Electric Servo Powered
Intelligent Lifting Devices

THE SMARTER WAY TO
Intelligence.
Speed.
Precision.
Strength.

GORBEL®
A CLASS ABOVE
www.gorbel.com
Gorbel’s G-Force® and Easy Arm™ devices are part of an exciting new family of material handling equipment known as Intelligent Assist Devices (IAD’s). They use exclusive patented technology and an industrial processor controlled servo drive systems to deliver unmatched lifting precision and speed. Their fusion of advanced technology and basic human guidance maximizes productivity while minimizing the risk of injury to the operator.

**G-Force® and Easy Arm™ Technology: The Smarter Way to Lift**

**Infinite Speed Control**

The G-Force® and Easy Arm™ move with the operator. They move as fast or as slow as the operator chooses to move. They are ideal for applications that require high speed at some points in the cycle and slow, precise movements at other points.

**Blazing Speeds**

With G-Force® speeds reaching 200 fpm (61 mpm) and Easy Arm™ speeds reaching 180 fpm (55 mpm), these devices travel up to 4 times faster than traditional high-end lifting devices currently on the market, making them the fastest, most precise lifting devices on the planet.

**Pinpoint Precision**

The G-Force® and Easy Arm™ deliver unparalleled precision with speeds of less than 1 fpm (0.3 mpm). This gives the operator the control necessary to finesse expensive or fragile parts.

**The Safe Alternative**

Operators want to use the G-Force® and Easy Arm™ because they’re easy to learn and easy to use. They are safer than manual lifting and dramatically reduce worker injury cost.

**Anti-Recoil Technology**

This prevents the G-Force® or Easy Arm™ from moving or recoiling when there is a sudden change in load, reducing the risk of potentially serious injury.

**Capacity Overload**

The unit will not lift if the load exceeds the rated capacity of the G-Force® or Easy Arm™.

**Power Loss Protection**

A fail safe load braking system locks the unit in place in the event of a power loss.

**Operator Present Function**

The handle grip of the G-Force® and Easy Arm™ uses a built-in photo sensor that doesn’t allow the unit to move unless the operator initiates the movement.

**Float Mode Option**

Both the G-Force® and Easy Arm™ offer our versatile Float Mode. With a mere 1/2 lb (227 g) of force on the load itself, operators can precisely orient loads throughout the full stroke range by manipulating the load with their hands.

**The Smart Investment**

G-Force® technology makes your work force more productive by increasing their efficiency and enabling them to perform complex tasks. The G-Force® and the Easy Arm™ are more cost effective than completely robotic solutions and they don’t require the costly custom programming that robots need to perform even the simplest tasks.

**The Perfect Solution**

The G-Force® and Easy Arm™ give you the best of both worlds: the responsiveness and flexibility of a human operator plus the power of a machine. And, they incorporate a range of speeds, making them perfect for quick, repetitive motions and slow, precise placements.

**“Gorbel’s Easy Arm has clearly been instrumental in the success of our Lean initiatives so far. As we look at our other processes and value streams, I’m sure we’ll be purchasing more of their products.”**

- Lean Integration Leader

www.gorbel.com
800.821.0086

"Man Meets Machine"

G-Force® technology fills the void between traditional lifting devices and completely automated robotic solutions. These devices use the human’s intelligence and adaptability for guidance but the work is done by the device.
G-FORCE® Q AND IQ 
BRIDGE CRANE MOUNTED INTELLIGENT LIFTING DEVICE

When precision, strength and speed are necessities, turn to Gorbel’s patented G-Force® Intelligent Lifting Device. More precise than hoists, more responsive than air balancers, our bridge crane mounted G-Force® units improve safety, productivity and quality, resulting in a direct increase to your bottom line.

CHOOSE THIS CONFIGURATION FOR:
- Higher capacities: available in 165 lb, 330 lb and 660 lb capacities
- Faster speeds: maximum speeds up to 200 fpm
- More responsive performance: faster acceleration and deceleration
- Covering multiple work cells with one G-Force®
- Covering larger single work areas

APPLICATIONS
- Automotive assembly (engines, transmissions, chassis components)
- Heavy equipment manufacturing
- Tool & Die changeouts
- Natural Gas & Oil Industry (valves, drilling components, etc)
- Repetitive lifting jobs
- Parts assembly
- Machining
- Process equipment maintenance

EASY ARM™ Q AND IQ 
INTELLIGENT LIFTING ARM

The Easy Arm™ Intelligent Lifting Arm is an ideal solution if you’re looking for a turn-key, plug and play lifting solution. You get all the strength, precision, and speed of our patented G-Force® lifting technology and processor controlled electric servo drive system in the body of an ergonomic articulating jib crane.

CHOOSE FREE STANDING FOR:
- Easy installation: the unit ships assembled and ready to be installed
- No foundation required
- Smaller work areas that require 14’ spans or less
- Capacities of 165 lb and 330 lb
- Easy relocation: the Easy Arm™ is simply bolted to the floor

CHOOSE UNDER HUNG FOR:
- Saving valuable floor space
- Hook heights over 11’
- Covering multiple work cells

APPLICATIONS
- Reaching into a work cell or around obstructions
- Reaching under overhead obstructions like conveyors or exhaust hoods
- Reaching into machines
- High cycle pick and place
- Loading/unloading machined parts
There are two G-Force® and Easy Arm™ models to choose from: the Q and the iQ. The Q model is our feature packed base model. It offers the same speed and precision as our higher-end iQ model, but without the added Input/Output features that the iQ offers. The iQ model offers a wealth of additional intelligence features.

The Q and the iQ may look the same on the outside, but under their covers is a different story.

### Feature Comparison

<table>
<thead>
<tr>
<th>Feature Comparison</th>
<th>Q</th>
<th>iQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachable Virtual Limits and Speed Reduction Points</td>
<td>Available as a software adder</td>
<td>Standard</td>
</tr>
<tr>
<td>Programmable Inputs and Outputs</td>
<td>N/A</td>
<td>Standard</td>
</tr>
<tr>
<td>Other Features</td>
<td>N/A</td>
<td>Standard</td>
</tr>
</tbody>
</table>

### Programmable Inputs and Outputs

The iQ comes standard with 8 Input/Output points in the actuator. Standard “out-of-box” common functions like an additional set of virtual limits and a maintenance indicator are already assigned to the Input/Output points to reduce the need for custom programming.

Flexible and convenient optional Input/Output blocks, each containing 8 Input/Output points, can be added below the G360™ Swivel Assembly to provide just the right functionality for your application. This block includes standard functions such as Auto-Home, Dual Weight Float Mode, and Anti-Drop.

### Other Features

The iQ allows you to control one G-Force® or Easy Arm™ unit with two handles, which is ideal for applications when tooling requires more than one point of control. You can also control two G-Force® units with one handle, which is useful when you want two points of control for large tooling.

### G-Force® and Easy Arm™ Handle Configuration Options

The G-Force® and Easy Arm™ were designed to provide flexibility in handle configurations. Choose from the following four configurations to best fit your application.

1. **Remote Mount Pendant Control Handle**
   - This configuration offers the same smooth control as the slide handle, but accommodates set-ups where the operators can’t be close to the load.

2. **Remote Mount Slide Handle**
   - The in-line slide handle allows the operator to get close to the load for more control and precision. With this handle, the load moves with the motion of the operator’s hand.

3. **In-Line Slide Handle**
   - The in-line slide handle allows the operator to get close to the load for more control and precision. With this handle, the load moves with the motion of the operator’s hand.

4. **Suspended Pendant Control Handle**
   - This handle is ideal when you have limited headroom, when the operator can’t get close to the load or when the operator needs maximum lifting stroke. This handle can also be used when you expect the load to bounce or tip during lifting.

### New Equipment Layouts

Each of the above configuration options can be used with Soft Touch Control Handles. Soft Touch Control Handles make tooling integration easier. Use our Soft Touch Control Handles to control any air or electric powered equipment, such as end-effector tooling for the G-Force® or Easy Arm™.

**Why choose a Soft Touch Control Handle?**

- Flexible design easily integrates into new equipment layouts.
- Easy replacement of any standard pneumatic or electric handles.
- Engineered for easy use to reduce potential for fatigue and repetitive stress injuries.
- Offers more flexibility in tooling choices and the ability to customize tooling for applications.
- Costs less than most comparable handles.

### Innovative Handle Design

- **Soft Touch Control Handles**
  - The handle grip of the G-Force® or Easy Arm™ was designed with your operator’s comfort in mind. Its shape, size, and material were carefully planned to fit comfortably in the curve of your hand, while its rubber, textured coating gives you a positive grip.

- **3. Operator Present Function**
  - The iQ’s operator present function allows the operator to sense the presence of the operator without a physical lever to depress. The result is safe, smooth operation because the operator is not tempted to react to the load.

- **4. Ergonomic Handle Design**
  - Our long lasting handle was designed with your operator’s comfort in mind. Its shape, size, and material were carefully planned to fit comfortably in the curve of your hand, while its rubber, textured coating gives you a positive grip.
Baseplate Dimensions

- **Span**: 6' (1829mm), 8' (2438mm), 10' (3048mm), 12' (3658mm), 14' (4267mm)
- **H.U.H.** (Height Under Hook)
  - 165 lb (75 kg) unit: 109.14" (2772mm)
  - 330 lb (150 kg) unit: 133.88" (3401mm)
  - 600 lb (300 kg) unit: 157.88" (4010mm)

**Hook Coverage**

- **Overall Height**: 24.90" (632mm), 32.06" (814mm), 40.03" (1017mm), 48.00" (1219mm), 56" (1422mm)
- **Span x 2**: 106.86" (2714mm), 130.86" (3324mm), 154.86" (3933mm)

**Arm Rotation**

- 355° primary arm, 320° secondary arm

**Dimensions shown in parentheses are in millimeters.**

Please note:
- These dimensions are for Easy Arm™ units with Inline slide handles only. Units with suspended pendant handles will have different dimensions.
- Please contact Gorbel at (800) 821-0086 for these dimensions. For Under Hung model dimensions please visit www.gorbel.com/gforce/easyarm.asp.
- Other Heights Under Hook are available as special orders; contact factory.

**Dimensions**

- **Remote Slide**: 15.5" (394mm), 24.125" (613mm), 16" (406mm)
- **Suspended Pendant**: 10.875" (276mm), 15" (381mm), 16" (406mm)
- **Remote Pendant**: 10.875" (276mm), 15" (381mm), 15.5" (394mm)

**Portable Base**

Instead of bolting your free standing unit to the floor, our optional portable base gives you a stable base that you can move anywhere in your facility. The base shown is for smaller Easy Arms. Large units may require a different portable base. Contact your Gorbel dealer to learn more.
ERGONOMIC STUDY
The following summary is based on a study performed by the Rochester Institute of Technology. The study compared the performance of Gorbel’s G-Force® Intelligent Lifting Device to other lifting devices. It focused on High Cycle Applications and Precision Placement Applications. To read the whole study, go to: http://www.gorbel.com/pdfs/study/gforceergostudy.pdf.

High Cycle Test
Operators were:
• 124% more productive with the G-Force® than with air balancers
• 74% more productive with the G-Force® than with variable frequency drive hoists

Precision Placement Test
Operators were:
• 76% more productive with the G-Force® than with air balancers
• 59% more productive with the G-Force® than with variable frequency drive hoists

Forces of Placement
The G-Force® was:
• 2.5x less likely to damage the load than the air balancer with pendant control
• 3.3x less likely to damage the load than the variable frequency drive hoists
• 2.2x less likely to damage the load than manual

TOOLING EXAMPLES:

G-Force® and Easy Arm™ Q and IQ Technical Specifications

Bridge Mounted G-Force® Q and IQ Quick Facts

<table>
<thead>
<tr>
<th></th>
<th>Q</th>
<th>IQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Capacity</td>
<td>165 lb</td>
<td>330 lb</td>
</tr>
<tr>
<td>Maximum Lifting Speed</td>
<td>200 ft/min</td>
<td>100 ft/min</td>
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<tr>
<td>Maximum Lifting Speed Fully Loaded</td>
<td>125 ft/min</td>
<td>75 ft/min</td>
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<tr>
<td>Maximum Float Mode (Option) Lifting Speed</td>
<td>103 ft/min</td>
<td>65 ft/min</td>
</tr>
<tr>
<td>Maximum Lift Range</td>
<td>11 ft</td>
<td>11 ft</td>
</tr>
<tr>
<td>Maximum Lift Stroke</td>
<td>8 ft</td>
<td>8 ft</td>
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</tbody>
</table>

Free Standing Easy Arm™ Q and IQ Quick Facts

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<thead>
<tr>
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<tbody>
<tr>
<td>Maximum Capacity</td>
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<td>330 lb</td>
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<tr>
<td>Maximum Lifting Speed</td>
<td>180 ft/min</td>
<td>90 ft/min</td>
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<td>Maximum Lifting Speed Fully Loaded</td>
<td>125 ft/min</td>
<td>75 ft/min</td>
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G-Force® Easy Arm™ Q and IQ Technical Specifications

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<thead>
<tr>
<th></th>
<th>Q</th>
<th>IQ</th>
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<tbody>
<tr>
<td>Primary Lift Voltage (VAC)</td>
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<tr>
<td>Maximum Current (Amps)</td>
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<tr>
<td>Duty Cycle</td>
<td>H5</td>
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<tr>
<td>Operating Temperature Range</td>
<td>41 - 122° F</td>
<td>5 - 50° C</td>
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<tr>
<td>Operating Humidity Range (Non-Condensing)</td>
<td>35 - 90%</td>
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<tr>
<td>Power Available for Tooling</td>
<td>Not Available</td>
<td>24VDC @ 0.5A</td>
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<tr>
<td>Virtual Limits (Upper Limit, Power Limit, Speed Reduction)</td>
<td>Optional</td>
<td>Standard</td>
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I/O Actuator (IQ Only)

<table>
<thead>
<tr>
<th></th>
<th>IQ</th>
</tr>
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<tbody>
<tr>
<td>Number of Inputs, Type</td>
<td>8, Sinking</td>
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<tr>
<td>Input Current @ 24 VDC</td>
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<tr>
<td>Number of Outputs, Type</td>
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<td>Continuous Current/Channel (Amps)</td>
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<tr>
<td>Module Maximum Current (Amps)</td>
<td>0.5</td>
</tr>
<tr>
<td>Handle with I/O Module (IQ Only)</td>
<td></td>
</tr>
</tbody>
</table>

www.gorbel.com
800.821.0086
FOR MORE INFORMATION
Your authorized Gorbel dealer can give you more information on what makes Gorbel’s Ergonomic Work Station Cranes and other material handling products “A Class Above.”

BRIDGE CRANES
FREE STANDING
CEILING MOUNTED
ERGONOMIC STUDY

ERGONOMIC LIFTING
G-FORCE® & EASY ARM
ERGONOMIC STUDY

JIB CRANES
JIB CRANES
GANTRY CRANES
WORK STATION JIBS
ARTICULATING JIBS

SPECIALTY PRODUCTS
SEISMIC ZONE IV
TELESCOPING
TRACTOR DRIVES
INTERLOCK/TRANSFER

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