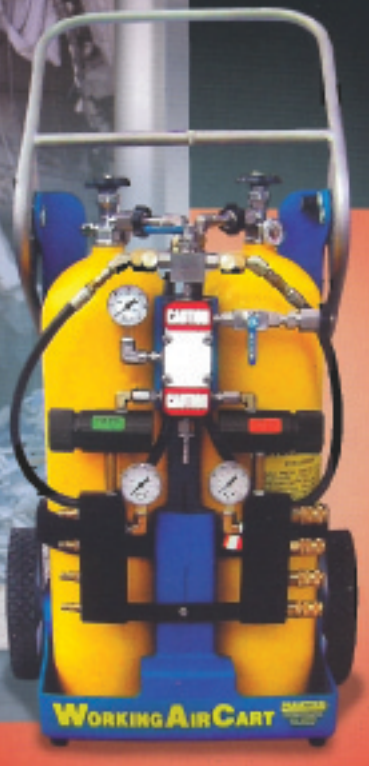
MAXIFORCE®

AIR LIFTING BAGS



PARATECH®

Tough Tools for Tough Jobs!

MAXIFORCE Air Lifting Bags

Maximum Force Where You Need it Most!

The Maxiforce Air Lifting Bag is a thin, strong, molded envelope. It is made from a Neoprene covered Aramid reinforcement, and has the power to lift, move, or shift weights up to 70 tons.

But there's more to a lifting bag system than the bag itself. The control system and components play a critical role in successful lifting bag use. Unlike other lifting bag systems, Paratech manufactures all of its major control components. This assures the quality of the lifting bag system from inflation to deflation.

What to look for when selecting a lift bag system.

1. Safety: Maxiforce Air Lifting Bags are extremely tough, made of Neoprene, embedded with three (3) full layers of Aramid fiber reinforcement on each side, giving the bags tremendous strength at full inflation. Each Air Lifting Bag has been subjected to a stringent factory pressure test to assure maximum operator safety.

2. Capacity: Does the height/weight capacity match the task? Non-emergency applications may only require one or two sizes. Emergency Service providers need a variety of capacities.

3. Shape: Match the shape of the bag to the contact area of the load to maximize the bags capacity. Use rectangular shaped bags against linear loads, on hills or inclines. Square bags are great for stacking on flat surfaces. Rescue crews should have both square and rectangular lifting bags.

4. Thickness: The thinner the lift bag the better. The most notable feature of quality manufacturing is the ability to produce a thin, tough lifting bag. Maxiforce Air Lifting Bags range in thickness from 5/8" (1.6cm) to 1" (2.5cm).

5. Material: Neoprene with Aramid reinforcement comprise most of the Lift Bag materials. These materials provide strength, durability, flexibility and chemical resistance. Maxiforce was the first Aramid reinforced high pressure lift bag.

6. Surface: Small molded raised dimples provide an interlocking surface for stacking 2 lift bags. Once again Maxiforce was the first with an interlocking surface. Those larger "cleated" surfaces on other bags are not well suited to easy placement and should be avoided. Remember, it's not the size of the dimple, it's how many per square inch.

7. Positioning Eyelets: At least 2 on all Lift Bags with a 10 ton rating or higher. A must for rescue work. Allows for vertical placement, safe retrieval and carrying.

8. Markings: Technical data is molded into the bag surface. Warnings are permanently labeled. The famous "X" marks the center of the load. Our "X" makes your lift bags clearly visible on the television coverage of your rescue.

9. Air Inlet: Brass with maximum pull strength. The inlet is threaded to receive a brass inflation nipple. Why brass? No corrosion. Easy to repair.

10. Works Quietly: Completely silent in use. There are no engine sounds or loud mechanical noises when Maxiforce is used.

Other Features

Dual Pushbutton Safety Relief and Control Valve

This controller will "go anywhere." It is compact and extremely portable. There are no protruding joysticks, no cumbersome enclosure.

Rescue personnel can crawl into collapse areas without hindrance. Pushbuttons must be depressed for inflation or deflation. Large, easy to read, color coded gauges. Built in relief valves and closed couplings for maximum safety. Available in single or dual outlets.

Piston Regulator

Adjustable piston regulator is standard and can be preset to operating pressure. Durability is unmatched. "Pressure creep" is minimized as air supply is reduced. Maximum inlet pressure is 6000 psi and inlet fittings are available for all compressed air cylinders.

Inline Relief Valves

Designed to relieve over-pressurization and allow a lift bag to remain inflated under a load. This is not simply a shut off valve. This valve will relieve excess pressure from an inflated bag caused by load shifts or temperature changes.

Air Hose

A full 3/8" (9.5mm) inside diameter in a wide range of colors. Couplings and nipples are field replaceable using simple hand tools. Working pressure of 300 psi assures reliability. Hose stays flexible over the full operating temperature range of the lift bag. Available in a wide variety of lengths. Closed couplings prevent air escape at disconnect (no blowing debris).

Approvals, Listing and Standards

Paratech's Maxiforce Air Lifting Bags meet and exceed the intent of all known, recognized and published international standards* for the design, production and use of air lifting bags.

These standards and listings include:

- European Emergency Service Standard (Proposed)
- National Coal Board (UK)
- NATO Stock Listings
- National Defense Supply Listing
- ISO 9001-2000 Certified
- CE (Europe)
- Department of Industrial Relations (Australia)
- South African Board of Mine Safety
- Japan Standards Institute (JSI Compliance)
- GSA Contract Item

** Standards established by a specific country as a trade restriction are not included in the above claim.*

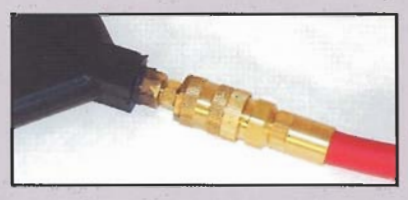
Interlocking Raised Surface

Highly Visible Center Marking

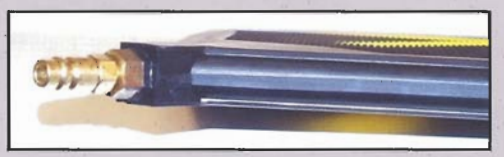
High Visibility Pressure Gauge

Brass Inlet Fitting and Receiver

Two Step Safety Locking Coupling



Field Replaceable "Closed" Coupling



The "Thinner" Lift Bag is a Better Lift Bag

Training Manuals Meet U.S. Military Specifications

MAXIFORCE Works

"A car was struck by a freight train at a rural crossing and was carried approximately 100 yards from the crossing before coming to rest on its roof. Maxiforce airbags were used to lift the car off of the trapped victim and free him without causing further injury."

Fire Chief Tom Nicolay
Sandoval Fire Protection District, Illinois
Incident Report

Lift and level pipelines not accessible to heavy equipment.

Vertical placement using positioning eyelets.

The durability of Maxiforce is unmatched.

"Fire departments responded to a plane crash with minor injuries and a large fuel spill. Maxiforce airbags were used to level the plane to stop remaining fuel from leaking and making the situation worse. Remaining fuel was off loaded."

Firefighter Thomas Kenney
Hyannis Fire Department, Massachusetts
Incident Report

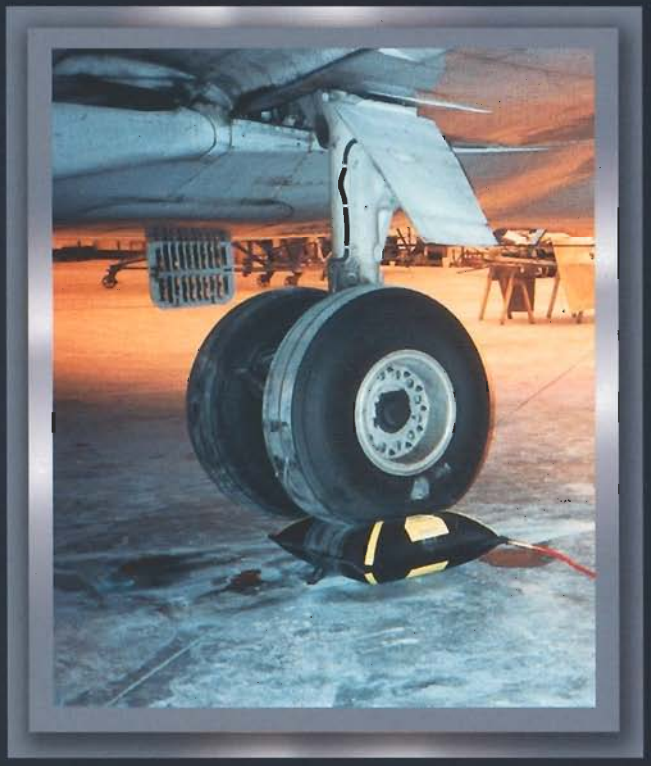
An example of the "cradlelift" using two lift bags against a round object

"Maxiforce airbags were used to lift a vehicle off a person struck while walking along the road at night. Car stopped and came to rest on the victim. Maxiforce airbags lifted the vehicle and freed the victim without further injury. Rescue time 10 minutes from start to finish."

Training Officer Leroy Black Jr.
Hoke County Rescue Squad, North Carolina
Incident Report

Maxiforce Lift Bags used to position "Air Casters" for machine tool positioning.

No heavy hydraulics required.



"Maxiforce airbags were used to extricate a man whose arm was caught in a pizza dough kneading machine. The bags were used to stabilize and then separate the rollers to free the victim."

Pete Lund "Man in a Machine"
Rescue 2, New York
Fire Engineering Magazine

MAXIFORCE Works

An "All Terrain Vehicle" needs an "All Terrain Jack".

"The only way to effect his rescue was to lift the structure from his head. A 74 ton lifting bag was used. This allowed a vertical lift of five inches in conjunction with well placed cribbing."

Gerald L. Reinitz
Fire Engineering Magazine

Off road tire changing has never been easier, safer or faster.

Lifting a bridge. That's right; a bridge.

"A subway train had pinned a woman by her left leg between the subway car and the subway platform. With the use of Maxiforce Air Lifting Bags, the train was lifted up freeing the victim."

Police Officer Dennis Healy
New York City Transit Police
Incident Report

Maxiforce Lifting Bags should be part of your road rescue equipment list.

MAXIFORCE®

Hazmat tank recovery.

"The rescue of a bulldozer operator trapped underneath his machine required the use of two 36" x 36" (KPI-74) bags. Placed on each end of the bulldozer, the bags were inflated in unison, allowing sufficient clearance to remove the operator of the bulldozer."

Chief Ray Downey, FDNY
"The Rescue Company"
Fire Engineering Magazine

Raise loads to place industrial rollers.

Structural collapse rescue starts here.

Tough Tools For Tough Jobs!

Components/Accessories

Maximum Force Where You Need it Most!

800200 *Working Air Cart With Cylinders*

890300 *Master Control Package*

890351 *Control Package*

890729 *22 Piece Pneumatic Component/Adapter Kit*

800400 *Manual Foot Pump*

890490 *Inline Relief Valve*

Left to Right: Single Safety Relief and Control Valve with Bypass, Dual Industrial Safety Relief and Control Valve, Single Industrial Safety Relief and Control Valve.

890900 *Dual Deadman Controller*

895401 *Pressure Regulator, Piston Type*

890554 *Ratchet Belt - 25 ft.*

Air Hoses
Colors: Red, Yellow, Black, Blue, Green, and Gray
Lengths: 16, 32 and 50 ft.

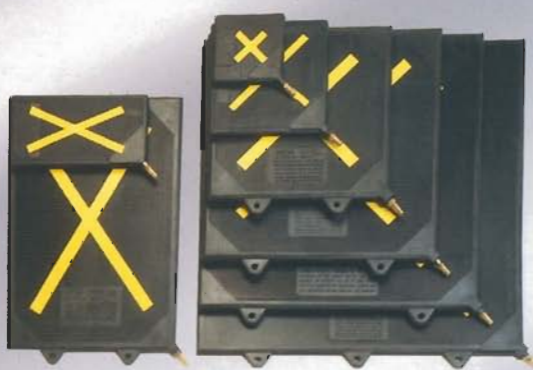
Pre-Designed Sets

889048 *48 Ton - 2 Bag Set*

889050 *50 Ton - 3 Bag Set*

889092 *92 Ton - 7 Bag Set*

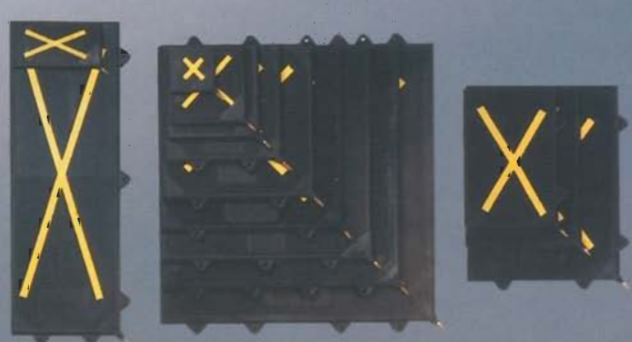
889117 *117 Ton - 5 Bag Set*



889136 *136 Ton - 8 Bag Set*

889234 *234 Ton - 7 Bag Set*

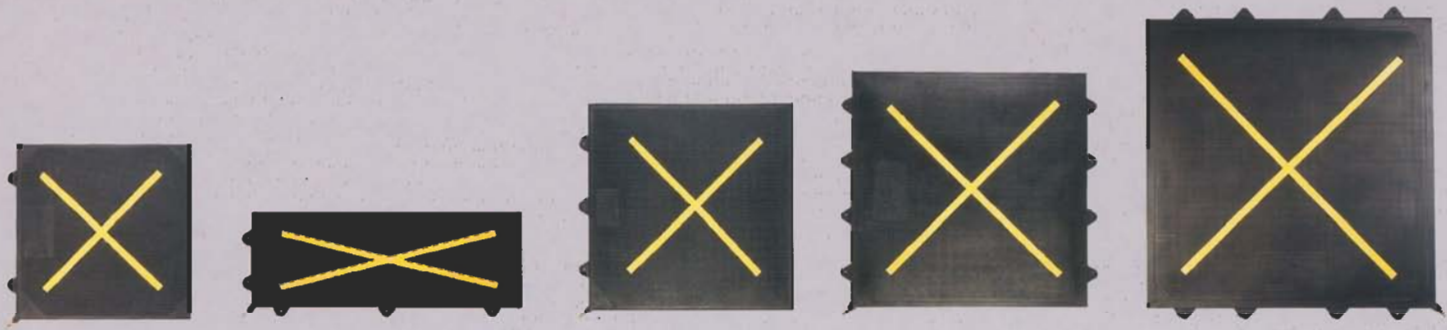
889245 *245 Ton - 10 Bag Set*



889346 *346 Ton - 14 Bag Set*

Specifications

KPI-1 KPI-3 KPI-5 KPI-8 KPI-10 KPI-12 KPI-17 KPI-22 KPI-28



KPI-32 KPI-35L KPI-44 KPI-55 KPI-74

PART NO.	MODEL	DIMENSIONS[1]	CAPACITY	HEIGHT	WEIGHT
888110	KPI-1	6" X 6" X 5/8" 15.2 cm. X 15.2 cm. X 1.6 cm.	1.2 Tons 1.1 M Ton	3.0 in. 76 mm.	2 lbs 0.9 Kg.
888120	KPI-3	6" X 12" X 5/8" 15.2 cm. X 30.5 cm. X 1.6 cm.	2.8 Tons 2.5 M Ton	3.5 in. 90 mm.	3 lbs 1.4 Kg.
888130	KPI-5	10" X 10" X 5/8" 25.4 cm. X 25.4 cm. X 1.6 cm.	4.3 Tons 3.9 M Ton	5.4 in. 137 mm.	4 lbs 1.8 Kg.
888135	KPI-8	12" X 12" X 3/4" 30.5 cm. X 30.5 cm. X 1.9 cm.	6.5 Tons 5.9 M Ton	6.4 in. 163 mm.	5 lbs 2.3 Kg.
888138	KPI-10	12" X 18" X 3/4" 30.5 cm. X 45.7 cm. X 1.9 cm.	10.2 Tons 9.3 M Ton	7.5 in. 190 mm.	9 lbs 4.1 Kg.
888140	KPI-12	15" X 15" X 3/4" 38.1 cm. X 38.1 cm. X 1.9 cm.	10.8 Tons 9.8 M Ton	8.2 in. 208 mm.	10 lbs 4.5 Kg.
888150	KPI-17	15" X 21" X 3/4" 38.1 cm. X 53.3 cm. X 1.9 cm.	15.0 Tons 13.6 M Ton	9.0 in. 230 mm.	13 lbs 5.9 Kg.
888160	KPI-22	20" X 20" X 3/4" 50.8 cm. X 50.8 cm. X 1.9 cm.	20.2 Tons 18.3 M Ton	11.0 in. 280 mm.	16 lbs 7.3 Kg.
888165	KPI-28	20" X 26" X 3/4" 50.8 cm. X 66.0 cm. X 1.9 cm.	26.8 Tons 24.3 M Ton	11.7 in. 297 mm.	20 lbs 9.1 Kg.
888170	KPI-32	24" X 24" X 3/4" 61.0 cm. X 61.0 cm. X 1.9 cm.	29.9 Tons 27.1 M Ton	13.0 in. 330 mm.	22 lbs 10.0 Kg.
888180	KPI-35L	15" X 42" X 3/4" 38.1 cm. X 106.7 cm. X 1.9 cm.	31.1 Tons 28.2 M Ton	9.3 in. 236 mm.	23 lbs 10.4 Kg.
888190	KPI-44	28" X 28" X 3/4" 71.1 cm. X 71.1 cm. X 1.9 cm.	41.5 Tons 37.6 M Ton	15.0 in. 381 mm.	30 lbs 13.6 Kg.
888195	KPI-55	32" X 32" X 1" 81.3 cm. X 81.3 cm . X 2.5 cm.	54.9 Tons 49.8 M Ton	17.0 in. 432 mm.	40 lbs 18.1 Kg.
888200	KPI-74	37" X 37" X 1" 93.9 cm. X 93.9 cm. X 2.5 cm.	70.2 Tons 63.7 M Ton	20.0 in. 508 mm.	60 lbs 27.2 Kg.

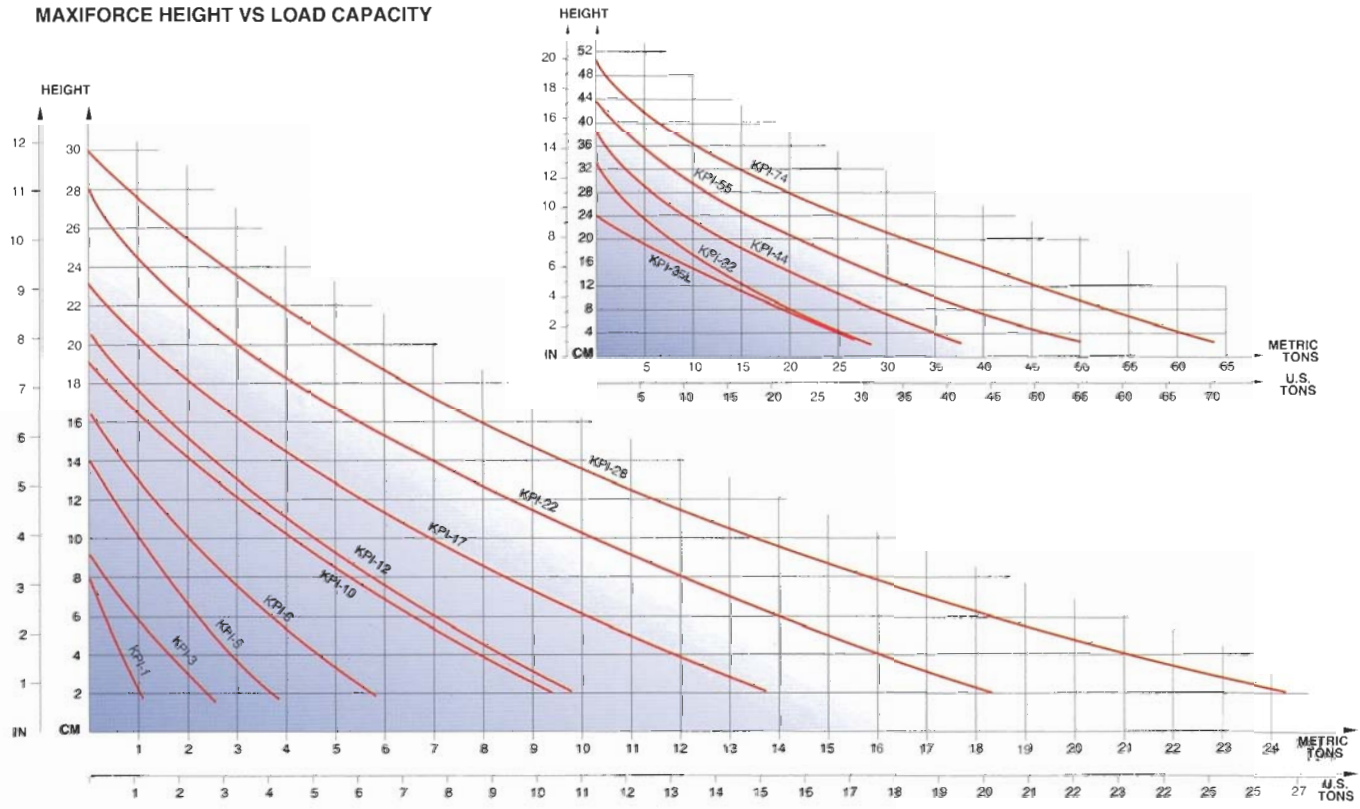
Note: Dimensions do not include eyelets. Lifting capacity and height will vary according to air pressure and bag contact area.

Kevlar Reinforced Type			KPI-1	KPI-3	KPI-5	KPI-8	KPI-10	KPI-12	KPI-17	KPI-22	KPI-28	KPI-32	KPI-35L	KPI-44	KPI-55	KPI-74
Part Number			888110	888120	888130	888135	888138	888140	888150	888160	888165	888170	888180	888190	888195	888200
*Lifting Capacity at 118 PSI (8 Bar)		U.S. Tons	1.2	2.8	4.3	6.5	10.2	10.8	15.0	20.2	26.8	29.9	31.1	41.5	54.9	70.2
		Metric Ton	1.1	2.5	3.9	5.9	9.3	9.8	13.6	18.3	24.3	27.1	28.2	37.6	49.8	63.7
Size	Length	Inches (mm)	6(152)	6(152)	10(254)	12(305)	18(457)	15(381)	21(533)	20(508)	20(508)	24(609)	42(1066)	28(711)	32(812)	37(940)
	Width	Inches (mm)	6(152)	12(305)	10(254)	12(305)	12(305)	15(381)	15(381)	20(508)	26(660)	24(609)	15(381)	28(711)	32(812)	37(940)
	Thickness	Inches (mm)	.6(15)	.6(15)	.6(15)	.8(20)	.8(20)	.8(20)	.8(20)	.8(20)	.8(20)	.8(20)	.8(20)	.8(20)	1(25)	1(25)
*Lifting Heights:		Inches (mm)	3.0(76)	3.5(90)	5.4(137)	6.4(163)	7.5(190)	8.2(208)	9.0(230)	11.0(280)	11.7(297)	13.0(330)	9.3(236)	15.0(381)	17.0(432)	20.0(508)
Maximum Working Pressure:		PSI (Bar)	118(8)	118(8)	118(8)	118(8)	118(8)	118(8)	118(8)	118(8)	118(8)	118(8)	118(8)	118(8)	118(8)	118(8)
Test Pressure:		PSI (Bar)	236(16)	236(16)	236(16)	236(16)	236(16)	236(16)	236(16)	236(16)	236(16)	236(16)	236(16)	236(16)	236(16)	236(16)
Bursting Pressure Minimum:		PSI (Bar)	700(47.6)	700(47.6)	700(47.6)	700(47.6)	700(48)	700(47.6)	700(47.6)	700(47.6)	600(40.8)	600(40.8)	600(40.8)	475(32.3)	475(32.3)	475(32.3)
Air Requirement at 118 PSI (8 Bar)		Cubic Ft. (liters)	.14(4)	.35(10)	.77(22)	1.8(51)	2.8(79)	3.0(84)	4.9(138)	7.3(208)	11(311)	13.8(390)	11.7(332)	21.6(613)	34(969)	47.0(1329)
Inflation Time		Seconds	1	1	2	2	3	3	4	7	10	11	12	20	35	53
Weight (approx.)		Lbs. (KG)	1.1(.5)	2.2(1)	3.1(1.4)	6(2.8)	9(4.1)	8(3.6)	11(5)	15(6.8)	19(8.6)	21(9.5)	22(10)	29(13)	40(18)	60(27)
Short Term Temperature Range		°F	-75 to +220													
		°C	-60 to +105													
Continuous Duty Temperature Range		°F	-40 to +150													
		°C	-40 to +65													
Material			Neoprene with Kevlar Reinforcement													
No. of Reinforcing Layers Each Side			3													
Replaceable Nipple			yes													
Molded Non-Slip Surface			yes													
Bright Yellow "X" Molded into Sides			yes													
Made in U.S.A.			yes													

One Year Limited Warranty Against Defects in Materials and Workmanship

*Lifting Capacity and Height Will Vary According to Air Pressure and Bag Contact Area.

MAXIFORCE HEIGHT VS LOAD CAPACITY



MAXIFORCE®

PARATECH®

Tough Tools for Tough Jobs!

Saving Lives
Worldwide
Since 1963

MADE IN THE USA

12/03 22-098362