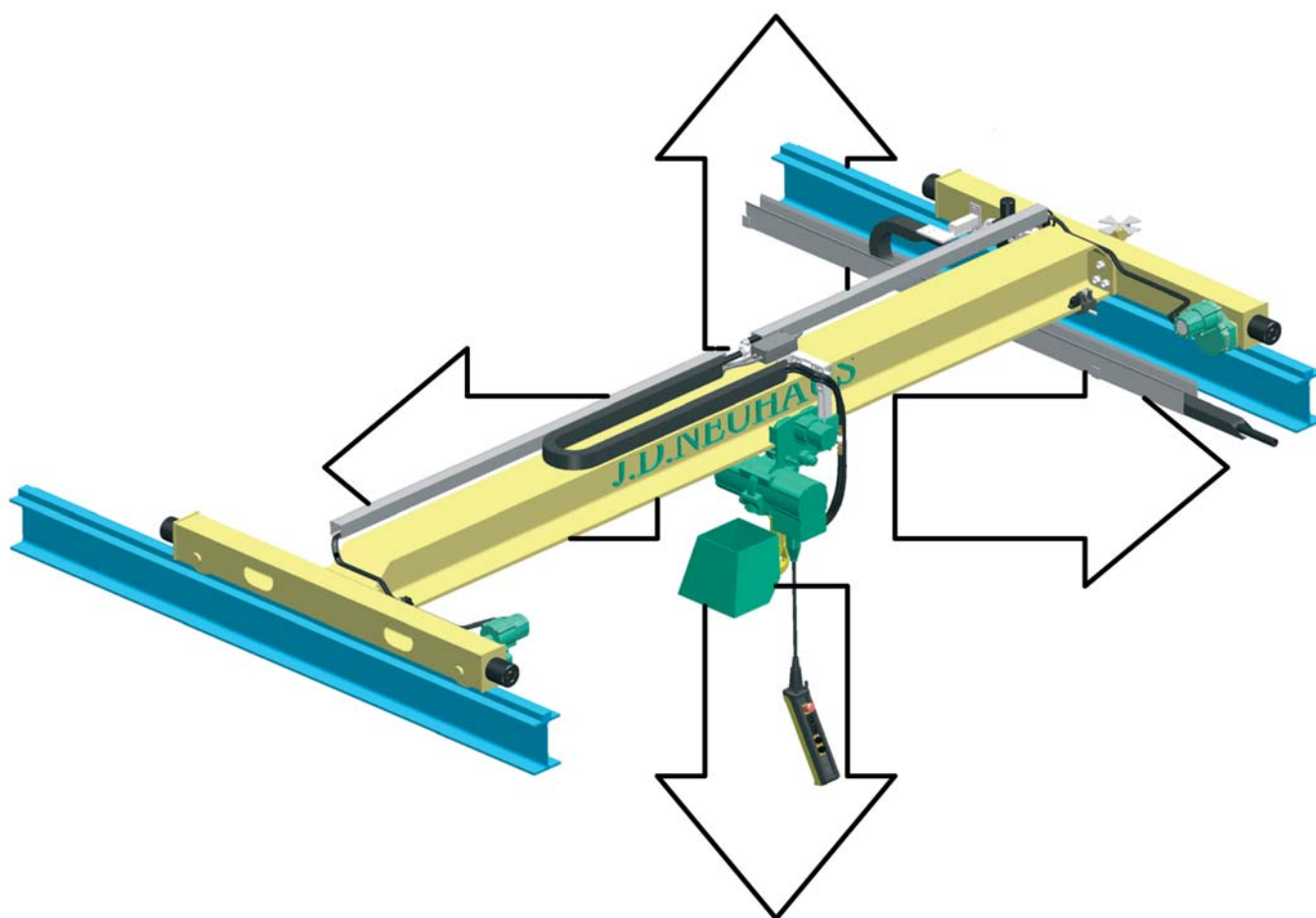


JDN AIR CRANES AND CRANE KITS

FOR APPLICATIONS IN HAZARDOUS AREAS



J.D. NEUHAUS
powered by air!

JDN offers air driven cranes suitable for working in hazardous areas as standard. The programme includes explosion proof

- ➔ Overhead travelling cranes
- ➔ Underslung cranes
- ➔ Slewing jib cranes

All these cranes can be adapted to your individual requirements. Complete bespoke installations are our speciality.



JDN Slewing Crane in a paint shop, carrying capacity 6.3t

According to your requirements JDN air hoists in motor trolleys or monorail hoists are integrated in the crane design. User friendly pneumatic pendant controls offering two speed or infinitely variable speed control are available depending on the application.



JDN Monorail Crane with wheel-away girder and trolley

■ Spark protection, classification and marking

Standard Version	⊕ II 2 GD IIA T4(X)/II 3 GD IIB T4(X)
With increased spark protection (bottom block and load hook are copper plated by galvanisation; brass safety catch)	⊕ II 2 GD IIB T4(X)
With increased spark protection for explosion group II C (additionally the running wheels of trolleys and travelling gears are made of bronze)	⊕ II 2 GD IIC T4(X)



■ Different JDN Cranes in detail

- Single or double girder overhead travelling cranes
- Underslung cranes with special low headroom trolley designs
- Slewing jib cranes
- Overhead travelling or underslung cranes with synchronised hoist arrangements
- Overhead travelling or underslung cranes with parallel hoist arrangements
- Carrying capacities up to 100 t
- Spans up to 36 m
- JDN crane designs include our robust chain hoists.

If required we offer complete installation, commissioning and servicing package.

■ Advantages of JDN Air Cranes

- Experience over decades
- Worldwide service
- Insensitive to dust, humidity, aggressive atmospheres and temperatures ranging from -20°C up to +70°C
- 100% duty rating, no downtime
- Large power reserves due to high starting torque of air motors
- Fail safe breaking in case of air supply failure
- Overload protection and emergency stop features
- Pneumatic controls, also with special functions
- Special limit switch arrangements for end travel, anti-collision and protected zones
- Remote radio and special control systems available on request
- By-pass operations (e.g. intentional by-pass a limit switch)



JDN Monorail Crane with control at extension arm.

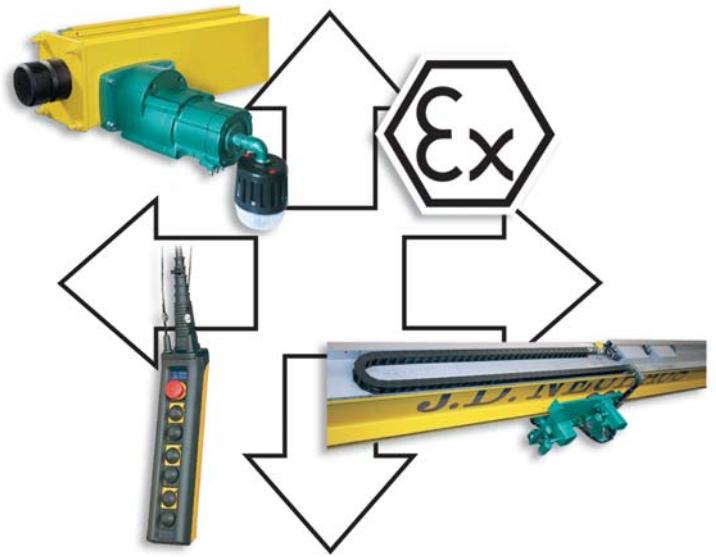


JDN Underslung Cranes with low headroom trolley in an assembly shop.

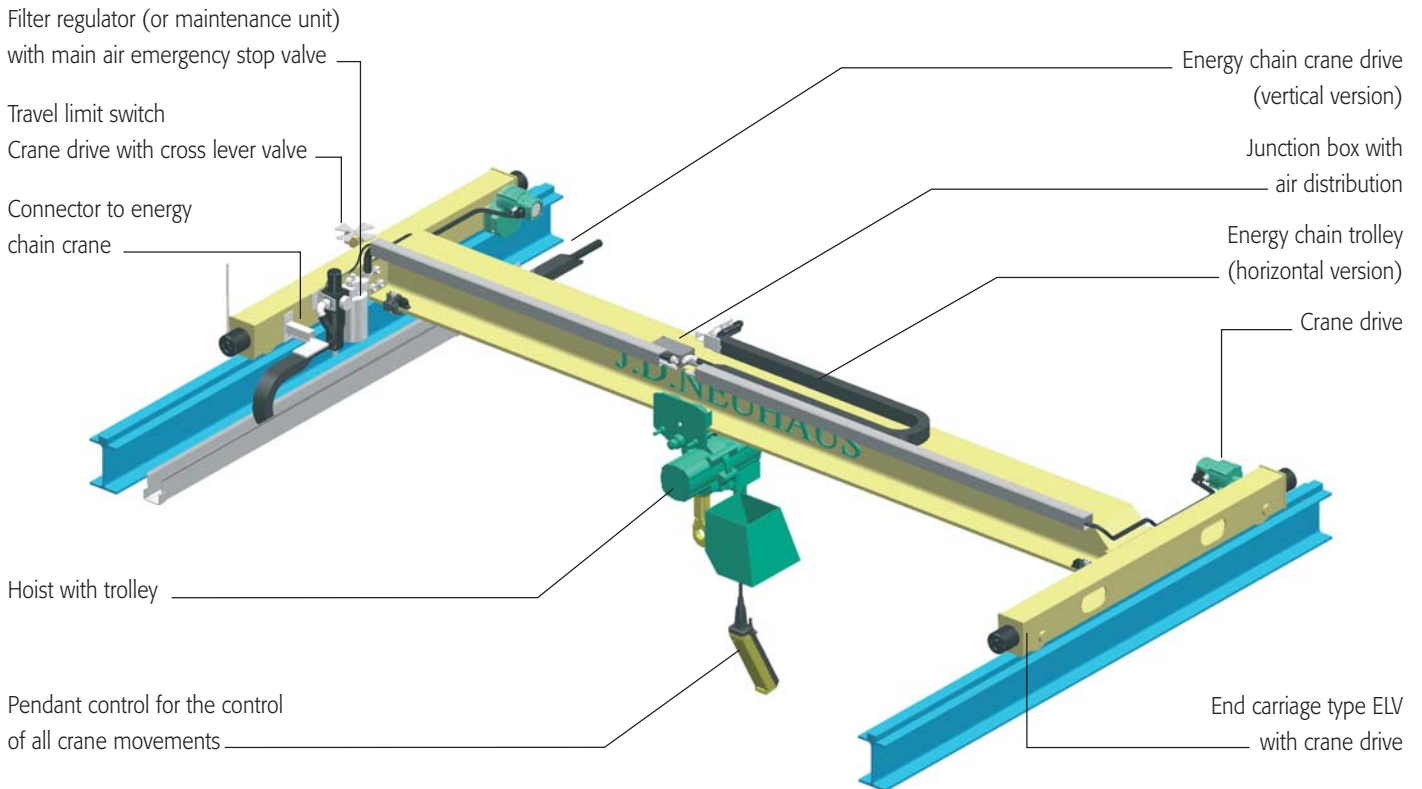


■ JDN Air Crane Kits

- ➔ For overhead travelling cranes up to 12 t.
- ➔ For underslung travelling cranes up to 8 t.
- ➔ For crane manufacturers to built explosion-proof air cranes.
- ➔ JDN end carriages can be offered with suitable pneumatic drives.
- ➔ JDN hoists, trolleys and end carriages are explosion-proof, enhanced spark resistance optional.
- ➔ JDN energy chains guarantee a secure and space saving guidance of control and energy lines.
- ➔ Safety accessories as main air emergency stop are standard elements.
- ➔ The junction box is the central element, where the lines for control and air feeding are connected and then directed to the crane drives and the trolley with hoist (via energy chain).



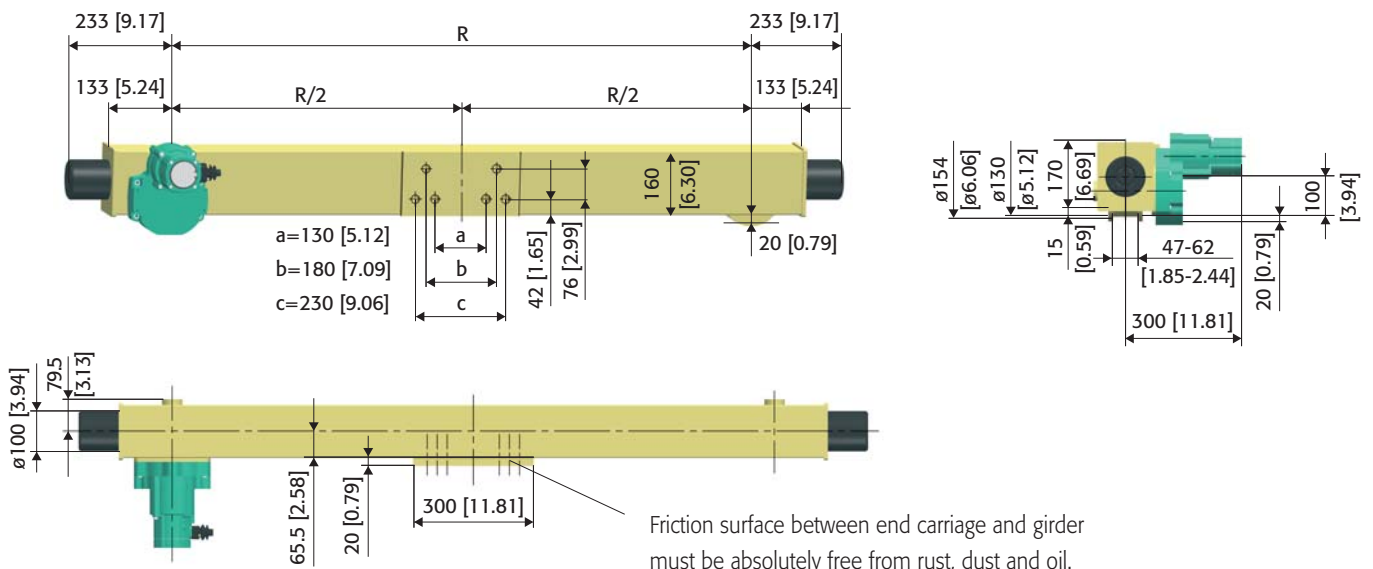
Main components of JDN overhead travelling cranes and crane kits



JDN end carriages for single girder cranes type ELV

- Steel structure in accordance with DIN 15018. As all the machining, including the machining of connection surfaces to the main girders, is performed in one jig, the structure has a high degree of mechanical precision.
- Connected to main girders by high-strength bolts.
- Wheels with roller bearings and permanent lubrication. Driving motor with two speed control.
- Lube-free operation possible. Quick connector for control hose (4 mm / 0.16 inch.) and air connection hose (12 mm / 0.47 inch.) or with connection thread 1/8" and 1/4".

■ Dimensions type ELV 130 in mm [inch.]



Friction surface between end carriage and girder must be absolutely free from rust, dust and oil.

Torque of HV-screws 450 Nm; 332 lbs ft.

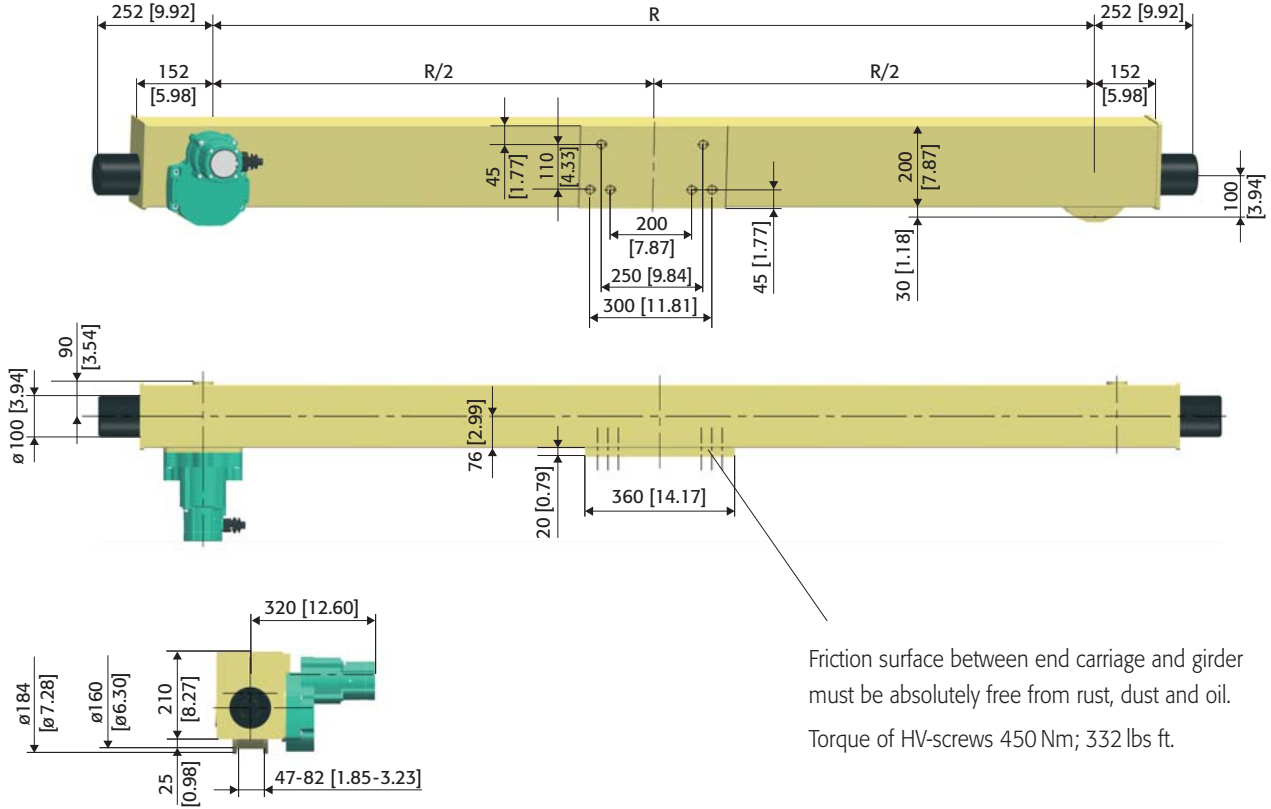
■ Technical Data

Article No.	Wheel Base R		Max. Load Per Wheel		Max. Crane Span		Weight		Travelling Speed 1 st speed - 2 nd speed	
	[mm]	[inch.]	[kN]	[lbf]	[m]	[ft]	[kg]	[lbs]	[m/min]	[ft/min]
75036	1500	59.06	33	7418.7	10.0	32.81	115	253.53	6 - 18	19.7 - 59.1
75315	1900	74.80	33	7418.7	13.0	45.65	130	286.60	6 - 18	19.7 - 59.1
98552	2200	86.61	33	7418.7	15.0	49.21	145	319.67	6 - 18	19.7 - 59.1
75316	2700	106.30	29	6519.5	18.5	60.70	170	374.79	6 - 18	19.7 - 59.1



JDN end carriages for single girder cranes type ELV

■ Dimensions type ELV 160 in mm [inch.]

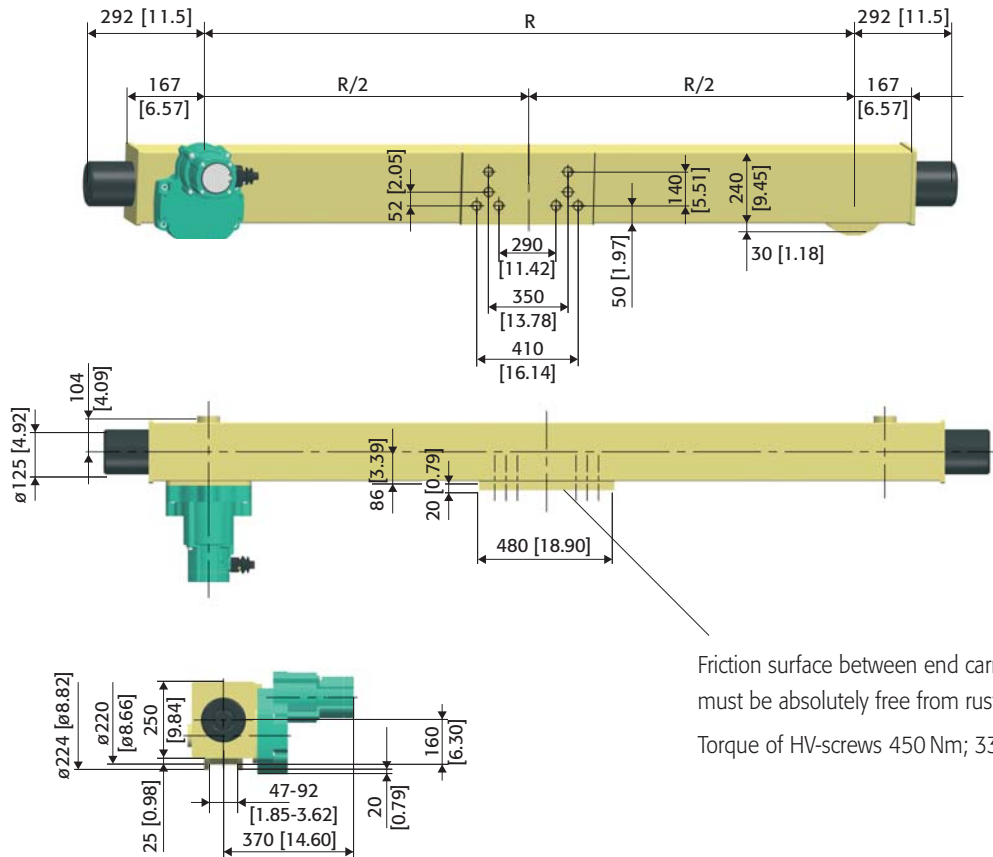


■ Technical Data

Article No.	Wheel Base R		Max. Load Per Wheel		Max. Crane Span		Weight		Travelling Speed 1 st speed - 2 nd speed	
	[mm]	[inch.]	[kN]	[lbf]	[m]	[ft]	[kg]	[lbs]	[m/min]	[ft/min]
75037	1900	74.80	50	11240	13.0	42.65	185	407.85	10 - 24	32.8 - 78.7
75317	2200	86.61	50	11240	15.0	49.21	200	440.92	10 - 24	32.8 - 78.7
75318	2700	106.30	48	10791	18.5	60.70	225	496.04	10 - 24	32.8 - 78.7



■ **Dimensions type ELV 200 in mm [inch.]**

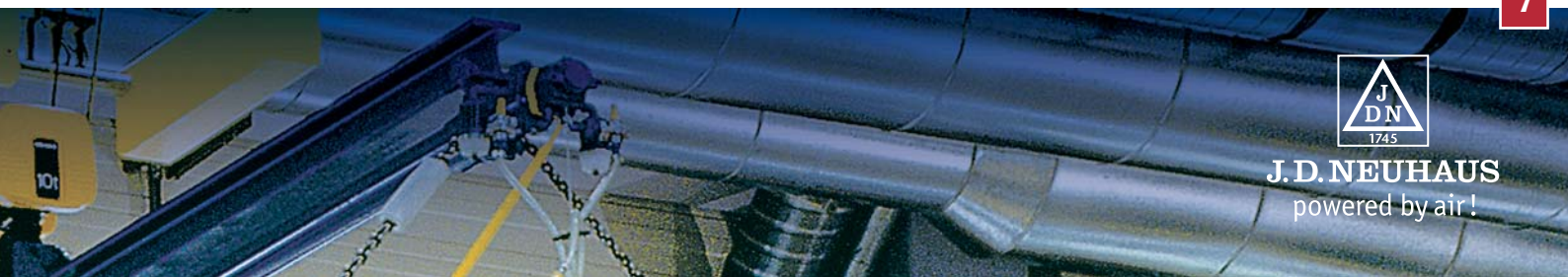


Friction surface between end carriage and girder must be absolutely free from rust, dust and oil.
Torque of HV-screws 450 Nm; 332 lbs ft.

■ **Technical Data**

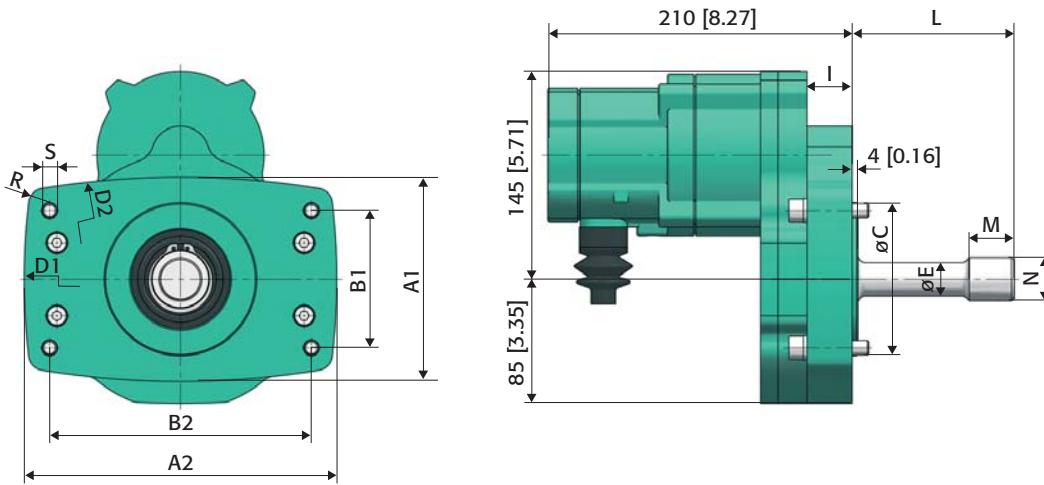
Article No.	Wheel Base R		Max. Load Per Wheel		Max. Crane Span		Weight		Travelling Speed 1 st speed - 2 nd speed	
	[mm]	[inch.]	[kN]	[lbf]	[m]	[ft]	[kg]	[lbs]	[m/min]	[ft/min]
75319	1900	74.80	65	14613	13.0	42.65	245	540.13	8 - 20	26.3 - 65.6
75320	2200	86.61	65	14613	15.0	49.21	265	584.22	8 - 20	26.3 - 65.6
75321	2700	106.30	65	14613	18.5	60.70	305	672.41	8 - 20	26.3 - 65.6
75322	3200	125.98	64	14388	22.0	72.18	335	738.55	8 - 20	26.3 - 65.6
75323	3800	149.61	54	12140	26.0	85.30	375	826.73	8 - 20	26.3 - 65.6

Total mass movable with 2 motors is 8000 kg, with 4 motors 16000 kg.



Crane drive type ELV

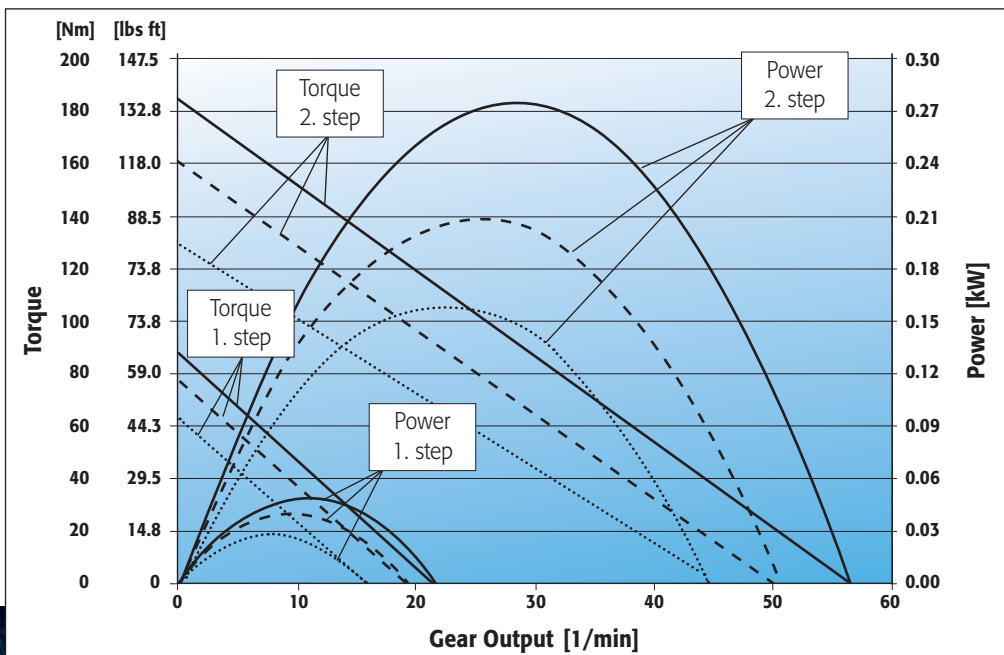
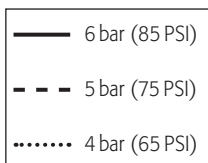
■ Dimensions in mm [inch.]



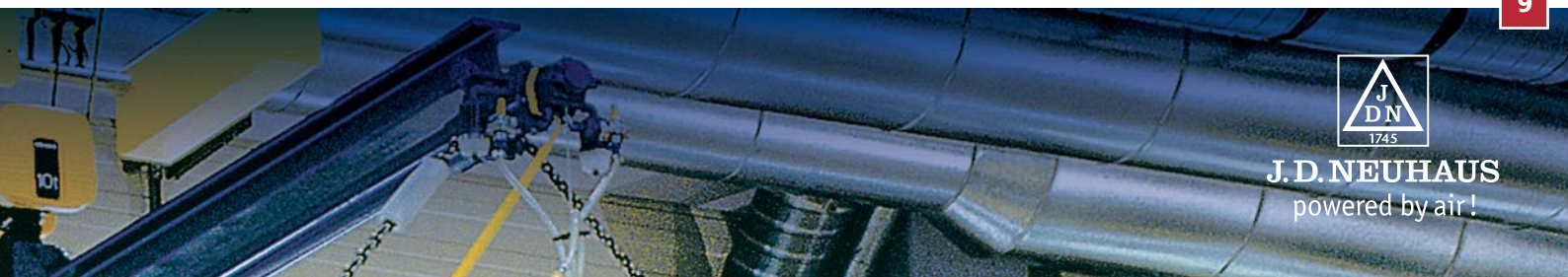
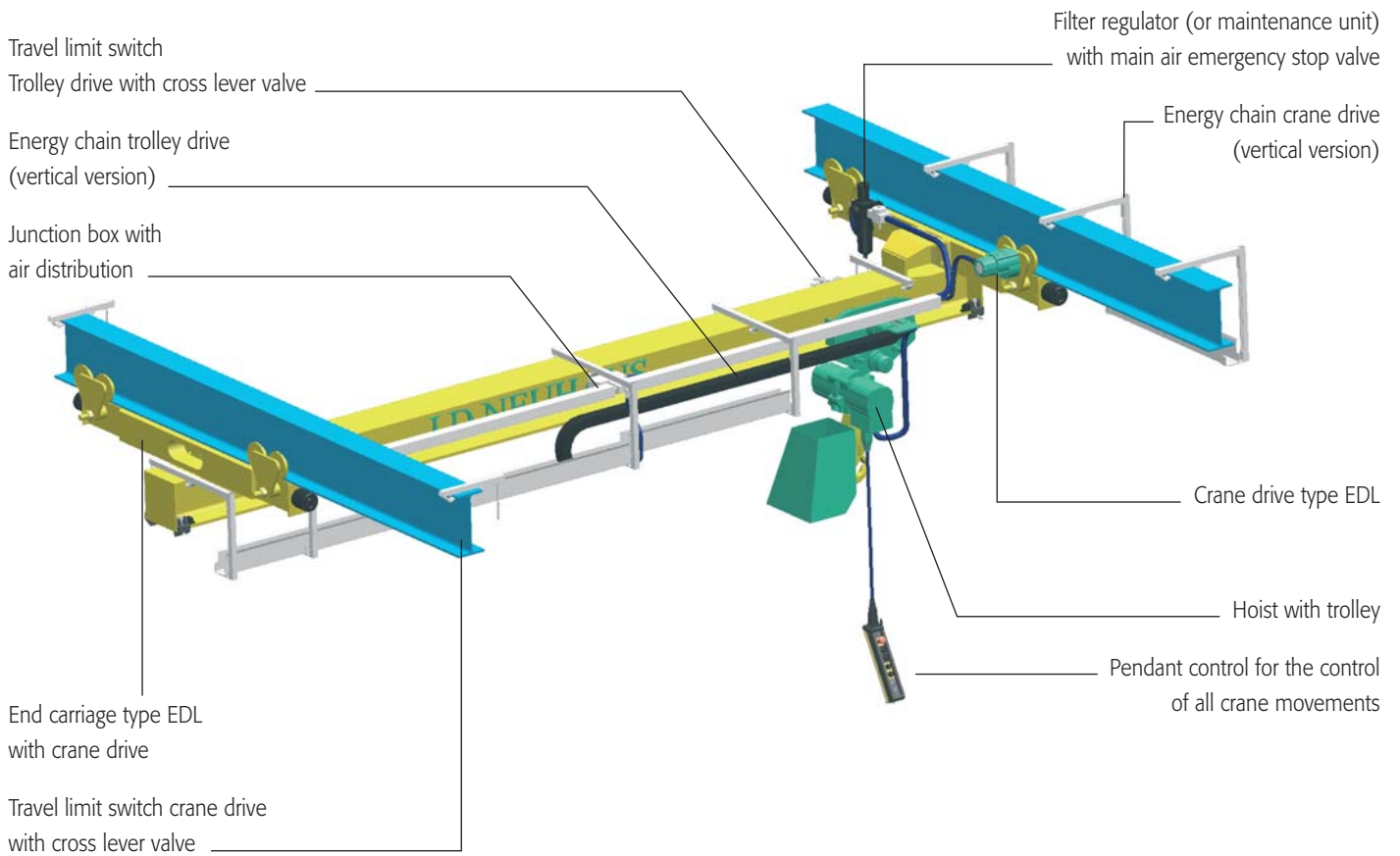
Type	Art. No.		A1	A2	B1	B2	C	D1	D2	E	I	L	M	R	S	N	Gear Ratio
ELV 130	74885	inch.	4.84	7.48	3.31	6.3	3.74	15.75	21.26	0.79	1.40	3.58	1.18	0.39	0.35	W25x2x11x8f	220.8
		mm	123	190	84	160	95	400	540	20	35.5	91	30	10	9		
ELV 160	75038	inch.	5.51	8.46	3.71	7.09	4.13	17.64	23.54	0.96	1.22	4.37	1.26	0.43	0.43	W30x2x14x8h	220.8
		mm	140	215	94	180	105	448	598	24.5	31	111	32	11	11		
ELV 200	74886	inch.	6.69	9.65	4.72	8.07	5.12	19.61	27.48	1.36	1.22	4.76	1.26	0.47	0.51	W40x2x18x8h	220.8
		mm	170	245	120	205	130	498	698	34.5	31	121	32	12	13		

N = External spline acc. to DIN 5480

■ Characteristics



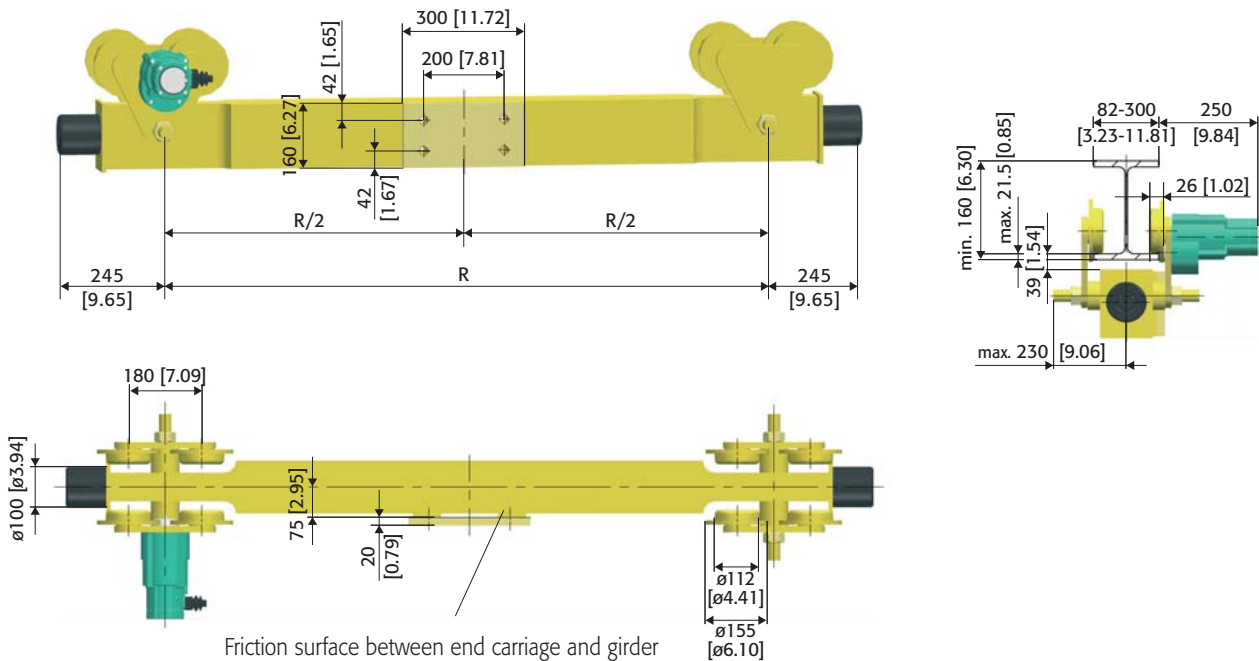
Main components of JDN underslung cranes and crane kits



Crane drive type EDL

- Steel structure with installed carriage, buffer and bufferplate in accordance with DIN 15018.
- As all the machining, including the machining of connection surfaces to the main girders is performed in one jig, the structure has a high degree of mechanical precision. Connected to main girders by high-strength bolts.
- Wheels with roller bearings and permanent lubrication. Driving motor with two speed control.
- Lube-free operation possible. Quick connector for control hose (4 mm / 0.16 inch.) and air connection hose (12 mm / 0.47 inch.) or with connection thread 1/8" and 1/4".

■ Dimensions type EDL 112 in mm [inch.]



Friction surface between end carriage and girder must be absolutely free from rust, dust and oil.

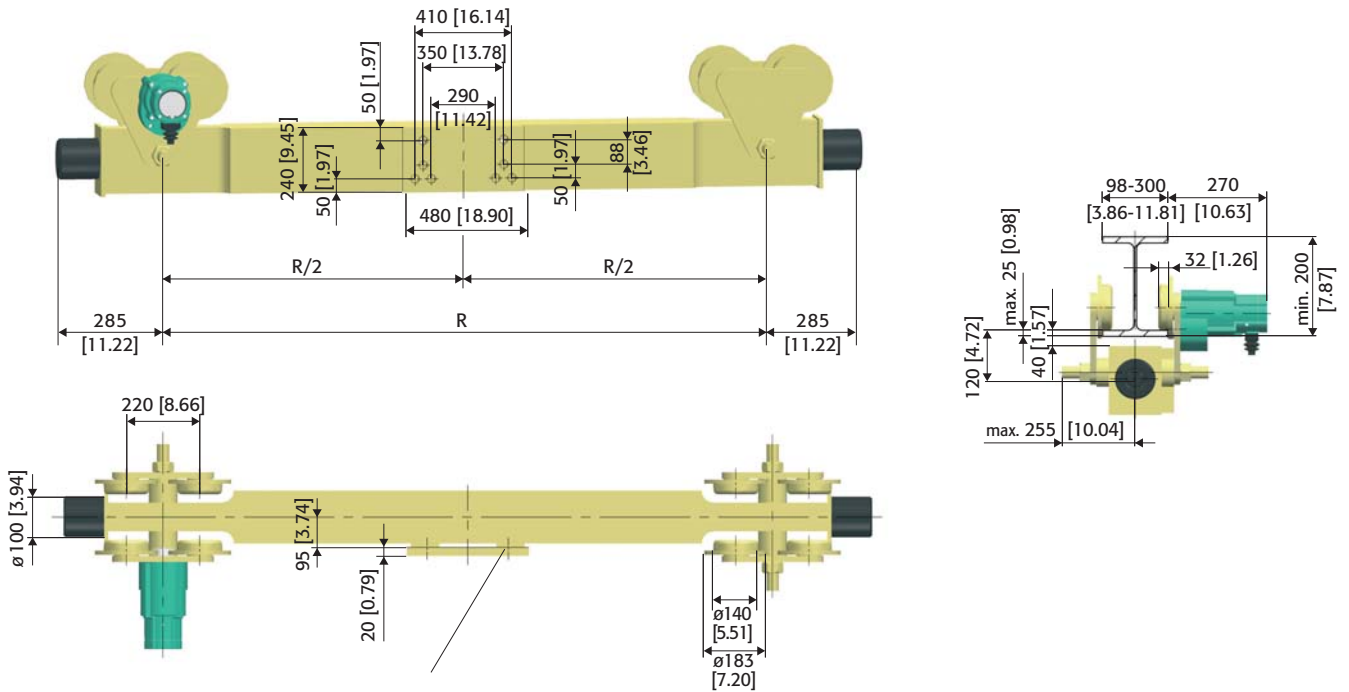
Torque of HV-screws 450 Nm; 332 lbs ft.

■ Technical Data

Article No.	Wheel Base R		Max. Load Per Carriage		Max. Crane Span		Weight		Travelling Speed 1 st speed - 2 nd speed	
	[mm]	[inch.]	[kN]	[lbf]	[m]	[ft]	[kg]	[lbs]	[m/min]	[ft/min]
75324	1500	59.06	22.0	4946	10.5	34.45	155	341.72	7 - 18	23 - 59
75325	2000	78.74	21.5	4833	14.0	45.93	170	374.79	7 - 18	23 - 59
75326	2500	98.43	17.0	3822	17.5	57.41	190	418.88	7 - 18	23 - 59



■ **Dimensions type EDL 140 in mm [inch.]**



Friction surface between end carriage and girder must be absolutely free from rust, dust and oil.

Torque of HV-screws 450 Nm; 332 lbs ft.

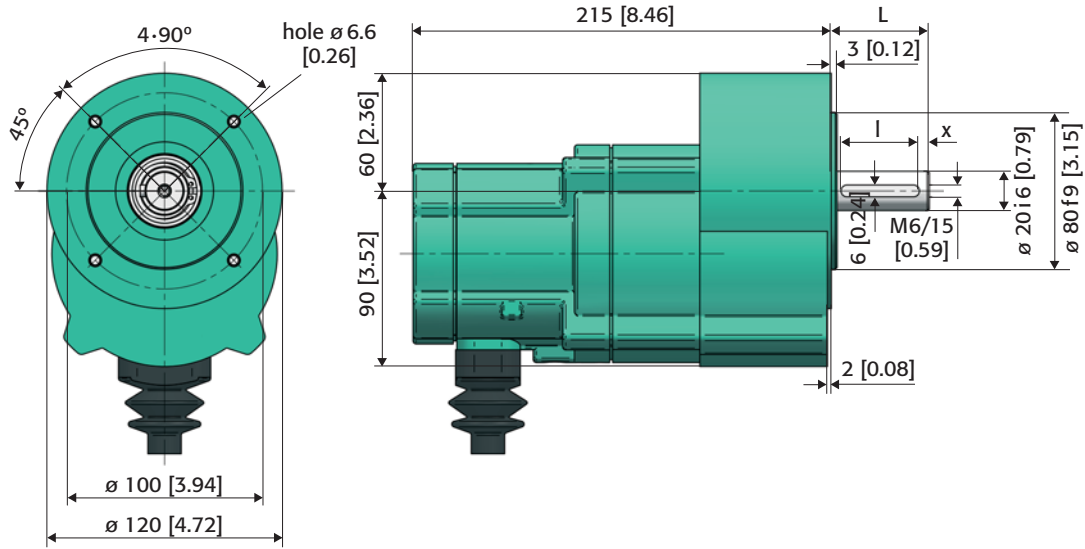
■ **Technical Data**

Article No.	Wheel Base R		Max. Load Per Carriage		Max. Crane Span		Weight		Travelling Speed 1 st speed - 2 nd speed	
	[mm]	[inch.]	[kN]	[lbf]	[m]	[ft]	[kg]	[lbs]	[m/min]	[ft/min]
75327	2000	78.74	50	11240	14.0	45.93	380	837.76	7 - 19	23 - 62
75328	2500	98.43	47	10566	17.5	57.41	415	914.92	7 - 19	23 - 62
75329	2800	110.24	41	9217	19.5	63.98	435	959.01	7 - 19	23 - 62
75330	3200	125.98	36	8093	22.0	72.18	465	1025.10	7 - 19	23 - 62
75331	3600	141.73	31	6969	25.0	82.02	490	1080.30	7 - 19	23 - 62



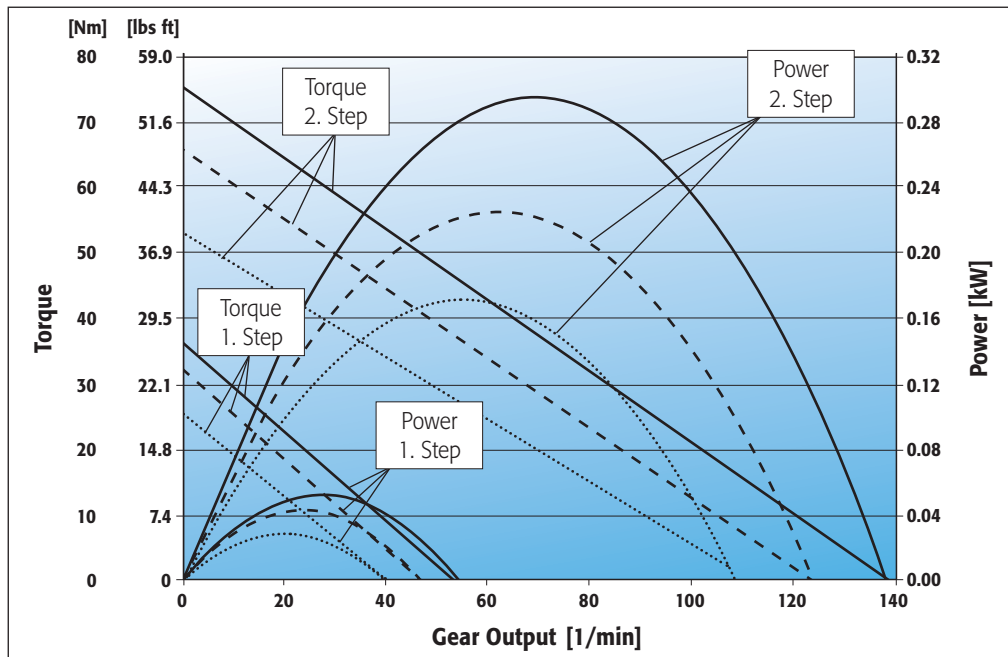
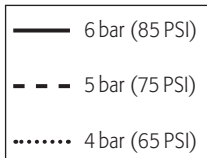
Crane drive type EDL

■ Dimensions in mm [inch.]



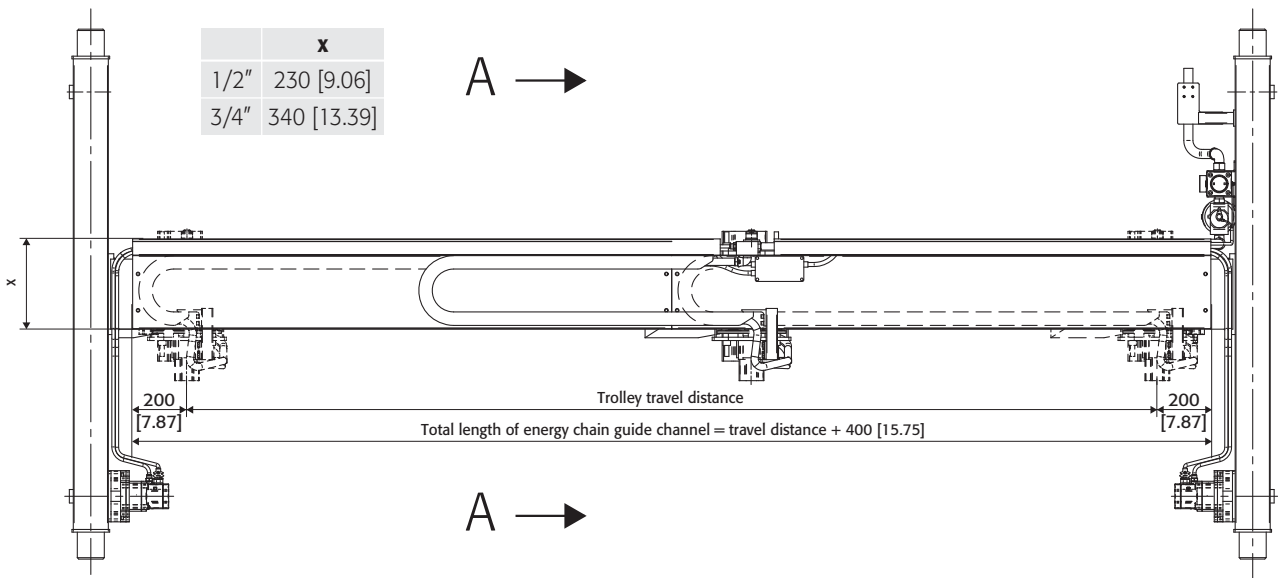
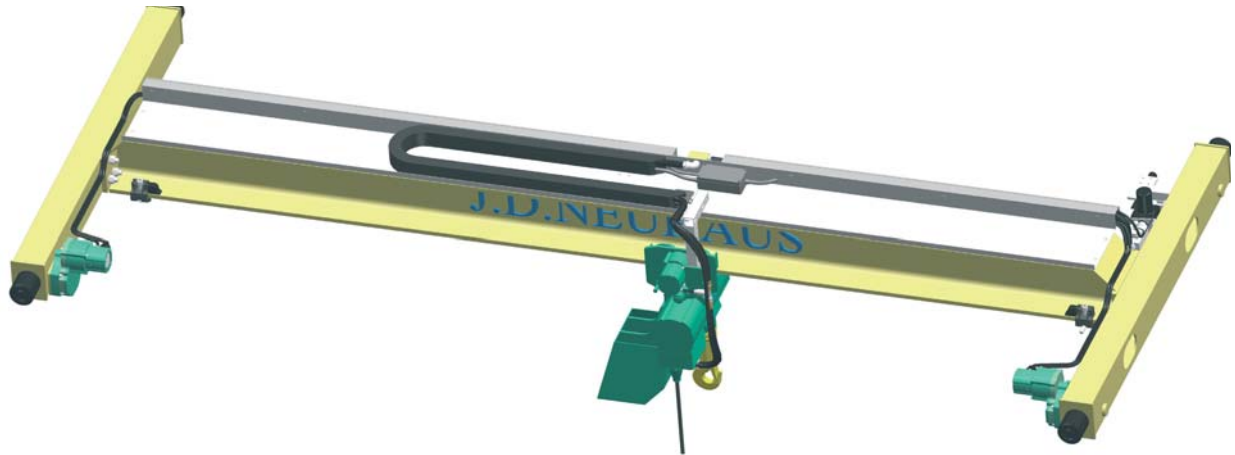
Type	Art. No.		L	l	X	Feather Key	Gear Ratio
EDL 112	74889	mm [inch.]	28 [1.10]	27 [1.06]	1 [0.04]	A 6x6x27 DIN 6885	64.8
EDL 140	74890	mm [inch.]	50 [1.97]	40 [1.57]	5 [0.20]	A 6x6x40 DIN 6885	64.8

■ Characteristics



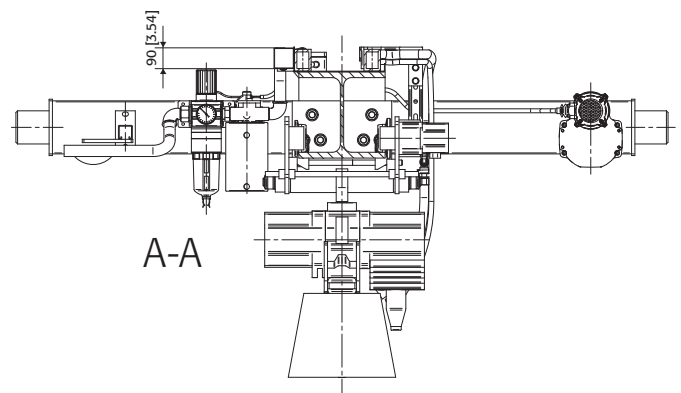
Energy supply for JDN cranes using energy chain

■ Energy chain for trolley drive in overhead travelling cranes



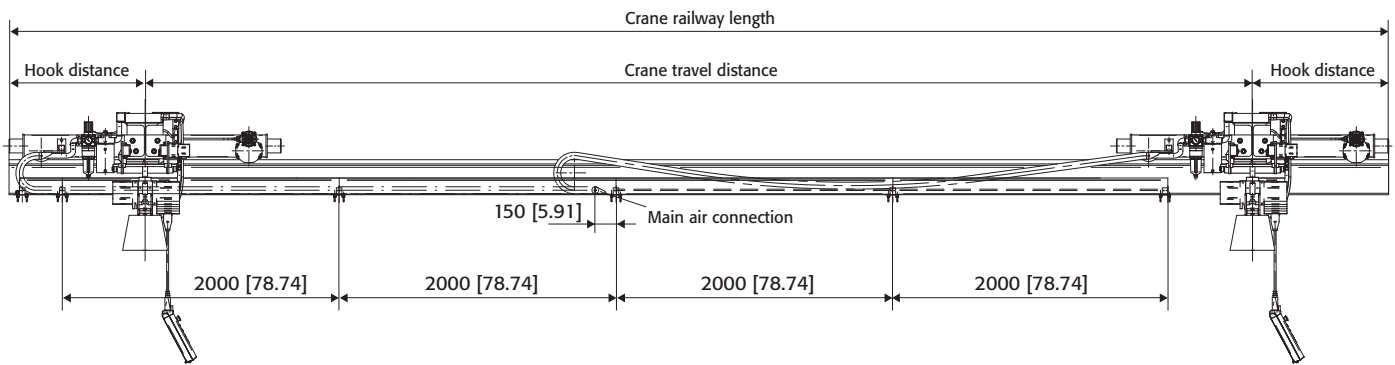
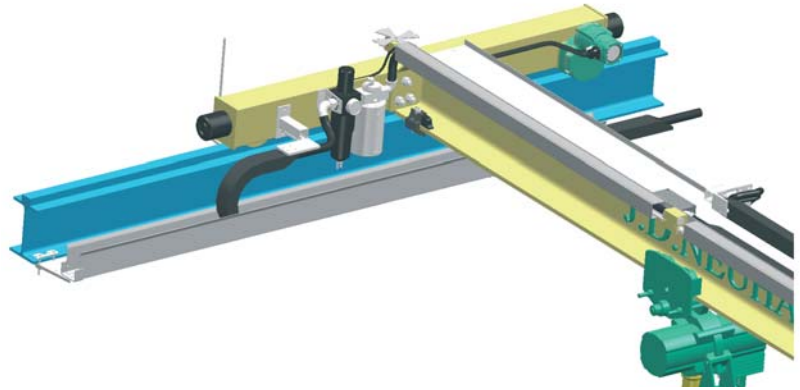
The energy supply for trolley drive in overhead travelling cranes is realised by a horizontal version of the energy chain. A guide channel is mounted on the girder with the chain gliding inside. Air distribution and the control box are also attached to the guide channel. Usually there are two different types of hoses inside the energy chain: The air hose, which feeds the hoisting motor and the trolley motor, and the control hose for crane control functions.

In case of low headroom requirements choose vertical installed energy chain, like the supply for trolleys in underslung cranes.



Energy supply for JDN cranes using energy chain

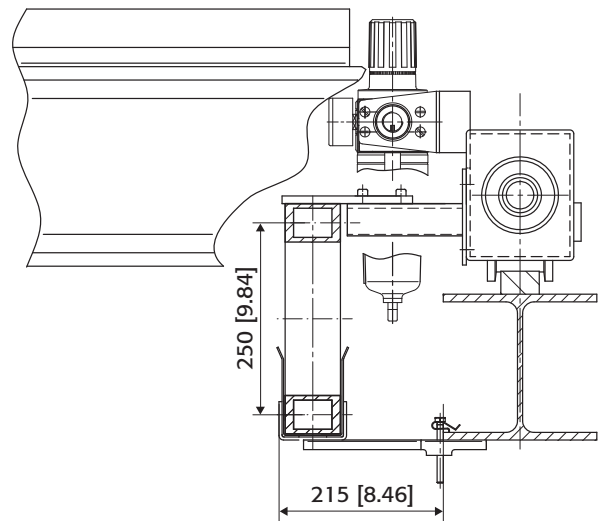
■ Energy chain for crane drive



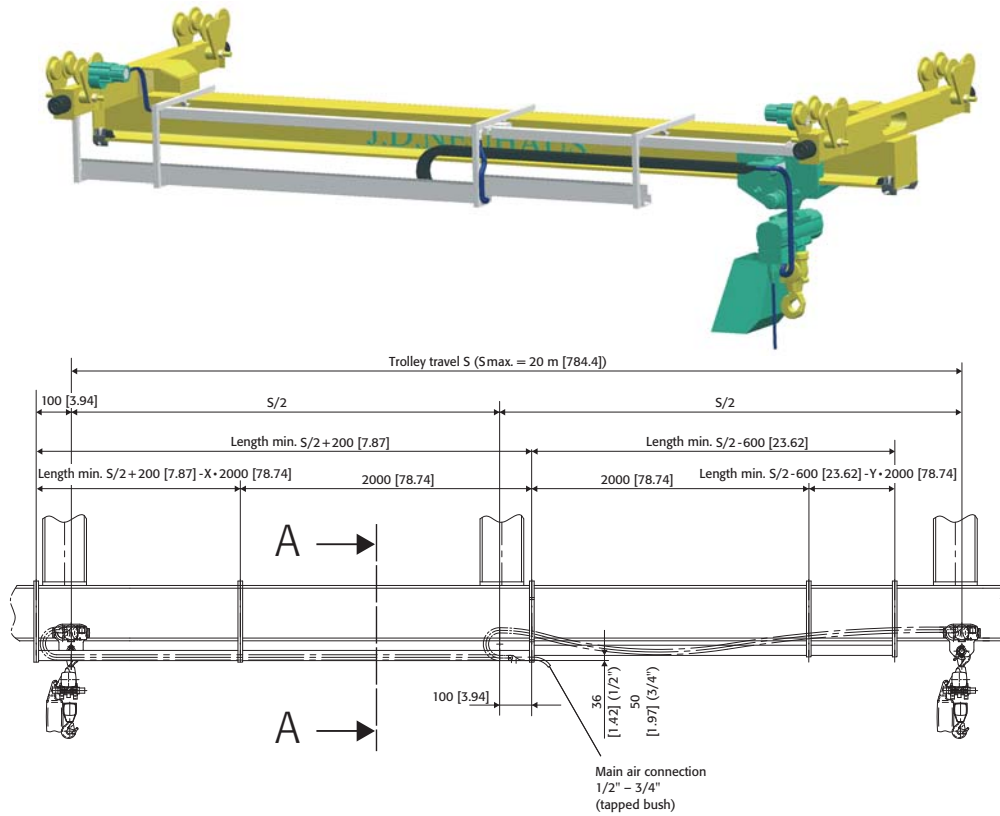
The energy supply for crane drive in overhead travelling cranes is realised by a vertical installation of the energy chain. The necessary guide channel system is mounted with clamped brackets on the bottom flange. If different profile sizes for the bottom flange are used because varying in support spacing, the brackets may be clamped to the top flange. The clamped brackets can be used for all the normal steel girder sections (with flange thickness 7-40 mm (0,28-1,57 inch)).

The energy chain carries air hoses inside, which supply the hoisting motor, driving motors as well as the control hoses of the crane. In addition it is possible to install further control hoses and electric cables inside the energy chain.

The main air connection of the energy supply is located midway of the crane travel distance.

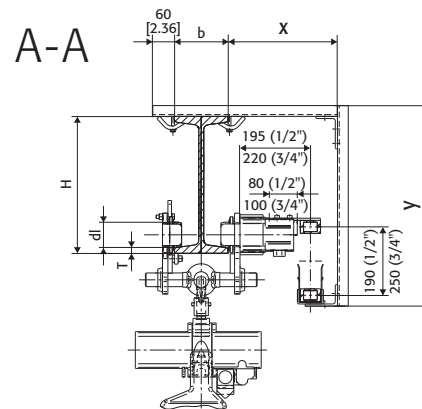


Energy chain for long travel and cross travel in underslung cranes



The energy supply for hoists with trolley and for crane drives in underslung cranes is realised by a vertical installation of the energy chain. The guide channel system is mounted with c-panels, which are clamped by claws on the top flange of the girder. The dimensions of the c-panels are depending on the used girder.

Supply air hoses for hoisting and travelling as well as control hoses are installed in the energy chain.



Technical Data

hose cross section	dl		x		y	
	[inch.]	[mm]	[inch.]	[mm]	[mm]	[inch.]
1/2		70	2.76	305	H-T+193	H-T+7.6
3/4		84	3.31	337	H-T+263	H-T+10.35
3/4		165	6.50	350	H-T+223	H-T+8.78

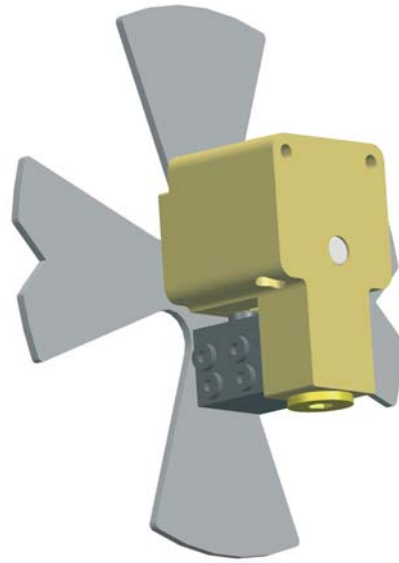
Additional equipment for JDN cranes

■ Cross lever switch off valve

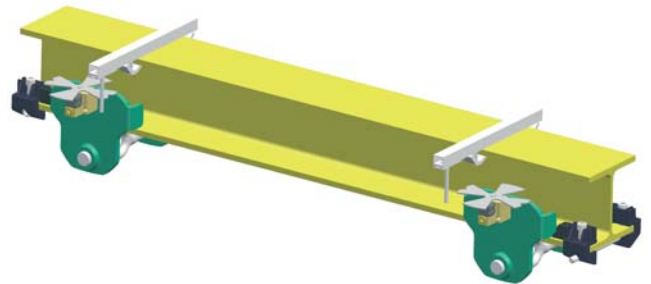
JDN cross lever valves consist of two 3/2 directional control valves which are activated alternately by a cross lever turned shaft. Thus two travel movements can be switched off with one cross lever. They are applicable to switch-off the trolley and crane travel as well as to decrease the travelling speed at the end of the track. A further application arises when establishing exclusion areas where the trolley or crane is not allowed to drive in.

The cross lever valve is operated by switching lugs which will be mounted at the trolley or crane bridge.

Scope of delivery for a trolley or a crane includes cross lever valve with two switchings lugs and attachment parts.



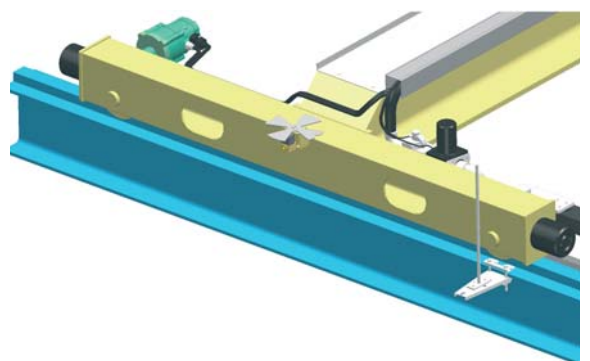
■ Installation example "Trolley"



■ Technical Data

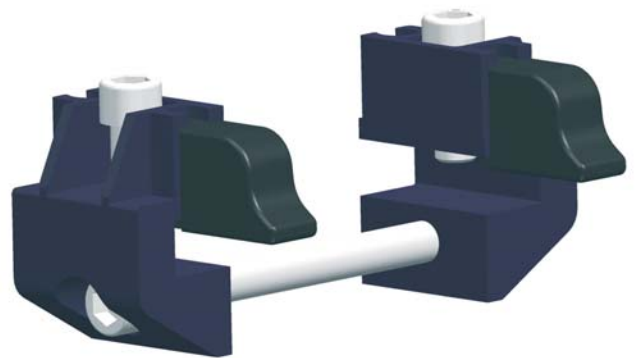
Design	2 x 3/2-seatvalve (NO)
Article No.	075150
Hose dimension	4 mm (0.16 inch.) quick connector
Air pressure	0.5 -10 bar (7- 145 PSI)
Norminal diameter	2.5 mm (0.1 inch.)
Flow rate per valve	60 l/min (2.12 cfm) (ΔP 1 bar (14.5 PSI))
Ambient temperature	-10° up to +60°C (14°F - 140°F)
Medium	Filtered, oiled or lube-free compressed air
Explosion classification	Ex II 2 GD IIC T6
Fastening screws M5	Tigtening moment 5 Nm (3.69 lbs ft)

■ Installation example "Crane"



JDN clamping trolley buffer

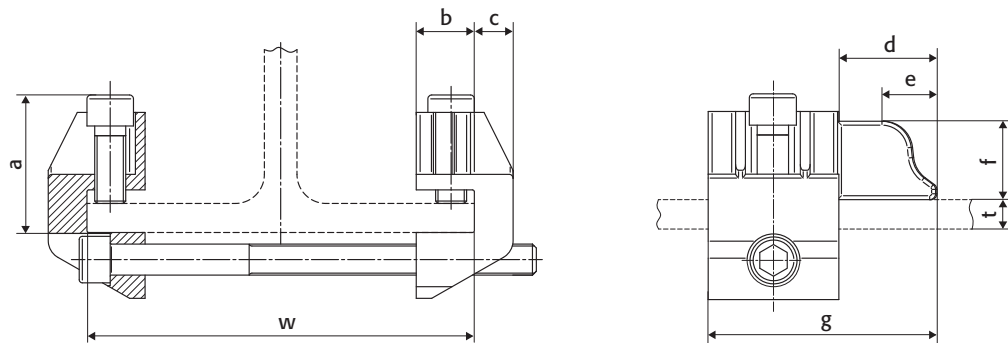
JDN clamping trolley buffer consist of a cast iron body, with attached gum buffer elements. The trolley buffers are clamped with screws at the girder.



Selection Chart

Trolley Type	Max. capacity [mt]	Design	Bottom flange thickness t		Bottom flange width w		Article No.
			[mm]	[inch.]	[mm]	[inch.]	
all types	1.0	"A"	≤20.5	≤0.81	64 - 120	2.52 - 4.72	74570
					121 - 190	4.76 - 7.48	74571
					191 - 243	7.52 - 9.57	74572
					244 - 300	9.61 - 11.81	74573
all types	3.5	"B"	13.0 - 30.0	0.51 - 1.18	110 - 160	4.33 - 6.30	74574
					161 - 230	6.34 - 9.06	74575
					231 - 283	9.09 - 11.14	74576
					284 - 340	11.81 - 13.39	74577
all types except UH 12	10.0	"C"	20.0 - 30.0	0.79 - 1.18	161 - 230	6.34 - 9.06	74578
					231 - 283	9.09 - 11.14	74579
UH 12	9.0				284 - 340	11.18 - 13.39	74580

When using trolleys of other brands, a classification acc. to buffer characteristic is required.



DIMENSIONS

Design	Dimensions [mm] / [inch.]							Weight [kg] / [lbs]
	a	b	c	d	e	f	g	
"A"	63 / 2.48	26 / 1.02	20 / 0.79	45 / 1.77	15 / 0.59	40 / 1.57	110 / 4.33	2.6 / 5.7
"B"	90 / 3.54	30 / 1.18	32 / 1.26	80 / 3.15	35 / 1.38	60 / 2.36	170 / 6.69	5.9 / 13
"C"	90 / 3.54	46 / 1.81	32 / 1.26	97 / 3.82	55 / 2.17	79 / 3.11	185 / 7.28	6.1 / 13.5





■ **J.D. NEUHAUS GmbH & Co. KG**

58449 Witten-Heven
Germany
Phone +49 2302 208-0
Fax +49 2302 208-286
info@jdn.de
www.jdn.de



■ **France
J.D. NEUHAUS Sarl.**

Rue du Président Krüger
69008 Lyon
France
Phone +33 4 3790-1745
Fax +33 4 3790-1746
jd-neuhaus@wanadoo.fr
www.jdneuhaus.fr



■ **Singapore
J.D. NEUHAUS Pte. Ltd.**

21 Toh Guan Road East
#09-02 Toh Guan Centre
Singapore 608609
Phone +65 62758911
Fax +65 62758922
info@jdn.com.sg
www.jdneuhaus.com.sg



■ **UK
J.D. NEUHAUS Ltd.**

8, Herald Business Park
Golden Acres Lane
Coventry, CV3 2SY
U.K.
Phone +44 24 7665-2500
Fax +44 24 7665-2555
andyallen@jdneuhaus.co.uk
www.jdneuhaus.co.uk



■ **USA
J.D. NEUHAUS LP.**

P.O. Box 1155
9, Loveton Circle
Sparks, Maryland 21152
USA
Phone +1 410 4720500
Fax +1 410 4722202
sales@jdneuhaus.com
www.jdneuhaus.com



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