
AGMD HIGH PERFORMANCE AUTOMATIC SPRAY GUN



MODELS:
514 CONVENTIONAL AIR ATOMIZATION
515 HVLP ATOMIZATION



IMPORTANT: Before using this equipment, carefully read **SAFETY PRECAUTIONS**, starting on page 1, and all instructions in this manual. Keep this Service Manual for future reference.

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SAFETY

SAFETY PRECAUTIONS

Before operating, maintaining or servicing any

Finishing system, read and understand all of the technical and safety literature. This manual contains information that is important for you to know and understand. This information relates to **USER SAFETY** and **PREVENTING EQUIPMENT PROBLEMS**. To help you recognize this information, we use the following symbols. Please pay particular attention to these sections.

WARNING

States information to alert you to a situation that might cause serious injury if instructions are not followed.

CAUTION

States information that tells how to prevent damage to equipment or how to avoid a situation that might cause minor injury.

NOTE

A **NOTE** is information relevant to the procedure in progress.

While this manual lists standard specifications and service procedures, some minor deviations may be found between this literature and your equipment. Differences in local codes and plant requirements, material delivery requirements, etc., make such variations inevitable. Compare this manual with your system installation drawings and appropriate equipment manuals to reconcile such differences.

Careful study and continued use of this manual will provide a better understanding of the equipment and process, resulting in more efficient operation, longer trouble-free service and faster, easier troubleshooting. If you do not have the manuals and safety literature for your DeVilbiss system, contact your local Industrial representative or Automotive Finishing Group.

WARNING

The user **MUST** read and be familiar with the Safety Section in this manual and the DeVilbiss safety literature therein identified.

This manual **MUST** be read and thoroughly understood by **ALL** personnel who operate, clean or maintain this equipment! Special care should be taken to ensure that the **WARNINGS** and safety requirements for operating and servicing the equipment are followed. The user should be aware of and adhere to **ALL** local building and fire codes and ordinances as well as **NFPA-33 SAFETY STANDARD** prior to installing, operating, and/or servicing this equipment.

WARNING

The hazards shown on the following page may occur during the normal use of this equipment. Please read the hazard chart beginning on page 2.

CA PROP 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

SAFETY PRECAUTIONS

This manual contains information that is important for you to know and understand. This information relates to USER SAFETY and PREVENTING EQUIPMENT PROBLEMS. To help you recognize this information, we use the following symbols. Please pay particular attention to these sections.



Important safety information – A hazard that may cause serious injury or loss of life.



Important information that tells how to prevent damage to equipment, or how to avoid a situation that may cause minor injury.

NOTE

Information that you should pay special attention to.



The following hazards may occur during the normal use of this equipment. Please read the following chart before using this equipment.



PROP 65 WARNING
 WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

HAZARD	CAUSE	SAFEGUARDS
	Solvent and coatings can be highly flammable or combustible especially when sprayed.	Adequate exhaust must be provided to keep air free of accumulations of flammable vapors. Smoking must never be allowed in the spray area. Fire extinguishing equipment must be present in the spray area.
	During use and while cleaning and flushing, solvents can be forcefully expelled from fluid and air passages. Some solvents can cause eye injury.	Wear eye protection.
	Certain materials may be harmful if inhaled, or if there is contact with the skin.	Follow the requirements of the Material Safety Data Sheet supplied by your coating material manufacturer. Adequate exhaust must be provided to keep the air free of accumulations of toxic materials. Use a mask or respirator whenever there is a chance of inhaling sprayed materials. The mask must be compatible with the material being sprayed and its concentration. Equipment must be as prescribed by an industrial hygienist or safety expert, and be NIOSH approved.
	Halogenated hydrocarbon solvents - for example; methylene chloride and 1,1,1, - Trichloroethane are not chemically compatible with the aluminum that might be used in many system components. The chemical reaction caused by these solvents reacting with aluminum can become violent and lead to an equipment explosion.	Guns with stainless steel internal passageways may be used with these solvents. However, aluminum is widely used in other spray application equipment - such as material pumps, regulators, valves, and this gun and cup. Check all equipment items before use and make sure they can also be used safely with these solvents. Read the label or data sheet for the material you intend to spray. If in doubt as to whether or not a coating or cleaning material is compatible, contact your material supplier.
General Safety	Improper operation or maintenance of equipment.	Operators should be given adequate training in the safe use and maintenance of the equipment (in accordance with the requirements of NFPA-33, Chapter 15). Users must comply with all local and national codes of practice and insurance company requirements governing ventilation, fire precautions, operation, maintenance, and housekeeping. These are OSHA Sections 1910.94 and 1910.107 and NFPA-33.
Cumulative Trauma Disorders ("CTD's") CTD's, or musculoskeletal disorders, involve damage to the hands, wrists, elbows, shoulders, neck, and back. Carpal tunnel syndrome and tendonitis (such as tennis elbow or rotator cuff syndrome) are examples of CTD's.	Use of hand tools may cause cumulative trauma disorders ("CTD's"). CTD's, when using hand tools, tend to affect the upper extremities. Factors which may increase the risk of developing a CTD include: 1. High frequency of the activity. 2. Excessive force, such as gripping, pinching, or pressing with the hands and fingers. 3. Extreme or awkward finger, wrist, or arm positions. 4. Excessive duration of the activity. 5. Tool vibration. 6. Repeated pressure on a body part. 7. Working in cold temperatures. CTD's can also be caused by such activities as sewing, golf, tennis, and bowling, to name a few.	Pain, tingling, or numbness in the shoulder, forearm, wrist, hands, or fingers, especially during the night, may be early symptoms of a CTD. Do not ignore them. Should you experience any such symptoms, see a physician immediately. Other early symptoms may include vague discomfort in the hand, loss of manual dexterity, and nonspecific pain in the arm. Ignoring early symptoms and continued repetitive use of the arm, wrist, and hand can lead to serious disability. Risk is reduced by avoiding or lessening factors 1-7.

INTRODUCTION

GENERAL DESCRIPTION

The AGMD High Performance Automatic Spray Gun is suitable for use with solvent base and waterborne materials.

When using this gun with highly corrosive or highly abrasive materials it must be expected that the necessity for replacement of parts will be increased. If there is any doubt about the suitability of the gun for a particular material ask the paint manufacturer.

The AGMD automatic spray gun will be mounted to the gun mover by means of an intermediate plate and an adapter. The patented locking device on the intermediate plate provides a simple and quick change without tools (example: for servicing purposes). The installation with the quick locking device provides precise repositioning.

The air cap can be installed with indexing of 90°.

MODELS

AGMD-514: Automatic gun for conventional air atomization, including air cap indexing.

AGMD-515: Automatic gun for “HVL P” and “LVMP” atomization, including air cap indexing.

Specify air cap and fluid tip combinations when ordering (see “Table 1a and 1b” in the “Parts Identification” section).

SPECIFICATIONS

Mechanical / Physical

Weight	1.33 lbs. (603 g)
Dimensions	(See Figure 1)
Max. Pressure	Atomizing Air (ATOM) & Fan Air (FAN) 130 psi (9 bar) Material (MAT) 200 psi (14 bar) Cylinder Air (CYL) 100 psi (7 bar)
Spray Head	300 Grade Stainless Steel
Fluid Tip (Standard)	300 Grade Stainless Steel
Fluid Needle (Standard)	300 Grade Stainless Steel
Material Contacting Seals (Standard)	Viton (Waterborne Materials)
Material Contacting Seals (Optional)	Kalrez (Solvent Base Materials)

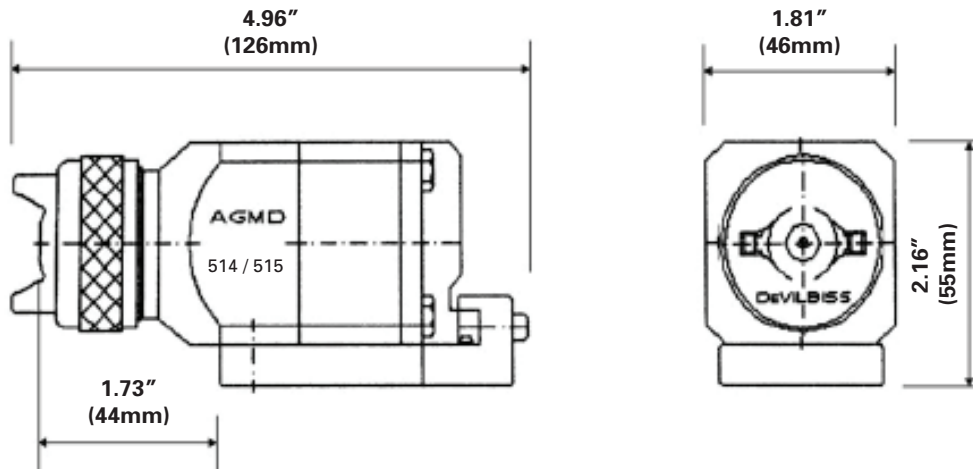
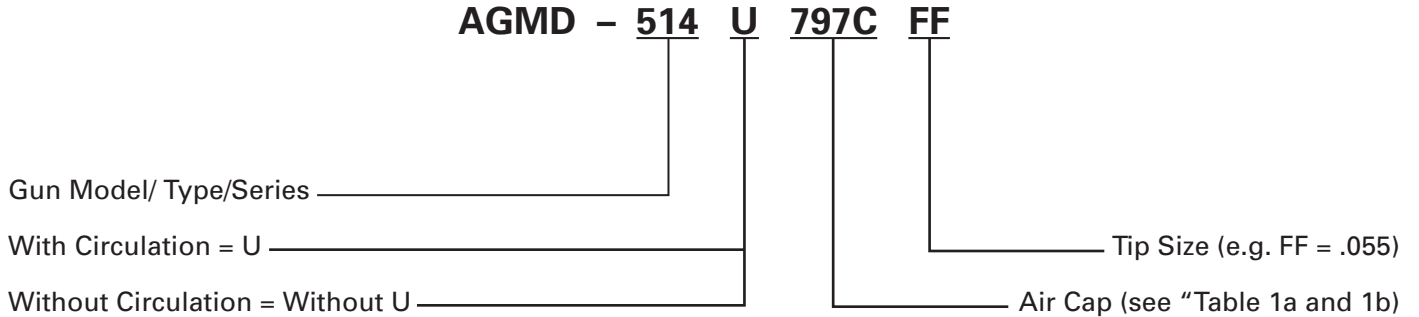


Figure 1: AGMD-514/515 Dimensions (With AGMD-245-1 Intermediate Plate)

AGMD HIGH PERFORMANCE AUTOMATIC SPRAY GUN MODEL IDENTIFICATION

When ordering, use AGMD-514 U, FF, or 797C as indicated. Three digits must follow the basic part number, for example:



INSTALLATION

1. Firmly screw intermediate plate to adapter and screw adapter to gun mover (robot / reciprocator).
2. Connect compressed air hose and fluid hose machined adapter.

CYL Air	1/8" ID (3.2mm) min. 75 psi min.
FAN Air <i>(Conventional & HVLP)</i> <i>Hose lengths up to 15' (457m)</i>	1/4" ID (6.3mm) min.
ATOM Air <i>(Conventional & HVLP)</i> <i>Hose lengths up to 15' (457m)</i>	1/4" ID min.
Fluid	1/8" ID (3.2mm) min.

OPERATION

Connect compressed air and fluid supply to suitable pressure regulator. For consistent operation the air pressure should be regulated and be free from oil mist and water condensate. When securing the gun to the intermediate plate care must be taken that all o-rings are in place. Lightly apply a small amount of petroleum jelly to the o-ring surfaces.

AIR CAP INSTALLATION

(Refer to Figure 2)

1. The air cap positioning depends upon the baffle position. Fit the baffle first on the gun body as shown in Figure 2.

NOTE
Position 1: Horizontal Pattern Position 2: Vertical Pattern

2. Tighten 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.

AGMD-515 HVLP AND LVMP ONLY

All models are designed to provide maximum transfer efficiency by limiting air cap pressure to 10 psi (0.7 bar) (in the U.S., this complies with rules issued by SCAQMD and other air quality authorities). Air cap pressure can be measured with an optional air cap test kit. (See "Spare Parts " in the "Parts Identification" section.)

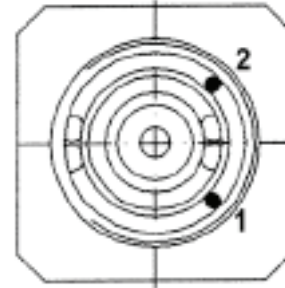


Figure 2: Indexing Pin Locations

NOTE		
For HVLP operation (max. 10 psi, -0.7 bar cap pressure), DO NOT exceed the air inlet pressure given as follows:		
PSI (bar)	CAP #	
25 (1.7)	46C	
22 (1.5)	122C	

BACK PRESSURE 46C

Due to the unique cone shape of the MP fluid tips (nozzle), a slight back pressure is created against the fluid column. This will reduce the amount of fluid output. To compensate, increase the fluid regulator pressure slightly if necessary. With 10 psi (0.7 bar) cap pressure, back pressures are approximately 3.5 psi (0.24 bar) with the 46C.

MAINTENANCE

GUN REMOVAL AND INSTALLATION

1. Relieve system pressure.
2. Press unlocking pin, turn gun by 45° and lift it off the intermediate plate.
3. When installing gun, check o-rings and replace if necessary. Check for clean surface and holes. Lubricate o-rings and AGMD-245-1 intermediate plate with food grade petroleum jelly before installation.

PARTS IDENTIFICATION

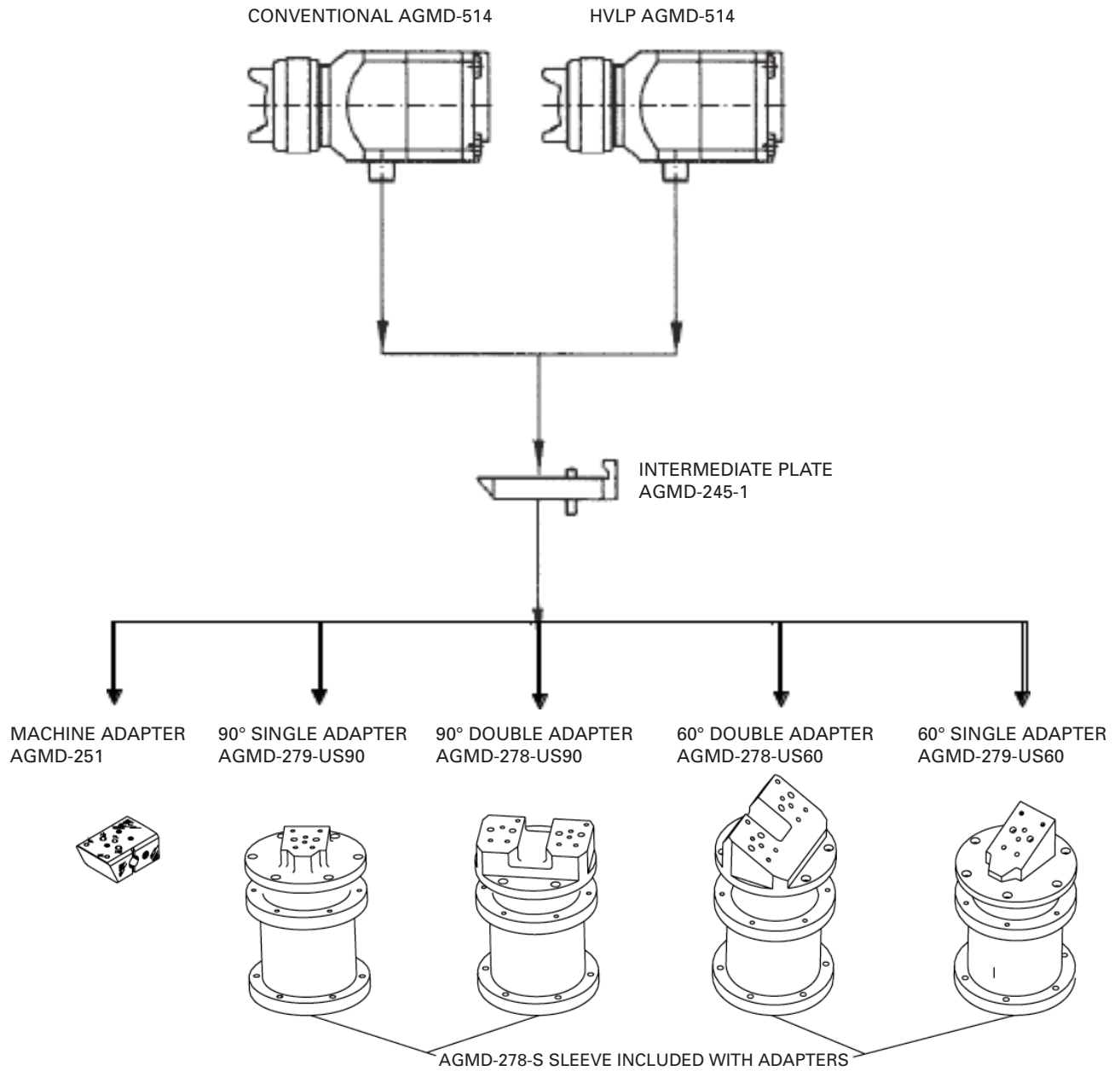


Figure 3: AGMD Parts Identification Overview

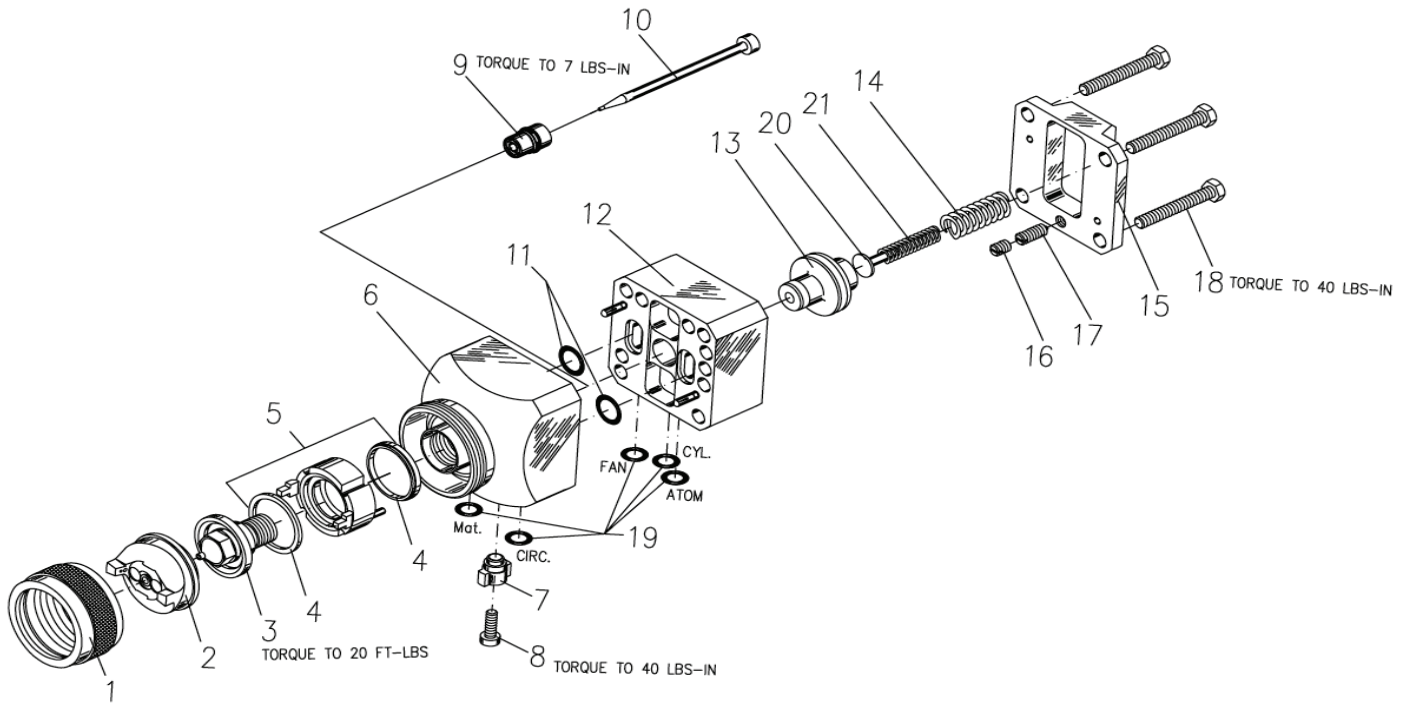


Figure 4: AGMD-514 Conventional Atomization Spray Gun Parts Identification

AGMD-514 CONVENTIONAL ATOMIZATION SPRAY GUN PARTS LIST (Figure 4)

Item #	Description	Part #
1	Retaining Ring	MBC-368
2	Air Cap	See Table 1a
3	Fluid Tip (1/2" Hex)	See Table 1a
4	Gasket (2 Required)	AGMD-65-1
5	Baffle Assembly (Includes two (2) AGMD-65-1 Gaskets)	AGMD-33
6	Spray Head	AGMD-195
7	Locking Device	AGMD-244-1
8	Screw, Socket Head Cap (4mm Hex)	AGMD-130
9	Needle Packing Assembly (6mm Hex)	AGMD-405-1
10	Fluid Needle	See Table 1a
11	O-Ring (2 Required)	7554-09
12	Gun Body	AGMD-217

Item #	Description	Part #
13	Piston	AGMD-243-1
14	Spring	AGMD-111
15	Plate, Rear	AGMD-242
16	Screw, Set with Slot	AGMD-116
17	Screw, Spring Plunger	AGMD-115
18	Screw (4 Required), Hex Head Machined (5mm Hex)	AGMD-131
19	O-Ring (5 Required), Standard Waterborne Materials	AGMD-119
	O-Ring (5 Required), Optional, Solventborne Materials	79001-27
20	Pad, Spring	AGMD-219
21	Pressure Spring	AGMD-110

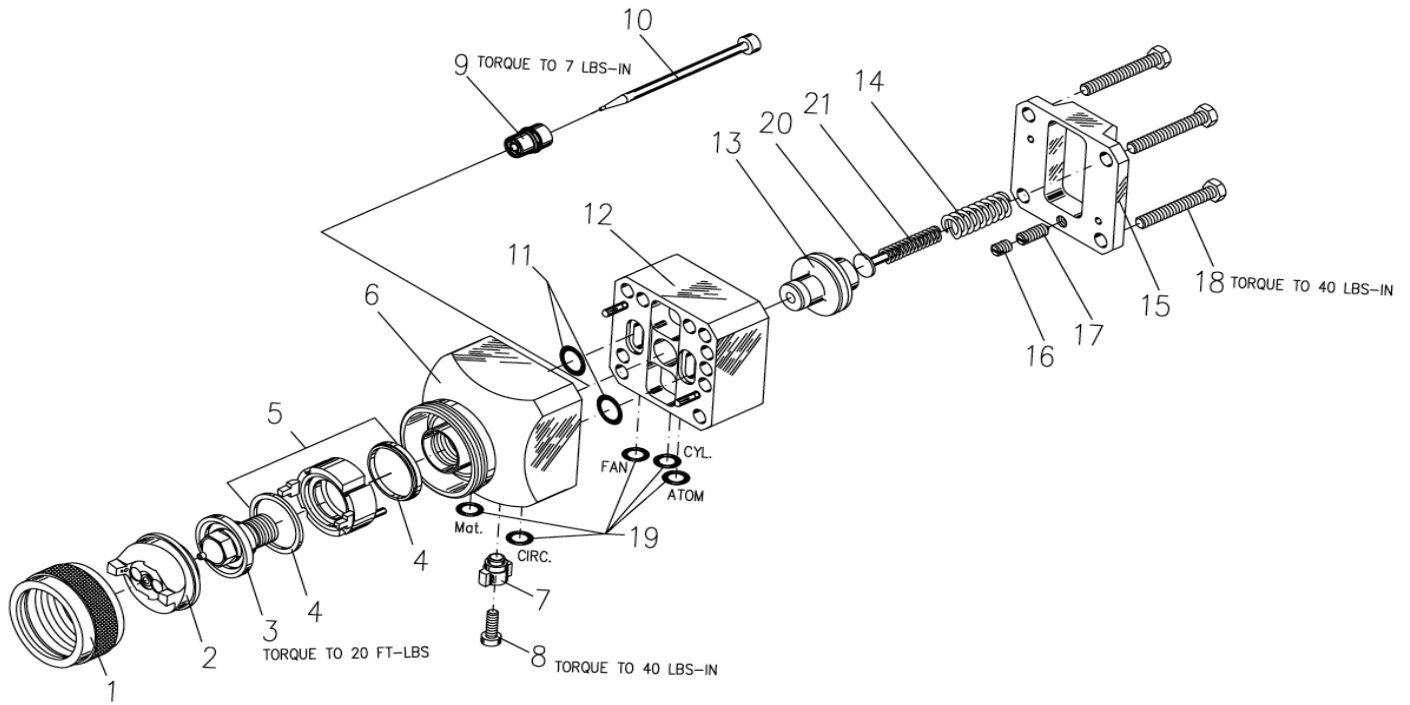


Figure 5: AGMD-515 HVLP & LVMP Atomization Spray Gun Parts Identification

AGMD-515 HVLP AND LVMP ATOMIZATION SPRAY GUN PARTS LIST (Figure 5)

Item #	Description	Part #
1	Retaining Ring	MBC-368
2	Air Cap	See Table 1b
3	Fluid Tip (1/2" Hex)	See Table 1b
4	Gasket (2 Required)	AGMD-65-1
5	Baffle Assembly (Includes two (2) AGMD-65-1 Gaskets)	AGMD-34
6	Spray Head	AGMD-195
7	Locking Device	AGMD-244-1
8	Screw, Socket Head Cap (4mm Hex)	AGMD-130
9	Needle Packing Assembly (6mm Hex)	AGMD-405-1
10	Fluid Needle	See Table 1b
11	O-Ring (2 Required)	7554-09
12	Gun Body	AGMD-217

Item #	Description	Part #
13	Piston	AGMD-243-1
14	Spring	AGMD-111
15	Plate, Rear	AGMD-242
16	Screw, Set with Slot	AGMD-116
17	Screw, Spring Plunger	AGMD-115
18	Screw (4 Required), Hex Head Machined (5mm Hex)	AGMD-131
19	O-Ring (5 Required), Standard Waterborne Materials	AGMD-119
	O-Ring (5 Required), Optional, Solventborne Materials	79001-27
20	Pad, Spring	AGMD-219
21	Pressure Spring	AGMD-110

AGMD-514 CONVENTIONAL AUTOMATIC GUN
Fluid Tip and Needle Combinations, Air Cap Selection, and Air Flow

Air Cap		Fluid Tip & Needle [†] AGMD-4000- XX ø in.	Viscosity ZAHN #2 (seconds)	Flow Rate CC/min.	Fan Width Inch @ 10" Target
Part # [†]	Air Flow CFM @ psi Inlet Pressure				
AV-1239-765C	22 @ 80	FX / .042	Up to 26	Up to 600	15"
AV-1239-765C	22 @ 80	FF / .055	Up to 28	Up to 900	15"
AV-1239-765C	22 @ 80	E / .070	28+	Up to 1000	15"
AV-1239-797C	21 @ 70	FX / .042	Up to 26	Up to 600	17"
AV-1239-797C	21 @ 70	FF / .055	Up to 28	Up to 900	17"
AV-1239-797C	21 @ 70	E / .070	28+	Up to 1000	17"

[†] Certified air caps marked with "C"

[‡] Made of High Grade 303 Stainless Steel

Table 1a: AGMD-514 Conventional Automatic Gun Fluid Tip and Needle Combinations

AGMD-515 HVLP and LVMP AUTOMATIC GUN
Fluid Tip and Needle Combinations, Air Cap Selection, and Air Flow

Air Cap		Fluid Tip & Needle [†] AGMD-4600- XX ø in.	Viscosity ZAHN #2 (seconds)	Flow Rate CC/min.	Fan Width Inch @ 10" Target
Part # [†]	Air Flow CFM @ psi Inlet Pressure				
[†] AGMD-46C	26.5 @ 70	FX / .042	Up to 26	Up to 200	11"
[†] AGMD-46C	26.5 @ 70	FF / .055	Up to 30	Up to 300	11"
[†] AGMD-122C	9.5 @ 22	FX / .042	Up to 26	Up to 200	10"
[†] AGMD-122C	9.5 @ 22	FF / .055	Up to 30	Up to 300	10"

[†] Certified air caps marked with "C"

[‡] Made of High Grade 303 Stainless Steel

Table 1b: AGMD-515 HVLP & LVMP Fluid Tip and Needle Combinations

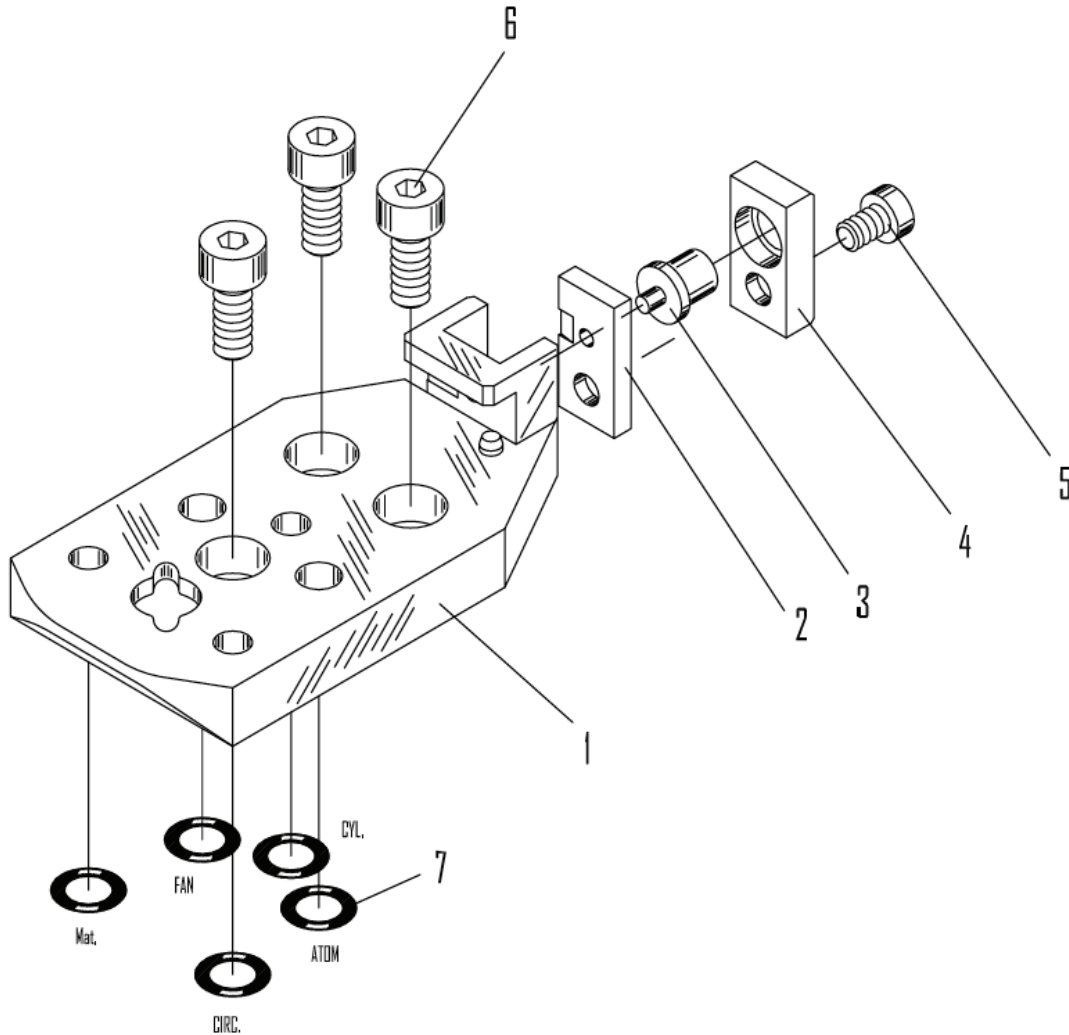


Figure 6: AGMD-245-1 Intermediate Plate Assembly Parts Identification

AGMD-245-1 INTERMEDIATE PLATE ASSEMBLY PARTS LIST (Figure 6)		
Item #	Description	Part #
1	Intermediate Plate	AGMD-147-1
2	Wear Plate	AGMD-346
3	Pressure Piece	AGMD-247
4	Plate	AGMD-246
5	Screw, Socket Pan Head Machined	AGMD-130
6	Screw, (3 Required), Socket Head Cap	AGMD-142
7	O-Ring, (5 Required), Waterborne	AGMD-119
	O-Ring, (5 Required), Solventborne Materials	79001-27

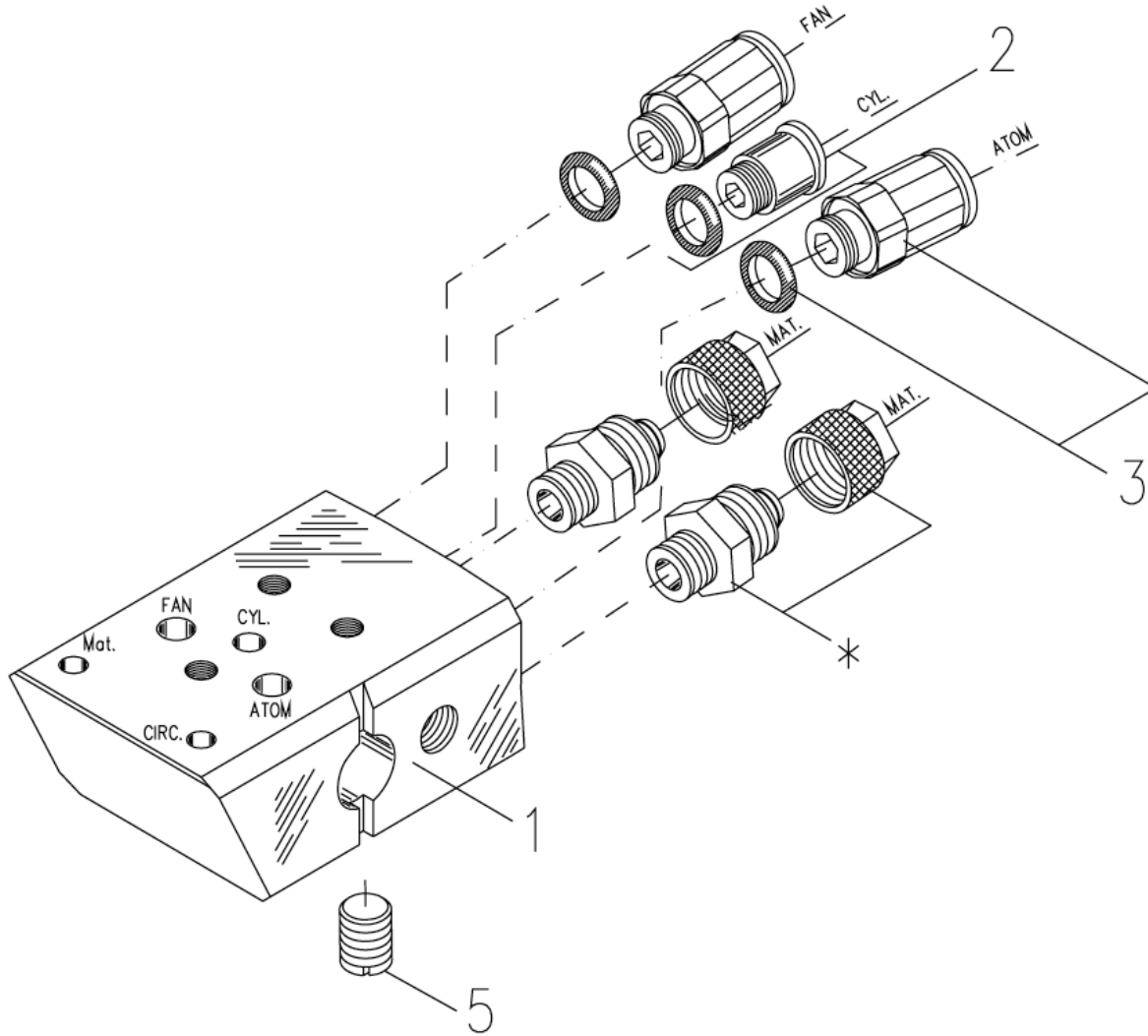


Figure 7: AGMD-251 Machine Adapter Assembly Parts Identification

**AGMD-251 MACHINE ADAPTER ASSEMBLY
PARTS LIST (Figure 7)**

Item #	Description	Part #	Qty.
1	Adapter	AGMD-151a	1
2	Connector Assembly, Push-In Tubing, 6mm OD	AGMD-126	1
3	Connector Assembly, Push-In Tubing, 5/16" OD	AGMD-127	2
5	Screw, Set	AGMD-117	1

* ZZ-2663 – Fluid Connector Assembly, Push-In Tubing, 5/16" OD X .040 Wall (2) are not included with kit. May be purchased separately. Contact your Finishing representative or customer service.

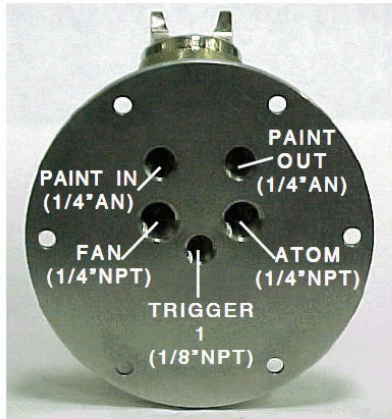


Figure 8: Single Head Adapter Robot (Bottom View)

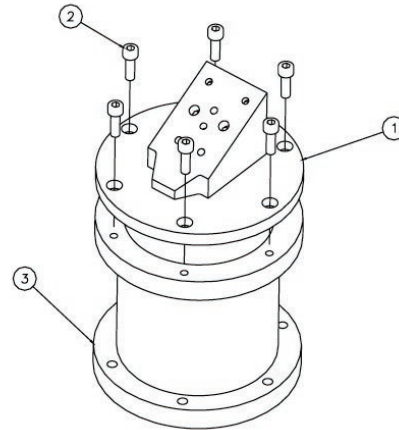


Figure 8: AGMD-279-US60 Single Head Adapter Parts Identification (Top View)

AGMD-279-US60 SINGLE HEAD ADAPTER FOR ROBOT PARTS LIST (Figure 8)		
Item #	Description	Part #
1	Adapter – 60° Face Angle	AGMD-279-US60
2	Screw (6 Required), Socket Head Cap	AGMD-142
3	Sleeve (Included with adapter)	AGMD-278-S

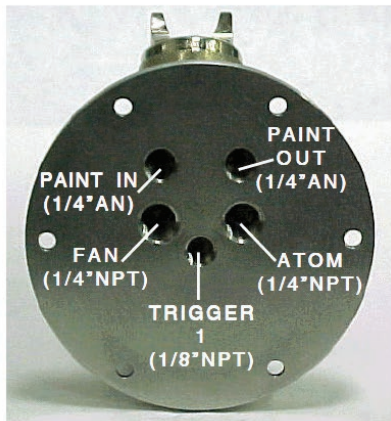


Figure 9: Single Head Robot Adapter (Bottom View)

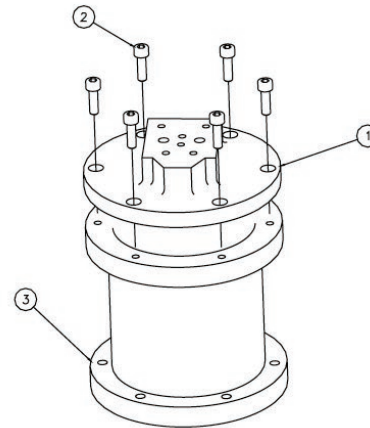


Figure 9: AGMD-279-US90 Single Head Adapter Parts Identification (Top View)

AGMD-279-US90 SINGLE HEAD ADAPTER FOR ROBOT PARTS LIST (Figure 9)		
Item #	Description	Part #
1	Adapter – 90° Face Angle	AGMD-279-US90
2	Screw (6 Required), Socket Head Cap	AGMD-142
3	Sleeve (Included with adapter)	AGMD-278-S

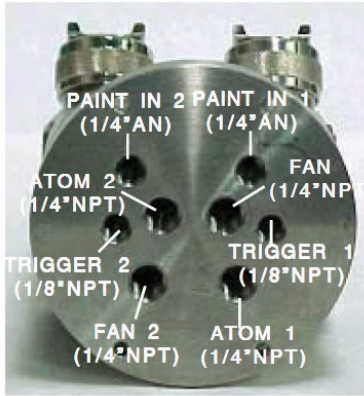


Figure 10: Dual Head Adapter Robot (Bottom View)

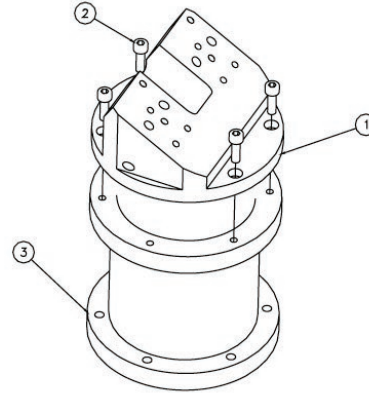


Figure 10: AGMD-278-US60 Dual Head Adapter Parts Identification (Top View)

AGMD-278-US60 DUAL HEAD ADAPTER FOR ROBOT PARTS LIST (Figure 10)

Item #	Description	Part #
1	Adapter – 60° Face Angle	AGMD-278-US60
2	Screw (4 Required), Socket Head Cap	AGMD-142
3	Sleeve (Included with adapter)	AGMD-278-S

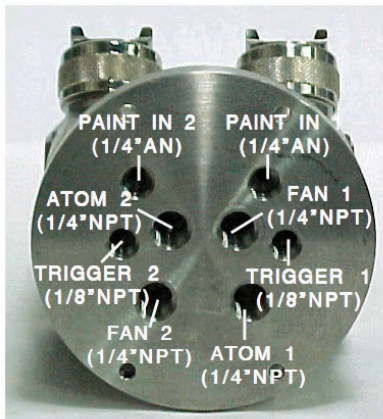


Figure 11: Dual Head Robot Adapter (Bottom View)

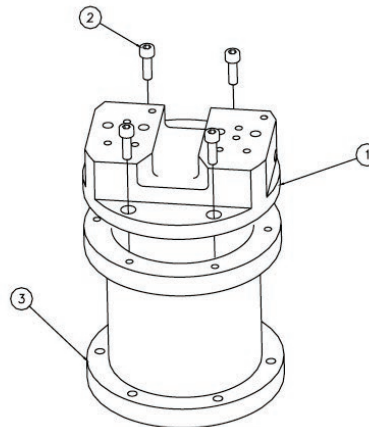


Figure 11: AGMD-278-US90 Dual Head Adapter Parts Identification (Top View)

AGMD-278-US90 DUAL HEAD ADAPTER FOR ROBOT PARTS LIST (Figures 11)

Item #	Description	Part #
1	Adapter – 90° Face Angle	AGMD-278-US90
2	Screw (4 Required), Socket Head Cap	AGMD-142
3	Sleeve (Included with adapter)	AGMD-278-S

AGMD-514 AND AGMD-515 RECOMMENDED SPARE PARTS

Part #	Description	Number of Guns				Notes
		1-5	5-10	10-15	15+	
AGMD-110	Pressure Spring	1	1	2	3	
AGMD-111	Pressure Spring	1	1	2	3	
AGMD-65-1	Fluid Tip Gasket	4	6	8	10	
AGMD-244-1	Locking Device	1	2	3	4	
AGMD-130	Cap Screw	1	2	3	4	
AGMD-405-1	Needle Packing	2	3	4	5	
7554-09	O-Ring	1	2	3	4	
AGMD-243-1	Piston Assembly	1	2	3	4	
79001-27	O-Ring, Solvent Proof, Kalrez	5	10	15	20	For use with solventborne (Optional) materials.
AGMD-119	O-Ring, Viton (Standard)	5	10	15	20	For use with waterborne paints.
MBC-368	Retaining Ring	1	2	3	4	

AGMD-514 RECOMMENDED SPARE PARTS

Part #	Description	Number of Guns				Notes
		1-5	5-10	10-15	15+	
AGMD-33	Baffle Assembly	1	1	2	2	
AGMD-4000-XX	Fluid Tip & Needle Combination	2	3	4	4	Replace XX with FX for .042, FF for .055, or E for .070
AV-1239-XXXC	Air Cap	2	3	4	5	Replace XXX with 765 or 797.

AGMD-515 RECOMMENDED SPARE PARTS

Part #	Description	Number of Guns				Notes
		1-5	5-10	10-15	15+	
AGMD-34	Baffle Assembly	1	1	2	2	
AGMD-4600-XX	Fluid Tip & Needle Combination	2	3	4	5	Replace XX with FX for .042; FF for .055 and E for .070.
AGMD-XXXX	Air Cap	2	3	4	5	Replace XXX with 46 or 122.

AGMD-514 AND AGMD-515 AIR CAP TEST KITS (OPTIONAL)

Part #	Description	Number of Guns				Notes
		1-5	5-10	10-15	15+	
78293-01	Air Cap Test Kit	1	1	1	1	For 46C Cap
74035-18	Air Cap Calibrator Kit	1	1	1	1	For 765C Cap
74035-19	Air Cap Calibrator Kit	1	1	1	1	For 797C Cap
74035-20	Air Cap Calibrator Kit	1	1	1	1	For 122C Cap

ACCESSORIES (INDUSTRIAL)

Part #	Description
54-380	Gun Mounting Bar Bracket. (For reciprocator or fixed rod mounting)

APPENDIX

PAINT AND SOLVENT SPECIFICATIONS

	REA™ VECTOR™ EFM™ Evolver™	REM™ / M90™	NO. 2 HAND GUN	TURBODISK™	AEROBELL® *** AEROBELL® AEROBELL® 33 RMA-101™
RECOMMENDED VISCOSITY USING A ZAHN NO. 2	18 TO 30 SEC	18 TO 30 SEC	20 TO 60 SEC	20 TO 60 SEC	20 TO 60 SEC
PAINT ELECTRICAL RESISTANCE**	.1 MΩ TO ∞	.1 MΩ TO ∞	.1 TO 1 MΩ	.1 MΩ TO ∞	.1 MΩ TO ∞
RECOMMENDED DELIVERY (UP TO)	1000 cc/min	1500 cc/min	180 cc/min	1000 cc/min	500 cc/min

GUIDE TO USABLE SOLVENT SELECTION

Chemical Name	Common Name	Category	Flash Point†† (TCC)	*CAS Number	Evap Rate†	Elec. Res.**
DICHLOROMETHANE	Methylene Chloride	Chlorinated Solvents		75-09-2	14.5	HIGH
VM & P NAPHTHA	Naptha	Aliphatic Hydrocarbons	65°F	8030-30-6	10	HIGH
ACETONE		Ketones	-18°F	67-64-1	5.6	LOW
METHYL ACETATE		Esters	90°F	79-20-9	5.3	LOW
BENZENE		Aromatic Hydrocarbons	12°F	71-43-2	5.1	HIGH
ETHYL ACETATE		Esters	24°F	141-78-6	3.9	MEDIUM
2-BUTANONE	MEK	Ketones	16°F	78-93-3	3.8	MEDIUM
ISO-PROPYL ACETATE		Esters	35°F	108-21-4	3.4	LOW
ISOPROPYL ALCOHOL	IPA	Alcohols	53°F	67-63-0	2.5	LOW
2-PENTANONE	MPK	Ketones	104°F	107-87-9	2.5	MEDIUM
METHANOL	Methyl Alcohol	Alcohols	50°F	67-56-1	2.1	LOW
PROPYL ACETATE	n-Propyl Acetate	Esters	55°F	109-60-4	2.1	LOW
TOLUOL	Toluene	Aromatic Hydrocarbons	48°F	108-88-3	1.9	HIGH
METHYL ISOBUTYL KETONE	MIBK	Ketones	60°F	108-10-1	1.6	MEDIUM
ISOBUTYL ACETATE		Esters	69°F	110-19-0	1.5	LOW
ETHANOL	Ethyl Alcohol	Alcohols		64-17-5	1.4	LOW
BUTYL ACETATE		Esters	78 ° F	123-86-4	1.0	LOW
ETHYLBENZENE		Aromatic Hydrocarbons	64°F	100-41-4	.89	HIGH
1-PROPANOL	n-Propyl Alcohol	Alcohols	74°F	71-23-8	.86	LOW
2-BUTANOL	sec.-Butyl Alcohol	Alcohols	72°F	78-92-2	.81	LOW
XYLOL	Xylene	Aromatic Hydrocarbons	79°F	1330-02-07	.80	HIGH
AMYL ACETATE		Esters	106°F	628-63-7	.67	MEDIUM
2-METHYLPROPANOL	iso-Butyl Alcohol	Alcohols	82°F	78-83-1	.62	LOW
METHYL AMYL ACETATE		Esters	96°F	108-84-9	.50	LOW
5-METHYL-2-HEXANONE	MIAK	Ketones	96°F	110-12-3	.50	MEDIUM
1-BUTANOL	n-Butyl Alcohol	Alcohols	95°F	71-36-3	.43	LOW
2-ETHOXYETHANOL		Glycol Ethers	164°F	110-80-5	.38	LOW
2-HEPTANONE	MAK	Ketones	102°F	110-43-0	.40	MEDIUM
CYCLOHEXANONE		Ketones	111°F	108-94-1	.29	MEDIUM
AROMATIC-100	SC#100	Aromatic Hydrocarbons	111°F		.20	HIGH
DIISOBUTYL KETONE	DIBK	Ketones	120°F	108-83-8	.19	MEDIUM
1-PENTANOL	Amyl Alcohol	Alcohols		71-41-0	.15	LOW
DIACETONE ALCOHOL		Ketones	133°F	123-42-2	.12	LOW
2-BUTOXYETHANOL	Butyl Cellosolve	Glycol Ethers	154°F	111-76-2	.07	LOW
CYCLOHEXANOL		Alcohols	111°F	108-93-0	.05	LOW
AROMATIC-150	SC#150	Aromatic Hydrocarbons	149°F		.004	HIGH
AROMATIC-200		Aromatic Hydrocarbons	203°F		.003	HIGH

* CAS Number: Chemical Abstract Service Number.

** Electrical Resistance using the Ransburg Meter.

*** Solvent Base Configuration Only.

† Information Obtained From: <http://solvdb.ncms.org> **Evaporation Rate is Based Upon Butyl Acetate Having a Rate of 1.0**

†† The lowest temperature at which a volatile fluid will ignite.

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NOTE: Chart provides resistance and control information that we feel is necessary when using Automotive Finishing equipment.

VISCOSITY CONVERSION CHART																		
Poise	Centipoise	DuPony Parlin 7	DuPony Parlin 10	Fisher 1	Fisher 2	Ford Cup 3	Ford Cup 4	Gardner-Holdt Bubble	Gardner-Lithographic	Krebs Unit KU	Saybolt Universal SSU	Zahn 1	Zahn 2	Zahn 3	Zahn 4	Zahn 5	Sears Craftsman Cup	Din Cup 4
.1	10	27	11	20			5	A-4			60	30	16					10
.15	15	30	12	25			8	A-3			80	34	17					11
.2	20	32	13	30	15	12	10				100	37	18					12
.25	25	37	14	35	17	15	12	A-2			130	41	19					13
.3	30	43	15	39	18	19	14	A-1			160	44	20					14
.4	40	50	16	50	21	25	18	A			210	52	22				19	15
.5	50	57	17		24	29	22			30	260	60	24				20	16
.6	60	64	18		29	33	25	B		33	320	68	27				21	18
.7	70		20		33	36	28			35	370		30				23	21
.8	80		22		39	41	31	C		37	430		34				24	23
.9	90		23		44	45	32			38	480		37	10			26	25
1.0	100		25		50	50	34	D		40	530		41	12	10		27	27
1.2	120		30		62	58	41	E		43	580		49	14	11		31	31
1.4	140		32			66	45	F		46	690		58	16	13		34	34
1.6	160		37				50	G		48	790		66	18	14		38	38
1.8	180		41				54		000	50	900		74	20	16		40	43
2.0	200		45				58	H		52	1000		82	23	17	10	44	46
2.2	220						62	I		54	1100			25	18	11		51
2.4	240						65	J		56	1200			27	20	12		55
2.6	260						68			58	1280			30	21	13		58
2.8	280						70	K		59	1380			32	22	14		63
3.0	300						74	L		60	1475			34	24	15		68
3.2	320							M			1530			36	25	16		72
3.4	340							N			1630			39	26	17		76
3.6	360							O		62	1730			41	28	18		82
3.8	380										1850			43	29	19		86
4.0	400							P		64	1950			46	30	20		90
4.2	420										2050			48	32	21		95
4.4	440							Q			2160			50	33	22		100
4.6	460							R		66	2270			52	34	23		104
4.8	480								00	67	2380			54	36	24		109
5.0	500							S		68	2480			57	37	25		112
5.5	550							T		69	2660			63	40	27		124
6.0	600							U		71	2900			68	44	30		135
7.0	700									74	3375				51	35		160
8.0	800								0	77	3380				58	40		172
9.0	900							V		81	4300				64	45		195
10.0	1000							W		85	4600					49		218
11.0	1100									88	5200					55		
12.0	1200									92	5620					59		

VISCOSITY CONVERSION CHART																		
Poise	Centipoise	DuPony Parlin 7	DuPony Parlin 10	Fisher 1	Fisher 2	Ford Cup 3	Ford Cup 4	Gardner-Holdt Bubble	Gardner-Lithographic	Krebs Unit KU	Saybolt Universal SSU	Zahn 1	Zahn 2	Zahn 3	Zahn 4	Zahn 5	Sears Craftsman Cup	Din Cup 4
13.0	1300							X		95	6100					64		
14.0	1400								1	96	6480							
15.0	1500									98	7000							
16.0	1600									100	7500							
17.0	1700									101	8000							
18.0	1800							Y			8500							
19.0	1900										9000							
20.0	2000									103	9400							
21.0	2100										9850							
22.0	2200										10300							
23.0	2300							Z	2	105	10750							
24.0	2400									109	11200							
25.0	2500							Z-1		114	11600							
30.0	3000									121	14500							
35.0	3500							Z-2	3	129	16500							
40.0	4000									133	18500							
45.0	4500							Z-3		136	21000							
50.0	5000										23500							
55.0	5500										26000							
60.0	6000							Z-4	4		2800							
65.0	6500										30000							
70.0	7000										32500							
75.0	7500										35000							
80.0	8000										37000							
85.0	8500										39500							
90.0	9000										41000							
95.0	9500										43000							
100.0	10000							Z-5	5		46500							
110.0	11000										51000							
120.0	12000										55005							
130.0	13000										60000							
140.0	14000										65000							
150.0	15000							Z-6			67500							
160.0	16000										74000							
170.0	17000										83500							
180.0	18000										83500							
190.0	19000										88000							
200.0	20000										93000							
300.0	30000										140000							

Note: All viscosity comparisons are as accurate as possible with existing information. Comparisons are made with a material having a specific gravity of 1.0.

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VOLUMETRIC CONTENT OF HOSE OR TUBE (English Units)

I.D. (inches)	cc/ft.	Cross Section (sq. in.)	Length				
			5 ft. (60")	10 ft. (120")	15 ft. (180")	25 ft. (300")	50 ft. (600")
1/8	2.4	.012	.003 gal. .4 fl. oz.	.006 gal. .8 fl. oz.	.010 gal. 1.2 fl. oz.	.016 gal. 2.0 fl. oz.	.032 gal. 4.1 fl. oz.
3/16	5.4	.028	.007 gal. .9 fl. oz.	.014 gal. 1.8 fl. oz.	.022 gal. 2.8 fl. oz.	.036 gal. 4.6 fl. oz.	.072 gal. 9.2 fl. oz.
1/4	9.7	.049	.013 gal. 1.6 fl. oz.	.025 gal. 3.3 fl. oz.	.038 gal. 4.9 fl. oz.	.064 gal. 8.2 fl. oz.	.127 gal. 16.3 fl. oz.
5/16	15.1	.077	.020 gal. 2.5 fl. oz.	.040 gal. 5.1 fl. oz.	.060 gal. 7.6 fl. oz.	.100 gal. 12.7 fl. oz.	.199 gal. 25.5 fl. oz.
3/8	21.7	.110	.029 gal. 3.7 fl. oz.	.057 gal. 7.3 fl. oz.	.086 gal. 11.0 fl. oz.	.143 gal. 18.4 fl. oz.	.287 gal. 36.7 fl. oz.
1/2	38.6	.196	.051 gal. 6.5 fl. oz.	.102 gal. 13.1 fl. oz.	.153 gal. 19.6 fl. oz.	.255 gal. 32.6 fl. oz.	.510 gal. 65.3 fl. oz.

VOLUMETRIC CONTENT OF HOSE OR TUBE (English Units)

I.D. (mm)	cc/m	Cross Section (mm ²)	Length				
			1.5 m	3.0 m	4.5 m	6.0 m	7.5 m
3.6	10.2	10.2	15.3 cc	30.5 cc	45.8 cc	61.1 cc	76.3 cc
5.6	24.6	24.6	36.9 cc	73.9 cc	110.8 cc	147.8 cc	184.7 cc
6.8	36.3	36.3	54.5 cc	109.0 cc	163.4 cc	217.9 cc	272.4 cc
8.8	60.8	60.8	91.2 cc	182.5 cc	273.7 cc	364.9 cc	456.2 cc

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NOTES

NOTES

WARRANTY

This product is covered by DeVilbiss' 1 Year Limited Warranty.

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