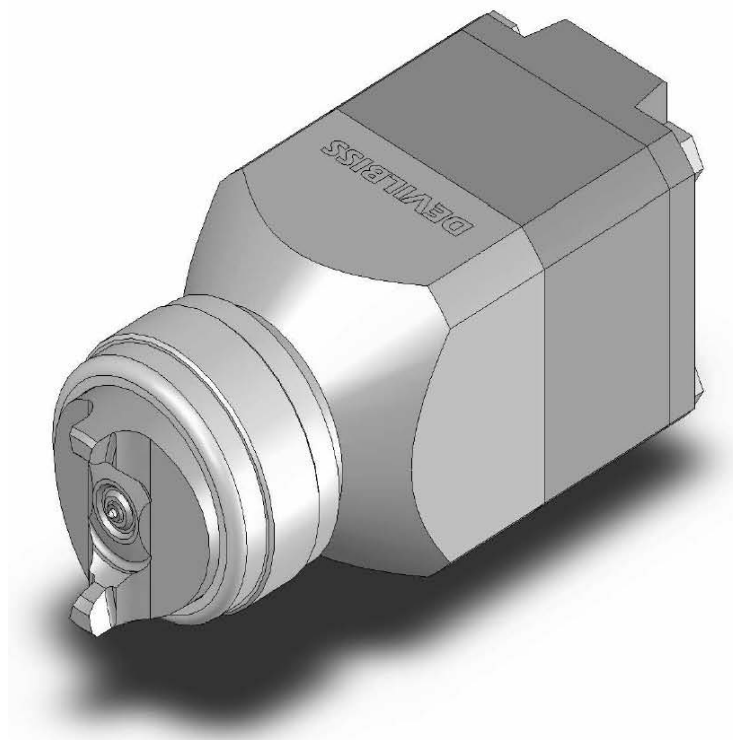


High-performance automatic spray gun AGMD



For conventional atomisation:

AGMD-514

For Trans-Tech or HVLP atomisation:

AGMD-515

Operating instruction



Table of contents

1 General.....3

1.1 Purpose of this operating instruction3

1.2 Notes and symbols used3

1.3 Abbreviations.....4

2 Safety5

2.1 Specified normal use.....5

2.2 Usage contrary to intended use5

2.3 Basic safety instructions.....6

2.4 Instructions6

2.5 Work stations.....6

2.6 Cleaning6

2.7 Requirement for the entering of spray booths7

2.8 Explosive areas (DIN EN 12215)7

3 Designs9

3.1 Technical data9

3.1.1 High-performance automatic spray guns AGMD-514 and AGMD-515.....9

4 Installation10

4.1 Usage conditions.....10

4.2 Tools and other materials required10

4.3 Fastening onto intermediate plates10

4.3.1 Intermediate plate AGMD-245-110

4.3.2 Intermediate plate AGMD-245-8.....12

4.4 Adjusting the jet geometry.....13

4.4.1 Distance to workpiece.....13

5 Maintenance.....14

5.1 Required tools and lubricants.....14

5.2 Removing the high-performance automatic spray gun AGMD14

5.3 Removing the high-performance automatic spray gun AGMD15

5.4 Cleaning gun parts18

5.5 Checking components.....18

5.6 Assembling the high-performance automatic spray gun AGMD19

6 Faults.....26

7 Spare parts28

7.1 AGMD-514 (conventional atomisation)28

7.1.1 Exploded drawing28

7.1.2 Parts list.....29

7.1.3 Nozzle and needle combination, air caps30

7.2 AGMD-515 (Trans Tech and HVLP atomisation)31

7.2.1 Exploded drawing31

7.2.2 Parts list.....32

7.2.3 Nozzle and needle combination, air caps32

7.3 Spare parts for special applications33

7.3.1 AGMD-243 piston (hard anodised aluminium).....33

7.3.2 AGMD-405-H and AGMD-405-H-C (needle set)33

7.3.3 AGMD-421-FZ paint needle (coated)34

7.3.4 AGMD-422 paint needle (ceramic)34

7.3.5 AGMD-202-1 end plate for needle stroke setting34

High-performance automatic gun AGMD

7.3.6	AGMD-205 head for gravity cup	35
7.3.7	AGMD round spray nozzle.....	35
8	EC declaration of conformity	366
9	Product liability and warranty	377

1 General

1.1 Purpose of this operating instruction

This operating instruction contains information for the assembly, maintenance, and care of the high-performance automatic spray gun AGMD. The technical data and procedures contained herein should be considered as standard and may differ depending on the actual installation.

Because every system is designed differently, the high-performance automatic spray gun AGMD must only be placed in operation by personnel authorised by ITW.

To better understand this device and to achieve optimum error-free operation for an extended period, please read this operating instruction carefully. The specified tests and fault identification should be performed before calling for a service technician.

The high-performance automatic spray gun AGMD is subject to additional development and improvements.

Separate operating instructions are available for the different adaptors and attachments.

1.2 Notes and symbols used

	Danger!	Warning of imminent danger . Consequences of failure to heed warning: Death or extremely severe injuries.
	Warning!	Warning of a possible very dangerous situation . Possible consequences of failure to heed warning: Death or extremely severe injuries. Warning of general danger.
	Caution!	Warning of a possible dangerous situation . Possible consequences of failure to heed warning: Slight or minor injuries.
	Note!	This symbol is used to draw your attention to user tips and other useful information.

All safety instructions in this operating instruction have the same uniform structure:



Signal word!

Instruction text

- The pictogram identifies the type of danger.
- The signal word identifies the severity of the danger.
- The instruction text describes the danger and provides information about how you can avoid the danger.

1.3 Abbreviations

AGMD	Automatic Gun
HVLP atomisation	High Volume, Low pressure
ITW	Illinois Tool Works
LEL	Lower Explosion Protection Level

2 Safety

2.1 Specified normal use



The high-performance automatic spray gun AGMD is designed for processing coatings based on solvents or water. It must only be used to atomise materials that are explicitly listed in the order confirmation. Use of other coating materials can only be considered if there is no possibility of:

- hazard to people or the environment
- harmful effects on the spray gun

In case of doubt, please contact the manufacturer of the high-performance automatic spray gun AGMD.

The high-performance automatic spray gun AGMD is designed for use on a fixed location spraying system and on the hollow wrist or FLEXARM robots, on automatic machines (hoisting devices), and on tripods.

Any usage beyond what is specified is considered improper use. The manufacturer shall not be responsible for any resulting damages.

	<p>Caution!</p> <p>Danger of injury and damage!</p> <p>This device may be dangerous if it is not operated according to the specifications in this operating instruction.</p>
	<p>Note!</p> <p>During the processing of highly corrosive or very abrasive materials, an increased demand in spare parts can be expected. The suitability must be checked with the material manufacturer based on the substance list.</p>

2.2 Usage contrary to intended use

Usage is contrary to intended use if:

- any media other than those specified in the operating instruction are directed through the valves
- operating conditions other than those specified in the operating instruction are present
- safety instructions are not observed during operation, assembly, and maintenance
- unauthorised conversions or modifications are made to the double seat valve that have a negative effect on safety and/or functionality

2.3 Basic safety instructions

The spray system with the high-performance automatic spray gun AGMD must only be operated by trained personnel.

A warning sign must be posted in a conspicuous place close to the spraying area. This warning sign should contain the most important functions and safety measures that users must observe.

The dangers present when cleaning spray guns must be clearly highlighted.


The start-up of the system by the user may only be performed after an initial test by an authorised technician prior to the transfer of risk to the user.

2.4 Instructions


Persons who work with the spraying device must be instructed about dangers before beginning their activities.

This instruction must be repeated and documented at least once per year.


2.5 Work stations

	<p>Danger!</p> <p>Danger of fire and explosion!</p> <ul style="list-style-type: none"> • Smoking and open flames are strictly prohibited in areas prone to fire and explosion. • No accumulations of coating materials must be allowed to collect in spray booths, on spraying stands, or anywhere in the entire work area. • Access doors to the spray booths must remain closed during spraying. <p>Sources of ignition must be avoided.</p>
---	--

2.6 Cleaning

	<p>Danger!</p> <p>Danger of fire and explosion!</p> <p>Accumulations of coating materials must be removed.</p> <p>The following must be cleaned regularly:</p> <ul style="list-style-type: none"> • Workpiece fixtures • Suction devices • Leakage mist separators and their immediate vicinity <p>Technical ventilation must be active during cleaning work.</p> <p>Use only electrically conductive containers for the cleaning fluids. Additionally, these containers must be earthed.</p> <p>Use only solvents with a flashpoint that is at least 5°C higher than the surrounding temperature.</p> <p>When cleaning the guns, wear suitable protective clothing, such as gloves, safety goggles, etc.</p>
---	---

2.7 Requirement for the entering of spray booths

	Warning!
	Danger of inhaling substances hazardous to your health!
	<p>During the spraying operation, no persons are permitted to remain in the spray booth.</p> <p>The concentration of solvent in the air must be under the limit that is harmful to health. If appropriate, wear suitable protective breathing equipment when entering the spray booth.</p>

2.8 Explosive areas (DIN EN 12215)

The categorisation of danger zones is a significant component of the safety concept for explosion protection. The ignition protection type of equipment and components integrated into the spray booth depends on the limit of concentration for flammable substances by technical ventilation.

- a) If the concentration of flammable substances is limited to less than 25% of the *LEL*, the inside of the spray booth, including ambient and exhaust air lines, together with external areas formed around permanent openings at a distance of up to 1 m should be categorised as Zone 2.
- b) If the concentration of flammable substances is between 25% and 50% of the *LEL*, the inside of the spray booth, including ambient and exhaust air lines, should be categorised as Zone 1.
- c) If the concentration of flammable substances is between 25% and 50% of the *LEL*, external areas formed around permanent openings at a distance of up to 1 m should be categorised as Zone 2.

This categorisation of areas with explosive atmospheres into zones corresponds to the category for ignition protection type according to prEN 13463-1.

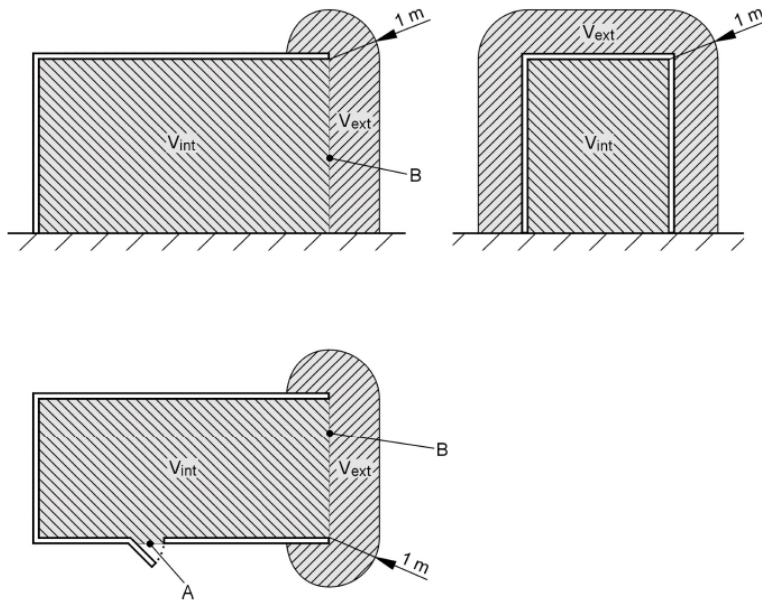
Kategorie	ausgelegt für Art von explosionsfähiger Atmosphäre	einsetzbar in Zone	Auch einsetzbar in Zone
1	Gas-/Luft-Gemisch bzw. Dampf-/Luft-Gemisch bzw. Nebel	0	1 und 2
2	Gas-/Luft-Gemisch bzw. Dampf-/Luft-Gemisch bzw. Nebel	1	2
3	Gas-/Luft-Gemisch bzw. Dampf-/Luft-Gemisch bzw. Nebel	2	—

Example of zone categorisation in a spray booth with open access side (spraying stand)

Categorisation of danger zones into Zone 1 or Zone 2

High-performance automatic gun

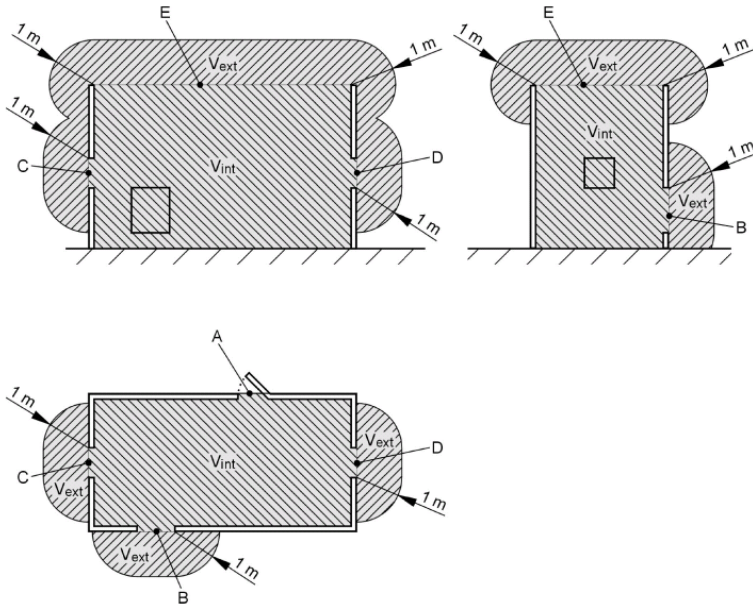
AGMD



Legende

- A keine ständige Öffnung (z. B. Türen)
- B ständige Öffnung (z. B. für die Bedienungsperson)
- V_{int} Innenraum der Spritzkabine einschließlich aller Umluft- und Abluftleitungen, eingeteilt wie folgt:
 - Zone 1 bei Begrenzung der Konzentration an brennbaren Stoffen auf > 25 % der UEG und < 50 % der UEG
 - Zone 2 bei Begrenzung der Konzentration an brennbaren Stoffen auf < 25 % der UEG
- V_{ext} Externer Raum gebildet um ständige Öffnungen der Spritzkabine, eingeteilt wie folgt:
 - Zone 2 in allen Fällen

Example of zone categorisation in a spray booth that is open on top



Legende

- A keine ständige Öffnung (z. B. Türen)
- B ständige Öffnung (z. B. für die Bedienungsperson)
- C ständige Öffnung (z. B. Beschickungsöffnung)
- D ständige Öffnung (z. B. Ausfahröffnung)
- E ständige Öffnung (z. B. Filter)
- V_{int} Innenraum der Spritzkabine einschließlich aller Umluft- und Abluftleitungen, eingeteilt wie folgt:
 - Zone 1 bei Begrenzung der Konzentration an brennbaren Stoffen auf > 25 % der UEG und < 50 % der UEG
 - Zone 2 bei Begrenzung der Konzentration an brennbaren Stoffen auf < 25 % der UEG
- V_{ext} Externer Raum gebildet um ständige Öffnungen der Spritzkabine, eingeteilt wie folgt:
 - Zone 2 in allen Fällen

High-performance automatic gun AGMD

3 Designs

The high-performance automatic spray gun AGMD is available in different designs. They differ in the use of a variety of components and/or in the material flow.



Note!

Gun heads marked with a "U" have two material lines, allowing coating material to circulate through the head so a colour change can be performed while the gun is closed.

Ordering example: AGMD-514 U FF-797c

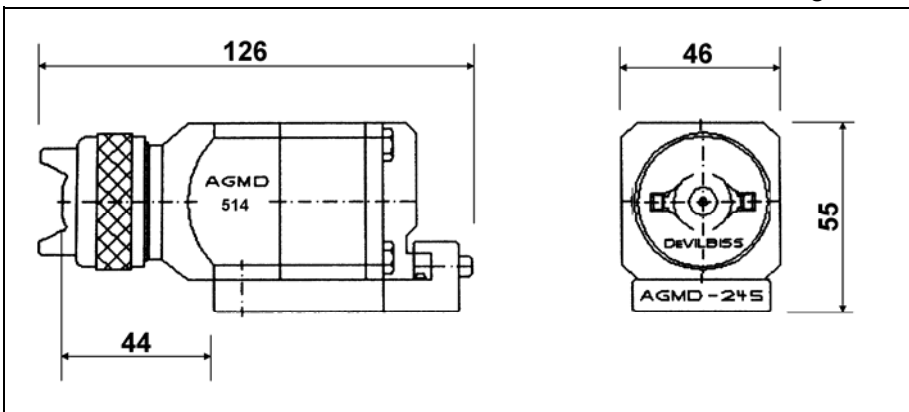
Type of gun	With circulation*	Nozzle size (see table)	Air cap (see table)
AGMD-514	U	FF	797c

* Without circulation= "U" does not apply

3.1 Technical data

3.1.1 High-performance automatic spray guns AGMD-514 and AGMD-515

- Spray system: AGMD-514 conventional air-atomisation
AGMD-515 TransTec or HVLP air-atomisation
- Maximum pressures: 0 to 14 bar material (MAT)
6 bar control air system (CYL)
9 bar atomiser air (ATOM) and horn air (FAN)
- Switching times: < 60 msec. At 5.8 bar control air system
- Weight: Approx. 665 g
- Dimensions: Refer to dimensioned sketch
- Materials:
 - Gun head: Stainless steel 1.4305
 - Nozzle (standard): Stainless steel 1.4305
 - Paint needle (standard): Stainless steel 1.4305
 - Air distribution ring: Brass, chemically nickel-plated
 - Air cap: Brass, chemically nickel-plated
 - Air cap retaining ring: Brass, chemically nickel-plated
 - Material-contacting seals:
 - VITON for water-based coatings (on request)
 - VITON EX for solvent-based coatings (standard)
 - Perfluorelastomer for highest resistance (on request)



AGMD-514/515
with intermediate
plate AGMD-245-1

High-performance automatic gun AGMD

4 Installation

The high-performance automatic spray gun AGMD is attached to a intermediate plate. The intermediate plate in turn is fastened to an adapter. The adapter is attached to the movement device (robot or hoisting device) or to a tripod. All compressed air and material lines are connected to the adapter.

4.1 Usage conditions

Operating temperature, max.	80 °C
Ambient temperature, max.	40 °C

4.2 Tools and other materials required

The following tools are required for installing and removing the high-performance automatic spray gun AGMD:

- Workstation with vice and soft braces
- Hexagon socket head wrench, size 2.5
- Hexagon socket head wrench, size 3

4.3 Fastening onto intermediate plates

4.3.1 Intermediate plate AGMD-245-1



Note!

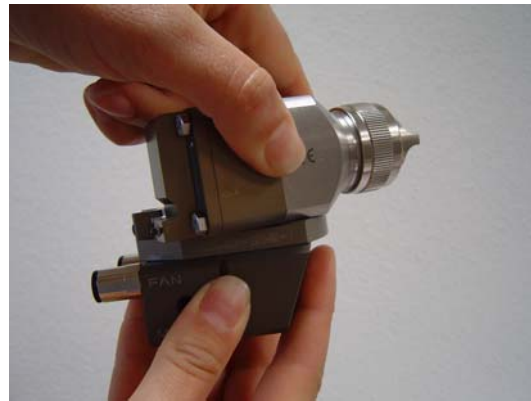
For the intermediate plate AGMD-245-1, the high-performance automatic spray gun is fitted with the locking device AGMD-244. As an alternative to locking device AGMD-244, the centring screw AGMD-044-3 can be used. In that case, the high-performance automatic spray gun is bolted to the intermediate plate.

1. Lightly grease the O-rings.
2. Position the high-performance automatic spray gun AGMD at an angle of 45° towards the intermediate plate.

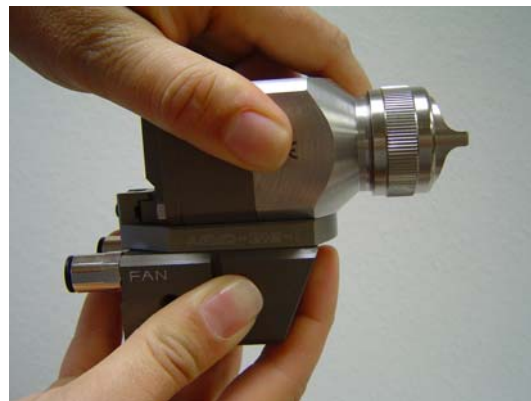


High-performance automatic gun**AGMD**

3. Insert the locking device into its position.



4. Turn the high-performance automatic spray gun AGMD 45° clockwise until it clicks into the rear locking device.



5. If necessary, bolt the high-performance automatic spray gun AGMD and intermediate plate together with a size 2.5 hexagon socket head wrench.



4.3.2 Intermediate plate AGMD-245-8



Note!

For the intermediate plate AGMD-245-8, the high-performance automatic spray gun AGMD is fitted with the conical locking device AGMD-244-8.

1. Lightly grease the O-rings.
2. Position the high-performance automatic spray gun AGMD at an angle of 45° towards the intermediate plate.
3. Insert the conical locking device into its position.
4. Turn the high-performance automatic spray gun AGMD 45° clockwise until it clicks into the rear locking device.



High-performance automatic gun

AGMD

5. Fasten the high-performance automatic spray gun AGMD and the "pointed tapping screw" on the intermediate plate with a size 3 hexagon socket head wrench.



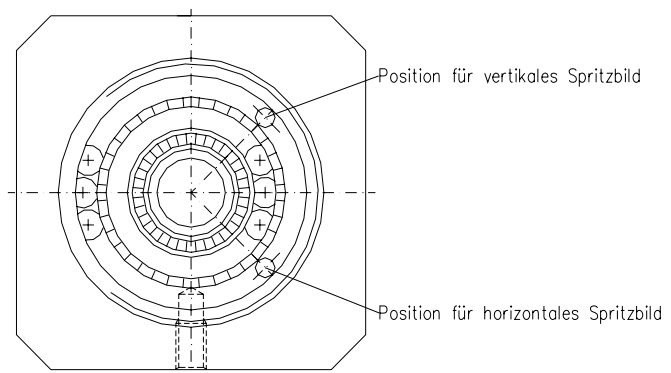
4.4 Adjusting the jet geometry



Note!

The gun has a variable jet geometry to produce a round or flat spray pattern. You should only work with clean, dry, filtered, oil-free air.

1. Select a suitable air flap.
2. Position the air distributing ring to produce the desired jet geometry.



3. Make the appropriate setting for the atomiser air.
4. Make the appropriate setting for the horn air.

4.4.1 Distance to workpiece

Position the high-performance automatic spray gun AGMD about 15 to 30 cm from the workpiece.

5 Maintenance



Note!

The air cap **can** be replaced on the high-performance automatic spray gun AGMD without removing it from the system.

For all other maintenance jobs, the high-performance automatic spray gun AGMD **must** be removed from the intermediate plate and replaced by a new one.

5.1 Required tools and lubricants

The following are required for installation and removal:

- Workstation with vice and soft braces
- Hexagon socket head wrench, size 6
- Torque handle with socket wrench, size 1/2"
- Turnscrew
- AGMD-010 gun grease



Note!

Needle, needle set and piston should only be exposed to AGMD-010 grease. Other grease can lead to a malfunction of the high-performance automatic spray gun AGMD (unsuitable grease could cause swelling of needle set and piston).

5.2 Removing the high-performance automatic spray gun AGMD



Caution!

Danger of injury due to lines under pressure!

- When removing the high-performance automatic spray gun AGMD, spray fluid may emerge under high pressure.
- Make certain no paint material gets into the air channels.

Rinse and blow out the material lines, then depressurise them.

Wear protective clothing and/or glasses.



Note!

Prior to the installation of the new high-performance automatic spray gun AGMD, make sure that the O-rings are in place and that they are lubricated.

1. Loosen the fixing screw if there is one.
2. Push the unlocking pin on the intermediate plate.
3. Turn the high-performance automatic spray gun AGMD 45° anti-clockwise and remove.

5.3 Removing the high-performance automatic spray gun AGMD



Note!

Only trained personnel are permitted to install and remove parts of the high-performance automatic spray gun AGMD.
 The work should be performed on a clean horizontal work surface.
 For the assembly and disassembly of the high-performance automatic spray gun AGMD, follow the respective parts list and the exploded drawing.

After the removal and replacement of the high-performance automatic spray gun AGMD on the adaptor, the spraying process can continue, and the defective high-performance automatic spray gun AGMD can be serviced at a suitable location.

The item indicated in parentheses corresponds to the individual parts from Chapter 7.1 *AGMD-514 (conventional atomisation)* and/or Chapter 7.2 *AGMD-515 (Trans Tech and HVLP atomisation)*.

1. Screw on retaining ring (item 1) and remove air cap (item 2).



2. Loosen and remove the nozzle (item 3) with socket wrench, size 1/2".



3. Remove the air distributing ring (item 5) and both gaskets (item 4).



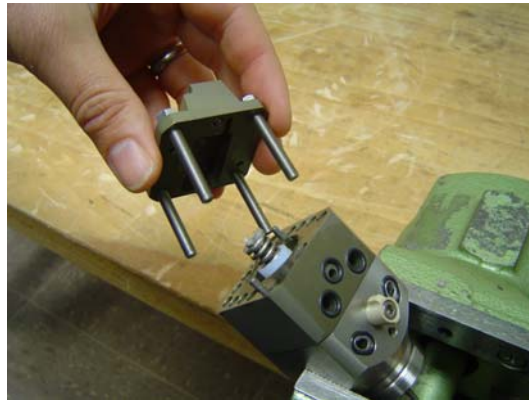
High-performance automatic gun

AGMD

- Loosen the four hexagon screws (item 21).



- Remove the end plate (item 20).



- Pull off the head holder (item 13) towards the back away from the head.

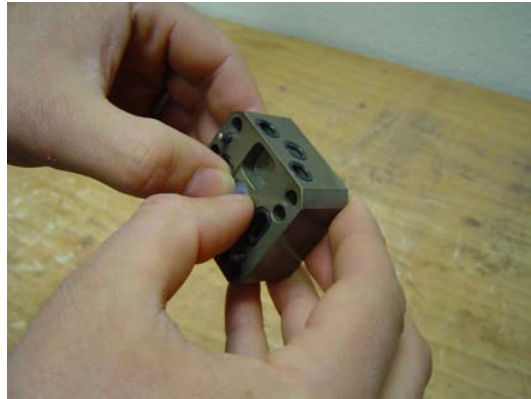


- Remove the two springs (items 16 and 17), spring pin (item 15) and paint needle (item 10).

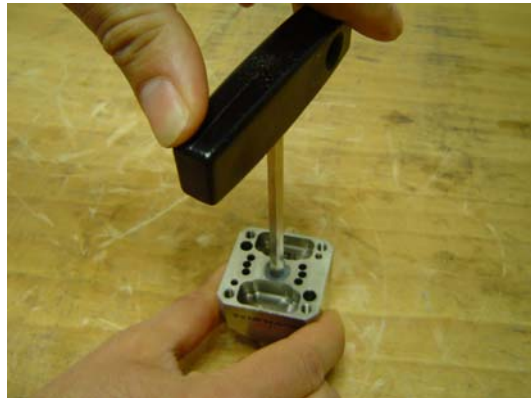


High-performance automatic gun**AGMD**

8. Press the piston (item 14) out of the head holder.



9. Unscrew the needle set (item 9) with a hexagon socket head wrench, size 6.



If the hexagon socket head wrench does not grip, pry the needle set (item 9) out with a turnscrew.



10. Unscrew screw (item 8) with a size 6 hexagon socket head wrench and remove the locking device (item 7).



5.4 Cleaning gun parts

After the gun parts have been disassembled, first clean them and then inspect their condition.



Note!

The way in which parts of the gun get dirty can provide information about the cause of failures of the high-performance automatic spray gun AGMD.



Caution!

Danger of damage!

Individual components may be destroyed or solvent could get into the air channels. **Do not** immerse the high-performance automatic spray gun AGMD in solvent.

The following are required to clean the high-performance automatic spray gun AGMD:

- suitable solvent
 - an earthed solvent supply
 - cleaning brushes
1. Clean the gun parts with a brush and a suitable solvent and blow dry.
 2. Clean the air and material feedthroughs with a small round cleaning brush, a pipe cleaner saturated with solvent, or some similar item.

5.5 Checking components



Caution!

Danger of damage!

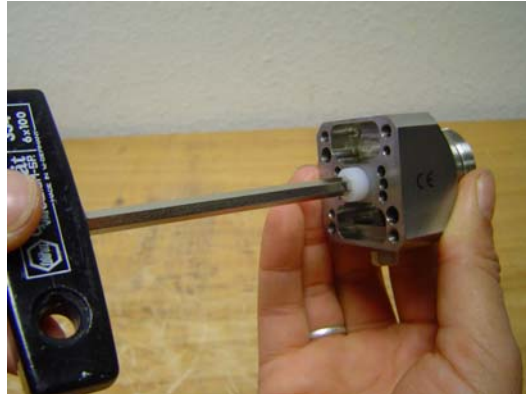
Never install defective components in the high-performance automatic spray gun AGMD.
Use only original parts.

1. Before installing the high-performance automatic spray gun AGMD, check all components for damage.
2. Replace damaged components with new ones.

5.6 Assembling the high-performance automatic spray gun AGMD

The item indicated in parentheses corresponds to the individual parts from Chapter 7.1 *AGMD-514 (conventional atomisation)* and/or Chapter 7.2 *AGMD-515 (Trans Tech and HVLP atomisation)*.

1. Lay out all components and the required tools on a clean level surface.
2. Screw the needle set (set 9) into the head (item 6) with a size 6 hexagon socket head wrench, to a torque of 0.8 Nm.



3. For use with the intermediate plate AGMD-245-1, screw the locking device (item 7) together with the fillister head screw (item 8).



4. Position the locking device so that the latches tilt slightly.

Note:

Torque of each locking device 4.5 Nm.



High-performance automatic gun

AGMD

If the high-performance automatic spray gun AGMD is screwed onto the intermediate plate at a later stage, the centring screw (item 7.1.) can also be attached as an option for the locking device (item 7 with 8).



If you are using the intermediate plate AGMD-245-8, screw in locking device (item 7.2).



5. Grease two O-rings (item 12) and position them in the slots of the head (item 6).



6. Grease two O-rings (item 11) and position them in the slots of the head holder (item 13).



High-performance automatic gun

AGMD

- Grease the piston (item 14) and insert it into its position in the head holder (item 13).



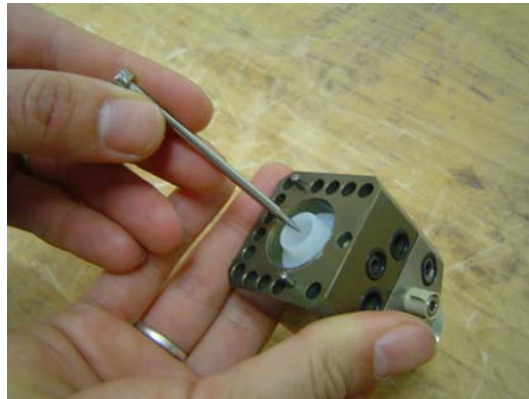
- Stick the head (item 6) and head holder (item 13) together.

Note:

The straight pins will prevent any twisting.



- Grease the paint needle (item 10) and stick it into the piston (item 14).



- Insert the spring pin (item 15) into the piston.



High-performance automatic gun

AGMD

11. Push the small spring (item 16) onto the spring pin.



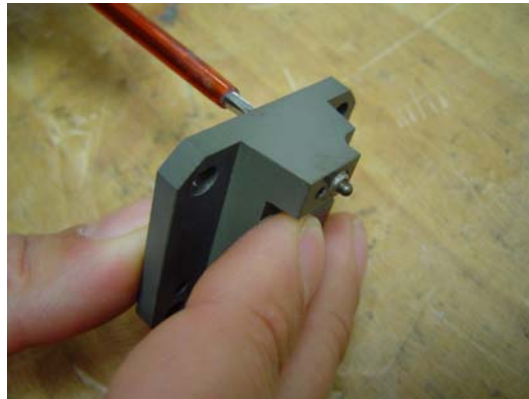
12. Push the large spring (item 17) over the small spring.



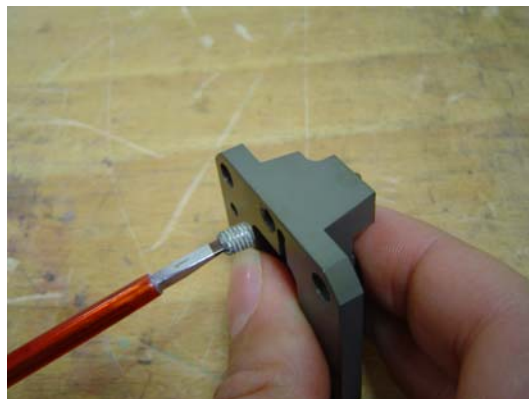
13. Screw the elastic pressure piece (item 19) into the end plate.

Note:

The ball must protrude forward about 3 mm.



14. Secure the elastic pressure piece with the set screw (item 18).



High-performance automatic gun

AGMD

15. Place the end plate (item 20) on the head holder (item 21) with the hexagon screws.



16. Cross tighten the screws (item 21) to a torque of 4.5 Nm.



17. Insert the lower gasket (item 4) into the air distributing ring (item 5).



18. From below, position the air distributing ring with gasket in the head.

Note:

Make certain the gasket does not slip out of place.



High-performance automatic gun**AGMD**

19. Position the upper gasket (item 4) in the air distributing ring.



20. Attach and tighten the nozzle (item 3).



21. Tighten the nozzle to a torque of 26 Nm.



22. Attach the air cap (item 2).

Note:

Make certain the horns of the air distributing ring rest on the lugs of the air cap.



High-performance automatic gun

AGMD

23. Tighten the air cap with the retaining ring (item 1).



6 Faults



Note!

In case of faults, determine the cause before disassembling to eliminate the error with as little maintenance work as possible.

Fault	Possible causes	Corrective action
Unsatisfactory jet geometry		
Asymmetrical shape	Air hose for air supply blocked or damaged. Air channel and/or air inlet is blocked.	Clean, replace or repair air hose. Blow out and/or clean air channel.
Jet geometry not neat on one side.	Air cap damaged or blocked.	Replace or clean air cap.
Very irregular or deformed jet geometry.	Wrong air cap/paint nozzle combination. Air and material are not synchronised.	Select the correct combination. Check the programming sequence.
Insufficient air supply		
Atomiser air	Air channel in the high-performance automatic spray gun AGMD or the air line is blocked. Air pressure too low.	Blow out air channel. Increase air pressure.
Paint discharge	Paint nozzle blocked or worn out. Air channels in the high-performance automatic spray gun AGMD or the paint line is blocked. Movement of the paint nozzle needle unsatisfactory. Material pressure is too low. Blocked material filter. Material nozzle or material regulator blocked or worn out.	Rinse or replace paint nozzle. Rinse paint channels and/or paint line. Lubricate piston and needle set. Increase material pressure. Clean or replace material filter. Clean material valve or material regulator.
Leakages		
Paint leaks at the back of the high-performance automatic spray gun AGMD.	Damage to packing, piston or needle.	Replace damaged components.
Paint leaks between the high-performance automatic spray gun AGMD and the adapter.	O-rings AGMD-93-K5 damaged or missing. Locking device does not seal.	Insert O-ring. Retighten or replace locking device.
Paint leak at the nozzle.	Needle and nozzle do not seal.	Replace damaged components.

High-performance automatic gun AGMD

Fault	Possible causes	Corrective action
Steady paint leak at the nozzle.	Worn or damaged paint nozzle socket. Worn or damaged needle. Needle does not seal tightly (control air line is not vented).	Replace paint nozzle. Replace needle. Check nozzle.
Assembly fault		
High-performance automatic spray gun AGMD does not click firmly into adapter and releases by itself.	Elastic pressure piece is set too low. Elastic pressure piece is dirty and dented.	Remove the high-performance automatic spray gun AGMD, adjust the elastic pressure piece, and tighten the lock screw. Replace damaged pressure piece.
High-performance automatic spray gun AGMD cannot be locked into the adaptor or only with exertion of force.	Elastic pressure piece sticks out too far.	Remove the high-performance automatic spray gun AGMD, adjust the elastic pressure piece, and tighten the lock screw.
The high-performance automatic spray gun AGMD does not always engage into the adapter.	Elastic pressure piece can be turned manually.	Remove the high-performance automatic spray gun AGMD, adjust the elastic pressure piece, and tighten the lock screw.

7 Spare parts

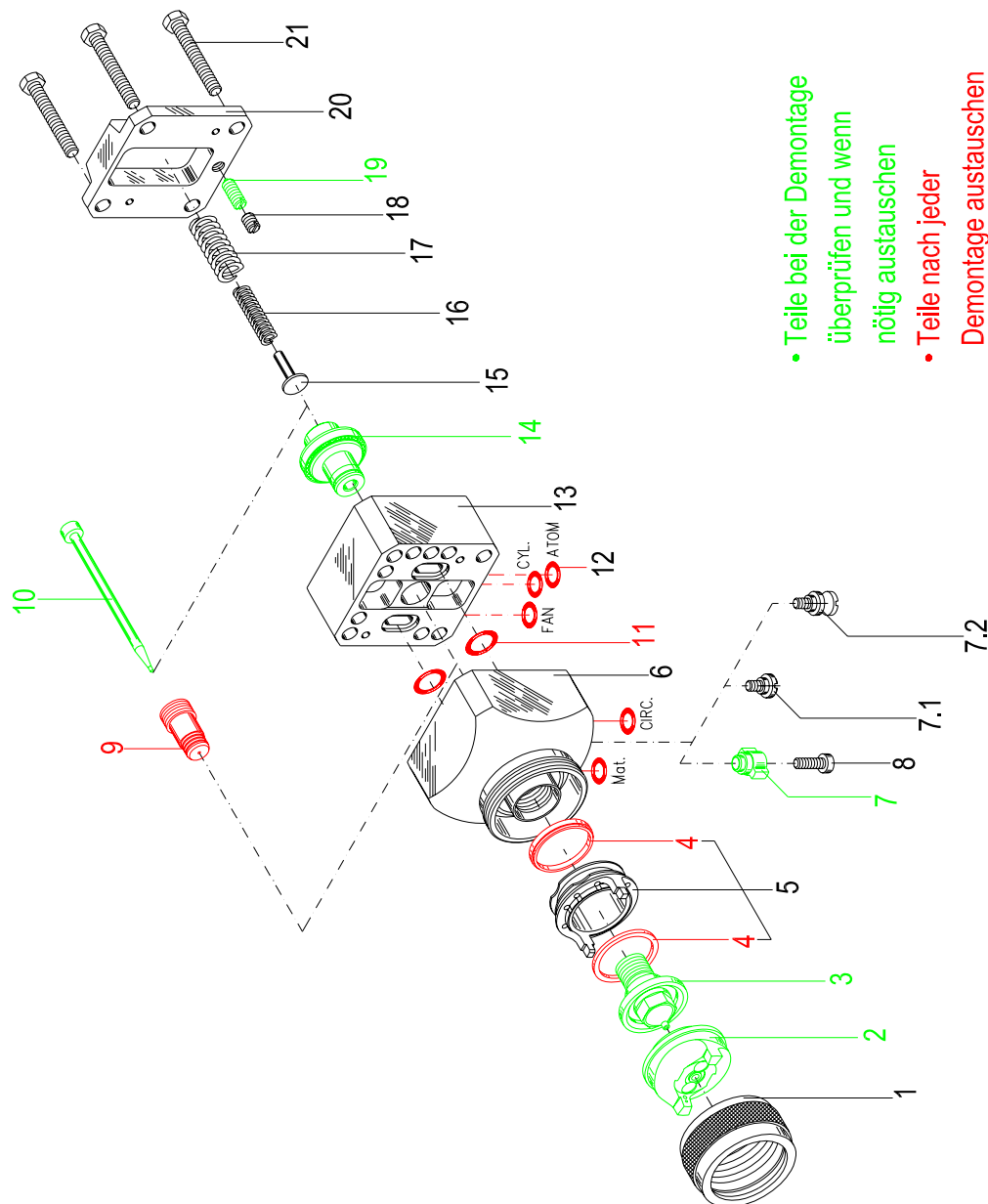


Note!

During any maintenance work on the high-performance automatic spray gun AGMD, replace damaged parts with original spare parts!

7.1 AGMD-514 (conventional atomisation)

7.1.1 Exploded drawing



High-performance automatic gun
AGMD
7.1.2 Parts list

Item	Part no.	Description	Qty.
1	MBC-368 AGMD-368	Retaining ring Retaining ring with seal (optional)	1
2	See 7.1.3	Air cap	1
3	See 7.1.3	Nozzle	1
4	AGMD-65-1	Gasket	2
5	AGMD-033	Air distributing ring with lock	1
6	AGMD-195 AGMD-195-U	Head Head with circulation (for gun with circulation features)	1
7	AGMD-244	Locking device	1
7.1	AGMD-044-3	Centring screw (optional)	
7.2	AGMD-244-8	Locking device for intermediate plate AGMD-245-8 (optional)	
8	AGMD-130	Fillister head screw for AGMD-244	1
9	AGMD-405-1	Needle set	1
10	See 7.1.3	Paint needle	1
11	SS-2393	O-ring	2
12	AGMD-93-K5	O-rings (pack of 5)	1
13	AGMD-217	Head holder	1
14	AGMD-243-1	Piston	1
15	AGMD-219	Spring pin	1
16	AGMD-110	Compression spring	1
17	AGMD-111	Compression spring	1
18	AGMD-116	Set screw with slot	1
19	AGMD-115	Elastic pressure piece	1
20	AGMD-242	End plate	1
21	AGMD-131	Hexagon screw	4

High-performance automatic gun AGMD
7.1.3 Nozzle and needle combination, air caps

Air cap	Nozzles		Paint needle	
	with plastic insert AV-651-.../	without plastic insert AV-645-.../	for nozzle AV-651-...	for nozzle AV-645-...
			AGMD-420-...	
AGMD-705	FF / 1.4 mm	FF / 1.4 mm	FZ	FF
AGMD-765	-	H / 0.5 mm	-	G
AGMD-765	G / 0.7 mm	G / 0.7 mm	G	G
AGMD-765	FF / 1.4 mm	FF / 1.4 mm	FZ	FF
AGMD-765c	FF / 1.4 mm	FF / 1.4 mm	FZ	FF
AGMD-770	FX / 1.1 mm	FX / 1.1 mm	FZ	FX
AGMD-777	FF / 1.4 mm	FF / 1.4 mm	FZ	FF
AGMD-797c	-	H / 0.5 mm	-	G
AGMD-797c	G / 0.7 mm	G / 0.7 mm	G	G
AGMD-797c	FX / 1.1 mm	FX / 1.1 mm	FZ	FX
AGMD-797c	FZ / 1.2 mm	FZ / 1.2 mm	FZ	FZ
AGMD-797c	FF / 1.4 mm	FF / 1.4 mm	FZ	FF

Air caps marked "C" are certified.

Air caps AGMD-765 and 797 are also available in version CS (super certified).

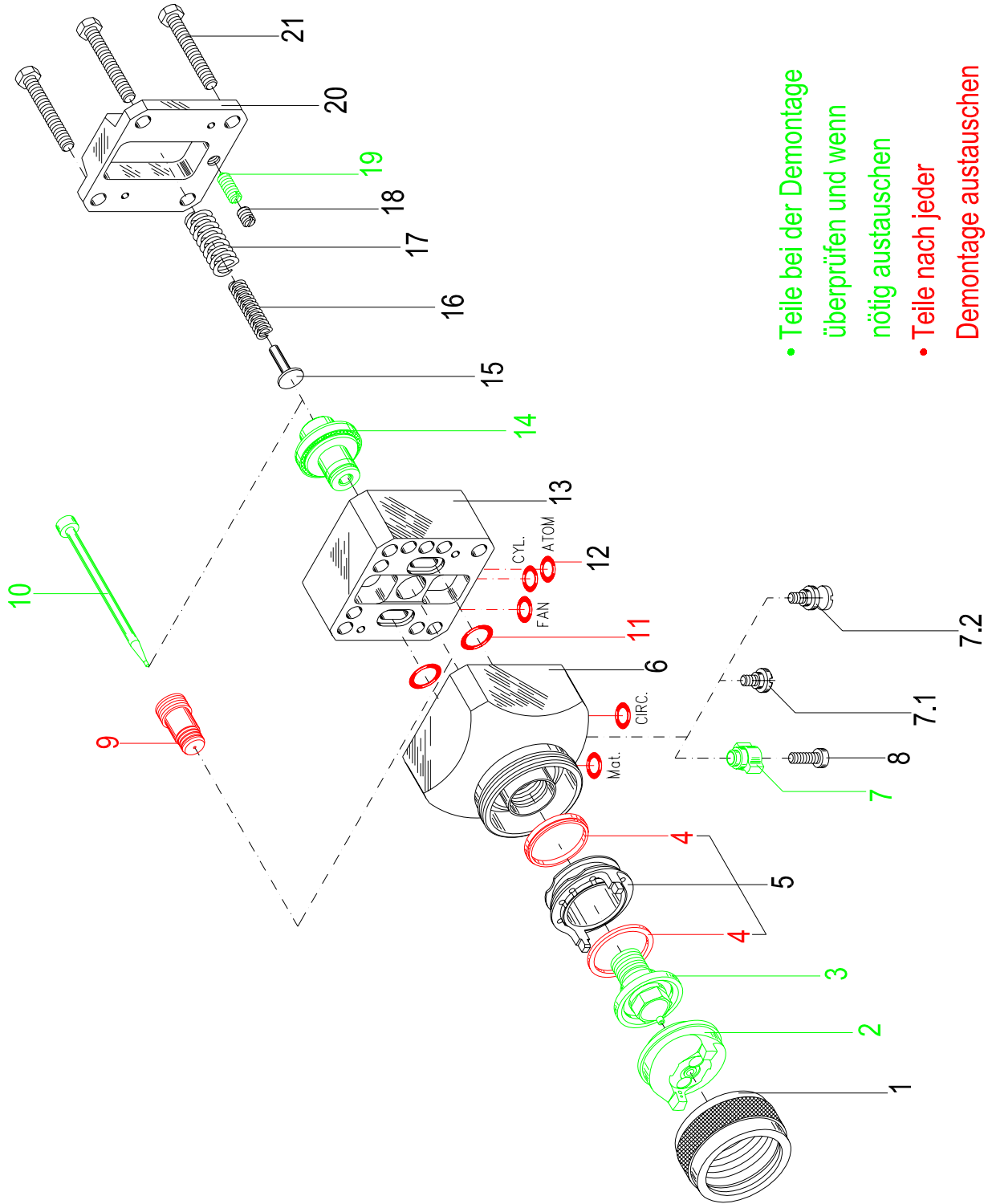
Nozzles and needles are made of stainless steel.

High-performance automatic gun

AGMD

7.2 AGMD-515 (Trans Tech and HVLP atomisation)

7.2.1 Exploded drawing



High-performance automatic gun
AGMD
7.2.2 Parts list

Item	Part no.	Description	Qty.
1	MBC-368 AGMD-368	Retaining ring Retaining ring with seal (optional)	1
2	See 7.2.3	Air cap	1
3	See 7.2.3	Nozzle	1
4	AGMD-65-1	Gasket	2
5	AGMD-34	Air distributing ring with lock	1
6	AGMD-195 AGMD-195-U	Head Head with circulation (for gun with circulation features)	1
7	AGMD-244	Locking device	1
7.1	AGMD-044-3	Centring screw (optional)	
7.2	AGMD-244-8	Locking device for intermediate plate AGMD-245-8 (option)	
8	AGMD-130	Fillister head screw for AGMD-244	1
9	AGMD-405-1	Needle set	1
10	See 7.2.3	Paint needle	1
11	SS-2393	O-ring	2
12	AGMD-93-K5	O-rings (pack of 5)	1
13	AGMD-217	Head holder	1
14	AGMD-243-1	Piston	1
15	AGMD-219	Spring pin	1
16	AGMD-110	Compression spring	1
17	AGMD-111	Compression spring	1
18	AGMD-116	Set screw with slot	1
19	AGMD-115	Elastic pressure piece	1
20	AGMD-242	End plate	1
21	AGMD-131	Hexagon screw	4

7.2.3 Nozzle and needle combination, air caps

Air cap		Nozzles	Paint needle
		AV-4920-.../	AGMD-420-...
AGMD-46c	HVLP	FF / 1.4 mm	FZ
AGMD-46c	HVLP	FX / 1.1 mm	FX
AGMD-407-122c	Trans Tech	FF / 1.4 mm	FZ
AGMD-407-122c	Trans Tech	FX / 1.1 mm	FX
AGMD-123	Trans Tech	FF / 1.4 mm	FZ

Air caps marked "C" are certified.

Nozzles and needles are made of stainless steel.

High-performance automatic gun AGMD**7.3 Spare parts for special applications****7.3.1 AGMD-243 piston (hard anodised aluminium)**

As an alternative to piston AGMD-243-1 (item 14), the piston made of hard anodised aluminium can also be used.

Instead of the two lip seals, it has O-rings AGMD-120 and AGMD-121.

Both O-rings must be lubricated with gun grease AGMD-010.

**7.3.2 AGMD-405-H and AGMD-405-H-C (needle set)**

As an alternative to needle set AGMD-405-1 (item 9), the needle set AGMD-405-H is used for UV-hardening coatings.

The needle set is set into the gun head, using the setscrew AGGS-32-K5.

The needle set is also available in certified design AGMD-405-H-C.



High-performance automatic gun AGMD

7.3.3 AGMD-421-FZ paint needle (coated)

The coated paint needle AGMD-421-FZ was developed as an alternative to paint needle AGMD-420 (item 10). On the basis of using UV paint it features a longer service life, and because of its extremely smooth surface, it causes much less wear on the needle AGMD-405-H and AGMD-405-H-C.

AGMD-421-FZ



7.3.4 AGMD-422 paint needle (ceramic)

The ceramic paint needle AGMD-422 was developed as an alternative to paint needle AGMD-420 (item 10). It features a longer service life, and because of its extremely smooth surface, it causes much less wear on the needle set.

The paint needle AGMD-422 can be used with nozzle AV-651-.. with a plastic insert.

The paint needles are available in sizes "AC" (for nozzle diameter 2.8 mm), "FZ" (for nozzle diameter 1.1 – 1.6 mm) and "G" (for nozzle diameter 0.7 mm).

AGMD-422-G (for 0.7 mm)

AGMD-422-FZ (for 1.1 to 1.6 mm)

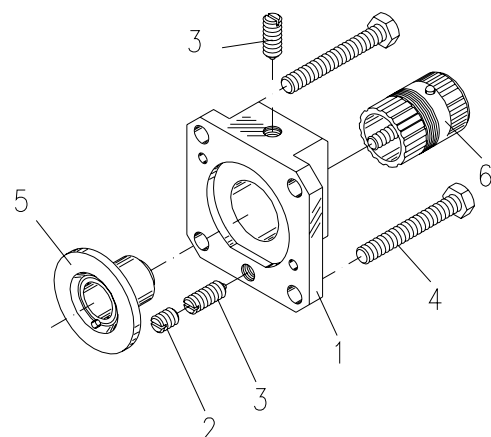
AGMD-422-AC (for 2.8 mm)



7.3.5 AGMD-202-1 end plate for needle stroke setting

The end plate AGMD-202-1 has a set screw (item 6) with which you can gradually adjust the needle stroke from 100% to 0%.

Install the end plate together with the short piston AGMD-203 (item 5).

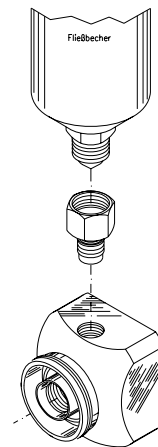


High-performance automatic gun AGMD

7.3.6 AGMD-205 head for gravity cup

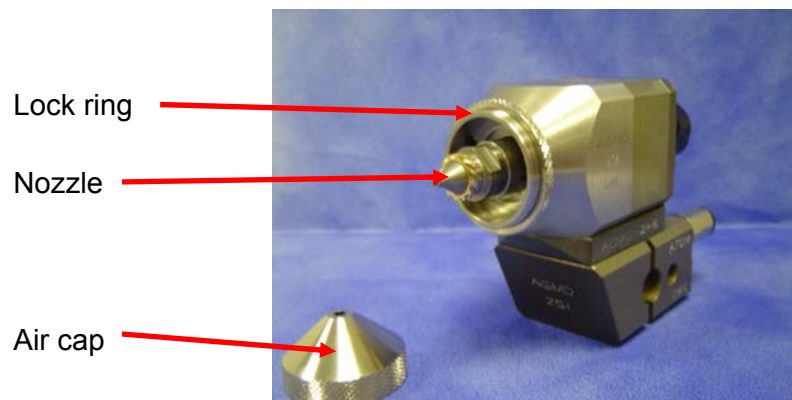
For very small quantities, the high-performance automatic spray gun AGMD can be fitted with a gravity cup. Head AGMD-205 is attached for this purpose.

One of the three gravity cups (280 ml, 600 ml, or 1000 ml) is installed via double nipple AGMD-206.



7.3.7 AGMD round spray nozzle

For the application of small, exact amounts (e.g., for gluten, seam sealing or release agent application), we have developed the round spray nozzle.



Nozzle with swirl ring	Paint needle	Air cap	Lock ring
AV-2150-G	AGMD-420-G	AV-2214-EFF	AV-2220
AV-2150-FX	AGMD-420-FX	AV-2214-EFF	AV-2220
AV-2150-FF	AGMD-420-FF	AV-2214-EFF	AV-2220
AV-2150-D	AGG-420-D	AV-2214-D	AV-2220

8 EC declaration of conformity

In accordance with Annex II B of the EC Machine Directive 98/37/EC (MachDir)

ITW Automotive Finishing

Binks DeVilbiss Gema Ransburg

We, ITW Oberflächentechnik GmbH & Co, KG
Justus-von-Liebig-Str. 31
D-63128 Dietzenbach / Germany

hereby declare that the fixed location spray system

type High-performance automatic spray gun AGMD

is designed for installation into a machine or assembly with another machine to form a single machine.

The machine into which this device is installed must meet the requirements of EC Directive in the version 98/37/EC for the high-performance automatic spray gun AGMD to be permitted to be placed in operation.

Harmonised standards applied:

EN ISO 12100-1:2003	Safety of machinery – basic concepts, general principles for design – part 1: Basic terminology and methodology
EN ISO 12100-2:2003	Safety of machinery – basic concepts, general principles for design – part 2: Main technical principles
DIN EN 12215:2004	Coating plants – spray booths for application of organic liquid coating materials – safety requirements
EN 13463-1:2003	Directive 94/9/EC (ATEX) Non-electrical devices for use in explosive areas
EN 1953:1998	Coating and spray devices for coating materials – safety requirements
EN 50176:1996	Fixed-location electrostatic spray plants for flammable liquid coating materials

Dietzenbach, 27th July 2007

Signature

Position

André de Neergaard
Company President

9 Product liability and warranty

ITW assumes no warranty for damages caused by the following reasons:

- Unsuitable or improper use
- Use of non-original ITW parts
- Faulty assembly
- Start-up performed by the buyer or a third party
- Natural wear and tear of wear parts
- Faulty handling or maintenance

ITW ASSUMES NO LIABILITY FOR INJURIES, DAMAGE TO PROPERTY OR CONSEQUENTIAL DAMAGES RELATED TO LOSS OF COMPANY VALUE, PRODUCTION, OR INCOME, DAMAGE CAUSED BY INCORRECT USE OF EQUIPMENT BY THE BUYER OR OTHER PERSONS.

High-performance automatic gun

AGMD

ITW Automotive Finishing

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