

Product Overview | 1600 Air Motors

The following figures are based on 26° movement of the air motor arm and 90° movement of the control valve.

Maximum AVAILABLE TORQUE*

35 pound-inches for standard 1600 Air Motor
245 pound-inches for motor with optional top mounted positioner

CONSTRUCTION

1600 Air Motors are compact and lightweight, with cast aluminum housings. Diaphragms are synthetic rubber impregnated duck.

All bearing surfaces are large to assure long life. Total slack in a properly assembled linkage between motor and valve is 0.015", which converts to a valve motion angular slack of only 0.296°. Motor and valve assemblies can be mounted in any position without affecting operation.

The 1600 Air Motor is factory set to go from fully closed to fully open with an air pressure signal of 3-15 psi. When the standard positioner is used, the "zero" point, or minimum actuating control pressure, while factory set at 3 psi, can be field adjusted between 0 and 9 psi. Factory assembled motor and valve combinations have linkage set for full travel and will open on control air pressure increase. Reverse action is available if specified.

OPTIONS

1600-P - Integral Top-mounted Positioner

When increased torque is necessary to operate large valves or valves controlling dirty or high pressure fluids, maximum accuracy of valve response to minute variations of impulse air pressure can be obtained by using a top-mounted positioner with the 1600 Air Motor. (See Bulletin 1600-P).

1600-B Optional Speed Control for Air Motor

Because of system design or slow span-step and response-time rating of the instrument, some control instruments require slow responding air motors to dampen oscillations associated with poor system performance.



Figure 1. 1600 Diaphragm Air Motor with Wafer Type Butterfly Valve.

1600- -B and 1600- -BP (with positioner) Air Motors have a special volume chamber with needle valve that can be adjusted for full travel speeds of 31 to 81 seconds. Consult North American for details. (See Bulletin 1600-BP).

1600-A Air Motor with SPDT limit switches in a general purpose enclosure. (See Bulletin 1600-A)

1600-HL Air Motor with NEMA 4 high and low limit switches. (See Bulletin 1600-HL).

1600-M Air Motor with dual display monitor and position transmitter. (See Bulletin 1600-M).

1600 Air Motor Greasing Instructions

Any soda base grease of a No. 2 or medium hard consistency can be used. The ambient temperature range for a grease of this type is -40°F to 250°F. The motor should be re-greased at least once each month. Grease should be forced in until new grease appears outside the bearing ends. Even if the air motor is not used, grease should not be allowed to stay in the unit more than 48 months.

*Use available torque figures when determining if a positioner is required.