

INGERSOLL-RAND® Manriding Winches

Liftstar
MANRIDER



INGERSOLL-RAND®
MATERIAL HANDLING

Ingersoll-Rand LIFTSTAR® Manriding Winches

Classification and compliance with safety requirements

Meet the toughest personnel lifting requirements in the offshore industry ...

The LIFTSTAR RLP Manriding winches are designed to the toughest type approval standards issued by the classification societies; Of course they meet NPD, NMD and DEn regulations for personnel lifting operations on offshore installations, and they benefit from the broadest worldwide experience in winches for offshore use. Det Norske Veritas type approval has been obtained.

All models meet the requirements set by the FEM 9.511 standard which cover rating and classification, and the FEM 1001 standard for the calculation of hoisting equipment. Compliance with these standards exceeds that which is required for DIN, NF and BSI and of course they meet ASME B30.7.

They can be supplied on request with 3.1b material traceability certificates according to DIN 50049 (EN 10204) for load bearing parts.



About the European Machinery Directives

The CE Directives divide machines and equipment into two categories depending on the potential hazard the equipment presents in use: ordinary and hazardous machines. Manriding winches are considered as hazardous machines and therefore cannot be self certified by the manufacturer. They require an EC type examination by a notified body (when considered as a complete machine).

Note: The European Machinery Directives do not apply to equipment used on board seagoing vessels and mobile offshore units, (they are covered by the IMO convention). However, they apply to fixed offshore platforms.

① LS150RLP-E model for personnel lifting by means of safety harness or boatswain's chair on fixed installations (CE)

The **LS150RLP-E** model is a 150 kg capacity winch which is especially designed for this application. It is delivered as standard with a "CE package" including specific safety features and has positively passed the EC type examination by DNV (Det Norske Veritas).

This model is delivered with the CE mark and an EC declaration of conformity.

Important: The LS150RLP-E shall not be used for lifting of a person by means of a platform, a basket, a carrier, or where there is a risk of entanglement.

② LS150RLP-DP-F for personnel lifting by means of safety harness on mobile / floating offshore installations

The **LS150RLP-DP-F** model complies with the section 28 of the NPD (Norwegian Petroleum Directorate) regulation concerning manriding applications using a safety harness, in petroleum drilling and well activities on board of mobile / floating installations. This winch is fitted with a rope payout system, designed to prevent the risks of injury for the person lifted between a fixed part and the floating structure.

③ LS500 and LS1000 for personnel lifting by means of a platform, a basket or a carrier

- For offshore installations
- For mining shaft or underground bunker inspection

Ingersoll-Rand offers 2 winches for this application, both available in pneumatic and hydraulic versions.

These winches are considered as part machines intended for incorporation into assemblies, therefore they are not CE marked but are delivered with a declaration of incorporation. However they are fitted as standard with safety options to allow their incorporation into systems which have to be in compliance with the CE Directives (89/392/EEC, 91/368/EEC, 93/44/EEC, 93/68/EEC).

Important: The LS500 (RLP & HLP) and LS1000 (RLP & HLP) shall not be used for lifting of a person by means of a safety harness, a boatswain's chair or similar device.

Ingersoll-Rand LIFTSTAR® Manriding Winches

Features and benefits

Lever control or remote control with piloted pendent

Air models can be controlled by direct lever on the winch motor with fine inching characteristics and automatic return to neutral with brakes applied – or by "PHS" remote control piloted pendent allowing infinitely variable up and down speeds with complete operator control.

Both types of controls are fitted as standard with an emergency stop device acting directly on the main air flow.



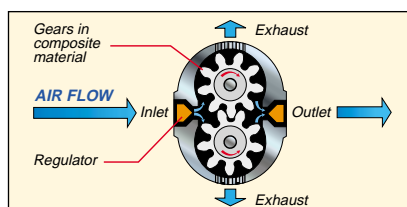
PHS piloted pendent with emergency stop

Overload protection

Flange mounted overload protection on all models as standard.

Rotorair® gear type motor on pneumatic versions

The pneumatic versions are fitted with the famous Rotorair® gear air motor with proven superior reliability in difficult environments. An internal control valve prevents excessive lowering speeds.



Rotorair® motor cut-a-way

On hydraulic versions:

Vane motor with a flanged counter balance valve in steel – Easy to adapt to all circuits and all pressures. The hydraulic winches are also fitted with an additional braking safety, provided by an internal non-return device preventing suspended loads from slipping before upwards motion is activated by the motor.

High efficiency gearing

The high efficiency planetary gearing is inside the drum for better protection and minimum overall dimensions. High duty FEM/1 classification is rated in group 4M.

Dual automatic brakes

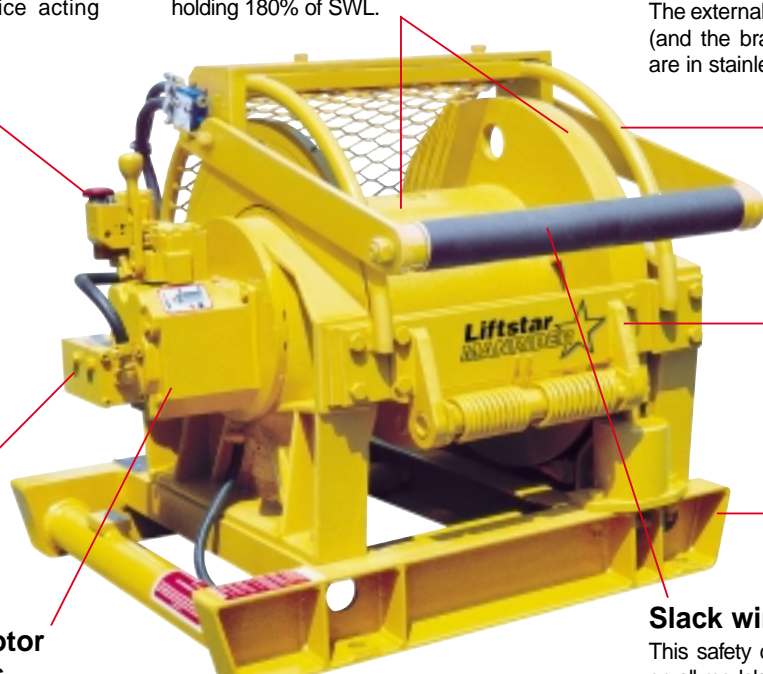
Two independant automatic brakes, one internal oil bath multidisc brake and one external drum band brake, each capable of holding 180% of SWL.

Offshore grade protective coating and corrosion resistant treatments

The LIFTSTAR manriding winches are delivered as standard with a 290µ offshore paint including a sandblast preparation and a special carbozinc primer.

All external fasteners are in stainless steel – or protected by an electro-zinc treatment (for diameters above 10 mm).

The external brake cylinder, the control rods (and the brake band on models 150RLP) are in stainless steel.



Drum guard

Hot dip galvanised

Assisting spooling device

Helps for a better winding of the rope at no load condition. This device is fitted as std. on models 150RLP (available as an option for the 500 and 1000 kg capacity models).

Skid frame

The RLP Series are delivered with skid frame for easy installation.

Slack wire detector

This safety device is delivered as standard on all models LS150RLP. It is also available as an option for the other models to meet specific safety requirements and is strongly recommended when the operator cannot survey the unwinding of the rope out of the drum (e.g. with control by remote pendent)

Drums

The drums are generously dimensioned and allow the use of various standard wire ropes with safety factors up to 10:1.

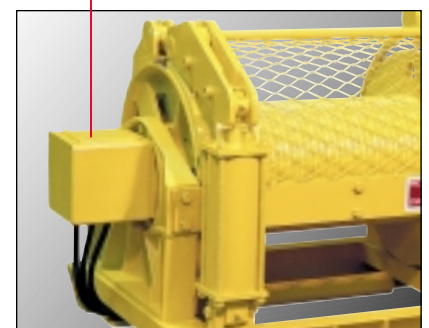
Grooved drums are also available on special request.



Hydraulic version with grooved drum

Upper and lower limit switches

This device is fitted as standard on models 150RLP, and is available as an option on models 500 kg and 1000 kg (electric switches for connection on solenoid valve or PLC on the hydraulic series).



Ingersoll-Rand LIFTSTAR® Manriding Winches

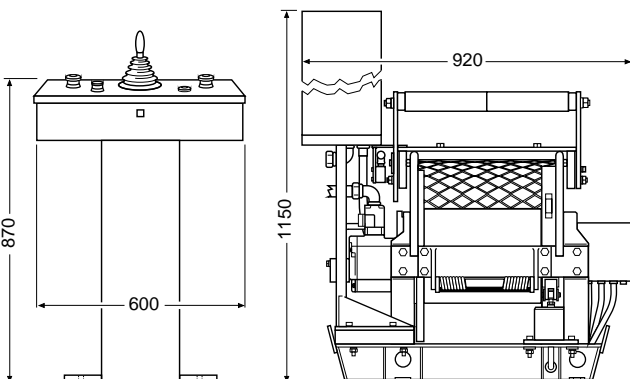
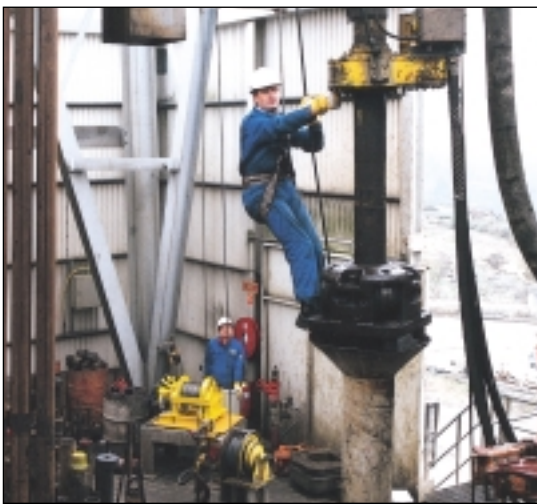
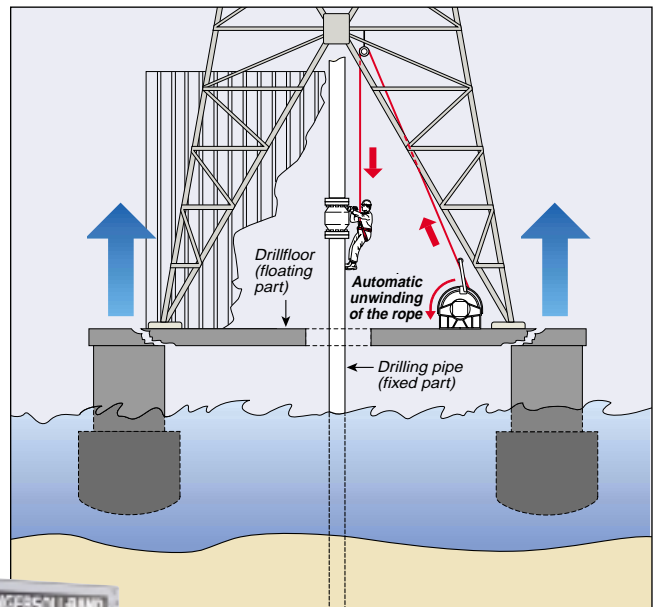
150 kg Air winch for Mobile / Floating Installations

LIFTSTAR 150RLP-DP-F

This winch has been designed to comply with the section 28 of the NPD (Norwegian Petroleum Directorate) regulation for manriding applications in petroleum drilling and well activities on board of **mobile** or **floating** installations, and must be used with a **safety harness** only.

The LS150RLP-DP-F model can work in standard manriding mode or in "floating" mode. The floating mode prevents the person lifted from being injured when working on the fixed pipe and being accidentally caught between a fixed part and the whole rig structure moving up. In such cases, the winch would then automatically pay out the wire rope, avoiding a high pulling force being applied on the person being lifted.

The LS150RLP-DP-F is delivered as standard with a separate remote control console and a package of specific safety options. (see standard equipment listed on following page).



See model LS150RLP on pages 6 & 7 for specifications and other dimensions



Control console

Ingersoll-Rand LIFTSTAR® Manriding Winches

Model Identifications / Standard Equipment and options

1 LIFTSTAR 150 kg / Pneumatic

For applications with safety harness or boatswain's chair on **fixed installations**.



The LS150RLP...-E models have been especially designed for personnel lifting applications using a safety harness or a boatswain's chair on fixed installations. They have positively passed the EC type examination by DNV (Det Norske Veritas) for the intended application which means that the winches and their technical file are both in compliance with the requirements of the EC Machinery Directives.

Model LS150RLP-L-E	150 kg capacity / Control by lever on the winch
Model LS150RLP-PH-E	150 kg capacity / Control by PHS remote pendent (hose length on request; max. length 20 m)
Standard equipment:	<ul style="list-style-type: none"> • Two independent auto. brakes • Overload protection device • Upper and lower limit switches • Slack wire detector • Main air emergency stop • Assisting spooling device • Drum guard
	<ul style="list-style-type: none"> • Pre-equipped emergency lowering device (pressurised nitrogen bottle not supplied) • Sandblasting and offshore paint 290µ • Installation and operation CE manual <p>On request: 3.1b material traceability certificates according to DIN 50049 (EN 10204) for load bearing parts</p> <p>Option at extra price: Witness test by a third party (DNV, LLOYDS, ABS etc...)</p>

2 LIFTSTAR 150 kg / Pneumatic – for applications with safety harness on **mobile/floating installations**.

The LS150RLP-DP-F model complies with the section 28 of the NPD (Norwegian Petroleum Directorate) regulation concerning manriding applications using a safety harness, in petroleum drilling and well activities on board of mobile/floating installations.

Model LS150RLP-DP-F	150 kg capacity / Control console with full flow remote control valve (standard length 2.5 m)
Standard equipment:	<ul style="list-style-type: none"> • Rope payout system • Two independent auto. brakes • Overload protection device • Upper and lower limit switches • Slack wire detector • Main air emergency stop • Assisting spooling device
	<ul style="list-style-type: none"> • Filter - regulator - lubricator assembly • Pre-equipped emergency lowering device (pressurised nitrogen bottle not supplied) • Drum guard • Sandblasting and offshore paint 290µ <p>On request: 3.1b material traceability certificates according to DIN 50049 (EN 10204) for load bearing parts</p> <p>Option at extra price: Witness test by a third party (DNV, LLOYDS, ABS etc...)</p>

3 Pneumatic and hydraulic models – 500 kg and 1000 kg capacity – for **incorporation into assemblies using a platform, a basket, a carrier...**

These models are considered as a "part machine" intended for incorporation into an assembly consisting of a platform, a suspension system... Therefore, they are delivered without CE mark but with a Declaration of Incorporation. However, they are already equipped with selected safety options so that the winch part can be acceptable when the user/assembler will have to get the EC compliance of the whole personnel lifting system.

Model LS500RLP-L-UV	Pneumatic – 500 kg capacity / Control by lever on the winch
Model LS500RLP-PH-UV	Pneumatic – 500 kg cap. / Control by PHS remote pendent (hose length on request; max. 20 m)
Model LS1000RLP-L-UV	Pneumatic – 1000 kg capacity / Control by lever on the winch
Model LS1000RLP-PH-UV	Pneumatic – 1000 kg cap. / Control by PHS remote pendent (hose length on request; max. 20 m)
Model LS500HLP	Hydraulic – 500 kg capacity / Without control (brake valve & overload protection flanged as std.)
Model LS1000HLP	Hydraulic – 1000 kg capacity / Without control (brake valve & overload protection flanged as std.)
Standard equipment:	<ul style="list-style-type: none"> • Two independent automatic brakes • Overload protection device • Main air emergency stop (for air models only) • Drum guard • Sandblasting and offshore paint 290µ <p>On request: 3.1b material traceability certificates according to DIN 50049 (EN 10204) for load bearing parts</p>
	<p>Options at extra price:</p> <ul style="list-style-type: none"> • Upper and lower limit switches (electric on hydraulic models) • Assisting spooling device • Pre-equipped emergency lowering device for air model only (pressurised nitrogen bottle not supplied) • Slack wire detector (electric on hydraulic models) • Witness test by a third party (DNV, LLOYDS, ABS etc...)

Ingersoll-Rand LIFTSTAR® Manriding Winches

Specifications

Pneumatic Models Specifications (at 6.3 bar – 90 psi)

Model no.	Rated working load		Motor power		Hoisting speed ⁽¹⁾	Free air consumption	Weight wo. rope		Recom. rope dia.	Cumulated rope capacity (m) according to number of layers ⁽²⁾							
	kg	lb	kw	HP			m ³ /min	kg		lb	mm	1	2	3	4	5	6
LS150RLP	150	330	1.5	2	0 to 35	0 to 2.2	210	462	10	22	46	71	99	128	159	192	226
LS500RLP	500	1100	2.2	3	0 to 24	0 to 3.5	290	638	13	31	65	102	142	185	230	-	-
LS1000RLP	1000	2200	4.4	6	0 to 24	0 to 3.5	290	638	13	31	65	102	142	185	230	-	-

(1) At mid drum with rated load.

(2) Bold type figures correspond to rated layers for personnel lifting.

Hydraulic Models Specifications (measured with mineral oil 37 cSt at 40° C)

Model no.	Working pressure	Rated working load ⁽¹⁾		Max. working flow	Max. speed ⁽²⁾	Weight without rope		Recommended rope dia.	Cumulated rope capacity (m) according to number of layers ⁽³⁾							
		kg	lb			l/min	m/min		kg	lb	(mm)	1	2	3	4	5
LS500HLP	105	500	1100	24	30	290	638	13	31	65	102	142	185	230		
LS1000HLP	125	1000	2200	37	30	290	638	13	31	65	102	142	185	230		

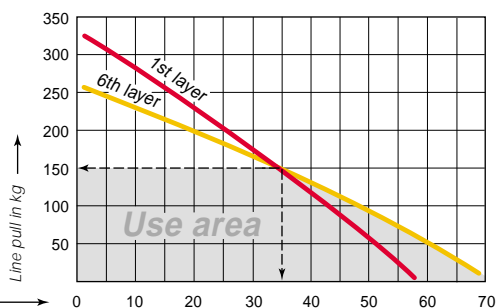
(1) At last rated layer (4th).

(2) At rated load.

(3) Bold type figures correspond to rated layers for personnel lifting.

LS150RLP

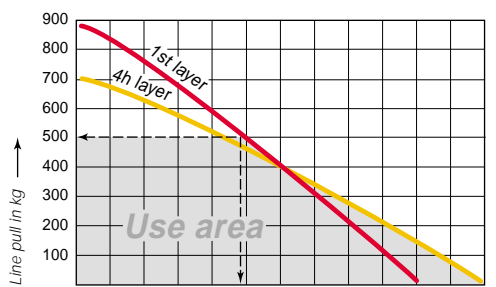
Performance with 10 mm dia. rope
Air pressure 6.3 bar



Line speed in m/min

LS500RLP

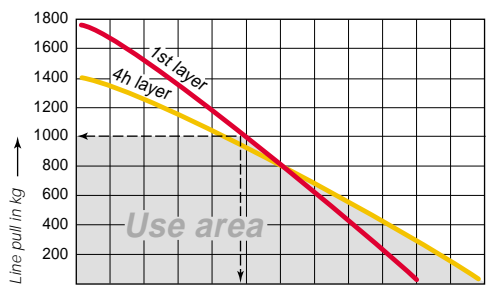
Performance with 13 mm dia. rope
Air pressure 6.3 bar



Line speed in m/min

LS1000RLP

Performance with 13 mm dia. rope
Air pressure 6.3 bar



Line speed in m/min

LS500HLP

Performance with 13 mm dia. rope
Working pressure 105 bar
Flow 24 l/min

Rated layers	Line pull kg	Line speed m/min
1	635	23.5
2	583	25.7
3	538	27.8
4	500	30.0

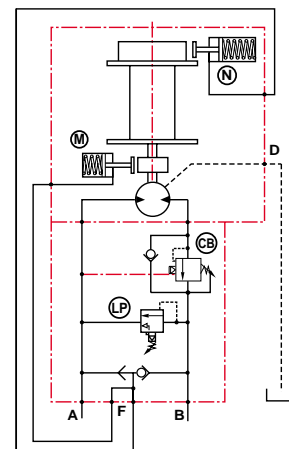
LS1000HLP

Performance with 13 mm dia. rope
Working pressure 125 bar
Flow 37 l/min

Rated layers	Line pull kg	Line speed m/min
1	1270	23.5
2	1166	25.7
3	1077	27.8
4	1000	30.0

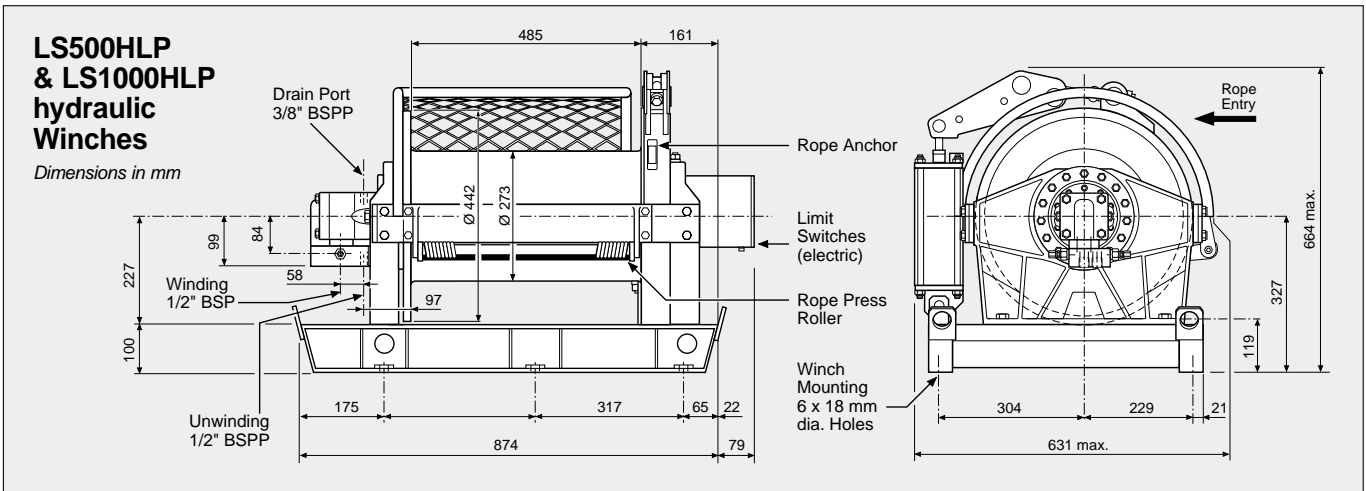
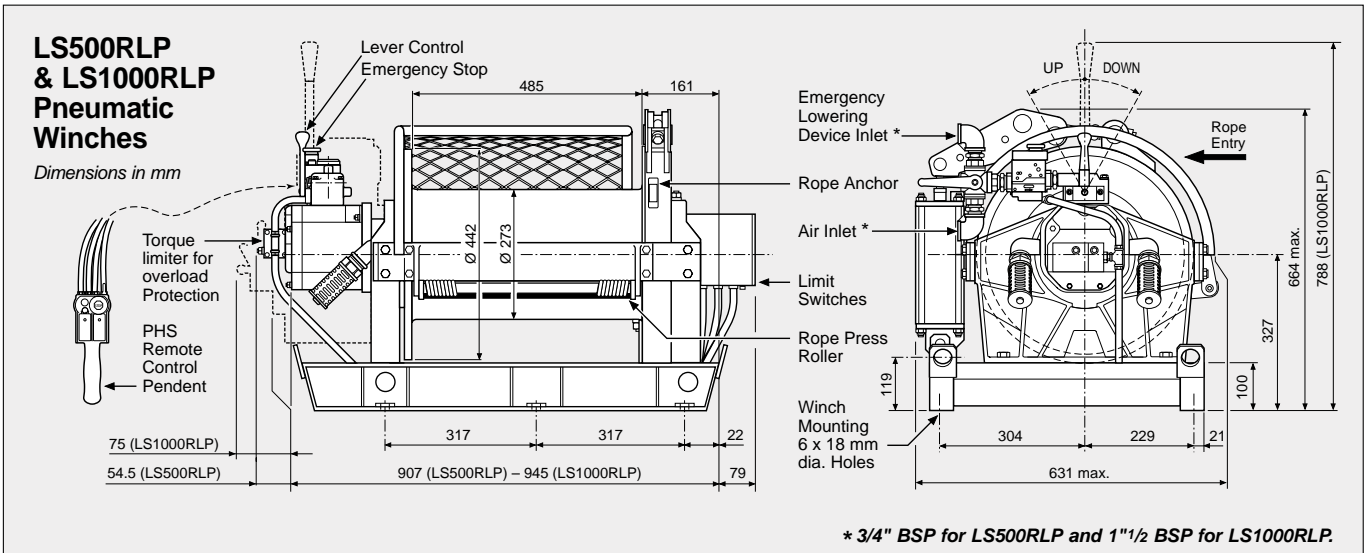
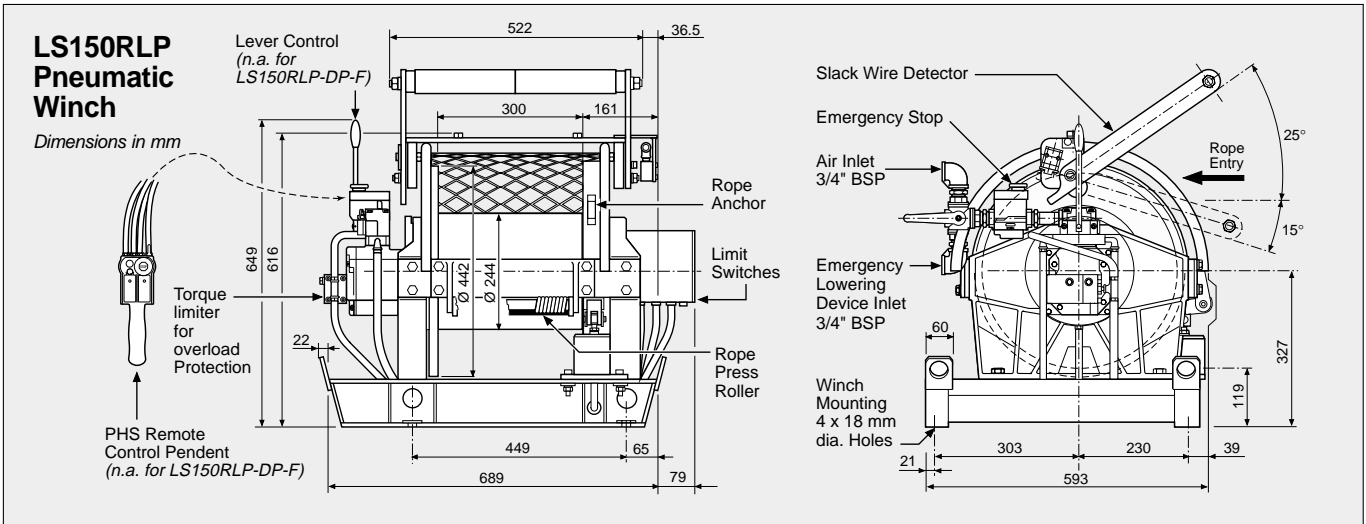
Connection arrangement for hydraulic series

- A and B: Inlet ports 1/2" BSPP
- F: Brake output port 1/4" BSPP
- D: Drain port
- CB: Counter balance valve
- LP: "Kick down" type relief valve (winding)
- M: Multidisc brake with free wheel
- N: Automatic band brake



Ingersoll-Rand LIFTSTAR® Manriding Winches

Dimensions



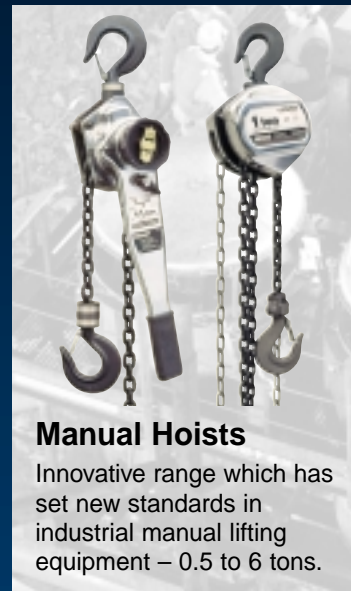
Ingersoll-Rand Hoists and Winches

Other Material Handling Products Available



Heavy Duty Chain Hoists

A comprehensive range of chain hoists with robust construction. Air versions with piston motor or lube free gear motor. Also available in hydraulic versions. Lifting capacities from 3 to 100 tons.



Manual Hoists

Innovative range which has set new standards in industrial manual lifting equipment – 0.5 to 6 tons.



Pneumatic & Hydraulic Winches

The broadest range of air winches in the world – featuring both piston motor and lube free gear motor designs. Capacities through 10 metric tons. Hydraulic versions also available.

The Ingersoll-Rand distributor network gives you not only a superior product, but also a Total Quality service, to ensure your complete satisfaction.

For additional information about the products shown in this catalogue, and assistance with selection, please contact your nearest Ingersoll-Rand distributor or Ingersoll-Rand office.

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