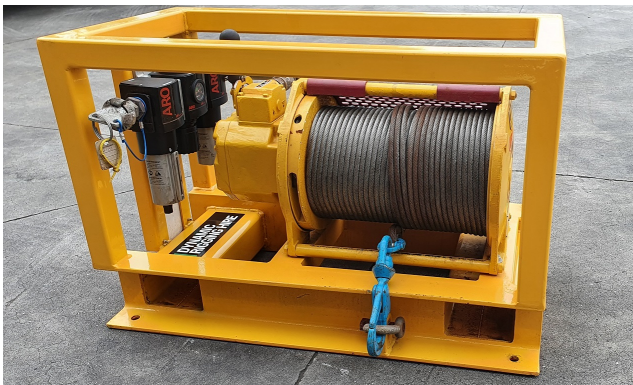


Ingersoll Rand LS-1500RGC Air winch

Dynamic Rigging Hire stock the 1.5t Ingersoll Rand air winch rated for lifting and pulling, in the following pages the detailed specifications of the winch can be found. We have this winch mounted to a fabricated base suited to the demands of the rental market, the base not being a OEM item has the basic measurements and bolt patten noted below.

Features of the LS-1500RGC Winch:

- Small compact size - Frame 900x 450 x 600mm
- 1,500kg line pull rating with 5:1 safety factor
- Supplied with 80m of 10mm 19x7 non rotating crane rope
- Optional Dyneema rope also available
- Supplied with a ARO regulator/filer/oiler mounted within the frame
- Low air supply requirements
- 85Db rating
- Weight of winch including frame and wire rope 188kg



Available upon request

- Full drawing on sub frame
- Detailed Ingersoll Rand specifications
- User manual



**Australia's Best
Range of Quality
Heavy Rigging Gear**

CALL 03 8360 8910

email sales@dynamicrigging.com.au

website dynamicrigginghire.com.au

96 North View Drive Sunshine West Vic. 3020

Dynamic Rigging Hire stock the LS-1500RGC model only, refer to highlighted specification tables

Designed to work in difficult environments, these winches feature a low maintenance, highly reliable gear motor with high torque output that translates into smooth starts and stops. Their rugged and compact design makes them ready to take on your most challenging applications.

- **LIFTSTAR® (LS)** models are designed for lifting applications with a 5:1 design factor at rated capacity.
- **PULLSTAR® (PS)** models are designed for pulling applications with a 3.5:1 design factor. They come standard with a drum disengaging clutch for free spooling unloaded wire rope.

Reliable gear motor

- Its unique design with only two moving parts makes it ideal for severe applications in hot, cold, dusty, dirty, explosive and wet conditions.
- Less sensitive than other motors to long storage period or long period with no use.
- Virtually maintenance free and reduced downtimes.

Rugged construction

- Originally designed for the mining industry, the LS and PS winches are very robust and durable.
- Cast iron and steel construction.

Meets worldwide standards

- European standards FEM 9.511 and FEM 1001 for lifting.
- U.S. standard ASME/ANSI B30.7.
- Duty rating FEM 1Bm / ISO M3.

Features

- Light weight and compact design. Easy to carry.
- Robust steel construction.
- Automatic self-adjusting disc brake.
- Reliable gear type air motor in composite material.
- High efficiency planetary gear box.
- Flameproof by nature.
- Low noise level, quiet operation.
- Variable speed and precise positioning though direct control lever with "lift & shift" system with automatic return to neutral position or through progressive remote pendent.
- Dec clutchable drum on Pullstar® haulage versions for free spooling.
- Individually load tested before shipment – Delivered with manufacturer's test certificate.



CE marked models are compliant with the latest european machinery directive No 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 (LS models only) — Upper / lower limit switches (LS models only) — CE declaration of conformity.



Liftstar® and Pullstar® winches are, by design, 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**. For the mining industry they can be fitted with an optional package to comply with requirements of equipment category M2 (consult us).

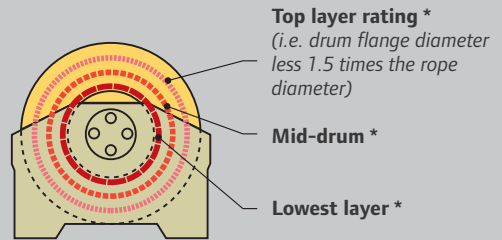
Liftstar® & Pullstar® Series Air Winches

0.3 - 10t Load Capacity

LIFTSTAR® Lifting Series

LIFTSTAR® winches are designed with a 5:1 minimum safety factor at rated capacity.

- LIFTSTAR® winch always lifts its rated capacity at any layers of rope.
- LIFTSTAR® winch is designed so that the line speed remains constant on all layers when lifting its nominal load.
- The drums are generously dimensioned to obtain a minimum drum to rope diameter of 18:1 to avoid excessive bending of the wire rope thus increasing its life time.
- The rope storage capacities correspond to the maximum length of rope which can theoretically be stored onto the drum (calculated with wire rope tightly wound at full drum).
- The rated "working" rope capacity leaves a free space of 1.5 times the nominal rope diameter from the top of the drum flanges (as per the european standard EN 14192-1). This helps preventing the wire rope from running off the drum flanges during operation.

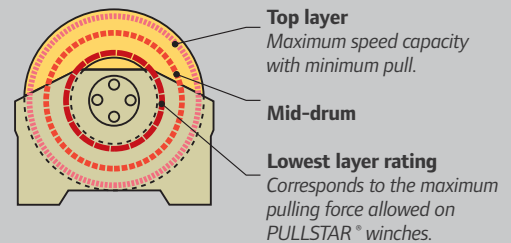


* On LIFTSTAR® winches the lifting speed with rated load is constant at all layers.

PULLSTAR® Pulling Series

PULLSTAR® winches are designed with a 3.5:1 minimum safety factor at rated capacity.

- The rated capacity of the PULLSTAR® winches is calculated at the lowest rope layer on the drum. It corresponds to the maximum pulling force allowed. Refer to detailed curves on page 8 to get corresponding pulls / speeds at different layers.
- Pulling winches are intended for use on horizontal surfaces with no or insubstantial inclination.
- PULLSTAR® are fitted as standard with a free spooling clutch for rapid manual rope unwinding. The manual clutch is secured against unintended operation.



Liftstar® & Pullstar® Series Air Winches

0.3 - 10t Load Capacity

LIFTSTAR® Lifting Air Winches

Reliable and safe, this modern range of winches is designed for harsh environments. They can be equipped with many options for effective adaptation to your application (see pages 9 and 10 for details).

See dimensions on page 11.



Liftstar®
Pullstar®

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		Rated number of layers ⁽¹⁾	Air consumption with rated load (m ³ /min)	Sound level as per EN 14492-1 dB(A)	Net weight (kg)
		at top rope layer (m/min)	at lowest rope layer (m/min)				
LS Portable Series – Lifting Ratings at 5:1 Design Factor							
LS2-300R	3 00	40	40	7	4	92	42
LS2-300RGC	3 00	40	40	7	4	92	49
LS2-600R	6 00	20	20	5	4	92	42
LS2-600RGC	6 00	20	20	5	4	92	49
LS-1500R	1 500	7	7	3	5	88	67
LS-1500RGC	1 500	7	7	3	5	85	79
LS Heavy Series – Lifting Ratings at 5:1 Design Factor							
LS2000R	2 000	20	20	5	10	95	230
LS2000RGC	2 000	20	20	4	10	95	283
LS5000R	5 000	10	10	6	10	87	645
LS5000RGC	5 000	10	10	6	10	87	760

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

Rope capacity with recommended rope diameter

For storage capacities with other rope diameters, use our "drum storage calculator" at the following web address:

<http://www.ingersollrandproducts.com/lifting/winches/drum.htm>

Model number	Minimum rope breaking force (kN)	Recommended rope diameter (mm)	Cumulated working rope capacities in meters ⁽²⁾ with RECOMMENDED ROPE DIAMETER							Max. rope storage capacity (m)
			Layer 1	Layer 2	Layer 3	Layer 4	Layer 5	Layer 6	Layer 7	
LS Portable Series – Lifting Ratings at 5:1 Design Factor										
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	10	8	19	30	—	—	—	—	57
LS-1500RGC	75	10	18	40	65	—	—	—	—	120
LS Heavy Series – Lifting Ratings at 5:1 Design Factor										
LS2000R	100	13	17	36	57	79	103	—	—	156
LS2000RGC	100	13	31	65	102	142	—	—	—	230
LS5000R	250	19	21	44	69	96	125	156	—	224
LS5000RGC	250	19	44	92	145	202	263	329	—	473

(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.

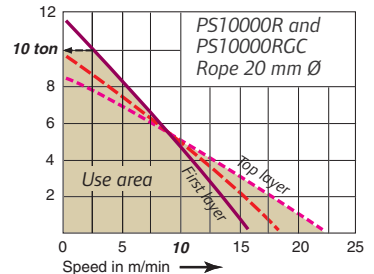
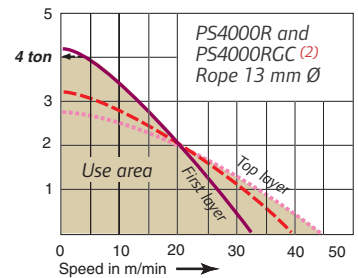
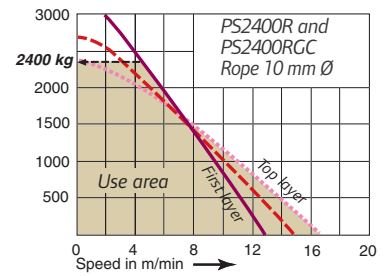
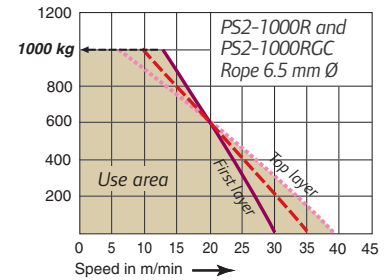
Liftstar® & Pullstar® Series Air Winches

0.3 - 10t Load Capacity

PULLSTAR® Pulling Air Winches

Intended for use on horizontal surfaces with no or insubstantial inclination, the PULLSTAR® winches are fitted as standard with a free spooling clutch for rapid manual rope unwinding.

See dimensions on page 11.



Specifications at 6.3 bar dynamic pressure – 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 (1)	Air consumption with rated load (m ³ /min)	Sound level as per EN 14492-1 dB(A)	Net weight (kg)
PS Portable Series – Pulling Ratings at 3.5:1 Design Factor					
PS2-1000R	1 000 / 800	5	4	92	41
PS2-1000RGC	1 000 / 800	5	4	92	47
PS2400R	2 400 / 2 000	3	5	88	62
PS2400RGC	2 400 / 2 000	3	5	85	76
PS Heavy Series – Pulling Ratings at 3.5:1 Design Factor					
PS4000R	4 000 / 2 500	5	12	95	225
PS4000RGC	3 600 / 2 500 (2)	4	12	95	278
PS10000R	10 000 / 8 000	6	12	87	640
PS10000RGC	10 000 / 8 000	6	12	87	755

(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

For storage capacities with other rope diameters, use our "drum storage calculator" at the following web address:
<http://www.ingersollrandproducts.com/lifting/winches/drum.htm>

Model number	Minimum rope breaking force (kN)	Recommended rope diameter (mm)	Cumulated working rope capacities in meters (3) with RECOMMENDED ROPE DIAMETER						Max. rope storage capacity (m)
			Layer 1	Layer 2	Layer 3	Layer 4	Layer 5	Layer 6	
PS Portable Series – Pulling Ratings at 3.5:1 Design Factor									
PS2-1000R	35	6.5	9	20	32	45	58	—	89
PS2-1000RGC	35	6.5	19	42	66	93	121	—	183
PS2400R	84	10	8	19	30	—	—	—	57
PS2400RGC	84	10	18	40	65	—	—	—	120
PS Heavy Series – Pulling Ratings at 3.5:1 Design Factor									
PS4000R	140	13	17	36	57	79	103	—	156
PS4000RGC	140	13	31	65	102	142	—	—	230
PS10000R	350	19	21	44	69	96	125	156	224
PS10000RGC	350	19	44	92	145	202	263	329	473

(3) 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.

Liftstar® & Pullstar® Series Air Winches

0.3 - 10t Load Capacity

Liftstar®
Pullstar®

Main options for both portable and heavy Series



Drum guard on PS2400R



Limit switches on LS5000R



Limit switches on LS600R



LS5000R with emergency stop



LS2000R with overload protection



PHS control on PS2-1000R ↔

Drum guard

Prevents the operator from inadvertent contact with winch moving parts – Delivered as standard on all CE compliant versions.

Top and bottom limit switches

Automatically stops the winch when the travel exceeds the pre-determined working distance. Enclosed mechanism is environmentally protected. Needs to be adjusted on site as per customer configuration/application - Delivered as standard on Liftstar® lifting Series in CE compliant version.

Emergency stop

Allows the operator to quickly and safely stop the winch in case of an emergency situation. Pressing the e-stop button closes a shut-off valve which stops the main air from entering into the motor, brake is applied automatically - Delivered as standard on all CE compliant versions.

Pneumatic overload protection

Automatically stops the winch in case of overload exceeding 125 – 130% of safe working load and brake is automatically activated - Delivered as standard on Liftstar® winches in CE compliant version.

Remote Control

The LS and PS Series can be remote controlled by PHS progressive remote pilot pendant up to 20 meters. This pendant is available in both alloy and cast iron versions and can include an emergency stop.

Main options for heavy Series only



Rope press roller assembly

Presses the wire rope onto the drum to improve winding, especially at no load conditions. Composite rollers ride on galvanised steel guides for maximum wear and corrosion resistance.

Grooved drum

Ensures better rope spooling than plain drum. Allows a greater rope fleet angle up to 2°.

Drum auto brake with skid frame or drum auto brake plus disc brake with skid frame

A drum auto brake is available instead of the internal disc brake or as a second brake. (comes with a skid frame). The auto drum brake works independently from the internal disc brake for extra safety.

↔ Drum brake with skid frame on LS2000R



Spooling device on LS5000R

Automatic spooling device

Automatically guides back and forth the rope across the drum to ensure proper rope spooling when rope fleet angle exceeds 2°. Avoids dangerous rope built-up situations.

Liftstar® & Pullstar® Series Air Winches

0.3 - 10t Load Capacity

LIFTSTAR® and PULLSTAR® Series Ordering Menu

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

- **LIFTSTAR® lifting winches in CE version** are fitted as standard with: drum guard — pneumatic overload protection device — emergency stop valve (main air shut-off) — rotary limit switches (top and bottom).
- **PULLSTAR® pulling winches in CE version** are fitted as standard with drum guard and emergency stop valve (main air shut-off).

LIFTSTAR® and PULLSTAR® portable Series:

Series and capacity		ATEX compliance	Drum	Control type	Control length	Options
LS1500R LIFTSTAR® 300 kg LIFTSTAR® 600 kg LIFTSTAR® 1 500 kg		No letter = As standard - ATEX compliance for group II, surface industry M = ATEX compliance package for group I, mining industry (on request) - only for LS1500R and PS2400R	No letter = Standard GC Long drum	L Lever control PH Alloy precision PHS pendent PHR Cast iron precision PHS pendent	XM Control length in metres e.g. 5M <i>(only when with pendent control)</i>	CM Low temperature design (-20°C DNV). Includes 3.1 material traceability certificates.
PS2-1000R PULLSTAR® 1 000 kg PS2400R PULLSTAR® 2 400 kg						G Drum guard for non-CE models. H High temp. motor (60° to 85°C). J Airline accessories (1) M 3.1 material traceability certificates as per EN 10204 on main load bearing parts. P Marine paint finish. QZ Offshore paint including sandblasting. W1 ABS witness test. W2 DNV witness test. W3 LRS witness test. W4 Client witness of load test.
Compliance with the european machinery directive						
-CE LIFTSTAR® (LS) lifting models. -E For PULLSTAR® (PS) pulling models.						

LIFTSTAR® and PULLSTAR® heavy Series:

Series and capacity		ATEX compliance	Drum	Control type	Control length	Options
LS2000R LIFTSTAR® 2 000 kg LIFTSTAR® 5 000 kg		No letter = As std. - ATEX compliance for group II - surface industry M = ATEX compliance package for group I - mining industry (on request).	No letter = Standard GC Long drum	L Lever control PH Alloy precision PHS pendent PHR Cast iron precision PHS pendent	XM Control length in metres e.g. 5M <i>(only when with pendent control)</i>	CM Low temperature design (-20°C DNV). Includes 3.1 material traceability certificates.
PS4000R PULLSTAR® 4 000 kg PS10000R PULLSTAR® 10 000 kg						FF Skid frame + auto drum + disc brakes FK Drum auto brake and skid (no disc) G Drum guard for non-CE models. H High temp. motor (60° to 85°C) J Airline accessories (1) K Skid frame L Automatic spooling device M 3.1 material traceability certificates as per EN 10204 on main load bearing parts P Marine paint finish QZ Offshore paint including sandblasting R Press roller W1 ABS witness test W2 DNV witness test W3 LRS witness test W4 Client witness of load test 16 Drum grooving (number = rope diameter in mm)
Compliance with the european machinery directive						
-CE For LIFTSTAR® (LS) lifting models. -E For PULLSTAR® (PS) pulling models.						

(1) Add 1 for filter, 2 for lubricator, 3 for regulator (e.g. J12). For protection during shipment and due to the wide range of installation variables, the airline accessories are shipped loose for client installation.

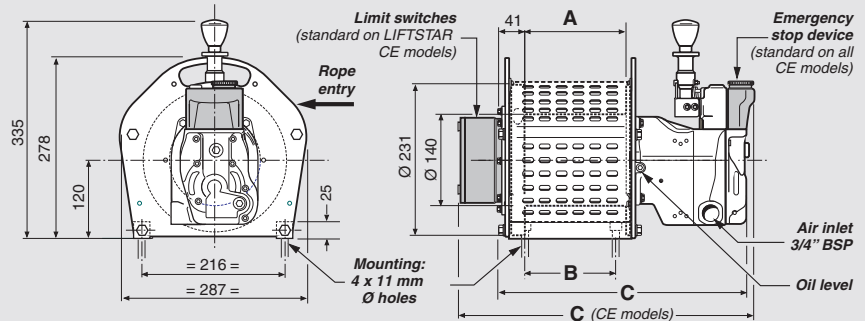
Ingersoll Rand strongly recommends using drum guards with all winches to prevent inadvertent contact with winch moving parts.

Liftstar® & Pullstar® Series Air Winches

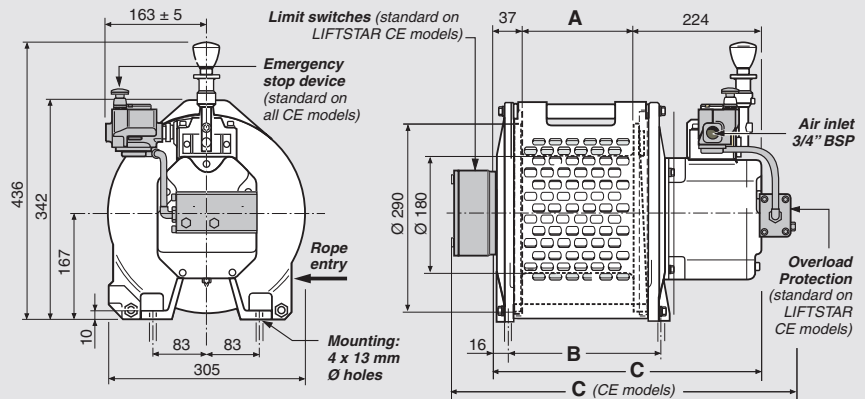
0.3 - 10t Load Capacity

LIFTSTAR® and PULLSTAR® Series – Dimensions in mm

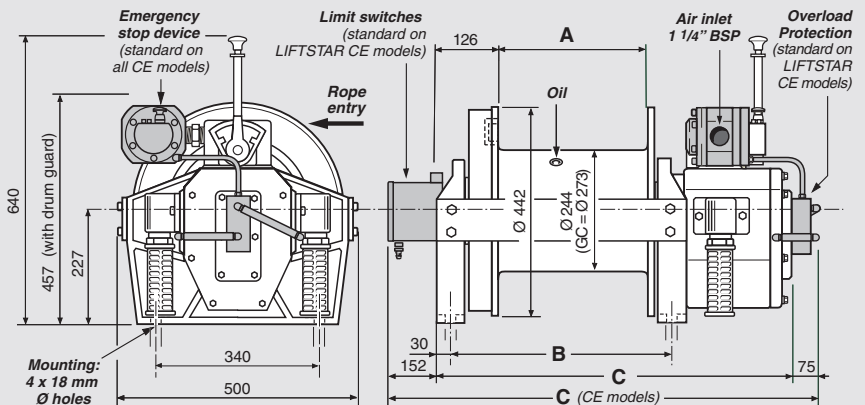
Model no.	A	B	C
CE Models			
LS2-300R-CE, LS2-600R-CE	155	140	461
LS2-300RGC-CE, LS2-600RGC-CE	311	296	617
PS2-1000R-E	155	140	427
PS2-1000RGC-E	311	296	583
Non CE Models			
LS2-300R, LS2-600R	155	140	369
LS2-300RGC, LS2-600RGC	311	296	516
PS2-1000R	155	140	392
PS2-1000RGC	311	296	548



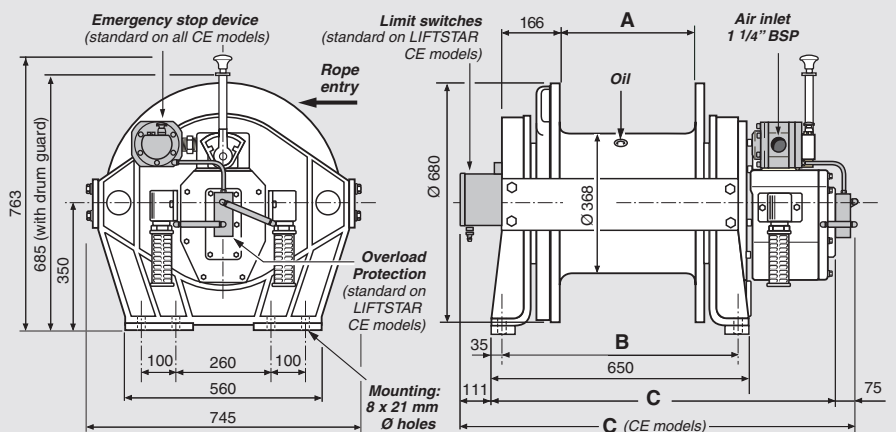
Model no.	A	B	C
CE Models			
LS1500R-CE	180	248	563
LS1500RGC-CE	360	428	743
PS2400R-E	180	248	495
PS2400RGC-E	360	428	675
Non CE Models			
LS1500R	180	248	441
LS1500RGC	360	428	621
PS2400R	180	248	509
PS2400RGC	360	428	689



Model no.	A	B	C
CE Models			
LS2000R-CE	302	449	952
LS2000RGC-CE	485	634	1137
PS4000R-E	302	449	794
PS4000RGC-E	485	634	979
Non CE Models			
LS2000R	302	449	719
LS2000RGC	485	634	904
PS4000R	302	449	719
PS4000RGC	485	634	904



Model no.	A	B	C
CE Models			
LS5000R-CE	355	580	1090
LS5000RGC-CE	728	953	1463
PS10000R-E	355	580	979
PS10000RGC-E	728	953	1352
Non CE Models			
LS5000R	355	580	904
LS5000RGC	728	953	1277
PS10000R	355	580	904
PS10000RGC	728	953	1277



Dimensions are subject to change without notice. Please contact Client Services for certified prints.

Liftstar® & Pullstar® Series Air Winches

0.3 - 10t Load Capacity

LS2-150RLP Dedicated ManRider™

The LS2-150RLP pneumatic ManRiding winch is specially designed for safe and reliable personnel lifting operations by means of a safety harness on offshore rigs and platforms in a heavy duty and critical offshore working environment. It is designed to meet the latest NPD and European machinery directives and is type approved by DNV. It is delivered with the CE mark and an EC declaration of conformity.



LS2-150RLP-L-E

Features:

- Design factor 10:1 on main load bearing parts.
- Gear type air motor – high starting torque – good spotting capability.
- High efficiency planetary gear box, totally enclosed within the drum.
- Internal automatic multi-disc brake, fully enclosed, plus external automatic drum band brake. The band brake is manufactured from stainless steel for superior corrosion protection. In case of power failure, both the band brake and the disc brake will automatically apply.
- Overload protection, acting at 130% of SWL with automatic activation of brakes.
- Emergency stop device acting directly on the main air supply.
- Slack wire detector – automatically stops the winch from paying out in case of slack wire - designed for vertical rope entry. Roller in composite material.
- Top and Bottom limit switches – stops the winch when the travel exceeds the pre-determined working distance.
- Assisting spooling device – presses the wire rope onto the drum to improve winding, specially at no load condition.
- Rugged stainless steel drum guard – meets stringent European standard EN953.
- Helical grooved drum – allows greater fleet angle up to 2° – designed for 10 mm wire rope.
- Variable speed control with "press and shift" lever. Prevents accidental throttle movements.
- Pre-equipped emergency device – allows both lifting and lowering of the winch in case of main power failure. Connects to a nitrogen bottle (nitrogen bottle as an option).
- FRL package mounted directly on the operator side of the winch.
- Marine paint for corrosion protection.
- Design temperature = -20°C.
- Suitable for zone 1 and 2 as per ATEX directive 94/9/EC – FEM Classification 4m.

Specifications at 6.3 bar dynamic pressure (when winch is running) – As per DNV regulations

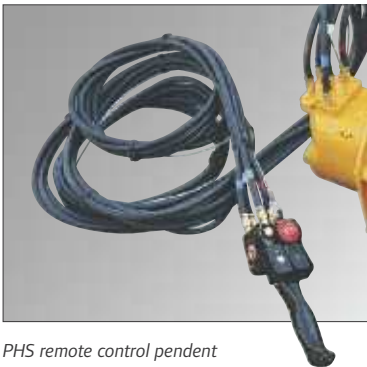
Model number	Rated capacity at top layer (kg)	LIFTING SPEED AT RATED LOAD		Rated number of layers	Air consumption with rated load (m ³ /min)	Sound level as per EN 14492-1 dB(A)	Weight without rope (kg)	ATEX marking Ex II 2 GD c IIB 135°C X
		at top rope layer (m/min)	at lowest rope layer (m/min)					
Lifting Ratings at 10:1 Design Factor								
LS2-150RLP	150	30	30	2	2.5	89	210	✓

Rope capacity in meters

For personnel lifting winches, the working rope capacity corresponds to the max. storage capacity less 2.5 layers (i.e. less 25 mm for 10 mm dia. rope)

Model number	Minimum rope breaking force (kN)	Recommended rope diameter (mm)	Cumulated working rope capacities in meters with RECOMMENDED ROPE DIAMETER		Maximum rope storage capacity (m)	Number of layers
			Layer 1	Layer 2		
LS2-150RLP	15	10	24	54	154	5

Liftstar® & Pullstar® Series Air Winches 0.3 - 10t Load Capacity



PHS remote control pendant

Remote control option

The LS2-150RLP can be remote controlled by progressive pilot pendant up to 20 m. This pendant is available in both alloy and cast iron and includes the emergency stop.



Automatic spooling device

Automatic spooling device option

It automatically guides back and forth the rope across the drum to ensure proper rope spooling when rope fleet angle exceeds 2°.

Liftstar®
Pullstar®

Ordering menu

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

Series	Control type	Control length	Options	CE conformity
LS2-150RLP LIFTSTAR® 150 kg Manrider™	L Lever control PH Alloy precision PHS pendant PHR Cast iron precision PHS pendant	XM Control length in metres e.g. 5M (only when with pendant control – Max. length 20 m)	L Automatic spooling device M Material traceability certificate as per EN 10204 3.1 on main load bearing parts. N5 (1) DNV certification (Built under DNV survey). QZ Offshore paint including sandblasting. R Nitrogen bottle (200 bar/10 litres) with regulator (2). W1 ABS witness test. W2 DNV witness test. W3 LRS witness test. W4 Client witness of load test	-E Compliance with the European machinery directive

(1) Includes option codes "M" and "W2". The DNV certification includes final inspection with performance / load testing, DNV "product certificate" attesting the compliance of the unit as per the DNV type approval requirements, review of the fabrication documentation and supply of 3.1 Material traceability certificates.

(2) Allows a 50 meter lowering distance or a 25 m lifting distance.

