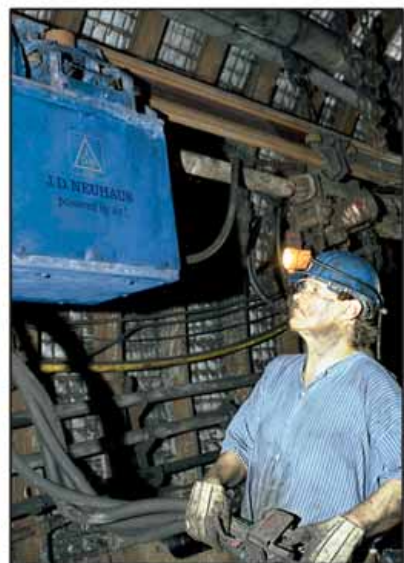


JDN AIR HOISTS

FOR MINING APPLICATIONS



J.D. NEUHAUS
powered by air!

PROGRESS THROUGH INNOVATIVE TECHNOLOGY

We have been writing history in the field of hoisting technology for over 260 years and have been responsible for many substantial innovations. Today, J.D. Neuhaus is the global market leader in air operated lifting technology for both moving heavy and light loads.

The mining industry, known as the roughest field of application, make extremely high demands on men and material. JDN hoists are operating in multiple applications: amongst others withdrawing shield support and other heavy equipment in the coal face and in galleries, in pneumatic crane installations of workshops, mounting steel constructions, tubes and shaft sinking equipment. Above all they are operating in moving shot blasting walls of pneumatic stowing as well as for general lifting, pulling and tensioning works.

TYPICAL APPLICATIONS

- ➔ Long walls: Positioning of shield supports (pulling)
- ➔ Stationary: Lifting and lowering working platforms
- ➔ Horizontal shafts: In combination with monorails for transport of equipment
- ➔ Vertical shafts: Lifting and lowering of objects (full profile drilling machines)
- ➔ Used as an general lifting and pulling tool in the works and repair shops.
- ➔ Robbing of mines
- ➔ Routine operation at the coal face
- ➔ Belt spanners
- ➔ Construction works, lifting front load buckets
- ➔ Special applications with capacities up to 100 t for securing of vertical full profile drilling machines

THE ADVANTAGES AT A GLANCE

- ➔ Very robust and low-maintenance, ideal for heavy duty.
- ➔ Compact design, low weight with easy handling.
- ➔ Air pressure 4 bar or 6 bar.
- ➔ Easy installation.
- ➔ Overload protected motor.
- ➔ 100% duty rating.
- ➔ Sensitive positioning of loads when using the relevant controls.
- ➔ Nonpolluting by operation with oil-free air (PROFI series).
- ➔ Durable due to high quality materials.
- ➔ Suitable for use in dusty and humid locations.
- ➔ Can be used for oblique hoisting when special safety precautions are observed.
- ➔ Insensitive to temperatures ranging from -20°C up to +70°C.
- ➔ Suitable for application in hazardous areas as standard.



JDN AIR HOISTS M SERIES

Carrying capacities: 1 t up to 6 t

Air pressure: 4 bar



JDN Air Hoists of the "M" series were specially developed for underground mining operations. Generally they have the same features as the hoists of the PROFI series but operate with an air pressure of only 4 bar. Two different control systems are available.

FURTHER SIGNIFICANT FEATURES

AS STANDARD:

- Suitable for use in hazardous areas with risk of explosion
- Two chain falls for alternate working
- Specially designed for horizontal moving of loads

TECHNICAL DATA

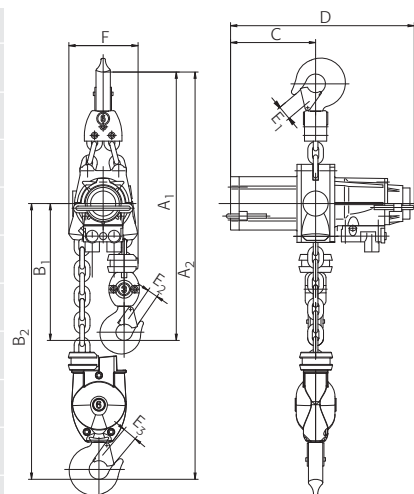
Type		M 64	M 63 D
Carrying capacity	mt	1/2	3/6
Number of chain strands		1/2	1/2
Motor output	kW	0.77	1.3
Air pressure	PSI bar	65 4	65 4
Lifting speed at full load*	ft/min m/min	9.8/4.9 3/1.5	7.2/3.6 2.2/1.1
Lifting speed without load*	ft/min m/min	26.3/13.1 8/4	16.4/8.2 5/2.5
Lowering speed at full load*	ft/min m/min	41/21.3 12.5/6.5	19.7/9.8 6/3
Air consumption at full load - lifting	cfm m ³ /min	35.3 1.0	77.7 2.2
Air consumption at full load - lowering	cfm m ³ /min	70.6 2.0	113 3.2
Air connection		Rd 32 x 1/8"	Rd 32 x 1/8"
Hose dimension (Ø inside)	inch. mm	0.75 19	0.75 19
Weight with standard lift height and control length	lbs kg	132.3 60	220.5 100
Weight without chain, without control	lbs kg	68.3 31	112.4 51
Chain dimension	mm	9 x 27	13 x 36
Weight of 1 m (3.28 ft) chain	lbs kg	4 1.8	8.4 3.8
Heights of lift	ft m	16.4/8.2 5/2.5	16.4/8.2 5/2.5
Length of control	ft m	6.6 2	6.6 2
Noise level at full load ¹	dB(A)	75 - 84	79 - 83

Group mechanism: M3 (1 Bm)

¹ Measured at 1 m distance acc. to DIN 45635 part 20

DIMENSIONS

Type		M 64	M 63 D
A ₁ (smallest headroom with 1/1 chain strands)	inch. mm	23.7 603	29.5 750
A ₂ (smallest headroom with 1/2 chain strands)	inch. mm	26 660	34.3 870
B ₁ (with 1/1 chain strands)	inch. mm	12.3 313	14.6 370
B ₂ (with 1/2 chain strands)	inch. mm	14.6 370	19.3 490
C	inch. mm	6.9 175	9.33 237
D	inch. mm	14.8 375	20 507
E ₁ (Hook opening)	inch. mm	1.2 30	1.6 40
E ₂ (Hook opening)	inch. mm	1.2 30	1.6 40
E ₃ (Hook opening)	inch. mm	1.2 30	1.2 30
F (maximum width)	inch. mm	5.7 144	7.7 195





■ DS CONTROL

The operating air is connected to the hand control valve. A built-in pressure regulator prevents to overload the hoist in case of inadmissably high pressure. The motor connection housing of the DS control has an oiler that intermits the oil flow automatically when the hoist stops.

Another advantage:

The oiler is situated directly at the motor. The operating air gets immediately to the motor when the hand lever is actuated. The hand lever is spring loaded and returns automatically to zero position. This forced release serves at the same time as an emergency stop. The control is for two-hand operation. The DS control is available for "M" series hoists.



■ PS CONTROL

The PS control is for single hand use. It operates indirectly according to the ventilation principle. The operating air is connected to the control valve of the motor. The control pistons of the motor are actuated by the push buttons of the hand control. The push buttons automatically return to zero position. In the control valve of the motor is a pressure regulator which protects the hoist from inadmissably high pressure. The integrated oiler provides the necessary lubrication. The PS controls are available for the air hoists M 63 D, in EC version with emergency stop as standard.



JDN Air Hoist rescuing a stuck loader.



JDN Air Hoist M63D lifting a stuck loader.

JDN SHUNTING TROLLEYS SK 125

JDN Shunting Trolleys are predestinated for the economic transportation of suspended loads in underground mining (lifting beams). They are able to negotiate gradients of up to 18° (20 gon).

THE ADVANTAGES AT A GLANCE

➤ Service Brake

For releasing the holding brake a service brake is integrated. When stopping the JDN Shunting Trolley the travelling speed decreases to zero and a brake cylinder closes the holding brake.

➤ Holding Brake

The effective static holding force is 50 kN to 80 kN.

➤ Emergency Brake

The brake system is fitted with a centrifugal force activator which actuates an emergency braking.

➤ Mechanical Tensioning of the friction wheels

For constant pressure against the rail web.

➤ Lateral Guiding Rollers

For an optimal guidance of the JDN Shunting Trolley.

➤ Brake Shoe Lining Type "Waffle"

For highest lifetime and lowest abrasion of the rail.

➤ Slow Speed Device as Standard

JDN Shunting Trolleys are equipped with a slow speed device as standard.

➤ Noise silenced



SK 125

TECHNICAL DATA

Total length	inch. mm	34.1 865
Total width	inch. mm	20.3 515
Overall height to lower edge of beam (I 140 E)	inch. mm	31.5 800
Total weight	lbs kg	1367 620
Operating pressure	PSI bar	65 4
Air connection		G 1 1/2
Horizontal speed, towed weight 5 t	ft/s m/s	1.0 0.3
Maximum speed in 20 gon downhill	ft/s m/s	2.0 0.6
Smallest bend radius	ft m	13.1 4
Smallest basin radius/anticline radius	ft m	32.8 10
Maximum permitted incline	gon	20 (18°)
Min. pulling/pushing capacity (4 bar flow pressure)	kN	14



JDN Shunting Trolley SK 125 working underground.

Carrying capacities: 250 kg up to 100t

Air pressure: 4 bar or 6 bar

JDN Air Hoists PROFI series are very robust and therefore also suitable for tough mining applications. According to your requirements there are various control systems available. For traversing loads different trolley designs meet your particular demands.

STANDARD FEATURES

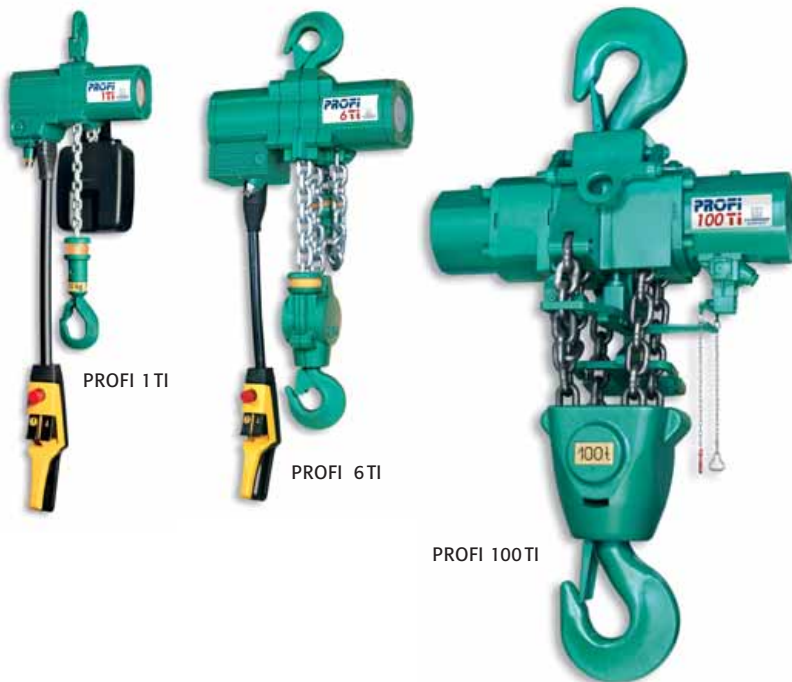
- Sensitive infinitely variable speed control for the precise positioning of loads
- Load chain and hooks manufactured from high quality tempered steels with a breaking strength of five times the nominal load
- Patented, permanent motor lubrication during operation, using a high-performance grease. No additional motor lubrication required.
- Suited for application in Hazardous Areas according to EC Directive on Hazardous Locations 94/9/EEC.
As standard: II 2 GD IIA T4(X) / II 3 GD IIB T4(X)
With increased spark protection: II 2 GD IIC T4(X)

TECHNICAL DATA

Type		025 TI		05 TI		1 TI		2 TI	
Air pressure	PSI bar	65 4	85 6	65 4	85 6	65 4	85 6	65 4	85 6
Carrying capacity	mt	0.16	0.25	0.32	0.5	0.63	1	1.25	2
Number of chain strands		1		1		1		2	
Lifting speed at full load	ft/min m/min	65.6 20	82.7 25	32.8 10	36.1 11	16.4 5	18 5.5	8.2 2.5	8.9 2.7
Lowering speed at full load	ft/min m/min	124.7 38	155.8 47	55.8 17	55.8 17	32.8 10	36.1 11	16.4 5	18 5.5
Air consumption at full load – lifting	cfm m³/min	24.7 0.7	42.4 1.2	24.7 0.7	42.4 1.2	24.7 0.7	42.4 1.2	24.7 0.7	42.4 1.2
Weight with 10ft/3m standard lift, rope control	lbs kg	59.5 27	82.7 37	59.5 27	82.7 37	61.6 27.5	61.7 28	75 34	89 40
Smallest headroom	inch. mm	17.7 450	17.7 450	17.7 450	17.7 450	17.7 450	17.7 450	19.6 498	19.6 498

¹ With overload protection

Type		3 TI		6 TI		10 TI		16 TI	
Air pressure	PSI bar	65 4	85 6	65 4	85 6	65 4	85 6	65 4	85 6
Carrying capacity	mt	3.2	5	6.3	10	10	16	16	25
Number of chain strands		1		2		2		3	
Lifting speed at full load	ft/min m/min	8.2 2.5	16.4 5	3.9 1.2	8.2 2.5	2.6 0.8	5.2 1.6	1.6 0.5	3.3 1
Lowering speed at full load	ft/min m/min	24.6 7.5	35.4 10.8	11.8 3.6	17.7 5.4	8.2 2.5	11.2 3.4	5.3 1.6	6.9 2.1
Air consumption at full load – lifting	cfm m³/min	71 2	142 4	71 2	142 4	71 2	142 4	71 2	142 4
Weight with 10ft/3m standard lift, rope control	lbs kg	189.6 86	242.5 110	242.5 110	343.9 156	343.9 156	529.1 240	529.1 240	529.1 240
Smallest headroom	inch. mm	23.3 593	26.5 674	26.5 674	32.0 813	32.0 813	35.4 898	35.4 898	35.4 898



JDN Air Hoist PROFI 37 TI mounting a pipe string in a shaft. At the end of this work the PROFI hoist has to position a 1000m long string with a total weight of 30ton.

Type		20 TI		25 TI		37 TI		50 TI		100 TI	
Air pressure	PSI bar	65 4	85 6	85 6	85 6	65 4	85 6	65 4	85 6	85 6	85 6
Carrying capacity	mt	20	25	37.5	50	100	100	100	100	100	100
Number of chain strands		4		2		3		4		4	
Lifting speed at full load	ft/min m/min	1.3 0.4	2.3 0.7	3.6 1.1	1.3 0.4	2.3 0.7	0.9 0.3	1.6 0.5	1.3 0.4	1.3 0.4	1.3 0.4
Lowering speed at full load	ft/min m/min	3.9 1.2	5.3 1.6	6.2 1.9	3.3 1.0	4.9 1.5	2.9 0.9	4.6 1.4	2.6 0.8	2.6 0.8	2.6 0.8
Air consumption at full load – lifting	cfm m³/min	71 2	142 4	194.8 5.5	166.4 4.7	194.8 5.5	166.4 4.7	194.8 5.5	389.5 11	389.5 11	389.5 11
Weight with 10ft/3m standard lift, rope control	lbs kg	627 285	1098 498	1936 880	1885 855	5423 2460	5423 2460	5423 2460	5423 2460	5423 2460	5423 2460
Smallest headroom	inch. mm	40.6 1030	49.6 1260	55.1 1400	66.9 1700	86.6 2200	86.6 2200	86.6 2200	86.6 2200	86.6 2200	86.6 2200

4 bar versions for PROFI 25 TI and PROFI 100 TI on request.

Carrying capacities: up to 20 t

JDN Trolleys are available for all hoists of the PROFI series:

- As Manual Trolleys (LN)
for pushing or pulling the trolleys by hand
- As Reel Chain Trolleys (LH)
for moving the trolleys by operating the reel chain mechanism
- As Motorised Trolley (LM)
powered by an air motor

STANDARD FEATURES

- Easy to install
- With anti-climb and anti-drop devices
- Robust manufacture requiring little maintenance
- Able to negotiate curves

OPTIONS

- Rack and pinion drive
- Locking device
- Spark-resistant package
- Energy feeding systems



PROFI 1 TI
in Manual Trolley

PROFI 1 TI
in Reel Chain Trolley

PROFI 2 TI
in Motor Trolley

JDN LOW HEADROOM TROLLEYS

Carrying capacities: from 0.5 t up to 6.3 t

Where headroom is restricted and standard trolleys can't meet the lifting height requirements we recommend JDN Low Headroom Trolleys whereby our air hoists are horizontally mounted.



Low Headroom
Trolley LMF



Carrying capacities: 500 kg up to 3000 kg Air pressure: 6 bar

J.D. Neuhaus has been the market leader in compressed air powered lifting equipment for decades. In our latest milestone we have added a series of air winches to our product line.

Our delivery program covers lifting winches (PROFI LIFTER) with carrying capacities of 500 kg to 2000 kg and pulling winches (PROFI PULLER) with capacities of 800 kg to 3000 kg. We recommend the PROFILIFTER 500-1 and PROFIPULLER 800-1 with a weight of approx. 30 kg as a mobile and cost-effective all-rounder for standard applications.

The PROFILIFTER 1200-2,2 / 2000-2,6 and PROFIPULLER 1800-2,2 / 3000-2,6 are robust and very compact with carrying capacities of 1200 kg and 2000 kg respectively pulling capacities of 1800 kg and 3000 kg. They are also available with increased motor power (6 kW). Typical applications include the opening and closing of hatches, moving loading arms and pulling loads.



PROFI LIFTER 500-1



PROFI PULLER 800-1
with pulling frame

TECHNICAL DATA

Type	PROFI	LIFTER 500-1	PULLER 800-1	LIFTER 1200-2,2	LIFTER 2000-2,6	PULLER 1800-2,2
Nominal pressure	PSI	85	85	85	85	85
(required static pressure)	bar	6	6	6	6	6
Capacity (nominal load for lifting winches) in the last layer	lbs	1100	–	2600	4400	–
	kg	500	–	1200	2000	–
Pulling capacity (nominal load for Pulling winches) in the first layer	lbs	–	1750	–	–	4000
	kg	–	800	–	–	1800
Max. number of rope layers		5	5	4	4	4
Max. motor power	kW	1	1	2.2	2.6	2.2
Weight (without rope and additional devices) short drum version	lbs	64.6	68.8	304.2	518.1	304.2
	kg	29.3	31.2	138	235	138
Max. rope length (ft / m)		191.3 / 58.3	191.3 / 58.3	262.2 / 79.9	335.6 / 102.3	262.2 / 79.9
with rope diameter (inch. / mm)		0.24 / 6	0.24 / 6	0.35 / 9	0.47 / 12	0.35 / 9

Type	PROFI	PULLER 3000-2,6	LIFTER 1200-6	LIFTER 2000-6	PULLER 1800-6	PULLER 3000-6
Nominal pressure	PSI	85	85	85	85	85
(required static pressure)	bar	6	6	6	6	6
Capacity (nominal load for lifting winches) in the last layer	lbs	–	2600	4400	–	–
	kg	–	1200	2000	–	–
Pulling capacity (nominal load for Pulling winches) in the first layer	lbs	6600	–	–	4000	6600
	kg	3000	–	–	1800	3000
Max. number of rope layers		4	4	4	4	4
Max. motor power	kW	2.6	5.5	5.5	6.0	6.0
Weight (without rope and additional devices) short drum version	lbs	518.1	516*	851*	516*	851*
	kg	235	234*	386*	234*	386*
Max. rope length (ft / m)		335.6 / 102.3	515.1 / 157	793.3 / 241.8	515.1 / 157	793.3 / 241.8
with rope diameter (inch. / mm)		0.47 / 12	0.35 / 9	0.47 / 12	0.35 / 9	0.47 / 12

*Standard version with long drum



■ STANDARD FEATURES

- Drum integrated exhaust air cooled planetary gearbox for minimum maintenance and maximum reliability at a 100 % duty cycle.
- High rope capacity.
- Variable speeds.
- Ideal for applications in hazardous areas.
- Also available with hydraulic drive.
- Various options.



Handling a rotor with a JDN Air Winch PROFI PULLER.

■ SPECIAL WINCH APPLICATIONS

We have prepared comprehensive information regarding this subject on our web site for your detailed information.

Please visit ➤ www.jdn.de



PROFI LIFTER 1200-2,2



PROFI LIFTER 2000-2,6
with long drum and
mounting frame



PROFI PULLER 3000-6
with wire rope and drum guard

Carrying capacities: up to 100t



PROFI 6 TI-H

The alternative to air hoists: JDN Hydraulic Hoists with carrying capacities up to 100 t. Depending on motor size these hoists work with an intake pressure of 100 bar up to 180 bar.

Pressure fluids: Oil or flame resistant fluids HFC.

Our Hydraulic Hoists can be deployed as an alternative to air driven units in all places where hydraulic lines, central hydraulic systems or hydraulic power supplies exist.

ADVANTAGES

- Ideal for applications in explosion risk areas
- Sensitive, infinitely variable speed control of lifting/lowering and travelling motions
- Extremely low noise emissions
- Fully enclosed highly robust gear motor
- Integrated overload protection
- Only two supply connections at hoist "P" and "T", leakage oil drained internally
- Controlled load-lowering up to 20 t carrying capacities in the event of oil supply failure

TECHNICAL DATA

Type		3 TI-H	6 TI-H	10 TI-H	16 TI-H	20 TI-H	25 TI-H	37 TI-H	50 TI-H	100 TI-H
Capacity	mt	3.2	6.3	10	16	20	25	37.5	50	100
Number of chain strands		1	2	2	3	4	2	3	4	4
Motor output	kW	3.5	3.5	3.5	3.5	3.5	6	6	6	10
Motor type		KM 1/16	KM 1/16	KM 1/16	KM 1/16	KM 1/16	KM 2/32	KM 2/32	KM 2/32	KM 2/32
Intake pressure	PSI bar	1885 130	1885 130	1885 130	1885 130	1885 130	2176 150	2176 150	2176 150	2611 180
Intake volume	cfm l/min	1.7 48	1.7 48	1.7 48	1.7 48	1.7 48	2.8 80	2.8 80	2.8 80	2.8 80
Lifting speed at rated load	ft/min m/min	13.1 4.0	6.6 2.0	5.6 1.7	3.6 1.1	2.6 0.8	3.6 1.1	2.3 0.7	1.6 0.5	1.8 0.55
Lifting speed without load	ft/min m/min	14.8 4.5	7.5 2.3	6.6 2.0	4.3 1.3	3 0.9	3.9 1.2	2.6 0.8	1.6 0.5	1.8 0.55
Lowering speed at rated load	ft/min m/min	14.8 4.5	7.5 2.3	6.9 2.1	4.9 1.5	3.3 1.0	3.9 1.2	2.6 0.8	1.6 0.5	2.1 0.63
Lowering speed without load	ft/min m/min	14.8 4.5	7.5 2.3	6.7 2.0	4.3 1.3	3 0.9	3.9 1.2	2.6 0.8	1.6 0.5	1.6 0.5
Connection		G 1/2	G 1/2	G 1/2	G 1/2	G 1/2	G 3/4	G 3/4	G 3/4	G 3/4
Hose dimension		DN 12	DN 12	DN 12	DN 12	DN 12	DN 16	DN 16	DN 16	DN 16
Weight with standard lift height and control length	lbs kg	1285 583	2127 965	2072 940	2072 940	5423 2460	1282 583	2123 965	2068 940	5412 2460
Chain dimension	mm	13 x 36	13 x 36	16 x 45	16 x 45	16 x 45	23.5 x 66	23.5 x 66	23.5 x 66	32 x 90
Weight of chain	lbs/ft kg/m	2.6 3.8	2.6 3.8	3.9 5.8	3.9 5.8	3.9 5.8	8.2 12.2	8.2 12.2	8.2 12.2	14.3 21.3
Standard lift	ft m	10 3	10 3	10 3	10 3	10 3	10 3	10 3	10 3	10 3
Length of control with standard lift	ft m	6.5 2	6.5 2	6.5 2	6.5 2	6.5 2	6.5 2	6.5 2	6.5 2	6.5 2

JDN AIR CRANES

Carrying capacities: up to 50 t



JDN Air Cranes in standard version are suitable for working in hazardous areas.

The delivery programme comprises explosionproof

- Top running overhead travelling cranes
- Under hung overhead travelling cranes
- Jib cranes

which can be designed to your individual needs, customised installations are our speciality. Depending on your requirements JDN Air Hoists in Motor Trolleys or Monorail Hoist Systems are integrated into the crane design. An ergonomically designed pneumatic pendant control is supplied with two speed control as standard for crane and trolley travel. Infinitely variable hoist and trolley speed control is also available.

DIFFERENT JDN CRANES IN DETAIL

- Overhead cranes with single or double girder design
- Underhung cranes including low headroom design
- Jib cranes
- Cranes with in line mechanically linked synchronised hoists
- Cranes with parallel operating hoists
- Carrying capacities up to 50 t
- Crane spans up to 18 m

JDN RATCHET HOISTS WITT

Carrying capacities: 1.5 t, 2.5 t

The WITT is designed for for lifting, pulling, tensioning or anchoring operations under all working positions. It has a robust cast iron housing and is extremely resistant to adverse working conditions. Technically the WITT distinguishes itself by a totally enclosed planetary gear. All rotating parts have ball, needle or slide bearings.

The WITT is a proven device for moving and positioning heavy machinery, for tensioning heavy loads during transport, for positioning various heavy profiles and for many other operations.



TECHNICAL DATA

Type		WITT 1,5t	WITT 2,5t
Carrying capacity	mt	1.5	2.5
Number of falls		1	
Lift per ratchet rotation	inch. mm	1.3 33	1.5 37
Lever force at full load	lbs kg	61.7 28	88.2 40
Weight without chain	lbs kg	16.5 7.5	39.7 18
Total weight	lbs kg	20.3 9.2	48.5 22
Weight of 1 m chain	lbs kg	2.2 1	6.0 2.7
Chain dimension	mm	7.1 x 21	11 x 31
Standard lift	ft m	59.1 1.5	

**JDN AIR HOISTS
WORKING IN THE MINING INDUSTRY WORLDWIDE**



mining-support@jdn.de

Contact:

B 140 GB • Alterations reserved • Issue February 2008 • 0220081
PROFI Ti® is a registered trademark of our company.

J.D. NEUHAUS GmbH & Co. KG _ D-58449 Witten-Heven
Phone +49 2302 208-0 _ Fax +49 2302 208-286

mining-support@jdn.de _ www.jdn.de



J. D. NEUHAUS
powered by air!