ERGO ROBOTIC SOLUTIONS

PlumbLine 4400

STANDARD FEATURES AND EQUIPMENT

VACUUM

- Redundant vacuum pumps, non-lubricated positive displacement, automatic start-stop control
- Vacuum frame accepts variety of cup sizes, fully adjustable
- Vacuum cup assemblies include bi-directional coil spring loaded mounts
- Includes 8 standard 20" x 12" rectangular suction cups, 550 lbs. lift per cup in shear at 100% safety factor

SAFETY

- Strobe light operates with master battery switch
- Low vacuum level alarm, audible horn
- Safety vacuum check valves
- Mechanically interlocked vacuum safety
- LED feedback for vacuum system status

HYDRAULICS

- All hydraulic functions are proportionally controlled, with valves for each manipulator function

CONTROL

- 8 direction manipulator motions
- Adjustable counterbalance to bring load plumb
- Proportional hydraulic function actuation
- Controls on unit include:
  - Battery isolation switch
  - Battery master switch
  - Vacuum gauge
  - Hydraulic power On/Off switch
  - Battery charge gauge
- Wireless remote includes:
  - Multi-function controls for all manipulator functions
  - Vacuum power and release switches
  - Emergency stop

CHASSIS

- Counterbalanced assembly
- Built in battery chargers, 110 volt, 60 Hz. single phase
- Electrical circuit breakers

PlumbLine 4400 Dimensions

Characteristic	Specification
Lift Capacity	4,400 lbs.
Closed Chassis Length	48"
Width (Chassis / Fixed Tree)	28" / 72"
Operating Depth, including cups (Min / Max)	29" / 48"
Machine Height, with cups, horizontal/vertical tree	90" / 126"
Unladen (Tare) Weight	1,100 lbs.
Underhook to glass distance (Min / Max)	0" / 33"

Powered Manipulation Functions

Control	Assembly	Direction	Viewed from
1	Counterbalance	In / Out	Side Elevation
2	Under hook Connection	Up / Down	Side Elevation
3	Horizontal to Vertical Tilt	Tilt Up / Down	Side Elevation
4	Manipulator - vacuum cup frame	Rotate - CW and CCW 180°	Side Elevation

- All hydraulic controls use a variable orifice proportional valve.
- The hydraulic circuits are equipped with check and counterbalance valves to prevent leak down and droop under load.
- Actuation is proportional and linear in response to control inputs.