INSTALLING YOUR AIR MOTOR

AIRLINES

The recommended dimensions of airlines is given in the introductory section to each motor type. Note that exhaust hose is larger than the inlet hose.

The recommendations are valid for hose lengths of up to 3 metres. For distances between 3 and 15 metres select a hose diameter one size up, and for distances between 15 and 50 metres select a hose diameter two sizes up.

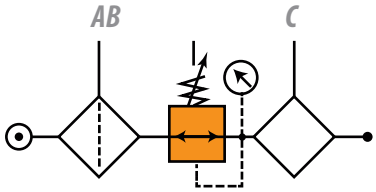
It is important to note that the output of the motor will be reduced if these guidelines are not followed.

AIR PREPARATION

To ensure reliable service an air filter and lubricator should be fitted into the inlet airline - within 5 metres from the motor.

It is recommended that a pressure regulator is also incorporated into the air preparation package. This has the function of maintaining the desired working pressure, and can be used to modify the motor's output to meet the needs of the application.

When selecting an air preparation package, ensure all components have a flow capacity sufficient to meet the requirements of the motor. A typical arrangement of an air preparation installation is shown below.



A = filter
B = Pressure regulator
C = Oil fog lubricatior

LUBRICATION

To achieve optimum service life and performance of the lubricated airmotors they should be supplied with 50 mm^3 of oil for each cubic metre (1000 litres) of air consumed (1 drop = 15 mm^3).

Insufficient lubrication will result in accelerated vane wear and a reduction in performance.

The following example shows how to calculate the lubrication required by a motor running at a known output.

EXAMPLE:

A non-reversible motor running at maximum output consumes 9,8 litres/sec of air.
In one minute it consumes 656 litres of air, therefore the lubrication required is:

$\frac{656}{1000} \times 50 = 32{,}8\ mm^3/min$

If an oil-fog lubricator was to be used it should be set to deliver 3 drops of oil a minute (1 drop = 15 mm^3).

The lubrication oil selected should have a viscosity which lies between 50 and 300 x 10^6 m^2/s at the motor's working temperature.
However, if it is necessary to reduce the level of oil exhauset from the motor, and a piped-away or filtered exhaust is not acceptable, then the lubrication level can be reduced.
Although this will effect the motor, the performance may still be acceptable. Table shows how reduced lubrication can affect service life and output.

Quantità lubrificante (mm^3 olio m^3)	Vita del motore (ore)	Potenza in uscita (%)
50	1000-3000	100
10	500-1000	100
1	200-500	90
0.1	100-300	80
0	10-30	30

1 drop of oil is appr. 15 mm^3

If the supply air is very dry the idling speed of the lubrication free motors may degrade somewhat afier running for longer periods, a decrease of 10-15% may be noticeable. The power of the motors is, however, generally not affected. To guarantee longer service intervals the lubricated, standard motors are still the best choice.