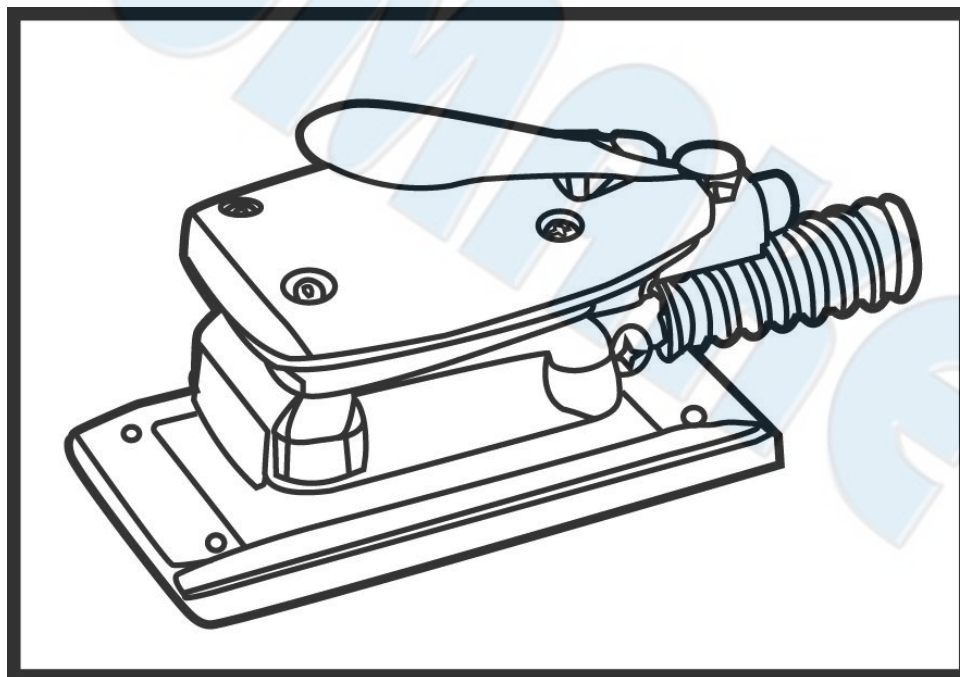




# SUMAKE PNEUMATIC TOOLS



## Self-Generated Palm Orbital Sander W/ Hook (Stick) (73x140mm) ST-77494VC(S)

### Specification:

Free Speed	9,000 r/min
Sanding Pad	3" x 6" 73 x 140 mm
Air Consumption	9.2 CFM (260 L/min)
Overall Length	L: 172 x H: 70 mm
Air Inlet (PT)	1/4" (6.35 mm)
Air Hose (I.D.)	3/8" (10 mm)
Air Pressure	90 psi (6.3 bar)
Net Weight	2.0 lbs (0.91 kg)

### Noise and Vibration:

Vibration EN ISO 28927-3	Noise EN ISO 15744	Remark
No Load: 1.2 m/s <sup>2</sup>	Sound Pressure Level No load: 83 dB(A)	Please always wear ear protector at environment noise level > 80 dB(A) due to risk of impaired hearing!
Uncertainty K= 1.5 m/s <sup>2</sup>	Sound power level No load: 94 dB(A)	
	Uncertainty K= 3dB	

SUMAKE INDUSTRIAL CO., LTD

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ST-77494VC(S)-S-1804B-KMF



## 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 : **SELF-GENERATED PALM ORBITAL SANDER  
W/ HOOK(STICK) PAD (73X140MM)**

Model/ Serial No. : **ST-77494VC(S)**

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 11148-8:2011

Name and Signature/Position



Mike Su - Managing Director

Date and Place

2013/6/28

Taipei, Taiwan

ST-77494VC(S)-D-1804B-KMF

## Foreword

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

## Features

1. Finishing of flat wide surfaces.
2. It cause no dust for its accessory dust collector.
3. The grinding speed can be freely adjusted by raising or lowing the lever according to the application.
4. Rear exhaust eliminates flying dust and noise.

## Operator instruction

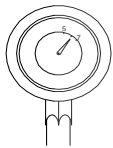
### 1. Main Applications

Durability, versatility and power make this high-speed sander excellent for paint removal, shaping filler patches, weld smoothing, and rust removal. Ability to precisely control speed makes tool useful for a variety of surface conditions and contours.

### 2. Cautions for Use

#### 2-1 Air pressure

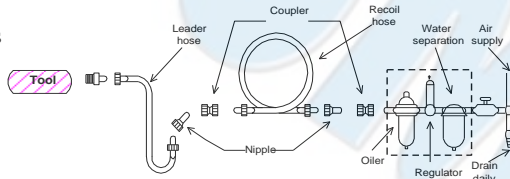
Maximum performance is displayed at the proper sanding speed, obtainable at a gauge pressure of 6.2 bar. Range-wise, this is an air pressure from 5 to 7 bar (70 to 100 psi)



#### 2-2 Air line

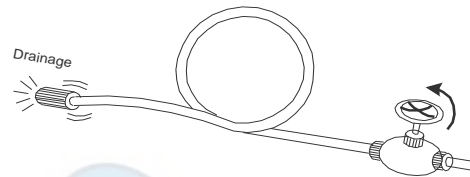
Use a 3/8" air hose between the compressor and the tool. Compressed air is cooled and its water content separated, as soon as the air leaves the compressor. A portion of the water content, however, is condensed in the piping, and can enter the tool mechanism, and may cause trouble. So, install an air filter and on oiler between the compressor and the tool. Use a 3 HP or larger

compressor for each sander.



#### 2-3 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.



#### 2-4 Sandpaper

The specification of sandpaper ranges from # 40 to # 200. Also note that, the maximum operating speed which the sandpaper can afford shall be higher than the rotation speed of this tool.

2-5 The approved eye protector, ear-muff, mouth-muffle, and gloves shall be worn when operate this tool.

2-6 The working place shall be ventilative.

2-7 Release the on-off device in the case of energy supply failure.

### 3. Operation, Adjusting And Replacing Method

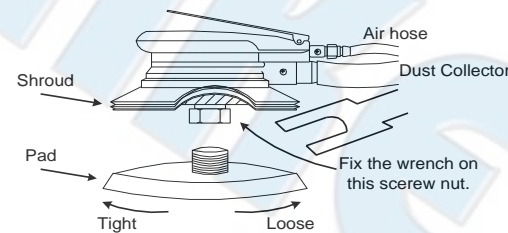
#### 3.1 On-off device

The on-off device is on the top of this tool. It is a old-to-run? type. You can also adjusting the

running speed by raising or lowering the lever. This tool stops rotation within few sec, after releasing the lever. For the sake of safety, put it on a soft cloth or on hanger after it completely stops.

#### 3.2 Sand pad

If the sanding pad is no longer adhesive, you should change to a new one. To change for it, turn up the shroud and insert the supplied wrench to fix the screw bolt in the central then turn the pad as shown in the illustration below.



## 4. Maintenance

#### 4-1 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, wash it away immediately. Also, every 3 or 4 hours of operation, oiling is necessary.

#### 4-2 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.

#### 4-3 Disposal

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

#### 4-4 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 emit sparks when grind with metal 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. Rotating action can cause this tool to become hot. Allow to cool and disconnect air hose before any changing or adjusting.
6. It is not designed for wax polish.

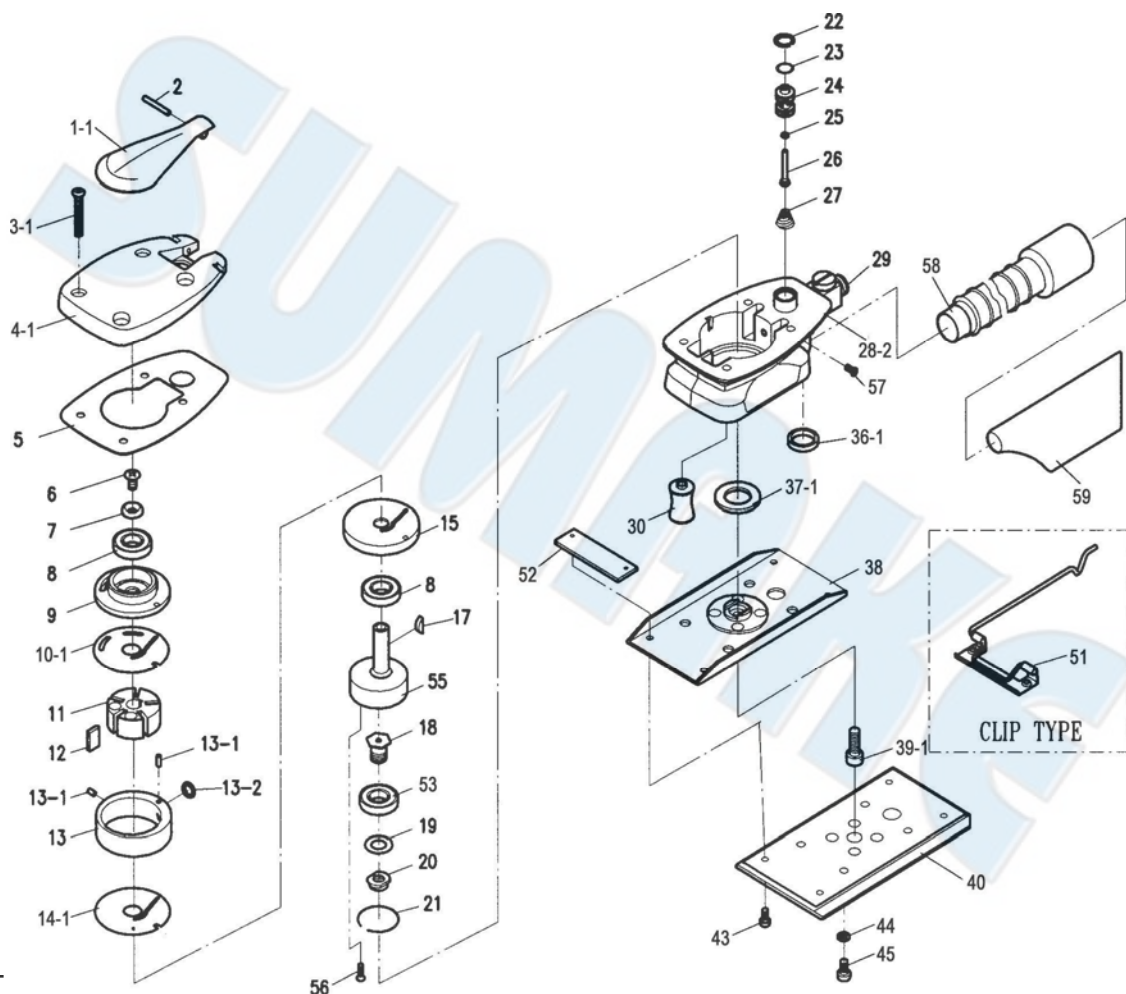


ST-77494-I-1401B-KM



# ST-77494VC(S)

## SELF-GENERATED PALM ORBITAL SANDER W/HOOK(STICK) PAD (73X140MM)



### PARTS LIST

No.	Parts No.	Description	Q'ty
1-1	77494-01-1	Valve Lever	1
2	77494-02	Spring Pin (Φ3x32)	1
3-1	77494-03-1	Screw (M5x35)	4
4-1	77494-04-1	Top Cover	1
5	77494-05	Body Packing	1
6	77494-06	Screw (M5x10)	1
7	77494-07	Conical Washer (M5 )	1
8	77494-08	Bearing (6000ZZ)	2
9	77494-09	U-Bearing Case	1
10-1	77494-10-1	U-Side Plate	1
11	77494-11	Rotor	1
12	77494-12	Rotor Blade	5
13	77494-13	Cylinder Set	1
13-1	77494-13-1	Spring Pin (Φ3x5)	3
13-2	77494-13-2	O-Ring (P7)	1
14-1	77494-14-1	L-Side Plate	1
15	77494-15	L-Bearing Case	1
17	77494-17	H/R Key (3x13)	1
18	77494-18	Pad Retainer	1
19	77494-19	Thim	1
20	77494-20	Retainer Nut	1
21	77494-21	Snap Ring	1
22	77494-22	Snap Ring (IR12)	1
23	77494-23	O-Ring (P8)	2

No.	Parts No.	Description	Q'ty
24	77494-24	Valve Pin Sleeve	1
25	77494-25	O-Ring (Φ4xΦ7)	1
26	77494-26	Valve Pin	1
27	77494-27	Valve Spring	1
28-2	77494-28-2	Body (For Vacuum Type)	1
29	77494-29	Regulator Set	1
30	77494-30	Support	4
36-1	77494-36-1	Felt Ring (Φ16)	1
37-1	77494-37-1	Seal	1
38	77494-38	Shoe Assy	1
39-1	77494-39-1	Cap Screw (M5x15)	1
40	77494-40C	Vacuum Type Hook Pad	1
	77494-40D	Vacuum Type Stick Pad	1
43	77494-43	Screw (M4x6)	4
44	77494-44	Washer (M5)	4
45	77494-45	Screw (M5x6)	4
51	77494-51	Clip (For Stick Pad)	2
52	77494-52	Clip Weight (For Hook Pad)	2
53	77494-53	Bearing (60002RS)	1
55	77494-55	Shaft With Head	1
56	77494-56	Screw (M3x5)	2
57	77494-57	Screw (M4x8)	1
58	77494-58	Dust Hose Set	1
59	77494-59	Dust Bag	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 in 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 sander. Failure to do so can result in serious bodily injury.
22. Only qualified and trained operators should install, adjust or use the sander.
23. Do not modify this sander. 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 a sander if the tool 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 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 operation of the sander. The grade of protection required should be assessed for each use.
3. For overhead work, wear a safety helmet.
4. The risks to others should also be assessed at this time.
5. Ensure that the workpiece is securely fixed.

#### **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. Use of the tool can expose the operator's hands to hazards, including cuts and abrasions and heat. Wear suitable gloves to protect hands.
2. Operators and maintenance personnel shall be physically able to handle the bulk, weight and power of the tool.
3. Hold the tool correctly; be ready to counteract normal or sudden movements and have both hands available.
4. Maintain a balanced body position and secure footing.
5. Release the start-and-stop device in the case of an interruption of the energy supply.
6. Use only lubricants recommended by the manufacturer.
7. Personal protective safety glasses shall be used; suitable gloves and protective clothing are recommended.
8. Inspect the backing pad before each use. Do not use if cracked or broken or if it has been dropped.
9. Avoid direct contact with the moving sanding pad in order to prevent pinching or cutting of hands or other body parts. Wear suitable gloves to protect hands.
10. Never run the tool unless abrasive is applied to the workpiece.
11. There is a risk of electrostatic discharge if used on plastic and other non-conductive materials.
12. Potentially explosive atmospheres can be caused by dust and fumes resulting from sanding.



13. Always use dust extraction or suppression systems which are suitable for the material being processed.

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

1. When using a sander to perform work-related activities, the operator can experience discomfort in the hands, arms, shoulders, neck or other parts of the body.
2. While using a sander, the operator should adopt a comfortable posture whilst maintaining secure footing and avoiding awkward or off-balance 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 sander from the energy supply before fitting or changing the inserted tool or accessory.
2. Avoid direct contact with the inserted tool during and after use, as it can be hot or sharp.
3. Use only sizes and types of accessories and consumables that are recommended by the manufacturer of sanders; do not use other types or sizes of accessories or consumables.
4. Grinding wheels and cutting-off tools shall not be used.
5. Check that the maximum operating speed of the inserted tool (flap wheels, abrasive belts, fibre discs, backing pads, etc.), is higher than the rated speed of the sander.
6. Self-fixing sander discs shall be placed concentrically on the supporting pad.

#### **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. The sander is not intended for use in potentially explosive atmospheres and is not insulated against contact with electric power.
3. 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. Dust and fumes generated when using sanders can cause ill health (for example cancer, birth defects, asthma and/or dermatitis); risk assessment 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 sander 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 instruction handbook, to prevent an unnecessary increase in dust or fumes.
8. Use respiratory protection in accordance with employer's instructions and as required by occupational health and safety regulations.

#### **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, risk assessment and implementation of appropriate controls for these hazards are essential.
2. Appropriate controls to reduce the risk can 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 sander as recommended in the instruction handbook, to prevent an unnecessary increase in the noise level.
5. Select, maintain and replace the consumable/inserted tool as recommended in the instruction handbook, to prevent an unnecessary increase in noise.
6. If the sander has a silencer, always ensure it is in place and in good working order when the tool is being operated.

#### **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 when 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 sander, tell your employer and consult a physician.
4. Operate and maintain the sander as recommended in the instruction handbook, to prevent an unnecessary increase in vibration levels.
5. Hold the tool with a light but safe grip, taking account of the required hand reaction forces, because the risk from vibration is generally greater when the grip force is higher.

#### **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 sander. Such warnings shall indicate the nature of the hazard, the risk of injury and the avoidance action to be taken.

### General preparation and connection:

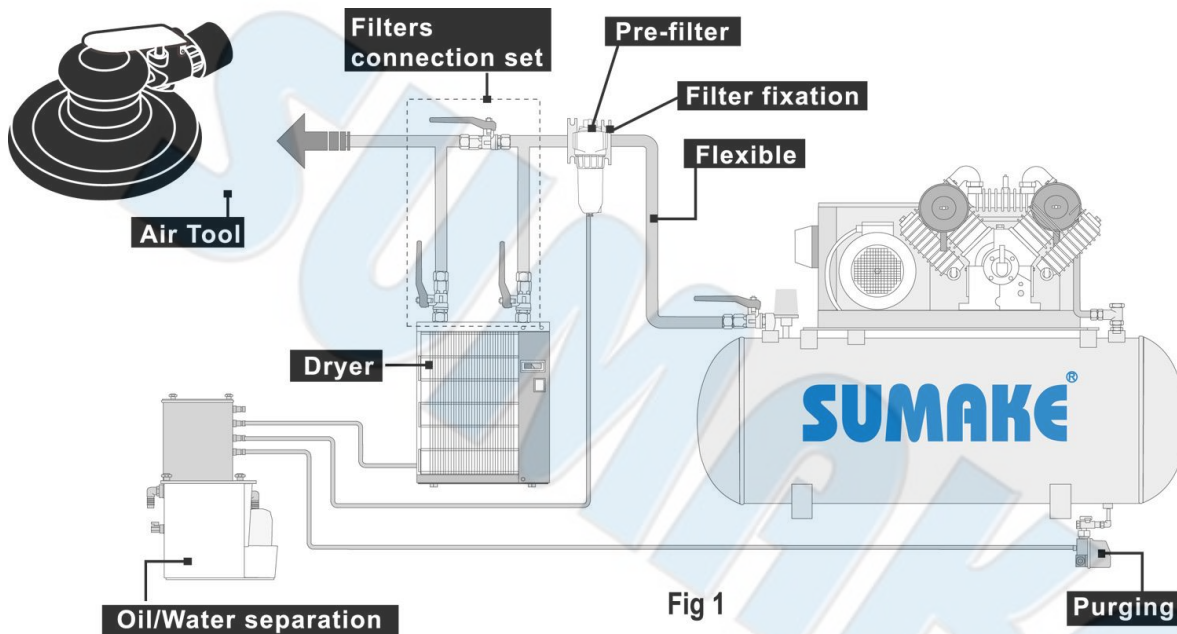


Fig 1

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 air 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.

