

Super
NOVA™
entech



- GB • LS_400 entech** instruction manual
I • LS_400 entech manuale d'istruzioni
FR • LS_400 entech manuel d'instruction
ES • LS_400 entech manual d'instrucciones
PT • LS_400 entech manual d'instruções
DE • LS_400 entech betriebsanleitung
SV • LS_400 entech bruksanvisning

Designed by *pininfarina*



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Before use, adjustment or maintenance, it is important to read this instruction manual very carefully. This manual must be stored in a safe place for any future reference.

This ANEST IWATA spray guns kit complies to ATEX regulations 94/9/EC, protection level: II 2 G X Suitable for using Zones 1 and 2.

X marking: Any static electricity discharge from the spray gun is to be diverted to the ground via the conductive air hose as stipulated.

ALWAYS observe WARNINGS and CAUTIONS in this instruction manual.

Symbol	WARNING	Hazard level	Consequence
	WARNING	Potentially hazardous situation	Death or serious injury
	CAUTION	Potentially hazardous situation	Minor to moderate injury
	IMPORTANT	Potentially hazardous situation	Property damage

1. TECHNICAL SPECIFICATIONS

Max. working air pressure: 7.0 bar (100 PSI)	Air connection: G 1/4" M
Noise Level (LAeqT): 75.8 dB (A)	Fluid connection: G 1/4" F
Max. Temperature range: 5 - 40 °C	Weight g (lbs)**: 475 (1.05)

* Measuring point: 1m backwards from gun, 1.6m height. ** Weight without cup.

Model	Ø mm	No.	ml/min	NI/min	Pattern width (mm)
					130 mm 200 mm 300 mm

Air pressure at gun inlet 1.8 bar	g mm	Mark	ml/min	NI/min	Pattern width (mm)
LS-400-1205	1.2 ET		150		250 350 -
LS-400-1305	1.3 ET		160		250 350 -
LS-400-1405	1.4 ET		170		260 360 -
LS-400-1505	1.5 ET		180		265 365 -
LS-400-ETS12	1.2 ETS		150		230 305 390
LS-400-ETS13	1.3 ETS		160		235 310 400
LS-400-ETS14	1.4 ETS		180		235 310 410
LS-400-ETS15	1.5 ETS		190		240 320 425

2. SAFETY WARNING

FIRE AND EXPLOSION

- Never use the following HALOGENATED HYDROCARBON SOLVENTS:** which can cause cracks or dissolution of gun body (aluminium) due to chemical reaction. UNSUITABLE SOLVENTS: methyl chloride, dichloromethane, 1,2-dichloroethane, carbon tetrachloride, trichloroethylene, 1,1,1-trichloroethane
- Sparks and open flames are strictly prohibited.** Paints can be highly flammable and can cause fire. Do not expose to open flames, electrical goods, cigarettes etc.
- Securely ground spray gun using conductive air hose.** (Less than 1MΩ) Always ensure that the spray gun is earthed correctly.

PROTECTION OF HUMAN BODY

- Use in a well-ventilated site, using a spray booth.** Poor ventilation can cause organic solvent poisoning and fire.
- Always wear protective gear (safety glasses, mask, gloves) to avoid inflammation of eyes and skin.** In case of any physical discomfort, immediately seek medical advice.
- Wear earplugs if necessary.** Noise level can exceed 80 dB(A), depending on operating conditions and painting site.
- Pulling the trigger many times during operation, may cause carpal tunnel syndrome.** Always rest, in case of tiredness.

IMPROPER USE

- Never point gun towards people or animals.**
- Never exceed maximum working pressure or maximum operating Temperature**
- Always release air and fluid pressure before cleaning, disassembling or servicing.** Otherwise, remaining pressure can cause bodily injury due to improper operation or scattering of cleaning liquid.
- Tip of fluid needle set has a sharp point.** Do not touch the tip during maintenance to avoid accidents.
- Never use this gun to spray foods or chemicals.** Otherwise, foreign substance, could cause corrosion of fluid passages which could adversely affect health.
- Never alter this spray gun, to avoid insufficient performance and damage.**
- If something goes wrong, immediately stop operation and find the cause.** Do not use again, until you have solved the problem.
- Do not enter working areas, where robots, reciprocators, etc. are used, until they have been turned off.** Otherwise, they could cause injury.

3. HOW TO USE

CAUTION

- Use clean air filtered through air dryer and air filter.
 - When using this gun for the first time after purchase, adjust fluid needle packing set (3), spray cleaner to clean fluid passages and remove rust preventive oil.
 - Firmly fix hose or container to spray gun, to avoid disconnection of hose or container, that can cause bodily injury.
- Firmly connect an air hose to air nipple 1/4"(4-2).
 - Firmly connect a suitable cup to fluid nipple (4-1).
 - Flush fluid passages with a compatible solvent.
 - Pour paint into container, test spray, adjust fluid output and pattern width.

4. HOW TO OPERATE

- Suggested atomizing air pressure is 1.5 to 2.5 bar (21 to 36 PSI).
- Recommended paint viscosity differs according to paint property and painting conditions. 14 to 25 sec. / Ford cup#4 is recommended.
- Set the spray distance from the gun to the work piece, as near as possible within the range of 130-200 mm.
- The gun should be held so that it is perpendicular to the surface of the workpiece at all times. Then, the gun should move in a straight and horizontal line. Arcing the gun causes uneven painting.

5. MAINTENANCE AND INSPECTION

Before carrying out maintenance and inspection ALWAYS observe WARNING indications.

CAUTION

- Never use spare parts that are not Anest Iwata originals.
- Never damage fluid nozzle tip, fluid needle or air cap holes.
- Never immerse the spray gun completely in liquids such as thinner.

5.1 MANUAL CLEANING PROCEDURE

The fluid passages of the gun, must be cleaned thoroughly after each use, especially after use with bi-component paints. Incomplete cleaning can cause defective pattern shape.

- Never soak air cap set (1) in solvent for an extended period, even when cleaning.**
- Never use metal brush to clean the gun.**

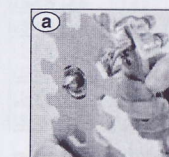
- Drain remaining paint from spray gun and cup, into a suitable container.
- Pour cleaner into cup.
- Unscrew air cap (1) by 2 turns, to allow atomizing air to back flush, fluid passages of the gun.
- Pull trigger (16) and make sure, that atomizing air enters cup.
- Leave cleaner for a few seconds, then empty it into suitable waste container.
- Repeat procedure above, until spray gun is clean.
- Remove air cap (1) and cup from gun, then clean each section with brush soaked with cleaner and wipe out with waste cloth.
- DRY ALL PARTS completely and apply spray gun lubricant to each thread.

5.2 AUTOMATIC CLEANING PROCEDURE

- When using automatic spray gun washer, follow the instruction manual provided with it. Before cleaning, make sure air is released from air passages.
- Only use suitable cleaner designed for your spray gun washer.
- Make sure that the equipment is dried immediately after cleaning.
- Do not leave spray guns inside spray gun washer, after cleaning. Cleaner vapour can damage packings and cause corrosion inside gun body.
- Do not leave spray guns soaking in cleaner.
- Securely ground washer equipment.
- Use of cleaner with waterborne coatings, can increase PH level, especially after several cleanings. Please, replace the cleaner regularly in order to always ensure the best spray gun performance.
- Make sure that the PH level of cleaner does not exceed the limit. PH level: 6.0-8.0 (but only during cleaning).

5.3 DISASSEMBLY PROCEDURE

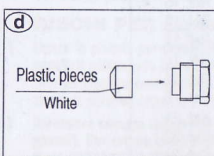
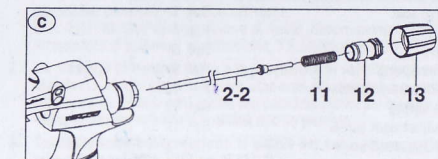
- Before disassembly, fully clean fluid passages.



a. Disassemble fluid nozzle (2-1), while keeping fluid needle (2-2) pulled (triggering) in order to protect its seat section.

b. Disassemble fluid needle set (2-2). (only when strictly necessary)

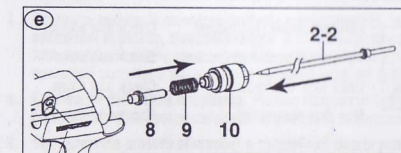
- Remove fluid adj. knob (13), fluid adj. set (12) and needle spring (11), extracting the spring and fluid needle set (2-2), from the back of fluid adj. guide set (10) still assembled on the gun body (4).



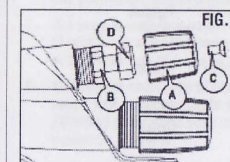
d. Fluid needle packing set (3), must always be adjusted while fluid needle set (2-2) is inserted and in the following way: tighten it by hand (about a 60 degree turn) and then with spanner. When you remove needle packing set (3), do not leave plastic piece of needle packing set (3) in the gun body.

- If you tighten fluid needle packing set (3) too much, fluid needle set (2-2) will not move smoothly, resulting in paint leakage from tip of fluid nozzle (2-1).
- Try to adjust it carefully while pulling trigger and confirming movement of fluid needle set (2-2).
- If you tighten it too much, repeat operation.

- Air valve assembly (8), assemble air valve (8), air valve spring (9) and fluid adj. guide set (10) together. Next, insert fluid needle set (2-2) into fluid adj. guide set (10), fit it to gun body set (4) and screw fluid adj. guide set (10).



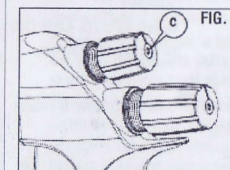
- If you try to fit air valve spring (9) and air valve (8) to gun body set (4) without fluid needle set (2-2), air valve (8) will not be fitted correctly and the packing in the fluid adj. guide set (10) will be damaged.



f. Disassembly of pattern adjustment set (5) and/or air adjustment set (15). In order to disassemble pattern adj. set (5) and/or air adj. set (15), first of all unscrew countersunk socket head screw Torx T10(C) and remove adjustment knob (A) by pulling out it carefully, as illustrated in Fig. 1.

Then manually turn the hexagon knob (D) of the adjustment counterclockwise to open it completely and unscrew the hexagon face (B) with a spanner turning it counterclockwise. To reassemble pattern adjustment set (5) and/or air adjustment set (15), reverse the procedure.

IMPORTANT: Before reassembling pattern adjustment set and/or air adjustment set, make sure that these operations are carried out with the adjustment fully open (Fig. 1).



WARNING: When you reinsert the knob (B) on the adjustment (B) and before to tighten the countersunk socket screw (C), make sure that it is pushed in until it completely covers the face of the hexagon knob of the adjustment (Fig. 2).

5.4 INSPECTION & REPLACEMENT STANDARD

WHERE TO INSPECT	REPLACEMENT PART
a. Each hole passage of air cap (1) and fluid nozzle (2-1).	Replace it if it is crushed or deformed
b. Packing and O ring	Replace it if it is deformed or worn out.
c. Leakage from seat section between fluid nozzle (2-1) and fluid needle set (2-2).	Replace them if leakage does not stop after fully cleaning fluid nozzle (2-1) and fluid needle set (2-2). If you replace fluid nozzle (2-1) or fluid needle set (2-2) only, fully match them and confirm that there is no leakage.

6. TROUBLESHOOTING

GUN DOES NOT SPRAY



- Fluid adj. knob (13) closed. Check and adjust.
- Tip hole of nozzle obstructed. Check and clean.
- Paint filter obstructed. Check and clean.
- Non drip obstructed. Check and clean.

INTERMITTENT SPRAY PATTERN



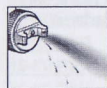
- Air escapes from fluid nozzle (2-1). Check, clean & replace if necessary.
- Air escapes from fluid needle packing (3). Tighten.
- Air escapes from cup joint or fluid hose joint. Tighten.
- Dirt inside air cap (1). Clean.

DEFECTIVE SPRAY PATTERN



- Dirty nozzle (2-1) or air cap (1). Clean carefully.
- Nozzle (2-1) or air cap (1) has been damaged. Replace if damaged.
- Fluid nozzle (2-1) is loose. Tighten.
- Paint viscosity too high or too low. Dilute paint or increase viscosity.
- Fluid output too high or too low. Adjust fluid adj. knob (13) to reduce or increase.

LEAKING

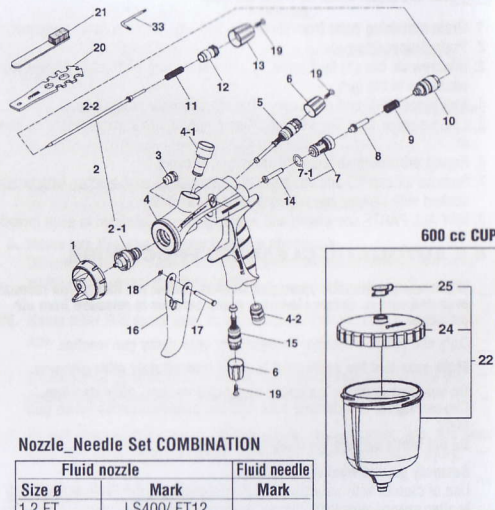


- Fluid nozzle (2-1), needle set (2-2) or gun body (4), dirty, damaged or worn on seat. Clean or replace if necessary.
- Dirt inside air cap (1). Clean.
- Loose fluid adj. knob (13). Adjust.
- Fluid needle spring (11) is worn. Replace.
- Loose fluid nozzle (2-1). Tighten.
- Needle packing set (3) loose, too tight, dirty or worn. Adjust, clean or replace.

AIR ESCAPES FROM AIR CAP

- Air valve (8), air valve seat (7) or air valve spring (9) dirty or damaged. Clean or replace if necessary.
- Air valve seat set o ring (7-1) damaged or worn. Replace.

7. SPARE PARTS LIST



Nozzle_Needle Set COMBINATION

Fluid nozzle		Fluid needle
Size Ø	Mark	Mark
1.2 ET	LS400/ ET12	20015
1.3 ET	LS400/ ET13	
1.4 ET	LS400/ ET14	
1.5 ET	LS400/ ET15	
1.2 ETS	LS400/ ETS12	
1.3 ETS	LS400/ ETS13	
1.4 ETS	LS400/ ETS14	
1.5 ETS	LS400/ ETS15	

DESCRIPTION	REF.
Air cap	Ref. 1
Fluid Nozzle + Fluid needle set	Ref. 2 •
Fluid Nozzle	Ref. 2-1 •
Fluid needle	Ref. 2-2 •
Needle packing set	Ref. 3 •
Body set	Ref. 4
Fluid nipple *	Ref. 4-1
Air nipple	Ref. 4-2
Pattern adjustment set	Ref. 5
Adjustment knob	Ref. 6
Air valve seat *	Ref. 7
O'ring	Ref. 7-1
Air valve	Ref. 8 •
Air valve spring	Ref. 9
Fluid adjustment guide	Ref. 10
Needle spring	Ref. 11
Fluid adjustment screw	Ref. 12
Fluid adjustment knob	Ref. 13
Air valve shaft	Ref. 14
Air adjustment set	Ref. 15 •
Trigger	Ref. 16 •
Trigger stud	Ref. 17
E stopper	Ref. 18
Countersunk socket screw (Torx T10)	Ref. 19
Spanner	Ref. 20
Brush	Ref. 21
Cup 600 cc	Ref. 22
Lid	Ref. 24
Knob	Ref. 25
Allen wrench	Ref. 33
Filter (optional)	

• Marked parts are wearable parts.

NOTE: When ordering parts, specify gun model, part name with ref. No. and marked No. of air cap set, fluid nozzle and fluid needle.



Prima di procedere all'installazione, alla messa in funzione, alla regolazione o alle operazioni di manutenzione, leggere attentamente il presente manuale d'istruzione, che deve essere conservato per ogni futuro riferimento.

La pistola ANEST IWATA per verniciatura a spruzzo è in conformità alla normativa ATEX 94/9/CE II 2G X. Livello di protezione: categoria II 2G X adatto per uso in Zone 1 e 2. Marchiatura X: L'elettricità statica deve essere scaricata dalla pistola e condotta a terra attraverso la tubazione conduttiva dell'aria come indicato.



Assicurarsi di rispettare SEMPRE, le avvertenze per la sicurezza, contenute nel suddetto manuale d'istruzione.

Simbolo	SIGNIFICATO	Livello di pericolo	Conseguenze
⚠	AVVERTENZE	Situazione potenzialmente pericolosa.	Seri rischi per la salute e la vita dell'operatore.
⚠	ATTENZIONE	Situazione potenzialmente pericolosa.	Rischi moderati per il prodotto e l'operatore.
⚠	IMPORTANTE	Situazione potenzialmente pericolosa.	Danni materiali.

1. SPECIFICHE TECNICHE

Max. pressione esercizio aria: 7.0 bar (100 PSI)	Raccordo aria: G 1/4" M
Livello Rumorosità (LaeqT)*: 75.8 dB (A)	Raccordo fluido: G 1/4" F
Max. Temperatura: 5 ~ 40 °C	Peso g (lbs)**: 475 (1.05)

* Punto di misurazione: 1 m dietro la pistola, 1.6 m d'altezza. ** Peso senza latta.

Modelli	Ø mm	No.	ml/min	NI/min	Larg. Ventaglio (mm)
					130 mm 200 mm 300 mm
Pressione aria in entrata 1,8 bar					
LS-400-1205	1.2 ET	LS-400-05	150	400	250 350 -
LS-400-1305	1.3 ET		160		250 350 -
LS-400-1405	1.4 ET		170		260 360 -
LS-400-1505	1.5 ET		180		265 365 -
LS-400-ETS12	1.2 ETS		150	420	230 305 390
LS-400-ETS13	1.3 ETS		160		235 310 400
LS-400-ETS14	1.4 ETS		180		235 310 410
LS-400-ETS15	1.5 ETS		190		240 320 425

2. AVVERTENZE DI SICUREZZA

RISCHI DI INCENDI ED ESPLOSIONI

- Mai utilizzare SOLVENTI IDROCARBURI ALOGENATI, che potrebbero causare danni e scioglimento delle parti in alluminio del corpo pistola, provocati da reazioni chimiche. SOLVENTI INCOMPATIBILI: cloruro di metile, diclorometano, 1,2-dicloroetano, tetracloruro di carbonio, tricloroetilene, 1,1,1-tricloroetano.
- La presenza di fiamme libere e la produzione di scintille è severamente vietata. Le vernici possano essere altamente infiammabili e quindi causa di gravi incendi. Evitare ogni azione che potrebbe provocare incendi, come fumare, provocare scintille o qualsiasi rischio elettrico.
- Collegare correttamente a terra la pistola per verniciatura, utilizzando un tubo aria conduttivo. (Minore di 1M2). Controllare periodicamente la stabilità della messa terra.

RISCHI PER LA SALUTE

- Usare la pistola per verniciatura in ambienti, ben ventilati utilizzando la cabina di verniciatura. Una ventilazione inadeguata o insufficiente potrebbe provocare un'intossicazione da solventi organici o causare incendi.
- Indossare sempre indumenti protettivi (occhiali di protezione, maschera, guanti). Per evitare che il contatto con i materiali irritanti, provochi infiammazione agli occhi ed alla pelle. Nel caso in cui si verificasse anche il più lieve rischio di danno fisico, consultare immediatamente un medico.
- Se è necessario indossare i tappi antirumore. Il livello di rumorosità può superare 80 dB(A) e dipende dalle condizioni d'utilizzo e dall'area di lavoro.
- L'utilizzo costante della pistola da verniciatura che prevede una prolungata pressione manuale sul grilletto della pistola, potrebbe provocare la sindrome del tunnel carpale. Nel caso di affaticamento della mano, sospendere le operazioni di verniciatura per una breve pausa.

RISCHI DI USO IMPROPRIO

- Mai puntare la pistola in direzione del corpo umano o di animali.
- Mai superare la pressione o la temperatura massima d'esercizio.
- Scaricare sempre la pressione dell'aria e del materiale, prima delle operazioni di pulizia, disassemblaggio e di manutenzione. Altrimenti la pressione residua potrebbe causare ferite al corpo provocate da operazioni scorrette o dall'emissione dei liquidi usati per la pulizia.
- L'estremità dell'astina è tagliente. Per non rischiare di ferirsi, evitare di toccare l'estremità dell'astina durante le operazioni di manutenzione.
- Mai spruzzare prodotti alimentari o chimici con questa pistola. Altrimenti la miscela di sostanze estranee potrebbe causare la corrosione dei passaggi vernice, con conseguenti danneggiamenti alla pistola e rischi per la salute.
- Mai modificare la pistola per verniciatura, per evitare danneggiamenti che potrebbero compromettere la qualità del risultato.
- Nel caso di malfunzionamenti, sospendete immediatamente le operazioni di verniciatura per la ricerca del guasto. Non utilizzare nuovamente il prodotto finché non si è risolto il problema.
- Mai entrare nelle aree di lavoro delle attrezzature (come: robot, riciclatori, ecc.), finché queste non siano state disattivate. Altrimenti, il contatto con i macchinari in funzione potrebbe essere causa di incidenti e ferimenti.

3. UTILIZZO

ATTENZIONE

- Per alimentare la pistola utilizzare aria filtrata ed asciutta. Si consiglia l'uso di un filtro con scarico automatico di condensa ed essiccatore.
 - Quando si utilizza la pistola per la prima volta dopo l'acquisto, regolare il set guarnizioni astina (3), pulire i passaggi del materiale spruzzando solvente compatibile per rimuovere l'olio antruggine.
 - Collegare saldamente la tubazione o la tazza alla pistola, per evitare che lo scollegamento della stessa durante le operazioni di verniciatura provochi ferite gravi al corpo.
- Collegare saldamente il tubo aria d'alimentazione al raccordo aria 1/4" (4-2).
 - Collegare saldamente una tazza adeguata, al raccordo materiale (4-1).
 - Detergere i passaggi vernice della pistola con solvente compatibile.
 - Versare la vernice nella tazza, verificare lo spruzzo, regolare la fuoriuscita del materiale e la larghezza del ventaglio.

4. COME OPERARE

- La pressione aria d'atomizzazione consigliata, è compresa tra 1.5 e 2.5 bar (21 e 36 PSI).
- La viscosità della vernice consigliata cambierà secondo le proprietà della vernice e le condizioni di verniciatura. È consigliata una viscosità tra 14 e 25 sec. / Coppa Ford #4.
- Calibrare la distanza di verniciatura, possibilmente in uno spazio ristretto e compreso tra i 130-200 mm.
- L'assetto della pistola dovrebbe essere mantenuto sempre perpendicolare alla superficie del pezzo di lavorazione. Inoltre la pistola dovrebbe operare sempre per linee orizzontali. Eventuali spostamenti della pistola potrebbero provocare una verniciatura non uniforme.

5. MANUTENZIONE ED ISPEZIONE



Prima di procedere a qualsiasi operazione d'ispezione e manutenzione, leggere sempre ed osservare scrupolosamente tutte le indicazioni sulle AVVERTENZE DI SICUREZZA.

ATTENZIONE

- Mai utilizzare altri componenti o parti di ricambio che non siano originali ANEST IWATA.
- Mai danneggiare i fori dell'ugello aria, dell'ugello materiale e l'estremità dell'astina.
- Mai immergere completamente la pistola nei liquidi come solvente.

*ATTENTION: To disassemble Air valve seat_ part.7, use 10 mm allen wrench (Non ball point type). To disassemble Fluid nipple_ part. 4-1, use 8 mm allen wrench.