

APPLICATIONS

Industrial lubricants are used in a wide variety of equipment and applications. Requirements for these lubricants in the various applications are summarized below.

AIR TOOLS (PNEUMATICS)

Pneumatic systems use various cylinders and valves that require lubrication. The cylinders convert air pressure into mechanical energy that can be used to perform linear movements such as lifting or moving tools and work pieces. The valves control the starts, stops, direction and pressures to ensure that the pressurized air follows the correct path.

Air cylinders are lubricated by oil fed into the air stream by oilers. These are typically R&O oils of lighter ISO grades, 22 and 32, that provide good corrosion protection.

Air motors are usually vane or piston type, and are lubricated by either airborne oil mist (vane) or built-in splash oilers (piston). Most air motors work through gear reduction boxes to reduce the high speeds to a slower, more useable speed. Lubricants are typically the same types as are used in compressors. Some air motors operate through separate gearboxes that may require a gear oil.

Pneumatic tools using air cylinders or vane type air motors require lubrication, as mentioned above. However, reciprocating types, which use percussion force, require lubricants that contain extreme pressure agents. These lubricants should have good oxidation stability, and they should be either emulsifying or demulsifying to remove water contamination. Additionally, they should be low odor and nontoxic. Viscosity grades can range from ISO 32 to ISO 100.

CHAIN DRIVES

Chain drives provide a useful way to transmit power, move materials or operate equipment. A typical chain drive consists of the chain and a sprocket. The chain is made up of many metallic links having rollers, bushings and interconnecting links. Other chain types include open detachable chains and closed pintle chains. The sprockets may have a single row or multiple rows of teeth.