

LOW-COST AUTOMATION





LOW-COST AUTOMATION FOR MACHINE TOOLS - AUTOMATED STORAGE SYSTEM AND GRIPPER FROM AMF

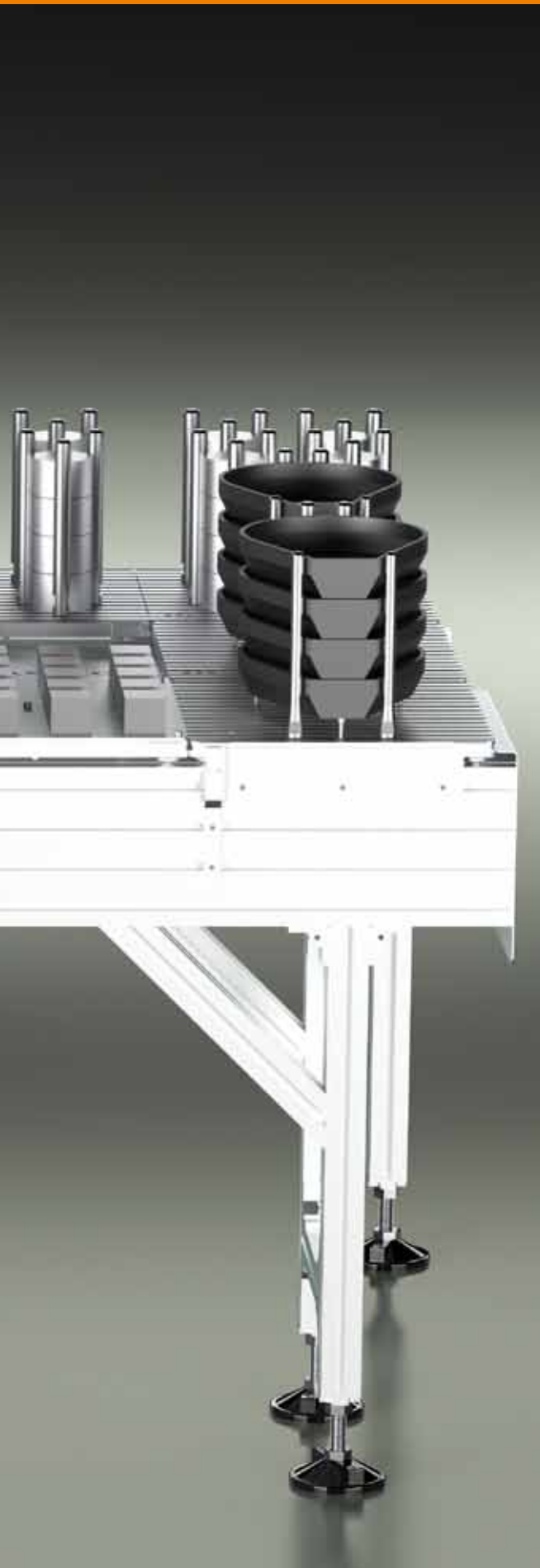
A perfect team for automation. With the automated storage system and grippers from AMF, your machine tool will run by itself. Regardless of how many different workpieces there are, once it is set up, the tool works around the clock.

We offer you an efficient alternative to expensive robots or automation cells. Existing shift models can be supplemented simply and flexibly by one or more worker-free shifts. This dramatically increases your machine run time and makes your entire production system more economical.

THE ADVANTAGES AT A GLANCE:

- > Modular linear feed system
- > Economical and flexible automation solution
- > Production of different workpieces in one loading
- > Simple control by means of M-commands
- > Automated storage system serves as storage and/or transport unit for workpieces
- > Combined application of various gripper types

Talk to us about it!



No. 1700KSS

Automated storage system

Storage system to supply and feed workpieces on magazines.

Order no.	Magazine size [mm]	No. of magazines	Load bearing capacity per magazine [N]	Drive, pneumatic [bar]	Magazine speed [mm/s]	Control via M-commands max.	Weight [Kg]
529933	375 x 375	7	500	5	50 - 300	5	300
522375	500 x 500	7	500	5	50 - 300	5	350

Application:

Automated storage systems are used to supply and feed unmachined parts and workpieces into the machine tool. These modular magazines are often positioned next to the machine. They can, however, be integrated directly into machine tools. They are especially suitable for flexibly interlinking machines. By virtue of their attributes, the automated storage systems are designed specifically for self-service by CNC machines, which depend on workpiece interchange within the movement range of the spindle. These magazines are suitable for both gantry machine centres, for cross-table machines and for machines with tables that execute the movement in the X-axis. These magazines are the ideal solution for shafts and cubic components, as well as for cast or moulded components. Pallets or fixtures can also be stored. The permitted dimension of the components depends on the magazine size, which is largely freely selectable.

Features:

The automated storage system can be adapted to suit different spaces, as it can have any number of direction changes. To bring the components into the gripping range of the machine tool, a magazine moves temporarily into the working range of the spindle. The protected magazine guide is so smooth-running that the magazine only has to be shielded at the point of transition to the machine tool. The result is an affordable solution which also allows access to the workpieces at all times. The pneumatically driven automated storage system is controlled by the machine control via 3 to 5 M-commands. The components can be positioned on the magazine in a flat or a stacked arrangement. Shape and contour masks or stack and stop elements are ideal for fastening.

Advantage:

- Very high component stocking density
- Quick and simple component access
- Simple control via M-commands
- Highly flexible in terms of shape and dimensions
- Suitable as a magazine and/or transport unit

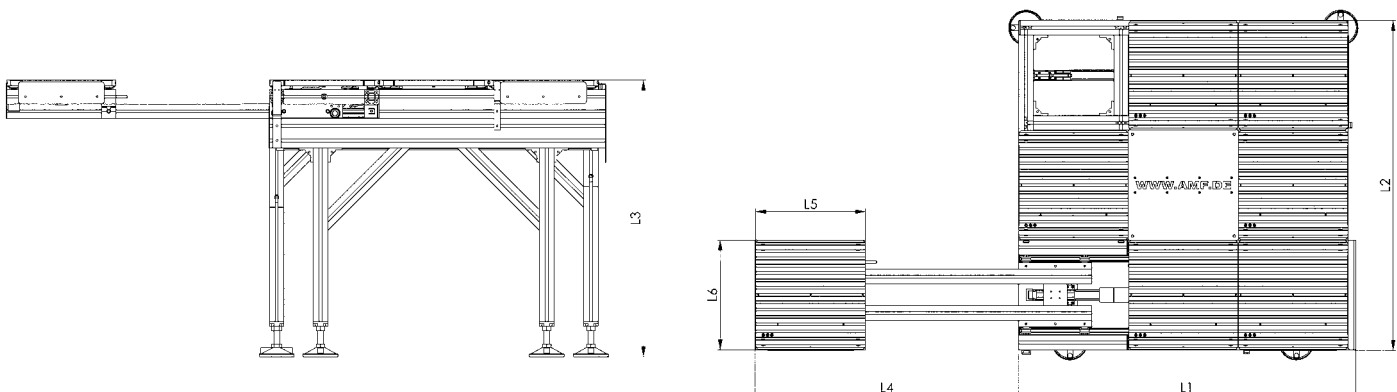
Note:

The time it takes to change the magazine in the automated storage system depends on the total magazine weight, the effective operating pressure and the nature of the workpiece holder on the magazine. The time must be worked out for each individual automation solution.



Dimensions:

Order no.	Magazine loading height [mm]	Height adjustability [mm]	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	L5 [mm]	L6 [mm]
529933	300	100	1154	1128	900 - 1000	900	375	375
522375	300	100	1529	1503	900 - 1000	1275	500	500



Subject to technical alterations.



No. 1610WG

Gripper with counterbalance function

For part handling in the machine tool.



Order no.	Tool fixture	Stroke H [mm]	min. operating pressure [bar]	max. operating pressure [bar]	Gripping force [N]	Weight [g]
538066	SK40	23	4	10	-1600	3100
538082	SK50	23	4	10	-1600	3100
538108	HSK50	23	4	10	-1600	3200
538124	HSK63	23	4	10	-1600	3200

Application:

The pneumatically driven gripper is used for inserting tools from a magazine or similar into a clamping device in the machine tool. The gripper is unloaded from the tool magazine and loaded into the machine spindle for this purpose.

It is actuated via compressed air, which is routed through the machine spindle. The medium is used to close the gripper. It is reset by means of spring force.

Features:

Positioning compensation:

For the exact positioning of components, e.g. against stops, the gripper is provided with self-resetting compensating elements. This solution, integrated into the gripper, considerably eases the handling of unmachined parts or semi-finished products and relieves the machine spindle.

Overload protection:

The gripper has safety devices which prevent spindle damage and expensive tool repairs in the event of a collision.

Advantage:

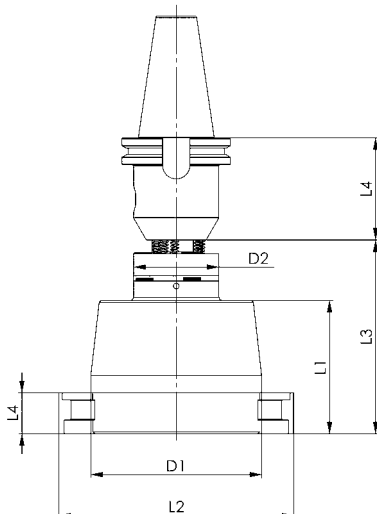
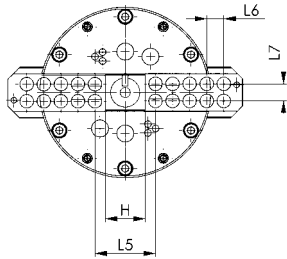
- Affordable automation solution
- Suitable for the handling of diverse workpieces
- High gripping force
- Compensating function: X/Y: +/- 1 mm, Z: 8 mm, C: +/- 2.5°
- Overload protection against tool and machine spindle damage

Note:

The maximum workpiece weight per gripper is 60 kg. The length of the tool holder (dimension L4) can vary depending on version and manufacturer.

Grip inserts:

Not supplied as standard.



Dimensions:

Order no.	D1 [mm]	D2 [mm]	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	L5 [mm]	L6 [mm]	L7 [mm]	L8 [mm]
538066	100	50	78	140	113,5	60	35	10	10	24
538082	100	50	78	140	113,5	60	35	10	10	24
538108	100	50	78	140	113,5	80	35	10	10	24
538124	100	50	78	140	113,5	80	35	10	10	24

No. 1600

Gripper inserts for gripper - prism

Delivered in pairs.
 Hardened steel with wear-resistant surface.
 First side with horizontal and vertical prism, second side ribbed.



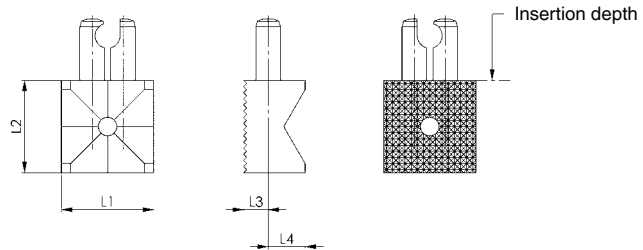
Order no.	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	Weight [g]
538140	30	30	8	12	200

Application:

For quick and safe part handling in the machine tool using the AMF gripper. The parts are mounted to the gripper carrier and mechanically secured.

Note:

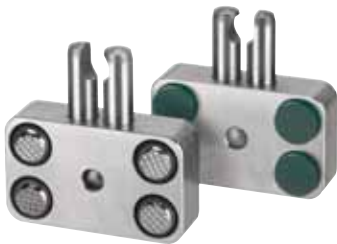
The grip inserts are suitable for all AMF grippers in the 1610WG series. They can be adapted to the workpiece size concerned by displacement on the gripper carrier.
 The smallest diameter that can be gripped with the prism is 12 mm.



No. 1600

Gripper inserts for gripper - universal

Delivered in pairs.
 Hardened steel with wear-resistant surface.
 First side with four contact surface with ribbed surface, second side with four contact surfaces from soft plastic.



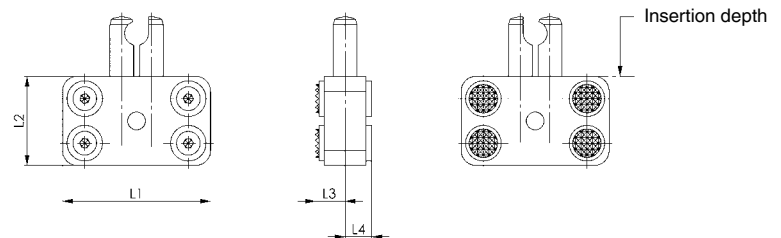
Order no.	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	Weight [g]
538181	50	30	10	9	220

Application:

For quick and safe part handling in the machine tool using the AMF gripper. The parts are mounted to the gripper carrier and mechanically secured.

Note:

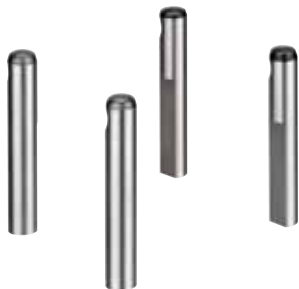
The grip inserts are suitable for all AMF grippers in the 1610WG series. They can be adapted to the workpiece size concerned by displacement on the gripper carrier.



No. 1600

Gripper inserts for gripper - finger

Delivered in pairs.
 Hardened steel with wear-resistant surface.
 Hardened pin with flat clamping surface on one side.



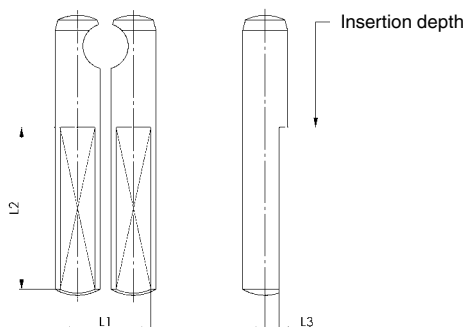
Order no.	L1 [mm]	L2 [mm]	L3 [mm]	Weight [g]
538165	16	29	2,5	70

Application:

For quick and safe part handling in the machine tool using the AMF gripper. The parts are mounted to the gripper carrier and mechanically secured.

Note:

The grip inserts are suitable for all AMF grippers in the 1610WG series. They can be adapted to the workpiece size concerned by displacement on the gripper carrier.



Subject to technical alterations.



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These conditions of sale apply to business conducted with companies, legal entities in the public sector, and legal entities with special budget in the public sector. Our deliveries and services are carried out exclusively on the basis of the conditions stated below. Deviating purchasing conditions of the buyer will not become part of the contract, not even through acceptance of the order, unless we have expressly accepted them.

1. Offer and entering into a contract

The basis of our delivery contracts is the latest edition of our catalogue. Orders are not considered as accepted until they have been confirmed by us in writing. When goods are supplied from stock and, for organisational reasons, you receive no separate confirmation, the invoice has the additional function of confirming the order. Details of dimensions and weights, and illustrations, drawings and data are not binding and may be changed by us at any time. Deviations cannot be excluded.

2. Prices

Prices are quoted in EUR ex-works excluding turnover tax, packing, freight, carriage, and insurance. Unless otherwise agreed, our list prices on the day of delivery apply. In order to cover our costs, orders under EUR 50.– net value are subject to a small order surcharge of EUR 10.–.

3. Delivery

Delivery delays are quoted to the best of our knowledge but without guarantee. Agreed delivery delays begin on the day we accept the order and refer to the completion of the goods in our works.

4. Transfer of risk

Risks are transferred to you when the goods are passed to a specific person, company, or organisation that is charged with the execution of carriage of the goods. This applies also to partial deliveries and when we have accepted the costs of carriage, delivery or erection. The risks are also transferred to you when you have defaulted on acceptance.

5. Dispatch

Goods are supplied ex-works. Dispatch is at your cost and risk. Scheduled, FOB, and CIF deliveries are also at your risk. In the absence of specific instructions concerning dispatch, we will arrange same as we think fit, but without accepting any responsibility for choosing the cheapest or most suitable method of dispatch. We make a handling charge of EUR 5.– if goods are sent at your request to a third party. You accept that your order can be supplied in partial deliveries insofar as this is reasonable.

6. Reservation of proprietary rights

Goods delivered remain our property until payment of all claims has been received in full or until redemption of cheques given in payment. The cancellation of individual positions in an open invoice and the drawing of a balance and its acceptance do not affect proprietary rights. You have the right to dispose of the goods as a normal commercial transaction, but you are forbidden to pawn, mortgage, or transfer ownership of them in settlement of a debt or debts. You surrender to us herewith your right to payment for goods for which we reserve our proprietary rights. You have the right to collect these payments as long as you meet your obligations to us. If we request it, you are obliged to name the third party and we have the right to publish this information and the transfer of rights.

7. Cancellation rights due to late payment or insolvency

If you do not pay for the goods by the time payment is due, and if you have not paid after expiry of a reasonable time limit set by us, we have the right to withdraw from the contract and demand the return of goods already supplied. Rights under § 323 BGB (BGB = German civil law code) remain otherwise unaffected. Application for the opening of insolvency proceedings gives us the right to withdraw from the contract and demand the immediate return of goods supplied before the bankruptcy court orders protective measures.

8. Packaging

Packages comply with the German packaging regulations (WO). Disposable packaging is charged at cost. The packaging is not returnable.

9. Tooling costs

In the absence of any agreement to the contrary, tooling made for the execution of an order remains our property in all cases. This applies even if we have made a charge for a proportion of the tooling costs.

10. Payment

Our invoices are payable net within 30 days of the date of the invoice, or with 2% discount if paid within 10 days. Invoices below EUR 50.– are payable immediately without discount. Our credit notes and your charges on us reduce the amount subject to discount. Late payment entitles us to interest at the rate the bank charges us for a current account overdraft but at least 8 percent above the current base rate of the European Central Bank. If payment is overdue, we are entitled, after giving you notice in writing, to cease fulfilling our obligations under the contract until payment is received.

11. Offsetting exclusion

You can only offset payments with legally-established or unopposed counter claims.

12. Guarantee

If you come to an agreement with us on properties of the goods, we include this agreement in our technical specifications. If we have to supply to your drawings, specifications, samples, etc., you accept the risk associated with suitability for the intended purpose. The point in time at which risk is transferred is decisive for the contractual condition of the goods. The deterioration of parts subject to wear in the course of normal use does not constitute a defect. If the goods supplied are defective, we will – at our choice and within a reasonable time limit set by you – supply a replacement or repair the goods. If such repair or replacement is not satisfactory, you have the right to reduce the price or withdraw from the contract. Any further guarantee claims are excluded. Recognisable defects must be notified at the latest within 10 days of receipt and defects that are not recognisable must be notified as soon as they are discovered. The guarantee period is 24 months and starts with dispatch of the goods from our works.

13. Hindered or impossible performance

If we are prevented from meeting our obligation by some unforeseeable event (e.g. disruption of our plant, or delay in the delivery of important raw materials), which, in spite of taking all reasonable care appropriate to the circumstances of the case, we have been unable to avert, and it has become impossible to execute the delivery or service punctually, the delivery delay will be extended to an appropriate extent.

14. Liability

Except in the case of injury to life or limb, or damage to health caused by our breach of duty, we are only liable in the event of intent or culpable negligence on our part.

15. Customer specials

Orders for customer specials must be in writing and include binding details of execution, quantities etc. For technical reasons we reserve the right to supply 10% more or less than the quantity specified. If technical changes or cancellation are required, the costs incurred will be charged to the customer.

16. Deliveries of samples and return of goods

Samples will be charged. When goods have been sent for testing or as samples, we will credit you with the additional price against subsequent orders, as long as the net contract value is at least EUR 125.–. The return of goods is only possible with prior agreement. Customer specials may not be returned. For goods returned for reasons outside our responsibility (e.g. wrongly ordered), we charge 10% of the value of the goods but at least EUR 7.50, to cover administration costs.

17. Place of fulfilment, court of jurisdiction

The place of fulfilment for all obligations arising from this contract is D-70707 Fellbach. The court of jurisdiction for any legal dispute arising from this contract is D-71332 Waiblingen. (All disputes that arise from this contract or about its validity will be decided by a court of arbitration according to the Arbitration Rules of the German Committee for Arbitration Courts/Settlement and Arbitration Procedure of the International Chamber of Commerce. Such decisions will be final and normal legal procedures are excluded.) German law applies (BGB and HGB = civil and commercial codes). The application of UN purchasing law (CISG) is excluded.

18. Validity clause

If individual conditions should be found to be not legally valid, the remaining conditions continue to apply. The invalid conditions will be replaced by conditions which fulfil as closely as possible the commercial intent of the contract with reasonable consideration of the interests of both parties. With the publication of these Conditions for Sales, Deliveries and Payment, all previous versions become invalid. This does not apply to contracts agreed before publication.

Subject to technical alterations.



- + Fully automatic cleaning of the fixture and the complete inside space of the machine
- + Removes from employees the burden of disliked and unproductive tasks



- + Economical marking of workpieces directly in the machine tool
- + Reduces throughput times of parts in production



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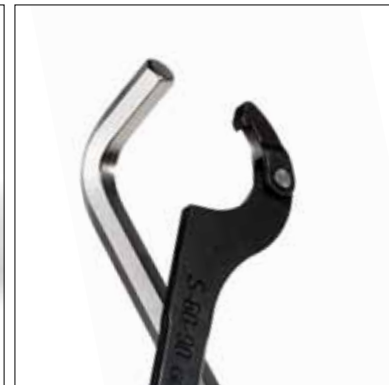
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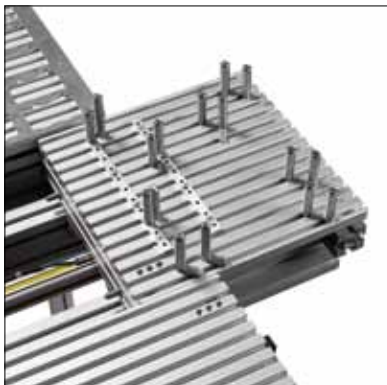
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