

AMF Lean-Automation





> AMF product range



Locks for gates and doors



Hand tools



Standard clamping elements



Toggle clamps



Vacuum clamping systems



Hydraulic clamping systems



Modular clamping systems



Single and multiple clamping systems



Zero-Point-Systems



Magnetic clamping systems



Marker und Cleaner



Gripper



wireless sensing systems

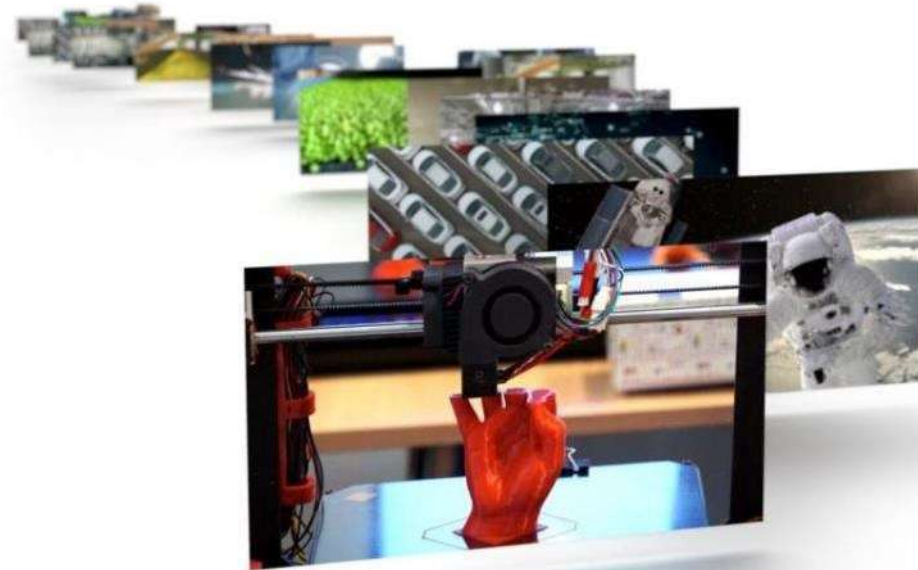


Loading unit



> Proven in practice

AMF products for a wide range of sectors and industries



> Centring clamp, pneumatic version

CENTRING CLAMP

NEW!

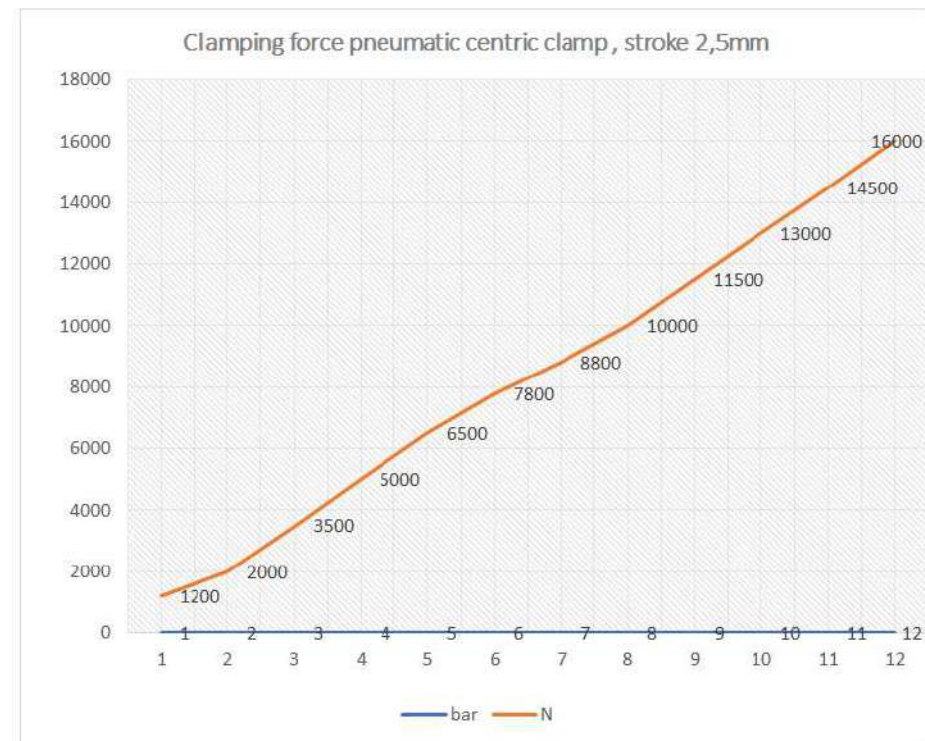
Ideal for use in automated applications. Compact design for maximum flexibility on your machining centres. Precise, repeatable clamping.

- PNEUMATIC OR HYDRAULIC
- CENTRIC OR WITH FIXED CLAMPING JAW
- 2.5 OR 6 MM STROKE



CLAMPING JAW SET BLANK FOR CENTRING CLAMP

Individually adaptable to the required workpiece sizes. Suitable for pneumatic and hydraulic version.





> Centring clamp, pneumatic version

- functional parts & housing material: made of hardened steel
- very high clamping forces
- compatible with our zero point system (adapterplate)
- connection on the side with thread (G1/4) or at the bottom with o-rings
- low interfering contours for great flexibility on multi-axis machining cent
- uniform jaw mounting for all sizes
- optional reinforcement by spring package for „external clamping“
- low maintenance and user friendly design
- double-acting cylinder drive
- additional size „160“ in development
- Lubrication nipples and lubrication grooves for long service life
- Labeled jaw carriers for high process reliability



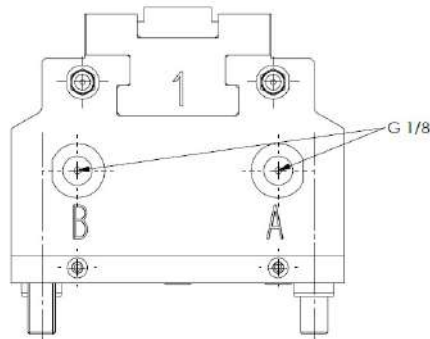
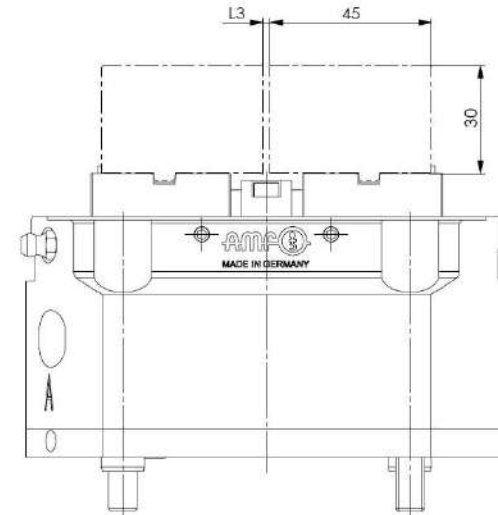
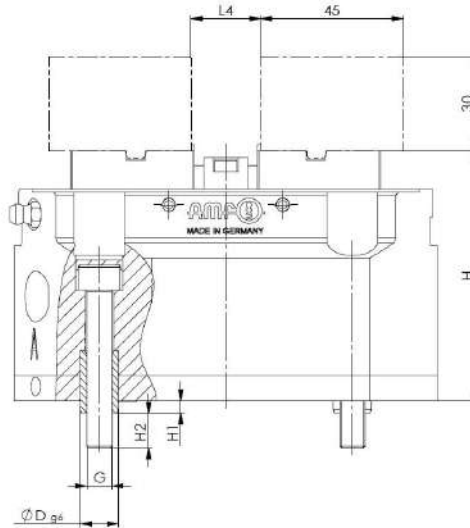
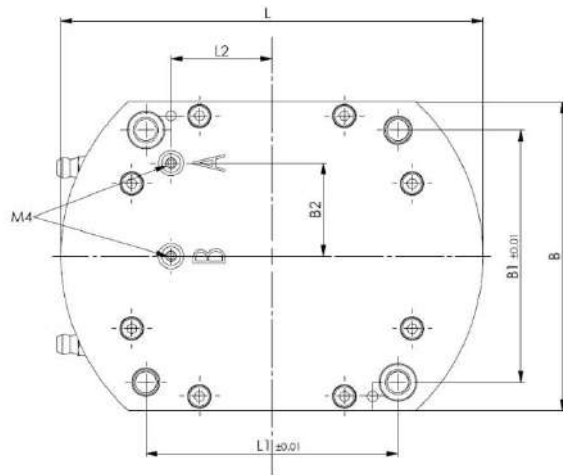
included in the delivery:

- Mounting screws M8
- positioning sleeves
- cover caps

Version	6390P-100ZKH (centric)	6390P-100Z (centric)	6390P-100FKH (fix jaw)	6390P-100F (fix jaw)
max. pressure [bar]	12	12	12	12
stroke per jaw [2 x mm]	2,5	6	2,5	6
clamping force [kN]	16	10	16	10
repeat accuracy	+/- 0,01 mm	+/- 0,01 mm	+/- 0,01 mm	+/- 0,01 mm
Delivery capability (from week 16)	in stock	2 weeks	2 weeks	2 weeks



> Centring clamp, pneumatic version



B	B1	B2	D	G	H	H1
98	80	29,5	12	M8	79	4
H2	L	L1	L2	L3	L4	
11	134	80	32	2 + Hub	22 + Hub	

> Centring clamp, hydraulic version

CENTRING CLAMP

NEW!

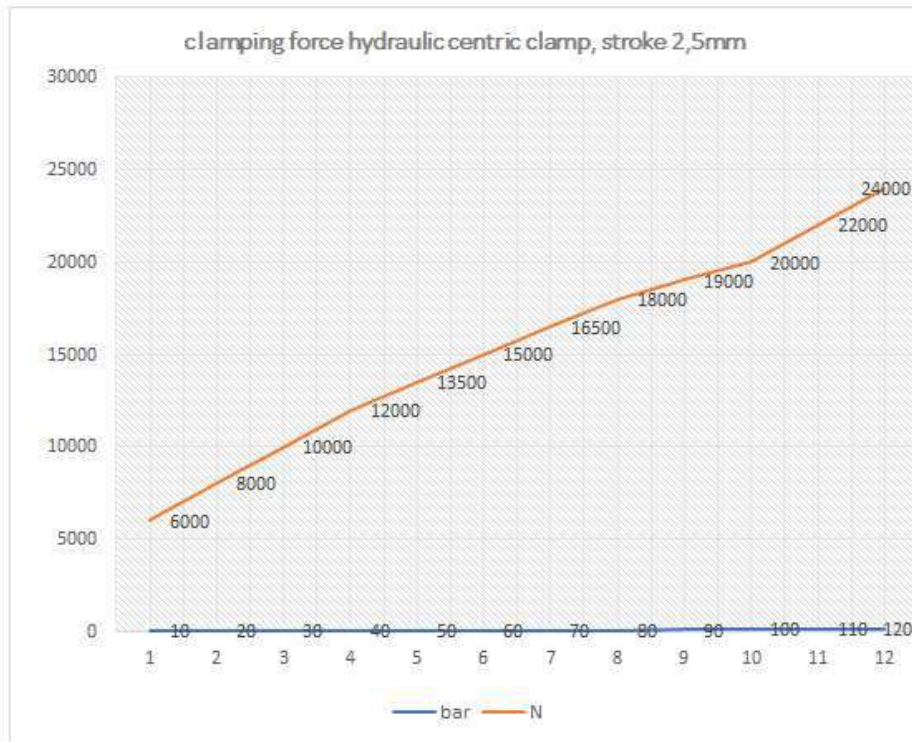
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- low maintenance and user friendly design
- double-acting cylinder drive
- additional size „160“ in development
- Lubrication nipples and lubrication grooves for long service life
- Labeled jaw carriers for high process reliability

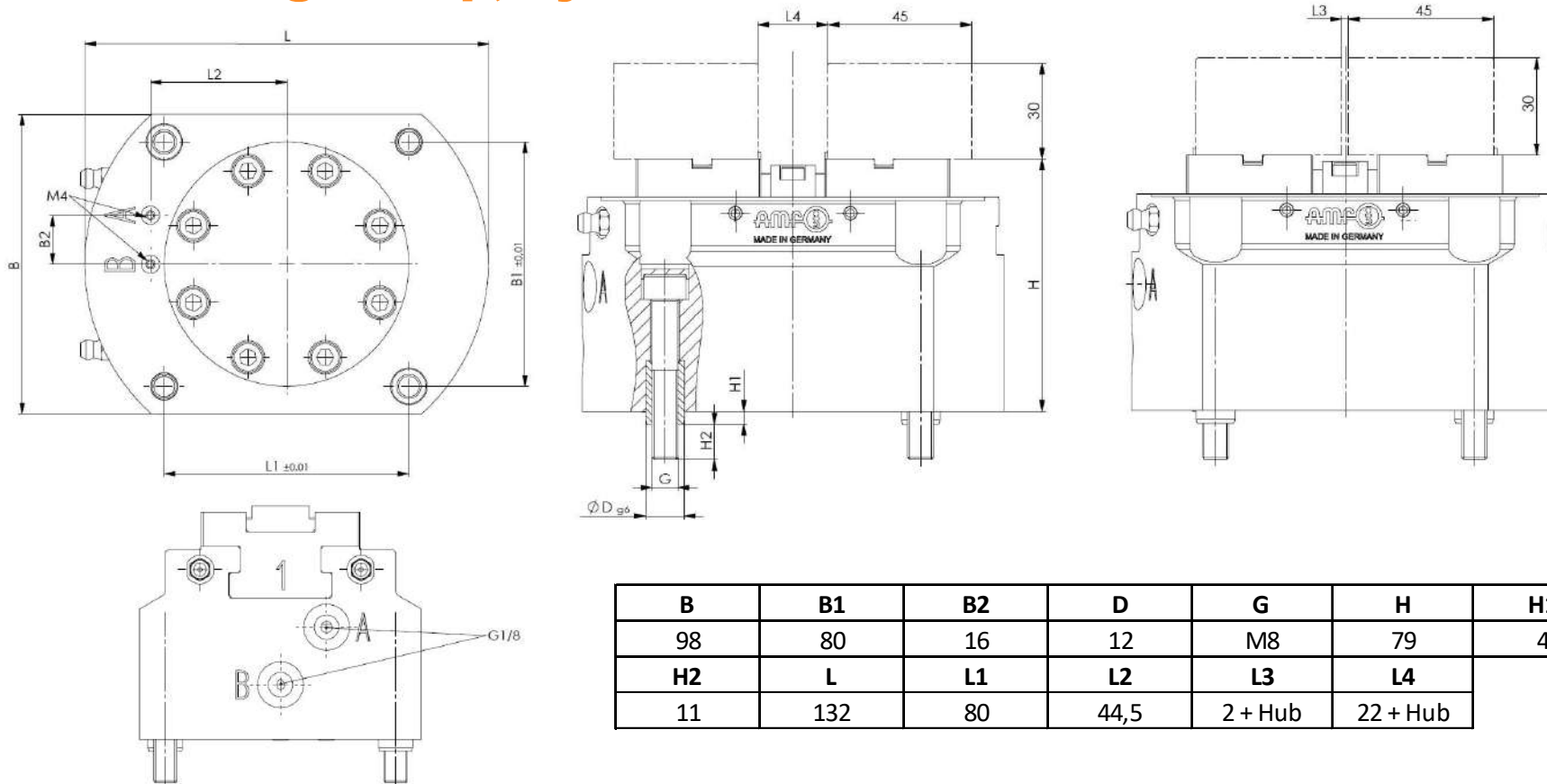


included in the delivery:

- Mounting screws M8
- positioning sleeves
- cover caps

Version	6390H-100ZKH (centric)	6390H-100Z (centric)	6390H-100FKH (fix jaw)	6390H-100F (fix jaw)
max. pressure [bar]	100	100	100	100
stroke per jaw [2 x mm]	2,5	6	2,5	6
clamping force [kN]	20	15	20	15
repeat accuracy	+/- 0,01 mm	+/- 0,01 mm	+/- 0,01 mm	+/- 0,01 mm
Delivery capability (from week 16)	in stock	2 weeks	2 weeks	2 weeks

> Centring clamp, hydraulic version

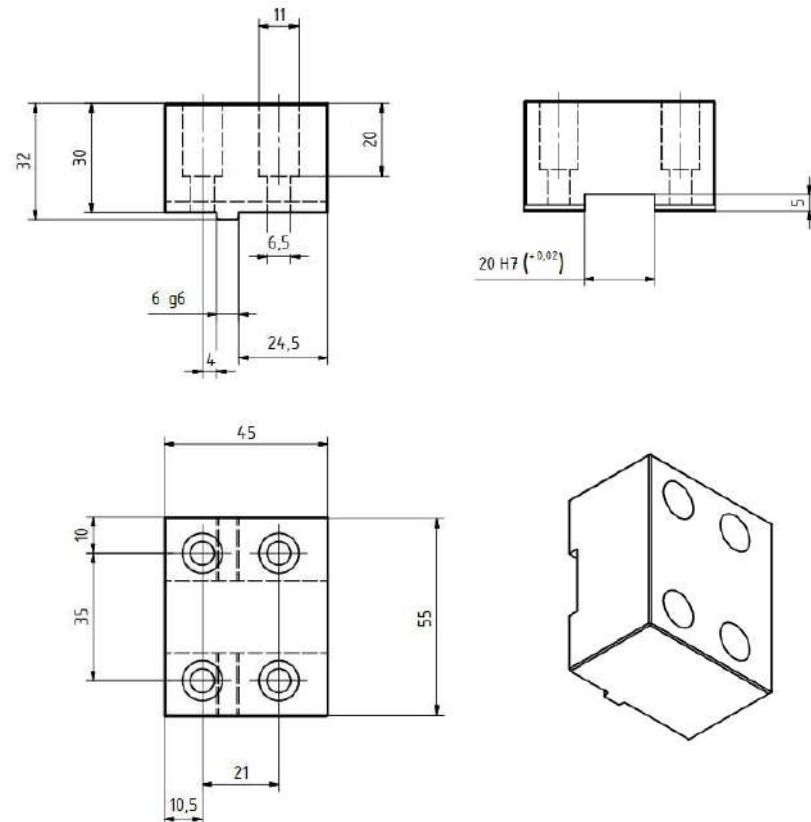


> Clamping Jaws for centric clamp

Soft Clamping Jaws for centring clamp Size 100, Pneumatic & Hydraulic

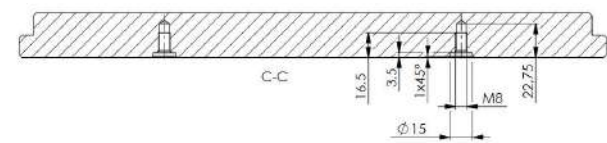
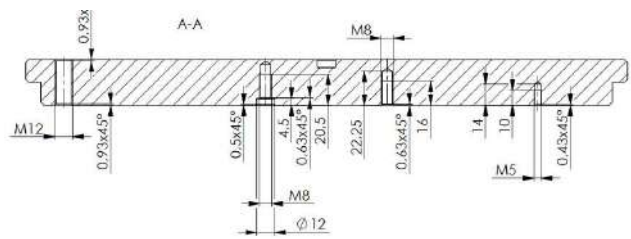
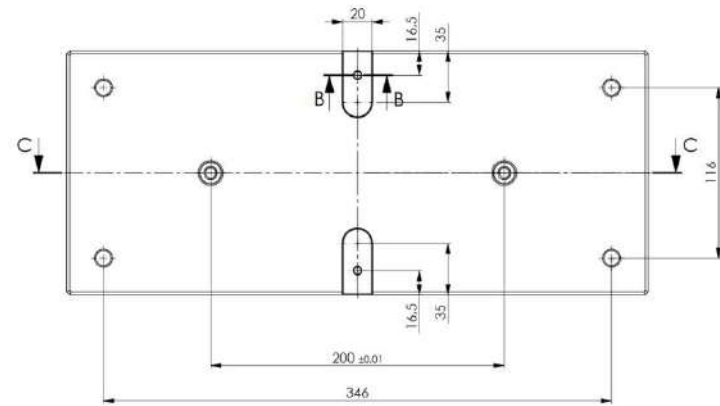
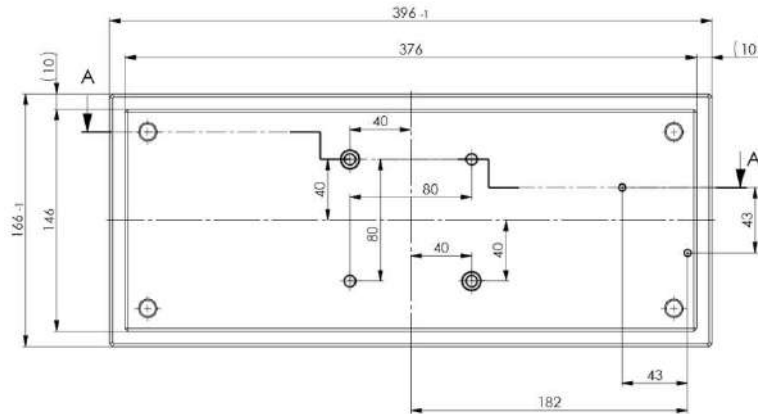
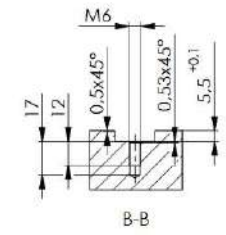
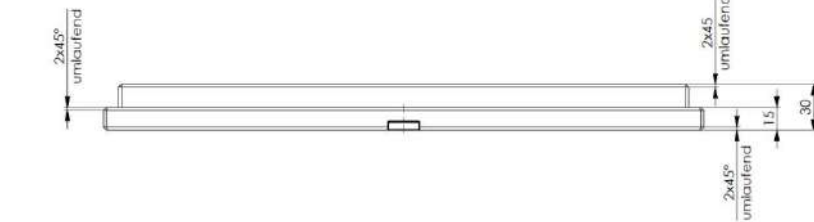
The soft clamping jaws with dimensions 45x60x30 mm are made of C45 and can be adapted by the customer to the respective outer or inner contour of the component.
The jaws can be rotated 180°.

Available **without** mounting holes on request.





> interchangeable pallet for centring clamp



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AMF Lean-Automation <11>



> Air hydraulic pump

Air hydraulic pumps incl. connection set

serves for hydraulic pressure generation and monitoring, ideal for the operation of hydraulic clamping devices. Is controlled by means of free M commands of the machine, control voltage 24V. For the hydraulic supply, 3 meters of hose are provided inside and outside the machine.



Air hydraulic pumps incl. connection set

Order no. 564834

1 pcs.	560753	Air hydraulic pump 60 bar with 4/3 way valve and pressure gauge
2 pcs.	327403	Electronic pressure switch
2 pcs.	498709	Cable with round plug for pressure switch
2 pcs.	112714	Straight screw-in fitting G1/8
4 pcs.	175323	Straight screw-in fitting G1/4
4 pcs.	160184	Straight screw-in fitting G1/4
2 pcs.	131631	Blukhead fitting
4 pcs.	69013	Quick coupling sleeve & plug
4 pcs.	68601	Hydraulic hose 3000 mm
8 pcs.	69823	Cu sealing ring G1/4
2 pcs.	69815	Cu sealing ring G1/8



> Pump unit

Pump unit incl. connection set

serves for hydraulic pressure generation and monitoring, ideal for the operation of several hydraulic clamping devices in parallel and short cycle times. Is controlled by means of free M commands of the machine, control voltage 24V. For the hydraulic supply, 3 meters of hose are provided inside and outside the machine.

Pump unit incl. connection set

Order no. 564801

1 pcs.	328930	Pump unit 6906N-61666 (preset to 40 bar)
1 pcs.	60772	Coupling plug with pin
1 pcs.	61895	Coupling plug with socket
2 pcs.	112714	Straight screw-in fitting G1/8
4 pcs.	175323	Straight screw-in fitting G1/4
4 pcs.	160184	Straight screw-in fitting G1/4
2 pcs.	131631	Blukhead fitting
4 pcs.	69013	Quick coupling sleeve & plug
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8 pcs.	69823	Cu sealing ring G1/4
2 pcs.	69815	Cu sealing ring G1/8

> electropneumatic connection set

The connection set 1:

is used for electropneumatic actuation of double-acting pneumatic clamping elements.

The 5/3 valve is placed outside the machine interior (e.g. in the area of the pneumatic valve terminal of the WZM) and is controlled by means of free M commands of the machine.

Control voltage 24V



Connection set:

Order no. 564826

1 pcs.	564784	5/3 pneumatic valve on 8er hose from Festo
2 pcs.	421479	Plug fitting pneumatic G1/8 for 8er hose
5 pcs.	430140	pneumatic hose Ø8mm x 3000 mm
1 pcs.	564816	Y-distributor for 8-piece pneumatic hose from Festo
1 pcs.	430124	Plug fitting pneumatic G1/4 for 8er hose
1 pcs.	545418	Quick coupling plug house connection to G1/4 female thread from Festo

> manuel valve – connection set

The connection set 2

is the simplest way to automate a pneumatic clamping element.

The 4/3 manual valve is mounted on the prepared mounting hole pattern of the interchangeable pallet, order no. 564784, and actuated by means of the interchangeable spindle gripper or cleaner stick. Thus, no further control device is necessary.



Anschluss-Set 2 pneumatisch, Handbetätigung Bestnr. 564828

1 pcs.	305383	4/3 pneumatic hand valve on 8er hose from Festo
6 pcs.	421479	Plug fitting pneumatic G1/8 for 8er hose
5 pcs.	430140	pneumatic hose Ø8mm x 3000 mm
1 pcs.	564816	Y-distributor for 8-piece pneumatic hose from Festo
1 pcs.	430124	Plug fitting pneumatic G1/4 for 8er hose
1 pcs.	545418	Quick coupling plug house connection to G1/4 female thread from Festo

> connection set 3 pneumatic

The connection set 3
is used to operate the zero point clamping station
to operate the zero point clamping station.



Connection set pneumatic, single

Order no. 564831

1 pcs.	430066	Quick coupling
1 pcs.	430140	Hose
1 pcs.	421453	Push-in fitting
1 pcs.	430108	Push-in fitting



> Example amortization calculation

SAMPLE CALCULATION BEFORE AND AFTER USE OF THE AMF LEAN AUTOMATION

	WITHOUT LEAN AUTOMATION	WITH AMF LEAN AUTOMATION
MACHINE HOURLY RATE	€ 100,- / h	€ 80,- / h
EFFECTIVE MACHINE RUN-TIME	8 h / day	12 h / day
CYCLE TIME PER WORKPIECE	7 min.	7 min.
COSTS PER WORKPIECE	€ 11,80	€ 9,30
BATCH SIZE PER SET-UP PROCEDURE	1 pcs.	30 pcs.
OUTPUT PER DAY	68 components	103 components
SAVINGS PER DAY		€ 257,-
INVESTMENT IN AMF LEAN AUTOMATION		env. € 10.000
PAYBACK PERIOD		only 8 weeks / 39 days

YOUR BENEFITS AT A GLANCE!

- + Higher productivity by increasing the machine running time by up to 60%
- + Improvement of delivery performance through additional unmanned shifts
- + Reduction in unit costs
- + Skilled workers have more time for other activities + 30%
(programming, quality assurance, operating other machines)



> AMF-Gripper

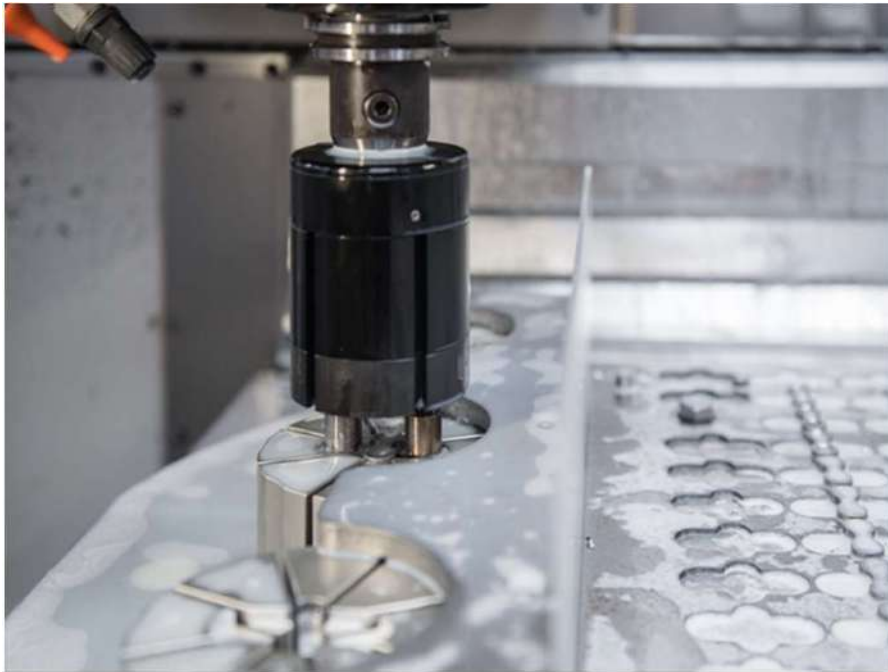
The integrated solution as lean automation

- > changed in from the tool store
- > operated by compressed air or cooling lubricant
- > high, adjustable gripping force
- > suitable for a wide range of workpieces
- > combined use of different gripper types





> AMF-Gripper



> wireless sensing systems

Innovative technology for full automation

- > wireless condition monitoring of e.g. clamping devices
- > space-saving design
- > wireless signal transmission via bluetooth 4.0
- > seamless process integration
- > low acquisition costs



> wireless sensing systems





> wireless sensing systems



> Loading unit

For automation of machining centers

- > Automation from batch size 1
- > Part handling independent of the part contour
- > automated loading and unloading of up to two different machines
- > pallet set-up in parallel with production time
- > very low space requirement
- > PLC master computer software for process-safe integration





> Loading unit



AMF's core competence is setup time minimization for our customers.

- > analysis of set-up processes**
- > consulting in clamping technology**
- > offering clamping and automation solutions**



A horizontal banner image showing technical drawings and mechanical parts in grayscale, with an orange bar at the bottom.

> Herzlichen Dank

Danke für Ihre Aufmerksamkeit.

Tack. *Merci beaucoup.* Thank you. ¡muchas gracias!

Grazie. *Dziękujemy.* *Спасибо.* *Tak.* *Bedankt.*

**Für Fragen und Anregungen stehe ich
natürlich gerne zur Verfügung ...**