



# Industrial Lifting Equipment



- Safety
- Reliability
- Efficiency
- Expertise

# Lifting Air Winches

## LIFTSTAR® Portable Winches - Reliable and Safe

### Lightweight and compact design

- Versatile – Easy to carry.
- Robust steel construction. Insensitive to dust and humidity.
- High efficiency planetary gear box – Integrated inside winch drum keeping size to a minimum.
- 5:1 design factor.

### Rated capacity calculated at drum top layer

- A LIFTSTAR® winch will always lift its rated capacity at any layer of rope. At rated load, its lifting speed is constant at all layers.

### Reliable gear type air motor

- Better ability than other motors to accept contaminated air.
- High starting torque ensuring good spotting capability.
- Virtually maintenance free and reduced downtime.

### Precise positioning

- Variable speed through direct control lever with “Lift & Shift” system or progressive remote pilot pendent.

### Increased safety

- Self adjusting automatic disc brake, fully enclosed for better protection and corrosion resistance – Maintenance free.

### CE models

- CE compliant models include as standard drum guard, main air emergency stop, overload protection and upper / lower limit switches.



LIFTSTAR® winches are particularly suitable for use in potentially explosive atmospheres, unlike electric winches.

They are classified as standard as Equipment Category 2 for applications in Zone 1 and 2 (As per ATEX 94/9/CE directive for Surface Industry). ATEX Marking: Ex II 2 GD c IIB 135°C X

**Specifications** at 6.3 bar dynamic pressure (when winch is running) — Working pressure range 5 to 7 bar.

As per European Standard EN 14492-1 – Group of mechanism as per FEM 1Bm / ISO M3.

Model number	Rated capacity at TOP LAYER (kg)	LIFTING SPEED AT RATED LOAD at top rope layer (m/min)	LIFTING SPEED AT RATED LOAD at lowest rope layer (m/min)	Rated number of layers <sup>(1)</sup>	Air consumption with rated load (m <sup>3</sup> /min)	Sound pressure as per EN 14492-1 dB(A)	Weight without rope (kg)	ATEX marking Ex II 2 GD c IIB 135°C X
<b>Lifting Ratings at 5:1 Design Factor</b>								
LS2-300R	300	40	40	7	4	92	42	✓
LS2-300RGC	300	40	40	7	4	92	49	✓
LS2-600R	600	20	20	5	4	92	42	✓
LS2-600RGC	600	20	20	5	4	92	49	✓
LS-1500R	1500	7	7	4	5	88	67	✓
LS-1500RGC	1500	7	7	4	5	88	79	✓

(1) Measured with recommended rope diameter (see table below).

### Rope capacity with recommended rope diameter

Model number	Minimum rope breaking force (kN)	Recommended rope diameter (mm)	Cumulated working rope capacities in meters <sup>(2)</sup> with RECOMMENDED ROPE DIAMETER							Max. rope storage capacity (m)
			Layer 1	Layer 2	Layer 3	Layer 4	Layer 5	Layer 6	Layer 7	
<b>Lifting Ratings at 5:1 Design Factor</b>										
LS2-300R	15	5	12	26	41	57	74	92	110	150
LS2-300RGC	15	5	26	54	85	117	152	188	226	307
LS2-600R	30	6.5	9	20	32	45	58	—	—	89
LS2-600RGC	30	6.5	19	42	66	93	121	—	—	183
LS-1500R	75	9	9	21	34	48	—	—	—	79
LS-1500RGC	75	9	20	45	71	100	—	—	—	163

(2) As per EN 14492-1, the working rope capacity leaves a free space of at least 1.5 times the nominal rope diameter from the top of the drum flanges.



## How to order LIFTSTAR® Air Winches

To order your winch, specify complete model as shown below:

**LIFTSTAR® CE marked models** are compliant with the European Machinery Directive 2006/42/EC and the European Standard for Power Driven Winches EN 14492-1. These models include as standard the following safety features:



- Drum guard
- Emergency stop with main air shut-off valve as per EN 418
- Overload protection
- Upper / lower limit switches



Drum guard and emergency stop (standard on CE version)



Limit switches (standard on CE version)



Overload protection (standard on CE version)



PHS control (with emergency stop as standard on CE version)



Ingersoll Rand ARO Series Airline accessories (J123 option).

**LS1500R**

**GC - L**

**M - PJ12 - CE**

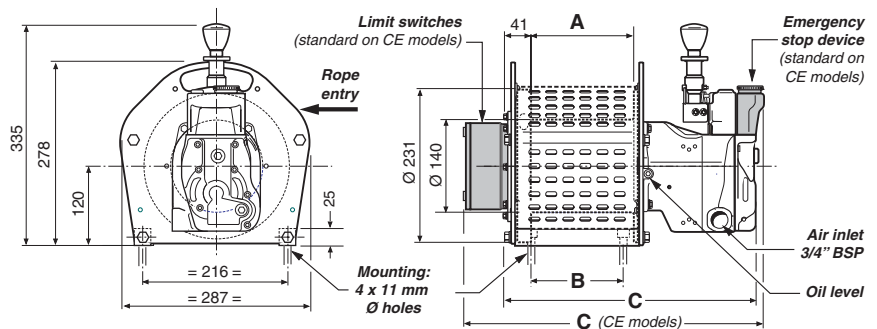
Series and capacity	ATEX Compliance	Drum	Control type	Control length	Options
<b>LS2-300R</b> LIFTSTAR® 300 kg	No letter = As std - ATEX compliance for Group II, Surface Industry  M = ATEX compliance package for Group I, Mining Industry (on request) - only for LS1500R	No letter = Standard <b>GC</b> Long drum	<b>L</b> Lever control <b>PH</b> Alloy precision PHS pendent <b>PHR</b> Cast iron precision PHS pendent	<b>XM</b> Control length in metres e.g. 5M  (only when with pendent control)	<b>C</b> Low temp design (-20°C).
<b>LS2-600R</b> LIFTSTAR® 600 kg					<b>G</b> Drum guard.
<b>LS1500R</b> LIFTSTAR® 1500 kg					<b>H</b> High Temp. Motor (60° to 85°C) <sup>(1)</sup> <b>J12</b> Airline filter and lubricator assembly <b>J123</b> Airline filter / regulator / lubricator assembly <b>M</b> 3.1 material traceability certificates <sup>(2)</sup> <b>P</b> 150 µ marine paint. <b>W</b> Witness test. Specify W1 for ABS or W2 for DNV or W3 for LRS or W4 for Client witness of load test.
					<b>-CE</b> Compliance with the European Machinery Directive (no letter = non CE version).

(1) For winches used with compressed air temperature above 60°C. — (2) As per EN 10204 on main load bearing parts.

### Dimensions (mm)

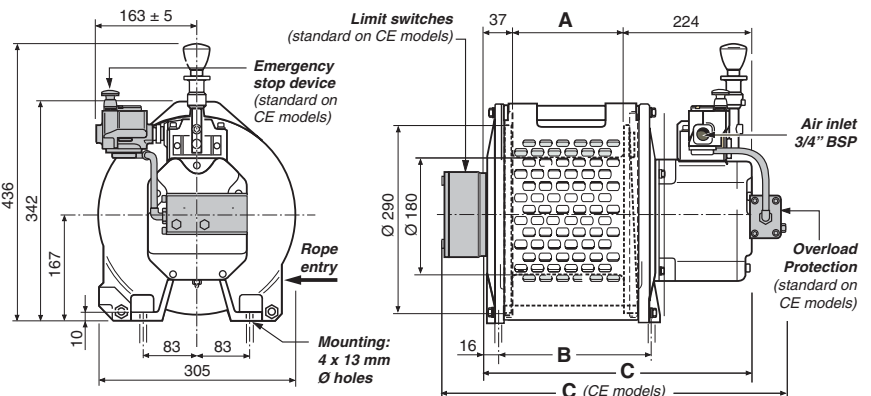
Models LS2-300R, LS2-300RGC, LS2-600R and LS2-600RGC

Model number	Dimensions (mm)		
	A	B	C
<b>LS2-300R</b>	155	140	395
<b>LS2-300RGC</b>	311	296	551
<b>LS2-300R-CE</b>	155	140	461
<b>LS2-300RGC-CE</b>	311	296	617
<b>LS2-600R</b>	155	140	395
<b>LS2-600RGC</b>	311	296	551
<b>LS2-600R-CE</b>	155	140	461
<b>LS2-600RGC-CE</b>	311	296	617



Models LS1500R and LS1500RGC

Model number	Dimensions (mm)		
	A	B	C
<b>LS1500R</b>	180	248	434
<b>LS1500RGC</b>	360	428	614
<b>LS1500R-CE</b>	180	248	563
<b>LS1500RGC-CE</b>	360	428	743



# Pulling Air Winches

## PULLSTAR® Portable Winches - Reliable and Safe

### Designed for pulling applications

- Intended for use on flat horizontal surfaces – Free Spooling clutch allows operators to manually position wire rope.
- 3.5:1 design factor.
- Rated capacity calculated at lowest rope layer, corresponding to the maximum pulling force allowed.

### Lightweight and compact design

- Versatile – Easy to carry.
- Robust and all steel construction. Insensitive to dust and humidity.
- High efficiency planetary gear box – Integrated inside winch drum keeping size to a minimum.

### Reliable gear type air motor

- Better ability than other motors to accept contaminated air.
- Virtually maintenance free and reduced downtime.

### Precise positioning

- Variable speed through direct control lever with “Lift & Shift” system or progressive remote pilot pendent.

### Increased safety

- Self adjusting automatic disc brake, fully enclosed for better protection and corrosion resistance – Maintenance free.

### CE models

- CE compliant models include as standard drum guard and main air emergency stop.



PS2-1000R-PH5M-E



PS2400RGC-L-E



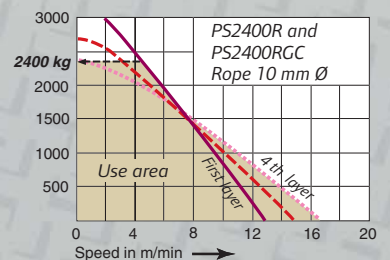
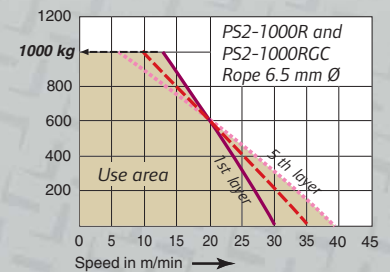
PULLSTAR® winches are particularly suitable for use in potentially explosive atmospheres, unlike electric winches. They are classified as standard as Equipment Category 2 for applications in Zone 1 and 2 (As per ATEX 94/9/CE directive for Surface Industry). ATEX Marking: Ex II 2 GD c IIB 135°C X.

**Specifications** at 6.3 bar dynamic pressure (when winch is running) – Working pressure range 5 to 7 bar – **As per European Standard EN 14492-1** – Group of mechanism as per FEM 1Bm / ISO M3.

Model number	Pulling force: Lowest / top layer (kg)	Rated number of layers <sup>(1)</sup>	Air consump. / rated load (m <sup>3</sup> /min)	Sound pressure as per EN 14492-1 dB(A)	Weight wo. rope (kg)	ATEX marking Ex II 2 GD c IIB 135°C X
<b>Pulling Ratings at 3.5:1 Design Factor</b>						
<b>PS2-1000R</b>	<b>1000 / 800</b>	5	4	92	38	✓
<b>PS2-1000RGC</b>	<b>1000 / 800</b>	5	4	92	45	✓
<b>PS2400R</b>	<b>2400 / 2000</b>	4	5	88	62	✓
<b>PS2400RGC</b>	<b>2400 / 2000</b>	4	5	88	69	✓

(1) Measured with recommended rope diameter (see table below).

(2) For PS4000RGC, line pulls are reduced by 10% and line speeds are increased by 10%.



### Rope capacity with recommended rope diameter

Model number	Minimum rope breaking force (kN)	Recommended rope diameter (mm)	Cumulated working rope capacities in meters <sup>(2)</sup> with RECOMMENDED ROPE DIAMETER					Max. rope storage capacity (m)
			Layer 1	Layer 2	Layer 3	Layer 4	Layer 5	
<b>Pulling Ratings at 3.5:1 Design Factor</b>								
<b>PS2-1000R</b>	35	<b>6.5</b>	9	20	32	45	58	89
<b>PS2-1000RGC</b>	35	<b>6.5</b>	19	42	66	93	121	183
<b>PS2400R</b>	84	<b>9</b>	9	21	34	48	—	79
<b>PS2400RGC</b>	84	<b>9</b>	20	45	71	100	—	163

(2) As per EN 14492-1, the working rope capacity leaves a free space of at least 1.5 times the nominal rope diameter from the top of the drum flanges.

## How to order PULLSTAR® Air Winches

To order your winch, specify complete model as shown below:

**PULLSTAR® CE marked models** are compliant with the European Machinery Directive 2006/42/EC and the European Standard for Power Driven Winches EN 14492-1. These models include as standard the following safety features:



- Drum guard
- Emergency stop with main air shut-off valve as per EN 418



Drum clutch (standard on all PULLSTAR® Series)



Drum guard (standard on CE version)



Emergency stop (standard on CE version)



PHS control (with emergency stop as standard on CE version)



Ingersoll Rand ARO Series Airline accessories (J123 option).

**PS2400R**

**GC - L**

**M - PJ12 - E**

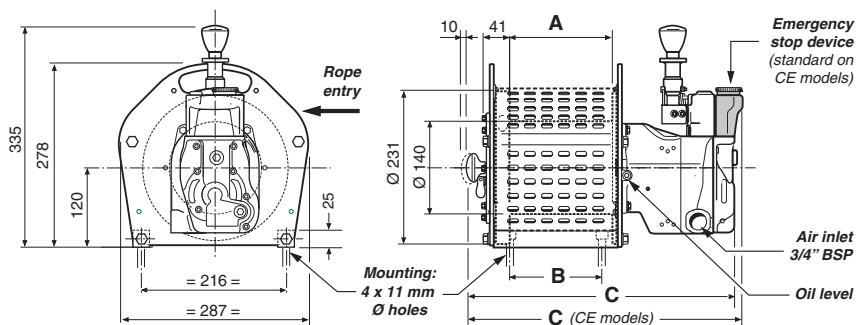
Series and capacity	ATEX Compliance	Drum	Control type	Control length	Options
<b>PS2-1000R</b> PULLSTAR® 1 000 kg <b>PS2400R</b> PULLSTAR® 2 400 kg	No letter = As std - ATEX compliance for Group II, Surface Industry  <b>M</b> = ATEX compliance package for Group I, Mining Industry (on request) - only for PS2400R	No letter = Standard  <b>GC</b> Long drum	<b>L</b> Lever control <b>PH</b> Alloy precision PHS pendent <b>PHR</b> Cast iron precision PHS pendent	<b>XM</b> Control length <b>in metres</b> e.g. 5M  (only when with pendent control)	<b>C</b> Low temp design (-20°C). <b>G</b> Drum guard. <b>H</b> High Temp. Motor (60° to 85°C) <sup>(1)</sup> <b>J12</b> Airline filter and lubricator assembly <b>J123</b> Airline filter / regulator / lubricator assembly <b>M</b> 3.1 material traceability certificates <sup>(2)</sup> <b>P</b> 150 µ marine paint. <b>W</b> Witness test. Specify W1 for ABS or W2 for DNV or W3 for LRS or W4 for Client witness of load test.  <b>-E</b> Compliance with the European Machinery Directive (no letter = non CE version).

(1) For winches used with compressed air temperature above 60°C. — (2) As per EN 10204 on main load bearing parts.

### Dimensions (mm)

#### Models PS2-1000R and PS2-1000RGC

Model number	Dimensions (mm)		
	A	B	C
<b>PS2-1000R</b>	155	140	392
<b>PS2-1000RGC</b>	311	296	548
<b>PS2-1000R-E</b>	155	140	427
<b>PS2-1000RGC-E</b>	311	296	583



#### Models PS2400R and PS2400RGC

Model number	Dimensions (mm)		
	A	B	C
<b>PS2400R</b>	180	248	509
<b>PS2400RGC</b>	360	428	689
<b>PS2400R-E</b>	180	248	509
<b>PS2400RGC-E</b>	360	428	689

