

## **Access Plate**

Removable or hinged plate in platform surface which allows access to power unit and hydraulics when lift is in the down position.

## **Accordion Skirt**

A flexible protective skirt that extends approximately 3" out from a minimum-sized lift platform to conceal the base and internal components of the lift and is often used to prevent inadvertent contact with the scissors mechanism by the operator and/or to keep debris out from under the lift. It is typically made from 23-ounce vinyl reinforced with polyester. However, it is not an acceptable form of toe protection according to ANSI MH29.1.

## **Actuator**

Actuator is a device for converting hydraulic, electric, or pneumatic energy into mechanical energy.

## **Air Bag Actuation**

Inflatable air bag provides travel. Use when electric power is not available and/or desirable or hydraulic is not acceptable.

## **Air/Hydraulic**

A system where the primary power is air, which runs the pumps, which sends hydraulic fluid to the cylinders. An air powered hydraulic actuator system.

## **Ampere**

The ampere is the unit of measure for the rate of flow of electric current.

## **Anchors**

Hardware used for Fastening Equipment to Floor or Walls.

## **Anti-Skid Surface**

Diamond tread or abrasive material applied to lift platform.

## **Approach Ramp**

Hinged or fixed plate with structural support from floor level to top of lift platform for loading and unloading.

## **Audible Signal**

Alarm or signal used to alert personnel of equipment starting or moving.

## **Authorized Person**

Trained and/or qualified personnel approved or assigned to perform a specific duty or duties.

## **Automatic Indexing**

Optical or mechanical sensing to position platform at preset height(s).

## **Automatic Landing Gate**

A landing gate that automatically opens or closes, respectively, as a lift platform arrives at or departs from subject landing.

## **Auxiliary Contact**

Electrical contact used as another switching device on Contactor.

## **Back Frame**

The vertical portions of the carriage on cantilever Freightlift.

## **Baffle**

A device, usually a plate, installed in a reservoir to separate the pump inlet from return lines.

## **Ball Screw**

Rotary to linear motion conversion device, usually electric.

## **Ball Transfer Surface**

Ball type conveyors built into platform, either fixed or retractable.

## **Base Frame Build Up**

Increases lowered height and provides under-clearance.

## **Bearing**

A load support that provides for relative motion between the load and the support.

## **Beveled Toe Guards**

According to ANSI MH29-1, "A toe guard plate not less than 8 inches (20.3 cm) in width shall be provided on all unprotected sides as a physical alert. It shall be made of steel, not less than No. 11 gauge (3 mm) in thickness, or other material of equal rigidity, attached flush with the vertical edge of the platform, and slanted inwardly at an angle of approximately 30 degrees from vertical."

## **Bleed-Off**

To divert a specific controllable portion of pump flow directly back to reservoir.

## **Breather**

A device, which permits air to move in and out of a reservoir or component to maintain atmospheric pressure.  
(Prevents a vacuum)

## **Break Over (Bridge / Ramp)**

A device hinged to a lift platform which can be raised or broken over when the platform is being raised or lowered.

## **Bushing**

A metal lining for reducing friction on moving parts.

## **By-Pass**

A secondary passage for fluid flow.

## **Cable**

Wire rope.

## **Capacity, Lifting**

The rated capacity of a scissors lift applied as a uniformly distributed load while the platform is raising or lowering.

## **Capacity, Rated**

The maximum load which can be applied to the platform according to the manufacturer's specification.

## **Capacity, Rollover**

The maximum amount of single axle load which can be rolled over the platform surface when the lift is in its fully closed position.

## **Carriage**

The entire assembly that travels in the mast and carries the load.

## **Cartridge**

1. The replaceable element of a fluid filter.
2. The pumping unit from a vane pump, composed of the rotor, ring, vanes and one or both side plates.

## **Casters**

Fixed or swivel, can be positioned in a variety of configurations for portability and transportability.

## **Center of Gravity**

Location thru which the entire mass of an object can be resolved.

## **Check Valve**

A valve, which permits flow of fluid in one direction only.

## **Circuit**

An arrangement of components interconnected to perform a specific controlling function within a system.

## **Compressibility**

The change in volume of a unit volume of a fluid when it is subjected to a unit change in pressure.

## **Contactors**

Electrical device that is specifically sized for a Motor.

## **Continuous Running Motor**

A motor which remains running even when the lift is not in use.

## **Continuous Duty**

The motor is rated to run continuous, although it may also be used intermittently.

## **Controls**

Any electrical device used in the operation of a Lift normally includes push button stations, control box, limit switches, interlocks, etc.

## **Controls by Others (CBO)**

Controller and Control signaling device (Push-button, Footswitch, etc.) are supplied by others.

## **Control Signaling By Others (CSBO)**

The controller is supplied by manufacturer, but the control signaling device, (push-button, footswitch, etc.) is supplied by others.

## **Controlled Issue**

A drawing that is released to Manufacturing for them to keep and release to shop floor as needed.

## **Controller**

The assembly of electrical components which transforms primary voltage to secondary voltage and controls the functions of the motor and the control valves.

## **Control Transformer**

An electrical component which alters (reduces) the primary voltage.

## **Control Voltage**

The secondary voltage, which comes from the transformer to the push-button.

## **Controls – Press and Hold**

These operator controls shall:

1. Be of the type when pressed will make the scissors lift operate.
2. Be of the type when released the scissors lift will stop.
3. Return to the off position when released.
4. Be clearly marked as to direction and function.
5. Be protected from inadvertent operation.
6. Be readily accessible to the operator.

## **Controls – Press and Release**

Push button control which can be pushed to activate and released, travel ceases automatically at preset level

## **Controls - Constant Pressure**

A pushbutton control of travel which when finger is removed from button, travel stops.

## **Counterbalance Valve**

A pressure control valve which maintains back pressure to prevent a load from falling.

## **Critical Components**

Those components whose absence or failure would cause the equipment of which they are a part of to become inadequate or unsafe for its specific purpose.

## **Cycle**

A cycle is a period of time between motor starts.

## **Cylinder**

A device, which converts fluid power into linear force and motion. It usually consists of a movable element such as a piston and piston rod, plunger or ram, operating within a cylindrical bore.

## **Cylinder, Double Acting**

A cylinder in which fluid force can be applied to the movable element in either direction, typically used when application requires control of both up and down action.

## **Cylinder, Direct Acting**

The cylinder or ram transmits lifting force directly to the carriage rather than through the use of cables, sheaves or chains.

## **Cylinder, Ram**

A cylinder in which the movable element has the same cross sectional area as the piston rod.

## **Cylinder, Single Acting**

A cylinder in which the fluid force can be applied to the movable element in only one direction.

## **Cylinder, Single Rod**

A cylinder with a piston rod extending from only one end.

## **Directional Valve**

A valve, which selectively directs or prevents fluid flow to desired channels.

## **Direct acting cylinder**

The cylinder or ram transmits lifting force directly to the carriage rather than through the use of cables, sheaves or chains.

## **Displacement**

The quantity of fluid which can pass through a pump, motor or cylinder in a single revolution or stroke.

## **Dock Lift**

A stationary or portable scissors lift used in the area of a dock to transfer loads (typically wheeled loads) from a fixed elevation to a vehicle; the lift is operated from the platform which may include rider(s) in addition to the operator. Most dock lifts are permanently installed in concrete pits, but some scissors-style lifts are portable for use in multiple locations such as truck delivery areas that have no elevated dock or where recessed pits are not feasible.

## **Down solenoid**

An electrical mechanical device that, when electrically energized, opens the down valve.

## **Drift**

The distance a lift platform will slowly drop due, usually to slight leaks of the hydraulic fluid or inability of a brake to hold a motor.

## **DU Bushing**

A pre-finished, high performance, bearing used in the pivot points of a scissors lift. (Lead Impregnated Teflon with steel backing)

## **Dual Tap Transformer**

Provides (2) different secondary voltages from the same device.

## **Ductile Material**

Materials having a minimum elongation of 5% in 2 inches (50.8mm).

## **Dump Valve**

A valve used to divert hydraulic flow directly to tank.

## **Dust Tight**

Is design to prevent any dust from entering the device.

## **Duty Cycle**

The rating of an electrical motor or component.

## **Electric Toe Guard**

A device mounted below the platform such that when an obstruction is met during descent, the lift will be brought to rest before entrapment can occur, whether the lift is loaded or empty.

## **Electric/Hydraulic**

A system which primary power is electric, which runs (pumps) hydraulic fluid to the cylinders.

## **Enclosure**

Structure surrounding a lift to prevent anything from interfering with normal operation and to safe guard personnel. Typically 8' high panels made of expanded metal that will prevent a 2" diameter ball from passing through. This is a requirement of the conveyor code. (ANSI-B20.1)

## **Ergonomic**

The applied science of workplace equipment design, intended to maximize productivity by reducing operator fatigue, discomfort, and wasted motion.

## **Explosion Proof**

Electrical Devices that are designed for a specific location or area where certain Hazardous condition may or can exist.

## **Filter**

A device through which fluid is passed to separate matter held in suspension. A device whose primary function is the retention by a porous media of insoluble contaminants from a fluid.

## **Flanged Wheels**

For use with flat or rail type track to provide fixed path lateral movement.

## **Flow Control Valve**

A valve, which controls the rate of oil flow.

## **Flow Rate**

The volume of a fluid passing through the circuit per unit of time, usually gallons per minute.

## **Flush Mount Push-Button**

Push- Button that mounts in the wall, which allows only the cover plate and push-button to be visible.

## **Fork Pockets**

Allow unit to be readily moved by fork truck.

## **F.O.B.**

Point where freight begins and where shipping charges begin.

## **Gate**

A device that opens and closes to allow access to the carriage for loading and unloading. Normally a swing, sliding, or vertical acting device constructed of similar expanded metal as the enclosure.

## **Gib**

Device used to contain roller pin or roller.

## **GPM**

Gallons per minute.

## **Guarded by Location**

Describes moving parts so protected by their remoteness from the floor, platform, walkway, or other working level, or by their location with reference to frame, foundation, or structure as to reduce the foreseeable risk of accidental contact by persons or objects. Remoteness from foreseeable, regular, or frequent presence of public or employed personnel may in reasonable circumstances constitute guarding by location.

## **Guide Angle to Guide Angle**

Dimension given to set the mast on a Freight Lift.

## **Handrails and Snap Chain**

For use when personnel must be raised or lowered. Removable rails allow access from all sides when lift is not in use. Rails are 48" high.

## **Hazardous Duty**

Usually a location which requires special electrical components.

## **High Cycle**

A requirement for continuous cycling of the lift and power unit, typically considered more than 60,000 cycles per year.

## **High Speed**

Faster than standard engineered speeds.

## **Hinged Bridge**

A hinged transition plate which is attached to the edge of the platform and used to bridge the gap between the platform and landing and/or truck bed.

## **Horsepower (HP)**

The power required to lift 550 pounds one foot in one second or 33,000 pounds one foot a minute. A horsepower is equal to 745.7 watts or to 42.4 British Thermal Units per minute.

## **Horizontal Sliding Gate**

A gate that operates horizontal to the floor.

## **Hydraulic**

Operation by movement and force of liquid.

## **Hydraulic Piping System**

The entire system of fluid conductors such as hose, pipe, tubing, etc., utilized to transfer hydraulic fluid between various operating components of a hydraulic system such as pumps, valves, actuators, etc.

## **Interlock**

An electrical mechanical system for doors or gates to prevent operation of the lift if all gates are not closed or if the lift platform is not present at that level.

## **Intermediate Stop**

Usually a stop between Top and Bottom floors, or travel of the platform.

## **Intermittent Duty**

Motor is rated to run only part time. (2 min. run time and 2 min. rest time.)

## **Kilowatt**

Power is the rate of doing work.

## **Landing**

A permanent working surface at a fixed elevation used for loading/unloading a scissors lift platform. (G) positioned at that elevation.

## **Landing Gate**

A mechanical barrier to control personnel traffic at a landing.

## **Lift Table**

A stationary, portable or transport scissors lift used to raise, lower, stack, convey and/or transfer material from one elevation to another. No riders are allowed on the platform. Scissors lifts provide the most stable, dependable, and versatile method of lifting heavy loads. Because of their simplicity & few moving parts, maintenance-free bushings, and wide acceptance by customers - scissors tables provide many years of trouble free operation for relatively small capital investment. Scissors lift mechanisms are easily modified by narrowing, widening, combining or stacking to achieve an extremely wide array of configurations to effectively move loads of virtually any size and/or capacity to heights of 20 feet or more. Hydraulic scissor lifts are the most popular, versatile, and economical of all actuation styles, but completely pneumatic or mechanical scissors tables are also available - depending on the demands of the application.

## **Lifting Capacity**

The rated load of a scissor lift applied as a uniformly distributed load.

## **Limit switch**

An electrical device that stops travel and prevents over travel. It also provides height positioning and activates associated equipment.

## **Limited Travel**

Travel is limited either with electrical device (limit switch) or mechanical device.

## **Linear Actuator**

A device for converting hydraulic energy into linear motion - a cylinder or ram.

## **Load height**

The maximum height of material a Platform can accommodate.

## **Load pattern**

A method to describe the direction a load will be moved on and off a platform at different levels.

- "Z" Load Pattern - The traffic flow is to load the lift from one side and exit the lift off the opposite side as it was loaded.
- "C" Load Pattern - Traffic enters the lift on one side and exits the lift from the same side as the lift was loaded.
- "90°" Load Pattern - Traffic pattern requires a cantilever carriage to enter the lift from one side and exit the lift at a 90° angle from the loading position.

## **Lock Left**

Standing outside the gate facing the gate, handle on the left, gate swings outward.

## **Lock Right**

Standing outside the gate, facing the gate, handle on the right, gate swings outward.

## **Manifold**

A fluid conductor providing multiple connection ports.

## **Manual Control**

A control actuated by the operator, regardless of the means of actuation. Example: Lever or foot pedal control for directional valves.

## **Manual Override**

A means of manually actuating an automatically controlled device.

## **Manufacturer**

A person or entity that makes, builds, or produces an industrial scissors lift.

## **Mast(s)**

The vertical members between which the carriage is guided throughout its vertical travel.

## **Maintain Limit**

Limit, which stays tripped in the direction of travel.

## **Mechanical stop**

A mechanical means of stopping travel at a predetermined spot or to prevent over travel.

## **Motor**

A device, which converts fluid or electricity into mechanical force and motion. It usually provides rotary mechanical motion.

## **Motor, Fixed Displacement**

A motor in which the displacement per cycle cannot be varied.

## **Motor, Linear (1)**

A term sometimes used in reference to a cylinder.

## **Motor starter (Magnetic)**

To control the starting of the motor and provide protection against electrical overloads. A device operated by control voltage to actuate or connect two high voltage contact points.

## **Mounted By Others**

The mounting of components will be by someone other than manufacturer.

## **NEMA Type 1 Enclosure**

Enclosures constructed for indoor use to provide a degree of protection to personnel against access to hazardous parts and to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt).

## **NEMA Type 2 Enclosure**

Enclosures constructed for indoor use to provide a degree of protection to personnel against access to hazardous parts; to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt); and to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (dripping and light splashing).

## **NEMA Type 3 Enclosure**

Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against access to hazardous parts; to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt and windblown dust); to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (rain, sleet, snow); and that will be undamaged by the external formation of ice on the enclosure.

## **NEMA Type 3R Enclosure**

Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against access to hazardous parts; to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt); to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (rain, sleet, snow); and that will be undamaged by the external formation of ice on the enclosure.

## **NEMA Type 3S Enclosure**

Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against access to hazardous parts; to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt and windblown dust); to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (rain, sleet, snow); and for which the external mechanism(s) remain operable when ice laden.

## **NEMA Type 3X Enclosure**

Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against access to hazardous parts; to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt and windblown dust); to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (rain, sleet, snow); that provides an additional level of protection against corrosion and that will be undamaged by the external formation of ice on the enclosure.

## **NEMA Type 3RX Enclosure**

Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against access to hazardous parts; to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt); to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (rain, sleet, snow); that will be undamaged by the external formation of ice on the enclosure that provides an additional level of protection against corrosion; and that will be undamaged by the external formation of ice on the enclosure.

## **NEMA Type 3SX Enclosure**

Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against access to hazardous parts; to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt and windblown dust); to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (rain, sleet, snow); that provides an additional level of protection against corrosion; and for which the external mechanism(s) remain operable when ice laden.

## **NEMA Type 4 Enclosure**

Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against access to hazardous parts; to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt and windblown dust); to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (rain, sleet, snow, splashing water, and hose directed water); and that will be undamaged by the external formation of ice on the enclosure.

## **NEMA Type 4X Enclosure**

Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against access to hazardous parts; to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (windblown dust); to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (rain, sleet, snow, splashing water, and hose directed water); that provides an additional level of protection against corrosion; and that will be undamaged by the external formation of ice on the enclosure.

## **NEMA Type 5 Enclosure**

Enclosures constructed for indoor use to provide a degree of protection to personnel against access to hazardous parts; to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt and settling airborne dust, lint, fibers, and flyings); and to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (dripping and light splashing).

## **NEMA Type 6 Enclosure**

Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against access to hazardous parts; to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt); to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (hose directed water and the entry of water during occasional temporary submersion at a limited depth); and that will be undamaged by the external formation of ice on the enclosure.

## **NEMA Type 6P Enclosure**

Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against access to hazardous parts; to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt); to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (hose directed water and the entry of water during prolonged submersion at a limited depth); that provides an additional level of protection against corrosion and that will be undamaged by the external formation of ice on the enclosure.

## **NEMA Type 12 Enclosure**

Enclosures constructed (without knockouts) for indoor use to provide a degree of protection to personnel against access to hazardous parts; to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt and circulating dust, lint, fibers); and to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (dripping and light splashing).

## **NEMA Type 12K Enclosure**

Enclosures constructed (with knockouts) for indoor use to provide a degree of protection to personnel against access to hazardous parts; to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt and circulating dust, lint, fibers); and to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (dripping and light splashing).

## **NEMA Type 13 Enclosure**

Enclosures constructed for indoor use to provide a degree of protection to personnel against access to hazardous parts; to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt and circulating dust, lint, fibers); to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (dripping and light splashing); and to provide a degree of protection against the spraying, splashing, and seepage of oil and non-corrosive coolants.

## **Non-ductile material**

Materials having an elongation of less than 5% in 2 inches (50.8mm).

## **Non-Operating End**

The side(s) of the platform not used for loading/unloading. Handrails with midrail and kickplate are supplied as minimum safety protection.

## **ODP**

Open Drip Proof (usually referred to on Electric motors)

## **Oil Tight**

Is for a fitting or box that will not let oil enter into the system or device.

## **Operating end**

The side(s) of the platform used for loading/unloading. A safety chain is supplied as minimum safety protection.

## **Operational Signals**

Visual or audible alarms warn personnel when lift is in use.

## **Operator**

An authorized person controlling the movement of the industrial scissors lift.

## **Orifice**

A restricted passageway in a fluid power system, usually a small hole drilled for the purpose of limiting the flow. A restriction, the length of which is small in respect to its cross-sectional dimensions.

## **Owner**

A person or entity that has possession of an industrial scissors lift by virtue of title to the equipment.

## **Pantograph leg section**

The articulated support mechanism characterized by a single central pivot axis and commonly referred to as the scissors leg assembly.

## **Piston**

A solid piston that fits into a larger cylinder and moves back and forth under fluid pressure. A cylindrically shaped part which fits within a cylinder and transmits or receives motion by means of a connecting rod.

## **Platform**

The horizontal surface of the platform or carriage where the load is placed.

## **Platform Ends**

The edges of the platform that are perpendicular to the scissors legs. The end dimension is considered the platform width.

## **Platform Sides**

The edges of the platform that are parallel to the scissors legs. The side dimension is considered the platform length.

## **Plunger**

A cylindrically shaped part, which has only one diameter and is used to transmit thrust.

## **Pneumatic**

Of or relating to air or another gas.

## **Pneumatic Piping System**

The entire system of pneumatic conductors such as hose, pipe, tubing, etc., utilized to transfer gas between various operating components of the pneumatic system such as pumps, valves, actuators, etc.

## **Poppet**

That part of certain valves which prevents flow when it closes against a seat.

## **Port**

An internal or external terminus of a passage in a component.

## **Positive Displacement**

A characteristic of a pump or motor, which has the inlet positively, sealed from the outlet so that fluid cannot recirculate in the component.

## **Power**

Work per unit of time, measured in horsepower (hp) or watts.

## **Power Pack**

An integral power supply unit usually containing a pump, reservoir, relief valve and directional control.

## **Power Unit**

An assembly including, but not limited to the motor, pump, reservoir, and the Autotrol valve.

## **Pressure**

Force per unit area, usually expressed in pounds per square inch (psi).

## **Pressure Line**

The line carrying the fluid from the pump outlet to the pressurized port of the actuator.

## **Pressure relief valve**

A valve that can be set to a predetermined pressure. If the pressure is exceeded the valve will open to prevent damage to hydraulic system. A pressure operated valve which by-passes pump delivery to the reservoir, limiting system pressure to a predetermined maximum value.

## **Pressure switch**

A switch that can be set to a predetermined pressure. When this pressure is reached it will open thus turning off the control circuit and stopping the pump motor.

## **Pre-Wired**

Means that all practical devices are wired to the control box either to terminal strip or to the device.

## **Primary Voltage**

The main Power being supplied to the motor and the control box, (usually the high voltage on our products.)

## **Pump**

A device, which causes a liquid to flow against a pressure. It converts mechanical force and motion into hydraulic fluid power.

## **Pump, Fixed Displacement**

A pump in which the displacement per cycle cannot be varied.

## **Pump, Gear**

A pump having two or more intermeshing gears or lobed members enclosed in a housing.

## **Pump, Vane**

A pump having multiple radial vanes within a supporting rotor.

## **Pump, Variable Displacement**

A pump in which the displacement per cycle can be varied.

## **Push-Button Station**

The hand held or wall mounted device used to control the motion of the platform.

## **Qualified Person**

A person, who, by possession of a recognized degree, certificate, professional standing, or skill, and who, by knowledge, training and experience, has demonstrated the ability to deal with problems relating to the subject matter, the work, or the project.

## **Quick Disconnect**

Allows for quick disconnect of controls, air, or other lines. Used with portable or frequently relocated lifts. Not available for power supply line.

## **Rain Tight**

Device designed to prevent rain from entering the device.

## **Raised Height**

The total height, measured from the bottom of the base to the top of the platform when the lift is in a fully raised position.

## **Ram**

A single-acting cylinder with a single diameter plunger rather than a piston and rod

## **Rating, end/side axle load**

The maximum amount of single axle load (in the case of rolling loads) which can be applied to the loading edge of the platform (end or side) when the lift is in any raised position. This rating considers: 1) that some amount of deflection will occur during load transfer, 2) the moving and impact forces imposed by the load, 3) that this is a temporary condition during load transfer only, and 4) that the scissors lift platform is static and non-moving.

## **Rating, end/side edge load**

The maximum amount of static load that can be applied to the edge of the platform (end or side) when the lift is in any raised position. This rating considers: 1) that some amount of deflection will occur during load transfer, 2) that this is a temporary condition during load transfer only, and 3) that the scissors lift platform is static and non-moving.

## **Reference Dimension**

Dimension used to measure from one location to the next.

## **Remote Power Unit**

Power unit that will be mounted outside of the lift.

## **Reservoir**

A tank that holds fluid (oil) for the hydraulic power unit. A container for storage of liquid in a fluid power system.

## **Restriction**

A reduced cross-sectional area in a line or passage, which produces a pressure drop.

## **Return Line**

A line used to carry exhaust fluid from the actuator back to the reservoir.

## **Rollover Capacity (load)**

The maximum amount of single axle load, which may be rolled over the platform surface when the lift is in its fully closed position.

## **Roll Off Panel**

Rollover is the amount of load being rolled over a lift platform in its fully collapsed position. For in-plant lifts, rollover loads must not exceed the rated capacity of the lift in order to prevent permanent damage. For dock lifts, rollover loads must not exceed twice the rated lifting capacity.

## **Safety Factor**

The ratio of the maximum load which the lift can withstand to the load which it was designed to withstand under normal operation.

## **Scissor Lift**

A raising/lowering platform that is supported or stabilized by one or more pantograph leg sections. Scissors lifts provide the most stable, dependable, and versatile method of lifting heavy loads. Because of their simplicity & few moving parts, maintenance-free bushings, and wide acceptance by customers - scissors tables provide many years of trouble free operation for relatively small capital investment. Scissors lift mechanisms are easily modified by narrowing, widening, combining or stacking to achieve an extremely wide array of configurations to effectively move

loads of virtually any size and/or capacity to heights of 20 feet or more. Hydraulic scissor lifts are the most popular, versatile, and economical of all actuation styles, but completely pneumatic or mechanical scissors tables are also available - depending on the demands of the application.

## **Scissors lift, mobile**

A work access lift designed for lateral movement where: 1) there may be material on the lift platform, 2) there may be operators or other riders on the lift platform during lateral movement, 3) the lift platform may be in a raised position during lateral movement, and 4) the lateral movement is restricted to a predetermined path via tracks, grooves, or other physical guides.

## **Scissors lift, portable**

A scissors lift designed for lateral movement from one stationary work station to another where: 1) there is no load on the lift platform during lateral movement, 2) there are no operators or other riders on the lift platform during lateral movement, 3) the lift platform is in the fully lowered position during lateral movement, and 4) the lateral movement is unrestricted.

## **Scissors lift, transport**

A lift table designed for lateral movement where: 1) there may be a load on the lift platform during lateral movement, 2) there are no operators or other riders on the lift platform, 3) the lift platform may be in a raised position during lateral movement, and 4) the lateral movement may be unrestricted.

## **Secondary Voltage**

Usually the control voltage or the lower voltage in the control box.

## **Self Contained Power Unit (Internal)**

Power unit which is mounted in the lift mechanism.

## **Sequence**

The order of a series of operations or movements.

## **Shall**

The word "shall" is to be understood as mandatory.

## **Should**

The word "should" is to be understood as advisory.

## **Signal**

A command or indication of a desired position or velocity.

## **Single Acting Cylinder**

A cylinder in which hydraulic energy can produce thrust or motion in only one direction. (May be mechanically or gravity returned).

## **Slack Chain Device**

Device used to signal or alert of a slack chain condition.

## **Slack Chain Limit**

Limit switch used to signal or stop the movement of the carriage.

## **Snap Chain**

A length of chain with a clasp on the end to close off the operating end of the carriage.

## **Stability/stable**

A condition in which the sum of the moments that tend to overturn the industrial scissors lift is less than the sum of the moments tending to resist overturning.

## **Strainer**

A device through which a fluid is passed to separate solids in suspensions. A strainer is usually installed on the intake side of a pump.

## **Strength Factor**

The ration of ultimate strength of the material to the design stress at rated lifting capacity.

## **Stroke**

The length of travel of a piston or plunger.

## **Structural Strength Factor**

The ratio of minimum specified ultimate strength of a material to its design stress at maximum rated capacity.

## **Suction Line**

The hydraulic line connecting the pump inlet port to the reservoir or sump.

## **Surge**

A transient rise of pressure or flow.

## **Tank**

See Reservoir

## **TEFC**

Totally enclose fan cooled

## **TENV**

Totally enclosed non-ventilated

## **Thrust Angle**

A cross member of the scissors lift upon which the cylinder pushes to create travel.

## **Toe Guard**

A beveled edge, on a platform, which serves as toe protection for personnel.

## **Torque**

A rotary thrust. The turning effort of a fluid motor usually expressed in inch pounds.

## **Torque Tube**

A cross member of a scissors lift that assists to structurally, equalize the loading through the legs of the lift.

## **Trained personnel**

Personnel who have been trained by a qualified person and have demonstrated the ability to perform a particular function on or around a scissors lift.

## **Transducer (or feedback transducer)**

An element, which measures the results at the load and sends a signal back to the amplifier.

## **Travel**

The vertical distance, which the platform moves from collapsed height to full raised height.

## **Trunnion**

A cross member of a scissors lift which assists to structurally, equalize the loading through the legs of the lift. (Generally, the cylinders are attached to this tube).

## **Two-Way Valve**

A directional control valve with two flow paths.

## **User**

A person or entity that has care, control and custody of an industrial scissor lift.

## **Valve**

A device, which controls fluid flow direction, pressure, or flow rate.

## **Valve – No Coast**

Used when precise positioning is desired. Hydraulic dump valves decrease upward coast.

## **Valve – Minimum Down Drift**

Used for positive shutoff. For use where platforms must maintain position for extended periods.

## **Valve – Up Stop**

A hydraulic component used primarily to physically limit the travel of scissor lifts which have RAM type cylinders by depressing a plunger which diverts hydraulic flow from the cylinder to the oil reservoir.

## **V-Deck Platform**

Used to center cylindrical loads or rolls.

## **“Vee” Wheels**

For use with inverted angle or Vee track to provide fixed path lateral movement.

## **Velocity**

The speed of flow through a hydraulic line, Expressed in feet per second (fps) or inches per second (ips).

## **Velocity Fuse**

A hydraulic valve, which in the event of a severed hose or hydraulic failure will lock the oil in the cylinder and prevent the lift from falling.

## **Vertical Acting Gate**

Gate which when opened will move vertically.

## **Vertical Creep**

Unintended vertical movement of an industrial scissors lift.

## **Vertical Travel**

The difference between the fully raised height of the platform deck and the fully closed height of the platform deck.

## **Viscosity**

A measure of the internal friction or the resistance of a fluid to flow.

## **Volt**

Voltage is the term used to indicate electrical potential.

## **Volume**

The size of a space or chamber in cubic inches. Loosely applied to the output of a pump in gallons per minute (gpm).

## **Warning Light**

Light used to signal movement of a certain device.

## **Wash- Down**

Designed to allow the component to be washed down with water.

## **Water Proof**

Device design to prevent water from entering part or component.

## **Watt**

Power is the rate of doing work.

## **Work Access Lift**

A stationary, portable or mobile scissors lift operated from the platform which may include rider(s) in addition to the operator; the lift may be used to transfer material from one elevation to another.