

OPERATION MANUAL AUTOMATIC GUN AGMD

Automatic Pneumatic spray gun for conventional or HVLP applications

Instructions sheets

Description

The AGMD automatic spray gun has been developed to be used with most common coating and finishing solvent based or water based materials.

To prevent irreversible damage to the parts of the gun, the use of corrosive or abrasive materials should be avoided.

The quick connecting of the automatic spray gun AGMD on its intermediate plate with lock device and the different adapters have been patented. The patented quick connection device will allow you to replace the gun very quickly, keeping the right positioning of the gun head for you robotic application.

The certified locating air cap will allow you to maintain either a zero or ninety-degree position with a constant spray pattern dimension and orientation.

Models

AGMD-514 Conventional automatic spray gun with certified and locating air cap.

AGMD-515 HVLP automatic spray gun with certified and locating air cap.

AGMD-534 Version AGMD-514, with pressure cup.

See chart 2 and 3 for air cap and fluid tip combination.

Accessories

AGMD-245-1	Intermediate plate with locating device (see. figure 4-1)
AGMD-245-2	Intermediate plate with locating cam device (see. Figure 4-2)
AGMD-282	Intermediate plate with locating device and electric detector for opening needle (See figure 5)
AGMD-501	Pressure cup (see. figure.15)
Adapter	See chart 1

Technical data

Weight:	665 g
Dimension:	See figure 1
Pressure:	9 bar P ₁ (Atomizing ATOM and Air horn FAN) 14 bar P ₂ (Fluid material MAT) 6 - 7 bar P ₃ (Cylinder air CYL)

Fluid opening time: < 60-mili sec. à 5,8 bar

Material	Spray head:	INOX 303
Construction:	Tip (Standard):	INOX 303
	Needle (Standard):	INOX 303
	Baffle:	Brass with nickel treatment
	Air cap:	Brass with nickel treatment
	Retaining ring:	Brass with nickel treatment
	Gaskets:	(Standard): VITON water based application (ON DEMAND ONLY): FFKM solvent application

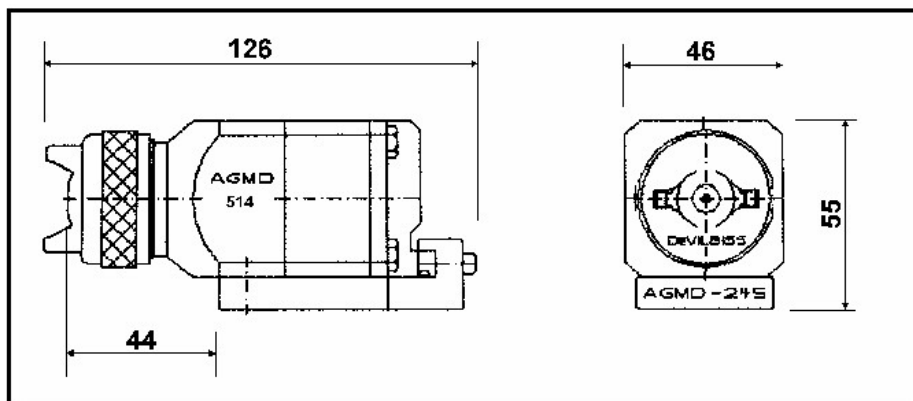


Figure 1
AGMD-514/515
with intermediate
plate AGMD-245-1

Reference

AGMD-514 **U** **FF** - **797C**

Type of the spray gun

Air cap (See chart 2)

With re-circulation = U

Without re-circ. = Without U

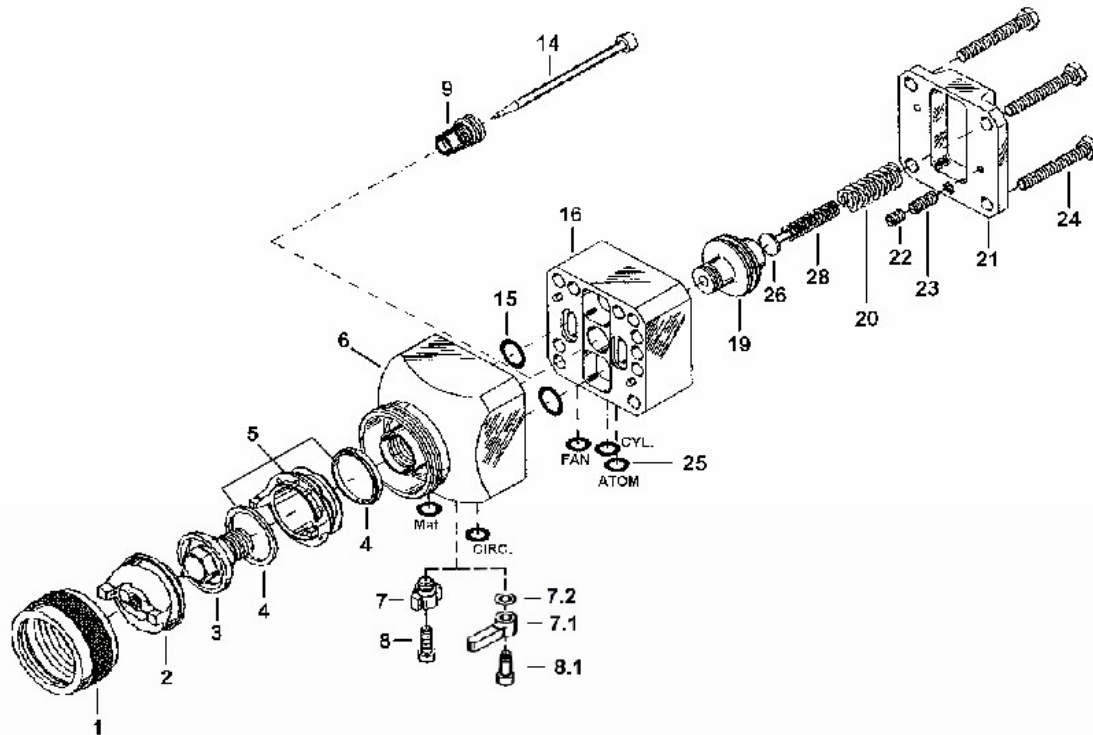
Tip type (Ex. FF = 1,4 mm)

Adapter for AGMD spray gun (Tableau 1)

Reference	Description	Robot Type		Automatic Machine	N° figure corresponding
		ABB hollow arm	FANUC		
AGMD-251	Machine Adapter			X	8
AGMD-261	Machine Adapter with cleaning valve			X	9
AGMD-258	Long Robot Adapter	X			11
AGMD-262U	Adapter robot with cleaning valve	X			12
AGMD-269	Robot Adapter 2 K	X			13
AGMD-278	Double Robot Adapter	X			14
AGMD-279	Robot Adapter Tube	X			16
AGMD-276-185	Robot Adapter		P150		17
AGMD-276-186	Robot Adapter		P200		18
AGMD-250	Adapter for gun with pressure cup			X	
AGMD-280	Robot Adapter with cleaning valve and dump	X			

AGMD-514 Exploded view conventional spray gun (figure 2)

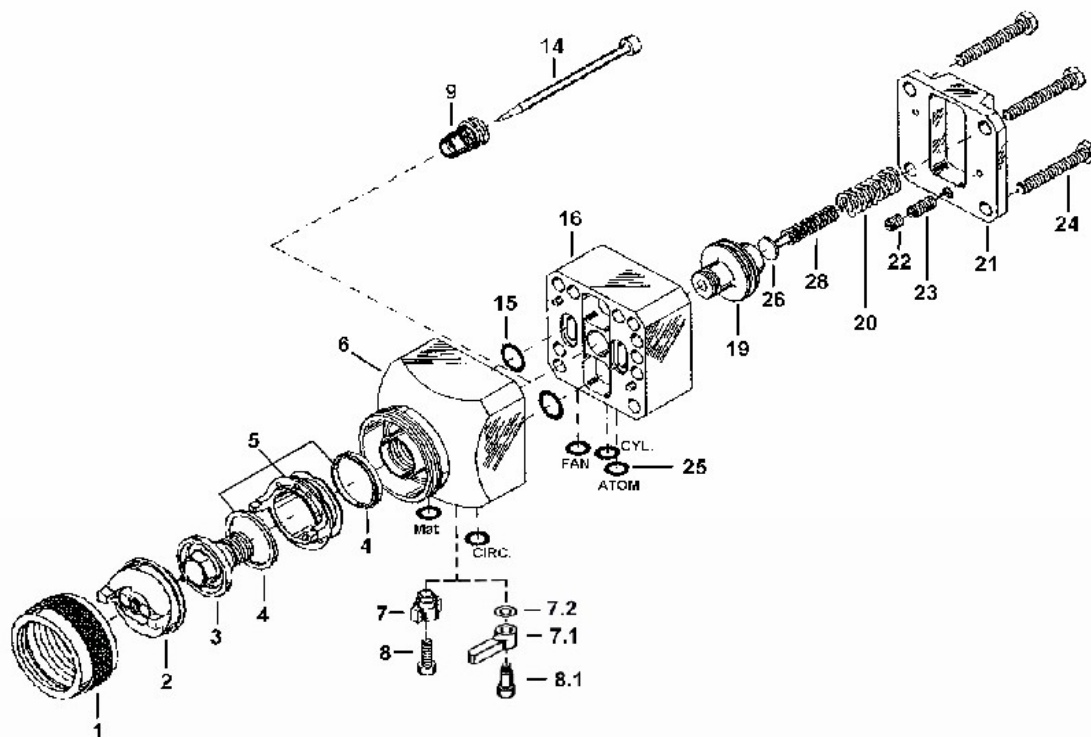
AGMD-514...



N°	Reference	Description	Qt
1	MBC-368	Retaining ring	1
	AGMD-368	Retaining ring with sealing (ON demand only)	1
2	See chart 2	Air cap	1
3	See chart 2	Tip	1
4	AGMD-65-1	Gasket	2
5	AGMD-33	Baffle with its gasket	1
6	AGMD-195	Spray head	1
7	AGMD-244	Locating for AGMD-245-1	1
7-1	AGMD-244-2	Locating for AGMD-245-2	1
7-2	AGMD-130-3	Washer	1
8	AGMD-130	Screw for AGMD 245-1	1
8-1	AGMD-130-2	Screw for AGMD 245-2	1
9	AGMD-405-1	Packing	1
14	See chart 2	Needle	1
15	SS-2393D	Seal	2
16	AGMD-217	Gun body	1
19	AGMD-243-1	Piston	1
20	AGMD-111	Spring	1
21	AGMD-242	Rear plate	1
22	AGMD-116	Screw	1
23	AGMD-115	Screw	1
24	AGMD-131	Screw for the rear plate	4
25	AGMD-119	Gasket, VITON (Standard)	5
	AGMD-099	Gasket, FFKM (ON demand only as spares)	5
26	AGMD-219	Spring pad	1
28	AGMD-110	Spring	1

AGMD-515 HVLP – TRANS-TECH Spray Gun (figure 3)

AGMD-515...



N°	Reference	Description	Qt
1	MBC-368	Retaining ring	1
	AGMD-368	Retaining ring with sealing (ON demand only)	1
2	AGMD-46C	Air cap	1
3	See chart 3	Tip	1
4	AGMD-65-1	Gasket	2
5	AGMD-34	Baffle with its gasket	1
6	AGMD-195	Spray head	1
7	AGMD-244	Locating for AGMD-245-1	1
7-1	AGMD-244-2	Locating for AGMD-245-2	1
7-2	AGMD-130-3	Washer	1
8	AGMD-130	Screw for AGMD 245-1	1
8-1	AGMD-130-2	Screw for AGMD 245-2	1
9	AGMD-405-1	Packing	1
14	See chart 3	Needle	1
15	SS-2393D	Gasket	2
16	AGMD-217	Gun body	1
19	AGMD-243-1	Piston	1
20	AGMD-111	Spring	1
21	AGMD-242	Rear plate	1
22	AGMD-116	Screw	1
23	AGMD-115	Screw	1
24	AGMD-131	Screw for rear plate	4
25	AGMD-119	Gasket, VITON (Standard)	5
	AGMD-099	Gasket, FFKM (On Demand only spares)	5
26	AGMD-219	Spring pad	1
28	AGMD-110	Spring	1

AGMD-514 (Chart 2)

Guide for AIR CAP / TIP and NEEDLE COMBINATION for conventional spray gun.

Air cap		Tip AV-4915-.. Ø mm	Needle AGMD-420-..	Screwcosit y sDIN4	Fluid flow ml/Min.	Pattern size mm
Reference	Air flow liter per Min/ P. bar					
AGMD-705	260 / 2,1	FF / 1,4	FZ	20 – 45	300	205
AGMD-765	420 / 3,5	FF / 1,4	FZ	16 – 35	400 – 500	330
AGMD-765C	420 / 3,5	FF / 1,4	FZ	16 – 35	400 – 500	330
AGMD-770	480 / 3,5	FX / 1,1	FZ	20 – 35	350	405
AGMD-777	590 / 4,2	FF / 1,4	FZ	18 – 50	to 600	355
AGMD-797C	590 / 4,2	FX / 1,1	FZ	18 – 35	350	355
AGMD-797C	590 / 4,2	FZ / 1,2	FZ	18 – 40	400 – 500	355
AGMD-797C	590 / 4,2	FF / 1,4	FZ	18 – 50	to 700	355

«C» Mark means that the air cap is certified.

AGMD-515 (Chart 3)

Guide for AIR CAP / TIP and NEEDLE COMBINATION for HVLP – TRANS-TECH spray gun.

Air cap		Tip AV-4920-.. Ø mm	Needle AGMD-420-..	Screwcosit y sDIN4	Fluid flow ml/Min.	Pattern size mm
Reference	Air flow liter/Min/P. bar					
AGMD-46C	750 / 4,8	FF / 1,4	FZ	16 – 35	300	280
AGMD-46C	750 / 4,8	FX / 1,1	FX	16 – 35	200	280
AGMD-122C	445 / 4	GTI / 1,1	FZ	18 – 50	250	310
AGMD-122C	445 / 4	GTI / 1,4	FZ	18 – 50	450	310

«C» Mark means that the air cap is certified.

Combination Kit (Tableau 4)

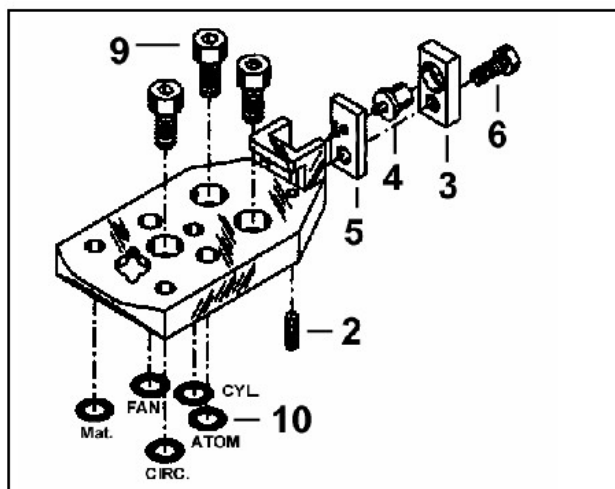
HVLP (AGMD-315...)

Reference	Description	Qty
AGMD-46C	Air cap	1
AGMD-33	Baffle	1
AV-4920-..	Tip (see chart 3)	1
AGMD-420-..	Needle (see chart 3)	1
AGMD-405-1	Packing	1

CONVENTIONAL (AGMD-314...)

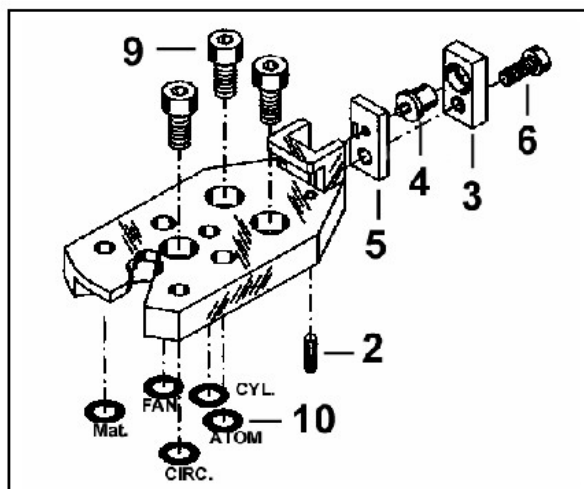
Reference	Description	Qty
AGMD-...	Air cap (see chart 2)	1
AGMD-34	Baffle	1
AV-651-..	Tip (see chart 2)	1
AGMD-420-FZ	Needle	1
AGMD-405-1	Packing	1

AGMD-245-1 Intermediate Plate – Fig 4-1



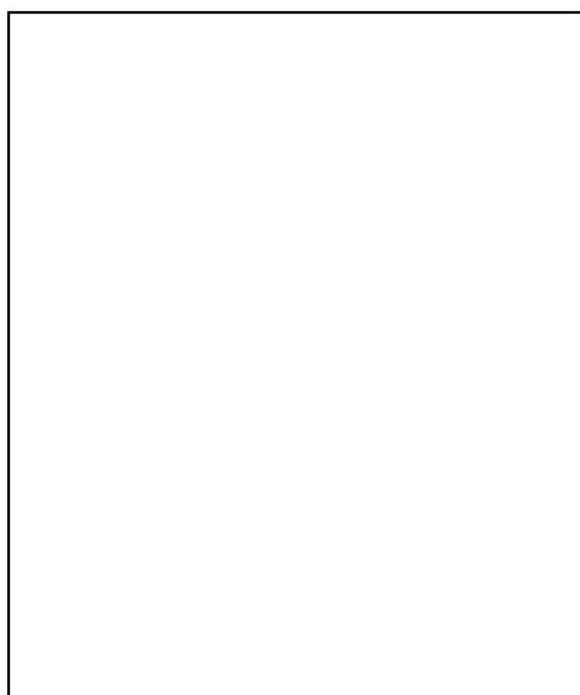
N°	Reference	Description	Qt.
1	AGMD-147	Intermediate plate	1
2	AGMD-137	Pin	1
3	AGMD-246	Rear plate	1
4	AGMD-247	Push button	1
5	AGMD-346	plate	1
6	AGMD-130	Screw	1
9	AGMD-142	Screw	3
10	AGMD-119	Gasket, VITON(Standard)	5
	AGMD-099	Gasket, FFKM(On demand)	5

AGMD-245-2 Intermediate Plate – Fig 4-2

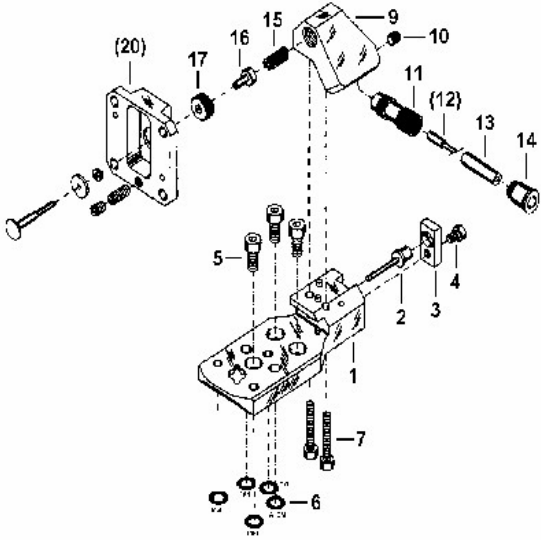


N°	Reference	Description	Qt.
1	AGMD-147	Intermediate plate	1
2	AGMD-137	Pin	1
3	AGMD-246	Rear plate	1
4	AGMD-247	Push button	1
5	AGMD-346	plate	1
6	AGMD-130	Screw	1
9	AGMD-142	Screw	3
10	AGMD-119	Gasket, VITON(Standard)	5
	AGMD-099	Gasket, FFKM (On demand)	5

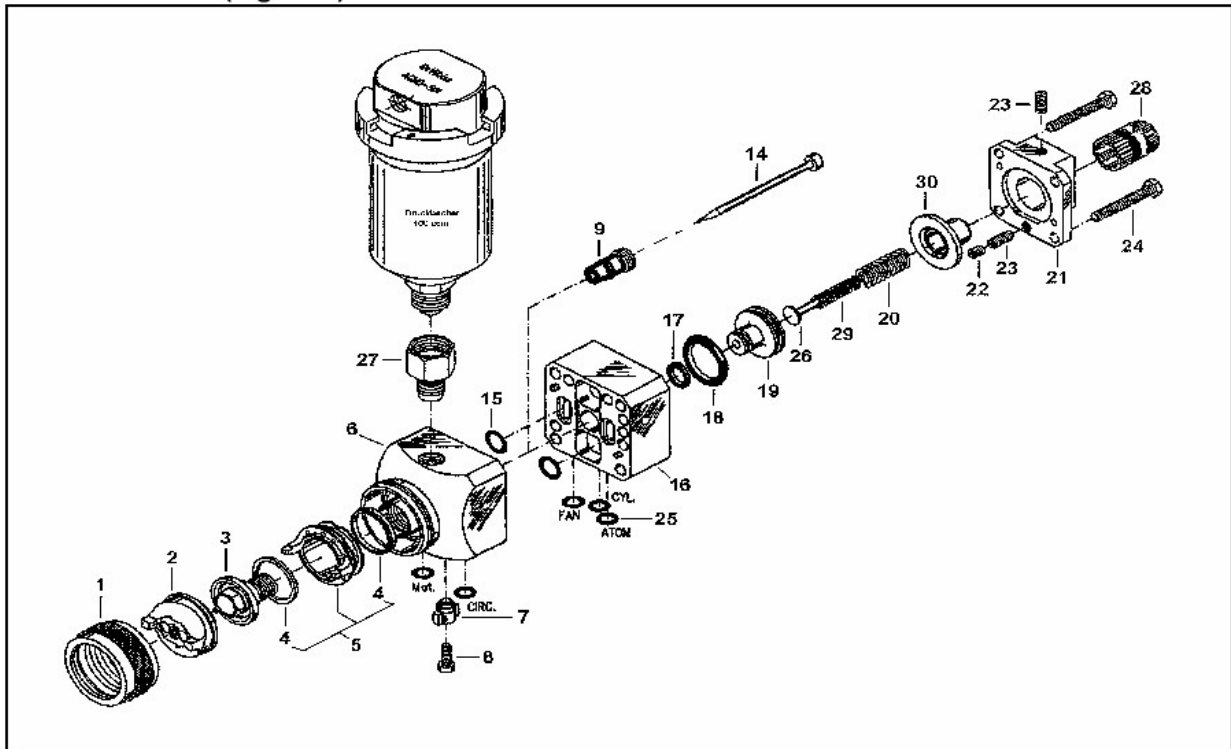
AGMD-282 (Intermediate Plate 2 – With electrical detector for opening needle– Figure. 5)



N°	Reference	Description	Qt.
1	AGMD-146-B	Intermediate plate 2	1
2	AGMD-209	Push button 2	1
3	AGMD-246	Rear plate	1
4	AGMD-139	Screw	1
5	AGMD-142	Screw	3
6	AGMD-119	Gasket, VITON (Standard)	5
	AGMD-099	Gasket, FFKM (On demand)	5
7	AGMD-140	Screw	2
9	AGMD-211-B	Body 2	1
10	AGMD-116	Screw	1
11	AGMD-208	Threaded sleeve	1
(12)	AGMD-101	Sensor	(1)
13	AGMD-102	Body of sensor	1
14	AGMD-129	Con. for hose flexible	1
15	AGMD-114	Spring	1
16	AGMD-213-B	Spring pad 2 B	1
17	AGMD-032	Packing	1

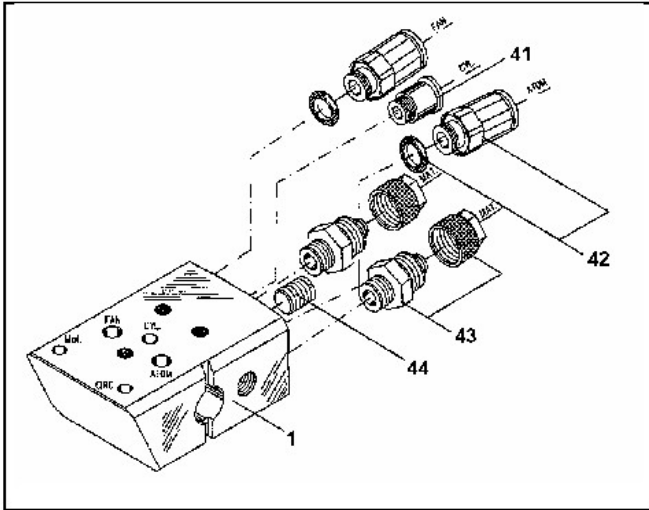
 <p>An exploded view diagram of a mechanical assembly. The main component is a rectangular plate (1) with various holes and features. Other parts include a bracket (20), a pin (17), a nut (16), a bolt (15), a cap screw (9), a washer (10), a pin (11), a bush (12), a pin (13), a pin (14), a pin (5), a pin (2), a pin (3), a pin (4), a pin (7), and a pin (6). Dashed lines indicate the assembly path for each part.</p>	(20)	AGMD-214-1	Rear plate 2, Assy.	(1)
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AGMD-534 (Figure 7)



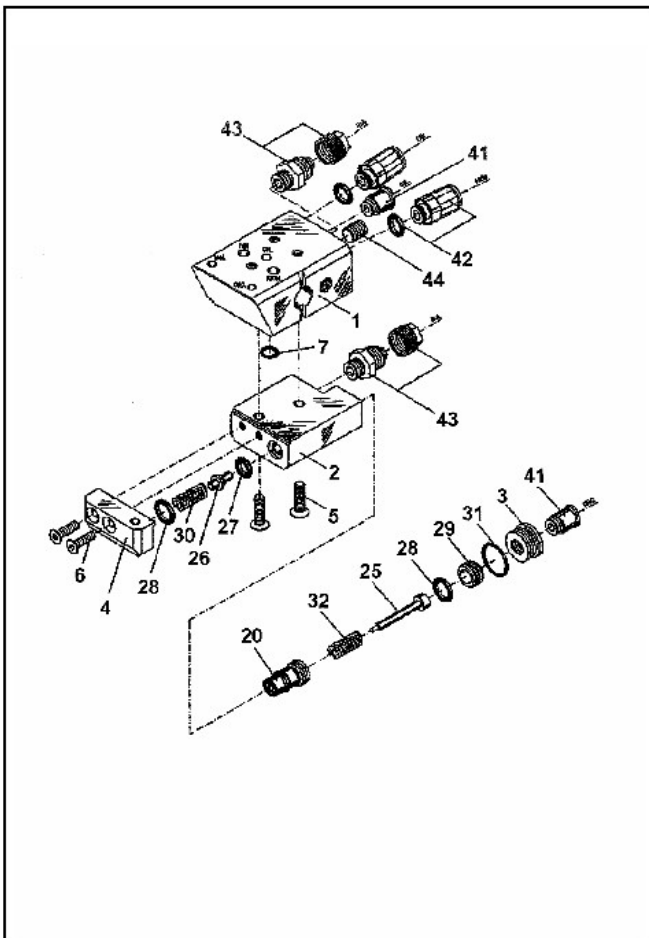
N°	Reference	Description	Qt
1	MBC-368	Retaining ring	1
2	See chart 2	Air cap	1
3	See chart 2	Tip	1
4	AGMD-65-1	Gasket	2
5	AGMD-33	Baffle with its gaskets	1
6	AGMD-205	Spray head	1
7	AGMD-244	Locating	1
8	AGMD-130	Screw	1
9	AGMD-405-1	Packing complete	1
14	See chart 2	Needle	1
15	SS-2393D	O ring	2
16	AGMD-217	Gun body	1
17	AGMD-121	Gasket	1
18	AGMD-120	Gasket	1
19	AGMD-203	Piston	1
20	AGMD-111	Spring	1
21	AGMD-202	Rear plate	1
22	AGMD-116	Screw	1
23	AGMD-115	Screw	2
24	AGMD-131	Screw for rear plate	4
25	AGMD-119	Gasket, VITON (Standard)	5
	AGMD-099	Gasket, FFKM (On demand spare)	5
26	AGMD-219	Spring pad	1
27	AGMD-206	Fluid connector	1
28	AGMD-204	Adjusting button (for AGMD534)	1
29	AGMD-110	Spring	1
30	AGMD-199	Sleeve	1

AGMD-251 (Adapter for specific machine – Figure 8)



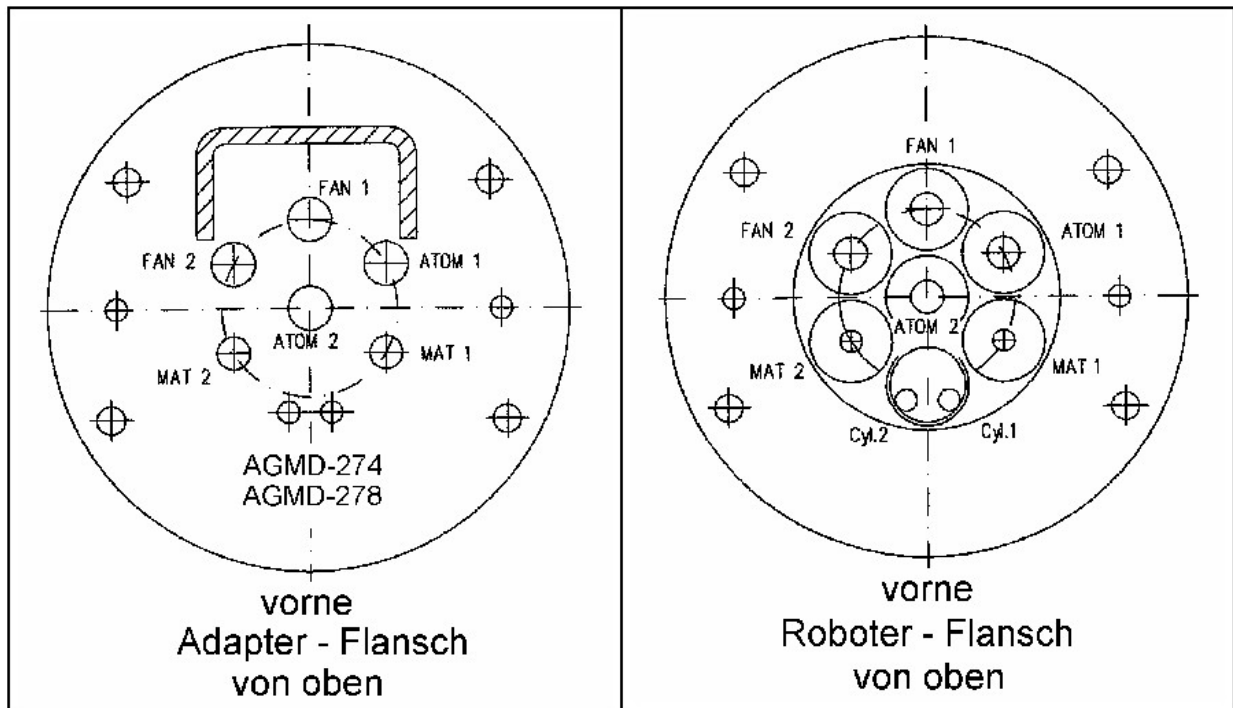
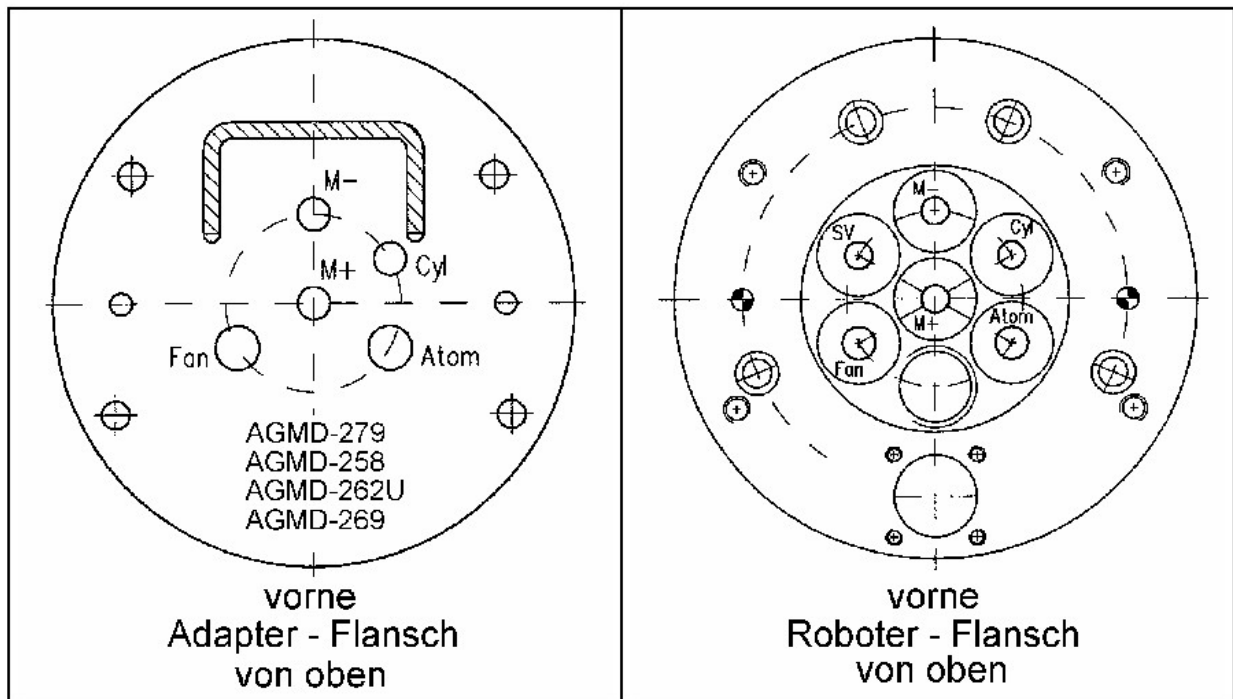
N°	Reference	Description	Qt.
1	AGMD-151	Adapter	1
41	AGMD-126	Air Connector	1
42	AGMD-127	Air connector	2
43		Fluid connector	2
44	S14184H	Screw	1

AGMD-261 (Adapter for specific machine with cleaning valve – Figure 9)

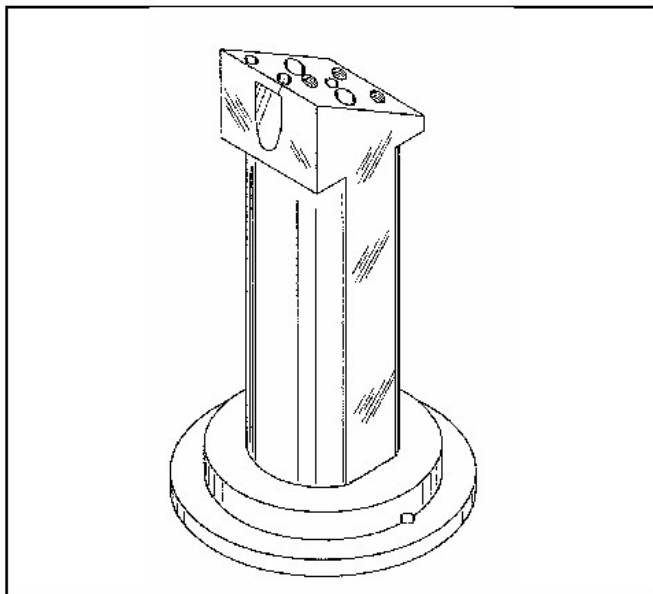


N°	Reference	Description	Qt.
1	AGMD-161	Adapter	1
2	AGMD-220	Valve body	1
3	AGMD-226	Plug	2
4	AGMD-221	Valve plug	1
5	AGMD-135	Screw	2
6	AGMD-134	Screw	2
7	AGMD-122	Gasket	1
20	AGMD-405-1	Packing complete	1
25	AGMD-222	Valve needle	1
26	AGMD-223	Valve	1
27	AGMD-099	Seal	1
28	AGMD-121	O ring	2
29	AGMD-225	Piston	1
30	AGMD-112	Spring	1
31	AGMD-124	O ring	1
32	AGMD-114	Spring	1
41	AGMD-126	Connector	2
42	AGMD-127	Connector	2
43		Cleaning inlet connector	2
44	S14184H	Screw	1
	AGMD-229	Cleaning Valve Assy	(1)

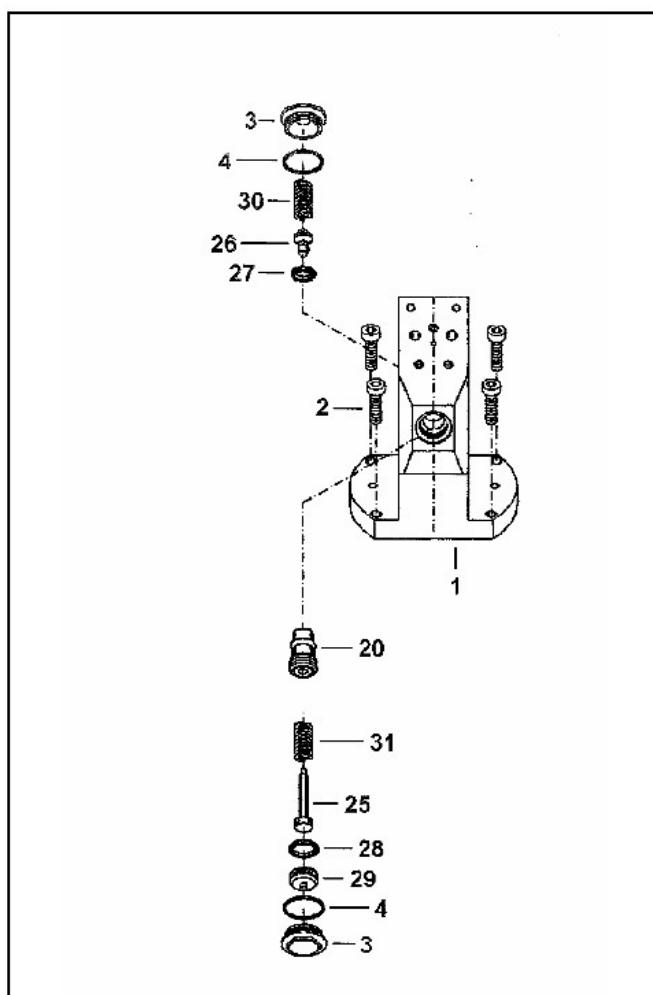
Connecting for ABB – Robot flansch (Figure 10)



AGMD-258 (Adapter for Robot - ABB – Figure 11)



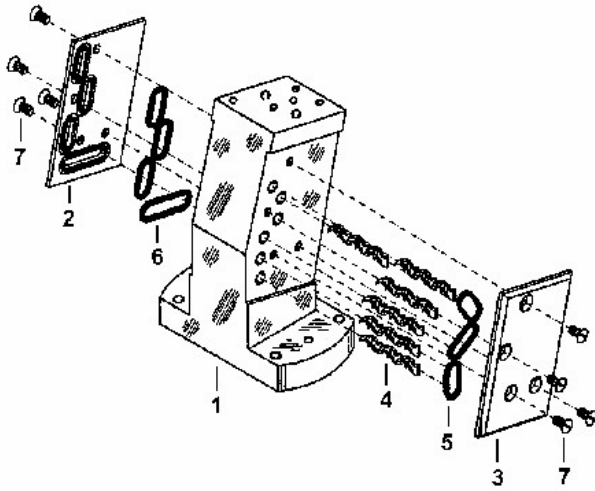
AGMD-262-U (Adapter With Cleaning Valve for ABB-Robot – Figure 12)



N°	Reference	Description	Qt.
1	AGMD-162	Adapter	1
2	AGMD-143	Screw	4
3	AGMD-233	Plug	2
4	AGMD-124	O ring	2
20	AGMD-405-1	Packing complete	1
25	AGMD-222	Valve Piston	1
26	AGMD-223	Valve	1
27	AGMD-099	Seal	1
28	AGMD-121	O ring	1
29	AGMD-225	Piston	1
30	AGMD-112	Spring	1
	AGMD-229	Cleaning Valve Assy.	(1)

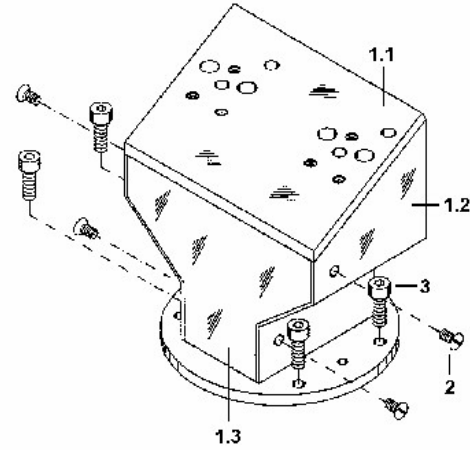
AGMD-269

(Adapter 2K for Robot - ABB- Figure 13)



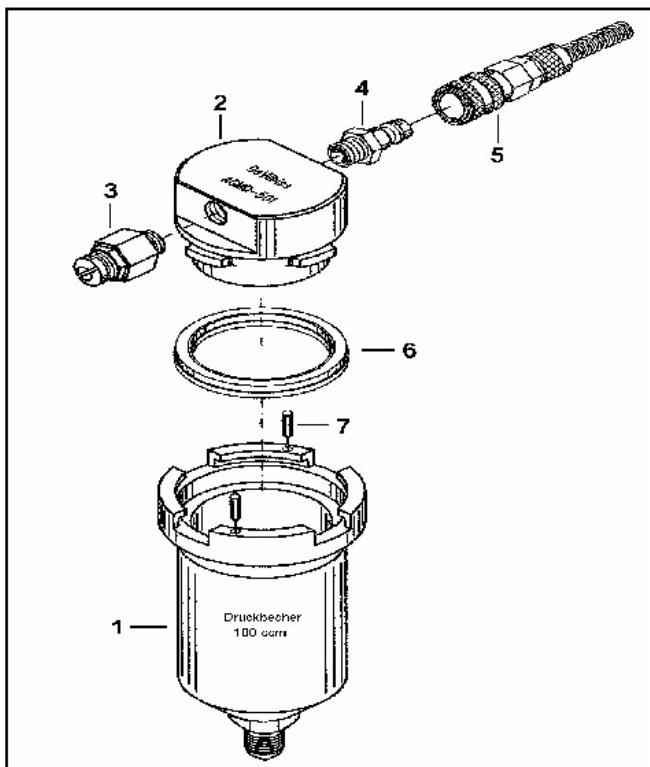
N°	Reference	Description	Qt.
1	AGMD-169	Adapter	1
2	AGMD-182	Plate 2	1
3	AGMD-181	Plate 1	1
4	AGMD-180	Static mixing	1
5	AGMD-124	O ring	6
6	AGMD-118	O ring	1
7	AGMD-133	Screw	8

AGMD-278 (Double Adapter Stainless steel tube for Robot - ABB- Figure 14)



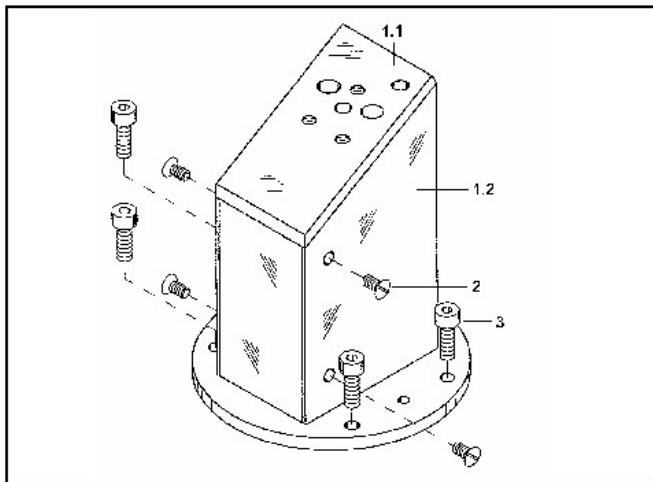
N°	Reference	Description	Qt.
1.1	AGMD-278-1	Adapter	1
1.2	AGMD-278-2	Face cover	1
1.3	AGMD-278-3	Rear cover	1
2	AGMD-133	Screw	6
3	AGMD-142	Screw	4

AGMD-501 (Pressure Cup 100 cc – figure 15)



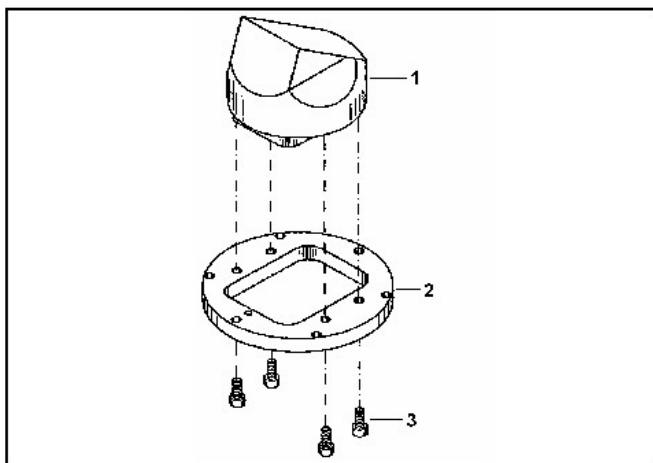
N°	Reference	Description	Qt.
1	AGMD-090	Pressure cup	1
2	AGMD-091	Lid	1
3	ZZ-2846	Safety valve.	1
4	ZZ-2890	Male connector	1
5	200840	Coupling	1
6	AGMD-089	Gasket	1
7	AGMD-137	Screw	2

AGMD-279 (Adapter Stainless steel tube for Robot ABB – Figure 16)



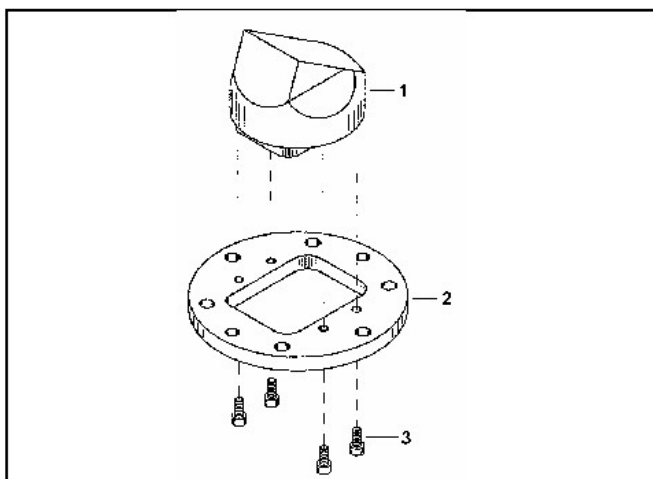
N°	Reference	Description	Qt.
1.1	AGMD-279-1	Adapter	1
1.2	AGMD-279-2	Cover	1
2	AGMD-133	Screw	4
3	AGMD-142	Screw	4

AGMD-276-185 (Adapter for Robot - FANUC P150 – Figure 17)



N°	Reference	Description	Qt.
1	AGMD-276	Adapter	1
2	AGMD-185	Fixing plate	1
3	AGMD-142	Screw	4

AGMD-276-186 (Adapter for Robot – FANUC P200 – Figure 18)



N°	Reference	Description	Qt.
1	AGMD-276	Adapter	1
2	AGMD-186	Fixing plate	1
3	AGMD-142	Screw	4

Installation

Fit the intermediate plate on the specific adapter and fix the adapter on the specific machine or Robot.

Connect the air and fluid supply connectors on the adapter.

Cylinder Air:	Hose 4 x 6 mm Minimum air pressure 5,5 bar
Atom and horn air:	Hose 6 x 8 mm for conventional and HVLP maximum hose length 5 m to limit the pressure drop through the hose and connection
Fluid supply:	Hose 6 x 8 mm (Use as large of a diameter as possible)

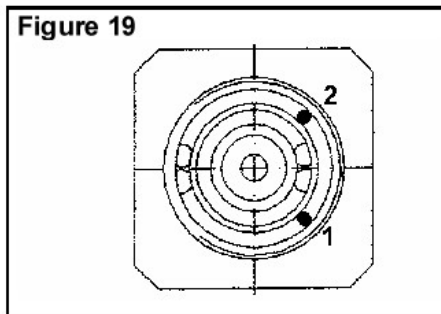
Operation

To ensure complete atomization, filtered dry air should be used. This will help to clean the air cap and tip, without the use of tools, which could damage the parts.

Verify that the gun is well fitted and locked in position on the intermediate plate.

Air cap Positioning (Figure 19) :

1. The air cap positioning depends upon the baffle position
Fit the baffle first on the gun body:
Position 1 : Horizontal pattern
Position 2 : Vertical pattern
2. Tighter the tip to maintain the baffle in position.
3. Place the air cap by using the two indexes on the baffle.
4. Fix the air cap by screwing the retaining ring.



Safety and maintenance

To remove the spray gun from the intermediate plate :

1. Shut the air supply on each line.
2. Push on the push button of the locking device.
3. Turn the spray gun until 45° to disconnect the gun from the intermediate plate.
4. Remove the o-ring clean the face of the intermediate plate and its orifices.
5. Fit a new gun and secure it if the gun is well locked.

Gun Disassembling

Disassemble the rear plate of the gun to remove the piston, the needle, the packing, and so on....

Replace the defected parts and re assembles the gun. Check the quality of the o-ring (Rep. 25) replace if its are damaged.

SAFETY INSTRUCTION

Important Read and follow all instructions, recommendations, and safety precautions before using this equipment.

FIRE AND EXPLOSION

Solvents and coating materials can be highly flammable or combustible, especially when sprayed.

* Work stations must be provided with adequate ventilation / exhaust to prevent the build-up of flammables.

* Smoking and naked flames must not be allowed in the spraying mixing areas.

* Fire extinguishing equipment must be provided in the spraying and mixing areas.

Users must comply with all local and national codes of practice and insurance company requirements governing ventilation, fire precautions, operation, maintenance and housekeeping of work station..

HALOGENATED HYDROCARBON SOLVENTS :for example 1.1.1 Trichloroethane Chloride can chemically react with aluminium and galvanized or zinc coated parts and cause an explosion hazard. Read the label and data sheet for the material you intend to spray.

DO NOT USE SPRAY MATERAIL CONTAINING THESE SOLVENTS EXCEPT WITH EQUIPMENT SPECIALLY DESIGNATED BY THE MANUFACTURER AS BEING SUITABLE FOR SUCH USE.

STATIC ELECTRICITY. Is generated by fluid moving through pipes and hoses. A static spark, capable of igniting certain solvents and coating materials could be produced by high fluid flow rates. To prevent the risk of fire or explosion, earth continuity to the spray equipment and object being sprayed should be maintained.

PERSONAL PROTECTIVE EQUIPMENT

Toxic vapors when sprayed with certain materials may poisonous, create irritation or otherwise be harmful to your health. Always read carefully all labels and safety performance data for the material being sprayed and follow any recommendations. IF IN DOUBT CONSULT THE MATERIAL SUPPLIER.

The use of respiratory protective equipment is recommended at all times when sprayed.

The type of respiratory protective equipment used must be compatible with the material being sprayed and level of concentration.

Always wear eye protection when spraying or cleaning the equipment.

Gloves must be worn for spraying or cleaning the equipment when certain coating materials and solvents are used.

TRAINING

Personnel should be given adequate training in the safe use and maintenance of this equipment.

Training courses on all aspects of the equipment are available. For details contacts your local representative.

The instructions and safety precautions contained in this literature supplied with the coating material should be read and understood before the equipment is used.

SAFETY INSTRUCTION (followed)

MISUSE

All spray guns project particles at high velocity and must not be aimed at any part of the body.

Never exceed the recommended safe working pressures for any equipment used. The maximum pressure is 7 bar for the air and 7 bar for the fluid pressure.

The fitting of no recommended or no original accessories or spare parts may create hazardous conditions.

Before dismantling the equipment for cleaning or maintenance all pressures air and material, may be isolated and released.

The disposal of non-metallic materials must be carried out in an approved manner. Burning may generate toxic fumes. The removal of waste solvents and coating materials should be carried out by an authorized local waste disposal service.

The materials used in the construction of this equipment are (bearing in mind the warning on halogenated hydrocarbons) solvent resistant enabling the equipment to be cleaned using gun washing machines. However, this equipment must not be left inside the gun washing machine for prolonged periods of time after the automatic cleaning cycle has been completed.

The solvents used in the gun washing machine should be regularly checked to ensure that the equipment is not flushed through with contaminated material. Follow the recommendations of the machine manufacturer.

NOISE LEVELS

The continuous A weighted sound pressure level of this spray gun may exceed 85 dB (A) depending on the air cap / fluid tip set up being used. Sound levels are measured at the position of the operator's ears using an impulse sound level meter and analyzer, when the gun is used in a normal spraying application. Details of actual noise level produced by the various air cap / fluid tip set ups are available on request.



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