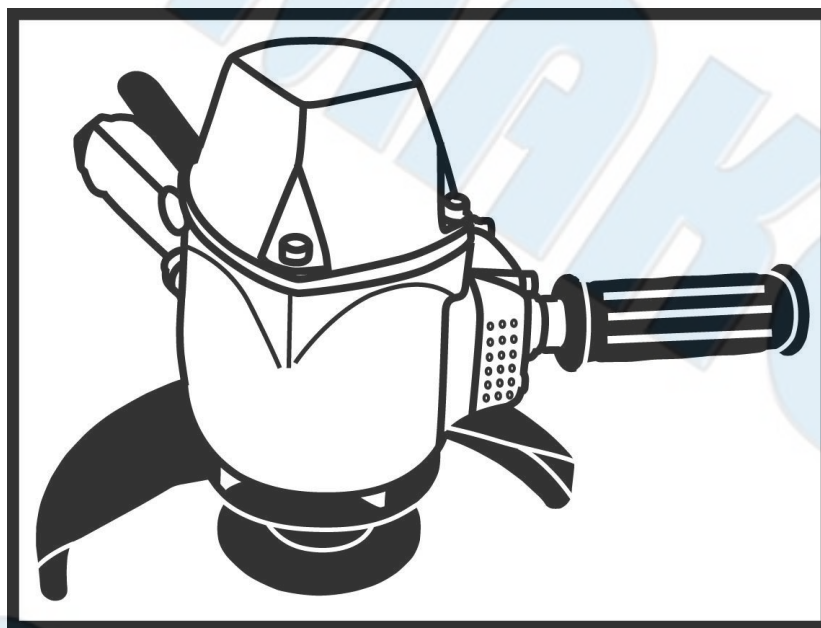




# SUMAKE *PNEUMATIC TOOLS*



## 7" Heavy Duty Vertical Grinder ST-77847, ST-77847-B

### Specification:

Free Speed	7,000 r/min
Spindle Thread	5/8"-11 M14x2.0
Grinding Wheel	180x6x22.2mm
Air Consumption	56.5 CFM (1610 L/min)
Overall Length	9-23/32" (247mm)
Air Inlet (PT)	1/2" (13 mm)
Air Hose (I.D.)	3/4" (19 mm)
Air Pressure	90 psi (6.3 bar)
Net Weight	8.8 lbs (4.0 kg)

### Noise and Vibration:

Vibration EN ISO 28927-1	Noise EN ISO 15744	Remark
Load: < 2.5 m/s <sup>2</sup>  Uncertainty K= 1.5 m/s <sup>2</sup>	Sound Pressure Level load: 89.7 dB(A)	Please always wear ear protector at environment noise level > 80 dB(A) due to risk of impaired hearing!
	Sound power level load: 100.7 dB(A)	
	Uncertainty K= 3dB	

SUMAKE INDUSTRIAL CO., LTD

4F,NO.351,Yangguang St.,Neihu District TAIPEI, TAIWAN, ZIP:114-91

ST-77847(-B)-S-2207A-FYF



## EC DECLARATION OF CONFORMITY

We: **SUMAKE INDUSTRIAL CO., LTD.**

**4F, No. 351, Yangguang St., Neihu District, Taipei City, Taiwan**

declare in sole responsibility that the equipment

Equipment : **7" HEAVY DUTY VERTICAL GRINDER**

Model/ Serial No. : **ST-77847, ST-77847-B**

to which this declaration applies, complies with these normative documents:

- Machinery Directive: 2006/42/EC

and conforms to the following EN standard,

- EN ISO 12100: 2010
- EN ISO 11148-7:2012

Name and Signature/Position

Mike Su – Managing Director

Date and Place

2022/6/13

Taipei, Taiwan

ST-77847(-B)-D-2206A-FYF

## Foreword

SUMAKE is a manufacturer and exporter of air tools since established. We have devoted all our efforts in improving quality and tools' life. As well as the noise and vibration of tools. Bring all of you working efficiency, profits, and enjoy using the tool is our principle.

## Features

Ideal for cleaning casting, foundries, smoothing welds in forge shops, and smoothing applications in fabrication shops.

## Operator's instruction

### 1. Cautions for Use

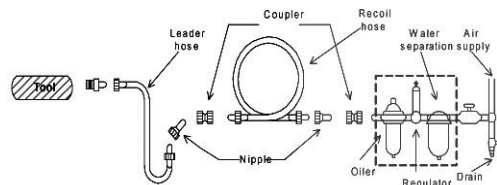
#### 1-1 Air pressure

Maximum performance is displayed at the proper sanding speed, obtainable at a gauge pressure of 6.2 bar. Range-wise, this is an air pressure from 5 to 7 bar (70 to 100 psi)



#### 1-2 Air line

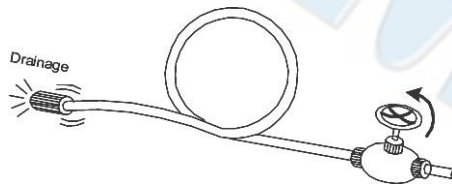
Use a 1/2" air hose between the compressor and the tool. Compressed air is cooled and its water content separated, as soon as the air leaves the compressor.



A portion of the water content, however, is condensed in the piping, and can enter the tool mechanism, and may cause trouble. So, install an air filter and an oiler between the compressor and the tool. Use a 3 HP or larger compressor for each sander.

### 1-3 Air hose

Clean the hose with a blast of compressed air before connecting the hose to air tool. This will prevent both moisture and dust within the hose from entering the tool and causing possible rust or malfunction. To compensate for unusually long hose (over 25 ft), the line pressure should be increased accordingly.

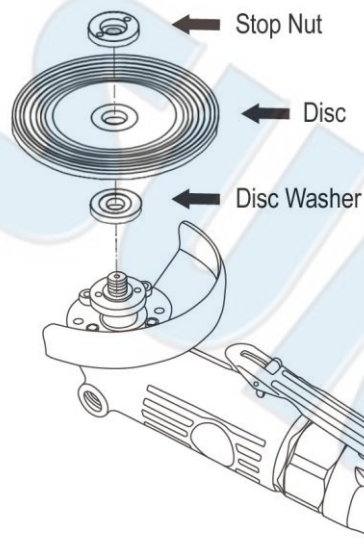


- 1-4 The approved eye protector, ear-muff, mouth-muffle, and gloves should be worn when operate this tool.
- 1-5 The working place shall be well ventilated.
- 1-6 Release the on-off device in the case of energy supply failure.

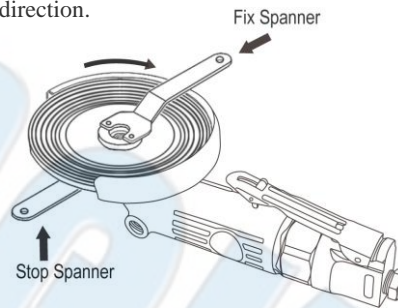
## 2. Assembly and Operation Method

### 2-1 Assembly:

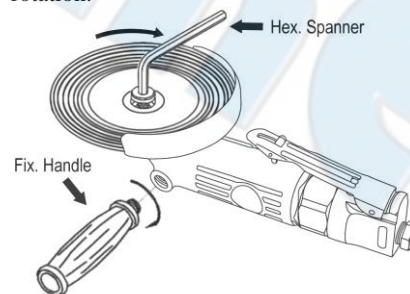
- 1. Set Disc, then fix Disc Screw in clockwise direction. (Do not put Disc Screw up-side-down and Disc Screw remember to rotate it to fix.)



- 2. Hold Stop Spanner by hand, Screw up Disc Screw with Hex Spanner in clockwise direction.



- 3. Screw up Stop Screw with Hex. Spanner in clockwise direction. Fix handle in clockwise rotation.

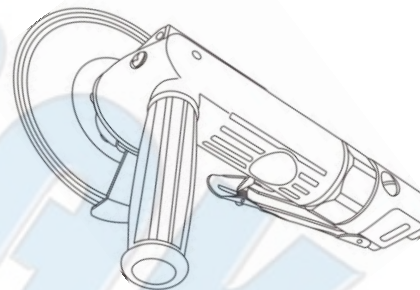


### NOTE:

- (1). Disconnect tool from air supplier before assembling or replacing.
- (2). Before using the tool, read safety instruction and follow it for your own security.

### 2.2 On-off device

To operate this tool, just push the lever toward the tool itself. The tool continuously reciprocates as one push the lever down and it stops running as the lever is released.



## 3. Maintenance

### 3-1 Lubrication

Before connecting the hose, apply 4 or 5 drops of #60 spindle oil at the air inlet. Use of a thicker oil can lead to reduced performance or malfunction. If a thicker oil is used by accident, wipe it away immediately. Also, every 3 or 4 hours of operation, oiling is necessary.

### 3-2 Storage

Avoid storing the tool in a location subject to high humidity. If the tool is left as it is used, the residual moisture inside the tool can cause rust. Before storing and after operation, oil the tool at the air inlet with spindle oil and run it for a short time.

### 3-3 Disposal

If the tool is too seriously damaged to be used anymore, drop it in a resource recycling can. Never drop it into fire.

### 3-4 Ordering service Parts

For further operational and handling information or for replacement of parts and components, contact the sale agent from whom you purchased the tool or the service division of our company.

\* In ordering parts and components, give each part number, name and quantity.

## Warning

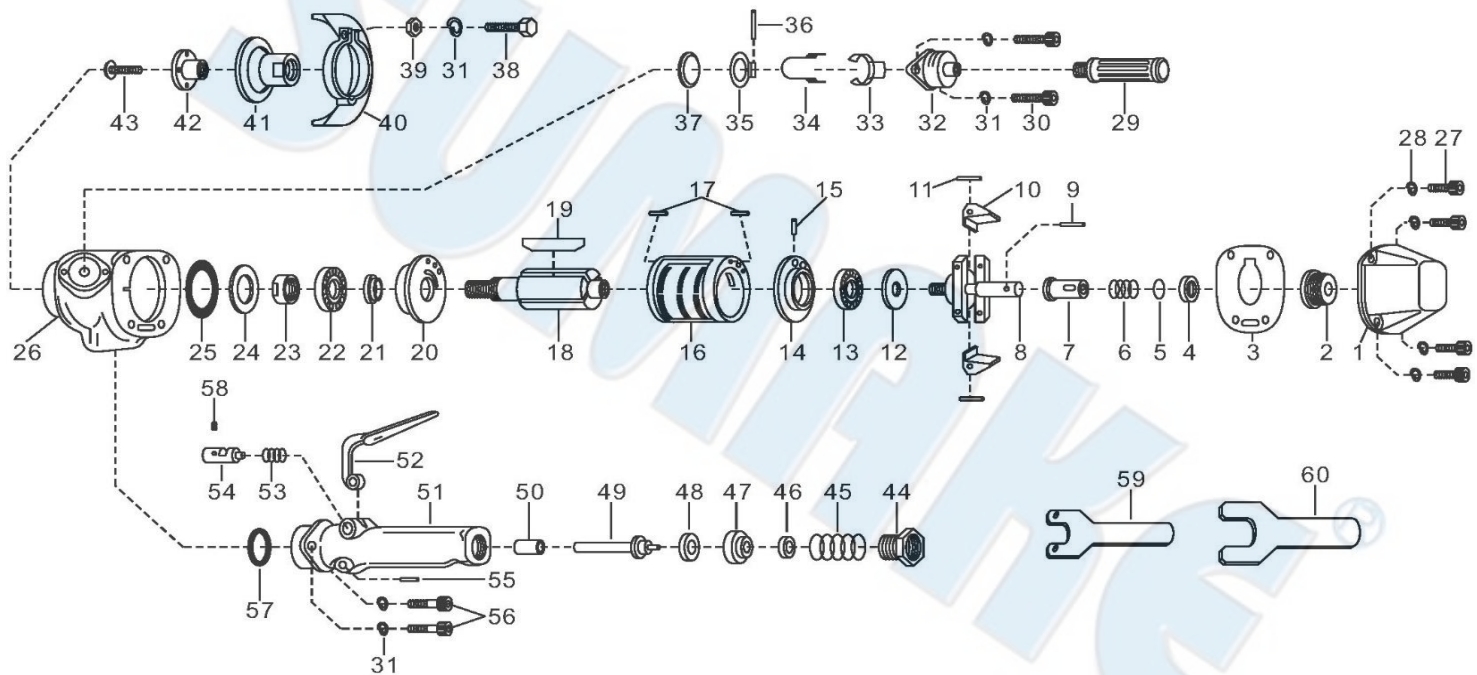
- 1. This tool is not insulated for coming into contact with electric power source.
- 2. It is forbidden to use this tool in explosive atmospheres and do not put any combustible material near the workpiece since it will emit sparks, dust, and/or fumes when working in certain material.
- 3. Prevent long hair or loose clothing from drawing in while operate this tool.
- 4. Never carry the tool by hose and beware of a whipping compressed air hose.
- 5. The workpiece shall be fixed by proper device.
- 6. Keep your body balance and beware of the fall of the severed workpiece.
- 7. Excessive air pressure not only reduce the service life of this tool but also increase the danger. It is better to use of a pressure regulator to control the air pressure being supplied to the tool.
- 8. It remains rotating for few second after releasing the lever.



ST-77847-I-2206A-FY

# ST-77847, ST-77847-B

## 7" HEAVY DUTY VERTICAL GRINDER



### PARTS LIST

No.	Parts No.	Description	Q'ty
1	77847-01	Housing Cover	1
2	77847-02	Bushing	1
3	77847-03	Packing	1
4	77847-04	Governor Valve Spring Holder	1
5	77847-05	Adjusting Washer (T=0.2)	1
6	77847-06	Governor Valve Spring	1
7	77847-07	Governor Valve	1
8	77847-08	Governor Cage	1
9	77847-09	Needle Roller	1
10	77847-10	Governor Weight	2
11	77847-11	Grooved Pin	2
12	77847-12	Bearing Cover	1
13	77847-13	Ball Bearing (BB-6202MN)	1
14	77847-14	Cylinder Upper Plate	1
15	77847-15	Spring Pin	1
16	77847-16	Cylinder	1
17	77847-17	Spring Pin	1
18	77847-18A	Rotor (5/8"-11) [ST-77847]	1
	77847-18B	Rotor (M14x2.0) [ST-77847-B]	1
19	77847-19	Rotor Blade	4
20	77847-20	Cylinder Lower Plate	1
21	77847-21	Adjusting Collar	1
22	77847-22	Ball Bearing (BB-6303)	1
23	77847-23	Rotor Nut	1
24	77847-24	Bearing Spacer	1
25	77847-25	Adjusting Washer (T=0.2)	1
26	77847-26	Housing	1
27	77847-27	Cap Screw	1
28	77847-28	Spring Washer	4
29	77847-29	Dead Dandle	1
30	77847-30	Cap Screw	2

No.	Parts No.	Description	Q'ty
31	77847-31	Spring Washer	5
32	77847-32	Exhaust Cover	1
33	77847-33	Muffler Plate Hodler	1
34	77847-34	Muffler Spring	1
35	77847-35	Muffler Plate	1
36	77847-36	Spring Pin	1
37	77847-37	Exhaust Valve	1
38	77847-38	Hexagon Bolt	1
39	77847-39	Nut	1
40	77847-40	Wheel Guard	1
41	77847-41	Wheel Flange	1
42	77847-42	Wheel Flange	1
43	77847-43	Cap Screw	1
44	77847-44A	Inlet Bushing (PT19)	1
	77847-44B	Inlet Bushing (NPT18)	1
45	77847-45	Throttle Valve Spring	1
46	77847-46	Sub Throttle Valve	1
47	77847-47	Throttle Valve Washer	1
48	77847-48	Throttle Valve	1
49	77847-49	Throttle Valve Rod	1
50	77847-50	Throttle Valve Rod Bushing	1
51	77847-51	Throttle Valve Body	1
52	77847-52	Throttle Valve Lever	1
53	77847-53	Lock Spring	1
54	77847-54	Lock Key	1
55	77847-55	Grooved Pin	1
56	77847-56	Cap Screw	2
57	77847-57	O-Ring (S34)	1
58	77847-58	Set Screw	1
59	77847-59	Spanner	1
60	77847-60	Spanner	1



Read all these safety instructions before operating this product and save these instructions.

The tool has been manufactured in conformity with the instruction of EU machine directive. The EU mark will be considered void in the event of inexpert repairs, the use of non-original parts and in case of non-observance of the safety instructions in the user's manual.

Possible direct or indirect consequential damages are not the responsibility of SUMAKE Industrial co., Ltd.

#### **General safety rules:**

1. Watch the tool at all times when in use.
2. People under the influence of alcohol or drugs are not allowed to use, repair or maintain the tool.
3. Keep unqualified persons, children, etc. away from the tool.
4. Keep work area clean and with sufficient daylight or artificial lighting. The work area on which the machine is used must be cleaned up. Disorder is a potential cause of accidents.
5. Danger of explosion. Never use oxygen and combustible gas as an air supply for the tool which may be ignited by spark and cause fire or explosion.
6. Never use gasoline or other flammable liquids to clean the tool.
7. Do not use air tools in potentially explosive atmospheres such as in the presence of flammable liquids, cleaning solvents, fluid energy or stored gases.
8. Do not expose air tools to rain. Do not use air tools in damp or wet locations.
9. When a fault or failure is detected, the tool must immediately be disconnected from the air supply and returned for repair.
10. It is not permitted to modify the tool in any way.
11. When not in use, keep tools in a dry place, either locked up or in a high place, out of the reach of children.
12. Do not force small air tools to do the job of a heavy-duty task. Do not use air tool for purpose of which was not intended.
13. Wear suitable ear protection at environment noise level >80dB(A) and safety spectacles when using the tool. Always wear approved safety goggles if work is dusty. This also applies to other persons in the nearby vicinity.
14. Do not wear loose clothing or jewelry. They can be caught in moving parts. Rubber gloves and non-skid foot wear are recommended when working outdoors. Wear protective hair covering to contain long hair.
15. Keep proper footing and balance at all times.
16. Use clamps or a vice to hold work-piece. It is safer than using your hand and free both hands to operate the air tool.
17. When not use, before performing service or changing accessories, please disconnect tool from air compressor.
18. Do not carry plugged in air tool with your finger on the switch trigger. Be sure switch is in the "OFF" position when connecting to air supply.
19. Watch what you are doing. Use common sense, even unsafe situation or unbalanced positions, particularly when you are tired.
20. Air powered tools can vibrate in use. Vibration, repetitive motions or uncomfortable positions may be harmful to your hands or arms. Stop using any tool if discomfort, tingling feeling or pain occurs. Seek medical advice before resuming use.
21. For multiple hazards, read and understand the safety instructions before installing, operating, repairing, maintaining, changing accessories on, or working near, the grinder. Failure to do so can result in serious bodily injury.
22. Only qualified and trained operators should install, adjust or use the grinder.
23. Do not modify this grinder. Modifications can reduce the effectiveness of safety measures and increase the risks to the operator.
24. Do not discard the safety instructions; give them to the operator.
25. Do not use the grinder if it has been damaged.
26. Tools shall be inspected periodically to verify that the ratings and markings required by this part of ISO 11148 are legibly marked on the tool. The employer/user shall contact the manufacturer to obtain replacement marking labels when necessary.

#### **Safety precautions for projectile hazards**

1. Be aware that the failure of the workpiece or accessories, or even of the inserted tool itself, can generate high-velocity projectiles.
2. Always wear impact-resistant eye protection during the operation of the grinder. The grade of protection required should be assessed for each use.
3. Ensure that the workpiece is securely fixed.
4. Ensure safe clamping of the abrasive product to the grinder.
5. Check that maximum operating speed of the abrasive product, converted to revolutions per minute, is equal to, or greater than, the rated speed of the spindle.
6. Ensure that the guard is in place, is in good condition and is correctly mounted; ensure that the guard is regularly inspected.
7. Check regularly that the speed of the grinder is not higher than that marked on it. These speed checks shall be carried out without the abrasive product mounted and in accordance with the instructions given by the manufacturer.
8. Check that the flanges, as specified by the manufacturer, are used and are in good condition, e.g. free from cracks and burrs, and are plane.
9. Check that the spindle and spindle threads are not damaged or worn.
10. Ensure that sparks and debris resulting from use do not create a hazard.
11. Disconnect the grinder from the energy supply before changing abrasive product and servicing.

#### **Safety precautions for entanglement hazards**

1. Choking, scalping and/or lacerations can occur if loose clothing, personal jewellery, neck wear, hair or gloves are not kept away from the tool and accessories.

#### **Safety precautions for operating hazards**

1. Avoid contact with the rotating spindle and mounted wheel to prevent cutting of hands and other body parts.
2. Use of the tool can expose the operator's hands to hazards, including cuts, abrasions and heat. Wear suitable gloves to protect hands.
3. Operators and maintenance personnel shall be physically able to handle the bulk, mass and power of the tool.
4. Hold the tool correctly; be ready to counteract normal or sudden movements and have both hands available.
5. Maintain a balanced body position and secure footing.
6. Release the start-and-stop device in the case of an interruption of the energy supply.
7. Use only lubricants recommended by the manufacturer.
8. Personal protective safety glasses shall be used; suitable gloves and protective clothing are recommended.
9. For overhead work, wear a safety helmet.
10. The stopping time, if longer than 5 s, shall be stated, and it shall be recommended that the grinder be placed in a stable position.
11. When cutting off, the workpiece shall be supported such that the slot is kept at constant or increasing width during the complete operation.
12. If the abrasive product becomes jammed in a cut slot, shut off the grinder and ease the wheel free. Check that the wheel is still correctly secured and not damaged before continuing the operation.
13. Grinding wheels and cutting-off wheels shall not be used for side grinding. (Exception: grinding wheels designed for side grinding.) Grinders shall not

- be used over the maximum peripheral speed of an abrasive product.
14. The operator shall pay attention that no bystanders are in the vicinity.
  15. Personal protective equipment, such as suitable gloves, an apron and a helmet, shall be used.
  16. Grinding sparks can ignite clothing and cause severe burns. Ensure sparks do not land on clothing. Wear fire-retardant clothing and have a bucket of water nearby.

#### **Safety precautions for repetitive motions hazards**

1. When using a grinder to perform work-related activities, the operator can experience discomfort in the hands, arms, shoulders, neck or other parts of the body.
2. When using a grinder, the operator should adopt a comfortable posture while maintaining secure footing and avoiding awkward or off-balanced postures. The operator should change posture during extended tasks; this can help avoid discomfort and fatigue.
3. If the operator experiences symptoms, such as persistent or recurring discomfort, pain, throbbing, aching, tingling, numbness, burning sensations or stiffness, these warning signs should not be ignored. The operator should tell the employer and consult a qualified health professional.

#### **Safety precautions for accessory hazards**

1. Disconnect the grinder from the energy supply before fitting or changing the inserted tool or accessory.
2. Only use sizes and types of accessories and consumables that are recommended by the grinder manufacturer; do not use other types or sizes of accessories or consumables.
3. Ensure that the dimensions of the abrasive product are compatible with the grinder and that the abrasive product fits the spindle.
4. Ensure that the thread type and size of the abrasive product exactly match the thread type and size of the spindle.
5. Inspect the abrasive product before use. Do not use abrasive products which can (possibly) have been dropped or which are chipped, cracked or otherwise defective.
6. Ensure that the abrasive product is correctly mounted and tightened before use and run the grinder at no-load speed for at least 1 min in a safe position; stop immediately if considerable vibration or other defects are detected and determine the cause of these defects.
7. Prevent the spindle end from touching the bottom of the hole of cups, cones or plugs with threaded holes, intended to be mounted on machine spindles, by checking their dimensions and other relevant data.
8. Where abrasive products are supplied or used with reducing adaptors or bushings, the user shall ensure that the adaptor or bushing does not contact the face of the flange and that the clamping force provides sufficient rotational driving action to prevent the abrasive product from slipping.
9. In cases where flanges are supplied for several types or sizes of abrasive, always fit the correct flange(s) for the abrasive being used.
10. Avoid direct contact with the inserted tool during and after use as it can be hot or sharp.
11. Store and handle the abrasive product with care in accordance with manufacturer's instructions.

#### **Safety precautions for workplace hazards**

1. Slips, trips and falls are major causes of workplace injury. Be aware of slippery surfaces caused by use of the tool and also of trip hazards caused by the air line or hydraulic hose.
2. Proceed with care in unfamiliar surroundings. There can be hidden hazards, such as electricity or other utility lines.
3. This grinder is not intended for use in potentially explosive atmospheres and is not insulated from coming into contact with electric power.
4. Ensure that there are no electrical cables, gas pipes, etc., which can cause a hazard if damaged by use of the tool.

#### **Safety precautions for dust and fume hazards**

1. Dusts and fumes generated while using grinders can cause ill health (for example cancer, birth defects, asthma and/or dermatitis); risk assessment of these hazards and implementation of appropriate controls for these hazards are essential.
2. Risk assessment should include dust created by the use of the tool and the potential for disturbing existing dust.
3. Operate and maintain the grinder as recommended in these instructions, to minimize dust or fume emissions.
4. Direct the exhaust so as to minimize disturbance of dust in a dust-filled environment.
5. Where dust or fumes are created, the priority shall be to control them at the point of emission.
6. All integral features or accessories for the collection, extraction or suppression of airborne dust or fumes should be correctly used and maintained in accordance with the manufacturer's instructions.
7. Select, maintain and replace the consumable/inserted tool as recommended in the instructions, to prevent an unnecessary increase in dust or fumes.
8. Use respiratory protection in accordance with the employer's instructions and as required by occupational health and safety regulations.
9. Working with certain materials creates emissions of dust and fumes, causing a potentially explosive environment.

#### **Safety precautions for noise hazards**

1. Exposure to high noise levels can cause permanent, disabling hearing loss and other problems, such as tinnitus (ringing, buzzing, whistling or humming in the ears). Therefore, a risk assessment and the implementation of appropriate controls for these hazards are essential.
2. Appropriate controls to reduce the risk may include actions, such as damping materials, to prevent workpieces from "ringing".
3. Use hearing protection in accordance with employer's instructions and as required by occupational health and safety regulations.
4. Operate and maintain the grinder as recommended in the instructions handbook to prevent an unnecessary increase in noise.
5. If the grinder has a silencer, always ensure that it is in place and in good working order whenever the grinder is being operated.
6. Select, maintain and replace the consumable/inserted tool as recommended in the instructions handbook to prevent an unnecessary increase in noise.

#### **Safety precautions for vibration hazards**

1. Exposure to vibration can cause disabling damage to the nerves and blood supply of the hands and arms.
2. Wear warm clothing whenever working in cold conditions and keep your hands warm and dry.
3. If you experience numbness, tingling, pain or whitening of the skin in your fingers or hands, stop using the grinder, tell your employer and consult a physician.
4. Operate and maintain the grinder as recommended in the instructions handbook to prevent an unnecessary increase in vibration levels.
5. Do not allow the inserted tool to chatter on the workpiece as this is likely to cause a substantial increase in vibration.
6. Select, maintain and replace the consumable/inserted tool as recommended in the instructions handbook to prevent an unnecessary increase in vibration levels.
7. Support the mass of the tool in a stand, tensioner or balancer, if possible.
8. Hold the tool with a light but safe grip, taking account of the required hand reaction forces because the risk arising from vibration is generally greater where the grip force is higher.
9. Use blotters where they are provided with the bonded abrasive product.

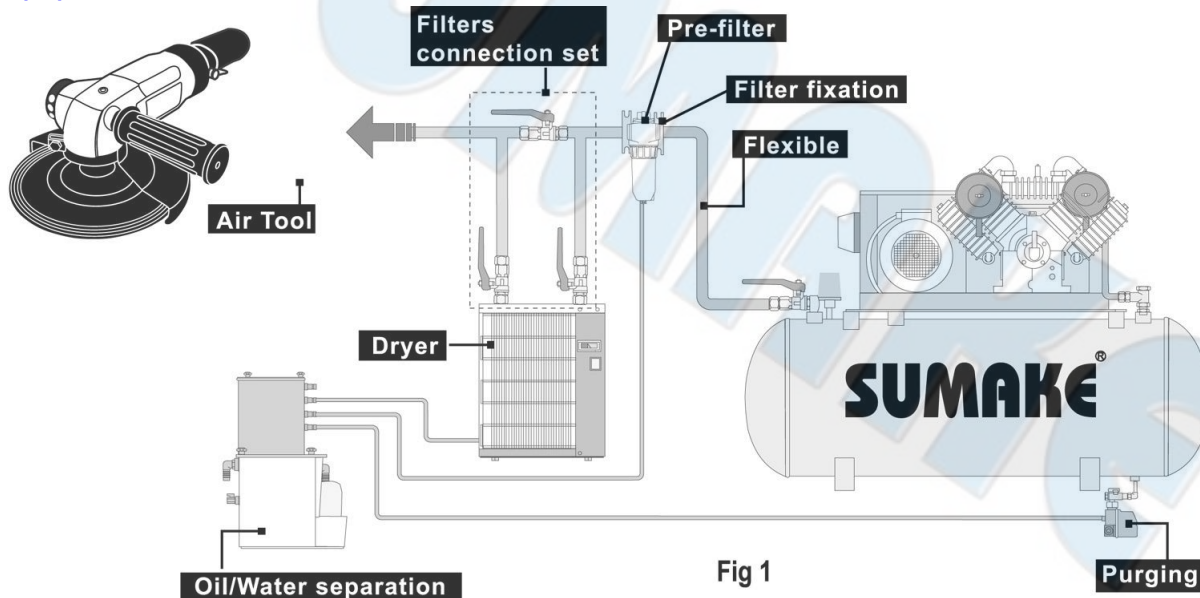
### Additional safety instructions for pneumatic power tools

1. Air under pressure can cause severe injury.
2. Always shut off air supply, drain hose of air pressure and disconnect tool from air supply when not in use, before changing accessories or when making repairs.
3. Never direct air at yourself or anyone else.
4. Whipping hoses can cause severe injury. Always check for damaged or loose hoses and fittings.
5. Whenever universal twist couplings (claw couplings) are used, lock pins shall be installed and whipcheck safety cables shall be used to safeguard against possible hose-to-tool and hose-and-hose connection failure.
6. Do not exceed the maximum air pressure stated on the tool.
7. Never carry an air tool by the hose.

### Specific safety instructions

Warnings shall be given about any specific or unusual hazards associated with the use of the grinder. Such warnings shall indicate the nature of the hazard, the risk of injury and the avoidance action to be taken.

### General preparation and connection:



1. Before connecting the air hose, apply 4 to 5 drops of SAE#10-20 spindle oil at the air inlet. Also, every 3 to 4 hours of operation, oiling is necessary. Twist Teflon thread tape to ensure a proper seal air inlet. Then tighten the air coupler into air tool.
2. The supplied compressed air must be clean and dry, with the appropriate oil mist. Use an air treatment unit; filter, regulator and lubricator.
3. Please refer Fig.1 illustration shows the correct mode of connection to the air supply system which will increase the efficiency and useful life of the tool.
4. The quick connect coupling and hose must have sufficient air flow capacity. We recommend an air hose with a diameter of 10mm (3/8").
5. To ensure a good performance. The operation pressure at the compressed air inlet should not exceed 6.3bar (90psi) (unless indicated otherwise). Higher operating pressures may cause damaged or excessive wear. Operating pressures below 5.3bar may cause pressure or power loss.



### Risk of injury

1. Compressed air can inflict serious injuries. Therefore never point the air hose at another person or yourself.
2. Shut – off the air supply and disconnect the tool in case:
  - You want to change or replace accessories.
  - You want to clean, repair or maintain the tool.
  - The tool is not going to use for some times.
3. Check compressed air hose before use. If it is damaged, broken, torn, or deformed, the hose is not to be connected to the tool.
4. Always check the pneumatic couplings before using the tool. If they show signs of damage, fracture, cracking or excessive corrosion, the respective tool or the hose is not to be used.
5. Use only qualified adapters and connectors. In case of wear they are to be replaced immediately.
6. Only use air pipes that are fit for the use at maximum pressure.

### Maintenance instruction:

1. Dry the filter (fig1) and the air inlet of the tool.
2. Lubricate the quick connect coupling to prevent blocking.
3. Air tool require lubrication throughout the life of the tool. The air motor and bearing uses compressed air to start the tool. The moisture in compressed air will rust the air motor; you must lubricate the motor daily.
4. Avoid storing the tool in a location subject to high humidity. If the tool is left as it is used, the residual moisture inside the tool can cause rust.
5. Before storage, lubricate tool and run it for a few seconds.
6. Regular inspection of spindles, threads, and clamping devices in respect of wear and tolerances for location of abrasive products.
7. If the tool is too seriously damage to be used anymore, recycle raw material instead of disposing as waste. The machine, accessories and packaging should be sorted for environmental-friendly recycling. Check with your local authority or retailer for recycling advice.



www.SUMAKE.com

www.AIRCOMPRESSOR.com.tw