Claims

1. Method for picking articles according to the goods-to-man principle at a picking station, in which articles are picked from product load carriers into order load carriers, the order load carriers are conveyed in a first row through the picking station, articles are presented in product load carriers and picking is carried out therefrom, characterized in that, the product load carriers are also conveyed in a second row through the picking station, the second row being arranged at an angle to the first row and picking taking place from a flow of product and order containers which are simultaneously conveyed through the picking station, the putting into the order load carrier taking place while product load carriers are in movement.

2. Method as claimed in claim 1, characterized in that the order load carriers and product load carriers share a common take away after picking.

3. Method as claimed in claim 2, characterized in that the common take away is inline with the first row of the order load carriers or the second row of the product load carriers.

4. Method as claimed in any one of the preceding claims, characterized in that the order load carriers and/or the product load carriers are conveyed through the picking station in a narrow side leading orientation and/or a wide side leading orientation.

5. Method as claimed in any one of the preceding claims, characterized in that multiple pick and/or put positions are presented in the picking station.

6. Method as claimed in any one of the preceding claims, characterized in that the picker is instructed to put to second order load carrier position to allow both order load carriers and/or the product load carriers to be conveyed through the picking station simultaneously.

7. Method as claimed in any one of the preceding claims, characterized in that product and/or order consolidation may be performed by picking from product load carriers and putting to product load carriers and/or by picking from order load carriers

and putting to order load carriers for consolidation of load carriers.

8. Method as claimed in any one of the preceding claims, characterized in that, after removal of the desired articles for the picking order, used product load carriers are transported away out of the pick place into a temporary buffer position for later use in a further picking operation.

9. Method as claimed in any one of the preceding claims, characterized in that, after placement of desired articles for partial order picking, an order load carrier is transported away out of the pick place into a re-use buffer and/or shuffle position from which it may be returned to the order carrier first row for later completion of the order picking.

10. Picking station for picking articles according to the goods-to-man principle, wherein articles are picked in order load carriers, wherein the articles in product load carriers are conveyed through the picking station on a first linear conveying system and the order load carriers are conveyed through the picking station on a second linear conveying system, characterized in that the first and second conveying system are arranged at an intersecting angle to each other and are controlled by a controller to provide a continuous conveyance flow of product and order carriers through the picking station, such that the putting into the order load carrier taking place while product load carriers are in movement.

11. Picking station as claimed in claim 10, characterized in that load carriers share a discharging and gathering third conveying system, which is either inline with the first or second conveying system, which said third conveying system may optionally include a downstream divert.

12. Picking station as claimed in any one of claims 10 to 11, characterized in that the first and/or second linear conveying system has a tilting mechanism for tilting the load carriers towards an operator, especially a tilted RAT (Right Angle Transfer) in which only a corresponding pick/put position may be tilted providing the operator a distinct indication where the items are to be picked from and/or where picked items are to be put to.

13. Picking station as claimed in claim 12, characterized in that the tilted position comprises a bumper to soften the impact when the load carrier is pushed onto the tilted conveyor section.

14. Picking station as claimed in any one of claims 10 to 13, characterized in that conveyor positions on a parallel inbound load carrier conveyor section behind put positions on second linear conveyor may be used as additional put positions, especially for robotic stations.

15. Method as claimed in any one of the preceding claims 1 to 9, characterized in that, order load carriers may be routed via the product load carrier conveyor to the intersection of the order and product load carrier conveyors being the put position and optionally even backwards on the order load carrier conveyor.

16. Method as claimed in any one of the preceding claims 1 to 9 or 15, characterized in that, the picking station allows the operator to look on the fly and even look ahead concerning the product load carriers to recognize and prepare what to pick ahead of time; to then pick on the fly and even pick ahead during product load carrier movement and then to put on the fly and even put ahead during order load carrier movement with or without varying the conveyance speed of those load carriers.

17. Method as claimed in any one of the preceding claims 1 to 9 or 15 to 16, characterized in that, the operator commands discharge of the product load carrier from the pick position directly after picking before or during putting into an order load carrier in parallel to his put operation.

18. Picking station as claimed in any one of claims 10 to 14, characterized in that it includes temporary shelving in a raised position above/beyond an operator picking area.