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EUROTEC C85D
BOXFEED UNIT

INSTRUCTION MANUAL

DOCUMENT:	**Boxfeed C85D Unit - Manual**
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CAUTION

This equipment can be dangerous unless it is used in accordance with the rules laid down in this manual.

Read this manual completely before installing and operating the equipment.

Ensure all safety instructions and procedures are correctly followed and that all operators are fully trained.

IMPORTANT: ***All other manuals relevant to components and equipment of the installation must be followed.***

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EC Declaration Of Conformity

We, Eurotec Finishing Systems Limited declare that the following product:

Description: Manual Boxfeed Spray Unit
Model: C85D

Use: Electrostatic Powder Coating Unit

was manufactured by ourselves and conforms with the following standard (s) and / or other normative document (s):

EC Machinery Directive 89/392/EEC
EC Low Voltage Directive 73/23/EEC
EC Directive of Electromagnetic Compatibility 89/336/EEC
Electrostatic Painting and Finishing Equipment Using Flammable Materials
EN50 050:1986 and EN50 053:Part 2:1989

Signed on behalf of Eurotec Finishing Systems Ltd. by

Mr. D.H. Campbell
Technical Director

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C85D MANUAL POWDER COATING UNIT BOX FEED TYPE

Part No. 5003050, Single Operator
Part No. 5003051, Double Operator

1. Vibrating chassis accepts all popular sizes of powder containers up to 30 kg (66 lbs)
2. Powder box is mounted at an angle in two planes so that powder is extracted from the lowest point to ensure optimum powder utilisation.
3. Box vibration is supplied by a quiet high efficiency pneumatic vibrator with low air consumption. The frequency may be altered to suit the powder being used and to provide the most effective vibration relative to powder level.
4. To avoid excessive compaction of powder which would be caused by constant vibration and to ensure economical operation, the vibrator operates only when the gun trigger is pulled.
5. A fluidising pad fitted at the induction point of the suction tube loosens and fluidises powder locally in the pick-up area of the powder, thus ensuring an even powder supply from difficult or heavily impacted powders. The fluidising pad operates only upon triggering of the spray gun.
6. A non fluidising suction tube is also available as an additional option if required, as many powders will spray quite satisfactorily without the need of local fluidising.
7. The controlled radius arm ensures correct positioning within the powder box, the arm simply lifting clear to a 'park' position for fast box replacement and colour changing.
8. The C85D can be supplied as a single or double unit and a single unit can be upgraded to a double system at a later date if so required.
9. The construction is of a robust design with a low centre of gravity and is transported on large conductive castors.
10. Power transmission between the control unit and spray gun is by a highly flexible, sealed cable assembly.
11. For improved safety, efficiency of charging, minimum surface disruption and unrivalled re-coatability Eurotec utilise their TOTAL ENERGY CONTROL system which is adjustable from 0 to 50 µA and 0 to 85kV.

SPECIFICATION

General

Direct Boxfeed Manual Unit:-	Single Operator Unit	***Model No.:-*** C85D ***Part No.:-*** 5003050
Direct Boxfeed Manual Unit:-	Double Operator Unit	***Model No.:-*** C85D2 ***Part No.:-*** 5003051
Gun Control Unit:-	Controls all electronic & pneumatic functions.	***Model No.:-*** GCU-85D ***Part No.:-*** 2020002
Manual Powder Spray Gun:-	Complete with slotted cap, 3 deflectors and 5m hose & cable set.	***Model No.:-*** MG-300 ***Part No.:-*** 3016002

Powder Box Capacity:-	30 kg. (66 lb.) Powder Max.
Max. Box Size:-	40 cm. (16") x 40 cm.(16") x 50 cm.(20")High.
Powder Delivery Rate:-	Variable up to 400 gms. / min.
Venturi Mounting:-	Three Point Clip-on at top of Suction Tube.
Operating Temperature:-	0 ºC. to 40 ºC. (32 ºF. to 104 ºF.)
Powder Charging:-	Single Point Corona Discharge Needle.
Hose and Cable Length to Gun:-	5 metres, (16 ft).

Electrical Data

Input Voltage	100-130 / 200-260 Volts, 50 / 60 Hz single phase
Power Consumption (full load)	35 VA.
Input Current (max.)	400 mA at 115 volts, 200 mA at 230 volts
Electrostatic output voltage	10 - 85 kV negative
Electrostatic output current	0 - 50 uA

Electrical Controls

Mains Switch - Front Panel
Rotary 2 position - OFF / ON (A green LED indicates when the switch is on).

Electrostatic Switch - Front Panel
Rotary 3 position - Electrostatics OFF / Monitor uA / Monitor kV, (A yellow LED indicates when the electrostatics are switched on).

Charge Control - Front Panel
Rotary potentiometer - sets the maximum level of charge.

Electrostatic Meter - Front Panel
Dual scale - 0 to 50 uA / 0 to 100 kV.

Mains Voltage Selector Switch - Rear Panel
Slide 2 position - 100 to 130 / 200 to 260 volts.

Auto - Manual Switch - Rear Panel

Slide 2 position:-	*Auto position-*	Unit triggers automatically when mains switch is turned on.
	Manual position-	Unit is triggered by micro-switch in Hand Gun or other remote triggering device.

Mains Input
Via connector on bottom panel.

Mains Output
Socket, non switched, 6A max. May be used to connect additional control units.

Trigger Switch - Remote
Micro-switch in hand gun - connected through plug and socket on bottom of control unit.

Circuit Protection

Miniature circuit breakers:-	*Mains output*	- 6A
	Mains transformer primary	- 0.6 A at 115 V - 0.3 A at 230 V
	Mains transformer scondary	- 2A at 28V
Fuses:-	*PCB short circuit protection*	- 0.75A Self Resetting, Thermal - 2.5A Self Resetting, Thermal

Pneumatic Data

Input air pressure :	7.0 bar, (100 p.s.i.) Max.
Input air conditioning :	Oil free to 0.1 p.p.m. and dry to 1.3 g/cubic Nm.
Air consumption (Nominal) :	15.0 m^3 / hr, (9.0 c.f.m.)
Input Connection :	1/4" BSP parallel thread c/w nut and olive for connection of 8.0 mm (5/16") O.D. tubing.

Pneumatic Controls

Incoming solenoid valve - Internal

Normally closed - opens upon operation of trigger switch on hand gun. Controls air supply to 'powder delivery', 'powder dilution', and 'vibrator' pressure regulators (see **Pressure Regulators and Guages**). Also controls air supply to the 'switched auxiliary air supply' valve on the top panel which supplies the fluidising pad (see below).

Switched Auxiliary Air Supply Valve

When switched to the "On" position the Switched Auxiliary Air Supply Valve enables the fluidising pad to operate via a flow regulator mounted on top of the vertical column and supplies air to the gun which is regulated using a flow regulator on the side of the gun handle.

Pressure Regulators and Gauges

These control the air supply pressure to the following:-

1) *Powder Delivery-*	**4 bar (60 psi)**	venturi jet; controls delivery of powder from the venturi to the gun.
2) *Powder Dilution* -	**2 bar (30 psi)**	venturi dilution; controls mixture ratio of powder to air from venturi to the gun.
3) *Gun, Fluid Bed* -	**4 bar (60 psi)**	controls the level of fluidisation in the powder hopper.

Auxiliary output.

Maintained unregulated output for connection of e.g. an air clean down gun. Connection 1/4" BSP female parallel thread. Supplied with blanking plug fitted.

Weights and Dimensions

Hand Gun Weight :-	580 gms. (1.28 lbs.) Without Cable & Hoses
Hand Gun Length :-	350mm. (14") From Top of Handle
Unit Packed Weight :-	56 kg. (123.5 lbs)
Unit Packed Dims. :-	660 mm. (26") x 660 mm. (26") x 930 mm. (37")
Unit Packed Volume :-	0.405 cubic metres. (14.3 cubic feet)

ASSEMBLY INSTRUCTIONS

WARNING: THIS EQUIPMENT MUST BE EARTHED

1. Carefully remove units and components from packaging, and check contents against packing list.
2. Secure the Gun Control Unit to the vertical column using the 2-off M6 x 12 socket cap head screws and lock washers as shown.
   NOTE:- The Gun Control Unit may be fitted to either the right or left hand face of the vertical column as required, and using either the left or right hand module fixing to orientate the control panel as required.
3. Pass the four un-connected airlines through the hole in the front face of the vertical column below the Gun Control Unit and connect them to the air fittings on the bottom of the Gun Control Unit as follows:-
   NOTE:- Diagrams at the rear of this manual indicate the relevant connectors and fittings.
   a) RED airline from the Venturi Jet to the 'POWDER DELIVERY AIR SUPPLY OUTPUT' fitting.
   b) BLUE airline from the Venturi Dilution Port to the 'POWDER DILUTION AIR SUPPLY OUTPUT' fitting
   c) CLEAR / WHITE airline from Vibrator to the 'GUN / F. BED or VIBRATOR AIR SUPPLY OUTPUT' fitting.
   d) BLACK airline to one side of the branched 'Y' fitting of the 'SWITCHED AUXILIARY AIR SUPPLY OUTPUT' fitting.
4. Insert the suction tube through the fittings on the front bracket of the articulated arm, fit the sealing washer and then clip the venturi onto its mounting clip.
5. Connect the three airlines which exit the front of the articulated arm as follows:-
   a) RED airline to POWDER DELIVERY air fitting at the end of the venturi body (The sealing washer of this fitting is red).
   b) BLUE airline to POWDER DILUTION air fitting at the top of the venturi body (The sealing washer of this fitting is blue).
   c) BLACK Airline to the FLUIDISING PAD quick release air fitting on the venturi mounting bracket.
6. Secure the Gun Hook to the side of the vertical column oposite the Gun Control Unit using the 2-off M6 x 12 button head screws as shown.
7. Remove the hand gun from the carton. The gun is supplied fitted with a five metre hose and cable set comprising of :-
   a) 1x supply / trigger cable.
   b) 1x powder hose.
   c) 1x 6 mm air line.
8. Connect the round supply / trigger cable connector to the plug on the base of the gun handle, connect the black airline to the airline tail on the base of the gun handle and finally push the powder hose fully onto the spigot on the base of the handle.
9. The remaining end of the cable set should be connected as follows:
   The square electrical connector to the 'Gun Supply and Trigger' connection on the rear of the control panel. The large bore powder hose to the powder spigot on the venturi. The black air line to one side of the branched 'Y' fitting of the 'Switched Auxiliary Air Supply Output' fitting.
10. Check that the auto / manual switch on the bottom of the control unit is set to manual.
11. Connect a suitable airline to the 'mains air supply in' air fitting. The connection is a 1/4" BSPMP to 10mm compression fitting.
12. If not already fitted, fit the spray nozzle to the gun by removing the large front

retaining nut, pushing the nozzle in to the front of the nut and replacing on the barrel.
Fit either the slotted cap over the front end of the nozzle, or one of the three deflectors supplied.

13. Prior to connecting the mains electrical socket into the 'MAINS ELECTRICAL INPUT PLUG' on the rear panel of the control module, ensure that the voltage selector switch is set to the relevant position. i.e. 100-130V 50-60 Hz or 200-260V 50-60 Hz.
    NOTE:- The units are always supplied set to 200-260V.
14. **IMPORTANT:-** When fitting a plug to the mains lead, it is essential that it contains an earthing/grounding contact that this is connected. Under no circumstances should this equipment be connected to a mains supply which does not include an earthing/grounding wire and contacts. e.g. 2 wire extension leads as used for some domestic equipment MUST NOT BE USED.

NOTE:- The cable colour coding and connector pins used for the Gun Control Unit and its supplied cable are as follows:-

Pole		**U.S.A.**	**U.K.**	**Pin Connection**
Live	L	Black	Brown	1
Neutral	N	White	Blue	3
Earth / Ground	E	Green	Green/Yellow	E

NOTE:- The terminal connections used on the mains connectors on the rear panel of the unit coincide with the terminal connections used on the cable connectors.

NOTE:- For United Kingdom Installations see below:-
As the colours of the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:-
The wire which is coloured GREEN and YELLOW must be connected to the terminal in the plug which is marked with the letter E or by the earth symbol , or coloured green or green and yellow. The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured black. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured red.

NOTE:- The method of disconnection from the mains electrical supply is by removal of the plug on the mains lead from its respective supply socket.

NOTE:- If the system is to be permanently connected to mains wiring then the switch used to disconnect the unit from the supply voltage must disconnect all poles and have a contact separation of at least 3 mm.

The unit is now ready for use.

INSTALLATION AND OPERATING INSTRUCTIONS

IMPORTANT

1. This equipment can be dangerous unless it is used in accordance with the instructions laid down in this manual.
2. Ensure that the equipment is properly earthed / grounded. Refer to assembly instructions item (15).
3. The electrical supply to the electrostatic gun and control unit must be interlocked with the spray booth extraction system such that spraying cannot be carried out unless the exhaust ventilation system is in operation. The efficiency of the exhaust ventilation system should be checked regularly.
4. All conductive structures within the vicinity of the spray area shall be bonded together with the earth terminal of the gun control unit to the protective earth of the system.
5. The equipment operates by electrostatically charging the powder by means of a high voltage corona discharge at the nozzle of the gun. This electrostatic discharge can seriously damage other electronic equipment if it is sited in close proximity and not suitably protected.
6. It is essential that all jigs and workpieces are adequately earthed. The workpiece shall have a resistance to earth of no greater than 1 Mohm. This should be checked regularly. If the earthing is not adequate, this can result in:-
   - **a)** Poor coating,
   - **b)** Sparks between the product and jigs, which can constitute an ignition or explosion hazard.
   - **c)** Radio and TV interference from sparks between the product and jigs. This interference may also affect computer systems and process controllers.
7. Ensure that the air supply is clean and dry.

NOTE:- Refer to the pneumatic specifications for air requiments.

SET UP PROCEDURE

1. Ensure that all switches are in the OFF position and that all pressure regulators are closed, (the knobs should be turned fully anti-clockwise). The knobs of the pressure regulators are released by pulling outwards and locked by pressing inwards.
2. Lift the articulated arm until the spring loaded retaining catch locks into position.
3. Place an open box of powder onto the unit base with the internal plastic bag pulled over the outside of the box or rolled down.
4. Pull out the retention plunger and lower the venturi suction tube into the powder (*the presence of a spring latch is to ensure no damage occurs to the tie rod if the arm is forced down without first releasing the retaining plunger, this is a safety device and should not be abused. Improper use of this latch may result in damage to the unit and consequently invalidate any warranty*). The tube will enter the powder towards the centre of the box and will "burrow" into the powder and locate towards the corner of the box during operation.
5. Turn on the 'MAINS ELECTRICAL' switch of the control unit. The green LED above the switch will illuminate.
   NOTE:- Diagrams in the appendix indicate the various switches, regulators, etc.
6. With the spray gun pointing into an extracted spray booth, operate the auxiliary air switch on the top right hand of the control unit. Then operate the trigger of the gun and open the flow regulator on the left hand side of the gun handle until a hissing is heard from the nozzle of the gun.

7. With the trigger still operated open the left hand air regulator (GUN, FLUID BED or VIBRATOR AIR SUPPLY) to approximately 40 psi. to actuate the vibrator.
8. With the trigger still pressed, open the flow regulator at the top of the column by turning the knob clockwise until a slight disturbance of powder is noticed around the fluidising pad. This air supply should be kept to a minimum consistent with smooth powder flow to prevent powder from being ejected into the surrounding air.

NOTE:- The flow regulator has a lock nut which may be used to set the flow setting.

9. With the trigger still pressed, open the centre pressure regulator (POWDER DILUTION AIR) to approximately 5 psi and then open the right hand pressure regulator (POWDER DELIVERY AIR) to give the required powder output.
   NOTE:- It is good practise to always operate the powder control regulator last to avoid powder contaminating air lines.
10. Check that all regulators are operating when the trigger is pulled and adjust pressures as necessary to ensure an even flow of the desired quantity of powder from the gun. The powder in the box should be seen to be moving towards the suction tube when the vibrator is operating and powder is being sprayed.
    The air pressure required for the vibrator will depend upon the type and condition of the powder being used, but too high a pressure will normally have an adverse effect on vibration. It may be necessary to lower the air pressure to the vibrator when the powder level in the box is relatively low.
11. Having set the volume of powder required from the gun, if there is a tendency for the powder flow to surge unduly, this can normally be eliminated by adjusting the POWDER DILUTION AIR pressure.
    If, however, the fluidisation of the powder is too violent, difficulty may be experienced in eliminating surging and erratic powder delivery.
    NOTE:- If the powder in the box is damp, it may not be possible to achieve a smooth, even powder flow from the gun.
12. With the Control Potentiometer turned anti clockwise, turn the ELECTROSTATIC switch to the position marked kV (kilo volts). The yellow LED above the Control Potentiometer will illuminate.
    With the gun pointing into an extracted spray booth, operate the trigger and slowly turn the Control Potentiometer clockwise. As the energy threshold for charging the powder is reached the shape of the powder cloud will be seen to rapidly expand. The Control Potentiometer should be further adjusted, with reference to the Electrostatic Meter, to give the desired charging potential up to a maximum 85 kV.
    NOTE:- The charging potential is dependent on the proximity of the spray gun needle to earth. When setting the maximum discharge potential the spray gun discharge needle should be placed approximately 100 mm from earth.
    NOTE:- Switching the ELECTROSTATIC switch on and adjusting the Control Potentiometer allows an experienced operator to set and monitor the charging potential without triggering the gun.
13. With the trigger still pressed, turn the ELECTROSTATIC switch to the position marked uA (micro amps). The yellow LED will remain illuminated.
    This setting has no effect on the generation of the electrostatic charge, it simply enables the discharge current (uA) to be monitored on the electrostatic meter. It will be seen that this will vary between 0-50 uA depending on the chosen discharge potential and the distance between the gun discharge electrode and the workpiece, or earth.
    The discharge potential (kV) required will depend largely on the object to be coated, although such parameters as environmental conditions may affect the

required settings. Generally, intricate objects or components with difficult return edges, internal corners or deep recesses, or welded tubular structures may benefit from low discharge potentials of say 40-60 kV whereas large simple panels may benefit from higher potentials of say 60-70 kV. It will be found that aluminium parts require lower settings than steel parts and that re-coating of items which have already been powder coated may require very low settings such as 30-40 kV. in order to prevent back ionisation. Thicker coatings may generally be applied with lower discharge potentials, whereas higher discharge potentials give more of a self limiting effect for thinner coatings, but care must be taken to avoid surface disruptions and back ionisation.

14. The small flow regulator on the left hand side of the spray gun is used to control the air flow which passes forward through the nozzle. This air flow must be adjusted to ensure that the electrode and spreader faces are maintained clean. Further adjustment of the air flow allows the operator to alter the size and shape the powder cloud.

GENERAL NOTE:-

An approved mask should always be worn when spraying.

GENERAL OBSERVATIONS:-

It is essential that all substrates and jigs are clean and that there is a good earth / ground to the workpiece to ensure maximum powder attraction.

Powder spraying is best performed by slow motions of the spray gun as opposed to the faster gun movements often associated with liquid paint spraying. Higher powder emissions do not necessarily mean faster coating or better penetration into corners and recesses. In practice it can often cause the opposite effect and produces products with a poor finish.

Similarly, high electrostatic discharge currents or voltages do not necessarily mean faster or more efficient coating. Again, in practice, they can cause the opposite effect and produce products with a poor finish.

RECOATING:-

The "Total Energy Control" charging system permits exceptional ease of recoating product which has previously been coated and cured. To take advantage of this ability it is necessary for the operator to use a different technique to that usually employed for recoating.

FOR BEST RESULTS:-

Instead of turning down the voltage control to very low levels and pulling the gun away from the product, the charge control may be left at maximum and the gun may be taken close to the product surface, this also helps when penetrating recesses and corners. In some instances it may be necessary to reduce the charge control for better results.

DO's And DON'TS

DO's

1. Ensure that the equipment is operated by trained personnel only.
2. Ensure that the equipment is serviced regularly by qualified personnel. All repairs and maintenance shall be carried out by qualified personnel only, in accordance with the manufacturers instructions. Repairs must be carried out at the instigation of the operator when faults or defects are detected. Repairs must not be performed in hazardous areas and must not compromise safety standards. (Any repairs or maintenance carried out by unqualified personnel will invalidate any warranty on the equipment).
3. Ensure that the operator is correctly earthed. If overalls are worn, they should be anti-static or non-insulating. If gloves are worn, they should be anti-static or non-insulating. If this is not possible, gloves with the palms removed may be used. Footwear intended for use by operators shall be anti-static or non-insulating and shall comply with the requirements of ISO 2251 / BS 5451 or equivalent. Shoes with leather soles are usually adequate.
4. Ensure that the operator wears suitable respiratory equipment and or protective clothing. All personnel working in a powder-laden atmosphere should wear similar equipment.
5. Ensure that the operator wears suitable eye protection e.g. goggles or a visor (in addition to a respiratory mask) when using a compressed air clean down gun as particles in the airstream can damage eyes.
6. Avoid skin contact with powders where possible as some powders may cause skin irritation.
7. Wash hands and face after work and prior to eating or drinking.
8. Keep floors and equipment within 5 metres of the spray area clean using a suitable industrial vacuum cleaner.
9. Keep light fittings and all other electrical equipment clean.
10. Regularly check the effectiveness of dust/powder collectors and extraction filters and that recycled air is clean.
11. Regularly check the earthing of electrical equipment and manually operated spray guns.
12. Regularly check the earth bonding of all conductive electrical enclosures and all conductive structures such as floors, walls, ceilings, fences, conveyors, powder containers etc. within the vicinity of the spray area. These shall be bonded together with the earth terminal of the high voltage generator to the protective earth system of the electrical supply. Electrostatic grounding should comply with EN 50053.
13. Ensure that all jigs and work pieces are adequately earthed. Each workpiece shall have a resistance to earth of not greater than 1 Mohm. This resistance shall be checked regularly.
14. Ensure that correct cleaning procedures are followed. See " Changing Colour and End of Shift Cleaning Procedures"
15. Ensure that powders are processed in compliance with the powder manufacturers instructions. Special care should be taken with powders containing metallic pigments.
16. Regularly check the compressed air supply to ensure that it is clean and dry.

DON'TS

1. The operator must not wear insulating gloves, clothing or footwear.
2. Do not smoke in areas where powder coating is being carried out or in areas where powder is stored.
3. Do not eat or drink in areas where powder coating is being carried out or in dust-laden atmospheres.
4. Do not spray into areas which are not properly extracted. The direction of airflow should always be from behind the operator. It is recommended that airflow velocities over the face area of a booth opening should be in excess of 0.5 metres/sec.
5. Do not use compressed air for cleaning skin and clothing as it can penetrate the skin causing embolisms. Use a suitable industrial vacuum cleaner for clothing and wash skin with water.
6. Do not point compressed air clean down guns towards body orifices such as mouth, ears etc.
7. Do not enter spray booths when in operation.
8. Do not operate fluidised beds without connecting a suitable vent hose from its lid to an extracted area such as a spray booth.

NOTE:- The workplace must be kept tidy and well organised to reduce the risk of idents. Good illumination, protection from any damp environment and correct storage of materials will assist the operator to maintain concentration and an awareness of potential hazards.

NOTE:- Before starting to clean the spray gun or carrying out any other work in the spraying area, the high voltage supply shall be switched off in such a manner that it cannot be re-energised by operating the trigger of the spray gun.

CHANGING COLOUR AND END OF SHIFT CLEANING

In order to prevent contamination of the product from a previous colour, it is essential to remove all traces of the previously sprayed powder from the application equipment. i.e. Powder container, suction tubes, Venturies, Powder hoses and Spray guns. Also any other surfaces where powder may become dislodged and cause contamination of the product or new powder. If the powder is to be reclaimed, then the spray booth, ductwork and recovery equipment must also be thoroughly cleaned.

IMPORTANT: WHENEVER COMPRESSED AIR IS USED FOR CLEANING EQUIPMENT. THIS OPERATION MUST BE CARRIED OUT IN AN EXTRACTED SPRAYBOOTH. AN APPROVED MASK AND EYE PROTECTION SHOULD ALWAYS BE WORN WHEN USING A COMPRESSED AIR BLOW DOWN GUN.

1. Turn the mains switch OFF. Discharge the gun by touching the corona needle to a good earth and disconnect the mains supply.
2. Unclip the venturi from the base plate.
3. Remove the powder hose and airlines from the venturi.
4. Lift the articulated arm until the spring loaded retaining catch locks into position.
5. Disconnect the fluidising airline at the in-line quick release connector on the venturi bracket.
6. Remove the venturi seal from the suction tube and lift the suction tube out of the venturi mounting bracket.

7. Wipe the venturi seal clean and put in a safe place. Wipe clean any excess powder from the venturi mounting bracket.
8. Using clean, dry compressed air from a blow gun, blow through the suction tube and wipe clean the outside.
9. Remove the powder box.
10. Remove the powder tail fitting complete with the PTFE insert from the venturi body and blow them clean.
11. Blow through the venturi body and clean the outside then refit the hose tail and insert. ALWAYS CHECK THE CONDITION OF THE PTFE INSERT FOR SIGNS OF EXCESSIVE WEAR AND REPLACE AS NECESSARY.
12. Remove the powder hose from the gun and purge the inside of the hose with compressed air.
13. Remove the nozzle from the gun and clean internally and externally with compressed air. Clean the gun in the same way.
14. Refit the nozzle and powder hose to the gun.
15. Replace the suction tube up through the venturi mounting spigot and stretch the venturi seal over the top end of the suction tube such that it locates into the groove and forms a cupped shape.
16. Re-connect the powder hose to the venturi, and the airlines i.e. red airline to fitting with red washer and blue airline to fitting with blue washer, then clip the venturi back on to the base plate.
17. Clean off any excess powder or contamination from base plate and frame.
18. Place new box of powder onto unit base.
19. Pull out the spring loaded retaining catch knob and lower suction tube into powder.

IMPORTANT: THE SAFETY RELEASE MACHANISM MOUNTED ON THE BOXFEED ARM IS TO PREVENT DAMAGE TO THE TIE ROD IN THE EVENT OF THE ARM BEING FORCED DOWN WITHOUT RELEASING THE RETENTION PLUNGER FIRST. THE MECHANISM IS NOT TO BE USED AS A LAZY MANS RELEASE LATCH AS REPEATED USE MAY CAUSE DAMAGE TO THE EQUIPMENT, SUBSEQUENTLY ANY WARRANTY WILL BE INVALIDATED.

FAULT FINDING

WARNING **DO NOT** set the voltage selector switch to 100 - 130 V if a higher supply voltage is being applied as damage may result.

UNIT WILL NOT OPERATE (No LED's will illuminate)	Check that mains connector is fitted to rear panel of control unit.
	Check that unit is connected to a suitable mains electrical supply and is switched on.
	Check that miniature circuit breaker (automatic fuses) on the bottom panel of the control unit have not been tripped. If one or more has, then press to reset. If it trips again, switch off unit and refer to an authorised distributor or service agent.

UNIT WILL NOT OPERATE (LED's will illuminate)	Check the trigger connections at the gun and on the bottom panel of the control unit.
	Check that the auto / manual slide switch on the bottom panel of the control unit is set to the manual position.
	Check that the trigger switch in the gun is operating. Depress the trigger and an audible click should be heard if the trigger switch is operating.
	Check that the voltage selector switch is set to the required voltage. The unit is supplied pre-set to 200 - 260 volts. If the supply is between 100v and 130v, reset the selector switch on the rear panel to 100 - 130v.
NO POWDER DELIVERY	Check air supply to unit.
	Check that powder box is not empty.
	Check that the internal solenoid valve is operating by depressing gun trigger when an audible click should be heard. If it is not, check the trigger connections at the gun and on the bottom panel of the control unit.
	Check for kinked or blocked powder hose.
	Check for blockage in suction tube, venturi body and gun.
	Check that the level of vibration and/or fluidisation air is adequate to keep the powder flowing to the suction point.
POWDER DELIVERY INTERMIT-TENT OR SURGING	Check that there is sufficient powder in the box.
	Check ratio of dilution air to powder air and adjust if necessary.
	Check for any kinks or partial blockages in the powder hose, venturi suction tube and body, or gun. Blockages in powder paths may be caused by damp powder if the air supply contains more than the permitted level of moisture.
	Check that the venturi body is seating firmly against the sealing disc at the top of the suction tube. Adjust the clip if necessary.
	Check condition of PTFE insert in venturi for signs of wear - replace as necessary.
	Check that the powder is not damp. If it is, it may not move down to the suction point under the influence of vibration and lumps may form in the powder causing partial blockages and 'spitting' from the nozzle of the gun. Powder may become damp if left for long periods in an open box.
	Check that the level of vibration and/or fluidisation air is adequate to keep the powder flowing to the suction point.
POWDER DOES NOT ADHERE TO WORKPIECE	Check that electrostatic switch is set to either the uA or kV positions. The green or yellow LED should be illuminated.
	Check the setting of the charge control potentiometer and that an electrostatic charge is present at the discharge electrode needle of the gun.
	Check that the workpiece is properly earthed/grounded.
	Check that the compressed air supply is clean and dry. Dirt and moisture trapped inside the gun may cause a loss of electrostatic charge to earth, if this is occurring the units warranty may be invalidated.

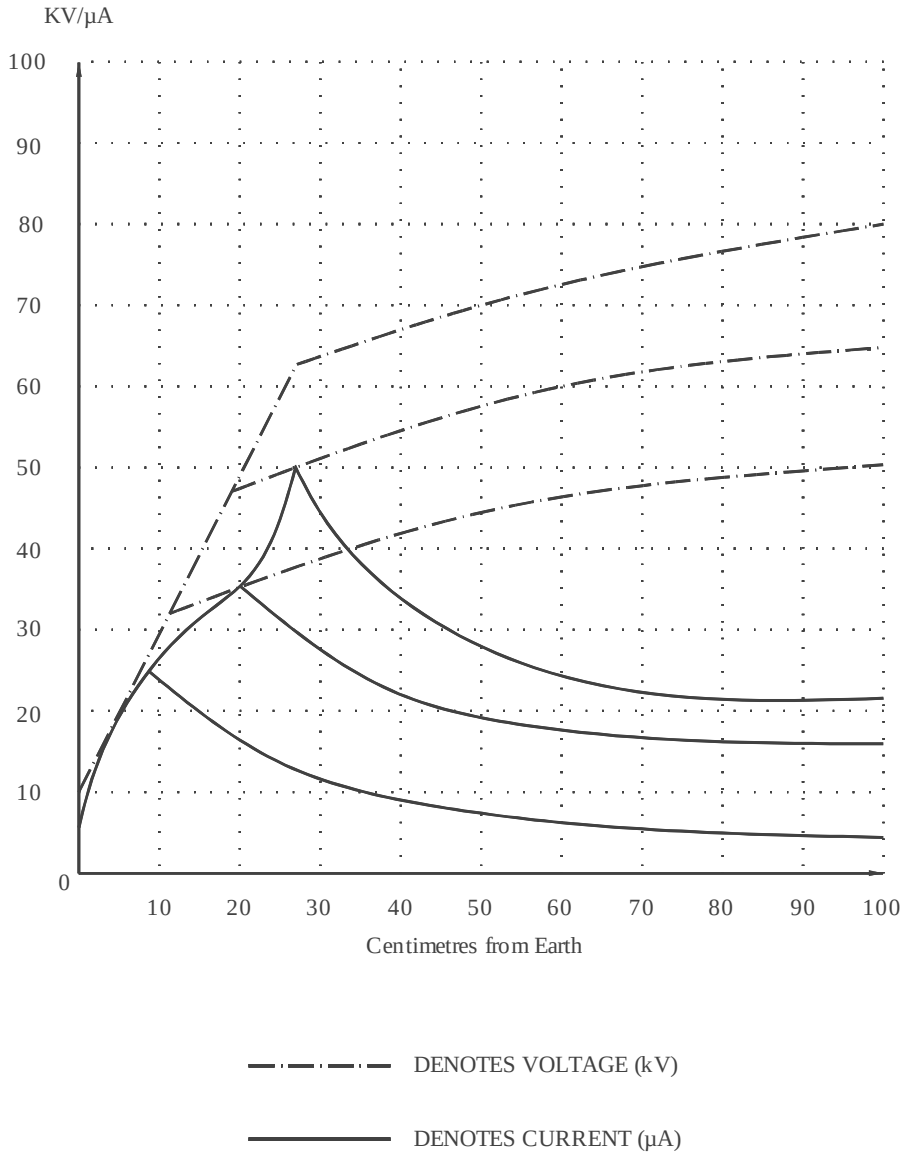
DEFECTS ON FINISHED PRODUCT

CONTAMINATION OF SURFACE WITH SPECKS OF OTHER COLOURS	Application equipment inadequately cleaned after using previous powder.
	Airborne powder of different type within a contaminated spraybooth, or sucked in from dirty surroundings.
	Reclaimed powder contaminated with other powders from within the reclaim system e.g. ductwork, cyclone, booth etc.
	Airborne contamination within the oven.
	Dust or dirt dislodged from jigs or conveyor.
	Dusty environment before or after coating.
LUMPS OR PROTRUSIONS ON SURFACE	Dirty or contaminated powder.
	Dirty or contaminated substrate (workpiece)
	Rusty substrate
	Dusty environment before or after coating.
	Dust or dirt in oven.
	Dust or dirt dislodged from jigs or conveyor.
HEAVY "ORANGE PEEL"	Applied coating is too thick.
	Incorrect cure cycle and/or temperature.
	Inferior quality or powder.
FISH EYES	Contamination of substrate.
	Contamination of powder.
	Contamination of compressed air supply.
CRATERS AND VOIDS	Poor cleaning of substrate e.g.. trapped oils or solvents.
	Wet components e.g.. water trapped in corners or joints.
	Contamination of powder.
	Contamination of substrate.
PIN-HOLING AND BUBBLES	Porous substrate e.g. expansion or air or solvents from porosity or cavities in castings during curing cycle. Pre-heating of the workpiece may help to overcome this.
	Excessive electrostatic charge applied to the powder. To overcome, reduce the discharge current and / or increase the spraying distance.
	Rusty substrate.
	Contamination of substrate, powder, air supply or from dirty surroundings.
	Excessive moisture in compressed air supply. Refer to pneumatic data in specifications.

NOTE:- Contamination may be caused by airborne vapour such as wet paint, airline or conveyor oil or stripping facilities.
Silicones and acrylic paints are the worst offenders and can contaminate the powder and/or substrate.

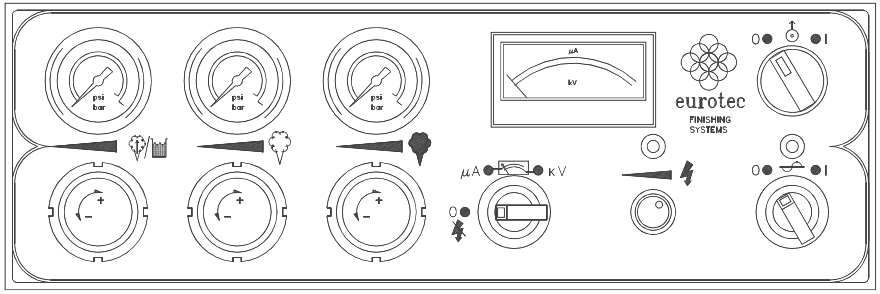
TOTAL ENERGY CONTROL

The "Total Energy Control" system developed by Eurotec is used to set the discharge energy of the spray guns corona needle up to a maximum of 85kV and 50 µA.
The maximum current generated is limited to 50 µA (as with existing current control equipment) but now both the current and voltage are reduced as the gun approaches the product. Rather than controlling just the current or the voltage the operator is now able to control the total energy output from the gun.



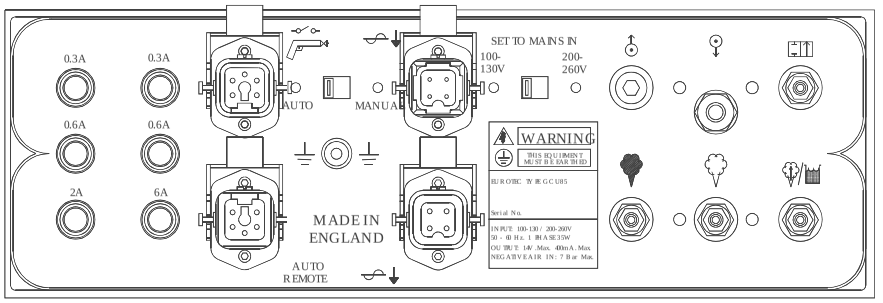
In free air, away from the influence of any earthed objects the maximum discharge current will be 20 µA when the Discharge potential is set to maximum 85 kV. As the gun is moved within one meter of the product the current starts to rise and, in tandem, the control circuit reduces the voltage. This process continues as the gun is moved closer to the product until a point is reached at which the energy is limited by the setting of the control potentiometer. At this point the Total Energy Control system rapidly reduces the energy output from the gun as it further approaches the product.
The ability to control the output energy of the gun allows the operator to take the gun right in to corners and recesses and still effectively charge powder at very low electrostatic outputs. High film builds are achieved with superior finishes and no surface disruption, whilst very significant improvements are noted in the ability to re-coat previously coated products.

Eurotec GCU-85 Gun Control Unit
Front Panel Symbols Explanation
Illustration No. 6000079



	SWITCHED AUXILLIARY AIR SUPPLY (FLUIDISED PAD AIR)
	MAINS (ELECTRICAL)
	ELECTROSTATICS
KV	KILO VOLTS
	SCALE SELECTION
μA	MICRO AMPS
	ELECTROSTATICS OFF
	POWDER DELIVERY AIR SUPPLY
	POWDER DILUTION AIR SUPPLY
	GUN, FLUID BED OR VIBRATOR AIR SUPPLY

Eurotec GCU-85 Gun Control Unit
Rear Panel Symbols Explanation
Illustration No. 6000078

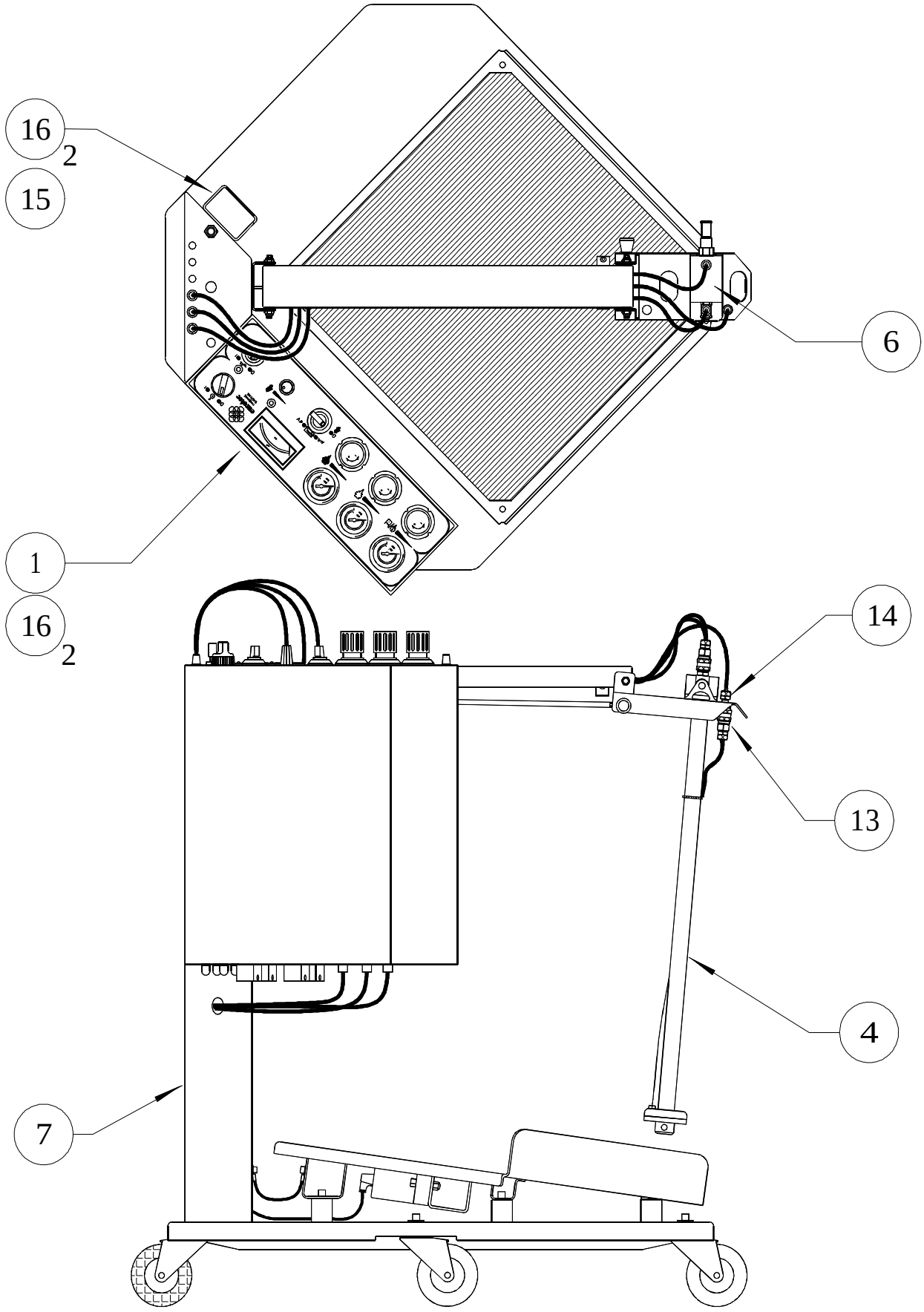


	AUXILLIARY AIR SUPPLY OUTLET (ARROW POINTS AWAY FROM CONNECTOR)
	MAINS AIR SUPPLY IN (ARROW POINTS TOWARD CONNECTOR)
	MAINS ELECTRICAL INPUT (ARROW POINTS TOWARD SOCKET)
	MAINS ELECTRICAL OUTPUT (ARROW POINTS AWAY FROM SOCKET)
100-130V 200-260V	SUPPLY VOLTAGE SELECTION
AUTO MANUAL	AUTO MANUAL SELECTION
	EARTH CONNECTION POINT
	GUN SUPPLY AND TRIGGER
AUTO REMOTE	REMOTE GUN TRIGGERING
	SWITCHED AUXILLIARY AIR OUTPUT
	POWDER DELIVERY AIR SUPPLT OUTLET
	POWDER DILUTION AIR SUPPLY OUTLET
	GUN, FLUID BED OR VIBRATOR AIR SUPPLY OUTLET

APPENDIX (i)

ASSEMBLY DRAWINGS & PARTS LISTS

C85D Manual Boxfeed Unit
Single Operator General Assembly, Part No. 5003050
Illustration No. 6000102



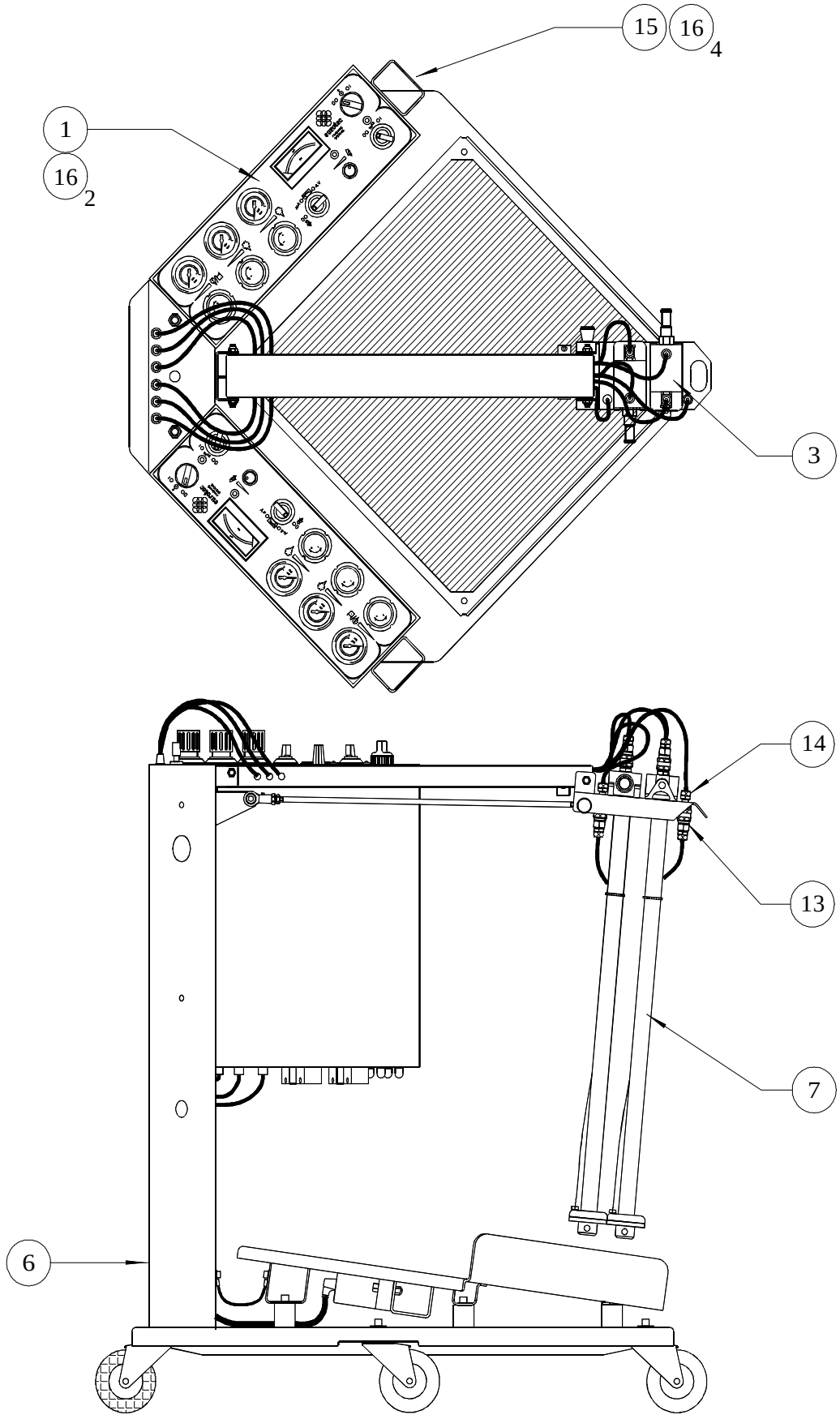
C85D (Single Operator) Manual Boxfeed Assembly

PARTS LIST

Item	Part No.	Description	Qty.
1	2020002	GCU 85D Gun Control unit	1
2	3016002	MG300 Manual Powder Gun *	1
3	2012005	Accessory Box *	1
4	5003030	Fluidising Suction Tube Assy	1
5	5000038	Mains Lead Assy *	1
6	2090027	V55T/Q Venturi Assy	1
7	5003036	Chassis Assy	1
8	9001429	Y Piece Air Fitting *	1
9	7000000	M3 Allen Key *	1
10	7000001	M4 Allen Key *	1
11	7000002	M5 Allen Key *	1
12	3016047	Hose & Cable Set, 5m *	1
13	9001506	Q.D Air Connector Female 6/4 B'HD	1
14	9001507	Q.D Air Connector Male 6/4	1
15	5003063	Gun Hook	1
16	9000650	Screw,M6x12, Skt, Btn Head, Black	2

* Not shown on this illustration

C85D2 Manual Boxfeed Unit
Double Operator General Assembly, Part No. 5003050
Illustration No. 6000103

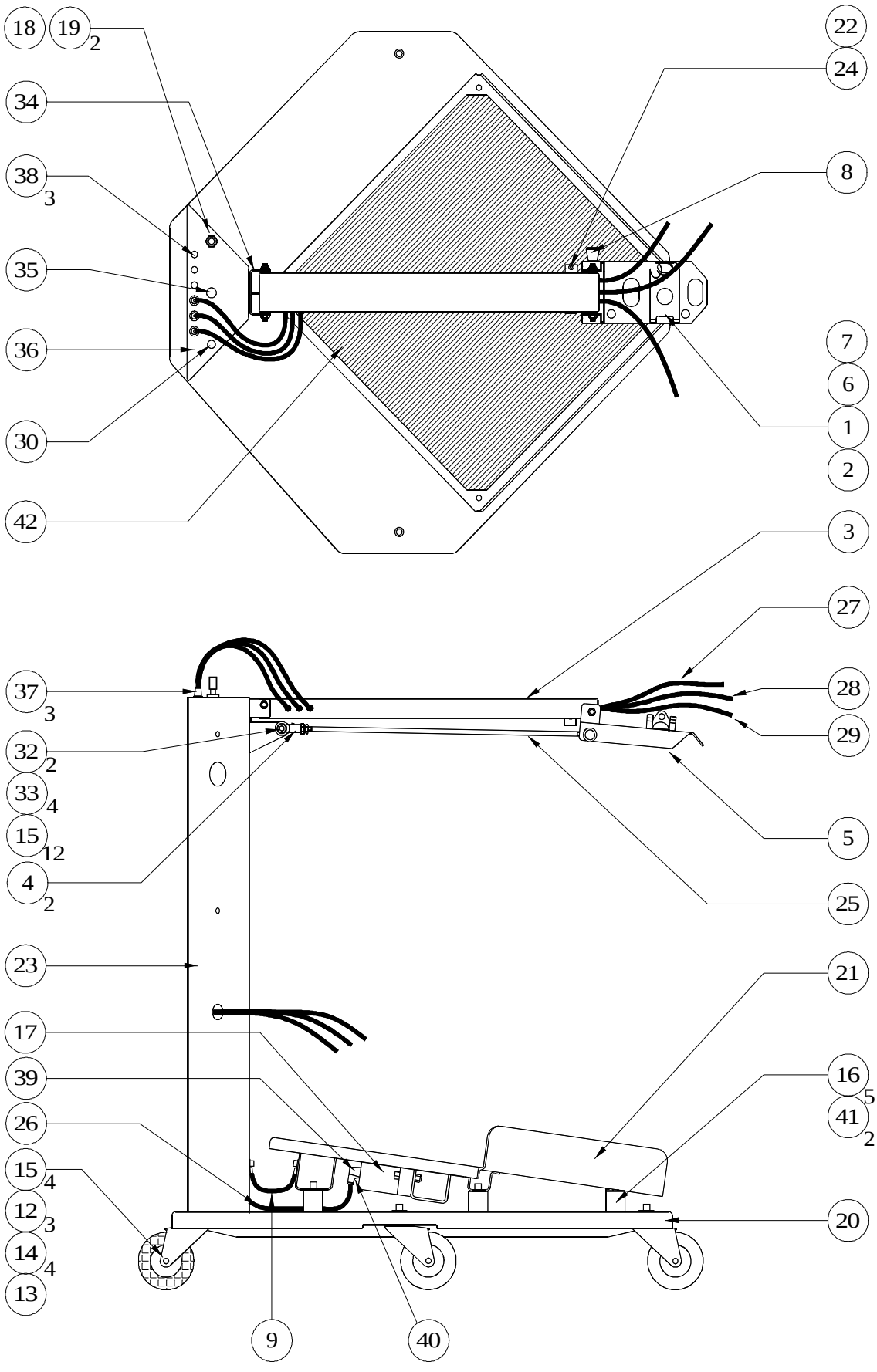


THIS VIEW SHOWN WITHOUT 2ND GCU-85 FOR CLARITY

Item	Part No.	Description	Qty.
1	2020002	Gun Control Unit	2
2	3016002	MG300 General Assy*	2
3	2090027	V55T/Q Venturi Assy	2
4	5000038	Mains Lead Assy *	1
5	2001040	Mains Interconnection Cable *	1
6	5003036	Chassis Assy	1
7	5003030	Fluidising Suction Tube Assy	2
8	9001429	Y Piece Air Fitting *	1
9	7000000	M3 Allen Keys *	1
10	7000001	M4 Allen Keys *	1
11	7000002	M5 Allen Keys *	1
12	3016047	5mtr Hose & Cable Set *	1
13	3021026	8mtr Hose & Cable Set *	1
14	9001506	Q.D Air Connector Female 6/4 B'HD	2
15	9001507	Q.D Air Connector Male 6/4	2
16	5003063	Gun Hook	2
17	9000650	Screw,M6x12, Skt, Btn Head, Black	4

* Not shown on this illustration

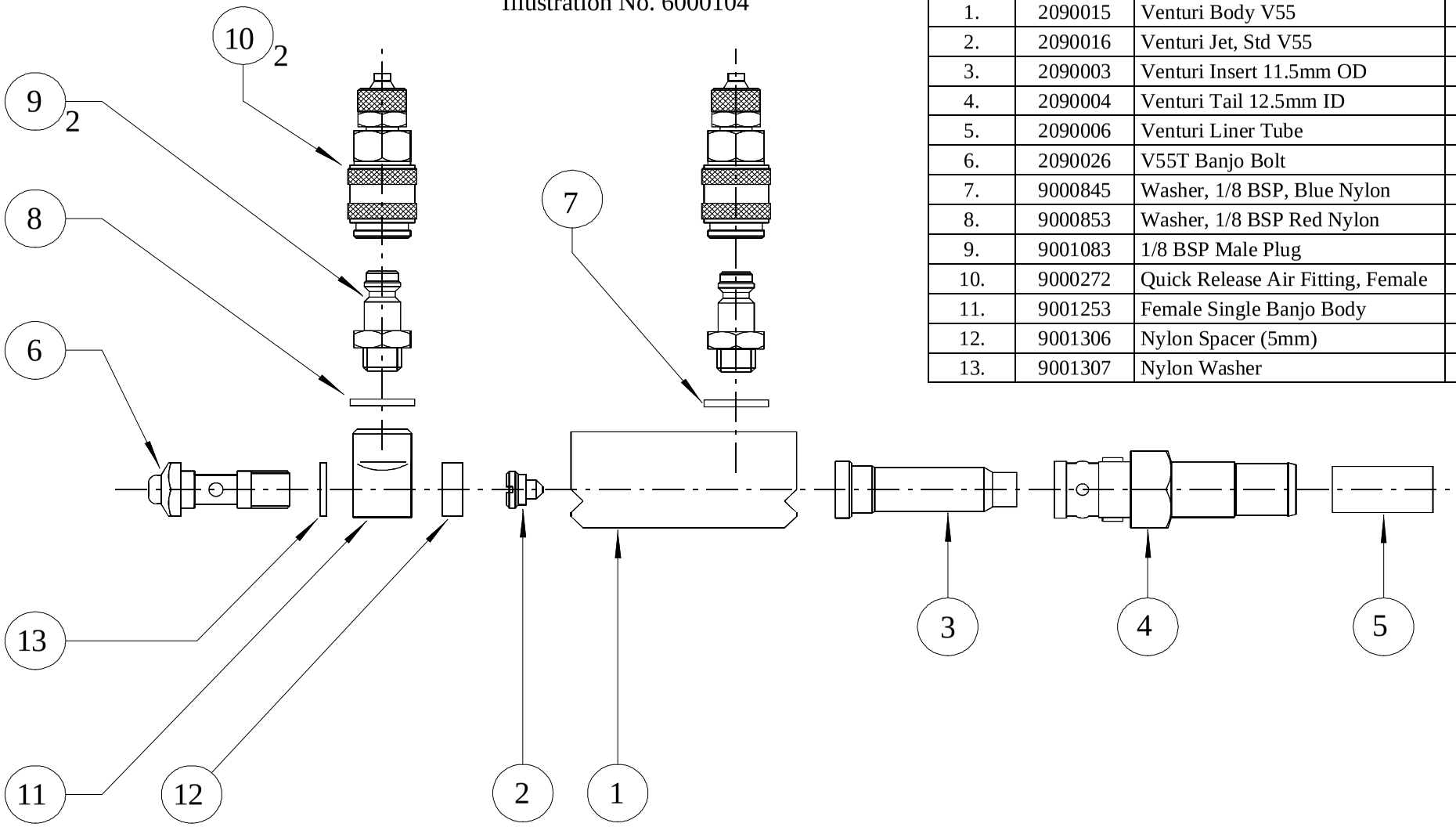
C85D Chassis Assembly
Part No. 5003036
Illustration No. 6000105



C85D Chassis Assembly
PARTS LIST

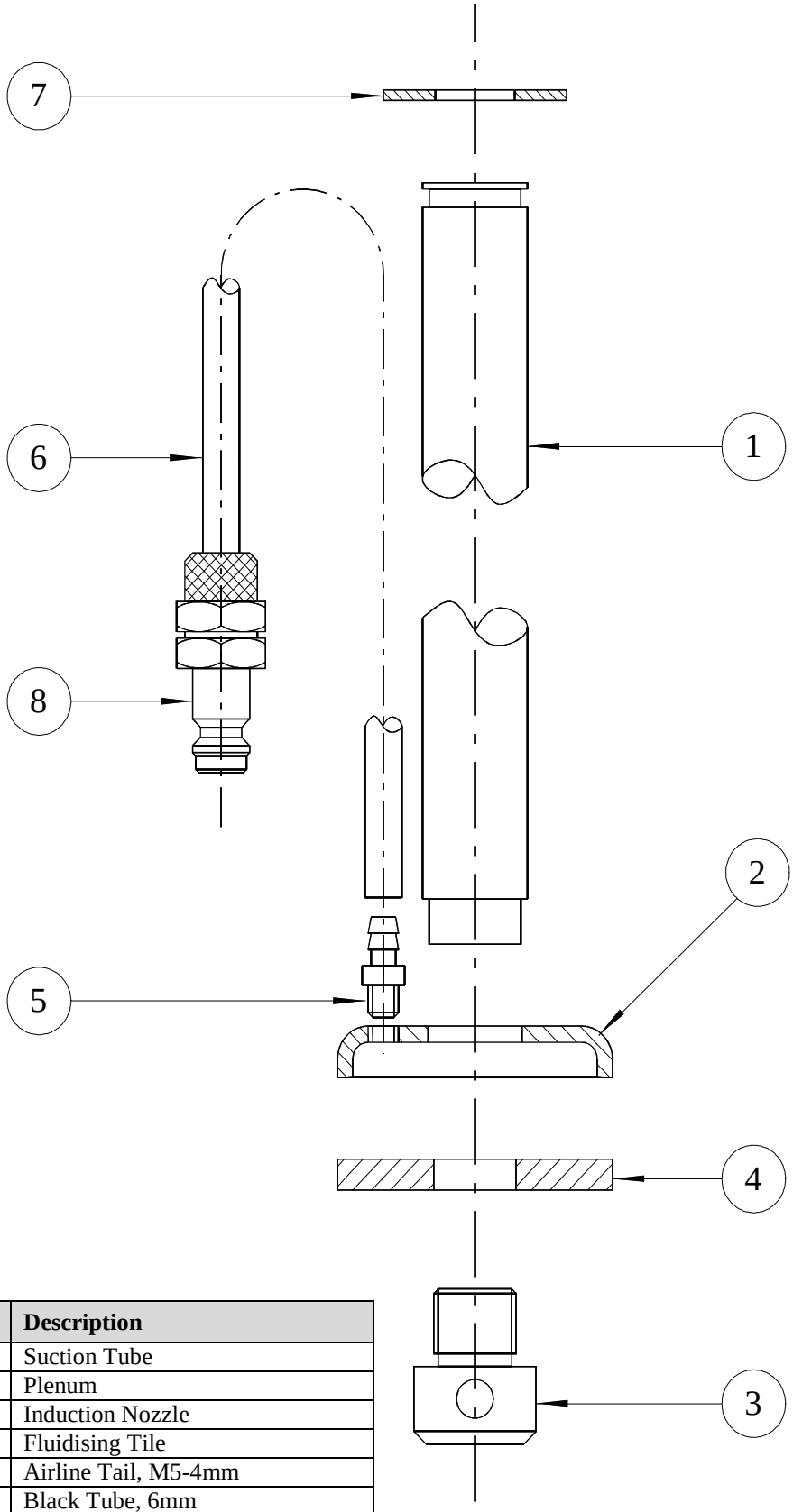
Item	Part No.	Description	Qty.
1	5000026	Venturi Spigot	1
2	2090025	Venturi Mtg Clip Tri-Point	1
3	5003071	Swinging Arm	1
4	9000354	Female Rod Ends	2
5	5003070	Venturi Mounting Brkt	1
6	5003067	Plate Venturi	1
7	5003029	Bush Venturi	1
8	9000378	Retention Plunger	1
9	9001064	Braid, Copper 30 Amp	0.15
10	9001075	OBA Eyelet	2
11	9000047	Sleeve, Rubber, H15	2
12	9000065	Castor, 75mm Dia. Rubber	3
13	9000064	Castor, 75mm Dia. Conductive Rubber	1
14	9000808	Nut, M10 Nyloc	4
15	9000757	Bolt, M10 x 30 Skt, Cap, Blk	4
16	9000355	Anti Vib Mounting 101 120 M6 M/F	5
17	9001031	Vibrator, Turbine GT25	1
18	9000363	Fluidising Regulator	1
19	9000367	Banjo Body & Bolt M5 – 6mm	2
20	5003060	Chassis Base Plate	1
21	5003062	Box Base	1
22	5003047	Support Spring	1
23	5003068	Column	1
24	5003049	Strike Plate, Safety Release	1
25	5003015	Tie Rod	1
26	9000170	Tubing 6mm OD x 4mm ID, PU. Clear	1.1
27	9000169	Tubing 6mm OD x 4mm ID, PU. Blue	2
28	9000168	Tubing 6mm OD x 4mm ID, PU. Red	2
29	9000084	Tubing 6mm OD x 4mm ID, PU. Black	2.7
30	9000360	Grommet	1
31			
32	5003016	Pivot Pin Rear	2
33	9000353	Plastic Bearing	4
34	5003065	Rear Arm Bracket	1
35	9000359	Grommet	1
36	5003069	Top Switch Plate	1
37	9000357	Sleeved Grommets	3
38	9000358	PVC Grommets, Blind	3
39	9001302	Brass Silencer	1
40	9000033	Elbow, 1/4 bspmt - 6mm OD. Tube, PI	1
41	5003031	Spacer M6 x 12	2
42	5003048	Rubber Mat, Self Adhsv	1

V55T/Q VENTURI Assembly
Part No. 2090027
Illustration No. 6000104



Item	Part No.	Description	Qty
1.	2090015	Venturi Body V55	1
2.	2090016	Venturi Jet, Std V55	1
3.	2090003	Venturi Insert 11.5mm OD	1
4.	2090004	Venturi Tail 12.5mm ID	1
5.	2090006	Venturi Liner Tube	1
6.	2090026	V55T Banjo Bolt	1
7.	9000845	Washer, 1/8 BSP, Blue Nylon	1
8.	9000853	Washer, 1/8 BSP Red Nylon	1
9.	9001083	1/8 BSP Male Plug	2
10.	9000272	Quick Release Air Fitting, Female	2
11.	9001253	Female Single Banjo Body	1
12.	9001306	Nylon Spacer (5mm)	1
13.	9001307	Nylon Washer	1

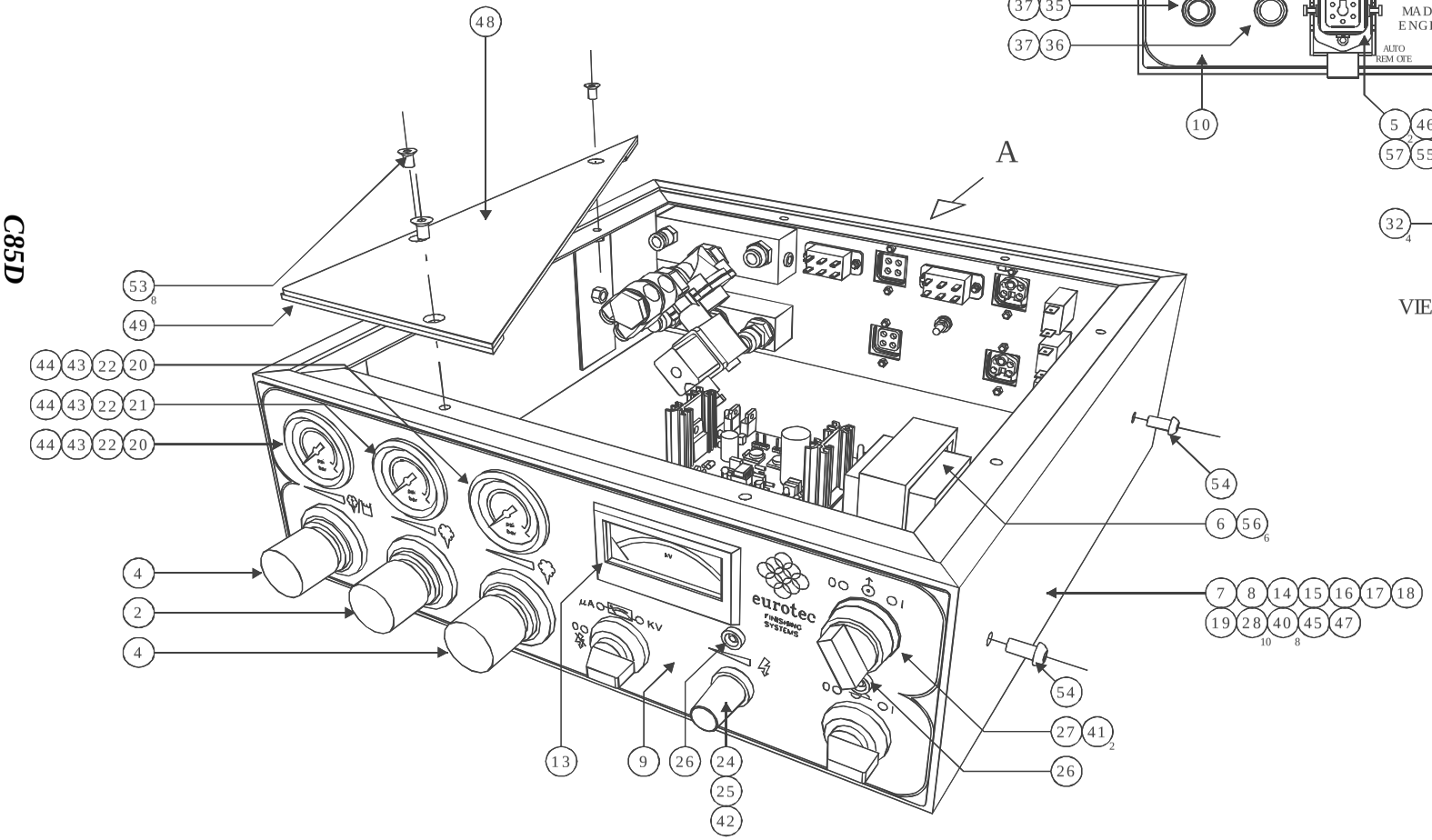
Fluidising Kit Assembly
Part No. 5003030
Illustration No. 6000051

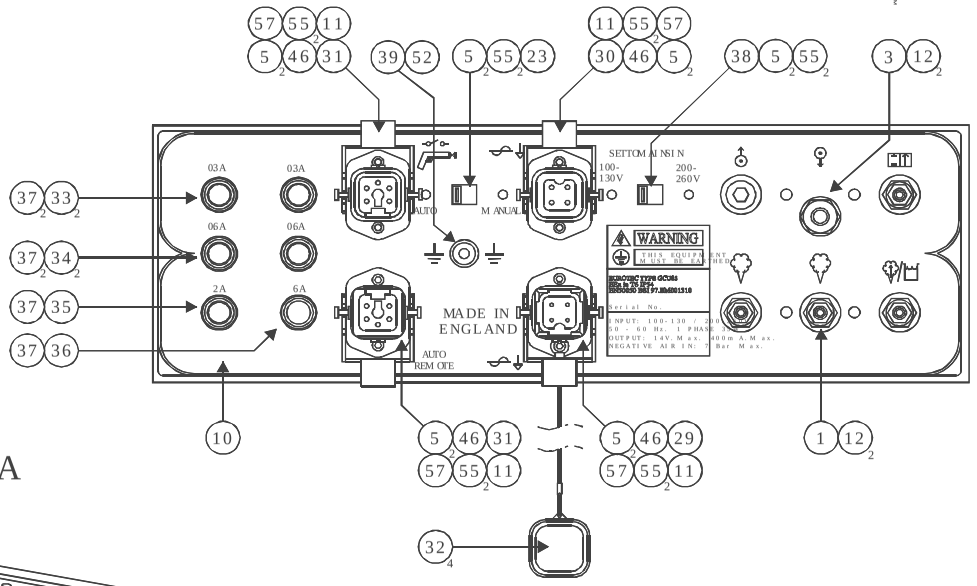


Item	Part No.	Description
1	2070026	Suction Tube
2	2070024	Plenum
3	2070023	Induction Nozzle
4	2070025	Fluidising Tile
5	9000077	Airline Tail, M5-4mm
6	9000084	Black Tube, 6mm
7	5000010	Venturi Seal
8	9001507	Quick Release Air Fitting, Male

GCU-85 Gun Control Unit
General Assembly Product No. 2020002

Illustration No. 6000080





VIEW ON "A"

GCU-85D Gun Control Unit General Assembly
PARTS LIST

Item	Part No.	Description	Qty.
1	2000007	Manifold Outlet Block Assy.	1
2	2000026	Pressure Regulator Assy, 2 Bar	1
3	2010006	Manifold Inlet Block Assy.	1
4	2010018	Pressure Regulator Assy, 4 Bar	2
5	9000500	Screw,M3x10, Skt, Cap, Black	12
6	2020006	PCB Transformer Chassis Assy.	1
7	2020007	Cableform, Mains	1
8	2020010	Case, GCU	1
9	2020011	Overlay Panel, Front	1
10	2020012	Overlay Panel, Rear	1
11	9000501	Screw,M3x6, S Stl, Pan Head	4
12	9000551	Screw,M4x8, Skt, Btn Head, Black	4
13	2020015	Meter, Electrostatic, 50uA	1
14	2020017	Trigger Lead Assy.	1
15	2020018	Solenoid Lead Assy.	1
16	2020019	Transformer Lead Assy.	1
17	2020020	Switch Lead Assy.	1
18	2020021	Potentiometer Lead Assy.	1
19	2020022	LED Lead Assy.	1
20	2020023	Pressure Gauge, 0-4 Bar	2
21	2020024	Pressure Gauge, 0-2 Bar	1
22	5000040	Disc, Porous Plastic	3
23	9001202	Switch, Slide, 2 Posn	1
24	9000002	Knob, Collet Black	1
25	9000004	Nut Cover, Black	1
26	9001428	LED Housing	2
27	9000007	Valve, Manual, 3-2 1/8 BSP	1
28	9000008	Cable Tie Base, Self Adhesive	17
29	9000011	Connector Plug, Insert 3 Pin + E	1
30	9000012	Connector Socket, Insert 3 Pin + E	1
31	9000013	Connector Socket, Insert 4 Pin + E	2
32	9000014	Connector, Protective Cover	4
33	9000015	Circuit Breaker, 0.3A	2
34	9000016	Circuit Breaker, 0.6A	2
35	9000017	Circuit Breaker, 2A	1
36	9000018	Circuit Breaker, 6A	1
37	9000019	Boot Circuit Breaker Cover	6
38	9000020	Switch, 2 Posn, Voltage Selector	1
39	9000021	Terminal, Earth Post	1
40	9000022	Cable Tie, 2.5 x 100	26

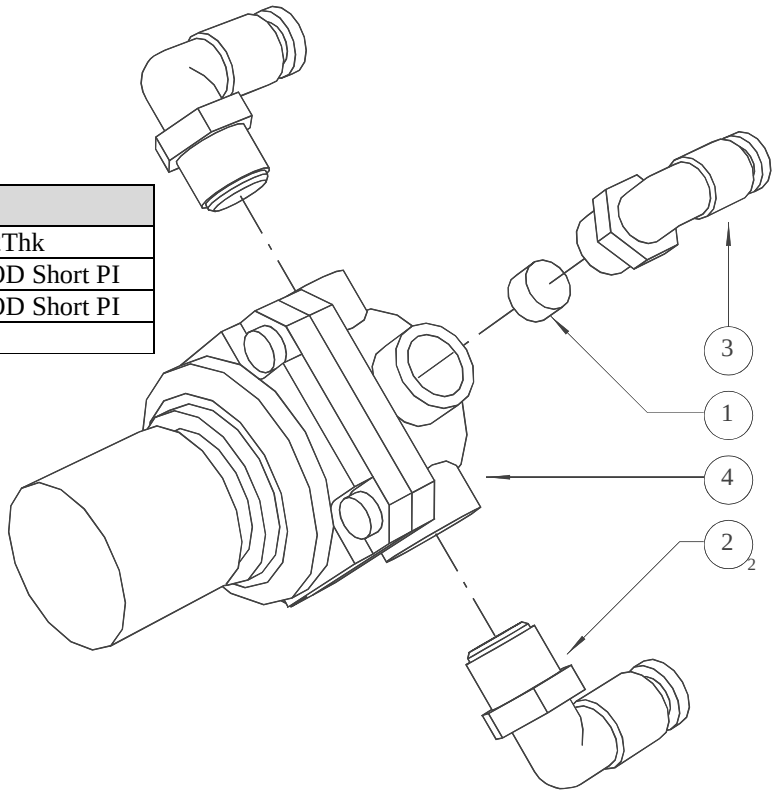
Continued:-

Item	Part No.	Description	Qty.
41	9000041	Tube, Straight, 1/8BSPMT 6mm OD, PI	2
42	9001420	Potentiometer, 10K, Cermet	1
43	9000052	Tube, Straight, 1/8BSPFT 4mm OD, PI	3
44	9000071	O-Ring, BS 009	3
45	9000084	Tubing, 6mm OD x 4mm ID, PU Black	3
46	9000120	Connector Base, Panel Mounting	4
47	9000203	Tubing, 4mm OD x 2.5mm ID, PU Black	0.4
48	2020027	Cover	1
49	9000063	Seal Strip, Foam	12
50			
51			
52	9000862	Washer, M5 Ext. Shakeproof	1
53	9000600	Screw,M5x6, Skt Head, Csnk, Black	8
54	9000650	Screw,M6x12, Skt, Btn Head, Black	2
55	9000800	Nut, M3 Nyloc	12
56	9000801	Nut, M4 Nyloc	6
57	9000832	Washer, M3 Crinkle	4

Pressure Regulator Assy 4 Bar
Part No. 2010018

Illustration No. 6000091

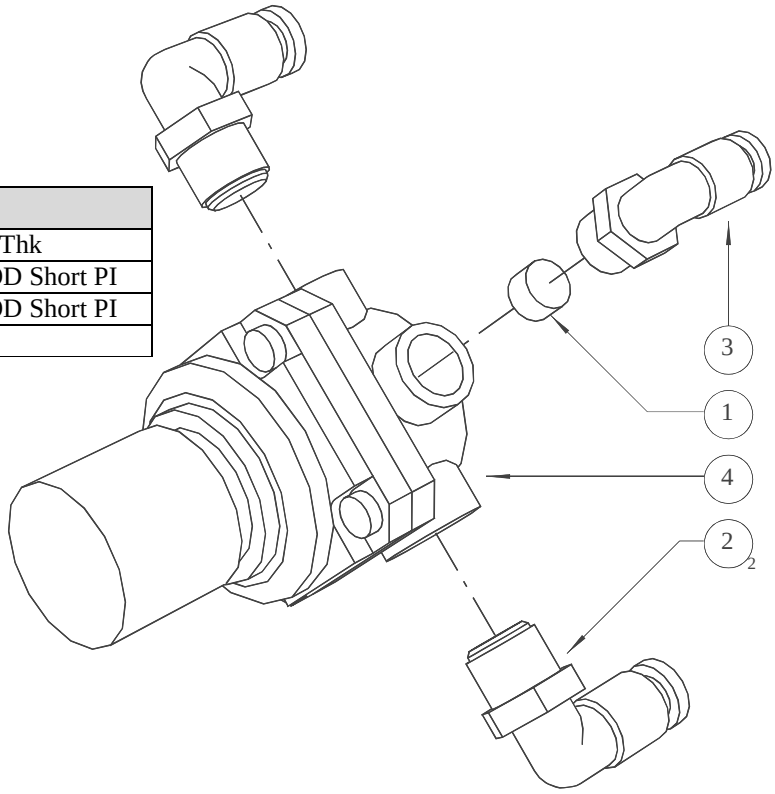
Item	Part No.	Description
1	5000050	Disc Porous Plastic 8 x 3.2Thk
2	9000033	Elbow, 1/4BSPMT 6mm OD Short PI
3	9000062	Elbow, 1/8BSPMT 4mm OD Short PI
4	9000112	Pressure Regulator, 4 Bar



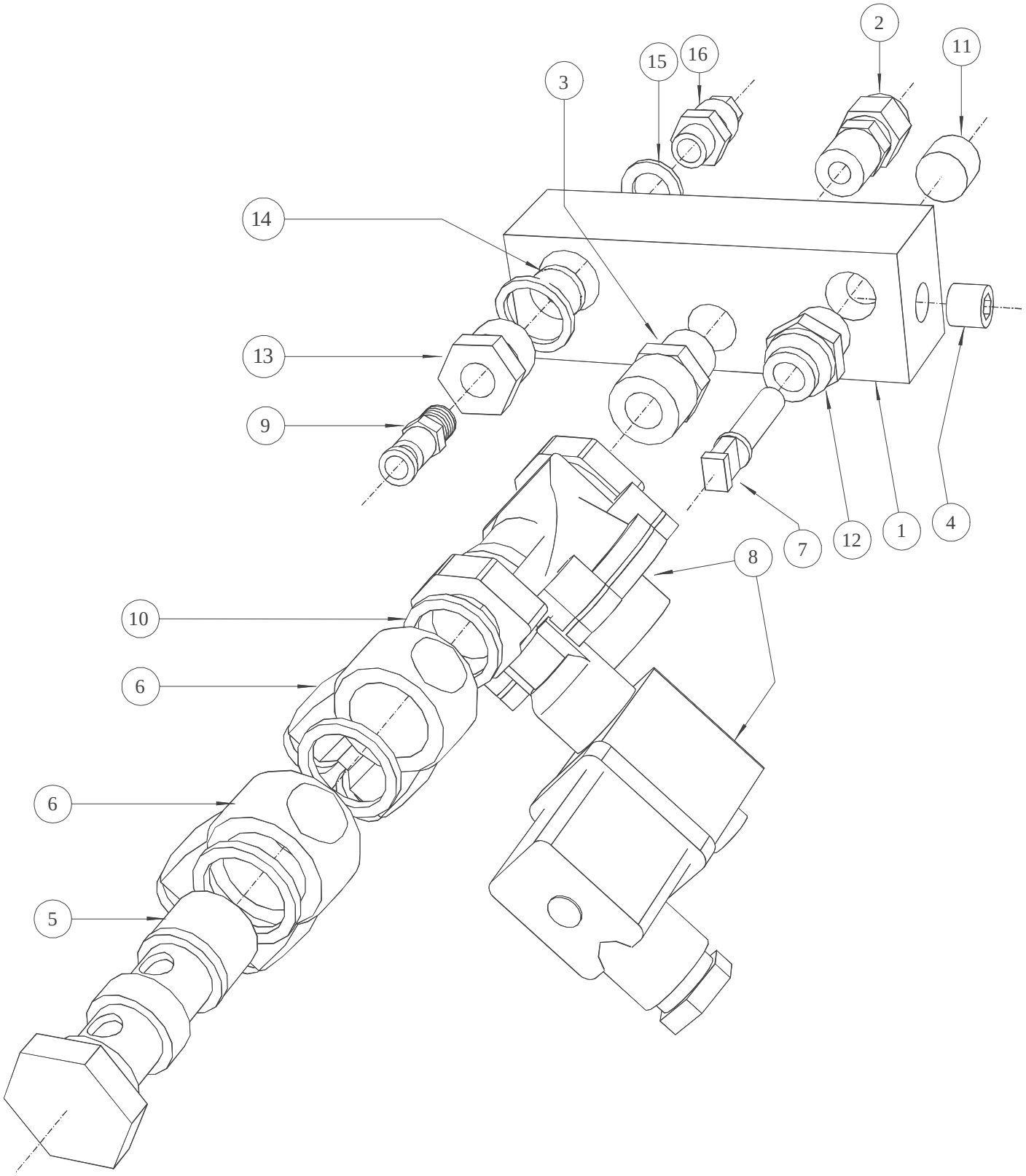
Pressure Regulator Assy 2 Bar
Part No. 2000026

Illustration No. 6000090

Item	Part No.	Description
1	5000050	Disc Porous Plastic 8 x 3.2Thk
2	9000033	Elbow, 1/4BSPMT 6mm OD Short PI
3	9000062	Elbow, 1/8BSPMT 4mm OD Short PI
4	9000111	Pressure Regulator, 2 Bar



Manifold Inlet Block Assy
GCU-85, Part No. 2010006
Illustration No. 6000088

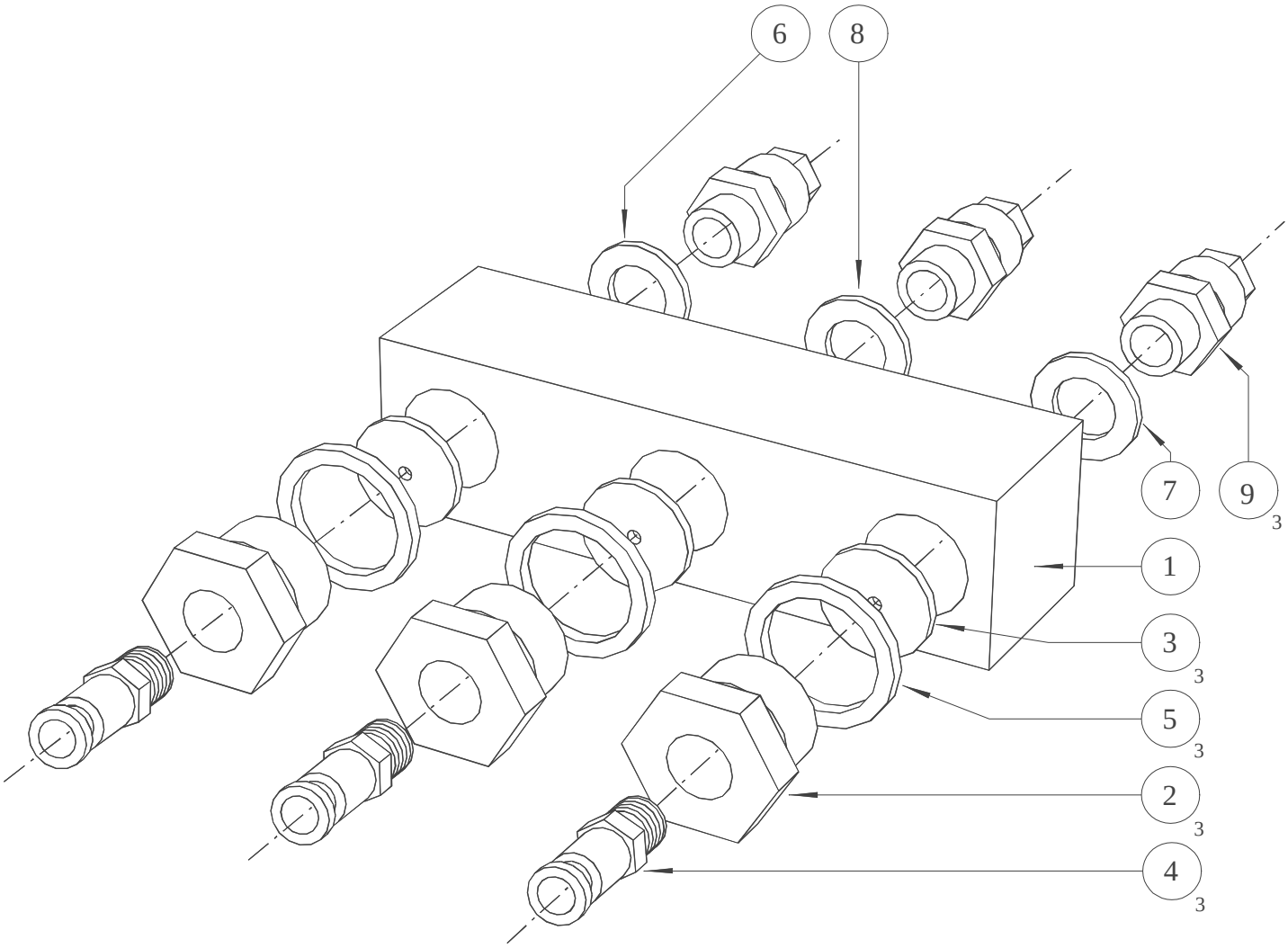


Manifold Inlet Block Assy
PARTS LIST

Item	Part No.	Description
1	2000019	Manifold Inlet Block Detail
2*	9000030	Straight, 1/4BSPMT-8mm OD PI
3	9000032	Straight, 1/4BSPMT 3/8BSPMT
4	9000034	Blank, 1/8BSPMT, Hex. Skt Head
5	9000035	Banjo Bolt, Double 3/8BSP PI
6	9000036	Banjo Body, Double 3/8BSP 2x6mm PI
7	9000037	Blank, 6mm OD PI
8	9000038	Valve, Solenoid, 2-2, 3/8BSP, 24V DC
9	9000041	Straight, 1/8BSPMT 6mm OD Tube PI
10	9000042	Washer, Sealing, 3/8BSP, Nylon
11	9000073	Blank, 1/4BSPMT, Hex. Skt.
12	9000105	Straight, 1/4BSPMT 6mm OD Tube PI
13	2000031	Valve, Non Return
14	2000037	Seal, Non Return Valve
15	9000855	Washer, 1/8BSP Nylon
16	9001405	Straight, 1/8BSPMP-6mm OD Tube Rapid

* For Boxfeed & Hopper GCU's This Item = 9000029 Straight, 1/4BSPMT OD CF

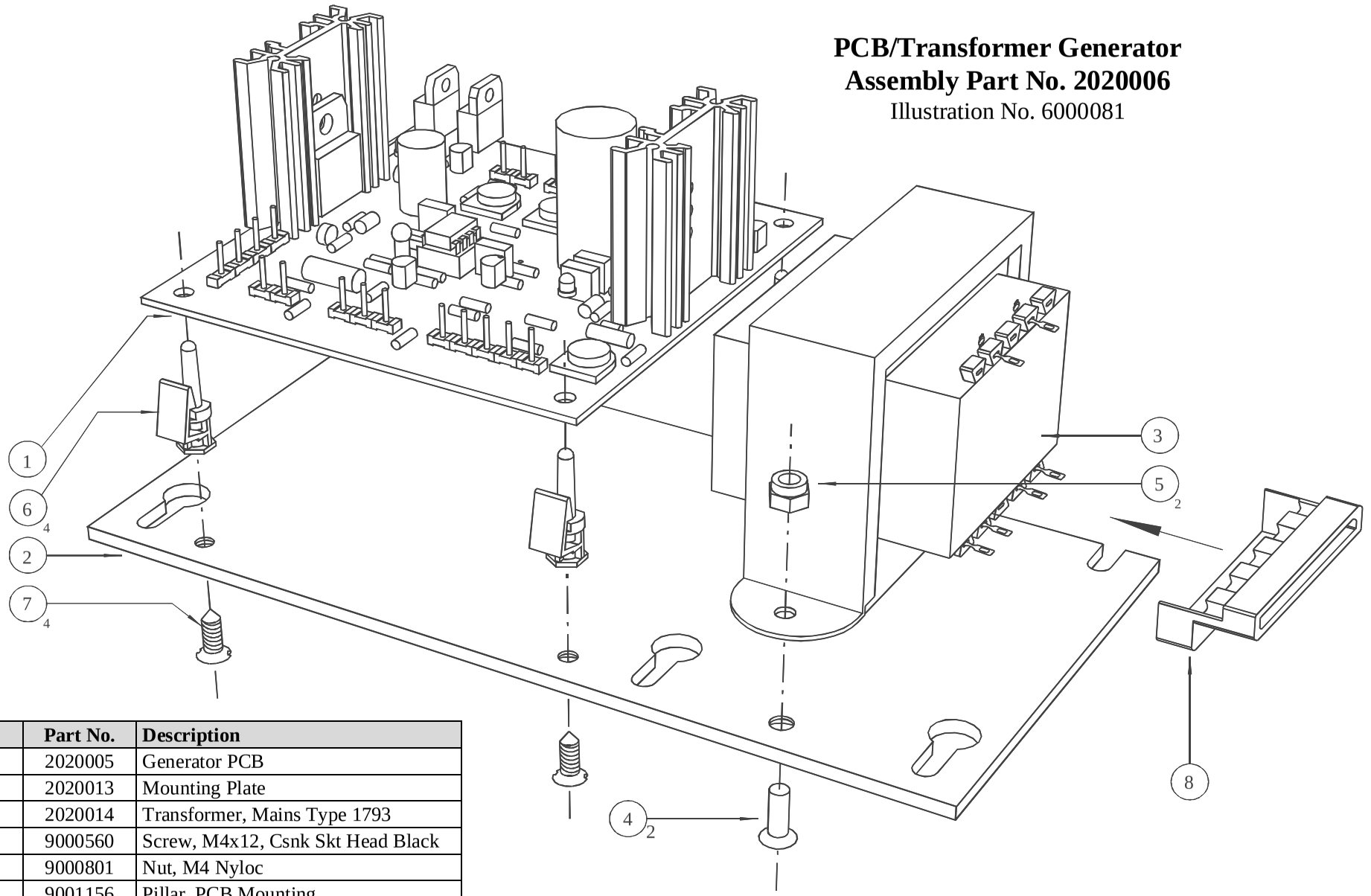
Manifold Outlet Block Assy
GCU-85, Part No. 2000007
Illustration No. 6000089



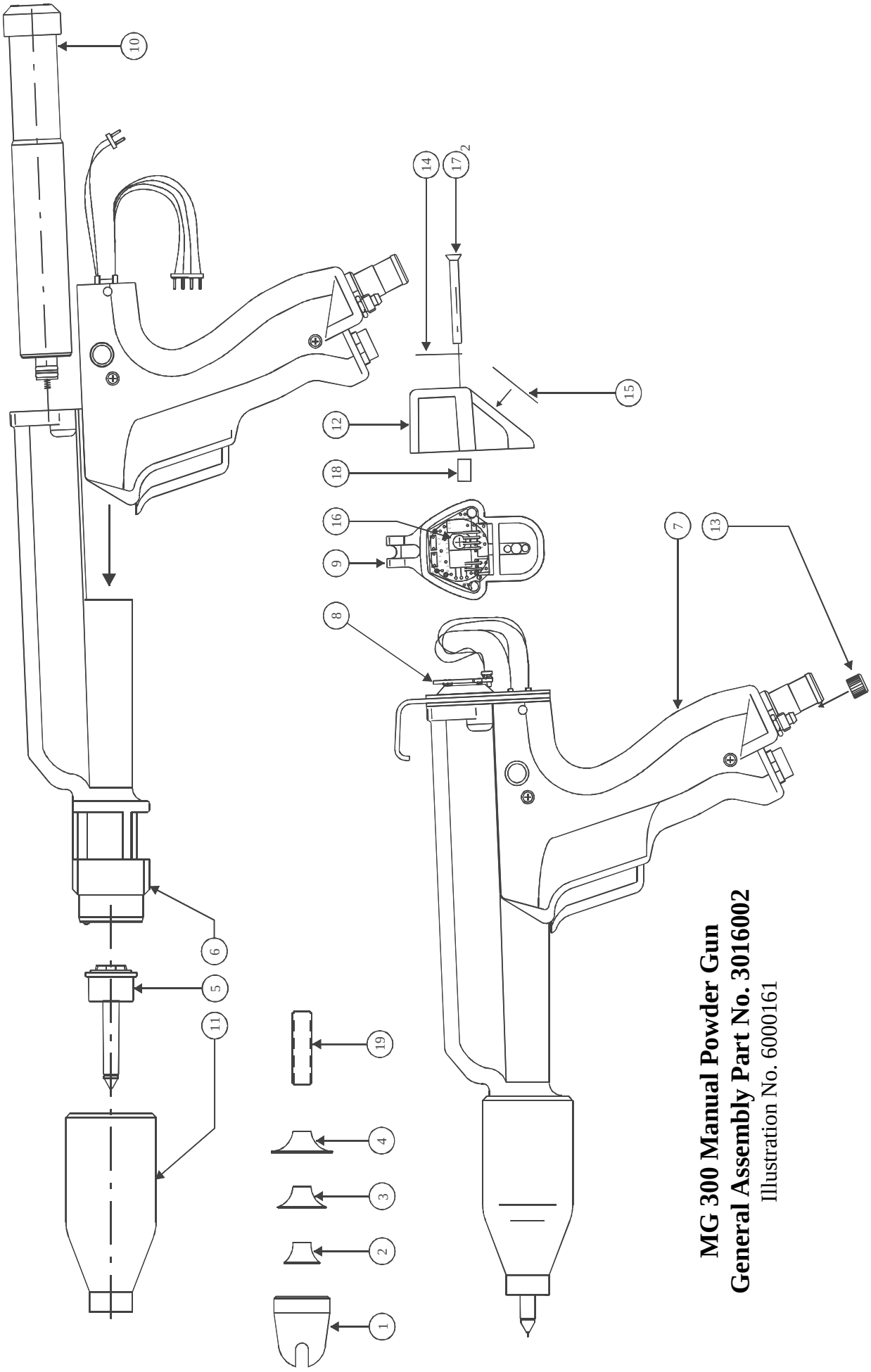
Item	Part No.	Description
1	2000018	Manifold Outlet Block
2	2000031	Valve, Non Return
3	2000037	Seal, Non Return Valve
4	9000041	Straight, 1/8BSPMT 6mm OD Tube PI
5	9000042	Washer, Sealing, 3/8BSP, Nylon
6	9000852	Washer, 1/8BSP Nylon, White
7	9000854	Washer, 1/8BSP Nylon, Red
8	9000855	Washer, 1/8BSP Nylon, Blue
9	9001405	Straight, 1/8BSPMP-6mm OD Tube Rapid

PCB/Transformer Generator
Assembly Part No. 2020006

Illustration No. 6000081



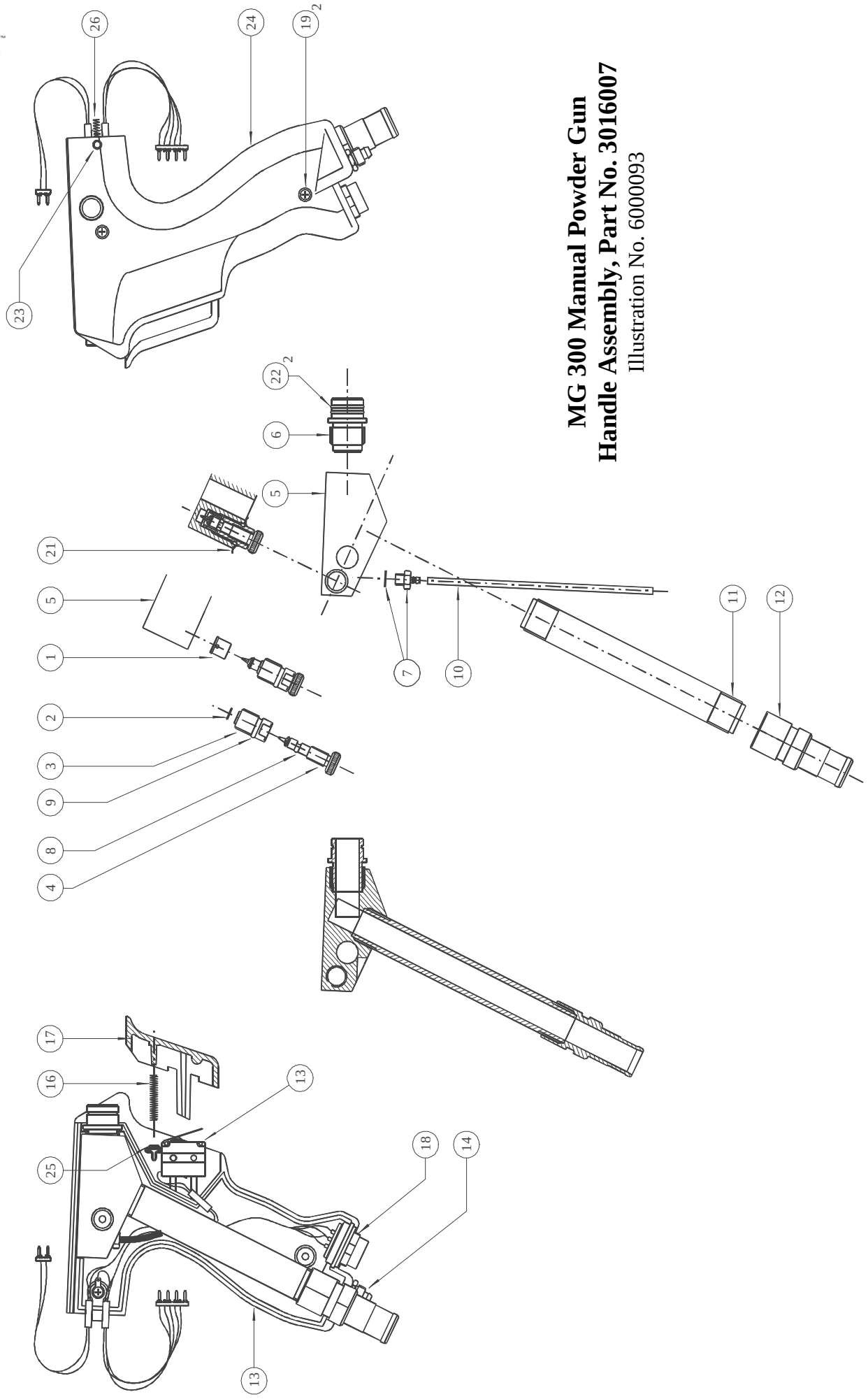
Item	Part No.	Description
1.	2020005	Generator PCB
2.	2020013	Mounting Plate
3.	2020014	Transformer, Mains Type 1793
4.	9000560	Screw, M4x12, Csnk Skt Head Black
5.	9000801	Nut, M4 Nyloc
6.	9001156	Pillar, PCB Mounting
7.	9000545	Screw No. 8G x 9, 5Lg, Self Tapping
8.	9001492	Cover Terminals



MG 300 Manual Powder Gun
General Assembly Part No. 3016002
Illustration No. 6000161

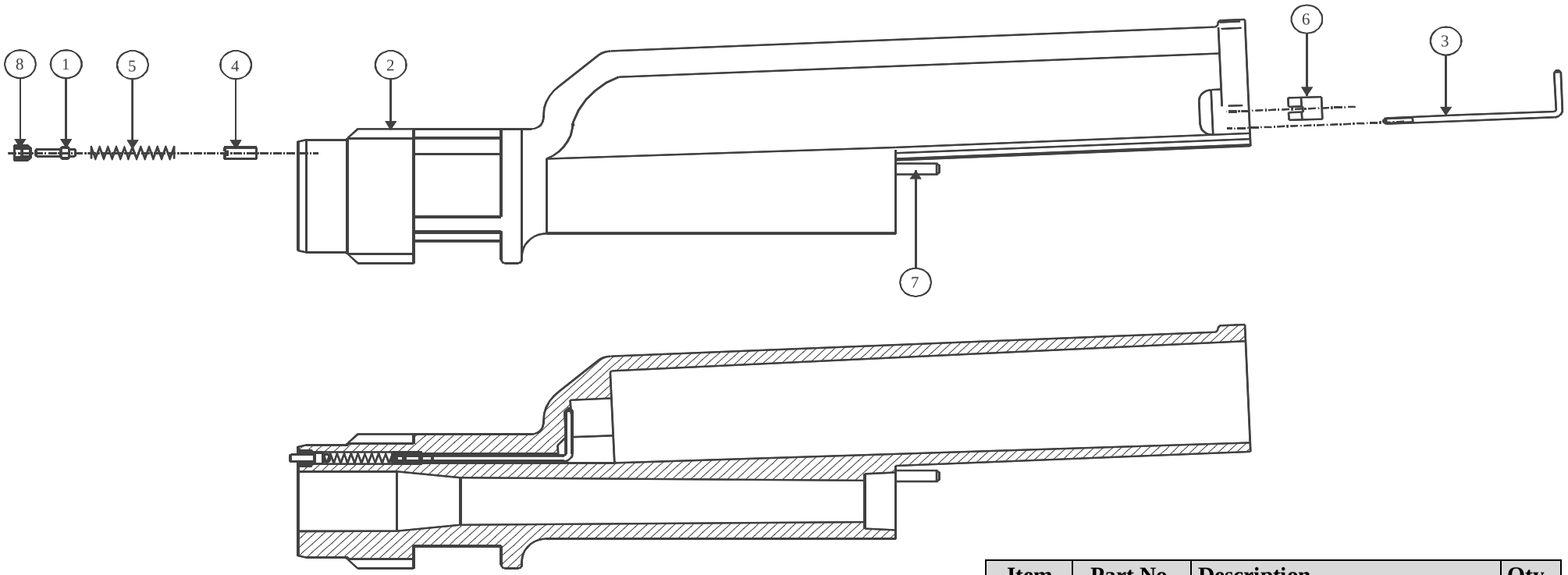
Item	Part No.	Description	Qty.
1	3016187	Slotted Cap Assy	1
2	3015047	Deflector Assy, Small	1
3	3015048	Deflector Assy, Medium	1
4	3015049	Deflector Assy, Large	1
5	3016185	Electrode Assembly	1
6	3016006	Barrel Assembly	1
7	3016007	Handle Assembly	1
8	3016008	Oscillator PCB Assy	1
9	3016010	Gun Hook Assembly	1
10	3016011	HV Multiplier Assembly	1
11	3016186	Nozzle Nut Assembly	1
12	3016027	Rear Cap	1
13	3016034	Air Connector Nut	1
14	3016042	Label, Type	1
15	3016083	Label, Rating	1
16	9000512	Screw, M3 x 8, Pozi Pan Head	1
17	9000571	Screw, M4 x 40, Ctsk skt head Blk	2
18	3016063	Locating Bush PCB	2
19	3016182	Electrode Sleeve	1

MG 300 Manual Powder Gun
Handle Assembly, Part No. 3016007
Illustration No. 6000093



MG 300 GUN Handle Assembly
PARTS LIST

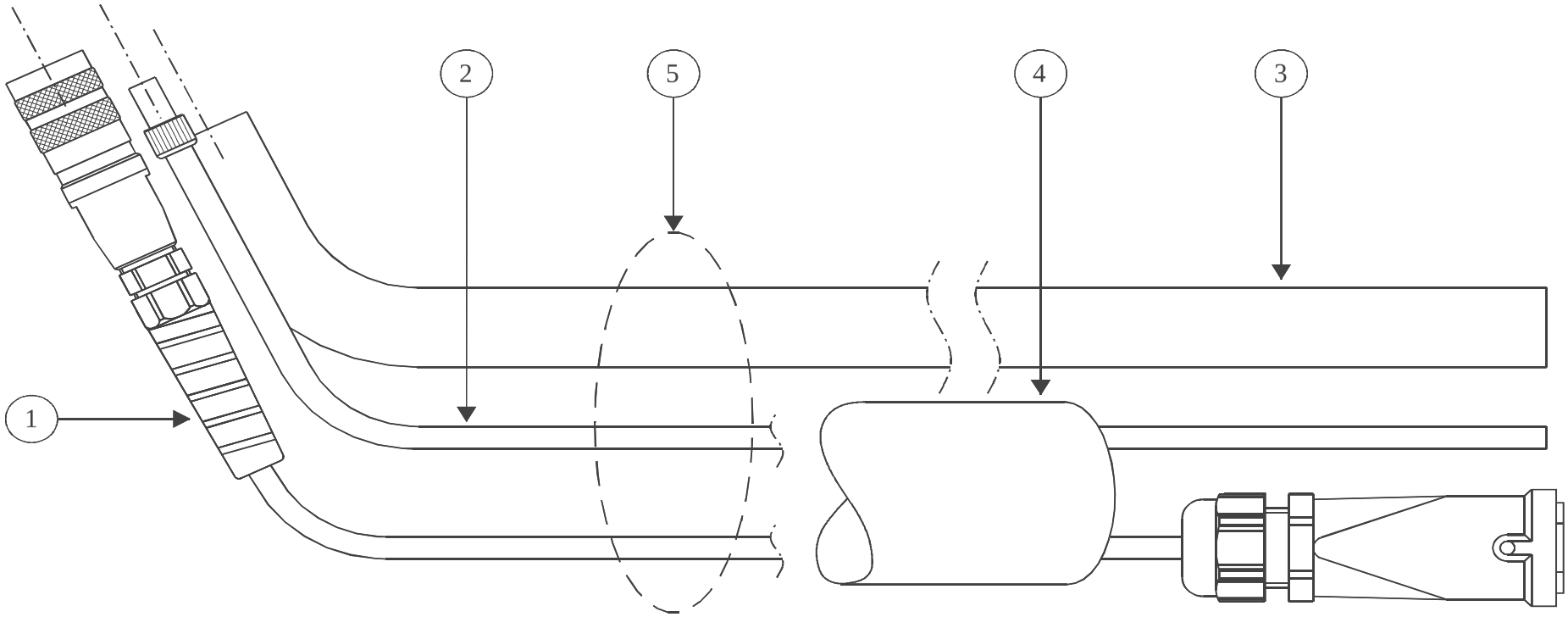
Item	Part No.	Description	Qty.
1	3016032	Air Regulator Orifice	1
2	9001379	Circlip	1
3	3016023	Air Regulator Body	1
4	3016022	Air regulator Needle	1
5	3016029	Powder Elbow	1
6	3016020	Powder Bore Insert	1
7	9001380	Air Fitting	1
8	9001376	O-Ring, 2.2x1.6	1
9	9001328	O-Ring, BS No. 011	1
10	9001378	3mm Airline	0.115
11	3016028	Powder Tube	1
12	3016031	Powder Tail	1
13	3016060	Handle Moulding, Left Hand Side	1
14	3016033	Air Fitting	1
15	3016045	Microswitch Assembly	1
16	9001375	Spring, Compression	1
17	3016018	Trigger Moulding	1
18	3016044	Connector Assembly	1
19	9000513	Screw, M3x20, Slt Csk Hd, Black	2
20	9000510	Screw, M3x6, Pan Head	1
21	3016062	Washer, Conductive, Plastic	1
22	9001377	O-Ring, 13.0x1.0	1
23	9001434	M3 Threaded Brass Insert	5
24	3016026	Handle Moulding, Right Hand Side	1
25	9000318	O-Ring, BS.007	1
26	9000375	Spring Compression	1



AG/MG 300 Powder Guns
Barrel Assembly, Part No. 3016006

Illustration No. 6000094

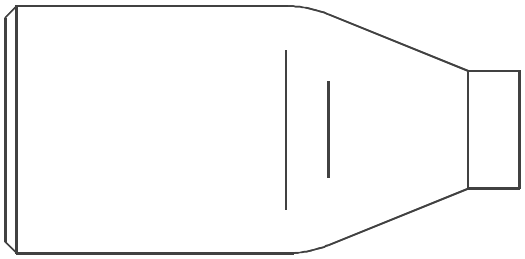
Item	Part No.	Description	Qty
1.	3015024	HT Contact Pin	1
2.	3016057	HT Barrel Type 85	1
3.	3016038	HT Contact Rod	1
4.	3016039	HT Contact Nut	1
5.	9001375	Spring, Compression	1
6.	9001435	Insert, Threaded	2
7.	3021022	Air Connection Pin	1
8.	3016013	HT Pin Retaining Screw	1



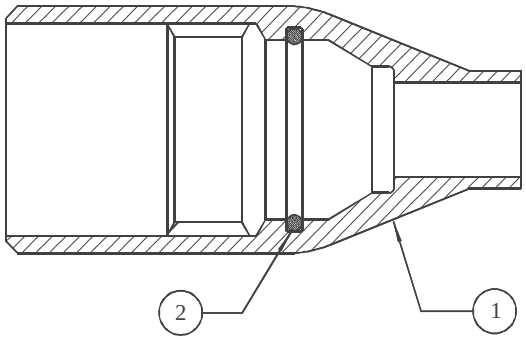
5m Hose & Cable Set General Assembly
Product No. 3016047
Illustration No. 6000049

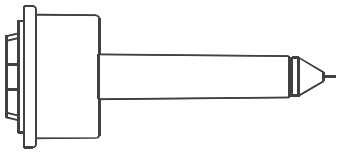
Item	Part No.	Description
1.	3016046	Cable Assembly
2.	9000084	Tubing, 6mm OD x 4mm ID, PU, Black
3.	9000081	Powder Hose Black
4.	9001436	Sleeving, Black
5.	9000256	Velcro, Double Sided

Nozzle Components
Automatic & Manual Powder Guns
Illustration No. 6000164

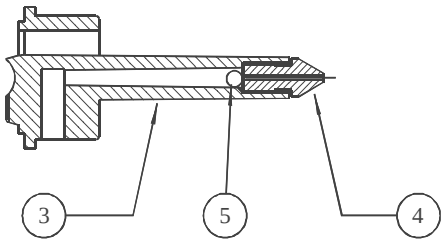


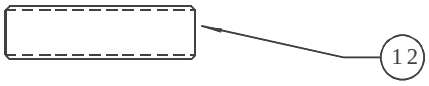
NOZZLE NUT ASSEMBLY Pt.No.3016186



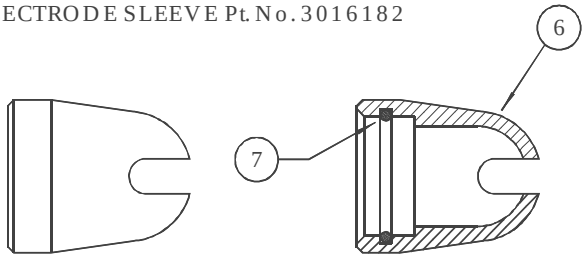


ELECTRODE ASSEMBLY Pt.No.3016185

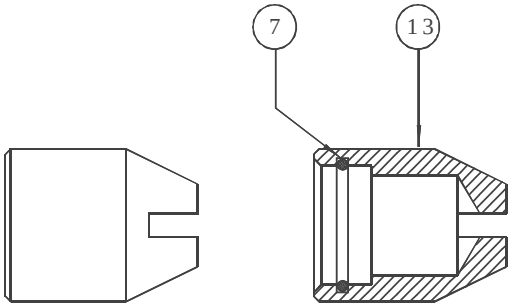




ELECTRODE SLEEVE Pt.No.3016182

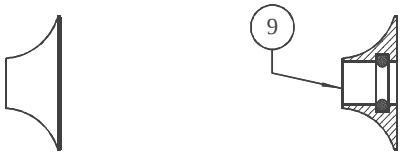


SLOTTED CAP ASSEMBLY (Manual Gun) Pt.No.3016187

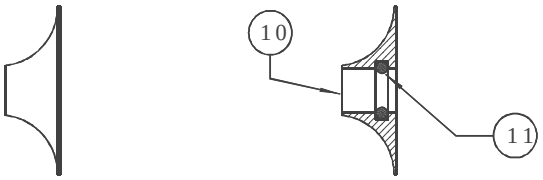


SLOTTED CAP ASSEMBLY (Auto Gun) Pt.No.3021

DEFLECTOR ASSEMBLY, SMALL Pt.No.3015047



DEFLECTOR ASSEMBLY, MEDIUM Pt.No.3015048



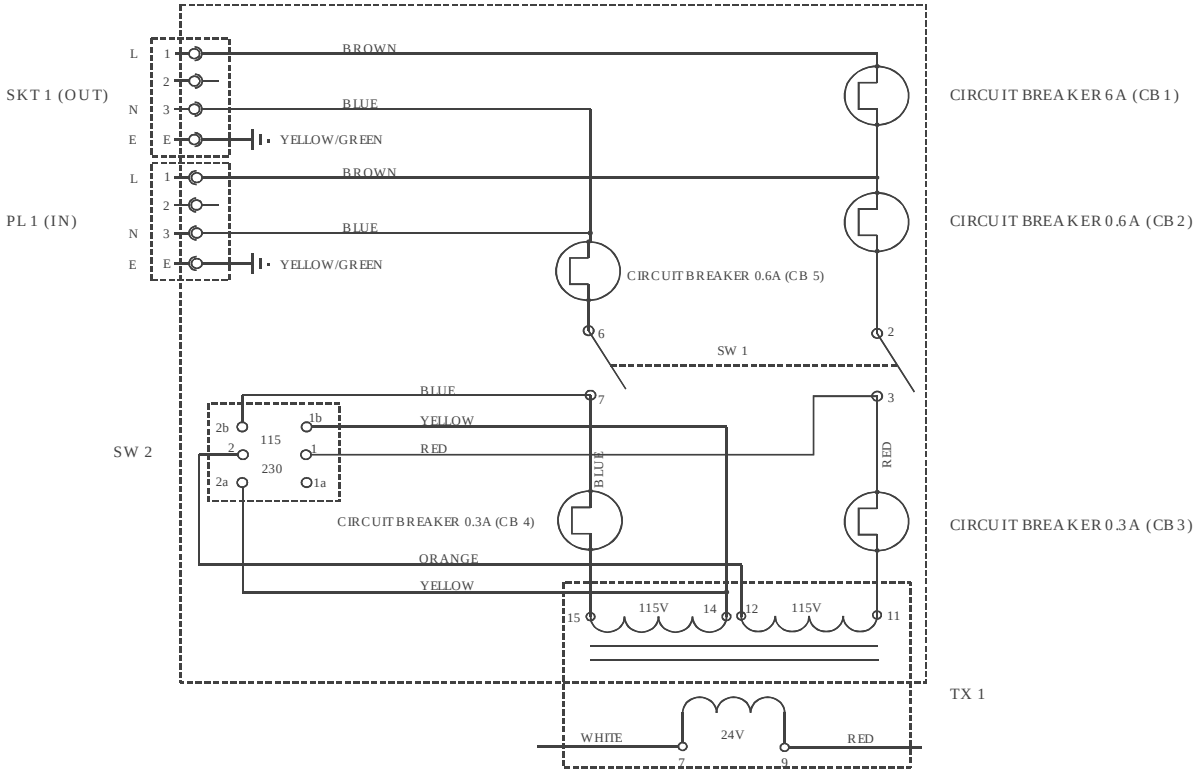
DEFLECTOR ASSEMBLY, LARGE Pt.No.3015049

Item	Part No.	Description
1	3016170	Nozzle Nut
2	9001330	O-Ring
3	3016158	Moulded Electrode
4	3016171	Electrode Support
5	3016172	Electrode
6	3016173	Slotted Cap (Manual Gun)
7	9001423	O-Ring
8	3015037	Deflector, Small
9	3015038	Deflector, Medium
10	3015039	Deflector, Large
11	9001422	O-Ring BS No. 11
12	3016182	Electrode Sleeve
13	3021082	Slotted Cap (Auto Gun)

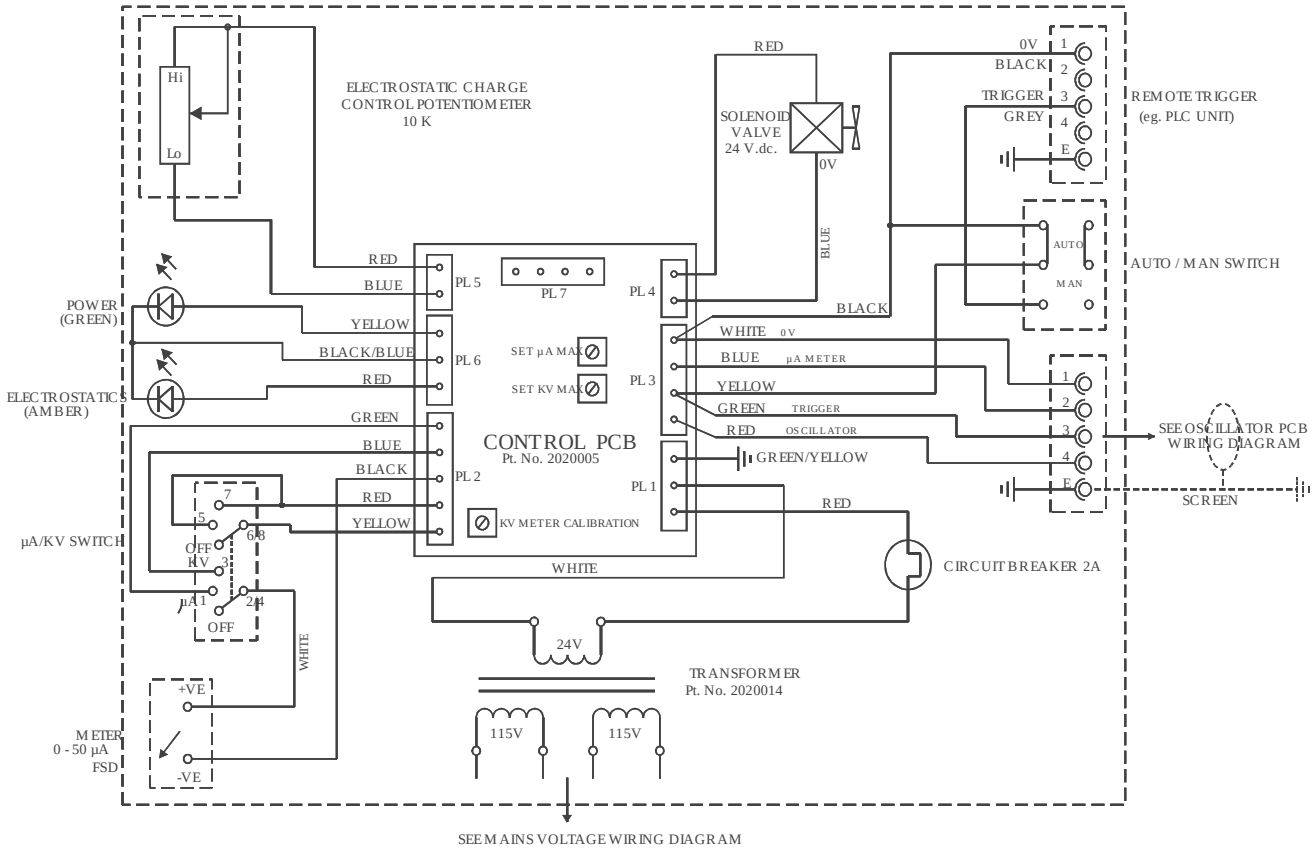
APPENDIX (ii)

SCHEMATIC DIAGRAMS

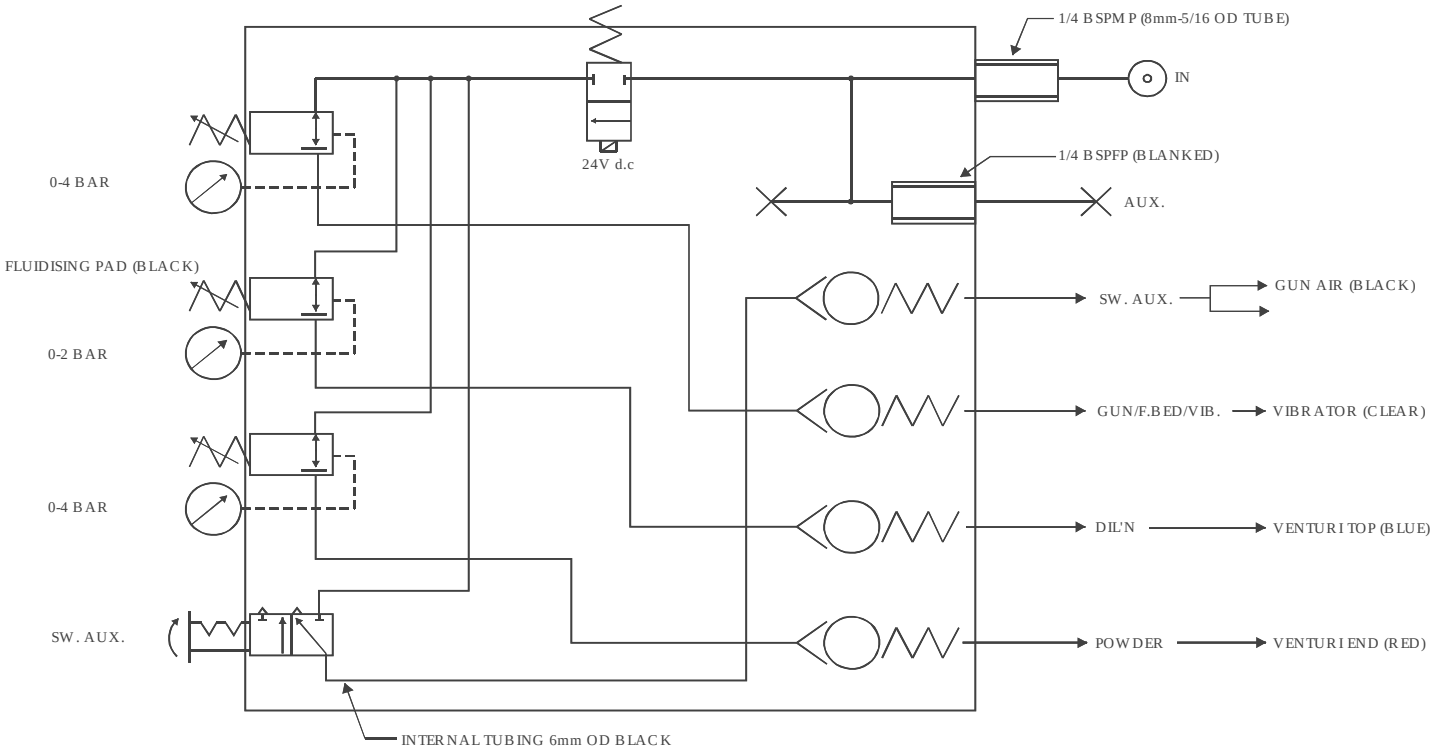
Gun Control Unit
Mains Voltage Wiring Diagram
Illustration No. 6000082



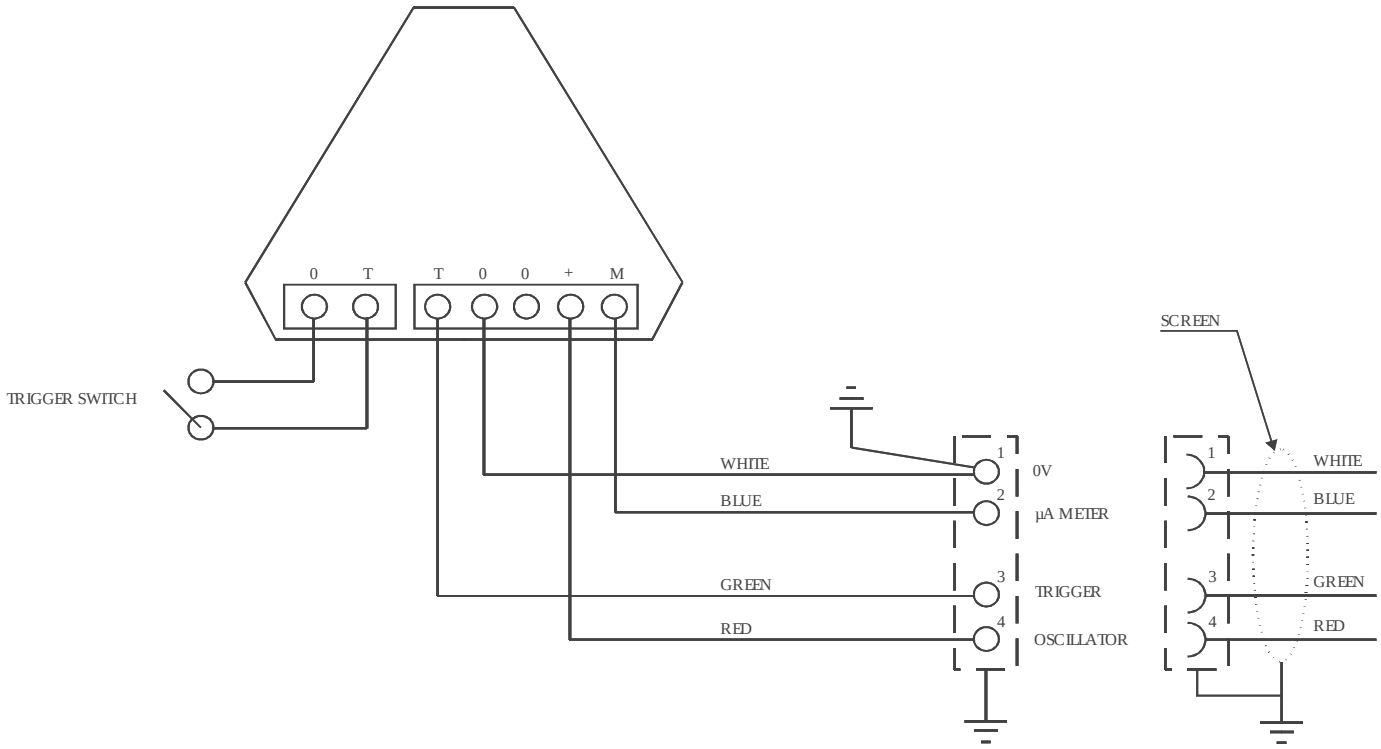
Gun Control Unit
Low Voltage Wiring Diagram
Illustration No. 6000083



Boxfeed Gun Control Unit
Pneumatic Diagram
Illustration No. 6000099



Manual Powder Gun
Wiring Diagram, Oscillator PCB
Illustration No. 6000084



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