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Composites Brochure.....



# INSTRUCTION MANUAL



**SE50**  
**Pneumatic Routing Machine**



**A M P – TEKNIK A/S**

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## Repair & Service Facility.....

Return your machines to AMP-TEKNIK for all your repair and service requirements.

This will ensure that all repairs and servicing is carried out by qualified personnel using genuine parts, maintaining the safety of the machines.



# CONTROL OF NOISE AT WORK REGULATIONS 2005

The Control of Noise at Work Regulations 2005 revoke and replace the Control of Noise at Work Regulations 1989.

Major changes from the 1989 Regulations include the lowering of exposure action values and the introduction of new exposure action and exposure limit values. The new action levels include a reduction of 5dB(A) in the exposure levels at which action has to be taken as follows:

- **Lower exposure action values:** a daily or weekly personal noise exposure of 80dB. Previously 85 dB.
- **Upper exposure action values:** a daily or weekly personal noise exposure of 85dB. Previously 90dB.
- **Exposure limit values:** a daily or weekly personal noise exposure of 87dB.

In the case of this law, it is a requirement to reduce the noise exposure at work to the lowest level possible and an offence to fail to provide adequate protection against noise if it exceeds certain levels. This means in practice that ear protection of some form or other will be required when doing any job which approaches the limits as stated above.

For information on how these levels apply to your particular industry and the method of measurement, experts should be consulted. Just like the COSHH regulations, these are laws which may not be broken, so it is important to get proper advice at an early stage.

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Please read the user's instruction manual carefully before use and follow the user's instructions and health and safety guidelines.

Store the instruction manual where users and technicians can easily access any time as necessary.



## Pneumatic routing machine for sawing, routing, jig trimming and rebating GRP mouldings and composites.

### An Introduction.....

The SE50 is a high speed pneumatic routing machine designed for the safe machining of glass reinforced plastic mouldings and other composite materials with DK Holdings range of diamond tools. Can be used free hand or following a jig.

### SE50 Machine Features.....

The motor spindle rotates at a working speed of 50,000 r.p.m., runs on three precision high speed bearings and incorporates a double action collet to ensure tools are held accurately and securely.

### Sawing.....

Saws up to 50mm diameter with 1/4" [6.35mm] bores can be mounted on 6mm diameter spindle arbors for cutting materials up to 3mm thick.

All saws can be supplied as continuous rim or side spoke which gives a free cut when hand trimming. The diamond coated spokes prevent the blade jamming.

### Routing.....

4mm or 4.8mm diameter diamond coated routers are the type recommended. The SE50 will also accept routers up to 6mm diameter where speed of cut is not important.

### SE50 Accessories.....

The SE50 incorporates an auxiliary sleeve to which various accessories can be fitted and which also serves to deflect exhausted air away from the cutting tool. This sleeve can be quickly removed from the machine to aid rapid change of tooling. Loosen the single screw and pull towards the machine collet.

SE50's are fitted with nose cowls which can be used as a jig guide. This protects both the 6mm collet and router shank from abrasion.

### ACCESSORIES INCLUDE:

- Nose Cowl
- Plain Nose Cowl (supplied with SE50)
- Rotary Jigsaw attachment
- Saw guard and dust extraction cowl for 50mm diameter saws

### Tool Changing.....

Using the two spanners supplied undo the collet nut and insert the shank of the tool. This must be held as close to the collet as possible, keeping overhang to a minimum. When in the correct position tighten the collet nut. See "Safe Trimming and Cutting".

### Lubrication.....

An oil mist lubrication unit must be used with this air tool and should be fitted within three metres of the machine.

### Warranty.....

The SE50 machines are guaranteed for six months from date of purchase. Any machines requiring repair should be returned to our factory.

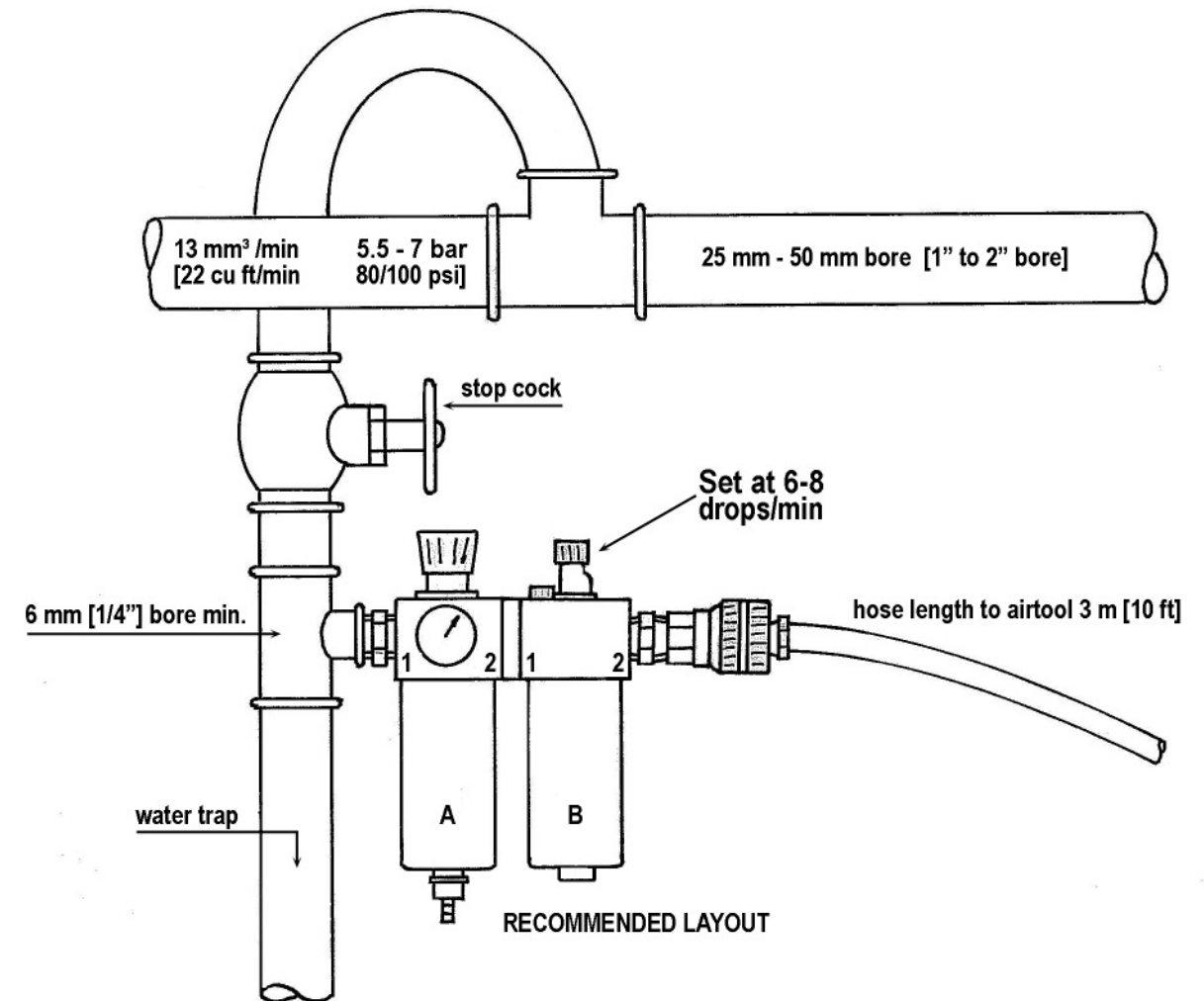
The following table illustrates maximum continuous air flow m<sup>3</sup>/min [c.f.m.] through various pipe sizes [75% maximum permissible].

PRESSURE		PIPE SIZE							
BAR	P.S.I.	12 mm [1/2"] Dia.		19 mm [3/4"] Dia.		25 mm [1"] Dia.		40 mm [1 1/2"] Dia.	
		m <sup>3</sup> /min	c.f.m.	m <sup>3</sup> /min	c.f.m.	m <sup>3</sup> /min	c.f.m.	m <sup>3</sup> /min	c.f.m.
5.5	80	5.3	9	24.7	42	76.5	130	247.2	420
6.2	90	5.9	10	26.5	45	82.4	140	265.0	450
7.0	100	7.0	12	30.0	51	94.1	160	288.4	490

Pressure loss amounts to 15% in sizes up to 12 mm [1/2"] and 10% in sizes 19 mm [3/4"] to 40 mm [1 1/2"], over 30 metres [100 foot] length run of pipe.

It must be stressed that unless an approved method of lubricating these machines is used, the suppliers will not hold themselves responsible for damage caused to the air motor and any guarantee will automatically become void. To ensure good lubrication a clean air supply is required. Contaminated air supply will greatly reduce the life of the machine.

**Note:** Recommended oil to use with our pneumatic tools is **Hydrasil 10**.



## Air Tool Lubrication.....

Compressed air contains both water and dirt. For operating efficiency and long tool life, it is necessary to remove all dirty and contaminated air from the system and to add necessary lubrication. Inadequate lubrication results in decreased efficiency of the air tool and wastes air.

Haphazard lubrication can be damaging. Remember that an air tool revolving at between 10,000 and 50,000 r.p.m. does several million revolutions in a working day.

For this reason it is essential to use a Oil Mist lubricator filter unit, thus cleaning the air and producing a fine Oil Mist of oil which is capable of being carried over long distances - the only means of supplying lubrication for the working parts of the motor.

**Our standard "Mini" unit** will allow an air flow of 20 m<sup>3</sup>/min [34 c.f.m.] [free air to be passed per minute] at 80-100 p.s.i.. For maximum efficiency a pipe run from the oil fog unit to machine should not exceed 9.1metres [30 feet]. If using 2 machines concurrently the total length of pipe run for both machines should be kept within this limit. Due to limitations in adjustment, banks of not more than 2 machines per lubricator are advised for maximum efficiency.

**A large unit is available** - the "Midi" unit which allows 76.5 m<sup>3</sup>/min [130 c.f.m.] at 5.5 - 7 bar [80\_100 p.s.i.].

Where line pressure exceeds 7 bar [100 p.s.i.] the pressure regulator must be set at a maximum of 7 bar [100 p.s.i.] to prevent excessive tool wear and wastage of air.

The main points to watch when fitting the Oil Mist are as follows: -

①

The Oil Mist unit should be situated as near the working area as possible with best results obtained when the air tool is connected straight into the unit with the length of hose provided

②

Ensure that the air from the compressor is directed through the filter/regulator **[A]** first, then through the lubricator **[B]** and not vice versa.

③

The air delivery pipe from compressor to oil unit should have a minimum bore size of 19 mm [ $\frac{3}{4}$ " ] over short lengths and up to 50 mm [2"] over long lengths.

## SE50 Technical Specification.....

Weight		Free Speed	Air Pressure		Air Consumption	Collet Diameter	Minimum Hose Diameter	
lbs	Kg	RPM	lbs/ sq inch	kg/ sq inch	Cubic ft/ minute	Litre/ minute	Size	Air Hose bore
2½	1.14	72,000	80-100	5.5-7	12	340	6mm	6mm I.D.

## Declaration of Noise Emission.....

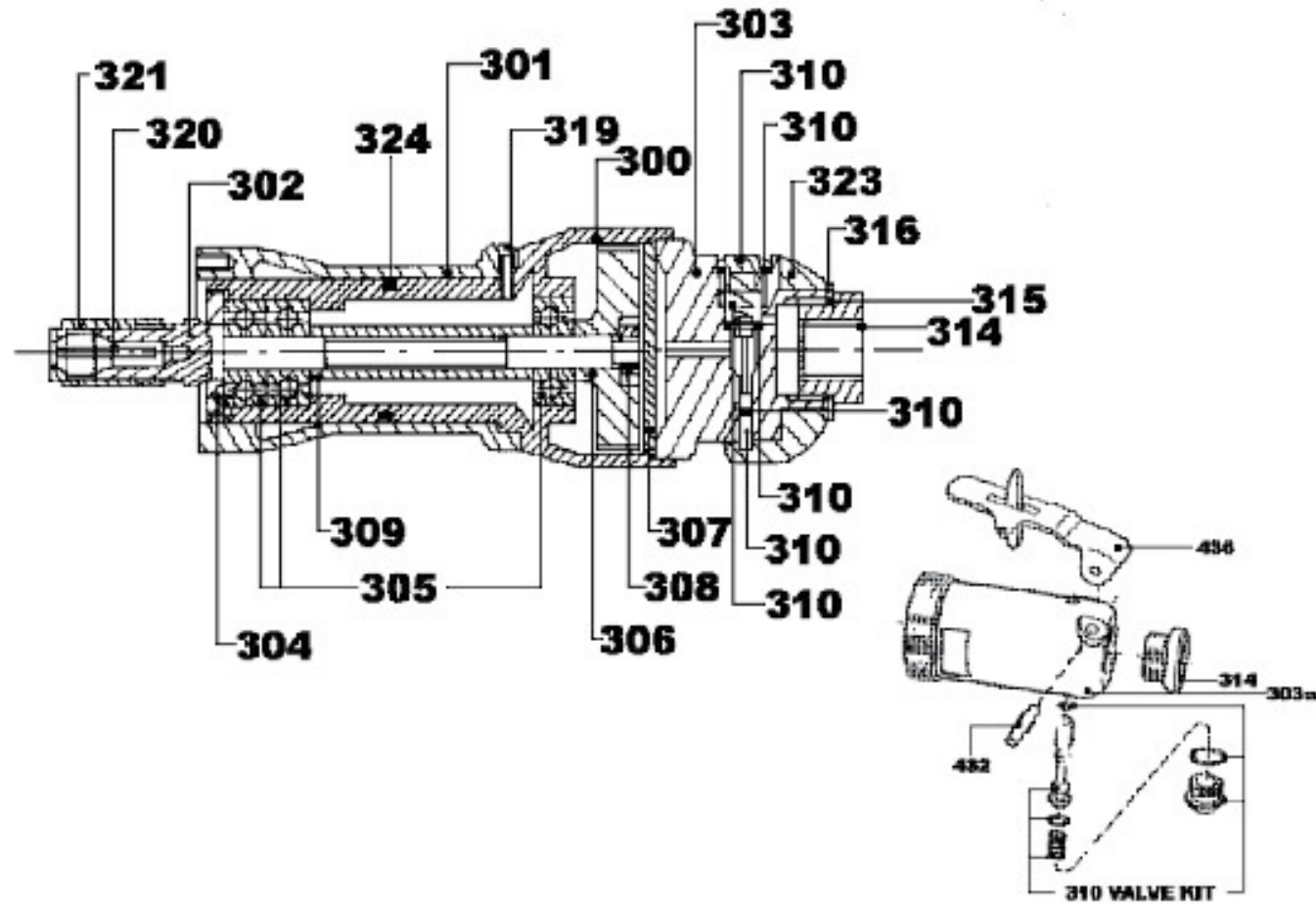
Machine Sound Pressure Level	Spread in Method and Production
90 dB [A]	3 dB [A]

## Declaration of Vibration.....

Measured Vibration Level	Spread in Method and Production
9.5 M/S <sup>2</sup>	4 M/S <sup>2</sup>

**Note:** Due to the noise level produced by this machine, ear protection must be used. Care must be taken when stopping this machine because of the high rotational speed. Always put in a safe place while the spindle slows to a halt.

# PARTS LIST



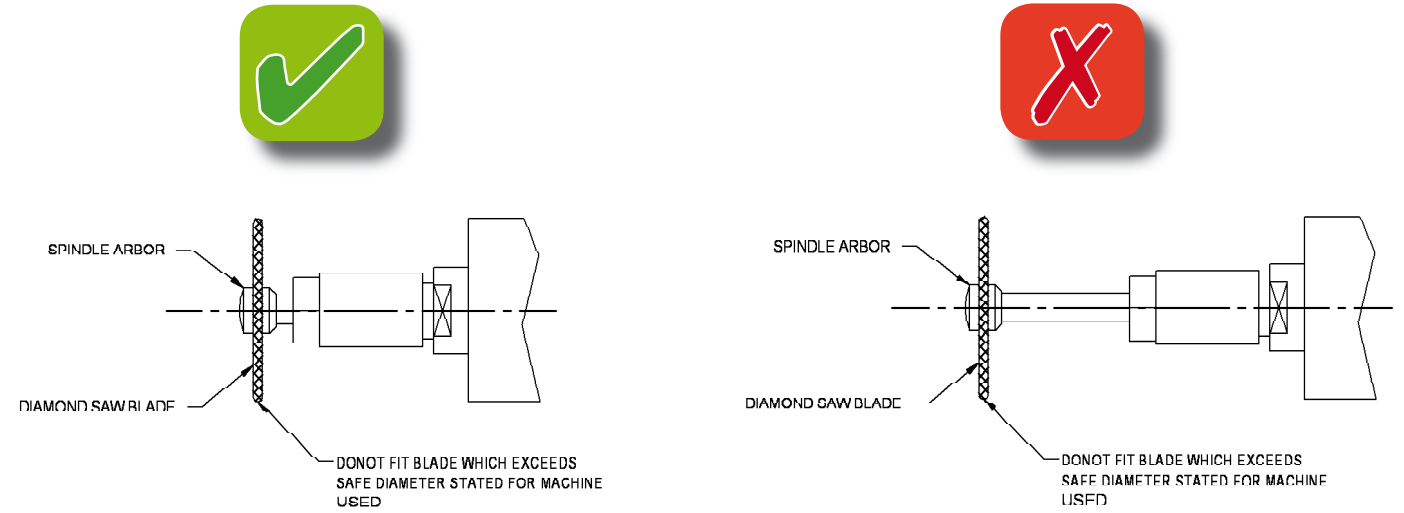
PART NO.	DESCRIPTION	QTY
SE300	BODY	1
SE301	MOTOR BODY SLEEVE	1
SE302	SPINDLE	1
SE303	THROTTLE BODY	1
SE303 SL	TRIGGER THROTTLE BODY	1
SE304	BEARING RETAINER	1
SE305	BEARINGS	3
SE306	IMPELLER	1
SE307	JET PLATE	1
SE308	LOCKNUT	1
SE309	BEARING SPACER	1
SE310	VALVE KIT	1
SE311	"O" RING	1
SE312	SPRING	1
SE314	CONNECTION UNION	1
SE315	"O" RING	1
SE316	WASHER	1
SE317	"O" RING	1
SE318	PLUG	1
SE319	SCREW	1
SE320	COLLET 6mm	1

PART NO.	DESCRIPTION	QTY
SE321	COLLET NUT	1
SE322	"O" RING	1
SE323	TWIST THROTTLE	1
SE324	"O" RING	1
SE432	SAFETY LEVER PIN	1
SE436	TRIGGER SAFETY LEVER	1
	COWL SCREW	
	OIL	
	HOSE	
	QUICK RELEASE	
	SPANNERS	
	REPAIR KIT	
	SERVICING KIT	
	SILENCER	
	DUST EXTRACTION HOSE	
	3/8" DUST EXTRACTION HOSE	
	COMPLETE THROTTLE AND VALVE ASSEMBLY – LEVER TYPE	
	1-off each 318, 317, 322 (2), 323, 316, 315, 314, 311, 310, 312, 303SL, 436, 432.	

# SAFE TRIMMING AND CUTTING

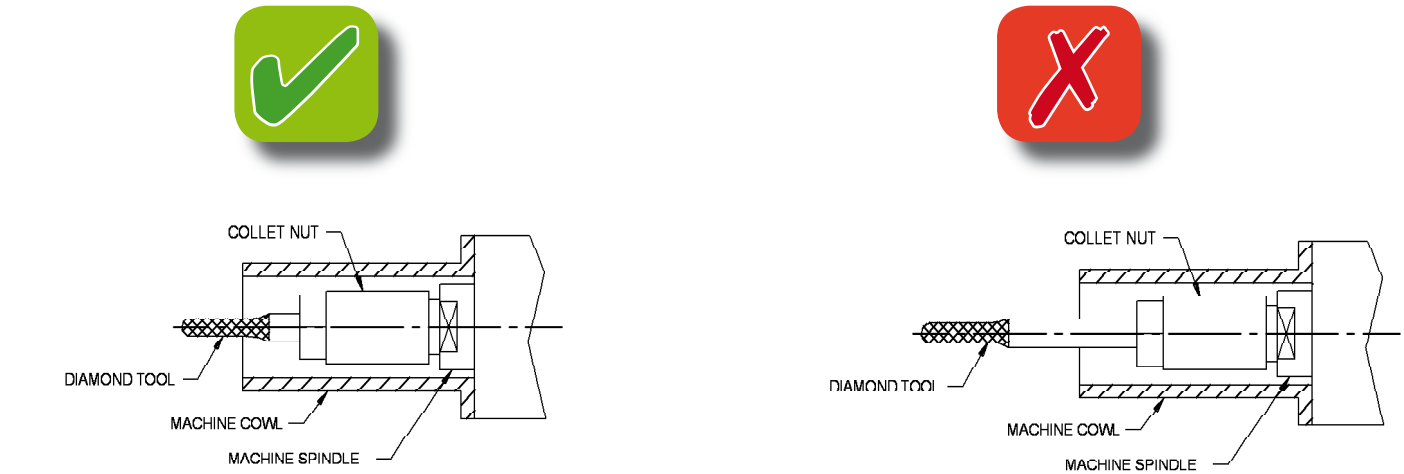
## Recommended Safe Blade Size.....

SE50 40 mm diameter blade using 6 mm spindle arbor.  
 SE50 50 mm diameter blade using collet nut saw adaptor.



## Recommended Safe Coated Length for Routers.....

SE50 4.8mm diameter x 19mm coated length router.  
 SE50 6mm diameter x 19mm coated length router.



## Recommended Hose Bore Diameter.....

		<u>Air Pressure</u>	
SE50	6mm	80 - 100 psi	6-7 kg/sq. cm

**Note:** Using a larger bore hose or greater pressure than recommended can cause over speeding.