



20 - 90 Ton Holding Capacity

STANDARD FEATURES:

- Additional tightening power from ratchet lever bar.
- Quick release holding dog, automatically disengages when not in use.
- Spinner knob on hand wheel for fast slack line take-up.
- Steel gear guard provides operator protection; prevents slack cable from fouling gears.
- Foot brakes control and prevent overrunning and birdnesting of wire rope.

OPTIONAL FEATURES:

- Wider drums, angle deck brackets, disengaging clutch.
- Wintech Winch Cables

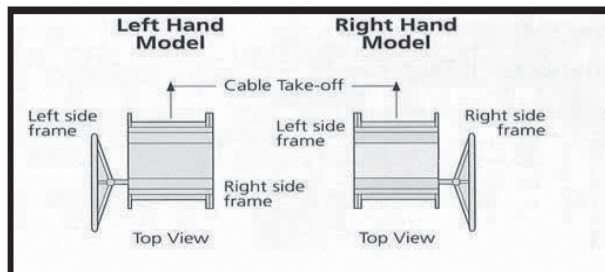
Built To Last Low-Profile to Keep the cable low on the "bits" and the deck

Low-Profile manual barge winch specifications								Drum Options		
Model No.	Rated capacities (US Tons)		1st Layer	Drum	Shipping Weight (lbs)	Cubic feet	Capacity (US Tons)	Dimensions (Inches)		
	Dog Holding	Tightening						Gear Ratio	Diameter (in.)	Standard Drums
Hand		Ratchet								
20HL	20	3	5	7:1	8 5/8	600	18.0	20 ton	10	17, 24, 36, 48
25HL	40	5	10	14:1	10 3/4	650	22.0	40 ton	9	17, 35, 51, 69
50HL	65	7.5	15	20:1	12 3/4	1175	34.0	65 ton	11	20, 41, 61, 82
75HL	90	10	20	31:1	16	1880	37.0	90 ton	10	20, 40, 61, 81

Note: All models are shown with "L" designating left hand models; for right hand models, substitute "R" for "L" in

20HL-8 5/8" Drum diameter					25HL-10 3/4" Drum diameter					50HL-12 3/4" Drum diameter					75HL-16" Drum diameter				
Length (in.)	Drum Capacity (ft)				Length (in.)	Drum Capacity (ft)				Length (in.)	Drum Capacity (ft)				Length (in.)	Drum Capacity (ft)			
	5/8 in.	3/4 in.	7/8 in.	1 in.		5/8 in.	3/4 in.	7/8 in.	1 in.		5/8 in.	3/4 in.	7/8 in.	1 in.		5/8 in.	3/4 in.	7/8 in.	1 in.
10*	380	275	194	132	9*	248	162	142	88	11*	194	174	110	100	10*	119	108	98	56
17	650	470	330	225	17	479	314	277	174	20	377	338	216	197	20	247	225	207	119
24	915	650	460	317	35	975	643	568	359	41	773	694	445	408	40	523	478	441	254
36	1370	975	690	476	51	1472	971	865	544	61	1168	1051	674	619	61	798	731	675	390
48	1830	1300	920	634	69	1969	1299	1151	729	82	1564	1407	903	830	81	1074	983	909	525

* Standard length of drum (drum lengths are rounded to the nearest inch)



Rule of Thumb: Right or left hand models are determined by which side of the winch the handwheel is mounted on. As illustrated right, standing behind the winch, facing the cable take-off direction is the proper orientation for determining right or left hand requirements.

40-TON BARGE CONNECTOR WINCH



The time savings and speed in making up tows with winches instead of ratchets is useless if you have to maintain or repair it with every use. The Model BC-40 Barge Connector has been designed to use, not maintain. The winch features high capacity grease free synthetic bearing and a simple counterweight type ratchet without springs to minimize routine maintenance in the abusive waterways environment. The operation of the winch for both tightening and releasing the loads have been engineered for optimum user ergonomics and safety. From the ideal positioning and engagement of the ratchet lever controlled cable release brake the BC-40 is designed for easy operation.

Specifications

Performance:	
Ultimate Capacity.....	80,000 lbs.
Ratchet Tightening Capacity.....	10,000 lbs.
Drum Capacity:	
3/4"	90 feet
7/8"	85 feet
1"	70 feet
Dimensions and Weight:	
Overall Length	25-1/2"
Overall Width	17"
Overall Height.....	21-1/2"
Overall with Deck Pivot Pin.....	443 lbs.

FEATURES:

- Low Profile Compact Design Saves Deck Space.
- Hand Lever Operated brake for Controlled Load Release.
- Hand Wheel with Spinner Knob for Fast Take-up.
- Ratchet Lever for Final Tensioning.
- Machine Cut Gearing with Protective Guarding.
- High Capacity Synthetic Bearings on Drive and Drum Shafts.
- Connector Pin and Yoke Allows 360 Degree Rotation.
- Unique Pivot Pin Mounting (No D-Ring Required).
- Front Mounted Rope Guard Aligns Cable with Drum

NOTE: Dimensions are subject to change.
Please contact factory for certified prints.





Profile Barge Winch 40 - 90 Ton Holding Capacity

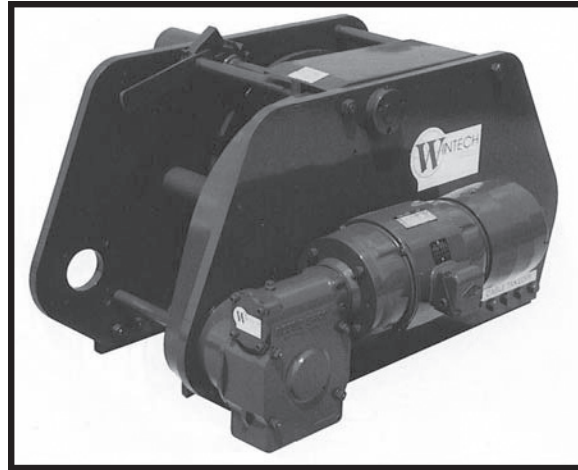
Taking The Winch Industry By Storm

STANDARD FEATURES:

- Totally enclosed, marine grade, fully reversing crane and hoist duty motors in 220, 440, or 575 volts.
- Winch stall pulls from 11,000 to over 50,000 lbs.
- Winch electric brake and worm drive gear holds from 46,000 to 111,000 lbs.
- Flame-cut precision-machined side frames.
- Enclosed drive gearing.
- Steel gear guard prevents slack cable from fouling gears.
- Automatic disc break.
- Simple effective design reduces maintenance cost.

OPTIONAL FEATURES:

- Remote control packages for pilot house control NEMA 1; General purpose enclosure NEMA 4; Watertight -NEMA 1 or 4 magnetic reversing starter.
- NEMA 1or4 push button station.
- Wider drums (see wire rope storage chart (bottom left) for optional drum lengths.
- Slip Clutch.



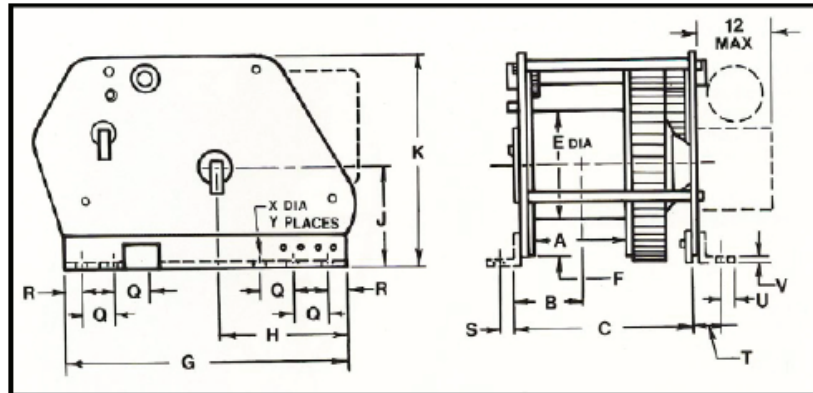
**Lowest profile design available /
Requiring the least amount of
Deck Space**

- Drum divider flange.
- Grooved drums.
- Angle deck brackets.
- Disengaging clutch and hand wheel for emergency power loss operation.
- Dual winch, barge spotting system.
- Special inquires invited for mooring and terminal application.
- Air and hydraulic models upon request.
- Wintech Winch Cables.



Electric Low - Profile Barge Winch 20 - 90 Ton Holding Capacity

Superior Value - Wintech Reliability / Quality



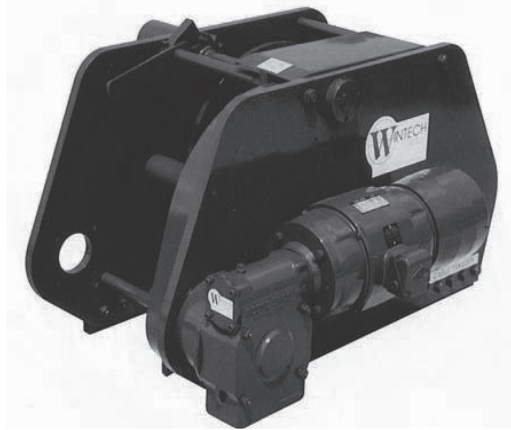
Perspective...

FOR ALL OF YOU WHO THINK YOU ARE HAVING A BAD DAY...

The average cost of rehabilitating a seal after the Exxon Valdez Oil spill in Alaska was \$80,000.00. At a special ceremony, two of the most expensively saved animals were being released back into the wild amid cheers and applause from onlookers.

A minute later, in full view, a killer whale ate them both.

ELECTRIC LOW - PROFILE BARGE WINCH



40 - 90 Ton Holding Capacity

STANDARD FEATURES:

- Totally enclosed, marine grade, fully reversing crane and hoist duty motors in 220, 440, or 575 volts.
- Winch stall pulls from 11,000 to over 50,000 lbs.
- Winch electric brake and worm drive gear holds from 46,000 to 111,000 lbs.
- Flame-cut precision-machined side frames.
- Enclosed drive gearing.
- Steel gear guard prevents slack cable from fouling gears.
- Automatic disc break.
- Simple effective design reduces maintenance cost.

Speed / Power / Durability

Low-Profile electric barge winch specifications											
Model No.	Dog Holding Capacity (tons)	Capacities (lbs)		Holding (lbs)	Line Speed (fpm)			Volts	Weight		
		Rated Pull	Stall* Pull	Electric Brake	No Load	Rated Pull	HP	Phase Cycle	Net (lbs)	Ship (lbs)	Cu.ft
25HL-E1	40	4,000	11,000	20,000	34	31	5	230/460-3-60	700	720	22.0
25HL-E2	40	6,000	16,500	20,000	34	31	7.5	230/460-3-60	750	770	22.0
25HL-E3	40	8,000	22,000	20,000	34	31	10	230/460-3-60	800	825	22.0
50HL-E1	65	6,000	16,500	30,000	23	21	5	230/460-3-60	1225	1245	34.0
50HL-E2	65	9,000	24,800	30,000	23	21	7.5	230/460-3-60	1275	1295	34.0
50HL-E3	65	12,000	33,000	30,000	23	21	10	230/460-3-60	1325	1345	34.0
75HL-E1	90	9,300	25,600	40,000	14	13	5	230/460-3-60	1930	1930	37.0
75HL-E2	90	13,900	38,200	40,000	14	13	7.5	230/460-3-60	1980	2000	37.0
75HL-E3	90	18,500	50,900	40,000	14	13	10	230/460-3-60	2030	2030	37.0

Note: All models are shown with "L" designating left hand models; for right hand models, substitute "R" for "L" in model number.
*Stall pull rated at specified voltage with holding dog engaged.

25HL-10 3/4" Drum diameter					20HL-8 5/8" Drum diameter					20HL-8 5/8" Drum diameter				
Length (in.)	Drum Capacity (ft)				Length (in.)	Drum Capacity (ft)				Length (in.)	Drum Capacity (ft)			
	5/8 in.	3/4 in.	7/8 in.	1 in.		5/8 in.	3/4 in.	7/8 in.	1 in.		5/8 in.	3/4 in.	7/8 in.	1 in.
9*	248	162	142	88	11*	194	174	110	100	10*	119	108	98	56
17	479	314	277	174	20	377	338	216	197	19	247	225	207	119
34	975	643	568	359	41	773	694	445	408	40	523	478	441	254
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69	1969	1299	1151	729	82	1564	1407	903	830	81	1074	983	909	525

* Standard length of drum (drum lengths are rounded to the nearest inch)

LOWEST PROFILE DESIGN AVAILABLE / REQUIRING THE LEAST AMOUNT OF DECK SPACE

OPTIONAL FEATURES:

- Remote control packages for pilot house control NEMA 1; General purpose enclosure NEMA 4; Water-tight
- NEMA 1 or 4 magnetic reversing starter.
- NEMA 1 or 4 push button station.
- Wider drums (see wire rope storage chart (bottom left) for optional drum lengths.
- Slip Clutch.
- Drum divider flange.
- Grooved drums.
- Angle deck brackets.
- Disengaging clutch and hand wheel for emergency power loss operation.
- Dual winch, barge spotting system.
- Special inquires invited for mooring and terminal application.
- Air and hydraulic models upon request
- Wintech Winch Cables

Model 20HL-E1



The Model 20-HL-E1 Barge Winch has been designed specifically for small pushboats and harbor tugs to save time in making up tows.

The winch has a powerful 5 HP motor which results in higher speeds without compromising linepull.

The spring set braking system is capable of holding the 20 ton rated load allowing the operator to attach to the load, tighten and go.

The entire winch is designed with only 3 bushings, resulting in reduced maintenance and more up time.

Speed / Power / Durability

Specifications

Performance:

Brake Holding Capacity.....20 Tons
 Rated Continuous Linepull.....6,000 lbs.
 Rated Stall Linepull.....16,500 lbs.
 Mid Drum Linespeed.....30 FPM

Drum Capacity:

5/8".....380 feet
 3/4"275 feet
 7/8"194 feet
 1"132 feet

Dimensions and Weight:

Overall Length32-1/2"
 Overall Width26-1/2"
 Overall Height.....23-1/2"
 Overall with Deck Pivot Pin.....875lbs.

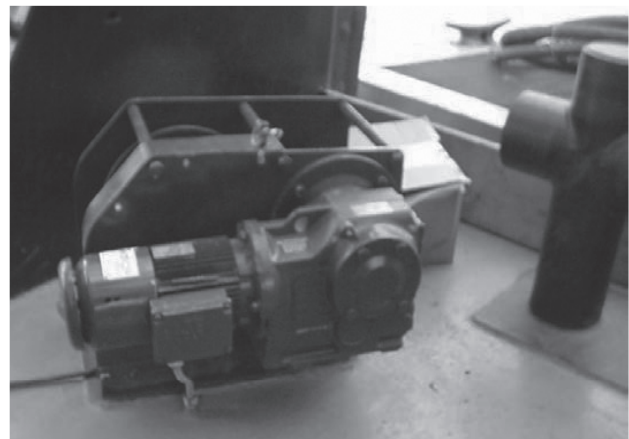


30 TON MODEL ALSO AVAILABLE

FEATURES:

- High Speed operation ideal for Harbor Tug Applications
- 5 Horsepower TEFC Motor and Brake
- 230/460 Volt - 3 phase - 60 Hz. Power
- Spring Set - Electric release holding brake
- Fully enclosed gearbox with open final gear set
- Machine cut gearing with protective guarding
- Brake release and manual crank for emergency operation

NOTE: Dimensions are subject to change. Please contact factory for certified prints.

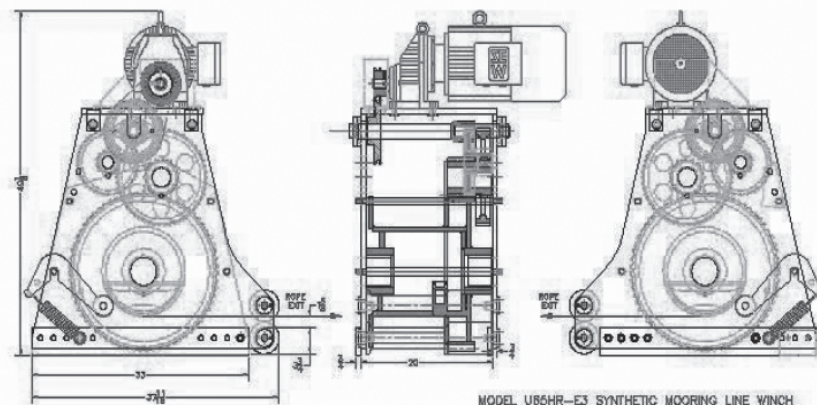




Redesigned Wintech Upright with new style brake. Less Moving Parts. Has a unique anti-fouling pinch roller to prevent bird-nesting and damage to the cable.

**DESIGNED FOR
SYNTHETIC ROPES
SMALL FOOTPRINT
LOW
MAINTENANCE**

Model U65HR-E3 Barge Winch



Can be used for Synthetic or Steel Cables

*Other Drum Lengths &
Rope Capacities Available*

Wintech continues its reputation for reliable winches with the introduction of the U65HR-E3 Electric Barge Winch.

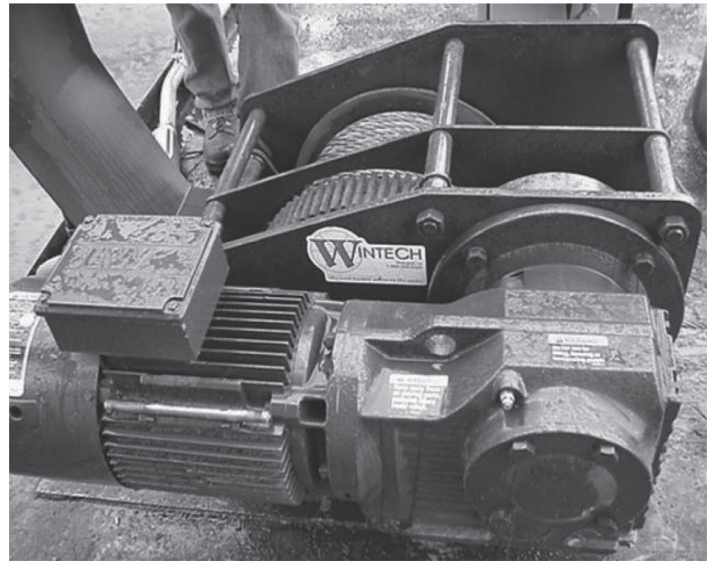
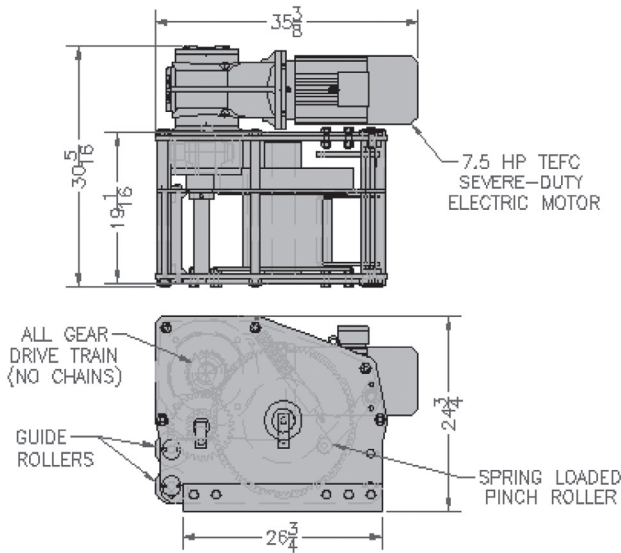
- 65 ton Dog Holding Capacity / 35,000 lbs Brake Holding Cap.
- 12,000 lbs Running Line Pull @ 21 fpm on 1st Layer
- Spring-Loaded Pinch Roller System
- Nylatron Guide Rollers reduce rope abrasion
- 10 HP Severe Duty TEFC Electric Motor with Holding Brake
- 12.75" drum core x 11" drum width
- Drum accepts Standard Wedges for Rope Attachment
- Capacity for 240 feet of 3/4" Synthetic Rope
- Left and Right Hand Versions Available

CAN ALSO BE USED WITH STEEL CABLE



ELECTRIC DECK WINCH

40HL - E2



Reduced Cable Fouling—Compact—Low Maintenance—All Gear Driven

Wintech continues its reputation for reliable winches with the introduction of the 40HL-E2 Electric Deck Winch.

- ◆ 40 Ton Holding Capacity / 13800 lbs Line Pull @18 ft/min
- ◆ Pinch-Roller System Dramatically Reduces Cable Backlash
- ◆ 7.5 HP Severe Duty TEFC Electric Motor with Holding Brake
- ◆ Helical Bevel Gear Reducer with Final Spur Gear Reduction
- ◆ Drum accepts Standard Wedges for Cable Attachment
- ◆ Removable Steel Hood Covers the entire drum
- ◆ Nylatron Guide Rollers Reduce Cable Wear

CABLE CAPACITY (9" LONG DRUM)

5/8" Cable	3/4" Cable	7/8" Cable	1" Cable
286 ft	196 ft	130 ft	116 ft

Other Drum Lengths / Cable Capacities Are Available



PINCH ROLLER PREVENTS FOULED WINCH WIRES AND BIRD NESTING

BARGE MOVING SYSTEM The Ultimate in Positioning Control

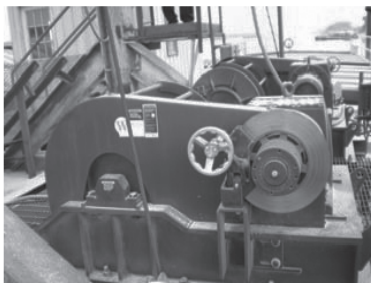
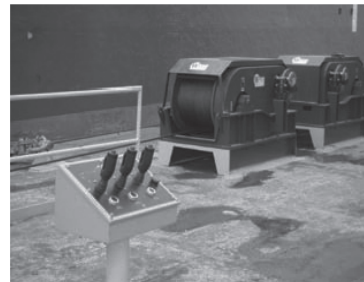
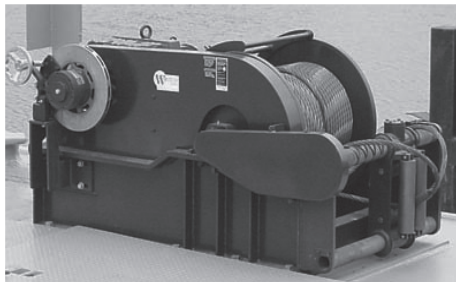


Wintech Barge Moving Systems provide Safe and Efficient Performance

Starting, moving, and stopping 2,000 ton barges with control and safety can be a challenge. Wintech Barge Moving Systems feature the latest in winching technology. Wintech's proven system designs allow for smooth acceleration and deceleration of barge movement. Line speeds are infinitely variable from zero to maximum speed. Ramping up and down of speed reduces shock loading on the winches and rigging, thus minimizing potential for winch damage and cable breakages. A unique mechanical drag brake offers controlled tension on the tailing winch, reducing slack cable. Winches are fully electric with no environmentally unfriendly hydraulic components.

WINCH CONTROLS

Winch controls are simple and easy to understand. Each system comes standard with a single operator control console. For control station flexibility systems can be offered with an additional operator console or with wireless remote controls that can be used by a crane operator or dock personnel. Both hard-wired and radio controls offer the identical control features. All controls are rated for NEMA 4 wash-down proof protection.



WINCHES

Typical winch capacities range from 10,000 lbs through 35,000 lbs continuous linepull, though custom capacities are also available for unique applications. All winches are constructed from extra heavy duty materials, utilize a minimum number of moving parts and are designed for low maintenance and long service life. Standard winch features include greasable tapered roller drum bearings, fabricated steel frame and drum, high efficiency parallel-helical gear reducer, fail-safe spring applied holding brake, and heavy duty mechanical hold-back tensioning brake. Winch frames are equipped with base mounting holes, allowing winches to be either bolted or welded in place.



Similar systems are also available for Rail Car Spotting Applications

BARGE MOVING SYSTEM

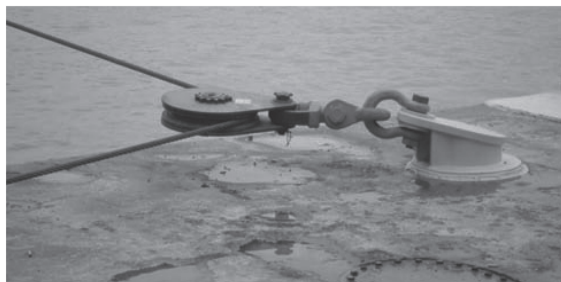
WINCH SYSTEM OPERATION

The Wintech Barge Moving System is the ultimate in barge moving controllability. A typical system consists of two winches, a 36" x 48" NEMA 4 enclosed drive cabinet, and an operator control console. Electrical cabinet and control consoles may be mounted and used indoors or outdoors. Variable Frequency Drive Technology gives the winch system the ability to slowly accelerate to desired movement speed and slowly decelerate to a safe stopping speed. Another feature of the system is a selector switch for Manual and Auto Modes. In Manual Mode the operator can control each winch individually while securing and pre-tensioning rigging. Once the cables are tightened the operator can then switch to Auto Mode. In Auto Mode the operator controls movement of the barge upstream and downstream via a single joystick. A speed control knob allows adjustment of system speed from 0 to the maximum rated system speed via a single control knob. Maximum speeds can be customized to suit specific customer requirements. Each winch is equipped with a bronze disc-type drag brake and manually adjustable caliper for controlled tail tension during pulling operations.



Designed to provide years of reliable operation and dependable service for your barge positioning requirements.

Wintech Barge Moving Systems offer the ultimate in control, safety, and flexibility. From simple, single barge spotting applications to multiple barge, high production loading applications.



SHEAVES, BLOCKS & FAIRLEADS

Wintech offers a wide range of high quality standard and custom designed sheaves, blocks, and fairleads for any barge moving system application.



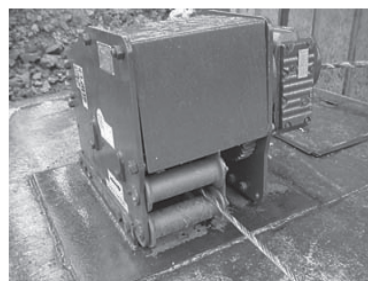
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SPECIAL OPTIONS

Wintech can customize a system to meet your specific application needs.

- ◆ Radio Remote Control Packages
- ◆ Automatic Levelwinds
- ◆ Wire Rope Pre-Installed
- ◆ Load Travel Limit Switches
- ◆ Multiple Control Stations
- ◆ Custom Voltages

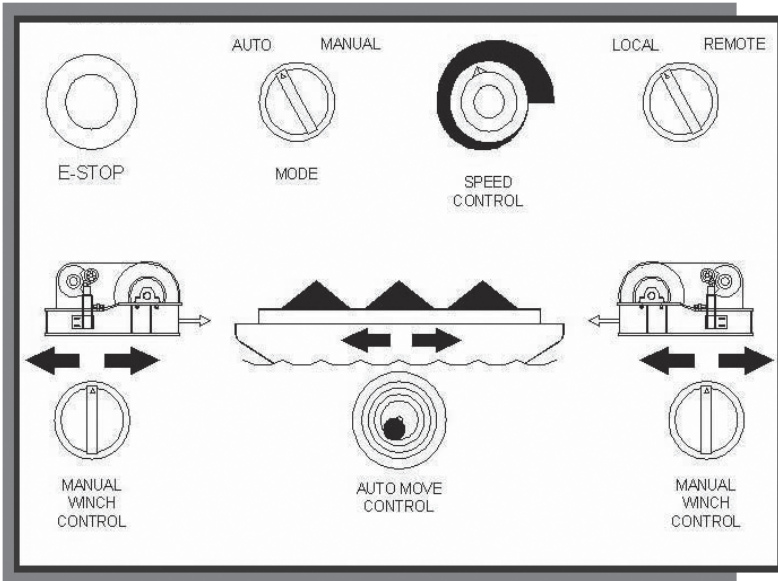


Breasting Winches



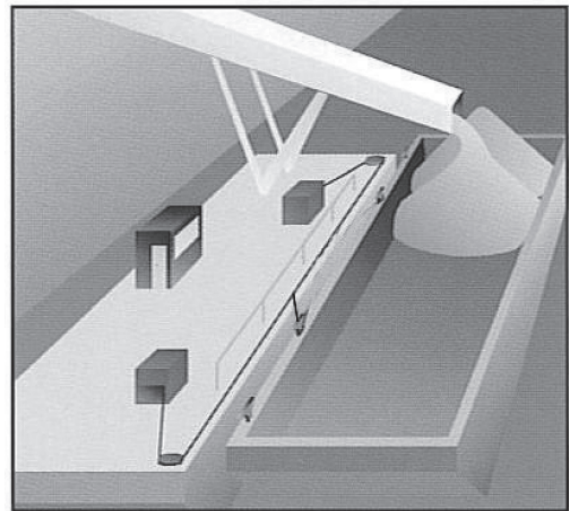
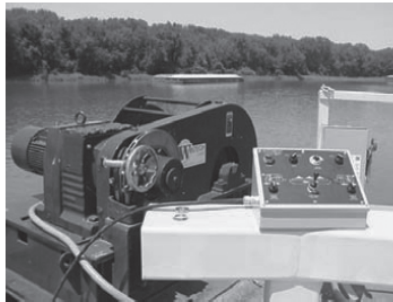
Breasting Capstans

BARGE MOVING SYSTEM

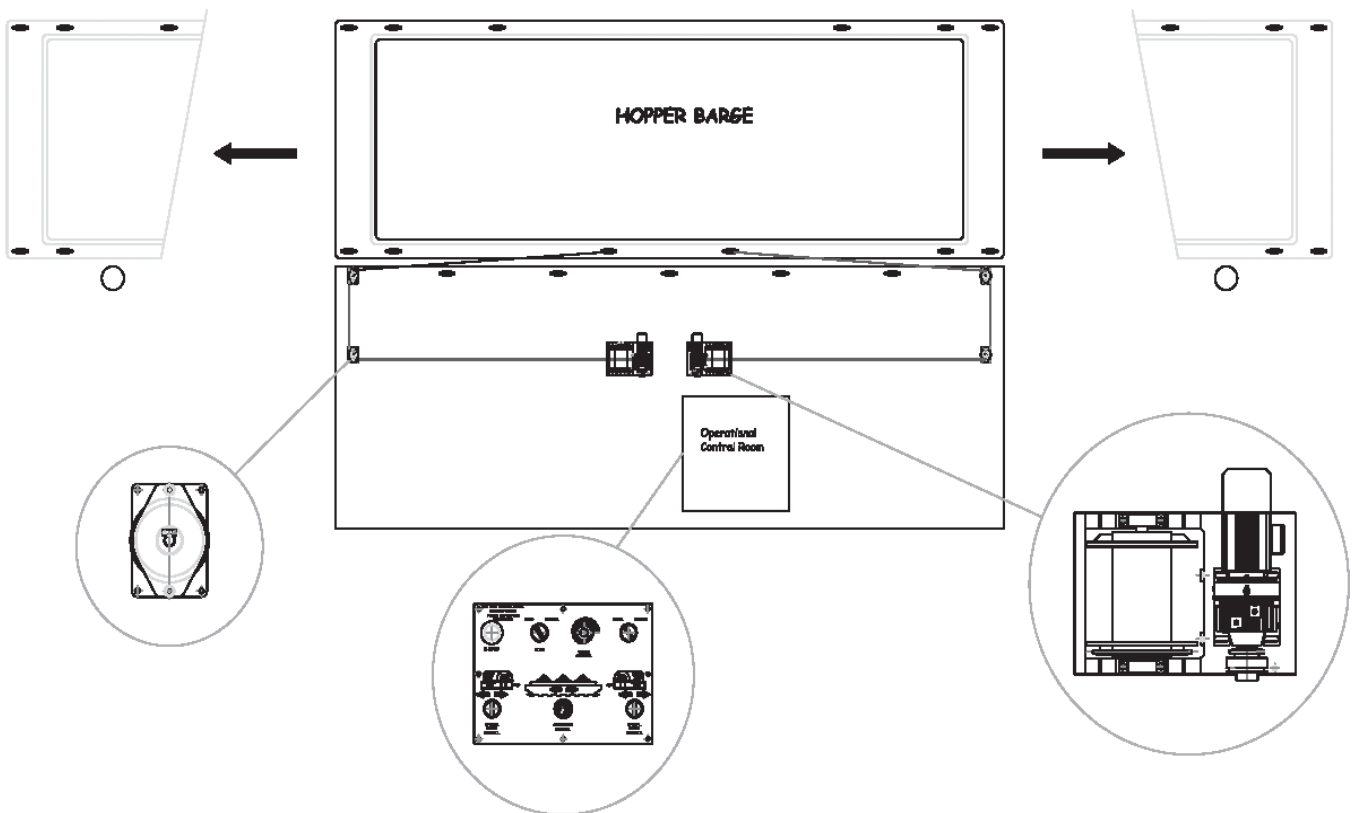


Wintech

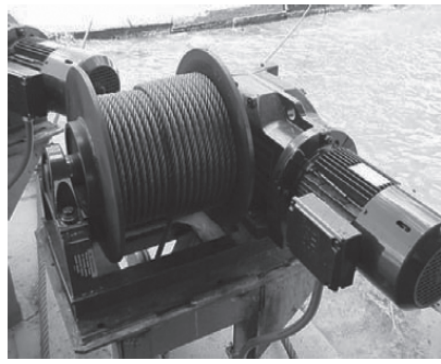
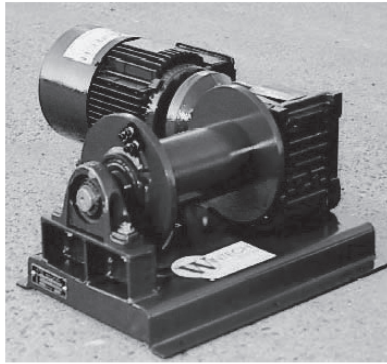
Wintech has been designing and manufacturing Barge Positioning Systems for many years. Companies from all over the United States inland river system, coastal waterways, and other countries rely on the efficiency, safety and dependability of our systems. Chances are there is a system near you. If you would like additional information on Wintech Barge Positioning Systems or if you have an interest in visiting an existing installation to see for yourself we are eager to assist you.



Sample Barge Positioning System Layout



RK SERIES WINCHES 500 - 6,000 LBS. CAPACITY



**PERFECT FOR MANY
INDUSTRIAL,
CONSTRUCTION,
MINING AND OIL
FIELD APPLICATIONS**

Superior Value - Wintech Reliability / Quality

STANDARD FEATURES

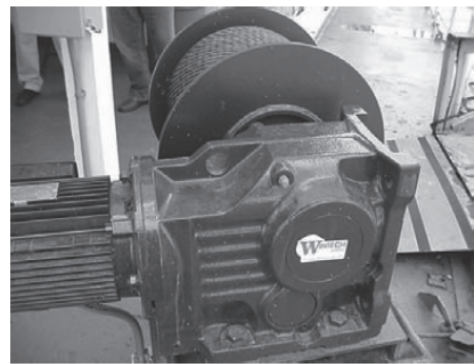
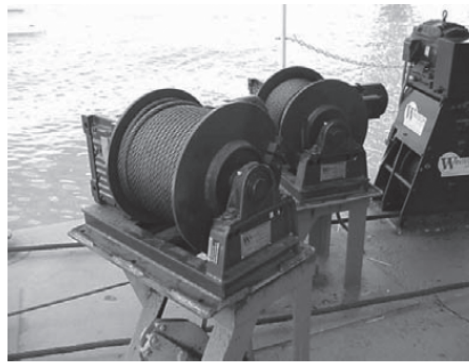
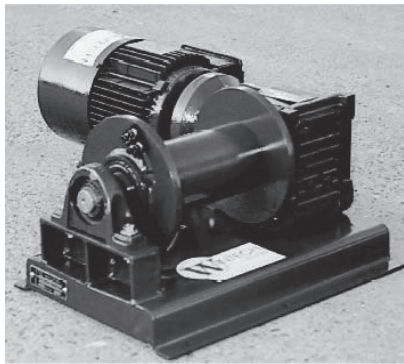
- Direct drive fully enclosed gear reducer with helical-bevel gearing.
- NEMA design "D" totally enclosed fan cooled electric motors with high starting torque to overcome initial inertia of pulling load.
- 230/460/3/60 Voltage.
- Automatic electromagnetic activates in the event of power interruption to brake stop and hold load securely.
- Heavy duty welded steel frame and drum construction with bolt down provision.
- Ball and roller bearing mounted drum for high efficiency.
- Winch is sandblasted, primed and painted.

OPTIONAL FEATURES:

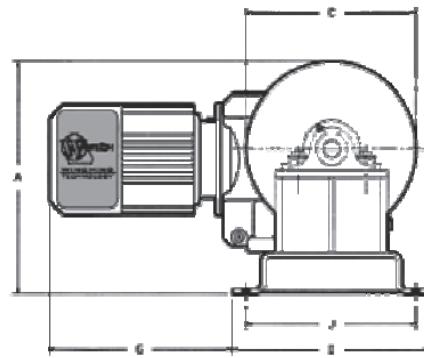
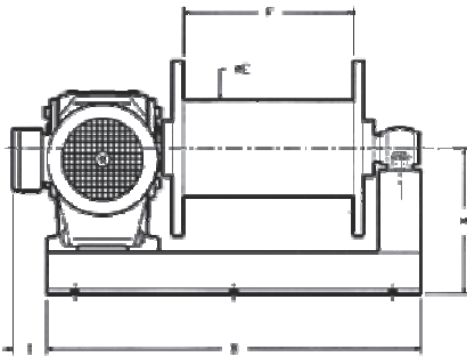
- NEMA 1 and NEMA 4 starter panels and control packages
- Marine grade motor and gear reducer
- Longer or shorter drum lengths
- Adjustable torque limiter disengaging clutch
- Explosion - proof motors
- Rotary limit switch
- Grooved Drums
- Customs designs available

Model	Line Pull (LBS)				Line Speed (FPM) 2nd Layer	H.P.	Cable Size (inch)	Drum Capacity (ft)	
	Starting		Running					2nd Layer	Full Drum
	1st Layer	4th Layer	1st Layer	4th Layer					
RK500-20	1260	960	550	420	22	1/3	1/4	84	300
RK500-50	1260	960	550	420	49	3/4	1/4	84	300
RK800-20	2150	1650	950	720	19	1/2	1/4	84	300
RK800-80	2150	1650	950	720	78	2	1/4	84	300
RK1000-20	2500	1900	1100	840	25	3/4	1/4	84	300
RK1000-50	2500	1900	1100	840	49	1 1/2	1/4	84	300
RK1000-150	2500	1900	1100	840	162	5	1/4	84	300
RK1500-30	3900	3100	1700	1340	32	1 1/2	3/8	124	446
RK1500-60	3700	2900	1600	1260	67	3	3/8	124	446
RK2000-20	6200	4700	2700	2043	20	1 1/2	3/8	124	446
RK2000-40	6200	4700	2700	2043	41	3	3/8	124	446
RK2000-75	5600	4200	2440	1840	75	5	3/8	124	446
RK3000-30	7350	5750	3200	2500	34	3	7/16	136	388
RK3000-80	7700	6000	3350	2600	81	5	7/16	136	388
RK4500-20	12400	9300	5400	4070	20	3	1/2	121	349
RK4500-50	11600	8800	5050	3820	53	7 1/2	1/2	121	349
RK6000-40	14700	11000	6400	4800	43	7 1/2	5/8	161	465
RK6000-75	16500	12500	7200	5450	75	15	5/8	161	465

RK SERIES WINCHES 500 - 6,000 LBS. CAPACITY



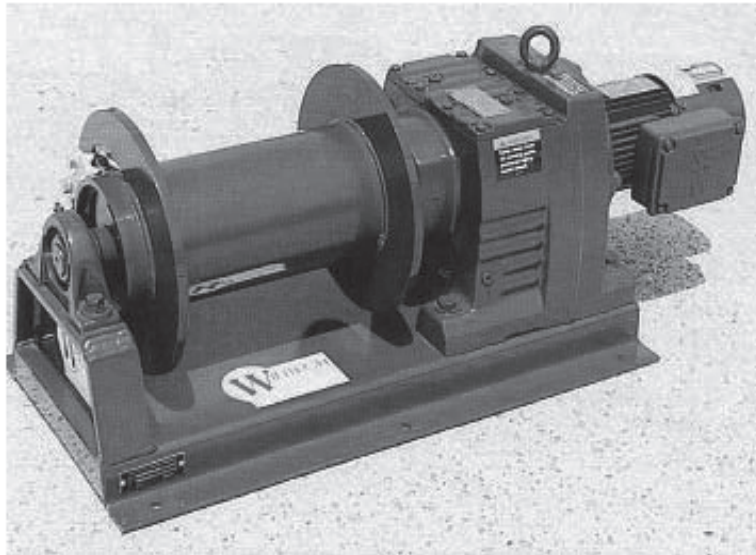
Superior Value - Wintech Reliability / Quality



Model	DIMENSIONS (INCHES)									
	A	B	C	D	E	F	H	I	J	WEIGHT (LBS)
RK500-20	10 1/2	19 3/4	8	11 3/4	4 1/2	8	6 1/2	2 1/2	10 1/4	130
RK500-50	10 1/2	19 3/4	8	11 3/4	4 1/2	8	6 1/2	2 1/2	10 1/4	137
RK800-20	10 1/2	19 3/4	8	11 3/4	4 1/2	8	6 1/2	2 1/2	10 1/4	137
RK800-80	10 1/2	19 3/4	8	11 3/4	4 1/2	8	6 1/2	3 3/4	10 1/4	149
RK1000-20	11 1/2	20 3/4	8	11 3/4	4 1/2	8	7 1/2	2 1/8	10 1/4	150
RK1000-50	11 1/2	20 3/4	8	11 3/4	4 1/2	8	7 1/2	3 1/2	10 1/4	164
RK1000-150	11 1/2	20 3/4	8	11 3/4	4 1/2	8	7 1/2	3 3/4	10 1/4	181
RK1500-30	15 1/8	24 3/4	12	16 1/2	6 7/8	12	9 1/8	2 3/4	14 3/4	234
RK1500-60	15 1/8	24 3/4	12	16 1/2	6 7/8	12	9 1/8	2 7/8	14 3/4	250
RK2000-20	16 3/8	26 1/4	12	16 1/2	6 7/8	12	10 3/8	2 1/8	14 3/4	303
RK2000-40	16 3/8	26 1/4	12	16 1/2	6 7/8	12	10 3/8	2 1/4	14 3/4	322
RK2000-75	16 3/8	26 1/4	12	16 1/2	6 7/8	12	10 3/8	2 1/4	14 3/4	322
RK3000-30	19 3/4	26 3/4	14	19 1/2	8 7/8	12	12 3/4	2 1/2	17 3/4	436
RK3000-80	19 3/4	26 3/4	14	19 1/2	8 7/8	12	12 3/4	3	17 3/4	471
RK4500-20	19 7/8	30 1/4	14	22 3/4	8 7/8	12	12 7/8	1 1/2	17 3/4	662
RK4500-50	19 7/8	30 1/4	14	22 3/4	8 7/8	12	12 7/8	1 1/2	17 3/4	675
RK6000-40	23 1/2	35 3/4	18	23 3/4	10 3/4	16	14 1/2	2 3/4	21 1/4	1061
RK6000-75	23 1/2	35 3/4	18	23 3/4	10 3/4	16	14 1/2	2 2/3	21 1/4	1140

NOTE: Dimensions are subject to change. Please contact factory for certified prints.

BP SERIES WINCHES 500 - 6000 LBS. CAPACITY



PERFECT
FOR MANY
INDUSTRIAL,
CONSTRUCTION,
MINING AND
OIL FIELD
APPLICATIONS



Superior Value - Wintech Reliability / Quality

STANDARD FEATURES

- Direct drive fully enclosed gear reducer with parallel helical gearing.
- NEMA design "D" totally enclosed fan cooled electric motors with high starting torque to overcome initial inertia of pulling load.
- 230/460/3/60 Voltage.
- Automatic electromagnetic activates in the event of power interruption to brake stop and hold load securely.
- Heavy duty welded steel frame and down provision.
- Ball and roller bearing mounted drum for high efficiency.
- Winch is sandblasted, primed and painted.

OPTIONAL FEATURES:

- NEMA 1 and NEMA 4 starter panels and control packages
- Marine grade motor and gear reducer
- Longer or shorter drum lengths
- Adjustable torque limiter disengaging clutch
- Explosion - proof motors
- Rotary limit switch
- Grooved Drums
- Custom designs available

Model	Line Pull (LBS)				Line Speed (FPM) 2nd Layer	B.P.	Cable Size (inch)	Drum Capacity (ft)	
	Starting		Running					2nd Layer	Pull Drum
	1st Layer	4th Layer	1st Layer	4th Layer					
BP300-2D	1260	960	330	420	22	1/2	1/4	84	300
BP300-4D	1320	990	370	430	48	3/4	1/4	84	300
BP300-3D	2070	1590	900	690	30	3/4	1/4	84	300
BP1000-2D	2330	1930	1110	840	27	3/4	1/4	84	300
BP1000-3D	2620	2000	1140	870	48	1 1/2	3/16	146	620
BP1300-2D	4180	3290	1820	1430	20	3/4	3/8	124	446
BP1300-4D	4180	3290	1820	1430	40	2	3/8	124	446
BP2000-1D	3220	4120	2270	1790	16	1	3/8	124	446
BP2000-4D	3430	4280	2370	1880	47	3	3/8	124	446
BP3000-2D	7960	6190	3460	2690	21	2	7/16	136	388
BP3000-3D	7960	6190	3460	2690	32	3	7/16	136	388
BP3000-8D	7960	6190	3460	2690	78	7 1/2	7/16	136	388
BP4300-2D	11200	8420	4870	3680	23	3	1/2	121	349
BP4300-3D	11340	8530	4930	3710	36	7 1/2	1/2	121	349
BP6000-4D	14700	11040	6390	4800	43	7 1/2	3/8	161	463

HEAVY DUTY CAPSTAN WINCHES



DIRECT DRIVE

A direct-drive design increases the efficiency of the capstan winch and eliminates drive chains or bull gears to maximize power output.

ANY ANGLE

The rope can leave the drum at any angle, enabling the operator to stand in the most appropriate, out of line of sight location. For safety the load line shall be the bottom wrap on the drum, and the lead line going to the operator will be the top wrap on the drum

GEAR REDUCERS

All Jeamar capstan winches utilize high-efficiency worm, helical, helical-worm or helical-bevel reducers plus high-capacity, anti-friction bearings designed for long life, low noise and higher output torque.

HIGH STARTING LOADS

High-starting-torque, 3-phase motors are available in all standard voltages at 50 and 60 Hz. These motors are suited to railcar pulling where momentary overloads occur when a railcar is started in motion. Single phase motors at 115/230 volts at 50 or 60 Hz are available as an option on some models.

LOAD CALCULATIONS

For detail on pulling railcars up grades, send for our free railcar pulling brochure, or see technical notes, page 54.

OPTIONS

CONTROLS

Capstans can be supplied with start/stop, foot-operated controls of the "deadman" variety. If the operator's foot moves off the switch, the capstan will stop. This type of control allows the operator to use two hands on the rope, for optimum control (see page 41).

HYDRAULIC AND AIR-DRIVEN MOTORS

Capstan winches can be supplied with either hydraulic or air motors.

EXPLOSION PROOF

Fully explosion-proof motors and controls are available for applications in hostile or volatile environments.

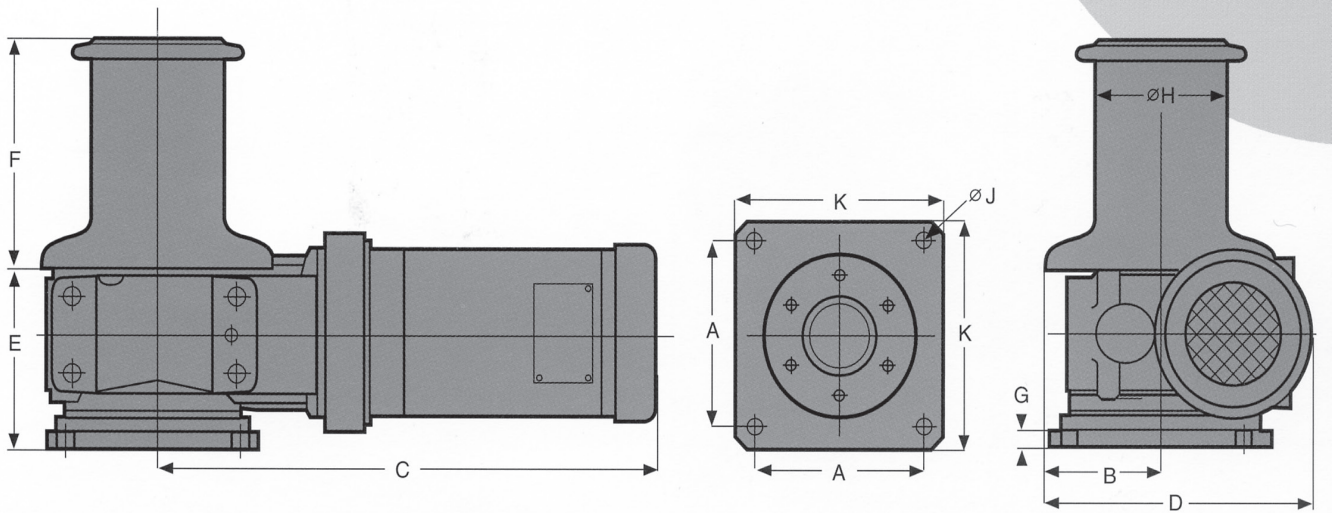
TORQUE LIMITATION

Capstans can be supplied with a variable frequency drive (VFD) package. The VFD controls the amount of current that the motor can draw, limiting the amount of torque that the electric motor can produce (see page 41).

Important: Due to our policy of continuing development, all specifications are subject to change without notice. Users of these products are responsible for ensuring their suitability for the application in which they are being used.

probably from Louisiana if...

You pronounce the largest city in the state as "Newawllins."



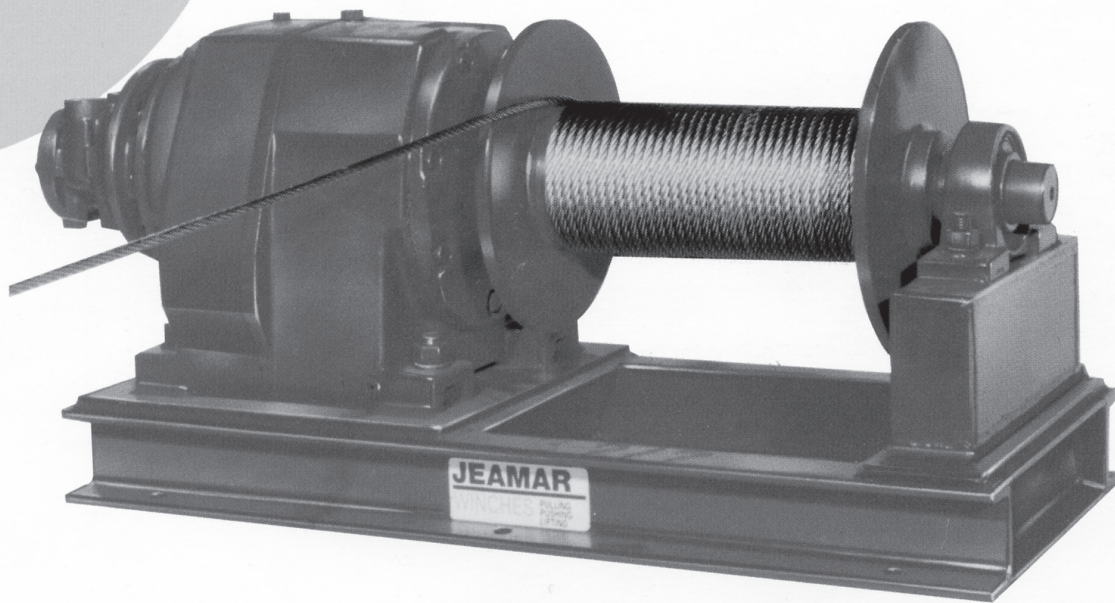
Model Number		VC 2000-26	VC 5000-30	VC 5000-45	VC 8000-13	VC 8000-30	VC 12000-17	VC 15000-13	VC 18000-17	VC 22000-17	
Working Load Limit Starting	lb	2000	5000	5000	8000	8000	12000	15000	18000	22000	
	kg	907	2268	2268	3628	3628	5442	6803	8163	9977	
Working Load Limit Running	lb	1000	2500	2500	4000	4000	6000	7500	9000	11000	
	kg	454	1134	1134	1814	1814	2721	3401	4082	4989	
Rope Speed	ft/min	26	30	45	13	30	17	13	17	17	
	m/min	8	9	14	4	9	5	4	5	5	
Rope Diameter* (Polypropylene)	in	5/8	1-1/8	1-1/8	1-1/2	1-1/2	1-3/4	2	-	-	
	mm	16	29	29	38	38	44	50	-	-	
Rope Diameter* (Spect-Set)	in	5/8	5/8	5/8	3/4	3/4	7/8	1	1-1/4	1-1/4	
	mm	16	16	16	20	20	22	25	32	32	
Motor	Hp	1.5	3	5	3	5	5	5	7.5	7.5	
	kW	1.1	2.3	3.8	2.3	3.8	3.8	3.8	5.7	5.7	
Weight	lb	202	330	355	452	474	660	1124	1162	1379	
	kg	92	150	161	205	215	299	510	527	625	
DIMENSIONS	A	in	9.00	9.00	9.00	14.50	14.50	14.50	17.00	17.00	17.00
		mm	229	229	229	368	368	368	432	432	432
	B	in	5.58	6.00	6.00	8.75	8.75	8.75	10.50	10.50	12.40
		mm	142	152	152	222	222	222	267	267	315
	C	in	14.66	26.39	26.39	27.62	27.62	30.00	32.00	32.66	51.66
		mm	372	670	670	702	702	762	813	830	1312
	D	in	11.83	14.00	14.00	18.00	18.00	19.77	23.69	23.69	22.90
		mm	300	356	356	457	457	502	602	602	582
	E	in	8.95	10.05	10.05	11.81	11.81	13.75	16.09	16.09	11.88
		mm	227	255	255	300	300	349	409	409	302
	F	in	5.25	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50
		mm	133	292	292	292	292	292	292	292	292
	G	in	0.75	0.75	0.75	1.00	1.00	1.00	1.25	1.25	1.25
		mm	19	19	19	25	25	25	32	32	32
	H	in	4.00	7.00	7.00	7.00	7.00	9.00	11.00	11.00	11.00
		mm	102	178	178	178	178	229	279	279	279
	J	in	0.81	0.81	0.81	1.06	1.06	1.06	1.31	1.31	1.31
		mm	21	21	21	27	27	27	33	33	33
K	in	11.00	11.00	11.00	17.50	17.50	17.50	21.00	21.00	21.00	
	mm	279	279	279	445	445	445	533	533	533	

Important: Due to our policy of continuing development, all specifications are subject to change without notice. Users of these products are responsible for ensuring their suitability for the application in which they are being used.

probably from Louisiana if...

You know those big roaches can fly, but you're able to sleep at night anyway.

HEAVY DUTY AIR TUGGER WINCHES



WINCH DRUMS

Drums are steel fabricated and designed to specific loading capacity. Drums are sized according to ASME B30.7.94 to provide a minimum pitch diameter of 15 times the nominal rope diameter.

DIRECT DRIVE

A simple, direct-drive design increases the efficiency of the winch and eliminates drive chains or bull gears to maximize power output.

ANY POSITION

An open-base design permits mounting in horizontal or vertical positions. Loads can be pulled through the base itself, which is particularly useful in limited-space installations.

BALL & ROLLER BEARINGS THROUGHOUT

Friction load loss is reduced to a minimum through the use of ball and roller bearings. No bushings means higher efficiency and more power for pulling.

POWER IN — POWER OUT

For added safety, all winches are fully reversible. This gives the operator complete control of the winch load in both directions at all times.

HIGH SERVICE FACTORS

Jeamar winches are designed and manufactured for continuous, heavy-duty operation with a minimum service factor of 1 (one).

GEAR REDUCERS

All Jeamar air winches have high-efficiency helical reducers plus high-capacity, anti-friction bearings for long life, low noise and high output torque. Totally enclosed reducers make them weatherproof.

AIR MOTORS

Jeamar air motors are fully reversible vane type. Positive starting and precise control are central features of the motors, which have been designed for long life and low-cost operation. They can be stalled indefinitely under load without harm to the motor.

CONTROL VALVE

Control valves feature proportional flow with spring return to neutral for "deadman" operation. Valves control the winch speed by varying air flow to the motor. With the control released, air flow is cut off, stopping the winch. Controls are supplied loose to allow for mounting that is appropriate to the application.

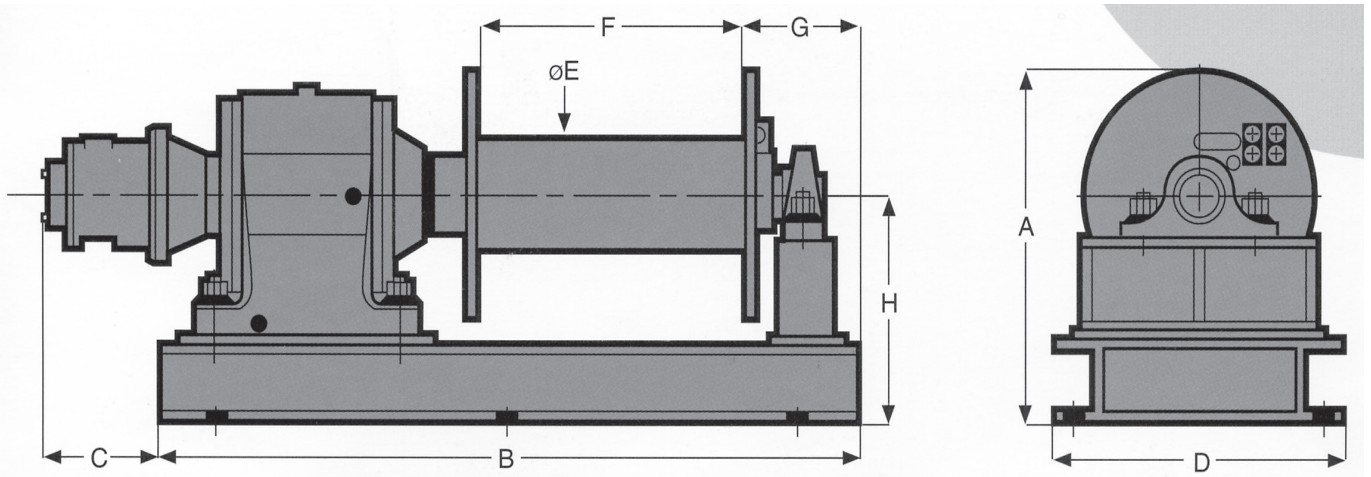
LOAD CALCULATIONS

For detail on pulling railcars or pulling up grades, send for our free railcar pulling brochure and technical notes.

NOTICE

When the Air Tugger winch is used to move loads on an incline, it is essential that a brake be used.

Important: Due to our policy of continuing development, all specifications are subject to change without notice. Users of these products are responsible for ensuring their suitability for the application in which they are being used.



Model Number		NHA 550	NHA 1100	NHA 1900	NHA 2800	NHA 4000	NHA 5800	NHA 7500	
Working Load Limit (1st Layer)	lb	550	1100	1900	2800	4000	5800	7500	
	kg	249	499	862	1270	1814	2630	3401	
Working Load Limit (4th Layer)	lb	412	785	1355	2015	2900	4230	5280	
	kg	187	356	615	914	1315	1918	2395	
Line Speed (1st Layer)	fpm	25	28	27	21	22	26	23	
	m/min	7.6	8.5	8.2	6.4	6.7	7.9	7.0	
Line Speed (4th Layer)	fpm	33	39	38	29	30	35	32	
	m/min	10.1	11.9	11.6	8.8	9.1	10.7	9.8	
Rope Diameter	in	1/8	3/16	1/4	5/16	3/8	7/16	1/2	
	mm	3	5	6	8	10	11	13	
Rope Capacity (4th Layer)	ft	125	160	215	215	275	290	250	
	m	38	49	66	66	84	88	76	
Motor Power (at rated line speed)	Hp	0.42	0.96	1.58	2.40	2.70	4.60	5.40	
	kw	0.3	0.7	1.2	1.8	2.0	3.4	4.0	
Air Consumption	cfm	58	110	110	160	160	260	260	
	l/s	26	50	50	75	75	118	118	
Weight	lb	92	130	190	415	438	645	808	
	kg	42	59	86	189	199	293	367	
DIMENSIONS	A	in	9.00	13.00	14.00	13.89	20.00	20.36	21.34
		mm	229	330	356	353	508	517	542
	B	in	18.00	27.50	33.00	32.50	42.50	42.50	45.00
		mm	457	699	838	826	1080	1080	1143
	C	in	6.00	5.00	5.00	8.00	4.00	9.00	9.00
		mm	152	127	127	203	102	229	229
	D	in	10.00	14.00	14.00	14.00	18.00	18.00	19.50
		mm	254	356	356	356	457	457	495
	E	in	1.75	2.62	3.50	4.50	5.56	6.63	6.63
		mm	44	67	89	114	141	168	168
	F	in	6.00	9.00	12.00	12.00	15.00	15.00	15.00
		mm	152	229	305	305	381	381	381
	G	in	4.63	6.63	6.63	7.39	7.25	7.00	7.00
		mm	118	168	168	188	184	178	178
	H	in	5.31	7.94	8.89	8.89	13.36	13.36	14.34
		mm	135	202	226	226	339	339	364

Note: All performance data are based on 90psi (6 Bar) air supply

Important: Due to our policy of continuing development, all specifications are subject to change without notice. Users of these products are responsible for ensuring their suitability for the application in which they are being used.

probably from Louisiana if...

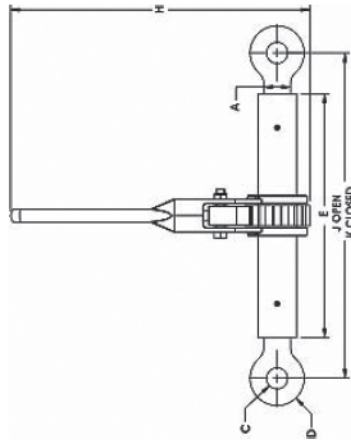
You realize the rain forest is less humid than Louisiana.

STANDARD RATCHET TURNBUCKLES: Type D: Eye & Eye Turnbuckle

Specifications For Type D (Eye In Eye) Ratchet Turnbuckles

Model Number	A in.	E in.	D in.	H in.	C in.	J in.	K in.	Adj. in.	Safe Working Load ** (Tension)
3/4 X 12 Type D	0.75	12	1.88	11.5	1	26.5	16	10.5	4,600
1 X 12 Type D	1	12	2.38	11.5	1.25	26.5	16.5	10	9,000
1 X 18 Type D	1	18	2.38	11.5	1.25	38.5	22.5	16	9,000
1 1/8 X 12 Type D	1.25	12	2.75	11.5	1.38	26.5	16.75	9.75	10,000
1 1/8 X 18 Type D	1.13	18	2.75	11.5	1.38	38.5	22.75	15.75	10,000
1 1/4 X 12 Type D	1.25	12	3	20	1.5	26.5	17	9.5	14,600
1 1/4 X 18 Type D	1.25	18	3	20	1.5	38.5	23	15.5	14,600
1 3/8 X 12 Type D	1.38	12	3.5	20	1.56	26.75	17.5	9.25	17,000
1 3/8 X 18 Type D	1.38	18	3.5	20	1.56	38.75	23.5	15.25	17,000
1 3/8 X 24 Type D	1.38	24	3.5	20	1.56	50.75	29.5	21.25	17,000
1 1/2 X 12 Type D	1.5	12	3.63	20	1.75	26.75	17.75	9	21,400
1 1/2 X 18 Type D	1.5	18	3.63	20	1.75	38.75	23.75	15	21,400
1 1/2 X 24 Type D	1.5	24	3.63	20	1.75	50.75	29.75	21	21,400
1 3/4 X 18 Type D	1.75	18	4.5	20	1.69	38	23.5	14.5	25,000
1 3/4 X 24 Type D	1.75	24	4.5	20	1.69	50	29.5	20.5	25,000
1 3/4 X 30 Type D	1.75	30	4.5	20	1.69	62	35.5	26.5	25,000
2 X 18 Type D	2	18	5	26	2	40.5	26.5	14	30,000
2 X 24 Type D	2	24	5	26	2	52.5	32.5	20	30,000
2 X 30 Type D	2	30	5	26	2	64.5	38.5	26	30,000
2 1/2 X 18 Type D	2.5	18	6	26	3	40	27	13	60,000
2 1/2 X 24 Type D	2.5	24	6	26	3	52	33	19	60,000
2 1/2 X 30 Type D	2.5	30	6	26	3	64	39	25	60,000
2 3/4 X 24 Type D	2.75	24	6.5	26	3	52.5	34	18.5	76,000
2 3/4 X 30 Type D	2.75	30	6.5	26	3	64.5	40	24.5	76,000
3 X 18 Type D	3	18	6.5	26	3.25	40	28	12	100,000
3 X 24 Type D	3	24	6.5	26	3.25	46	34	12	100,000
4 X 24 Type D	4	24	9	26	3.5	44	36	8	200,000
4 X 30 Type D	4	30	9	26	3.5	50	42	8	200,000

**Safe Working Load, in tension, provides a safety factor of approximately five-to-one.

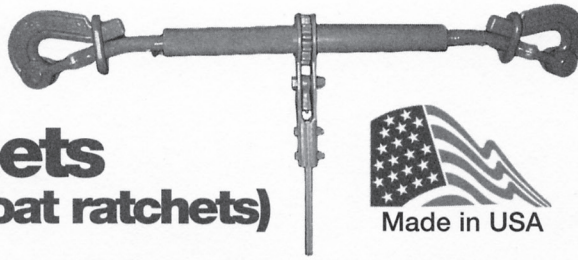


PATTERSON

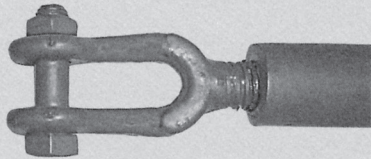
SAFER. EASIER. FASTER.

River Ratchets

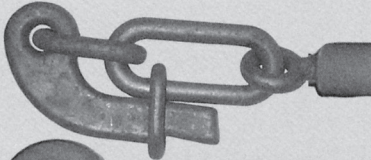
(Steamboat ratchets)



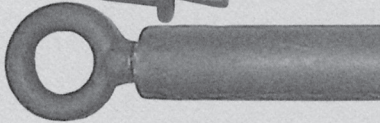
End Fitting Choices



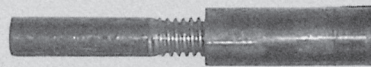
W
Clevis Jaw



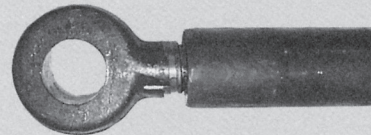
A Pelican
Hook & Link



F
Formed
Eye Bolt



S
Stub



D
Drilled Eye Bolt



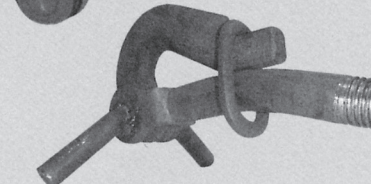
X
Box Hook



E
Welded Link



K
Pelican Hook



K w/Legs
Pelican Hook

Handle Choices: The double acting pawls are spring loaded so that the ratcheting can be done at any angle. The loose pawl design works by gravity and is thus only effective when the handle is in the nearly vertical position.

Specify your river ratchet

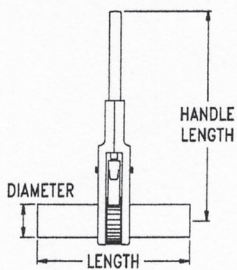
- 1 Choose the screw diameter** to suit your needs. Please apply a minimum 4 to 1 design factor when making your selection. For example, if your design load is 10,000 lbs. maximum, then a 1 " ratchet with a 40,000 lb. MBS would be the minimum strength required.
- 2 Specify the barrel length** as determined by amount of take-up required.
Barrel length = Required take-up plus 2 times the screw diameter. In general 18" to 36" in 6" increments are standard, but other lengths can be supplied upon request.
- 3 Pick the end fittings** for each end (left and right) to best suit your application. Ratchets and end fittings are designed for straight line pull tension applications only.
- 4 Select handle type** (spring loaded or loose pawl). See handle information on this page.

Dimensions All dimensions are inches.



Made in USA

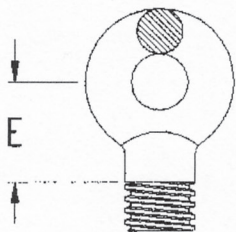
Handles / Barrels



Screw Dia. (Inches)	Barrel Pipe O.D. (Inches)	WLL*	MBS** (Lbs.)	Standard Handles Length (In.)
5/8	1 5/16	2,600	7,800	10 1/2
3/4	1 5/16	5,400	16,200	12 3/8
1	1 1/2	13,000	39,000	14
1 3/8	2 3/8	28,300	85,000	22 /19 LOOSE PAWL
1 3/4	2 7/8	42,000	126,000	22 /19 LOOSE PAWL
2	3 1/2	55,000	165,000	26

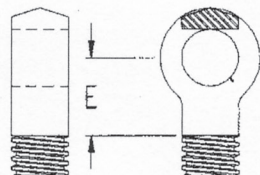
*WLL=Working Load Limit. **MBS=Minimum Breaking Strength. Welded End Fittings will reduce breaking strength. Ratings are for straight tension applications only.
Note: Ratchet located center of barrel unless specified otherwise.

Eyebolts Formed For use with chain or wire rope



Shank Diameter	Thickness	Outside Diameter	Size of Pin that will fit through Eyebolt	Center of Hole to Last Usable Thread (E)
5/8	1/2	1 3/4	1 1/16	1
3/4	9/16	2 1/32	7/8	1 1/2
1	3/4	2 1/2	1 5/16	2
1 3/8	1 1/8	3 1/2	1 1/4	2 1/2
1 3/4	1 1/4	4	1 7/16	2 5/8
2	1 5/16	4 1/4	1 9/16	2 3/4

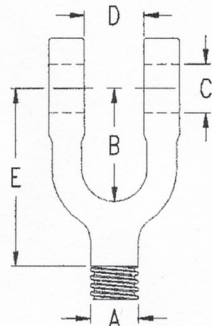
Eyebolts Drilled For use with pins or bolts



Shank Diameter	Thickness	Outside Diameter	Max. Inside Diameter of Drilled Hole	Suggested Inside Dia. of Drilled Hole	Center of Hole to Last Usable Thread (E)
1	1	2 5/16	1 3/16	3/4	1 7/8
1 3/8	1 3/8	3 1/4	1 3/4	1 5/16	2 1/2
1 3/4	1 3/4	3 3/4	2	1 11/16	2 15/16
2	2	4 3/16	2 1/4	2 1/16	2 3/4

Actual hole size must be specified. If hole is 1" or less increments of 1/16" are acceptable. If the hole size is larger than 1" the standard increment is 1/8".

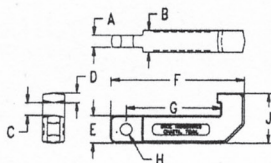
Clevis Jaws



Shank Diameter	Throat To Hole Center	Suggested Bolt Size	Throat Opening	Center of Hole to Last Usable Thread
A	B	C	D	E
1	2 1/2	7/8	1 1/8	4
1 3/8	3 1/2	1	1 1/4	5 1/2
† 1 3/8	1 3/4	1	1 3/8	3 1/4
1 3/4	3 7/8	1 5/8	2 3/8	6 1/2
† 1 3/4	1 7/8	1 5/8	1 1/4	4 1/2
2	4 7/8	2	2 1/2	7 1/2
†† Use w/1" Barrel	1 5/8	7/8	1 1/8	N/A

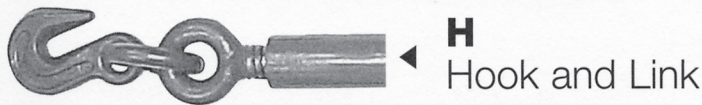
†=Special Run Item ††=Stationary Swivel Jaw

Box Hooks

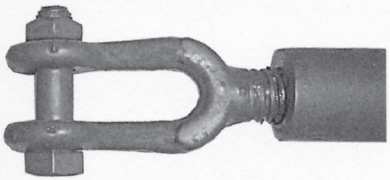


A	B	C	D	E	F	G	H
1/8	2.00	1 3/16	15/16	2.5	12 3/16	8 5/8	1 1/16

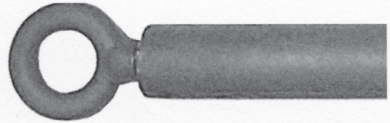
End Fitting Choices



H
Hook and Link



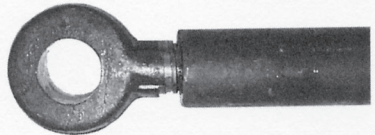
W
Clevis Jaw



F
Formed Eye Bolt



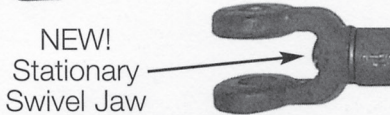
S
Stub End



D
Drilled Eye Bolt



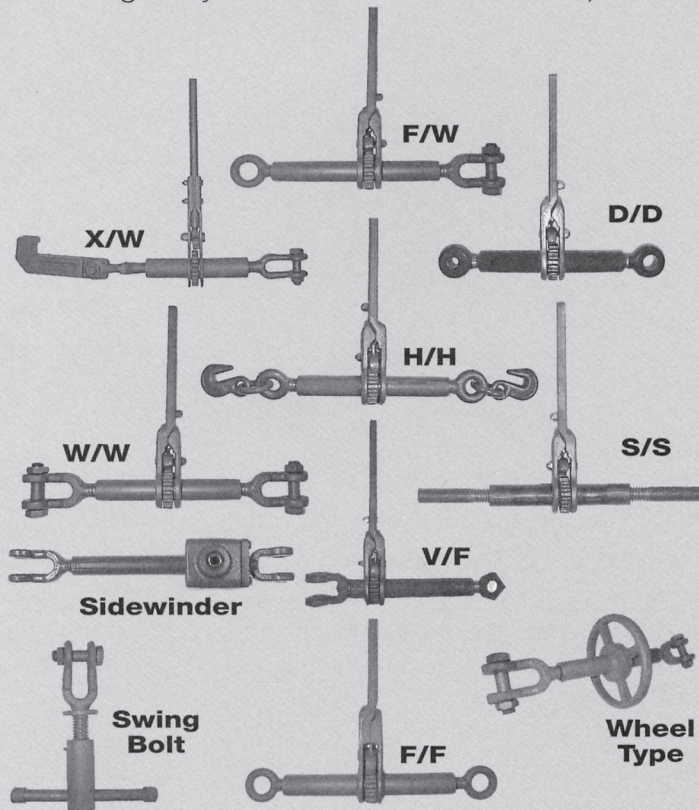
X
Box Hook



NEW!
Stationary Swivel Jaw

V
Swivel Jaw

We offer **any** combination of the End Fittings pictured above. Below are a few example configurations. (All end fittings may not be available for all sizes.)



Specify your ratchet...

1 Choose the barrel diameter and screw size to suit your needs based on breaking strengths and dimensions shown on Dimensions page. Apply in straight tension only with a minimum safety factor of 3 to 1.

2 Specify the barrel length as determined by amount of take-up required. Barrel length = Required take-up plus 2 times the screw diameter. (Round final calculated barrel length up to nearest even inch.)

Example: Required Take-up = 8 inches. Screw Diameter = 1 inch.

8 inches + (2 x 1 inch) = 10 inches.

The Barrel Length would be 10 inches.

3 Pick the end fittings for each end (left and right) to best suit your application. Ratchets and end fittings are designed for straight line pull tension applications only.

F273 SOCKET (I.S.O. - FLUSH)

DIMENSIONAL DATA
COMMERCIAL TOLERANCE APPLIES

SPECIFICATIONS

MATERIAL

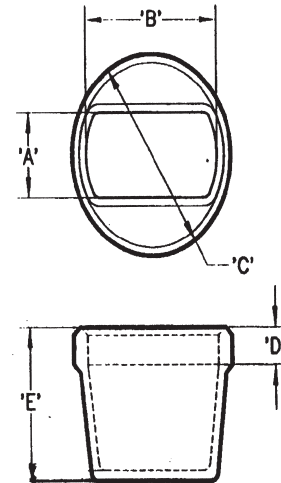
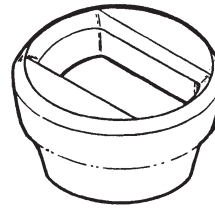
CAST STEEL

STRENGTH: STRENGTH SHOWN IN TONNES

	TENSION	SHEAR	COMPRESSION
SAFE WORKING LOAD:	25	25	75
PROOF LOAD:	37.5	37.5	112.5
MINIMUM BREAK:	50	50	150

FINISH:

SELF COLORED



MODEL NO.	DIM.	'A'	'B'	'C'	'D'	'E'	WEIGHT KGS.(LBS.)
F273-1-0F	MM	64.7	125.4	152.4	28.6	116.0	5.3
	(INCH)	(2.54)	(4.94)	(6.00)	(1.13)	4.57	(11.7)

F476 TWISTLOCK STACKER (FIXED BASE)

DIMENSIONAL DATA
COMMERCIAL TOLERANCE APPLIES

SPECIFICATIONS

MATERIAL:

CONE - FORGED STEEL
BODY-DUCTILE IRON

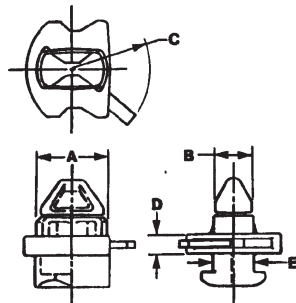
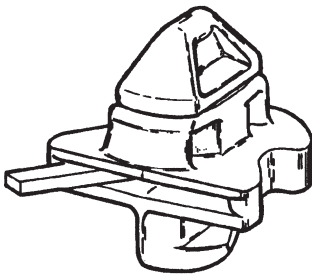
STRENGTH:

TENSION	34 TONNES
SHEAR	48 TONNES
COMPRESSION	150 TONNES

TESTING: TWISTLOCK IS TESTED PER A.B.S.

FINISH:

GALVANIZED



MODEL NO.	DIM	A	B	C	D	E	WT KGS. (LBS.)
F476-R-C	MM	115.9	61.0	146.1	29.3	59.0	6.3
	(INCH)	(4.56)	(2.40)	(5.75)	(1.15)	(2.32)	(13.9)

SPECIFICATIONS

MATERIAL:

D-RING: FORGED STEEL
STRAP: PLATE STEEL

STRENGTH:

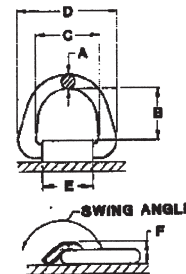
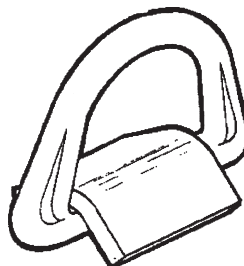
6.6 TONNES M.B.S. PULL AT 45 °

FINISH:

SELF COLORED

F187 D-RING & STRAP

DIMENSIONAL DATA
COMMERCIAL TOLERANCE APPLIES



MODEL NO.	DIM	A	B	C	D	E	F	WT KGS. (LBS.)
F187-20V-2	MM	12.7	28.6	60.3	95.2	80.8	22.0	0.5
	(INCH)	(.500)	(1.13)	(2.38)	(3.75)	(2.00)	(0.88)	(1.00)

probably from Louisiana if...

You can list all the ingredients of a gumbo or a jambalaya

F643 'D' - RING & STRAP

SPECIFICATIONS

MATERIAL:

'D'-RING: FORGED STEEL
STRAP: PLATE STEEL

STRENGTH:

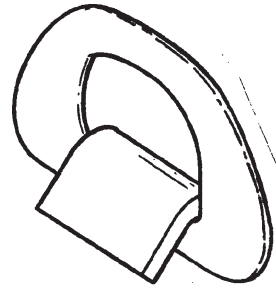
50 TONNES M.B.S. PULL AT 45 °

FINISH:

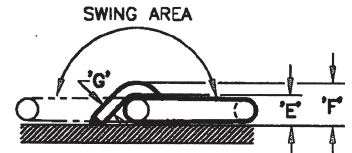
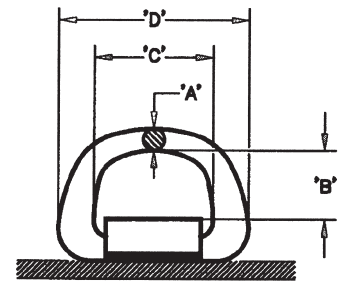
SELF COLORED

WEIGHT:

4.7 KGS. (10.3 LBS.)



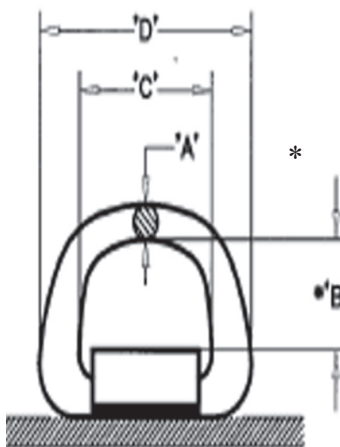
DIMENSIONAL DATA
COMMERCIAL TOLERANCE APPLIES



MODEL NO.	DIM.	'A'	'B'	'C'	'D'	'E'	'F'	'G'
'D'-RING F643-1	MM	25.4	67.2	127.0	222.3	36.0	51.9	15.8
STRAP F643-2	(INCH)	(1.00)	(2.65)	(5.00)	(8.75)	(1.42)	(2.04)	(0.63)

F654 'D' - RING & STRAP

DIMENSIONAL DATA
COMMERCIAL TOLERANCE APPLIES



SPECIFICATIONS

MATERIAL:

'D'-RING: FORGED STEEL STRAP: PLATE STEEL

STRENGTH: PULL AT 45°

SAFE WORKING LOAD: 54,000 Lbs.
PROOF LOAD: 60,000 Lbs.
MINIMUM BREAK STRENGTH: 90,000 Lbs.

FINISH:

SELF COLORED

WEIGHT:

3.5 KGS. [7.6 LBS.]

MODEL NO.	DIM.	'A'	*'B'	'C'	'D'	'E'	'F'	'G'
'D'-RING F654-1	MM	23.0	79.4	127.0	203.2	31.8	44.5	12.7
STRAP F654-2	(INCH)	(0.91)	(3.13)	(5.00)	(8.00)	(1.25)	(1.75)	(0.50)

*'B' dimension is with 'D' -Ring in tension

De Deer Hunt

Boudreaux, Thibodeaux, and a bunch of deir buddies waz out on a deer-hunting trip.

Late one afternoon, Boudreaux walks into camp carrying a huge buck on his back. One of de guys axed.

"Where is Thibodeaux?"

Boudreaux tells him, "He's back dare in de woods a couple of miles. I t'ink he dun had heemself a heart attack or sumt' ing."

De buddies were all shocked dey asks. "Doyo mean dat you carried dat buck back, and lef poor Thibodeaux laying out der in de woods?"

Boudreaux says. "Mais, yeh. it was a tough choice to make. but I figured nobody's gonna steal Thibodeaux!"



McELROY/CATCHOT WINCH COMPANY



SPECIFICATIONS FOR HOISTS

DOUBLE DRUM HOIST SPECIFICATIONS		TRIPLE DRUM HOIST SPECIFICATIONS/TRYNET* DRUM CAPACITIES																	
MODEL NUMBER	500-DD	501-DD	5015-DD	503-DD	5035-DD	500-TS	501-TS	5015-TS	503-TS	5035-TS									
DRUM DIAMETER	4"	4"	4"	6-5/8"	6-5/8"	4"	4"	4"											
DRUM FLANGE DIAMETER	14"	17"	20"	23"	27"	14"	17"	17"	22"	22"									
DRUM SHAFT DIAMETER	2"	2-1/4"	2-1/2"	2-1/2"	3"	2"	2-1/4"	2-1/2"	2-1/2"	3"									
PINION SHAFT DIAMETER	1-3/4"	2"	2-1/4"	2-1/2"	2-1/2"	1-3/4"	2"	2-1/4"	2-1/2"	2-1/2"									
REDUCTION IN HOIST	4.15:1	4.077:1	4.5:1	4.286:1	5.0:1	4.15:1	4.077:1	4.5:1	4.286:1	5.0:1									
DRUM LENGTH	18" 20" 22"	18" 20" 22"	22" 24" 26"	22" 24" 26"	22" 24" 26"	18" 20" 22"	18" 20" 22"	22" 24" 26"	22" 24" 26"	22" 24" 26"									
DRUM WIRE ROPE CAPACITIES																			
3/8" DIAMETER	1335 1483 1632	2076 2306 2537	3297 3956 4286	4615 5035 5454	6600 7200 7800	1335 1483 1632	2076 2306 2537	2537 2768 2999	4170 4549 4928	4170 4549 4928	4170 4549 4928	4170 4549 4928	4170 4549 4928	4170 4549 4928	4170 4549 4928	4170 4549 4928	4170 4549 4928		
FA.	222 247 272	346 384 422	549 659 714	769 839 909	1100 1200 1300	222 247 272	346 384 422	422 461 499	695 758 821	695 758 821	695 758 821	695 758 821	695 758 821	695 758 821	695 758 821	695 758 821	695 758 821		
7/16" DIAMETER	936 1070 1177	1504 1671 1838	2635 2875 3114	3357 3663 3968	4812 5249 5686	936 1070 1177	1504 1671 1838	1838 2005 2172	3031 3307 3583	3031 3307 3583	3031 3307 3583	3031 3307 3583	3031 3307 3583	3031 3307 3583	3031 3307 3583	3031 3307 3583	3031 3307 3583		
FA.	156 178 196	250 278 306	439 479 519	559 610 661	802 874 947	156 178 196	250 278 306	306 334 362	505 551 597	505 551 597	505 551 597	505 551 597	505 551 597	505 551 597	505 551 597	505 551 597	505 551 597		
1/2" DIAMETER	722 803 883	1134 1260 1386	1992 2173 2354	2541 2772 3003	3648 3980 4312	722 803 883	1134 1260 1386	1386 1512 1638	2293 2501 2710	2293 2501 2710	2293 2501 2710	2293 2501 2710	2293 2501 2710	2293 2501 2710	2293 2501 2710	2293 2501 2710	2293 2501 2710		
FA.	120 133 147	189 210 231	332 362 392	423 462 500	608 663 718	120 133 147	189 210 231	231 252 273	382 416 451	382 416 451	382 416 451	382 416 451	382 416 451	382 416 451	382 416 451	382 416 451	382 416 451		
9/16" DIAMETER																			
FA.																			
5/8" DIAMETER																			
FA.																			
1 1/16" DIAMETER																			
FA.																			
3/4" DIAMETER																			
FA.																			
APPROX. BED FRAME DIMENSIONS	35" 37" 39"	40" 42" 43"	45" 47" 46"	44" 46" 48"		35" 37" 39"	40" 42" 43"	43" 45" 47"	43" 45" 47"	43" 45" 47"	35" 37" 39"	40" 42" 43"	43" 45" 47"	43" 45" 47"	43" 45" 47"	43" 45" 47"	43" 45" 47"	43" 45" 47"	
APPROX. WEIGHT IN POUNDS	36" 36" 39"	39" 39" 39"	46" 46" 46"	51" 51" 51"		36" 36" 39"	39" 39" 39"	47" 47" 47"	47" 47" 47"	47" 47" 47"	36" 36" 39"	47" 47" 47"	47" 47" 47"	47" 47" 47"	47" 47" 47"	47" 47" 47"	47" 47" 47"	47" 47" 47"	47" 47" 47"
	2000			2800		2000			2900		2000			2900		2000			2900

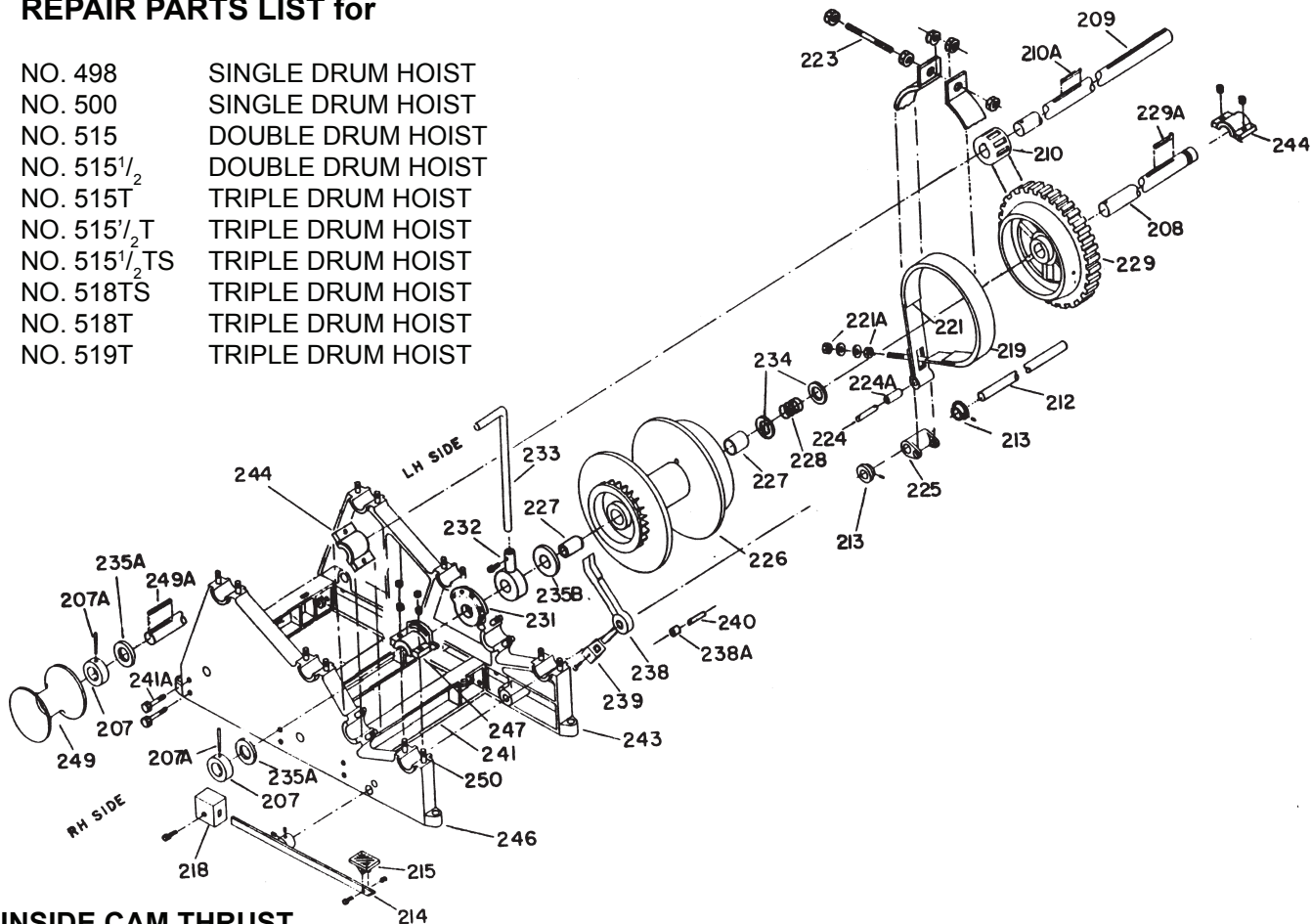
FOR ESTIMATING PURPOSES ONLY. THE MANUFACTURER RESERVES THE RIGHT TO CHANGE OR MODIFY THE EQUIPMENT SPECIFICATIONS OR THE DESIGN AS HEREIN SET FORTH PRIOR TO CERTIFICATION DATE WITHOUT INCURRING ANY OBLIGATION DUE TO PRIOR OR CURRENT DESIGN PROPOSALS.

* FOR MAIN DRUM WIRE ROPE CAPACITIES SEE DOUBLE DRUM HOIST WIRE ROPE CAPACITIES.

STROUDSBURG HOISTS

REPAIR PARTS LIST for

NO. 498	SINGLE DRUM HOIST
NO. 500	SINGLE DRUM HOIST
NO. 515	DOUBLE DRUM HOIST
NO. 515 ¹ / ₂	DOUBLE DRUM HOIST
NO. 515T	TRIPLE DRUM HOIST
NO. 515 ¹ / ₂ T	TRIPLE DRUM HOIST
NO. 515 ¹ / ₂ TS	TRIPLE DRUM HOIST
NO. 518TS	TRIPLE DRUM HOIST
NO. 518T	TRIPLE DRUM HOIST
NO. 519T	TRIPLE DRUM HOIST

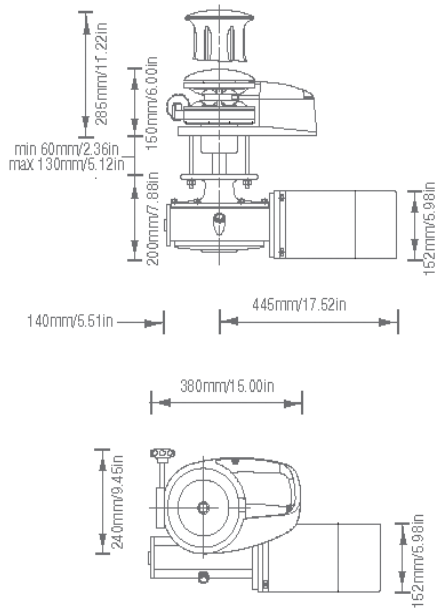


INSIDE CAM THRUST

207	- DRUM SHAFT COLLAR.	231*	- STATIONARY FRICTION CAM.
207A	- DRUM SHAFT COLLAR TAPER PIN.	232*	- MOVABLE FRICTION CAM.
208*	- DRUM SHAFT.	233	- MOVABLE FRICTION CAM LEVER.
209	- PINION SHAFT.	234	- STEEL DRUM SPRING WASHER.
210	- MAIN DRIVE PINION.	235A	- OUTSIDE BRONZE THRUST WASHER.
210A	- MAIN DRIVE PINION KEY.	235B	- INSIDE BRONZE THRUST WASHER.
212*	- BRAKE SHAFT.	238*	- DRUM PAWL WITH BUSHING.
213	- BRAKE SHAFT COLLAR.	238A	- DRUM PAWL BUSHING.
214	- BRAKE LEVER ASSEMBLY LESS WEIGHT, #218.	239*	- DRUM PAWL WEIGHT.
215	- BRAKE LEVER FOOT PAD.	240	- DRUM PAWL PIN.
218	- BRAKE LEVER WEIGHT.	241*	- CROSS BEAM.
219*	- BRAKE BAND COMPLETE WITH LINING.	241A	- CROSS BEAM MOUNTING BOLTS AND NUTS.
221*	- BRAKE LINING.	243	- LEFT HAND SIDE FRAME.
221A	- NUTS AND WASHERS FOR BRAKE END BOLT.	244	- L.H. DRUM SHAFT CAP; R.H. OR L.H. PINION SHAFT CAP.
223	- BRAKE BAND BOLT AND NUTS.	246	- RIGHT HAND SIDE FRAME.
224	- BRAKE BAND TOGGLE PIN.	247*	- DRUM SHAFT CAP FOR R.H. SIDE FRAME.
224A	- BRAKE BAND TOGGLE PIN BUSHING.	249	- WINCH HEAD.
225	- BRAKE BAND TOGGLE.	249A	- WINCH HEAD KEY.
226*	- FRICTION DRUM.	250	- BEARING CAP STUDS WITH NUTS.
227	- FRICTION DRUM BUSHING.	251	- GEAR GUARD ASSEMBLY (NOW SHOWN); SPECIFY MODEL HOIST FOR WHICH GUARD IS REQUIRED.
228	- FRICTION DRUM SPRING.		
229	- FRICTION GEAR.		
229A	- FRICTION GEAR KEY.		
230	- FRICTION GEAR RING (NOT SHOWN) MODEL #498, 515 AND 518T HOISTS ONLY.		

*SPECIFY FOR WHICH DRUM PART IS REQUIRED; LOWER, MIDDLE OR UPPER.

Vertical electric winlasses in low profile or capstan versions



VERTICAL

LOFRANS WINDLASSES

Project 2000

Vertical all chain windlass for boats from 59'-82'. The Project 2000 is ideal for larger, bluewater yachts both new and classic. Capstan version handles $\frac{5}{16}$ " - $\frac{3}{4}$ " rope.

Standard Equipment

Two footswitches
Watertight control box
Clutch/manual operation handle
Brake band

FEATURES

Finish	Chrome
Motor	Dual Direction, Series Wound
Gearbox	Stainless Worm Drive Radially Adjustable
Gears	Bronze
Mainshaft	Stainless
Chainpipe	Fixed
Chain Stripper	Stainless
Mounting Hardware	SS Studs, Washers and Nuts
Manual Override	Standard
Rope Capstan	Optional
Extra Deck Clearance	Optional (to 6")

SPECIFICATIONS

Power Supply	24V	24V
Motor Wattage	2000W	2500W
Power Rating (lbs.)	2800	3100
Approx. Amp Draw	90-110	100-120
Max Retrieval Speed (ft./min.)	78	78
Chain Size	$\frac{5}{16}$ " , $\frac{3}{8}$ " , $\frac{7}{16}$ " , $\frac{1}{2}$ "	
Rope Size	$\frac{5}{16}$ " - $\frac{3}{4}$ " (Capstan only)	
Net Weight (lbs.)	159	159

Doya know who dat is?

Boudreaux and Marie were mad at each udder. Dey drove several miles down de road wit'out saying a word after de argument dey had earlier.

Neider one of dem waz gonna give in to de udder an' admit dat dey might be wrong.

As dey passed a barnyard wit a bunch of mules and pigs standin' aroun'. Marie sarcastically axed Boudreaux. "Ees dat relatives of yours?"

Boudreaux answered. "Yep, dats ma in-laws".

Index Section C

ENGINE ROOM

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Private Enterprise vs Government Subsidy

Lessons from History

(adapted from an address by Burt Folsom, author of Myth of the Robber Barons)

We are in the midst of a war of ideas regarding the marketplace and morality in the marketplace. The free market is under attack. Open competition and entrepreneurship are being attacked as to whether they are the best methods for providing economic growth and prosperity to the United States. The competing model, big, invasive government, has been gaining unwarranted support throughout the twentieth century. The big government model rests on three points: (1) the free market is inefficient and therefore we need big government to step in and regulate, (2) most businessmen are “robber barons” and their corruption causes the need for government to intervene and regulate, and (3) government can produce economic development efficiently. We have seen the big government model in the New Deal, the Great Society and the proposed Clinton health plan. This has caused some people, who have not had either time or inclination for reflection, to conclude that if the government model is growing then big government must work better, be more efficient, and perhaps be more moral than capitalism. This would be a very wrong conclusion to draw based upon historical precedents. There have been times in history when the entrepreneurial free market and big government were at work on the same problem simultaneously. Competing head-to-head, the free market has always proved far more efficient than our own government.

Cornelius Vanderbilt vs Collins and Congress

The steamship industry was America's first serious large-scale industry. In the steamship industry we had new technological developments allowing people to cross the ocean in about a two week period. In the 1840's, how would these new possibilities for trade be approached with faster transportation now available? Would private industry step forward to provide the answer? A man named Edward Collins came to Congress with an idea. He said, “If you will give me \$385,000 per year, I believe I can deliver passengers between England and the United States for \$200 each. I can also do freight and mail, charging for those things of course, and if you will just give me a \$385,000 subsidy, I will be glad to undertake this for you. And oh, by the way, could you build four ships for me, too?” It would come to \$3,000,000, but Congress went for the offer and Collins was underway. Collins claimed before the first ship sailed that he would become more efficient and later would require no subsidies. But in each year of his enterprise, Mr. Collins came back to Congress asking for, not for a decrease, but an increase. He was soon up- to six, seven, then eight hundred thousand dollars a year!

Finally, Cornelius Vanderbilt, a steamboat operator on the east coast, went to Congress and said, “Enough of this! It is completely inefficient.” He told Congress, “I don't know what Mr. Collins is going to ask for this year, but whatever it is, I will do it for half.” Congress went into great debate, but eventually granted Collins his subsidy (with increase) because they said they didn't know if Vanderbilt could actually do it. So Vanderbilt decided if that was the way they wanted it, then with no subsidy he would compete against Mr. Collins. The competition was under way between the privately financed ship of Commodore Vanderbilt and the government subsidized Collins Line. Vanderbilt announced his entry into the competition, adding, “...by the way, I intend to charge less- none of this \$200 per passenger!” Vanderbilt created the third class fare, sometimes called the sardine class because they were packed together so closely on board. But for \$30.00 he made it possible for many more people to afford the voyage on his ship. This is the way many immigrants came to this country. He also saved on fuel by going a little slower, and cut his insurance cost. He even commissioned runners to bring people to his ship. After one year, Vanderbilt was flourishing and Collins was in trouble. Collins' response was to go to Congress and request another increase in his subsidy in order to compete with Vanderbilt. So efficient was Vanderbilt that Collins demanded \$900,000 from Congress. It was debated whether to give Collins \$900,000 or go with Vanderbilt, who had promised to do it for nothing. To help Congress make up its mind, Collins invited them on board his ship (paid for by taxpayers) to wine and dine them. Congress came away convinced they needed to remain committed to Mr. Collins, feeling that since they had started with him it would be dishonest to take away his subsidy now. Still, Collins was nervous. The vote had been close. He decided to run his ships a little faster and promote them as being the most efficient means of travel between Liverpool and New York City. The results were one ship sunk, with four hundred people aboard. Another ship, sailing from New York on April 18 of 1856, has yet to arrive (many think it never will). Collins, faced with the humiliation of the loss of half of his fleet and many lives, now had to go back to Congress to request another increase in subsidy and yet another ship so he could compete with Vanderbilt. Had Congress' seen enough?

Congress built him another ship! Unfortunately, it was poorly built and made only one crossing. The ship cost \$1,000,000 to build, and had to be sold at a loss of over \$900,000. Collins was now in the awkward (but now familiar) position of having to go back to Congress. Finally, the “Just Say No” campaign took effect. Congress became furious. Many congressmen believed that there should be no more federal subsidies in the future, and-that matters should be decided by open competition. Collins had his subsidy completely stripped, leaving him to compete head-to-head with Vanderbilt. Within one year the collies Line was bankrupt!

The Great Northern vs Subsidized Railroads

I wish it could be said that Congress had learned its lesson, but within ten years there were people coming to Congress with a great idea to span the nation with transcontinental railroads, linking California with New York. The Union Pacific and the Central Pacific came to Congress requesting a subsidy to build their lines, as did the Northern Pacific and the Atcheson, Topeka and the Sante Fe. Three of the four were transcontinentals, . all received Federal subsidies of either cash, land, or both. In the midst of this was one company that built and operated across the continent with no subsidies: the Great Northern, built by James Hill. The US. had three transcontinentals with subsidies and one without. The three transcontinental railroads that received Federal subsidies all went bankrupt. These railroads had few incentives to build efficiently, only to grab their subsidies and run. The Great Northern did not, and succeeded. The transcontinentals afford us yet another comparison between private enterprise and government-supported enterprise, even before the twentieth century.

Andrew Carnegie vs Federalized Steel Production

Another example comes from the steel industry. This industry was crucial to the United States becoming a world economic power. Carnegie Steel was founded by Andrew Carnegie in 1872. At the time, England was the biggest steel producer in the world The price of steel rail was about sixty dollars per ton. Carnegie was incredibly innovative. He adopted the Bessemer process, the open hearth, and tried new methods of accounting to make his company more efficient. He applied a merit system that: rewarded employees for good ideas, and put those ideas into practice.. He became so adept at cutting costs that, by 1900, Andrew Carnegie could produce steel rail for eleven dollars per ton, while England was still producing steel at twenty-five dollars per ton. Carnegie Steel, the forerunner of U.S. Steel, was now producing more rail than the entire country of England. We had gone from being second rate to being the dominant producer of steel in the world. Carnegie's was an incredible performance and vindication of the free market. But a Sen. Bill Tillman of South Carolina called the steel companies greedy because of the fortune Carnegie had made in steel. The reasoning was that if there was profit, then there must be oppression there too. President Woodrow Wilson became convinced of the need for a government-run steel mill to compete with the privately run steel mills. After long debate, in 1920 the U.S. finally got its first steel mill run by bureaucrats. The plant, built in Charleston, West Virginia, began by building armor plate. \$17,500,000 later, the first armor plate came off the mill. The cost was about eight hundred dollars per ton! The next president, Warren G. Harding, closed the government's steel mill.

Virtually none of these aforementioned examples can be found in any college level textbook. How can we draw effective conclusions about the proper role of government in our economy if we are unaware of how it has performed in the past. Here is another example:

Smaller Slices of a Growing Pie vs Bigger Slices of a Shrinking Pie

We are all familiar with the Misery Index-a term invented in the 70's-where the percentage of inflation is added to the percentage of unemployment to produce a value that is called the Misery Index. The federal income tax is essential to big government as its largest source of revenue. The federal income tax was enacted in 1913. One of the first things those income tax dollars went for was that government funded steel mill. We have had fifteen presidents since that time. Can you guess which three presidents in that period have had the lowest misery indices? The three lowest indices were during the administrations of. Calvin Coolidge, Ronald Reagan (both terms), and John F Kennedy. And what did these three presidents have in common? Tax Cuts! These presidents were the only three in the last eighty years to cut tax rates. In all three administrations, a decrease in the tax rate produced an increase in government revenues. Investors who had previously sought to avoid punitive tax rates by seeking tax-favored investments, tax exempt municipal bonds and similar investment schemes, brought their money back into the economy, producing "a bigger pie." Seventy percent of nothing is nothing but twenty five percent of something is something, and that is what Coolidge did. The top marginal rate was 73% when Harding/Coolidge took office and was 25% when Coolidge left. The rate on the lowest end was 4% and it dropped to .5%-an eight-fold cut. There was a three-fold cut at the top level and an eight-fold cut at the bottom. These lower rates generated a billion dollars more in 1929 than had been previously generated with the higher rates earlier in the decade. Tax revenues increased by roughly 30% when the marginal rates were reduced. Kennedy and Reagan also found this to be true. In 1980, under Reagan, when the top rate was 70% the Federal government took in approximately 500 billion dollars. In 1990, when the top rate was 28% the Federal government took in one trillion dollars-roughly twice as much because investment comes back into the economy. Unfortunately, the facts of history get lost in the political spin. Capitalism is the most moral, efficient and equitable system of economic exchange in history. But beyond that, it favors the underdog. Entrenched old wealth has no advantage in the free market. The best example that comes to mind is that of Will Kellogg.

The Power of an Idea in a Free Market

The story of Will Kellogg is really the story of two brothers, Will and his eight years older brother. His brother, John Harvey Kellogg, was an "A" student and always the teachers pet. He became a physician, erected his own hospital in Battle Creek, Michigan, and became one of the wealthiest people in the community with an estate that covered an entire city block.

Will Kellogg went through school with this hanging over him. Everyone asked, "Why can't you do as well as your brother?" Will dropped out at the age of 12. His parents owned a broom factory and thought they would put him to work making brooms. He wasn't very good, so they put him to work selling them. Unfortunately, his technique wasn't very good with that either. Will Kellogg was the consummate failure. His parents would put him in business, he would fail, then come back home. Finally, at the age of 20, his parents shoved him out of the house to work for his brother. To get an idea of the work he did for his brother at the hospital, his nickname was "J.H. s Lucky." He shined his brother's shoes and was often seen in the morning running behind John's bicycle taking notes on what he would have him do during the day. He took all sorts of abuse from his brother, and even had to give his brother a shave.

Will worked for his brother 25 years and was never paid more than twenty dollars a week, in spite of the fact that the hospital was grossing over four million dollars. One of Will Kellogg's jobs was to prepare food and feed patients at the hospital. One of the foods he had to prepare was a moist wheat meal for breakfast. Will would roll this wheat meal out, cut, it into squares, and serve it. One night he laid it out, but got distracted and never got around to rolling it. The next morning, fearing John's wrath if he found the mistake, Will ran the roller over the now dry wheat meal. Instead of wet meal, what came out was a flake. Will took the flakes to his brother and said, "Look what I have done! Let's serve into the patients," and John Harvey agreed. The patients liked it and wanted it the next day. The patients even called to see how they could get it after they went home! Will Kellogg had an idea. Why not market these flaked cereals (they had corn, oat and others by now)? John Harvey felt that it was beneath his station to go into business for "filthy lucre" as he called it. He refused again and again, provoking Will to quit. John told him, "Well, if you are going to make this cereal you will have to buy the patents from me!" So Will had to take the life savings he had accumulated on his \$20 per week salary and buy the patents from his brother. Will Kellogg was not a man with an education or a brilliant mind, but he was a man with a good idea, and he was persistent. Will Kellogg was on his own at 46 years old, ready to be an entrepreneur, and a creativity began to appear that no one knew he possessed. He experimented with four color advertisements in magazines-very innovative in the early 1900's. He had Norman Rockwell design cereal covers for him! He developed test marketing to determine which kinds of cereals people wanted most and how much of each to produce. What he found was that most people preferred corn flakes. But he still hadn't cracked the New York market. Until he cracked New York he couldn't play the commercial game. Will Kellogg had an idea about how to sell Corn Flakes in New York. He would have a special promotion called "Wednesday Is Wink Day!" Every Wednesday, if a woman went into her grocer and winked, she got a free box of Kellogg's Corn Flakes. This was risque stuff in 1910! A wild idea, but in a free market wild ideas get to compete with the more established ones. Will's idea was so successful that, after this campaign, regular shipments of Corn Flakes to New York City went from 2 train car loads to 30 train car loads. Kellogg had conquered the New York market and had a product he could sell nationally. By 1940, he was one of the wealthiest people-in America.

The free market gives everybody a second chance. Big government may still hold appeal in the political arena, but in the real world, it cannot offer each individual hope for personal prosperity, family security and individual liberty.

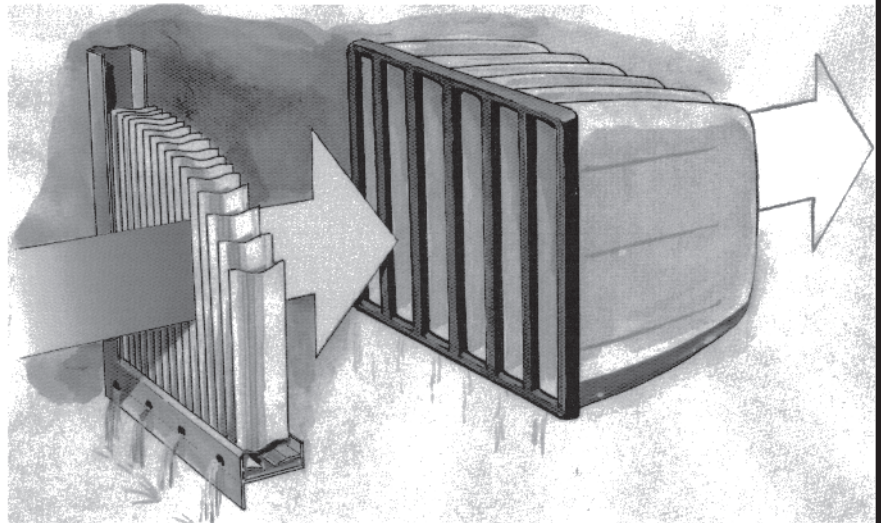
Wide Infinidry: 2-stage Marine Air Intake System

This ultra-compact Marine Air Intake System in a 2 stage configuration is a marked advancement in Air Intake technology. Combining the high-efficiency Wide ME moisture separator with the newly developed and patented Filtrair PTL-DS "Drop-Safe" pocket filter represent a totally re-engineered Marine Air Intake design-philosophy: The Wide IFD (InFiniDry)

The forward-draining, non-reentrainment pocket filter provide highest quality air filtration and water separation in the same stage.

Consequently, the Wide Infinidry 2-stage system outperforms traditional 3 and 4-stage systems on all accounts:

- **Dramatically reduced pressure drop.**
- **No water or salt re-entrainment**
- **Eliminating salt deposit build-up downstream of filter bag**
- **Reduced maintenance cost.**
- **Reduced installation cost.**
- **More compact filter house.**



FIRST STAGE: Moisture separation and coarse filtration.

First stage replaces traditional Louvre/Hood and Pre-Filter with a single stage high efficiency Wide ME moisture separator.

A first stage separator is usually kept very clean by occasional rough weather, requiring minimal additional maintenance.

Coarse dust and soot particles are also separated and then flushed out along with the water.

SECOND STAGE: Fine filtration, coalescing and drainage.

Traditionally, a Marine Filter also served as a coalescer, and the coalesced droplets were separated with another downstream mist separator.

Now, with the patented Filtrair PTL-DS, the very fine droplets entering the filter is not only coalesced, but also accumulated and drained into the water-sealed bottom of the pocket filter. From there the water is drained forward, and never enter the clean side. This completely eliminates the problem of saturated droplets entering the clean side and potentially contaminating clean-side air with salt and other water soluble contaminants.

Technical Data



Comprehensive performance data for system components are available from A.S. Wide.

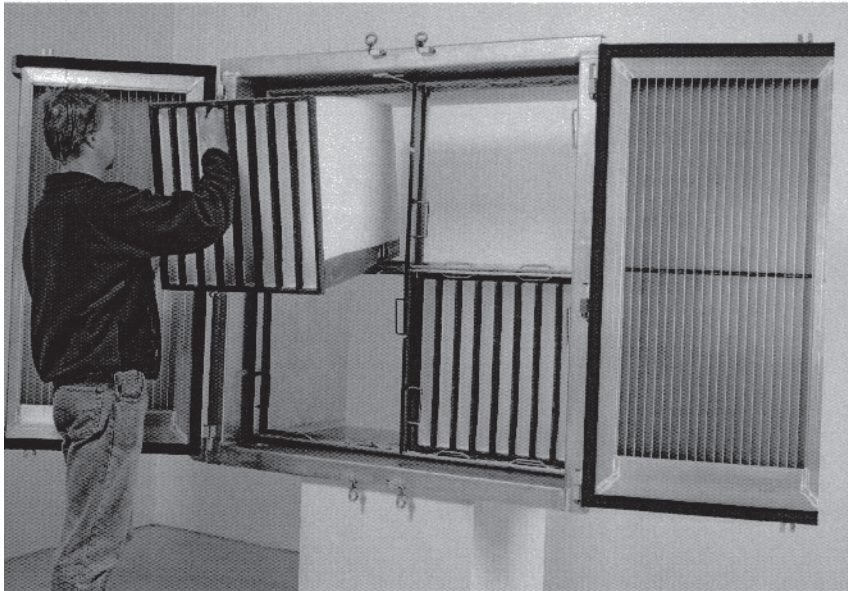
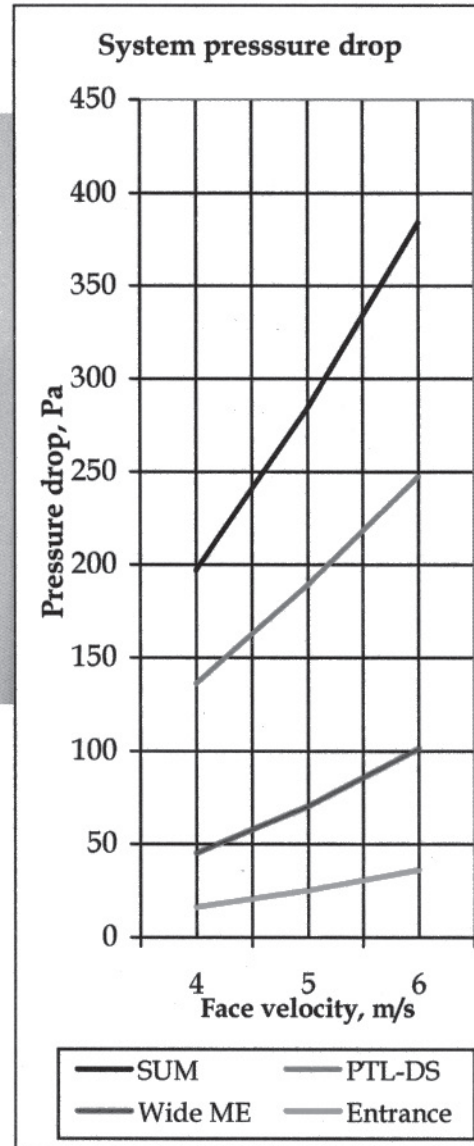
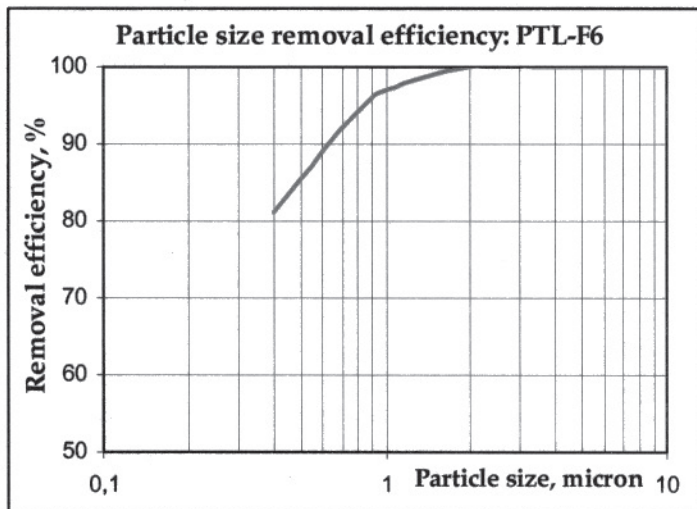


Photo: Four-bag front hinged Wide Infinidry. The Wide Infinidry 2-stage Marine Air Intake System is easily scalable from a single filter unit to large multi-bank systems for hundreds of filter bags.



System pressure drop.
 Chart is based on uniform face velocity. Actual face velocity should be calculated for each design to determine correct pressure drop for each stage.





Cincinnati fan

MODEL DDF DIRECT DRIVE RATING TABLES

CFM and BHP at Static Pressure Shown • Ratings at 70°F., .075 Density, Sea Level

Performance shown is for installation type D-Ducted inlet, Ducted outlet.

Performance ratings do not include the effects of appurtenances in the airstream.

FAN SIZE	PROP NO.	MOTOR HP	FAN RPM	1/8" SP		1/4" SP		3/8" SP		1/2" SP		5/8" SP		3/4" SP		7/8" SP		1" SP		1 1/8" SP		
				CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM
12"	12-6-24	1/2	3450	2031	.40	1971	.40	1912	.41	1828	.44	1739	.46	1616	.48	1442	.50					
	12-4-30	3/4	3450	2449	.58	2368	.59	2286	.60	2196	.63	2102	.67	2008	.70	1886	.72	1764	.73			
15"	15-6-25	1/3	1750	2028	.17	1851	.18	1587	.20													
	15-6-36	1/3	1750	2369	.21	2147	.23	1794	.25													
	15-6-43	1/2	1750	2870	.48	2640	.49	2330	.49	1962	.39											
	15-6-25	1 1/2	3450	4200	1.22	4130	1.24	4061	1.25	3991	1.26	3922	1.28	3827	1.31	3728	1.35	3628	1.39	3529	1.43	
	15-4-30	1 1/2	3450	4619	1.34	4505	1.38	4391	1.42	4277	1.46	4152	1.46	4025	1.46	3898	1.46	3769	1.46	3591	1.43	
	15-6-36	2	3450	4967	1.55	4864	1.58	4762	1.61	4660	1.64	4558	1.67	4456	1.70	4331	1.75	4203	1.80	4075	1.85	
18"	18-4-22A	1/3	1750	3205	.28	2906	.30	2505	.32													
	18-6-25	1/2	1750	3427	.27	3190	.31	2935	.34	2571	.40											
	18-6-35	1/2	1750	3937	.37	3648	.40	3316	.45	2779	.46											
	18-6-36	3/4	1750	4536	.65	4256	.68	3926	.70													
	18-6-43	1	1750	4977	.76	4747	.78	4457	.82	4130	.87	3705	.88									
24"	24-4-16A	3/4	1750	4870	.53	4560	.53	4015	.55	3280	.56	2515	.56	1880	.56							
	24-4-20A	1	1750	6854	.91	6331	.95	5785	.97	5233	1.02											
	24-6-31	1 1/2	1750	7345	1.12	6805	1.12	5950	1.12	4795	1.07	3300	1.09	2000	1.28							
	24-4-33	2	1750	9178	1.54	8729	1.63	8275	1.69	7821	1.74	7169	1.78	6425	1.78							
	24-6-41	3	1750	10314	2.30	9976	2.36	9637	2.43	9221	2.52	8793	2.62	8246	2.70	7601	2.75					
30"	30-6-22	3/4	1150	8037	.57	6749	.61	3672	.55													
	30-4-41	2	1150	12059	1.51	11241	1.55	10232	1.61	8616	1.71											
	30-7-40	3	1150	12633	1.91	12050	2.00	11257	2.12	10240	2.23											
	30-4-20A	2	1750	12483	1.68	11792	1.71	10974	1.76	10113	1.82	9188	1.89									
	30-6-22	3	1750	13192	1.88	12468	1.98	11700	2.10	10907	2.20	9907	2.12									
	30-4-41	7 1/2	1750	19014	5.24	18511	5.30	18008	5.36	17505	5.42	16863	5.50	16199	5.59	15534	5.67	14550	5.84	13488	6.00	
	30-7-40	10	1750	19729	6.54	19346	6.68	18963	6.82	18579	6.96	18194	7.10	17646	7.29	17099	7.49	16552	7.68	15827	7.84	
34"	34-6-29	1	1150	11916	1.09	10349	1.14															
	34-6-26	3	1150	15524	1.99	14623	2.09	13628	2.19	12323	2.26	10277	2.12									
	34-6-29	5	1750	19166	3.73	18377	3.81	17478	3.90	16464	3.99	15058	3.99									
	34-6-26	10	1750	24383	6.79	23808	6.95	23234	7.10	22659	7.26	22018	7.41	21364	7.57	20711	7.73	19961	7.86	19008	7.94	
36"	36-6-25	1 1/2	1150	13814	1.42	12093	1.47															
	36-6-26	3	1150	18275	2.44	17312	2.58	16353	2.68	15198	2.77	13857	2.80	11818	2.70							
	36-6-25	5	1750	22329	4.85	21358	4.98	20344	5.08	19199	5.16	17924	5.19									
	36-6-26	10	1750	28522	8.28	27982	8.52	27388	8.75	26752	8.98	26104	9.15	25447	9.30	24852	9.47	24280	9.65	23375	9.73	
42"	42-6-26	2	850	18525	1.78	16724	1.86	14196	1.86													
	42-6-26	5	1150	26890	4.03	25559	4.20	24210	4.35	22724	4.43	21058	4.48									
48"	48-6-19	2	850	20791	1.61	18327	1.72	15731	1.79	11495	1.78											
	48-6-30	5	850	27881	2.88	26156	3.10	24358	3.36	22027	3.56	18566	3.75	13018	3.95							
	48-6-19	5	1150	29574	3.78	27840	4.01	26032	4.17	24119	4.30	22236	4.41	20044	4.47							
	48-6-30	10	1150	38681	6.81	37518	7.21	36237	7.48	34932	7.84	33608	8.18	32137	8.46	30377	8.74	28246	9.02	25615	9.30	

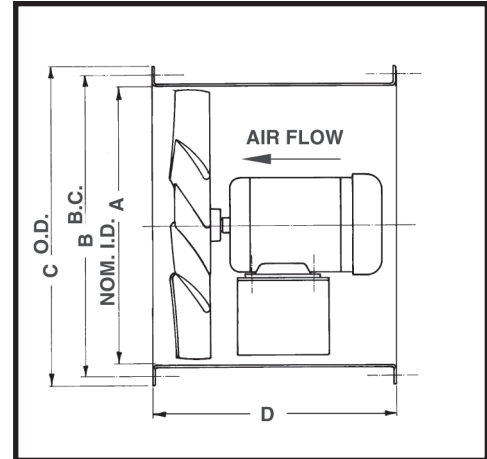
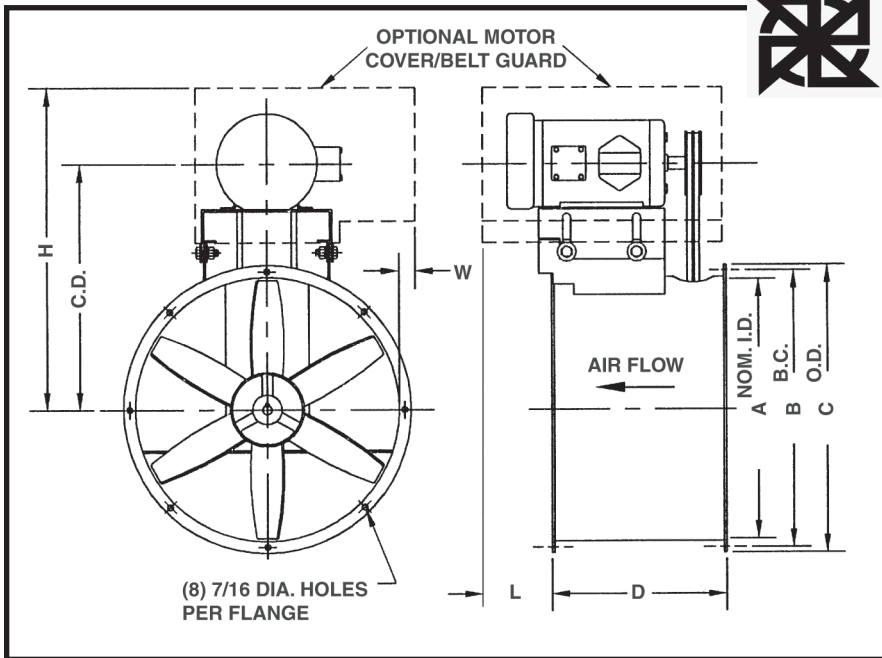
Little Things Mean A Lot

A FEW WASHERS

The **Story:** The \$1.6 billion Hubble Space telescope was launched into orbit on April 24 1990, and immediately needed repairs. Cost of the rescue mission: \$86 million. Cause of the problem: a few 250 washers that technicians used to fill in a gap in an optical testing device. No one noticed they were there ... until they shook loose.



Cincinnati fan



DIMENSIONS IN INCHES ±1/8"

FAN SIZE	MOTOR HP	ALL MODELS			D		FAN SHAFT O.D.		FAN SHAFT KEY		OPT. MOTOR/BELT COVER (1)		
		A	B	C	BAF & BAFA only	ALL OTHER MODELS	BAF & BAFA only	TAF, WAF, HTF, WAF/HTF & TAFA	BAF & BAFA only	TAF, WAF, HTF, WAF/HTF & TAFA	H MAX.	W MAX.	L MAX.
12	ALL	12	13 1/8	14 1/2	12	20	3/4	1	3/16	1/4	18 9/16	3 1/16	8
15	ALL	15	16 1/8	17 1/2	12	20	3/4	1	3/16	1/4	20 1/2	3 3/4	8
18	ALL	18	19 1/8	20 1/2	12	20	3/4	1	3/16	1/4	22 5/16	2 5/16	8
24	ALL	24	25 13/16	27 1/4	16	21	3/4	1 3/16	3/16	3/8	25 3/8	—	8 1/2
30	ALL	30	31 3/4	33 1/4	16	22	1	1 7/16	1/4	3/8	32 3/16	—	8 9/16
34	ALL	34	35 11/16	37 1/4	16	26	1	1 7/16	1/4	3/8	34 3/8	—	8 9/16
36	ALL	36	37 7/8	39 1/4	16	28	1	1 7/16	1/4	3/8	35 13/16	—	8 1/2
42	ALL	42	43 9/16	45 1/4	16	29	1	1 7/16	1/4	3/8	39 1/16	—	8 1/2
48	3-7 1/2	48	49 5/8	51	—	31	—	1 7/16	—	3/8	41 5/8	—	—
	10-15	48	49 5/8	51	—	31	—	1 15/16	—	1/2	42 3/8	—	—

(1) All models; height, length and width varies with motor frame size. Maximums are shown for each size. For actual dimensions, consult white prints.

APPROX. SHIPPING WEIGHT LESS MOTOR

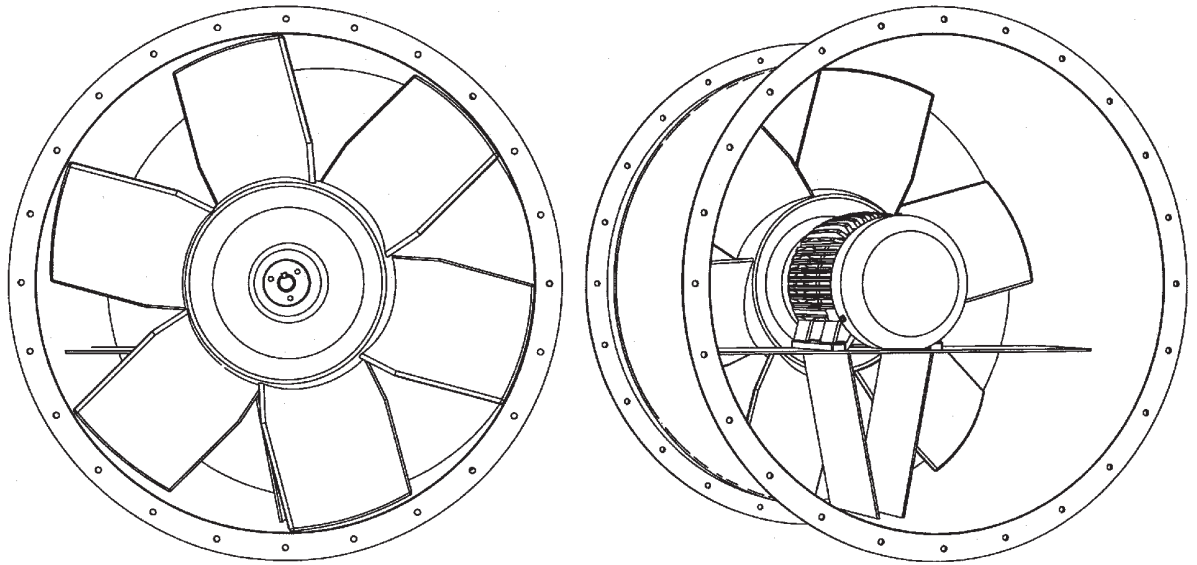
FAN SIZE	MODELS BAF & BAFA	MODELS TAF, WAF, HTF, WAF/HTF, & TAFA	MODEL DDF
12	36	70	30
15	55	75	50
18	68	85	64
24	108	145	80
30	130	180	95
34	180	270	160
36	190	295	180
42	225	410	205
48	—	530	270

**Custom Fans available in many different configurations, housing thicknesses, materials, coatings & performances.
CALL FOR PRICING**

Little Things Mean A Lot A PAINT SCRAPER

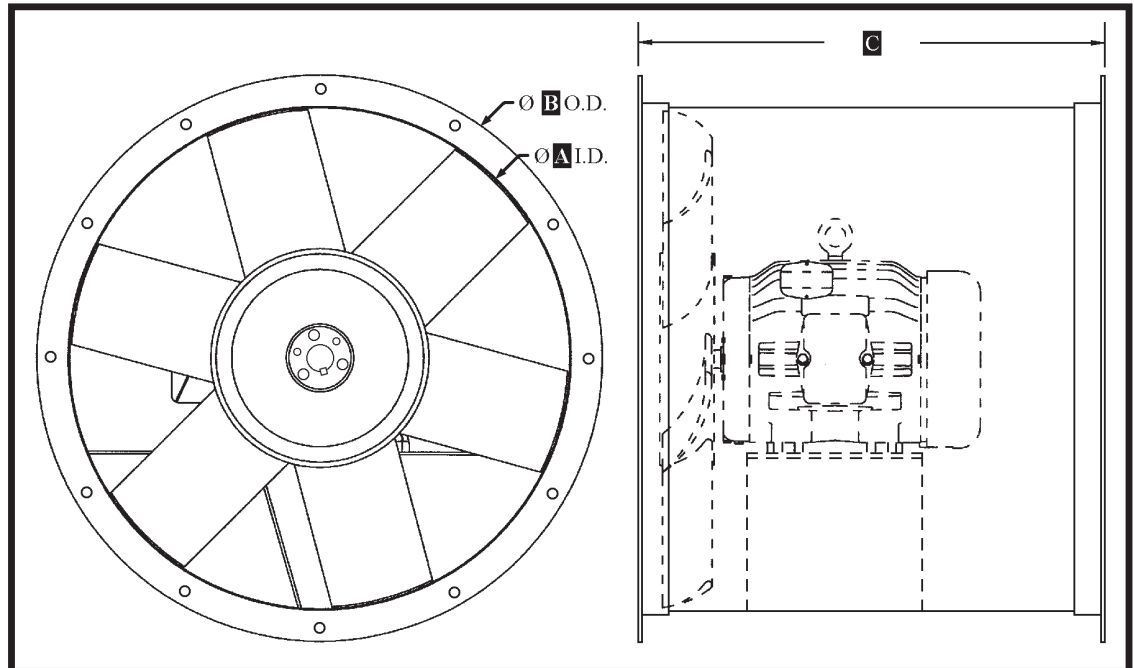
The Story: In September 1978, a sailor accidentally dropped a 75 cent paint scraper into the torpedo launcher of the nuclear sub, U.S.S. *Swordfish*. The sub was forced to scrap its mission so repairs could be performed in drydock. Cost to U.S. taxpayers: \$171,000.

TUBEAXIAL FANS

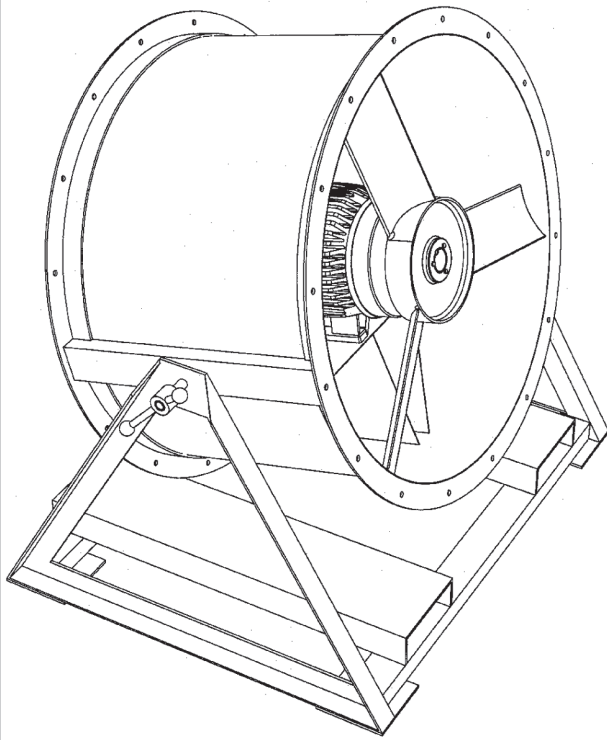


Heavy Duty Marine and Industrial Tube-axial fans featuring Byrne, Rice & Turner one-piece cast aluminum impellers. Our units come with a variety of pitches, hub-to-tip ratios, and a number of blade combinations to fit almost any application. Standard housings are available up to 1/4" thick, and constructed of painted or galvanized steel, stainless steel, or aluminum. Motor mounts fit standard NEMA frame motors. Custom construction is available.

A	B	C
12	15 ¹ / ₄	15
16	18 ⁵ / ₈	16
18	21 ¹ / ₈	18
24	27 ¹ / ₈	20
30	34 ¹ / ₈	24
36	40 ¹ / ₈	24
42	47 ¹ / ₈	30
48	53 ¹ / ₈	30

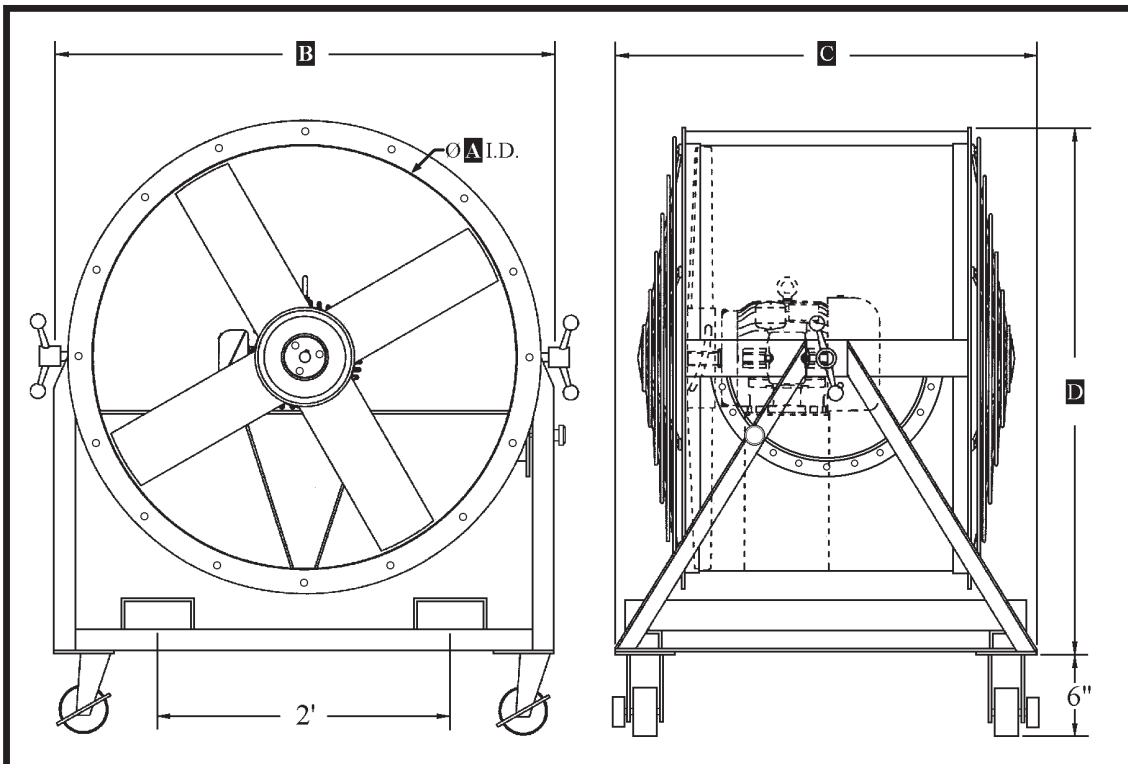


A-FRAME MAN COOLERS

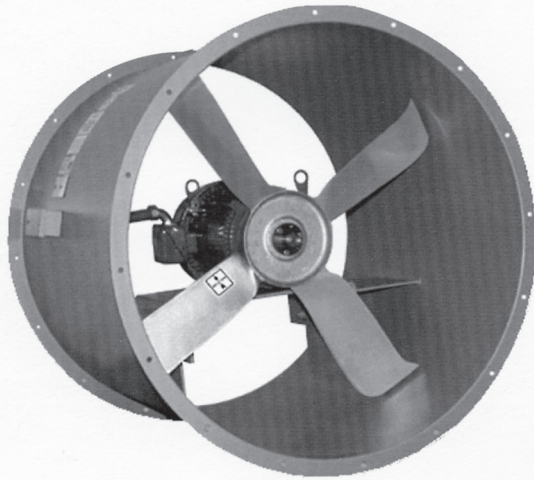


Portable A-Frame and Fixed Column Mounting Man Cooler fans provide heavy-duty air movement for personnel and equipment cooling. These fans feature Byrne, Rice & Turner's cast aluminum impellers in a heavy gauge, continuous welded housing. Portable A-Frame units rotate 270 degrees on their base, and come with an optional lifting lug and heavy duty locking wheels. Column Mounting units tilt and swivel for exact directional airflow. Housings are available in hot dip galvanized and painted steel construction.

A	23	29	35	41	47	53
B	30½	37½	43½	49½	55½	61½
C	29¾	32¾	36¾	41	44½	49
D	34	40	46	53	59	66



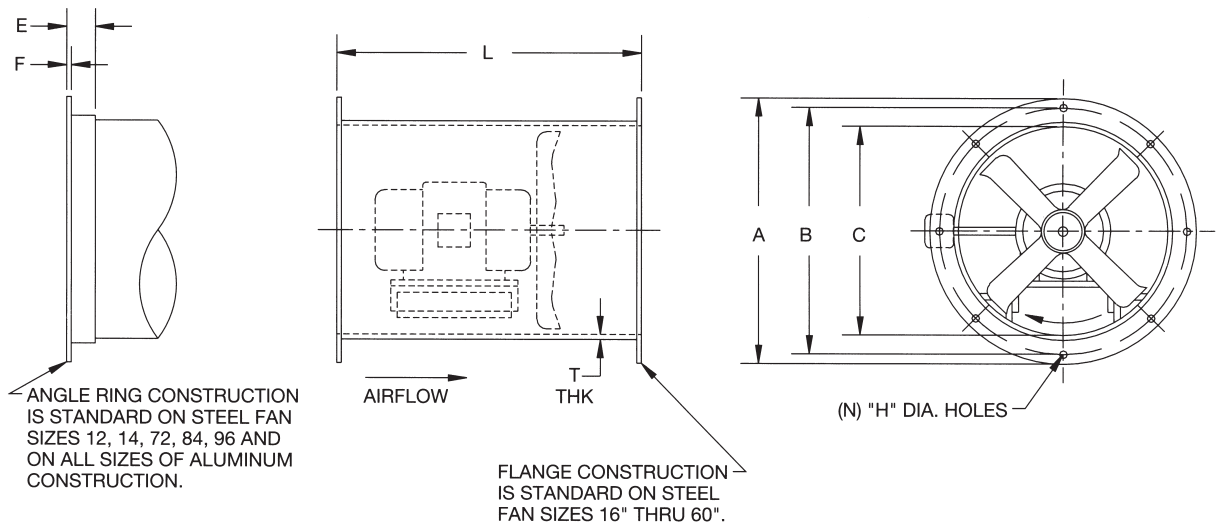
TUBEAXIAL FANS



**Model TA
Direct Drive
Tubeaxial**

Dimensional Data

Model TA Direct Drive Tubeaxial Fan



SIZE	A	B	C	H	L	N	STEEL			STAINLESS STEEL			ALUMINUM			MIN. MTR. FRAME SIZE	MAX. MTR. FRAME SIZE
							E	F	T	E	F	T	E	F	T		
12	14 ⁷ / ₈	13 ⁷ / ₈	12 ¹ / ₄	1 ¹ / ₃₂	22	8	1 ¹ / ₄	1 ¹ / ₈	.075	1 ¹ / ₄	1 ¹ / ₈	.075	1 ¹ / ₄	1 ¹ / ₈	.125	48	56
14	16 ⁷ / ₈	15 ⁷ / ₈	14 ¹ / ₄	1 ¹ / ₃₂	22	8	1 ¹ / ₄	1 ¹ / ₈	.075	1 ¹ / ₄	1 ¹ / ₈	.075	1 ¹ / ₄	1 ¹ / ₈	.125	48	56
16	18 ⁷ / ₈	17 ⁷ / ₈	16 ³ / ₈	1 ¹ / ₃₂	24	8	FLANGED		.105	FLANGED		.105	1 ¹ / ₄	1 ¹ / ₈	.160	48	145T/U
18	20 ⁷ / ₈	19 ⁷ / ₈	18 ³ / ₈	1 ¹ / ₃₂	24	8	FLANGED		.105	FLANGED		.105	1 ¹ / ₄	1 ¹ / ₈	.160	48	145T/U
21	24	22 ⁷ / ₈	21 ¹ / ₄	7 ¹ / ₁₆	24	8	FLANGED		.105	FLANGED		.105	1 ¹ / ₄	1 ¹ / ₈	.160	48	184T/U
24	27	25 ⁷ / ₈	24 ¹ / ₄	7 ¹ / ₁₆	24	8	FLANGED		.105	FLANGED		.105	1 ¹ / ₄	1 ¹ / ₈	.160	48	184T/U
30	33 ¹ / ₂	32	30 ¹ / ₄	7 ¹ / ₁₆	27	8	FLANGED		.105	FLANGED		.105	1 ¹ / ₂	3 ¹ / ₁₆	.160	56	215T/U
36	40	38 ³ / ₈	36 ³ / ₄	7 ¹ / ₁₆	34	16	FLANGED		.135	FLANGED		.135	1 ¹ / ₂	3 ¹ / ₁₆	.160	182T/U	256T/U
42	46	44 ⁵ / ₈	42 ³ / ₄	9 ¹ / ₁₆	34	16	FLANGED		.135	FLANGED		.135	1 ¹ / ₂	3 ¹ / ₁₆	.160	182T/U	286T/U
48	52	50 ⁵ / ₈	48 ³ / ₈	9 ¹ / ₁₆	36	16	FLANGED		.179	FLANGED		.179	1 ¹ / ₂	3 ¹ / ₁₆	.190	182T/U	286T/U
54	59	57 ¹ / ₄	54 ⁵ / ₈	5 ⁵ / ₈	36	16	FLANGED		.179	FLANGED		.179	2	1 ¹ / ₄	.190	213T/U	286T/U
60	65	63 ¹ / ₄	60 ⁵ / ₈	5 ⁵ / ₈	38	16	FLANGED		.179	FLANGED		.179	2	1 ¹ / ₄	.190	254T/U	326T/U
72	77	75 ¹ / ₄	72 ⁵ / ₈	1 ¹ / ₁₆	38	16	2	1 ¹ / ₄	.179	2	1 ¹ / ₄	.179	2	1 ¹ / ₄	1 ¹ / ₄	254T/U	365T/U
84	91	88 ¹ / ₄	84 ⁵ / ₈	1 ¹ / ₁₆	42	16	3	5 ¹ / ₁₆	.179	3	5 ¹ / ₁₆	.179	3	5 ¹ / ₁₆	1 ¹ / ₄	324T/U	365T/U
96	103	100 ¹ / ₄	96 ⁵ / ₈	1 ¹ / ₁₆	48	16	3	5 ¹ / ₁₆	.179	3	5 ¹ / ₁₆	.179	3	5 ¹ / ₁₆	5 ¹ / ₁₆	365T/U	404T/U

Dimensions shown are in inches unless otherwise indicated.

Dimensions are not to be used for construction.

Performance Data



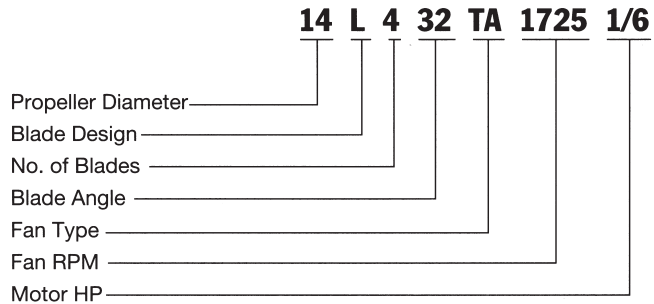
To identify a specific fan for ordering or engineering specification, it is necessary to show the complete catalog number as shown at the right. All performance data is available in curve form upon request.

All capacities shown in the performance tables that follow are for standard air conditions: 70°F at sea level (0.075 lbs./cu.ft. air density).

The tables show a representative sample of the wide range of propellers available.

Performance for belt driven fans begins on page 11.

Catalog Number System



Size 12 TA Direct Drive Tubeaxial

CATALOG NUMBER				CUBIC FEET PER MINUTE & HORSEPOWER AT STATIC PRESSURE																	
PROP	FAN TYPE	RPM	HP	0" SP		1/8" SP		1/4" SP		3/8" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP	
				CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
12M617	TA	1725	1/12	923	.051	761	.055	396	.056												
12M622	TA	3450	1/2	2156	.380	2102	.398	2044	.416	1980	.433	1908	.451	1714	.482						

Size 14 TA Direct Drive Tubeaxial

CATALOG NUMBER				CUBIC FEET PER MINUTE & HORSEPOWER AT STATIC PRESSURE																	
PROP	FAN TYPE	RPM	HP	0" SP		1/8" SP		1/4" SP		3/8" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP	
				CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
14L432	TA	1725	1/6	1980	.123	1732	.135	1396	.144												
14L420	TA	3450	1/2	2808	.493	2720	.510	2624	.524	2520	.534	2403	.537	2101	.534	1478	.534				
14L426	TA	3450	3/4	3484	.739	3364	.734	3241	.735	3115	.740	2990	.755	2706	.783	2238	.786				

Size 16 TA Direct Drive Tubeaxial

CATALOG NUMBER				CUBIC FEET PER MINUTE & HORSEPOWER AT STATIC PRESSURE																	
PROP	FAN TYPE	RPM	HP	0" SP		1/8" SP		1/4" SP		3/8" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP	
				CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
16L432	TA	1160	1/8	1988	.073	1530	.083														
16L432	TA	1725	1/4	2957	.240	2677	.259	2359	.270	1817	.266										
16L420	TA	3450	1	4192	.961	4092	.987	3987	1.01	3874	1.03	3753	1.04	3471	1.04	3100	1.04	2490	1.04		

Size 18 TA Direct Drive Tubeaxial

CATALOG NUMBER				CUBIC FEET PER MINUTE & HORSEPOWER AT STATIC PRESSURE																	
PROP	FAN TYPE	RPM	HP	0" SP		1/8" SP		1/4" SP		3/8" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP	
				CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
18L432	TA	1160	1/8	2777	.109	2270	.120														
18L420	TA	1725	1/6	2962	.139	2620	.156	2206	.179	1468	.177										
18L426	TA	1725	1/4	3629	.241	3282	.256	2905	.277	2398	.273										
18L430	TA	1725	1/3	3886	.313	3576	.334	3239	.350	2749	.359										
18L432	TA	1725	1/2	4130	.359	3806	.381	3457	.392	2987	.401										

Size 21 TA Direct Drive Tubeaxial

CATALOG NUMBER				CUBIC FEET PER MINUTE & HORSEPOWER AT STATIC PRESSURE																	
PROP	FAN TYPE	RPM	HP	0" SP		1/8" SP		1/4" SP		3/8" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP	
				CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
21L432	TA	1160	1/4	4410	.236	3833	.256	2998	.262												
21L424	TA	1725	1/2	5435	.433	5072	.472	4643	.506	4124	.524	3470	.521								
21L430	TA	1725	3/4	6172	.677	5814	.712	5432	.741	5021	.762	4428	.776								
21L432	TA	1725	1	6558	.777	6183	.812	5786	.838	5365	.851	4802	.865								
21S720	TA	1725	1/2	4959	.383	4696	.440	4397	.487	4043	.520	3623	.547								
21S724	TA	1725	3/4	6117	.631	5831	.693	5514	.743	5156	.777	4726	.797								

Performance shown is for installation type D: Ducted inlet, ducted outlet.
 Performance ratings do not include the effects of appurtenances in the airstream.



Performance Data

Size 24 TA Direct Drive Tubeaxial

CATALOG NUMBER				CUBIC FEET PER MINUTE & HORSEPOWER AT STATIC PRESSURE																	
PROP	FAN TYPE	RPM	HP	0" SP		1/8" SP		1/4" SP		3/8" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP	
				CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
24L422	TA	1160	1/3	5591	.298	4970	.329	4267	.349	3291	.361										
24L428	TA	1160	1/2	6604	.457	5966	.483	5258	.497	4271	.502										
24L432	TA	1160	3/4	7238	.584	6596	.614	5896	.631	4909	.630										
24L420	TA	1750	1	7808	.863	7410	.913	7001	.957	6589	.991	6136	1.02	4927	1.04						
24L426	TA	1750	1 1/2	9464	1.35	9065	1.40	8634	1.44	8161	1.46	7635	1.47	6399	1.50						
24L432	TA	1750	2	10920	2.00	10504	2.05	10072	2.10	9625	2.13	9166	2.16	8043	2.17						
24S720	TA	1160	1/3	5077	.248	4618	.300	4062	.332	3169	.357										
24S720	TA	1750	1	7660	.852	7369	.937	7057	1.01	6722	1.07	6355	1.12								

Size 30 TA Direct Drive Tubeaxial

CATALOG NUMBER				CUBIC FEET PER MINUTE & HORSEPOWER AT STATIC PRESSURE																	
PROP	FAN TYPE	RPM	HP	0" SP		1/8" SP		1/4" SP		3/8" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP	
				CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
30L418	TA	870	1/3	7001	.281	5985	.320	4734	.331												
30L424	TA	870	1/2	8789	.456	7713	.498	6419	.515												
30L432	TA	870	3/4	10604	.752	9525	.794	8304	.815												
30L422	TA	1160	1	10920	.910	10154	.973	9357	1.02	8465	1.06	7322	1.08								
30L428	TA	1160	1 1/2	12898	1.40	12114	1.45	11287	1.49	10396	1.51	9225	1.51								
30L432	TA	1160	2	14138	1.78	13346	1.84	12512	1.89	11634	1.92	10562	1.93								
30L420	TA	1750	3	15251	2.63	14756	2.73	14252	2.83	13740	2.91	13226	2.98	12136	3.10	10795	3.17	9038	3.17		
30L428	TA	1750	5	19458	4.79	18947	4.88	18423	4.96	17885	5.03	17334	5.09	16200	5.17	14837	5.21	13159	5.22		
30S720	TA	1160	1	10381	.814	9691	.901	8968	.973	8181	1.03	7183	1.08								
30S723	TA	1750	1	17089	3.50	16710	3.67	16312	3.84	15891	3.99	15444	4.14	14437	4.38	13239	4.55				

Size 36 TA Direct Drive Tubeaxial

CATALOG NUMBER				CUBIC FEET PER MINUTE & HORSEPOWER AT STATIC PRESSURE																	
PROP	FAN TYPE	RPM	HP	0" SP		1/8" SP		1/4" SP		3/8" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP	
				CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
36L418	TA	870	3/4	12647	.688	11404	.775	10090	.823	8168	.843										
36L422	TA	870	1	14728	.938	13486	1.02	12086	1.08	10428	1.12										
36L428	TA	870	1 1/2	16937	1.44	15670	1.52	14198	1.58	12377	1.62										
36L418	TA	1160	2	16863	1.63	15941	1.76	14994	1.86	14038	1.92	12935	1.97	9290	1.94						
36L424	TA	1160	3	20196	2.53	19236	2.63	18252	2.74	17261	2.83	16209	2.91	13361	3.00						
36L432	TA	1160	5	24554	4.32	23578	4.46	22550	4.58	21464	4.66	20309	4.70	17557	4.73						
36L420	TA	1750	7 1/2	27305	6.65	26730	6.79	26142	6.93	25541	7.06	24924	7.19	23652	7.42	22301	7.62	20761	7.80	18912	7.93
36L424	TA	1750	10	30468	8.67	29836	8.84	29197	9.00	28552	9.16	27899	9.31	26584	9.59	25248	9.85	23766	10.08	22079	10.27
36S715	TA	1750	5	21298	3.76	20727	3.98	20150	4.19	19565	4.39	18974	4.58	17782	4.92	16488	5.22	15022	5.47	13160	5.69
36S719	TA	1750	7 1/2	25823	5.61	25233	5.89	24633	6.15	24024	6.41	23405	6.64	22144	7.07	20820	7.44	19362	7.74	17671	7.99
36S724	TA	1750	10	29900	8.70	29437	8.91	28957	9.11	28461	9.31	27944	9.51	26842	9.90	25612	10.28	24225	10.64	22679	11.02

Size 42 TA Direct Drive Tubeaxial

CATALOG NUMBER				CUBIC FEET PER MINUTE & HORSEPOWER AT STATIC PRESSURE																	
PROP	FAN TYPE	RPM	HP	0" SP		1/8" SP		1/4" SP		3/8" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP	
				CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
42L420	TA	870	2	21524	1.76	20145	1.87	18669	1.96	17038	2.04	14989	2.10								
42L426	TA	870	3	25420	2.67	23944	2.84	22405	2.97	20804	3.05	18785	3.12								
42L420	TA	1160	5	28698	4.18	27679	4.32	26620	4.46	25518	4.59	24380	4.71	21784	4.90	18084	4.98				
42L428	TA	1160	7 1/2	35808	7.35	34741	7.53	33617	7.69	32426	7.84	31154	7.99	28283	8.21	24682	8.27				
42L418	TA	1750	15	40338	12.07	39632	12.40	38920	12.70	38201	12.99	37476	13.25	36006	13.71	34543	14.05	33018	14.31	31294	14.55
42S715	TA	870	1 1/2	16788	.995	15434	1.16	14040	1.30	12485	1.41	10453	1.50								
42S719	TA	870	2	20355	1.49	18950	1.70	17481	1.87	15892	2.01	14002	2.11								
42S715	TA	1160	3	22385	2.36	21377	2.59	20349	2.80	19308	2.99	18235	3.16	15753	3.44						
42S719	TA	1160	5	27141	3.52	26097	3.81	25025	4.08	23926	4.31	22804	4.52	20316	4.86	17034	5.12				
42S724	TA	1160	7 1/2	31427	5.46	30602	5.68	29727	5.89	28792	6.10	27780	6.30	25429	6.68	22512	7.08				

Performance shown is for installation type D: Ducted inlet, ducted outlet.
 Performance ratings do not include the effects of appurtenances in the airstream.

Only in America do drugstores make the sick walk all the way to the back of the store to get their prescriptions while healthy people can buy cigarettes at the front.



Performance Data

Size 48 TA Direct Drive Tubeaxial

CATALOG NUMBER				CUBIC FEET PER MINUTE & HORSEPOWER AT STATIC PRESSURE																		
PROP	FAN TYPE	RPM	HP	0" SP		1/8" SP		1/4" SP		3/8" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP		
				CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM
48L420	TA	695	2	25638	1.75	23651	1.88	21496	1.98	18917	2.07	14790	2.05									
48L426	TA	695	3	30278	2.65	28158	2.85	25945	2.99	23419	3.07	19786	3.10									
48L424	TA	870	5	35810	4.47	34105	4.66	32358	4.84	30597	5.00	28728	5.15	23649	5.30							
48L418	TA	1160	7 1/2	39868	6.84	38647	7.16	37407	7.44	36146	7.68	34882	7.87	32262	8.14	29025	8.35	24190	8.33			
48L422	TA	1160	10	46428	9.33	45231	9.60	43995	9.86	42715	10.10	41386	10.32	38560	10.69	35453	11.01	31731	11.21			
48S719	TA	870	5	30351	2.89	28753	3.21	27096	3.49	25389	3.73	23531	3.93	18638	4.22							
48S719	TA	1160	10	40468	6.86	39280	7.29	38067	7.70	36828	8.08	35568	8.42	32957	9.02	30029	9.49	26392	9.89			
48S724	TA	1160	15	46858	10.63	45922	10.95	44944	11.27	43918	11.58	42836	11.89	40448	12.49	37664	13.06	34422	13.67	28634	13.72	

Size 54 TA Direct Drive Tubeaxial

CATALOG NUMBER				CUBIC FEET PER MINUTE & HORSEPOWER AT STATIC PRESSURE																		
PROP	FAN TYPE	RPM	HP	0" SP		1/8" SP		1/4" SP		3/8" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP		
				CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM
54L418	TA	695	3	33981	2.65	31667	2.90	29297	3.07	26727	3.18	23347	3.25									
54L426	TA	695	5	43073	4.76	40702	5.06	38231	5.29	35690	5.43	32611	5.56									
54L416	TA	870	5	38923	4.45	36952	4.53	34974	4.65	33035	4.83	30977	5.03	25560	5.31							
54L420	TA	870	7 1/2	45656	6.17	43907	6.40	42084	6.62	40184	6.82	38207	7.00	33544	7.30	25869	7.18					
54L426	TA	870	10	53919	9.34	52039	9.73	50108	10.07	48124	10.35	46131	10.55	41561	10.86	34934	10.91					
54S715	TA	870	5	35611	3.49	33882	3.85	32116	4.18	30331	4.48	28454	4.74	23951	5.16	17575	5.47					
54S719	TA	870	7 1/2	43177	5.21	41388	5.66	39546	6.08	37656	6.45	35711	6.77	31296	7.27	24662	7.59					
54S724	TA	870	10	49995	8.07	48579	8.41	47070	8.75	45445	9.08	43667	9.40	39484	10.01	33712	10.54					

Size 60 TA Direct Drive Tubeaxial

CATALOG NUMBER				CUBIC FEET PER MINUTE & HORSEPOWER AT STATIC PRESSURE																		
PROP	FAN TYPE	RPM	HP	0" SP		1/8" SP		1/4" SP		3/8" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP		
				CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM
60L418	TA	580	3	38873	2.60	35784	2.88	32614	3.06	28849	3.17	22835	3.15									
60L426	TA	580	5	49274	4.68	46107	5.02	42805	5.26	39224	5.40	34380	5.50									
60L418	TA	695	5	46580	4.48	44019	4.83	41387	5.10	38729	5.28	35654	5.42	25355	5.30							
60L424	TA	695	7 1/2	55786	6.94	53120	7.24	50387	7.52	47632	7.77	44704	7.99	36693	8.22							
60L414	TA	870	7 1/2	48819	6.52	46797	6.77	44727	7.02	42629	7.26	40496	7.50	35099	7.83	27085	7.58					
60L418	TA	870	10	58309	8.79	56273	9.24	54201	9.64	52091	9.97	49992	10.22	45347	10.58	39018	10.78	26228	9.93			
60L424	TA	870	15	69833	13.61	67712	13.99	65558	14.35	63370	14.70	61169	15.02	56627	15.60	51270	16.08	42350	15.90			
60L428	TA	870	20	78088	18.38	76064	18.75	73948	19.12	71725	19.46	69377	19.78	64205	20.35	58130	20.64	50276	20.66			
60L416	TA	1160	20	71140	17.84	69500	17.96	67856	18.11	66210	18.31	64562	18.54	61317	19.14	58014	19.87	54270	20.65	49911	21.34	
60S716	TA	870	10	50206	7.19	48092	7.61	45971	8.03	43851	8.45	41730	8.88	37342	9.68	32167	10.31					
60S715	TA	1160	20	65086	13.97	63655	14.65	62210	15.30	60750	15.93	59275	16.53	56306	17.65	53259	18.65	49936	19.53	46254	20.27	

Size 72 TA Direct Drive Tubeaxial

CATALOG NUMBER				CUBIC FEET PER MINUTE & HORSEPOWER AT STATIC PRESSURE																		
PROP	FAN TYPE	RPM	HP	0" SP		1/8" SP		1/4" SP		3/8" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP		
				CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM
72L418	TA	580	7 1/2	67102	6.47	63421	6.97	59639	7.37	55818	7.62	51405	7.82	36701	7.66							
72L412	TA	695	7 1/2	61402	7.28	58246	7.59	54947	7.87	51519	8.11	47749	8.29	38428	8.32	25337	7.67					
72L414	TA	695	10	67320	8.25	64280	8.60	61161	8.94	58015	9.28	54722	9.59	45864	9.93	31944	9.27					
72L420	TA	695	15	86303	13.22	83393	13.66	80375	14.08	77239	14.47	74009	14.82	66791	15.43	57156	15.79					
72L424	TA	695	20	96298	17.23	93112	17.76	89871	18.26	86573	18.72	83275	19.16	76233	19.94	67457	20.48					
72L412	TA	870	15	76863	14.28	74361	14.68	71790	15.05	69143	15.39	66438	15.70	60628	16.21	53747	16.44	45544	16.21	34952	15.32	
72L414	TA	870	20	84272	16.19	81854	16.62	79398	17.05	76899	17.48	74378	17.90	69245	18.72	62957	19.33	54525	19.38	43732	18.55	

Size 84 TA Direct Drive Tubeaxial

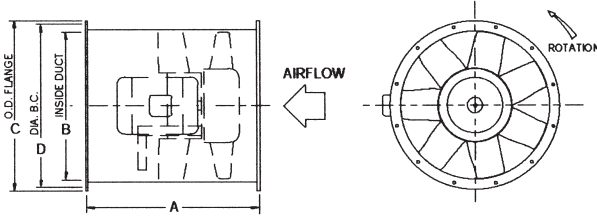
CATALOG NUMBER				CUBIC FEET PER MINUTE & HORSEPOWER AT STATIC PRESSURE																		
PROP	FAN TYPE	RPM	HP	0" SP		1/8" SP		1/4" SP		3/8" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP		
				CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM
84L412	TA	580	10	80948	9.07	76538	9.48	71918	9.84	67092	10.14	61677	10.36	48179	10.30							
84L414	TA	695	20	106347	17.68	102818	18.23	99223	18.77	95556	19.30	91900	19.84	83956	20.80	73345	21.28	58710	20.55			

Size 96 TA Direct Drive Tubeaxial

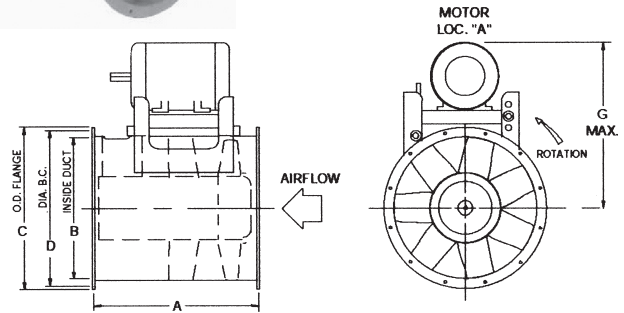
CATALOG NUMBER				CUBIC FEET PER MINUTE & HORSEPOWER AT STATIC PRESSURE																		
PROP	FAN TYPE	RPM	HP	0" SP		1/8" SP		1/4" SP		3/8" SP		1/2" SP		3/4" SP		1" SP		1 1/4" SP		1 1/2" SP		
				CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM
96L412	TA	580	20	120831	17.68	115818	18.30	110624	18.86	105258	19.37	99678	19.81	86681	20.33	70508	20.01	48251	18.53			
96L414	TA	580	25	132478	20.04	127641	20.72	122703	21.39	117672	22.05	112658	22.72	101059	23.82	84424	23.93	61006	22.37			

Performance shown is for installation type D: Ducted inlet, ducted outlet.
Performance ratings do not include the effects of appurtenances in the airstream.

AXIFAN® VANEAXIAL FANS TYPE TCVA



ARR. 4 - HORIZONTAL



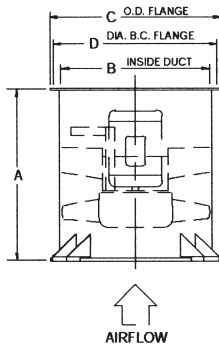
ARR. 9 - HORIZONTAL

HORIZONTAL DISCHARGES

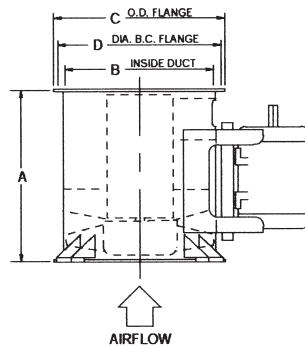
HOR = Horizontal - No Clips or Legs

HCH = Horizontal Ceiling Hung with Suspension Clips

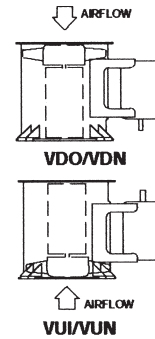
HBM = Horizontal Base Mounted with Support Legs



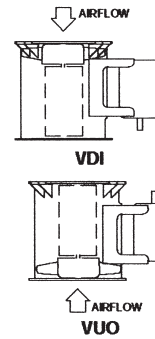
ARR. 4 - VERTICAL



ARR. 9 - VERTICAL



VDO/VDN

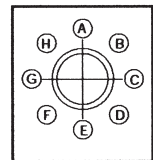


VDI

VUI/VUN

VUO

VERTICAL DISCHARGES



HORIZONTAL MOTOR LOCATIONS (VIEWED FROM FAN OUTLET)

VDO = Vertical Down Floor Mounted With Legs
VDN = Vertical Down Discharge Without Legs
VDI = Vertical Down Ceiling Hung With Legs

VUI = Vertical Up Floor Mounted With Legs
VUN = Vertical Up Discharge Without Legs
VUO = Vertical Up Ceiling Hung With Legs

FAN SIZE	A				B	C	D	G (MAX.)	MAXIMUM MOTOR FRAME										
	ARR. 9		ARR. 4						APR. 9 - HUB RATIO					APR. 4 - HUB RATIO					
	HUB RATIO	HUB RATIO	HUB RATIO	HUB RATIO					3	4	5	6	7	3	4	5	6	7	
	3-5	6-7	3-5	6-7															
12	NA	24.50	NA	24.50	12.16	15.16	13.88	19.25	NA	NA	NA	184T	184T	NA	NA	NA	NA	145T	184T
15	22.00	27.00	NA	27.00	15.16	18.16	16.88	20.50	NA	NA	215T	215T	215T	215T	NA	NA	NA	145T	184T
18	24.50	28.00	24.50	28.00	18.16	21.16	19.88	27.50	NA	215T	215T	215T	215T	NA	NA	145T	184T	215T	215T
21	27.00	32.00	27.00	32.00	21.19	24.19	22.88	31.75	NA	256T	256T	256T	256T	NA	145T	184T	215T	215T	215T
24	28.00	36.25	28.00	36.25	24.19	27.19	25.88	34.50	NA	256T	256T	256T	256T	NA	184T	215T	215T	256T	256T
28	32.00	40.25	32.00	40.25	28.25	31.25	30.00	38.25	NA	286T	286T	286T	286T	NA	215T	215T	256T	286T	286T
32	36.25	47.00	36.25	47.00	32.25	35.25	34.00	41.00	NA	286T	286T	286T	286T	NA	215T	256T	286T	365T	365T
36	40.25	53.25	40.25	53.25	36.25	39.25	38.00	45.25	NA	326T	326T	326T	326T	NA	256T	286T	365T	405T	405T
42	47.00	53.25	47.00	53.25	42.38	46.38	44.63	49.50	NA	326T	326T	326T	NA	NA	286T	365T	405T	NA	NA
48	53.25	NA	53.25	NA	48.38	52.38	50.63	53.25	NA	326T	326T	NA	NA	NA	365T	405T	NA	NA	NA
54	53.25	NA	53.25	NA	54.38	58.38	56.63	59.00	365T	365T	NA	NA	NA	NA	365T	405T	NA	NA	NA
60	53.25	NA	53.25	NA	60.38	64.38	63.38	60.25	365T	NA	NA	NA	NA	405T	NA	NA	NA	NA	NA

DIMENSIONS ARE NOT TO BE USED FOR CONSTRUCTION. CERTIFIED DRAWINGS AVAILABLE UPON REQUEST.

Little Things Mean A Lot

A DECIMAL POINT

The **Story**: In 1999, Lockheed Martin signed a contract to sell military aircraft to “an international customer” (The company won’t say who). Unfortunately, whoever drew up the contract misplaced a decimal point in the formula for determining the price. The mistake wasn’t discovered until after the contract was signed, and the customer insisted on sticking to the wording of the contract exactly. Cost to Lockheed Martin: \$70 million.

TCVA 12D7

Wheel Dia.: 12" Outlet Area: 0.807 ft² Tip Speed: 3.14 x RPM

PROP	RPM	0.25" SP		0.5" SP		0.75" SP		1" SP		1.25" SP		1.5" SP		2" SP		2.5" SP		3" SP		4" SP		5" SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
12D7	1750	1027	0.13	930	0.14	808	0.15																
	3500	2192	0.84	2147	0.90	2101	0.96	2054	1.01	2007	1.05	1959	1.08	1860	1.12	1749	1.17	1617	1.23				

TCVA 15D6, D7

Wheel Dia.: 15" Outlet Area: 1.254 ft² Tip Speed: 3.93 x RPM

PROP	RPM	0.25" SP		0.5" SP		0.75" SP		1" SP		1.25" SP		1.5" SP		2" SP		2.5" SP		3" SP		4" SP		5" SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
15D6	1750	2547	0.32	2353	0.36	2121	0.39	1809	0.42														
	3500	5351	2.31	5268	2.39	5182	2.47	5094	2.55	5003	2.63	4908	2.71	4707	2.86	4486	3.00	4243	3.14	3617	3.34		
15D7	1750	2300	0.35	2159	0.39	2007	0.42	1826	0.45														
	3500	4798	2.47	4733	2.58	4667	2.68	4600	2.78	4531	2.88	4462	2.97	4318	3.13	4170	3.25	4013	3.35	3652	3.59		

TCVA sizes 12 and 15 are not licensed to bear the AMCA Seal.

TCVA 18D5, D6, D7

Wheel Dia.: 18" Outlet Area: 1.799 ft² Tip Speed: 4.71 x RPM

PROP	RPM	0.25" SP		0.5" SP		0.75" SP		1" SP		1.25" SP		1.5" SP		2" SP		2.5" SP		3" SP		4" SP		5" SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
18D5	1170	2743	0.22	2110	0.25																		
	1750	4463	0.64	4180	0.70	3828	0.77	3412	0.83														
18D6	1170	2834	0.25	2402	0.29																		
	1750	4523	0.75	4297	0.81	4040	0.88	3745	0.94	3403	1.00												
18D7	1170	2671	0.25	2355	0.29	1885	0.32																
	1750	4209	0.74	4038	0.82	3849	0.89	3635	0.95	3390	1.00	3098	1.05										
	3500	8656	5.44	8578	5.60	8498	5.77	8417	5.93	8335	6.09	8250	6.24	8075	6.55	7892	6.84	7698	7.11	7269	7.60	6781	8.04

TCVA 21D4, D5, D6, D7

Wheel Dia.: 21" Outlet Area: 2.448 ft² Tip Speed: 5.50 x RPM

PROP	RPM	0.25" SP		0.5" SP		0.75" SP		1" SP		1.25" SP		1.5" SP		2" SP		2.5" SP		3" SP		4" SP		5" SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
21D4	880	2674	0.17																				
	1170	4163	0.36	3333	0.42																		
	1750	6705	1.05	6328	1.18	5852	1.28	5291	1.38	4603	1.43												
21D5	880	3085	0.21																				
	1170	4550	0.44	3945	0.51																		
	1750	7195	1.34	6885	1.44	6532	1.55	6115	1.66	5651	1.76	5074	1.83										
21D6	880	3222	0.22																				
	1170	4623	0.46	4162	0.54	3532	0.60																
	1750	7221	1.40	6976	1.51	6706	1.62	6392	1.74	6027	1.86	5620	1.95										
21D7	880	3089	0.24	2522	0.29																		
	1170	4353	0.51	4024	0.59	3619	0.65	3057	0.69														
	1750	6750	1.56	6558	1.68	6353	1.80	6132	1.91	5889	2.01	5621	2.10	4982	2.26								

TCVA 24D5, D6, D7

Wheel Dia.: 24" Outlet Area: 3.191 ft² Tip Speed: 6.28 x RPM

PROP	RPM	0.25" SP		0.5" SP		0.75" SP		1" SP		1.25" SP		1.5" SP		2" SP		2.5" SP		3" SP		4" SP		5" SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
24D4	880	4462	0.33																				
	1170	6513	0.69	5724	0.80	4662	0.87																
	1750	10244	2.08	9844	2.27	9391	2.45	8846	2.60	8237	2.75	7552	2.88										
24D5	880	4866	0.36	3700	0.43																		
	1170	6910	0.75	6306	0.87	5483	0.98																
	1750	10735	2.31	10415	2.48	10062	2.65	9656	2.83	9164	3.02	8621	3.18	7282	3.37								
24D6	880	5025	0.41	4238	0.49																		
	1170	7019	0.88	6567	0.99	5992	1.10	5276	1.19														
	1750	10827	2.74	10564	2.90	10282	3.07	9978	3.23	9639	3.40	9257	3.58	8384	3.87	7200	4.04						
24D7	880	4765	0.45	4207	0.52	3381	0.57																
	1170	6602	0.96	6249	1.08	5842	1.18	5360	1.27	4744	1.34												
	1750	10142	2.97	9927	3.16	9701	3.35	9464	3.53	9212	3.69	8942	3.85	8337	4.12	7623	4.36	6639	4.51				

TCVA 28D4, D5, D6, D7

Wheel Dia.: 28" Outlet Area: 4.353 ft² Tip Speed: 7.33 x RPM

PROP	RPM	0.25" SP		0.5" SP		0.75" SP		1" SP		1.25" SP		1.5" SP		2" SP		2.5" SP		3" SP		4" SP		5" SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
28D4	880	7383	0.60	5856	0.72																		
	1170	10393	1.25	9605	1.46	8487	1.62	7107	1.71														
	1750	16076	3.81	15651	4.13	15184	4.43	14656	4.73	14008	5.02	13254	5.27	11562	5.64								
28D5	880	8063	0.72	6968	0.87																		
	1170	11182	1.56	10567	1.74	9768	1.94	8796	2.10	7530	2.18												
	1750	17173	4.91	16814	5.17	16430	5.44	16015	5.71	15558	5.98	15030	6.28	13798	6.83	12360	7.20						
28D6	880	8246	0.82	7430	0.96	6321	1.07																
	1170	11347	1.80	10840	1.98	10248	2.16	9530	2.34	8698	2.48	7562	2.56										
	1750	17357	5.71	17048	5.97	16724	6.23	16382	6.49	16020	6.75	15630	7.02	14731	7.59	13698	8.08	12476	8.44				
28D7	880	7961	0.90	7328	1.03	6529	1.14	5356	1.21														
	1170	10904	1.96	10484	2.15	10019	2.33	9487	2.50	8881	2.65	8176	2.77										
	1750	16634	6.21	16373	6.51	16101	6.79	15819	7.07	15524	7.35	15215	7.62	14541	8.13	13777	8.60	12923	9.02	10495	9.50		

Performance shown is for installation Type B: Free inlet, ducted outlet.
Performance ratings do not include the effects of appurtenances in the airstream.

Only in America do people order double cheeseburgers, large fries, and a diet coke.

TCVA 32D4, D5, D6, D7

Wheel Dia.: 32"

Outlet Area: 5.672 ft²

Tip Speed: 8.38 x RPM

PROP	RPM	0.25" SP		0.5" SP		0.75" SP		1" SP		1.25" SP		1.5" SP		2" SP		2.5" SP		3" SP		4" SP		5" SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
32D4	880	11546	1.13	10135	1.35	8170	1.47	14147	3.02														
	1170	15941	2.43	15156	2.73	14170	3.02	12871	3.27	11382	3.43												
32D5	880	12324	1.35	11258	1.56	9803	1.75	15459	3.51	14494	3.81	13396	4.05	12104	4.22								
	1170	16886	2.97	16225	3.23	15459	3.51	14494	3.81	13396	4.05	12104	4.22										
	1750	25757	9.45	25354	9.84	24933	10.23	24488	10.63	24016	11.03	23512	11.44	22330	12.31	20924	13.16	19383	13.79				
32D6	880	12560	1.53	11706	1.72	10590	1.93	9184	2.07	15208	4.19	14354	4.46	13415	4.69								
	1170	17129	3.39	16563	3.65	15936	3.91	15208	4.19	14354	4.46	13415	4.69										
	1750	26058	10.86	25706	11.24	25340	11.63	24960	12.01	24563	12.40	24146	12.80	23234	13.60	22167	14.46	20976	15.24	18103	16.31		
32D7	880	11915	1.71	11269	1.92	10519	2.10	9626	2.26	14737	4.63	14168	4.87	13542	5.08	12061	5.48	21653	15.86	20862	16.55	19053	17.81
	1170	16184	3.78	15734	4.08	15254	4.36	14737	4.63	14168	4.87	13542	5.08	12061	5.48	21653	15.86	20862	16.55	19053	17.81	16675	18.73
1750	24563	12.09	24276	12.55	23982	13.00	23680	13.44	23369	13.87	23050	14.29	22378	15.11	21653	15.86	20862	16.55	19053	17.81	16675	18.73	

TCVA 36D4, D5, D6, D7

Wheel Dia.: 36"

Outlet Area: 7.166 ft²

Tip Speed: 9.42 x RPM

PROP	RPM	0.25" SP		0.5" SP		0.75" SP		1" SP		1.25" SP		1.5" SP		2" SP		2.5" SP		3" SP		4" SP		5" SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
36D4	880	16908	2.01	15599	2.32	13758	2.59	11408	2.72														
	1170	23101	4.39	22281	4.81	21339	5.23	20147	5.64	18741	6.00	17177	6.27										
36D5	880	17812	2.36	16379	2.65	15304	2.96	13573	3.19	20711	6.83	19494	7.20	16518	7.65								
	1170	24226	5.25	23510	5.63	22719	6.01	21811	6.41	20711	6.83	19494	7.20	16518	7.65								
	1750	36790	16.87	36344	17.43	35881	17.99	35400	18.55	34898	19.12	34373	19.69	33232	20.86	31885	22.11	30324	23.35	26812	25.14		
36D6	880	18039	2.76	17189	3.04	16189	3.33	14978	3.61	13544	3.83												
	1170	24434	6.21	23844	6.58	23212	6.95	22530	7.33	21773	7.71	20919	8.11	18967	8.78	16345	9.17						
	1750	37013	20.09	36638	20.64	36252	21.19	35856	21.75	35448	22.31	35027	22.86	34142	23.98	33184	25.11	32118	26.29	29668	28.51	26746	30.16
36D7	880	16937	3.01	16260	3.32	15513	3.61	14667	3.85	13701	4.08	12550	4.27										
	1170	22887	6.74	22404	7.18	21899	7.59	21368	7.99	20804	8.37	20200	8.72	18847	9.33	17252	9.89	15076	10.23				
1750	34618	21.75	34307	22.41	33990	23.06	33667	23.71	33337	24.34	33000	24.97	32303	26.18	31571	27.35	30796	28.44	29085	30.39	27127	32.15	

TCVA 42D4, D5, D6, D7

Wheel Dia.: 42"

Outlet Area: 9.793 ft²

Tip Speed: 11.00 x RPM

PROP	RPM	0.25" SP		0.5" SP		0.75" SP		1" SP		1.25" SP		1.5" SP		2" SP		2.5" SP		3" SP		4" SP		5" SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
42D4	880	26744	3.91	25325	4.43	23435	4.91	21092	5.30	18321	5.51												
	1170	36280	8.64	35328	9.35	34282	10.05	33100	10.73	31654	11.37	29964	11.94	26183	12.78								
42D5	880	28687	4.93	27528	5.38	26173	5.85	24459	6.36	22520	6.76	20179	7.01										
	1170	38756	11.13	37949	11.72	37088	12.33	36158	12.93	35137	13.56	33958	14.22	31200	15.48	27995	16.32						
42D6	880	29062	5.70	28090	6.14	27015	6.59	25775	7.06	24331	7.53	22727	7.91										
	1170	39168	12.96	38476	13.54	37751	14.12	36986	14.71	36174	15.31	35301	15.91	33289	17.19	30979	18.31	28259	19.14				

TCVA 48D4, D5

Wheel Dia.: 48"

Outlet Area: 12.76 ft²

Tip Speed: 12.57 x RPM

PROP	RPM	0.25" SP		0.5" SP		0.75" SP		1" SP		1.25" SP		1.5" SP		2" SP		2.5" SP		3" SP		4" SP		5" SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
48D4	880	40854	7.65	39370	8.42	37659	9.17	35471	9.89	32915	10.52	30051	10.98										
	1170	55107	17.19	54071	18.22	52968	19.25	51782	20.26	50490	21.25	49016	22.24	45388	24.07	41326	25.49	36478	26.21				
48D5	880	43198	9.41	41930	10.08	40530	10.76	38926	11.47	36985	12.23	34832	12.89	29600	13.70								
	1170	58123	21.43	57221	22.31	56275	23.21	55278	24.10	54221	25.01	53091	25.93	50452	27.90	47305	29.82	43864	31.26				

TCVA 54D3, D4

Wheel Dia.: 54"

Outlet Area: 16.12 ft²

Tip Speed: 14.14 x RPM

PROP	RPM	0.25" SP		0.5" SP		0.75" SP		1" SP		1.25" SP		1.5" SP		2" SP		2.5" SP		3" SP		4" SP		5" SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
54D3	880	55364	11.29	53573	12.61	51547	13.81	49065	14.81	45991	15.55	42671	16.25	35015	16.95								
	1170	74569	25.14	73310	26.96	71977	28.72	70555	30.40	69024	32.00	67340	33.48	63143	35.75	58315	37.66	52894	39.19				
54D4	880	59058	13.90	57481	14.97	55747	16.04	53785	17.09	51385	18.13	48608	19.08	42352	20.44								
	1170	79378	31.56	78255	33.00	77079	34.43	75841	35.85	74531	37.27	73135	38.67	69916	41.45	65914	44.11	61581	46.33	50902	48.57		

TCVA 60D3

Wheel Dia.: 60"

Outlet Area: 19.88 ft²

Tip Speed: 15.71 x RPM

PROP	RPM	0.25" SP		0.5" SP		0.75" SP		1" SP		1.25" SP		1.5" SP		2" SP		2.5" SP		3" SP		4" SP		5" SP	
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
60D3	880	76383	18.69	74454	20.52	72341	22.26	69975	23.85	67109	25.15	63696	26.16	56146	27.99								
	1170	102607	41.98	101230	44.50	99790	46.95	98279	49.33	96683	51.63	94988	53.83	91138	57.76	86292	60.71	80962	63.33	68815	67.10		

Performance shown is for installation Type B: Free inlet, ducted outlet.
 Performance ratings do not include the effects of appurtenances in the airstream.

Little Things Mean A Lot

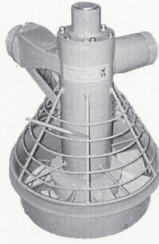
THE WORD 'PLEASE'

The Story: In 1995 Pacific Bell Telephone told its 4,500 directory assistance operators to answer calls with either: "Hi, this is _____, what city?" or "Hi, I'm _____, what city?" According to Pac Bell, these new greetings take 1.2 seconds to say, compared to 1.7 seconds when "please" is used. The phone company calculated that shaving half a second off of each call makes it possible for operators to handle 135,000 more calls per hour.

FANS

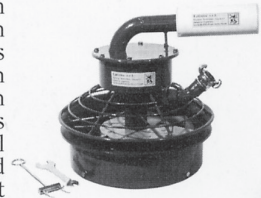
Portable Water Driven Gas Freeing Fan AX 2001-A for tanks

Net Weight: 14 Kg
 Diameter of fan propeller: 309 mm
 Exterior diameter of supporting Ring: 360 mm
 Work pressure: 3 to 14 bars
 Average air flow: 6 bars 8300 m³/h
 11 bars 12000 m³/h
 Water Consumption: 6 bars 30 m³/h
 11 bars 40 m³/h
 Material construction: Stainless Steel
 Material of Fan Blades: Nylon Coated
 Inlet Connection: Dia. 2-1/2" - 7-1/2" tpi



Portable Air Driven Gas Freeing Fan AX 2004 for tanks

Net Weight: 9 Kg
 Diameter of fan propeller: 311 mm
 Exterior diameter of supporting Ring: 360 mm
 Work pressure: 2 to 8 bars
 Average air flow: 4 bars 4770 m³/h
 7 bars 6850 m³/h
 Air Consumption: 6 bars 50 l/s
 Material construction: Stainless Steel
 Material of Fan Blades: Nylon Coated
 Anti-Static Epoxy paint
 Inlet Connection: 3/4" Female



COMPRESSORS



R-SERIES SPLASH LUBRICATED RECIPROCATING TWO-STAGE AIR COMPRESSORS

SPLASH & PRESSURE LUBRICATED — HORIZONTAL TANK (ELECTRIC)



Horizontal Tank								125 PSI Rating*			175 PSI Rating*			250 PSI Rating*		
Motor HP	Tank Cap Gal.	Splash R-Series Model	Pump Comp. Model	Pressure PL-Series Model	Pump Comp. Model	L x W x H Dimensions inches	Aprox. Ship Wt. lbs.	RPM	CFM Displ.	CFM Del'y	RPM	CFM Displ.	CFM Del'y	RPM	CFM Displ.	CFM Del'y
1 1/2	30	HR1-3	R-10D	—	—	41 1/2 x 21 x 44 3/8	300	575	11.2	6.0	542	10.5	5.3	—	—	—
	60	HR1-6		—		51 1/2 x 22 3/4 x 48 3/8	400									
	80	HR1-8		—		66 1/2 x 22 3/4 x 48 3/8	425									
2	30	HR2-3	R-10D	—	—	41 1/2 x 21 x 44 3/8	320	765	14.9	8.3	725	14.1	7.5	—	—	—
	60	HR2-6		—		51 1/2 x 22 3/4 x 48 3/8	425									
	80	HR2-8		—		66 1/2 x 22 3/4 x 48 3/8	455									
3	60	HR3-6	R-15B	HPL3-6	PL-15	51 1/2 x 22 3/4 x 48 3/8	425	485	14.1	10.9	440	12.8	9.7	380	11.0	8.0
	80	HR3-8		HPL3-8		66 1/2 x 22 3/4 x 48 3/8	485									
	120	HR3-12		HPL3-12		72 1/2 x 24 x 55	725									
5	60	HR5-6	R-15B	HPL5-6	PL-15	51 1/2 x 22 3/4 x 48 3/8	445	805	23.5	19.1	710	20.7	16.5	640	18.6	13.6
	80	HR5-8		HPL5-8		66 1/2 x 22 3/4 x 48 3/8	535									
	120	HR5-12		HPL5-12		72 1/2 x 24 x 55	765									
7 1/2	80	HR7F-8	R-30D	HPL7F-8	PL-30	66 1/2 x 22 3/4 x 48 3/8	570	1035	29.9	24.6	1035	29.9	23.5	940	27.4	19.4
	120	HR7F-12		HPL7F-12		72 1/2 x 24 x 55	800									
	80	HR7-8		HPL7-8		66 1/2 x 22 1/2 x 49 3/4	665									
10	120	HR7-12	R-30D	HPL7-12	PL-30	72 1/2 x 24 x 55 1/4	860	670	39.6	30.0	575	33.5	25.8	520	30.2	21.3
	80	HR10-8		HPL10-8		66 1/2 x 22 1/2 x 49 3/4	675									
	120	HR10-12		HPL10-12		72 1/2 x 24 x 55 1/4	890									
15	250	HR10-25	R-40A	—	—	87 1/2 x 34 1/4 x 61 3/8	1283	810	48.5	37.3	740	43.1	34.8	640	37.1	27.5
	80	HR15F-8		—		66 1/2 x 22 1/2 x 49 3/4	740									
	120	HR15F-12		HPL15F-12		72 1/2 x 24 x 55 1/4	960									
20	250	HR15F-25	R-40A	HPL15F-25	PL-40	88 1/2 x 31 x 60 3/16	1275	1045	63.5	50.2	1045	63.5	49.0	900	52.5	42.6
	120	HRA15-12		HPL15-12		73 1/2 x 27 3/8 x 62 1/2	1110									
	250	HRA15-25		HPL15-25		88 1/2 x 31 x 68 3/4	1495									
25	120	HRA20-12	R-70A	HPL20-12	PL-70	73 1/2 x 27 1/2 x 64	1325	770	109.0	91.9	655	93.0	76.7	545	77.4	64.1
	250	HRA20-25		HPL20-25		88 1/2 x 31 x 70 1/4	1790									
	120	HRA25-12		HPL25-12		73 1/2 x 27 1/2 x 64	1365									
30	250	HRA25-25	R-70A	HPL25-25	PL-70	88 1/2 x 31 x 70 1/4	1735	890	127.8	102.1	770	109.4	90.1	660	93.7	76.8
	120	HRA30-12		HPL30-12		73 1/2 x 27 1/2 x 64	1404									
	250	HRA30-25		HPL30-25		88 1/2 x 31 x 70 1/4	1774									

NOTE: Pressure lubricated units are capable of 250 PSIG operation.

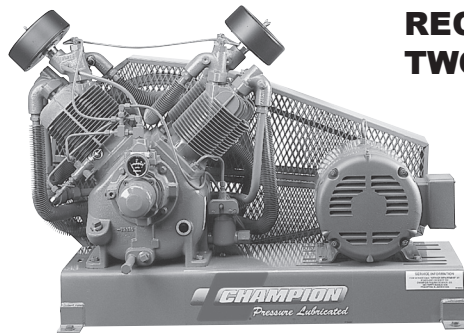
SPLASH & PRESSURE LUBRICATED — VERTICAL TANK (ELECTRIC)

Motor HP	Vertical Tank							125 PSI Rating*			175 PSI Rating*			250 PSI Rating*				
	Tank Cap Gal.	Splash R-Series Model	Pump Comp. Model	Pressure PL-Series Model	Pump Comp. Model	L x W x H Dimensions inches	Aprox. Ship Wt. lbs.	RPM	CFM Displ.	CFM Del'y	RPM	CFM Displ.	CFM Del'y	RPM	CFM Displ.	CFM Del'y		
1.5	60	VR1-6	R-10D	—	—	32 ¹ / ₂ x 22 ¹ / ₂ x 76 ¹ / ₂	400	575	11.2	6.0	542	10.5	5.3	—	—	—		
	80	VR1-8				32 x 24 x 77	425											
2	60	VR2-6				32 ¹ / ₂ x 22 ¹ / ₂ x 76 ¹ / ₂	425											
	80	VR2-8				32 x 24 x 77	455											
3	60	VR3-6	R-15B	VPL3-6	PL-15	32 ¹ / ₂ x 22 ¹ / ₂ x 76 ¹ / ₂	425	485	14.1	10.9	440	12.8	9.7	380	11.0	8.0		
	80	VR3-8		VPL3-8		32 x 24 x 77	485											
	120	VR3-12		VPL3-12		42 ¹ / ₂ x 30 x 80 ¹ / ₂	725											
5	60	VR5-6		VPL5-6		PL-15	32 ¹ / ₂ x 22 ¹ / ₂ x 76 ¹ / ₂	455	805	23.5	19.1	710	20.7	16.5	640	18.6	13.6	
	80	VR5-8		VPL5-8			33 x 24 x 77	535										
	120	VR5-12		VPL5-12			42 ¹ / ₂ x 30 x 82	765										
7 ¹ / ₂	80	VR7F-8		VPL7F-8		PL-30	33 x 24 x 77	570	1035	29.9	24.6	1035	29.9	23.5	940	27.4	19.4	
	120	VR7F-12		VPL7F-12			42 ¹ / ₂ x 30 x 82	800										
	80	VR7-8		R-30D			VPL7-8	42 ¹ / ₂ x 30 x 82										665
10	80	VR10-8	R-30D	VPL10-8	PL-30	46 ³ / ₈ x 30 x 82	800	670	39.6	30.0	575	33.5	25.8	520	30.2	21.3		
	120	VR7-12				R-15B	VPL7-12										42 ¹ / ₂ x 30 x 66 ³ / ₄	860
	80	VR10-12				VPL10-12	46 ³ / ₈ x 30 x 80 ³ / ₄										890	
15	120	VR15F-12	PL-40	—	—	46 ³ / ₈ x 30 x 80 ³ / ₄	890	1045	63.5	50.2	1045	63.5	49.0	900	52.5	42.6		

NOTE: Pressure lubricated units are capable of 250 PSIG operation.



R-SERIES SPLASH LUBRICATED RECIPROCATING TWO-STAGE AIR COMPRESSORS



SPLASH & PRESSURE LUBRICATED — BASE MOUNT (ELECTRIC)

Motor HP	Splash R-Series Model	Pump Comp. Model	Pressure PL-Series Model	Pump Comp. Model	L x W x H Dimensions inches	Aprox. Ship Wt. lbs.	125 PSI Rating*			175 PSI Rating*			250 PSI Rating*		
							RPM	CFM Displ.	CFM Del'y	RPM	CFM Displ.	CFM Del'y	RPM	CFM Displ.	CFM Del'y
1 ¹ / ₂	BR-1	R-10D	—	—	29 ¹ / ₂ x 21 x 29 ¹ / ₄	205	575	11.2	6.0	542	10.5	5.3	—	—	—
2	BR-2		—			205	765	14.9	8.3	725	14.1	7.5	—	—	—
3	BR-3	R-15B	BPL-3	PL-15	30 ¹ / ₂ x 21 x 29 ¹ / ₄	230	485	14.1	10.9	440	12.8	9.7	380	11.0	8.0
5	BR-5		BPL-5			280	805	23.5	19.1	710	20.7	16.5	640	18.6	13.6
7 ¹ / ₂	BRF-7		BPL-7F			310	1035	29.9	24.6	1035	29.9	23.5	940	27.4	19.4
7 ¹ / ₂	BR-7	R-30D	BPL-7	PL-30	42 ³ / ₄ x 22 ¹ / ₈ x 28 ⁹ / ₁₆	430	670	39.6	30.0	575	33.5	25.8	520	30.2	21.3
	10		BR-10			BPL-10	540	810	48.5	37.3	740	43.1	34.8	640	37.1
15	BRF-15	R-40A	BPL-15F	PL-40	49 ¹ / ₂ x 26 ¹ / ₄ x 38	550	1045	63.5	50.2	1045	63.5	49.0	900	52.5	42.6
	BRA-15		BPL-15			730	890	71.1	59.0	770	61.5	53.7	700	55.9	45.8
20	BRA-20	R-70A	BPL-20	PL-70	53 x 27 ¹ / ₂ x 39 ¹ / ₂	1000	770	109.0	91.9	655	93.0	76.7	545	77.4	64.1
25	BRA-25		BPL-25			1020	890	127.8	102.1	770	109.4	90.1	660	93.7	76.8
30	BRA-30		BPL-30			1059	890	127.0	102.1	890	127.0	101.1	770	109.4	90.0

**PARTS & SERVICING
AVAILABLE**



**PARTS & SERVICING
AVAILABLE**

PROFESSIONAL AIR COMPRESSORS

Designed for the professional, our single stage air compressors are ideal for most anyone, from the do-it-yourselfer to the professional air compressor user. When performance is defined by maximum operating pressure, increased air flow, and extended duty cycles, Ingersoll-Rand is the product of choice.

- Maximum Air Power! More delivered air(cfm) to do the job right and in less time
- Built to last! Durable Cast Iron Construction
- 100% continuous duty for the toughest applications
- Extended Pump Life! 5,000+ hours, more than double the life of many low cost aluminum compressors

SINGLE STAGE STATIONARY – ELECTRIC

No starter required. Manual thermal overload protection of the motor. 230/1/60 Voltage.

IR Model #	HP	Voltage	Tank	ACFM@ 90/135 PSIG	Max PSIG
SS3L3	3	230-1-60	60 Gallon Vertical	11.3/10.3	135
SS5L5	5	230-1-60	60 Gallon Vertical	18.1/15.5	135



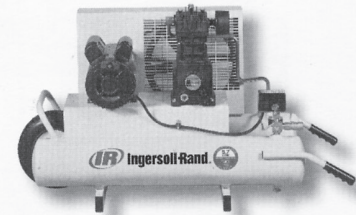
PORTABLE POWER

• SINGLE STAGE WHEELBARROW

Maximum maneuverability on the jobsite! Light weight, low profile design with convenient lifting handles.

GASOLINE ENGINE DRIVEN

IR Model #	HP	Engine	Tank	ACFM@ 90/135 PSIG	Max PSIG
SS3J5.5GB-WB	5.5	Briggs & Stratton	8 Gallon Twin	11.8/10.7	135
SS3J5.5GH-WB	5.5	Honda	8 Gallon Twin	11.8/10.7	135



ELECTRIC

IR Model #	HP	Voltage	Tank	ACFM@ 90/135 PSIG	Max PSIG
SS3J2-WB	2	115/230-1-60	8 Gallon Twin	5.7/4.9	135
SS3J3-WB	3	230-1-60	8 Gallon Twin	11.3/10.3	135

• SINGLE STAGE AIR SLED

Ergonomically designed, the Air Sled offers a rugged frame support to meet the rigorous demands of field handling. Available options include cart assembly (lifting handle and semi-pneumatic tires) providing balanced two wheel mobility, regulation panel, hose rack and weatherproof cover.

GASOLINE ENGINE DRIVEN

IR Model #	HP	Engine	Tank	ACFM@ 90/135 PSIG	Max PSIG
SS3J5.5GH-AS	5.5	Honda	8 Gallon Twin	11.8/10.7	135



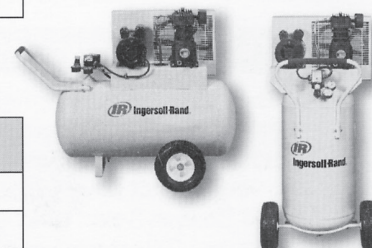
ELECTRIC

IR Model #	HP	Voltage	Tank	ACFM@ 90/135 PSIG	Max PSIG
SS3J3-AS	3	230-1-60	8 Gallon Twin	11.3/10.3	135

• SINGLE STAGE GARAGE MATE

Ideal for the home, shop or jobsite.

IR Model #	HP	Voltage	Tank	ACFM@ 90/135 PSIG	Max PSIG
SS3R2-GM	2	115-1-60	24 Gallon Vertical	5.7/4.9	135
SS3F2-GM	2	115-1-60	30 Gallon Horizontal	5.7/4.9	135



Air Power (cfm), not Horsepower, defines Compressor Performance. Not all Horsepower is rated equally! Ingersoll-Rand rates motors at applied load or running HP while many competitors are rated at peak HP (higher HP, but not necessarily more delivered air-cfm.)

PARTS & SERVICING
AVAILABLE

IR Ingersoll-Rand®

INDUSTRIAL AIR COMPRESSORS

PARTS & SERVICING
AVAILABLE

Designed for Heavy Shop Use and Light Industrial applications, our two-stage air compressors offer

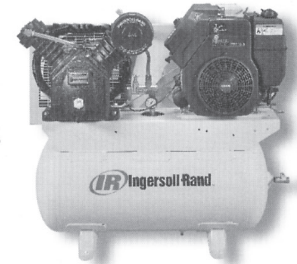
- Superior Air Power – more delivered air (cfm) and higher pressure (psi) to power your air tools
- Durable 100% cast iron construction for the most demanding environment
- Extended pump life! 10,000+ hours

TWO-STAGE GASOLINE ENGINE DRIVEN

Ideal for fleet or field service applications with truck bed mounting design. Idle engine control and electronic ignition for easier starting. Powder coat paint finish to protect against outdoor elements. 30 gallon ASME receiver and OSHA fully enclosed belt

IR Model #	HP	Engine	ACFM @ 175 PSIG	Tank
2475F12.5G	12.5	Kohler	24	30 Gallon Horizontal
2475F11.5GKA	11.5	Kawasaki	25	30 Gallon Horizontal
2475F11GH	11	Honda	19	30 Gallon Horizontal

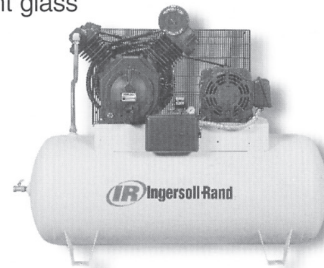
guard for worker safety.



TWO-STAGE ELECTRIC "VALUE PACKAGES"

Priced right and designed for the most demanding applications where a dependable air supply is required. Each package includes a two-stage cast-iron compressor pump, ODP electric motor, magnetic motor starter (mounted and wired), automatic start and stop pressure switch control, mounted on an ASME rated receiver tank. Available voltages: 230/1/60 (5-7.5 HP), 200/3/60, 230/3/60, 460/3/60. Pressure up to 175 PSIG. Oil sight glass included on 10-15 HP Packages.

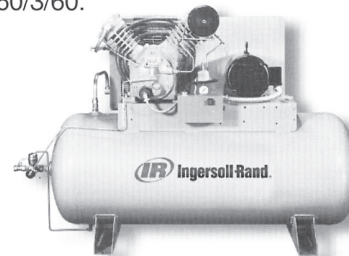
IR Model #	HP	ACFM @ 175 PSIG	Tank
2340L5	5	15	60 Gallon Vertical
2475N5	5	16.8	80 Gallon Vertical
2475N7.5	7.5	24	80 Gallon Vertical
2545E10V	10	35	120 Gallon Horizontal
7100E15V	15	50	120 Gallon Horizontal



TWO-STAGE ELECTRIC "FULLY PACKAGED"

Everything you need for a dependable air supply with minimal maintenance. Fully packaged compressors include magnetic motor starter, aircooled aftercooler and electric drain valve which removes harmful moisture, plus, the added protection of a low oil level shutdown switch. Available voltages: 230/1/60 (5-7.5 HP), 200/3/60, 230/3/60, 460/3/60.

IR Model #	HP	ACFM @ 175 PSIG	Tank
2475N5FP	5	16.8	80 Gallon Vertical
2475N7.5FP	7.5	24	80 Gallon Vertical
2545K10FP	10	35	120 Gallon Vertical
2545E10FP	10	35	120 Gallon Horizontal
7100E15FP	15	50	120 Gallon Horizontal



* Packages available through 30 HP.

INGERSOLL-RAND START-UP MAINTENANCE KITS

All the parts needed to maintain your compressor for a full year, plus the added protection of extended warranty coverage – two very distinct advantages you'll gain with the All Season Select Start Up kit. Kits include All Season Select synthetic pump lubricant and replacement air filter elements. Kits for gasoline engine driven compressors also include engine air filter, oil filter and engine oil.

IR Model #	Compressor HP
32305580	5 & 7.5
32305898	10 & 15
32305906	20, 25 & 30
32305872	12.5 (Kohler)
32498511	11.5 (Kawasaki)
32312936	11 (Honda)



2 YEAR WARRANTY!

Only in America are there handicap parking places in front of a skating rink.

5-30 HP Fully Packaged Air Compressors

Ingersoll-Rand's high performance two-stage, Fully Packaged air compressors are designed for the most demanding applications where a dependable air supply is essential. Each fully packaged air compressor comes complete with pre-installed magnetic motor starter, aircooled aftercooler and electric drain valve to remove harmful moisture, plus, the added protection of a low oil level shutdown switch. Perfect for automotive, heavy duty commercial or industrial applications.

When performance is defined by maximum operating pressure, increased air flow, and extended duty cycles, Ingersoll-Rand is the product of choice.

Powerful...

- Maximum Air Power!
- More delivered air(cfm) providing the power to do the job right and in less time
- 100 % continuous duty for the toughest applications
- 175 psi maximum operating pressure

Durable...

- Built to Last! Durable cast iron construction
- Extended Pump Life! 10,000 + hours for years of trouble free service
- Industrial Quality Design

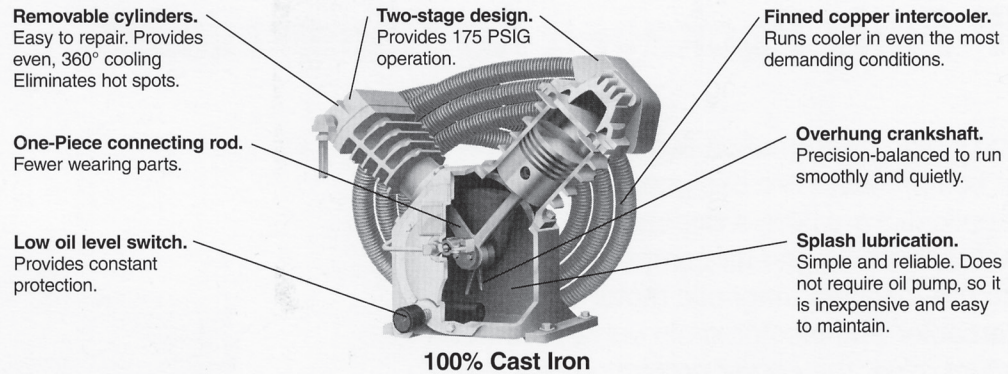
Reliable...

- Designed and produced by Ingersoll-Rand, the world's leader in air compressor manufacturing, sales and service
- Precision engineered quality components
- Extended two year warranty offered with the use of Ingersoll-Rand's All Season Select synthetic lubricant



LEGENDARY PERFORMANCE

Technical Specification Guide



Standard Features

- Durable 100% cast iron construction
- 100% continuous duty cycle
- Factory mounted and wired motor starter
- Air-cooled aftercooler
- Automatic start/stop pressure switch control (5-7.5HP)
- Constant speed control (10-30HP)
- ASME code receiver tank
- Electric drain valve
- Low oil level shutdown switch
- Totally enclosed beltguard
- Splash lubrication
- All units are prewired and thoroughly tested prior to shipment
- Meets OSHA standards
- UL/CSA/ASME compliant

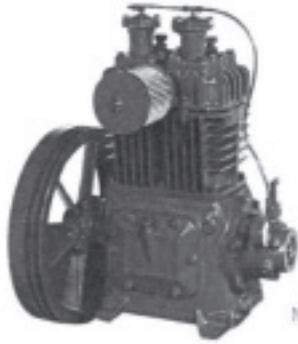
Specifications

Model	HP	Tank Size (gal.)	Capacity (cfm) @175psi	Maximum Pressure PSI	Package Dimensions L/W/H (in.)	Net Weight (lbs.)
2475N5FP.	5	80 Vertical	16.8	175	30"x37"x70"	500
2475N7.5FP	7.5	80 Vertical	24.0	175	30"x37"x70"	500
2545E10FP	10	120 Horizontal	35.0	175	75"x31"x56"	1000
7100E15FP	15	120 Horizontal	50.0	175	78"x30"x56"	1035
3000E20FP	20	120 Horizontal	72.0	175	75"x38"x61"	1410
3000E25FP	25	120 Horizontal	82.0	175	75"x38"x61"	1410
3000E30FP	30	120 Horizontal	100.0	175	75"x38"x61"	1410

SOBER SUE

Background: One afternoon in 1908, the managers of Hammerstein's Victoria Theater on Broadway marched a woman onstage during intermission and offered \$1,000 to anyone in the audience who could make the woman-introduced as "Sober Sue"-laugh. When no one in the audience succeeded in getting Sober Sue to even crack a smile, the theater managers upped the ante by inviting New York's top comedians to try. Over the next several weeks, just about every headlining comedian in New York City performed their best material in front of Sober Sue, hoping to benefit from the publicity if they were first to get her to laugh. Everyone failed, but Sober Sue became one of Broadway's top theater attractions.

Exposed: It wasn't until after she left town that Sober Sue's secret finally leaked out: Her facial muscles were paralyzed-she couldn't have laughed even if she had wanted to. The Victoria Theater had cooked up the "contest" to trick New York's most famous-and most expensive—comedians into performing their routines for free.



Model 240



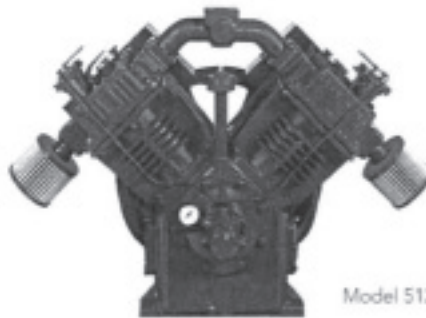
Model 4125

QUINCY QR-25 SINGLE-STAGE BASIC COMPRESSOR

Model	Typical HP Range @100 PSI	Bore (in)	Stroke (in)	No. Cyl.	Min. RPM	ACFM @100 PSIG Min. RPM	F.A.D. @100 PSIG Max. RPM	Max. RPM	ACFM @100 PSIG Max. RPM	Max. Cont. Pressure (PSIG)	Max. Intermit. Pressure (PSIG)	Approx. Shipping Weight (lb)	LxWxH (in)
210	1-2	2.50	2.00	2	400	2.82	1000	1000	6.34	100	150	71	13x7x15
216	1 1/2-5	3.00	2.50	2	400	4.74	900	900	10.70	100	100	165	17x13x21
240	3-7 1/2	4.00	3.00	2	400	10.47	900	900	23.56	100	100	247	23x16x25
270	5-10	4.50	4.00	2	400	15.61	900	900	35.12	100	100	430	25x20x30
4125	10-20	4.50	4.00	V4	400	31.81	940	940	71.57	100	100	767	26x38x28



Model 325



Model 5120

QUINCY QR-25 TWO-STAGE BASIC COMPRESSOR

Model	Typical HP Range @175 PSI	Bore L.P. (in)	Bore H.P. (in)	Stroke (in)	No. Cyl.	Min. RPM	ACFM @175 PSIG Max. RPM	Max. Cont. Pressure (PSIG)	Max. Intermit. Pressure** (PSIG)	Approx. Shipping Weight (lb)	LxWxH (in)
310	2	3.50	2.00	2.50	2	628	6.30	200	500	175	21x10x21
325	3-5	4.50	2.50	3.00	2	400	18.64	200	500	255	22x17x25
340	5-10	5.25	3.00	3.50	2	400	29.64	200	500	452	27x16x30
350	5-15	6.00	3.25	3.50	2	400	36.60	200	350	480	28x16x31
370	5-15	6.00	3.25	4.00	2	400	49.72	200	250	481	28x16x31
390	7 1/2-20	7.50	4.00	4.00	2	400	69.21	200	250	739	33x16x34
5120	10-25	6.00	3.25	4.00	V4	400	94.97	200	250	904	32x41x31

** High pressure basic required above 250 PSIG

Darwin Award Winner

March 1995, James Burns, 34, Alamo, Michigan was killed as he was trying to repair what police described as a "farm-type truck." Burns got a friend to drive the truck on a highway while Burns hung underneath so that he could ascertain the source of a troubling noise. Burns' clothes caught on something. The man that was driving found Burns "wrapped in the drive shaft."



QUINCY QR-25 SERIES



Model F5120

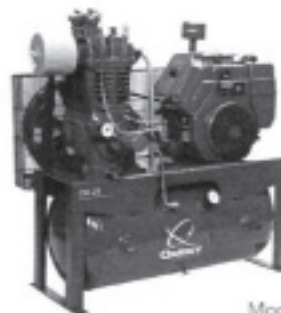
QUINCY QR-25 TANK-MOUNTED INDUSTRIAL COMPRESSOR

Model No.	Horse Power	Bore L.P. (in)	Bore H.P. (in)	Stroke (in)	No. Cyl.	RPM **	CFM Piston Disp.	†ACFM **	Std. Press. Switch Set (PSIG)	Tank Size (Gallons)	Approx. Shipping Weight (lb)	LxWxH (in)
F210*	1	2.50	—	2.00	2	440	5.00	3.30	80-100	30	290	42x16x37
	1 1/2					691	7.90	4.80		60	480	53x22x42
V210*	1	2.50	—	2.00	2	481	5.50	3.30	80-100	30	275	27x10x47
	1 1/2					691	7.90	4.80				
F310	2	3.50	2.00	2.50	2	628	8.70	6.30	135-175	60	560	53x22x48
V310										80	600	31x24x75
F325	3	4.50	2.50	3.00	2	459	13.60	10.40	135-175	60	710	53x26x51
	5					796	22.00	17.40		80	770	68x26x50
										120	975	73x26x56
V325	3	4.50	2.50	3.00	2	492	13.60	10.40	135-175	60	675	36x26x78
	5					796	22.00	17.40		80	775	36x26x78
F340	7 1/2	5.25	3.00	3.50	2	786	34.50	26.00	135-175	80	1095	68x28x56
										120	1120	73x28x61
F350	10	6.00	3.25	3.50	2	859	49.20	33.40	135-175	120	1225	73x30x62
F370	15	6.00	3.25	4.00	2	1060	69.40	49.30	135-175	120	1285	73x30x62
F390	20	7.50	4.00	4.00	2	877	95.80	64.00	135-175	120	1680	73x35x66
										200	2010	77x35x72
F5120	25	6.00	3.25	4.00	V4	951	124.50	87.00	135-175	120	2140	73x34x72
										200	2140	77x34x72

* Single-stage model

** RPM and ACFM shown at 100 PSI for single-stage models, 175 PSI for two-stage models

† All compressor performance data is rated with 230/460, 60Hz, 3ph, EPAct high efficiency motors.



Model HT325

QUINCY QR-25 TWO-STAGE TANK-MOUNTED MOBILE COMPRESSOR

Model No.	Horse Power	Bore L.P. (in)	Bore H.P. (in)	Stroke (in)	No. Cyl.	RPM **	CFM Piston Disp.	ACFM @ 175 PSI **	Pilot Valve Setting PSI	Tank Size (Gallons)	Approx. Shipping Weight (lb)	LxWxH (in)
HT325	11 Eng.	4.50	2.50	3.00	2	900	24.80	18.70	165-175	30	695	41x27x44
HT325LS-10Y	10 Diesel	4.50	2.50	3.00	2	900	24.80	18.70	165-175	30	530	41x27x44
HT350	18 Eng.	6.00	3.25	3.50	2	900	51.50	34.50	165-175	60	1670	49x31x54

* Single-stage model

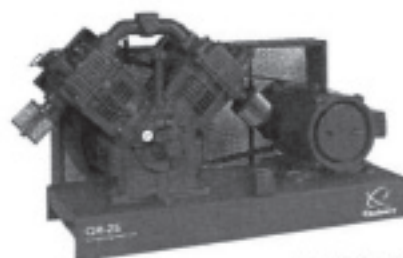
** RPM and ACFM shown at 100 PSI for single-stage models, 175 PSI for two-stage models

† All compressor performance data is rated with 230/460, 60Hz, 3ph, EPAct high efficiency motors.



QUINCY QR-25 BASE-MOUNTED INDUSTRIAL COMPRESSOR

Model No.	Horse Power	Bore L.P. (in)	Bore H.P. (in)	Stroke (in)	No. Cyl.	RPM **	CFM Piston Disp.	†ACFM **	Approx. Shipping Weight (lb)	LxWxH (in)
D210*	1	2.50	—	2.00	2	440	5.00	3.30	185	27x16x20
	1 1/2					691	7.90	4.80	190	
D310	2	3.50	2.00	2.50	2	628	8.70	6.30	415	34x22x14
D325	3	4.50	2.50	3.00	2	459	13.60	10.40	455	
	5					796	22.00	17.40	510	37x26x31
	10 HP Diesel					900	24.80	18.70	480	41x25x29
	11 ENG.					900	24.80	18.70	455	41x25x29
D340	7-1/2	5.25	3.00	3.50	2	786	34.50	26.00	770	40x28x36
D350	10	6.00	3.25	3.50	2	859	49.20	33.40	980	41x30x37
	18 ENG.					900	51.50	34.50	1065	44x30x37
D370	15	6.00	3.25	4.00	2	1060	69.40	49.30	1045	41x30x37
D390	20	7.50	4.00	4.00	2	877	95.80	64.00	1320	48x35x41
D5120	25	6.00	3.25	4.00	V4	951	124.50	87.00	1530	63x34x38

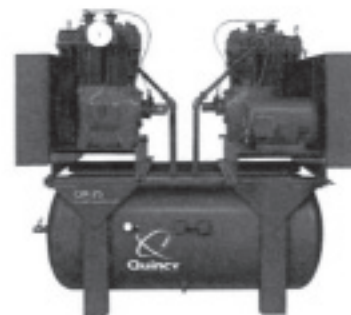


Model D5120

* Single-stage model
 ** RPM and ACFM shown at 100 PSI for single-stage models, 175 PSI for two-stage models
 † All compressor performance data is rated with 230/460, 60Hz, 3ph, EPAAct high efficiency motors.

QUINCY QR-25 DUPLEX TANK-MOUNTED INDUSTRIAL COMPRESSOR

Model No.	Horse Power 2X	Bore L.P. (in)	Bore H.P. (in)	Stroke (in)	No. Cyl.	RPM **	CFM Piston Disp. 2X	†ACFM 2X **	Std. Press. Switch Set (PSIG)	Tank Size (Gallons)	Approx. Shipping Weight (lb)	LxWxH (in)
FF210*	1-1/2	2.50	*	2.00	2	691	7.90	4.80	80-100	60	590	52x29x43
FF310	2	3.50	2.00	2.50	2	628	9.10	6.64	135-175	80	890	70x27x47
FF325	3	4.50	2.50	3.00	2	459	13.60	10.40	135-175	80	1050	72x28x51
	5					796	22.00	17.40		120	1280	77x30x56
FF340	7-1/2	5.25	3.00	3.50	2	786	34.50	26.00	135-175	120	1675	78x30x61
										200	2250	79x30x69
FF350	10	6.00	3.25	3.50	2	859	49.20	33.40	135-175	120	2345	78x30x62
										200	1965	79x30x69
FF370	15	6.00	3.25	4.00	2	1060	69.40	49.30	135-175	200	2430	79x30x69
FF390	20	7.50	4.00	4.00	2	877	95.80	64.00	135-175	240	3300	89x53x53
FF5120	25	6.00	3.25	4.00	V4	951	124.50	87.00	135-175	240	3750	90x75x72



Model FF390

* Single-stage model
 ** RPM and ACFM shown at 100 PSI for single-stage models, 175 PSI for two-stage models
 † All compressor performance data is rated with 230/460, 60Hz, 3ph, EPAAct high efficiency motors.

All performance data meets CAGI/PNEUROP PN2CPTC2 and PN2CPTC3 acceptance test codes for electrically and I.C. engine-driven packaged displacement air compressors.

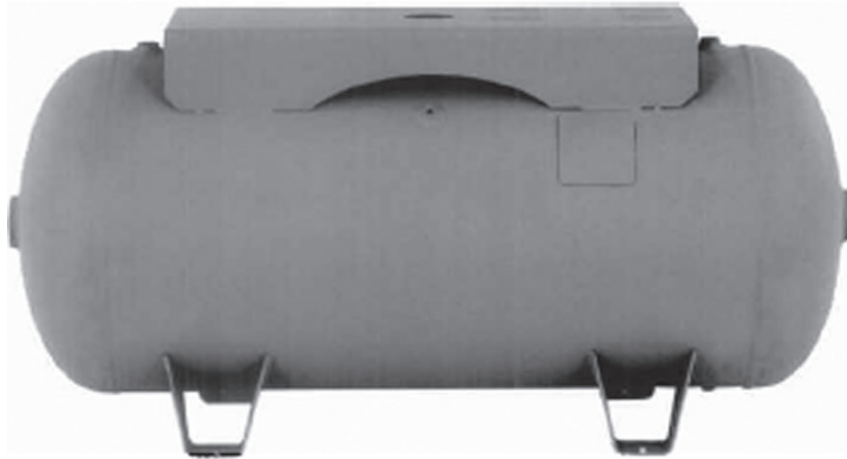
Prodigy

An infant prodigy is a young child whose parents are highly imaginative.

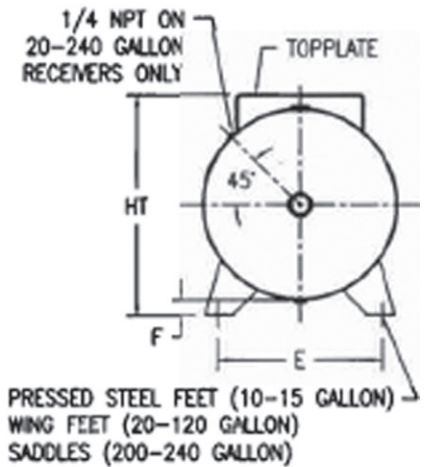
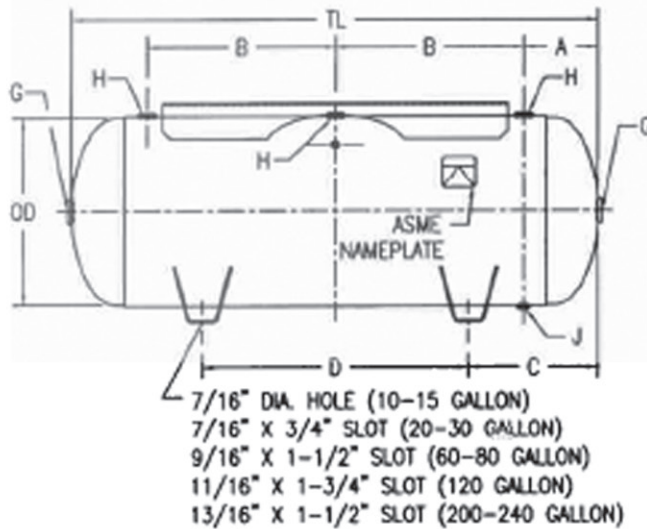
Profit

It is a socialist idea that making profits is a vice; I consider that the real vice is making losses. Winston Churchill

HORIZONTAL AIR RECEIVERS 10-240 GALLONS



Wing Feet



10-240 GALLON M-3050

NOM. CAP.		PART NO.	MAWP	TOP PLATE	T.W.	DIMENSIONS IN INCHES										N.P.T. OPENINGS		
GAL.	CU.FT.					OD	TL	HT	A	B	C	D	E	F	G	H	J	
10	1.34	302460	200	NONE	32	10.00	30.00	11.56	5.50	9.50	6.00	18.00	9.25	1.56	3/4	1/2	1/4	
10	1.34	302461	200	.13X9X16	43	10.00	30.00	13.06	5.50	9.50	6.00	18.00	9.25	1.56	3/4	1/2	1/4	
10	1.34	302462	300	.13X9X16	46	10.00	30.00	13.06	5.50	9.50	6.00	18.00	9.25	1.56	3/4	1/2	1/4	
15	2.01	302463	200	NONE	51	12.00	33.00	13.06	5.50	11.00	6.50	20.00	11.00	1.06	3/4	1/2	1/4	
15	2.01	302464	200	.13X9X18	51	12.00	33.00	14.56	5.50	11.00	6.50	20.00	11.00	1.06	3/4	1/2	1/4	
15	2.01	302465	300	.13X9X18	66	12.00	33.00	14.56	5.50	11.00	6.50	20.00	11.00	1.06	3/4	1/2	1/4	
20	2.67	302466	200	NONE	66	14.00	33.00	16.00	5.88	10.63	8.50	16.00	11.69	2.00	1-1/2	1/2	1/2	
20	2.67	302467	200	.13X9X20	79	14.00	33.00	18.00	5.88	10.63	8.50	16.00	11.69	2.00	1-1/2	1/2	1/2	
20	2.67	302468	300	.13X9X20	95	14.00	33.00	18.00	5.88	10.63	8.50	16.00	11.69	2.00	1-1/2	1/2	1/2	
30	4.01	302469	200	NONE	89	16.00	38.00	18.00	5.75	13.25	9.00	20.00	12.81	2.00	1-1/2	3/4	1/2	
30	4.01	302470	200	.18X10X24	111	16.00	38.00	20.63	5.75	13.25	9.00	20.00	12.81	2.00	1-1/2	3/4	1/2	
30	4.01	302471	300	.18X10X24	140	16.00	38.00	20.63	5.75	13.25	9.00	20.00	12.81	2.00	1-1/2	3/4	1/2	
60	8.02	302473	200	NONE	170	20.00	48.00	22.31	7.75	16.25	12.00	24.00	16.50	2.31	2	3/4	1/2	
60	8.02	302474	200	.18X13.5X30	204	20.00	48.00	24.44	7.75	16.25	12.00	24.00	16.50	2.31	2	3/4	1/2	
60	8.02	302475	300	.18X13.5X30	225	20.00	48.00	24.44	7.75	16.25	12.00	24.00	16.50	2.31	2	3/4	1/2	
80	10.70	302476	200	NONE	214	20.00	63.00	22.31	9.00	22.50	15.50	32.00	16.50	2.31	2	1	1/2	
80	10.70	302477	200	.25X15X40	263	20.00	63.00	24.06	9.00	22.50	15.50	32.00	16.50	2.31	2	1	1/2	
80	10.70	302478	300	.25X15X40	350	20.00	63.00	24.06	9.00	22.50	15.50	32.00	16.50	2.31	2	1	1/2	
120	16.04	302479	200	NONE	311	24.00	67.00	26.25	9.50	24.00	16.50	34.00	20.63	2.25	2	1-1/2	3/4	
120	16.04	302480	200	.25X16X44	382	24.00	67.00	27.94	9.50	24.00	16.50	34.00	20.63	2.25	2	1-1/2	3/4	
200	26.74	302482	200	NONE	538	30.00	72.00	33.00	11.63	24.38	17.00	38.00	23.50	3.00	2	2	1	
200	26.74	302483	200	.25X19X48	632	30.00	72.00	35.69	11.63	24.38	17.00	38.00	23.50	3.00	2	2	1	
240	32.09	302484	200	NONE	618	30.00	84.00	33.00	11.63	30.38	20.00	44.00	23.50	3.00	2	2	1	
240	32.09	302485	200	.25X19X48	716	30.00	84.00	35.69	11.63	30.38	20.00	44.00	23.50	3.00	2	2	1	

MARINE MUFFLER FIBERGLASS SYSTEMS

Making the Right Selection

Matching the correct silencer to any given application requires the consideration of many factors. Available space, type of engine, accessibility, location, and the engine manufacturer's recommended maximum back pressure-are but a few of the numerous variables. Therefore, it is vitally important that all factors be considered prior to making a final selection. A special manufacturing feature of all Marine Muffler Corporation exhaust components is that they are engineered to compensate for back pressure requirements. The range of styles and configurations make product selection easy. For convenience, the chart (right) can begin to answer your selection questions.

NOTE: For "V" type cylinder block applications, where two exhaust systems per engine are used (dual exhaust), divide total H.P. by two (2), then select appropriate silencer size. For "V" applications where exhaust is routed to one silencer (single exhaust), use total H.P. to make selection.

For intermediate horsepower applications, use the next larger size silencer.

All Marine Muffler exhaust system components are factory "certified" for use in marine wet exhaust applications.

O.D.	GAS	DIESEL
1 1/2"	35	N/A
2"	50	N/A
2 1/2"	100	25
3"	150	50
3 1/2"	200	75
4"	250	100
5"	350	200
6"	400	300
8"	N/A	500
10"	N/A	700
12"	N/A	1000

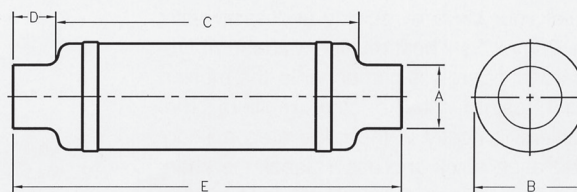
Resin Standards

Resins used in the construction of Marine Muffler Corporation products are carefully selected to meet or exceed the following criteria for heat resistance and fire retardancy.

U.S. NAVY/USCG
U.S. NAVY/USCG
Dept. of Transportation

MIL-R-21607
MIL-R-7575
ASTM-E-162

Primex™ Round Silencers



Primex™ Silencers

PART #	"A"	"B"	"C"	"D"	"E"
MC-015	1 1/2"	6"	15 1/2"	4"	23 1/2"
MC-020	2"	6"	15 1/2"	2"	19 1/2"
MC-025	2 1/2"	6"	17"	3"	23"
MC-030	3"	6"	17"	3"	23"
MC-035	3 1/2"	8"	19"	4"	27"
MC-040	4"	8"	19"	4"	27"
MC-045	4 1/2"	10"	25"	5"	35"
MC-050	5"	10"	25"	5"	35"
MC-060	6"	12"	29 1/2"	6"	41 1/2"
MC-080	8"	14"	43 1/2"	6"	55 1/2"
MC-100	10"	18"	53"	6"	71"
MC-120	12"	24"	64"	10"	84"

For over two decades Marine Muffler has been quieting boats with round silencers made from fiberglass composites. Designed-in back pressure compensation and corrosion resistant properties make Marine Muffler products the choice of more OEM's than any other brand. To determine the size you need, refer to the chart on the inside cover. Actual product dimensions are listed above.

MAXIM

Better Chamber Type Silencer: Expected Attenuation is 20 to 24 dBA

Use a model M31 in residential areas where background noise is present but not objectionable. In these areas, installation of an M31 on an engine exhaust is intended to bring the noise level down to match the ambient noise levels.

Example: In a quieter residential area off main traffic areas and away from constant noise sources.

OVERVIEW

TYPICAL APPLICATIONS

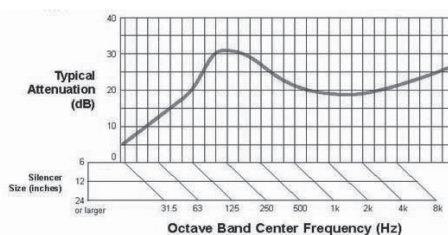
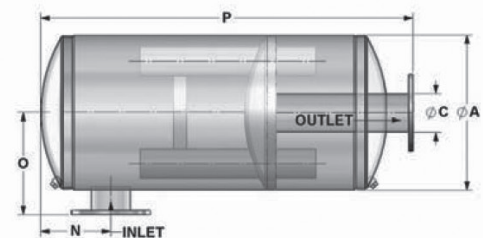
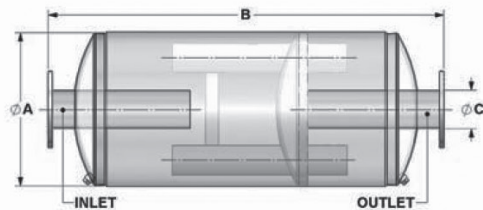
- Internal combustion engine intakes and exhausts
- Blower intakes and discharges
- Vacuum pump discharges

FEATURES

- Advanced acoustical design
- Heavy duty, all welded construction and long service life
- Easily installed in any position
- Prime coated exterior finish

OPTIONAL ACCESSORIES

- Explosion relief cover
- Flexible connectors
- Companion flanges
- Cleanout openings
- Side inlet(s)
- Side outlet
- Horizontal or vertical support arrangements
- Special paint
- Stainless steel construction



Size	A	B	C	N		O	P	Est. Wt.
				Min.	Max.			
4"	14	48	4	5 1/2	22	10	45 3/8	110
5"	16	55	5	6 1/2	25	11	52 3/8	120
6"	18	63	6	7	29 1/2	12	60 3/8	170
8"	22	76	8	8 1/2	36 1/2	14	73 3/8	285
10"	26	91	10	10 1/2	43	16 1/2	88	460
12"	30	109	12	12	53	18 1/2	106 1/8	745
14"	36	102	14	14	48	21 1/2	99 1/4	965
16"	40	119	16	17	56	23 1/2	116 3/8	1340
18"	45	127	18	19	60	26 1/2	124	1850
20"	50	144	20	21	69	29	141 1/4	2175
22"	54	161	22	22	78	31	158 1/4	2650
24"	60	165	24	24	79	34	162 1/4	3400
26"	64	183	26	26	89	36	180 1/2	3850
28"	68	200	28	27	98	38	197 3/4	4840
30"	72	216	30	29	107	40	213 3/4	5150

Note: Dimensions are in inches, weights are in pounds.