B65G11/12A . . [N: for articles] [N0210]
  - B65G11/12B . . [N: for bulk] [N0210]
  - B65G11/14 . extensible, e.g. telescopic
  - B65G11/14A . . [N: for articles] [N0210]
  - B65G11/14B . . [N: for bulk] [N0210]
  - B65G11/16 . Interior surfaces; Linings
  - B65G11/16A . . [N: for articles] [N0210]
  - B65G11/16B . . [N: for bulk] [N0210]
  - B65G11/18 . Supports or mountings
  - B65G11/18A . . [N: for articles] [N0210]
  - B65G11/18B . . [N: for bulk] [N0210]
  - B65G11/20 . Auxiliary devices, e.g. for deflecting, controlling speed of, or agitating articles or solids

- B65G11/20A . . [N: for articles] [N0210]
- B65G11/20B . . [N: for bulk] [N0210]
  
- B65G13/00** **Roller-ways** (storage devices comprising roller-ways [B65G1/02](#); endless-chain conveyers comprising load-supporting rollers [B65G17/00](#); rollers, or arrangements thereof [B65G39/00](#); feeding or discharging conveyers by devices incorporated in, or operatively associated with, conveyers [B65G47/00](#), [N: e.g. by roller-ways as accumulating devices [B65G47/26B](#)]; in metal-rolling equipment [B21B39/00](#), [B21B41/00](#)) [[C0909](#)]
  
- B65G13/02 . having driven rollers
- B65G13/04 . . all rollers driven
- B65G13/06 . . Roller driving means
- B65G13/06A . . . [N: with displacement of the roller]
- B65G13/07 . . . having endless driving elements
- B65G13/071 . . . with frictional engagement
- B65G13/073 . . . comprising free-wheel gearing
  
- B65G13/075 . Braking means
  
- B65G13/08 . of curved form; with branch-offs
- B65G13/10 . . Switching arrangements
  
- B65G13/11 . Roller frames
- B65G13/12 . . adjustable
  
- B65G15/00** **Conveyers having endless load-conveying surfaces, i.e. belts and like continuous members, to which tractive effort is transmitted by means other than endless driving elements of similar configuration** (having load-conveying surfaces formed by interconnected longitudinal links [B65G17/06](#))
  
- B65G15/00A . [N: the surface being formed by one rope]
  
- B65G15/02 . for conveying in a circular arc
  
- B65G15/04 . the load being carried on the lower run of the endless surface
  
- B65G15/06 . with oppositely-moving parts of the endless surface located in the same plane and parallel to one another
  
- B65G15/08 . the load-carrying surface being formed by a concave or tubular belt, e.g. a belt forming a trough
  
- B65G15/10 . comprising two or more co-operating endless surfaces with parallel longitudinal axes, or a multiplicity of parallel elements, e.g. ropes defining an endless surface
- B65G15/10A . . [N: the surface being formed by two or more ropes]
- B65G15/12 . . with two or more endless belts
- B65G15/14 . . . the load being conveyed between the belts [N: [B65G15/18](#), [B65G15/20](#) take precedence]

- B65G15/16 . . . . between an auxiliary belt and a main belt
- B65G15/18 . . . the belts being sealed at their edges ([endless-surface conveyers having a single belt with sealed edges B65G15/08](#))
- B65G15/20 . . . arranged side-by-side, e.g. for conveyance of flat articles in vertical position ([for conveying sheets or like thin flat articles B65H](#))
- B65G15/22 . comprising a series of co-operating units
- B65G15/24 . . in tandem
- B65G15/26 . . extensible, e.g. telescopic [[N: adjustment of length or configuration of load-carrier B65G21/14](#)]
- B65G15/28 . Conveyers with a load-conveying surface formed by a single flat belt, not otherwise provided for
- B65G15/30 . Belts or like endless load-carriers ([co-operating with rails or the like B65G21/22](#); [with rollers B65G39/20](#); [belts in general F16G](#)) [[N: belt fastenings F16G3/00](#)]
- B65G15/32 . . made of rubber or plastics
- B65G15/34 . . . with reinforcing layers, e.g. of fabric
- B65G15/36 . . . . the layers incorporating ropes, chains, or rolled steel sections
- B65G15/38 . . . with flame-resistant layers, e.g. of asbestos, glass
- B65G15/40 . . . troughed or tubular; formed with joints facilitating troughing
- B65G15/42 . . . having ribs, ridges, or other surface projections
- B65G15/44 . . . . for impelling the loads
- B65G15/46 . . . formed with guides
- B65G15/48 . . metallic
- B65G15/50 . . Endless load-carriers consisting of a series of parallel ropes or belt strips
- B65G15/52 . . . interconnected by transverse slats
- B65G15/54 . . Endless load-carriers made of interwoven ropes or wires
- B65G15/56 . . with edge-protecting or reinforcing means
- B65G15/58 . . with means for holding or retaining the loads in fixed position, e.g. magnetic
- B65G15/60 . Arrangements for supporting or guiding belts, e.g. by fluid jets ([constructions of rollers or supports therefor B65G39/00](#) [[N: F16C13/00](#)])
- B65G15/62 . . Guides for sliding belts
- B65G15/64 . . for automatically maintaining the position of the belts
- B65G17/00** **Conveyers having an endless traction element, e.g. a chain, transmitting movement to a continuous or substantially continuous load-carrying surface or to a series of individual load-carriers; Endless-chain conveyers in which the chains form the load-carrying surface (railway systems, detachable load-carriers on rails B61B; escalators or paternosters neither combined nor associated with loading or unloading apparatus B66B9/00)**
- B65G17/00B . [[N: comprising load carriers resting on the traction element](#)]
- B65G17/00D . [[N: comprising individual load carriers which are movably mounted \(B65G17/16 takes precedence\)](#)]
- B65G17/00F . [[N: for conveying the load on the lower run or on both upper and lower runs of the](#)

- conveyor] [N9706]
- B65G17/02 . comprising a load-carrying belt attached to or resting on the traction element
  - B65G17/04 . . the belt having loops forming load-receiving pockets
  - B65G17/06 . having a load-carrying surface formed by a series of interconnected e.g. longitudinal, links, plates, or platforms
  - B65G17/06B . . [N: the load carrying surface being formed by profiles, rods, bars, rollers or the like attached to a single traction element ([B65G17/24](#) takes precedence)]
  - B65G17/06B2 . . . [N: the profiles, rods, bars, rollers or the like being interconnected by a mesh or grid-like structure]
  - B65G17/06D . . [N: the load carrying surface being formed by profiles, rods, bars, rollers or the like attached to more than one traction element ([B65G17/24](#) takes precedence)]
  - B65G17/06D2 . . . [N: the profiles, rods, bars, rollers or the like being interconnected by a mesh or grid-like structure]
  - B65G17/06F . . [N: the load carrying surface being formed by plates or platforms attached to a single traction element]
  - B65G17/06F2 . . . [N: specially adapted to follow a curved path (for individual load carriers [B65G17/22](#))]
  - B65G17/06G . . [N: the load carrying surface being formed by plates or platforms attached to more than one traction element]
  - B65G17/06G2 . . . [N: specially adapted to follow a curved path (for individual load carriers [B65G17/22](#))]
  - B65G17/08 . . the surface being formed by the traction element
  - B65G17/08B . . . [N: the surface being formed by profiles, rods, bars, rollers or the like]
  - B65G17/08D . . . [N: specially adapted to follow a curved path (for individual load carriers [B65G17/22](#))]
  - B65G17/10 . . the surface forming a longitudinal trough
  - B65G17/12 . comprising a series of individual load-carriers fixed, or normally fixed, relative to traction element
  - B65G17/12B . . [N: arranged to keep the load-carriers horizontally during at least a part of the conveyer run]
  - B65G17/12D . . [N: Bucket elevators]
  - B65G17/14 . . with two spaced connections to traction element
  - B65G17/16 . comprising individual load-carriers which are pivotally mounted, e.g. for free-swinging movement (guides inverting or tilting load-carriers for emptying [N: [B65G47/38](#); [B65G17/20](#) takes precedence])
  - B65G17/18 . . and move in contact with a guiding surface
  - B65G17/20 . comprising load-carriers suspended from overhead traction chains
  - B65G17/22 . with oppositely-moving parts of the conveyer located in a common plane [N: and being formed by individual load carriers only]
  - B65G17/24 . comprising a series of rollers which are moved [N: e.g. over a supporting surface, by the traction element to effect conveyance of loads or load-carriers]
  - B65G17/26 . comprising a series of co-operating units, e.g. inter-connected by pivots

- B65G17/28 . . . extensible, e.g. telescopic [N: adjustment of length or configuration of traction element [B65G21/14](#)]
- B65G17/30 . Details; Auxiliary devices (belts [B65G15/30](#); framework [B65G21/00](#))
- B65G17/32 . . . Individual load-carriers (control [B65G17/48](#))
- B65G17/32B . . . . [N: Grippers, e.g. suction or magnetic]
- B65G17/32C . . . . [N: Clamps, constituted by articulated chain links]
- B65G17/34 . . . . having flat surfaces, e.g. platforms, grids, forks
- B65G17/34C . . . . . [N: the surfaces being equipped with a conveyer]
- B65G17/36 . . . . having concave surfaces, e.g. buckets
- B65G17/36B . . . . . [N: having open bottom buckets]
- B65G17/38 . . . Chains or like traction elements (chains in general [F16G](#)); Connections between traction elements and load carriers
- B65G17/38B . . . . [N: adapted to follow three-dimensionally curved paths]
- B65G17/40 . . . . Chains acting as load-carriers
- B65G17/42 . . . . Attaching load carriers to traction elements
- B65G17/44 . . . . . by means excluding relative movements
- B65G17/46 . . . Means for holding or retaining the loads in fixed position on the load-carriers, e.g. magnetic
- B65G17/48 . . . Controlling attitudes of load-carriers during movement [N: [B65G17/18](#) takes precedence]; (guides [B65G21/20](#); inverting or tilting load carriers to discharge contents [B65G47/38](#))
- B65G17/48B . . . . [N: the load carriers being suspended]
  
- B65G19/00** **Conveyers comprising an impeller or a series of impellers carried by an endless traction element and arranged to move articles or materials over a supporting surface or underlying material, e.g. endless scraper conveyers**
  
- B65G19/02 . . . for articles, e.g. for containers
- B65G19/02B . . . . [N: for suspended articles]
  
- B65G19/04 . . . for moving bulk material in open troughs or channels
- B65G19/06 . . . . the impellers being scrapers similar in size and shape to the cross-section of the trough or channel
- B65G19/08 . . . . . and attached to a single belt, rope or chain
- B65G19/10 . . . . . and attached to a pair of belts, ropes or chains
- B65G19/12 . . . . the impellers being plates having an area substantially smaller than that of the trough of channel cross-section
  
- B65G19/14 . . . for moving bulk material in closed conduits, e.g. tubes
- B65G19/16 . . . . the impellers being elements having an area substantially smaller than that of the conduit cross-section
- B65G19/16B . . . . . [N: the impellers being endless helical springs] [N9706]
  
- B65G19/18 . . . Details
- B65G19/18B . . . . [N: for article conveyers, e.g. for container conveyers ([B65G19/20](#), [B65G19/22](#); [B65G29/28](#) take precedence)]

- B65G19/20 . . Traction chains, ropes, or cables
- B65G19/20B . . . [N: for article conveyers, e.g. for container conveyers]
- B65G19/22 . . Impellers, e.g. push-plates, scrapers; Guiding means therefor
- B65G19/22B . . . [N: for article conveyers, e.g. for container conveyers ([B65G19/24](#) takes precedence)]
- B65G19/24 . . . Attachment of impellers to traction element
- B65G19/24B . . . . [N: for article conveyers, e.g. for container conveyers ([B65G19/26](#) takes precedence)]
- B65G19/26 . . . . pivotal
- B65G19/26B . . . . . [N: for article conveyers, e.g. for container conveyers]
- B65G19/28 . . Troughs, channels, or conduits
- B65G19/28B . . . [N: for article conveyers, e.g. for container conveyers ([B65G19/30](#) takes precedence)]
- B65G19/28D . . . [N: with detachable or replaceable parts, e.g. replaceable wear channels ([B65G19/28B](#) takes precedence)]
- B65G19/28F . . . [N: Coupling means for trough sections ([B65G19/28B](#) takes precedence)]
- B65G19/30 . . . with supporting surface modified to facilitate movement of loads, e.g. friction reducing devices
- B65G19/30B . . . . [N: for article conveyers, e.g. for container conveyers]
- B65G19/30B2 . . . . . [N: the supporting surface being provided with rollers]
  
- B65G21/00** **Supporting or protective framework or housings for endless load-carriers or traction elements of belt or chain conveyers** ([N: for load-carriers in jiggling conveyers [B65G27/08](#)]; supporting framework or bases for conveyers as a whole [B65G41/00](#))
  
- B65G21/00B . . [N: for conveyers floating on liquids] [N9706]
  
- B65G21/02 . . consisting essentially of struts, ties, or like structural elements
- B65G21/04 . . . the ties being formed by longitudinal cables or ropes
- B65G21/06 . . . constructed to facilitate rapid assembly or dismantling
  
- B65G21/08 . . Protective roofs or arch supports therefor
  
- B65G21/10 . . movable, or having interchangeable or relatively movable parts; Devices for moving framework or parts thereof
  
- B65G21/10B . . . [N: having demountable driving or return heads] [N9506]
- B65G21/12 . . . to allow adjustment of position of load-carrier or traction element as a whole
- B65G21/14 . . . to allow adjustment of length or configuration of load-carrier or traction element ([varying speed of conveyance by adjusting configuration of load-carrier B65G23/00](#); [N: tensioning arrangement for belt or chain [B65G23/44](#)])
  
- B65G21/16 . . for conveyers having endless load-carriers movable in curved paths
- B65G21/18 . . . in three-dimensionally curved paths
  
- B65G21/20 . . Means incorporated in, or attached to, framework or housings for guiding [N: or retaining] load-carriers, traction elements or loads supported on moving surfaces ([arrangements for supporting belts B65G15/60](#); [N: details of chain conveyers [B65G17/30](#)]; [rollers or roller arrangements B65G39/00](#); [F16G](#))

- B65G21/20B . . [N: Magnetic retaining means]
  - B65G21/20B1 . . . [N: for retaining the load on the load-carrying surface, (retaining loads by magnetic load-carriers, e.g. belts [B65G15/58](#), chains [B65G17/46](#); individual magnetic grippers [B65G17/32B](#))]
  - B65G21/20C . . [N: Suction retaining means]
  - B65G21/20C1 . . . [N: for retaining the load on the load-carrying surface (individual suction grippers [B65G17/32B](#))]
  - B65G21/20D . . [N: Mechanical means for guiding or retaining the load on the load-carrying surface]
  - B65G21/20D1 . . . [N: comprising elements movable in the direction of load-transport]
  - B65G21/20D2 . . . [N: comprising elements not movable in the direction of load-transport]
  - B65G21/20D2B . . . . [N: Lateral guidance means]
  - B65G21/20D2B1 . . . . . [N: for bulk material, e.g. skirts]
  - B65G21/20D2C . . . . [N: for augmenting or creating a pressure force between the load and the load-carrying surface]
  - B65G21/22 . . Rails or the like engaging sliding elements or rollers attached to load-carriers or traction elements
- B65G23/00** **Driving gear for endless conveyers [N: control devices (for conveyers in general [B65G43/00](#))]**; **Belt or chain tensioning arrangements**
- B65G23/02 . Belt- or chain-engaging elements
  - B65G23/04 . . Drums, rollers, or wheels [N: [23/18](#) takes precedence]
  - B65G23/06 . . . with projections engaging abutments on belts or chains, e.g. sprocket wheels
  - B65G23/08 . . . with self-contained driving mechanisms, e.g. motors and associated gearing
  - B65G23/10 . . . arranged intermediate the ends of the conveyers
  - B65G23/12 . . . Arrangements of co-operating drums or rollers to augment tractive effort applied to the belts
  - B65G23/14 . . Endless driving elements extending parallel to belt or chain [N: [B65G23/18](#) takes precedence]
  - B65G23/16 . . . with dogs engaging abutments on belts or chains
  - B65G23/18 . . Suction or magnetic elements
  - B65G23/19 . . . Suction elements
  - B65G23/20 . . Screws
  - B65G23/22 . Arrangements or mountings of driving motors [N: ([B65G23/08](#) takes precedence)]
  - B65G23/23 . . of electric linear motors
  - B65G23/24 . Gearing between driving motor and belt- or chain-engaging elements (contained in drums, rollers or wheels [B65G23/08](#))
  - B65G23/26 . . Applications of clutches or brakes
  - B65G23/28 . . Arrangements for equalising the drive to several elements
  - B65G23/30 . . Variable-speed gearing
  - B65G23/32 . for effecting drive at two or more points spaced along the length of the conveyers
  - B65G23/34 . . comprising a single motor coupled to spaced driving elements

- B65G23/36 . . comprising two or more driving motors each coupled to a separate driving element, e.g. at either end of the conveyers
- B65G23/38 . for effecting intermittent movement of belts or chains
- B65G23/40 . . Applications of pawl and ratchet mechanisms or Geneva wheels
- B65G23/42 . . Reciprocating members engaging successive abutments on belts or chains
- B65G23/44 . Belt or chain tensioning arrangements
- B65G25/00** **Conveyers comprising a cyclically-moving, e.g. reciprocating, carrier or impeller which is disengaged from the load during the return part of its movement ([jigging B65G27/00](#))**
- B65G25/02 . the carrier or impeller having different forward and return paths of movement, e.g. walking beam conveyers
- B65G25/04 . the carrier or impeller having identical forward and return paths of movement, e.g. reciprocating conveyers
- B65G25/06 . . having carriers, e.g. belts
- B65G25/06F . . . [\[N: Reciprocating floor conveyers\]](#)
- B65G25/08 . . having impellers, e.g. pushers
- B65G25/10 . . . with impeller pivotally mounted on a reciprocating bar
- B65G25/12 . . . with impeller fixed to a reciprocating bar and the bar being rotated about its longitudinal axis on its return stroke
- B65G27/00** **Jigging conveyers ([jigs for wet separation B03B](#); [generating or transmitting mechanical vibrations B06](#); [jiggers for screening, sifting or sorting B07B1/28](#))**
- B65G27/02 . comprising helical or spiral channels or conduits for elevation of materials ([helical or spiral chutes in general B65G11/06](#); [\[N: use of such conveyers for arranging or orientating articles during feeding B65G47/14B2B\]](#))
- B65G27/04 . Load carriers other than helical or spiral channels or conduits
- B65G27/06 . . Joints connecting load-carrier sections
- B65G27/08 . Supports or mountings for load-carriers, e.g. framework, bases, spring arrangements [\[N: \(spring arrangements as jigging movement transmitting units B65G27/10\)\]](#)
- B65G27/10 . Applications of devices for generating or transmitting jigging movements
- B65G27/12 . . of shaking devices, i.e. devices for producing movements of low frequency and large amplitude
- B65G27/14 . . . hydraulic
- B65G27/16 . . of vibrators, i.e. devices for producing movements of high frequency and small amplitude
- B65G27/18 . . . Mechanical devices [\[N: \(B65G27/26 takes precedence\)\]](#)
- B65G27/20 . . . . rotating unbalanced masses
- B65G27/22 . . . Hydraulic or pneumatic devices
- B65G27/24 . . . Electromagnetic devices

- B65G27/26 . . . with elastic coupling between vibrator and load carrier
- B65G27/28 . . with provision for dynamic balancing
- B65G27/30 . . . by means of an oppositely-moving mass, e.g. a second conveyer
- B65G27/32 . . with means for controlling direction, frequency or amplitude of vibration or shaking movement
  
- B65G27/34 . comprising a series of co-operating units
  
- B65G29/00** **Rotary conveyers, e.g. rotating discs, arms, starwheels, cones** (mechanical projectors [B65G31/00](#); screw or rotary spiral conveyers [B65G33/00](#); [N: turntables as feeding, transfer or discharging devices [B65G47/80](#); starwheels as feeding, transfer or discharging devices [B65G47/84](#)])
  
- B65G29/02 . for inclined or vertical transit ([B65G15/00](#), [B65G17/00](#) take precedence)
  
- B65G31/00** **Mechanical projectors for articles or solid materials** (distributors for fertilisers A01C; moulding machines B22C; sandblasting devices B24C; projectors for applying plaster to buildings [E04F21/00](#))
  
- B65G31/02 . comprising belts
- B65G31/04 . comprising discs, drums, or like rotary impellers
  
- B65G33/00** **Screw or rotary spiral conveyers (screws for extruding, compressing, kneading, mixing, pumping or other special operations, see the relevant classes)**
  
- B65G33/02 . for articles
- B65G33/04 . . conveyed between a single screw and guiding means
- B65G33/06 . . conveyed and guided by parallel screws
  
- B65G33/08 . for fluent solid materials
- B65G33/10 . . with non-enclosed screws
- B65G33/12 . . with screws formed by straight tubes or drums having internal threads, or by spiral or helical tubes
- B65G33/14 . . comprising a screw or screws enclosed in a tubular housing
- B65G33/16 . . . with flexible screws operating in flexible tubes
- B65G33/18 . . . with multiple screws in parallel arrangements [N: e.g. concentric]
- B65G33/20 . . . the housing being rotatable relative to the screw
- B65G33/22 . . . with means for retarding material flow at the delivery end of the housing
  
- B65G33/24 . Details
- B65G33/26 . . Screws (as gearing elements [F16H25/20](#))
- B65G33/26B . . . [N: with a continuous helical surface (flexible screws [B65G33/16](#))] [N9601]
- B65G33/30 . . . with a discontinuous helical surface
- B65G33/32 . . Adaptations of bearings or couplings for supporting and connecting screws ([B65G33/16](#) takes precedence)
- B65G33/34 . . Applications of driving gear

- B65G33/36 . . . for rotating housing and screw at different speeds
- B65G33/38 . . . for effecting simultaneous rotation and reciprocation of screw
- B65G35/00** **Kinds of mechanical conveyers not otherwise provided for (railway systems B61B)**
- B65G35/00P . [N: with peristaltic propulsion along a flexible tube] [N9706]
- B65G35/02 . comprising an endless traction element, e.g. a belt, arranged to roll cylindrical articles over a supporting surface
- B65G35/04 . comprising a flexible load carrier, e.g. a belt, which is wound up at one end and paid out at the other ([reciprocating belt conveyers B65G25/06](#))
- B65G35/06 . comprising a load-carrier moving along a path, e.g. a closed path, and adapted to be engaged by any one of a series of traction elements spaced along the path
- B65G35/06B . . [N: the traction element being a rotating bar or tube]
- B65G35/06B2 . . . [N: the bar or the tube being provided with a helical or annular channel]
- B65G35/08 . comprising trains of unconnected load-carriers, e.g. belt sections, movable in a path, e.g. a closed path, adapted to contact each other and to be propelled by means arranged to engage each load-carrier in turn
- B65G37/00** **Combinations of mechanical conveyers of the same kind, or of different kinds, of interest apart from their application in particular machines or use in particular manufacturing processes (in "live" storage devices [B65G1/04](#); [N: series of co-operating belt conveyer units [B65G15/22](#); series of co-operating chain conveyer units [B65G17/26](#); sequence control of combined conveyers [B65G43/10](#)]; specially adapted for handling radioactive materials G21)**
- B65G37/00B . [N: comprising two or more co-operating conveying elements with parallel longitudinal axes (the conveying elements being endless surfaces [B65G15/10](#))]
- B65G37/02 . Flow-sheets for conveyer combinations in warehouses, magazines or workshops
- Guide heading:** **Common features or details of, or auxiliary devices applicable to, conveyers of different kinds or types; Feeding or discharging devices incorporated in, or operatively associated with, conveyers**
- B65G39/00** **Rollers, e.g. drive rollers, or arrangements thereof incorporated in roller-ways or other types of mechanical conveyers (driving gear for rollers of roller-ways [B65G13/06](#); drive rollers of endless conveyers [B65G23/04](#); arrangement of rollers in metal-rolling equipment [B21B39/10](#); friction members [F16H55/32](#)) [C0909]**
- B65G39/02 . Adaptations of individual rollers and supports therefor
- B65G39/02B . . [N: having spherical roller elements]
- B65G39/04 . . the rollers comprising a number of roller forming elements mounted on a single axle
- B65G39/06 . . the roller sleeves being shock-absorbing, e.g. formed by helically-wound wires
- B65G39/07 . . Other adaptations of sleeves

- B65G39/071 . . . for aligning belts or sheets
- B65G39/073 . . . for cleaning belts
- B65G39/08 . . the rollers being magnetic (in magnetic belt separators [B03C1/00](#))
- B65G39/09 . . Arrangements of bearing or sealing means
  
- B65G39/10 . Arrangements of rollers (on a single axle [B65G39/04](#))
- B65G39/12 . . mounted on framework
- B65G39/12B . . . [N: for selectively adjusting troughing of the conveying belt]
- B65G39/14 . . . Spring-supported sets, e.g. permitting troughing of a load-carrying belt
- B65G39/14B . . . . [N: attached to ties formed by longitudinal cables or ropes]
- B65G39/16 . . . for aligning belts or chains (for aligning tapes or webs [B65H](#))
- B65G39/18 . . . for guiding loads
- B65G39/20 . . attached to moving belts or chains (belts [B65G15/30](#); chains [B65G17/38](#))

**B65G41/00 Supporting frames or bases for conveyers as a whole, e.g. transportable conveyer frames**

- B65G41/00A . [N: with the conveyer adjustably mounted on the supporting frame or base]
- B65G41/00A2 . . [N: Pivotably mounted]
- B65G41/00A4 . . [N: mounted for linear movement only]
- B65G41/00A6 . . [N: mounted for both pivotal and linear movement]
  
- B65G41/00B . [N: with the conveyer not adjustably mounted on the supporting frame or base]
  
- B65G41/00D . [N: Means for moving conveyer frames and control arrangements therefor ([B65G41/02](#) takes precedence)]
- B65G41/00D2 . . [N: frames mounted on wheels or caterpillar (for movement on rail tracks [B65G41/02](#))]
  
- B65G41/02 . Frames mounted on wheels for movement on rail tracks

**B65G43/00 Control, e.g. safety, warning, fault-correcting, devices (for elevators, escalators or moving walkways B66B; in general F16P, G08B)**

[N: **Note**  
 [N0001] - in this group the following indexing codes are used:  
[L65G811/06P](#)  
[L65G812/02A8](#) to [L65G812/02A10](#)  
 ]

- B65G43/02 . detecting dangerous physical condition of load carriers, e.g. for interrupting the drive in the event of overheating
  
- B65G43/04 . detecting slip between driving element and load-carrier, e.g. for interrupting the drive [N: ([B65G43/02](#) takes precedence)]
  
- B65G43/06 . interrupting the drive in case of driving element breakage; Braking or stopping loose load-carriers

- B65G43/08 . Control devices operated by article or material being fed, conveyed or discharged [N: (and controlling the discharging devices [B65G47/42](#))]
- B65G43/10 . Sequence control of conveyers operating in combination
- B65G45/00            Lubricating, cleaning, or clearing devices**
- B65G45/00B . [N: Cleaning conveyer screws]
- B65G45/02 . Lubricating devices
- B65G45/04 . . for rollers
- B65G45/06 . . . forming belt troughing structure
- B65G45/08 . . for chains
- B65G45/10 . Cleaning devices (adaptations of roller sleeves for cleaning belts [B65G 39/073](#))
- B65G45/10B . . [N: comprising vibrating means]
- B65G45/12 . . comprising scrapers
- B65G45/14 . . . Moving scrapers
- B65G45/16 . . . with scraper biasing means
- B65G45/18 . . comprising brushes
- B65G45/20 . . comprising screws
- B65G45/22 . . comprising fluid applying means
- B65G45/24 . . comprising plural diverse cleaning devices
- B65G45/26 . . for gathering residue after cleaning
- B65G47/00            Article or material handling devices associated with conveyers; Methods employing such devices (for sorting, e.g. postal B07C)**
- B65G47/02 . Devices for feeding articles or materials to conveyers
- B65G47/04 . . for feeding articles
- B65G47/06 . . . from a single group of articles arranged in orderly pattern, e.g. workpieces in magazines (de-stacking devices [B65G59/00](#); picking-up flat workpieces [B65H](#))
- B65G47/08 . . . . spacing or grouping the articles during feeding (during transit by conveyers [B65G47/26](#))
- B65G47/08B . . . . . [N: grouping articles in rows]
- B65G47/08D . . . . . [N: grouping articles in a predetermined 2-dimensional pattern]
- B65G47/08D2 . . . . . [N: cubiform articles]
- B65G47/08D4 . . . . . [N: cylindrical articles]
- B65G47/12 . . . from disorderly-arranged article piles or from loose assemblages of articles
- B65G47/14 . . . . arranging or orientating the articles by mechanical or pneumatic means during feeding (during transit by conveyor [B65G47/24](#), [B65G47/26](#))
- B65G47/14B . . . . . [N: the articles being fed from a container, e.g. a bowl]
- B65G47/14B2 . . . . . [N: by means of movement of at least the whole wall of the container]
- B65G47/14B2B . . . . . {7 dots} [N: Vibratory movement]

- B65G47/14B2D . . . . . {7 dots} [N: rotating movement]
- B65G47/14B2D6 . . . . . {8 dots} [N: using the centrifugal effect to arrange or orientate the articles]
- B65G47/14B4 . . . . . [N: by means of movement of the bottom or a part of the wall of the container (devices using suction or magnetic forces [B65G47/14B6B](#))]
- B65G47/14B4B . . . . . {7 dots} [N: Jigging or reciprocating movement]
- B65G47/14B4D . . . . . {7 dots} [N: Rotating movement in the plane of the rotating part]
- B65G47/14B4D6 . . . . . {8 dots} [N: using the centrifugal effect to arrange or orientate the articles]
- B65G47/14B4F . . . . . {7 dots} [N: Movement in one direction, substantially outwards]
- B65G47/14B6 . . . . . [N: by means of pick-up devices, the container remaining immobile]
- B65G47/14B6B . . . . . {7 dots} [N: using suction or magnetic forces]
- B65G47/14D . . . . . [N: the articles being fed from a feeding conveyer]
- B65G47/16 . . . for feeding materials in bulk
- B65G47/18 . . . Arrangements or applications of hoppers or chutes
- B65G47/19 . . . . having means for controlling material flow, e.g. to prevent overloading (controlling feed or discharge by weighing a continuous stream of material [G01G11/08](#))
- B65G47/20 . . . . the hoppers or chutes being movable
- B65G47/22 . . . Devices influencing the relative position or the attitude of articles during transit by conveyers (during feeding [B65G47/14](#))
- B65G47/24 . . . Orientating the articles
- B65G47/244 . . . . by turning them about an axis substantially perpendicular to the conveying plane
- B65G47/244E . . . . [N: by means of at least two co-operating endless conveying elements] [N9609]
- B65G47/248 . . . . by turning over or inverting them ([B65G47/244](#) takes precedence)
- B65G47/252 . . . . about an axis substantially perpendicular to the conveying direction
- B65G47/256 . . . . removing incorrectly orientated articles
- B65G47/26 . . . Arranging the articles, e.g. varying spacing between individual articles (stacking or destacking [N: during transit [B65G57/32](#), [B65G59/12](#)])
- B65G47/26B . . . . [N: Accumulating articles]
- B65G47/26B2 . . . . [N: the conveyer drive is taken from a longitudinally extending shaft]
- B65G47/26B4 . . . . [N: with one or more load advancing units travelling along the entire length of the accumulation line]
- B65G47/26B6 . . . . [N: by means of a series of pivotable stop elements]
- B65G47/26B8 . . . . [N: by means of belt or chain conveyer]
- B65G47/28 . . . . during transit by a single conveyer [N: ([B65G47/26B](#) takes precedence)]
- B65G47/29 . . . . by temporarily stopping movement [N: (stopping elements [B65G47/88](#))]
- B65G47/29B . . . . . [N: by means of at least two stopping elements] [N9506]
- B65G47/30 . . . . during transit by a series of conveyers [N: ([B65G47/26B](#) takes precedence)]
- B65G47/31 . . . . by varying the relative speeds of the conveyers forming the series
- B65G47/32 . . . . Applications of transfer devices [N: (such devices per se [B65G47/74](#))]
- B65G47/34 . . . Devices for discharging articles or materials from conveyers ([B65G47/256](#) takes precedence; sorting in general [B07](#))

- B65G47/36 . . . by detaching suspended articles
- B65G47/38 . . . by dumping, tripping, or releasing load carriers (by flexing or tilting travelling structures [B65G47/94](#))
- B65G47/40 . . . . by tilting conveyer buckets
- B65G47/42 . . . operated by article or material being conveyed and discharged [N: ([B65G47/46](#) takes precedence)]
- B65G47/44 . . . Arrangements or applications of hoppers or chutes
- B65G47/46 . . . and distributing, e.g. automatically, to desired points ([N: pivotable chutes [B65G11/12](#)]; in tube mail systems [B65G51/36](#); postal or like sorting [B07C](#); in railway operations [B61L11/10](#); handling sheets or thin flat articles [B65H](#))
- B65G47/48 . . . . according to bodily destination marks on either articles or load carrier (marking data records [G06K](#))
- B65G47/48A . . . . . [N: using exclusively mechanical transmitting means between destination marks and switching means]
- B65G47/48B . . . . . [N: using electric or electronic transmitting means between destination marks and switching means]
- B65G47/48B2 . . . . . [N: the destination marks being mechanically detected]
- B65G47/49 . . . . . without bodily contact between article or load carrier and automatic control device [N: e.g. the destination marks being electrically or electronically detected]
- B65G47/49A . . . . . [N: by use of light responsive means]
- B65G47/49B . . . . . [N: by use of magnetic responsive means]
- B65G47/50 . . . . according to destination signals stored in separate systems
- B65G47/50A . . . . . [N: the system comprising endless moving means]
- B65G47/50B . . . . . [N: the system comprising a shift-register]
- B65G47/51 . . . . according to unprogrammed signals, e.g. influenced by supply situation at destination (volume, flow or liquid level meters [G01E](#); scales or weighing machines [G01G](#); remote controls [G05G](#))
- B65G47/51A . . . . . [N: for articles]
- B65G47/51A1 . . . . . [N: first In - First Out systems: FIFO] [N0009]
- B65G47/51A1A . . . . . [N: using endless conveyors ([B65G47/51A1D](#) takes precedence)] [N0009]
- B65G47/51A1A1 . . . . . {7 dots} [N: with variable accumulation capacity] [N0009]
- B65G47/51A1A1A . . . . . {8 dots} [N: by displacement of the conveyor-guiding means, e.g. of the loose pulley-type ([B65G47/51A1A1B](#) takes precedence)] [N0009]
- B65G47/51A1A1B . . . . . {8 dots} [N: by relative displacement between conveyor and input or output] [N0009]
- B65G47/51A1A1C . . . . . {8 dots} [N: by relative displacement between conveyors or conveyor parts and bridging means therebetween] [N0009]
- B65G47/51A1B . . . . . [N: using rotary conveyors] [N0009]
- B65G47/51A1C . . . . . [N: using stacking and/or destacking arrangements or stacks of articles or article carriers] [N0009]
- B65G47/51A1D . . . . . [N: with recirculation means] [N0009]
- B65G47/51A2 . . . . . [N: First In-Last Out systems (FILO); Last In-First Out systems (LIFO)] [N0009]
- B65G47/51A2A . . . . . [N: using endless conveyors ([B65G47/51A2D](#) takes precedence)] [N0009]

- B65G47/51A2A1 . . . . . {7 dots} [N: with variable accumulation capacity] [N0009]
- B65G47/51A2A1A . . . . . {8 dots} [N: by displacement of conveyor-guiding means, e.g. of the loose pulley type ([B65G47/51A2A1B](#) takes precedence)] [N0009]
- B65G47/51A2A1B . . . . . {8 dots} [N: by relative displacement between conveyor and conveyor in- or output means] [N0009]
- B65G47/51A2A1C . . . . . {8 dots} [N: by relative displacement between conveyors or conveyor parts and bridging means therebetween] [N0009]
- B65G47/51A2B . . . . . [N: using rotary conveyor(s)] [N0009]
- B65G47/51A2C . . . . . [N: using stacking or destacking arrangements or stacks of articles or article-carriers] [N0009]
- B65G47/51A2D . . . . . [N: with recirculation means] [N0009]
- B65G47/51A3 . . . . . [N: collecting tables or bins as end-station] [N0009]
- B65G47/51B . . . . . [N: for materials in bulk]
- B65G47/52 . . . . . Devices for transferring articles or materials between conveyers [N: or sections of one conveyer], i.e. discharging and feeding devices (loading or unloading by means not incorporated in, or not operatively associated with, conveyers [B65G65/00](#); transfer of workpieces during metal rolling [B21B41/00](#))
- B65G47/52B . . . . . [N: using fluid jets]
- B65G47/53 . . . . . between conveyers which cross one another
- B65G47/54 . . . . . at least one of which is a roller-way
- B65G47/56 . . . . . to or from inclined or vertical conveyor sections
- B65G47/57 . . . . . for articles
- B65G47/58 . . . . . for materials in bulk
- B65G47/60 . . . . . to or from conveyers of the suspended, e.g. trolley, type
- B65G47/61 . . . . . for articles
- B65G47/62 . . . . . for materials in bulk
- B65G47/64 . . . . . Switching conveyers
- B65G47/64A . . . . . [N: by a linear displacement of the switching conveyor] [N0009]
- B65G47/64A1 . . . . . [N: in a horizontal plane] [N0009]
- B65G47/64A2 . . . . . [N: in a vertical plane] [N0009]
- B65G47/64B . . . . . [N: by a pivoting displacement of the switching conveyor] [N0009]
- B65G47/64B1 . . . . . [N: about a horizontal axis] [N0009]
- B65G47/64B1A . . . . . [N: the axis being parallel to the conveying direction] [N0101]
- B65G47/64B1B . . . . . [N: the axis being perpendicular to the conveying direction] [N0101]
- B65G47/64B2 . . . . . [N: about a vertical axis] [N0009]
- B65G47/66 . . . . . Fixed platforms or combs, e.g. bridges between conveyers
- B65G47/68 . . . . . adapted to receive articles arriving in one layer from one conveyor [N: lane] and to transfer them in individual layers to more than one conveyor [N: lane or to one broader conveyor lane], or vice-versa, e.g. combining the flows of articles conveyed by more than one conveyor [C9409]
- B65G47/68B . . . . . [N: from distinct, separate conveyor lanes]
- B65G47/68D . . . . . [N: from a single conveyor lane consisting of one conveyor or several adjacent conveyers]
- B65G47/68D2 . . . . . [N: with tilting of at least part of the conveyor to make use of gravity]

- B65G47/68D4 . . . . [N: with recirculation of articles forming a buffer]
- B65G47/69 . . . the articles being accumulated temporarily [N: (accumulating articles during transit [B65G47/26B](#))]
- B65G47/70 . . . with precedence controls among incoming article flows
- B65G47/71 . . . the articles being discharged [N: or distributed] to several [N: distinct separate] conveyers [N: or to a broader conveyer lane] [C9409]
- B65G47/71B . . . . [N: to a broader conveyer lane] [N9409]
- B65G47/72 . . transferring materials in bulk from one conveyer to several conveyers, or vice versa
  
- B65G47/74 . Feeding, transfer, or discharging devices of particular kinds or types
- B65G47/76 . . Fixed or adjustable ploughs or transverse scrapers
- B65G47/76A . . . [N: Fixed ploughs or transverse scrapers] [N9506]
- B65G47/76B . . . [N: Adjustable ploughs or transverse scrapers] [N9506]
- B65G47/78 . . Troughs having discharge openings and closures [N: (in air-slides [B65G53/20](#))]
- B65G47/80 . . Turntables carrying articles or materials to be transferred, e.g. combined with ploughs or scrapers
- B65G47/82 . . Rotary or reciprocating members for direct action on articles or materials, e.g. pushers, rakes, shovels [N: (means for pushing glass articles onto a conveyer [C03B9/453](#))] [C0607]
- B65G47/84 . . Star-shaped wheels or devices having endless travelling belts or chains, the wheels or devices being equipped with article-engaging elements [N: not used, see [B65G47/84A](#), [B65G47/84B](#)]
- B65G47/84A . . . [N: Devices having endless travelling belts or chains equipped with article-engaging elements]
- B65G47/84A2 . . . . [N: the article-engaging elements being grippers]
- B65G47/84A3 . . . . [N: the article-engaging elements being suction or magnetic means]
- B65G47/84A4 . . . . [N: the article-engaging elements being pushers transversally movable on the supporting surface, e.g. pusher-shoes] [N0902]
- B65G47/84A6 . . . . [N: the article engaging elements being pushers moving in parallel and independently from the supporting conveyer] [N0902]
- B65G47/84B . . . [N: Star-shaped wheels or wheels equipped with article-engaging elements]
- B65G47/84B2 . . . . [N: the article-engaging elements being grippers]
- B65G47/84B3 . . . . [N: the article-engaging elements being suction or magnetic means]
- B65G47/88 . . Separating or stopping elements, e.g. fingers ([attached to star-shaped wheels \[B65G47/84\]\(#\)](#))
- B65G47/88A . . . . [N: with one stop] [N0502]
- B65G47/88A1 . . . . [N: Reciprocating stop, moving up or down in the path of the article] [N0502]
- B65G47/88A3 . . . . [N: Pivoting stop, swinging in or out of the path of the article] [N0502]
- B65G47/88A5 . . . . [N: Fixed stop] [N0502]
- B65G47/88A5A . . . . . [N: with a linearly movable pusher element which lifts or releases the article] [N0502]
- B65G47/88A5B . . . . . [N: with a pivoting pusher element which lifts or releases the article] [N0502]
- B65G47/88A5C . . . . . [N: with conveyors, e.g. pivoting or rotating, to transfer the article] [N0502]
- B65G47/88A7 . . . . [N: Stop in the form of a clamp on one or both sides of the article] [N0502]
- B65G47/88A9 . . . . [N: stopping or lifting all articles from a conveyer] [N0502]

- B65G47/88B . . . [N: with at least two stops acting as gates] [N0502]
- B65G47/88B1 . . . . [N: Stops acting asynchronously, e.g. one stop open, next one closed or the opposite] [N0502]
- B65G47/88B3 . . . . [N: Stops acting independently of each other] [N0502]
- B65G47/90 . . . Devices for picking-up and depositing articles or materials
- B65G47/90B . . . . [N: provided with drive systems with rectilinear movements only]
- B65G47/90D . . . . [N: provided with drive systems incorporating rotary and rectilinear movements]
- B65G47/90F . . . . [N: provided with rotary movements only]
- B65G47/90G . . . . [N: Control arrangements]
- B65G47/90I . . . . [N: with at least two picking-up heads]
- B65G47/90K . . . . [N: with inflatable picking-up means (inflatable gripping members on load engaging elements for cranes [B66C1/46](#))]
- B65G47/91 . . . . incorporating pneumatic, e.g. suction, grippers
- B65G47/91B . . . . . [N: with air blasts producing partial vacuum]
- B65G47/91D . . . . . [N: provided with drive systems with rectilinear movements only]
- B65G47/91F . . . . . [N: provided with drive systems incorporating rotary and rectilinear movements]
- B65G47/91G . . . . . [N: provided with drive systems with rotary movements only]
- B65G47/91I . . . . . [N: control arrangements]
- B65G47/91K . . . . . [N: with at least two picking-up heads]
- B65G47/92 . . . . incorporating electrostatic or magnetic grippers
- B65G47/94 . . . Devices for flexing or tilting travelling structures; Throw-off carriages
- B65G47/94B . . . . [N: tilting endless surfaces, e.g. belts] [N0009]
- B65G47/95 . . . . adapted for longitudinal delivery
- B65G47/96 . . . . Devices for tilting links or platform [N: (releasing load-carriers [B65G47/38](#)) [N0009]
- B65G47/96A . . . . . [N: tilting about an axis substantially parallel to the conveying direction] [N0009]
- B65G47/96A1 . . . . . . [N: tilting about a sided-axis, i.e. the axis is not located near the center-line of the load-carrier] [N0009]
- B65G47/96B . . . . . [N: tilting about an axis perpendicular to the conveying direction] [N0009]

**B65G49/00**      **Conveying systems characterised by their application for specified purposes not otherwise provided for (for conveying sheet material [B65H](#))**

- B65G49/02 . . . for conveying workpieces through baths of liquid
- B65G49/02A . . . . [N: conveyer feeding and discharging means]
- B65G49/04 . . . the workpieces being immersed and withdrawn by movement in a vertical direction
- B65G49/04A . . . . [N: specially adapted for very long workpieces, e.g. chains, cables or belts]
- B65G49/04B . . . . [N: specially adapted for workpieces of definite length]
- B65G49/04B2 . . . . . [N: arrangements for conveyance through the bath]
- B65G49/04B2A . . . . . . [N: chain or belt conveyers]
- B65G49/04B2B . . . . . . [N: screws]
- B65G49/04B2C . . . . . . [N: jiggling conveyers]

- B65G49/04B2D . . . . . [N: reciprocating conveying means]
- B65G49/04B4 . . . . . [N: arrangements for conveyance from bath to bath]
- B65G49/04B4A . . . . . [N: along a continuous circuit]
- B65G49/04B4A2 . . . . . [N: the circuit being movable vertically as a whole]
- B65G49/04B4A4 . . . . . [N: the circuit being fixed]
- B65G49/04B4A4A . . . . . {7 dots} [N: by means of containers -or workpieces- carriers  
(containers or carriers as such see [C25D17/00](#))]
- B65G49/04B4A4A2 . . . . . {8 dots} [N: movement in a vertical direction is caused by  
self-contained means]
- B65G49/04B4A4A4 . . . . . {8 dots} [N: movement in a vertical direction is caused by lifting  
means or fixed or adjustable guiding means located at the bath  
area]
- B65G49/04B4A4B . . . . . {7 dots} [N: without container or workpieces carriers]
- B65G49/04B4B . . . . . [N: along a non continuous circuit]
- B65G49/04B4B2 . . . . . [N: with lifting means for circuit parts]
- B65G49/04B4B2A . . . . . {7 dots} [N: with lifting means locating at the bath area]
- B65G49/04B4B2A2 . . . . . {8 dots} [N: provided with rotating or pivoting arms]
- B65G49/04B4B2A4 . . . . . {8 dots} [N: provided with vertical guiding means]
- B65G49/04B4C . . . . . [N: conveying by flows of fluids]
- B65G49/05 . . . . . for fragile or damageable materials or articles
- B65G49/06 . . . . . for fragile sheets, e.g. glass (transporting of glass products during their  
manufacture [C03B35/00](#))
- [N: **Notes**[N0910]  
In group [B65G49/06](#) and subgroups it is desirable to add indexing codes for  
specific aspects of conveying systems. The indexing codes are chosen from  
groups [L65G249/00](#) to [L65G249/04B](#)  
]
- B65G49/06B . . . . . [N: Lifting, gripping, or carrying means, for one or more sheets forming  
independent means of transport, e.g. suction cups, transport frames (suction  
means as load-engaging elements attached to the lifting or lowering gear of  
cranes [B66C1/02](#); suction cups for attaching purposes [F16B47/00](#); suction cups  
on gripping heads [B25J15/06V](#); suction cups in general [B65G47/91](#); suction  
cups combined with cutting means on vertical conveyers  
[C03B33/00-C03B33/10](#); devices for turning sheets [B65G49/06F](#); suspending  
devices [B65G49/06D3](#))] [C1109]
- B65G49/06C . . . . . [N: Easels, stands or shelves, e.g. castor-shelves, supporting means on  
vehicles; (vehicles adapted to carry glass sheets [B60P3/00B](#); storing articles  
[B65G1/00](#) or [A47B53/02](#); packaging for glass sheets [B65D85/48](#))] [C1109]
- B65G49/06D . . . . . [N: Transporting devices for sheet glass]
- B65G49/06D2 . . . . . [N: in a horizontal position ([B65G49/06D3](#) takes precedence)]
- B65G49/06D2B . . . . . [N: supported partially or completely on fluid cushions e.g. a gas cushion  
(in general [B65G51/00](#))]
- B65G49/06D3 . . . . . [N: being suspended; Suspending devices, e.g. clamps, supporting tongs]
- B65G49/06F . . . . . [N: Sheet handling, means, e.g. manipulators, devices for turning or tilting sheet  
glass (suction cups [49/06B](#); combined with vertical conveyers  
[C03B33/00-C03B33/10](#); stacking and destacking [B65G49/06H](#))]

- B65G49/06H . . . [N: Stacking or destacking devices; Means for preventing damage to stacked sheets; e.g. spaces (stacking in general [B65G57/00](#); destacking in general [B65G59/00](#); spacer sheets in general [B65H](#))] [C1109]
- B65G49/06H2 . . . . [N: Means for avoiding damage to stacked plate glass, e.g. by interposing paper or powder spacers in the stack (maculation per se [B65H39/00](#))]
- B65G49/07 . . for semiconductor wafers [N: Not used, see [H01L21/677](#)] (specially adapted for conveying of semiconductor wafers during manufacture or treatment of semiconductor or electric solid state devices or components [H01L21/677](#)) [N0601]
- B65G49/08 . . for ceramic mouldings (charging, discharging, manipulation with charge in kilns [F27D3/00](#))
- B65G49/08B . . . [N: for loading or unloading racks or similar frames; loading racks therefor]

**Guide heading:** **Non-mechanical conveying through pipes or tubes (pipe-line systems [F17D](#)); Floating in troughs [C9409](#)**

- B65G51/00** **Conveying articles through pipes or tubes by fluid flow or pressure (pneumatic railways [B61B](#)); Conveying articles over a flat surface, e.g. the base of a trough, by jets located in the surface (pumps [F04](#); fluid dynamics [F15D](#); valves, taps, cocks [F16K](#); pipes, pipe joints, or associated devices [F16L](#)) [[C9409](#)]**
- B65G51/01 . Hydraulic transport of articles ([B65G51/04](#) takes precedence; water roundabouts [A63G3/00](#)) [[N9601](#)]
  - B65G51/02 . Directly conveying the articles, e.g. slips, sheets, stockings, containers or workpieces, by flowing gases [[C9409](#)]
  - B65G51/02A . . [N: Conveying ammunition through pipes] [[N9409](#)]
  - B65G51/03 . . over a flat surface or in troughs
  - B65G51/03S . . . [N: for suspended articles, e.g. bottles] [[N9706](#)]
  - B65G51/04 . Conveying the articles in carriers having a cross-section approximating that of the pipe or tube; Tube mail systems [[C9409](#)]
  - B65G51/06 . . Despatch carriers for tube mail
  - B65G51/08 . . Controlling or conditioning the operating medium (in compressors [59](#); air-conditioning, e.g. de-watering, in pneumatic systems [F16L55/10](#))
  - B65G51/10 . . . at section junctions of pneumatic systems
  - B65G51/12 . . . . Pneumatic gates
  - B65G51/14 . . . . Pneumatic sluices
  - B65G51/16 . . . varying, e.g. starting or stopping, gas pressure or flow
  - B65G51/18 . . Adaptations of pipes or tubes; Pipe or tube joints
  - B65G51/20 . . Braking arrangements
  - B65G51/22 . . Arrangements for stopping the carriers en route in order to control carrier sequence; Blocking or separating devices
  - B65G51/24 . . Switches
  - B65G51/26 . . Stations
  - B65G51/28 . . . for despatch
  - B65G51/30 . . . for delivery
  - B65G51/32 . . . for despatch, delivery, and transit

- B65G51/34 . . Two-way operation
- B65G51/36 . . Other devices for indicating or controlling movements of carriers, e.g. for supervising individual tube sections, for counting carriers, for reporting jams or other operating difficulties
- B65G51/38 . . . Contact devices on interior of tubes for detecting passage of carriers
- B65G51/40 . . . Automatically distributing the carriers to desired stations
- B65G51/42 . . . . according to indications on carriers
- B65G51/44 . . . . . without mechanical contact between carriers and controllers
- B65G51/46 . . . . according to separate signal systems
  
- B65G53/00** **Conveying materials in bulk through troughs, pipes, or tubes by floating the materials, or by flows of gas, liquid, or foam** (fluidising in connection with loading or unloading [B65G69/06](#); loaders for hay or cereals [A01D87/00](#); [N: discharging means for mixtures containing clay or cementitious material [B28C7/16](#)]; fluidising devices facilitating filling or emptying of large containers [B65D88/72](#); [N: combined washing or cutting and conveyance of materials in sugar manufacture [A23N](#); [C13C](#)]; dredging [E02F](#); winning materials out of alluvial deposits [E21C45/00](#); hydraulic or pneumatic mine-filling-up machines [E21F15/00](#); fluid dynamics [F15D](#)) [N: pumping fluid by direct action of another fluid [F04F](#)]
  
- B65G53/02 . Floating material troughs (air slides [B65G53/04](#))
- B65G53/04 . Conveying materials in bulk pneumatically through pipes or tubes; Air slides
- B65G53/06 . . Gas pressure systems operating without fluidisation of the materials
- B65G53/08 . . . with mechanical injection of the materials, e.g. by screw
- B65G53/10 . . . with pneumatic injection of the materials by the propelling gas
- B65G53/12 . . . . the gas flow acting directly on the materials in a reservoir
- B65G53/14 . . . . the gas flow inducing feed of the materials by suction effect
- B65G53/16 . . Gas pressure systems operating with fluidisation of the materials
- B65G53/18 . . . through a porous wall
- B65G53/20 . . . . of an air slide, e.g. a trough
- B65G53/22 . . . . the systems comprising a reservoir, e.g. a bunker
- B65G53/24 . . Gas suction systems
- B65G53/26 . . . operating with fluidisation of the materials
- B65G53/28 . . Systems utilising a combination of gas pressure and suction (inducing feed of the materials by suction in gas pressure systems [B65G53/14](#))
  
- B65G53/30 . Conveying materials in bulk through pipes or tubes by liquid pressure
  
- B65G53/32 . Conveying concrete, e.g. for distributing same at building sites (mixing concrete on or by conveyers [B28C5/34](#))
  
- B65G53/34 . Details
- B65G53/36 . . Arrangements of containers (hoppers [B65G3/06](#); containers in general [B65D](#))
- B65G53/38 . . Modification of material containing walls to facilitate fluidisation (hoppers with walls modified for fluidisation of contents [B65G3/14](#))
- B65G53/40 . . Feeding or discharging devices
- B65G53/42 . . . Nozzles (in general [B05B](#))

- B65G53/44 . . . Endless conveyers
- B65G53/46 . . . Gates or sluices, e.g. rotary wheels
- B65G53/46B . . . . [N: Turnable elements, e.g. rotary wheels with pockets or passages for material] [N9409]
- B65G53/46B2 . . . . . [N: with axis of turning parallel to flow] [N9409]
- B65G53/46B4 . . . . . [N: with axis of turning perpendicular to flow] [N9409]
- B65G53/46B4B . . . . . [N: the element having pockets, rotated from charging position to discharging position, i.e. discrete flow] [N9409]
- B65G53/46B4B2 . . . . . {7 dots} [N: with means for clearing out the pockets] [N9409]
- B65G53/46B4B4 . . . . . {7 dots} [N: with a closable outlet] [N9409]
- B65G53/46B4D . . . . . [N: the element having passages simultaneously connectable to both inlet and outlet ports] [N9409]
- B65G53/46B6 . . . . . [N: with axis of turning neither parallel nor perpendicular to flow, i.e. mixed flow] [N9409]
- B65G53/46D . . . . . [N: with flexible wall parts, e.g. peristaltic devices] [N9409]
- B65G53/46F . . . . . [N: with a reciprocating mover acting directly on material] [N9409]
- B65G53/46H . . . . . [N: of air-lock type, i.e. at least two valves opening asynchronously] [N9409]
- B65G53/48 . . . Screws or like rotary conveyers
- B65G53/50 . . . Pneumatic devices ([incorporated in nozzles B65G53/42](#))
- B65G53/52 . . Adaptations of pipes or tubes
- B65G53/52B . . . [N: means for preventing the accumulation or for removal of deposits ([preventing accumulation in pipes in general F16L55/24](#); [preventing fouling in general B08B17/00](#))]
- B65G53/52D . . . [N: Wear protection]
- B65G53/52F . . . [N: for conveyance in plug-form]
- B65G53/52H . . . [N: with means for special treatment to facilitate transport]
- B65G53/52J . . . [N: Flux combining or dividing arrangements ([B65G53/56 takes precedence](#))]
- B65G53/54 . . . Flexible pipes or tubes
- B65G53/56 . . . Switches
- B65G53/58 . . Devices for accelerating or decelerating flow of the materials; Use of pressure generators ([controlling pressure of propelling gas B65G53/66](#))
- B65G53/60 . . Devices for separating the materials from propellant gas
- B65G53/62 . . . Using liquid
- B65G53/64 . . . in discrete amounts
- B65G53/66 . . use of indicator or control devices, e.g. for controlling gas pressure, for controlling proportions of material and gas, for indicating or preventing jamming of material [N: (controlling the flow of coal firing systems C21B5/00B2)] [[C0612](#)]

#### **B65G54/00 Non-mechanical conveyers not otherwise provided for**

- B65G54/02 . electrostatic, electric, or magnetic
- B65G54/02P . . [N: the load being magnetically coupled with a piston-like driver moved within a tube] [N9706]

**Guide heading:** [Stacking or de-stacking; Loading or unloading \(by means incorporated in, or operatively associated with, conveyers B65G47/00; lift trucks B60P; B66F; handling sheet material or flat articles made therefrom B65H; cranes B66C; loading or unloading by](#)

[soil-shifting or like equipment E02F: stacking or de-stacking data record cards in association with machines for marking or sensing data G06K\)](#)

**Note**

[C9609] In groups [B65G57/00](#) to [B65G61/00](#), the following term is used with the meaning indicated:- "stacking" means disposing articles individually or in layers one above each other

**B65G57/00**

**Stacking of articles** ([B65G60/00](#) takes precedence; stacking of jumbo rolls B41F; stackable containers B65D; feeding, piling, or stacking sheets B65H; stacked delivery of machined products, see the relevant classes for the machines)

- B65G57/00B . [N: by using insertions or spacers between the stacked layers] [N9409]
- B65G57/02 . by adding to the top of the stack
- B65G57/03 . . from above
- B65G57/03S . . . [N: with a stepwise downward movement of the stack] [N0505]
- B65G57/04 . . . by suction or magnetic devices
- B65G57/06 . . . Gates for releasing articles
- B65G57/08 . . articles being tilted or inverted prior to depositing
- B65G57/081 . . . alternate articles being inverted
- B65G57/09 . . from alongside
- B65G57/10 . . . by devices, e.g. reciprocating, acting directly on articles for horizontal transport to the top of stack
- B65G57/11 . . the articles being stacked by direct action of the feeding conveyer
- B65G57/112 . . . the conveyer being adjustable in height
- B65G57/14 . . . the articles being transferred from carriers moving in an endless path adjacent to the stacks ([conveyer constructions B65G15/00 to B65G35/00](#); combinations of conveyers [B65G37/00](#))
- B65G57/16 . . Stacking of articles of particular shape
- B65G57/16B . . . [N: nested]
- B65G57/18 . . . elongated, e.g. sticks, rods, bars
- B65G57/18B . . . . [N: Angle irons]
- B65G57/18D . . . . [N: Cylindrical articles, e.g. tubes, rods, etc.] [N0004]
- B65G57/20 . . . three-dimensional, e.g. cubiform, cylindrical
- B65G57/22 . . . . in layers each of predetermined arrangement
- B65G57/24 . . . . . the layers being transferred as a whole, e.g. on pallets
- B65G57/24S . . . . . . [N: with a stepwise downward movement of the stack] [N0505]
- B65G57/26 . . . . . the arrangement providing for spaces between the articles
- B65G57/28 . by assembling the articles and tilting the assembled articles to a stacked position
- B65G57/30 . by adding to the bottom of the stack
- B65G57/30B . . [N: by means of reciprocatory or oscillatory lifting and holding or gripping devices]
- B65G57/30B2 . . . [N: added articles being lifted to substantially stationary grippers or holders]

- B65G57/30B4 . . . [N: the stack being lowered by mobile grippers or holders onto added articles]
- B65G57/30D . . [N: by means of rotary devices or endless elements]
- B65G57/30D2 . . . [N: the rotary devices being wheels]
- B65G57/30D4 . . . [N: the rotary devices being screws]
- B65G57/30D6 . . . [N: by means of endless elements]
- B65G57/32 . characterised by stacking during transit

#### **B65G59/00 De-stacking of articles ([B65G60/00](#) takes precedence)**

- B65G59/00B . [N: by using insertions or spacers between the stacked layers] [N9409]
- B65G59/02 . De-stacking from the top of the stack
- B65G59/02B . . [N: by means insertable between the stacked articles or layers]
- B65G59/02S . . [N: with a stepwise upward movement of the stack] [N0502]
- B65G59/04 . . by suction or magnetic devices
- B65G59/04S . . . [N: with a stepwise upward movement of the stack] [N0502]
- B65G59/06 . De-stacking from the bottom of the stack
- B65G59/06B . . [N: articles being separated substantially along the axis of the stack]
- B65G59/06B2 . . . [N: by means of reciprocating or oscillating escapement-like mechanisms]
- B65G59/06B2B . . . . [N: comprising lifting means]
- B65G59/06B2D . . . . [N: by angularly displacing the stack relatively to the lower most article or vice-versa] [N9706]
- B65G59/06B4 . . . [N: by means of rotary devices or endless elements]
- B65G59/06D . . [N: articles being separated substantially perpendicularly to the axis of the stack]
- B65G59/06D2 . . . [N: by means of endless elements]
- B65G59/08 . De-stacking after preliminary tilting of the stack
- B65G59/10 . De-stacking nested articles
- B65G59/10D . . [N: by means of oscillating escapement-like mechanisms] [N9409]
- B65G59/10D2 . . . [N: the axis of oscillation being substantially parallel to the axis of the stack] [N9409]
- B65G59/10D4 . . . [N: comprising lifting or gripping means] [N9409]
- B65G59/10E . . [N: by means of reciprocating escapement-like mechanisms] [N9409]
- B65G59/10E2 . . . [N: comprising lifting or gripping means] [N9409]
- B65G59/10F . . [N: by means of rotary devices or endless elements] [N9409]
- B65G59/10F2 . . . [N: the axis of rotation being substantially parallel to the axis of the stack] [N9409]
- B65G59/12 . characterised by de-stacking during transit

#### **B65G60/00 Simultaneously or alternatively stacking and de-stacking of articles**

#### **B65G61/00 Use of pick-up or transfer devices or of manipulators for stacking or de-stacking**

**articles not otherwise provided for (manipulators [B25J](#))**

- B65G63/00**      **Transferring or trans-shipping at storage areas, railway yards, harbours, [N: or in opening mining cuts]; Marshalling yard installations (transferring refuse between vehicles or containers [B65F9/00](#); dredging, soil shifting [E02F](#); conveyers used in co-operation with coal or like winning apparatus [E21C47/00](#))**
- [B65G63/00A](#)      . [N: for articles]
- [B65G63/00A2](#)      . . [N: for containers]
- [B65G63/00A2A](#)    . . . [N: using slanted guides]
- [B65G63/00B](#)      . [N: for bulk material]
- [B65G63/02](#)      . with essentially horizontal transit otherwise than by bridge
- [B65G63/02A](#)      . . [N: for articles]
- [B65G63/02A2](#)    . . . [N: for containers]
- [B65G63/02B](#)      . . [N: for bulk material]
- [B65G63/04](#)      . with essentially horizontal transit by bridges equipped with conveyers [N: (cranes [B66C](#))]
- [B65G63/04A](#)      . . [N: for articles]
- [B65G63/04A2](#)    . . . [N: for containers]
- [B65G63/04B](#)      . . [N: for bulk material]
- [B65G63/06](#)      . with essentially vertical transit (hoppers [B65D88/26](#))
- [B65G63/06A](#)      . . [N: for articles]
- [B65G63/06A2](#)    . . . [N: for containers]
- [B65G63/06B](#)      . . [N: for bulk material]
- B65G65/00**      **Loading or unloading (of vehicles [B65G67/00](#))**
- [B65G65/00B](#)      . [N: Control arrangements]
- [B65G65/02](#)      . Loading or unloading machines comprising essentially a conveyer for moving the loads associated with a device for picking-up the loads
- [B65G65/04](#)      . . with pick-up shovels (constructions of shovels [E02F](#))
- [B65G65/06](#)      . . with endless scraping or elevating pick-up conveyers
- [B65G65/08](#)      . . with reciprocating pick-up conveyers
- [B65G65/10](#)      . . . Raking or scraping devices
- [B65G65/12](#)      . . . . operations at positions off-set from the conveyer centreline
- [B65G65/14](#)      . . with jiggling pick-up conveyers, e.g. duck-bills
- [B65G65/16](#)      . . with rotary pick-up conveyers
- [B65G65/18](#)      . . . Discs
- [B65G65/20](#)      . . . Paddle wheels
- [B65G65/22](#)      . . . Screws

- B65G65/23 . Devices for tilting and emptying of containers
- B65G65/24 . . for manual tilting of barrels or casks
- B65G65/28 . Piling or unpling loose materials in bulk, e.g. coal, manure, timber, not otherwise provided for (by soil-shifting or like equipment [E02F](#))
- B65G65/30 . Methods or devices for filling or emptying bunkers, hoppers, tanks, or like containers, of interest apart from their use in particular chemical or physical processes or their application in particular machines, e.g. not covered by a single other subclass (devices for tilting and emptying containers [B65G65/23](#); such containers having means facilitating filling or emptying [B65D88/54](#))

**Note**

[\[N9609\]](#)Methods or devices for filling bunkers, hoppers, or containers are only classified in group [B65G65/30](#) if they are of general application apart from their use in particular processes or their application in particular machines or if they are not covered by a single other subclass

- B65G65/32 . . Filling devices (pneumatic conveyers [B65G51/00](#), [B65G53/00](#))
- B65G65/34 . . Emptying devices (conveyer constructions [B65G15/00](#) to [B65G35/00](#); devices similar to vehicle tippers [B65G67/48](#))
- B65G65/36 . . . Devices for emptying from the top
- B65G65/36B . . . . [\[N: comprising a vertical passage located inside the container\]](#)
- B65G65/38 . . . . Mechanical devices
- B65G65/40 . . . Devices for emptying otherwise than from the top
- B65G65/42 . . . . using belt or chain conveyers
- B65G65/42B . . . . . [\[N: arranged to be movable\]](#)
- B65G65/44 . . . . using reciprocating conveyers, e.g. jiggling conveyers
- B65G65/46 . . . . using screw conveyers
- B65G65/46B . . . . . [\[N: arranged vertically or substantially vertically within the container \(\[B65G65/46D\]\(#\) takes precedence\)\]](#)
- B65G65/46D . . . . . [\[N: arranged to be movable\]](#)
- B65G65/48 . . . . using other rotating means, e.g. rotating pressure sluices in pneumatic systems [\[N: \(\[B65G53/46\]\(#\) takes precedence\)\]](#) [\[C9409\]](#)
- B65G65/48A . . . . . [\[N: rotating about a substantially vertical axis\]](#)
- B65G65/48A1 . . . . . . [\[N: and having the form of rotating tables or pans\]](#) [\[N9409\]](#)
- B65G65/48A1A . . . . . . . {7 dots} [\[N: with particular surface features, e.g. ribs, roughening\]](#) [\[N9409\]](#)
- B65G65/48A2 . . . . . . . [\[N: and moving material over a stationary surface, e.g. sweep arms or wheels\]](#) [\[N9409\]](#)
- B65G65/48A2A . . . . . . . {7 dots} [\[N: flexible, e.g. chains, cables, spring arms\]](#) [\[N9409\]](#)
- B65G65/48A2B . . . . . . . {7 dots} [\[N: mounted on a carriage, e.g. for movement along slit-like outlets\]](#) [\[N9409\]](#)
- B65G65/48A2C . . . . . . . {7 dots} [\[N: by means of eccentric motion\]](#) [\[N9409\]](#)
- B65G65/48A4 . . . . . . . [\[N: through which material passes, e.g. fan-like wheels\]](#) [\[N9409\]](#)
- B65G65/48B . . . . . [\[N: rotating about a substantially horizontal axis\]](#)
- B65G65/48C . . . . . [\[N: in the form of rotating tubular chutes\]](#) [\[N9409\]](#)

**B65G67/00** **Loading or unloading vehicles** (by means incorporated in the vehicles [B60](#) to [B64](#); ground or aircraft-carrier-deck installations [B64F](#); transferring refuse between vehicles or

containers [B65F9/00](#))

- B65G67/02 . Loading or unloading land vehicles
- B65G67/04 . . Loading land vehicles [**N: (loading or unloading boats to or from land vehicles [B60P3/10](#))**] [**N0203**]
- B65G67/06 . . . Feeding articles or materials from bunkers or tunnels
- B65G67/08 . . . using endless conveyers
- B65G67/10 . . . using conveyers covering the whole length of vehicle trains
- B65G67/12 . . . Loading elongated articles, e.g. rails, logs
- B65G67/14 . . . Loading hardened bricks, briquettes, or the like
- B65G67/16 . . . Loading coke-oven products ([discharging coke-ovens C10B33/00](#))
- B65G67/18 . . . Refuelling locomotives with solid fuels ([servicing locomotives B61K11/02](#))
- B65G67/20 . . . Loading covered vehicles
- B65G67/22 . . . Loading moving vehicles
- B65G67/24 . . Unloading land vehicles
- B65G67/26 . . . using rakes or scrapers
- B65G67/28 . . . . External transverse blades attached to endless conveyers
- B65G67/30 . . . using transportable tipping apparatus
- B65G67/32 . . . using fixed tipping installations
- B65G67/34 . . . . Apparatus for tipping wagons or mine cars ([inverting wagons B65G67/48](#); [platform-lifts with tiltable platforms B66F7/22](#))
- B65G67/36 . . . . . endwise
- B65G67/38 . . . . . comprising a turntable
- B65G67/40 . . . . . toward one end only
- B65G67/42 . . . . . sideways
- B65G67/44 . . . . . by passing the vehicles over a stretch of transversely-inclined rails
- B65G67/46 . . . . . Apparatus for lifting and tilting
- B65G67/48 . . . . . Vehicle tipplers ([devices for washing or cleaning railroad vehicles B60S](#))
- B65G67/50 . . . . . Rotary vehicle tipplers, i.e. rotating through 360 degrees
- B65G67/52 . . . . . . having several decks
- B65G67/54 . . . . . Vehicle-locking means
- B65G67/56 . . . . . Vehicle and tippler interlocking controls
  
- B65G67/60 . Loading or unloading ships ([B65G67/02](#) takes precedence; arrangement of ship-based loading or unloading equipment for cargo or passengers [B63B27/00](#)) [**C9609**]
- B65G67/60A . . [**N: using devices specially adapted for articles**] [**N9409**]
- B65G67/60C . . [**N: using devices specially adapted for bulk material**]
- B65G67/62 . . using devices influenced by the tide or by the movement of the ship, e.g. devices on pontoons ([horizontal loading or unloading platforms B65G69/22](#); [loading ramps B65G69/28](#))
  
- B65G69/00** **Auxiliary measures taken, or devices used, in connection with loading or unloading (in vehicles, see the relevant subclasses; preventing, minimising, or fighting fire A62C)**

- B65G69/00A . [N: Buffers for vehicles at loading stations] [N9409]
- B65G69/00B . [N: Restraining movement of a vehicle at a loading station using means not being part of the vehicle] [N9409]
- B65G69/00B2 . . [N: the means engaging at least one wheel of the vehicle] [N9409]
- B65G69/00C . [N: Centring or aligning a vehicle at a loading station using means not being part of the vehicle] [N9409]
- B65G69/00D . [N: Dock- or bumper-seals]
- B65G69/02 . Filling storage spaces as completely as possible, e.g. application of vibrators
- B65G69/04 . Spreading out the materials conveyed over the whole surface to be loaded; Trimming heaps of loose materials
- B65G69/04A . . [N: by relatively moving an endless feeding means ([B65G69/04G](#) takes precedence)] [N0101]
- B65G69/04B . . [N: with scraping belts or chains] [N0101]
- B65G69/04C . . [N: with vibrating or shaking means] [N0101]
- B65G69/04D . . [N: with screw conveyors] [N0101]
- B65G69/04E . . [N: with chutes, deflector means or channels ([B65G69/04G](#) takes precedence)] [N0101]
- B65G69/04F . . [N: with scraping devices ([B65G69/04B](#) takes precedence)] [N0101]
- B65G69/04G . . [N: with rotating means, e.g. tables, arms] [N0101]
- B65G69/04H . . [N: with throwing devices] [N0101]
- B65G69/04I . . [N: with air jets] [N0101]
- B65G69/04J . . [N: with electric or magnetic means] [N0101]
- B65G69/04K . . [N: with a pneumatic feeding conveyor] [N0101]
- B65G69/06 . Fluidising
- B65G69/08 . Devices for emptying storage spaces as completely as possible ([devices preventing the formation of bridges B65D88/64](#))
- B65G69/10 . Obtaining an average product from stored bulk material ([for measuring or testing G01](#))
- B65G69/12 . Sieving bulk materials during loading or unloading
- B65G69/14 . Pulverising loaded or unloaded materials
- B65G69/16 . Preventing pulverisation, deformation, breakage, or other mechanical damage to the goods or materials
- B65G69/16D . . [N: using descending or lowering endless conveyors] [N9609]
- B65G69/18 . Preventing escape of dust
- B65G69/18B . . [N: by means of sealed systems] [N9409]
- B65G69/18B2 . . . [N: with aspiration means] [N9409]
- B65G69/18B4 . . . [N: with co-operating closure members on each of the parts of a separable

- transfer channel] [N9409]
- B65G69/18D . . [N: by means of non-sealed systems] [N9409]
- B65G69/18D2 . . . [N: with aspiration means] [N9409]
- B65G69/18D4 . . . [N: with non-return closures] [N9409]
- B65G69/18D6 . . . [N: with spraying means] [N9409]
  
- B65G69/20 . Auxiliary treatments, e.g. aerating, heating, humidifying, deaerating, cooling, de-watering or drying, during loading or unloading; Loading or unloading in a fluid medium other than air
  
- B65G69/22 . Horizontal loading or unloading platforms (pile tables [B65H](#); as road or railway equipment [E01F1/00](#))
- B65G69/24 . . having platform level adjusting means
- B65G69/26 . . Rotatable platforms
  
- B65G69/28 . Loading ramps (as road or railway equipment [E01F1/00](#))
- B65G69/28B . . [N: permanently installed on the dock] [N9409]
- B65G69/28B2 . . . [N: pivoting ramps] [N9409]
- B65G69/28B2B . . . . [N: with fluid-operated means] [N9409]
- B65G69/28B2B2 . . . . . [N: extensible by pivoting parts] [N9409]
- B65G69/28B2B4 . . . . . [N: extensible by sliding parts] [N9409]
- B65G69/28B2D . . . . . [N: with spring-operated means] [N9409]
- B65G69/28B2D2 . . . . . [N: extensible by pivoting parts] [N9409]
- B65G69/28B2D4 . . . . . [N: extensible by sliding parts] [N9409]
- B65G69/28B2F . . . . . [N: with electric motor-operated means] [N9409]
- B65G69/28B2H . . . . . [N: with weight counterbalancing means] [N9409]
- B65G69/28B4 . . . [N: adjustable with respect to the dock] [N9409]
- B65G69/28F . . [N: Constructional features of deck or surround] [N9409]
- B65G69/28F2 . . . [N: Safety or protection means, e.g. skirts] [N9409]
- B65G69/28F2B . . . . [N: operated by detectors or sensors] [N9409]
- B65G69/28F2D . . . . [N: Vehicle barriers mounted on deck] [N9409]
- B65G69/28F2F . . . . [N: Safety legs] [N9409]
- B65G69/30 . . Non-permanently installed loading ramps, e.g. transportable [N0902]