HVLP Spray Guns

BINKS®

HVLP Spray Guns

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In 1890, Binks pioneered the spray gun industry with the introduction of the first cold-water paint spraying machine. Today, you can find spray finishing technology from Binks at work in virtually every industry around the world. In the many years that have passed, Binks has grown to be a world leader in the design and manufacture of finishing equipment, offering products in the industrial and automotive refinish markets.

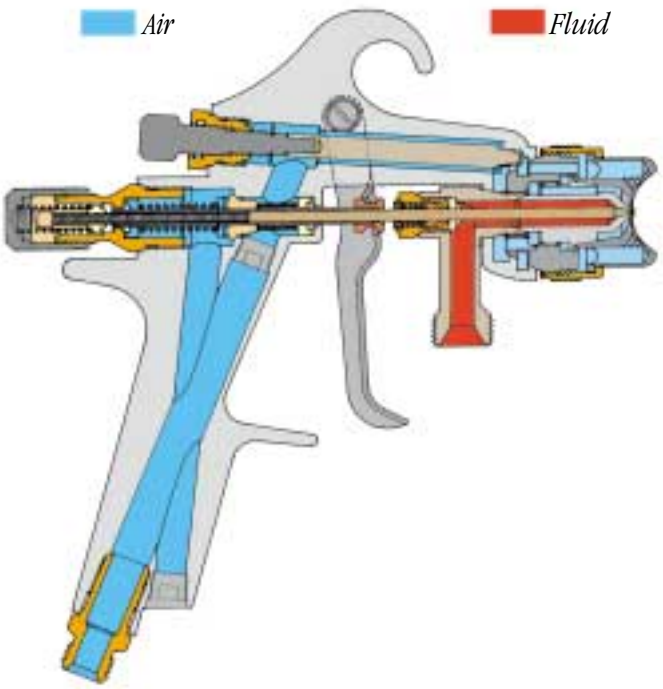
The various spray guns and accessories shown in this catalog represent a small part of Binks extensive product line. Binks also manufactures air and airless spray painting outfits, high and low pressure material handling pumps, pressure tanks, paint circulating systems, and much more.

Binks products are backed by a company with over 100 years experience in the spray finishing market. In addition, Binks operates foreign subsidiary companies in the United Kingdom, Continental Europe, Japan, and Australia.

If you would like more information about our products, please contact us at our corporate headquarters in Glendale Heights, Illinois.

HVLP

- *Easy-grip sideport & needle controls*
- *In-line fluid & air valve with low friction seals*
- *Drop-forged aircraft grade aluminum alloy body*
- *Smooth trigger action*
- *Cartridge self-adjusting packing*



- *Anodized aluminum alloy air nozzle*
- *Stainless steel fluid needle*
- *Stainless fluid nozzle 17-4 PH*
- *Comfortable handle*
- *Modular gun head assembly*
- *Stainless steel fluid passage for use with standard and corrosive materials*

HVLP spraying has emerged as an important technology in today's industrial finishing. HVLP consumes higher volume air at lower pressure to atomize coatings. By reducing atomizing air pressure at the air nozzle, forward velocity of the spray is also reduced, minimizing "bounce back" and "overspray" from the article being coated. This results in substantial savings in coating materials, booth filter usage, and helps industrial finishing operations meet compliance regulations.

HVLP Low Pressure Spray Gun Overspray

Normal operating nozzle pressures range from 3 to 10 PSI, with air consumption from 8 to 22 CFM. Lower viscosity materials can be atomized from 3 to 5 PSI, while heavier materials and higher fluid deliveries require the higher air settings, upwards of 10 PSI.

The Binks MACH series of HVLP equipment operates and handles like traditional spray guns and uses standard factory compressed air. Operators adapt very quickly to the reduced overspray cloud of paint and the "soft spray" pattern provided by HVLP. The MACH series provides the finish quality craftsmen have come to expect from Binks equipment.

Conventional High Pressure Spray Gun Overspray

MACH 1 HVLP System Features and Benefits

Features...

- Compliance with all government regulations for "high volume, low pressure" spray guns
- Unique HVLP nozzle design for optimum materials atomization
- Stainless steel fluid passages, nozzle and needle make it compatible with waterborne coatings
- Oversize air and fluid control knobs
- Lightweight, rugged, aircraft grade forged aluminum alloy body

Benefits...

- **Efficiency**
  Transfer efficiency as required by today's air quality regulations
- **Material Savings**
  Cost efficient compressed air consumption ranges from 8 to 22 SCFM depending on operating pressure. A 1.5 to 5 horsepower air compressor is normally sufficient to supply atomizing air
- **Controllable**
  Total control of atomizing air pressure, fluid flow, and spray pattern, operates with compressed air from your shop or existing plant air supply
- **Operator Comfort**
  Lightweight, slimmer grip fits hand comfortably. And, compact body design centers weight over handle for perfect balance and less fatigue

Binks...

In 1890, Binks pioneered the spray gun industry with the introduction of the first cold-water paint spraying machine. Today, you can find Binks spray finishing technology at work in virtually every industry around the world. Binks extensive product line includes air and airless spray painting outfits, high and low pressure material handling pumps, pressure tanks, paint circulating systems, and much more.

PRECISION CRAFTED 100% TESTED BY HAND ASSEMBLED

SCAQMD compliant

Compliance with all government regulations for "high volume, low pressure" spray guns

Oversize air and fluid control knobs

Cartridges with self-adjusting packing

Unique HVLP nozzle design for optimum materials atomization

Stainless steel fluid passages, nozzle and needle make it compatible with waterborne coatings

New, compact body design centers weight over handle for perfect balance and less fatigue

Lightweight, rugged, aircraft grade forged aluminum alloy body, with slimmer grip, fits hand comfortably

Patented variable air flow within gun body

Standard Fluid & Air Nozzle

Selection Guide For (Pressure & Siphon)

Consider the following points when selecting an air nozzle combination:

A. Material To Be Sprayed –
Select the type of fluid you want to spray or a fluid which has the same characteristics as one of those listed.

B. Method of Feeding –
(Material to the Spray Gun)
Consider the speed of application, flow rate and the viscosity of the fluid to be sprayed.

Air Nozzle –
Choice is determined by the type of fluid to be sprayed and the volume of air available for the spray gun.

External Mix Nozzles –
The most widely used nozzles. Atomization is accomplished outside the nozzle. Spray patterns are adjustable from round to fan with all intermediate patterns.

Siphon Type External Mix Nozzles –
(Designated with the letter "S")
Siphon material from a cup.
Used generally for refinishing and touch-up work which do not require large quantities of paint.

Pressure Type External Mix Nozzles –
(Designated with the letter "P")
Require pressure to feed the material to the nozzle. A pressure cup, pressure tank, or pump is necessary. Used for production work and where large quantities of fluid are handled. This type of nozzle has a greater range of fluid flow and does not limit the size of the paint container.

C. Volume of Air –
(CFM Required)
The cubic feet per minute (CFM) is the actual air used by the air nozzle. An increase of pressure subsequently increases volume of air required by the air nozzle or vice versa. Assume that a compressor will produce 3 - 5 CFM per horsepower. Note: The greater the air consumption, the faster the fluid may be applied or the finer a given amount of fluid can be atomized.

Fluid Nozzles –
(1) Choose the fluid nozzle by determining the application speed you want and the approximate fluid viscosity. The faster the speed or the heavier the fluid, the larger the nozzle orifice size should be.
(2) Match the fluid nozzle to the desired air nozzle per the chart below.
(3) Select the material of consideration.
Note: standard fluid nozzles are made of stainless steel.

Pressure

Viscosity	Fluid Nozzle	Air Nozzle (Pressure)	Air Volume at 10 PSI SCFM	Oz. Per Min. Flow	Pattern at 10"
18 Seconds In a Zahn #2 Cup	92 (.046) 1.2 mm	92P	7	10.1	15"
		93P	9	10.1	15"
		94P	13	12.5	17.5"
		95P	21	9.2	12.5"
		97P	21	8.4	16"
		95AP	21	10.6	16"
		97AP	21	10.4	16"
44 Seconds In a Zahn #2 Cup	94 (.55) 1.4 mm	92P	7	7.4	12"
		93P	9	7.7	14.5"
		94P	13	11.8	15"
		95P	21	7.6	10"
		97P	21	7.6	12"
		95AP	21	7.4	12"
		97AP	21	7.4	12"
25 Seconds In a Zahn #3 Cup	97 (.07) 1.8 mm	92P	7	9.4	12.5"
		93P	9	9.8	15"
		94P	13	13.5	14"
		95P	21	7.1	9.25"
		97P	21	5.5	13"
		95AP	21	10.3	14"
		97AP	21	9.46	12.5"

NOTE: Flow rates tested at 3 PSI fluid pressure with a 1 quart pressure cup.

Siphon

Viscosity	Fluid Nozzle	Air Nozzle (Siphon)	Air Volume at 10 PSI SCFM	Oz. Per Min.Flow	Pattern at 10"
18 Seconds In a Zahn #2 Cup	94S (.055) 1.4 mm	95AS	22	4.0	13"
	97S (.070) 1.8 mm	95AS	22	7.1	16"

MACH 1SL (Slim Line) HVLP

The MACH 1SL HVLP is a lightweight, top quality, high performance spray gun. The superbly balanced forged aluminum body is ergonomically designed with a compact grip size, offering the operator extra comfort and control. All of the spray gun's components are machined and finished to exacting tolerances using only the highest quality materials, including long life self-adjusting packings to ensure years of peak efficiency.

The MACH 1 SL HVLP is simple to operate, and provides exceptional finish quality with all of today's complex coatings, including high solids, waterborne, industrial automotive, and aerospace coatings. All fluid contact surfaces within the spray gun, including inlet, nozzle and needle, are corrosion resistant for use with waterborne coatings.

In addition, specially designed air and fluid nozzles enable the MACH 1SL HVLP to operate at high transfer efficiency in compliance with air quality regulations as an HVLP spray gun.

Model MACH 1SLV

Same features as the MACH 1SL spray gun, but with a tungsten carbide fluid nozzle and needle. For use with abrasive fluids.

Model MACH 1SLA

Same features as the MACH 1SL, but with adjustable fluid inlet.

Technical Specifications

Body:	Drop-forged aluminum
Weight:	16.5 Oz.
Air Inlet:	1/4" NPS (m)
Fluid Inlet:	3/8" NPS (m)
Fluid Passages:	Stainless Steel
Feed Type:	Pressure / Siphon Feed
Part Sheet:	2665
Gun Repair Kit:	54-4278

Most Popular Nozzle Set Ups:

MACH 1SL 94 - 94P
MACH 1SL 94 - 93P
MACH 1SL 92 - 94P
MACH 1SL 94 - 97P
Standard Fluid Nozzle and Needle are 303 Stainless Steel

See page 16 for additional standard and specialty fluid nozzle recommendations.

MACH 1SL Gun Outfits:*

1 Qt. Siphon Cup
98-1176

1 Qt. Pressure Assist Cup
98-1130

2 Qt. Pressure Cup
98-1198

2 Gal. Non - ASME Tank
98-1133

*Each outfit includes Air and Fluid Hose Assemblies when required.

MACH 1 HVLP

The MACH 1 is a full size HVLP spray gun with special nozzles and modifications that allow it to operate at high transfer efficiencies in compliance with the California South Coast Air Quality Management District (SCAQMD) regulations as a high volume low pressure (HVLP) air spray gun.

Constructed of a lightweight drop-forged aluminum body and stainless steel fluid passages, including long life self-adjusting packings, this spray gun is designed to stand up under hard, continuous use. It operates like a conventional spray system utilizing compressed shop air.

Technical Specifications

Body:	Drop-forged aluminum
Weight:	20.1 Oz.
Air Inlet:	1/4" NPS (m)
Fluid Inlet:	3/8" NPS (m)
Fluid Passages:	Stainless Steel
Feed Type:	Pressure / Siphon Feed
Part Sheet:	2463
Gun Repair Kit:	54-3605

Most Popular Nozzle Set Ups:

MACH 1 94 - 94P
MACH 1 94 - 93P
MACH 1 92 - 94P
MACH 1 91 - 94P
Standard Fluid Nozzle and Needle are 303 Stainless Steel

See page 16 for additional standard and specialty fluid nozzle recommendations.

MACH 1 Gun Outfits:*

1 Qt. Pressure Assist Cup With Regulator
98-1141

2 Qt. Pressure Cup
98-1243

2 Gal. Non - ASME Tank
98-1244

*Each outfit includes Air and Fluid Hose Assemblies when required.

98-1141

MACH 1 HVLP Featherlite

A high production ultralight spray gun for continuous use spraying. Composite body, ergonomic design with compact grip size and superb balance are all quality features of this gun. The lightest production spray gun in its class. All fluid contact surfaces within this rugged, fine finish spray gun, including inlet, nozzle and needle, are corrosion resistant, for use with waterborne coatings. Long life self-adjusting packings are included, ensuring years of peak efficiency.

The MACH 1 Featherlite uses the full line of air and fluid nozzles and complies with regulations for air quality.

Technical Specifications

Body:	Engineered Composite
Weight:	12.8 Oz.
Air Inlet:	1/4" NPS (m)
Fluid Inlet:	3/8" NPS (m)
Fluid Passages:	Stainless Steel
Feed Type:	Pressure / Siphon Feed
Part Sheet:	2668
Gun Repair Kit:	54-4278

Most Popular Nozzle Set Ups:

MACH 1 Featherlite 94 - 94P
MACH 1 Featherlite 94 - 93P
MACH 1 Featherlite 94 - 95AP
Standard Fluid Nozzle and Needle are 303 Stainless Steel

See page 16 for additional standard and specialty fluid nozzle recommendations.

M1-G HVLP

The M1-G HVLP gravity feed spray gun not only complies with all air quality regulations, but also atomizes and sprays as quickly as a conventional air spray gun. An innovative low volume air nozzle designed specifically for automotive OEM and industrial use allows the M1-G to spray basecoats, clear coats, waterbornes, and high solids at fast application speeds with material savings of up to 50%. This comfortably light, superbly balanced spray gun is easy to operate and smooth to trigger with only 18 lbs. of inlet pressure required. M1-G employs a unique long lasting self-adjusting cartridge packing for simple replacement. Cup and nozzle are available in standard aluminum or E-Z Clean Solvent Saver coatings.

Technical Specifications

Body:	Drop-forged aluminum
Weight:	21.9 Oz.
Air Inlet:	1/4" NPS (m)
Feed Type:	Gravity
Part Sheet:	2650
Gun Repair Kit:	54-4367

Most Popular Nozzle Set Ups:

M1-G 94 - 93P
M1-G 94 - 97P
Standard Fluid Nozzle and Needle are 303 Stainless Steel

Accessories:

54-4250 1-1/3 Pint (.75 Liter) Aluminum Cup (Standard) (A)

54-4376 1-1/3 Pint (.75 Liter) Teflon®-Coated, Aluminum Cup (B)

81-701 1-1/3 Pint (.75 Liter) Plastic Cup (C)

81-700 2/3 Pint (.35 Liter) Plastic Cup (D)

54-4350 Gun Stand (E)

2001 HVLP

The 2001 HVLP siphon gun incorporates components and technology from the three best spray guns in the industry: The Binks MACH 1 HVLP, the Model 7 and the 2001 air spray guns. The forged aluminum alloy body of the 2001 HVLP spray gun is precision machined to insure years of smooth, reliable service. Stainless steel nozzles are designed to emit superior siphon spray. These nozzles spray not only all standard automotive and industrial coatings, but also the increasingly popular waterborne and low VOC coatings. High transfer efficiencies conserve a substantial amount of paint while complying with strict air quality regulations.

98-1188

Technical Specifications

Body:	Drop-forged aluminum
Weight:	22 Oz.
Air Inlet:	1/4" NPS (m)
Fluid Inlet:	3/8" NPS (m)
Fluid Passages:	Electroless-Nickel Plated, Brass
Feed Type:	Siphon Feed
Part Sheet:	2626
Gun Repair Kit:	6-229

Most Popular Nozzle Set Up:

2001 HVLP 97S - 97AS
Standard Fluid Nozzle and Needle are 303 Stainless Steel

2001 HVLP Gun Outfits:

1 Qt. Siphon Cup - Teflon® Coated
98-1188

Standard Nozzles 2001 HVLP Selection Chart*

Siphon Feed	Fluid Nozzle No.	Applicable Air Nozzles	Compatible Fluid Needle
LIGHT: Light to medium materials. Auto body spot repairs.	94S	95AS	194S
MEDIUM: Medium to heavy materials. Auto body overall finishing.	97S		197S

* Siphon set ups only

HVLP Air Nozzles*

95AS

Gun Inlet PSI	Nozzle Atomizing Airflow - SCFM	Nozzle Atomizing Pressure - PSI
20	11.0	3
30	15.7	5
45	19.6	9
50	22.5	10

* Siphon set ups only

Cub SLG And Cub SL Touch-Up Guns

Cub SLG and Cub SL

The Cub SLG (gravity-feed) and the Cub SL (siphon/pressure) are the finest touch-up and specialty HVLP coatings guns available today.

Special air and fluid nozzles enable these guns to atomize fluid at low velocities, creating a soft spray effect. A range of fluid and air nozzles are available for both guns, making them adaptable for use with a variety of coatings. Superior transfer efficiencies result in material savings of up to 50 percent. Plus these guns have been ergonomically designed to give operators superb control and comfort over a wide range of uses.

Cub SLG

A gravity feed, handle grip, touch-up spray gun with an aluminum cup. The Cub SLG gun's standard configuration includes a 4 oz. gravity cup; 3 oz. and 8 oz. gravity cups are also available.

Cub SL

The Cub SL gun is the latest addition to the Binks line of HVLP guns in use throughout the world. Perfect for touch-up or fine finish detail spraying. The Cub SL can be outfitted with an 8 oz. siphon or pressure-assisted cup.

Cub SLG Specifications

Body:	Drop-forged aluminum
Weight:	15.2 Oz.
Air inlet:	1/4" NPS (m)
Feed Type:	Gravity
Part Sheet:	2735
Repair Kit:	54-4478

Cub SLG Most Popular Nozzle Set-ups:

Cub SLG 55T - 2S
Cub SLG 40T - 2S

Cub SL Specifications:

Body:	Drop-forged aluminum
Weight:	12.3 Oz.
Air Inlet:	1/4" NPS (m)
Fluid Inlet:	1/4" NPS (m)
Fluid Passages:	Stainless Steel
Feed Type:	Pressure / Siphon Feed
Part Sheet:	2734
Gun Repair Kit:	54-4479

Cub SL Most Popular Nozzle Set Ups:

Cub SL 55T - 2S
Cub SL 40T - 2S

Cub SL Outfits:

Siphon - 8 Oz. Siphon Cup
98-637

Pressure Assist - 8 Oz. Cup
98-639

See page 18 for additional air pressure & fluid nozzle selection charts for Cub SLG and Cub SL.

MACH 3SL & MACH 2A (Automatic)

MACH 3SL

The MACH 3SL combines the proven HVLP efficiency of the award-winning MACH 1 spray gun with hydraulically-assisted atomization to yield a highly reliable, carefully engineered special purpose spray gun.

Hydraulically-assisted atomization allows the fluid to be delivered to the spray gun at pressures up to 6000 PSI. The fluid is pre-atomized through an airless tip and atomization is completed by introducing high volume low pressure air to the pattern. The result is a finely atomized "soft spray" that produces a fine finish rivaling the high quality finish obtained with air atomization.

The MACH 3SL is designed for use with high viscosity coatings and is perfect for high production shops, heavy machinery, and metal fabrication. Consistently uniform finishes, low VOC materials, high solids, and waterbornes can be applied with this spray gun.
The maximum operating fluid pressure of the MACH 3SL is 6000 PSI. It operates at high transfer efficiencies and fully complies with all government regulations for HVLP spray guns.

MACH 2A HVLP Automatic

(Hydraulically-assisted to 1000 PSI)
The MACH 2A gun combines proven HVLP efficiency with hydraulically-assisted atomization. The MACH 2A provides consistent coating by pre-atomizing pressurized fluid through a constrictive carbide nozzle. The gun satisfies SCAQMD requirements for HVLP air spray guns. Refer to chart at right for spray tip assemblies available.

SCAQMD compliant

MACH 2A

MACH 3SL

Technical Specifications

Body:	Drop-forged aluminum
Weight:	23 Oz.
Air Inlet:	1/4" NPS (M)
Fluid Inlet:	1/4" NPS (M)
Fluid Passages:	Stainless Steel

MACH 3SL (Hand Gun)
Maximum Fluid Inlet Pressure: 6000PSI
Part Sheet: 2666
Gun Repair Kit: 54-3645

MACH 2A (Automatic)
Maximum Fluid Inlet Pressure: 1000PSI
Part Sheet: 2552
Gun Repair Kit: 54-4405

98-914

98-3013

98-918

Features...

- Hydraulically-assisted fluid delivery combined with HVLP air supply
- Drop forged aluminum body
- Stainless steel fluid passages, nozzle and needle make it compatible with waterborne coatings
- Stainless steel and tungsten carbide fluid passage
- Tip sizes range from .009 to .036 in.

Benefits...

- Achieves fine finish and high efficiency with difficult materials
- Lightweight and easy to handle; gives operators superior control, plus reduces fatigue
- Works with all coatings, including waterbornes
- Can spray light to heavy viscosity materials

Spray Tip Assembly Chart

For use with MACH 3SL & MACH 2A HVLP guns

Part No.	Stamp No.	Orifice Size (inches)	Spray Width (at 12 in.)
10-209	209	.009	4
10-409	409	.009	8
10-709	709	.009	14
10-211	211	.011	4
10-411	411	.011	8
10-711	711	.011	14
10-1011	1011	.011	20
10-213	213	.013	4
10-413	413	.013	8
10-713	713	.013	14
10-1013	1013	.013	20
10-215	215	.015	4
10-415	415	.015	8
10-515	515	.015	10
10-715	715	.015	14
10-1015	1015	.015	20
10-218	218	.018	4
10-418	418	.018	8
10-518	518	.018	10
10-7181	718	.018	14
10-1018	1018	.018	20
10-221	221	.021	4
10-421	421	.021	8
10-521	521	.021	10
10-721	721	.021	14
10-1021	1021	.021	20
10-226	226	.026	4
10-426	426	.026	8
10-526	526	.026	10
10-726	726	.026	14
10-1026	1026	.026	20
10-231	231	.031	4
10-431	431	.031	8
10-531	531	.031	10
10-731	731	.031	14
10-1031	1031	.031	20
10-236	236	.036	4
10-436	436	.036	8
10-536	536	.036	10
10-736	736	.036	14
10-1036	1036	.036	20

Note: 54-3781 Tip Seal is included with all Spray Tip Assemblies.

MACH 3 SL High Pressure Outfits

Comet Outfits	B6D Outfits	B8D Outfits	B10D Outfits
Model 98-914 **Cart Mounted Outfit with** MACH 3SL HVLP Spray Gun with tip, 25' hoses	**Model 98-3007** **Wall Mounted Outfit with** MACH 3SL HVLP Spray Gun less tip, 50' hoses	**Model 98-3011** **Wall Mounted Outfit with** MACH 3SL HVLP Spray Gun less tip, 50' hoses	**Model 98-3015** **Wall Mounted Outfit with** MACH 3SL HVLP Spray Gun less tip, 50' hoses
Model 98-917 **Wall Mounted Outfit with** MACH 3SL HVLP Spray Gun with tip, 25' hoses	**Model 98-3008** **Wall Mounted Outfit with** 2 MACH 3SL HVLP Spray Guns less tips, 50' hoses	**Model 98-3012** **Wall Mounted Outfit with** 2 MACH 3SL HVLP Spray Guns less tips, 50' hoses	**Model 98-3016** **Wall Mounted Outfit with** 2 Mach 3SL HVLP Spray Guns less tips, 50' hoses
Model 98-918 **Wall Mounted Outfit with** MACH 3SL HVLP Spray Gun less tip, 50' hoses	**Model 98-3009** **Cart Mounted Outfit with** MACH 3SL HVLP Spray Gun less tip, 50' hoses	**Model 98-3013** **Cart Mounted Outfit with** MACH 3SL HVLP Spray Gun less tip, 50' hoses	**Model 98-3017** **Cart Mounted Outfit with** MACH 3SL HVLP Spray Gun less tip, 50' hoses
	Model 98-3010 **2 Gun Outfit** Same as Model 98-3009 except two guns	**Model 98-3014** **2 Gun Outfit** Same as Model 98-3013 except two guns	**Model 98-3018** **2 Gun Outfit** Same as Model 98-3017 except two guns

Note: See bulletin # A54-58, for additional outfits & information

MACH 1A & 1AR HVLP

MACH 1A

Incorporating some of the best features of our award winning MACH 1 HVLP spray gun, the MACH 1A Automatic offers total control of atomizing air pressure, side port air, fluid flow, and spray patterns in production settings which require automatic equipment. These features give it an exceptionally high degree of atomizing capability with a wide range of coatings. This spray gun provides transfer efficiency in compliance with all regulations for air quality as an HVLP air spray gun and meets SCAQMD Rules for HVLP.

Constructed of a lightweight drop-forged aluminum body and stainless steel fluid passages, the spray gun is designed to stand up under hard, continuous use. Ranges from 6 to 22 SCFM depending on operating pressure. A 1.5 to 5 horsepower air compressor is normally sufficient to supply atomizing air.

The MACH 1A also features independent control of atomizing and side port air, giving it an exceptionally high degree of atomizing capability with a wide range of coatings.

MACH 1AR

Model MACH 1AR HVLP includes the same features as the MACH 1A Automatic except a ratchet adjustment is located on the back of the gun for indication of exact needle position. This gun is ideal for applications where visual indication of fluid needle location is essential. It is pneumatically activated for application in a variety of automated spray systems.

MACH 1A

MACH 1AR

Most Popular Nozzle Set Ups:

MACH 1A 94 - 94P
MACH 1A 94 - 93P
MACH 1A 92 - 94P
MACH 1A 91 - 94P
Standard Fluid Nozzle and Needle are 303 Stainless Steel

Accessories:

Mounting Bracket: 54-380
Gun Covers: 54-3691 (Package of 20)
Gun Covers: 54-3690
Needle Packing Guard: 54-4270
Heavy Duty Spring Kit for viscous fluid: 54-4095

Technical Specifications

Body:	Drop-forged aluminum
Weight:	20.5 Oz.
Cylinder Air Inlet:	1/4" NPS (M)
Cylinder Air Pressure:	40 PSI Min 100 PSI Max
Atomization Air:	1/4" NPS (M)
Fluid Inlet:	3/8" NPS (M)
Fluid Passages:	Stainless Steel
Fluid Pressure:	100 PSI Max
Mounting Hole:	1/2" Dia.
Part Sheet:	2467
Gun Repair Kit:	54-3980

Packing Kit (Minus Needle): 54-4261

MACH 1A

Automatic Nozzle & Needle Selection Charts

Standard Nozzles MACH 1A Selection Chart

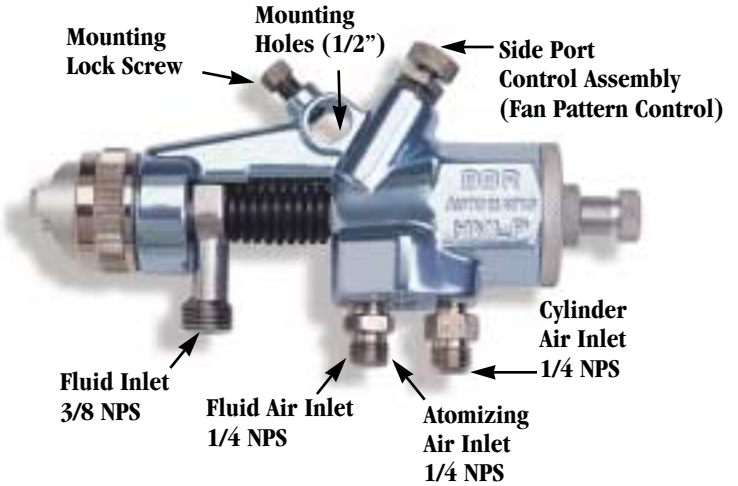
Type of Fluid to Be Sprayed	Fluid Nozzle	Applicable Air Nozzle*	Compatible Fluid Needle +
ULTRA LIGHT / Reduced flow	89 (.020" Dia.) 0.5 mm		47-478
VERY LIGHT / Reduced flow	90 (.030" Dia.) 0.8 mm	***95P***, 97P, 91P	47-478
LIGHT: Less than 15 to 20 seconds in a Zahn 2 Cup, e.g. stains, varnishes, thin lacquers, automotive refinishing materials	91 (.040" Dia.) 1.0 mm 92 (.046" Dia.) 1.2 mm	92P, 93P 95AP•, 97AP•, 94P	47-478
MEDIUM: 20 to 60 seconds in a Zahn 2 Cup, e.g., general industrial coating	94 (.055" Dia.) 1.4 mm		47-478
HEAVY: Greater than 60 seconds in a Zahn 2 Cup	97 (.070" Dia.) 1.7 mm		47-478

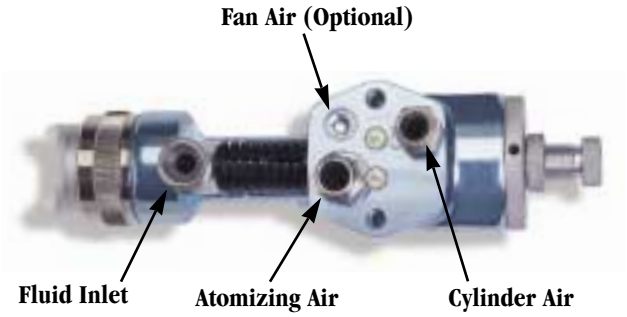
** For air nozzle CFM usage see page 16*
• "Blue Max" fine finish nozzles

Special Purpose Nozzles MACH 1A Selection Chart

Type of Fluid to Be Sprayed	Fluid Nozzle	Air Nozzle	Fluid Needle +
VERY HEAVY MATERIALS: Block fillers, texture coatings, fire retardants, road marking paint, bitumastics, adhesives, cellular plastisols, underbody & vitreous coatings, special applications.	94VT (.052") 1.3 mm Δ	***95P***, 97P	54-3966
	901VT (.066") 1.6 mm Δ	94P	54-3967
	903 (.079") 2.0 mm 905 (.089") 2.3 mm		47-478
	905VT (.088") 2.3 mm Δ	905P, 907P	54-3968
	906 (1.00") 2.5 mm		47-478
	909 (.111") 2.8 mm		47-478
	909VT (.112") 2.8 mm Δ		54-3969
FEATHERING: For applications requiring more gradual valve opening for fluid flow control.	90F (.030") 0.8 mm		54-4032
	91F (.040") 1.0 mm		54-4033
	92F (.046") 1.2 mm	95P, 97P	54-4034
	94F (.055") 1.4 mm	95AP, 97AP	54-4036
	97F (.070") 1.7 mm		54-4039

+ Stainless steel, standard. Optional Nylon tipped stainless steel, 47-472, available. Δ Carbide Tip





Air & Fluid Nozzle Selection Chart

Standard Air & Fluid Nozzles

Type of Fluid to Be Sprayed	Fluid Nozzle No.	Applicable Air Nozzles	MACH 1 Fluid Needle	MACH 1 SL Fluid Needle	Featherlite Fluid Needle
ULTRA LIGHT/Reduced flow	89 (.020" Dia) 0.5 mm				
VERY LIGHT/Reduced flow	90 (.030" Dia) 0.8 mm	90***			
LIGHT: Less than 15 to 20 seconds in a Zahn 2 Cup, e.g., stains, varnishes, thin lacquers, automotive refinishing fluids.	91 (.040" Dia.) 1.0 mm 92 (.046" Dia) 1.2 mm	95P, 97P 92P* 95AP, 97AP**	54-3941♦	54-4382♦	54-4381 (Nylon Tip)
MEDIUM: 20 to 60 seconds in a Zahn 2 Cup e.g., general industrial coatings.	94 (.055" Dia.) 1.4 mm	93P			
HEAVY: Greater than 60 seconds in a Zahn 2 Cup	97 (.070" Dia.) 1.7 mm	94P			

♦*STANDARD: Fluid needle is stainless steel*
NOTE: Binks needles AB and ABSS (54-3609 & 54-3616) may be used, but require readjustments of the needle cap and locknut position
OPTIONAL: Stainless steel with nylon tip (54-3940 MACH 1) (54-4381 MACH 1SL Featherlite)

Special Purpose Nozzles

Type of Fluid to Be Sprayed	Fluid Nozzle No.	Applicable Air Nozzles	MACH 1 Compatible Fluid Needle	MACH 1 SL Compatible Fluid Needle	Featherlite Compatible Fluid Needle
VERY HEAVY MATERIALS: Block Fillers, Texture Coatings, Fire Retardants, Bitumastics, Road Marking Paint, Adhesives, Cellular Plastisols, Underbody & Vitreous Coatings, Special Applications.	94VT (.052") 1.3 mm **Carbide Tip**	95P, 97P 94P	54-3950	54-4383	54-4383
	901VT (.066") 1.6 mm **Carbide Tip**		54-3951	54-4384	54-4384
	903 (.079") 2.0 mm		54-3941 / 54-3940	54-4382 / 54-4381	54-4382 / 54-4381
	905 (.089") 2.3 mm		54-3941 / 54-3940	54-4382 / 54-4381	54-4382 / 54-4381
	905VT (.088") 2.3 mm **Carbide Tip**	905P	54-3952	54-4385	54-4385
	906 (.100") 2.5 mm		54-3941 / 54-3940	54-4382 / 54-4381	54-4382 / 54-4381
	909 (.111") 2.8 mm		54-3941 / 54-3940	54-4382 / 54-4381	54-4382 / 54-4381
	909VT (.112") 2.8 mm **Carbide Tip**		54-3953	54-4386	54-4386
FEATHERING: For applications requiring more gradual fluid needle valve opening for metering control of fluid flow with trigger.	90F (.030") 0.8 mm	94P	54-4022	54-4387	54-4387 / 54-4388
	91F (.040") 1.0 mm	95P, 97P	54-4023	54-4388	
	92F (.046") 1.2 mm	91P, 92P*	54-4024	54-4389	54-4389
	94F (.055") 1.4 mm	95AP**•	54-4026	54-4390	54-4390
	97F (.070") 1.7 mm	97AP**•	54-4029	54-4391	54-4391
SIPHON FEED-FINE FINISH: Light to medium fluids Auto body spot repairs	94s (.055") 1.4 mm	95AS•	54-4026	54-4390	54-4390
Medium to heavy fluids Auto body overall finishing	97s (.070") 1.7 mm		54-4029	54-4391	54-4391

* *92P Low volume nozzle for general industrial and automotive fine finish*
91P Low volume nozzle fan for adhesive and special purpose
** *95AP High solids nozzle for hard to atomize coatings and higher flow rates*
97AP Same as 95AP, but for wider fan if needed
*** *90P Low volume nozzle, 1/2 HP compressor or bigger - (6 CFM) required*
• *95AP, 95AS, 97AP,air nozzles do not require separate retainer ring*

HVLP Air Nozzles - CFM Ratings

HVLP Air Nozzle*

90P

Nozzle Atomizing PSI	Nozzle Air Flow SCFM	#6 (Standard) Side Port Control Gun Inlet PSI
3	4.0	5
5	4.5	7
7	5.0	10
9	5.5	12
10	6.0	15

HVLP Air Nozzles*

92P

Nozzle Atomizing PSI	Nozzle Air Flow SCFM	#6 (Standard) Side Port Control Gun Inlet PSI	Regulator* PSI
3	4.5	6.0	9
5	6.0	8.5	10
7	6.8	11.0	14
9	7.5	13.5	18
10	8.0	15.0	19

HVLP Air Nozzles*

93P

Nozzle Atomizing PSI	Nozzle Air Flow SCFM	#6 (Standard) Side Port Control Gun Inlet PSI	Regulator* PSI
3	5.5	8.0	10.0
5	7.0	11.5	14.0
7	8.0	14.5	18.0
9	9.5	17.0	22.5
10	10.0	18.0	24.0

HVLP Air Nozzle*

94P

Nozzle Atomizing PSI	Nozzle Air Flow SCFM	#6 (Standard) Side Port Control Gun Inlet PSI
3	7	14
5	9	21
7	11	27
9	12	30
10	13	33

HVLP Air Nozzles*

95P, 97P, 95AS, 95AP, 97AP, 905P,

Nozzle Atomizing PSI	Nozzle Air Flow SCFM	#6 (Standard) Side Port Control Gun Inlet PSI	Regulator* PSI
3	11.0	20	27
5	15.7	30	40
7	17.5	38	50
9	19.6	45	58
10	22.5	50	64

** Note: Regulator pressures are based on 25' of 5/16" diameter hose in good condition without Quick-Disconnects or other restrictive fittings. Use the Air Nozzle Test Gauge accessory to confirm the atomizing/regulator pressure relationship for your actual air supply set-up. These recommendations are for "typical" or "average" fluids and are intended to serve as a starting point. Adjust as necessary for your specific application.*

Cub SLG & Cub SL Charts

Air Pressure Recommendations (Cub SLG & Cub SL)

Type Of Fluid To Be Sprayed	Atomizing PSI	Gun Inlet PSI
Light Stains, Inks	3-4	20-26
Primers / Surfaces	4-5	26-30
Acrylic Enamels	6-7	35-40
Lacquers	7-8	40-42
Low VOC Clears, Basecoats and Urethanes	8-10	42-50

Cub SLG & SL Accessories

Part / Description	Part No.
Cub SLG Spray Gun with 54-4458 4 oz. cup 55T x 2S	Standard
3 oz. Gravity-Feed Cup Assembly	54-4147
8 oz. Gravity-Feed Cup Assembly	81-381
Cub SL Spray Gun (gun only) 55T x 2S	Standard
8 oz. Cub SL Siphon Cup Outfit (gun and cup)	98-637
8 oz. Cub SL Pressure Assist Cup Outfit (gun and cup)	98-639
8 oz. Siphon Cup Assembly	81-384

The Cub SL part sheet number is 2734; the Cub SLG part sheet number is 2735.

Fluid Nozzle Selection Chart for MACH 1 Cub SLG & Cub SL

Type Of Fluid To Be Sprayed	Fluid Nozzle No.
VERY LIGHT / 14 to 16 seconds in a Zahn 2 Cup e.g., wash primers, dies, inks, water.	20T (.020 in. [.4mm] dia. opening) 25T (.025 in. [.6mm] dia. opening) 30T (.030 in. [.8mm] dia. opening)
LIGHT / MEDIUM: less than 15 to 20 seconds in a Zahn 2 Cup, e.g., stains, varnishes, thin lacquers, automotive refinishing materials	40T (.040 in. [1.0mm] dia. opening)
MEDIUM: 20 to 30 seconds in a Zahn 2 Cup, e.g., general industrial coatings	55T (.055 in. [1.4mm] dia. opening)
HEAVY: greater than 30 seconds in a Zahn 2 Cup, e.g., low VOC coatings	55T (.055 in [1.4mm] dia. opening)

All fluid nozzles use the 2S (siphon).

**For Cub SL spray guns using pressure or pressure-assist, use nozzle 20T for light/medium materials, and nozzle 30T for heavier materials. Use of larger nozzles or very light materials with a pressurized gun will result in excessive material flow and is not recommended.*

Air Pressure & Flows

Gun Inlet Pressure (PSI)*	Nozzle Atomizing Air Flow (SCFM) 2S Air Nozzle†	Nozzle Atomizing Pressure (PSI)
20	6.0	3
30	7.5	5
45	10.0	9
50	11.0	10

**Gun inlet pressure is measured at the gun inlet fitting with the gun triggered.*
†8" to 10" spray pattern at 8".

HVLP Accessories

Check Valves

54-4322 Used with (98-1130) Short
54-4321 (98-1141, 98-1142) Long

45 & 90 Deg. Angle Heads

For MACH 1 and MACH 1A spray guns only.
Part Number 54-4090- 90 degree angle head, Part Sheet 2635
Part Number 54-4091- 45 degree angle head, Part Sheet 2635

85-250 Regulator

Part Number 85-250
Air Regulator controls air pressure in the 80-280 one quart pressure cup and provides accurate control of fluid pressure for optimum spray pattern control. Prevents over-pressurizing the cup and is adaptable to all MACH 1 spray guns.
(Does not include 80-282 "J" tube and 54-3929 air hose.)

Inlet:	1/4" NPS(m)
Outlet:	1/4" NPS(f)

80-300 Cup

Part Number 80-300
Stainless Steel Cup consists of 80-292 1 Qt. Clamp Type Cup with Vent Valve, 85-250 PLUS Regulator, and Connector Tube.

80-301 Cup

Part Number 80-301
Aluminum Cup consists of 80-281 1 Qt. Screw Type Cup, 85-250 Regulator, and Connector Tube.

81-375 No Drip Cup For Siphon Gun (EZ2)

Also Available:
Part Number 80-272 SS Pressure Cup (No regulator)

80-350 SG-2 Cup

Part Number 80-350
Ideal for automotive component spraying and industrial applications where small batch production spraying is required.
(2 qt. capacity)

SG2 Cup Liners

Part Number 80-356 includes 12 plastic liners for easy clean-up.

Pole Gun

MACH 1 Horizontal Trigger Pole Gun.
Five foot pole gun for spraying areas beyond normal reach. Part Sheet 2644
Part Number (6361-0000-0)

Extensions

52-3706	6"	**52-3718**	18"
52-3712	12"	**52-3724**	24"

Note: Extensions may be joined together for added length. Specify new needle length. Extensions are sold less air cap and fluid nozzles. Specify spray gun model that will be used with the extension.

Fluid Inlet

Part Number 54-4330
Adjustable fluid inlet allows finger-tip control of coatings without fluid needle interference. Fits both hand & automatic guns.

Air Nozzle Test Gauge

Part Number	Description
54-3622	92HA & 93HA Nozzle (MACH 3SL)
54-3774	95HA MACH 2SL & 3SL
54-3902	91P & 92P Nozzles
54-3908	900 Series
54-3935	95 & 97 Series
54-4078	95AS & 97AS Nozzles (Siphon)
54-4150	2S, 2P Cub Gun
54-4345	90P Nozzle
54-4356	93P Nozzle

Retro-fit Regulator Kits

Model 85-280 for 98-1129 Outfit. Includes Regulator and Chrome Air Connector Tube.
Model 85-270 for 98-1130 Outfit. Includes Regulator, Cup Vent Valve, and Chrome & Polyethylene Air Connector Tubes.

Needle Packing Kits

Part Number 54-4261
Self Adjusting Packing
Part Number 54-4262
Self Adjusting Packing with Needle
Part Number 54-4370
Cartridge Packing

Repair Kits

MACH 1	54-3605
MACH 1A & 1AR	54-3980
MACH 1SL	54-4278
MACH 3SL	54-3645
MACH 2A	54-4405
MACH Featherlite	54-4278
M1-G Gravity	54-4367
2001 HVLP	6-229
MACH 1 Cub SL	54-4479
MACH 1 Cub SLG	54-4478

Ratchetback (Auto-Gun)

Part Number 54-3582
Specially designed for applications where visual indication of fluid needle location is essential. Adjustments numbered 1-9 on the back of the spray gun conveniently indicate exact needle position. Part Sheet: 2672

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