



# Operating Manual

## Automatic Spraying System Airless Gun MAE 7-059-Ex

Type: MAE 7-059-Ex  
Product No.: S-MAE7-059Ex-GB (Translation)  
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1.1 Introduction

This operating manual is intended to be read, understood and observed in all points by those responsible for the installation. The same is valid for any personnel working at the installation.

This operating manual is intended to ensure trouble-free operation of the installation.

Should there be any problems please contact our service department or your local dealer which will be pleased to assist you (see chapter 9 „Spare parts“).

The operator is responsible for the correct installation, operation and maintenance of the equipment.

Should you intend to use the equipment in a manner different to the intended one please apply for our approval. The instruction manual must be completed with any local valid safety rules and environmental protection laws.

The operating manual on hand only refers to the Airless Spraying Gun MAE 7-059-Ex.

**We reserve the right to alterations in drawings and specifications necessary for the technical improvement of the Airless Spraying Gun MAE 7-059-Ex.**

1.2 Area of Application – Usage According to Directions

The airless gun is used as an integrated part of a fully automatic painting installation. During operation the spraying system has to be protected against manual access. The airless gun is permitted for operation in the explosion hazardous area of zone 2 and is permitted exclusively for the operation of liquid coating material.

The airless gun may only be operated in suitable premises (painting booth) with technical ventilation according to EN 12215.

The warning- and danger information of the supplier of the coating materials respectively the cleaning agents have to be followed by in regards to emission, fire- and explosion hazardous as well as other potential dangers!

If in doubt, please contact the supplier/s with corresponding inquiries.



## 1.2.1 Exclusion

The description of the operating area is not valid for any construction work of the paint mix rooms in which paint supply units are installed.

It is assumed that the building and paint supply equipment is built according to the valid local standards.

The spraying system must only be used within a closed spray booth with an external ventilation system ensuring that the permissible limits are obeyed.

## 1.3 Guarantee

Therefore, it is recommended to read this operating manual carefully before start-up, as we cannot be held liable for damage or malfunctions resulting from the non-observance of this operating manual.

During the guarantee period repair work and changes only may be carried out by our assemblers or with our consent.

The system is designed only for the use according to the operating area described in chapter 1.2 „Operating Area“.

Any other use is considered improper and REITER can not be held liable for any possible damage.

## 1.4 Copyright

The copyright for this operating manual is retained by REITER GmbH + Co. KG Oberflächentechnik. This operating manual is intended for personnel involved in installation, operation and supervision. The operating manual include regulations and technical drawings which may not be copied, distributed, used for commercial purpose or given to others, either in full or in part.

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**2.1 Explanation of symbols and special directions**

**2.1.1 Symbol of working safety**



This symbol accompanies all special directions for working safety given in this operating manual, the non-observance of which may endanger life and limb. Observe these directions and take special care in these cases. Ensure all other operators are informed of these special directions. In addition to the special directions given in this operating manual, the generally valid regulations for safety and prevention of accidents are also to be observed.

**2.1.2 Directions for „attention“**



This warning is given in this operating manual at points which are to be given special attention in order that guidelines, regulations, special directions and proper work procedures are observed, and to prevent damage or destruction of the machine and/or other parts of the plant.

**2.2 Direction for working safety**

The following directions for working safety are to be given particular attention:

This spraying system can be hazardous if not used as described in the instruction manual.

We recommend to install a warning sign listing the important operating and safety rules. The sign should be in an understandable language for the operators and installed visible in the vicinity of the spray booth.



To avoid static electricity charge, proof grounding of the metal parts has to be provided, for example by conductible hose lines.

The paint jet leaving the spray gun without a nozzle is dangerous!



Do only use trained and instructed personnel for the operation of this equipment. (i.e. all safety rules must be read and understood by the operators).

When working with solvents and cleaning solvents the particular safety rules for the use of such material must be obeyed (e.g fire risk).

### 2.3 Safety instructions for work at the spray system



The technical ventilation has to be turned on prior to cleaning the spraying system or if other work is performed in the spraying area.

The fresh air supply must be switched on.

Any repair work must only be carried out without material or air pressure.

The paint jet leaving the spray gun without a nozzle is dangerous!

Never point on people or animals with the spraying equipment!

Do not rest the spray gun on naked skin (e.g. hand, thumb)!

Only tanks made of electrical conductive material must be used for cleaning material. Tanks must be grounded.

For cleaning of the spray gun only solvents with a flame point at least 5K above ambient temperature must be used.

In this instruction the use of flammable solvents is not intended.

Wear personal safety equipment during any work at the spraying system (e.g. protection glasses, gloves, breathing masks).

For external and internal cleaning of the spraying system the maintenance instructions must be adhered to.

Internal cleaning work combined with dismantling of the atomizer must only be carried out by trained personnel. The instruction manual for the spraying system must be adhered to.

Careful proceeding and adjusting is necessary when cleaning the nozzles. If the nozzle is blown out with air, protection of the eyes and meeting the UVV is necessary.



### 2.3.1 List of safety rules

The listing does not lay claim to completeness.

1. EN 12100-1
2. EN 12100-2
3. EN 13463-1
4. prEN 12621

Other standards related to the basic standards have been considered.



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**3.1 Technical Data**

Type:	MAE 7-059-Ex
Product no.:	63210140
Weight:	
Gun without supply lines:	1,000 kg
Gun with supply lines:	1,200 kg
Total weight:	3,000 kg
Paint operating pressure:	max. 160 bar
Paint throughput:	according to used paint nozzle, refer to selection list chapter 10 „Appendix“
Control air pressure:	max. 8 bar min. 5 bar
Note:	Compressed air has to be free of oil and condensate!
Supply lines:	- Standard type - Control air hose:       - ø i 4 mm Paint hose:               - ø i 6 mm
Detachable paint nozzles:	refer to selection list for nozzles chapter 10 „Appendix“
Standard attachments:	Part no.: 001 007 059 57 2 packing plates 1 Skt-screw driver 1 packing 2 sealing washer

We reserve the right to make technical changes!



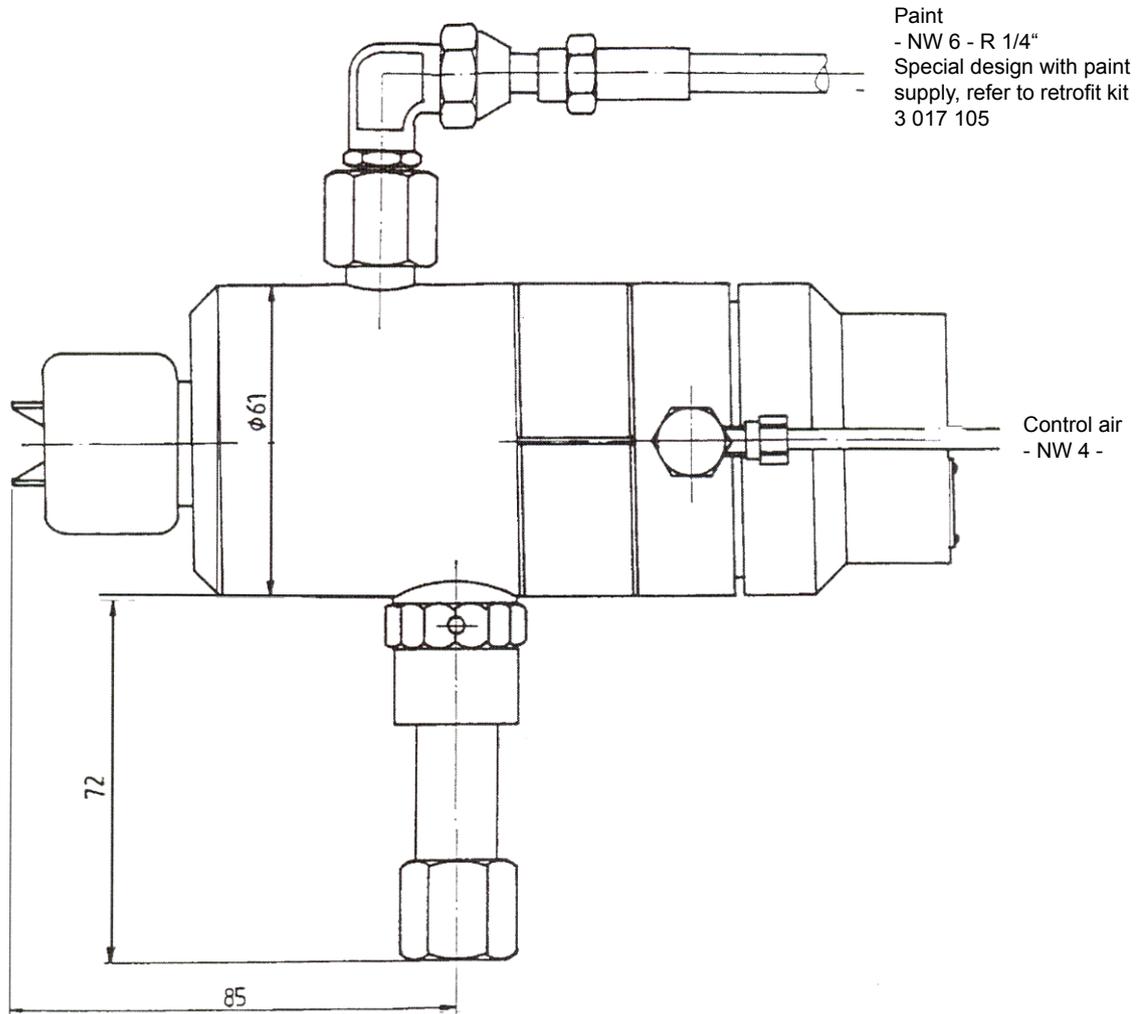
3.1.1 Identification

Example:

		REITER GmbH + Co.KG Oberflächentechnik D-71364 Winnenden
Typ:	MAE-7-059-EX	
Baujahr:	07 / 2006	
p-max.:	160 bar	
		II 3G c IIA T40°C

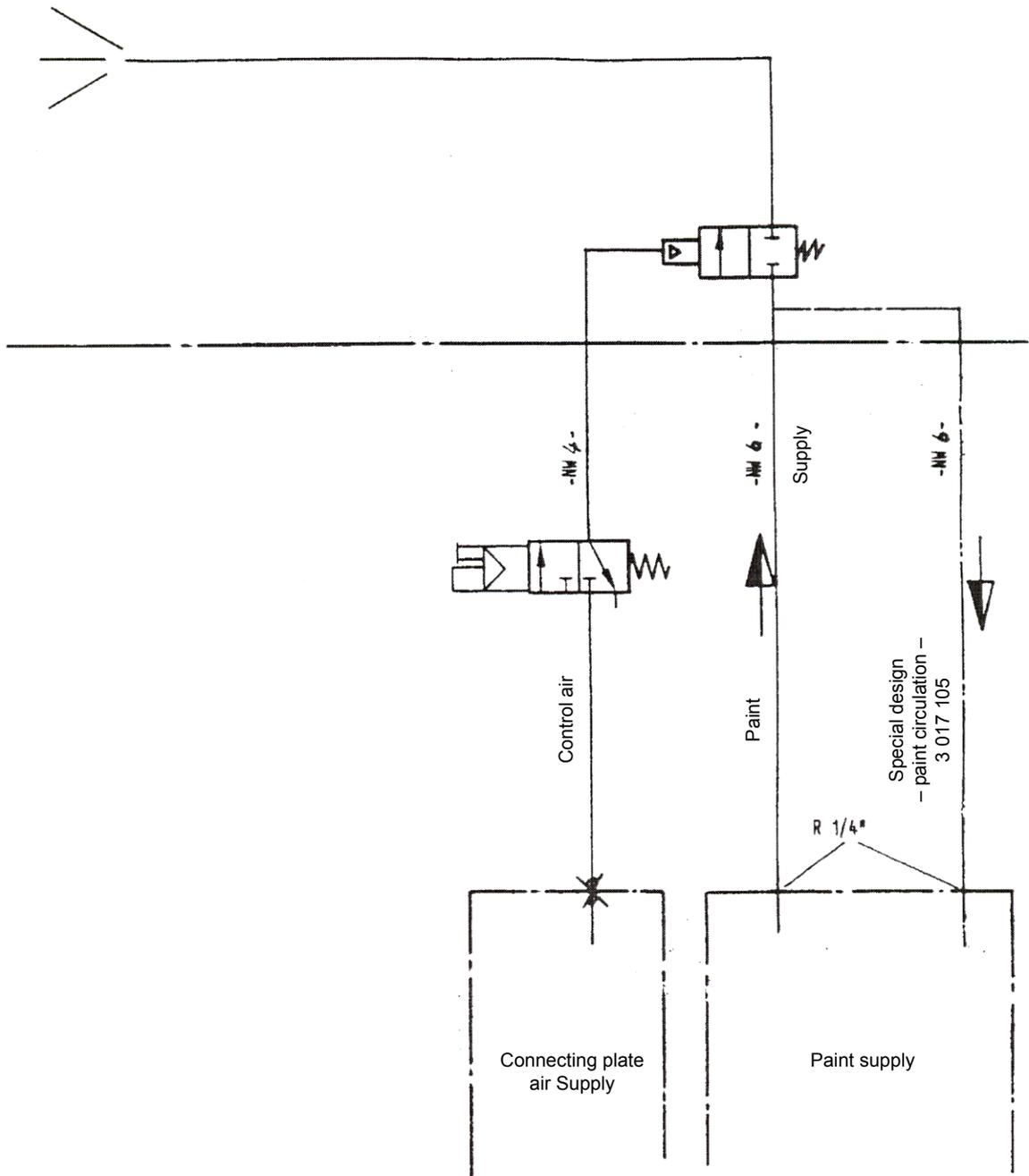


3.2 Dimensional drawing





3.3 Connection plan





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**5.1 Function principle**

This airless spraying system atomizes the under pressure (max. 160 bar) painting material when it leaves the material nozzle.

The spray system consists of a pneumatic activated high pressure paint valve with attached paint nozzle. The nozzle are made of sintered metal and have differently sized drilling holes and spraying angles.

The required quantity and quality of paint determine the used nozzle size.

Different flat patterned nozzles adapt to the different painting requirements.

With the spray system the paint guidance has been designed to allows return paint circuit. It is thus possible to circulate the paint directly to the front of the nozzle.

The pneumatic activated valve allows very short switching intervals, as needed when working with automatic controls, where the paint is switched off at the edge of work pieces.



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**7.1 General instructions for commissioning**



During commissioning and operation the presence of personnel inside the spray booth is not allowed. The customer/operator must ensure this.

**7.1.1 Hosing up of spray gun**

Connect supply lines according the connection diagram (see chapter 3 “Technical Data”):

- Paint hose: at provided paint supply.
- Control air hose: at provided connecting plate.

All joints and connections must be checked for correct torque and tightness before commissioning.



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**8.1 General maintenance instructions**



The technical ventilation must be turned on prior to cleaning the spraying system or other work in the spraying area.

Special work at the spray system (e.g. replacement of paint hoses etc.) must be carried out without pressure in paint and air lines.

**8.1.1 Cleaning of nozzles**

- After the compressed air of the paint supply is shut off the gland nut of the paint nozzle will be screwed off.
- Obey the sealing ring, to avoid is losing it.
- Clean nozzle with cleaning liquid, brush and needle.
- Attention! Output slot must be cleaned too (not only the nozzle bore).
- Clean front side of paint valve.
- Clean cover and all external parts of spray gun blow dry with compressed air  
Attention! Wear eye protection when blowing.
- Remount sealing, nozzle and nut and adjust as required.



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**9.1 General Instructions**

A stock of the most important spare and wearing parts to wear at the place of installation is an important prerequisite for the constant proper function and availability of the spraying system.

We provide a guarantee only for original spare parts delivered by us.

In case of damage resulting from the use of non-original spare parts and accessories, any liability or guarantee provided by REITER GmbH + Co. is excluded.

The stock keeping of spare parts is provision for any the validity of agreements involving system availability, service times and guarantee or systems performance.

**9.2 Spare parts order**

To the order make use of the spare parts list in the part documentation and parts lists.

For the spare parts order the following data shall indicate:

- Order number (see acknowledgement)
- Part number (see parts list)
- Designation (see parts list)
- Parts lists designation



**9.2.1 Wearing parts list \***

1	Gasket set cpl.	77 185 003 001
1	O-Ring 10x3	74 186 025 012
1	Piston pneum. DN29	76 592 019 001
1	O-Ring 24x3	74 186 034 012
1	Valve needle	76 273 005 010
1	Gasket 7,2x10	36 188 002 015
1	Paint valve	003 027 056 00
1	Cap nut M16	76 090 022 001
1	Clamping nut	00 4025 060 00
1	Flat spray nozzle cpl.	77 297 022 000

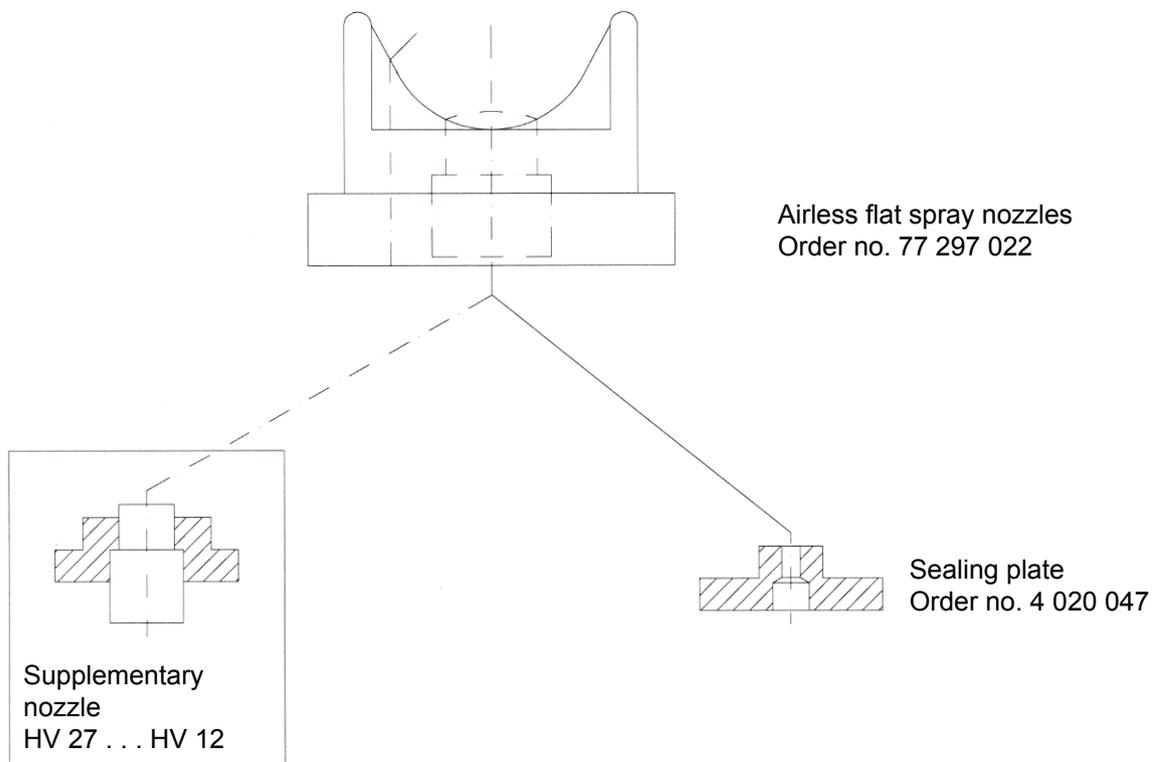
\* The quantity only applies to 1 system !

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**10.1 Nozzles selection**

**10.1.1 Overview drawing – Airless flat spray nozzles**





### 10.1.2 Nozzles overview list – Flat spray nozzles

Item no. on the nozzle	Throughput capacity at 100 bar, medium water (liter min <sup>-1</sup> )	Spray angle	Spray width at 300 mm, distance in mm -5/+20%	Nozzle drilling ø mm	Nozzle drilling inches	Item no on the sieve for high pressure filter	Sieve, order no.	Paint valve, order no.
12	1,100	65°	330	0,46	.018	9	76648 045012	77297 022025
16	0,750	60°	330	0,38	.015	9	76648 045012	77297 022021
17	0,750	50°	270	0,38	.015	9	76648 045012	77297 022020
18	replaced with nozzle item no. 17							
21	0,570	60°	310	0,33	.013	6	76648 045010	77297 022016
22	0,570	65°	260	0,33	.013	6	76648 045010	77297 022015
23	0,570	40°	220	0,33	.013	6	76648 045010	77297 022014
24	replaced with nozzle item no. 23							
26	0,380	60°	290	0,28	.011	4	76648 045008	77297 022010
27	0,380	50°	250	0,28	.011	4	76648 045008	77297 022009
28	0,380	40°	210	0,28	.011	4	76648 045008	77297 022008
29	replaced with nozzle item no. 28							
30	0,380	30°	150	0,28	.011	4	76648 045008	77297 022006
31	0,250	30°	170	0,23	.009	3	76648 045006	77297 022004
32	0,250	20°	110	0,23	.009	3	76648 045006	77297 022003
33	0,180	25°	130	0,18	.007	2	76648 045004	77297 022002
35	0,380	15°	110	0,20	.011	3	76648 045006	77297 022005

Special nozzles on request.