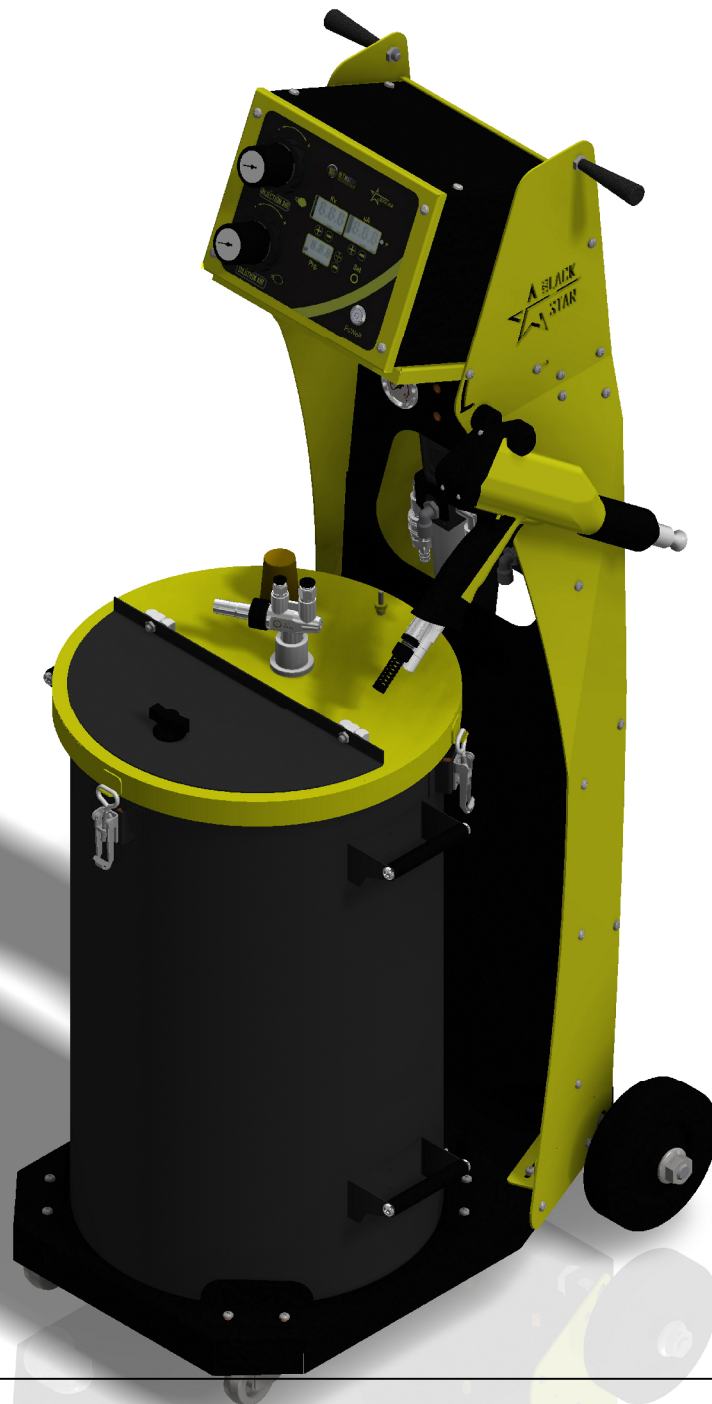




BLT MAKINE

BLACK STAR POWDER COATING UNIT and GUN



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OPERATION AND CONTROL

The powder in the powder hopper is fluidised by the admission of air under the fluidised bed plate.

The turbulence air regulator , above which the control manometer is positioned, allows fluidisation control.

Suction plunger (Injector) fitted to the top of the hopper sucks in the turbulence powder and transfer it to the gun.

- Air regulator for the plunger injection air. This air controls the quantity of powder projected.
- Air regulator for the plunger dilution air. This air enables the powder transported correctly.
- Each air regulator is fitted with a control manometer.

When switching on the power pack the high voltage in the **BLACK STAR** gun is activated at the same time the powder and air supply to the gun are set free. The high voltage builds up on electrical field between the gun and the earthed work piece.

The outgoing powder / air mixture is electrostatically charged by the high electrical potential at the electrode . The deflector plate and the atomizing air produce an adjustable powder cloud.

Power pack the mains supplies **220 V 50 Hz** an input transformer which is connected to a medium frequency oscillator.

The Low Voltage cable from the power pack **0-12 V** connected to the gun.

BASIC powder coating installations are built according to the highest safety requirements.

There is a short – circuit protection when the electrode approaches the work piece, the control module automatically reduces the amount of high voltage to a nondangerous value

ADVICE ON USE

*Earthing

Perfect earthing of the work pieces is premise for perfect powder coating incorrect earthing leads to:

- Very lean wrap-around
- Non - uniform coating
- Back - spraying of powder on gun operator.
- Dangerous electrical charging

*Premises for perfect earthing and coating

- The works-pieces to be coated should be connected to the earth terminal of the electrostatic generator. It is therefore advisable to clean the hangers for the parts regularly so as the assure good contact.
- The earthing resistance of the work-piece must not exceed **1 MegaOhm**.
- Perfect earthing of the coating booth with **10 mm²⁺** copper line.

*Powder booth

The PRIME HOPPER powder unit is used with a powder with a suction system and a powder recovery system.

Ventilation of the spraying booth ensure correct air throughput:

The powder / air mixture concentration of **10 g/m³** for unproved powder may not exceeded in any part of booth.

- The floor of working area must be electrostatically conductive. (**5 m**) around of booth must be earthed)
- All persons within the working range must wear electrostatically conductive shoes.
- If the person use gloves ensure that the palm areas are cut out.

*Powder

A powder which binds causes blocking up take sample of powder and compress it in the palm of hand. If it binds together tightly, the powder is likely to block the pipe the or the nozzle.

So concern humidy in powder and ensure recovery powder should be sieved.

*The plunger, hose and gun should be cleared with blowing air after each shift.

*The venturi pieces of injector may wear out after a certain time owing to abrasion by the powder. The wear depends on the powder used. Change the venturi once the wear obvious to the eye.

*Inspect the compressed air filter daily In particular verify that the elimination of water is carried out correctly If water appears in the hoses we recommend using an air dryer.

BLACK STAR POWDER COATING CONSIST FOLLOWING COMPONENTS

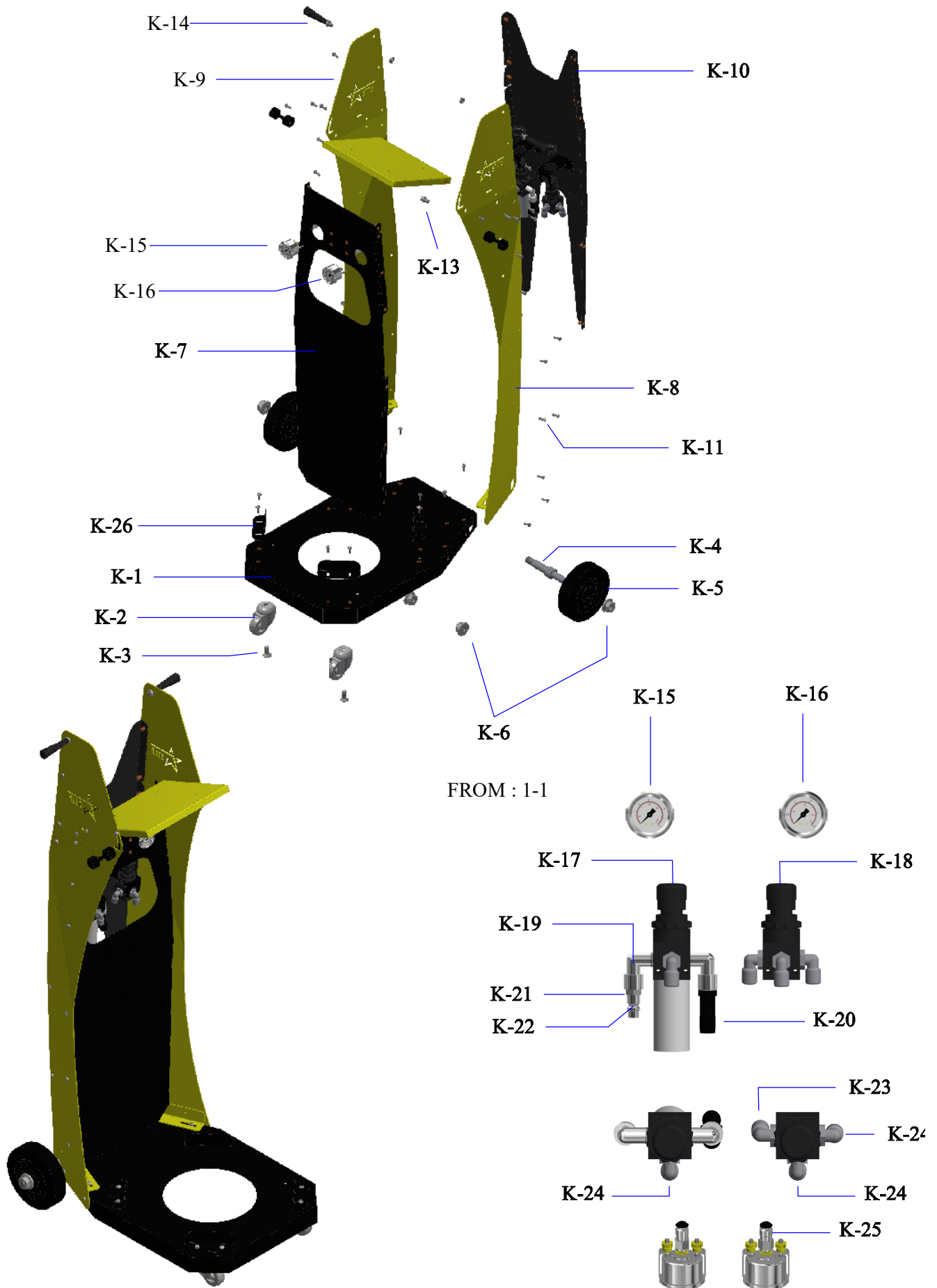
- 1) BLACK STAR POWDER COATING UNIT
- 2) CONSULE GROUP
- 3) SPARE PART BOX

• MANUAL POWDER COATING GUN	-	1 PIECE
• FLAT HEAD	-	1 PIECE
• HANDLE HANDLE	-	2 PIECE
• M6 x 15 mm YSB BOLT	-	2 PIECE
• DIAMETER 150 x 40 mm WHEEL	-	2 PIECE
• WHEEL SHAFT	-	2 PIECE
• POWER CABLE	-	1 PIECE
• FEMALE JACK	-	1 PIECE
• SMALL SWIVEL WHEEL	-	2 PIECE
• M10 x 25 mm BOLT	-	2 PIECE
• INJECTOR GROUP	-	1 PIECE
• INJECTOR VENTURI	-	1 PIECE
• INJECTOR O – RING	-	1 TEAM
• TOZ BOYA HORTUMU (WIRED)	-	4,5 METER
• GUN HANGER	-	2 PIECE
• M8 x 12 mm BOLT	-	2 PIECE
• M16 NUT	-	4 PIECE
• CABLE TIE	-	10 PIECE
• GROUND CABLE (2 + 1 meter)	-	2 PIECE
• 4 – 6 PNEUMATIC HOSE	-	3 METER
• 6 – 8 PNEUMATIC HOSE	-	2 METER
• 3 A FUSE	-	1 PIECE

PUTTING INTO SERVICE

- The following should be carried out;
- Compressed air connection should be done with inside diameter 8 mm air hose to main air regulator inlet.
- Compressed air inlet pressure should be min. **4 bar** max.**6 bar**, dry , oil free .
- Main electrical connection **220 V - 50 Hz** single phase + earth mains +/- **7,5 V** change from main is acceptable otherwise extra voltage regulator should be recommended.
- Set the main air regulator **max. 5 bar**.
- Connect the earthing cable to earthing main.
- Before open main air supply pull regulator **05, 06, 07** (Page8)and turn anti clockwise set zero
- Start main switch on from rear of the control module. Pull the trigger and adjust **HV** (high voltage). It should be max. **80 kV** (duty of supply voltage change digital display should give +/- 10 kV difference.)
- Adjust the turbulence air, using air regulator to a pressure **0,3-1 bar**.
- Please concern humidity and foreign material inside of powder.
- Turbulence air connected main trigger so put the gun direction to powder booth and pull the trigger, meanwhile put the lid on the hopper.
- Adjust injection air **1** to **2,5 bar** to give powder output requested level.
- Adjust dilution air **0,3** to **1,5 bar** to prevent the powder from arriving in bursts when the powder flow is low.
- You should spray the powder the distance is about **10-20 cm** between gun and work pieces. you should set (**HV**) High Voltage max. level.
- If you make repaint of rejected work pieces, adjust **HV 30-40 kV**

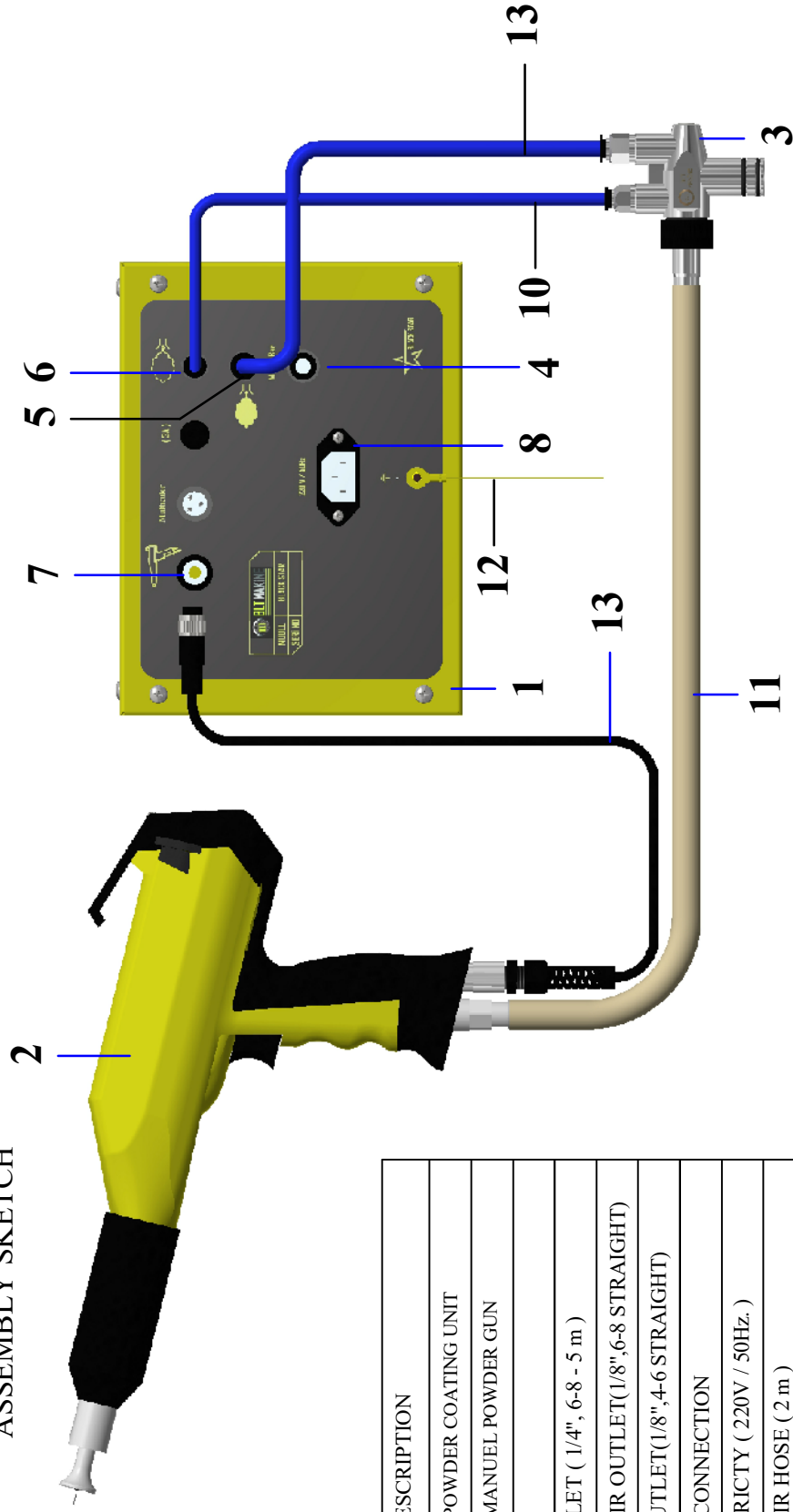
BLACK STAR CONSOLE GROUP INSTALLATION SCHEME



BLACK STAR CONSULE GROUP STOCK NUMBER

NO	ORDER NO	DESCRIPTION	QUAN.
K-1	BLCK - STR - K - 1	CONSULE BASE	1
K-2	BLCK - STR - K - 2	SMALL WHEEL	2
K-3	BLCK - STR - K - 3	M10 x 25 BOLT	2
K-4	BLCK - STR - K - 4	WHEEL SHAFT	2
K-5	BLCK - STR - K - 5	Ø150 x 40 mm WHEEL	2
K-6	BLCK - STR - K - 6	M16 NUT	4
K-7	BLCK - STR - K - 7	CONSULE FRONT PANEL	1
K-8	BLCK - STR - K - 8	CONSULE RIGHT SIDE PANEL	1
K-9	BLCK - STR - K - 9	CONSOLE LEFT SIDE PANEL	1
K-10	BLCK - STR - K - 10	CONSULE REAR PANEL	1
K-11	BLCK - STR - K - 11	M5 x 15 mm YSB BOLT	50
K-12	BLCK - STR - K - 12	GUN HANGER	2
K-13	BLCK - STR - K - 13	M8 x 12 mm BOLT	2
K-14	BLCK - STR - K - 14	HANDLE HANDLE	2
K-15	BLCK - STR - K - 15	MANOMETER (10 BAR)	1
K-16	BLCK - STR - K - 16	MANOMETER (2,5 BAR)	1
K-17	BLCK - STR - K - 17	1/4" AIR REGULATOR (BOTTLE)	1
K-18	BLCK - STR - K - 18	1/4" AIR REGULATOR	1
K-19	BLCK - STR - K - 19	1/4" TAILED ELBOW	2
K-20	BLCK - STR - K - 20	1/4" ,4-6 Y CONNECTION	1
K-21	BLCK - STR - K - 21	1/4" RACCORD HOLDER (MALE)	1
K-22	BLCK - STR - K - 22	FEMALE JACK	1
K-23	BLCK - STR - K - 23	1/4" , 6-8 ROTARY ELBOW	1
K-24	BLCK - STR - K - 24	1/8" , 4-6 ROTARY ELBOW	3
K-25	BLCK - STR - K - 25	1/8" , 4-6 FEMALE FLAT FITTING	2
K-26	BLCK - STR - K - 26	FIXING SHEET	4

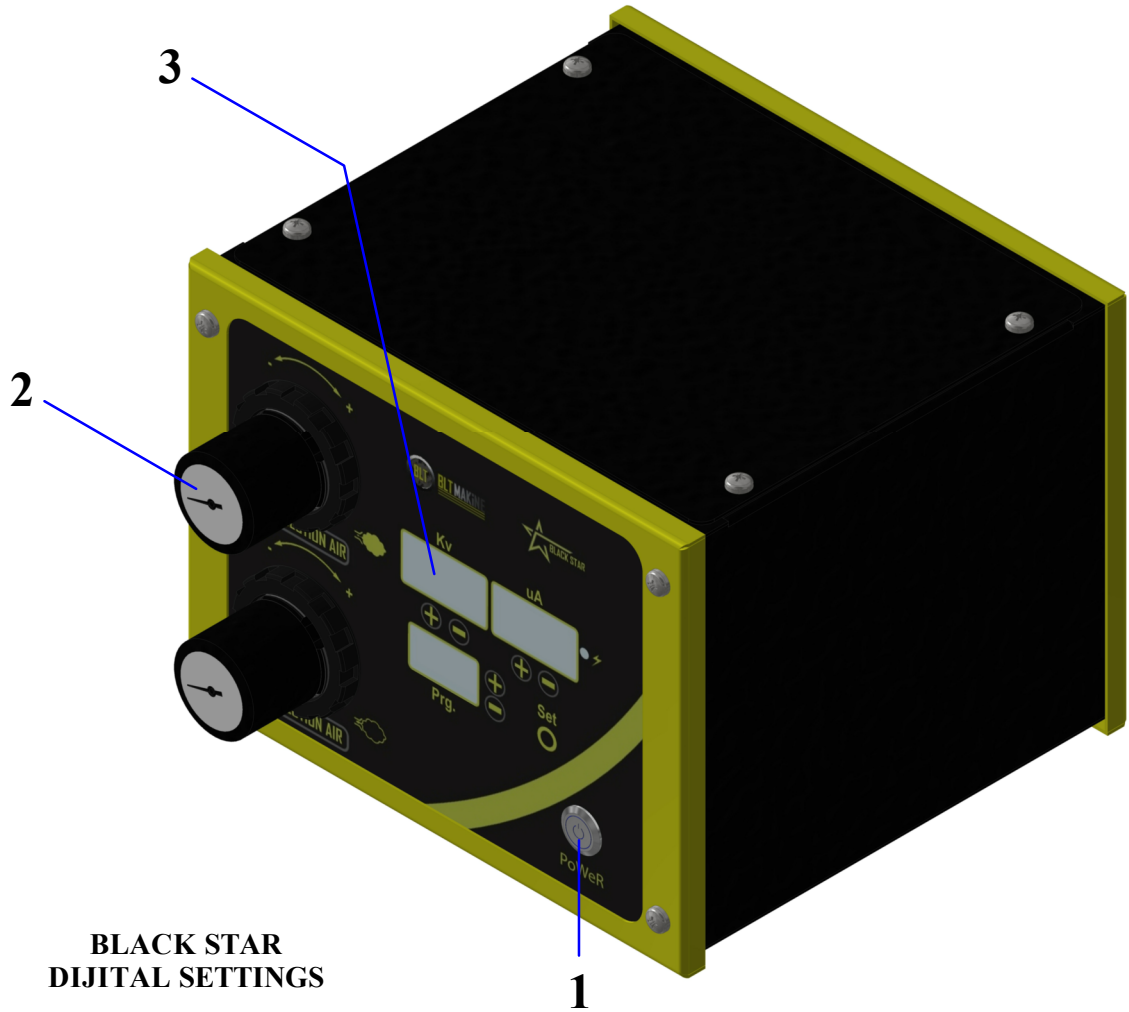
BLACK STAR
POWDER COATING UNIT
ASSEMBLY SKETCH



NO	DESCRIPTION
1	BLACK STAR POWDER COATING UNIT
2	BLACK STAR MANUEL POWDER GUN
3	INJECTOR
4	MAIN AIR INLET (1/4", 6-8 - 5 m)
5	INJECTION AIR OUTLET(1/8",6-8 STRAIGHT)
6	DILUTION OUTLET(1/8",4-6 STRAIGHT)
7	GUN CABLE CONNECTION
8	MAIN ELECTRICTY (220V / 50Hz.)
9	INJECTION AIR HOSE (2 m)
10	DILUTION AIR HOSE (4-6 , 3 m)
11	POWDER HOSE (4,5 m)
12	EARTHING CABLE (3m)
13	GUN VOLTAGE CABLE (5,5 m)

Form : 1 - 2

BLACK STAR POWDER COATING UNIT FRONT VIEW

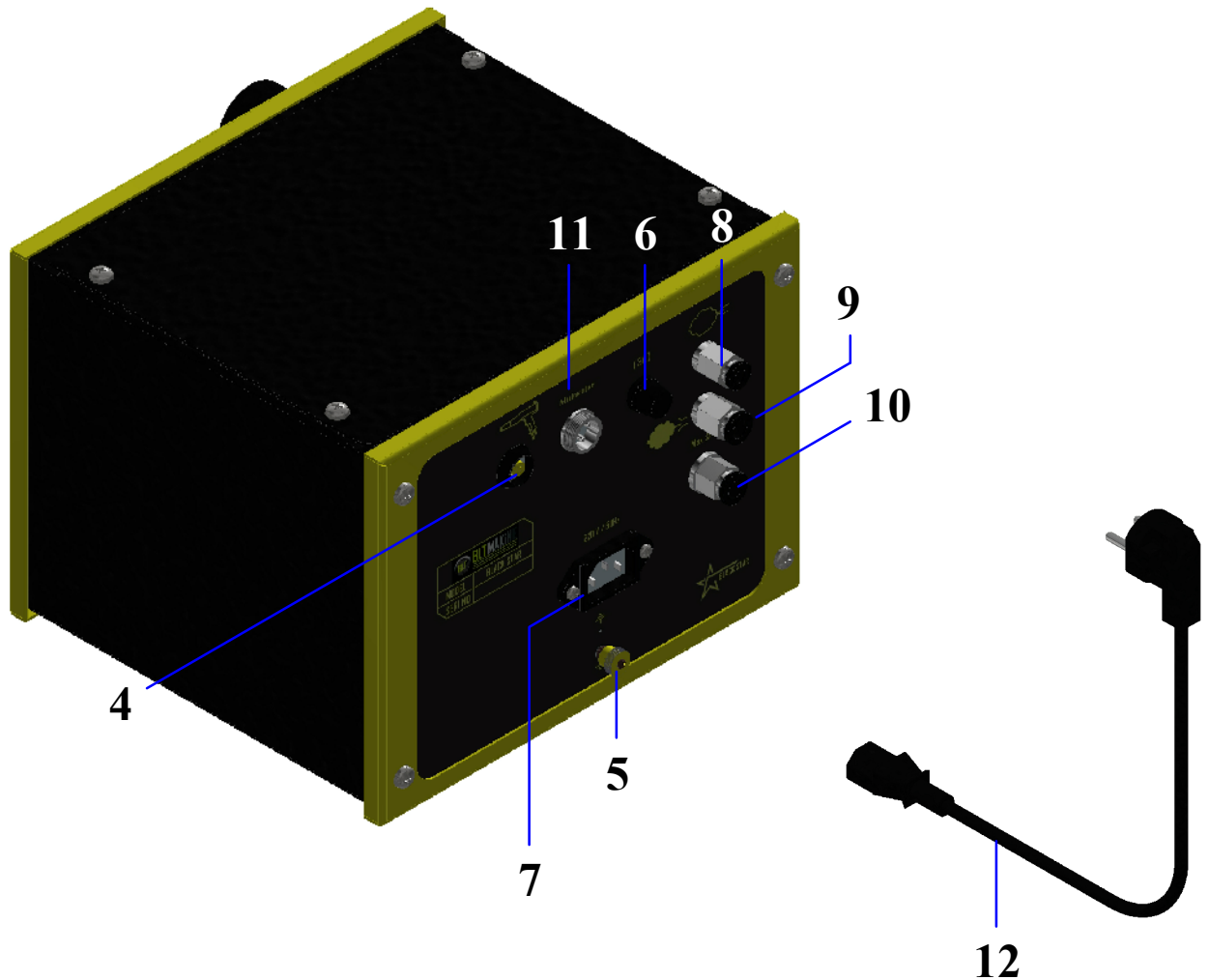


BLACK STAR DIJITAL SETTINGS

	Kv	uA
P - 01	90	33
P - 02	30	10
P - 03	40	15
P - 04	57	25
P - 05	60	30

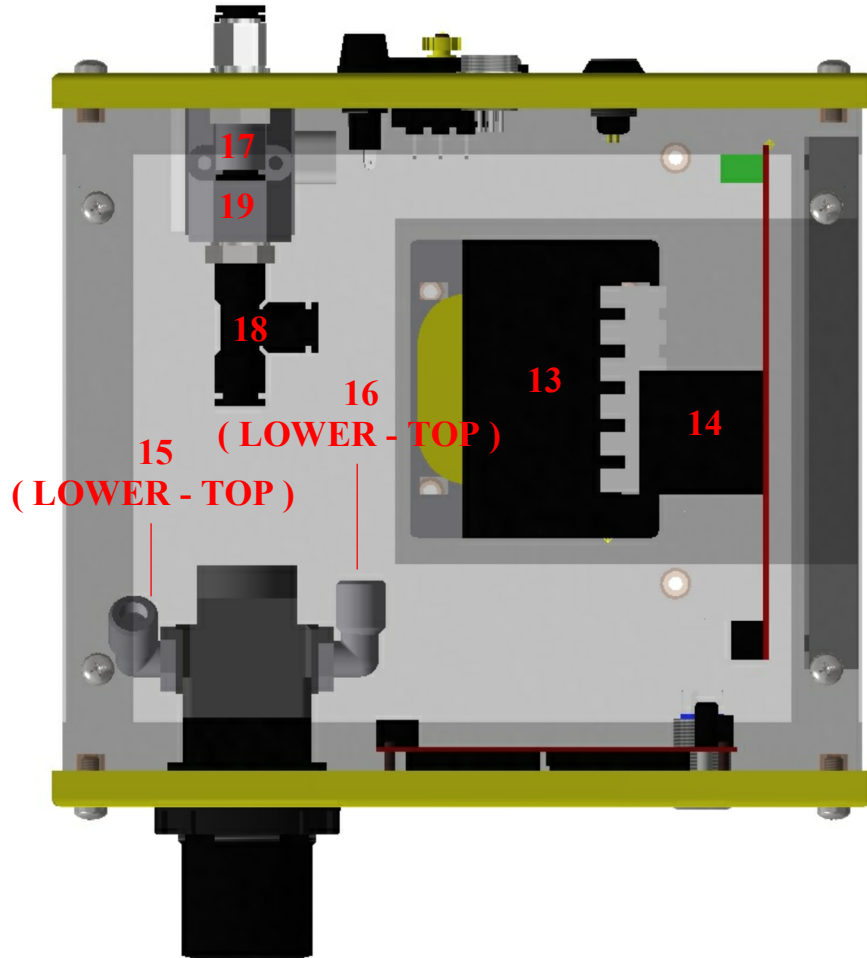
NO	STOCK NO	DESCRIPTION	QUANT.
1	BLCK - STR - C - 1	POWER BUTTON	1
2	BLCK - STR - C - 2	DISPLAY REGULATOR	1
3	BLCK - STR - C - 3	DIJITAL DISPLAY	1

BLACK STAR POWDER COATING UNIT REAR VIEW



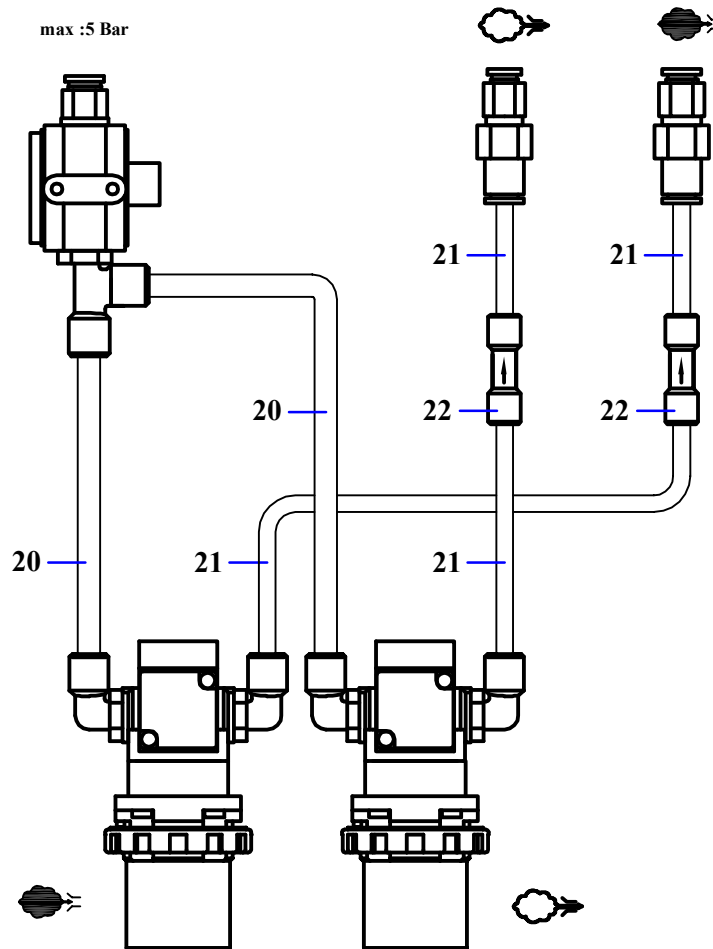
NO	STOCK NO	DESCRIPTION	QUANT.
4	BLCK - STR - C - 4	GUN SOCKET (MALE)	1
5	BLCK - STR - C - 5	EARTHING NUT	1
6	BLCK - STR - C - 6	FUSE (3A.)	1
7	BLCK - STR - C - 7	UNITY SOCKET	1
8	BLCK - STR - C - 8	DILUTION AIR OUTLET (1/8",4-6 STRAIGHT MALE RACCORD)	1
9	BLCK - STR - C - 9	INJECTION AIR OUTLET (1/8",6-8 STRAIGHT MALE RACCORD)	1
10	BLCK - STR - C - 10	MAIN AIR INLET (1/4",6-8 FEMALE RACCORD)	1
11	BLCK - STR - C - 11	MULTICOLOR ENTRY	1
12	BLCK - STR - C - 12	MAIN ELECTRICITY CABLE (220V / 50Hz.)	1

BLACK STAR POWDER COATING UNIT INSIDE VIEW



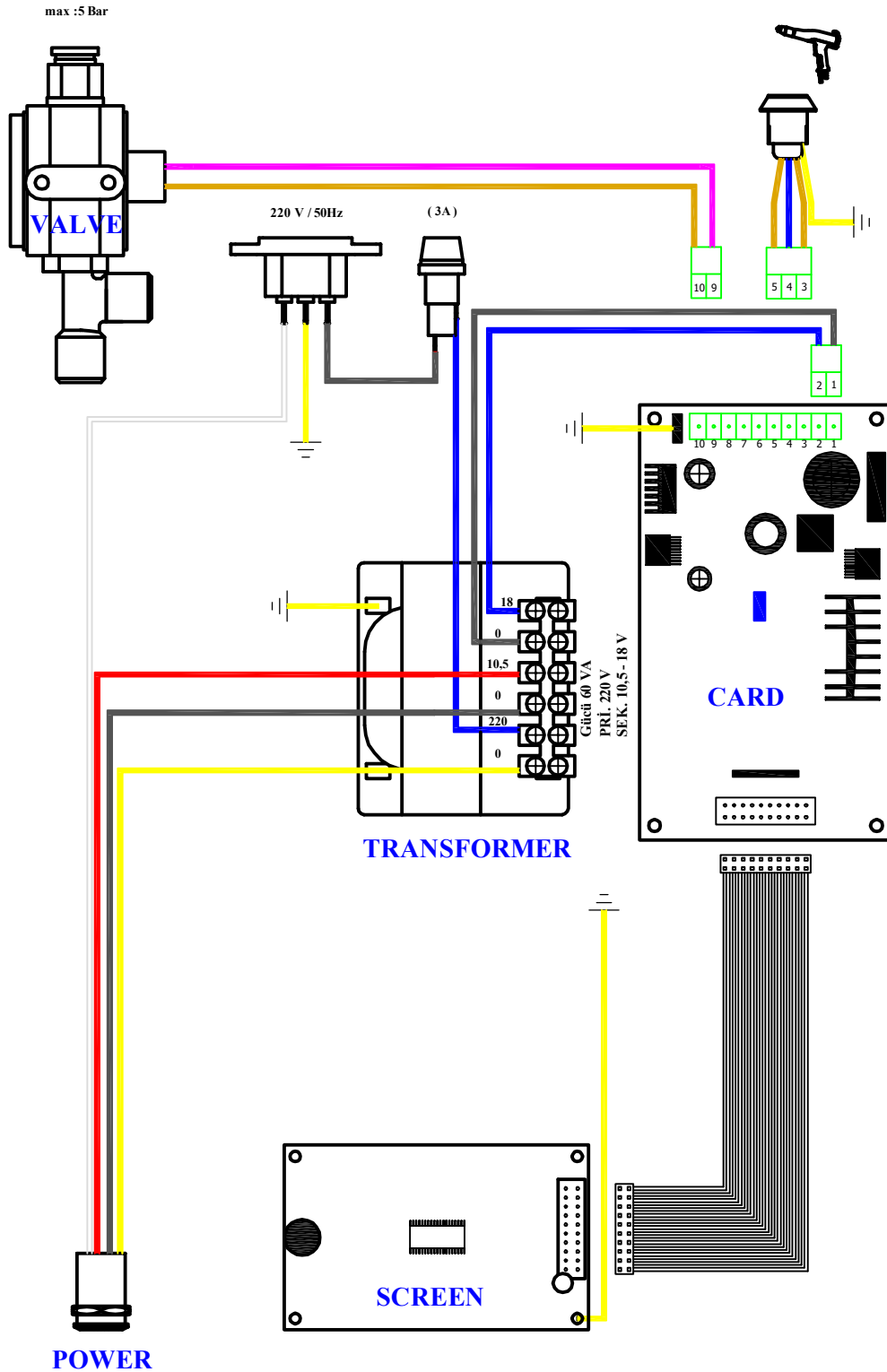
NO	STOCK NO	DESCRIPTION	QUANT.
13	BLCK - STR - C - 13	PRIME MAIN TRANSFORMER	1
14	BLCK - STR - C - 14	ELECTRONIC PC BOARD	1
15	BLCK - STR - C - 15	1/4", 6-8 ROTATED ELBOW	2
16	BLCK - STR - C - 16	1/4", 4-6 ROTATED ELBOW	2
17	BLCK - STR - C - 17	1/8", 4-6 ROTATED ELBOW	2
18	BLCK - STR - C - 18	1/4" , 6-8 "Y" CONNECTION	1
19	BLCK - STR - C - 19	SOLENOID VALVE (24 DC COMPLETE WITH REEL)	1

BASIC POWDER COATING UNIT PNEUMATIC CONNECTION SKETCH

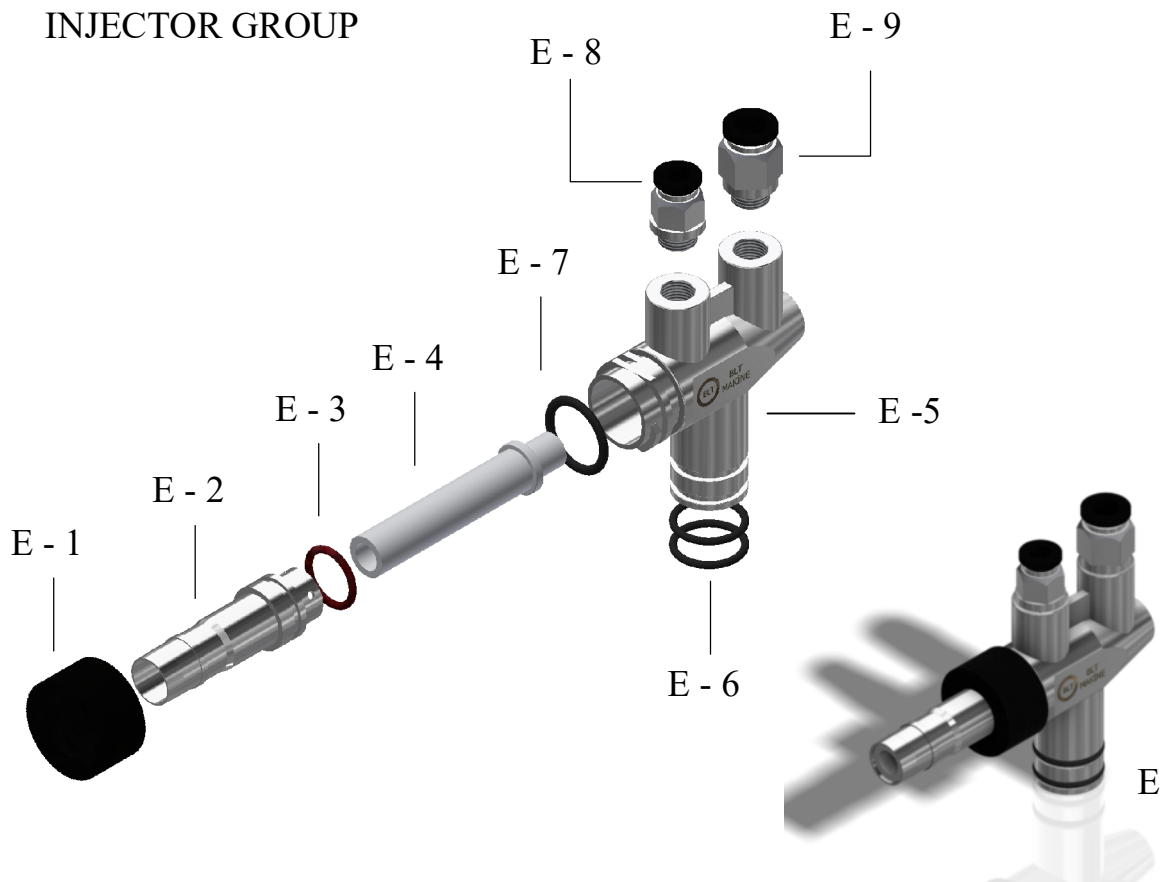


NO	ORDER NO	DESCRIPTION	QUANT.
20	BLCK - STR - C - 20	6-8 HOSE	-
21	BLCK - STR - C - 21	4-6 HOSE	-
22	BLCK - STR - C - 22	4-6 CHECK VALVE	2

BLACK STAR POWDER COATING UNIT ELECTRICITY CONNECTION SKETCH



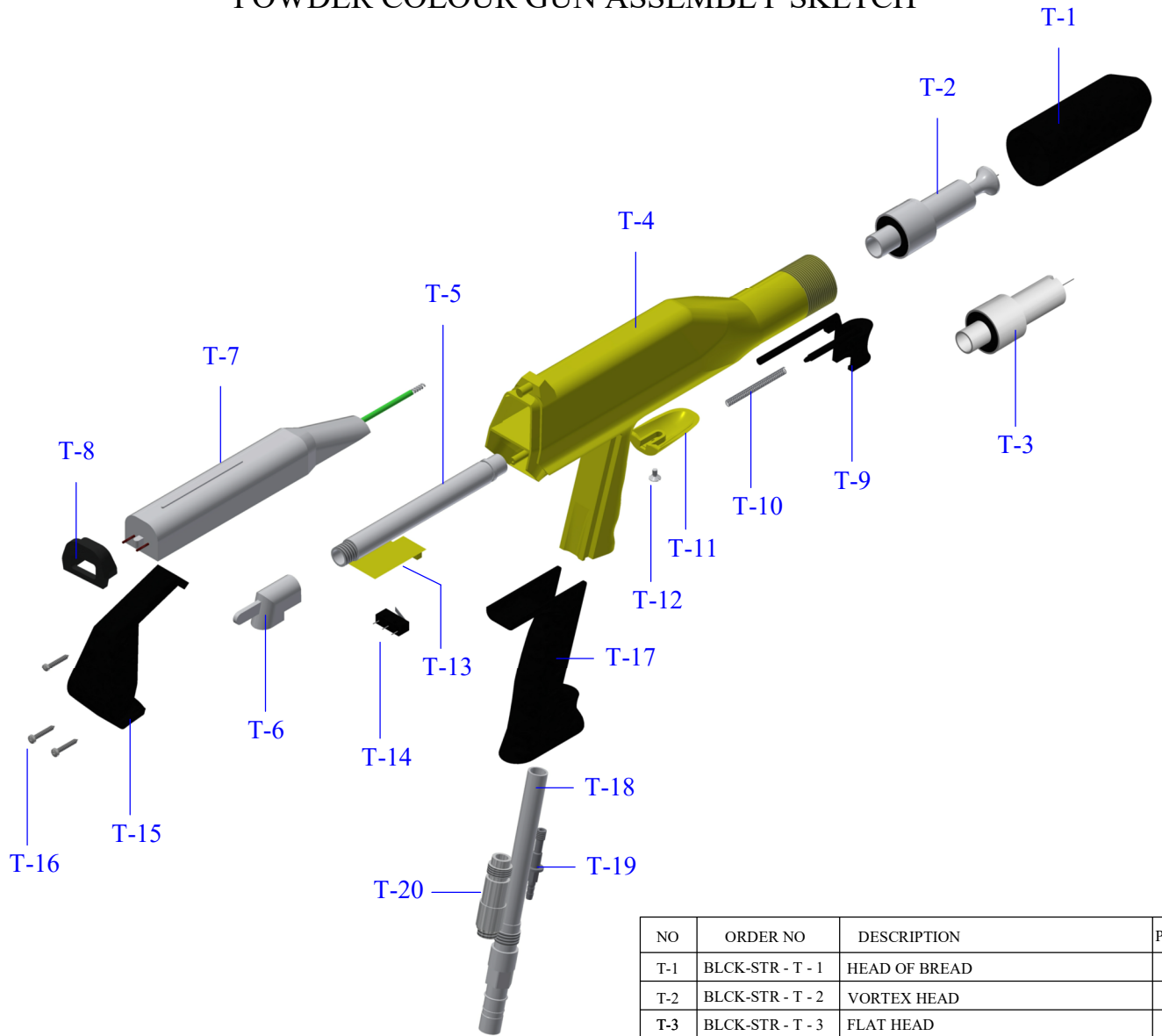
INJECTOR GROUP



NO	ORDER NO	DESCRIPTION	PIECE	
E	M - BLT - 1	INJECTOR GROUP (COMPLETE)	1	
E - 1	M - EBLT - 1	INJECTOR NUT	1	
E - 2	M - EBLT - 2	POWDER HOSE INLET OF PLUNGER	1	
E - 3	M - EBLT - 3	POWDER HOSE INLET OF PLUNGER - O RING	2	
E - 4	M - EBLT - 4	VENTURI	1	★
E - 5	M - EBLT - 5	INJECTOR BODY	1	
E - 6	M - EBLT - 6	INJECTOR BODY O - RING 1	2	
E - 7	M - EBLT - 7	INJECTOR BODY O - RING 2	1	
E - 8	M - EBLT - 8	HOSE HOLDER (4 - 6)	1	
E - 9	M - EBLT - 9	HOSE HOLDER (6 - 8)	1	

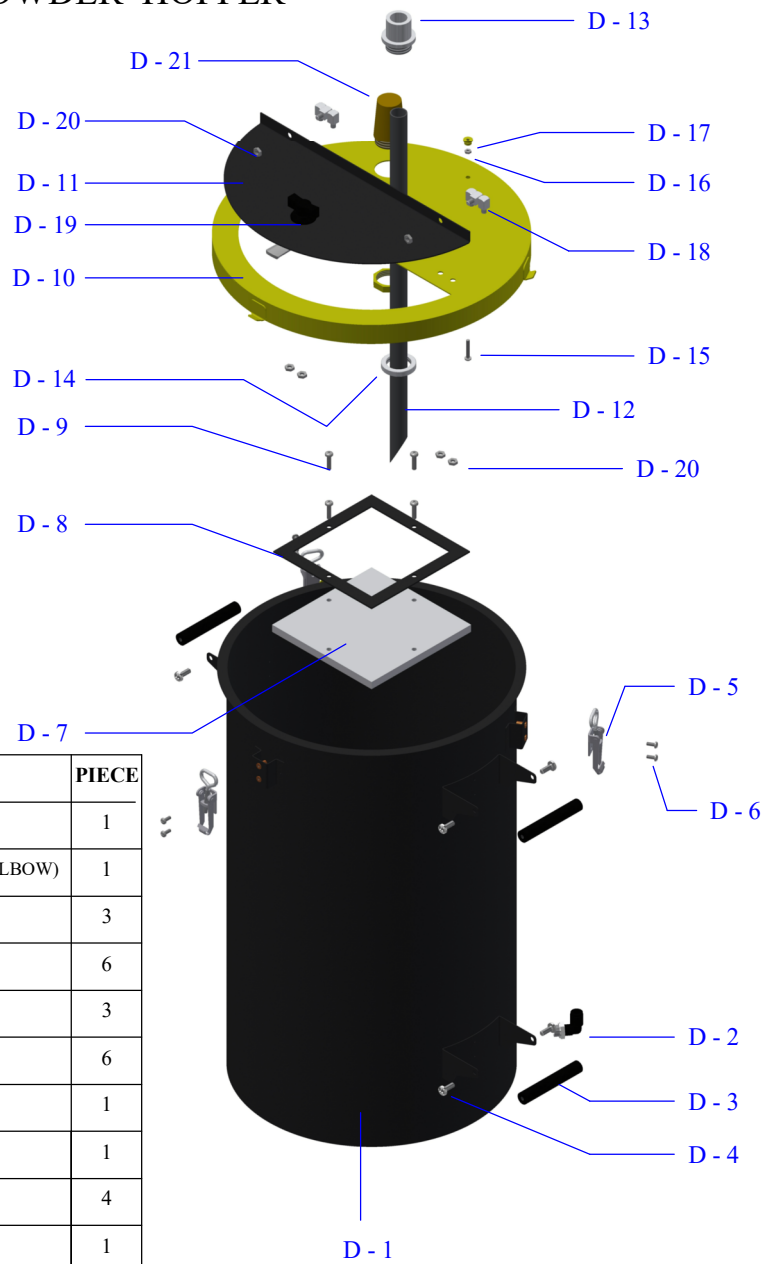
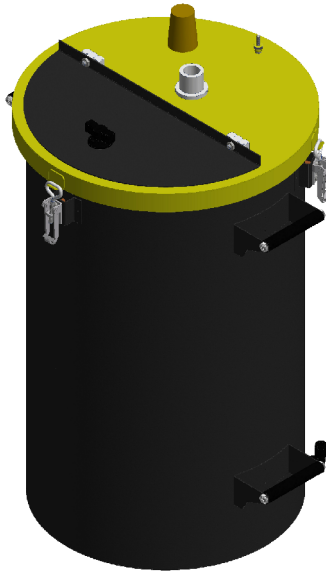
* RECOMMENDED SPARE PARTS LIST

BLACK STAR POWDER COLOUR GUN ASSEMBLY SKETCH



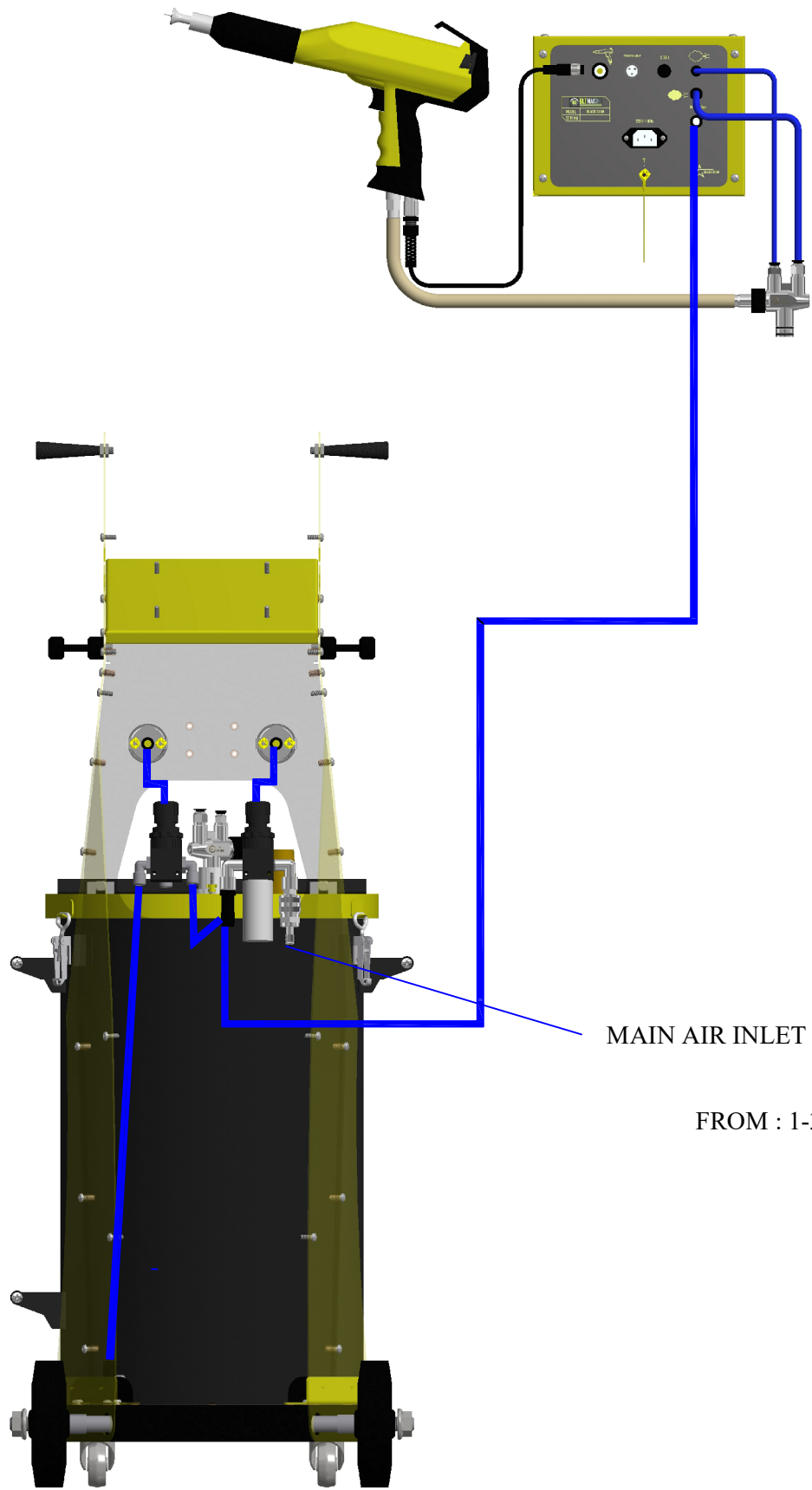
NO	ORDER NO	DESCRIPTION	PIEC
T-1	BLCK-STR - T - 1	HEAD OF BREAD	1
T-2	BLCK-STR - T - 2	VORTEX HEAD	1
T-3	BLCK-STR - T - 3	FLAT HEAD	1
T-4	BLCK-STR - T - 4	GUN BODY	1
T-5	BLCK-STR - T - 5	BODY INNER PIPE	1
T-6	BLCK-STR - T - 6	ELBOW	1
T-7	BLCK-STR - T - 7	HIGHT VOLTAGE CASCADE	1
T-8	BLCK-STR - T - 8	CASCADE TIRE	1
T-9	BLCK-STR - T - 9	TRIGGER	1
T-10	BLCK-STR - T - 10	ARROW	1
T-11	BLCK-STR - T - 11	BODY PART	1
T-12	BLCK-STR - T - 12	M3x6 mm SCREW	1
T-13	BLCK-STR - T - 13	MICRO SWITCH CONNECTOR	1
T-14	BLCK-STR - T - 14	MICRO SWITCH	1
T-15	BLCK-STR - T - 15	BACK COVER	1
T-16	BLCK-STR - T - 16	M3x25 mm SCREW	3
T-17	BLCK-STR - T - 17	HANDLE GROUP	1
T-18	BLCK-STR - T - 18	POWDER HOSE INLET	1
T-19	BLCK-STR - T - 19	MANUEL DIŞ MARPUÇ	1
T-20	BLCK-STR - T - 20	CABLE CONNECTION SOCKET	1

35Lt. POWDER HOPPER



NO	STOK NO	DESCRIPTION	PIECE
D-1	BLCK-STR-D-1	HOPPER MAIN BODY	1
D-2	BLCK-STR-D-2	FLUIDISING AIR INLET (1/8" ,4-6 ROTATED ELBOW)	1
D-3	BLCK-STR-D-3	HOLD	3
D-4	BLCK-STR-D-4	M6 x 15 mm YSB BOLT	6
D-5	BLCK-STR-D-5	LATCH	3
D-6	BLCK-STR-D-6	M4 x 10 mm YSB BOLT	6
D-7	BLCK-STR-D-7	FLUIDISING BED	1
D-8	BLCK-STR-D-8	WAREHOUSE BOTTOM BASE FRAME	1
D-9	BLCK-STR-D-9	M5 x 20 mm YSB BOLT	4
D-10	BLCK-STR-D-10	HOPPER LID	1
D-11	BLCK-STR-D-11	INSPECTION LID	1
D-12	BLCK-STR-D-12	PLUNGER SUCTION PIPE (Ø20mm)	1
D-13	BLCK-STR-D-13	INJECTOR HOLE	1
D-14	BLCK-STR-D-14	NUT	3
D-15	BLCK-STR-D-15	M4 x 25 mm YSB BOLT	1
D-16	BLCK-STR-D-16	M4 NUT	1
D-17	BLCK-STR-D-17	GROUNDING NUT	3
D-18	BLCK-STR-D-18	SQUARE HINGE	2
D-19	BLCK-STR-D-19	LOCK	1
D-20	BLCK-STR-D-20	M6 NUT	6
D-21	BLCK-STR-D-21	WAREHOUSE EVACUATION	1

BLACK STAR PNEUMATIC CONNECTION SCHEME



MAIN AIR INLET

FROM : 1-3

TROUBLE SHOOTING SYMPTOM

PROBABLE CAUSE AND REMEDY

Main switch-on but indicator display doesn't light on

- Check the fuses from rear part of power pack.
- Check the mains supply if electricity is exist.

When pulling trigger, indicator display on, but there is no increase on High Voltage

- Check the gun cable plug sockets.
- Check the fuses (3A)
- If it still doesn't work call the our technical service

When pulling trigger, indicator display on, but air regulator gauge doesn't work.

- Electro valve connection socket should be checked.
- Electronic control module repaired.

When pulling trigger, indicator display on, air regulator gauge on, but there is no powder

- Run out of powder in the hopper.
- Adjust fluidisation air.
- Clean plunger and plunger air circuit.
- Check plunger suction pipe.
- Check if plunger is properly fixed.
- Clogged hose or gun inside section (Clean or change)

There is no fluidisation

- Check the fluidising air regulator
- Check the connection fluidisation air hose if it is broken
 - Fluidising bed should be clogged duty of humidity and oil contamination

The gun is powder spraying, without triggering

- Trigger should be remained open (Clean with air)
- Electro valve remained open

Powder doesn't stick to object static shocked on user

- Unit main connection earth should be checked
- Check earthing cable of unit.
- Check hangers cleaning.