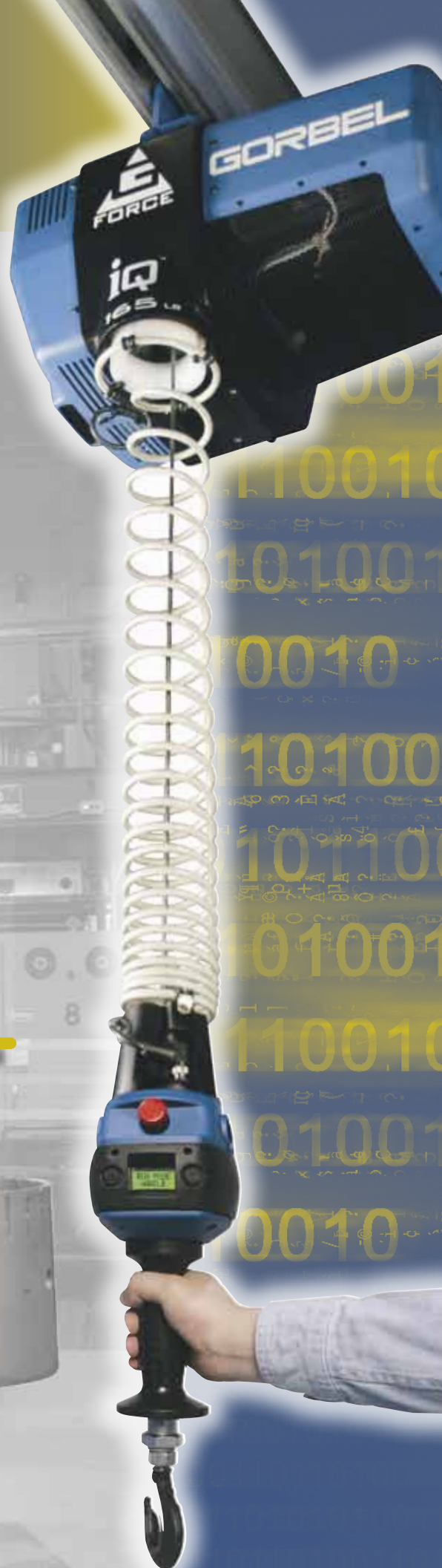


Electric Servo Powered
Intelligent Lifting Devices

THE SMARTER WAY TO **LIFT**

Intelligence.
Speed.
Precision.
Strength.



GORBEL'S G-FORCE® TECHNOLOGY



Since 1977, Gorbels has specialized in overhead material handling solutions, providing the highest quality and the highest performance. We are the leading supplier of Work Station Crane systems, offering near perfect on-time delivery, a focus on customer service, and the industry's best warranty.

Now you'll find that same level of quality in our G-Force®, Easy Arm®, and G-Jib™ Intelligent Lifting Devices. These innovative units enable operators to lift and maneuver naturally, as if the devices were an extension of their arms. Our Q and iQ model Intelligent Lifting Devices will help improve productivity, reduce the cost of product damage, and minimize work-related injuries.

INTELLIGENT ERGONOMIC LIFTING

Gorbels's G-Force®, Easy Arm®, and G-Jib™ 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 system 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.

"WE LOOKED AT EVERY LIFTING DEVICE ON THE MARKET. THE G-FORCE® WAS BY FAR THE BEST."

- PROCESS SPECIALIST

G-FORCE® TECHNOLOGY: THE SMARTER WAY TO LIFT

INFINITE SPEED CONTROL

Gorbel's Intelligent Lifting Devices 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

Our Intelligent Lifting Devices 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 our G-Force® technology because it's easy to learn and easy to use. Our Intelligent Lifting Devices are safer than manual lifting and dramatically reduce worker injury cost.

ANTI-RECOIL TECHNOLOGY

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

CAPACITY OVERLOAD

The units will not lift if the load exceeds their rated capacity.

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 our Intelligent Lifting Devices uses a built-in photo sensor that doesn't allow the unit to move unless the operator initiates the movement.

FLOAT MODE

The G-Force®, Easy Arm®, and G-Jib™ units include 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®, Easy Arm®, and G-Jib™ units 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

Gorbel's Intelligent Lifting Devices 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.

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.



**"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**

BRIDGE CRANE MOUNTED G-FORCE® TECHNOLOGY



G-FORCE® Q AND IQ

BRIDGE CRANE MOUNTED INTELLIGENT LIFTING DEVICE

When precision, lifting power and speed are necessities, turn to Gorbels 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 A BRIDGE CRANE MOUNTED CONFIGURATION FOR:

- Higher capacities: available in 165, 330, 660, and 1320 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

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G-FORCE® IN ACTION: AUTOMOTIVE

END-USER:

A major automobile manufacturer and parts supplier.

APPLICATION:

Convertible car tops measuring 4' x 6' and weighing 200 lbs are being moved from a conveyor to a pallet lift for inspection, then taken away.

WHY G-FORCE®?

They had been using a two-speed chain hoist with a maximum speed of 16 feet-per-minute. "The assembly line was running faster than the workers could offload the product with the chain hoist," said the line supervisor. With speeds up to 200 feet-per-minute, the G-Force® Q is able to perform as fast as the operators can move, and gives them complete control of their load.

RESULTS:

The speed that operators are able to work, and the frequency of loads they are able to handle, has greatly increased. Workers are able to consistently match the assembly line's output of 22 units per hour.

JIB CRANE MOUNTED G-FORCE® TECHNOLOGY

EASY ARM® Q AND IQ INTELLIGENT LIFTING ARM

The Easy Arm® Intelligent Lifting Arm is a combination of our G-Force® lifting device and an articulating jib crane. It 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 EASY ARM® FOR:

- Smaller work areas that require 14' spans or less
- Capacities of 165 lb and 330 lb
- Easy installation: Unit ships assembled and ready to be installed
- No foundation required (some conditions apply, see Installation Manual for details)
- Easy relocation: the Easy Arm® is simply bolted to the floor

CHOOSE UNDER HUNG EASY ARM® 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 exhaust hoods
- Reaching into machines
- High cycle pick and place
- Loading/unloading machined parts

G-JIB™

The G-Jib™ is a servo-powered lifting device that fuses our G-Force® technology with our enclosed track work station jib crane. We've mounted the G-Force® actuator near the mast of the jib, so you're not moving that dead weight like you do with traditional jib and hoist combinations.

CHOOSE A FREE STANDING G-JIB™ WHEN YOU NEED:

- Spans to 16'
- Capacities of 330 and 660 lbs
- Heights under boom to 14'

CHOOSE A WALL MOUNTED G-JIB™ WHEN YOU:

- Want to save valuable floor space
- Need hook heights over 11'



ADDED INTELLIGENCE FEATURES

There are two models of Gorbels® Intelligent Lifting Devices 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.



Optional Pendant Control Handle

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®, Easy Arm®, or G-Jib™. A common handle base for air or electric applications gives you design commonality and flexibility, whether your application requires air valves for direct control of end tooling, or electric switches to activate your G-Force®, Easy Arm®, or G-Jib™ iQ inputs.

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

FEATURE COMPARISON	Q	iQ
Teachable Virtual Limits and Speed Reduction Points Virtual limits are specific points in the lifting range where the G-Force®, Easy Arm®, and G-Jib™ can be programmed to stop or change speeds. Set speed reduction points a few inches above or below a desired location when handling a fragile load. When the operator reaches that point, the units automatically shift to a lower programmed speed and then stop in the desired spot for controlled positioning every time.	Available as a software adder	Standard
Programmable Inputs and Outputs The iQ unit 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.	N/A	Standard
Other Features The iQ allows you to control one G-Force®, Easy Arm®, or G-Jib™ 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.	N/A	Standard

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800.821.0086

Q AND IQ HANDLE CONFIGURATION OPTIONS

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



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.



Remote Mount Slide 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.



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.



Remote Mount Pendant Control Handle

Choose this design when the handle is mounted more than one foot from where the wire rope attaches to tooling, or when you expect the load to bounce or tip during lifting.



INNOVATIVE HANDLE DESIGN

1. G360™ Swivel Assembly

Our G-Force® Intelligent Lifting Devices have a combined collector/air swivel that allows the handle to continuously rotate without damaging electrical conductors in the coil cord or optional air coil. This is ideal in applications where the operator is continuously rotating the handle.

2. LCD Display

Backlit display on the handle allows for menu style set up of features like Virtual Limits and Speed Reduction Points. It also communicates valuable information like operation modes, weight readout, diagnostic information, and fault codes.

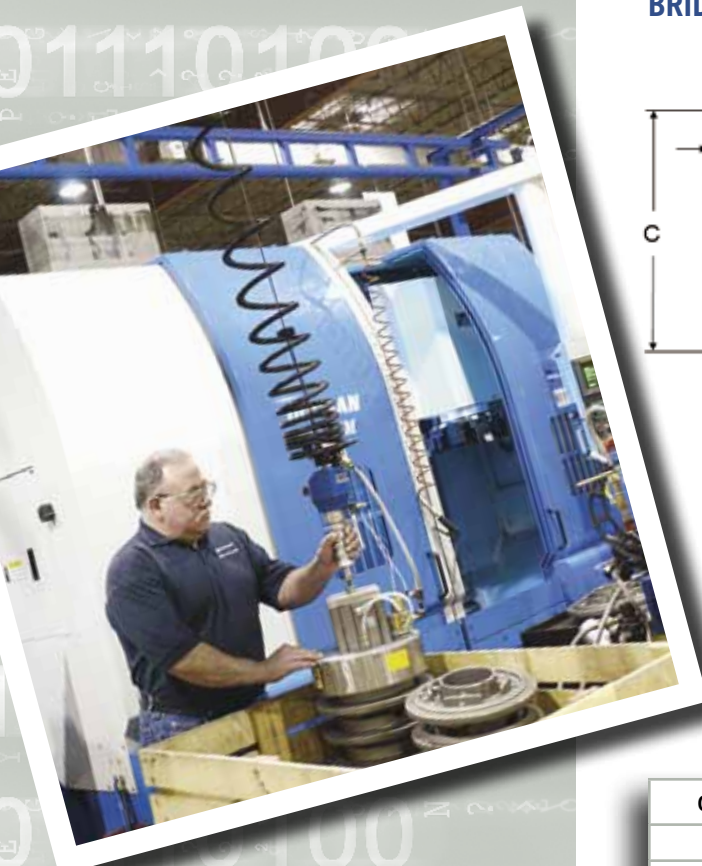
3. Operator Present Function

The handle grip of our Intelligent Lifting Devices uses a built in photo sensor, making it safe and intuitive. This method senses the presence of the operator's hand without a physical lever to depress. The result is safe, smooth operation because the operator is not tempted to use the Operator Present Sensor safety feature as a start/stop control.

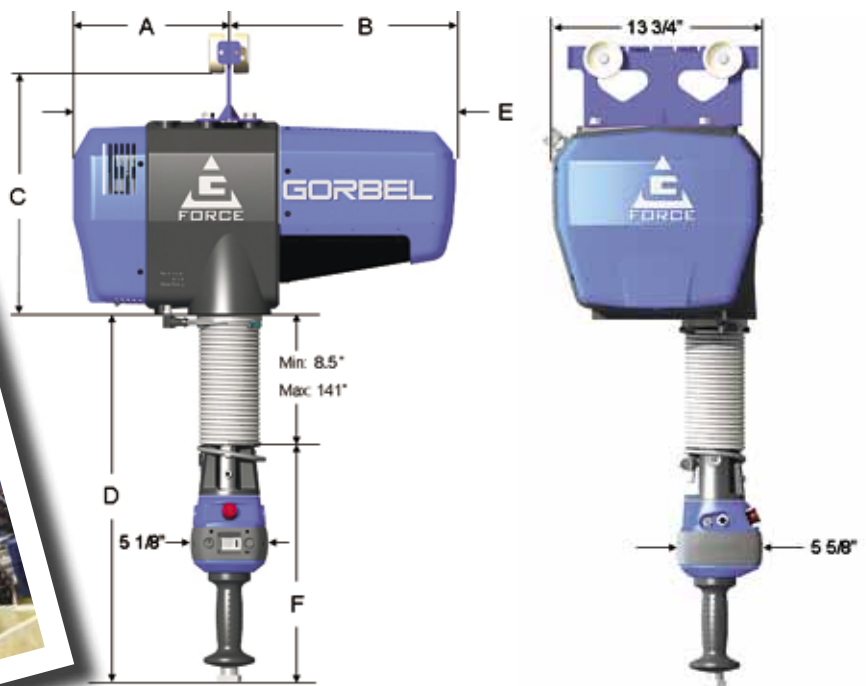
4. Ergonomic Handle Design

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.

G-FORCE® Q AND IQ BRIDGE CRANE MOUNTED LIFTING DEVICE



"WITH THE G-FORCE® WE WERE
ABLE TO MOVE MORE PRODUCT
IN LESS TIME. WE PRODUCED
MORE ENGINES IN THE PAST
YEAR THAN ANY OTHER YEAR
IN COMPANY HISTORY—WITH
FEWER OVERTIME HOURS."
- MANUFACTURING MANAGER



CAPACITY	165 lb (75 kg)	330 lb (150 kg)	660 lb (300 kg)
A	8.625" (219mm)	10.25" (260mm)	10.25" (260mm)
B	14.375" (365)	15" (381)	15" (381)
C	17" (432)	17" (432)	17" (432)
D	24.5" (622)	24.5" (622)	24.5" (622)
E	23" (584)	25.25" (641)	25.25" (641)
F	16" (406)	16" (406)	16" (406)

C dimension may change according to the track series you're using. Consult factory for actual dimension.
D references unit in full up position.

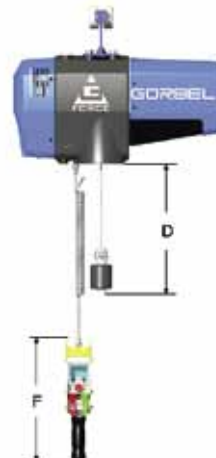
G-FORCE® Q AND IQ HANDLE CONFIGURATION OPTIONS

DIMENSIONS	Remote Slide	Suspended Pendant	Remote Pendant
D	16" (406mm)	7" (178mm)	16" (406mm)
F	14.25" (362)	14" (356)	14" (356)

Remote Mount
Slide Handle



Suspended Pendant
Control Handle



Remote Mount
Pendant Control Handle



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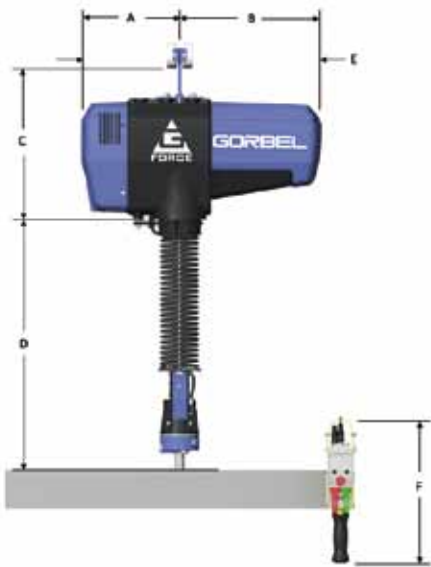
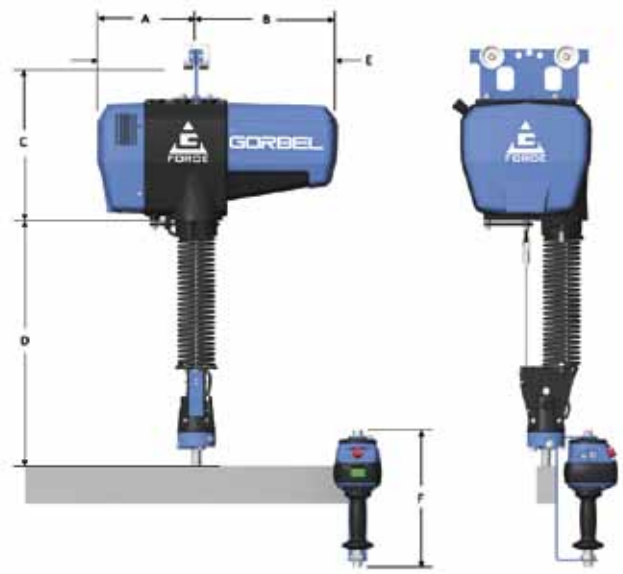
1320 LB UNIT HANDLE CONFIGURATIONS



In-Line Slide Handle



Remote Slide



Remote Pendant



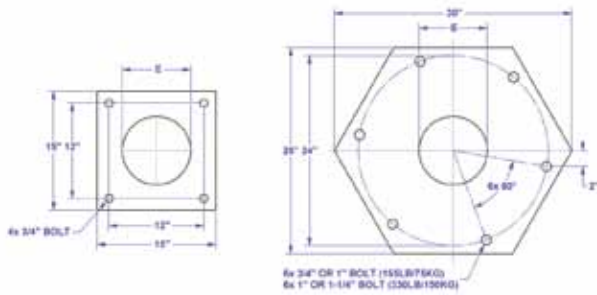
Suspended Pendant

DIMENSIONS	IN-LINE SLIDE HANDLE	REMOTE SLIDE	REMOTE PENDANT	SUSPENDED PENDANT
A	10.25" (260mm)	10.25" (260mm)	10.25" (260mm)	10.25" (260mm)
B	15" (381)	15" (381)	15" (381)	15" (381)
C	17" (432)	17" (432)	17" (432)	17" (432)
D	29" (737)	20" (508)	20" (508)	16" (406)
E	25.25" (641)	25.25" (641)	25.25" (641)	25.25" (641)
F	19.5" (495)	14.25" (362)	14" (356)	14" (356)

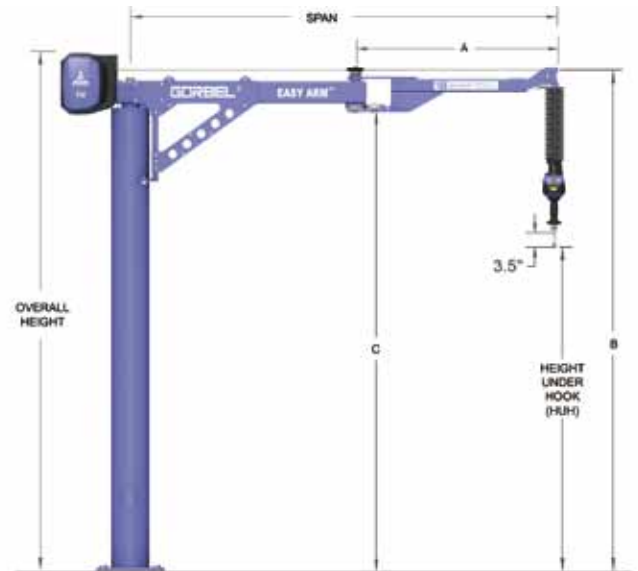
D references unit in full up position.

EASY ARM® Q AND IQ FREE STANDING LIFTING DEVICE

Baseplate Dimensions*



Hook Coverage



Arm Rotation:

355° primary arm, 320° secondary arm

For Underhung Easy Arm® dimensional information, please consult factory.

165 lb (75 kg) Unit

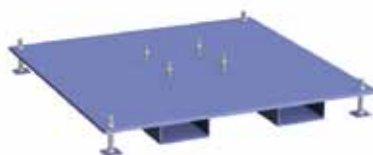
Span	6'	8'	10'	12'	14'	6'	8'	10'	12'	14'	6'	8'	10'	12'	14'
	(1829mm)	(2438mm)	(3048mm)	(3658mm)	(4267mm)	(1829mm)	(2438mm)	(3048mm)	(3658mm)	(4267mm)	(1829mm)	(2438mm)	(3048mm)	(3658mm)	(4267mm)
HUH	6' (1829)					8' (2438)					10' (3048)				
OAH	109.14" (2772)					133.14" (3382)					157.14" (3991)				
A	33.84" (860)	45.12" (1146)	56.40" (1433)	67.68" (1719)	78.96" (2006)	33.84" (860)	45.12" (1146)	56.40" (1433)	67.68" (1719)	78.96" (2006)	33.84" (860)	45.12" (1146)	56.40" (1433)	67.68" (1719)	78.96" (2006)
B	105.98" (2692)					129.98" (3301)					153.98" (3911)				
C	97.89" (2486)					121.89 (3096)					145.89" (3706)				
D	24.90" (632)	32.06" (814)	40.03" (1017)	48.00" (1219)	56" (1422)	24.90" (632)	32.06" (814)	40.03" (1017)	48.00" (1219)	56" (1422)	24.90" (632)	32.06" (814)	40.03" (1017)	48.00" (1219)	56" (1422)

330 lb. (150 kg) Unit

Span	6'	8'	10'	12'	14'	6'	8'	10'	12'	14'	6'	8'	10'	12'	14'
	(1829mm)	(2438mm)	(3048mm)	(3658mm)	(4267mm)	(1829mm)	(2438mm)	(3048mm)	(3658mm)	(4267mm)	(1829mm)	(2438mm)	(3048mm)	(3658mm)	(4267mm)
HUH	6' (1829)					8' (2438)					10' (3048)				
OAH	109.88" (2791)					133.88" (3401)					157.88" (4010)				
A	33.84" (860)	45.12" (1146)	56.40" (1433)	67.68" (1719)	78.96" (2006)	33.84" (860)	45.12" (1146)	56.40" (1433)	67.68" (1719)	78.96" (2006)	33.84" (860)	45.12" (1146)	56.40" (1433)	67.68" (1719)	78.96" (2006)
B	106.86" (2714)					130.86" (3324)					154.86" (3933)				
C	97.77" (2483)					121.77" (3093)					145.77" (3703)				
D	24.34" (618)	32.26" (819)	42.70" (1085)	51.48" (1308)	59.76" (1518)	24.34" (618)	32.26" (819)	42.70" (1085)	51.48" (1308)	59.76" (1518)	24.34" (618)	32.26" (819)	42.70" (1085)	51.48" (1308)	59.76" (1518)

Please note:

These dimensions are for Easy Arm® units with in-line slide handles only. Units with suspended pendant handles will have different dimensions. Please contact Gorbelt at (800) 821-0086 for these dimensions. Other Heights Under Hook are available as special orders; contact factory. Dimensions shown in parentheses are in millimeters.



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. Larger units may require a different portable base. Contact your Gorbelt® dealer to learn more.

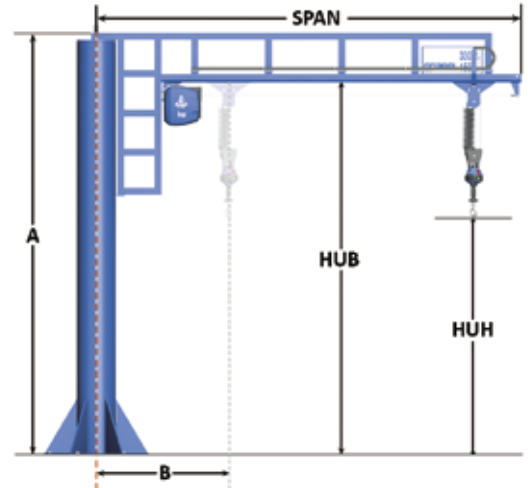
***Note:** Hex baseplates are used on all 330 lb units, and on 165 lb units with a combined HUH plus span of 18' or more. All other 165 lb units use a square baseplate.

G-JIB™ DIMENSIONS

CAPACITY	HUH	SPAN	HUB	A	B	C
330 lbs (150 kg)	6' (1829mm)	6' (1829)	9.23' (2813)	10.25' (3124)	35.63" (905)	23.31" (592)
		8' (2438)		10.50' (3200)	38.63" (981)	44.31" (1125)
		10' (3048)		10.50' (3200)	40.63" (1032)	66.25" (1683)
		12' (3658)		10.75' (3277)	43.63" (1108)	87.25" (2216)
		14' (4267)		10.92' (3328)	44.13" (1121)	110.75" (2813)
		16' (4677)		10.92' (3328)	44.13" (1121)	134.75" (3423)
	8' (2438mm)	6' (1829)	11.23' (3423)	12.25' (3734)	35.53" (902)	23.31" (592)
		8' (2438)		12.50' (3810)	38.53" (979)	42.25" (1073)
		10' (3048)		12.50' (3810)	40.50" (1029)	66.25" (1683)
		12' (3658)		12.75' (3886)	40.50" (1029)	87.25" (2216)
		14' (4267)		12.92' (3938)	44.13" (1121)	110.75" (2813)
		16' (4677)		13.01' (3965)	44.13" (1121)	134.13" (3407)
	10' (3048mm)	6' (1829)	13.23' (4033)	14.25' (4343)	35.53" (905)	21.25" (540)
		8' (2438)		14.50' (4420)	38.53" (979)	42.25" (1073)
		10' (3048)		14.50' (4420)	40.50" (1029)	66.25" (1683)
		12' (3658)		14.75' (4496)	40.50" (1029)	87.25" (2216)
		14' (4267)		14.92' (4548)	44.13" (1121)	110.75" (2813)
		16' (4677)		15.01' (4575)	44.13" (1121)	134.13" (3407)

CAPACITY	HUH	SPAN	HUB	A	B	C
660 lbs (300 kg)	6' (1829mm)	6' (1829)	9.23' (2813)	10.26' (3127)	37.63" (956)	21.25" (540)
		8' (2438)		10.51' (3203)	40.63" (1032)	42.25" (1073)
		10' (3048)		10.76' (3280)	43.63" (1108)	63.25" (1607)
		12' (3658)		10.92' (3328)	43.63" (1108)	87.25" (2216)
		14' (4267)		11.13' (3392)	47.12" (1197)	108.13" (2747)
		16' (4677)		11.13' (3392)	47.12" (1197)	132.13" (3356)
	8' (2438mm)	6' (1829)	11.23' (3423)	12.26' (3737)	37.50" (953)	21.25" (540)
		8' (2438)		12.51' (3813)	40.50" (1029)	42.25" (1073)
		10' (3048)		12.76' (3889)	43.50" (1105)	63.25" (1607)
		12' (3658)		12.92' (3938)	43.50" (1105)	87.25" (2216)
		14' (4267)		13.13' (4002)	47.13" (1197)	108.13" (2747)
		16' (4677)		13.13' (4002)	47.13" (1197)	131.13" (3356)
	10' (3048mm)	6' (1829)	13.23' (4033)	14.26' (4346)	37.50" (953)	21.25" (540)
		8' (2438)		14.59' (4447)	40.50" (1029)	41.63" (1057)
		10' (3048)		14.84' (4523)	43.50" (1105)	62.63" (1591)
		12' (3658)		15.01' (4575)	43.50" (1105)	86.63" (2200)
		14' (4267)		15.13' (4612)	47.13" (1197)	108.13" (2747)
		16' (4677)		15.13' (4612)	47.13" (1197)	131.13" (3331)

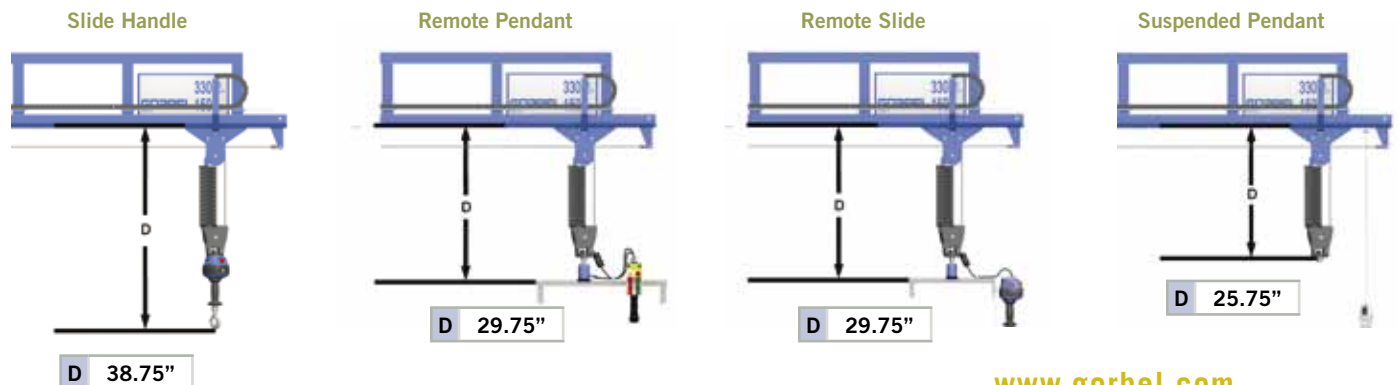
Dimension in parentheses are in millimeters.



For Wall Mounted dimensions, please consult factory.

Coverage Area

These dimensions are for the freestanding G-Jib™ units with in-line slide handle only, and are subject to change. Units with other handle configurations will have different dimensions. Please contact Gobel at (800) 821-0086 for additional dimensions.



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800.821.0086

CASE STUDIES

EASY ARM® IN ACTION: MANUFACTURING

END-USER:

Pressure Technology of Ohio

APPLICATION:

Raw materials weighing up to 250 lbs are loaded into a furnace for heat treatment. During an average shift, an operator may move up to 600 parts.

WHY EASY ARM®?

They had been using an overhead crane system and chain hoist, but this was slow and bulky. It was also shared throughout the facility, so operators tended to move parts by hand rather than using the hoist, which concerned the company. The 330 lb Easy Arm® was perfect for the job, and they didn't have to share it.

RESULTS:

"We are very pleased with the Easy Arm®," said Pressure Technology's Plant Manager. "We are able to get precise part placement using float mode, and it's been a very easy piece of equipment to integrate into the workplace. Since we installed the Easy Arm®, we have eliminated many of our concerns related to product handling."



G-JIB™ IN ACTION: FABRICATION

END-USER:

Automated Handling Systems Engineering Firm

APPLICATION:

One bridge crane was being shared by multiple work bays in a fabrication area where covers and guards for electronic controls are built. The most common components being lifted are pieces of tubular and angled steel, weighing up to 500 lbs each.

WHY G-JIB™?

The G-Jib™ allows full coverage of two welding tables without restricting movement of the overhead bridge crane. It also features the actuator of the lifting device in a fixed position while only the trolley moves along the boom of the jib, reducing deadweight and offering a competitive advantage to a regular jib and chain hoist combination.

RESULTS:

"With the big crane, moving anything around was very course," said an operator. "It was tough with just the one speed hoist to position something carefully. Now we can engage float mode when we're doing some fine alignment on some assemblies. I can use both hands to guide it, it's very precise."



GORBEL'S G-FORCE® TECHNOLOGY: PROVEN PERFORMANCE

ERGONOMIC STUDY

The following summary is based on a study performed by the Rochester Institute of Technology. The study compared the performance of Gorbels 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>.

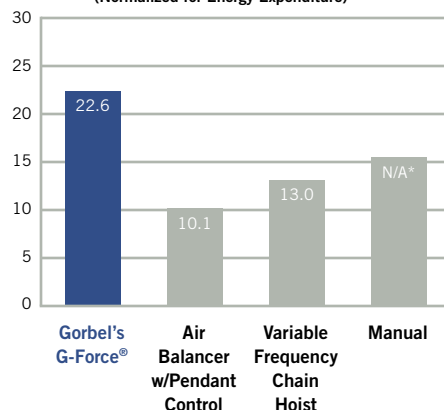
High Cycle Test

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

* Manual: 75% of the subjects could not complete 10 minutes of lifting & still maintain safe heart rates.

Figure 1: Number of Palletizing Lifts
(Normalized for Energy Expenditure)



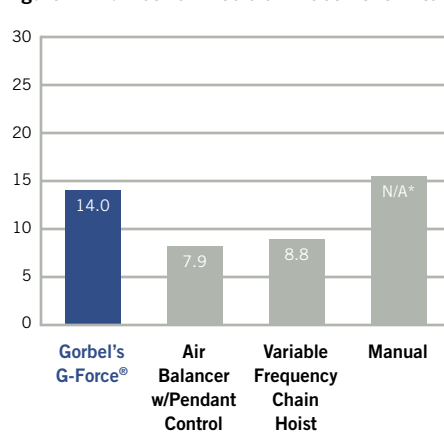
Precision Placement Test

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

* Manual: None of the subjects could complete 10 minutes of lifting w/o exceeding safe heart rates.

Figure 2: Number of Precision Placement Lifts

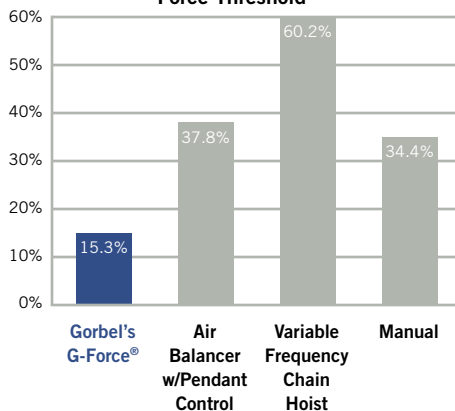


Force of Placement

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

Figure 3: Percentage of Lifts Exceeding Force Threshold



GORBEL'S G-FORCE® TOOLING EXAMPLES

EASE OF TOOLING INTEGRATION

The Q and iQ units were designed with tooling integration in mind. Optional handle auxiliary control brackets allow pneumatic valves or electric switches to be integrated with the G-Force® control handles. Choose one of these three handle configurations to meet the needs of your applications.

TOOLING EXAMPLES:



GORBEL'S Q AND IQ TECHNOLOGY TECHNICAL SPECIFICATIONS

Bridge Mounted G-Force® Q and iQ Quick Facts

G-Force®	Q	iQ	Q	iQ	Q	iQ	Q	iQ
Maximum Capacity (Load & Tool)	165 lb		330 lb		660 lb		1320 lb	
	75 kg		150 kg		330 kg		600 kg	
Maximum Lifting Speed Unloaded	200 ft/min		100 ft/min		50 ft/min		25 fpm	
	61 m/min		30 m/min		14.94 m/min		7.47 m/min	
Maximum Lifting Speed Fully Loaded	125 ft/min		75 ft/min		42 ft/min		21 fpm	
	38 m/min		23 m/min		12.80 m/min		6.4 m/min	
Maximum Float Mode Lifting Speed	103 ft/min		65 ft/min		38 ft/min		19 fpm	
	31 m/min		20 m/min		11.58 m/min		5.79 m/min	
Maximum Lift Range	11 ft		11 ft		11 ft		5.5 ft	
	3.35 m		3.35 m		3.35 m		1.68 m	
Maximum Lift Stroke	8 ft		8 ft		8 ft		5.5 ft	
	2.44 m		2.44 m		2.44 m		1.68 m	

Free Standing Easy Arm® Q and iQ Quick Facts

Easy Arm®	Q	iQ	Q	iQ
Maximum Capacity (Load & Tool)	165 lb		330 lb	
	75 kg		150 kg	
Maximum Lifting Speed Unloaded	180 ft/min		90 ft/min	
	55 m/min		27 m/min	
Maximum Lifting Speed Fully Loaded	125 ft/min		75 ft/min	
	38 m/min		23 m/min	
Maximum Float Mode Lifting Speed	103 ft/min		65 ft/min	
	31 m/min		20 m/min	
Maximum Lift Range	11 ft		11 ft	
	3.35 m		3.35 m	
Maximum Lift Stroke	8 ft		8 ft	
	2.44 m		2.44 m	

G-Jib™ Q and iQ Quick Facts

G-Jib™	330	660
Maximum Capacity (Load & Tool)	330 lbs	660 lbs
	150 kg	300 kg
Maximum Lifting Speed Unloaded	90 fpm	45 fpm
	22.5 m/min	13.5 m/min
Maximum Lifting Speed Fully Loaded	62.5 fpm	37.5 fpm
	19 m/min	11.5 m/min
Maximum Float Mode Lifting Speed	51.5 fpm	32.5 fpm
	15.5 m/min	10 m/min
Maximum Lift Range	5.5 ft	5.5 ft
	1.67 m	1.67 m
Maximum Lift Stroke	5.5 ft	5.5 ft
	1.67 m	1.67 m

GORBEL'S Q AND IQ TECHNOLOGY TECHNICAL SPECIFICATIONS

Q and iQ Technical Specs

G-Force®, Easy Arm® & G-Jib™	Q	iQ
Primary Lift Voltage (VAC)	220 +/- 10%	
Maximum Current (Amps)	10	
Duty Cycle	H5	
Operating Temperature Range	41 - 122° F 5 - 50° C	
Operating Humidity Range (Non-Condensing)	35 - 90%	
Power Available for Tooling	Not Available	24VDC @ 0.5A
Virtual Limits (Upper Limit, Power Limit, Speed Reduction)	Optional	Standard

iQ Specific Information

I/O Actuator (iQ Only)	iQ
Number of Inputs, Type	8, Sinking
Input Current @ 24 VDC	6ma
Number of Outputs, Type	8, FET
Continuous Current/Channel (Amps)	0.5
Module Maximum Current (Amps)	0.5
Handle with I/O Module (iQ Only)	iQ
Number of Inputs, Type	8, Sinking
Input Current @ 24 VDC	4ma
Number of Outputs, Type	8, FET
Continuous Current/Channel (Amps)	0.5
Module Maximum Current (Amps)	0.5

CASE STUDY

G-FORCE® IN ACTION: LIFTING & HANDLING

END-USER:

Thomas & Betts

APPLICATION:

Lifting and handling steel and aluminum cable trays, measuring up to 20' long and weighing up to 130 lbs.

WHY G-FORCE®?

The trays are long and difficult for one person to lift. Workers had been lifting them by hand, and were complaining about fatigue. The company needed a solution that allowed them to pick up both ends of the trays at the same time. They chose a Gobel® work station crane with G-Sync™ Technology—two G-Force® iQ units operated through a single pendant handle. The G-Force® units communicate via a cable that runs within the enclosed tube of the work station crane's runways, ensuring that they are perfectly in sync throughout the lift cycle.

RESULTS:

Since installing the G-Sync™ system, injuries related to this application have been eliminated and productivity is consistently high, plus workers are more confident in their jobs. "They used to be kind of leery about picking up the trays because they were hurting," said Ken Conrad, Coordinator of Maintenance at this facility. "Now there's no fatigue at all. In this line of work, if your back isn't working, you aren't working. That's not a problem any more."



OVERVIEW BROCHURE



OVERVIEW DVD



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



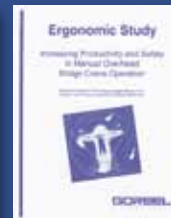
FREE STANDING



CEILING MOUNTED



CLEVELAND TRAMRAIL

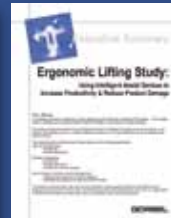


ERGONOMIC STUDY

ERGONOMIC LIFTING



G-FORCE® & EASY ARM®



ERGONOMIC STUDY

JIB CRANES



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