

APOLLO-C

Spray Gun Operation Manual

DEVILBISS

Important: Read and follow all instructions and SAFETY PRECAUTIONS before using this equipment. Retain for future reference.

The gun body of this model is finished with special coating. Do not use the wire brush or metal spatula for cleaning. Do not inscribe letters on the gun body. It may cause peeling off the coating.

SAFETY PRECAUTIONS

This manual contains important information that ALL users should know and understand BEFORE using the equipment. This information relates to USER SAFETY and PREVENTING EQUIPMENT PROBLEMS. To help you recognize this information, we use the following terms to draw your attention to certain equipment labels and portions of this manual. Pay special attention to any label or information that is highlighted by one of these terms.:

WARNING	Important information to alert you to a situation that might cause serious injury or loss of life if instructions are not followed.
CAUTION	Important information that tells how to prevent damage to equipment.
NOTE	Information that you should pay special attention to.

SAFETY WARNING

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 flammable vapours.
- Smoking and naked flames must not be allowed in the spraying or 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 stations.

HALOGENATED HYDROCARBON SOLVENTS – for example 1,1,1-Trichloroethane and Methylene Chloride can chemically react with aluminum and galvanised or zinc coated parts and cause an explosion hazard. Read the label and data sheet of the material you intend to spray.

This equipment, as supplied, is suitable for use with Halogenated Hydrocarbons and the user must ensure that all other equipment in the system is also suitable for use with these materials. **DO NOT SPRAY MATERIALS CONTAINING THESE SOLVENTS EXCEPT WITH EQUIPMENT SPECIFICALLY 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 VAPOURS – When sprayed, certain materials may be poisonous, create irritation or otherwise be harmful to 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 spraying. The type of respiratory protective equipment used must be compatible with the material being sprayed and the 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 contact your local representative. The instructions and safety precautions contained in this literature and the literature supplied with the coating material should be read and understood before the equipment is used.

MISUSE

- All spray guns project particles at high velocity and must never be aimed at any part of the body.
- Never exceed the recommended safe working pressures for any of the equipment used.
- The fitting of non-recommended or non-original accessories or spare parts may create hazardous conditions.
- Before dismantling the equipment for cleaning or maintenance, all pressures, air and material, must 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 must be carried by an authorized local waste disposal service.

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

The solvents used in the gun cleaning machine should be regularly checked to insure 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/nozzle set-up being used. Sound levels are measured using an impulse sound level meter and analyser, when the gun is being used in a normal spraying application. Details of actual noise levels produced by the various air cap/nozzle set-ups are available on request.

DESCRIPTION

APOLLO-C (Conventional) is light-weight, middle-sized hand spray gun developed as a successor model of MSA / JGA gun. The gun body is made of Magnesium die-casting which has high resistance and high balance. The magnesium material used for gun body is the first time in the world and it makes super light weight possible.

APOLLO-C gun is available with pressure, suction and gravity feed and suitable for various purposes.

The fluid passage is made of Anodized Aluminum.

It is possible to select an air cap from the wider range of DeVilbiss' s JGA air caps renowned as finest atomization quality.

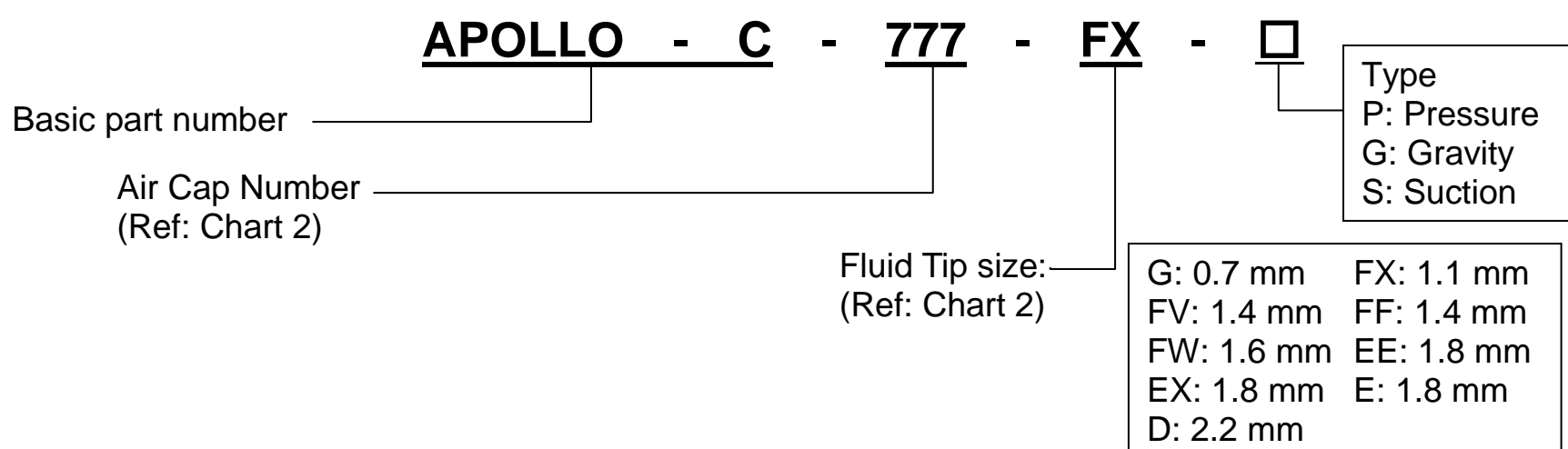
There are Nitralloy version of Fluid Tip and Needle available for special request.

CAUTION:

APOLLO-C gun is suitable for almost all of general paint except for high corrosive and high abrasive paint. If these paints may be used, thorough cleaning must be done frequently. Also, It requires more frequent replacement of the parts. Please ask the supplier for advice if you have any doubt of the paint.

MODELS

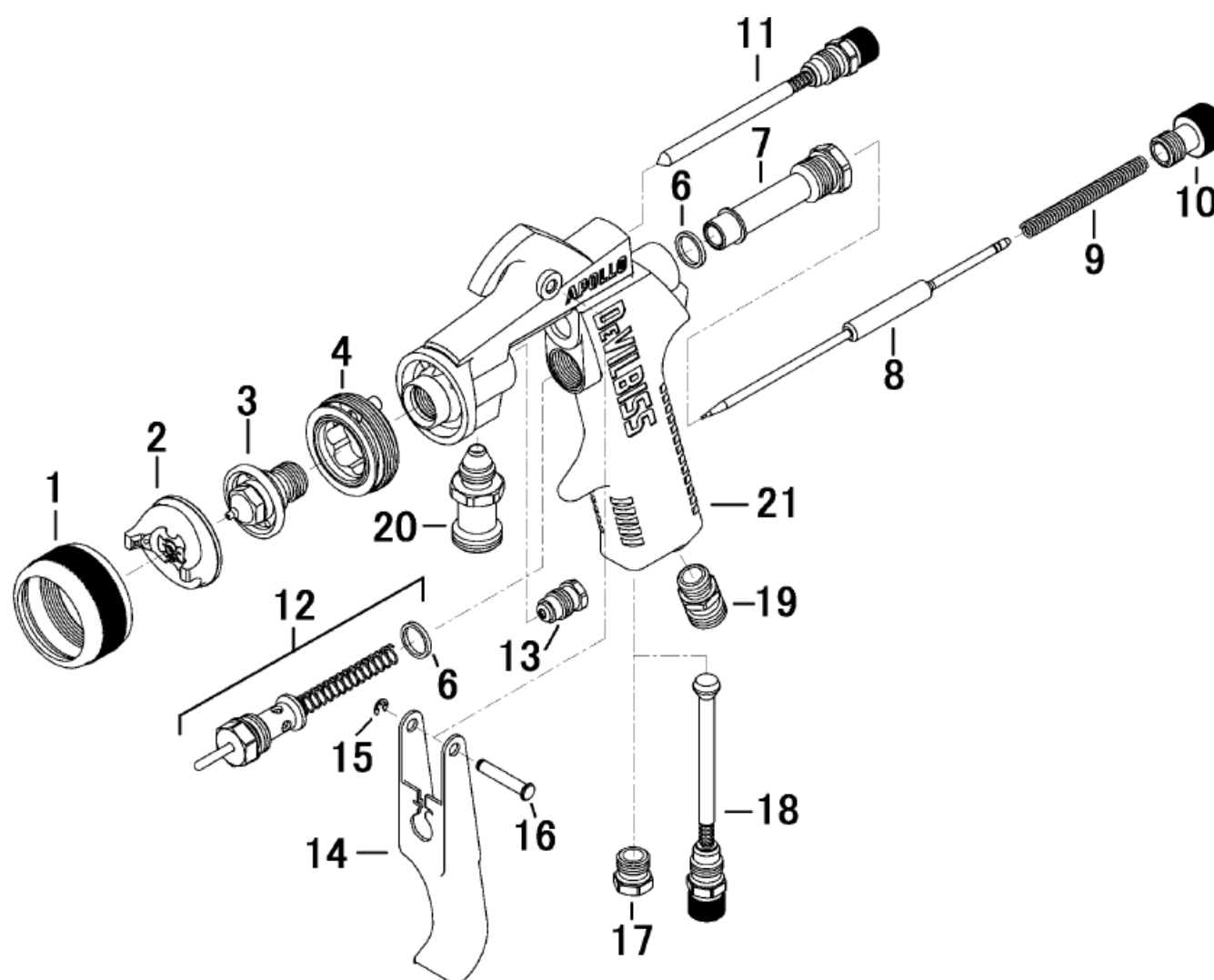
Example:



SPECIFICATIONS

Maximum Air Pressure	0.69Mpa (7 bar)
Maximum Fluid Pressure	0.69Mpa (7 bar)
Weight	394g (Pressure Type / Air Cap 777)
Air Inlet Thread	G1/4
Fluid Inlet Thread	G3/8 (Pressure/Suction) G1/4 (Gravity)
Cheater Valve Assy.	Standard for Gravity / Suction type (Option for Pressure)

PARTS LIST



No.	Part Number	Description	Qty	Remarks
1	MSG-368	Retaining Ring	1	Pressure Type Only
2	Refer to Chart 2	Air Cap	1	
3	Refer to Chart 2	Fluid Tip	1	
4	GTI-425-K	Baffle	1	
6	APOLLO-72-K5	Gasket Kit of 5	2	
7	APOLLO-12	Gun Body Bushing	1	
8	Refer to Chart 2	Needle	1	
9	APOLLO-14-K5	Spring Kit of 5	1	
10	APOLLO-16C	Adjusting Screw	1	
11	APOLLO-44C	Pattern Valve Assy	1	
12	APOLLO-43	Air Valve Assy	1	
13	APOLLO-463	Needle Packing	1	
14	APOLLO-108	Trigger	1	
15	FUN-46-K10	Circlip Kit of 10	1	
16	FUN-45-K5	Bearing Stud Kit of 5	1	
17	APOLLO-21	Plug (for Pressure Feed)	1	
18	APOLLO-42C	Cheater Valve Assy (Option)	1	
19	LUNA-30	Air Nipple G1/4	1	
20	APOLLO-35	Fluid Nipple G3/8	1	Pressure / Suction Type
	LUNA-35	Fluid Nipple G1/4	1	Gravity Type
21	APOLLO-BODY-S	Gun Body	1	Pressure / Suction Type
	APOLLO-BODY-G	Gun Body	1	Gravity Type

Chart 2 – 1/2 2 Air Cap, Fluid Tip and Needle Combination for Gravity and Suction Type

Air Cap Number	Part Number	Fluid Tip	Needle	Orifice(mm)	Fluid Tip Stamp
186	AV-1239-186	AV-645-FV	APOLLO-41-FF	1.4	AV-1915-FV
		AV-645-FW	APOLLO-41-FF	1.6	AV-1915-FW
		AV-645-EX	APOLLO-41-DEX	1.8	AV-1915-EX
43	31767-43	AV-645-FF	APOLLO-41-FF	1.4	AV-1915-FF
		AV-645-EX	APOLLO-41-DEX	1.8	AV-1915-EX

Chart 2 – 2/2 2 Air Cap, Fluid Tip and Needle Combination for Pressure type

Air Cap		Fluid Tip			Needle (Stamp)	Lapped Set
Air Cap Number	Part Number	Part Number	Fluid Tip Stamp(Ref.)	Orifice(mm)	Part Number	Part Number
64*	MB-4039-64	AV-645-D	AV-1915-D	2.2	APOLLO-41-DEX	APO-4046-D
67*	MB-4039-67	AV-645-E	AV-1915-E	1.8	APOLLO-41-E	APO-4046-E
704	AV-1239-704	AV-645-G	AV-1915-G	0.7	APOLLO-41-G	APO-4046-G
		AV-645-FX	AV-1915-FX	1.1	APOLLO-41-FX	APO-4046-FX
		AV-645-FF	AV-1915-FF	1.4	APOLLO-41-FF	APO-4046-FF
		AV-645-E	AV-1915-E	1.8	APOLLO-41-E	APO-4046-E
705	31767-43	AV-645-G	AV-1915-G	0.7	APOLLO-41-G	APO-4046-G
		AV-645-FX	AV-1915-FX	1.1	APOLLO-41-FX	APO-4046-FX
		AV-645-FF	AV-1915-FF	1.4	APOLLO-41-FF	APO-4046-FF
765 777 797	AV-1239-765 31767-777 AV-1239-797	AV-645-FX	AV-1915-FX	1.1	APOLLO-41-FX	APO-4046-FX
		AV-645-FF	AV-1915-FF	1.4	APOLLO-41-FF	APO-4046-FF
		AV-645-E	AV-1915-E	1.8	APOLLO-41-E	APO-4046-E
799	AV-1239-799	AV-645-FX	AV-1915-FX	1.1	APOLLO-41-FX	APO-4046-FX
		AV-645-FF	AV-1915-FF	1.4	APOLLO-41-FF	APO-4046-FF

* Marked Air cap supplied together with retaining Ring. Other Air Caps need retaining Ring separately.

Chart 3-1/2 Air Consumption by Air Cap No. (Suction / Gravity Type)

Air Cap Number	Gun Inlet Pressure (kgf/cm ²)	0.21Mpa (2.1)	0.27Mpa (2.8)	0.34Mpa (3.5)	0.41Mpa (4.2)	0.48Mpa (4.9)
186	Air Consumption ℓ/min	---	274	336	387	---
43		240	291	342	---	---

Chart 3-2/2 Air Consumption by Air Cap No. (Pressure Type)

Air Cap Number	Gun Inlet Pressure (kgf/cm ²)	0.21Mpa (2.1)	0.27Mpa (2.8)	0.34Mpa (3.5)	0.41Mpa (4.2)	0.48Mpa (4.9)
64*	Air Consumption ℓ/min	314	386	459	---	---
67*		---	---	462	532	608
704		283	347	414	---	---
705		258	344	---	---	---
765		---	---	412	---	540
777		---	---	487	577	636
797		---	---	493	580	664
799		---	---	493	580	664

INSTALLATION/OPERATION

NOTE: The air supplied to spray gun must be cleaned air which any water, oil and solid material removed. To set up the Mist Separator and Air Transformer near the gun is recommended.
The air hose to connect to gun should have enough inner diameters depending on the length.
Please refer to the below:

Fluid Hose	Length up to 10m	I.D. 3/8 inches (9.5mm)
	Length 10m~30m	I.D. 1/2 inches (12.7mm)
Air Hose	Length ups to 10m	I.D. 5/16 inches (8.0mm)
	Length 10m~60m	I.D. 1/2 inches (12.7mm)

CAUTION: Adjust Needle Packing (13) before start using new gun. Tighten the Packing Nut (13) gradually and then to adjust the needle moving smoothly, untighten a little where the Needle (8) is not well pulled back.
To reduce the over spray, try to set the air pressure as low as possible.
The recommended spray distance is 150~200mm. If the spray distance is too far, good result does not appear.
Also, in order to get uniform finishing, the spray gun should be hold vertically toward the painting surface.
To adjust the fluid delivery, keep the needle full open, not tightening the Adjusting Screw (10), so that the delivery can be adjusted at the material supply line. It leaves the abrasion of the Fluid Tip (3) and the Needle (8) the minimum.
The paint should be filtered through 60~90 mesh filter before use.

MAINTENANCE

Daily lubrication and cleaning is necessary to maintain the best condition of the gun.

NOTE: Clean the spray gun after used with clean solvent and empty the inside of the hose.

To clean the fluid passage, after removing extra paint, through the appropriate solvent and flush down the residual paint. When blowing the paint inside the hose and the gun back to pressure tank by pressuring, follow the following procedure:

Release the pressure in the tank and loosen the lid a little, then make one rotation to loosen the Retaining Ring (1), which presses the gun cap. Press the point of the gun with cloth and pull the Trigger (14). The atomizing air then flows back to the fluid hose and the paint in the hose is flushed back to the tank.

CAUTION: To clean the gun body, wipe exterior with solvent dampened cloth. Do not submerge the gun body in solvent as any solids may get into the air passage and cause troubles.

CAUTION: The air cap can be immersed in solvent for cleaning. If orifices are clogged, use a broom straw or toothpick to remove obstruction. Never use a steel wire or hard instrument. This will damage air cap and result in a distorted spray pattern.

NOTE: Do not immerse any plastic parts in solvent for long time.

CAUTION: Lubrication

Do not lubricate to any portions where not instructed

Lubricate one drop of Gun Lube SSL-10 daily to the following portions.

Lubricate regularly, Trigger Bearing Stud (16), Air Valve Stem (12) where it enters the valve body and the Needle (8) where it enters the Packing Nut (13).

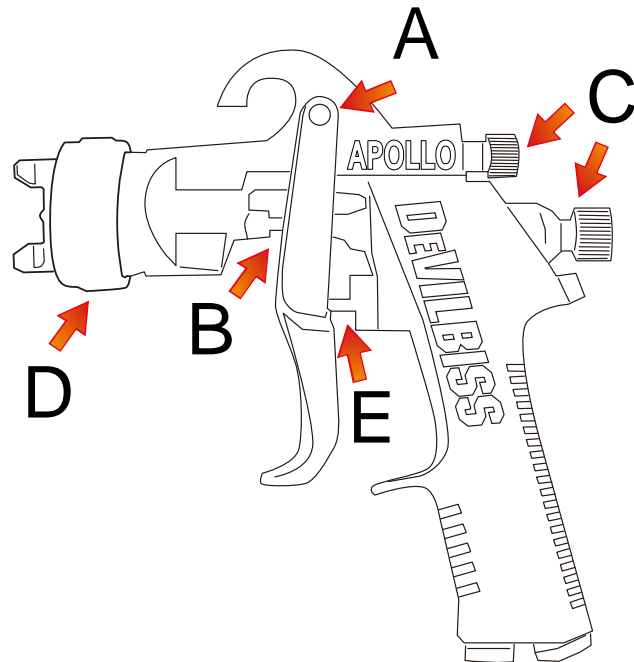
When installing Air Cap (2), make sure no foreign materials adhered on Retaining Ring (1) and thread of Baffle (4) and then oil one drop of Gun Lube SSL-10.

Apply non-silicone grease lightly on Needle Spring (9) and Air Valve Spring.

Do not apply too much grease as it may clog the air passage.

Lubricate daily to the following portions. For lubrication, SSL-10 Gun Lube is recommended.

- A) Trigger Bearing Stud
- B) Needle Packing
- C) Thread of Pattern Valve
Thread of Adjusting Screw
- D) Retaining Ring
- E) Air Valve Stem



REPLACEMENT OF PARTS

CAUTION: Be careful not to touch the point of Needle (8) as it is sharp.

When removing Fluid Tip (3), Adjust Screw (10) and Needle Spring (9) should also be removed and Needle (8) should be withdrew or retreated. Turn the Pattern Valve (11) fully counter-clockwise.

Tools should be 1/2" offset wrench, box wrench or DeVilbiss wrench APOLLO-34, do NOT use open wrench or adjustable wrench.

Recommended torque of fluid tip is 20N.m.

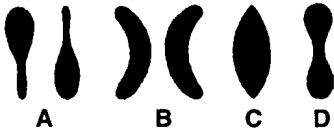

To replace Fluid Inlet Nipple (20) and Air Inlet Nipple (19), apply LOCKTIGHT 242 and tighten.

Recommended torque 16 - 20N·m.

SERVICE CHECKS

Normal spray pattern



problem	Cause	Correction
Will not spray	No pressure to gun. Screw (10) not properly adjusted.	Check air and material lines. Adjust.
Improper spray pattern 	A,B. Material build up on the Air Cap or Fluid Tip. C,D. Wrong material or material too thick.	A,B. Clean the Air Cap or Fluid Tip. C,D. Adjust material pressure or thin material.
Jerky or fluttering spray 	Insufficient material in the tank or an obstruction in the line. Gun material passage plugged. Worn Needle Packing (13). Loose or damaged Fluid Tip.	Fill tank or clean obstruction. Clean. Replace. Tighten or replace.
Fluid leaking from needle packing nut (13)	Loose needle packing nut (13). Worn or stuck needle packing (13).	Tighten. Replace or lubricate.
Dripping from fluid tip	Worn or damaged fluid tip (3) or needle (8). Stuck needle packing (13) or needle (8). Tight packing nut (13). Loose adjust screw (10).	Replace. Lubricate. Adjust. Tighten.

ACCESSORIES

Part No.	Description	Part No.	Description
KR-470-1	Suction Cup (700cc)	SSL-10	Gun Lube (6cc)
KR-555-1	Suction Cup (1000cc)	42884-214-K5	Cleaning Brush Kit of 5
TLC-555	Suction Cup (PTFE / 1000cc)	HAV-500	Air Adjusting Valve
KB-555	Pressure Cup (2ℓ)	HAV-501-B	Air Adjusting Valve with Gauge
KGL-400	Gravity Cup (Anodized Aluminum / 400cc)	HARG-510	Air Regulator
KGL-400-FA	Gravity Cup (Free Angle Type / 400cc)		

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