

## **Specifications**

### **Air Lifting Bag Set, 91 US Tons (82.5 Metric Tons)**

#### **Introduction**

These purchase specifications cover the minimum requirements of an Air Lifting Bag Set, 91 U.S. Tons (82.5 Metric Tons) to be purchased. The Air Lifting Bag Set shall be able to operate up to 150 psi (10.3 bar) of pressure with a combined lift capacity of 91 U.S. Tons (82.5 Metric Tons), an insertion height of maximum 0.875" (22mm) and an inflated height of 13.0" (330mm).

As a minimum the system must consist of:

- Air Lifting Bag Set, 91 U.S. Tons (82.5 Metric Tons), (Equivalent to Paratech MAXIFORCE Model 48 – 3 Lift Bag Set, 22-889048G2)

#### **Instruction to Bidders**

Bidders shall conform as much as possible to these specifications to ensure interoperability with other equipment. Exceptions or omissions must be set out in writing on a separate sheet entitled "Exceptions" which must accompany the bid. Failure to do so will result in an automatic rejection of the bid.

The buyer shall be the sole interpreter of the intent of any clause of these specifications and shall be the sole judge as to whether the equipment or any part thereof complies with the specifications.

The buyer reserves the right to reject any and all bids, to waive informalities in bidding, to negotiate small options with the successful bidder and to accept the bid, which in the opinion of the buyer, will be in its best interest.

#### **General System Construction Features**

The Air Lifting Bag Set shall be made from three (3) layers of Neoprene-covered Aramid fiber reinforcement on each side to provide strength, durability and flexibility. The chemical resistance of Neoprene shall allow the bags to be used in contaminated environments. The specific information regarding chemical resistance shall be furnished in the chemical compatibility guide available for each bag.

All parts of the system must be able to function without failure in prolonged exposure to temperatures between -40°F and 150°F (-40°C to 65°C) and for short term use in -75°F to 220°F (-60°C to 105°C).

The outer cover of each bag shall have an interlocking texture of small molded raised dimples to provide placement on slippery surfaces and interlock bags during bag

stacking applications. Warnings shall be permanently molded into the bag surface for ease of reference. All molded lettering and numbers shall be filled with a highly visible yellow silicone adhesive.

The maximum lift capacity and center bar shall be molded into two outer edges of the bag for reference when the bag is in storage or in use. The following recessed molded information can be found above the nipple corner: model number, part number, maximum pressure, maximum inflated height and serial number.

Each Air Lifting Bag shall be equipped with a 3/8" – 24 left hand thread fitting which shall be attached to a disconnect nipple capable of being replaced should it be damaged. Both the fitting and nipple shall be made of H02 brass. The brass material is used for corrosion and spark resistance and the two-piece nipple design will allow for easy repair. The nipple shall be recessed inside the outer edge of the bag to protect it during use and facilitate storage. A tethered nipple cap shall be included to avoid contamination inside the bag when not in use and assist in protecting the surface of the nipple.

**Quantity, Dimensions and Capacities**

\_\_\_ Air Lifting Bag(s) equivalent to the following specifications must be supplied:

Qty	Max Lift Capacity	Max Lifting Height	Width	Height	Length	Weight	Equivalent Model & Part No.
1	15.0 U.S Tons (13.6 Met Ton)	9.0 in (229 mm)	15.0 in (381 mm)	0.875 in (22 mm)	21.0 in (533 mm)	12.0 lbs (5.4 kg)	KPI-17, 22-888150G2
1	34.0 U.S Tons (30.9 Met Ton)	11.8 in (299 mm)	20.0 in (508 mm)	0.875 in (22 mm)	26.0 in (660 mm)	20.1 lbs (9.1 kg)	KPI-28, 22-888165G2
1	38.0 U.S Tons (34.4 Met Ton)	13.0 in (330 mm)	24.0 in (610 mm)	0.875 in (22 mm)	24.0 in (610 mm)	22.0 lbs (10.0 kg)	KPI-32, 22-888170G2

Each Air Lifting Bag shall have a working pressure up to 150 psi (10.3 bar). The Air Lifting Bag Set shall be capable of a maximum lift capacity of 91 U.S. Tons (82.5 Metric Tons).

It is required that the equipment meets or exceeds the EN 13731 Lifting Bag Systems for fire and rescue service use - Safety and performance requirements.

## **Specifications**

### **Air Lifting Bag Set, 102.9 US Tons (93.3 Metric Tons)**

#### **Introduction**

These purchase specifications cover the minimum requirements of an Air Lifting Bag Set, 102.9 U.S. Tons (93.3 Metric Tons) to be purchased. The Air Lifting Bag Set shall be able to operate up to 150 psi (10.3 bar) of pressure with a combined lift capacity of 102.9 U.S. Tons (93.3 Metric Tons), an insertion height of maximum 0.875" (22mm) and an inflated height of 11.0" (279mm).

As a minimum the system must consist of:

- Air Lifting Bag Set, 102.9 U.S. Tons (93.3 Metric Tons), (Equivalent to Paratech MAXIFORCE Model 50 – 5 Lift Bag Set, 22-889050G2)

#### **Instruction to Bidders**

Bidders shall conform as much as possible to these specifications to ensure interoperability with other equipment. Exceptions or omissions must be set out in writing on a separate sheet entitled "Exceptions" which must accompany the bid. Failure to do so will result in an automatic rejection of the bid.

The buyer shall be the sole interpreter of the intent of any clause of these specifications and shall be the sole judge as to whether the equipment or any part thereof complies with the specifications.

The buyer reserves the right to reject any and all bids, to waive informalities in bidding, to negotiate small options with the successful bidder and to accept the bid, which in the opinion of the buyer, will be in its best interest.

#### **General System Construction Features**

The Air Lifting Bag Set shall be made from three (3) layers of Neoprene-covered Aramid fiber reinforcement on each side to provide strength, durability and flexibility. The chemical resistance of Neoprene shall allow the bags to be used in contaminated environments. The specific information regarding chemical resistance shall be furnished in the chemical compatibility guide available for each bag.

All parts of the system must be able to function without failure in prolonged exposure to temperatures between -40°F and 150°F (-40°C to 65°C) and for short term use in -75°F to 220°F (-60°C to 105°C).

The outer cover of each bag shall have an interlocking texture of small molded raised dimples to provide placement on slippery surfaces and interlock bags during bag

stacking applications. Warnings shall be permanently molded into the bag surface for ease of reference. All molded lettering and numbers shall be filled with a highly visible yellow silicone adhesive.

The maximum lift capacity and center bar shall be molded into two outer edges of the bag for reference when the bag is in storage or in use. The following recessed molded information can be found above the nipple corner: model number, part number, maximum pressure, maximum inflated height and serial number.

Each Air Lifting Bag shall be equipped with a 3/8" – 24 left hand thread fitting which shall be attached to a disconnect nipple capable of being replaced should it be damaged. Both the fitting and nipple shall be made of H02 brass. The brass material is used for corrosion and spark resistance and the two-piece nipple design will allow for easy repair. The nipple shall be recessed inside the outer edge of the bag to protect it during use and facilitate storage. A tethered nipple cap shall be included to avoid contamination inside the bag when not in use and assist in protecting the surface of the nipple.

**Quantity, Dimensions and Capacities**

\_\_\_ Air Lifting Bag(s) equivalent to the following specifications must be supplied:

Qty	Max Lift Capacity	Max Lifting Height	Width	Height	Length	Weight	Equivalent Model & Part No.
1	13.7 U.S. Tons (12.4 Met Ton)	8.1 in (206 mm)	15.0 in (381 mm)	0.875 in (22 mm)	15.0 in (381 mm)	8.8 lbs (4.0 kg)	KPI-12, 22-888140G2
2	15.0 U.S Tons (13.6 Met Ton)	9.0 in (229 mm)	15.0 in (381 mm)	0.875 in (22 mm)	21.0 in (533 mm)	12.0 lbs (5.4 kg)	KPI-17, 22-888150G2
2	20.2 U.S Tons (18.3 Met Ton)	11.0 in (279 mm)	20.0 in (508 mm)	0.875 in (22 mm)	20.0 in (508 mm)	15.9 lbs (7.2 kg)	KPI-22, 22-888160G2

Each Air Lifting Bag shall have a working pressure up to 150 psi (10.3 bar). The Air Lifting Bag Set shall be capable of a maximum lift capacity of 102.9 U.S. Tons (93.3 Metric Tons).

It is required that the equipment meets or exceeds the EN 13731 Lifting Bag Systems for fire and rescue service use - Safety and performance requirements.

## **Specifications**

### **Air Lifting Bag Set, 117.5 US Tons (106.5 Metric Tons)**

#### **Introduction**

These purchase specifications cover the minimum requirements of an Air Lifting Bag Set, 117.5 U.S. Tons (106.5 Metric Tons) to be purchased. The Air Lifting Bag Set shall be able to operate up to 150 psi (10.3 bar) of pressure with a combined lift capacity of 117.5 U.S. Tons (106.5 Metric Tons), an insertion height of maximum 0.875" (22mm) and an inflated height of 13.0" (330mm).

As a minimum the system must consist of:

- Air Lifting Bag Set, 117.5 U.S. Tons (106.5 Metric Tons), (Equivalent to Paratech MAXIFORCE Model 52 – 5 Lift Bag Set, 22-889052G2)

#### **Instruction to Bidders**

Bidders shall conform as much as possible to these specifications to ensure interoperability with other equipment. Exceptions or omissions must be set out in writing on a separate sheet entitled "Exceptions" which must accompany the bid. Failure to do so will result in an automatic rejection of the bid.

The buyer shall be the sole interpreter of the intent of any clause of these specifications and shall be the sole judge as to whether the equipment or any part thereof complies with the specifications.

The buyer reserves the right to reject any and all bids, to waive informalities in bidding, to negotiate small options with the successful bidder and to accept the bid, which in the opinion of the buyer, will be in its best interest.

#### **General System Construction Features**

The Air Lifting Bag Set shall be made from three (3) layers of Neoprene-covered Aramid fiber reinforcement on each side to provide strength, durability and flexibility. The chemical resistance of Neoprene shall allow the bags to be used in contaminated environments. The specific information regarding chemical resistance shall be furnished in the chemical compatibility guide available for each bag.

All parts of the system must be able to function without failure in prolonged exposure to temperatures between -40°F and 150°F (-40°C to 65°C) and for short term use in -75°F to 220°F (-60°C to 105°C).

The outer cover of each bag shall have an interlocking texture of small molded raised dimples to provide placement on slippery surfaces and interlock bags during bag

stacking applications. Warnings shall be permanently molded into the bag surface for ease of reference. All molded lettering and numbers shall be filled with a highly visible yellow silicone adhesive.

The maximum lift capacity and center bar shall be molded into two outer edges of the bag for reference when the bag is in storage or in use. The following recessed molded information can be found above the nipple corner: model number, part number, maximum pressure, maximum inflated height and serial number.

Each Air Lifting Bag shall be equipped with a 3/8” – 24 left hand thread fitting which shall be attached to a disconnect nipple capable of being replaced should it be damaged. Both the fitting and nipple shall be made of H02 brass. The brass material is used for corrosion and spark resistance and the two-piece nipple design will allow for easy repair. The nipple shall be recessed inside the outer edge of the bag to protect it during use and facilitate storage. A tethered nipple cap shall be included to avoid contamination inside the bag when not in use and assist in protecting the surface of the nipple.

**Quantity, Dimensions and Capacities**

\_\_\_ Air Lifting Bag(s) equivalent to the following specifications must be supplied:

Qty	Max Lift Capacity	Max Lifting Height	Width	Height	Length	Weight	Equivalent Model & Part No.
1	3.5 U.S Tons (3.2 Met Ton)	3.5 in (89 mm)	6.0 in (152 mm)	0.75 in (19 mm)	12.0 in (305 mm)	2.3 lbs (1.0 kg)	KPI-3, 22-888120G2
2	15.0 U.S Tons (13.6 Met Ton)	9.0 in (229 mm)	15.0 in (381 mm)	0.875 in (22 mm)	21.0 in (533 mm)	12.0 lbs (5.4 kg)	KPI-17, 22-888150G2
2	20.2 U.S Tons (18.3 Met Ton)	11.0 in (279 mm)	20.0 in (508 mm)	0.875 in (22 mm)	20.0 in (508 mm)	15.9 lbs (7.2 kg)	KPI-22, 22-888160G2

Each Air Lifting Bag shall have a working pressure up to 150 psi (10.3 bar). The Air Lifting Bag Set shall be capable of a maximum lift capacity of 117.5 U.S. Tons (106.5 Metric Tons).

It is required that the equipment meets or exceeds the EN 13731 Lifting Bag Systems for fire and rescue service use - Safety and performance requirements.

## **Specifications**

### **Air Lifting Bag Set, 145.9 US Tons (132.3 Metric Tons)**

#### **Introduction**

These purchase specifications cover the minimum requirements of an Air Lifting Bag Set, 145.9 U.S. Tons (132.3 Metric Tons) to be purchased. The Air Lifting Bag Set shall be able to operate up to 150 psi (10.3 bar) of pressure with a combined lift capacity of 145.9 U.S. Tons (132.3 Metric Tons), an insertion height of maximum 0.875" (22mm) and an inflated height of 13.0" (330mm).

As a minimum the system must consist of:

- Air Lifting Bag Set, 145.9 U.S. Tons (132.3 Metric Tons), (Equivalent to Paratech MAXIFORCE Model 92 – 9 Lift Bag Set, 22-889092G2)

#### **Instruction to Bidders**

Bidders shall conform as much as possible to these specifications to ensure interoperability with other equipment. Exceptions or omissions must be set out in writing on a separate sheet entitled "Exceptions" which must accompany the bid. Failure to do so will result in an automatic rejection of the bid.

The buyer shall be the sole interpreter of the intent of any clause of these specifications and shall be the sole judge as to whether the equipment or any part thereof complies with the specifications.

The buyer reserves the right to reject any and all bids, to waive informalities in bidding, to negotiate small options with the successful bidder and to accept the bid, which in the opinion of the buyer, will be in its best interest.

#### **General System Construction Features**

The Air Lifting Bag Set shall be made from three (3) layers of Neoprene-covered Aramid fiber reinforcement on each side to provide strength, durability and flexibility. The chemical resistance of Neoprene shall allow the bags to be used in contaminated environments. The specific information regarding chemical resistance shall be furnished in the chemical compatibility guide available for each bag.

All parts of the system must be able to function without failure in prolonged exposure to temperatures between -40°F and 150°F (-40°C to 65°C) and for short term use in -75°F to 220°F (-60°C to 105°C).

The outer cover of each bag shall have an interlocking texture of small molded raised dimples to provide placement on slippery surfaces and interlock bags during bag

stacking applications. Warnings shall be permanently molded into the bag surface for ease of reference. All molded lettering and numbers shall be filled with a highly visible yellow silicone adhesive.

The maximum lift capacity and center bar shall be molded into two outer edges of the bag for reference when the bag is in storage or in use. The following recessed molded information can be found above the nipple corner: model number, part number, maximum pressure, maximum inflated height and serial number.

Each Air Lifting Bag shall be equipped with a 3/8" – 24 left hand thread fitting which shall be attached to a disconnect nipple capable of being replaced should it be damaged. Both the fitting and nipple shall be made of H02 brass. The brass material is used for corrosion and spark resistance and the two-piece nipple design will allow for easy repair. The nipple shall be recessed inside the outer edge of the bag to protect it during use and facilitate storage. A tethered nipple cap shall be included to avoid contamination inside the bag when not in use and assist in protecting the surface of the nipple.

**Quantity, Dimensions and Capacities**

\_\_\_ Air Lifting Bag(s) equivalent to the following specifications must be supplied:

Qty	Max Lift Capacity	Max Lifting Height	Width	Height	Length	Weight	Equivalent Model & Part No.
1	1.5 U.S. Tons (1.3 Met Ton)	3.0 in (76 mm)	6.0 in (152 mm)	0.75 in (19 mm)	6.0 in (152 mm)	1.2 lbs (0.6 kg)	KPI-1, 22-888110G2
1	3.5 U.S Tons (3.2 Met Ton)	3.5 in (89 mm)	6.0 in (152 mm)	0.75 in (19 mm)	12.0 in (305 mm)	2.3 lbs (1.0 kg)	KPI-3, 22-888120G2
1	5.4 U.S. Tons (4.9 Met Ton)	5.4 in (137 mm)	10.0 in (254 mm)	0.75 in (19 mm)	10.0 in (254 mm)	3.1 lbs (1.4 kg)	KPI-5, 22-888130G2
1	13.7 U.S. Tons (12.4 Met Ton)	8.1 in (206 mm)	15.0 in (381 mm)	0.875 in (22 mm)	15.0 in (381 mm)	8.8 lbs (4.0 kg)	KPI-12, 22-888140G2
1	15.0 U.S Tons (13.6 Met Ton)	9.0 in (229 mm)	15.0 in (381 mm)	0.875 in (22 mm)	21.0 in (533 mm)	12.0 lbs (5.4 kg)	KPI-17, 22-888150G2
1	20.2 U.S Tons (18.3 Met Ton)	11.0 in (279 mm)	20.0 in (508 mm)	0.875 in (22 mm)	20.0 in (508 mm)	15.9 lbs (7.2 kg)	KPI-22, 22-888160G2
1	38.0 U.S Tons (34.4 Met Ton)	13.0 in (330 mm)	24.0 in (610 mm)	0.875 in (22 mm)	24.0 in (610 mm)	22.0 lbs (10.0 kg)	KPI-32, 22-888170G2

Each Air Lifting Bag shall have a working pressure up to 150 psi (10.3 bar). The Air Lifting Bag Set shall be capable of a maximum lift capacity of 145.9 U.S. Tons (132.3 Metric Tons).

It is required that the equipment meets or exceeds the EN 13731 Lifting Bag Systems for fire and rescue service use - Safety and performance requirements.



## **Specifications**

### **Air Lifting Bag Set, 218.4 US Tons (198.1 Metric Tons)**

#### **Introduction**

These purchase specifications cover the minimum requirements of an Air Lifting Bag Set, 218.4 U.S. Tons (198.1 Metric Tons) to be purchased. The Air Lifting Bag Set shall be able to operate up to 150 psi (10.3 bar) of pressure with a combined lift capacity of 218.4 U.S. Tons (198.1 Metric Tons), an insertion height of maximum 0.875" (22mm) and an inflated height of 9.5" (241mm).

As a minimum the system must consist of:

- Air Lifting Bag Set, 218.4 U.S. Tons (198.1 Metric Tons), (Equivalent to Paratech MAXIFORCE Model 117 – 8 Lift Bag Set, 22-889117G2)

#### **Instruction to Bidders**

Bidders shall conform as much as possible to these specifications to ensure interoperability with other equipment. Exceptions or omissions must be set out in writing on a separate sheet entitled "Exceptions" which must accompany the bid. Failure to do so will result in an automatic rejection of the bid.

The buyer shall be the sole interpreter of the intent of any clause of these specifications and shall be the sole judge as to whether the equipment or any part thereof complies with the specifications.

The buyer reserves the right to reject any and all bids, to waive informalities in bidding, to negotiate small options with the successful bidder and to accept the bid, which in the opinion of the buyer, will be in its best interest.

#### **General System Construction Features**

The Air Lifting Bag Set shall be made from three (3) layers of Neoprene-covered Aramid fiber reinforcement on each side to provide strength, durability and flexibility. The chemical resistance of Neoprene shall allow the bags to be used in contaminated environments. The specific information regarding chemical resistance shall be furnished in the chemical compatibility guide available for each bag.

All parts of the system must be able to function without failure in prolonged exposure to temperatures between -40°F and 150°F (-40°C to 65°C) and for short term use in -75°F to 220°F (-60°C to 105°C).

The outer cover of each bag shall have an interlocking texture of small molded raised dimples to provide placement on slippery surfaces and interlock bags during bag

stacking applications. Warnings shall be permanently molded into the bag surface for ease of reference. All molded lettering and numbers shall be filled with a highly visible yellow silicone adhesive.

The maximum lift capacity and center bar shall be molded into two outer edges of the bag for reference when the bag is in storage or in use. The following recessed molded information can be found above the nipple corner: model number, part number, maximum pressure, maximum inflated height and serial number.

Each Air Lifting Bag shall be equipped with a 3/8" – 24 left hand thread fitting which shall be attached to a disconnect nipple capable of being replaced should it be damaged. Both the fitting and nipple shall be made of H02 brass. The brass material is used for corrosion and spark resistance and the two-piece nipple design will allow for easy repair. The nipple shall be recessed inside the outer edge of the bag to protect it during use and facilitate storage. A tethered nipple cap shall be included to avoid contamination inside the bag when not in use and assist in protecting the surface of the nipple.

**Quantity, Dimensions and Capacities**

\_\_\_ Air Lifting Bag(s) equivalent to the following specifications must be supplied:

Qty	Max Lift Capacity	Max Lifting Height	Width	Height	Length	Weight	Equivalent Model & Part No.
1	13.7 U.S. Tons (12.4 Met Ton)	8.1 in (206 mm)	15.0 in (381 mm)	0.875 in (22 mm)	15.0 in (381 mm)	8.8 lbs (4.0 kg)	KPI-12, 22-888140G2
2	15.0 U.S Tons (13.6 Met Ton)	9.0 in (229 mm)	15.0 in (381 mm)	0.875 in (22 mm)	21.0 in (533 mm)	12.0 lbs (5.4 kg)	KPI-17, 22-888150G2
2	20.2 U.S Tons (18.3 Met Ton)	11.0 in (279 mm)	20.0 in (508 mm)	0.875 in (22 mm)	20.0 in (508 mm)	15.9 lbs (7.2 kg)	KPI-22, 22-888160G2
2	38.0 U.S Tons (34.4 Met Ton)	13.0 in (330 mm)	24.0 in (610 mm)	0.875 in (22 mm)	24.0 in (610 mm)	22.0 lbs (10.0 kg)	KPI-32, 22-888170G2
1	39.5 U.S Tons (35.8 Met Ton)	9.5 in (241 mm)	15.0 in (381 mm)	0.875 in (22 mm)	42.0 in (1066 mm)	24.5 lbs (11.1 kg)	KPI-35L, 22-888180G2

Each Air Lifting Bag shall have a working pressure up to 150 psi (10.3 bar). The Air Lifting Bag Set shall be capable of a maximum lift capacity of 218.4 U.S. Tons (198.1 Metric Tons).

It is required that the equipment meets or exceeds the EN 13731 Lifting Bag Systems for fire and rescue service use - Safety and performance requirements.

## **Specifications**

### **Air Lifting Bag Set, 276.0 US Tons (150.3 Metric Tons)**

#### **Introduction**

These purchase specifications cover the minimum requirements of an Air Lifting Bag Set, 276.0 U.S. Tons (150.3 Metric Tons) to be purchased. The Air Lifting Bag Set shall be able to operate up to 150 psi (10.3 bar) of pressure with a combined lift capacity of 276.0 U.S. tons (374.6 metric tons), an insertion height of maximum 0.875 in (22 mm) and an inflated height of 15.3" (388mm).

As a minimum the system must consist of:

- Air Lifting Bag Set, 276.0 U.S. Tons (150.3 Metric Tons), (Equivalent to Paratech MAXIFORCE Model 136 – 11 Lift Bag Set, 22-889136G2)

#### **Instruction to Bidders**

Bidders shall conform as much as possible to these specifications to ensure interoperability with other equipment. Exceptions or omissions must be set out in writing on a separate sheet entitled "Exceptions" which must accompany the bid. Failure to do so will result in an automatic rejection of the bid.

The buyer shall be the sole interpreter of the intent of any clause of these specifications and shall be the sole judge as to whether the equipment or any part thereof complies with the specifications.

The buyer reserves the right to reject any and all bids, to waive informalities in bidding, to negotiate small options with the successful bidder and to accept the bid, which in the opinion of the buyer, will be in its best interest.

#### **General System Construction Features**

The Air Lifting Bag Set shall be made from three (3) layers of Neoprene-covered Aramid fiber reinforcement on each side to provide strength, durability and flexibility. The chemical resistance of Neoprene shall allow the bags to be used in contaminated environments. The specific information regarding chemical resistance shall be furnished in the chemical compatibility guide available for each bag.

All parts of the system must be able to function without failure in prolonged exposure to temperatures between -40°F and 150°F (-40°C to 65°C) and for short term use in -75°F to 220°F (-60°C to 105°C).

The outer cover of each bag shall have an interlocking texture of small molded raised dimples to provide placement on slippery surfaces and interlock bags during bag

stacking applications. Warnings shall be permanently molded into the bag surface for ease of reference. All molded lettering and numbers shall be filled with a highly visible yellow silicone adhesive.

The maximum lift capacity and center bar shall be molded into two outer edges of the bag for reference when the bag is in storage or in use. The following recessed molded information can be found above the nipple corner: model number, part number, maximum pressure, maximum inflated height and serial number.

Each Air Lifting Bag shall be equipped with a 3/8" – 24 left hand thread fitting which shall be attached to a disconnect nipple capable of being replaced should it be damaged. Both the fitting and nipple shall be made of H02 brass. The brass material is used for corrosion and spark resistance and the two-piece nipple design will allow for easy repair. The nipple shall be recessed inside the outer edge of the bag to protect it during use and facilitate storage. A tethered nipple cap shall be included to avoid contamination inside the bag when not in use and assist in protecting the surface of the nipple.

**Quantity, Dimensions and Capacities**

\_\_\_ Air Lifting Bag(s) equivalent to the following specifications must be supplied:

Qty	Max Lift Capacity	Max Lifting Height	Width	Height	Length	Weight	Equivalent Model & Part No.
1	1.5 U.S. Tons (1.3 Met Ton)	3.0 in (76 mm)	6.0 in (152 mm)	0.75 in (19 mm)	6.0 in (152 mm)	1.2 lbs (0.6 kg)	KPI-1, 22-888110G2
1	3.5 U.S Tons (3.2 Met Ton)	3.5 in (89 mm)	6.0 in (152 mm)	0.75 in (19 mm)	12.0 in (305 mm)	2.3 lbs (1.0 kg)	KPI-3, 22-888120G2
1	5.4 U.S. Tons (4.9 Met Ton)	5.4 in (137 mm)	10.0 in (254 mm)	0.75 in (19 mm)	10.0 in (254 mm)	3.1 lbs (1.4 kg)	KPI-5, 22-888130G2
1	13.7 U.S. Tons (12.4 Met Ton)	8.1 in (206 mm)	15.0 in (381 mm)	0.875 in (22 mm)	15.0 in (381 mm)	8.8 lbs (4.0 kg)	KPI-12, 22-888140G2
2	15.0 U.S Tons (13.6 Met Ton)	9.0 in (229 mm)	15.0 in (381 mm)	0.875 in (22 mm)	21.0 in (533 mm)	12.0 lbs (5.4 kg)	KPI-17, 22-888150G2
2	20.2 U.S Tons (18.3 Met Ton)	11.0 in (279 mm)	20.0 in (508 mm)	0.875 in (22 mm)	20.0 in (508 mm)	15.9 lbs (7.2 kg)	KPI-22, 22-888160G2
2	38.0 U.S Tons (34.4 Met Ton)	13.0 in (330 mm)	24.0 in (610 mm)	0.875 in (22 mm)	24.0 in (610 mm)	22.0 lbs (10.0 kg)	KPI-32, 22-888170G2
1	52.7 U.S Tons (47.8 Met Ton)	15.3 in (388 mm)	28.0 in (711 mm)	0.875 in (22 mm)	28.0 in (711 mm)	30.0 lbs (13.6 kg)	KPI-44, 22-888190G2

Each Air Lifting Bag shall have a working pressure up to 150 psi (10.3 bar). The Air Lifting Bag Set shall be capable of a maximum lift capacity of 276.0 U.S. Tons (150.3 Metric Tons).

It is required that the equipment meets or exceeds the EN 13731 Lifting Bag Systems for fire and rescue service use - Safety and performance requirements.

## **Specifications**

### **Air Lifting Bag Set, 285.8 US Tons (259.2 Metric Tons)**

#### **Introduction**

These purchase specifications cover the minimum requirements of an Air Lifting Bag Set, 285.8 U.S. Tons (259.2 Metric Tons) to be purchased. The Air Lifting Bag Set shall be able to operate up to 150 psi (10.3 bar) of pressure with a combined lift capacity of 285.8 U.S. Tons (259.2 Metric Tons), an insertion height of maximum 0.875" (22mm) and an inflated height of 15.3" (388mm).

As a minimum the system must consist of:

- Air Lifting Bag Set, 285.8 U.S. Tons (259.2 Metric Tons), (Equivalent to Paratech MAXIFORCE Model 140 – 8 Lift Bag Set, 22-889140G2)

#### **Instruction to Bidders**

Bidders shall conform as much as possible to these specifications to ensure interoperability with other equipment. Exceptions or omissions must be set out in writing on a separate sheet entitled "Exceptions" which must accompany the bid. Failure to do so will result in an automatic rejection of the bid.

The buyer shall be the sole interpreter of the intent of any clause of these specifications and shall be the sole judge as to whether the equipment or any part thereof complies with the specifications.

The buyer reserves the right to reject any and all bids, to waive informalities in bidding, to negotiate small options with the successful bidder and to accept the bid, which in the opinion of the buyer, will be in its best interest.

#### **General System Construction Features**

The Air Lifting Bag Set shall be made from three (3) layers of Neoprene-covered Aramid fiber reinforcement on each side to provide strength, durability and flexibility. The chemical resistance of Neoprene shall allow the bags to be used in contaminated environments. The specific information regarding chemical resistance shall be furnished in the chemical compatibility guide available for each bag.

All parts of the system must be able to function without failure in prolonged exposure to temperatures between -40°F and 150°F (-40°C to 65°C) and for short term use in -75°F to 220°F (-60°C to 105°C).

The outer cover of each bag shall have an interlocking texture of small molded raised dimples to provide placement on slippery surfaces and interlock bags during bag

stacking applications. Warnings shall be permanently molded into the bag surface for ease of reference. All molded lettering and numbers shall be filled with a highly visible yellow silicone adhesive.

The maximum lift capacity and center bar shall be molded into two outer edges of the bag for reference when the bag is in storage or in use. The following recessed molded information can be found above the nipple corner: model number, part number, maximum pressure, maximum inflated height and serial number.

Each Air Lifting Bag shall be equipped with a 3/8" – 24 left hand thread fitting which shall be attached to a disconnect nipple capable of being replaced should it be damaged. Both the fitting and nipple shall be made of H02 brass. The brass material is used for corrosion and spark resistance and the two-piece nipple design will allow for easy repair. The nipple shall be recessed inside the outer edge of the bag to protect it during use and facilitate storage. A tethered nipple cap shall be included to avoid contamination inside the bag when not in use and assist in protecting the surface of the nipple.

**Quantity, Dimensions and Capacities**

\_\_\_ Air Lifting Bag(s) equivalent to the following specifications must be supplied:

Qty	Max Lift Capacity	Max Lifting Height	Width	Height	Length	Weight	Equivalent Model & Part No.
1	13.7 U.S. Tons (12.4 Met Ton)	8.1 in (206 mm)	15.0 in (381 mm)	0.875 in (22 mm)	15.0 in (381 mm)	8.8 lbs (4.0 kg)	KPI-12, 22-888140G2
2	20.2 U.S Tons (18.3 Met Ton)	11.0 in (279 mm)	20.0 in (508 mm)	0.875 in (22 mm)	20.0 in (508 mm)	15.9 lbs (7.2 kg)	KPI-22, 22-888160G2
2	38.0 U.S Tons (34.4 Met Ton)	13.0 in (330 mm)	24.0 in (610 mm)	0.875 in (22 mm)	24.0 in (610 mm)	22.0 lbs (10.0 kg)	KPI-32, 22-888170G2
1	39.5 U.S Tons (35.8 Met Ton)	9.5 in (241 mm)	15.0 in (381 mm)	0.875 in (22 mm)	42.0 in (1066 mm)	24.5 lbs (11.1 kg)	KPI-35L, 22-888180G2
2	52.7 U.S Tons (47.8 Met Ton)	15.3 in (388 mm)	28.0 in (711 mm)	0.875 in (22 mm)	28.0 in (711 mm)	30.0 lbs (13.6 kg)	KPI-44, 22-888190G2

Each Air Lifting Bag shall have a working pressure up to 150 psi (10.3 bar). The Air Lifting Bag Set shall be capable of a maximum lift capacity of 285.8 U.S. Tons (259.2 Metric Tons).

It is required that the equipment meets or exceeds the EN 13731 Lifting Bag Systems for fire and rescue service use - Safety and performance requirements.

## **Specifications**

### **Air Lifting Bag Set, 277.2 US Tons (251.4 Metric Tons)**

#### **Introduction**

These purchase specifications cover the minimum requirements of an Air Lifting Bag Set, 277.2 U.S. Tons (251.4 Metric Tons) to be purchased. The Air Lifting Bag Set shall be able to operate up to 150 psi (10.3 bar) of pressure with a combined lift capacity of 277.2 U.S. Tons (251.4 Metric Tons), an insertion height of maximum 1.0" (25mm) and an inflated height of 20.0" (508mm).

As a minimum the system must consist of:

- Air Lifting Bag Set, 277.2 U.S. Tons (251.4 Metric Tons), (Equivalent to Paratech MAXIFORCE Model 234 – 7 Lift Bag Set, 22-889234G2)

#### **Instruction to Bidders**

Bidders shall conform as much as possible to these specifications to ensure interoperability with other equipment. Exceptions or omissions must be set out in writing on a separate sheet entitled "Exceptions" which must accompany the bid. Failure to do so will result in an automatic rejection of the bid.

The buyer shall be the sole interpreter of the intent of any clause of these specifications and shall be the sole judge as to whether the equipment or any part thereof complies with the specifications.

The buyer reserves the right to reject any and all bids, to waive informalities in bidding, to negotiate small options with the successful bidder and to accept the bid, which in the opinion of the buyer, will be in its best interest.

#### **General System Construction Features**

The Air Lifting Bag Set shall be made from three (3) layers of Neoprene-covered Aramid fiber reinforcement on each side to provide strength, durability and flexibility. The chemical resistance of Neoprene shall allow the bags to be used in contaminated environments. The specific information regarding chemical resistance shall be furnished in the chemical compatibility guide available for each bag.

All parts of the system must be able to function without failure in prolonged exposure to temperatures between -40°F and 150°F (-40°C to 65°C) and for short term use in -75°F to 220°F (-60°C to 105°C).

The outer cover of each bag shall have an interlocking texture of small molded raised dimples to provide placement on slippery surfaces and interlock bags during bag



stacking applications. Warnings shall be permanently molded into the bag surface for ease of reference. All molded lettering and numbers shall be filled with a highly visible yellow silicone adhesive.

The maximum lift capacity and center bar shall be molded into two outer edges of the bag for reference when the bag is in storage or in use. The following recessed molded information can be found above the nipple corner: model number, part number, maximum pressure, maximum inflated height and serial number.

Each Air Lifting Bag shall be equipped with a 3/8" – 24 left hand thread fitting which shall be attached to a disconnect nipple capable of being replaced should it be damaged. Both the fitting and nipple shall be made of H02 brass. The brass material is used for corrosion and spark resistance and the two-piece nipple design will allow for easy repair. The nipple shall be recessed inside the outer edge of the bag to protect it during use and facilitate storage. A tethered nipple cap shall be included to avoid contamination inside the bag when not in use and assist in protecting the surface of the nipple.

**Quantity, Dimensions and Capacities**

\_\_\_ Air Lifting Bag(s) equivalent to the following specifications must be supplied:

Qty	Max Lift Capacity	Max Lifting Height	Width	Height	Length	Weight	Equivalent Model & Part No.
1	13.7 U.S. Tons (12.4 Met Ton)	8.1 in (206 mm)	15.0 in (381 mm)	0.875 in (22 mm)	15.0 in (381 mm)	8.8 lbs (4.0 kg)	KPI-12, 22-888140G2
1	15.0 U.S Tons (13.6 Met Ton)	9.0 in (229 mm)	15.0 in (381 mm)	0.875 in (22 mm)	21.0 in (533 mm)	12.0 lbs (5.4 kg)	KPI-17, 22-888150G2
1	20.2 U.S Tons (18.3 Met Ton)	11.0 in (279 mm)	20.0 in (508 mm)	0.875 in (22 mm)	20.0 in (508 mm)	15.9 lbs (7.2 kg)	KPI-22, 22-888160G2
1	38.0 U.S Tons (34.4 Met Ton)	13.0 in (330 mm)	24.0 in (610 mm)	0.875 in (22 mm)	24.0 in (610 mm)	22.0 lbs (10.0 kg)	KPI-32, 22-888170G2
1	39.5 U.S Tons (35.8 Met Ton)	9.5 in (241 mm)	15.0 in (381 mm)	0.875 in (22 mm)	42.0 in (1066 mm)	24.5 lbs (11.1 kg)	KPI-35L, 22-888180G2
1	52.7 U.S Tons (47.8 Met Ton)	15.3 in (388 mm)	28.0 in (711 mm)	0.875 in (22 mm)	28.0 in (711 mm)	30.0 lbs (13.6 kg)	KPI-44, 22-888190G2
1	89.2 U.S Tons (80.9 Met Ton)	20.0 in (508 mm)	37.0 in (939 mm)	1.0 in (25 mm)	37.0 in (939 mm)	58.0 lbs (26.3 kg)	KPI-74, 22-888200G2

Each Air Lifting Bag shall have a working pressure up to 150 psi (10.3 bar). The Air Lifting Bag Set shall be capable of a maximum lift capacity of 277.2 U.S. Tons (251.4 Metric Tons).

It is required that the equipment meets or exceeds the EN 13731 Lifting Bag Systems for fire and rescue service use - Safety and performance requirements.

## **Specifications**

### **Air Lifting Bag Set, 322.1 US Tons (292.2 Metric Tons)**

#### **Introduction**

These purchase specifications cover the minimum requirements of an Air Lifting Bag Set, 322.1 U.S. Tons (292.2 Metric Tons) to be purchased. The Air Lifting Bag Set shall be able to operate up to 150 psi (10.3 bar) of pressure with a combined lift capacity of 322.1 U.S. Tons (292.2 Metric Tons), an insertion height of maximum 1.0" (25mm) and an inflated height of 20.0" (508mm).

As a minimum the system must consist of:

- Air Lifting Bag Set, 322.1 U.S. Tons (292.2 Metric Tons), (Equivalent to Paratech MAXIFORCE Model 245 – 10 Lift Bag Set, 22-889245G2)

#### **Instruction to Bidders**

Bidders shall conform as much as possible to these specifications to ensure interoperability with other equipment. Exceptions or omissions must be set out in writing on a separate sheet entitled "Exceptions" which must accompany the bid. Failure to do so will result in an automatic rejection of the bid.

The buyer shall be the sole interpreter of the intent of any clause of these specifications and shall be the sole judge as to whether the equipment or any part thereof complies with the specifications.

The buyer reserves the right to reject any and all bids, to waive informalities in bidding, to negotiate small options with the successful bidder and to accept the bid, which in the opinion of the buyer, will be in its best interest.

#### **General System Construction Features**

The Air Lifting Bag Set shall be made from three (3) layers of Neoprene-covered Aramid fiber reinforcement on each side to provide strength, durability and flexibility. The chemical resistance of Neoprene shall allow the bags to be used in contaminated environments. The specific information regarding chemical resistance shall be furnished in the chemical compatibility guide available for each bag.

All parts of the system must be able to function without failure in prolonged exposure to temperatures between -40°F and 150°F (-40°C to 65°C) and for short term use in -75°F to 220°F (-60°C to 105°C).

The outer cover of each bag shall have an interlocking texture of small molded raised dimples to provide placement on slippery surfaces and interlock bags during bag

stacking applications. Warnings shall be permanently molded into the bag surface for ease of reference. All molded lettering and numbers shall be filled with a highly visible yellow silicone adhesive.

The maximum lift capacity and center bar shall be molded into two outer edges of the bag for reference when the bag is in storage or in use. The following recessed molded information can be found above the nipple corner: model number, part number, maximum pressure, maximum inflated height and serial number.

Each Air Lifting Bag shall be equipped with a 3/8" – 24 left hand thread fitting which shall be attached to a disconnect nipple capable of being replaced should it be damaged. Both the fitting and nipple shall be made of H02 brass. The brass material is used for corrosion and spark resistance and the two-piece nipple design will allow for easy repair. The nipple shall be recessed inside the outer edge of the bag to protect it during use and facilitate storage. A tethered nipple cap shall be included to avoid contamination inside the bag when not in use and assist in protecting the surface of the nipple.

**Quantity, Dimensions and Capacities**

\_\_\_ Air Lifting Bag(s) equivalent to the following specifications must be supplied:

Qty	Max Lift Capacity	Max Lifting Height	Width	Height	Length	Weight	Equivalent Model & Part No.
1	1.5 U.S. Tons (1.3 Met Ton)	3.0 in (76 mm)	6.0 in (152 mm)	0.75 in (19 mm)	6.0 in (152 mm)	1.2 lbs (0.6 kg)	KPI-1, 22-888110G2
1	3.5 U.S Tons (3.2 Met Ton)	3.5 in (89 mm)	6.0 in (152 mm)	0.75 in (19 mm)	12.0 in (305 mm)	2.3 lbs (1.0 kg)	KPI-3, 22-888120G2
1	5.4 U.S. Tons (4.9 Met Ton)	5.4 in (137 mm)	10.0 in (254 mm)	0.75 in (19 mm)	10.0 in (254 mm)	3.1 lbs (1.4 kg)	KPI-5, 22-888130G2
1	13.7 U.S. Tons (12.4 Met Ton)	8.1 in (206 mm)	15.0 in (381 mm)	0.875 in (22 mm)	15.0 in (381 mm)	8.8 lbs (4.0 kg)	KPI-12, 22-888140G2
1	15.0 U.S Tons (13.6 Met Ton)	9.0 in (229 mm)	15.0 in (381 mm)	0.875 in (22 mm)	21.0 in (533 mm)	12.0 lbs (5.4 kg)	KPI-17, 22-888150G2
1	20.2 U.S Tons (18.3 Met Ton)	11.0 in (279 mm)	20.0 in (508 mm)	0.875 in (22 mm)	20.0 in (508 mm)	15.9 lbs (7.2 kg)	KPI-22, 22-888160G2
1	38.0 U.S Tons (34.4 Met Ton)	13.0 in (330 mm)	24.0 in (610 mm)	0.875 in (22 mm)	24.0 in (610 mm)	22.0 lbs (10.0 kg)	KPI-32, 22-888170G2
1	39.5 U.S Tons (35.8 Met Ton)	9.5 in (241 mm)	15.0 in (381 mm)	0.875 in (22 mm)	42.0 in (1066 mm)	24.5 lbs (11.1 kg)	KPI-35L, 22-888180G2
1	52.7 U.S Tons (47.8 Met Ton)	15.3 in (388 mm)	28.0 in (711 mm)	0.875 in (22 mm)	28.0 in (711 mm)	30.0 lbs (13.6 kg)	KPI-44, 22-888190G2
1	89.2 U.S Tons (80.9 Met Ton)	20.0 in (508 mm)	37.0 in (939 mm)	1.0 in (25 mm)	37.0 in (939 mm)	58.0 lbs (26.3 kg)	KPI-74, 22-888200G2

Each Air Lifting Bag shall have a working pressure up to 150 psi (10.3 bar). The Air Lifting Bag Set shall be capable of a maximum lift capacity of 322.1 U.S. Tons (292.2 Metric Tons).

It is required that the equipment meets or exceeds the EN 13731 Lifting Bag Systems for fire and rescue service use - Safety and performance requirements.

## **Specifications**

### **Air Lifting Bag Set, 412.9 US Tons (374.6 Metric Tons)**

#### **Introduction**

These purchase specifications cover the minimum requirements of an Air Lifting Bag Set, 412.9 U.S. Tons (374.6 Metric Tons) to be purchased. The Air Lifting Bag Set shall be able to operate up to 150 psi (10.3 bar) of pressure with a combined lift capacity of 412.9 U.S. Tons (374.6 Metric Tons), an insertion height of maximum 1.0" (25mm) and an inflated height of 20.0" (508mm).

As a minimum the system must consist of:

- Air Lifting Bag Set, 412.9 U.S. Tons (374.6 Metric Tons), (Equivalent to Paratech MAXIFORCE Model 346 – 14 Lift Bag Set, 22-889346G2)

#### **Instruction to Bidders**

Bidders shall conform as much as possible to these specifications to ensure interoperability with other equipment. Exceptions or omissions must be set out in writing on a separate sheet entitled "Exceptions" which must accompany the bid. Failure to do so will result in an automatic rejection of the bid.

The buyer shall be the sole interpreter of the intent of any clause of these specifications and shall be the sole judge as to whether the equipment or any part thereof complies with the specifications.

The buyer reserves the right to reject any and all bids, to waive informalities in bidding, to negotiate small options with the successful bidder and to accept the bid, which in the opinion of the buyer, will be in its best interest.

#### **General System Construction Features**

The Air Lifting Bag Set shall be made from three (3) layers of Neoprene-covered Aramid fiber reinforcement on each side to provide strength, durability and flexibility. The chemical resistance of Neoprene shall allow the bags to be used in contaminated environments. The specific information regarding chemical resistance shall be furnished in the chemical compatibility guide available for each bag.

All parts of the system must be able to function without failure in prolonged exposure to temperatures between -40°F and 150°F (-40°C to 65°C) and for short term use in -75°F to 220°F (-60°C to 105°C).

The outer cover of each bag shall have an interlocking texture of small molded raised dimples to provide placement on slippery surfaces and interlock bags during bag

stacking applications. Warnings shall be permanently molded into the bag surface for ease of reference. All molded lettering and numbers shall be filled with a highly visible yellow silicone adhesive.

The maximum lift capacity and center bar shall be molded into two outer edges of the bag for reference when the bag is in storage or in use. The following recessed molded information can be found above the nipple corner: model number, part number, maximum pressure, maximum inflated height and serial number.

Each Air Lifting Bag shall be equipped with a 3/8" – 24 left hand thread fitting which shall be attached to a disconnect nipple capable of being replaced should it be damaged. Both the fitting and nipple shall be made of H02 brass. The brass material is used for corrosion and spark resistance and the two-piece nipple design will allow for easy repair. The nipple shall be recessed inside the outer edge of the bag to protect it during use and facilitate storage. A tethered nipple cap shall be included to avoid contamination inside the bag when not in use and assist in protecting the surface of the nipple.

**Quantity, Dimensions and Capacities**

\_\_\_ Air Lifting Bag(s) equivalent to the following specifications must be supplied:

Qty	Max Lift Capacity	Max Lifting Height	Width	Height	Length	Weight	Equivalent Model & Part No.
1	1.5 U.S. Tons (1.3 Met Ton)	3.0 in (76 mm)	6.0 in (152 mm)	0.75 in (19 mm)	6.0 in (152 mm)	1.2 lbs (0.6 kg)	KPI-1, 22-888110G2
1	3.5 U.S Tons (3.2 Met Ton)	3.5 in (89 mm)	6.0 in (152 mm)	0.75 in (19 mm)	12.0 in (305 mm)	2.3 lbs (1.0 kg)	KPI-3, 22-888120G2
1	5.4 U.S. Tons (4.9 Met Ton)	5.4 in (137 mm)	10.0 in (254 mm)	0.75 in (19 mm)	10.0 in (254 mm)	3.1 lbs (1.4 kg)	KPI-5, 22-888130G2
1	8.2 U.S. Tons (7.5 Met Ton)	6.4 in (163 mm)	12.0 in (305 mm)	0.875 in (22 mm)	12.0 in (305 mm)	5.5 lbs (2.5 kg)	KPI-8, 22-888135G2
1	12.9 U.S. Tons (11.7 Met Ton)	7.1 in (180 mm)	12.0 in (305 mm)	0.875 in (22 mm)	18.0 in (457 mm)	8.3 lbs (3.7 kg)	KPI-10, 22-888138G2
1	13.7 U.S. Tons (12.4 Met Ton)	8.1 in (206 mm)	15.0 in (381 mm)	0.875 in (22 mm)	15.0 in (381 mm)	8.8 lbs (4.0 kg)	KPI-12, 22-888140G2
1	15.0 U.S Tons (13.6 Met Ton)	9.0 in (229 mm)	15.0 in (381 mm)	0.875 in (22 mm)	21.0 in (533 mm)	12.0 lbs (5.4 kg)	KPI-17, 22-888150G2
1	20.2 U.S Tons (18.3 Met Ton)	11.0 in (279 mm)	20.0 in (508 mm)	0.875 in (22 mm)	20.0 in (508 mm)	15.9 lbs (7.2 kg)	KPI-22, 22-888160G2
1	34.0 U.S Tons (30.9 Met Ton)	11.8 in (299 mm)	20.0 in (508 mm)	0.875 in (22 mm)	26.0 in (660 mm)	20.1 lbs (9.1 kg)	KPI-28, 22-888165G2
1	38.0 U.S Tons (34.4 Met Ton)	13.0 in (330 mm)	24.0 in (610 mm)	0.875 in (22 mm)	24.0 in (610 mm)	22.0 lbs (10.0 kg)	KPI-32, 22-888170G2
1	39.5 U.S Tons (35.8 Met Ton)	9.5 in (241 mm)	15.0 in (381 mm)	0.875 in (22 mm)	42.0 in (1066 mm)	24.5 lbs (11.1 kg)	KPI-35L, 22-888180G2

1	52.7 U.S Tons (47.8 Met Ton)	15.3 in (388 mm)	28.0 in (711 mm)	0.875 in (22 mm)	28.0 in (711 mm)	30.0 lbs (13.6 kg)	KPI-44, 22-888190G2
1	69.7 U.S. Tons (63.3 Met Ton)	17.0 in (432 mm)	32.0 in (812 mm)	1.0 in (25 mm)	32.0 in (812 mm)	45.2 lbs (20.5 kg)	KPI-55, 22-888195G2
1	89.2 U.S Tons (80.9 Met Ton)	20.0 in (508 mm)	37.0 in (939 mm)	1.0 in (25 mm)	37.0 in (939 mm)	58.0 lbs (26.3 kg)	KPI-74, 22-888200G2

Each Air Lifting Bag shall have a working pressure up to 150 psi (10.3 bar). The Air Lifting Bag Set shall be capable of a maximum lift capacity of 412.9 U.S. Tons (374.6 Metric Tons).

It is required that the equipment meets or exceeds the EN 13731 Lifting Bag Systems for fire and rescue service use - Safety and performance requirements.

## **Specifications**

### **Air Lifting Bag Set, 735.6 US Tons (667.3 Metric Tons)**

#### **Introduction**

These purchase specifications cover the minimum requirements of an Air Lifting Bag Set, 735.6 U.S. Tons (667.3 Metric Tons) to be purchased. The Air Lifting Bag Set shall be able to operate up to 150 psi (10.3 bar) of pressure with a combined lift capacity of 735.6 U.S. Tons (667.3 Metric Tons), an insertion height of maximum 1.0" (25mm) and an inflated height of 20.0" (508mm).

As a minimum the system must consist of:

- Air Lifting Bag Set, 735.6 U.S. Tons (667.3 Metric Tons), (Equivalent to Paratech MAXIFORCE US&R Lift Bag Kit, 22-889350G2-150)

#### **Instruction to Bidders**

Bidders shall conform as much as possible to these specifications to ensure interoperability with other equipment. Exceptions or omissions must be set out in writing on a separate sheet entitled "Exceptions" which must accompany the bid. Failure to do so will result in an automatic rejection of the bid.

The buyer shall be the sole interpreter of the intent of any clause of these specifications and shall be the sole judge as to whether the equipment or any part thereof complies with the specifications.

The buyer reserves the right to reject any and all bids, to waive informalities in bidding, to negotiate small options with the successful bidder and to accept the bid, which in the opinion of the buyer, will be in its best interest.

#### **General System Construction Features**

The Air Lifting Bag Set shall be made from three (3) layers of Neoprene-covered Aramid fiber reinforcement on each side to provide strength, durability and flexibility. The chemical resistance of Neoprene shall allow the bags to be used in contaminated environments. The specific information regarding chemical resistance shall be furnished in the chemical compatibility guide available for each bag.

All parts of the system must be able to function without failure in prolonged exposure to temperatures between -40°F and 150°F (-40°C to 65°C) and for short term use in -75°F to 220°F (-60°C to 105°C).

The outer cover of each bag shall have an interlocking texture of small molded raised dimples to provide placement on slippery surfaces and interlock bags during bag



stacking applications. Warnings shall be permanently molded into the bag surface for ease of reference. All molded lettering and numbers shall be filled with a highly visible yellow silicone adhesive.

The maximum lift capacity and center bar shall be molded into two outer edges of the bag for reference when the bag is in storage or in use. The following recessed molded information can be found above the nipple corner: model number, part number, maximum pressure, maximum inflated height and serial number.

Each Air Lifting Bag shall be equipped with a 3/8" – 24 left hand thread fitting which shall be attached to a disconnect nipple capable of being replaced should it be damaged. Both the fitting and nipple shall be made of H02 brass. The brass material is used for corrosion and spark resistance and the two-piece nipple design will allow for easy repair. The nipple shall be recessed inside the outer edge of the bag to protect it during use and facilitate storage. A tethered nipple cap shall be included to avoid contamination inside the bag when not in use and assist in protecting the surface of the nipple.

The Air Lifting Bag Set shall include the control equipment, fittings and hoses, to properly operate the system common to most field applications. The provided equipment shall enable inflation or deflation of at least four (4) Air Lifting Bags simultaneously from a safe distance.

**Quantity, Dimensions and Capacities**

\_\_\_ Air Lifting Bag(s) equivalent to the following specifications must be supplied:

Qty	Max Lift Capacity	Max Lifting Height	Width	Height	Length	Weight	Equivalent Model & Part No.
4	1.5 U.S. Tons (1.3 Met Ton)	3.0 in (76 mm)	6.0 in (152 mm)	0.75 in (19 mm)	6.0 in (152 mm)	1.2 lbs (0.6 kg)	KPI-1, 22-888110G2
4	3.5 U.S Tons (3.2 Met Ton)	3.5 in (89 mm)	6.0 in (152 mm)	0.75 in (19 mm)	12.0 in (305 mm)	2.3 lbs (1.0 kg)	KPI-3, 22-888120G2
4	5.4 U.S. Tons (4.9 Met Ton)	5.4 in (137 mm)	10.0 in (254 mm)	0.75 in (19 mm)	10.0 in (254 mm)	3.1 lbs (1.4 kg)	KPI-5, 22-888130G2
4	13.7 U.S. Tons (12.4 Met Ton)	8.1 in (206 mm)	15.0 in (381 mm)	0.875 in (22 mm)	15.0 in (381 mm)	8.8 lbs (4.0 kg)	KPI-12, 22-888140G2
2	15.0 U.S Tons (13.6 Met Ton)	9.0 in (229 mm)	15.0 in (381 mm)	0.875 in (22 mm)	21.0 in (533 mm)	12.0 lbs (5.4 kg)	KPI-17, 22-888150G2
2	34.0 U.S Tons (30.9 Met Ton)	11.8 in (299 mm)	20.0 in (508 mm)	0.875 in (22 mm)	26.0 in (660 mm)	20.1 lbs (9.1 kg)	KPI-28, 22-888165G2
2	39.5 U.S Tons (35.8 Met Ton)	9.5 in (241 mm)	15.0 in (381 mm)	0.875 in (22 mm)	42.0 in (1066 mm)	24.5 lbs (11.1 kg)	KPI-35L, 22-888180G2
2	52.7 U.S Tons (47.8 Met Ton)	15.3 in (388 mm)	28.0 in (711 mm)	0.875 in (22 mm)	28.0 in (711 mm)	30.0 lbs (13.6 kg)	KPI-44, 22-888190G2

4	89.2 U.S Tons (80.9 Met Ton)	20.0 in (508 mm)	37.0 in (939 mm)	1.0 in (25 mm)	37.0 in (939 mm)	58.0 lbs (26.3 kg)	KPI-74, 22-888200G2
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Each Air Lifting Bag shall have a working pressure up to 150 psi (10.3 bar). The Air Lifting Bag Set shall be capable of a maximum lift capacity of 735.6 U.S. Tons (667.3 Metric Tons).

\_\_\_ Two (2) Master Control Kits (equivalent to Paratech 22-890300G2-150) must be supplied with these minimum quantities and capacities per kit:

One (1) Dual Deadman ALB Controller (equivalent to Paratech 22-890900G2-150) with carrying strap shall be provided to allow maximum operator mobility.

Weight of the Controller without a strap must not exceed = 4.6 lbs (2.1 kg).

Overall dimensions must not exceed:

Width:	3.81" (9.68 cm)
Height:	3.27" (8.31 cm)
Length:	10.73" (26.34 cm)

The controller shall be equipped with two (2) multi-colored operating gauges. The gauges shall be a minimum of 1.5" (3.81 cm) in diameter and must be housed by a tight-fitting protective shroud. Accuracy of the grade B gauge at 73.4°F (23°C) is 3%, 2%, 3% of span.

The controller shall have a self-resetting relief valve to prevent accidental over-pressurization of the lift bag which activates at 150 psi (10.3 bar) with a flow rate of 10.05 SCFM (602.76 SCFH).

Both the inlet and the outlet shall be spring-loaded, female, quick-connect couplings. A secondary integral threaded safety lock system on the coupling must be in place.

An internal check valve shall be provided to prevent air from escaping if inlet hose is cut or damaged.

Four (4) inline relief valves (equivalent to Paratech #22-890490-150) shall be provided. The inline relief valves shall be equipped with a shut-off and shall be for use with Air Lifting Bags.

The inline relief valves shall each be equipped with a single air inlet and single air outlet. The inlet shall be spring loaded, female, quick connect coupling complete with a threaded locking ring. The inline relief valves shall be equipped with a self resetting relief valve to prevent over-pressurization of the Air Lifting Bags (activates at 165 PSI).

One (1) Pressure Regulator (equivalent to Paratech #22-895401G2) shall be provided. Weight of the Pressure Regulator must not exceed = 3.62 lbs (1.64 kg).

Overall dimensions must not exceed:	Width:	5.77" (14.7 cm)
	Depth:	3.52" (8.9 cm)
	Length:	6.05" (15.2 cm)

The Pressure Regulator shall be equipped with two (2) operating gauges. One gauge shall monitor the supplied high pressure air with corresponding markings up to 6000 psi (400 bar). The second gauge shall monitor the outlet pressure with corresponding markings up to 400 psi (28 bar). The gauges shall be a minimum of 1.5" (3.81 cm) in diameter and must be housed by a tight-fitting protective shroud. Accuracy of the grade B gauge at 73.4°F (23°C) is 3%, 2%, 3% of span.

The Pressure Regulator shall have a self-resetting relief valve to prevent accidental over-pressurization of the lift bag which activates at 200 psi (13.8 bar) with a flow rate of 9.55 SCFM (270.5 SLM).

The Pressure Regulator shall be equipped with a 0-200 psi (13.8 bar) manual adjusting knob and have the ability to vent pressure when adjusting down the pressure (counter-clockwise rotation).

The Pressure Regulator shall be equipped with a 90° lever shut-off valve to disengage the air flow to the outlet. The lever positions shall be clearly marked with color-coded labels to indicate on and off points.

Four (4) Air Supply Hoses (equivalent to Paratech #22-890513, 22-890514, 22-890515, and 22-890516) shall be provided. The air supply hoses shall be supplied in the colors black, blue, yellow, red and green, 3/8" (9.5 mm) in diameter and shall be 16 ft (5 m) long. The hoses shall be equipped with compatible fittings to provide connection to the Air Lifting Bags and control equipment and have a 300 PSI (20.7 bar) working pressure.

Two (2) connection nipples (equivalent to Paratech #22-890681) shall be provided. The nipples shall have a 1/4" NPTM provided.

Two (2) connection nipples (equivalent to Paratech #22-890682) shall be provided. The nipples shall have a 1/4" NPTF provided.

Two (2) connection nipples (equivalent to Paratech #22-890683) shall be provided. The nipples shall have a 1/8" NPTM provided.

One (1) Nipple and Locking Tire Chuck (equivalent to Paratech #22-890731) shall be provided. The tire chuck shall be locking style, 1/4" NPTF. The tire chuck shall be used to draw air from truck tires, or to inflate tires at a highway emergency. The locking tire chuck shall be provided with appropriate nipple.

One (1) Nipple, Industrial Nipple and Valve (equivalent to Paratech #22-890732) shall be provided. The nipple combination shall allow Air Lifting Bag system to use most

industrial compressed air systems. The nipple assembly shall include a universal quick connect, inline shut off valve and Air Lifting Bag nipple outlet.

Two (2) "Y" couplings (equivalent to Paratech #22-890736 shall be provided. Each "Y" coupling shall have two (2) couplings, and (1) nipple compatible for operation with the Air Lifting Bags and control equipment.

One (1) Nipple and Industrial twist lock with Valve (equivalent to Paratech #22-890749) shall be provided. The nipple combination shall allow Air Lifting Bag system to use most industrial compressed air systems. The nipple assembly shall include a universal quick connect, inline shut off valve and Air Lifting Bag nipple outlet. One end of the nipple assembly shall be equipped with an industrial style twist lock.

One (1) Custom Hard Case (equivalent to Paratech #22-890323) shall be provided. The custom case shall hold the master control package.

     Inline Relief Valves (equivalent to Paratech 22-895490-150) must be supplied with these minimum quantities and capacities:

Twenty (20) Inline Relief Valves shall be provided. The inline relief valves shall be equipped with a shut-off and shall be for use with Air Lifting Bags.

Each inline relief valve shall be equipped with a single air inlet and single air outlet. The inlet shall be spring loaded, female, quick connect coupling complete with a threaded locking ring. The inline relief valves shall be equipped with a self resetting relief valve to prevent over-pressurization of the Air Lifting Bags (activates at 165 PSI).

It is required that all the equipment meets or exceeds the EN 13731 Lifting Bag Systems for fire and rescue service use - Safety and performance requirements.

## **Specifications**

### **Air Lifting Bag Set, 367.8 US Tons (333.6 Metric Tons)**

#### **Introduction**

These purchase specifications cover the minimum requirements of an Air Lifting Bag Set, 367.8 U.S. Tons (333.6 Metric Tons) to be purchased. The Air Lifting Bag Set shall be able to operate up to 150 psi (10.3 bar) of pressure with a combined lift capacity of 367.8 U.S. Tons (333.6 Metric Tons), an insertion height of maximum 1.0" (25mm) and an inflated height of 20.0" (508mm).

As a minimum the system must consist of:

- Air Lifting Bag Set, 367.8 U.S. Tons (333.6 Metric Tons), (Equivalent to Paratech MAXIFORCE Light US&R Lift Bag Kit, 22-889351G2-150)

#### **Instruction to Bidders**

Bidders shall conform as much as possible to these specifications to ensure interoperability with other equipment. Exceptions or omissions must be set out in writing on a separate sheet entitled "Exceptions" which must accompany the bid. Failure to do so will result in an automatic rejection of the bid.

The buyer shall be the sole interpreter of the intent of any clause of these specifications and shall be the sole judge as to whether the equipment or any part thereof complies with the specifications.

The buyer reserves the right to reject any and all bids, to waive informalities in bidding, to negotiate small options with the successful bidder and to accept the bid, which in the opinion of the buyer, will be in its best interest.

#### **General System Construction Features**

The Air Lifting Bag Set shall be made from three (3) layers of Neoprene-covered Aramid fiber reinforcement on each side to provide strength, durability and flexibility. The chemical resistance of Neoprene shall allow the bags to be used in contaminated environments. The specific information regarding chemical resistance shall be furnished in the chemical compatibility guide available for each bag.

All parts of the system must be able to function without failure in prolonged exposure to temperatures between -40°F and 150°F (-40°C to 65°C) and for short term use in -75°F to 220°F (-60°C to 105°C).

The outer cover of each bag shall have an interlocking texture of small molded raised dimples to provide placement on slippery surfaces and interlock bags during bag

stacking applications. Warnings shall be permanently molded into the bag surface for ease of reference. All molded lettering and numbers shall be filled with a highly visible yellow silicone adhesive.

The maximum lift capacity and center bar shall be molded into two outer edges of the bag for reference when the bag is in storage or in use. The following recessed molded information can be found above the nipple corner: model number, part number, maximum pressure, maximum inflated height and serial number.

Each Air Lifting Bag shall be equipped with a 3/8" – 24 left hand thread fitting which shall be attached to a disconnect nipple capable of being replaced should it be damaged. Both the fitting and nipple shall be made of H02 brass. The brass material is used for corrosion and spark resistance and the two-piece nipple design will allow for easy repair. The nipple shall be recessed inside the outer edge of the bag to protect it during use and facilitate storage. A tethered nipple cap shall be included to avoid contamination inside the bag when not in use and assist in protecting the surface of the nipple.

The Air Lifting Bag Set shall include the control equipment, fittings and hoses, to properly operate the system common to most field applications. The provided equipment shall enable inflation or deflation of at least four (4) Air Lifting Bags simultaneously from a safe distance.

**Quantity, Dimensions and Capacities**

\_\_\_ Air Lifting Bag(s) equivalent to the following specifications must be supplied:

Qty	Max Lift Capacity	Max Lifting Height	Width	Height	Length	Weight	Equivalent Model & Part No.
2	1.5 U.S. Tons (1.3 Met Ton)	3.0 in (76 mm)	6.0 in (152 mm)	0.75 in (19 mm)	6.0 in (152 mm)	1.2 lbs (0.6 kg)	KPI-1, 22-888110G2
2	3.5 U.S Tons (3.2 Met Ton)	3.5 in (89 mm)	6.0 in (152 mm)	0.75 in (19 mm)	12.0 in (305 mm)	2.3 lbs (1.0 kg)	KPI-3, 22-888120G2
2	5.4 U.S. Tons (4.9 Met Ton)	5.4 in (137 mm)	10.0 in (254 mm)	0.75 in (19 mm)	10.0 in (254 mm)	3.1 lbs (1.4 kg)	KPI-5, 22-888130G2
2	13.7 U.S. Tons (12.4 Met Ton)	8.1 in (206 mm)	15.0 in (381 mm)	0.875 in (22 mm)	15.0 in (381 mm)	8.8 lbs (4.0 kg)	KPI-12, 22-888140G2
1	15.0 U.S Tons (13.6 Met Ton)	9.0 in (229 mm)	15.0 in (381 mm)	0.875 in (22 mm)	21.0 in (533 mm)	12.0 lbs (5.4 kg)	KPI-17, 22-888150G2
1	34.0 U.S Tons (30.9 Met Ton)	11.8 in (299 mm)	20.0 in (508 mm)	0.875 in (22 mm)	26.0 in (660 mm)	20.1 lbs (9.1 kg)	KPI-28, 22-888165G2
1	39.5 U.S Tons (35.8 Met Ton)	9.5 in (241 mm)	15.0 in (381 mm)	0.875 in (22 mm)	42.0 in (1066 mm)	24.5 lbs (11.1 kg)	KPI-35L, 22-888180G2
1	52.7 U.S Tons (47.8 Met Ton)	15.3 in (388 mm)	28.0 in (711 mm)	0.875 in (22 mm)	28.0 in (711 mm)	30.0 lbs (13.6 kg)	KPI-44, 22-888190G2
2	89.2 U.S Tons (80.9 Met Ton)	20.0 in (508 mm)	37.0 in (939 mm)	1.0 in (25 mm)	37.0 in (939 mm)	58.0 lbs (26.3 kg)	KPI-74, 22-888200G2

Each Air Lifting Bag shall have a working pressure up to 150 psi (10.3 bar). The Air Lifting Bag Set shall be capable of a maximum lift capacity of 367.8 U.S. Tons (333.6 Metric Tons).

\_\_\_ Master Control Kit (equivalent to Paratech 22-890300G2-150) must be supplied with these minimum quantities and capacities:

One (1) Dual Deadman ALB Controller (equivalent to Paratech 22-890900G2-150) with carrying strap shall be provided to allow maximum operator mobility.

Weight of the Controller without a strap must not exceed = 4.6 lbs (2.1 kg).

Overall dimensions must not exceed:	Width:	3.81" (9.68 cm)
	Height:	3.27" (8.31 cm)
	Length:	10.73" (26.34 cm)

The controller shall be equipped with two (2) multi-colored operating gauges. The gauges shall be a minimum of 1.5" (3.81 cm) in diameter and must be housed by a tight-fitting protective shroud. Accuracy of the grade B gauge at 73.4°F (23°C) is 3%, 2%, 3% of span.

The controller shall have a self-resetting relief valve to prevent accidental over-pressurization of the lift bag which activates at 150 psi (10.3 bar) with a flow rate of 10.05 SCFM (602.76 SCFH).

Both the inlet and the outlet shall be spring-loaded, female, quick-connect couplings. A secondary integral threaded safety lock system on the coupling must be in place.

An internal check valve shall be provided to prevent air from escaping if inlet hose is cut or damaged.

Four (4) inline relief valves (equivalent to Paratech #22-890490-150) shall be provided. The inline relief valves shall be equipped with a shut-off and shall be for use with Air Lifting Bags.

The inline relief valves shall each be equipped with a single air inlet and single air outlet. The inlet shall be spring loaded, female, quick connect coupling complete with a threaded locking ring. The inline relief valves shall be equipped with a self resetting relief valve to prevent over-pressurization of the Air Lifting Bags (activates at 165 PSI).

One (1) Pressure Regulator (equivalent to Paratech #22-895401G2) shall be provided. Weight of the Pressure Regulator must not exceed = 3.62 lbs (1.64 kg).

Overall dimensions must not exceed:	Width:	5.77" (14.7 cm)
	Depth:	3.52" (8.9 cm)
	Length:	6.05" (15.2 cm)

The Pressure Regulator shall be equipped with two (2) operating gauges. One gauge shall monitor the supplied high pressure air with corresponding markings up to 6000 psi (400 bar). The second gauge shall monitor the outlet pressure with corresponding markings up to 400 psi (28 bar). The gauges shall be a minimum of 1.5" (3.81 cm) in diameter and must be housed by a tight-fitting protective shroud. Accuracy of the grade B gauge at 73.4°F (23°C) is 3%, 2%, 3% of span.

The Pressure Regulator shall have a self-resetting relief valve to prevent accidental over-pressurization of the lift bag which activates at 200 psi (13.8 bar) with a flow rate of 9.55 SCFM (270.5 SLM).

The Pressure Regulator shall be equipped with a 0-200 psi (13.8 bar) manual adjusting knob and have the ability to vent pressure when adjusting down the pressure (counter-clockwise rotation).

The Pressure Regulator shall be equipped with a 90° lever shut-off valve to disengage the air flow to the outlet. The lever positions shall be clearly marked with color-coded labels to indicate on and off points.

Four (4) Air Supply Hoses (equivalent to Paratech #22-890513, 22-890514, 22-890515, and 22-890516) shall be provided. The air supply hoses shall be supplied in the colors black, blue, yellow, red and green, 3/8" (9.5 mm) in diameter and shall be 16 ft (5 m) long. The hoses shall be equipped with compatible fittings to provide connection to the Air Lifting Bags and control equipment and have a 300 PSI (20.7 bar) working pressure.

Two (2) connection nipples (equivalent to Paratech #22-890681) shall be provided. The nipples shall have a 1/4" NPTM provided.

Two (2) connection nipples (equivalent to Paratech #22-890682) shall be provided. The nipples shall have a 1/4" NPTF provided.

Two (2) connection nipples (equivalent to Paratech #22-890683) shall be provided. The nipples shall have a 1/8" NPTM provided.

One (1) Nipple and Locking Tire Chuck (equivalent to Paratech #22-890731) shall be provided. The tire chuck shall be locking style, 1/4" NPTF. The tire chuck shall be used to draw air from truck tires, or to inflate tires at a highway emergency. The locking tire chuck shall be provided with appropriate nipple.

One (1) Nipple, Industrial Nipple and Valve (equivalent to Paratech #22-890732) shall be provided. The nipple combination shall allow Air Lifting Bag system to use most



industrial compressed air systems. The nipple assembly shall include a universal quick connect, inline shut off valve and Air Lifting Bag nipple outlet.

Two (2) "Y" couplings (equivalent to Paratech #22-890736 shall be provided. Each "Y" coupling shall have two (2) couplings, and (1) nipple compatible for operation with the Air Lifting Bags and control equipment.

One (1) Nipple and Industrial twist lock with Valve (equivalent to Paratech #22-890749) shall be provided. The nipple combination shall allow Air Lifting Bag system to use most industrial compressed air systems. The nipple assembly shall include a universal quick connect, inline shut off valve and Air Lifting Bag nipple outlet. One end of the nipple assembly shall be equipped with an industrial style twist lock.

One (1) Custom Hard Case (equivalent to Paratech #22-890323) shall be provided. The custom case shall hold the master control package.

     Inline Relief Valves (equivalent to Paratech 22-895490-150) must be supplied with these minimum quantities and capacities:

Ten (10) Inline Relief Valves shall be provided. The inline relief valves shall be equipped with a shut-off and shall be for use with Air Lifting Bags.

Each inline relief valve shall be equipped with a single air inlet and single air outlet. The inlet shall be spring loaded, female, quick connect coupling complete with a threaded locking ring. The inline relief valves shall be equipped with a self resetting relief valve to prevent over-pressurization of the Air Lifting Bags (activates at 165 PSI).

It is required that all the equipment meets or exceeds the EN 13731 Lifting Bag Systems for fire and rescue service use - Safety and performance requirements.

## **Specifications**

### **Air Lifting Bag Set, 105.4 US Tons (95.6 Metric Tons)**

#### **Introduction**

These purchase specifications cover the minimum requirements of an Air Lifting Bag Set, 105.4 U.S. Tons (95.6 Metric Tons) to be purchased. The Air Lifting Bag Set shall be able to operate up to 150 psi (10.3 bar) of pressure with a combined lift capacity of 105.4 U.S. Tons (95.6 Metric Tons), an insertion height of maximum 0.875" (22mm) and an inflated height of 15.3" (388 mm).

As a minimum the system must consist of:

- Air Lifting Bag Set, 105.4 U.S. Tons (95.6 Metric Tons), (Equivalent to Paratech Vehicle Maintenance Kit, 22-889360G2-150)

#### **Instruction to Bidders**

Bidders shall conform as much as possible to these specifications to ensure interoperability with other equipment. Exceptions or omissions must be set out in writing on a separate sheet entitled "Exceptions" which must accompany the bid. Failure to do so will result in an automatic rejection of the bid.

The buyer shall be the sole interpreter of the intent of any clause of these specifications and shall be the sole judge as to whether the equipment or any part thereof complies with the specifications.

The buyer reserves the right to reject any and all bids, to waive informalities in bidding, to negotiate small options with the successful bidder and to accept the bid, which in the opinion of the buyer, will be in its best interest.

#### **General System Construction Features**

The Air Lifting Bag Set shall be made from three (3) layers of Neoprene-covered Aramid fiber reinforcement on each side to provide strength, durability and flexibility. The chemical resistance of Neoprene shall allow the bags to be used in contaminated environments. The specific information regarding chemical resistance shall be furnished in the chemical compatibility guide available for each bag.

All parts of the system must be able to function without failure in prolonged exposure to temperatures between -40°F and 150°F (-40°C to 65°C) and for short term use in -75°F to 220°F (-60°C to 105°C).

The outer cover of each bag shall have an interlocking texture of small molded raised dimples to provide placement on slippery surfaces and interlock bags during bag

stacking applications. Warnings shall be permanently molded into the bag surface for ease of reference. All molded lettering and numbers shall be filled with a highly visible yellow silicone adhesive.

The maximum lift capacity and center bar shall be molded into two outer edges of the bag for reference when the bag is in storage or in use. The following recessed molded information can be found above the nipple corner: model number, part number, maximum pressure, maximum inflated height and serial number.

Each Air Lifting Bag shall be equipped with a 3/8" – 24 left hand thread fitting which shall be attached to a disconnect nipple capable of being replaced should it be damaged. Both the fitting and nipple shall be made of H02 brass. The brass material is used for corrosion and spark resistance and the two-piece nipple design will allow for easy repair. The nipple shall be recessed inside the outer edge of the bag to protect it during use and facilitate storage. A tethered nipple cap shall be included to avoid contamination inside the bag when not in use and assist in protecting the surface of the nipple.

The Air Lifting Bag Set shall include a dual safety relief and control valve, inline relief valves and hoses, to properly operate the system common to most field applications.

### **Quantity, Dimensions and Capacities**

\_\_\_ Air Lifting Bag(s) and accessories equivalent to the following specifications must be supplied::

Two (2) Air Lifting Bags (equivalent to Paratech MAXIFORCE G2 Air Lifting Bag, KPI-44 22-888190G2) with these minimum capacities:

Weight of each Air Lifting Bag must not exceed = 30.0 lbs (13.6 kg).

Overall dimensions per bag must not exceed:

Width:	28.0" (711mm)
Height:	0.875" (22mm)
Length:	28.0" (711mm)

Each Air Lifting Bag shall have a working pressure up to 150 psi (10.3 bar) and shall be capable of a maximum lift capacity 52.7 U.S. tons (47.8 metric tons).

One (1) Dual Deadman ALB Controller (equivalent to Paratech 22-890900G2-150) with carrying strap shall be provided to allow maximum operator mobility.

Weight of the Controller without a strap must not exceed = 4.6 lbs (2.1 kg).

Overall dimensions must not exceed:

Width:	3.81" (9.68 cm)
Height:	3.27" (8.31 cm)
Length:	10.73" (26.34 cm)

The controller shall be equipped with two (2) multi-colored operating gauges. The gauges shall be a minimum of 1.5" (3.81 cm) in diameter and must be housed by a tight-fitting protective shroud. Accuracy of the grade B gauge at 73.4°F (23°C) is 3%, 2%, 3% of span.

The controller shall have a self-resetting relief valve to prevent accidental over-pressurization of the lift bag which activates at 150 psi (10.3 bar) with a flow rate of 10.05 SCFM (602.76 SCFH).

Both the inlet and the outlet shall be spring-loaded, female, quick-connect couplings. A secondary integral threaded safety lock system on the coupling must be in place.

An internal check valve shall be provided to prevent air from escaping if inlet hose is cut or damaged.

Two (2) inline relief valves (equivalent to Paratech #22-890490-150) shall be provided. The inline relief valves shall be equipped with a shut-off and shall be for use with Air Lifting Bags.

The inline relief valves shall each be equipped with a single air inlet and single air outlet. The inlet shall be spring loaded, female, quick connect coupling complete with a threaded locking ring. The inline relief valves shall be equipped with a self resetting relief valve to prevent over-pressurization of the Air Lifting Bags (activates at 165 PSI).

Three (3) Air Supply Hoses (equivalent to Paratech #22-890513, 22-890515, and 22-890516) shall be provided. The air supply hoses shall be supplied in the colors black, yellow, and red, 3/8" (9.5 mm) in diameter and shall be 16 ft (5 m) long. The hoses shall be equipped with compatible fittings to provide connection to the Air Lifting Bags and control equipment and have a 300 PSI (20.7 bar) working pressure.

It is required that the equipment meets or exceeds the EN 13731 Lifting Bag Systems for fire and rescue service use - Safety and performance requirements.