

## Air Winches

*The IR line of air winches incorporates the best ideas and innovations of Beebe International, Samia of France and the original IR line of products. The combined experience of these companies adds up to over 200 years of solving the most challenging lifting, pulling and positioning applications in the world's toughest industries.*

### Why choose an air winch?

- Air winches are simple, rugged, reliable sources of enormous lifting and pulling power for their weight.
- Air motors cannot burn out; they can be stalled all day without damage, making air winches ideal for tensioning applications, such as holding a barge in place. And when air motors are stalled, they use no air!
- Air winches have exceptional load "spotting" ability.
- Speed control is variable from a slow creep to full speed.
- Air winches are well-suited for applications in hot, cold, dusty, dirty, explosive and wet conditions. They pose no electric shock hazard, require no special enclosures, and there are no high-pressure hydraulic lines to leak.
- Air winches have an unlimited duty cycle.
- Air winches can be easily reeved for increased capacity.
- Air winches are easy to service, maintain, and repair.





**IR offers the broadest selection of air winches in the world, including utility and personnel lifting winches. Here's how IR air winches are rated:**

**n Utility rated air winches**

- Used for lifting, pulling or tensioning of materials, up to the rated capacity of the winch.
- Meet ANSI / ASME B30.7
- Rated with a 5:1 design factor for lifting and lowering loads and a 3.5:1 design factor for pulling loads
- Versions available to meet the European Machinery Directives
- Clutches for free spooling wire rope are allowed in the U.S.A. for both lifting and pulling; in Europe, they are allowed for pulling applications only .
- Applications include construction, mining, offshore oil, heavy industrial, refineries, utilities, shipbuilding, petrochemical
- Not to be used for lifting people

**n Offshore Man Rider™**

- Offshore Man Riders have Type Approval and can be certified by one or more of the following independent third party organizations for the offshore oil and drilling industry:
  - Det Norske Veritas (DNV)
  - American Bureau of Shipping (ABS)
  - Lloyd's Register of Shipping (LRS)
- Offshore Man Riders have been designed according to the regulations of one or more of the following regulatory bodies:
  - Norwegian Petroleum Directorate (NPD)
  - Norwegian Maritime Directorate (NMD)
  - UK HSE
- Type Approved for lifting and lowering of people with 8:1 design factor
- Force 5 models are dual rated for utility lifting at 5:1 design factor
- Dual brakes: one automatic and one manual or dual automatic

**-E = Compliance with the European Machinery Directive. Includes as standard on utility rated winches:**

- 1 Main air supply shutoff located at the winch for throttle control models and on the pendant for remote control models.
- 2 Overload device for lift rated winches
- 3 Drum guard
- 4 Muffler
- 5 CE documentation

**n "Gulf" Man Rider™**

The Gulf Man Rider was specifically designed to meet the requirements for a personnel lifting winch for use on offshore rigs in the Gulf of Mexico. Additionally, the design has been type approved by DNV. The Gulf Man Rider is backed by IR's experience and comes with a Det Norske Veritas (DNV) witness to our load test.

**n Onshore Man Rider™**

- Onshore Man Riders have been designed to meet the requirements of ANSI / ASME A10.22-1990 for "Rope Guided and Nonguided Worker's Hoists - Safety Requirements".
  - Addresses OSHA requirements where applicable
  - Typical applications include tower and chimney construction and maintenance, dams, mines, building construction

- Upper/lower limit switches, speed indicator, battery pack and dual brakes—one automatic and one manual—are standard
- Dual rated for personnel and material lifting—8:1 design factor for personnel; 5:1 design factor for materials
  - Line pulls are rated at top layer and line speeds at mid layer.
  - Third party Type Approved by ABS

**Man Rider air winch series quick selection guide**

Man Rider series	Rated line capacity/ lifting at top layer				Rated line speed/ lifting at top layer			
	personnel 8:1 DF	utility 5:1 DF	personnel 8:1 DF	utility 5:1 DF	personnel 8:1 DF	utility 5:1 DF	personnel 8:1 DF	utility 5:1 DF
	lbs	kg	lbs	kg	fpm	m/min	fpm	m/min

**Meets Offshore requirements for one or more of the following:**

**ABS, DNV, LRS, NMD, NPD and UK HSE**

<b>FA150KGMR (-E)</b>	330	150	n/a	n/a	95	29	n/a	n/a
<b>LS150RLP (-E)</b>	330	150	—	—	98	30	—	—
<b>LS500RLP (-E)</b>	1100	500	—	—	85	26	—	—
<b>LS1000RLP (-E)</b>	2200	1000	—	—	85	26	—	—
<b>FA2BMR <sup>(1)</sup></b>	2500	1136	4000	1818	168	51	118	36
<b>FA2MR (-E)</b>	3180	1445	4400	2000	64	20	55	17
<b>FA2.5AMR (-E) <sup>(1)</sup></b>	3125	1420	5000	2273	173	53	135	41
<b>FA2.5MR (-E)</b>	3180	1445	5000	2273	118	36	140	43
<b>FA5AMR (-E) <sup>(1)</sup></b>	6250	2841	10000	4545	102	31	62	19
<b>FA5MR (-E)</b>	6875	3125	11000	5000	77	23	65	20

**Meets onshore requirements of ANSI / ASME A10.22-1990**

<b>FA2MRA</b>	2200	1000	3520	1600	91	28	66	20
<b>FA2.5MRA</b>	2200	1000	3520	1600	195	59	157	48
<b>FA5MRA</b>	4400	2000	7040	3200	87	26	74	22

(1) Rated at mid layer

**n Piston motor or gear motor?**

IR air winches have a worldwide reputation for being rugged, durable and dependable in a vast array of applications. To meet the various needs of our customers, we offer two powerful yet different motors to power the winch.

- **Piston motors**—used in the Third Generation Force 5 Series, original Force 5 Series and IR Classics. Piston motors have great lugging characteristics—that is, they allow an operator to slowly move a load at an inching crawl for excellent spotting. Relatively high speeds are attained for moving loads long distances. Piston motors have internal "splash" lubrication and are fairly tolerant of "dirty" air. The new MP150 used on the FA2B air winch is lube-free!
- **Gear motors**—used exclusively in the Pullstar™ (PS) and Liftstar™ (LS) Series. Gear motors have only two moving parts, which reduces the complexity of motor maintenance, and are "lube-free". The high torque feature provides outstanding steady slow speed characteristics. High speeds are not obtained with this type of motor. Gear motors will tolerate the wet and dirty air supply typically found in mines, foundries, steel mills, etc.



# Air Winch Selection Guide

## 330 to 22000 lb (150 to 10000 kg) capacity



### Utility air winch quick selection guide

(See specific series for complete technical information)

#### LIFTING: ANSI/ASME B30.16 allowable rated line pulls (5:1 design factor)

Utility models	First layer				Mid Layer				Top Layer				Average flow required	
	Capacity	Capacity	Speed	Speed	Capacity	Capacity	Speed	Speed	Capacity	Capacity	Speed	Speed		
	lbs	kg	fpm	m/min	lbs	kg	fpm	m/min	lbs	kg	fpm	m/min	cfm	m³/min.
LS150R	455	207	103	31	380	173	115	35	330	150	138	42	78	2.2
LS300R	840	382	56	17	740	336	63	19	660	300	69	21	78	2.2
BU7A	1200	545	36	11	1000	454	43	13	1000	454	39	12	50	1.4
LS600R	1680	764	26	8	1480	673	30	9	1325	600	34	10	78	2.2
EU, EUL	2100	955	62	19	2000	909	68	21	2000	909	64	20	100	2.8
LS1500R <sup>(1)</sup>	4000	1818	19	6	3600	1636	21	6	3300	1500	23	7	125	3.5
FA2B	5000	2273	79	24	4000	1818	96	29	3200	1455	122	37	350	9.9
FA2.5A	5000	2273	119	36	5000	2273	114	35	4100	1864	141	43	700	19.8
HU40A	5000	2273	44	14	4000	1818	57	18	3200	1455	70	22	291	8.2
LS2000R	6200	2818	47	14	5150	2341	56	17	4400	2000	66	20	354	10.0
FA2	6600	3000	31	9	5200	2364	40	12	4400	2000	47	14	280	7.9
FA2.5	7000	3182	97	30	5800	2636	117	36	5000	2273	132	40	700	19.8
FA5A	11400	5182	40	12	10000	4545	50	15	8000	3636	62	19	700	19.8
FA5T	12500	5682	47	14	11300	5136	52	16	8400	3818	70	21	700	19.8
FA5	12500	5682	47	14	12500	5682	48	15	11000	5000	54	16	700	19.8
LS5000R	15600	7091	23	7	12900	5864	28	9	11000	5000	33	10	354	10.0
FA7T	18800	8545	32	10	16700	7591	37	11	12600	5727	48	15	750	21.2
FA7	18800	8545	32	10	18800	8545	33	10	15400	7000	40	12	750	21.2
FA10	27200	12364	28	9	27100	12319	19	6	22000	10000	23	7	800	22.7

#### PULLING: ANSI/ASME B30.7 allowable rated line pulls (3.5:1 design factor)

Utility models	First layer				Mid Layer				Top Layer				Average flow required	
	Capacity	Capacity	Speed	Speed	Capacity	Capacity	Speed	Speed	Capacity	Capacity	Speed	Speed		
	lbs	kg	fpm	m/min	lbs	kg	fpm	m/min	lbs	kg	fpm	m/min	cfm	m³/min.
BU7A	1500	682	26	8	1200	545	34	10	1000	454	39	12	50	1.4
PS1000R	2200	1000	15	5	1950	886	17	5	1740	791	19	6	78	2.2
EU, EUL	3000	1364	45	14	2600	1182	49	15	2000	909	64	20	100	2.8
FA2B	5100	2318	76	23	4000	1818	96	29	3200	1455	122	37	350	9.9
PS2400R <sup>(1)</sup>	5280	2400	12	4	4800	2182	13	4	4370	1986	14	4	125	3.5
FA2	6800	3091	29	9	5400	2455	37	11	4500	2045	44	13	280	7.9
FA2.5A	7100	3227	67	20	6400	2909	42	13	5400	2455	45	14	700	19.8
FA2.5	8000	3636	79	24	6600	3000	42	13	5300	2409	119	36	700	19.8
HU40A	5100	2318	42	13	4000	1818	54	17	3200	1455	68	21	291	8.2
PS4000R	8800	4000	13	4	7300	3318	16	5	6200	2818	18	5	354	10.0
FA5A	13100	5955	26/8	8	10000	4545	50	15	8000	3636	62	19	700	19.8
FA5T	18000	8182	32	10	11600	5273	50	15	8600	3909	67	20	700	19.8
FA5	18000	8182	32	10	14100	6409	41	12	11600	5273	50	15	700	19.8
PS10000R	22000	10000	8	2	18300	8318	10	3	15600	7091	11	3	354	10.0
FA7T	27000	12273	23	7	18100	8227	32	10	13600	6182	46	14	750	21.2
FA7	27000	12273	23	7	18100	8227	32	10	13600	6182	46	14	750	21.2
FA10	34000	15455	17	5	27100	12319	19	6	22000	10000	23	7	800	22.7

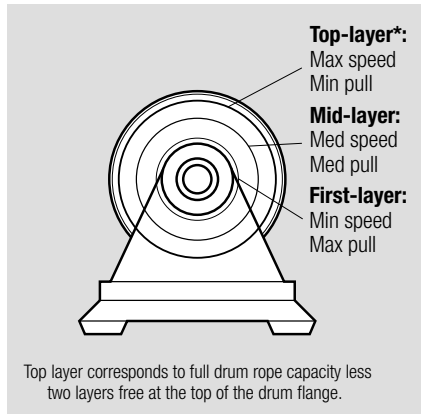
(1) Standard cable is overwound; LS1500R and PS2400R are underwound.

Note: Adding "-E" to model states compliance with European Machinery Directive. See previous page for explanation of compliance.

**It is the user's responsibility to determine the suitability of these winches for any particular use and to check for compliance with applicable regulations.**



**How IR air winches are rated.**



**n Winch capacity:**

Winches can lift or pull the highest loads at the first layer, and can lift/pull the least at the top layer. This is due to the “torque arm” effect of the rope spooling on the winch drum. The closer the load is to the drum, the easier it is for the winch to turn and move the load. The further away the load is from the drum, the harder it is for the winch to turn.

**n Winch speed:**

Winches generally move the load fastest at the top layer and slowest at the first layer. Think of your old record player. If you put a penny near the center of the record, it would simply spin at the same rate as the record. But if you put it near the outside edge, it would fly off. This is because the outer diameter of the record is travelling faster than the inner diameter. The same is true for a winch drum, and consequently the wire rope.

**n Follow these guidelines to choose the correct utility winch for your application:**

*First, consider these three fundamental questions:*

- 1. How much is to be lifted, pulled, or tensioned?*
- 2. How fast is the load to be moved (if at all)?*
- 3. How much wire rope is needed?*

There is a handy checklist at the back of the catalog designed to help you answer these questions and guide you through the selection process. Your IR sales representative, authorized distributor, and factory FAST team are also ready to assist you in finding solutions for all your winch related applications.

**Lifting applications** are generally defined as those that require the brake to be engaged to prevent the load from falling. Refer to the quick selection guide earlier in this section.

**a. Choose a winch with a lifting capacity equal to or greater than your application load.**

**Tip: Consider using a pulley to increase capacity, reduce speed, and for better load control.**

**b. Make sure the average speed meets your criteria for cycle time.**

**c. Wire rope selection is based on a 5:1 design factor and an 18:1 D/d ratio.** The 18:1 D/d ratio is an ANSI / ASME B30-7 recommendation and is calculated as  $D + d / d$  where D = winch barrel diameter and d = wire rope size. The higher the ratio, the longer the wire rope life. As a guideline, this ratio should never go below 15:1. The use of 6 x 37 rope will increase flexibility.

**Tip: Winches with lower gear ratios overhaul better; that is, the load will run them backwards in a controlled descent with the throttle off. By applying the manual band brake, exceptional spotting can be achieved.**

**Auto brakes are always recommended with remote control operation.**

**d. Either manual or automatic brakes are suitable, although automatic brakes are recommended for lifting applications.**

**e. Clutches:** In the U.S.A., clutches are permitted on lifting winches. Although we don't usually recommend them, for certain lifting applications they make sense. In Europe, clutches are not allowed on lifting winches. The Liftstar series is for lifting and the Pullstar for pulling. They are the same winches, but with different ratings — and the Pullstar winches have clutches.

**Pulling applications:** Because of the 3.5:1 design criteria and the first layer rating, the ratings for pulling applications are higher for the same winch. Choose a winch based on capacity, speed and distance to be pulled. Manual band brakes and clutches are popular configurations, but each application has its own specific requirements. Again, consider pulleys to increase pulling capacity.

**Air supply and consumption:** All IR winches are rated at 90 psig (6.3 kg/m<sup>2</sup>) inlet pressure when the winch is running. The volume of air required is expressed in cubic feet per minute (cfm) or cubic meters per minute (m<sup>3</sup>/min). Refer to the charts or power curves for air consumption data for specific models. Compressor output must equal air consumption for continuous operation. Intermittent operation and/or air storage facilities will allow the use of smaller compressors. Hoses and fittings should be sized equal to or preferably one size larger than the winch inlet. Strainers, lubricators, filters and regulators are recommended based on air quality and the application. Mufflers and kits for piping away the exhaust are always suggested for operator safety and comfort.



## Classic Air Winch Series

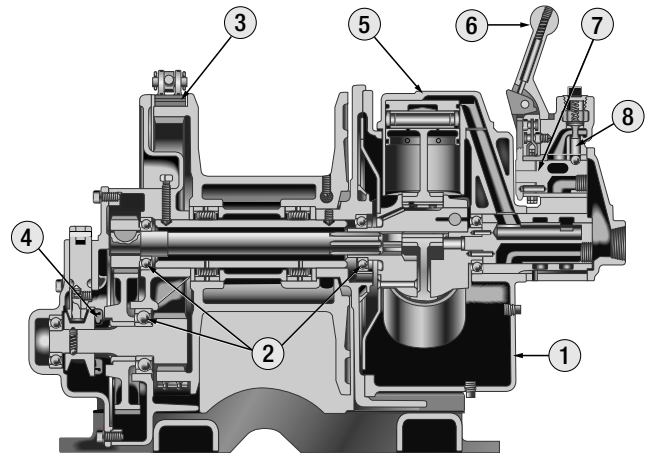
1000 and 2000 lb (454 and 909 kg) capacity



**Serving the construction and maintenance industries for more than fifty years, these time-tested IR air winches have become the industry standard. Economically priced, these proven performers offer exceptional quality and value. All IR Classic air winches meet ANSI / ASME B30.7**

### Standard features:

1. Enclosed construction keeps out dirt and dust and seals in oil and grease for complete lubrication of all moving parts
2. Ball and roller bearings = reduced friction
3. Reliable band type brake securely holds rated load
4. Disengaging clutch allows free wheeling of rope drum for hand unwinding; standard on most models
5. Powerful radial piston air motor for positive starting with precise control
6. Self-closing throttle shuts off automatically when released, providing well-graduated control for spotting loads
7. Reversible motor allows full control of load by throttle when lifting, lowering and pulling
8. Throttle valve is designed to eliminate air leakage when the winch is idle



### Options:

- Automatic band brake
- Remote control
- Tensioning manifold
- Sandblast and carbozinc primer
- Construction cages
- Remote pendent control
- Marine 812 finish

### Specifications: performance is based on 90 psi (6.3 bar) air inlet pressure with motor running

Model	Line pull/half drum		Line spd/half drum		Drum length		Avg. air consump.		Max. stall 1st layer		Pipe inlet	Hose size	Shipping wt	
	lbs	kg	fpm	m/min	in.	hp	scfm	m <sup>3</sup> /min	lbs	kg	in. (mm)	in. (mm)	lbs	kg
BU7A (-E)	1000	454	43	13	4.5	1.6	50	1.4	1950	886	1/2" (13 mm)	3/4" (19 mm)	90	41
BU7APTAB (-E)	1000	454	37	11	4.5	1.6	50	1.4	1950	886	1/2" (13 mm)	3/4" (19 mm)	118	54
EU	2000	909	68	21	4.81	4.4	100	2.8	4500	2045	3/4" (19 mm)	1" (25 mm)	360	164
EUABPT	2000	909	78	24	4.81	4.4	100	2.8	4500	2045	3/4" (19 mm)	1" (25 mm)	375	170
EUL	2000	909	68	21	12.88	4.4	100	2.8	4500	2045	3/4" (19 mm)	1" (25 mm)	490	222

Adding "-E" to model states compliance with European Machinery Directive. See Air Winch Selection Guide for explanation of compliance.



**BU7A** 1000 lb  
(454 kg) capacity



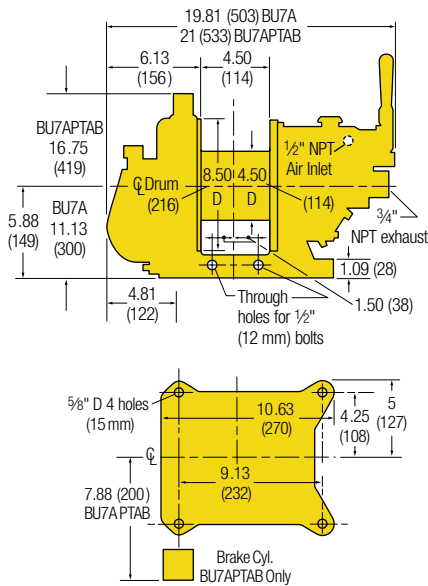
**EU** 2000 lb  
(909 kg) capacity



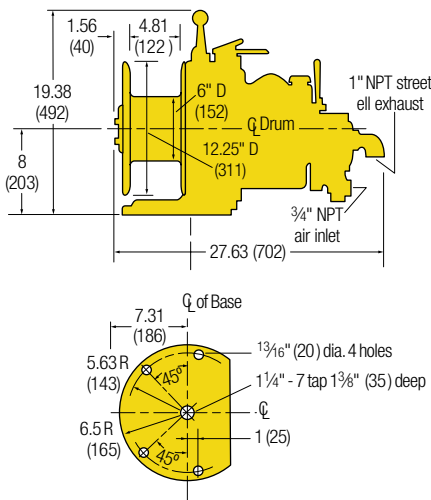
## Classic Air Winch Series 1000 and 2000 lb (454 and 909 kg) capacity



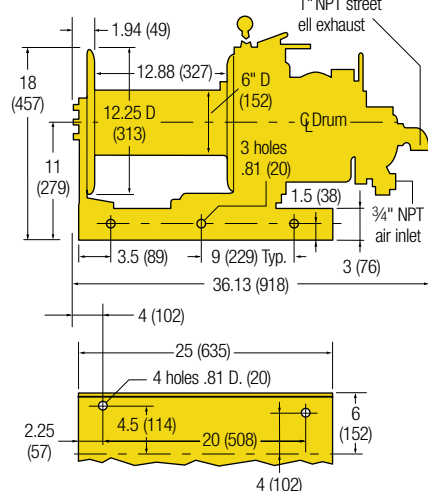
### Dimensions: BU7A and BU7APTAB



### Dimensions: EU



### Dimensions: EUL



### Drum wire rope storage capacities

Model	Capacity (mid layer)		Max length on winch (tightly wound)								Rope anchor hole	
	lbs	kg	¼" (6 mm) ft	m	⅝" (8 mm) ft	m	¾" (10 mm) ft	m	7/16" (11 mm) ft	m	in.	mm
BU7A (-E)	1000	455	228	70	132	40	—	—	—	—	11/32	9 mm
EU	2000	909	—	—	339	103	220	67	164	50	9/16	14 mm
EUL	2000	909	—	—	946	288	619	189	465	142	9/16	14 mm

### Kits and Accessories

		Full flow remote control kit Std or auto brake		Pilot air remote control kit Std or auto brake	
For series	Drum guard	Auto brake kit	w/control block <sup>(1)</sup>	w/pendent <sup>(2)</sup>	w/control block <sup>(2)</sup>
BU7APTAB	BU7A-K298A	Standard	Standard pendent	—	—
BU7A (-E)	BU7A-K298A	—	—	—	—
EU	EU-K298A	EU-C709	EU-RC685AB	EU-PAK269AB	HU-PAK686AB
EUL	EUL-K298A	EU-C709	EU-RC685AB	EU-PAK269AB	HU-PAK686AB

- (1) Control should be within 30 ft (9.1 m) of winch for std brake and within 20 ft (6.1 m) for use with auto brake.  
(2) Control should be within 50 ft (15.2 m) of winch. Pilot remote control kits do not contain remote control valve chest.

### Other options

Description	BU7A (-E)	Part number EUAB/PT	EU/EUL
Air strainer	EU-A267 (3/4 in. FNPT)	EU-A267 (3/4 in. FNPT)	EU-A267 (3/4 in. FNPT)
Lubricator	L30-06-000 (3/4 in. FNPT)	L30-06-000 (3/4 in. FNPT)	L30-06-000 (3/4 in. FNPT)
Exhaust muffler	50592 (1 in. NPT)	50592 (1 in. NPT)	50592 (1 in. NPT)
Valve Chest Assembly <sup>(1)</sup>	—	—	D10-A686

(1) Included with full flow remote control kits; required for pilot air remote control kits.

### How to Order:

Specify the air winch series desired from the charts in the Air Winch Selection Guide. Remote control and/or auto brake options are available for most air winches. Add correct suffix to winch series if either or both are desired. Specify control hose length "XX" in feet. e.g. BU7APTAB15 is a BU7APTAB with 15 feet (4.6 m) of control hose.

Model	Remote control	Automatic Brake	-	Options	CE package
EU	PT = Pendent throttle	AB = Automatic brake	-	PZ = Construction cage	-E = Compliance with the European Machinery Directive (see Air Winch Selection Guide for description - BU7A only).
EU	RC = Remote control (full flow)			P = Marine 812 finish	
EUL	XX = Specify control hose length in feet			Q = Special paint; please specify	
				R = Natural gas operation	
				Z = Sandblast and carbozinc primer	

#### Notes:

Rope drum disengaging clutch is standard equipment on these winches.  
Automatic brake is standard equipment on BU7APTAB and EUAB/PT.  
Automatic brake and disengaging clutch may not be used together.

**Caution:** These winches are not to be used for lifting or lowering people.

Dimensions are in inches (mm)  
Dimensions are subject to change. Contact factory for certified prints



## **Liftstar™/Pullstar™ Gear Motor Air Winch Series** 330 to 22000 lb (150 to 10000 kg) capacity

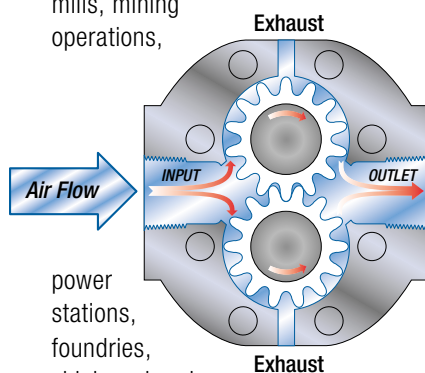


**Designed for the demanding conditions found in tough environments with dirty air, these winches feature a low maintenance, highly reliable gear motor with high torque output that translates into smooth starts and stops. Light weight and compact for portability, yet the rugged all ductile iron construction makes it ready to take on your most challenging applications.**

### **n Standard features:**

**LS150R, LS300R, LS600R, LS1500R, PS1000R, PS2400R**

- Rugged gear motor tolerates dirty, wet supply air, and is suitable for use in tough environments such as steel mills, mining operations,



- power stations, foundries, shipboard and marine applications, chemical and petroleum industries.
- With only two moving parts, maintenance is low and motor life is long.
- High torque gear motor provides excellent spotting characteristics.
- Variable speed control provided by either the self-returning throttle lever or remote pendent handle.
- **Pullstar** has disengaging clutch for free-spooling unloaded wire rope.
- All ductile iron construction
- Automatic self-adjusting disc brake
- Continuous duty cycle
- Lightweight design for portability.
- Meets ASME B30.7 standards
- Exhaust air routed internally through drum barrel for reduced noise level.
- Operable at 70–100 psi (4.9–7 bar)
- Low air consumption
- Internal gear box in a compact space saving design

### **n Options and accessories:**

- Drum guard
- Additional hose lengths for remote pendent up to 66 feet (20 m)
- Lubricator, filter and regulator
- Liquidator
- Pipeline strainer

### **n Standard features – heavy series:**

**LS2000R, LS5000R, PS4000R, PS10000R**

The **Liftstar R** and **Pullstar R** air winches meet the requirements set by the FEM 9.511 standard which covers rating and classification; the Liftstars also meet the FEM 1001 standard for lifting equipment.

**Liftstar** winches have a 5:1 design factor for lifting at rated load. Lifting capacity is calculated at full drum minus two layers of wire rope. **Pullstar** winches are directly derived from the Liftstar series, but with a 3:1 line pull design factor. Pulling capacity is calculated at first layer of wire rope.

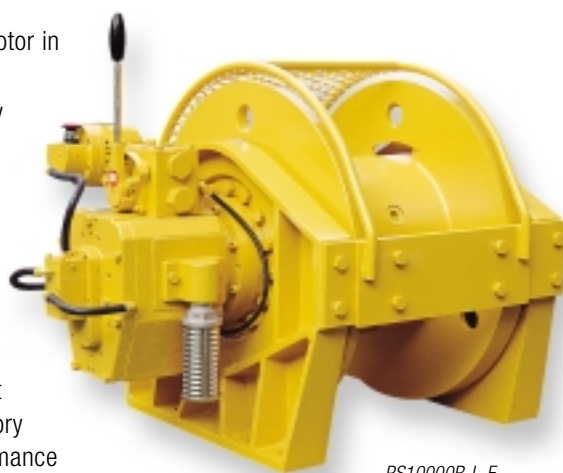
- Lube-free operation
- All ductile iron construction
- Designed in conformity with the latest European standards – FEM classification 1 Bm
- Automatic disc brake
- Reliable gear type air motor in composite material
- High efficiency planetary gear box
- Low noise level; quiet operation
- Disengaging clutch standard on **Pullstar** (pulling) series
- All units delivered with manufacturer's test certificate covering factory construction and performance
- CE package for European models includes as standard:
  - Drum guard
  - Main air shut-off emergency stop
  - Torque limiter (**Liftstar** lifting series only)
  - Instruction and safety manual
  - Declaration of conformity



PS1000R-L



PS2400RGC-L



PS10000R-L-E

### **n Options and accessories:**

- Drum guard
- Emergency stop
- Torque limiter (overload protection)
- Marine paint
- Offshore paint
- Skid frame
- Drum brake
- Press roller



# Liftstar™/Pullstar™ Gear Motor Air Winch Series

## 330 to 22000 lb (150 to 10000 kg) capacity



### Liftstar specifications: max. lifting values at 90 psi (6.3 bar) air inlet pressure with motor running

Series no.	Rated lifting at top layer				Average air consumption		Inlet size in.	Min hose in.	Net weight	
	lbs	kg	fpm	m/min	scfm	m³/min			lbs	kg
LS150R-L	330	150	138	42	78	2.2	1/2	1/2	60	27
LS300R-L	660	300	69	21	78	2.2	1/2	1/2	60	27
LS600R-L	1325	600	34	10.5	78	2.2	1/2	1/2	60	27
LS600RGC-L	1325	600	34	10.5	78	2.2	1/2	1/2	62	28
LS600R-PHM2	1325	600	34	10.5	78	2.2	1/2	1/2	81	37
LS600RGC-PHM2	1325	600	34	10.5	78	2.2	1/2	1/2	83	38
LS1500R-L	3300	1500	23	7	125	3.6	3/4	3/4	143	65
LS1500RGC-L	3300	1500	23	7	125	3.6	3/4	3/4	146	66
LS1500R-PH2M	3300	1500	23	7	125	3.6	3/4	3/4	166	75
LS1500RGC-PH2M	3300	1500	23	7	125	3.6	3/4	3/4	169	77
LS2000R	4400	2000	66	20	354	10	1 1/4	1 1/4	506	230
LS2000RGC	4400	2000	66	20	354	10	1 1/4	1 1/4	594	270
LS5000R	11000	5000	33	10	354	10	1 1/4	1 1/4	1408	640
LS5000RGC	11000	5000	33	10	354	10	1 1/4	1 1/4	1650	750

### Pullstar specifications: max. lifting and pulling are at 90 psi (6.3 bar) air inlet pressure with motor running

The PS1000R and PS2400R are fitted as standard with a free spool clutch. These winches can be used for lifting at reduced capacity to maintain 5:1 Design Factor only in countries that allow it, eg. USA. See information below for lifting capacities and line speeds for these countries.

Series no.	Rated pulling at first layer				Average air consumption		Inlet size in.	Min hose in.	Net weight	
	lbs	kg	fpm	m/min	scfm	m³/min			lbs	kg
PS1000R-L	2200	1000	15	5	78	2.2	1/2	1/2	62	28
PS1000RGC-L	2200	1000	15	5	78	2.2	1/2	1/2	83	38
PS1000R-PH2M	2200	1000	15	5	78	2.2	1/2	1/2	64	29
PS1000RGC-PH2M	2200	1000	15	5	78	2.2	1/2	1/2	85	39
PS2400R-L	5280	2400	12	4	125	3.6	3/4	3/4	146	66
PS2400RGC-L	5280	2400	12	4	125	3.6	3/4	3/4	169	77
PS2400R-PH2M	5280	2400	12	4	125	3.6	3/4	3/4	149	68
PS2400RGC-PH2M	5280	2400	12	4	125	3.6	3/4	3/4	176	80
PS4000R	8800	4000	13	4	354	10	1 1/4	1 1/4	506	230
PS4000RGC	7920	3600	13	4	354	10	1 1/4	1 1/4	594	270
PS10000R	22000	10000	8	2	354	10	1 1/4	1 1/4	1408	640
PS10000RGC	22000	10000	8	2	354	10	1 1/4	1 1/4	1650	750

### Rope capacity

Recommended wire rope type: Extra Improved Plow Steel (EIPS) with IWRC

Series no.	Wire rope diameter	Full drum less 2 layers ft (m)				Full drum* ft (m)			
		Short drum		Long drum (GC)		Short drum		Long drum (GC)	
		ft.	m	ft.	m	ft.	m	ft.	m
LS150R	3/16 in. (5 mm) for rated lifting or pulling	394	120	800	244	607	185	1233	375
LS300R	1/4 in. (6.5 mm) for rated lifting or pulling	207	63	423	129	310	94	634	193
LS600R	1/4 in. (6.5 mm) for lifting or pulling	207	63	423	129	310	94	634	193
	5/16 in. (8 mm) for rated lifting or pulling	94	28	193	59	214	65	440	134
LS1500R	3/8 in. (10mm) for rated lifting or pulling	115	35	236	72	260	79	535	163
LS2000R	1/2 in. (12 mm) for lifting only	444	135	494	150	636	194	796	242
	(13 mm) for lifting only *	349	114	484	159	626	205	782	256
LS5000R	3/4 in. (19 mm) for lifting only	521	159	1099	335	747	227	1576	480
	(20 mm) for lifting only	401	131	847	278	607	199	1283	421
PS1000R	1/4 in. (6.5 mm) for pulling only	207	63	423	129	310	94	634	193
	5/16 in. (8 mm) for lifting or pulling	94	28	193	59	214	65	440	134
PS2400R	3/8 in. (10 mm) for rated lifting or pulling	115	35	236	72	260	79	535	163
PS4000R	1/2 in. (12 mm) for pulling only	444	135	494	150	636	194	796	242
	(13 mm) for pulling only *	349	114	484	159	626	205	782	256
PS10000R	3/4 in. (19 mm) for pulling only	521	159	1099	335	747	227	1576	480
	(20 mm) for pulling only	401	131	847	278	607	199	1283	421

Note: Based on 3/8 inch EIPS, IWRC wire rope. The maximum allowable ratings are: Pulling / 3414 lbs (1552 kg) and Lifting / 3020 lbs (1373 kg). See the wire rope chart in Tech Tips section for additional information.

\* Drum capacities represent tightly spooled wire rope. Recommended drum working capacity is 80% of values shown.



# Liftstar™/Pullstar™ Gear Motor Air Winch Series

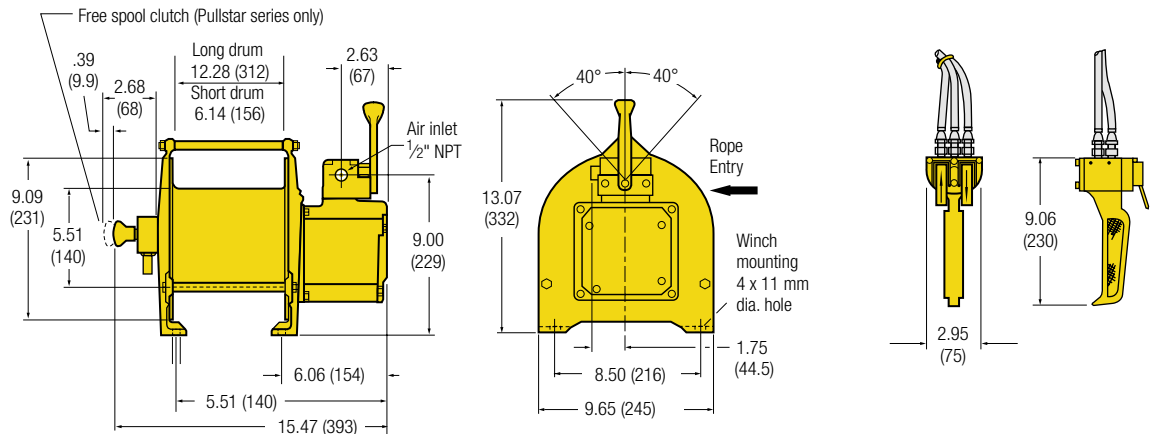
## 330 to 22000 lb (150 to 10000 kg) capacity



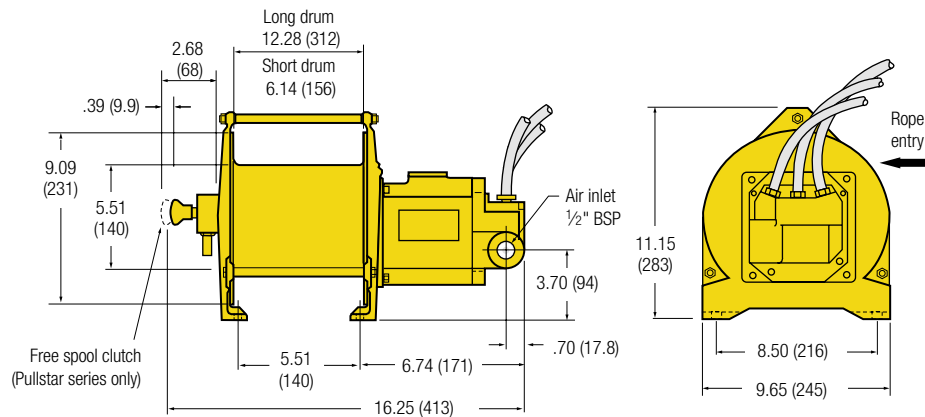
### Dimensions:

LS150R-L, LS300R-L, LS600R-L, PS1000R-L in inches (mm). Overwound is standard.

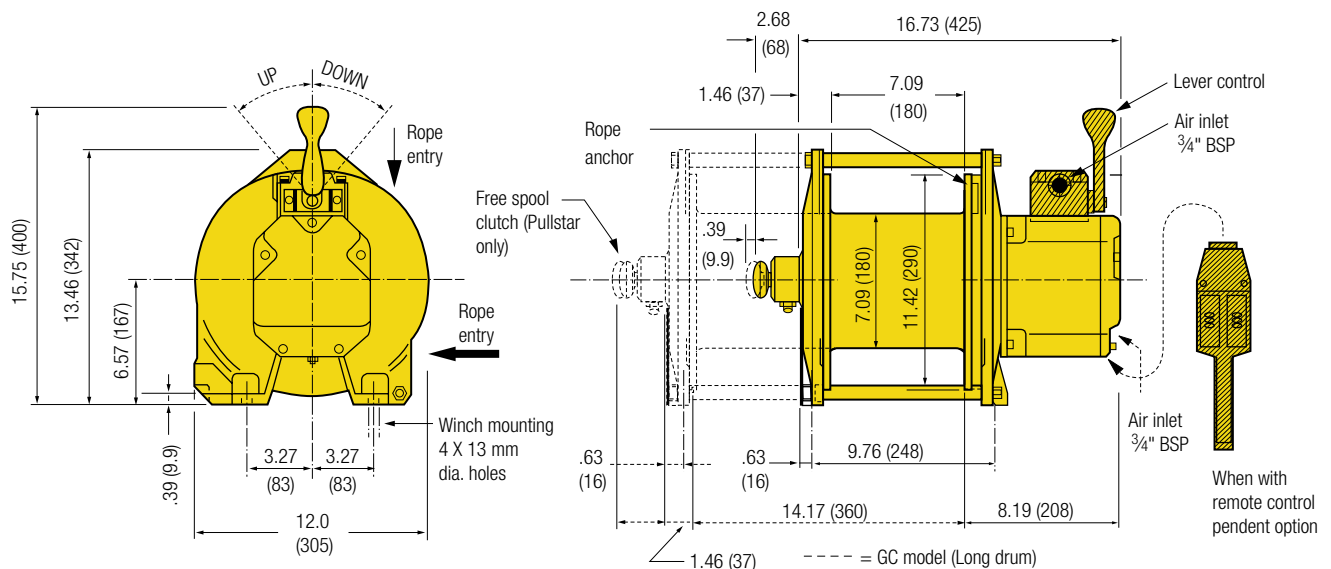
Pendent handle in inches (mm)



LS150R-PH2M, LS300R-PH2M, LS600R-PH2M, PS1000R-PH2M in inches (mm). Overwound is standard.



LS1500R and PS2400R in inches (mm). Underwound is standard.



Dimensions are subject to change. Contact factory for certified prints



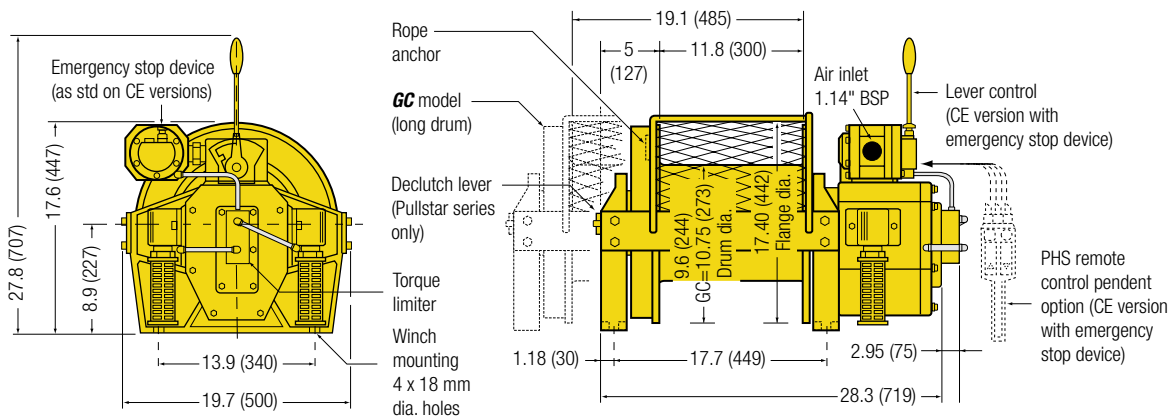
# Liftstar™/Pullstar™ Gear Motor Air Winch Series

## 330 to 22000 lb (150 to 10000 kg) capacity

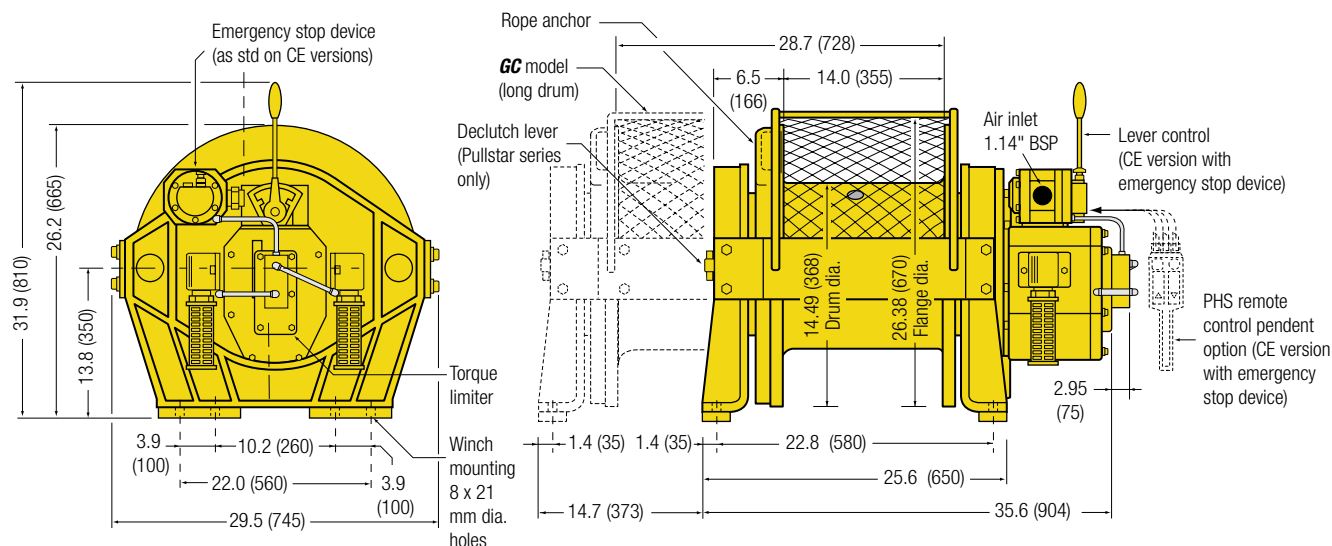


### Dimensions:

LS2000R and PS4000R in inches (mm).



LS5000R and PS10000R in inches (mm).



### How to Order

For each order specify the model code as shown below. Example: LS2400RGC-PH5M-GP

Series	Capacity	Drum	-	Control	Control length	-	Options
<b>LS</b>	<b>2400R</b>	<b>GC</b>	-	<b>PH</b>	<b>5M</b>	-	<b>GP</b>
LS = Liftstar	150R = 150 kg			L = Lever (control)			G = Drum guard
PS = Pullstar	300R = 300 kg			PH = Precision pendent, alloy, type PHS			P = Marine finish (standard surface prep, primer, marine paint)
	600R = 600 kg			PHR = Cast iron pendent			Q = Offshore paint
	1000R = 1000 kg			DP = Full flow remote control			Z = Sandblast prep and primer
	1500R = 1500 kg				2M = 2 meter (standard)		
	2000R = 2000 kg				5M = 5 meter pendent		
	2400R = 2400 kg				XX = Specify control length up to 20 m		
	4000R = 4000 kg						
	5000R = 5000 kg						
	10000R = 10000 kg						
	R = Air						
	No letter = Standard						
	GC = Long drum						

Accessories and Options	Part no.
<b>Description</b>	
• Lubricators (3/4 in./19 mm)	
In line bowl type	L30-06-000
Portable "can" type	50611
• Filter (3/4 in./19 mm)	F30-06-000
• Regulator (3/4 in./19 mm)	R28-06-F0G0-28
• Liquidator (3/4 in./19 mm)	8826-W2-000
• Pipeline strainer	EU-A267
• Drum guard G	
LS150R, LS300R, LS600R and PS1000R	
Short drum	7618-0057
Long drum	7618-0059
• Drum guard G LS1500R and PS2400R	
Short drum	7631-0009
Long drum	7631-0010
• Additional control hose for "PHXX"	
in excess of 2m	Specify in model code
• Marine paint P	Specify in model code
• Sandblast and carbozinc primer only Z	Specify in model code



## **“Third Generation” Air Winch Series**

### **FA2B 4000 lb (1818 kg) capacity**



**How do you improve on a great idea? With four significant changes over the FA2A, the FA2B takes a good idea and makes it even better.**

#### **n Four changes for improved performance and reliability**

- **NEW MP150** piston motor maintains the progressive scotch yoke and adds more horsepower (16 hp). Oil free design with fewer parts and reduced vibration means easier and less frequent service. Two other piston motor options are available.
- New self-cleaning K5C2 control valve improves flow and performance. It has a primary bushing for reduced maintenance cost, more stainless steel and polymer corrosion resistant parts for smoother, more responsive control and is totally interchangeable with previous designs. 100% natural gas/sour gas compatible.
- Modified gearbox design improves efficiency and durability.
- Redesigned disc brake lowers required release pressure to 25 psig for smoother performance and no drag when air supplies are borderline.

#### **n What else is new....**

- Lifting lugs
- One size fastener on the entire motor.
- Slide lift column on throttle prevents accidental movement.

#### **n Options:**

- Band brakes – manual and automatic
- Drum guards
- Remote full flow and pilot controls
- Free spool clutches
- CE packages
- Grooved drums
- Divider flanges

**-E = Compliance with the European Machinery Directive. Includes as standard on utility rated winches:**

- 1 Main air supply shutoff
- 2 Overload device
- 3 Drum guard
- 4 Muffler
- 5 CE documentation



FA2B-SXK1R

- Tensioning manifolds
- Natural gas compatible; Option **R**
- HU40A (11 hp) or AMP94A (9.4 hp) motor/valve combinations
- Construction cages and open frame configurations
- Material Traceability and Type Approval Certification
- Low temperature versions
- FE2B electric and FH2B hydraulic units

#### **n Why the FA2B is such good value...**

- Corrosion resistant marine grade coating system: Sandblast to white metal finish and carbozinc primer with a Marine 812 finish.
- Meets ANSI / ASME B30.16, B30.7 and has been design reviewed and approved by Det Norske Veritas. Meets European CE standards.
- Internal disc brake is oil cooled. They run and last longer. Band brakes use the latest Scanpac brake material.
- Wedge type, self tightening rope anchor provides 80% of rope breaking strength
- It is designed and built to survive some of the harshest conditions on the planet — the offshore drilling environment.

### **Specifications: performance is based on 90 psi (6.3 bar) air inlet pressure with motor running**

Model number	Lift rating <sup>(1)</sup>			Pull rating <sup>(1)</sup>				Stall lbs      kg		Average air cons	Recom. Ingersoll Comp.	Mtr hp	Pipe size NPT in.	Rec'd rope size in. <sup>(1)</sup>
	per ANSI / ASME B30.16 at 5:1 first	mid	top	ANSI / ASME B30.7 at 3.5:1 first	mid	top								
<b>FA2B Air Powered</b>														
Capacity lbs (kg)	5000 (2268)	4000 (1818)	3200 (1451)	5000 (2313)	4000 (1818)	3200 (1451)	6800	3084	350	P185-P375	16	1 ¼	½	
Speed fpm (mpm)	79 (24)	96 (29)	122 (37)	79 (24)	96 (29)	122 (37)								
<b>HU40A Air Powered</b>														
Capacity lbs (kg)	5000 (2273)	4000 (1818)	3260 (1482)	7140 (3245)	5700 (2585)	4600 (2091)	11600	5273	270	P185-P375	11	1	½	
Speed fpm (mpm)	54 (16.4)	70 (21.3)	86 (26.2)	40 (12)	49 (14.9)	60 (18.3)								
<b>AM94A Air Powered</b>														
Capacity lbs (kg)	5000 (2273)	4000 (1818)	3260 (1482)	5000 (2273)	4000 (1818)	3260 (1482)	5500	2500	320	P185-P250	9.4	1	½	
Speed fpm (mpm)	36 (10.0)	46 (14.0)	56 (17.1)	15 (4.6)	19 (5.8)	24 (7.3)								
<b>FH2B Hydraulic Powered<sup>(2)</sup></b>														
Capacity lbs (kg)	5000 (2273)	4000 (1818)	3260 (1482)	7140 (3245)	5700 (2585)	4600 (2091)	9560	4345	gpm <sup>(3)</sup>	psig <sup>(4)</sup>	17	(7)	½	
Speed fpm (mpm)	93 (28.3)	112 (34.1)	138 (42.1)	93 (28.3)	112 (34.1)	138 (42.1)								
<b>FE2B Electric Powered</b>														
Capacity lbs (kg)	5000 (2273)	4000 (1818)	3260 (1482)	5000 (2273)	4000 (1818)	3260 (1482)	11000	5000	amps <sup>(5)</sup>	amps <sup>(6)</sup>	15	NA	½	
Speed fpm (mpm)	77 (23.5)	100 (30.5)	123 (37.5)	77 (23.5)	100 (30.5)	123 (37.5)								

(1) IR rates to both ANSI / ASME B30.16 (overhead hoists) and ANSI / ASME B30.7 (base mounted drum hoists). Always refer to these (or applicable) standards for details. We recommend 1/2 inch (13 mm) dia. 6 x 19 Extra Improved Plow Steel IWRC wire rope.

(2) Hydraulic winch performance is directly proportional to pressure and flow. An increase/decrease in pressure

(psig) and flow (gpm) results in an increase/decrease in capacity and speed. FH2B performance has been set within ANSI / ASME B30.16/B30.7 design criteria. This rating may be different from other hydraulic winch manufacturers. Please contact technical sales with application/performance requirements.

(3) Flow (25 gpm).

(4) Pressure (psig), 1850 lifting, 2350 pulling.

(5) Full load current, 19 amps @ 460V.

(6) Max current draw (locked rotor), 110 amps @ 460V.

(7) SAE-12 JIC



## "Third Generation" Air Winch Series

### FA2B 4000 lb (1818 kg) capacity



#### Rope storage capacities <sup>(1)</sup> (all versions)

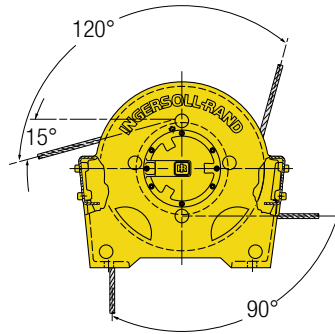
Drum capacities represent tightly spooled wire rope. Recommended drum working capacity is 80% of values shown.

Drum length		Full drum less 1/2" (13 mm) <sup>(2)</sup>								Full drum storage							
		Wire rope diameter								Wire rope diameter							
in.	mm	3/8" (10 mm)	7/16" (11 mm)	1/2" (13 mm)	5/8" (16 mm)	3/4" (19 mm)	7/8" (22 mm)	1" (25 mm)	1 1/8" (28 mm)	1 1/4" (32 mm)	1 3/8" (35 mm)	1 1/2" (38 mm)	1 5/8" (41 mm)	1 3/4" (44 mm)	1 7/8" (48 mm)	2" (51 mm)	2 1/4" (57 mm)
7	178	519	158	396	120	300	91	164	50	593	180	460	140	356	108	206	62
13 1/2	343	1029	314	788	240	600	183	330	100	1176	358	915	279	712	217	416	126
20	508	1538	468	1180	360	900	274	497	151	1758	535	1371	417	1068	325	625	190
24	610	1852	564	1421	433	1085	331	600	183	2116	645	1651	503	1287	392	754	230

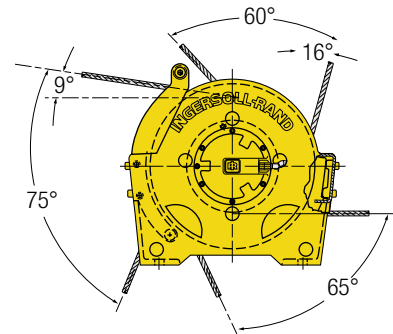
(1) For allowable rope takeoff angles. See illustrations below.

(2) Per ANSI / ASME B30.7

**Typical allowable wire rope takeoff angle:** Shaded areas represent the allowable angle of rope takeoff without interference with the winch's structural supports.



Standard Configuration

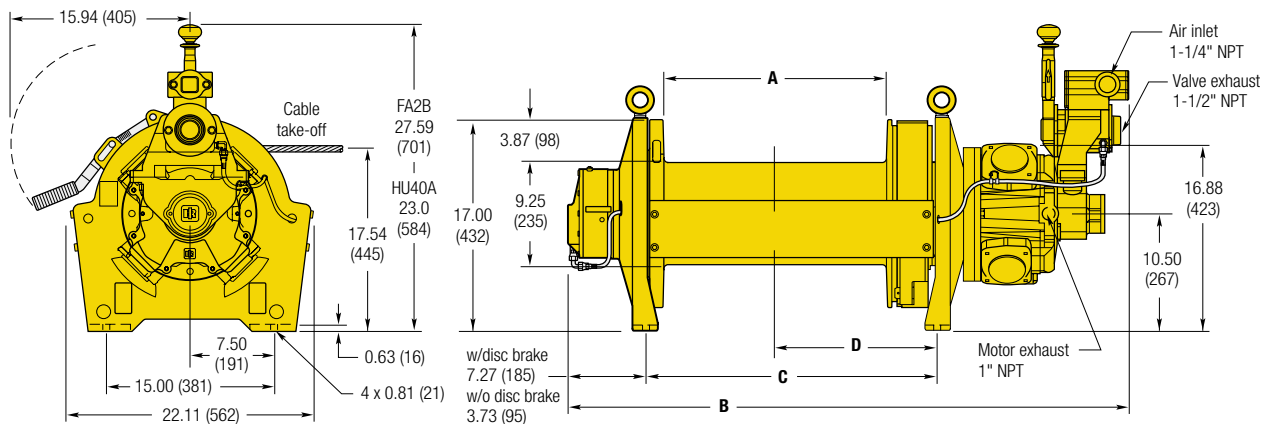


Open Front Configuration (Option H)

#### Dimensions

Model number	Type of drum brk.	Auto disc brk.	A		FA2B only		HU40A only		C		D	
			in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
FA2B- / HU40A- SXX1	None	Yes	7.0	178	34.7	881	33.8	859	9.6	244	4.8	122
FA2B- / HU40A- MXK1	None	Yes	13.5	343	41.2	1046	40.3	1024	16.1	409	8.0	203
FA2B- / HU40A- LXX1	None	Yes	20.0	508	47.7	1212	46.8	1189	22.6	574	11.3	287
FA2B- / HU40A- RXK1	None	Yes	24.0	610	51.7	1313	50.8	1290	26.6	676	13.3	338
FA2B- / HU40A- SMK1 (SAK1)	Manual (automatic)	Yes	7.0	178	37.4	950	36.5	927	12.3	312	7.5	191
FA2B- / HU40A- MMK1 (MAK1)	Manual (automatic)	Yes	13.5	343	43.9	1115	43.0	1092	18.8	478	10.8	274
FA2B- / HU40A- LMK1 (LAK1)	Manual (automatic)	Yes	20.0	508	50.4	1280	59.5	1257	25.3	643	14.0	356
FA2B- / HU40A- RMK1 (RAK1)	Manual (automatic)	Yes	24.0	610	54.4	1382	53.5	1359	29.3	744	16.0	406
FA2B- / HU40A- SMX1 (SAX1)	Manual (automatic)	No	7.0	178	34.1	866	33.2	843	12.3	312	7.5	191
FA2B- / HU40A- MMX1 (MAX1)	Manual (automatic)	No	13.5	343	40.6	1031	39.7	1008	18.8	478	10.8	274
FA2B- / HU40A- LMX1 (LAX1)	Manual (automatic)	No	20.0	508	47.1	1196	46.2	1173	25.3	643	14.0	356
FA2B- / HU40A- RMX1 (RAX1)	Manual (automatic)	No	24.0	610	51.1	1298	50.2	1275	29.3	744	16.0	406

#### FA2B / HU40A in inches (mm)



Dimensions are subject to change. Contact factory for certified prints



## **“Third Generation” Air Winch Series**

### **FA2B 4000 lb (1818 kg) capacity**



#### **How to Order:**

Specify by complete model code as illustrated. **Example: FA2B-LXK1G** = 4000 lb (1818 kg) capacity, long drum, auto disc brake, winch mounted lever control, and drum guard.

Series	Capacity	Generation	-	Drum length	Drum brake	Disc brake	Control	Options
<b>FA</b>	<b>2</b>	<b>B</b>	-	<b>L</b>	<b>X</b>	<b>K</b>	<b>1</b>	<b>G</b>
<div> <div> <b>FA</b> = Air powered  HU40A*  AMP94A*  * = Substitute for FA2B  FE = Electric powered  FH = Hydraulic powered </div> <div> <b>B</b> = Third generation   <b>S</b> = Short  <b>M</b> = Medium  <b>L</b> = Long  <b>R</b> = Extra long  Note: See drum length matrix below </div> <div> <b>A</b> = Auto drum brake  <b>M</b> = Manual drum brake  <b>X</b> = No drum brake </div> <div> <b>X</b> = No auto disc brake  <b>K</b> = Auto disc brake </div> <div> <b>1</b> = Standard winch mounted throttle  2XX = Remote full flow lever throttle (max 20 ft/6 m)  3XX = Remote pilot pendent throttle (std = 6 ft/1.8 m; max 66 ft/20 m) <sup>(1)</sup>  4XX = Remote pilot lever throttle (max 66 ft/20 m) <sup>(1)</sup>  5XX = Remote electric over air throttle  XX = Specify hose length or pendent cord in feet </div> <div> <b>7</b> = Drum grooving (specify rope size in sixteenths, e.g. 7 = 7/16")  <b>B</b> = Press roller (specify takeoff angles)  <b>C</b> = Low temperature; please specify in text: -10° C or -20° C  <b>D</b> = Drum divider flange and additional cable anchor  <b>E</b> = Construction cage  <b>F</b> = Free spool clutch <sup>(2)</sup>  <b>G</b> = Drum guard  <b>H</b> = Open frame for horizontal pulling  <b>M1</b> = Per DIN 50049/En10204 Para 2.2 "Typicals" <sup>(3)</sup>  <b>M2</b> = Per DIN 50049/En10204 Para 3.1b actual per product as purchased <sup>(3)</sup>  <b>M3</b> = Per DIN 50049/En10204 Para 3.1b actual per product as delivered in final condition <sup>(3)</sup>  <b>N</b> = Type approval; please specify in text DNV, ABS or Lloyds  <b>P</b> = Marine 812 finish  <b>Q</b> = Special paint; please specify  <b>R</b> = Suitable for operation with natural gas with up to 4 percent sulphur content  <b>T</b> = Tension manifold  <b>U</b> = Underwound (available only with auto disc brake <b>XX</b>)  <b>W</b> = Witness; please specify  <b>X</b> = Testing; please specify  <b>Z</b> = Sandblast and carbozinc primer only  <b>-E</b> = Compliance w/European Machinery Directive </div> </div>								

(1) With remote pilot control option, line speeds will decrease.

(2) Only available with manual drum brake.

(3) Documentation, witness testing and material traceability available; must be requested at time of order. Specify options or contact factory or your nearest Ingersoll-Rand distributor for information.

**M1** Material traceability certificates according to EN 10204 (Ex DIN 50049) 2.2 on load bearing parts. This conformity document affirms (by the manufacturer) that parts are in compliance with the requirements of the order based on non-specific inspection and testing (i.e. results are typical material properties for these parts.)

**M2** Material traceability certificates according to EN 10204 (Ex DIN 50049) 3.1b on load bearing parts. These documents affirm (by a department independent of the manufacturing department) that the actual parts used in the product are in compliance with the order based on specific inspection and testing (i.e. results are actual material properties for those parts.)

**M3** Material traceability certificates according to EN 10204 (Ex DIN 50049) 3.1b on load bearing parts. These documents affirm (by a department independent of the manufacturing department) that the actual parts used in the product are in compliance with the order based on specific inspection and testing (i.e. results are actual material properties for those parts in a finished, as delivered condition.)



**“Third Generation” Air Winch Series**  
**FA2.5A/FA5A: 5000 to 10000 lb (2273 to 4545 kg) capacity**



**The Third Generation Force 5 Series is designed for world-wide standards, meeting or exceeding North American ANSI / ASME B30.7 winch standards, CE requirements for Europe and third party Type Approval. The Third Generation offers standard features with reduced maintenance for safety, durability, reliability, enhanced control, and superior performance.**

**n Standard features:**

- Automatic disc brake or manual band brake
- Corrosion resistant, marine duty “Blue” fasteners
- New self-cleaning K5C2 control valve improves flow and performance, has more stainless steel and polymer corrosion resistant parts, and is totally interchangeable with previous designs. 100% natural gas/sour gas compatible.
- Easy to install wedge type self-tightening rope anchor
- Powerful 5 piston air motor.

**n Safety is Built In:**

- Meets ASME B30.7 safety standards
- “Lift and shift” throttle lever prevents accidental throttle movement
- Throttle lever returns to OFF position and locks when released
- Disc brake is fully automatic and self-adjusting
- Wedge type, self tightening-rope anchor provides 80% of rope breaking strength

**n Reliability**

- Maximum external corrosion protection against marine and other environments is provided as standard.
- Automatic oil bath disc brake has high thermal duty. Suitable for demanding applications.
- Marine grade alloys and stainless steel components make the valve chest corrosion resistant and maintenance free.

**n Performance**

- Superior load spotting control
- Positive braking action with automatic disc brake



FA5A-LXK1

**n Construction**

- Designed to meet the space and performance requirements of the Classic winches

**n Options**

- Corrosion resistant marine grade coating system: Sandblast to white metal finish and carbozinc primer with a Marine 812 finish
- Band brakes – manual and automatic
- Remote controls
- Construction cages
- Open frame configurations
- Foot print base with K6U and K6UL bolt pattern for FA5A
- Free spool clutch
- Tensioning manifold
- Drum guard
- Underwound configuration
- CE package

**-E = Compliance with the European Machinery Directive. Includes as standard on utility rated winches:**

- 1 Main air supply shutoff
- 2 Overload device
- 3 Drum guard
- 4 Muffler
- 5 CE documentation

**Specifications\***

Description	FA2.5A		FA5A	
Rated mid layer line pull, 5:1 DF	5000 lbs	2273 kg	10000 lbs	4545 kg
Rated mid layer line speed	114 fpm	35 m/min	32 fpm	10 m/min
Top (6th) layer line pull, 5:1 DF	4100 lbs	1860 kg	8000 lbs	3629 kg
Top (6th) layer line speed	141 fpm	43 m/min	43 fpm	13 m/min
Max. stall at first layer	10400 lbs	4727 kg	17000 lbs	7727 kg
Drum root diameter	9.25 in.	235 mm	12.75 in.	324 mm
Motor horsepower	25 hp		25 hp	
Avg air consumption	700 scfm	20 m <sup>3</sup> /min	700 scfm	20 m <sup>3</sup> /min
Air inlet, NPT size	1 1/4 in.	32 mm	1 1/4 in.	32 mm
Recommended rope diameter	5/8 in.	16 mm	3/4 in.	19 mm
Weight	818 lbs	372 kg	1251 lbs	569 kg

\* Performance is based on 90 psi (6.3 bar) air inlet pressure with the motor running.

**Wire rope storage capacity**

		Length of drum in. (mm)							
Rope dia		S		M		L		R	
in.	mm	7 (178)		13½ (343)		20 (508)		24 (610)	
		ft	m	ft	m	ft	m	ft	m
FA2.5A full drum storage									
3/8	9	593	181	1176	359	1758	536	2116	645
7/16	11	460	140	915	279	1371	418	1651	503
1/2	13	356	109	712	217	1068	326	1287	392
5/8	16	206	63	416	127	625	191	754	230
		Short drum				Long drum			
		12 (305) <sup>(1)</sup>		15 (381) <sup>(2)</sup>		24 (610) <sup>(1)</sup>		27 (686) <sup>(2)</sup>	
FA5A full drum storage									
5/8	16	777	236	982	299	1597	486	1802	549
3/4	19	581	177	736	224	1200	366	1355	413

(1) With band brake

(2) Without band brake

Recommended drum working capacity is 80% of values shown.



# **“Third Generation” Air Winch Series** **FA2.5A/FA5A: 5000 to 10000 lb (2273 to 4545 kg) capacity**



## **Dimensions: FA2.5A**

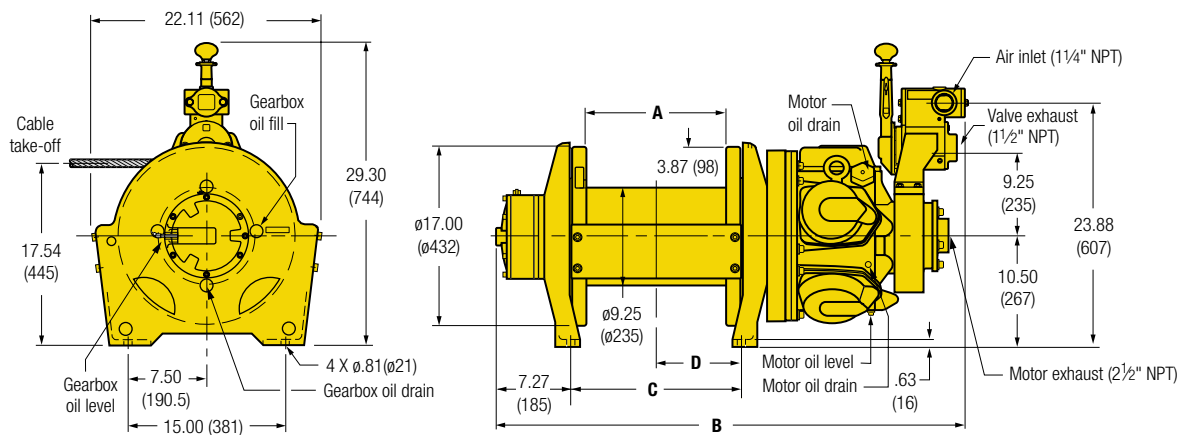
Model	Drum length		w/disc brake only				w/manual drum brake only				w/manual and disc brake			
	A		B		C		B		C		B		C	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
FA2.5A-S	7	178	38.44	976	9.55	243	4.78	121	37.64	956	12.31	313	7.5	191
FA2.5A-M	13.5	343	44.94	1141	16.05	408	8.03	204	44.14	1121	18.81	478	10.8	274
FA2.5A-L	20	508	51.44	1306	22.55	573	11.28	286	50.64	1286	25.31	643	14	356
FA2.5A-R	24	610	55.44	1408	26.55	674	13.28	337	54.64	1388	29.31	744	16	406

## **Dimensions: FA5A**

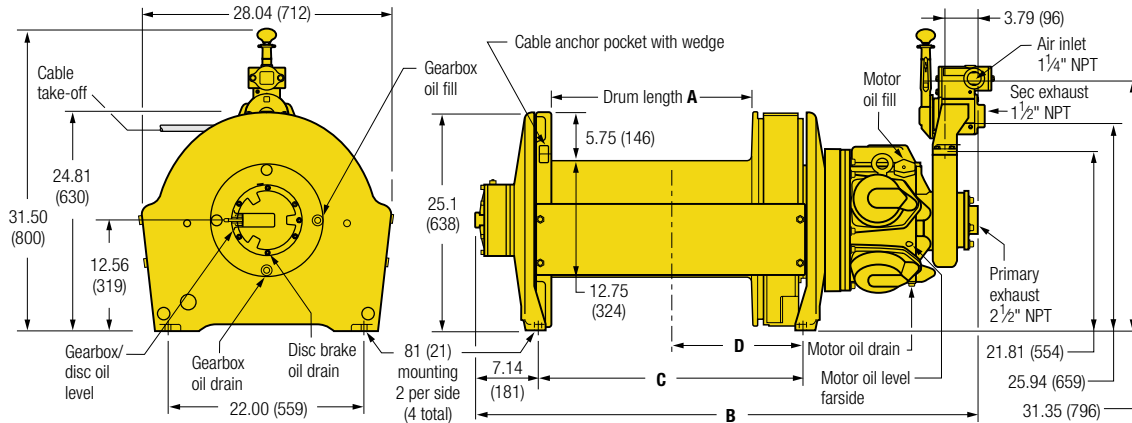
FA5A-SX	15	381	46.50	1181	17.89	454	8.94	227	43	1092	17.89	454	10.5	266	46.5	1181	17.89	454	10.5	266
FA5A-LX	27	686	58.50	1486	29.89	759	14.94	379	55	1397	29.89	759	16.5	419	58.5	1486	29.89	759	16.5	419

Note: Drum lengths for the FA5A-SM = 12 in. (305), and FA5A-LM = 24 in. (610 mm).

## **FA2.5A in inches (mm)**



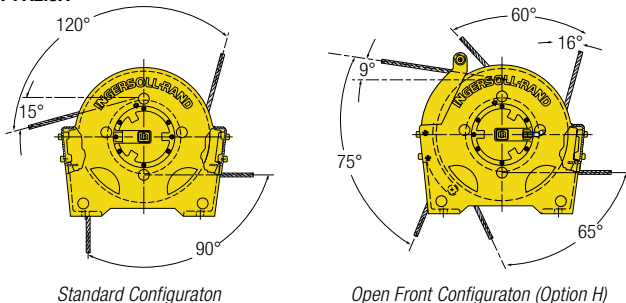
## **FA5A in inches (mm)**



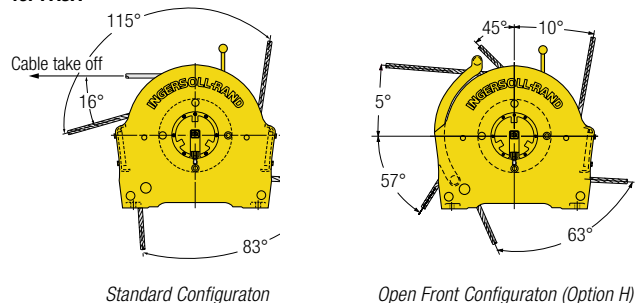
Dimensions are subject to change. Contact factory for certified prints

**Typical allowable wire rope takeoff angle:** Shaded areas represent allowable angle of rope takeoff without interference with winch structural supports.

## **for FA2.5A**



## **for FA5A**





## "Third Generation" Air Winch Series

### FA2.5A/FA5A: 5000 to 10000 lb (2273 to 4545 kg) capacity



#### How to Order:

Specify winch by complete model code as shown.

**Example: FA5A-LXK1G** = 10000 lb (4545 kg) capacity, 27" (686 mm) drum, auto disc brake, throttle-control and drum guard.

Series	Capacity	Generation	-	Drum length	Drum brake	Disc brake	Control	Options																																																																
FA	5	A	-	L	X	K	1	G																																																																
	2.5 = 2.5 ton (5000 lbs)  5 = 5 ton (10000 lbs)	A = Third generation		S = Short M = Medium L = Long R = Extra long  Note: See drum length matrix below	A = Auto drum brake M = Manual drum brake  X = No drum brake	X = No auto disc brake  K = Auto disc brake		7 = Drum grooving (specify rope size in sixteenths, e.g. 7 = 7/16") C = Low temperature; please specify in text: -10° C or -20° C D = Drum divider flange and additional cable anchor E = Construction cage F = Free spool clutch <sup>(2)</sup> G = Drum guard H = Open frame for horizontal pulling K = K6 footprint base for FA5A M1 = Per DIN 50049/En10204 Para 2.2 "Typicals" <sup>(3)</sup> M2 = Per DIN 50049/En10204 Para 3.1b actual per product as purchased <sup>(3)</sup> M3 = Per DIN 50049/En10204 Para 3.1b actual per product as delivered in final condition <sup>(3)</sup> N = Type approval; please specify in text DNV, ABS or Lloyds P = Marine 812 finish Q = Special paint; please specify T = Tension manifold U = Underwound (available only with auto disc brake <b>XX</b> ) V = Press roller (specify takeoff angles) W = Witness; please specify X = Testing; please specify Z = Sandblast and carbozinc primer only -E = Compliance with the European Machinery Directive																																																																
FA = Air powered																																																																								
<table><tr><th colspan="6">FA2.5A Drum length</th></tr><tr><th rowspan="2">Length of drum</th><th colspan="4">Drum brake</th><th rowspan="2"></th></tr><tr><th colspan="2">without</th><th colspan="2">with</th></tr><tr><th></th><th>in.</th><th>mm</th><th>in.</th><th>mm</th><th></th></tr><tr><td>S</td><td>7</td><td>178</td><td>7</td><td>178</td><td></td></tr><tr><td>M</td><td>13 ½</td><td>343</td><td>13 ½</td><td>343</td><td></td></tr><tr><td>L</td><td>20</td><td>508</td><td>20</td><td>508</td><td></td></tr><tr><td>R</td><td>24</td><td>610</td><td>24</td><td>610</td><td></td></tr><tr><th colspan="6">FA5A Drum length</th></tr><tr><td>S</td><td>15</td><td>381</td><td>12</td><td>305</td><td></td></tr><tr><td>L</td><td>27</td><td>686</td><td>24</td><td>610</td><td></td></tr></table>									FA2.5A Drum length						Length of drum	Drum brake					without		with			in.	mm	in.	mm		S	7	178	7	178		M	13 ½	343	13 ½	343		L	20	508	20	508		R	24	610	24	610		FA5A Drum length						S	15	381	12	305		L	27	686	24	610	
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(1) With remote pilot control option, line speeds will decrease.

(2) Only available with manual drum brake.

(3) Documentation, witness testing and material traceability available; must be requested at time of order. Specify options or contact factory or your nearest Ingersoll-Rand distributor for information.

**M1** Material traceability certificates according to EN 10204 (Ex DIN 50049) 2.2 on load bearing parts. This conformity document affirms (by the manufacturer) that parts are in compliance with the requirements of the order based on non-specific inspection and testing (i.e. results are typical material properties for these parts.)

**M2** Material traceability certificates according to EN 10204 (Ex DIN 50049) 3.1b on load bearing parts. These documents affirm (by a department independent of the manufacturing department) that the actual parts used in the product are in compliance with the order based on specific inspection and testing (i.e. results are actual material properties for those parts.)

**M3** Material traceability certificates according to EN 10204 (Ex DIN 50049) 3.1b on load bearing parts. These documents affirm (by a department independent of the manufacturing department) that the actual parts used in the product are in compliance with the order based on specific inspection and testing (i.e. results are actual material properties for those parts in a finished, as delivered condition.)

(1) With remote pilot control option, line speeds will decrease.

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## **Force 5™ Air Winch Series**

**4400 to 22000 lb (2000 to 10000 kg) capacity**



***Setting the standards in winch technology with time savings, space savings and enhanced safety, IR's line of high quality Force 5 air winches are known throughout the world for their rugged dependability and quality in the hard-hat industries.***

### **n Your assurance of quality:**

Force 5 winches are designed to meet or exceed independent third party requirements. Models have been design reviewed or Type Approved by ABS, DNV and LRS. Type Approval certificates are available upon request. This modern winch is designed for the harshest environments!

### **n Versatility:**

Force 5 winches offer maximum versatility to meet numerous lifting, pulling, or tensioning challenges. Substitute a wide variety of gear ratios to better meet **your** speed and capacity needs. Design, material, and dimensional changes are a snap with fabricated frames. Available option packages meet the requirements of oil refineries, mining, construction and offshore oil drilling.

### **n Standard features:**

- Meets ASME B30.7
- 5:1 design factor at rated load
- Full drum rated line pull: a Force 5 winch always pulls or lifts its rated load at any and all wire rope layers.
- Internal gearbox and optional disc brake combination provide load control superior to other types of air winches.
- Compact, space-saving frame design and fabricated alloy steel drum fit easily into tight spaces
- Variable drum length and wire rope storage for special applications
- Standard operating temperature range is 0°C through 60°C.
- Minimum 18:1 drum diameter to wire rope diameter ratio reduces wire rope wear.
- Longer drum lengths and taller flanges provide greater wire rope storage

### **n Options and accessories:**

- Optional enclosed oil bath "wet" disc brake is fully sealed for protection against salt spray, dirt and moisture, providing trouble-free operation over thousands of lifting cycles. A disc brake is standard on the FA10.
- Automatic band brakes
- Variable drum lengths 8" to 50" (203 to 1067 mm)



- Grooved drums
- Drum divider flange
- Drum guard
- Limit switch
- Drum lock
- Construction cage
- Corrosion resistant marine grade coating system: sandblast to white metal finish and carbozinc primer with a Marine 812 finish
- Tensioning manifold
- Air preparation packages: filter, regulator, lubricator, liquidator, and strainer
- Electric over air remote control allows for virtually unlimited pendent length
- Air operated remote controls
- Muffler
- Hydraulic models
- Third party certifications for low temperature applications
- Special winches for refinery decoking applications
- FA7T Guideline (GL) and Podline (PL) winches feature 42" drums, drum locking dogs and marine grade finishes, materials and fasteners. The GL version offers dual controls, and is designed to overhaul. For performance and specification detail, see chart on the following page.



**Force 5™ Air Winch Series**  
**4400 to 22000 lb (2000 to 10000 kg) capacity**



**Specifications: performance is based on 90 psi (6.3 bar) air inlet pressure with motor running**

Model no.	Utility rating 5:1 design factor		top layer		Drum length		hp	Avg. air consumption at rated load @ 90 psi (6.3 bar)		Maximum stall pull 1st layer		Pipe inlet size		Hose size		Ship weight	
	line pull	top layer	line speed	top layer	A			scfm	m <sup>3</sup> /min	lbs	kg	in.	mm	in.	mm	lbs	kg
FA2-24	4400	2000	47	14	24	610	9.4	335	9.5	9000	4091	1 1/4	32	1 1/4	32	825	374
FA2.5-24	5000	2273	132	40	24	610	25	700	19.9	10000	4545	1 1/4	32	1 1/2	38	1061	481
FA5-24	11000	5000	54	16	24	610	25	700	19.9	24000	10909	1 1/4	32	1 1/2	38	1872	849
FA5T-24	8400	3818	70	21	24	610	25	700	19.9	24000	10909	1 1/4	32	1 1/2	38	2153	977
FA7-24	15400	7000	40	12	24	610	25	750	21.3	36000	16364	1 1/4	32	1 1/2	38	2205	1000
FA7T-24	12600	5727	48	15	24	610	25	750	21.3	36000	16364	1 1/4	32	1 1/2	38	2335	1059
FA7TGL-42	3400	1545	152	46	42	1067	25	750	21.3	10000	4545	1 1/4	32	1 1/2	38	2981	1352
FA7TPL-42	10200	4636	60	18	42	1067	25	750	21.3	36000	16364	1 1/4	32	1 1/2	38	2850	1293
FA10-24	22000	10000	23	7	24	610	31	800	22.7	38000	17273	1 1/4	32	1 1/2	38	3200	1451

Note: Adding "-E" to model states compliance with European Machinery Directive. See the Air Winch Selection Guide for explanation of compliance.

**Drum wire rope storage capacities<sup>(1)</sup>**

Model	Capacity		Recommended wire rope size	Drum length	Rope diameter														
	lbs	kg			in.	mm	in.	mm	1/2" (13 mm)		5/8" (16 mm)		3/4" (19 mm)		7/8" (22 mm)		1" (25 mm)		1 1/8" (29 mm)
FA2	4400	2000	1/2 13 mm	8	203	388	118	266	81										
				12	305	594	181	410	125										
				16	406	801	244	554	169										
				24	610	1214	370	843	257										
FA2.5	5000	2273	5/8 16 mm	8	203			266	81										
				12	305			410	125										
				16	406			554	169										
				24	610			843	259										
FA5	11000	5000	3/4 19 mm	16	406			1181	360	746	227	544	166						
				24	610			1795	547	1138	347	832	254						
				30	762			2256	688	1431	433	1047	319						
FA5T	8400	3818	3/4 19 mm	16	406					1682	512	1204	367						
				24	610					2564	761	1841	561						
				30	762					3225	983	2318	706						
				36	915					3887	1185	2796	852						
FA7	15400	7000	7/8 22 mm	24	610					1640	500	1059	323	786	240				
				30	762					2063	629	1334	406	991	302				
				36	915					2486	758	1608	493	1196	365				
FA7T	12600	5727	7/8 22 mm	24	610					2669	813	1917	584	1538	469				
				30	762					3358	1023	2414	736	1940	591				
				36	915					4047	1233	2912	887	2311	713				
				42	1067					4736	1443	3409	1039	2742	836				
FA10	22000	10000	1 1/8 29 mm	24	610					2488	758	1962	598	1332	405	1026	313		
				30	762					3130	954	2471	753	1679	511	1295	395		
				36	915					3773	1150	2980	908	2027	617	1564	477		
				40	1016					4201	1280	3319	1011	2258	688	1744	531		
				50	1270					5271	1606	4168	1270	2837	865	2192	668		

(1) Capacities meet ANSI-ASME B30.7 which requires 1/2" (13 mm) minimum clear flange above last layer. Capacities represent tightly wound wire rope. Recommended working capacity is 80% of values shown.



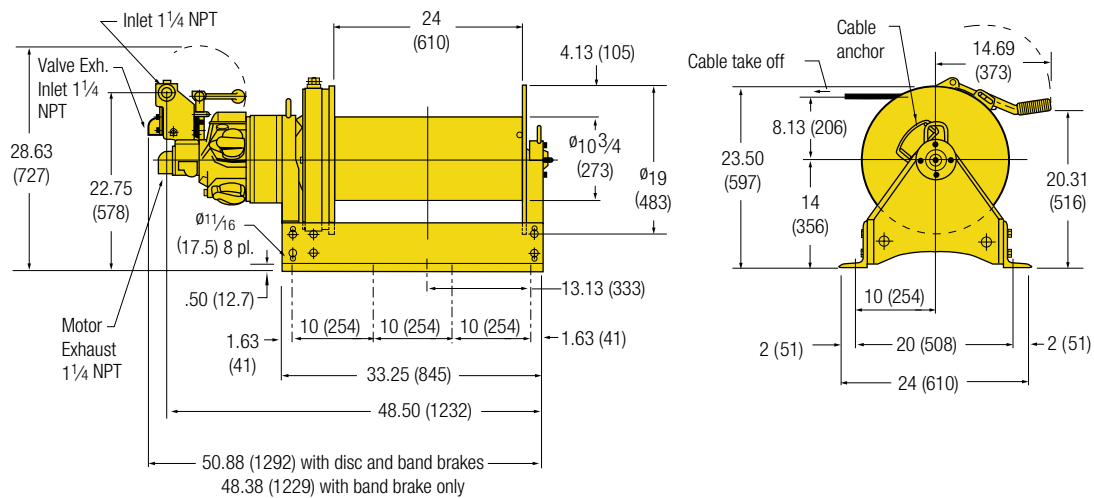
# Force 5™ Air Winch Series

4400 to 22000 lb (2000 to 10000 kg) capacity

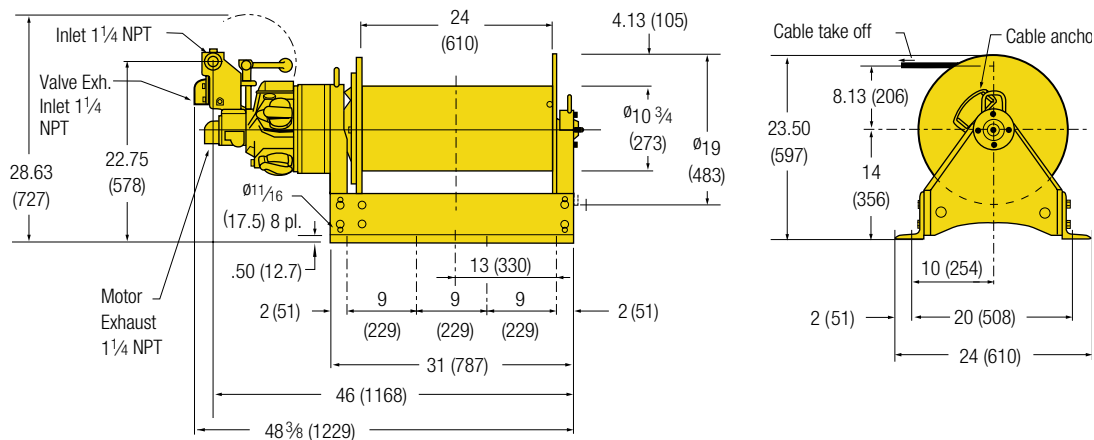


## Dimensions

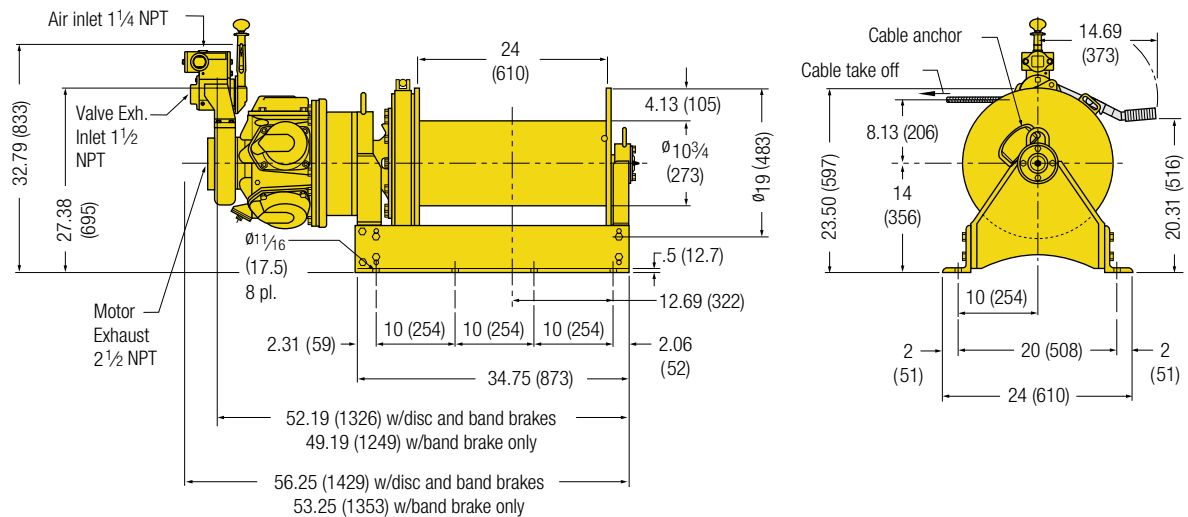
FA2-24 with disc and band brakes or band brake only in inches (mm)



FA2-24 with disc brake only in inches (mm)



FA2.5-24 with disc and band brakes or band brake only in inches (mm)



Dimensions are subject to change. Contact factory for certified prints

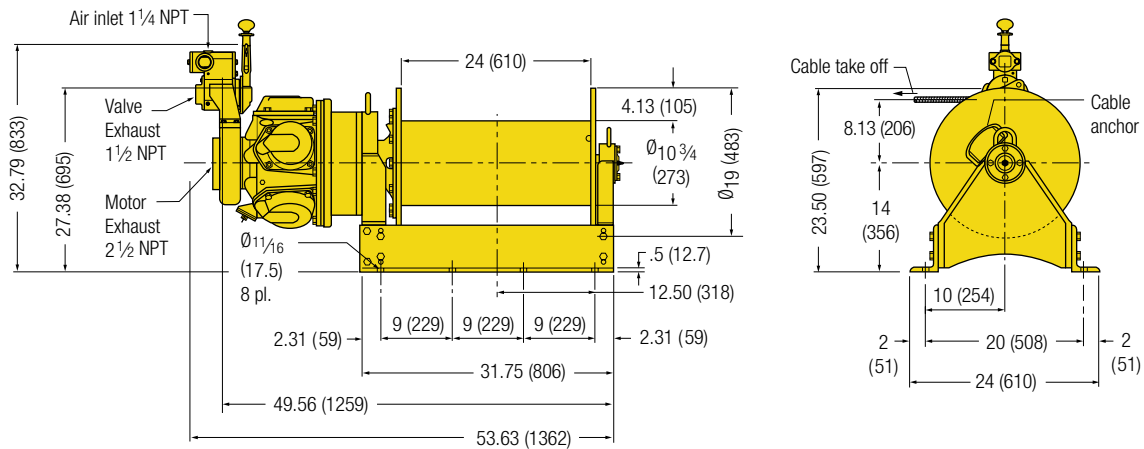


# **Force 5™ Air Winch Series** **4400 to 22000 lb (2000 to 10000 kg) capacity**

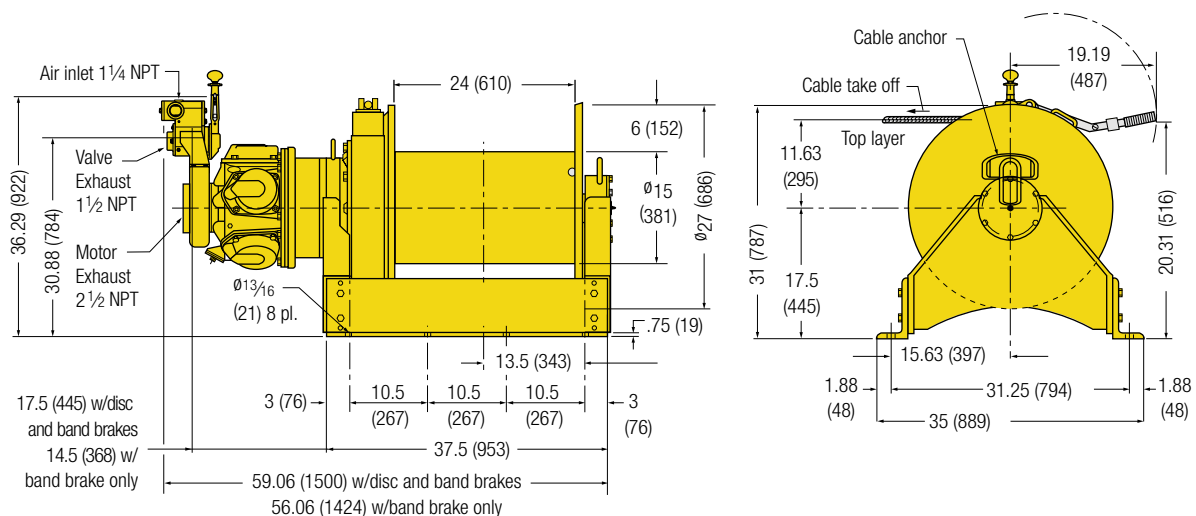


## **Dimensions**

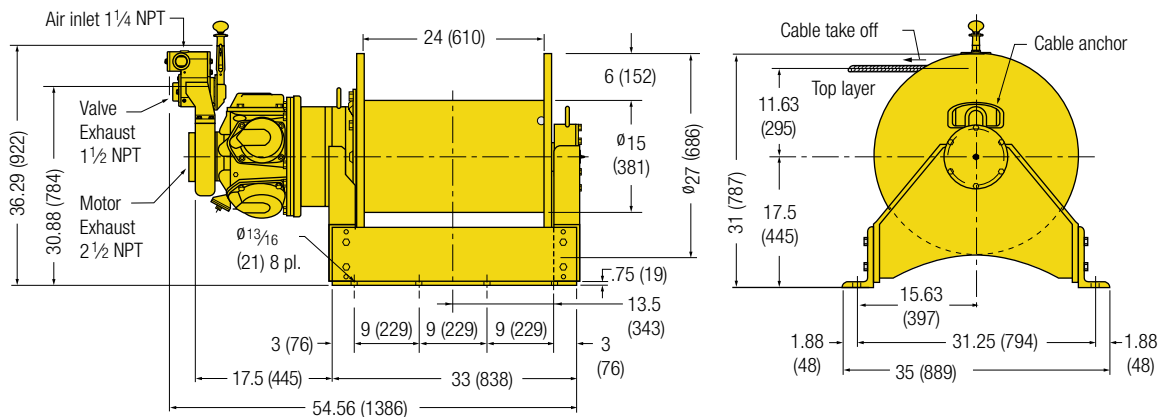
**FA2.5-24 with disc brake only in inches (mm)**



**FA5-24 with disc and band brakes or band brake only in inches (mm)**



**FA5-24 with disc brake only in inches (mm)**



Dimensions are subject to change. Contact factory for certified prints

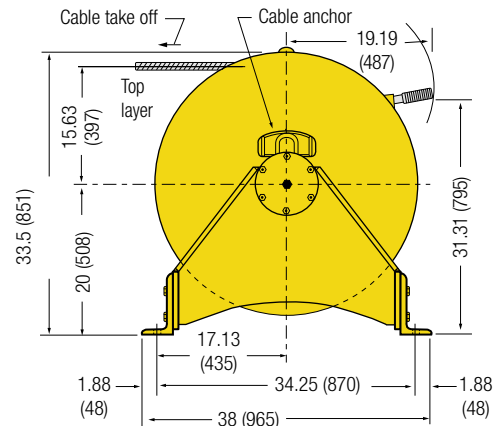
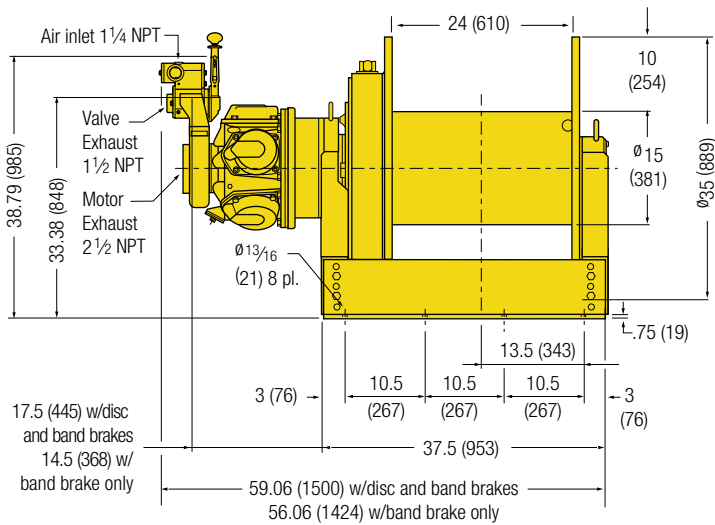


**Force 5™ Air Winch Series**  
**4400 to 22000 lb (2000 to 10000 kg) capacity**

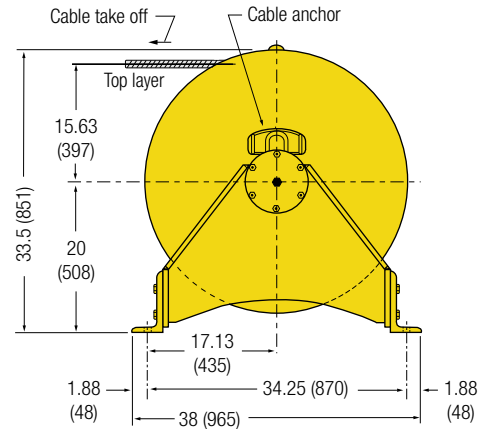
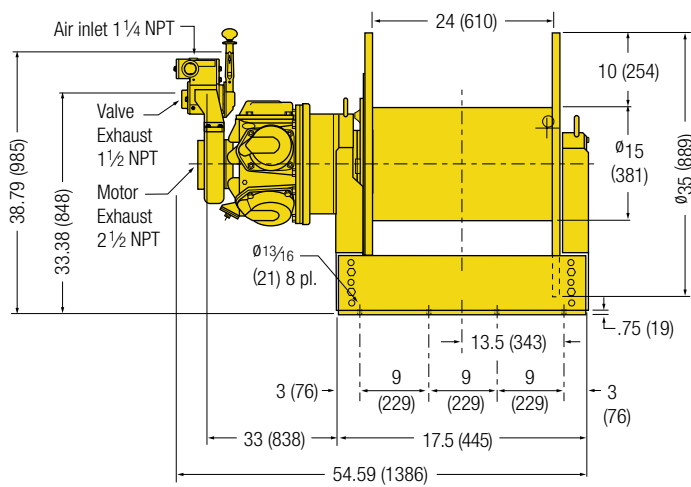


**Dimensions**

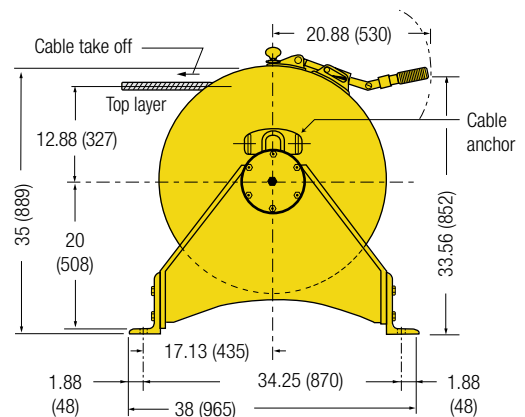
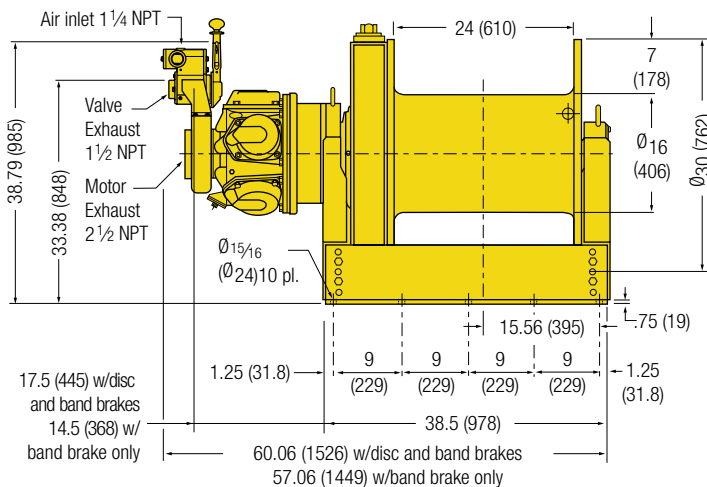
**FA5T-24 with disc and band brakes or band brake only in inches (mm)**



**FA5T-24 with disc brake only in inches (mm)**



**FA7-24 – Popeye Junior – with disc and band brakes or band brake only in inches (mm)**



Dimensions are subject to change. Contact factory for certified prints



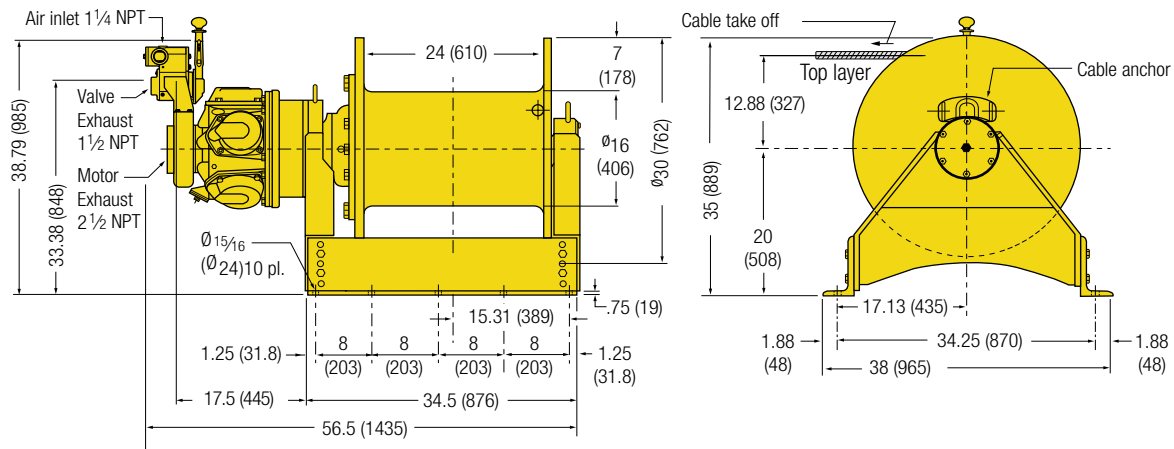
# Force 5™ Air Winch Series

## 4400 to 22000 lb (2000 to 10000 kg) capacity

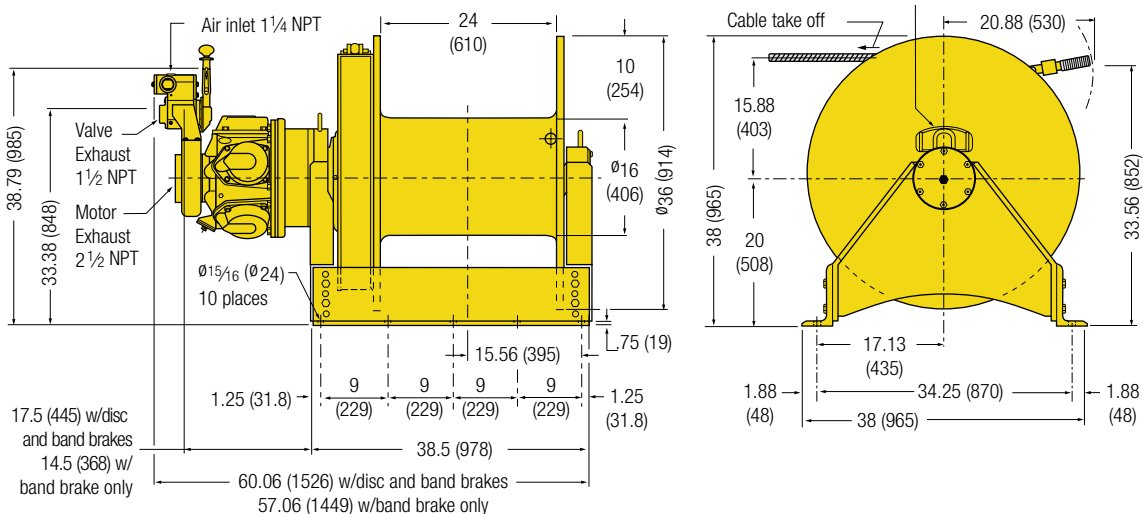


### Dimensions

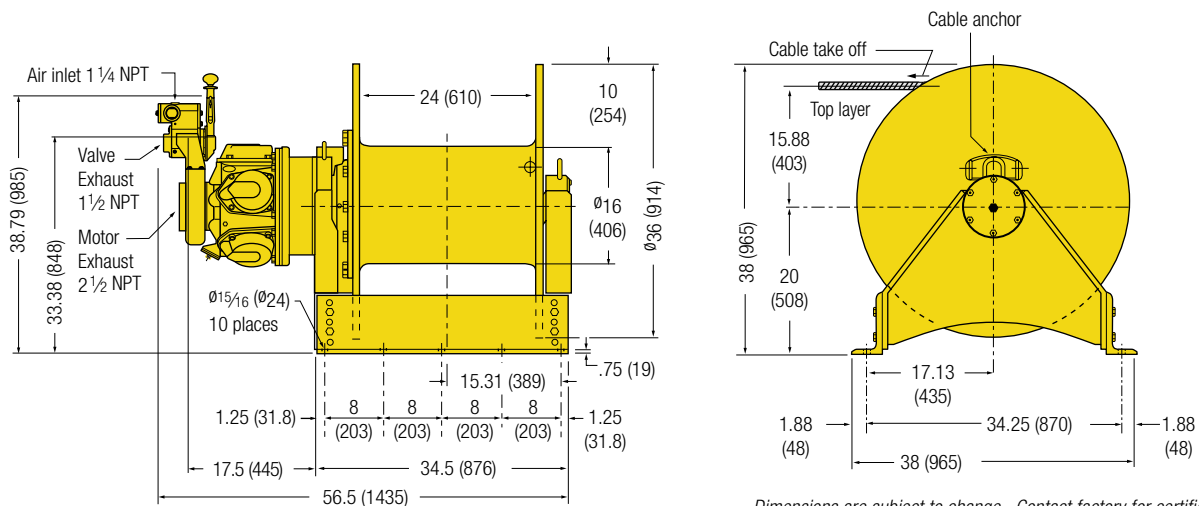
FA7-24 – Popeye Junior – with disc brake only in inches (mm)



FA7T-24 – Popeye Junior – with disc and band brakes or band brake only in inches (mm)



FA7T-24 – Popeye Junior – with disc brake only in inches (mm)



Dimensions are subject to change. Contact factory for certified prints



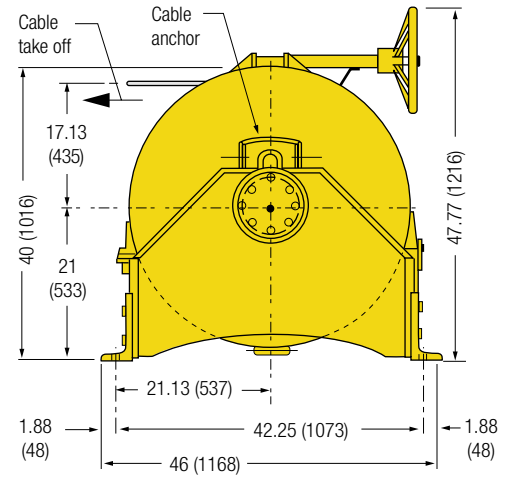
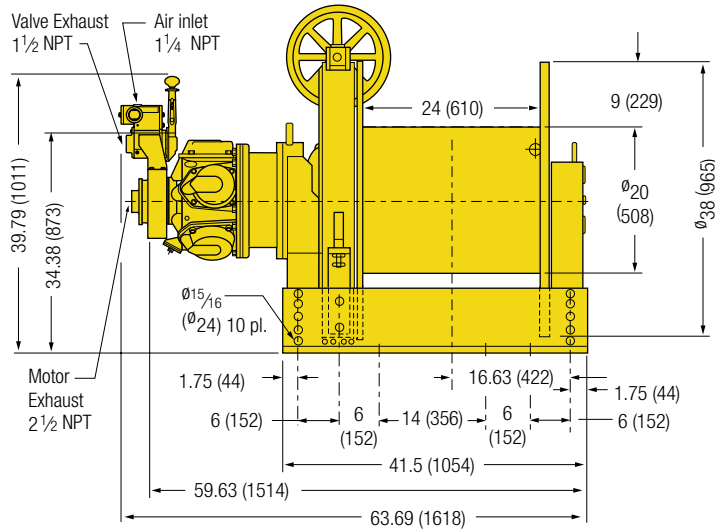
# Force 5™ Air Winch Series

4400 to 22000 lb (2000 to 10000 kg) capacity

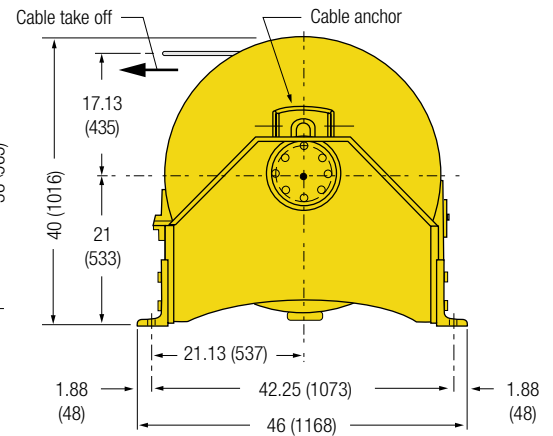
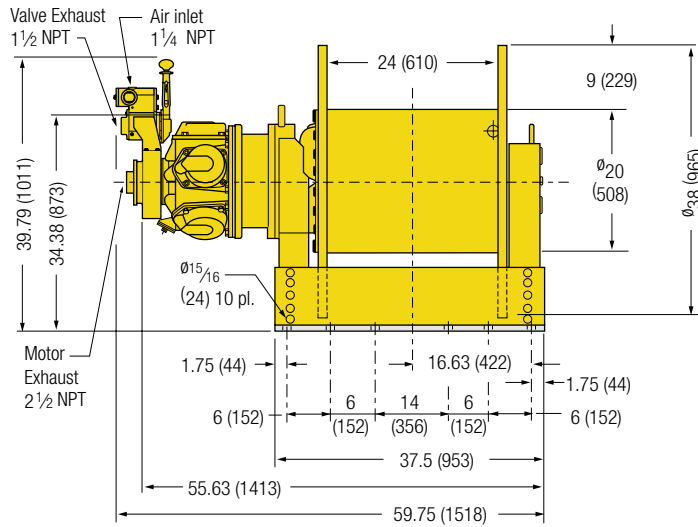


## Dimensions

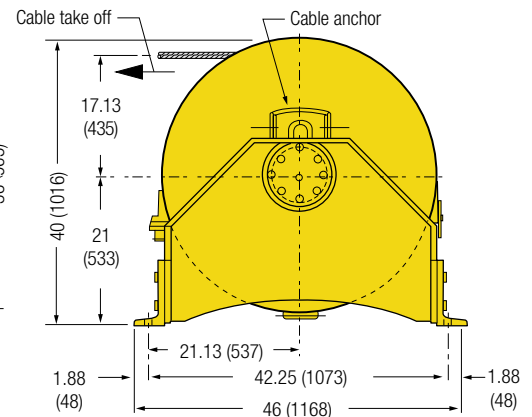
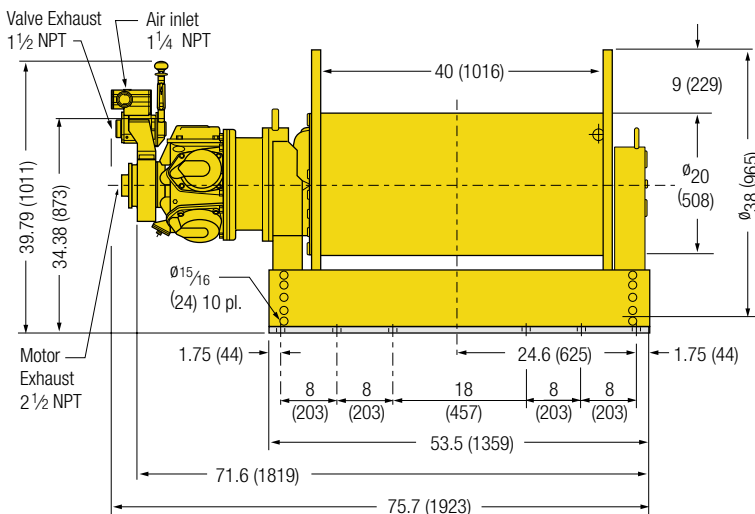
FA10-24 – Popeye – with disc and band brakes or band brake only in inches (mm)



FA10-24 – Popeye – with disc brake only in inches (mm)



FA10-40 – Popeye – with disc brake only in inches (mm)



DDimensions are subject to change. Contact factory for certified prints



# Force 5™ Air Winch Series

## 4400 to 22000 lb (2000 to 10000 kg) capacity



### How to Order:

Specify complete model code as shown. To order options, use the option code in the option table and add as a suffix to the model code. To order a Force Five air winch with a non-standard drum length, refer to the available drum lengths provided in the drum length table below. Enter the desired drum length for each winch in the drum length section of the model code. To order accessories such as filters and lubricators, please enter these as separate accessory items by part number in the air winch accessories table below.

**Example: FA5-24MX1P**

Series	Capacity	Drum flange ht	Drum length	Drum brake	Disc brake	Control	Options (see Option Notes)
<b>FA</b>	<b>5</b>	<b>-</b>	<b>24</b>	<b>M</b>	<b>X</b>	<b>1</b>	<b>P</b>
2 = 4400 lbs (2000 kg)			24 = 24" (610 mm) between flanges. See drum length chart below.	K = Auto disc brake			7 = Drum grooving (specify rope size in sixteenths, e.g. 7 = 7/16") <sup>(2)</sup>
2.5 = 5000 lbs (2273 kg)				X = No auto disc brake			C = Low temperature; please specify in text: -10° C or -20° C
5 = 11000 lbs (5000 kg)				A = Auto drum brake			D = Drum divider flange and additional cable anchor <sup>(3)</sup>
5T = 8400 lbs (3818 kg)				M = Manual drum brake			E = Construction cage
7 = 15400 lbs (7000 kg)				X = No drum brake			G = Drum guard
7T = 12600 lbs (5727 kg)							L = Drum locking pin
10 = 22000 lbs (10000 kg)							M1 = Per DIN 50049/En10204 Para 2.2 "Typicals" <sup>(4)</sup>
			1 = Standard winch mounted throttle				M2 = Per DIN 50049/En10204 Para 3.1b actual per product as purchased <sup>(4)</sup>
			2XX = Remote full flow lever throttle (max 20 ft/6 m)				M3 = Per DIN 50049/En10204 Para 3.1b actual per product as delivered in final condition <sup>(4)</sup>
			3XX = Remote pilot pendent throttle (std = 6 ft/1.8 m; max 66 ft/20 m) <sup>(1)</sup>				N = Type approval; please specify in text: DNV, ABS or Lloyds
			4XX = Remote pilot lever throttle (max 66 ft/20 m) <sup>(1)</sup>				P = Marine 812 finish
			5XX = Remote electric over air throttle				Q = Special paint; please specify
			XX = Specify hose length or pendent cord in feet				S = Rotary limit switch (upper and lower)
							T = Tensioning manifold
							U = Underwound (available only with autodisc brake <b>XX</b> )
							V = Press roller
							W = Witness; please specify
							X = Testing; please specify
							Z = Sandblast and carbozinc primer only
							-E = Compliance with the European Machinery Directive (includes emergency stop and overload protection). Insert at end of model code.

Notes:

All Force 5 units come with standard six (6) strand wire rope anchor and winding directions for right hand overwind.

**Option Notes:**

(1) With remote pilot control option, line speeds will decrease.

(2) Number designates drum grooving. Number equals wire rope size in sixteenths. The standard will be based on a right hand overwind rotation and spiral grooving for the recommended size of wire rope for the standard length of drum only. Grooving involving longer or shorter drums, or drums equipped with a divider flange will be an engineered item with longer lead time.

(3) D = drum divider flange. The standard will be based on right hand over wind rotation. Two steel flanges are welded to the center of the drum. This provides the motor side of the drum (half) with a rope anchor. Anchor locations must be specified by the customer.

(4) Documentation, witness testing and material traceability available; must be requested at time of order. Specify options or contact factory or your nearest Ingersoll-Rand distributor for information.

**M1** Material traceability certificates according to EN 10204 (Ex DIN 50049) 2.2 on load bearing parts. This conformity document affirms (by the manufacturer) that parts are in compliance with the requirements of the order based on non-specific inspection and testing (i.e. results are typical material properties for these parts.)

**M2** Material traceability certificates according to EN 10204 (Ex DIN 50049) 3.1b on load bearing parts. These documents affirm (by a department independent of the manufacturing department) that the actual parts used in the product are in compliance with the order based on specific inspection and testing (i.e. results are actual material properties for those parts.)

**M3** Material traceability certificates according to EN 10204 (Ex DIN 50049) 3.1b on load bearing parts. These documents affirm (by a department independent of the manufacturing department) that the actual parts used in the product are in compliance with the order based on specific inspection and testing (i.e. results are actual material properties for those parts in a finished, as delivered condition.)

Overload devices and drum revolution counters are available as engineered specials, with extended lead times.

Drum lengths available		Drum width in. (mm)								
Model	8 (203)	12 (305)	16 (406)	20 (508)	24 (610)	30 (762)	36 (915)	40 (1016)	42 (1067)	50 (1270)
FA2	yes	yes	yes	yes	Standard	yes	yes	special	special	special
FA2.5	yes	yes	yes	yes	Standard	yes	yes	special	special	special
FA5/FA5T	no	yes	yes	yes	Standard	yes	yes	special	special	special
FA7/FA7T	no	no	yes	yes	Standard	yes	yes	yes	yes	special
FA10	no	no	yes	yes	Standard	yes	yes	yes	yes	yes

Contact factory for lengths other than shown.

**For air line accessories — filters, regulators, lubricators, liquidators and strainers — please see the Accessories section.**



# Force 5™ “Guideline and Podline” Air Winches FA7TGL 3400 lb (1545 kg) FA7TPL 10200 lb (4636 kg)



**As offshore oil drilling heads into deeper waters, IR Guideline and Podline winches are prepared to follow.**

**n These specially configured versions of the “Popeye Junior” tall flange air winch feature:**

- Top layer ratings insure “lift at any layer” capability
- 42 inch (1067 mm) drum flange height and length for maximum cable capacity. Other drum flange sizes are available.
- Corrosion resistant marine grade coating system: Sandblast to white metal finish and carbozinc primer with a Marine 812 finish.
- With T-handle, bullet nose, and grease points, the stainless steel locking dog is easy to operate, trouble free, and maintenance friendly.
- Winch mounted throttle for precise load control; remote control is optional.
- **Internal** automatic disc brake is protected from the elements.



**n Specific to the FA7TGL Guideline winch:**

- A lower gear ratio and switching valve arrangement with pressure regulator preset for unmanned lowering of sub-sea equipment.
- Simply flipping a lever switches the winch from utility to guide line mode. In this mode, the winch can be overhauled at speeds up to 90 fpm (28 m/min).
- In guide line mode, a pressure regulator can be set to adjust the tension.

**Specifications at rated load: performance is based on 90 psi (6.3 bar) air inlet pressure with motor running**

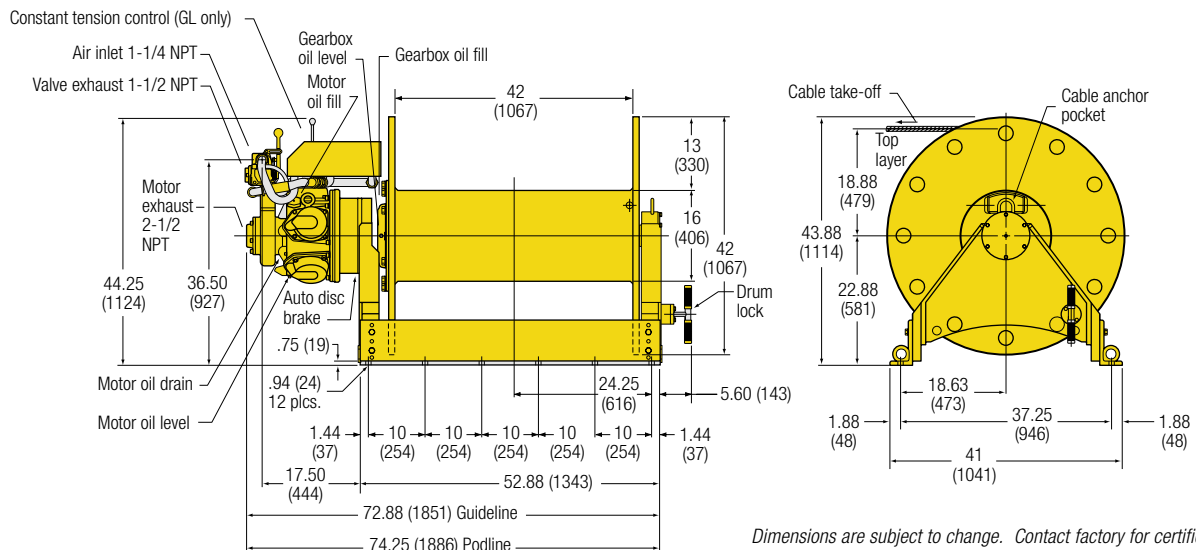
Model no.	Lift Ratings			Average speed	Stall	Avg. air consump. at rated load	Inlet pipe size	Ship weight	Wire rope storage capacity		
	First	Mid	Top						5/8" (15 mm)	3/4" (19 mm)	7/8" (22 mm)
<b>FA7TGL42</b> (Guideline)	7800 lbs 3545 kg	4850 lbs 2205 kg	3400 lbs 1545 kg	102 fpm 22 m/min	10000 lbs 4545 kg	750 scfm 21.3 m³/min	1 1/4" NPT 1 1/4" NPT	2981 lbs 1352 kg	10372 ft 3161 m	7480 ft 2280 m	5262 ft 1604 m
<b>FA7TPL42</b> (Podline)	22800 lbs 10364 kg	14300 lbs 6500 kg	10200 lbs 4636 kg	45 fpm 13.8 m/min	36000 lbs 16364 kg	750 scfm 21.3 m³/min	1 1/4" NPT 1 1/4" NPT	2850 lb 1293 kg	not recommended	7480 ft 2280 m	5262 ft 1604 m

**Wire rope storage capacity \***

Model no.	1/2 in. (13 mm)	5/8 in. (15 mm)	3/4 in. (19 mm)	7/8 in. (22 mm)	1 in. (25 mm)	Wire rope breaking strngth	1/2 in. (13 mm)	5/8 in. (15 mm)	3/4 in. (19 mm)	7/8 in. (22 mm)	1 in. (25 mm)
<b>FA7TGL42</b>	16005 ft 4880 m	10347 ft 3155 m	6865 ft 2093 m	5237 ft 1597 m	3937 ft 1200 m		26600 lbs 12091 kg	41200 lbs 18727 kg	58800 lbs 26727 kg	79600 lbs 36182 kg	103400 lbs 47000 kg
<b>FA7TPL42</b>	not recommended					<b>Wt per ft</b>	0.46 lbs	0.72 lbs	1.04 lbs	1.42 lbs	1.85 lbs
						<b>Wt per m</b>	0.69 kg	1.07 kg	1.55 kg	2.12 kg	2.76 kg

\* Capacities represent tightly wound wire rope. Recommended working capacity is 80% of values shown.

**Dimensions: inches (mm)**



Dimensions are subject to change. Contact factory for certified prints



## Accu-Spool™ Level Wind

3400 to 22000 lbs (1545 to 10000 kg) capacity



**Setting the standards in level wind technology: a totally self-compensating level wind for precise and continuous spooling of wire rope or cable. Never needs adjustment.**

Available as optional equipment for IR manufactured winches or as a retrofit for winches and cable reels of other manufacturers. No attachment to existing winch is required. Retrofit unit is a free-standing design, which can fit any winch or cable reel, etc.

### n How It Works:

The IR Accu-Spool level wind is universally adaptable to the entire Force 5 air winch line and to winches produced by other manufacturers. When winch fleet angles exceed 2 degrees, wire rope spooling becomes difficult. The IR Accu-Spool level wind will spool the rope uniformly and repeatedly on the drum in applications where fleet angles vary from 0 to 26 degrees.

### n Standard features:

- Rack and pinion drive resists wear from corrosive elements when compared with diamond screw type level winds
- No gear interlocks or drive chains to wear, corrode or get out of adjustment
- Durable radial piston air motor provides independent power source
- No drive attachment to the winch is required
- Bronze worm drive and steel worm gear
- Steel guide bar and guide rollers
- Heavy duty rack and pinion drive allows for precise, continuous spooling and reduced wire rope wear
- Totally self-compensating and adjusting. The design overcomes the timing problems inherent in diamond screw types of level winds



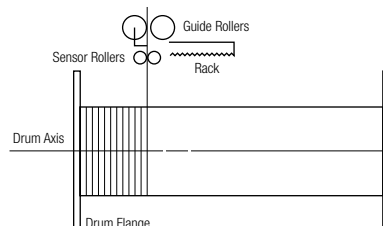
Accu-Spool with FA10-40

- Compensates for fleet angles up to 26°
- Allows wire rope take off in almost any direction
- Emergency manual override on control systems is standard
- Line tension of approximately 5% of actual load is required to activate the Accu-Spool

### n The main components are:

1. Guide bar: alloy steel tube with rack and pinion drive
2. Guide system: steel guide rollers, worm gear drive and radial piston air motor

The Accu-Spool's sensor rollers keep the level wind axis and drum perpendicular to the wire rope on the drum. When the winch line pull pressure is applied to the sensor roller, the roller will activate linkage that opens the motor valve, driving the level wind in the appropriate direction to spool the wire rope evenly on the drum.



### Specifications: 90 psi (6.3 bar)<sup>(1)</sup>

Force-5 model	Winch capacity (tons)	Accu-Spool model air	Standard drum length in.	mm	Avg. air consumption required cfm	m <sup>3</sup> /min
FA2	2	ASA2	24	610	55	1.6
FA2B <sup>(2)</sup>	2	ASA2	24	610	55	1.6
FA2.5	2.5	ASA2	24	610	55	1.6
FA2.5A <sup>(2)</sup>	2.5	ASA2	24	610	55	1.6
FA5(T)	5	ASA5	24	610	55	1.6
FA5A <sup>(2)</sup>	5	ASA5	24	610	55	1.6
FA7(T, PL, GL)	7	ASA7	24	610	55	1.6
FA10	10	ASA10	24	610	55	1.6

(1) Performance is based on 90 psi (6.3 bar) air inlet pressure with motor running Level wind will increase overall length of the winch by appx. 4 inches (102 mm).

(2) Not available on units with automatic disc brake.

**Maximum fleet angle for Accu-Spool models is 26°. See "The importance of fleet angle" in the Tech Tips section.**

**Determining rope take off:** If required, the Accu-Spool level wind can be provided to work through a designated range of rope take off angles. Specify your needs accordingly.

### How to special order:

#### Please provide the following information:

1. Total line pull
2. Wire rope or cable size
3. Fleet angle
4. Rope take off direction (e.g. horizontal, vertical or other angle)
5. Potential clearance problems, maximum envelope size
6. Type and size of foundation (platform, concrete base, etc)
7. Power source (air, electric or hydraulic)
8. Drum width
9. Drum diameter

#### Components for OEM purchase (complete less mounting frame):

1. Support tube with rack
2. Drive package: includes motor, valve, and gearing (assembled)



# Force 5™ “Offshore” Man Rider™ Series

## 330 to 6870 lb (150 to 3117 kg) capacity



**Known worldwide as the standard for meeting the toughest personnel lifting requirements in the offshore industry.**

Dual rated for personnel and utility lifting applications, these winches have Type Approval or Independent Review certificates issued by the classification societies of ABS, DNV or LRS. Meet NPD, NMD and UK HSE regulations for personnel lifting operations. Oil field tough to weather the harsh environments in marine applications.

### Definitions

**n Third party:** An independent certifying agency that offers formalized review and approval programs for Man Rider winches accepted for suitability to lift personnel. Recognized third party agencies are:

- American Bureau of Shipping (ABS)
- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)

**n Type Approval:** A comprehensive design review by an independent third party which examines the intended service and application, winch ratings, design calculations of load bearing components, product specifications and service restrictions or limitations. A plant survey is also conducted to verify that quality control procedures and features are adequate and consistent. Upon successful completion, a **Type Approval** certificate is issued.

**n Third Party Certification:** A review process of quality by an independent third party requested by the customer. Includes:

1. Type Approval certificate (design)
2. Third party survey during manufacturing (quality)
3. Third party witness of performance testing (quality)
4. Issuance of certificates as required by regulatory agency acknowledging compliance.

### n Standard features:

- Enclosed automatic oil bath “wet” disc brake is fully sealed against salt spray, dirt or moisture and provides trouble-free operation over thousands of lifting cycles.
- Manual drum mounted band brake for additional braking by operator
- Internal gearbox/disc brake combination for superior load control
- Corrosion resistant drum guard supports the weight of a 200 lb/91 kg person.



FA150KGMR

- Dual rated 8:1 design factor for manrider rating; 5:1 design factor for utility rating
- Compact, frame and fabricated alloy steel drum fit into tight spaces
- Standard operating temperature range is 0°C through 60°C; optional design temperature of -10°C or -20°C
- Minimum 18:1 drum diameter to wire rope diameter ratio reduces wire rope wear.
- Data book and “Type Approval” certificates available upon request.
- Marine 812 paint system on FA150KGMR models.

### n Options and accessories:

- Automatic band brakes
- Variable drum lengths
- Grooved drums
- Drum divider flange
- Upper and lower limit switches
- Corrosion resistant marine grade coating system: sandblast to white metal finish and carbozinc primer with a Marine 812 finish
- Remote controls
- Air prep package: filter, lubricator, strainer, liquidator and regulator
- Muffler
- Hydraulic models
- Electric-Over-Air remote control pendent for unlimited pendent length
- Third party certifications for low temperature applications

### Specifications: performance is based on 90 psi (6.3 bar) air inlet pressure with motor running

Model no.	Force 5 MR ratings at top layer				Personnel rating		Maximum		Average air		Pipe		Hose		Shipping	
	Personnel <sup>(1)</sup>		Utility <sup>(2)</sup>		avg line speed		stall pull		consumption		inlet size		size		weight	
	lbs	kg	lbs	kg	fpm	m/min	lbs	kg	scfm	m <sup>3</sup> /min	in.	mm	in.	mm	lbs	kg
FA150KG12MR-1-E	330	150	n/a	n/a	87	26	(3)	(3)	50	1.4	0.5	13	3/4	19	750	340
FA2MR24MK1G	3180	1445	4400	2000	75	23	9000	4090	335	9.5	1 1/4	32	1 1/4	32	906	411
FA2.5MR24MK1G	3180	1445	5000	2273	159	48	10000	4545	700	19.9	1 1/4	32	1 1/2	38	1178	534
FA5MR24MK1G	6870	3123	11000	5000	69	21	24000	10909	700	19.9	1 1/4	32	1 1/2	38	2020	916
Force 5 Third Generation Man Rider Series ratings at mid layer <sup>(4)</sup>																
FA2BMR-MK1G	2500	1136	4000	1818	168	51	6800	3084	380	10.8	1 1/4	32	1 1/2	38	786	357
FA2.5AMR-MK1G	3125	1420	5000	2273	173	53	10400	4727	560	15.9	1 1/4	32	1 1/2	38	905	411
FA5AMR-MK1G	6250	2841	10000	4545	102	31	17000	7727	600	17.0	1 1/4	32	1 1/2	38	1842	837

(1) “-E” models for European Union allow one lift capacity rating only; i.e., only personnel lift rating is allowed for both personnel and utility applications.

(2) Utility rating only for those countries that allow dual ratings, e.g. USA.

(3) Per NPD regulations

(4) Third Generation Man Riders are not available in CE format.



# Force 5™ “Offshore” Man Rider™ Series

## 330 to 6870 lb (150 to 3117 kg) capacity



### Rope storage for personnel lifting<sup>(1)</sup>

Model number	Drum length		10mm		Rope diameter			
	in.	mm	ft	m	1/2" ft	13mm m	3/4" ft	19mm m
FA150KGMR	8	203	474	144	—	—	—	—
	12	305	723	220	—	—	—	—
	16	406	972	296	—	—	—	—
	24	610	1470	448	—	—	—	—
FA2MR and FA2.5MR	8	203	—	—	321	97	—	—
	12	305	—	—	492	150	—	—
	16	406	—	—	663	202	—	—
	24	610	—	—	1006	306	—	—

(1) Based on UK HSE standards requiring top layer to be 2 1/2 times the wire rope diameter below drum flange.

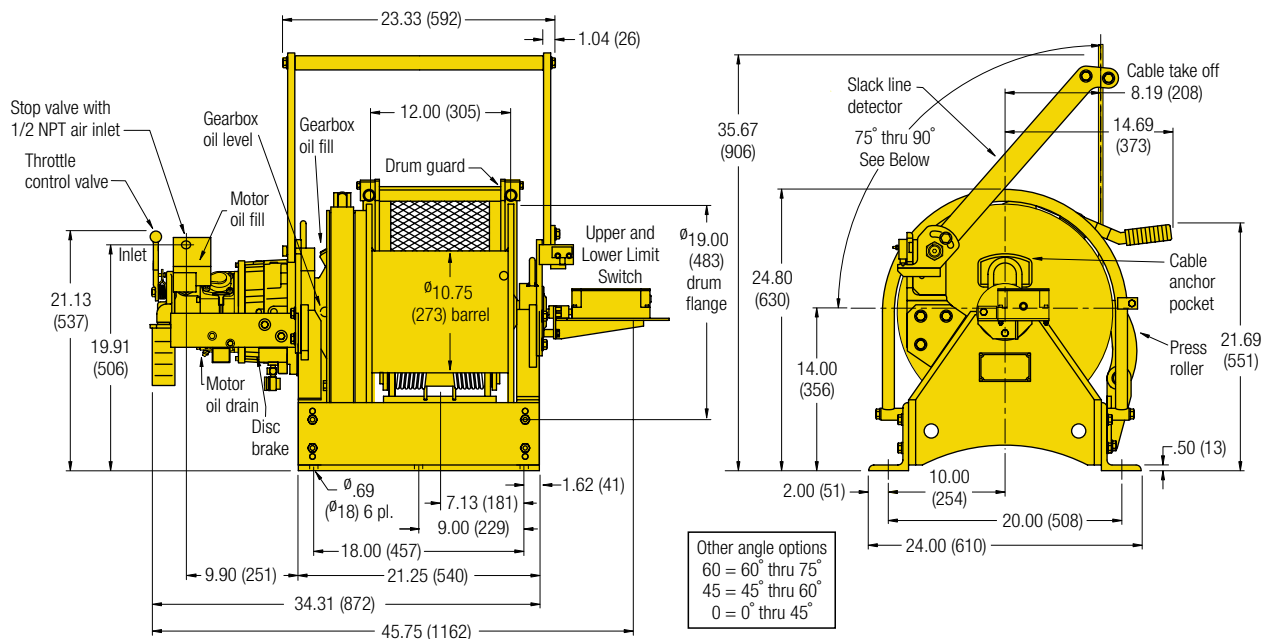
Model number	Drum length		10mm		Rope diameter			
	in.	mm	ft	m	1/2" ft	13mm m	3/4" ft	19mm m
FA5MR	8	203	—	—	—	—	235	72
	12	305	—	—	—	—	365	111
	16	406	—	—	—	—	495	151
	24	610	—	—	—	—	755	230
FA2BMR and FA2.5AMR	S 7	178	—	—	198	60	—	—
	M 13.5	343	—	—	396	120	—	—
	L 20	508	—	—	595	181	—	—
	R 24	610	—	—	717	218	—	—
FA5AMR	S 12	305	—	—	—	—	321	98
	L 24	610	—	—	—	—	663	202

### Rope speed at mid drum at 90 psi

Winch series	at 330 lbs (150 kg)				at personnel rating				at utility rating			
	Up fpm	Down m/min	Up fpm	Down m/min	Up fpm	Down m/min	Up fpm	Down m/min	Up fpm	Down m/min	Up fpm	Down m/min
FA150KGMR	87	26	100	31	87	26	100	31	n/a	n/a	n/a	n/a
FA2MR	121	37	60	18	72	22	125	38	53	16	140	43
FA2.5MR	235	71	125	38	160	49	155	47	113	34	190	58
FA5MR	94	29	60	18	69	21	55	17	54	16	70	21
FA2BMR	253	77	—	—	160	49	—	—	102	31	—	—
FA2.5AMR	257	78	—	—	173	53	—	—	117	36	—	—
FA5AMR	177	54	—	—	102	31	—	—	50	15	—	—

### Dimensions

FA150KGMR with disc and manual brake in inches (mm)



Dimensions are subject to change. Contact factory for certified prints



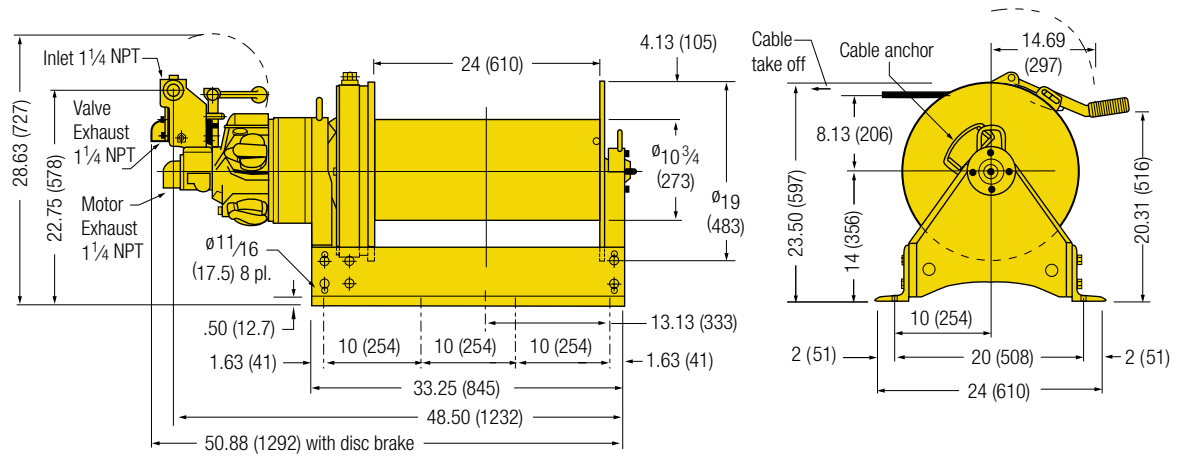
# Force 5™ “Offshore” Man Rider™ Series

## 330 to 6870 lb (150 to 3117 kg) capacity

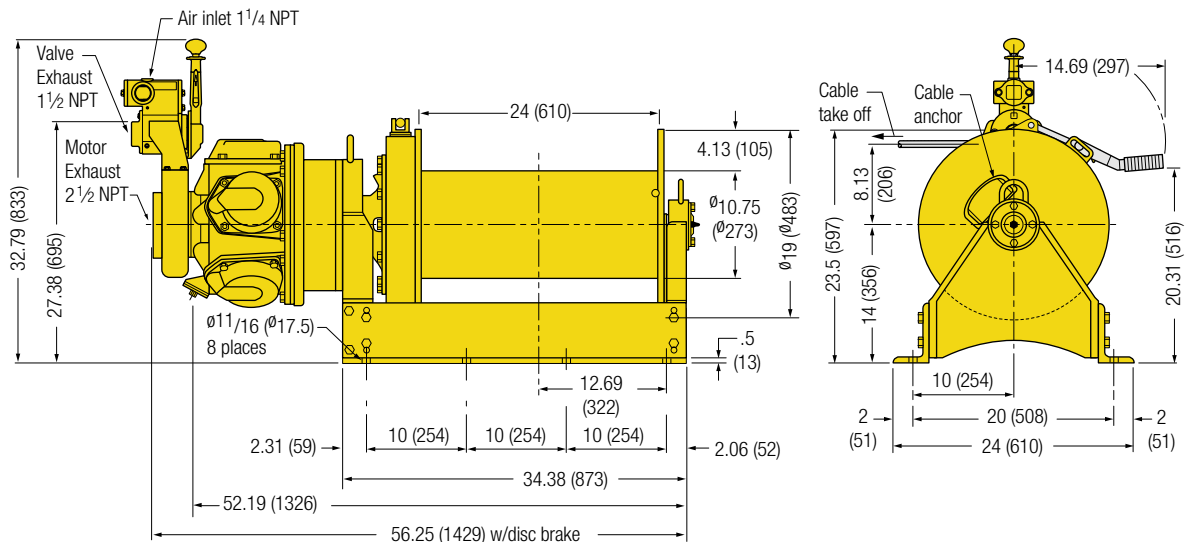


### Dimensions

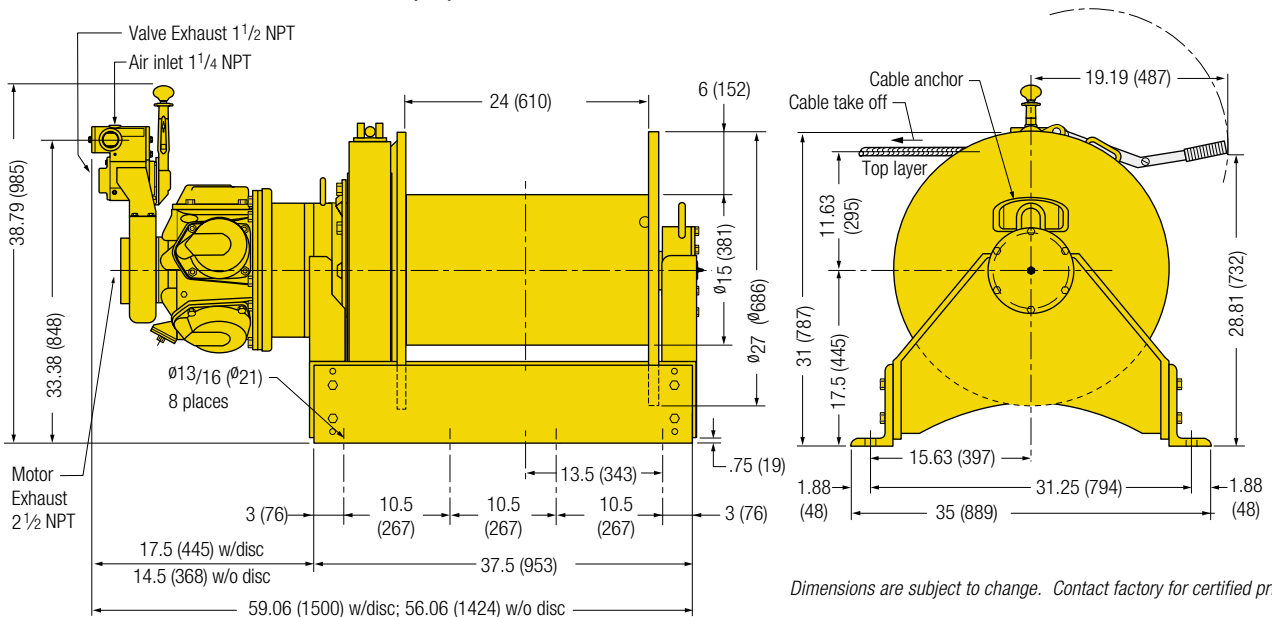
FA2MR24MK1G with disc and manual brake in inches (mm)



FA2.5MR24MK1G with disc and manual brake in inches (mm)



FA5MR24MK1G with disc and manual brake in inches (mm)



Dimensions are subject to change. Contact factory for certified prints



# Force 5™ "Offshore" Man Rider™ Series

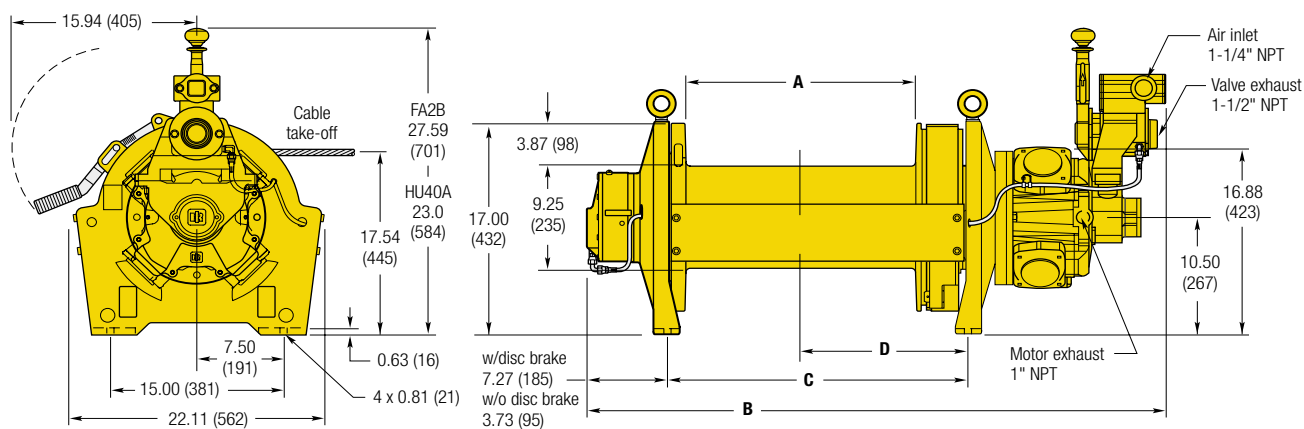
330 to 6870 lb (150 to 3117 kg) capacity



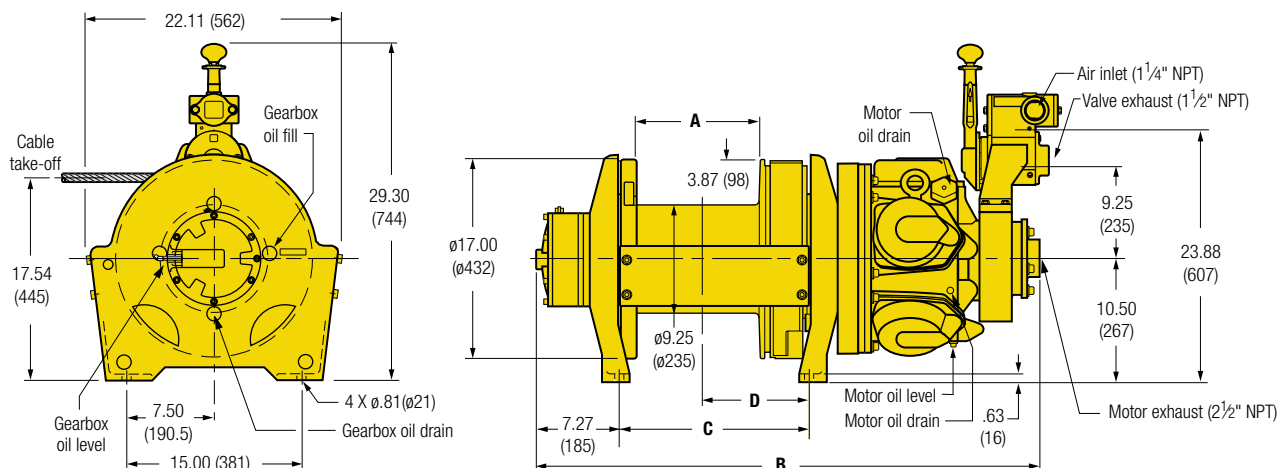
## Dimensions

Model no.	A		B		C		D	
	in.	mm	in.	mm	in.	mm	in.	mm
FA2BMR-SMK1G	7.0	178	37.4	950	12.3	312	7.5	191
FA2BMR-MMK1G	13.5	343	43.9	1115	18.8	478	10.81	274
FA2BMR-LMK1G	20.0	508	50.4	1280	25.3	643	14.0	356
FA2BMR-RMK1G	24.0	610	54.4	1382	29.3	744	16.0	406

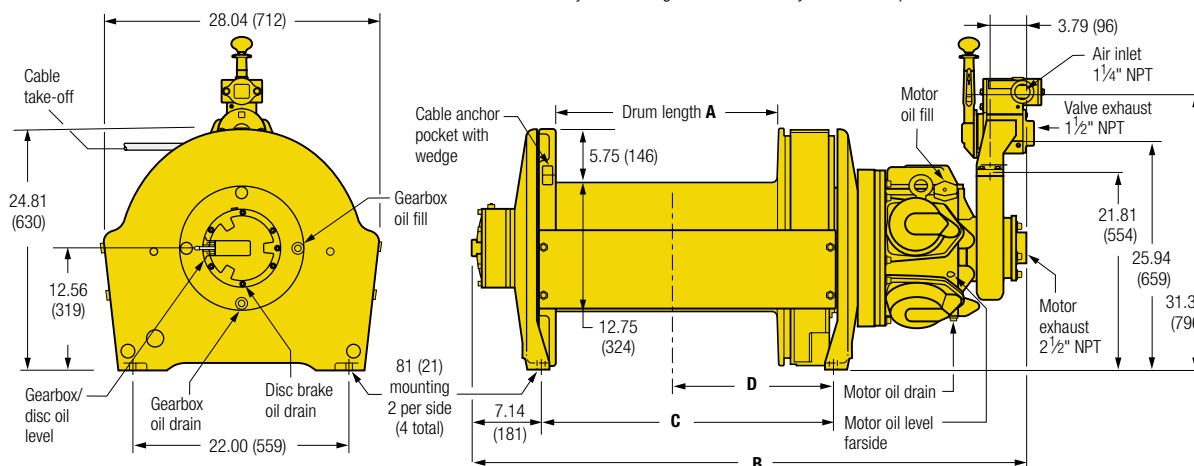
## FA2BMR in inches (mm)



## FA2.5AMR in inches (mm)



## FA5AMR in inches (mm)



Dimensions are subject to change. Contact factory for certified prints



# Force 5™ “Offshore” Man Rider™ Series

## 330 to 6870 lb (150 to 3117 kg) capacity



### How To Order:

Specify complete model code as shown. To order options, use the option code in the option table and add as a suffix to the model code. To order a Force Five air winch with a non-standard drum length, refer to the available drum lengths provided in the drum length table below. Enter the desired drum length for each winch in the drum length section of the model code. To order accessories such as filters and lubricators, enter these as separate accessory items by the part number in the air winch accessories table. **Example: FA2.5MR24MK1GP**

Series	Personnel cap.	Man Rider cap.	Drum length	Drum brake	Disc brake	Control brake	Options (see notes below)
<b>FA</b>	<b>2.5</b>	<b>MR</b>	<b>24</b>	<b>M</b>	<b>K</b>	<b>1</b>	<b>GP</b>
150KG = 330 lbs (150 kg) (Contact technical sales for special model driver)		<b>MR</b> = Man Rider	<b>24</b> = 24" (610 mm) between flanges. See drum length charts below.	<b>K</b> = Auto disc (std) <b>A</b> = Auto drum brake <b>M</b> = Manual drum brake (std)			<b>7</b> = Drum grooving (specify rope size in sixteenths, e.g. 7 = 7/16") <sup>(2)</sup> <b>C</b> = Low temperature; please specify in text: -10° C or -20° C <b>D</b> = Drum divider flange and additional cable anchor <sup>(3)</sup> <b>G</b> = Drum guard <b>L</b> = Drum locking pin <sup>(5)</sup> <b>M1</b> = Per DIN 50049/En10204 Para 2.2 "Typicals" <sup>(4)</sup> <b>M2</b> = Per DIN 50049/En10204 Para 3.1b actual per product as purchased <sup>(4)</sup> <b>M3</b> = Per DIN 50049/En10204 Para 3.1b actual per product as delivered in final condition <sup>(4)</sup> <b>N</b> = Type approval; please specify in text: DNV, ABS or Lloyds <b>P</b> = Corrosion resistant marine grade coating system: sandblast to white metal finish and carbozinc primer with a Marine 812 finish <b>Q</b> = Special paint; please specify <b>S</b> = Limit switch (upper and lower) <sup>(5)</sup> <b>U</b> = Underwound (available only with autodisc brake <b>XX</b> ) <b>V</b> = Press roller <b>W</b> = Witness; please specify <b>X</b> = Special testing; please specify <b>Z</b> = Sandblast and carbozinc primer only <b>-E</b> = Compliance with European Machinery Directive (insert at end of model code) <sup>(5)</sup>
2B = 2500 lbs (1136 kg)			<b>1</b> = Standard winch mounted throttle				
2.5A = 3125 lbs (1420 kg)			2XX = Remote full flow lever throttle (max 20 ft/6 m)				
2 = 3180 lbs (1445 kg)			3XX = Remote pilot pendent throttle (std = 6 ft/1.8 m; max 66 ft/20 m) <sup>(1)</sup>				
<b>2.5</b> = 3180 lbs (1445 kg)			4XX = Remote pilot lever throttle (std = 6 ft/1.8 m; max 66 ft/20 m) <sup>(1)</sup>				
5A = 6250 lbs (2841 kg)			5XX = Remote electric over air throttle				
5 = 6870 lbs (3111 kg)			XX = Specify hose length or pendent cord in feet				

Force Five

**FA** = Air powered

**FH** = Hydraulic powered

Notes:

All Force 5 units come with standard six (6) strand wire rope anchor and winding directions for right hand overwind.

**Option Notes:**

(1) With remote pilot control option, line speeds will decrease.

(2) Number designates drum grooving. Number equals wire rope size in sixteenths. The standard will be based on a right hand overwind rotation and spiral grooving for the recommended size of wire rope for the standard length of drum only. Grooving involving longer or shorter drums, or drums equipped with a divider flange will be an engineered item with longer lead time.

(3) **D** = drum divider flange. The standard will be based on right hand over wind rotation. Two steel flanges are welded to the center of the drum. This provides the motor side of the drum (half) with a rope anchor. Anchor locations must be specified by the customer.

(4) Documentation, witness testing and material traceability available; must be requested at time of order. Specify options or contact factory or your nearest IR distributor for information.

**M1** Material traceability certificates according to EN 10204 (Ex DIN 50049) 2.2 on load bearing parts. This conformity document affirms (by the manufacturer) that parts are in compliance with the requirements of the order based on non-specific inspection and testing (i.e. results are typical material properties for these parts.)

**M2** Material traceability certificates according to EN 10204 (Ex DIN 50049) 3.1b on load bearing parts. These documents affirm (by a department independent of the manufacturing department) that the actual parts used in the product are in compliance with the order based on specific inspection and testing (i.e. results are actual material properties for those parts.)

**M3** Material traceability certificates according to EN 10204 (Ex DIN 50049) 3.1b on load bearing parts. These documents affirm (by a department independent of the manufacturing department) that the actual parts used in the product are in compliance with the order based on specific inspection and testing (i.e. results are actual material properties for those parts in a finished, as delivered condition.)

(5) Not available on Third Generation Series

FA2B & FA2.5A	in.	mm
S	7	178
M	13 1/2	343
L	20	508
R	24	610

	in.	mm
S	12	305
L	24	610

Drum lengths available in. (mm)						
Model	8 (203)	12 (305)	16 (406)	24 (610)	30 (762)	36 (914)
<b>FA150KG</b>	yes*	<b>Std</b>	yes*	yes	yes*	yes*
<b>FA2</b>	yes	yes	yes	<b>Std</b>	yes*	yes*
<b>FA2.5</b>	yes	yes	yes	<b>Std</b>	yes	yes
<b>FA5</b>	no	yes	yes	<b>Std</b>	yes	yes

Contact factory for lengths other than shown.

\* Special order

Special optional requirements for offshore compliance are available (see codes above where applicable):

- Material traceability
- Charpy testing
- Certificate of compliance
- Third party witness
- Customer witness
- Special documentation
- Regulatory agency certification
- Low temperature materials

Man Rider winches have been designed and built to meet the requirements of the Offshore Oil Industry, particularly those specifications of the Norwegian Maritime Directorate, the Norwegian Petroleum Directorate and the UK HSE. They are Type Approved by Lloyds Register of Shipping, Det Norske Veritas (DNV) and the American Bureau of Shipping (ABS). There is no standard covering the use of these Man Riders in other than the offshore environment. It is, therefore, the user's responsibility to determine the suitability of this product for any particular use and to check for compliance with applicable regulations.



## Third Generation "Offshore" Gulf Man Rider™ 2500 lb (1136 kg) capacity



**Based on the design of our Force 5 Man Riders and the popular FA2B modular winch, IR is pleased to introduce the FA2B-GMR, the Gulf Man Rider™**

When operating in the Gulf of Mexico, the guidelines of certifying bodies may not apply, but common sense and safe operating practices do. The **Gulf Man Rider™** is IR's solution. It meets all the offshore and rating criteria we apply to all Man Riders. We also provide a third party (DNV) witness certificate with performance specifications; this is your assurance of quality and reliability.

### Standard features:

- Dual brakes: auto disc and manual band type. Both are capable of holding 200% of the rated load.
- 8:1 design factor: The recommended wire rope size to maintain this factor is ½ in. (13 mm) extra improved plow steel (EIPS) with independent wire rope core (IWRC).
- Stainless steel and corrosion resistant fasteners
- Standard design temperature of 0° C
- Self closing, dual action throttle handle is offshore tough
- Wedge type rope anchor for easy, "tool-less" installation holds up to 80% of rope breaking strength



FA2B-GMR-LMK1G

- Available in short **S**, medium **M**, long **L** and extra long **R** drum lengths
- Dual rated 8:1 design factor for manrider rating; 5:1 design factor for utility rating

### Options:

- Unlike our other Man Riders, drum guards are optional on Gulf Man Riders. Add suffix **G** for this highly recommended option.
- There is no **-E** European version

### Specifications and performance at 90 psi

Model no.	Ratings at mid layer				Optional design temp	Maximum stall pull		Average air consumption		Pipe inlet		Hose size		Shipping weight	
	Utility		Personnel			lbs	kg	scfm	m³/min	in.	mm	in.	mm	lbs	kg
	lbs	kg	lbs	kg											
FA2B-GMR	4000	1818	2500	1136	-10° or -20°c	6800	3084	380	10.8	1¼	32	1½	38	786	357

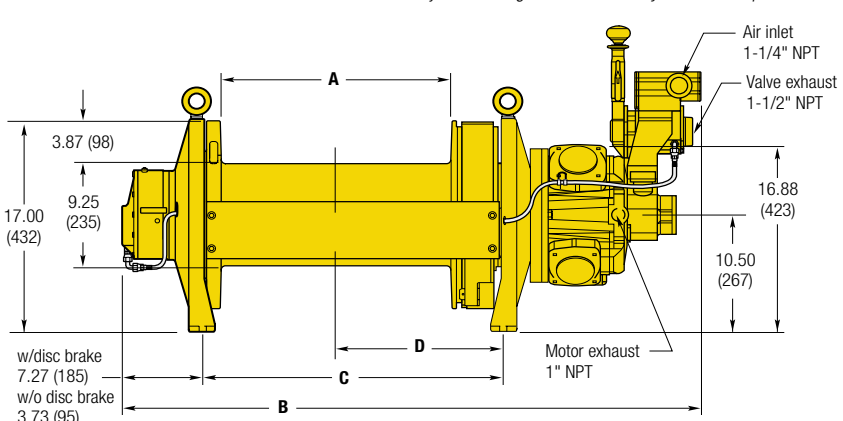
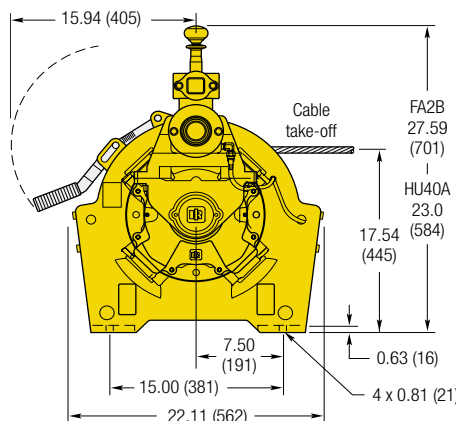
### Rope speed at mid drum at 90 psi

Winch series	at 330 lbs (150 kg)				at personnel rating				at utility rating			
	Up		Down		Up		Down		Up		Down	
	fpm	m/min	fpm	m/min	fpm	m/min	fpm	m/min	fpm	m/min	fpm	m/min
FA2B-GMR	274	90	150	46	164	54	141	43	96	31	260	79

### Dimensions: FA2B-GMR

Model no.	A		B		C		D	
	in.	mm	in.	mm	in.	mm	in.	mm
FA2B-GMR-SMK1	7.0	178	34.3	871	12.3	312	4.8	121
FA2B-GMR-MMK1	13.5	343	40.8	1036	18.8	478	8.0	204
FA2B-GMR-LMK1	20.0	508	47.3	1201	25.3	643	11.3	286
FA2B-GMR-RMK1	24.0	610	51.3	1303	29.3	744	13.3	337

### FA2B-GMR in inches (mm)



Dimensions are subject to change. Contact factory for certified prints

### Drum storage<sup>(1)</sup>

Model no.	Drum code	Drum length		Rope dia. ½ (13)	
		in.	mm	ft	m
FA2B	S	7	178	300	91
	M	13.5	343	600	183
	L	20	508	900	274
	R	24	610	1085	331

(1) Leaving ½ inch (13 mm) flange clearance

### How to Order:

Specify FA2B-GMR-"X"MK1 and substitute S, M, L or R for the "X" for drum length. Add suffix G for drum guard option. See Third Generation section for additional information and options.

**Example: FA2B-GMR-LMK1G**



## **Liftstar “Offshore” Man Rider™ Series** **330 to 2200 lb (150 to 1000 kg) capacity**



***Designed to the toughest Type Approval standards issued by the classification societies and meets NPD, NMD and UK HSE regulations for personnel lifting operations on offshore installations. The “Liftstar Man Rider” is a dedicated personnel lifting winch offered with Det Norske Veritas (DNV) Type Approval and full traceability.***

### **n Liftstar 150 kg / Pneumatic:**

*The LS150RLP...-E models have been specifically designed for personnel lifting applications in which a safety harness or a boatswain’s chair is used on fixed installations. They have passed the DNV (Det Norske Veritas) EC testing for these applications, i.e., both the winches and their technical files are in compliance with the requirements of the EC Machinery Directives.*

*The LS150RLP-DP5M-F model is in compliance with section 28 of the NPD (Norwegian Petroleum Directorate) regulation for manriding applications using a safety harness in petroleum drilling and well activities on mobile/floating installations.*

### **n Pneumatic and hydraulic models— 500 and 1000 kg capacity:**

*For use with assemblies using a platform, basket, carrier, etc... These models should be considered “part machines,” as they are intended for incorporation into an assembly consisting of a platform, a suspension system, etc... Therefore, they are delivered without the CE mark, but with a Declaration of Incorporation. However, since they are equipped with selected safety options, when the user applies for EC compliance of the entire personnel lifting system, the winch “part” will meet the EC requirements.*

### **n Standard features:**

#### **All models:**

- Two independent automatic brakes: an internal oil bath multidisc brake and an external drum band brake. Each can hold 180% of SWL.
- Flange mounted overload protection device
- Direct lever control with fine inching characteristics and automatic return to neutral when brakes are applied
- Main air emergency stop (for air models only)
- High efficiency planetary gearing is inside drum for better protection and minimum overall dimensions
- Hot dip, galvanized drum guard
- Sandblasting, carbozinc primer and offshore paint 290µ
- 3.1b material traceability certificates according to DIN 50049 (EN 10204) for load bearing parts available upon request at time of order
- Stainless steel external brake cylinder and control rods
- All external fasteners larger than 10 mm are stainless steel or electro-zinc plated
- Delivered with skid frame for easy installation



LS1000RLP Man Rider

### **The LS150RLP...-E and the LS150RLP-DP5M-F models:**

- Upper and lower limit switches
- Slack wire detector
- Assisting spooling device—for better rope winding at no load
- Pre-equipped emergency lowering device (pressurized nitrogen bottle not supplied)

### **Additional standard features:**

- The LS150RLP...-E includes a CE manual for installation and operation
- The LS150RLP-DP5M-F includes a rope payout system and filter-regulator-lubricator assembly

### **n Options**

#### **All models:**

- Witness test(s) by a third party (DNV, Lloyd’s, ABS, etc)

#### **500 and 1000 kg capacity models**

- Upper and lower limit switches
- Assisting spooling device
- Pre-equipped emergency lowering device for air model only (pressurized nitrogen bottle not supplied)
- Slack wire detector (electric on hydraulic models)

### **All models except LS150RLP-DP5M-F:**

- PHS remote control piloted pendant allows infinitely variable up and down speeds with complete operator control. Fitted with an emergency stop device which acts directly on the main air flow



# Liftstar "Offshore" Man Rider™ Series

## 330 to 2200 lb (150 to 1000 kg) capacity



### Specifications – pneumatic models at 90 psi (6.3 bar)

Model no.	Rated working load		Hoisting speed <sup>(1)</sup>		Rec'd rope dia		Free air consumption		Motor power		Weight w/o rope	
	lbs	kg	fpm	m/min	in.	mm	scfm	m <sup>3</sup> /min	hp	kw	lbs	kg
LS150RLP-E	330	150	0 to 115	0 to 35	3/8	10	0 to 78	0 to 2.2	2	1.5	250	114
LS500RLP	1100	500	0 to 79	0 to 24	1/2	13	0 to 123	0 to 3.5	3	2.2	300	136
LS1000RLP	2200	1000	0 to 79	0 to 24	1/2	13	0 to 123	0 to 3.5	6	4.5	300	136

### Specifications – hydraulic models

Model no.	Rated working load <sup>(2)</sup>		Maximum speed <sup>(3)</sup>		Rec'd rope dia		Maximum working flow		Working pressure		Weight w/rope	
	lbs	kg	fpm	m/min	in.	mm	gpm	l/min	psi	bar	lbs	kg
LS500HLP	1100	500	98	30	1/2	13	6.3	24	1499	105	638	290
LS1000HLP	2200	1000	98	30	1/2	13	9.8	37	1785	125	638	290

(1) For hydraulic models: at last (4th) rated layer

(2) For pneumatic models: at rated load

(3) For pneumatic models: at mid-drum with rated load

### Performance

13 mm rope at 1499 psi (105 bar) 6.3 gpm (24 l/min)

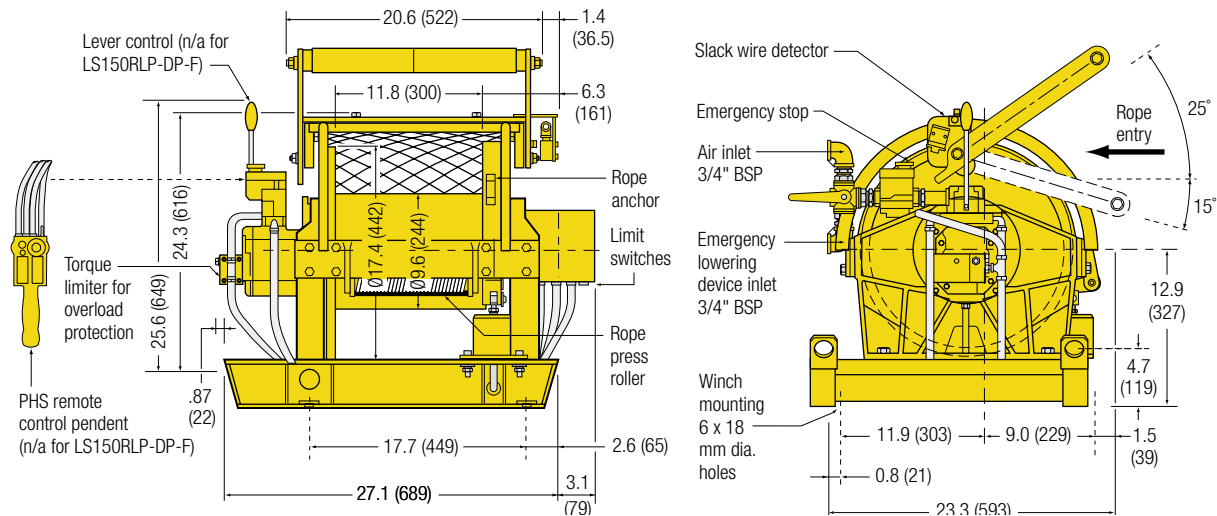
Model no.	Rated layers	Line pull lbs	Line pull kg	Line speed fpm	Line speed m/min
LS500HLP	1	1397	635	77.1	23.5
	2	1283	583	84.3	25.7
	3	1184	538	91.2	27.8
	4	1100	500	98.4	30.0

13 mm rope at 1785 psi (125 bar) 9.8 gpm (37 l/min)

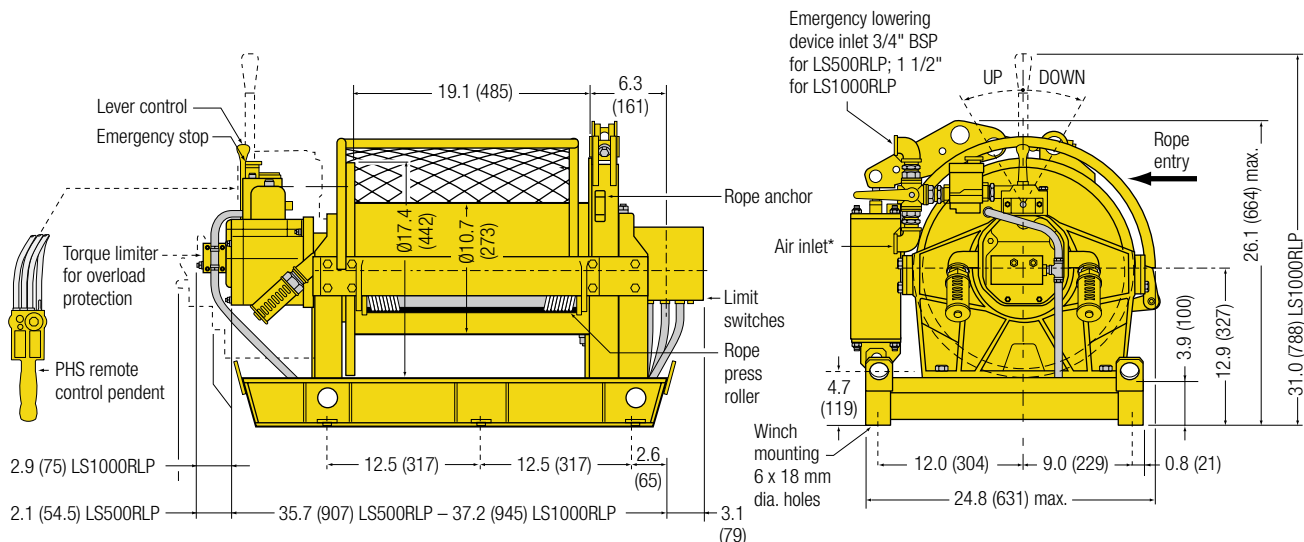
Model no.	Rated layers	Line pull lbs	Line pull kg	Line speed fpm	Line speed m/min
LS500HLP	1	2794	1270	77.1	23.5
	2	2565	1166	84.3	25.7
	3	2369	1077	91.2	27.8
	4	2200	1000	98.4	30.0

### Dimensions

#### LS150RLP pneumatic winch in inches (mm)



#### LS500RLP and LS1000RLP pneumatic winches in inches (mm)



Dimensions are subject to change. Contact factory for certified prints



# Liftstar "Offshore" Man Rider™ Series

## 330 to 2200 lb (150 to 1000 kg) capacity



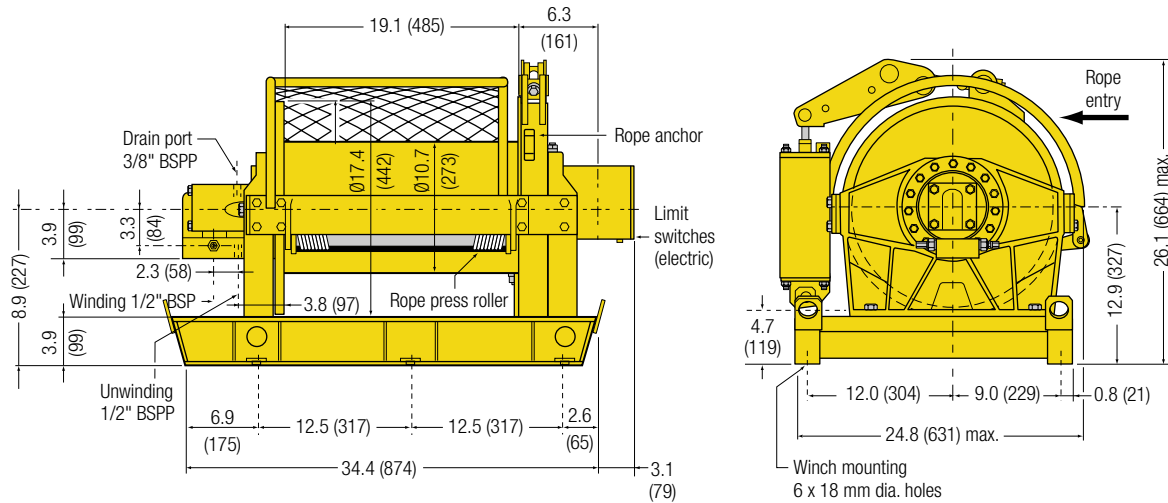
### Cumulative rope capacity

Model no.	Rec'd rope dia.		Rope capacity according to number of layers <sup>(1)</sup>															
	in.	mm	1		2		3		4		5		6		7		8	
			ft	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft	m
<b>Pneumatic models</b>																		
<b>LS150RLP-E</b>	3/8	10	72	22	151	46	233	71	325	99	420	128	522	159	630	192	685	741
<b>LS500RLP</b>	1/2	13	102	31	213	65	335	102	466	142	597	185	754	230	—	—	—	—
<b>LS1000RLP</b>	1/2	13	102	31	213	65	335	102	466	142	597	185	754	230	—	—	—	—
<b>Hydraulic models</b>																		
<b>LS500HLP</b>	1/2	13	102	31	213	65	335	102	466	142	597	185	754	230	—	—	—	—
<b>LS1000HLP</b>	1/2	13	102	31	213	65	335	102	466	142	597	185	754	230	—	—	—	—

(1) Figures in bold type correspond to layers rated for personnel lifting.

### Dimensions

LS500RLP and LS1000RLP hydraulic winches in inches (mm)



Dimensions are subject to change. Contact factory for certified prints

### How To Order:

Specify complete model code as shown. Specify options in the model code and accessories as a separate line. **Example: LS500RLP-L-S**

Series	Capacity	Power source	Personnel lift	-	Control	Rope take-off	Options
<b>LS</b>	<b>500</b>	<b>R</b>	<b>LP</b>	<b>-</b>	<b>L</b>	<b>L</b>	<b>S</b>
LS = Liftstar winch series	150-E = 150 kg / 330 lbs (Comes standard with European CE package) <b>500</b> = 500 kg / 1100 lbs 1000 = 1000 kg / 2200 lbs	R = Air H = Hydraulic (w/o control; brake valve and overload protection flanged as standard)	LP = Includes std features, i.e., second auto brake, skid and drum guard	-	L = Lever PH = PHS remote pendent (hose length on request; max. length 66 ft / 20 m) DP = Control console with full flow remote control valve (std length 8 ft / 2.5 m)	- = Horizontal B = Vertical (LS150RLP only)	10 = Grooved drum for 10 mm rope 13 = Grooved drum for 13 mm rope E = Emergency lowering system (option for 500 and 1000 kg models; std for all LS150RLP models) R = Press roller S = Upper and lower limit switches (option for 500 and 1000 kg models; std for all LS150RLP models) Y = Slack wire protection (option for 500 and 1000 kg models; std for all LS150RLP models)



**Force 5™ “Onshore” Man Rider™ Series**  
**2200 and 4400 lb (1000 and 2000 kg) capacity**



**The current design of Force 5 Man Rider air winches has been extended to meet the requirements of the American National Standard, ANSI/ASME A10.22-1990 for “Rope-Guided and Nonguided Worker’s Hoists - Safety Requirements.”**

Man Rider winches, when incorporated into a lifting system as prescribed in the Standard, or by local regulations, are suitable for lifting and lowering people. They are also rated for lifting material without people.

Since this design is to a recognized ANSI / ASME standard, these Man Rider air winches address OSHA requirements where applicable. IR engineering and manufacturing expertise plus third party Type Approval by the American Bureau of Shipping is your assurance of quality, dependability, and conformity.

**n Standard features**

- All ANSI / ASME Standard Man Riders carry the designation “MRA - Man Rider, ANSI / ASME” in the model code
- Battery powered line speed monitor and payout meter with 120 volt charger
- Display and battery charger enclosures conform to NEMA 13 and JIC standard EGP-1-1967
- Electrical grounding lug
- Dual drum brakes: one automatic and one manual
- Automatic spring return “lift & shift” double action throttle lever prevents accidental starts
- Dual rated at 8:1 design factor for personnel lifting and 5:1 design factor for utility lifting
- Up and down limit switches are easily adjusted and locked to prevent overtravel



FA2MRA24MA1

- Exhaust manifold, ten feet of exhaust hose and muffler are included to keep sound levels below 90 dBA
- Owner’s manual and ANSI / ASME Standard included in weatherproof box attached to winch
- Test certificate verifying performance and required brake holding capacity

**n Options**

- Different drum lengths
- Remote pilot pendent with overspeed warning light
- Disc brake
- Grooved drum
- Drum guard
- Corrosion resistant marine grade coating system: sandblast to white metal finish and carbozinc primer with a Marine 812 finish
- “Electric-Over-Air” controls for extended remote control operation

**Specifications: performance is based on 90 psi (6.3 bar) air inlet pressure with motor running**

Model no.	Lifting capacity				Stall pull		Required rope size <sup>(1)</sup>		Drum rope storage capacity				Shipping weight	
	Personnel		Utility						Personnel		Utility			
	lbs	kg	lbs	kg	lbs	kg	in.	mm	ft	m	ft	m	lbs	kg
FA2MRA24MA1	2200	1000	3520	1600	9000	4090	7/16	12	808	246	1000	305	1087	493
FA2.5MRA24MA1	2200	1000	3520	1600	10000	4545	7/16	12	808	246	1000	305	1275	578
FA5MRA24MA1	4400	2000	7040	3200	24000	10909	5/8	16	1024	312	1456	444	2260	1025

(1) Rope construction: Only 6 x 19, 6 x 37 classification, or rotation-resistance ropes, all with IWRC, shall be used.

**Drum speed at third layer (half drum)**

Model no.	At 330 lbs / 136 kg				At personnel rating				At utility rating			
	Up		Down		Up		Down		Up		Down	
	fpm	m/min	fpm	m/min	fpm	m/min	fpm	m/min	fpm	m/min	fpm	m/min
FA2MRA24MA1	95	29.3	52	15.8	91	28	71	22	66	20	120	37
FA2.5MRA24MA1	150	45.7	115	35.1	195	59	136	41	157	48	148	45
FA5MRA24MA1	77	23.5	52	15.8	87	26	69	21	74	22	78	24

All performance specifications are based on rope diameter of 7/16" (11 mm) for FA2MRA and FA2.5MRA and 5/8" (16 mm) diameter for FA5MRA as required to meet ANSI / ASME A10.22 - 1990.



# Force 5™ “Onshore” Man Rider™ Series

## 2200 and 4400 lb (1000 and 2000 kg) capacity



### Dimensions: ANSI / ASME Man Rider FA2MRA

Drum length		A		B		C		D		E		F	
in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
8.0	203	21.25	540	1.63	41	9.0	229	48.29	1227	9.13	232		
12.0	305	25.25	641	1.38	35	7.5	191	52.29	1328	11.38	289		
16.0	406	29.25	743	1.13	29	9.0	229	56.29	1430	13.63	346		
24.0	610	37.25	945	1.38	35	11.5	292	64.29	1633	17.38	441		
30.0	762	43.25	1099	1.38	35	13.5	343	70.29	1785	20.38	518		

### Dimensions: FA2.5MRA

Drum length		A		B		C		D		E		F	
in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
8.0	203	22.38	568	2.19	56	9.0	229	54.92	1395	8.57	218		
12.0	305	26.38	670	1.68	43	7.5	191	58.92	1497	11.08	281		
16.0	406	30.38	772	1.18	30	9.0	229	62.92	1598	13.68	347		
24.0	610	38.38	975	1.68	43	11.5	292	70.92	1801	17.68	449		
30.0	762	44.38	1127	1.68	43	13.5	343	76.92	1954	20.68	525		

### Wire rope storage capacity <sup>(1), (2)</sup>

Drum length		FA2MRA		FA2.5MRA	
in.	mm	7/16" ft	12mm m	7/16" ft	12mm m
8	203	269	82	269	82
12	305	404	123	404	123
16	406	539	164	539	164
24	610	808	246	808	246
30	762	1010	308	1010	308

(1) Recommended working capacity is 80% of values shown.

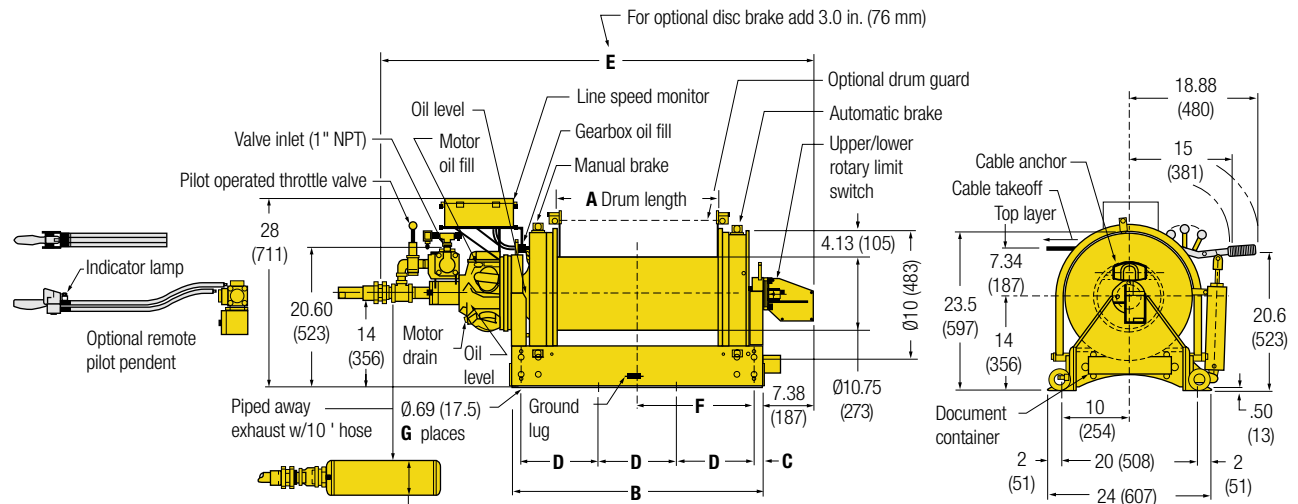
(2) ANSI / ASME A10.22-1990 requires top layer be 2 in. (50.8 mm) or more below drum flange

### Sound pressure <sup>(1)</sup> Avg. air consump.

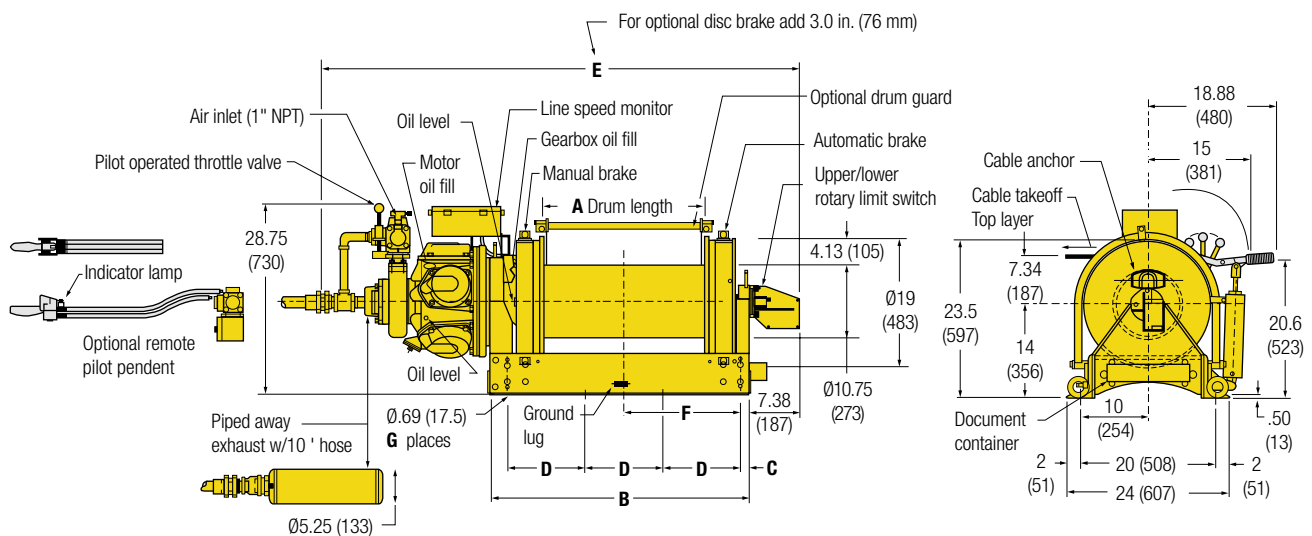
Model no.	dBa level	scfm	m <sup>3</sup> /min
FA2MRA	85	335	9.5
FA2.5MRA	89	700	19.8
FA5MRA	89	700	19.8

(1) Outdoors, at operator, w/exhaust manifold, hose and muffler. Levels can and will vary based on background noise and surroundings.

### FA2MRA in inches (mm)



### FA2.5MRA in inches (mm)



Dimensions are subject to change. Contact factory for certified prints



# Force 5™ “Onshore” Man Rider™ Series 2200 and 4400 lb (1000 and 2000 kg) capacity



## Dimensions: ANSI / ASME Man Rider FA5MRA

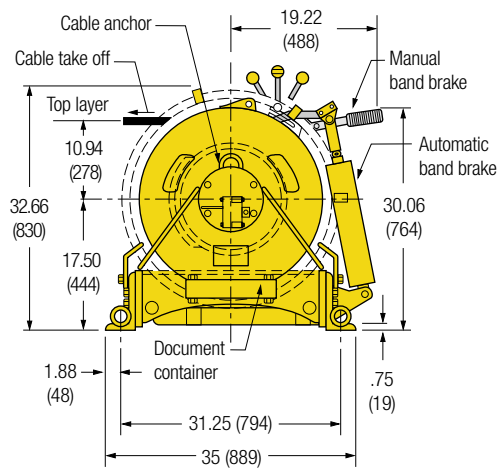
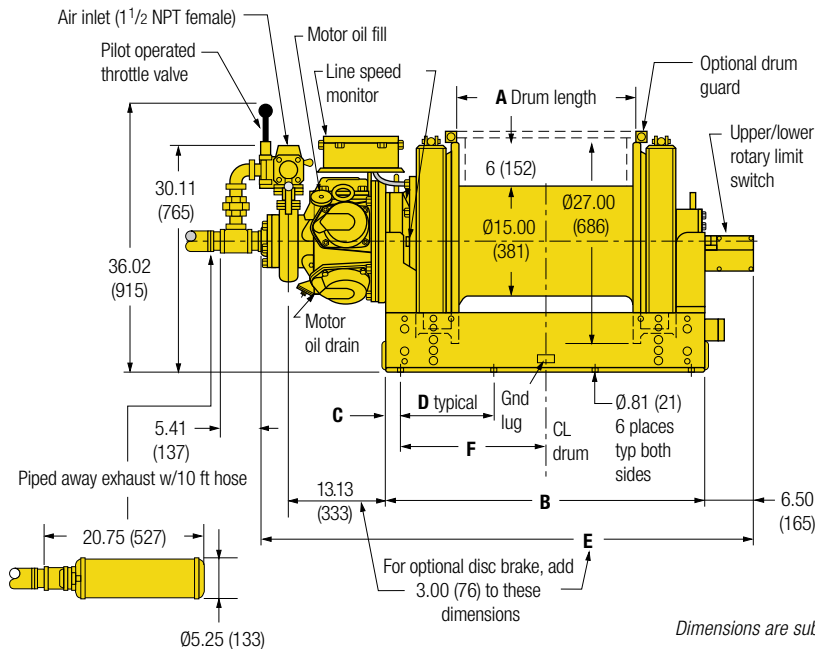
Drum length											
A	B	C	D	E	F	A	B	C	D	E	F
in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
8.0	203	26.63	676	1.31	33	8.00	203	50.00	1270	12.00	305
12.0	305	30.63	778	1.44	37	9.25	235	54.00	1372	13.88	353
16.0	406	34.63	880	1.56	40	10.50	267	58.00	1473	15.75	400
24.0	610	42.63	1083	1.81	46	13.50	330	66.00	1676	19.50	495
30.0	762	48.63	1235	1.31	33	11.50	292	72.00	1829	23.00	584
36.0	914	54.63	1388	2.31	59	12.50	318	78.00	1981	25.00	635

## Wire rope storage capacity<sup>(1), (2)</sup>

Series	Drum length			
	in.	mm	ft	5/8" 16mm m
FA5MRA	8	203	341	104
	12	305	512	156
	16	406	683	208
	24	610	1024	312
	30	762	1280	390
	36	914	1536	468

- (1) Recommended working capacity is 80% of values shown.  
(2) ANSI / ASME A10.22-1990 requires top layer be 2 in. (50.8 mm) or more below drum flange

## FA5MRA in inches (mm)



Dimensions are subject to change. Contact factory for certified prints

## How to Order:

Specify winch by complete model number. Man Rider winches will not be sold without standard features. Add options as required. **Example: FA2MRA24MA1G**

Series	Man Rider Capacity	Designation	Drum length	Brakes	Controls	Options
<b>FA</b>	<b>2</b>	<b>MRA</b>	<b>24</b>	<b>MA</b>	<b>1</b>	<b>G</b>
<b>FA</b>	2 = 2200 lbs / 1000 kg 2.5 = 2200 lbs / 1000 kg 5 = 4400 lbs / 2000 kg	MRA = Meets ANSI / ASME A10.22-1990 standard	8 = 8 in. (203mm) 12 = 12 in. (305 mm) 16 = 16 in. (406 mm) 24 = 24 in. (610 mm) (standard) 30 = 30 in. (762 mm) 36 = 36 in. (914 mm)	M = Manual drum (standard) A = Auto drum (standard) K = Auto disc (optional)	1 = Standard winch mounted lever throttle 3XX = Remote pilot pendent throttle w/warning light; 6 ft/2m std. Max 50 ft (15 m). 5XX = Remote electric-over air throttle control XX = Specify hose length in feet	
Force Five						
FA = Air powered						
7 = Drum grooving (no. = wire rope size in sixteenths, e.g. 7/16 in.; 7 for FA2 and FA2.5 only; 10 for FA5 only)						
G = Drum guard						
P = Marine 812 finish						
V = Press roller						
Z = Sandblast and carbozinc primer						